

L331R, L341R, and L341R High-Density Large Square Balers (L331R: 493100-, L341R: 495000-, L341R High-Density: 494106-) (North American Edition)



JOHN DEERE

OPERATOR'S MANUAL

L331R, L341R, and L341R High-Density Large
Square Balers (North American Edition)

OMFH350171 ISSUE K5 (ENGLISH)

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents
are known to the State of California to cause cancer,
birth defects, and other reproductive harm.

If this product contains a gasoline engine:

WARNING

The engine exhaust from this product contains
chemicals known to the State of California to cause
cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

John Deere Ottumwa Works

North American Edition
PRINTED IN U.S.A.



* D C Y *



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Introduction

Foreword

THANK YOU for purchasing a John Deere product.

READ THIS MANUAL carefully to learn how to operate and service your product correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your product may also be available in other languages. See www.techpubs.deere.com (Ag&Turf/JDPS), www.johndeeretechno.com (C&F), or your John Deere dealer to order.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your product and should remain with the product when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing in the direction the product or implement will travel when going forward.

WRITE PRODUCT IDENTIFICATION NUMBERS (PIN) in the Specification or Product Numbers section. Accurately record all the numbers to help in tracing the product should it be stolen. PIN information is helpful when ordering parts. File the identification numbers in a secure place off the product.

WARRANTY is provided as part of John Deere's support program for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate or statement which you should have received at time of purchase.

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out of warranty. Should the equipment be abused, or modified to change its performance beyond the original factory

specifications, the warranty will become void and field improvements may be denied.

If you are not the original owner of this product, it is in your interest to contact your local John Deere dealer to inform them of this unit's serial number. This will help John Deere notify you of any issues or product improvements.

DX,IFC5E-19-05NOV25

John Deere Is at Your Service



TS201—UN—15APR13

Customer satisfaction is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts, and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.
- **John Deere replacement parts, repair services, and information for maintenance or repair are available. For more information, please visit deere.com or deere.ca.**

DX,IFC,JDS-19-30SEP25

Trademarks

Trademarks	
BalerAssist™	Trademark of Deere & Company
Bio Hy-Gard™	Trademark of Deere & Company
Bluetooth®	Trademark of Bluetooth SIG
CommandCenter™	Trademark of Deere & Company
GreenStar™	Trademark of Deere & Company
Green-Gard™	Trademark of Deere & Company
Hy-Gard™	Trademark of Deere & Company
Loctite®	Trademark of Henkel Corporation

MR67966,0001CC0-19-13NOV25

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Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

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Safety

Recognize Safety Information



T81389—UN—28JUN13

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

DX,ALERT-19-03OCT22

Understand Signal Words



▲ WARNING

▲ CAUTION

TS187—19—30SEP88

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

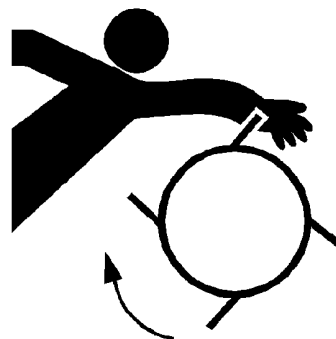
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ-19-01AUG22

Operate Baler Safely



E41296—UN—21JAN97

To avoid injury or death by being pulled into the machine:

DO NOT attempt to feed crop or twine into baler or unplug feed area WHILE BALER IS RUNNING. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

Stand clear of baler at all times when machine is operating.

EX,100C,A-19-04MAR98

Use Handholds and Steps



T6981AN—UN—15JUN89

Falling is a major cause of personal injury.

When you get on and off machine, always maintain a three point contact with steps and handrails and face the machine. Do not use any controls as handholds.

Never jump on or off the machine. Never mount or dismount a moving machine.

Be careful of slippery conditions on platforms, steps, and handrails when leaving the machine.

TX,05,RR,A6-19-20MAY96

Keep Riders Off Machine



E41255—UN—31JAN97

Keep riders off.

Riders are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

EX,100C,J-19-04MAR98

Observe Road Traffic Regulations

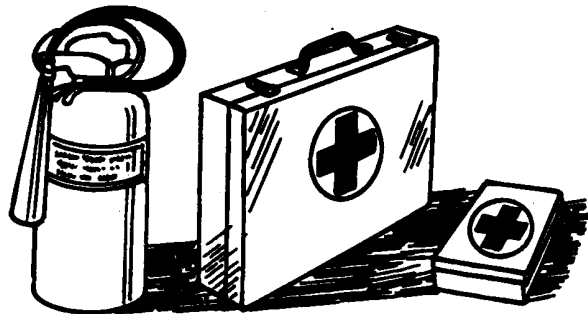


H28930—UN—30JUN89

Always observe local road traffic regulations when using public roads.

FX,ROAD-19-01MAY91

Prepare for Emergencies



TS291—UN—15APR13

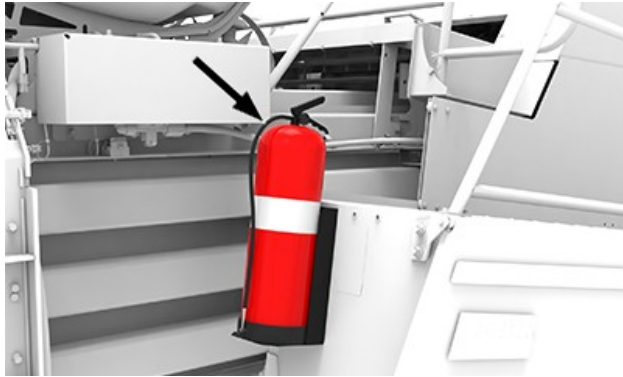
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

DX,FIRE2-19-03MAR93

Fire Extinguisher Recommendations



EX556249—UN—09MAR23

A 10 kg (22 lb) water type fire extinguisher complying with legal regulations must be installed on the baler.

Make sure that the fire extinguisher is always ready for operation. Read the manual provided with the extinguisher for operating instructions. Once the extinguisher is discharged, no matter for how long, it must be recharged.

hcmw3gg,1678784830911-19-14MAR23

- Promptly eject bales after they have been tied. Do not use the baler to transport bales from the field. Do not bring a baler, with a bale inside it, into a building. Never leave a baler unattended with a bale inside the chamber.
- Use extreme care if it is necessary to park a baler in a field of dry crop or stubble. Whenever possible, park baler on bare ground or in an area surrounded by bare ground. Before leaving a baler which has been operating, verify that there are no areas which are hot enough to start a fire. Do not leave the baler unattended near bales which have been baled wet, because spontaneous combustion can occur.
- If service operations require using a welder, cutting torch or grinder on the baler, see Fire Prevention section for guidelines which can prove useful in preventing a fire.
- Do not smoke when you are around the baler or in a field of dry crop.

GW44282,0000472-19-11MAR15

Fire Prevention



TS227—UN—15APR13

To reduce the risk of fire, follow these guidelines, especially in dry crop conditions:

- Equip the baler with a water-type fire extinguisher. Large capacity water fire extinguishers are recommended because application of water can cool hot parts to prevent a fire.
- Keep foreign material from building up on the machine near potentially hot areas, such as the plunger rails, top of tension panel, hydraulic pumps, and the electronic control unit (ECU). Remove this buildup as part of the regular service operations and at the end of each use.
- Avoid high-pressure power-washing next to bearings to prevent damaging seals.
- If noticeable changes in machine performance occur which indicate a part is beginning to fail, stop baling immediately and investigate the cause of any sounds, smells, or sights which are unusual.

In Case of Fire



TS227—UN—15APR13

CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

If your extinguisher does not have instructions, follow these general guidelines:

1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4-19-22AUG13



A34471

A34471—UN—11OCT88

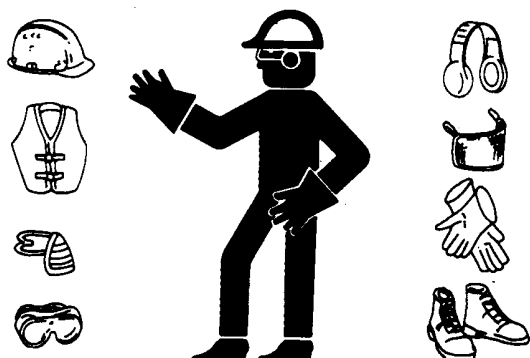
Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully.

Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.
- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse

Wear Protective Clothing



TS206—UN—15APR13

Wear close fitting clothing and safety equipment appropriate to the job.

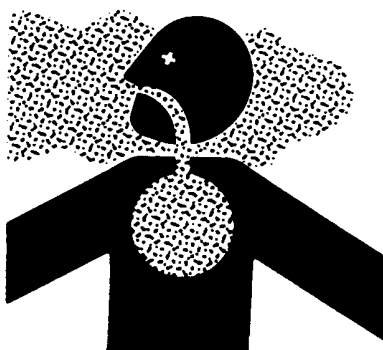
Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

DX,WEAR-19-10SEP90

Handle Agricultural Chemicals Safely

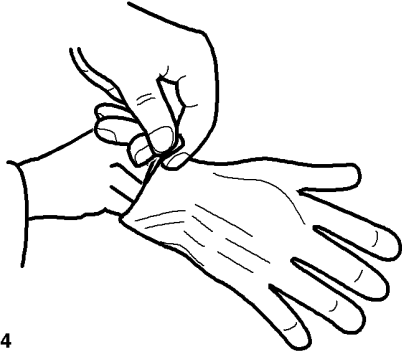


TS220—UN—15APR13

empty containers and puncture or crush containers and dispose of properly.

DX,VW,CHEM01-19-24AUG10

Handling of Knives



CC1026954

CC1026928—UN—26JAN05

Prevent personal injury by wearing safety gloves to handle knives.

PP98408,00000C4-19-27AUG14

Check Machine Safety

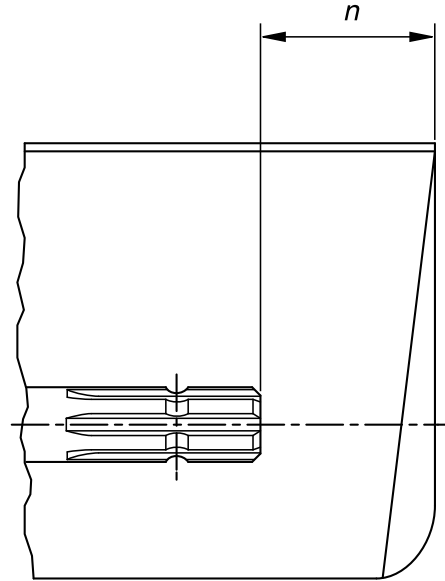
Always check the road and general operating safety of the machine before using.

FX,READY-19-28FEB91

Stay Clear of Rotating Drivelines



TS1644—UN—22AUG95



H96219—UN—29APR10

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

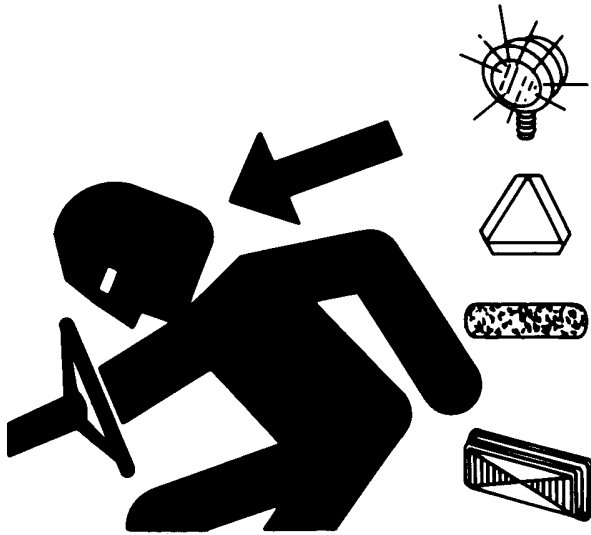
Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	$n \pm 5 \text{ mm (0.20 in.)}$
1	35 mm (1.378 in.)	21	85 mm (3.35 in.)
2	45 mm (1.772 in.)	20	100 mm (4.00 in.)

PP98408,0000017-19-11NOV14

Use Safety Lights and Devices



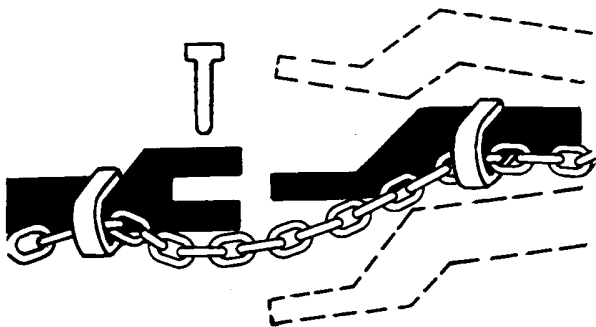
TS951—UN—12APR90

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost.

DX,FLASH-19-07JUL99

Use a Safety Chain



TS217—UN—23AUG88

A safety chain will help control drawn equipment should it accidentally separate from the drawbar.

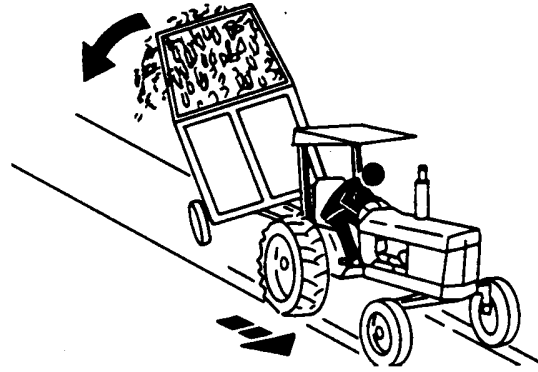
Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning.

Use chain with a strength rating equal to or greater than

the gross weight of the towed machine. Do not use safety chain for towing.

DX,CHAIN-19-03MAR93

Tow Loads Safely



TS216—UN—23AUG88

Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control. Consider the total weight of the equipment and its load.

Observe these recommended maximum road speeds, or local speed limits which may be lower:

- If towed equipment does not have brakes, do not travel more than 32 km/h (20 mph) and do not tow loads more than 1.5 times the tractor weight.
- If towed equipment has brakes, do not travel more than 40 km/h (25 mph) and do not tow loads more than 4.5 times the tractor weight.

Ensure the load does not exceed the recommended weight ratio. Add ballast to recommended maximum for tractor, lighten the load, or get a heavier towing unit. The tractor must be heavy and powerful enough with adequate braking power for the towed load. Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

DX,TOW-19-02OCT95

Check Ballast, Wheel Spacing and Tire Inflation



E77062—UN—26AUG14

Make sure ballast, wheel spacing, and tire inflation are sufficient to ensure tractor and machine stability in all conditions, especially when operating on hilly fields or in other adverse conditions. See the tractor Operator's Manual.

PP98408,00000B8-19-26AUG14

Service Machine Safely

To aid in servicing the baler, rotate the baler flywheel by hand in the normal direction of operation.

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.

PP98408,00000BB-19-27AUG14

Maximum Hydraulic Operating Pressure

Do not connect baler to a tractor with a maximum hydraulic operating pressure over 20685 kPa (207 bar, 3000 psi).

PP98408,00000BC-19-27AUG14

Practice Safe Maintenance



TS218—UN—23AUG88

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing away from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

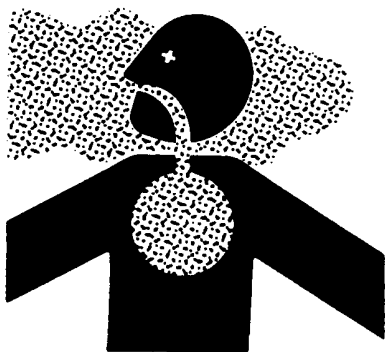
On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

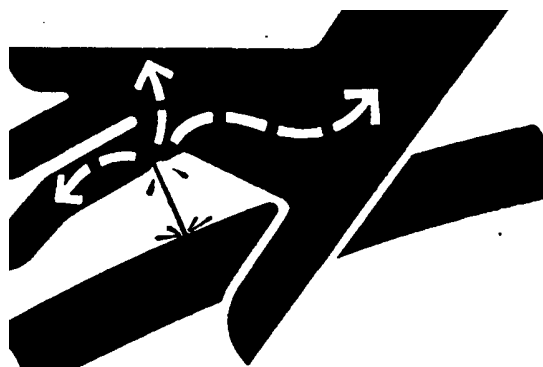
Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

DX,TORCH-19-10DEC04

Avoid High-Pressure Fluids



X9811—UN—23AUG88

Inspect hydraulic hoses periodically—at least once per year—for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

In case of accidental skin injection, seek immediate surgical treatment.

DX,FLUID-19-05NOV25

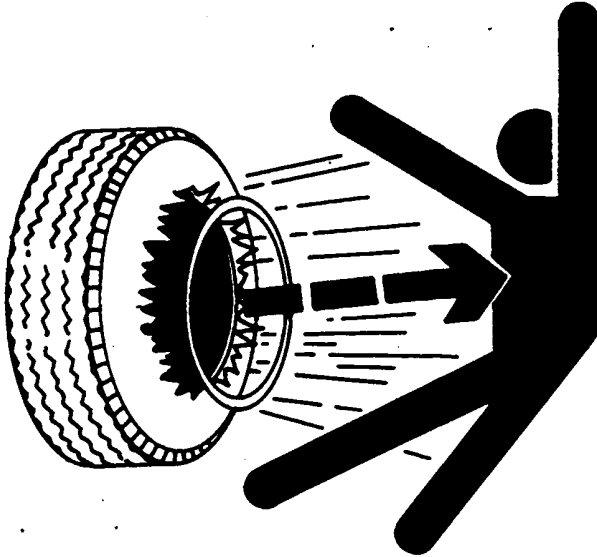
Avoid Heating Near Pressurized Fluid Lines



TS953—UN—15MAY90

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to

Service Tires Safely



TS211—UN—15APR13

Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

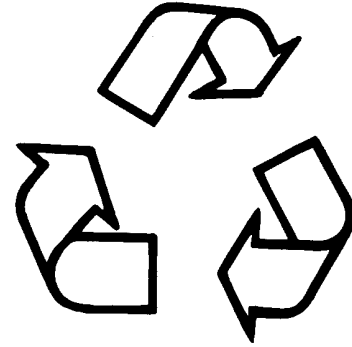
Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

DX,RIM-19-24AUG90

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

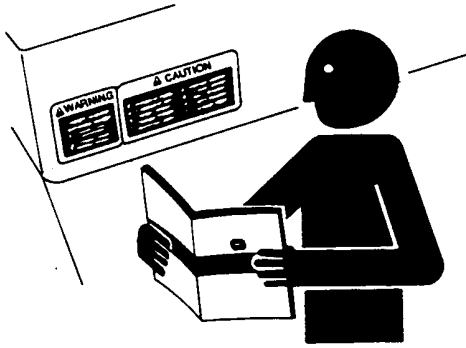
- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid); filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.

- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

DX,DRAIN-19-01JUN15

Safety Sign Location

Replace Safety Signs



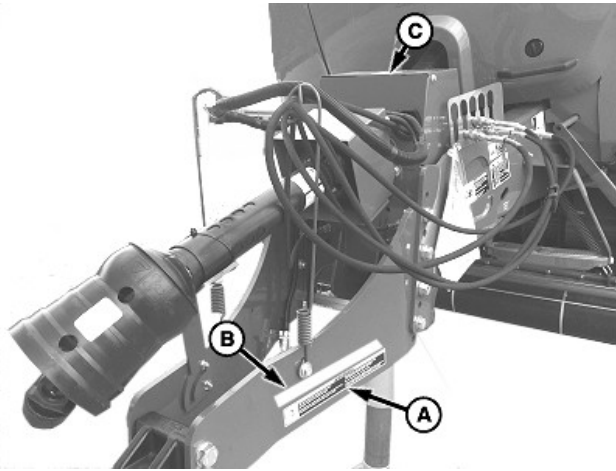
TS201—UN—15APR13

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

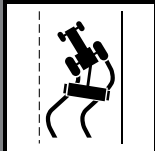
There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

DX,SIGNS-19-18AUG09

Hitch



E94932—UN—05OCT20



⚠ WARNING

Do not exceed this implement's maximum transport speed of 32 km/h (20 mph).

Exceeding this speed may result in loss of control during transport or braking and serious injury or death.

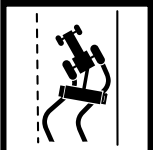
Transport only with a properly ballasted tractor and a properly attached safety tow chain.

Do not transport with a motor vehicle.

Reduce speed and use additional caution when on inclines, towing under adverse surface conditions, and turning.

Decal (A), For Machines Equipped Without Brakes

EX556252—UN—27MAR23



⚠ WARNING

Do not exceed this implement's maximum transport speed of 40 km/h (25 mph).

Exceeding this speed may result in loss of control during transport or braking and serious injury or death.

Transport only with a properly ballasted tractor and a properly attached safety tow chain.

Do not transport with a motor vehicle.

Reduce speed and use additional caution when on inclines, towing under adverse surface conditions, and turning.

Decal (B), For Machines Equipped With Brakes

E94931—UN—05OCT20



EX556253—UN—27MAR23

Decal (C)

For machines equipped without brakes: **(A) Warning—**Do not exceed this implement's maximum transport speed of 32 km/h (20 mph).

Exceeding this speed may result in loss of control during transport or braking and serious injury or death.

Transport only with a properly ballasted tractor and a properly attached safety tow chain.

Do not transport with a motor vehicle.

Reduce speed and use additional caution when on inclines, towing under adverse surface conditions, and turning.

For machines equipped with brakes: **(B) Warning—**Do not exceed this implement's maximum transport speed of 40 km/h (25 mph).

Exceeding this speed may result in loss of control during transport or braking and serious injury or death.

Transport only with a properly ballasted tractor and a properly attached safety tow chain.

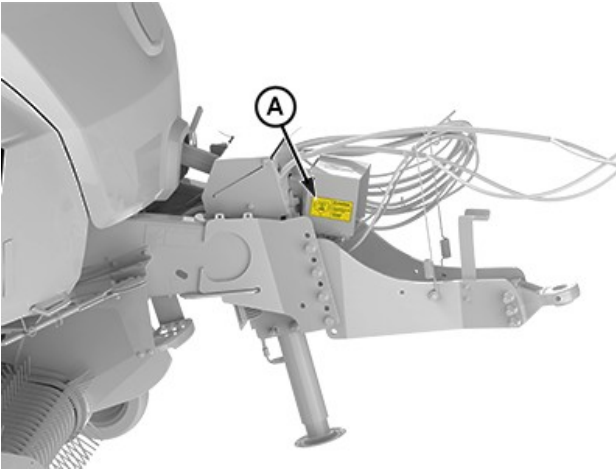
Do not transport with a motor vehicle.

Reduce speed and use additional caution when on inclines, towing under adverse surface conditions, and turning.

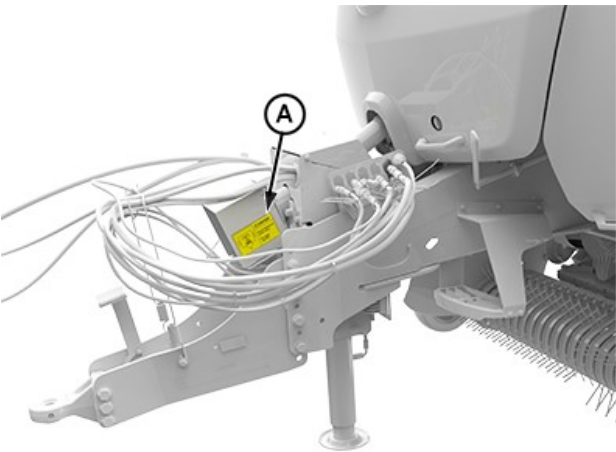
(C) Caution—No Step.

hcmw3gg,1679980607375-19-28MAR23

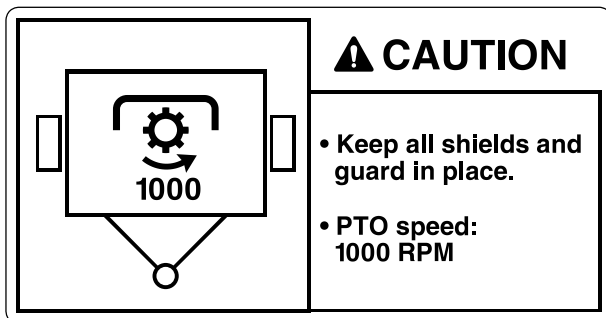
PTO Shield



APY578682—UN—29MAY23
Decal (A), Right-Hand Side



APY578683—UN—29MAY23
Decal (A), Left-Hand Side



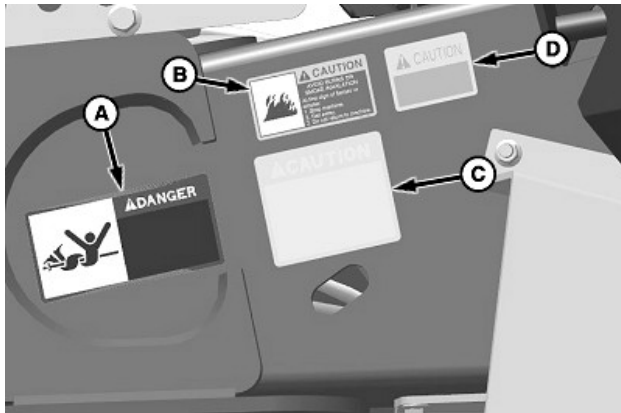
EX556254—UN—27MAR23
Decal A

(A)—Caution:

- Keep all shields and guard in place.
- Operate only with 1000 rpm PTO.

hcmw3gg,1679980607503-19-29MAY23

Tongue, Left-Hand Side



E85662—UN—22NOV17



Decal D

EX556258—UN—27MAR23



Decal A

EX556255—UN—27MAR23

(A) Danger

Entanglement in rotating driveline can cause serious injury or death.

Keep all shields in place.

Avoid contact with rotating parts.

(B) Caution

Avoid burns or smoke inhalation.

At first sign of flames or smoke:

1. Stop machine
2. Get away
3. Do not return to machine.

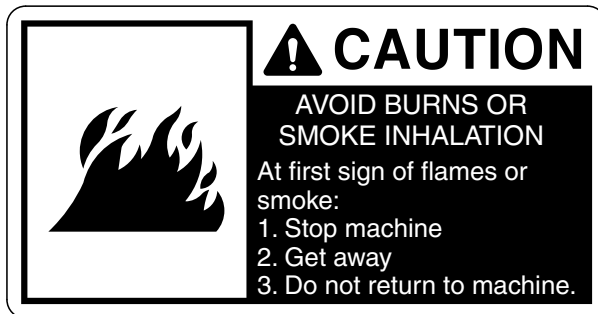
(C) Caution

1. Keep all shields in place.

2. Disengage and shut off all engine and /or motor power before servicing or unclogging machine.

3. Keep hands, feet, and clothing away from power driven parts.

hcmw3gg,1679980607957-19-28MAR23



Decal B

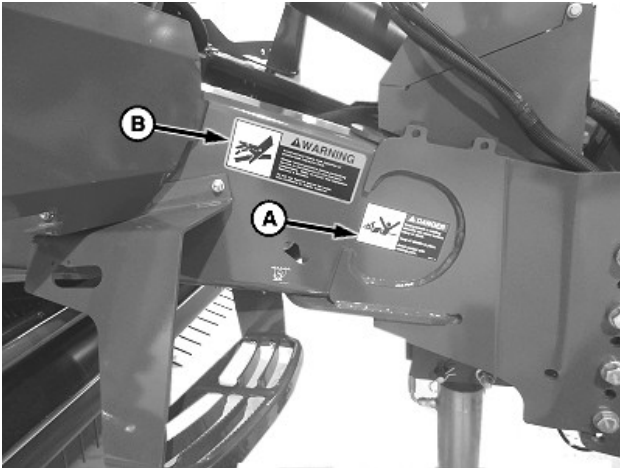
EX556256—UN—27MAR23



Decal C

EX556257—UN—27MAR23

Tongue, Right-Hand Side



E83120—UN—18MAY17

Do not use hand to search for leaks. Use cardboard or similar material.

hcmw3gg.1679980608008-19-28MAR23



EX556255—UN—27MAR23

Decal A



EX556260—UN—27MAR23

Decal B

(A) Danger

Entanglement in rotating driveline can cause serious injury or death.

Keep all shields in place.

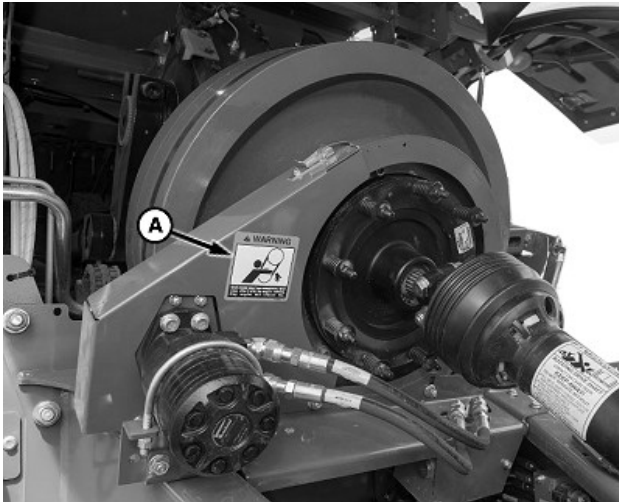
Avoid contact with rotating parts.

(B) Warning

Avoid serious injury from injection of pressurized hydraulic fluid.

Always relive pressure before performing service or maintenance on any hydraulic components. Refer to tractor and implement Operators Manuals.

BalerAssist



E85828—UN—15DEC17



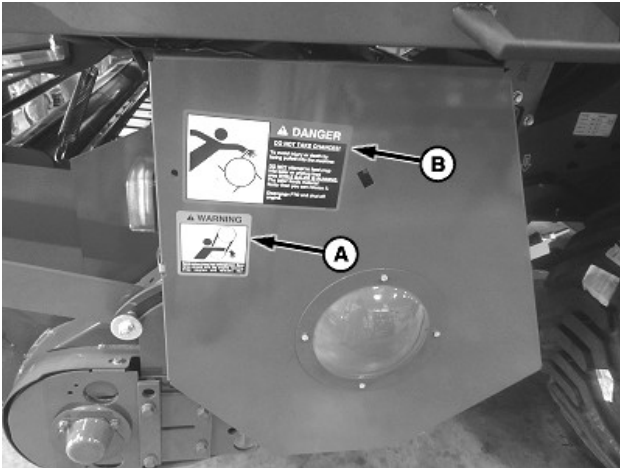
EX556261—UN—27MAR23

Decal A

(A) Warning—Avoid serious injury from entanglement. Never raise shield with engine running. Stop engine and remove key.

hcmw3gg,1679980607540-19-13NOV25

Pickup Shield, Left-Hand Side

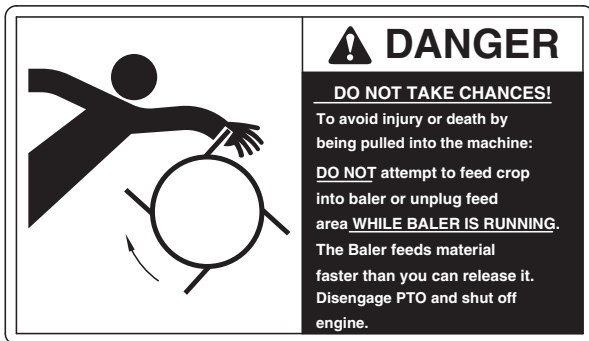


E84514—UN—12SEP17



EX556261—UN—27MAR23

Decal A



EX556262—UN—27MAR23

Decal B

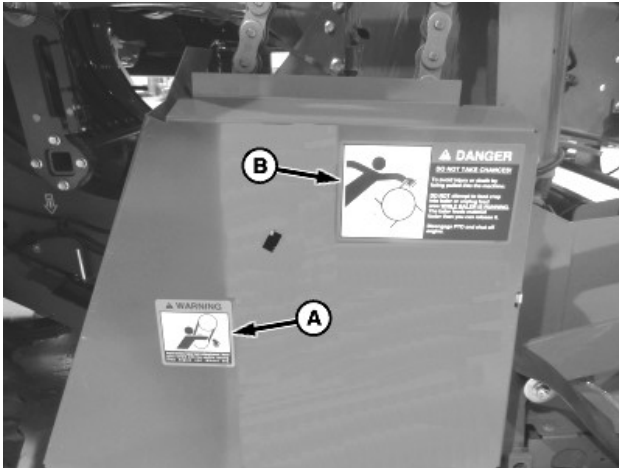
(A) Warning—Avoid serious injury from entanglement. Never raise shield with engine running. Stop engine and remove key.

(B) Danger—Do not take chances! To avoid injury or death by being pulled into the machine.

Do not attempt to feed crop into baler or unplug feed area **While baler is running**. The baler feeds material faster than you can release it. Disengage PTO and shut off engine.

hcmw3gg,1679980608050-19-28MAR23

Pickup Shield, Right-Hand Side

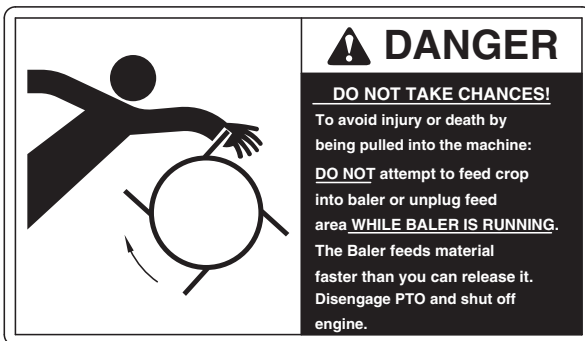


E83123—UN—22MAY17



EX556261—UN—27MAR23

Decal A



EX556262—UN—27MAR23

Decal B

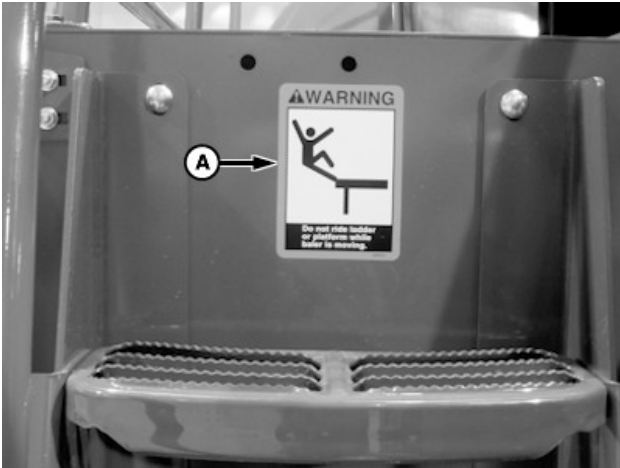
(A) Warning—Avoid serious injury from entanglement. Never raise shield with engine running. Stop engine and remove key.

(B) Danger—Do not take chances! To avoid injury or death by being pulled into the machine.

Do not attempt to feed crop into baler or unplug feed area While baler is running. The baler feeds material faster than you can release it. Disengage PTO and shut off engine.

hcmw3gg,1679980607876-19-28MAR23

Ladder, Left-Hand Side



E72920—UN—13FEB14



EX556264—UN—27MAR23

Decal A

(A) Warning—Do not ride on ladder or platform while baler is moving.

hcmw3gg,1679980608100-19-28MAR23

Bale Chamber, Left-Hand Side



E85661—UN—22NOV17



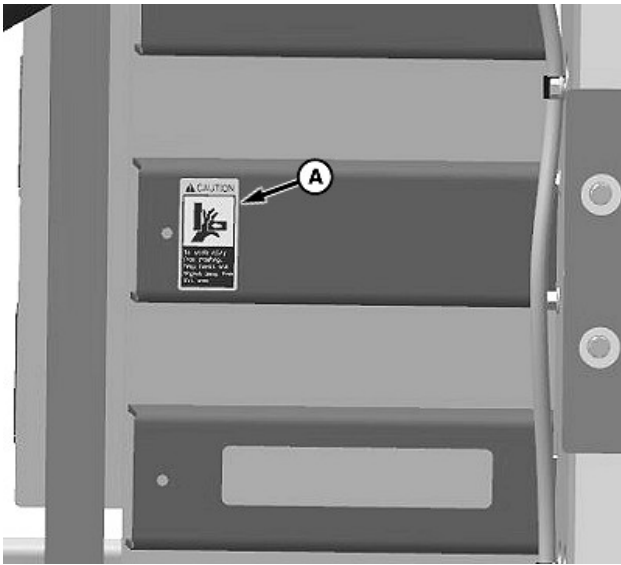
EX556265—UN—27MAR23

Decal (A)

(A) Caution—To avoid injury from crushing, keep hands and fingers away from this area.

hcmw3gg,1679980608137-19-28MAR23

Bale Chamber, Right-hand Side



E85660—UN—22NOV17



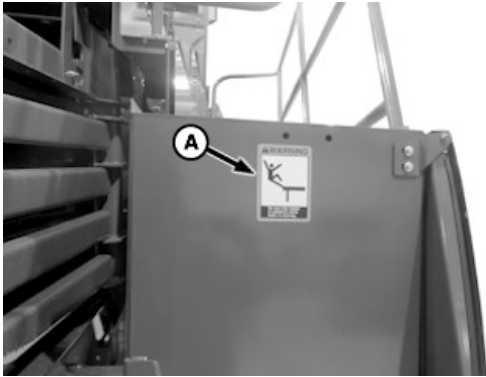
EX556265—UN—27MAR23

Decal A

(A) Caution—To avoid injury from crushing, keep hands and fingers away from this area.

hcmw3gg,1679980607612-19-28MAR23

Twine Box, Right-Hand Side



E72931—UN—13FEB14

Twine Box, Right-Hand Side



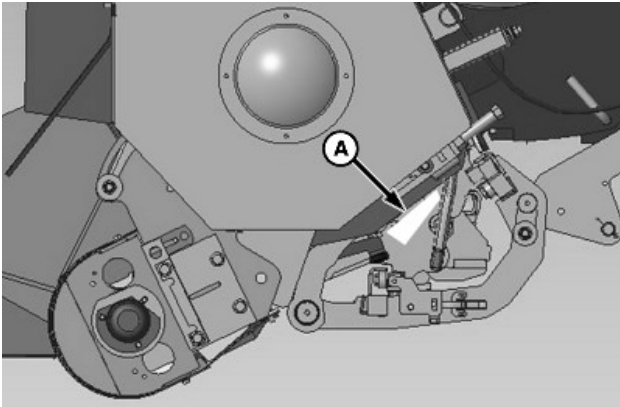
EX556264—UN—27MAR23

Decal A

(A) Warning— Do not ride on ladder or platform while baler is moving.

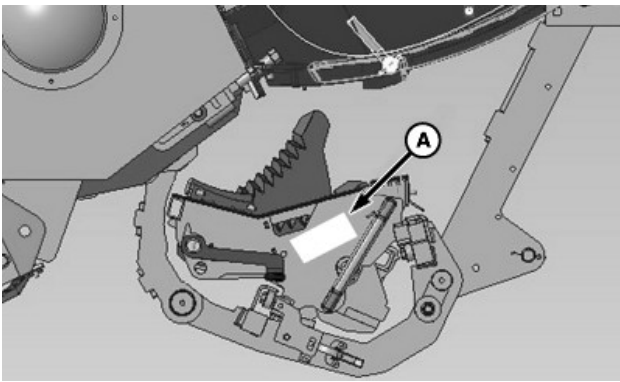
hcmw3gg,1679980607921-19-28MAR23

Precutter



E85665—UN—28NOV17

Precutter, Left-Hand Side, Drop Floor Up, Decal (A)



E85664—UN—28NOV17

Precutter, Left-Hand Side, Drop Floor Down, Decal (A)



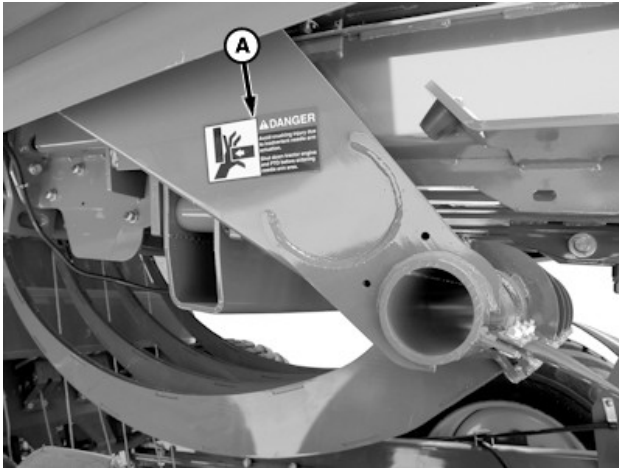
EX556266—UN—27MAR23

Decal (A)

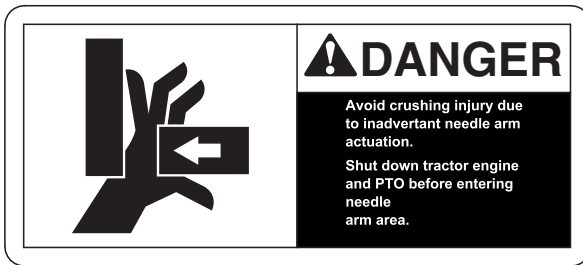
(A) Warning—Precutter knives are extremely sharp and can move without warning. To avoid serious injury, shut off all power and engage lock-out valve before servicing knives or unclogging baler, See Operators Manual, Keep hands clear of sharp edges.

hcmw3gg,1679980607578-19-28MAR23

Needles, Left-Hand Side



E72971—UN—14MAY14



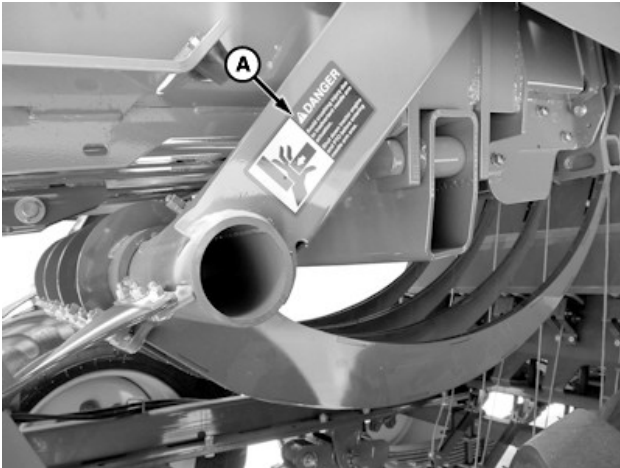
EX556267—UN—27MAR23

Decal A

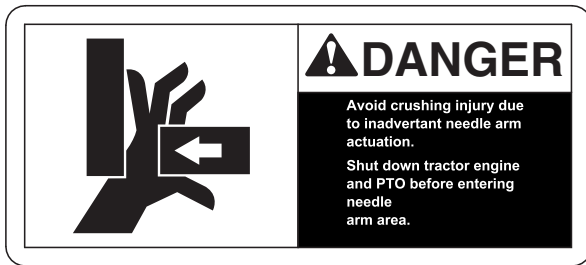
(A) Danger— Avoid crushing injury due to inadvertent needle arm actuation. Shut down tractor engine and PTO before entering needle arm area.

hcmw3gg,1679980607837-19-28MAR23

Needles, Right-Hand Side



E72972—UN—14MAY14



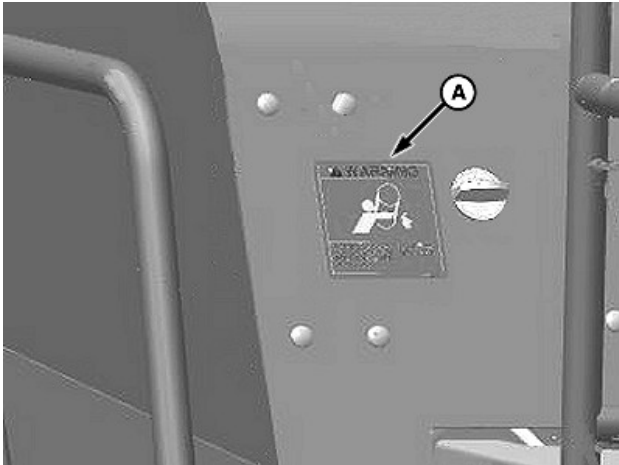
EX556267—UN—27MAR23

Decal A

(A) Danger— Avoid crushing injury due to inadvertent needle arm actuation. Shut down tractor engine and PTO before entering needle arm area.

hcmw3gg,1679980607803-19-28MAR23

Knotter Hood, Left-Hand Side



E84921—UN—10OCT17



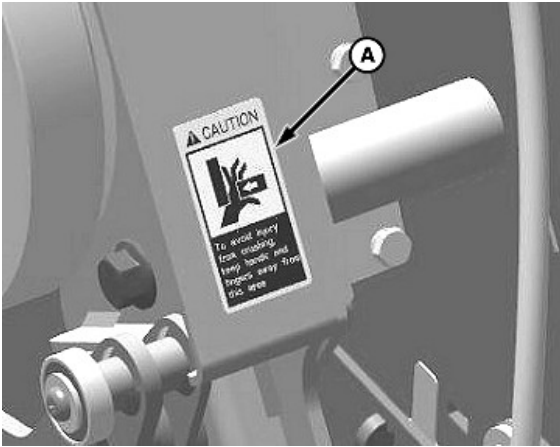
EX556261—UN—27MAR23

Decal A

(A) Warning— Avoid serious injury from entanglement. Never raise shield with engine running. Stop engine and remove key.

hcmw3gg.1679980607722-19-28MAR23

Knotter Hood Open, Left-Hand Side



E84923—UN—10OCT17



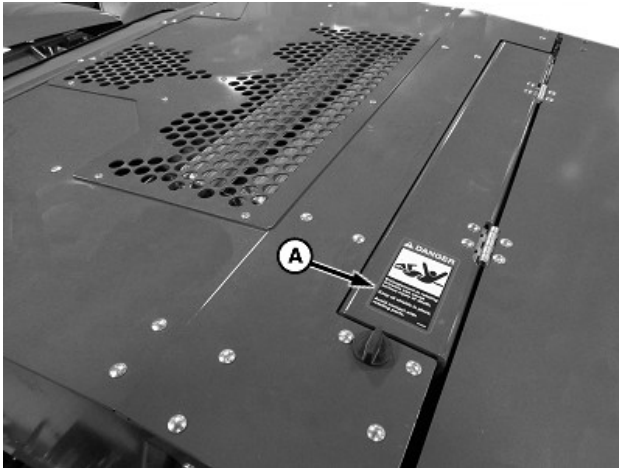
EX556265—UN—27MAR23

Decal A

(A) Caution— To avoid injury from crushing, keep hands and fingers away from this area.

hcmw3gg,1679980607651-19-28MAR23

Fan Shield, Left-Hand Side



E84633—UN—26SEP17



EX556268—UN—27MAR23

Decal A

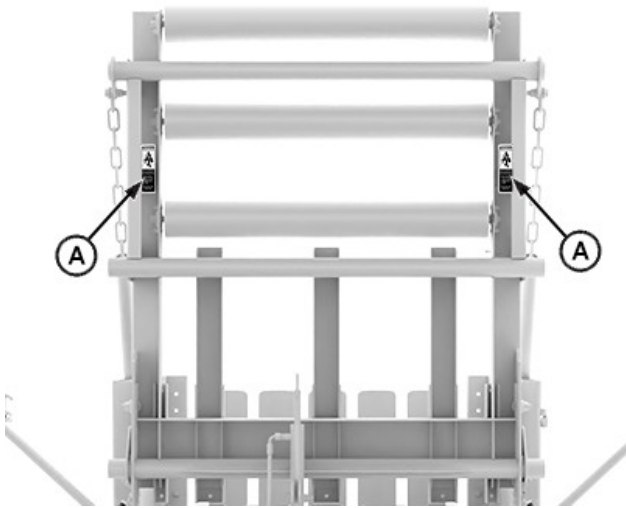
(A) Danger— Entanglement in rotating driveline can cause serious injury or death.

Keep all shields in place.

Avoid contact with rotating parts.

hcmw3gg.1679980607686-19-28MAR23

Bale Chute, Both Sides



EX556250—UN—09MAR23

(A) Warning— Avoid crushing injuries from falling bale chute.

- Secure chains in transport position whenever chute is raised.
- Never stand under a raised chute.

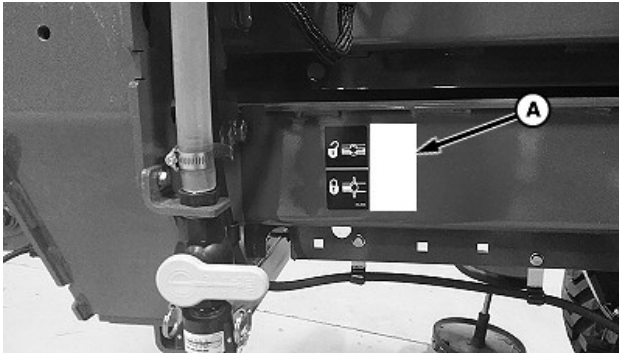
hcmw3gg,1678785461387-19-28MAR23



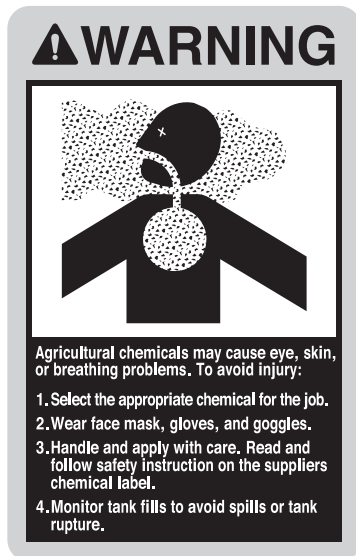
EX556269—UN—27MAR23

Decal A

Preservative Applicator (If Equipped)



E83703—UN—16OCT17



EX572308—UN—27MAR23

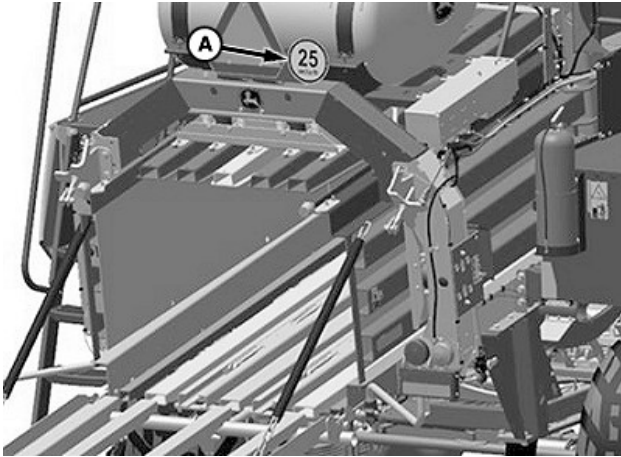
Decal A

(A) Warning— Agricultural chemicals may cause eye, skin, or breathing problems. To avoid injury:

1. Select the appropriate chemical for the job.
2. Wear face mask, gloves, and goggles.
3. Handle and apply with care. Read and follow safety instruction on the suppliers chemical label.
4. Monitor tank fills to avoid spills or tank rupture.

hcmw3gg,1679980608174-19-28MAR23

Speed Limit Decal



E93989—UN—17JUL20



Decal A

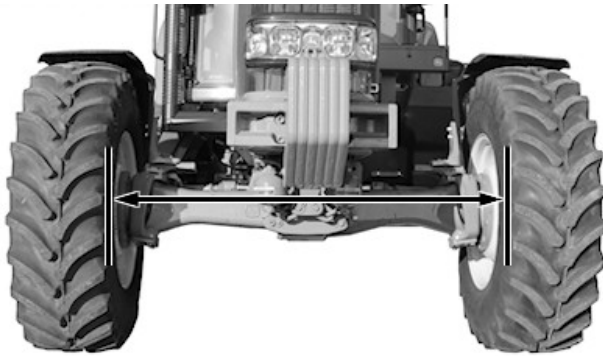
E93991—UN—17JUL20

Balers With Brakes	Maximum speed: 40 kph (25 mph)
Balers Without Brakes	Maximum speed: 30 kph (20 mph)

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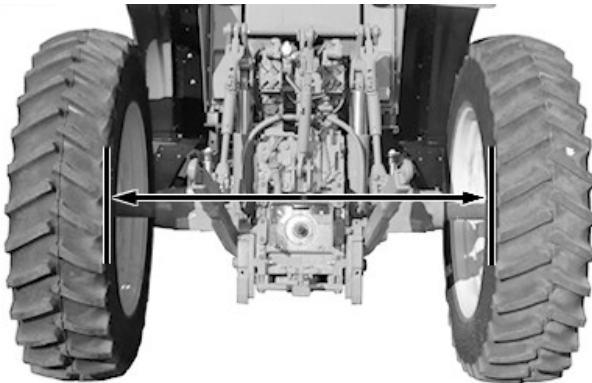
Preparing the Tractor

Adjust Tractor Wheels



Front Wheels

E73017—UN—18FEB14



Rear Wheels

E73018—UN—18FEB14

A—Distance, 1524 mm (60 in.)

NOTE: See your tractor Operator's Manual for procedures to adjust wheel spacing and proper inflation pressures for tractor tires.

Adjust front and rear tractor wheels to provide a minimum inside tire-to-tire dimension according to specifications.

Specification

Inside Tire-to-Tire—Distance. 1524 mm
(60 in.)

PP98408,0000790-19-26AUG14

Adjust Tractor Drawbar

CAUTION: To avoid personal injury, use locking pins to hold drawbar stationary when operating PTO-driven implements.

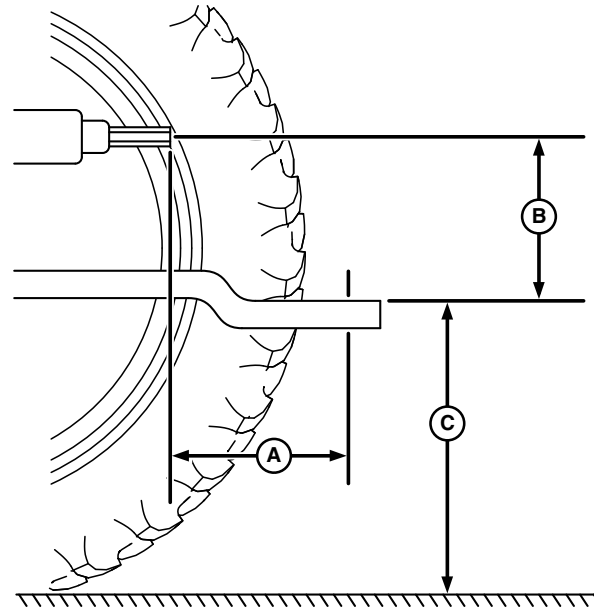
IMPORTANT: Before attaching baler, be sure to adjust the drawbar. Install all shields back in place.

IMPORTANT: Failure to conform to the following setup instructions can result in serious drive line damage.

To prevent damage to baler hitch assembly, use only compatible tractor and baler hitch. Use only Category 3 or Category 4 tractor drawbars.

The tractor tire inflation pressures specified in the tractor Operator's Manual apply.

Install hammer strap (clevis) and cast chain loop plate on top of drawbar. Tighten mounting hardware to 407 N·m (300 lb·ft).



E77437—UN—06NOV14

1. Verify distance from end of PTO shaft to the drawbar hole is set correctly.

2. See table for recommended tractor drawbar settings.

If dimension A cannot be achieved, see Parts Catalog for alternate driveshafts.

PTO Size	A mm (in)	B mm (in)	C mm (in)
1-3/8 in	406 (16)	152—305 (6—12)	330—508 (13—20)
1-3/4 in	508 (20)	203—305 (8—12)	330—559 (13—22)

PP98408,0000791-19-29NOV17

Adjust Tractor Selective Control Valves

The tractor must have:

- One double acting control valve for the auxiliary (jackstand, bale chute, and last bale eject) circuit.

- One double acting control valve for the pickup and precutter circuit.
- One double acting control valve for the BalerAssist circuit (if equipped).
- One single acting control valve for the steered axle circuit (if equipped).

IMPORTANT: To prevent damage to the pickup, operate the tractor SCV in float position during normal field operation.

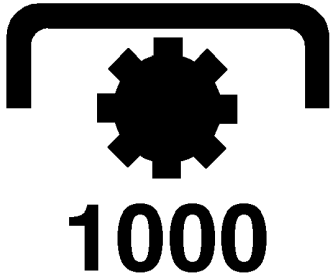
Adjust tractor SCV for pickup as follows:

Move the SCV lever to the float position during normal operation to suspend the pickup by float springs and gauge wheels, not pressurized cylinders.

For pickup, auxiliary, BalerAssist circuits (double acting SCV), set the detent time to continuous. Set the flow rate to approximately 50% of maximum flow.

OOU6064,000266B-19-13NOV25

Select Tractor PTO Speed



1000 rpm

E73022—UN—18FEB14

IMPORTANT: A baler equipped with a 1000 rpm PTO drive must never be operated with a tractor at 540 or 750 rpm PTO speed. Always run the tractor at the rated PTO speed. Overspeed damages the baler.

NOTE: To select the tractor PTO speed, see the tag on the front of the baler.

The baler is shipped with a telescoping driveline for a 1-3/8 inch (21 splines) or 1-3/4 inch (20 splines) diameter PTO shaft.

Always operate the baler with the tractor PTO speed at 1000 rpm.

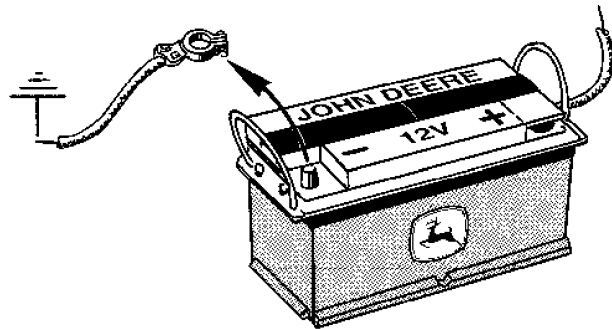
To install the appropriate PTO shaft and set the PTO speed, see the tractor Operator's Manual.

The tractor must have a minimum PTO output of:

- 74 kW (100 hp) on L331R large square baler.
- 87 kW (115 hp) on L331R precutter large square baler.
- 98 kW (130 hp) on L341R and L341R HD large square baler.
- 109 kW (145 hp) on L341R and L341R HD precutter large square baler.

czhk963,1684831880333-19-23MAY23

Baler Electrical Circuit and Control Power Supply Requirement



E73023—UN—18FEB14

The baler electrical circuit and control are designed for use on 12 V electrical systems with negative ground.

PP98408,0000794-19-18FEB14

Three-Point Hitch and Lower Links Position

IMPORTANT: Remove the tractor lower links to prevent them from touching the baler drawbar. During a turn, the lower links can touch the drawbar and the machine can tip over. Personal injuries or damages to the machine can occur.

Before attaching the baler to the tractor:

- Remove tractor lower draft links (see tractor Technical Manual).

PP98408,0000795-19-25SEP14

Check Ballast, Wheel Spacing, and Tire Inflation

Provide sufficient weight to stabilize tractor when operating on hilly land or other adverse conditions. (See your tractor Operator's Manual).

To insure proper stability, adjust ballast, wheel spacing, and tire inflation according to tractor Operator's Manual.

PP98408,0000796-19-18FEB14

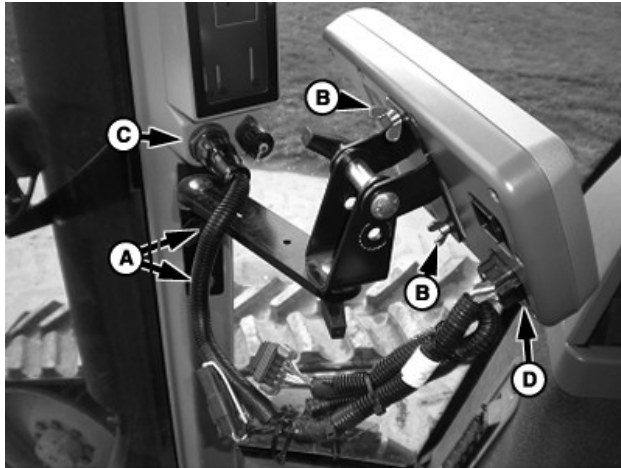
Install 4640 Universal Display

To install the John Deere 4640 universal display, see a John Deere dealer or other service provider.

GW44282,000081E-19-13NOV25

Install GreenStar 2 2600 or GreenStar 3 2630 Display

GW44282,000081D-19-13NOV25



PC10857GA—UN—28OCT08

GreenStar 3 2630 Display Shown

- A—Corner Post Mounts
- B—Wing Nuts (2 used)
- C—Corner Post Connector
- D—Connector on Display

1. Attach bracket to corner post mounts (A).
2. Attach display to the bracket using the wing nuts (B) (provided with display).
3. Attach harness to the corner post connector (C) and the lower connector on the back of the display (D).



E66306—UN—29JUN12

GreenStar 3 2630 Display Shown

4. Position the display so that it is comfortable to reach and does not obstruct your view.

IMPORTANT: Display must be connected to switched and constant power. It allows the display to shut down properly and save data. When the key is switched off, a Saving Settings message appears on the screen.

NOTE: Bracket and harness are sold separately.

Install Display in a John Deere Vehicle with an ISOBUS Display

One John Deere ISOBUS display can be installed on the corner post of a John Deere vehicle that has an ISOBUS compatible display installed on the armrest, such as an 7R CommandCenter. Examples of John Deere ISOBUS displays that can be installed on the corner post include GS2 1800, GS2 2600, and GS3 2630. Some applications will automatically be turned OFF on the armrest display because they cannot run on two displays on the same CANbus. The Implement Bus may be turned ON or OFF on the armrest display, depending on user preference.

1. Turn OFF vehicle.
2. Attach the display harness to the corner post connector and the 26-pin connector on the back of the display.
3. Turn ON the vehicle. The armrest display can display a message stating that another John Deere display has been detected. If it does not, see the vehicle Operator's Manual to check that the Multiple Display settings are set correctly on the armrest display.
4. Restart the vehicle so that both displays can reboot.

When both displays power up, some applications will be set to ON or OFF on each display, as shown in the table below. If the armrest display MODE, found on the Multiple Display Settings page is set to CUSTOM and the applications are not set as desired, select RESTORE TO DEFAULT SETTINGS on the Multiple Display Settings on the armrest display.

Application	Corner Post Display	Armrest Display
GreenStar	ON	OFF
Original GreenStar Display Emulator	ON	OFF
Implement Bus	ON	OFF
Controller Programming	ON	OFF
Task Controller	ON	ON

Default Multiple Display Configuration

Implement Bus is the only application that can be user configured to be ON or OFF on the armrest display. Turn

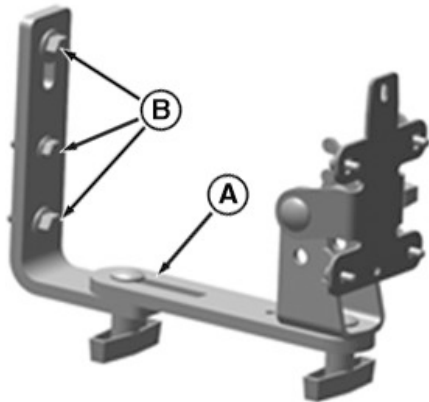
the Implement bus OFF for all ISO Implement applications to move to the other display.

NOTE: The armrest display may not function properly if a third-party display is connected to the Implement Bus. It is recommended that a second CANbus be installed if problems occur.

Different models of tractors can require different harnesses for proper operation of an ISO monitor. Proper harness can be obtained via regular spare part channels.

PP98408,000079C-19-13NOV25

Install G5 Display



APY573764—UN—24APR23

A—Bracket
B—Screw (3 used)

1. Attach bracket (A) to corner post mounts of tractor using screws (B).
2. Attach display to bracket (A).
3. Connect harness to the corner post connector and the lower connector on the back of the display.
4. Position the display so that it is comfortable to reach and does not obstruct your view.

IMPORTANT: Display must be connected to SWITCHED and CONSTANT power. This allows the display to shut down properly and save data. When the key is switched off, a Saving Settings message will appear on the screen.

Operational Service Details



E64577—UN—14MAY12

Complete information about operation of round baler using the display can be found in Preparing the Baler Application, Basic Operation, and Display Settings section of the Operator's Manual.

A troubleshooting section discusses Diagnostic Trouble Codes (DTCs) that are used to diagnose and correct issues with the display-controlled baler.

Another section called Operating the Baler Application discusses calibration processes for baler components, testing, some electrical components, and activation or deactivation of some machine components.

Operating the Baler in Automation Mode section covers automation operation, troubleshooting, and service for baler or tractor operating in the Automation Mode.

hy01057,1678184636807-19-05JUL23

Extended Rear-View Mirror



E73025—UN—18FEB14

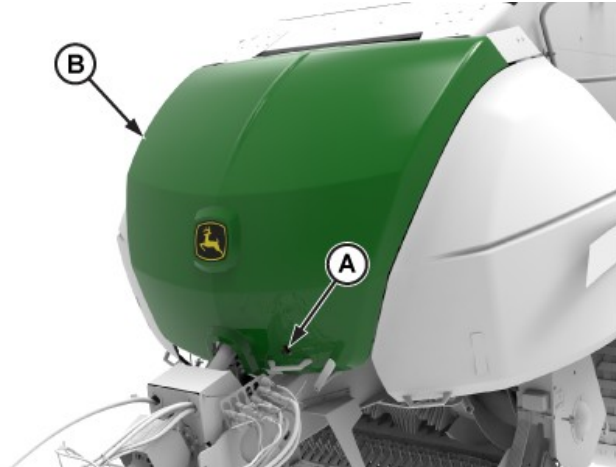
Install an extended rear-view mirror on tractor to improve visibility of traffic behind the baler when towing on public roads. See a John Deere dealer or other service provider.

PP98408,000079D-19-13NOV25

Preparing the Baler

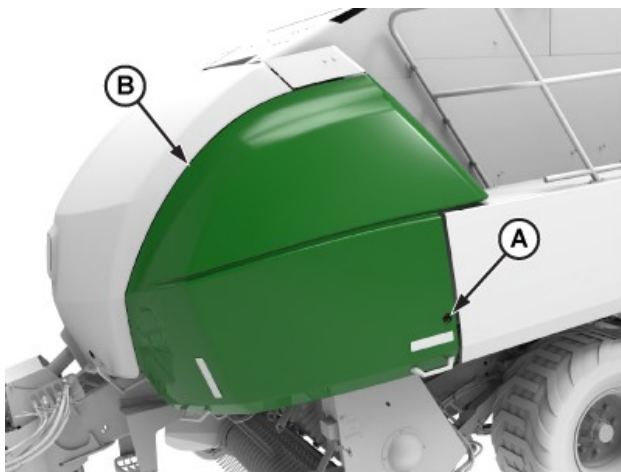
Open Doors and Shields

⚠ CAUTION: Be careful when pulling down on the handle to close doors. Doors are spring loaded to close on the last part of the stroke. Personal injuries can occur.



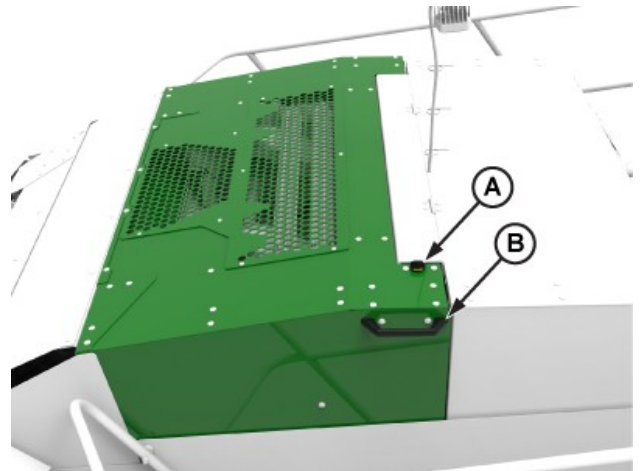
A—Door Lock
B—Front Door

1. Turn door lock (A) to unlock the front door (B).
2. Pull up on handle to open the front door.



A—Door Lock
B—Side Door

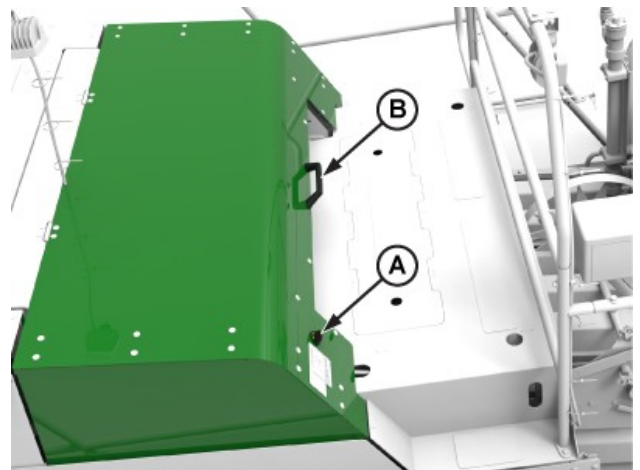
1. Turn door lock (A) to open side door (B).
2. Pull up on handle to open the side door.



APY565544—UN—16MAR23

A—Door Lock
B—Knotter Door

1. Turn door lock (A) to open knotter door (B).
2. Pull up on handle to open the knotter door.



APY565545—UN—16MAR23

A—Shield Lock
B—Knotter Shield

1. Turn shield lock (A) to unlock knotter shield (B).
2. Pull up on handle to open the knotter shield.

hy01057,1678781652362-19-21MAR23

Telescoping Driveline

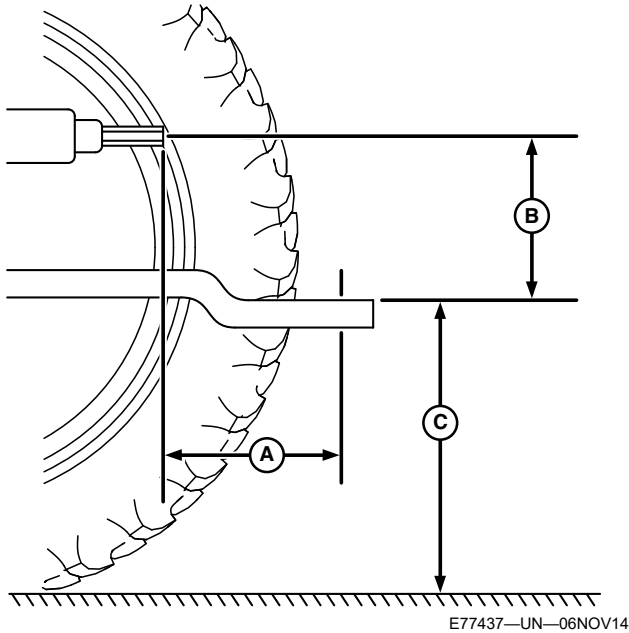
IMPORTANT: Do not use a hammer. Do not connect the telescoping driveline with use of a hammer or other equivalent tools. By using these tools, telescoping driveline can get seriously damaged. A damaged telescoping shaft can cause both machine and tractor damage.

If telescoping driveline is too long, it can seriously damage drive bearings of both tractor and machine.

Preparing the Baler

The following points must be checked before installing telescoping driveline:

- Make sure that the tractor PTO shaft is clean and greased.
- Make sure that the PTO shaft is coupled to baler securely.
- Make sure that PTO shielding is fitted correctly.

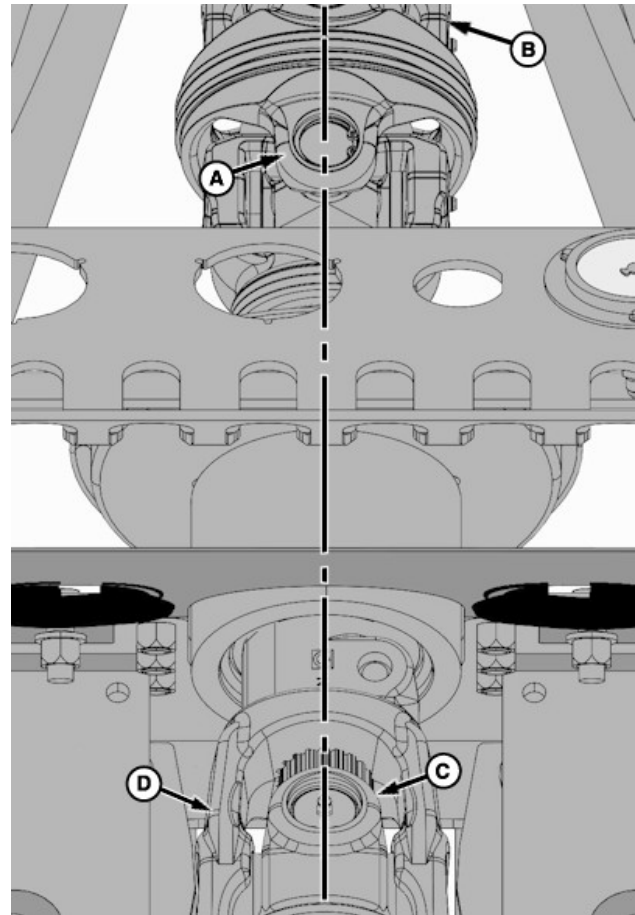


1. Verify distance from end of PTO shaft to the drawbar hole is set correctly.
2. See table for recommended tractor drawbar settings.

If dimension A cannot be achieved, see Parts Catalog for alternate driveshafts.

PTO Size	A mm (in.)	B mm (in.)	C mm (in.)
1-3/8 in.	406 (16)	152—305 (6—12)	330—508 (13—20)
1-3/4 in.	508 (20)	203—305 (8—12)	330—559 (13—22)

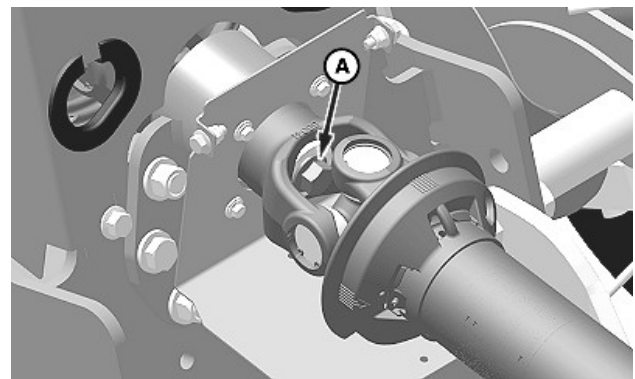
IMPORTANT: Install telescoping driveline with correct orientation. Rear yoke (A) of the front driveline (B) must be aligned with the front yoke (C) of rear driveline (D) for proper operation. Failure to align yokes results in reduced life of driveline.



PTO Shields Removed for Illustration Purposes

A—Rear Yoke
B—Front Driveline
C—Front Yoke
D—Rear Driveline

3. Make sure that tractor drawbar length is set correctly for PTO (see Adjust Tractor Drawbar in Preparing the Tractor section).
4. Connect machine to tractor drawbar (see Attach Baler to Tractor in Attaching and Detaching section).

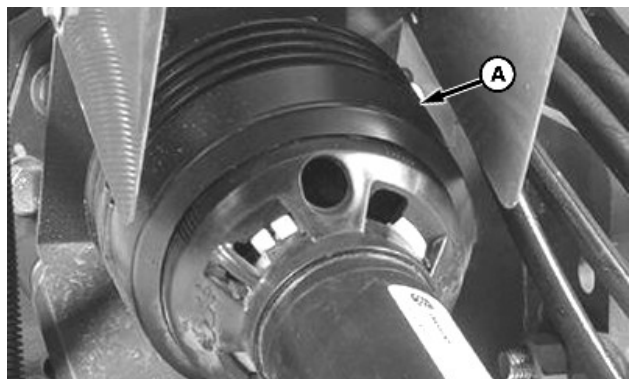


A—Cap Screw

5. Install PTO driveline using cap screw (A).

6. Apply Loctite 242 to the primary driveline cap screw (A).
7. Tighten cap screw to specifications.

Specification	
Lock Nut—Torque	190 N·m (140 lb·ft)



A—PTO Shield

E84238—UN—29AUG17

8. Install and latch PTO shield (A).

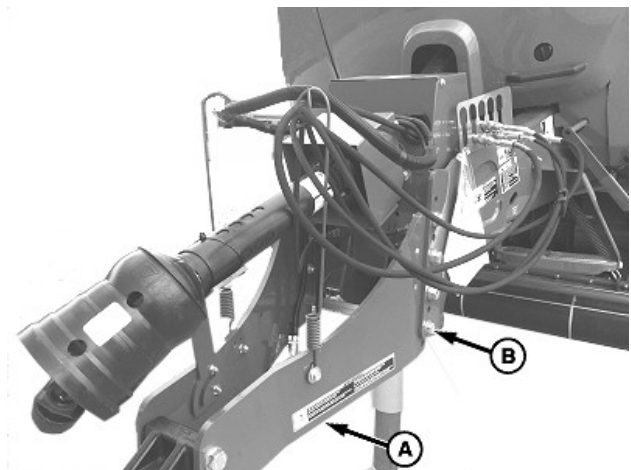
GW44282,0000805-19-13NOV25

Adjust Baler Hitch

Machine must be on level ground.

1. Measure from the top of the tractor drawbar to the ground.
2. Adjust baler hitch according to the drawbar dimension.

NOTE: All baler hitches are factory installed in position 2.



A—Hitch
B—Cap Screw and Nut (4 used)

E84515—UN—12SEP17

3. Secure hitch (A) using suitable hoist.

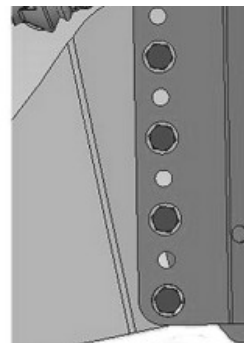
4. Loosen cap screws and nuts (B).
5. Adjust hitch to required position using suitable hoist.

IMPORTANT: Attach hitch (A) always using a minimum of four cap screws and nuts (B) on each side. Distance of cap screws and nuts must be as far from each other as possible, with a minimum overlap of five holes.

Single axle	Drawbar dimension
Position 1	444-560 mm (17.5 - 22 in)
Position 2	380-444 mm (15 - 17.5 in)
Tandem axle	Drawbar dimension
Position 1	508-560 mm (20 - 22 in)
Position 2	406-508 mm (16 - 20 in)
Position 3	380-406 mm (15 - 16 in)

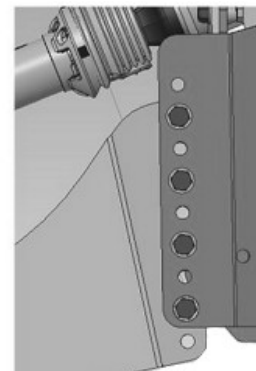
6. Tighten cap screws and nuts to specification.

Specification	
Cap Screws and Nuts—Torque	400 N·m (295 lb·ft)



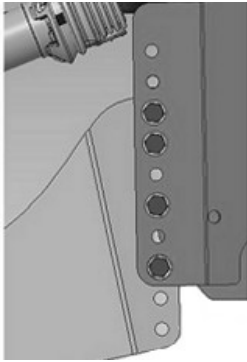
Position 1

E85186—UN—20NOV17



Position 2

E85187—UN—27NOV17



Position 3

E85210—UN—20NOV17

- Remove hoist and attach the baler to tractor. (See Attach Baler to Tractor in Attaching and Detaching section.)

GW44282,00007DA-19-20NOV17

Adjust Pickup Working Height

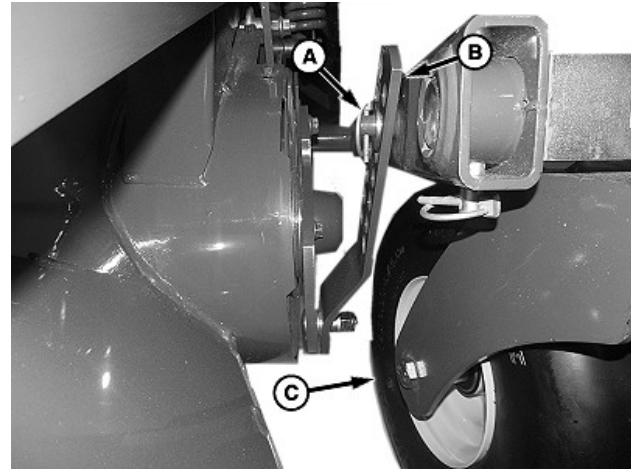
Three factors determine the adjustment for gauge wheels:

- Tractor drawbar height
- Baler tire size
- Baler hitch position

Adjust Pickup Working Height (Pivot)

IMPORTANT: Gauge wheels must be positioned so the pickup is as high as possible, while the pickup teeth still clean the field adequately. Operating with pickup teeth contacting the ground can cause pickup damage.

1. Park the baler on a level surface. Baler hitch height must match the drawbar height of the tractor used for baling.
2. Connect hydraulic hoses to the tractor selective control valve.
3. Fully raise the pickup with the selective control valve lever.



E82728—UN—21APR17

- A—Spring Pin
- B—Bracket
- C—Gauge Wheel

4. Remove spring pin (A).
5. Move bracket (B) to raise or lower gauge wheel (C) at desired position.
6. Reinstall spring pin (A).
7. Repeat Steps 4—6 on the opposite side of baler.
8. Lower pickup and check that tips of tines (A) are approximately 20—30 mm (0.78—1.18 in) above the ground.

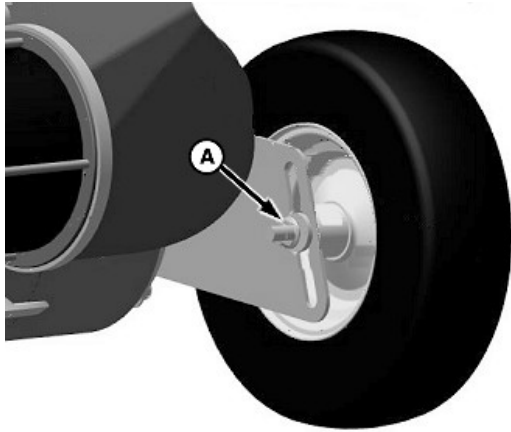
NOTE: The dimension of 20—30 mm (0.78—1.18 in) is just a recommendation since correct value depends on soil and crop conditions.

Adjust Pickup Working Height (Fixed)

IMPORTANT: Gauge wheels must be positioned so the pickup is as high as possible, while the pickup tines still clean the field adequately. Operating with pickup tines contacting the ground can cause pickup damage.

1. Park the baler on a level surface. Baler hitch height must match the drawbar height of the tractor used for baling.
Connect hydraulic hoses to the tractor selective control valve.
2. Fully raise the pickup with the selective control valve lever.

IMPORTANT: The distance between the gauge wheel and ground must always be equal to or less than the distance between the pickup tines and ground. If not, the gauge wheels do not protect the pickup. Adjust the pickup until pickup tines have a minimum of 25 mm (1 in) ground clearance.



A—Lock Nut

E84684—UN—13OCT17

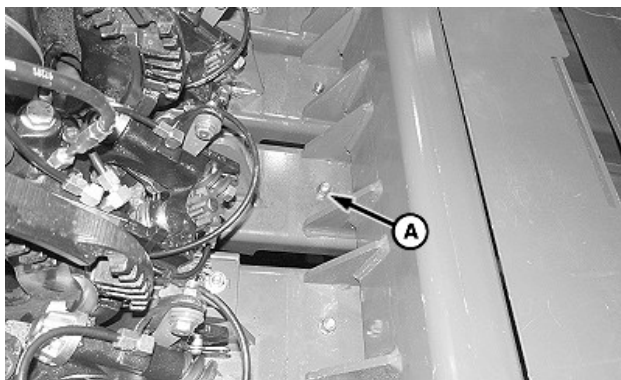
- Loosen lock nut (A) and lower the wheel until it contacts the ground. Tighten lock nut (A). Repeat on the opposite side.

NOTE: Final adjustment depends on field conditions.

GW44282,00007DE-19-20NOV17

Remove and Install Stationary Hay Dogs

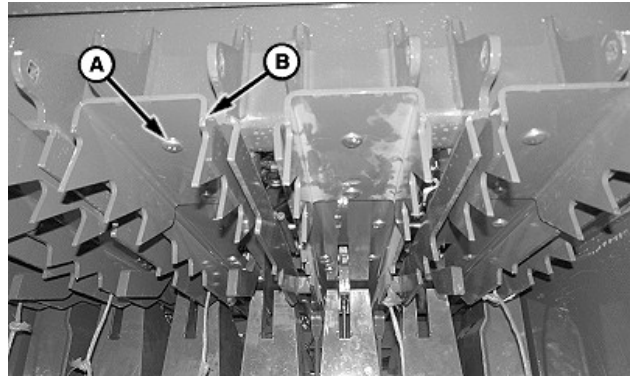
IMPORTANT: To avoid any buildup in the bale chamber and damage to the bale and twine, remove stationary hay dog when baling silage, cornstalks, and dry straw.



A—Carriage Bolt

E82696—UN—18APR17

- From the knottor deck, remove front nut, washer, and carriage bolt (A).



E82697—UN—18APR17

View from Inside Bale Chamber

A—Carriage Bolt (2 used, each channel)
B—Stationary Hay Dog

- From inside the bale chamber, remove the rear nut, washer, carriage bolt (A), and stationary hay dog (B).
- Install in reverse order.

GW44282,00007DB-19-16NOV17

Remove and Install Precutter Knives (L331R Precutter, L341R Precutter, and L341R HD Precutter Only)



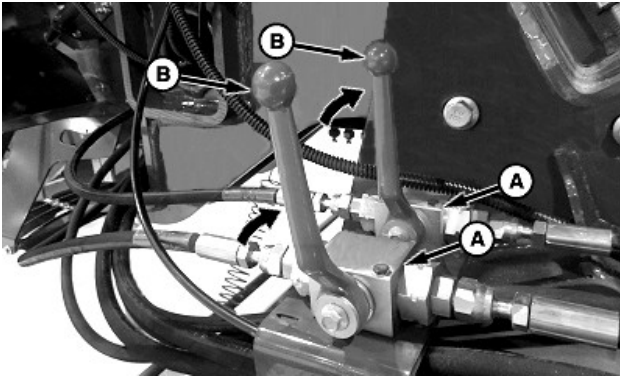
E77215—UN—30SEP14

CAUTION: The knives can be sharp. Prevent personal injury by wearing suitable gloves when handling the knives.

IMPORTANT: To operate control monitor, see Operating Baler Application section.

- Lower the knives (See Operate Precutter Knives in the Operating the Baler section).
- Lower the drop floor (See Operate Drop Floor in Operating the Precutter Knives).
- Turn off the tractor engine and remove the key.
- Apply the flywheel brake.

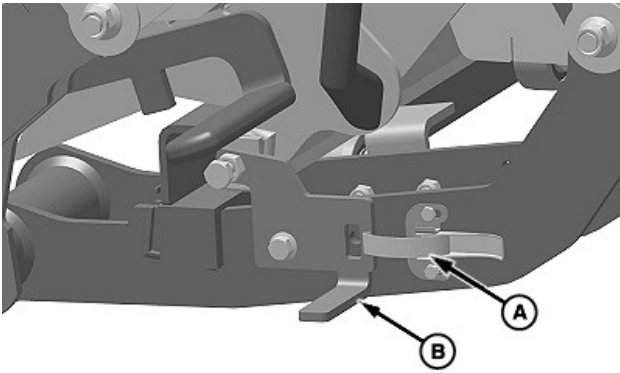
Preparing the Baler



E85657—UN—20NOV17

A—Ball Valves
B—Levers

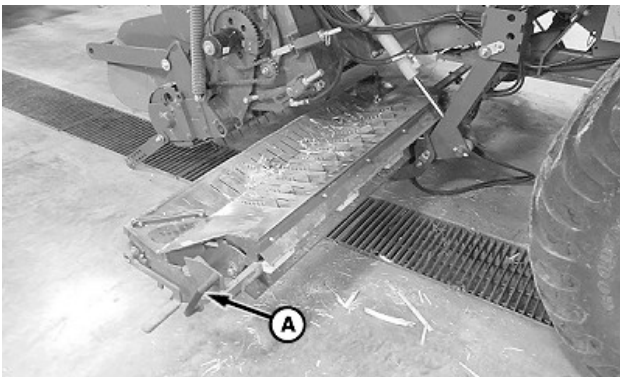
5. Lock the ball valves (A) by turning levers (B) clockwise.



E81780—UN—09JAN17

A—Spring Clamp
B—Stop Plate

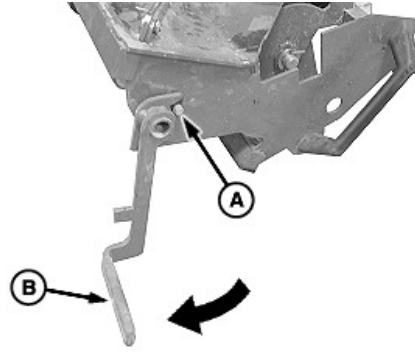
6. Disengage the spring clamp (A) and pivot the stop plate (B) down.



E82698—UN—19APR17

A—Handle

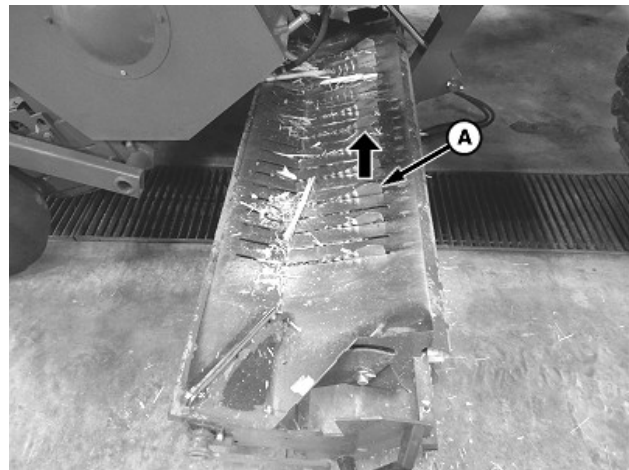
7. Pull the knife drawer out the left-hand side of the machine fully using the handle (A).



E81782—UN—09JAN17

A—Pin
B—Knife Retaining Rod Lever

8. Push the knife retaining rod lever (B) down fully until the notch in the plate is against the pin (A) as shown.



E82699—UN—19APR17

A—Knife

9. Remove the knives (A) by pivoting the back of knife up as shown, and slide knife away from the knife retaining rod.

10. Install in reverse order.

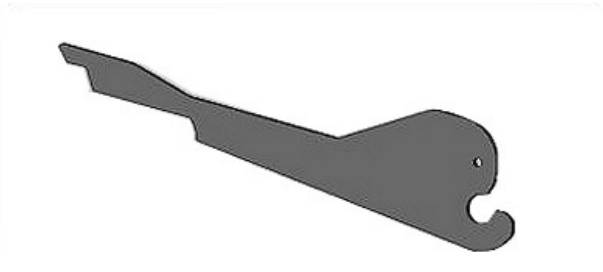
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Install Knife Slot Filler Plates



Precutter Knife

E84637—UN—27SEP17



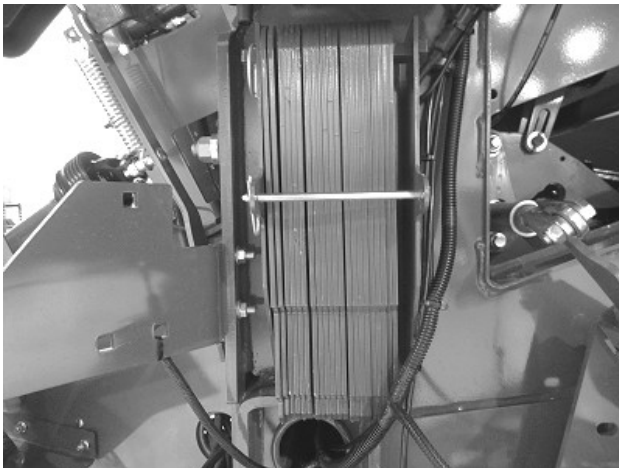
Knife Slot Filler Plate

E84924—UN—10OCT17

If the precutter is not being used for extended periods of time, install the filler plates in place of the knives.

Filler plates help keep the knife slots free of buildup and pinned crop, which can reduce capacity when not using the precutter.

Install filler plates in the same way as precutter knives. (See Remove and Install Precutter Knives in this section.)



Knife Slot Filler Plate Storage

E84638—UN—27SEP17

Filler plates can be installed in combination with knives to achieve longer lengths of a cut. For example, two

knife slots can have filler plates and every third position can have a knife. The filler plates do not move when the knife banks are engaged.

OOU6064,0002628-19-07NOV19

Select Twine

1. Only use high quality twine designed for use on large square balers. Low quality or improper twine type can cause excessive knotter trouble and twine failures.
2. If a different knot strength twine is required, switch all twine balls on knotter at same time. Monitor knotter performance closely for first several bales and make minor adjustments to knotters as necessary.

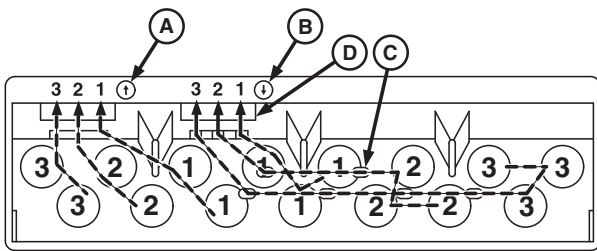
PP98408,00007A7-19-03MAR15

Install Twine

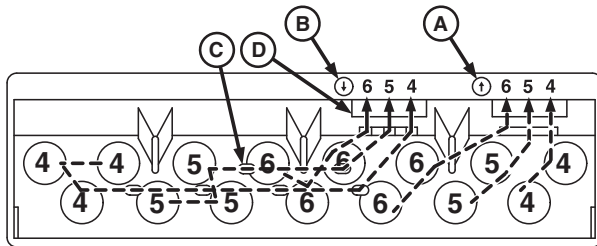
CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on the knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in the Service section in this manual.)

IMPORTANT: It is critical that the twine does not cross paths with each other. Twine tension can be impacted and cause possible mis-ties.

For twine ball routing, see the twine box routing decal on the inside of the twine box panel.



E90102—UN—02OCT18
L341R Left-Hand Side Shown



E90103—UN—02OCT18
L341R Right-Hand Side Shown

- A—Up Arrow
- B—Down Arrow
- C—Twine Guide
- D—Tension Plate
- 1—Twine Ball to Needle 1
- 2—Twine Ball to Needle 2
- 3—Twine Ball to Needle 3
- 4—Twine Ball to Needle 4
- 5—Twine Ball to Needle 5
- 6—Twine Ball to Needle 6

The baler holds up to 15 balls of twine on each side of the machine. Up to three balls of twine are joined to provide twine to a single knotter.

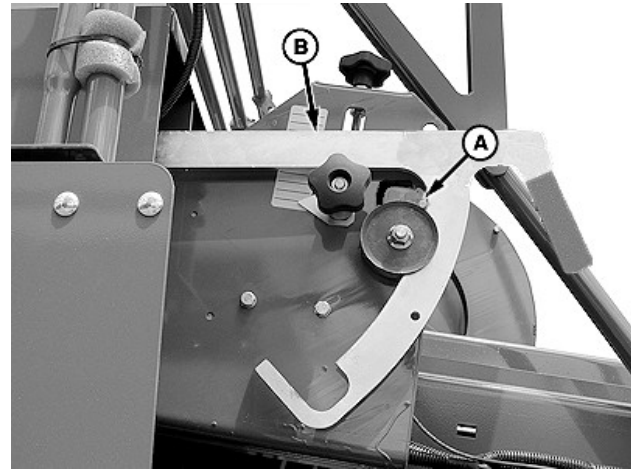
The up arrow (A) indicates the twine being fed to the upper tensioner. The down arrow (B) indicates the twine being fed to the lower tensioner.

- With 1 x 9 kg (19.8 lb) ball (130—150 m/kg [193—223 ft/lb]), for bales of 2.5 m (8 ft 2 in) long; approximately 200 bales.
- With 6 x 9 kg (19.8 lb) ball (130—150 m/kg [193—223 ft/lb]), for bales of 2.5 m (8 ft 2 in) long; approximately 1200 bales.

NOTE: The twine loading procedure is the same on BOTH sides of the machine.

IMPORTANT: To work safely on knotters, use the locking lever (A) to lock or unlock the trip mechanism (B) at the needle drive.

NOTE: L341R procedure is shown. L331R procedure is similar. The locking lever is on the trip mechanism.



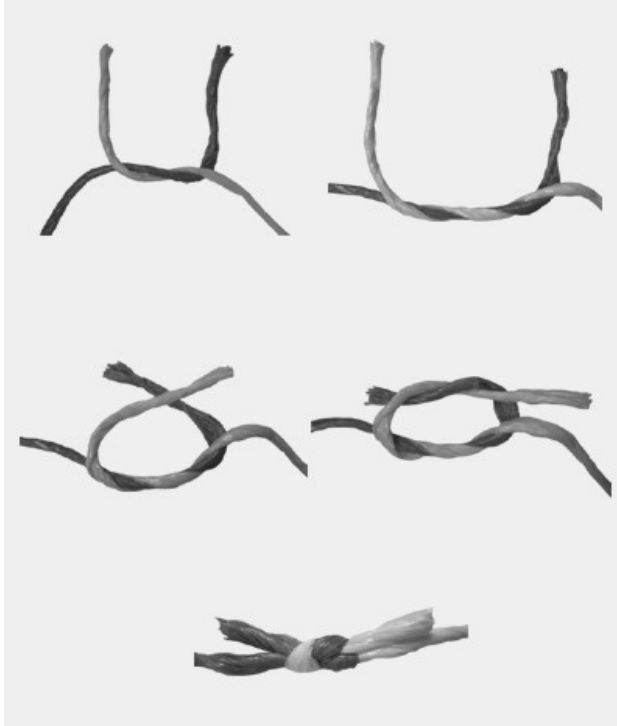
Locked Position

E77714—UN—03DEC14

- A—Locking Lever
- B—Trip Mechanism

1. Disengage the tractor PTO.
2. Stop the tractor engine.
3. Remove the ignition key.
4. Apply the flywheel brake.
5. Place the locking lever (A) of the trip mechanism (B) at the needle drive in the STOP position.
6. Open the twine box door and place one ball of twine in each twine box section with the loose twine ends exposed, facing upwards.

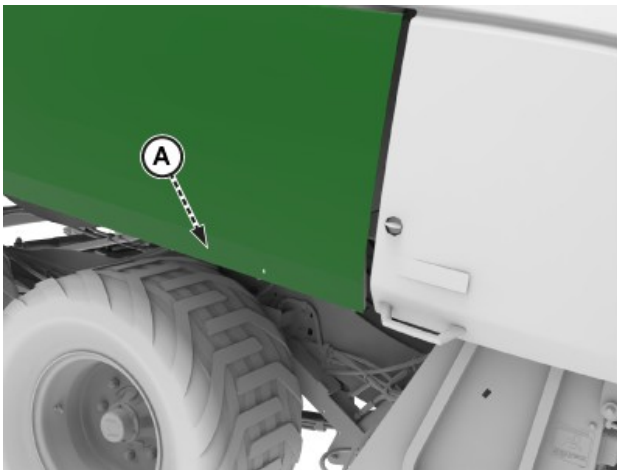
IMPORTANT: The twine knot must be small enough to pass through guides.



E73199—UN—26FEB14

Plastic Twine (Surgeons Knot)

7. Tie the center twine of ball to the twine of the next ball, as shown by the solid line in the diagram.
8. Trim loose ends of the twine as close to the knot as possible.
9. Insert and pull the twine through twine guides (C) and then through tension plates (D).

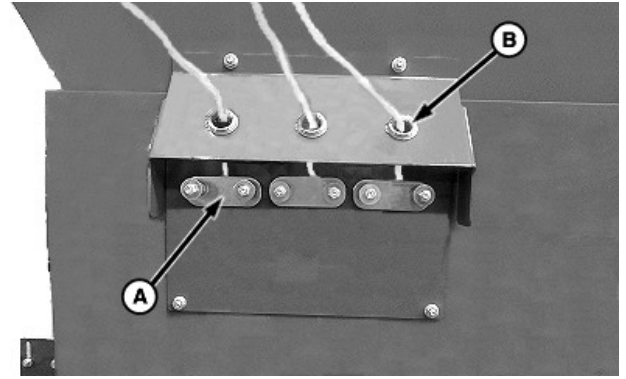


APY565547—UN—16MAR23

A—Handle

10. To access the back of the twine box, open the left-hand and right-hand gull wing door.
11. Unlock the twine box by pulling the handle (A) down. Pull the twine box open to route the twine.

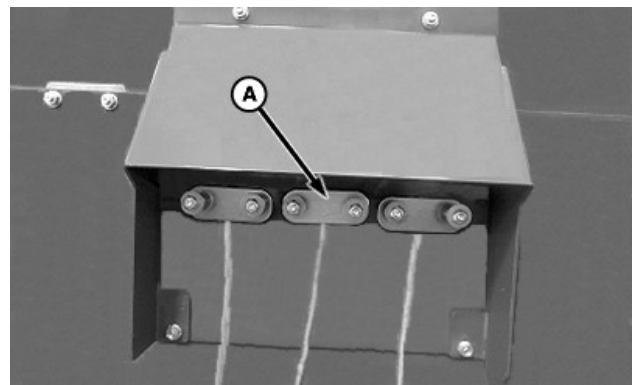
IMPORTANT: Set the tension springs to 2—4 lb of pull in the direction of the twine travel.



E84929—UN—09OCT17

A—Tension Plate (as required)
B—Twine Guide (as required)

12. Pass the twine leading to the upper tensioner through the top side of tension plates (A) and up through twine guides (B).
 - Twine must rub eyelets in between the twine box tensioner and tensioner. Twine must not float in the eyelet.
 - When there is not enough twine tension, the twine slips out of the upper and lower tensioner wheels.
 - Top twine tensioners for knotter 1 and 2 require to be set slightly looser than 3 and 4.



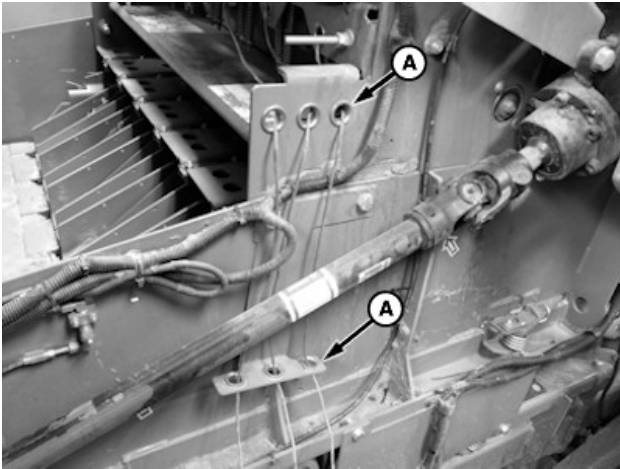
E84928—UN—09OCT17

A—Tension Plate (as required)

13. Pass the twine leading to the lower tensioners through the bottom side of tension plates (A).

Route Twine to Upper Tensioner:

NOTE: The twine routing procedure is the same on BOTH sides of the machine.



E73285—UN—25NOV14

A—Twine Guide (as required)

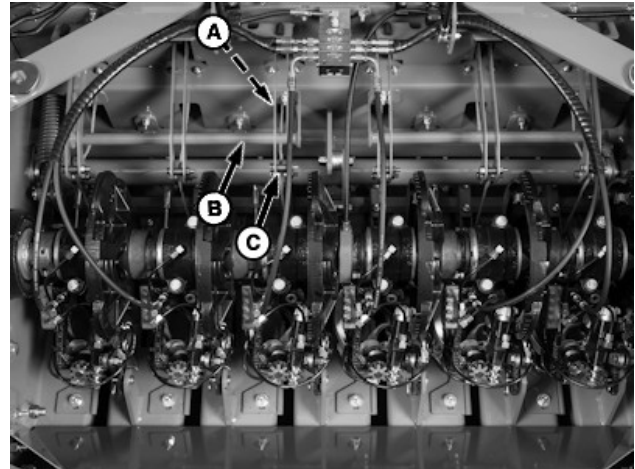
1. Pass the twine leading to the upper tensioners through twine guides (A).



E75700—UN—25NOV14

A—Twine Guide (as required)

2. Pass the twine through twine guides (A).



E75701—UN—08MAY14

A—Gear Tensioner
B—Slack Arm Stop
C—Upper Slack Arm
D—Twine Placement Arm

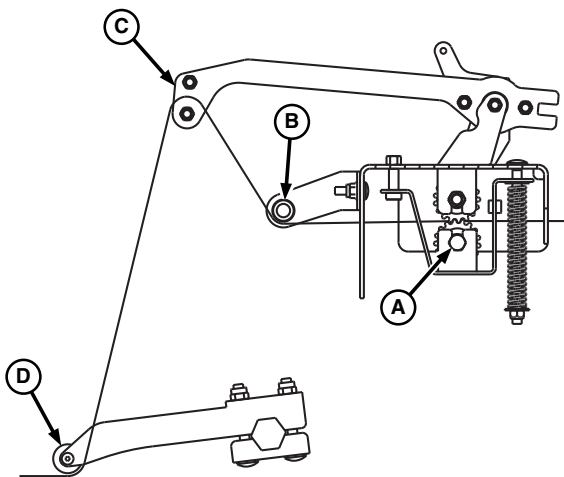
3. Pass the twine through the gear tensioner (A), around the slack arm stop (B), around the upper slack arm (C), and around the twine placement arm (D).

To set initially:

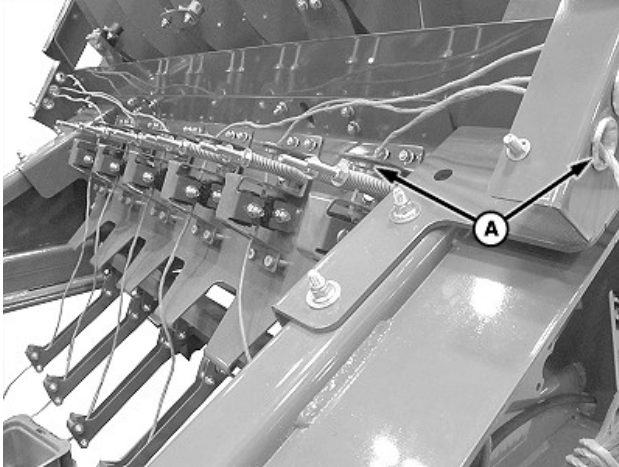
- a. Pull the twine out of the gear tensioner, under the slack arm stop bar, through the upper slack arm, through the twine placement arm and into the bale chamber. When the twine is pulled down through the upper slack arm (C), the slack arm bottoms out on the slack arm stop (B) before the twine starts moving through the gear tensioner (A).
 - b. Recommended twine tension is 10—16 lbf.
4. Repeat procedure for upper tensioners on the opposite side.

Route Twine to Lower Tensioner:

NOTE: Twine routing procedure is the same on BOTH sides of machine.



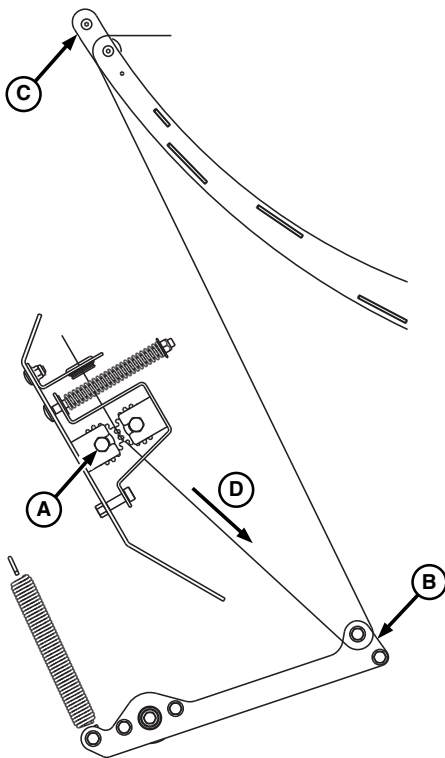
E73265—UN—04MAR14



E97957—UN—06MAY22

A—Twine Guide (as required)

1. To route the twine, remove the lower tensioner cover.
2. Pass the twine leading to the lower tensioner through twine guides (A).



E73264—UN—30SEP14

- A—Gear Tensioner**
- B—Lower Slack Arm**
- C—Needle Roller (as required)**
- D—Arrow**

3. Pass the twine through the gear tensioner (A), around the lower slack arm (B), between the needle roller (C), and into the bale chamber.
4. Repeat the procedure for remaining lower tensioners.

5. Tie the top and bottom twines together. Trim loose ends of the twine as close to the knot as possible.

To set initially:

- a. When the twine is pulled up through the slack arm (B), the slack arm bottoms out on the tensioner frame before the twine starts moving through the gear tensioner (A).
- b. Recommended twine tension is 20—24 lbf. Measure with a spring scale in the direction shown by arrow (D).



E97956—UN—06MAY22

6. Close twine boxes on both sides of the machine.

IMPORTANT: If the slack is not removed when twine boxes are closed, the twine can slip off the gear twine tensioner.

7. To get rid of the slack, lightly push the twine into the balls. Pull the twine back through the twine box tensioner.
8. Close the left-hand and right-hand side doors.
9. Make sure that the trip mechanism is unlocked before operating the machine.

Check Tire Pressure



E75697—UN—08MAY14

Tire pressure depends on tire size. See table to check tire pressure accordingly:

Tire Size		Pressure
500/55-20	Tandem Axle	200 kPa (2 bar) (29 psi)
550/45-22.5	Tandem Axle	220 kPa (2.2 bar) (32 psi)
600/50-22.5	Single Axle	300 kPa (3 bar) (43 psi)
710/40R22.5	Single Axle	280 kPa (2.8 bar) (41 psi)

KW18595,0000228-19-06JAN25

Check Wheel Nut Torque



E75698—UN—08MAY14

A—Wheel Nut

IMPORTANT: Check wheel nut torque after the first 10 hours of use.

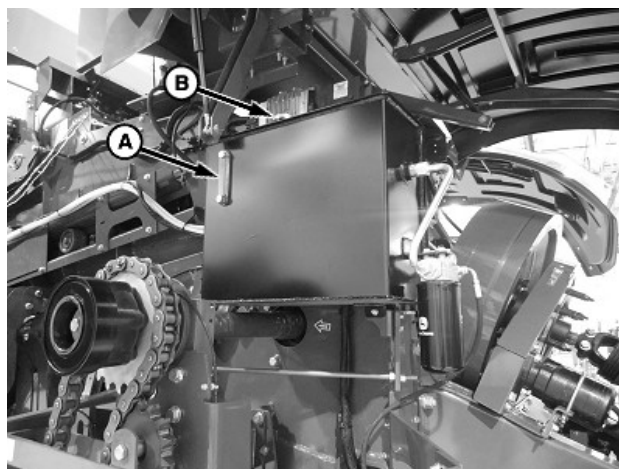
Whenever a wheel has been removed and installed, check torque after 10 hours of operation. Tighten wheel nuts (A) to specification.

Specification

- (8) M18 Wheel Nuts—Torque. 270 N·m
(200 lb.-ft.)
- (10) M22 Wheel Nuts—Torque. 450 N·m
(332 lb.-ft.)

PP98408,00007AC-19-11NOV14

Check Hydraulic System Oil Level



E84237—UN—29AUG17

A—Sight Glass
B—Filler cap

Check level of hydraulic oil at sight glass (A) with hydraulic oil pressure at 0 kPa (0 bar) (0 psi), and the bale chamber cylinders retracted.

Hydraulic oil level is correct when top of oil is at top of sight glass (A).

To add hydraulic oil, remove the filler cap (B). Add hydraulic oil as needed with specified hydraulic oil (see Lubricants and Capacities section).

GW44282,0000788-19-29AUG17

Preparing the Applicator (If Equipped)

Fill Tank

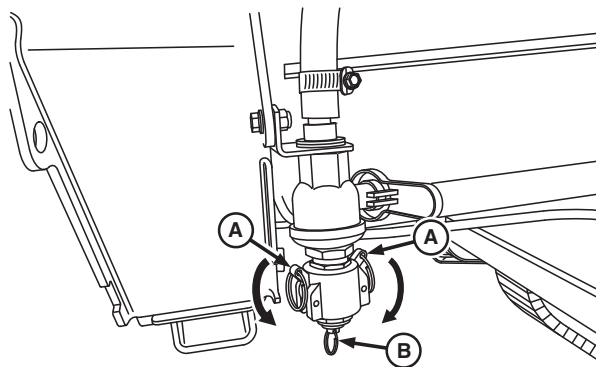
Read the label of the selected product to fill the tank, then determine the correct protective measures required to handle that product.

NOTE: Green-Gard Hay Preservative is the suggested application solution that is used in the preservative application system.



EX544414—UN—26AUG22

1. Fill solution tank (A) with 38 L (10 gal) of water only for the first time and then for annual start-up.



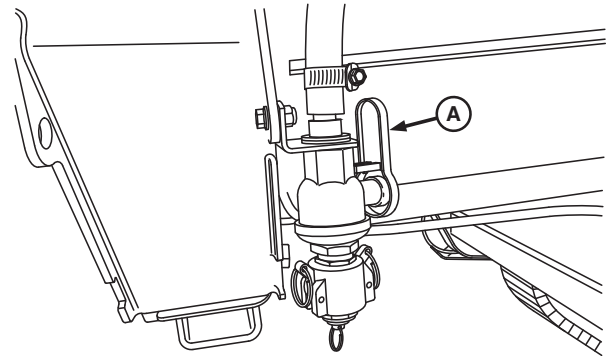
E82161—UN—18APR17

A—Coupler Lock (2 used)
B—Coupler Plug

2. Engage the tractor park brake or place transmission in PARK.
3. Shut off engine and remove ignition key.

NOTE: Drain/fill line and coupler are on the right-hand side of the baler.

4. Open coupler locks (A) and remove the coupler plug (B).
5. Insert male coupler from the fill hose on the transfer pump into the female coupler and close coupler locks (A).



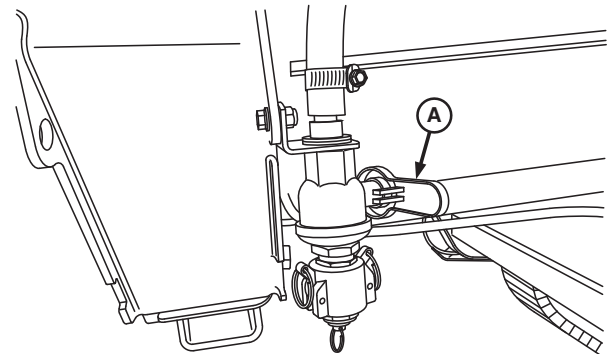
E82162—UN—18APR17

OPEN

A—Valve Lever

6. Turn valve lever (A) so that it is in the vertical OPEN position.
7. Switch transfer pump ON.

NOTE: Monitor visually or through the display.



E82163—UN—18APR17

CLOSED

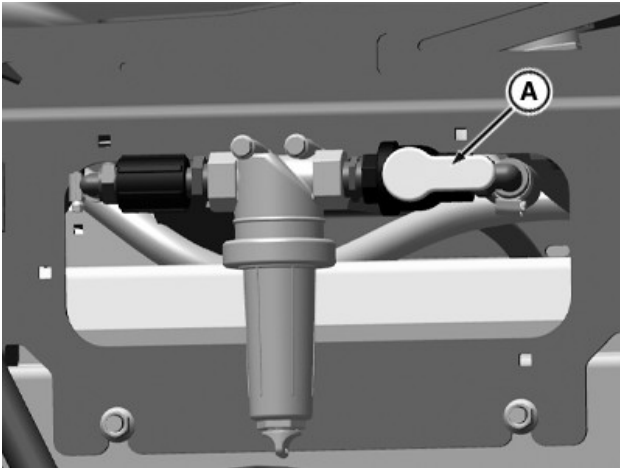
A—Valve Lever

8. After the transfer pump is switched off, turn valve lever (A) so that it is in the horizontal CLOSED position.
9. Disconnect the transfer pump coupler, reinstall the coupler plug, and close the coupler locks.

wkjquwj,1661405338555-19-13NOV25

Preparing the Applicator (If Equipped)

Main Valve



OPEN

EX544412—UN—26AUG22



CLOSED

EX544415—UN—29AUG22

A—Valve Lever

NOTE: Place valve lever (A) in the closed position whenever the system is not in use or any service work is being done.

Turn valve lever (A) to open or close the valve.

wkjquwj,1661772307944-19-29AUG22

Spray Tip Output

Output Tip	
Black Tip	8 L/min (2 gal/min)

The nozzle is flat fan nozzle with 140° spray angle.

NOTE: Nozzle tip angle can be changed based upon user preference as long the flow rate is 8 L/min (2 gal/min). The 140° tip angle provides coverage of crop across the entire pickup.

wkjquwj,1663334033597-19-20OCT22

Prepare Monitor

Enabling Preservative System on Monitor



Menu Softkey

E84529—UN—15SEP17

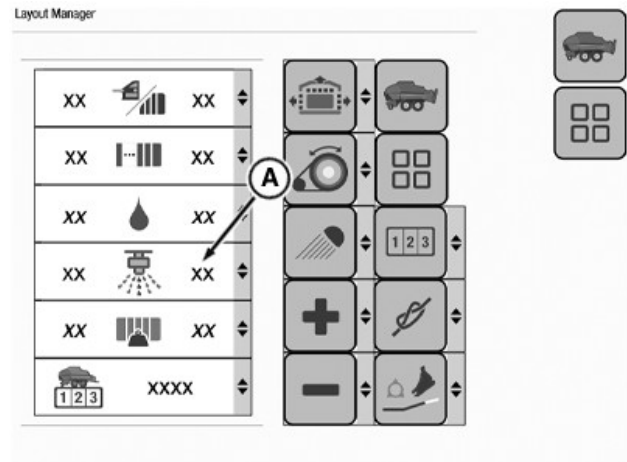
1. From the MENU screen, select the Menu Softkey to view the menu page.



Layout Manager Menu Button

E84528—UN—15SEP17

2. From the Menu screen, select the Layout Manager Menu Button to view the Layout Manager Page.

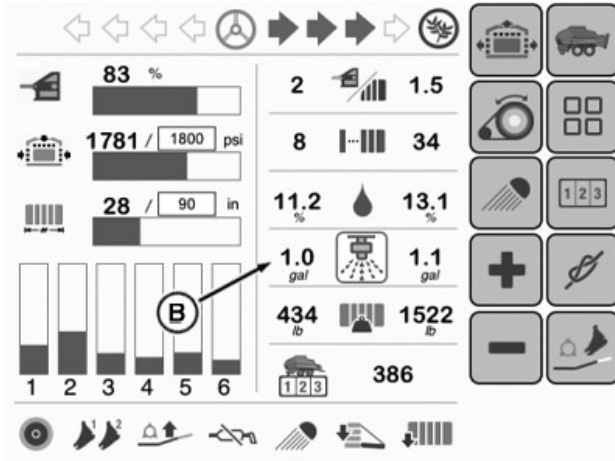


Preservative System User Tile

EX547529—UN—08SEP22

A—Preservative System User Tile

3. Select the Preservative System User Tile (A) from the drop-down list.



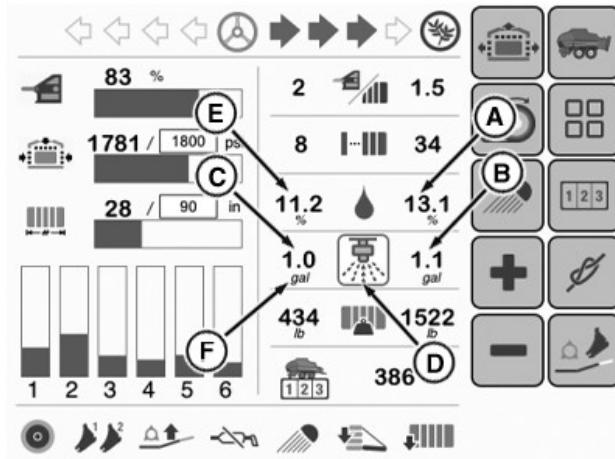
EX547530—UN—08SEP22

Preservative User Tile

B—Preservative User Tile

4. Ensure the Preservative System User Tile (B) is shown on the main page.

Monitor Baler Run Screen Details



EX547531—UN—08SEP22

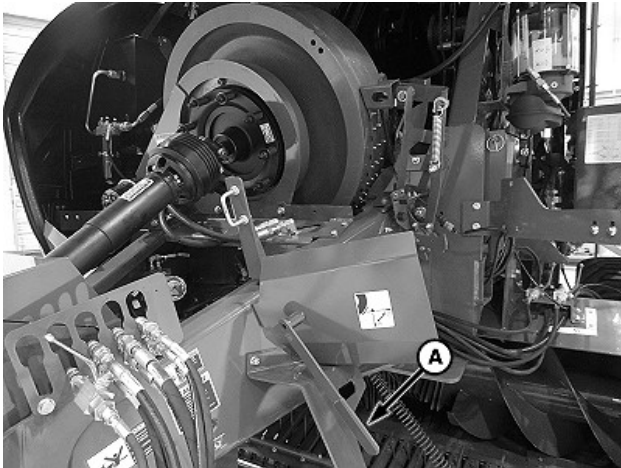
Preservative Applicator Run Screen

- A—Previous Bale Average Moisture**
- B—Target Preservative Rate**
- C—Actual Preservative Rate**
- D—Applicator Status Icon and Pause Button**
- E—Current Moisture**
- F—Unit Of Measurement**

wkjquwj.1662658422676-19-08SEP22

Attaching and Detaching

Use Flywheel Brake



A—Brake Lever

E82731—UN—21APR17

CAUTION: To avoid personal injury, engage flywheel brake **BEFORE** performing the following procedures:

- Attaching and Detaching Baler
- Lubrication and Maintenance
- Service

To engage the flywheel brake, rotate the lever (A) down to lock position.

To disengage the flywheel brake, rotate the lever (A) up to unlock position as shown.

GW44282,00007DF-19-21APR17

Attach Baler to Tractor

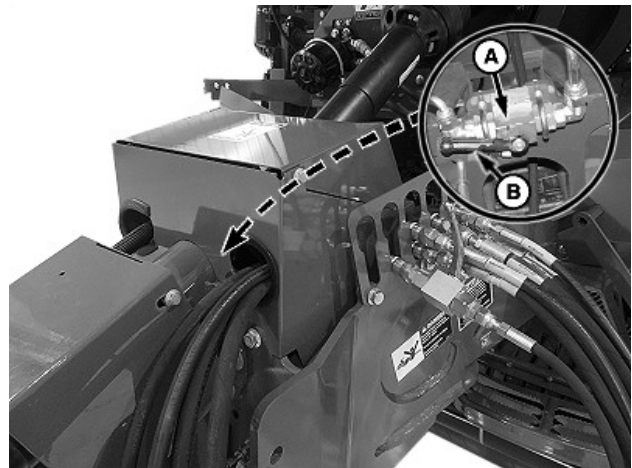
CAUTION: Prevent possible injury or death. The baler must be hitched using a tractor drawbar and hammerstrap. (See Tractor Operator's Manual.) In some countries, it is mandatory to attach a safety chain between the baler and tractor drawbar structure. Always comply with your local road regulations.

IMPORTANT: Prevent possible machine damage or inadequate hitching strength. Use only the recommended sized hitch pin for the drawbar size equipped on the tractor and baler. Do not use oversized or undersized pins. Make sure that the tractor drawbar and baler hitch are correctly adjusted. (See Adjust Tractor Drawbar in Preparing the Tractor section and Adjust Baler Hitch in Preparing the Baler section.)



E80229—UN—14OCT15

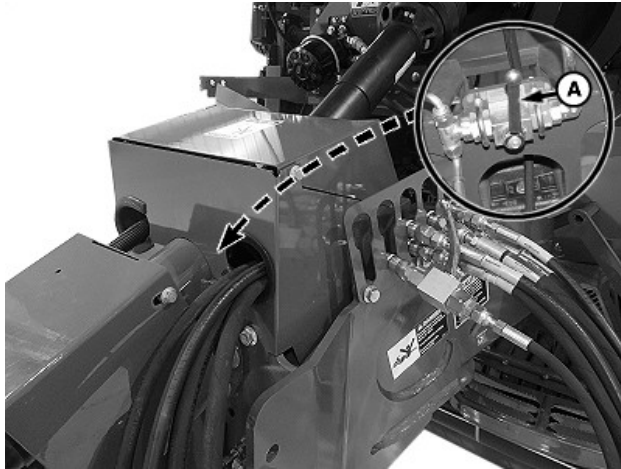
1. Back the tractor up to the baler hitch eye, aligning the baler tongue with the drawbar.
2. Engage the tractor park brake or place transmission in park.
3. Shut off the engine and remove the ignition key.



A—Valve
B—Handle

E85306—UN—30OCT17

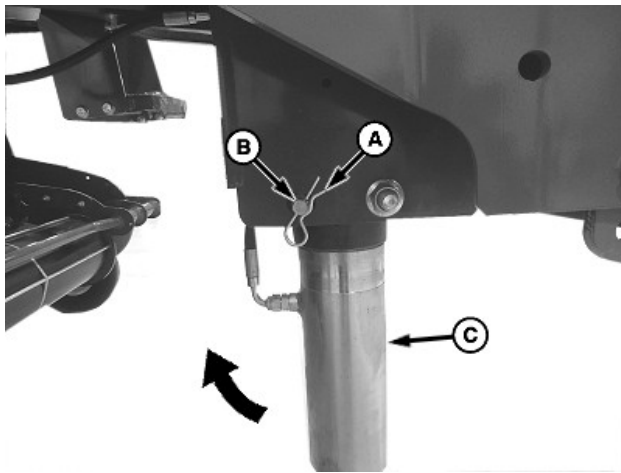
4. Connect the hydraulic hoses leading from the valve (A) to the tractor selective control valve.
5. To operate the jack, rotate the valve handle (B) horizontal.
6. To attach the baler, raise or lower the jackstand.
7. Once attached, fully retract the jackstand by moving the SCV lever to the float position.



E85307—UN—30OCT17

A—Handle

8. Rotate the valve handle (A) vertical to close the jack circuit.



E82735—UN—24APR17

A—Quick-Lock Pin
B—Jackstand Pin
C—Jackstand

9. Remove the quick-lock pin (A) from the jackstand pin (B).
10. Remove the jackstand pin (B).
11. Fold up the jackstand (C).
12. To hold the jackstand up in the storage position, reinstall the jackstand pin (B) back in the same hole.
13. Secure the jackstand pin (B) with the quick-lock pin (A).

GW44282,000094D-19-18SEP19

Attach Telescoping Driveline

IMPORTANT: Do not use a hammer. Do not connect telescoping driveline with use of a hammer or other equivalent tools. By using these tools, telescoping driveline can get seriously damaged. A damaged telescoping shaft can cause both machine and tractor damages.

If telescoping driveline is too long it can seriously damage drive bearings of both tractor and machine.

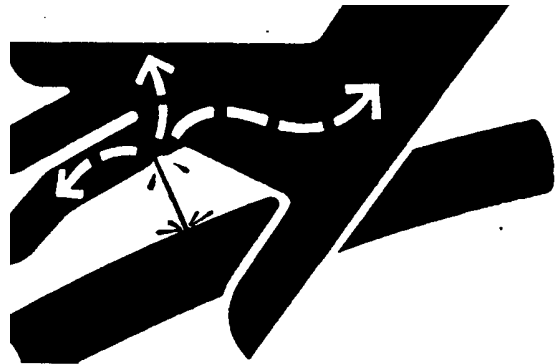
Turn off tractor.

Following points must be checked before installing telescoping driveline:

- Before coupling driveline, check drawbar pin to PTO shaft dimension (See Preparing the Tractor section).
- Make sure that tractor PTO shaft is clean and greased.
- Couple telescoping driveline at both tractor and machine side.
- Make sure that shaft sliding ring catches with slot of PTO.
- Make sure that PTO shield is installed and functional.

PP98408,00007B2-19-30SEP14

Attach to Tractor Hydraulic System



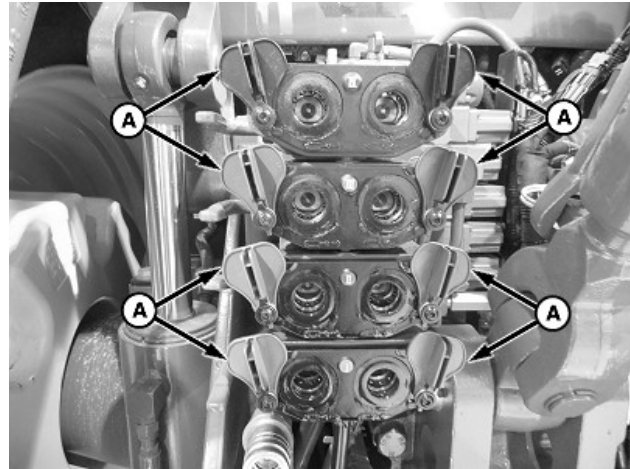
X9811—UN—23AUG88

⚠ CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A. Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

IMPORTANT: All hydraulic couplers must be clear of debris, dust, and sand. Use protective caps on fluid openings until ready to make connection. Foreign material can damage hydraulic system. To operate the selective control valves and their relevant SCV levers, always refer to the tractor Operator's Manual.

NOTE: ISO hydraulic couplers are standard with the baler. If they do not fit the tractor, see a John Deere dealer or other service provider. Tie bands are placed on each hydraulic hose near the coupler that groups the function by color and description. This color code also aligns with the standard SCV color designation. The functions do not have to follow this SCV arrangement of 1-4. It was grouped from most frequently to least frequently used functions. The main purpose of the different tie band colors is to group the hoses in pairs to prevent incorrect connections.

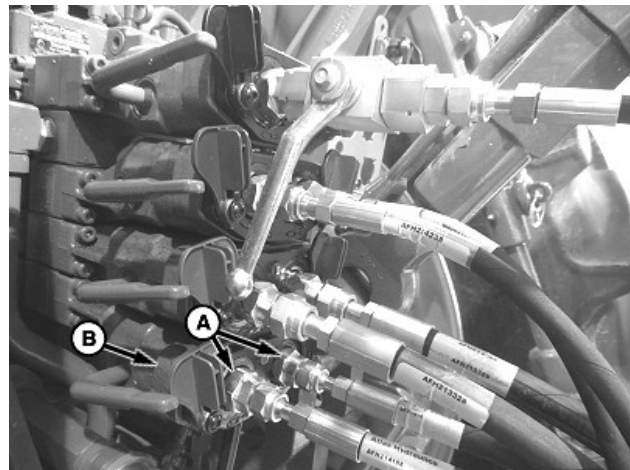
- **First SCV:**
Green Tie Band—Feed Pressure
Green Tie Band—Feed Return
- **Second SCV:**
Blue Tie Band—Auxiliary Pressure
Blue Tie Band—Auxiliary Return
- **Third SCV:**
Brown Tie Band—Axle Lock
- **Fourth SCV:**
Black Tie Band—BalerAssist Pressure
Black Tie Band—BalerAssist Return



E82981—UN—25APR17

A—Dust Cover (as necessary)

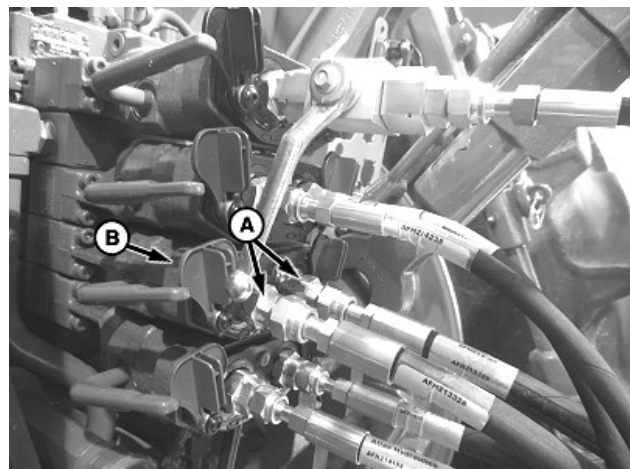
1. Open dust covers (A).



E82982—UN—25APR17

A—Auxiliary Hose (2 used)
 B—SCV Receptacle

2. Insert the baler feed system hydraulic hoses (A) into the SCV receptacle (B).
3. Push the hoses firmly into the tractor receptacles.

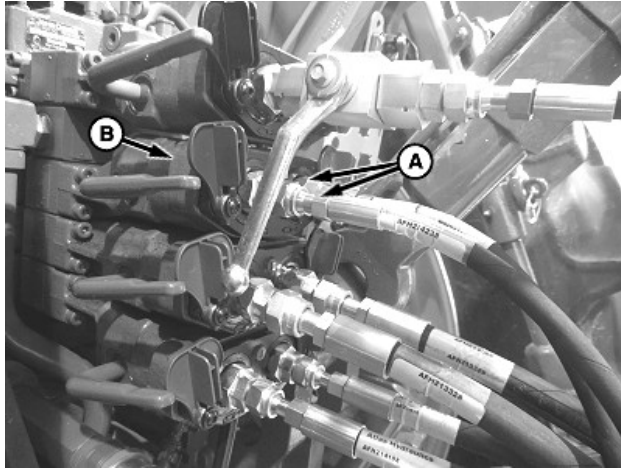


E82983—UN—25APR17

A—Pickup/Precutter Hydraulic Hose (2 used)

B—SCV Receptacle

4. Insert the baler auxiliary hydraulic hoses (A) into the SCV receptacle (B).
5. Push the hoses firmly into the tractor receptacles.

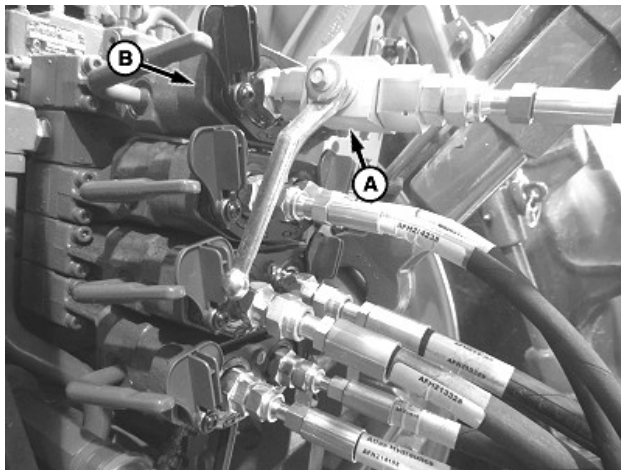


E82984—UN—25APR17

A—BalerAssist Hydraulic Hose (2 used)
B—SCV Receptacle

6. If equipped, insert the BalerAssist hydraulic hoses (A) into the SCV receptacle (B).
7. Push hoses firmly into the tractor receptacles.

IMPORTANT: Keep the axle SCV in the float position during field operation. Operate the SCV in extend position for several seconds to lock the axle pivot for road transport. Return the SCV to the neutral position to lock the oil in the steering cylinders. See Transporting section.



E82985—UN—25APR17

A—Steered Axle Hydraulic Hose
B—SCV Receptacle

8. If equipped, insert the axle lock hydraulic hose (A) into the SCV receptacle (B).
9. Push the hose firmly into the tractor receptacle.

Use Hydraulic Tongue Jack

⚠ CAUTION: Disengage all power, shut off the engine, and remove the key. Wait until all of the moving parts have stopped before inspecting machine.

Break in the baler as follows:

1. After the machine has been attached to the tractor, inspect it to be sure that all cap screws are tight and all chains have proper tension.
2. Run the machine at low idle speed while listening for any unusual sounds. Run the machine at full operating speed for several minutes while listening for any unusual sounds.
3. Stop the machine and inspect for loose cap screws, hot bearings, and binding or interfering parts. Make any required adjustments.
4. Adjust the twine tensioner using the customer's brand of twine. Using the same twine will ensure the twine tension remains accurate. See the Technical Manual (Tying System in Section 100) for information regarding Checking and Adjusting the Twine and Knotter system.

Check all of the following hydraulic functions:

- Tongue jack- If the tongue jack fails to retract when attached to an 8R tractor, ensure the jack is plumbed to the top SCV on the rear of the tractor. This is especially important when using 8R tractors due to consistent hydraulic pressures that naturally exist in the lower SCV circuits. The lower SCV circuits of an 8r tractor can exhibit as much as 6-8 bar of back pressure which inhibits the return of the tongue jack.
- Bale eject
- Bale chute
- Pickup
- BalerAssist (if equipped)
- Precutter (if equipped) Advise the customer that the following maintenance work must be performed after the first 10 operating hours:

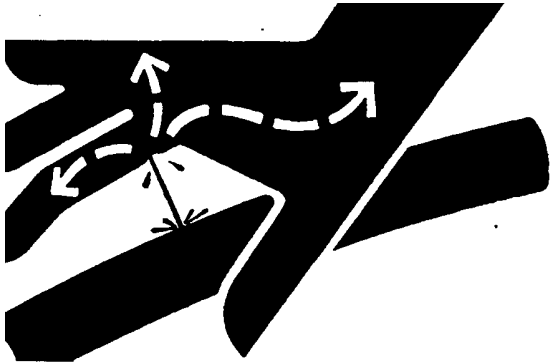
Advise the customer that the following maintenance work must be performed after the first 10 operating hours:

- Check and adjust upper and lower twine tensioner settings
- Lubricate primary and secondary PTO drive shafts
- Lubricate knotter drive shaft
- Check intake rotor drive chain tension
- Check pickup drive chain tension
- Lubricate feeder fork top hinge
- Lubricate feeder fork locking mechanism

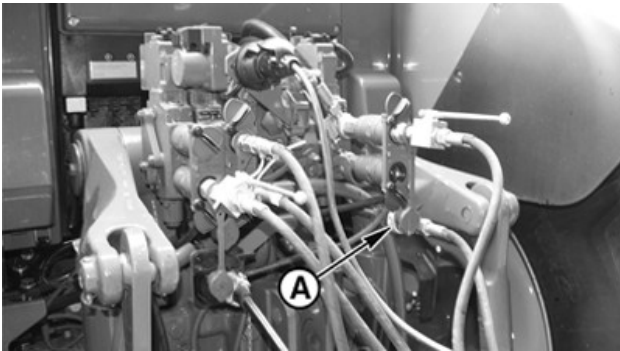
- Check wheel nut torque

GW44282,000094E-19-13NOV25

Connect to Tractor Brake System (If Equipped)



X9811—UN—23AUG88



E73229—UN—26FEB14

A—Hydraulic Brake Hose

CAUTION: Escaping fluid under pressure can penetrate skin causing serious injury. Avoid hazard by relieving pressure before connecting or disconnecting hydraulic lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A. Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses.

IMPORTANT: All hydraulic couplers must be clear of debris, dust, and sand. Use protective caps on fluid openings until ready to make connection. Foreign material can damage hydraulic system.

NOTE: ISO hydraulic couplers are standard with baler. If they do not fit tractor, see a John Deere dealer or other service provider.

Insert the hydraulic brake hose (A) into the trailer brake valve on the tractor.

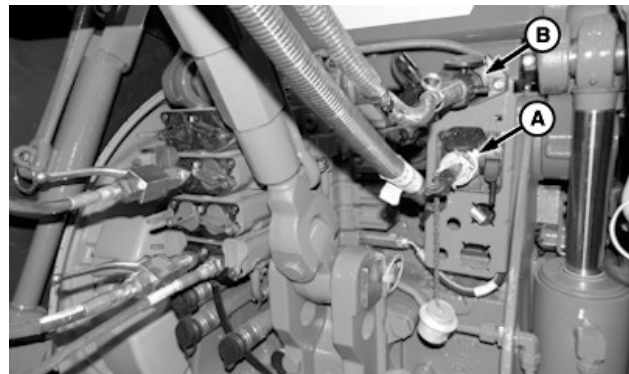
OOU6064,000266E-19-13NOV25

Connect to Tractor Electrical System

CAUTION: Check cables and connections. Before connecting check all electrical cables for damages. After connecting check electrical cables for tight connection. Damaged or incorrect connected plugs can cause unpredictable movements of machine which may result in serious damage and injuries.

IMPORTANT: Connect plug to a 12 V system only.

Check cable routing. Take care of enough free space to avoid cables from getting stretched, twisted, or torn. Stretched, twisted, and torn cables can lead to unpredictable movements of machine that may cause serious damage and injuries.



E73233—UN—30SEP14

A—9-Pole Plug
B—7-Pole Plug

Connect 9-pole ISO 11783 plug (A) of baler control box wiring harness to tractor ISOBUS implement breakaway connector.

If your tractor is not equipped with a 9-pole ISO 11783 plug see a John Deere dealer or other service provider for additional equipment needed to install ISO 11783 compliant plug and communication system.

Connect 7-pole ISO 1724 plug (B) of baler road light wiring harness to tractor seven-terminal socket.

PP98408,00007B5-19-13NOV25

Detach Baler from Tractor

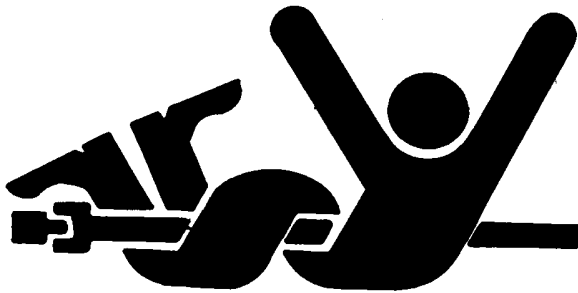
⚠ CAUTION: To prevent personal injury caused by unexpected movement:

1. Park the machine on a flat, level surface.
2. Engage the tractor park brake or place transmission in PARK.
3. Engage the baler flywheel brake.

1. Park the baler on a firm, level surface, or block the baler wheels so that the machine cannot roll after detaching from the tractor.

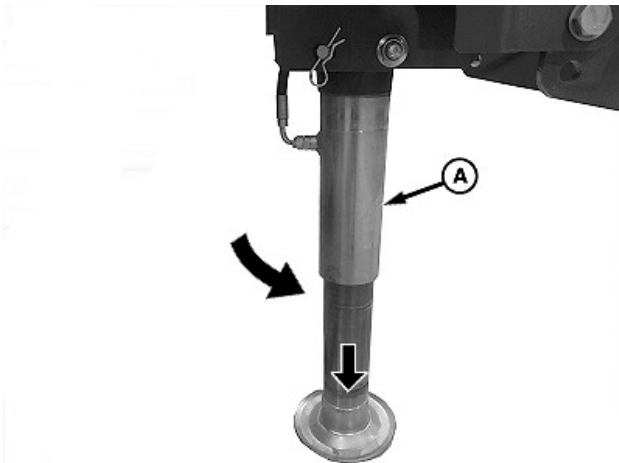
⚠ CAUTION: Prevent possible injury or death from driveline entanglement. Shut off the tractor engine before detaching the telescoping driveline.

2. Disconnect wire harnesses.



TS198—UN—23AUG88

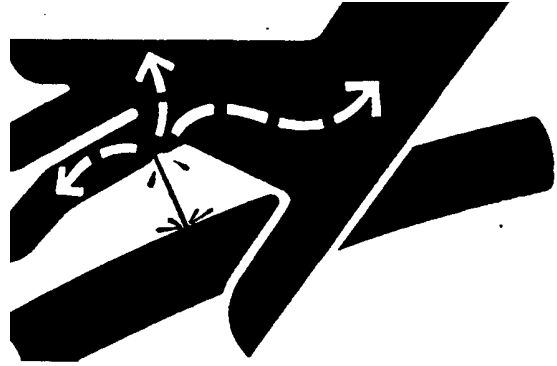
3. Disconnect the driveline from the tractor PTO shaft.



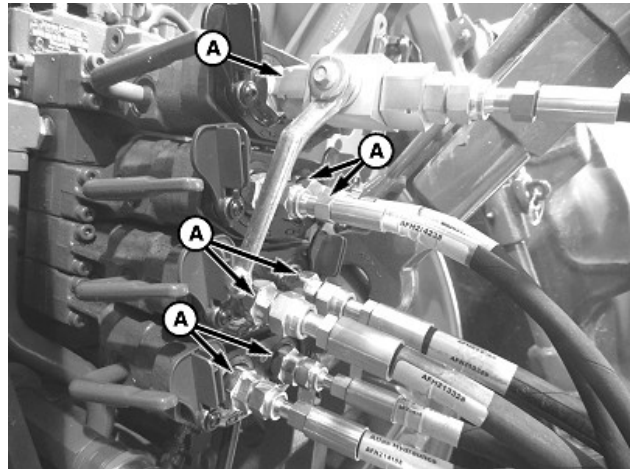
E84880—UN—05OCT17

A—Jackstand

4. Remove the jackstand (A) from the storage location and lower it to the ground.
5. Disconnect the safety chain from the tractor.



X9811—UN—23AUG88



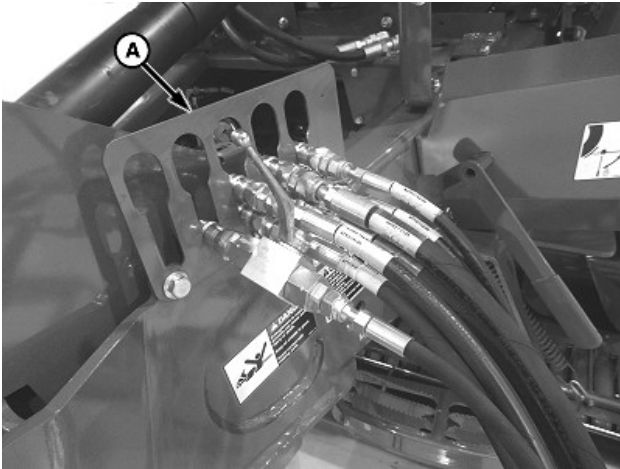
E82986—UN—27APR17

A—Hydraulic Hose (as necessary)

6. Disconnect the baler from the tractor drawbar.

⚠ CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury must reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.

7. Disconnect hydraulic hoses (A) from the tractor receptacles.



E82989—UN—27APR17

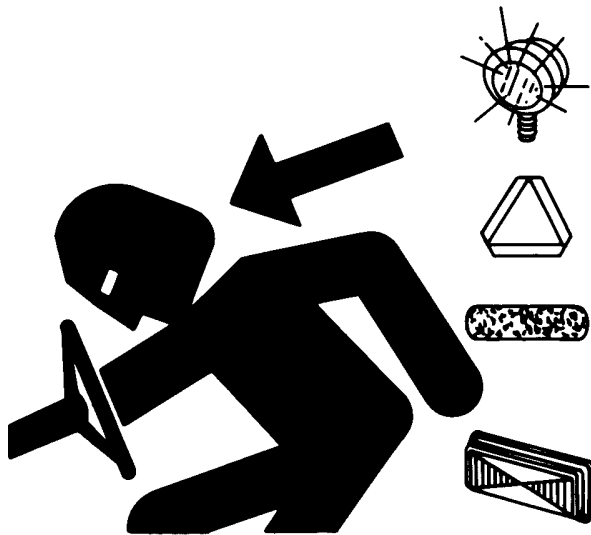
A—Hose Support

8. Store all hoses and wiring harnesses on the hose support (A).
9. Carefully drive the tractor away from the baler.

OUO6064.000266F-19-07FEB19

Transporting

Transport Safely



TS951—UN—12APR90

CAUTION: Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for the equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost.

CAUTION: A safety chain helps control drawn equipment if it accidentally separates from drawbar. Using appropriate adapter parts, attach chain to tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning. Do not use safety chain for towing.

Before road transport takes place, read the following safety instructions.

- Eject last bale in chamber before transporting.
- Disengage tractor PTO.
- Be sure that warning lights, tail lights, and reflectors are clean and visible.
- Ensure that all doors and covers are closed and latched or secured.
- Pay extreme attention in tight turning that tractor rear wheel does not come in contact with baler drawbar.
- Carrying people and objects on machine is prohibited.

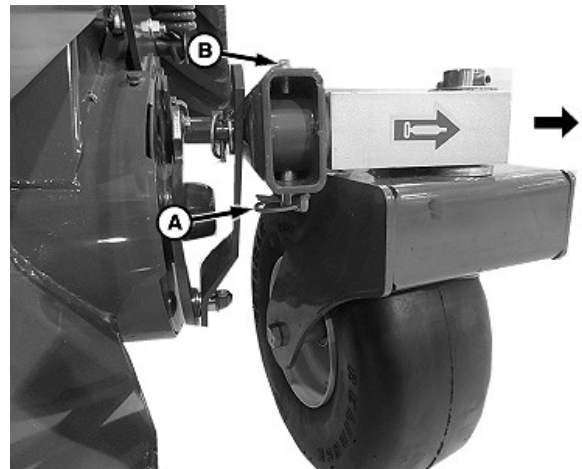
- If equipped, lock the tandem axle straight.

PP98408,00007B9-19-21NOV17

Prepare Baler for Transport

Remove Gauge Wheels (Pivot)

1. Lift pickup to maximum height. To operate auxiliary functions needed for next steps, lock SCV in constant flow.
2. Zero bale chamber pressure and eject last bale. (See Operate Last Bale Ejector in Operating the Baler section.)
3. If narrow transport width is required, pickup gauge wheels can be removed as follows:

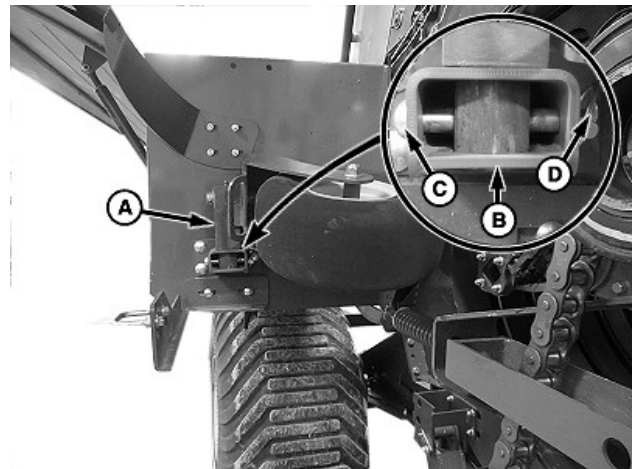


E82991—UN—27APR17

Gauge Wheel (Left-Hand Side Shown)

A—Spring Pin
B—Pin

- a. Remove spring pin (A) from pin (B).
- b. Slide gauge wheel out in direction of arrow.



E82990—UN—27APR17

Gauge Wheel Storage (Right-Hand Side Shown)

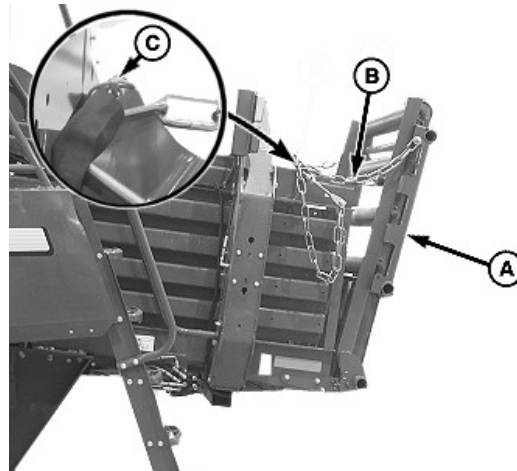
- A—Gauge Wheel
- B—Storage Bracket
- C—Pin

- c. Position gauge wheel (A) into the storage bracket (B).
- d. Install previously removed pin (C) as shown.
- e. Install spring pin (D) back into pin (C).

Raise Bale Chute

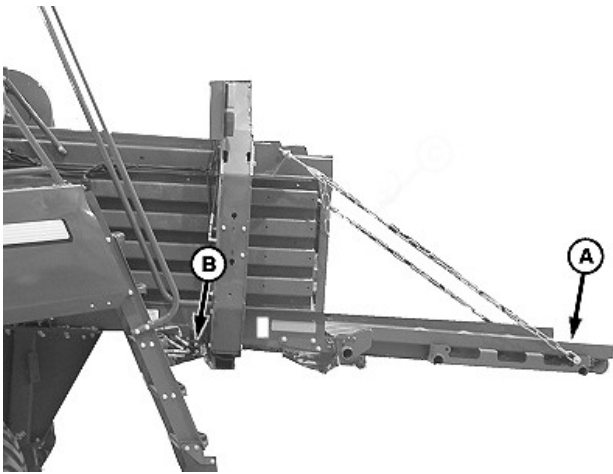
1. Fully lift and lock bale chute as follows:

⚠ CAUTION: Bale chute is heavy. To prevent personal injury to you or others, make sure that bystanders stand clear of chute when raising.



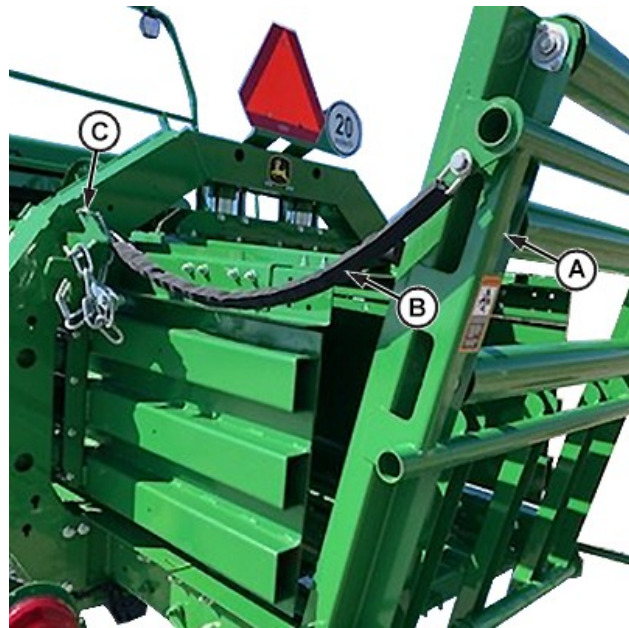
Standard Model

E82993—UN—28APR17



Standard Model

E82992—UN—28APR17



HD Model

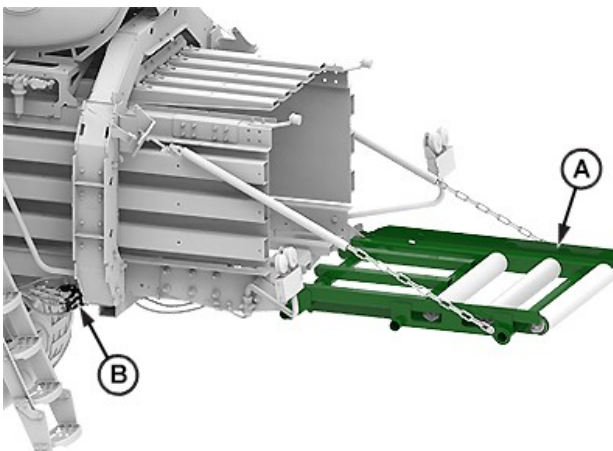
EX561622—UN—21MAR23

- A—Bale Chute
- B—Chain
- C—Spring Pin

- b. Secure bale chute (A) with chains (B) on both sides.

IMPORTANT: Bale chute must be secured in raised position with chains. Failure to do so results in damage to bale the chute cylinder.

- c. Secure chains (B) on both sides with spring pins (C).

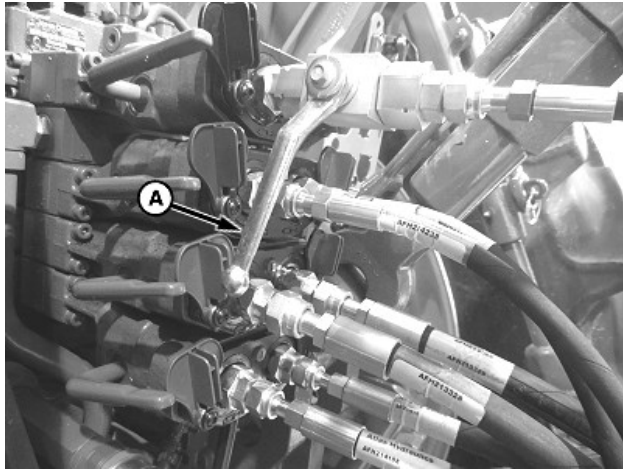


HD Model

EX561621—UN—21MAR23

- A—Bale Chute
- B—Lever

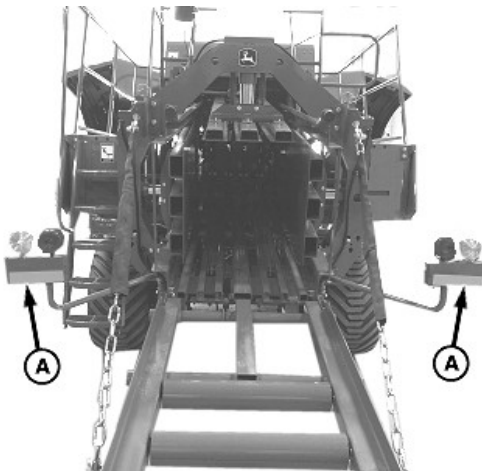
- a. To fold up bale chute (A), use lever (B).



E82994—UN—28APR17

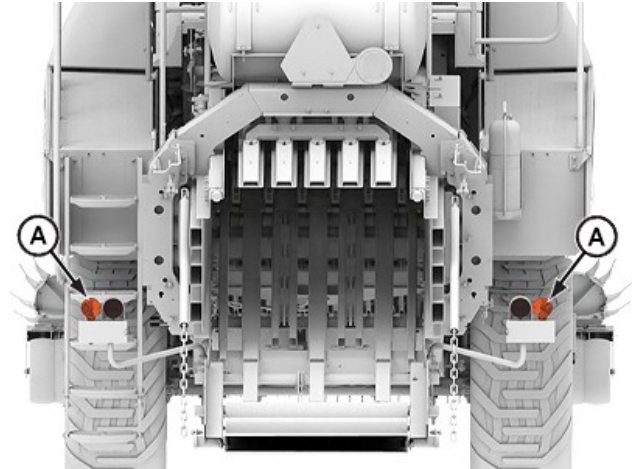
A—Shut Off Valve

2. Lock steered tandem axle.
 - a. To pressurize single acting lock cylinder, activate selective control valve lever.
 - b. Close shut off valve (A).
 - c. Release selective control valve lever.



E84520—UN—13SEP17

Standard Model



EX561623—UN—21MAR23

HD Model

A—Road Lighting

3. Road lighting (A) must be connected properly to tractor (see Attaching and Detaching section).
4. If equipped, braking system must be connected properly to tractor (see Connect to Tractor Brake System in Attaching and Detaching section).
5. Check tire pressure (see Preparing the Baler section).
6. Check wheel nut torque (see Preparing the Baler section).
7. Remove crop residue and heavy dirt.

wkjquwj,1679374689557-19-19JUN23

Use an Extended Rear-View Mirror

⚠ CAUTION: When towing the baler on public roads, an extended mirror to improve visibility of traffic behind the baler is recommended. See a John Deere dealer or other service provider.



E73025—UN—18FEB14
PP98408,00007BB-19-13NOV25

Follow Safe Transport Procedures

⚠ CAUTION: To help prevent severe injury or death to you or someone else, follow recommended transport procedures:

- Transport with bale chamber empty and bale chute folded.
- Raise pickup fully.
- Travel at a reasonable and safe speed. Do not exceed weight and speed guidelines shown in Tow Loads Safely found in the Safety section. Reduce speed considerably when traveling over rough ground.
- Stop slowly.
- Avoid possible loss of control or tractor overturn. Tow only with correctly ballasted tractor.
- Sound tractor horn before backing up baler.

If necessary, add ballast as described in your tractor Operator's Manual. Add ballast to tractor as required to maintain stability.

PP98408,00007BC-19-01OCT15

Keep Riders Off Machine



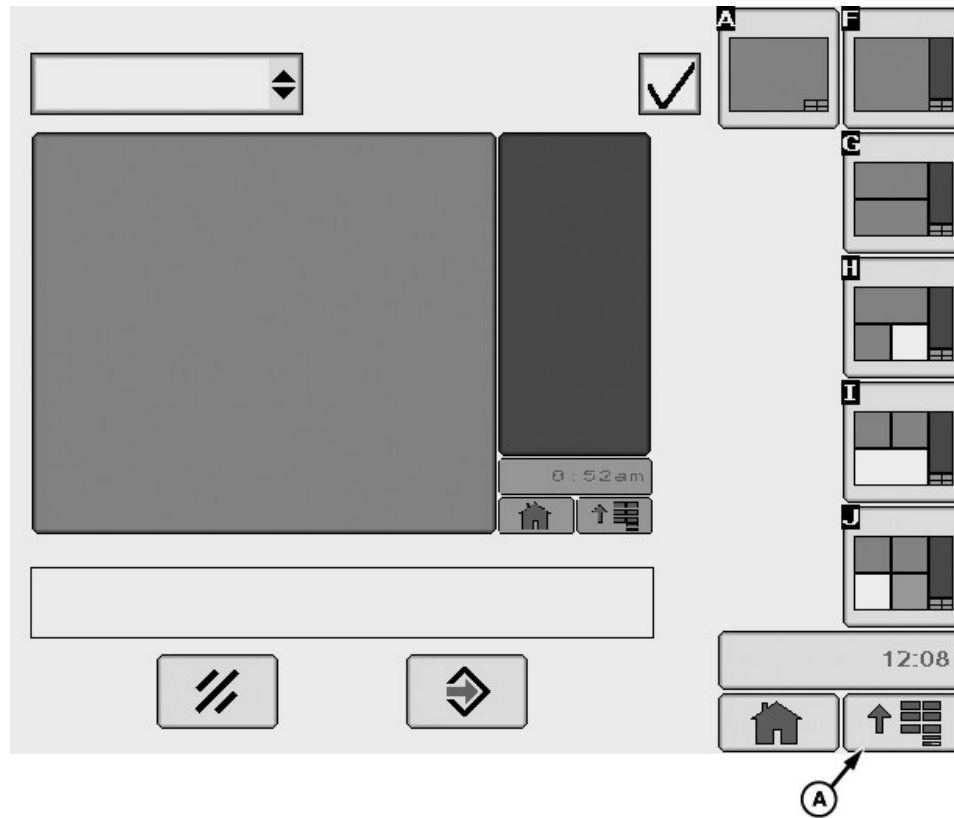
E41255—UN—31JAN97

⚠ CAUTION: Keep riders off. Riders are subject to injury such as being struck by foreign objects and being thrown off of machine. Riders also obstruct operator's view resulting in machine being operated in an unsafe manner.

PP98408,00007BD-19-27AUG14

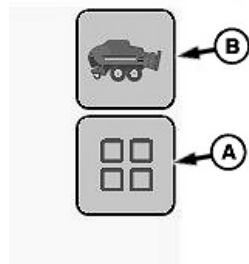
Operating Baler Application

Baler Application Access



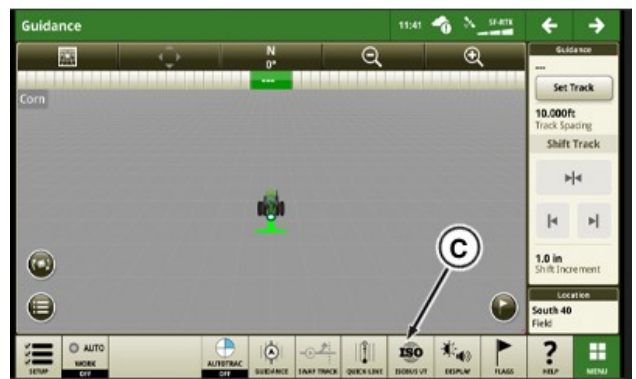
GreenStar 3 2630 Display Shown

E64573—UN—11MAY12



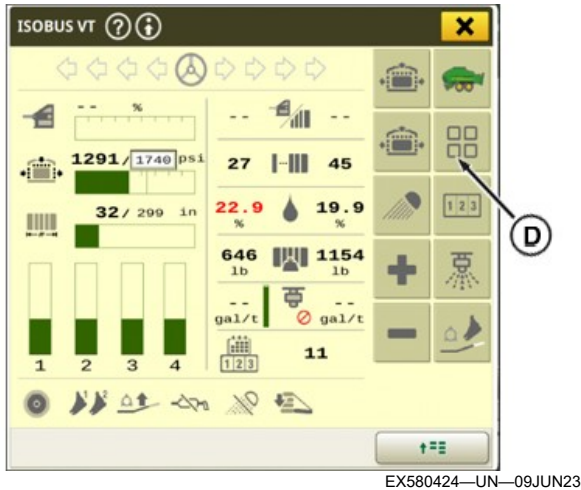
Softkey

E85916—UN—23OCT17



GreenStar 4 and GEN 5

EX580423—UN—09JUN23



GreenStar 4 and GEN 5

EX580424—UN—09JUN23



GreenStar 4 and GEN 5

EX595026—UN—14SEP23

- A—Display Menu Softkey or Button
- B—Baler Application Softkey
- C—ISOBUS VT Button
- D—Menu

NOTE: John Deere monitors are automatically switched ON when the ignition key is turned ON.

Graphics are same between GreenStar 2 1800, GreenStar 2 2600, and GreenStar 3 2630 display units. GreenStar 2 1800 display unit access is by soft key buttons and scroll wheel. GreenStar 2 2600, GreenStar 3 2630, GreenStar 4 and GEN 5 display unit access is by touch screen.

The first time the baler is connected to the monitor or after a software update, it is necessary to wait (5—10 minutes) until the baler application is loaded.

If the baler is connected to a different tractor or monitor, it is necessary to wait (5—10 minutes) until baler application is loaded.

GreenStar 3

If the baler application is not automatically displayed, select display menu softkey or button (A), then select baler application softkey (B).

GreenStar 4 and GEN 5

Access it by using ISOBUS VT Button (C). Access menu using menu button (D).

NOTE: For more information about the display menu access, see your monitor operator's manual.

wkjquwj,1682509097609-19-13NOV25

Units of Measure (English or Metric)

The ISOBUS standard allows for units and language to be selected on the display and sent to the baler. The

baler control unit adjusts units and language strings based on what the operator has selected on the display. The listed languages and units are supported by the baler control unit and object pool.

Units:

- Metric
- Imperial

Languages:

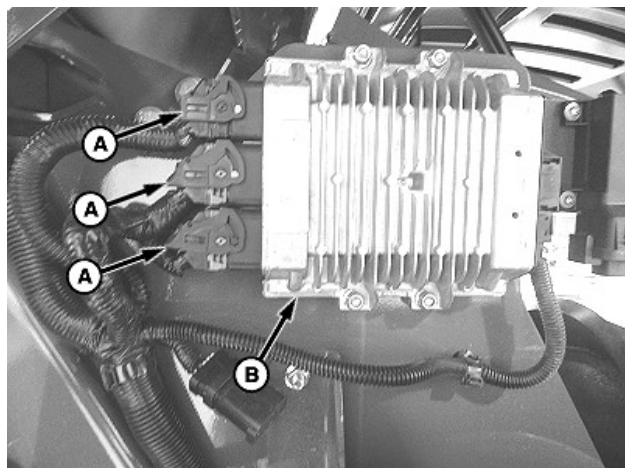
- English
- Spanish
- French
- Portuguese

In the baler application, units of measure and language choice for the display depend on the monitor settings.

For operating procedures, see the Operators Manual for the display that is being used.

GW44282,0000826-19-30OCT17

Welding on Square Baler Equipped with ISOBUS Monitor-Controller



E84406—UN—06SEP17

A—Wiring Harnesses
B—Electronic Control Unit

IMPORTANT: Stray currents from the welding process can damage electronic components. To avoid damage to such components, do the following before welding on the baler:

1. To avoid any potential damage to tractor electronics, disconnect the tractor from the baler (7-pin light wire harness, PTO, hydraulic hoses, safety chain, and hitch).
2. Disconnect the baler wire harness from the ISOBUS connector on the tractor.
3. Disconnect the wire harnesses (A) from the electronic control unit (B) on the right-hand side of the baler.
4. If wire harnesses is near the area to be welded, move them to avoid heat damage.
5. Do not weld near electronic control units. When welding is required near one, remove the control unit from the baler.
6. Do not attach welder ground cable to a rotating shaft or on the opposite side of a bearing because of potential arcing damage to bearings.
7. Connect welding ground cable on the baler frame near the point to be welded.

When the welding is completed, reconnect or reinstall components.

GW44282,0000806-19-11SEP17

Softkey Description

Softkeys enable an operator to navigate between data masks, select functions, and modify machine settings utilizing the softkey mask on a VT display. The softkeys in the object pool are described below to define the

functionality that should occur when pressed by an operator.

wkjquwj,1681200181886-19-14JUN23

Baler Application Softkey Designation

Main Page Softkey



Main Page Softkey

E83959—UN—31JUL17

- Navigates to the Main Page Screen

NOTE: This softkey is available on each page of the baler application.

Main Screen Softkey



Main Screen Softkey

E83954—UN—26JUL17

- Navigates to the Main Screen

Counters Softkeys



Counter Softkey

E83960—UN—31JUL17

- The Counter Softkey navigates to the Counters Screen and if bale doc is active show the season/total page otherwise it will show the last selected counter page (either customer/felds or season/total pages)



Total Counter Softkey

E83981—UN—31JUL17

- Navigates to the Total Counter Page



Customer/Field Counter Softkey

E83982—UN—31JUL17

- Navigates to the Customer/Field Counter Page



Season Counter Reset Softkey

E83983—UN—31JUL17

- Resets the counter for the season (also resets all customer field bale counts)



Customer Counter Reset Softkey

E83984—UN—31JUL17

- Resets all field counts for the currently selected customer



Field Counter Reset Softkey

E83985—UN—31JUL17

- Resets only the currently selected field count

Increase Softkey



Increase Softkey

E83962—UN—31JUL17

- Increases the bale count for the currently selected customer/field. Increases the season counter (only on the counters page)
- Increases the machine load or the tension panel pressure set point based on which is selected (only on the main page)

Decrease Softkey



Decrease Softkey

E83980—UN—31JUL17

- Decreases the bale count for the currently selected

customer/field. Decreases the season counter (only on the counters page).

- Decreases the machine load or tension panel pressure set point based on which is selected (only on the main page).

Electric Knotter Trip Softkey

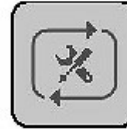


Electric Knotter Trip Softkey

E83986—UN—01AUG17

- Navigates to the Electric Knotter Function page

Automation Diagnostics Softkey



Automation Diagnostics Softkey

E94200—UN—11AUG20

The Automation Diagnostics softkey navigates to the Automation Diagnostics screen.

- Automation Main Page hidden for controlling Baler Ride Control feature
- Automation Diagnostics page shown for providing diagnostics with the Baler Ride Control system

Automation Systems Softkey



Automation Systems Softkey

E94199—UN—24AUG20

The Automation Systems Softkey navigates to the Automation Systems screen.

- Softkey shown if the baler is capable of running the Baler Ride Control
- Automation Main Page shown for controlling Baler Ride Control
- Automation Diagnostics page hidden for diagnostics with the Baler Ride Control system

PhiBer Dump Softkey



E94306—UN—15SEP20

Selecting the PhiBer Dump softkey in the user quick access drop down lists displays the PhiBer Dump

softkey on the main screen for the selected location(s). It is selectable only for machines that have the Accumulator installed and activated by the dealer (checked on the Dealer Setup Screen). When the PhiBer softkey is pressed, a command is sent to the PhiBer accumulator to dump any bales that are on the accumulator.

Bale Eject Softkey



Bale Eject Softkey

E83987—UN—01AUG17

- Navigates to the Bale Eject page

Machine Setup Softkey



Machine Setup Softkey

E83954—UN—26JUL17

- Navigates to the Machine Setup Page.

Next Page and Previous Page Softkeys



Next Page Softkey

E83988—UN—01AUG17

- Navigates to the Next Page.



Previous Page Softkey

E83989—UN—01AUG17

- Navigates to the Previous Page.

Lighting System Softkey



Lighting System Softkey

E83995—UN—02AUG17

- Navigates to the Lighting System Page.

Precutter Softkeys



Precutter Softkey

E83996—UN—02AUG17

- Navigates to the Precutter Management Page.



Drop Floor and Knives Softkey

E83997—UN—02AUG17

- Selects the drop floor and both knife sets to be moveable with the selective control valve (SCV) lever.



Drop Floor Softkey

E83998—UN—02AUG17

- Selects the drop floor only to be movable with the SCV lever.



Knife Set 1 Softkey

E83999—UN—03AUG17

- Selects knife set 1 only to be moveable with the SCV lever.



Knife Set 2 Softkey

E84000—UN—03AUG17

- Selects knife set 2 only to be moveable with the SCV lever.



Knife Sets 1 and 2 Softkey

E84001—UN—03AUG17

- Selects knife sets 1 and 2 only to be moveable with the SCV lever.

Diagnostic Softkey



E84003—UN—03AUG17

- Navigates to the Machine Setup Page.

Greasing System Softkey



E84004—UN—03AUG17

Greasing System Softkey

- Navigates to the Greasing System Page.

Calibrations Softkey



E84064—UN—04AUG17

Calibrations Softkey

- Navigates to the Calibrations Page (goes to the slack arm calibrations first).

Slack Arm Softkey



E84065—UN—04AUG17

Slack Arm Softkey

- Navigates to the Slack Arm Calibration Page.

Bale Length Calibration Softkey



E84066—UN—08AUG17

Bale Length Calibration Softkey

- Navigates to the Bale Length Calibration Page.

Moisture Calibration Softkey



E84067—UN—08AUG17

Moisture Calibration Softkey

- Navigates to the Moisture Calibration Page.

Bale Weight Calibration Softkey



E84069—UN—08AUG17

Bale Weight Calibration Softkey

- Navigates to the Bale Weight Calibration Page.

Test Outputs/Inputs Softkeys



E84071—UN—08AUG17

Test Outputs Softkey

- Navigates to the Test Outputs Page.



E84070—UN—08AUG17

Test Inputs Softkey

- Navigates to the Test Inputs Page.

VT Softkey



VT Softkey

E84072—UN—07NOV17

- Navigates to the Next VT Page.

BalerAssist Softkey



BalerAssist Softkey

E84077—UN—08AUG17

- Navigates to the BalerAssist control page.

BalerAssist Remote Softkeys



BalerAssist Remote

E84078—UN—09AUG17

- Navigates to the BalerAssist Page.



Fast Reverse Softkey

E84079—UN—09AUG17

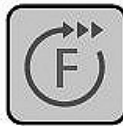
- Engages BalerAssist in the fast reverse direction.



Slow Reverse Softkey

E84080—UN—09AUG17

- Engages BalerAssist in the slow reverse direction.



Fast Forward Softkey

E84081—UN—09AUG17

- Engages BalerAssist in the fast forward direction.



Slow Forward Softkey

E84082—UN—09AUG17

- Engages BalerAssist in the slow forward direction.

Bale Mobile Softkey

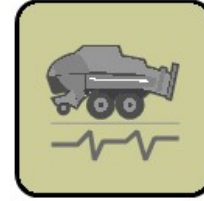


Bale Mobile Softkey

E89547—UN—16AUG18

- Navigates to the Bale Mobile Screen. It is only shown when the Mobile Gateway Installed checkbox is enabled.

Machine Health Softkey



Machine Health Softkey

EX561619—UN—21MAR23

The machine health page contains information pertaining to the indicated parts or functions of the machine. This information can be used to schedule repairs or preventative maintenance, avoiding unexpected downtime in the field.

Preservative System Softkey



Preservative System Softkey

EX580429—UN—09JUN23

The preservative system softkey must navigate to the preservative system screen.

User Profile Softkey



EX582578—UN—14JUN23
User Profile Softkey

The User Profile Softkey navigates to the User Profile Screen.

wkjqwj,1681720963498-19-13NOV25

Baler Main Screen

Baler Main Screen

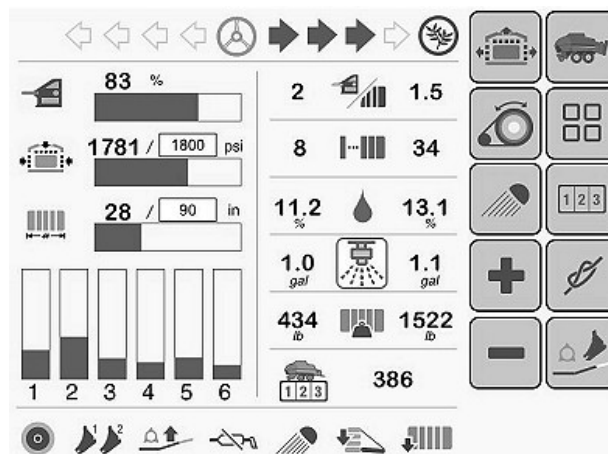
The main screen provides real time feedback to the customer and is used as the primary screen viewed during machine operation. The main screen includes User Selectable Data Tiles located on the right of the screen and also 8 User Selectable Quick Access Softkeys that can be customized on the Layout Manager Screen. The left side of the screen provides density systems feedback, bale length, and knotter feedback. The top of the screen provides driving direction indication and the option of crop floor feedback while the bottom of the screen provides sub-system feedback for flywheel brake, precutter functions, greasing, lights, bale chute, bale drop, and accumulator.



E89819—UN—01OCT18
Previous Page Softkey



E89820—UN—01OCT18
Next Page Softkey



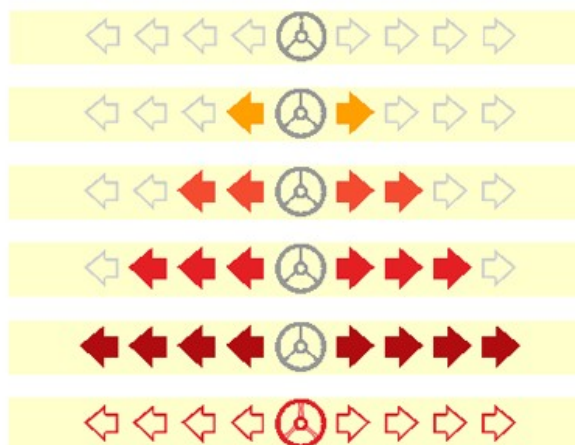
Main Screen

E85308—UN—30OCT17

Driving Direction and Crop Flow Feedback

Driving direction and crop flow feedback is provided along the top of the main screen, driving direction arrows are always shown while the crop floor feedback can be turned on and off using the Machine Setup Pages.

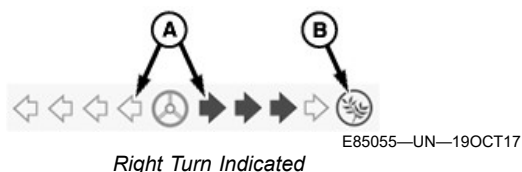
Driving Direction



EX571841—UN—13APR23

Driving direction feedback is provided to the operator visually through the use of arrows across the top of the main screen. The number of arrows filled in indicates how severely an operator should start feeding one side of the pickup versus the other in order to achieve a uniform shaped bale in the chamber. If there is a load pin fallback mode active then all of the arrows will have red outlines and the center steering wheel will turn red as well with no driving direction being provided.

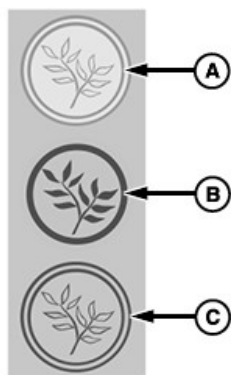
Crop Flow Feedback



- A—Driving Direction Arrow (2 used)
- B—Crop Flow Feedback

Driving Direction and Crop Flow Feedback is provided along the top of the Main Screen. Driving direction arrows (A) are always shown, while crop flow feedback (B) can be turned on and off using the Machine Setup Pages.

Driving Direction Feedback arrows fill in to inform the operator which direction to steer in order to achieve a uniformly shaped bale in the chamber. The number of arrows filled in indicates how severely an operator must steer in that direction to feed one side of the pickup versus the other. If one or both load pins have a fault active, no driving direction is provided and the arrows are outlined in red.



E85056—UN—20OCT17

Crop Flow Feedback Icon is present to the right-hand side of the driving direction arrows when the optional system is installed and enabled by the operator. This feedback can be enabled or disabled by going to the Machine Setup Pages and checking or unchecking the Crop Flow Feedback Checkbox respectively.

The system is designed to monitor crop flow through the baler with a series of sensors and informs the operator of the status using the following icons:

- A—No crop flow detected (faded icon)
- B—Crop flow detected (bold icon)
- C—Crop flow sensor fault (red icon)

To calibrate the system when required, follow display screen instructions. The calibration screens are only provided by going to the calibration page and selecting the Crop Flow Calibration Softkey.

Baler Ride Control Feedback

The Baler Ride Control feedback and pause capability

are provided to the left of the driving direction arrows when it is enabled. For a compatible tractor and baler setup, the ride control is enabled by navigating to the Automation Systems page and checking or unchecking the Baler Ride Control checkbox. With the Baler Ride Control, the feedback and control of the pause mode is provided in the following way:



E94201—UN—12AUG20
Baler Ride Control Unavailable Icon

- The Baler Ride Control Unavailable icon is shown if the system is currently off due to being below the minimum speed required to run the feature or if the feature is unavailable due to the tractor system. See the Tractor Owner's Manual.



E94201—UN—12AUG20

- The Baler Ride Control Fault (red) icon is shown when there is a fault detected with the overall system, which includes the tractor, GPS source, and baler. Further diagnostics and information for where the fault exists can be seen on the Automation Diagnostics Page on the baler monitor.



E94202—UN—12AUG20
Baler Ride Control On Icon (green arrow)

- The Baler Ride Control On and Active icon (green arrow) is shown when the system is actively running. When the button with the icon is pressed, the Baler Ride Control feature goes into the pause state and the system stops running.



E94203—UN—12AUG20
Baler Ride Control On with Degraded Performance Icon (grey dashed arrow)

- The Baler Ride Control On with Degraded Performance icon (grey dashed arrow) is shown when the system is currently actively running but something is causing the system to have degraded

performance. This can be caused by too high of an acceleration rate, too large of a turn angle, or other temporary scenarios. If the button with the icon is pressed the Baler Ride Control feature goes into pause and the system stops running.



E94203—UN—12AUG20

Baler Ride Control Shift Point Icon (orange dashed arrow)

- The Baler Ride Control Shift Point icon (orange dashed arrow) is shown if the current vehicle speed and tractor throttle position causes the system to run close to or at one of the shift points. This results in degraded performance or the system being turned off and is recommended to be used as an indicator to modify the vehicle speed up or down. If the button with the icon is pressed, the feature will go into the pause state and the system stops running.



E94204—UN—14AUG20

Baler Ride Control Icon

- The Baler Ride Control Pause icon is shown when the operator puts the system into the pause mode. If the button with the icon is pressed, the Baler Ride Control feature is enabled again and will display the updated state that is being run.

NOTE: With the pause mode active for Baler Ride Control, it will not be saved over a power cycle. To disable the ride control for a period of time, press the Baler Ride Control checkbox on the Automation Systems page.

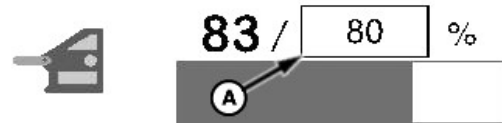
If the tractor or baler is not capable of running Baler Ride Control or is turned off on the Automation Systems Main Page, there is no icon shown for Baler Ride Control.

Density Control System, Bale Length, and Slack Arm Position Feedback

Slack Arm, Bale Length, and Density Control System Feedback is provided to the operator on the left-hand side of the Main Screen. It allows the operator to set the machine set points and monitor each of the systems that utilize both numeric and graphical feedback to the operator. The operator is able to select between the Machine Load and Pressure Control Modes by accessing page 1 of the Machine Setup Screen and using the drop-down list for the Pressure Control Mode.

Machine Load Feedback

Machine Load Feedback is provided to the operator and indicates both the density control modes selected in addition to whether any load pin faults are active. If the Machine Load is selected as the Density Mode and Fallback Modes are not active, the operator is able to see the currently measured Machine Load (PTO must be ON) and modify the Machine Load set point. The Machine Load is shown on the left-hand side and the set point on the right-hand side. Adjustments are made to the set point by pressing the Input Number with the white box (A) around it.



E85130—UN—19OCT17

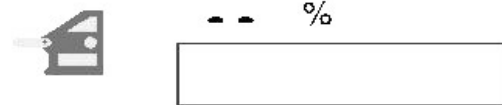
A—White Box

If a Machine Load is not selected as the Current Density Mode and the Fallback Modes are not active, then the operator sees the currently measured Machine Load (PTO must be ON).



E85131—UN—19OCT17

If there is a Single Load Pin Fallback Mode (just one load pin with an active DTC on it), then the Machine Load is displayed to the operator, but the Machine Load icon and bar graph turn red. The operator can select the Machine Load as the Density Mode providing the set point control or utilize pressure control instead. If a dual Load Pin Fallback Mode (both load pins have an active DTC on it) is selected the baler switches to the Pressure Mode and does not provide any of the Machine Load feedback.



E85132—UN—19OCT17

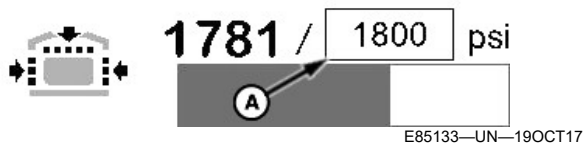
No Feedback (Red)

Tension Panel Pressure Feedback

Tension Panel Pressure Feedback is provided to the operator and can indicate the Density Control Mode is selected in addition to whether the Pressure Fallback Modes are active. If the Pressure Mode is selected as the Density Mode and the Fallback Mode are not active (Tension Panel Pressure Sensor DTC) then the operator is able to see the currently Measured Tension Panel Pressure and to modify the Pressure Set Point.

The Tension Panel Pressure is shown on the left-hand side and the Set Point is on the right-hand side.

Adjustments are made to the Set Point by pressing the Input Number with the white box (A) around it.

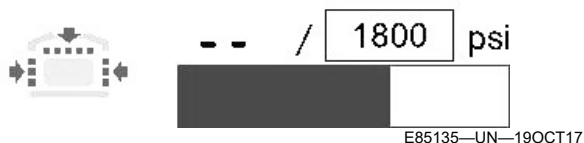


A—White Box

If the Pressure Mode is not selected as the current Density Mode and the Fallback Modes are not active, the operator sees the currently Measured Tension Panel Pressure.

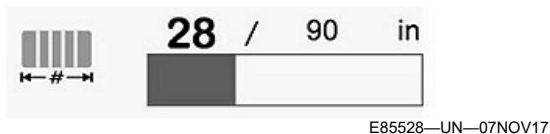


If there is a fault with the pressure sensor, then the measured pressure is not displayed but the operator is able to enter a pressure set point to run the machine in. The Tension Panel Pressure Icon and the bar graph turn red to indicate the fallback mode.

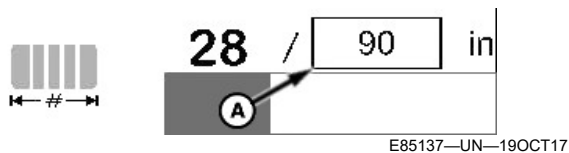


Bale Length Feedback

Bale Length Feedback is provided to the operator. It indicates system faults in addition to allowing the operator to set the Bale Length if the machine is equipped with E-Tie and it is enabled. On machines without E-Tie and without Bale Length Sensor Fallback Modes (bale length sensor channel DTCs) active, the current Bale Length is displayed on the left-hand side and the previous Bale Length is displayed on the right-hand side.

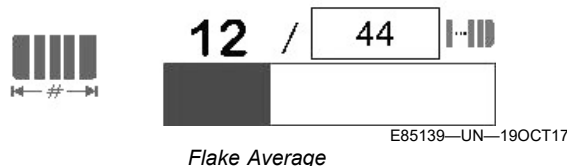


If no Bale Length Fallback Modes are active and the baler is equipped with E-Tie and it is enabled by checking the Electric Tie Checkbox on the Machine Setup Screen pages, the current measured Bale Length is shown on the left-hand side and the Set Point on the right-hand side. Adjustments can be made to the Bale Length set point by pressing the Input Number with the white box (A) around it.



A—White Box

If a single Bale Length Sensor Channel Fallback Mode is active, then the same information is displayed. However the icon and bar graph are turned red.

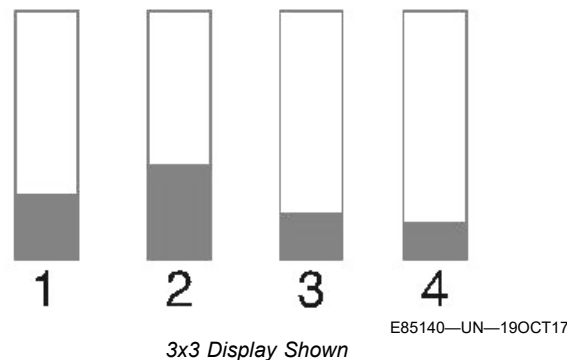


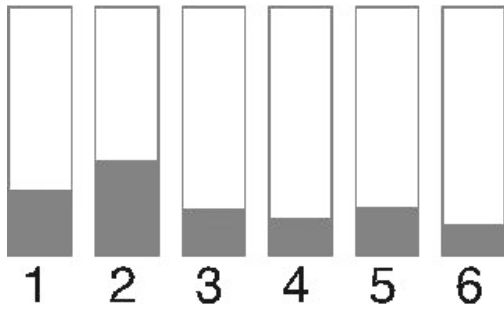
If a dual Bale Length Sensor Channel Fallback Mode is active, no bale length information is provided for machines with the E-Tie disabled or not equipped. For machines with E-Tie enabled and a Dual Bale Length Sensor Channel Fallback Mode active, the baler has an average flake thickness calculated over the last few bales and allows the operator to set the Bale Length according to the number of flakes fed into a bale. The number of flakes in the current bale is provided on the left and the flake set point on the right. Adjustment can be made to the Flake Set Point by pressing the Input Number with the white box around it.

If a dual channel fallback mode is not currently active and the bale length reset feature is utilized, the Bale Length Reset button is pressed on the Bale Eject page, the current bale length shows as dashes until starwheel movement is detected.

Slack Arm Position Feedback

Position feedback of the upper slack arms is provided by sensors for each slack arm on the machine. For 3x3 machines, it includes four different knotters and slack arms; for 3x4 machines it includes six different knotters and slack arms. The baler control unit provides relative slack arm position within the calibrated range in addition to providing errors for no twine tension and twine stuck in knotters. If no faults are detected on any of the knotters, all of the bar graphs shows green and slack arm position is shown in the bar graph.





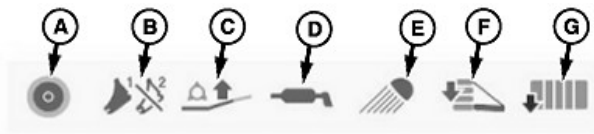
E85141—UN—19OCT17

If a fault is detected on any of the knotters, the specific knotter bar graph turns red to alert the operator. The bar graph stays red until the next knotter trip cycle.

wkjquwj.1681201400282-19-25APR23

Machine Status Bar

The machine status bar provides status icons for subsystems on the large square baler. The icons indicate relative engagement of a system or if a fault is present. The icons are organized according to relative position on the machine. The subsystems on the front of the machine are on the left and moving to subsystems on the back of the machine on the right. A total of seven subsystem status icons can be shown at the bottom with the current configuration of the screen.



E84976—UN—18OCT17

- A—Flywheel Brake Status
- B—Precutter Knife Status
- C—Precutter Drop Floor Status
- D—Grease System Status
- E—Lighting System Status
- F—Bale Chute Status
- G—Bale Drop Status

Flywheel Brake Status

The flywheel brake status displays when the flywheel brake is engaged or disengaged on the machine. If the brake is engaged when the PTO is turned on damage can be caused to the machine. If the flywheel brake is not engaged and a gear case speed sensor fault is detected then the fallback mode is displayed in this position. The following icons are used to provide feedback and are displayed for all machine configurations. Additionally if the flywheel brake is not engaged and a gear case speed sensor fault is detected, the fallback mode is displayed in this position.



E84977—UN—19OCT17
Flywheel Brake Disengaged



E84978—UN—19OCT17
Flywheel Engaged (red icon)



E85227—UN—26OCT17

Gear Case Sensor Fault Active (red)

Knife System Status for Precutter Machines

The knife system status for precutter machines utilizes the tractor hydraulics with an onboard valve block allowing the operator to raise or lower the knives. The precutter system includes two sets of knife banks. Each bank of knives has a sensor for detecting each of the knife banks indicating when knife set 1 or 2 are raised independently. The knives feedback is only shown if the machine is equipped with a precutter system. The following icons are used to provide feedback. Each knife set can operate independently of one another with separate feedback.



E84972—UN—17OCT17

- Knife Set 1 is detected as disengaged with no knife set 1 valve DTCs active.



E85310—UN—31OCT17

- Knife set 2 is detected as disengaged with no knife set 2 valve DTCs active.



E85224—UN—25OCT17

- Knife set 1 is detected as engaged with no knife set 1 valve DTCs active.



E85309—UN—31OCT17

- Knife set 2 is detected as engaged with no knife set 2 valve DTCs active.



E84972—UN—17OCT17

Knife Set 1 (Red When DTC Is Active)

- Knife set 1 is detected as disengaged with a knife set 1 valve DTC active.



E85310—UN—31OCT17

Knife Set 2 (Red When DTC Is Active)

- Knife set 2 is detected as disengaged with a knife set 2 valve DTC active.



E85224—UN—25OCT17

Knife Set 1 (Red When DTC Is Active)

- Knife set 1 is detected as engaged with a knife set 1 valve DTC active.



E85309—UN—31OCT17

Knife Set 2 (Red When DTC Is Active)

- Knife set 2 is detected as engaged with a knife set 2 valve DTC active.

Drop Floor System for Precutter Machines

The drop floor system status for precutter machines provides feedback to the operator for the drop floor position. This ensures that crop is not able to pass through the drop floor if it is down and potentially cause a severe plug in the pickup. The drop floor feedback is only shown if the machine is equipped with a precutter system. The following icons are used to provide feedback:



E84145—UN—21AUG17

Drop Floor Down (Red)

- Drop floor is detected as down.



E84144—UN—21AUG17

Drop Floor Up

- Drop floor is detected as up with no drop floor valve 1 or 2 DTCs active.



E84144—UN—21AUG17

Drop Floor Up (Red When DTC Is Active)

- Drop floor is detected as up with a drop floor valve 1 or 2 DTC active.

Greasing System Status

The greasing system status provides feedback to the operator for the greasing system when it is on or off or if a fault is active. The following icons are used to provide feedback and are displayed for all machine configurations:



E84149—UN—21AUG17

- The greasing sensor is inactive and no greasing system DTCs are active.



E84150—UN—21AUG17

- The greasing system is active and no greasing system DTCs are active.



E84149—UN—21AUG17

Grease System (Red)

- The greasing motor open load or short to ground DTC is active.



E84150—UN—21AUG17

Grease System (Red)

- The greasing motor stuck or short to battery DTC is active

Lighting System Status

The light system status indicates which of the lighting modes is active. Is either all lights off, one or more service lights on, work lights on, or both work and service lights on. The following icons are used to provide feedback and are displayed for all machine configurations:



E84151—UN—22AUG17

- Both the working and service lights are off and there are no active DTCs for service lights.



E84152—UN—22AUG17

- Working lights are on, service lights are off, and there are no active DTCs for service lights.



E84154—UN—22AUG17

- Working lights are off, service lights are on, and there are no active DTCs for service lights.



Light Icon (Red)

E84154—UN—22AUG17

- Working lights are off and there is an active DTC for service lights.



E84153—UN—22AUG17

- Working lights are on, service lights are on, and there are no active DTCs for service lights.



E84979—UN—19OCT17

A—Service Light (Red)

- Working lights are on and there is an active DTC for service lights. Service light icon (A) is red.

NOTE: The working lights are only detected as being on by the control unit and not turned on or off by the control unit.

PhiBer Accumulator Status

The accumulator status provides feedback to the operator on bale position, movement of a bale into a position, and drop status of the PhiBer accumulator system. The accumulator status is only shown when the machine is equipped with a PhiBer accumulator and the option is enabled, causing both the bale chute and bale drop status feedback to be hidden. Feedback is provided differently depending on whether the accumulator is a vertical stacking accumulator or a horizontal accumulator.

The following icons are used to provide feedback for a horizontal PhiBer accumulator, with status of each bale position, status of the paddle for shifting a bale, and drop status all being provided.



E94205—UN—12AUG20

- Horizontal Accumulator



E94206—UN—12AUG20

- Vertical Accumulator



E94207—UN—12AUG20

- Paddle Sliding Right



E94208—UN—12AUG20

- Paddle Sliding Left



E94209—UN—12AUG20

- Bale(s) Dropped



E94210—UN—12AUG20

- No Bale In Location



E94211—UN—12AUG20

- Bale Held In Location



E94212—UN—12AUG20

The following icons are used to provide feedback for a vertical stacking PhiBer accumulator, with status of each bale position, status of the system stacking a bale, and drop status all being provided.



E94213—UN—13AUG20

- Stacking Bale On Accumulator



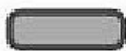
E94209—UN—12AUG20

- Bale(s) Dropped



E94214—UN—13AUG20

- No Bale In Location



E94215—UN—13AUG20

- Bale Held In Location



E94216—UN—13AUG20

- Bale In Location

Bale Chute Status

The bale chute status provides feedback to the operator when the bale chute is in the raised or lowered position. Damage occurs if bales are being formed in the chamber and the bale chute is in the raised position. The bale chute feedback is only shown if the machine is equipped with the bale chute option and it is enabled. The following icons are used to provide feedback:



E84155—UN—22AUG17

- Bale Chute in the down position.



E84156—UN—22AUG17

- Bale chute is in the up position (Red).

Bale Drop Status

The bale drop status provides feedback to the operator when a bale has dropped in the field. An audible beep sounds and shows the bale drop icon for the amount of time in seconds set by the operator on the Machine Setup Page. The bale drop feedback is only shown if the machine is equipped with the bale drop option and it is enabled. The following icons are used to provide feedback:



E85155—UN—19OCT17

- Bale drop detected and no bale drop sensor fault active.



E85155—UN—19OCT17

- Bale drop sensor fault is active. The Bale drop icon is red.

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User Selectable Data Tiles

The User Selectable Data Tiles allow the operator to select what information they want to see displayed on the Main Screen. It is especially useful for machines that are configured with many or all of the available options. Operator can select data tiles and desired order by accessing the Layout Manager Screen from the Menu, and use the drop-downs to customize the layout. The selected user data tiles are then displayed on the right-hand side of the Main Screen and provide feedback on various features of the machine. The following selectable data tiles are available to the operator when installed:

- Strokes Per Flake Data Tile
- Flakes Per Bale Data Tile
- Bales Per Hour Data Tile
- Moisture Data Tile
- Preservative System Data Tile (1 Series Baler Only; MY23+ or with Kit) — Updated
- Total Preservative Applied Data Tile
- Flake Thickness Data Tile
- Previous Bale Weight Data Tile
- Three Bale Average Weight Data Tile
- User Resettable Average Bale Weight Data Tile
- Wet Mass Flow Data Tile
- Dry Mass Flow Data Tile
- Field Bale Count Data Tile
- Customer Bale Count Data Tile
- Season Bale Count Data Tile
- Total Bale Counter Data Tile
- Knife Set Counter Data Tile
- PTO Speed Data Tile
- Manual Bale Flags Data Tile
- Blank Data Tile

See the following pages for details on each of the data tiles available.

Strokes Per Flake Data Tile



E90106—UN—08OCT18

Numbers Shown for Example Only

The Strokes per Flake Data Tile provides information to the operator on how many plunger strokes occur for every flake that is formed. The information can be used

for understanding how fast to drive the machine and relative productivity of the machine. The value on the left-hand side of the data tile provides the number of plunger strokes made while forming the current flake. The value on the right-hand side of the data tile provides an averaged number of plunger strokes per flake. If more than nine plunger strokes are made while forming a flake or if the PTO is not ON, dashes are shown instead of the number for both the left-hand side and right-hand side values.

If a feeder fork filling sensor fallback mode is active, the icon turns red, indicating that the data is not as accurate due to using the machine fallback mode.

Flakes Per Bale Data Tile



E85112—UN—19OCT17
Numbers Shown Are For Example Only

The Flake per Bale Data Tile provides information to the operator on the number of flakes that are in the current bale being formed. The total number of flakes in the previous bale are also shown. The value on the left-hand side of the data tile provides the number of flakes that are within the bale currently being formed. The value on the right-hand side of the data tile provides the number of flakes that were in the previous bale created. Dashes are shown if no flakes have been counted yet for the current or previous bale.

If the filling sensor and dual channel bale length sensor fallback modes are both active, the icon turns red and the left-hand side and right-hand side values have dashes shown.

Bales Per Hour Data Tile



E85113—UN—19OCT17
Numbers Shown Are For Example Only

The Bale per Hour Data Tile provides information to the operator on the number of bales per hour calculated by the last flake fed and by the previous bale that was dropped in the field. The value on the left-hand side of the data tile provides the calculated bales per hour based on the last flake that was fed into the baler. The value on the right-hand side of the data tile provides the calculated bales per hour based on the time it took for the previous bale to be formed. Dashes are shown if flake thickness has not been measured within the current power cycle.

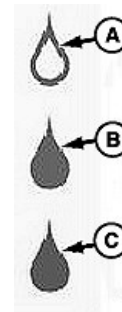
If the filling sensor and dual channel bale length sensor fallback modes are both active, the icon turns red and the left-hand side and right-hand side values have dashes shown.

Moisture Data Tile



E85114—UN—19OCT17
Numbers Shown Are For Example Only

The Moisture Data Tile provides information to the operator on the current bale moisture and average previous bale moisture while baling in addition to the state of the moisture system. The value on the left-hand side of the data tile provides the currently measured moisture reading. The value on the right-hand side of the data tile provides the average moisture of the previous bale formed.



- A—Moisture Reading Unavailable Icon
- B—Moisture Reading Available Icon
- C—Moisture Sensor Fault Icon (Red)

E85311—UN—31OCT17

If the moisture sensor is not enabled on the Machine Setup Pages, the Moisture Reading Unavailable Icon (A) is displayed and the left-hand side and right-hand side values are shown as dashes. Dashes are displayed for the left-hand side and right-hand side values if a moisture reading has not been received within the current power cycle (PTO must be ON) for the left-hand side value, and if a bale has not been created within the current power cycle for the right-hand side value.

If the moisture sensor is enabled on the Machine Setup Pages and there is no active fault for the sensor, the Moisture Reading Available Icon (B) is displayed.

If a moisture sensor is enabled on the Machine Setup Pages but a moisture sensor fault is active, the Moisture Sensor Fault Icon (Red) (C) is displayed and the left-hand side and right-hand side values are shown as dashes.

Preservative System Data Tile (1 Series Baler Only; MY23+ or with Kit)



EX571859—UN—25APR23

The Preservative System Data Tile provides feedback on the preservative being applied, the state of the system, level of preservative in the tank, and also enables the operator to pause or un-pause the system manually. The value on the left provides the rate of preservative currently being applied. The value on the right provides the target rate of preservative for the system to apply at. If the preservative system is not enabled on the Machine Setup Pages, is set to “OFF”, or has a communication fault active then the unavailable icon will be displayed.



EX571853—UN—25APR23

If the preservative system is enabled with no faults, user pause mode is not active, crop is detected, and the moisture is below the turn on threshold causing no preservative to be applied then the not applying due to moisture icon will be displayed within the user pause mode button.

NOTE: The button displayed with the icon is used to active user pause mode.



EX571852—UN—25APR23

If the preservative system is enabled with no faults, user pause mode is not active, and no crop is detected by the baler causing no preservative to be applied then the not applying due to crop flow icon will be displayed within the user pause mode button.

NOTE: The button displayed with the icon is used to active user pause mode.



EX571856—UN—25APR23

If the preservative system is enabled with no faults, user pause mode is not active, crop is detected by the baler, and moisture is above the on threshold causing preservative to be applied then the applying icon will be displayed.

NOTE: The button displayed with the icon is used to active user pause mode.



EX641125—UN—05AUG24

If the preservative system is enabled with no faults, user pause mode is not active, crop is detected by the baler, and moisture is above the on threshold causing preservative to be applied then additionally the left measured application rate may turn red if it is below the minimum flow rate or above the maximum flow rate that the nozzle tip configuration is able to provide. Additionally “Min” or “Max” will be shown accordingly to indicate that the minimum or maximum flow rate for that tip configuration is being met currently.



EX571854—UN—25APR23

If the preservative system has a fault inhibiting it from functioning and being able to apply preservative then the system fault icon will be displayed.



EX571855—UN—25APR23

If the preservative system has the fill system currently running for filling the tank the tank filling icon will be displayed.



EX576095—UN—26APR23

If the user pause mode is active due to pressing the button then the pause icon will be displayed, this will cause no preservative to be applied while in the pause mode until the button is pressed again.

NOTE: The top left of the icons provides what the state would change to if the button is pressed.



EX571856—UN—25APR23

The bar graph displayed to the left of the preservative system state icon provides what the current fluid level of the preservative tank is. The bar graph will show green if there are no sensor faults and more than 10% of the tank is currently filled.



EX571858—UN—25APR23

If there is a fault with the tank level sensor the bar graph will fully fill and turn red.

Total Preservative Applied Data Tile

The Total Preservative Applied User Tile provides a reset button and the total amount of preservative applied since the last reset. The button on the left of the data tile allows an operator to reset the total preservative applied value. The value on the right of the data tile provides the total amount of preservative applied since the reset button was last pressed by the operator. If preservative system faults are active then the preservative icon is shown.



EX571857—UN—25APR23

If there is no tank level sensor fault and less than 5% of the tank is full the bar graph will turn red as a warning.



EX571860—UN—25APR23



EX571861—UN—25APR23

If a preservative system fault is active then the preservative fault icon will be shown.

Flake Thickness Data Tile



E85119—UN—19OCT17

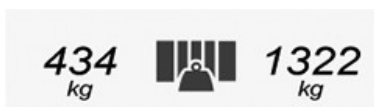
Numbers Shown Are For Example Only

The Flake Thickness Data Tile provides information to the operator on the measured flake thickness. The value on the left-hand side of the data tile provides the flake thickness of the last flake fed into the baler. The value on the right-hand side of the data tile provides the average flake thickness of the previous bale formed by the baler.

If both the filling sensor and dual bale length channel fallback modes are not active, then the flake thickness icon is shown. Dashes are shown for the values when a flake thickness has not been measured within the current power cycle.

If the filling sensor and dual channel bale length sensor fallback modes are both active, then the icon turns red. The left-hand side and right-hand side values have dashes shown.

Previous Bale Weight Data Tile



E85120—UN—19OCT17

Numbers Shown Are For Example Only

The Previous Bale Weight Data Tile provides information to the operator on the current and previous bale weights in addition to state of the weighing system. The value on the left-hand side of the data tile provides the weight of the bale currently being formed by the baler. The value on the right-hand side of the data tile provides the weight of the previous bale formed by the

baler. If no weighing system faults are active for the feed pan sensors, the bale weight icon is shown.

If a feed pan sensor fault is active for the weighing system, the bale weight icon is shown in red. If both feed pan sensors have faults, dashes are shown for weights.

Three Bale Average Weight Data Tile



E85121—UN—19OCT17

Numbers Shown Are For Example Only

The Three Bale Average Weight Data Tile provides information to the operator on the current weight, a three bale weight average, and the state of the weighing system. The value on the left-hand side of the data tile provides the weight of the bale currently being formed by the baler. The value on the right-hand side of the data tile provides the averaged weight of the last three bales formed by the baler. If no weighing system faults are active for the feed pan sensors, then the three bale weight icon is shown.

If a feed pan sensor fault is active for the weighing system, a three bale weight fault icon is shown in red. If both feed pan sensors have faults, dashes are shown for weights.

User Average Bale Weight Data Tile



E85122—UN—19OCT17

Numbers Shown Are For Example Only

The User Average Bale Weight Data Tile provides a reset button and an averaged bale weight since the last reset, in addition to the state of the weighing system. The button on the left-hand side of the data tile allows an operator to reset the average bale weight value. The value on the right-hand side of the data tile provides the average bale weight since the reset button was pressed by the operator. If no weighing system faults are active for the feed pan sensors, the average bale weight icon is shown.

If a feed pan sensor fault is active for the weighing system, then the average bale weight fault icon is shown in red. If both feed pan sensors have faults then dashes are shown for weights.

Wet Mass Flow Data Tile



E85123—UN—19OCT17

Number Shown For Example Only

The Wet Mass Flow Data Tile provides the operator the calculated weight per time for mass flow, in addition to the state of the weighing system. The centered value in the data tile provides the current calculated wet mass flow rate. If no weighing system faults are active for the feed pan sensors, then the wet mass flow icon is shown.

If a feed pan sensor fault is active for the weighing system, the wet mass flow fault icon is shown in red. If both feed pan sensors have faults then dashes are shown.

Dry Mass Flow Data Tile



E85124—UN—19OCT17

Number Shown For Example Only

The Dry Mass Flow Data Tile provides the calculated dry weight per time for mass flow, in addition to the state of the weighing system. The centered value in the data tile provides the current calculated dry mass flow rate using the moisture reading and the dry basis moisture on the user profile screen to correct to standardized moisture. If no weighing system faults are active for the feed pan sensors, the dry mass flow icon is shown.

If a feed pan sensor fault is active for the weighing system, the dry mass flow fault icon is shown in red. If both feed pan sensors have faults, then dashes are shown.

Field Bale Count Data Tile



E85125—UN—19OCT17

Number Shown For Example Only

The Field Bale Count Data Tile displays the current number of bales dropped in the field selected by the operator on the Counters Screen.

Customer Bale Count Data Tile



E85126—UN—19OCT17

Number Shown For Example Only

The Customer Bale Count Data Tile displays the current number of bales dropped for the customer name selected by the operator.

Season Bale Count Data Tile



E85127—UN—19OCT17

Number Shown For Example Only

The Season Bale Count Data Tile displays the number of bales that have been dropped for the season.

Total Bale Count Data Tile



E85128—UN—19OCT17

Number Shown For Example Only

The Total Bale Count Data Tile displays the current number of bales that have been dropped in the lifetime of the machine.

Knife Set Counter Data Tile



E85129—UN—20OCT17

Number Shown For Example Only

The Knife Set Counter Data Tile allows the operator to track the number of bales that have been made with each set of knives independently since the counters were reset. The value and button on the left-hand side provide the number of bales that have been created with knife set 1 engaged. The corresponding button allows an operator to reset that counter. The value on the right-hand side, and button on the right-hand side provide the number of bales that have been created with knife set 2 engaged. The corresponding button allows the operator to reset that counter.

PTO Speed Data Tile

The PTO Speed Data Tile provides the PTO speed after the flywheel in addition to the state of PTO speed monitoring. The centered value in the data tile provides the currently measured PTO speed of the baler. If no faults are active for the gearbox speed sensor then the PTO speed icon is shown:



The Manual Bale Flags Data Tile allows an operator to manually set a flag for the bale that is currently being formed in the chamber, indicating that the bale either has broken twine or binding issues, weeds or undesirable crop inside, or a wet spot. The flag can be set by selecting the corresponding button and stays set until the bale is tied, after which the flags are all reset to being not set. To undo setting a flag the button for that flag may be pressed again, which resets the flag to not set.

ep2rqpn,1722507537948-19-13AUG24

EX580419—UN—06JUN23

If a gearbox speed sensor fault is active the PTO speed fault icon will be shown:



Baler Menu Screen

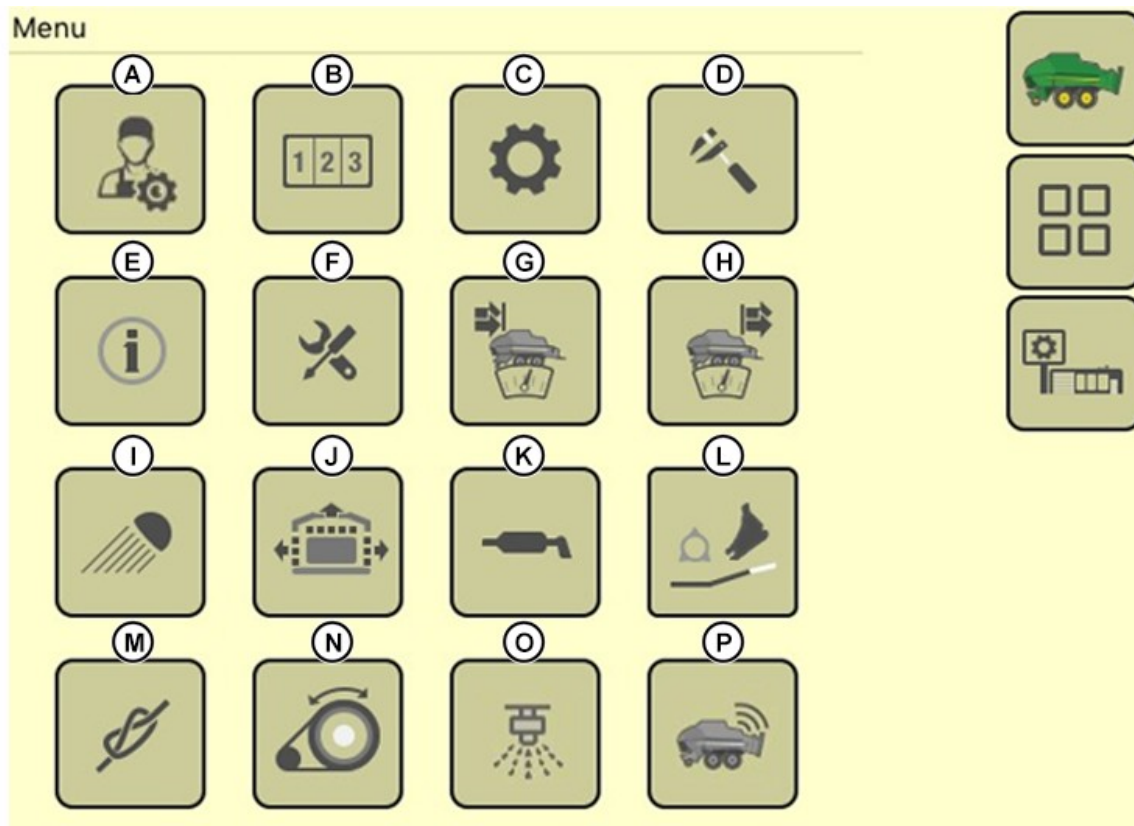
The menu allows up to 18 different buttons to be shown on a page, with the buttons being shown or hidden according to the machine options, PTO engagement, and the presence of a second display that is connected to the CAN bus. The buttons move towards the left-hand side and top so that there are no empty spaces between buttons on the menu page. If the button is being hidden due to an option or baler state, then the next button on the list is shown.

EX580420—UN—06JUN23

Manual Bale Flags Data Tile



EX580430—UN—14JUN23



EX561620—UN—14JUN23

Menu Screen

- A—The User Profile Button allows the operator to navigate to the User Profile Screen from the menu page when pressed. This should be displayed for all machine types and configurations.
- B—Counters Button: Navigates to the Counters Page when selected.
- C—Machine Setup Button: Navigates to the Machine Setup Page when selected.
- D—Calibrations Button: Navigates to the Calibrations Page when selected.
- E—About Page Button: Navigates to the About Page when selected.
- F—Machine Diagnostics Button: Navigates to the Machine Diagnostics Page when selected.
- G—Test Inputs Button: Navigates to the Test Inputs Page when selected.
- H—Test Outputs Button: Navigates to the Test Outputs Page when selected.
- I—Lighting Setup Button: Navigates to the Lighting Setup Page when selected.
- J—Bale Eject Button: Navigates to the Bale Eject Page when selected.
- K—Grease System Button: Grease System Button navigates to the Grease System Page when selected.
- L—Feed System Management Button: Navigates to the Feed System Management Page when selected.
- M—Electric Tie Button: Navigates to the Electric Tie Page when selected.
- N—BalerAssist Button: Navigates to the BalerAssist page when selected.
- O—The Preservative System Button allows the operator to navigate to the Preservative System Screen from the menu page when pressed.
- P—The Bale Mobile button allows the operator to navigate to the Bale Mobile Screen from the menu page when pressed.

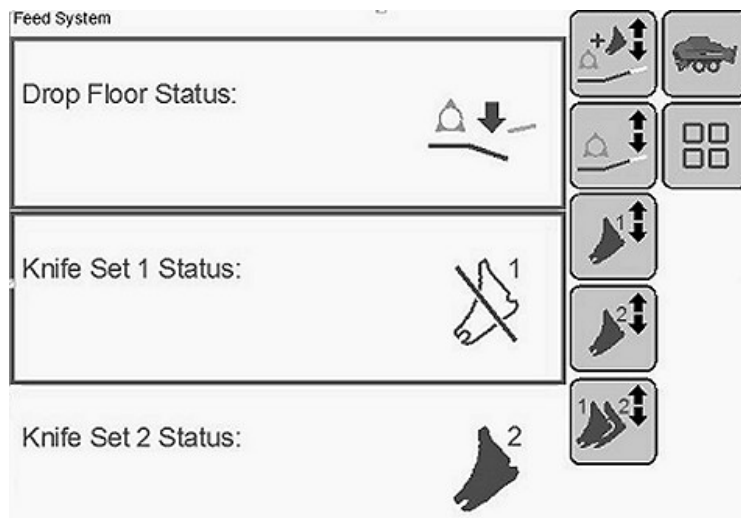
wkjqwj,1679376831324-19-13NOV25

Feed System Management Screen

The feed system management page allows an operator with the precutter system to select which functions to move when engaging the tractor SCV. This page indicates the current state of each of the functions,

when a function is selected, or an error is present with the function. Each of the functions is selectable by the softkeys on the right-hand side of the screen. The function is then highlighted with a green rectangle

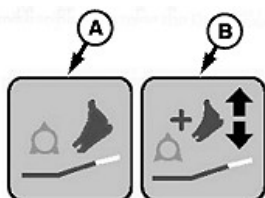
around it when selected. If a fault is present for a given function, the softkey for that function is hidden and the text is switched to red and bold.



E85177—UN—25OCT17

Drop Floor Status and Control

The position of the drop floor is controlled and monitored by the operator from the display in the cab. The operator can select to control the drop floor through the use of the softkeys on the Feed System Management Screen. The drop floor is then highlighted to indicate that the valve is active and that the drop floor can be moved. The drop floor function is selected by either pressing the Drop Floor softkey (A) or Drop Floor and Knives softkeys (B).



E85178—UN—24OCT17

- A—Drop Floor Softkey
- B—Drop Floor and Knives Softkey

Position of the drop floor according to the sensor is displayed to the right of the “Drop Floor Status” text. The status is shown as drop floor down (A) or drop floor up (B).



E84145—UN—21AUG17
Drop Floor Down (A)



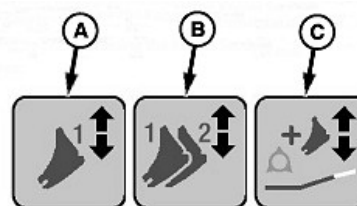
E84144—UN—21AUG17
Drop Floor UP (B)

If a DTC for the Drop Floor Valve 1 or 2 is detected then the “Drop Floor Status” text switches from black to red and bold. The following happens according to the active drop floor valve and pickup valve DTCs:

- If a Drop Floor Valve 1 or 2 short to battery is detected then the function is always highlighted. The Drop Floor Softkey and Drop Floor and Knives Softkey are hidden.
- If a Pickup Valve open load or short to ground is active or if a “Drop Floor” Valve 1 or 2 short to ground or open load DTC is active then the Drop Floor Softkey and Drop Floor and Knives Softkey is hidden

Knives Set 1 Status and Control

The position of the knives set 1 are controlled and monitored by the operator from the display in the cab. The operator can select to control knives set 1 through the use of softkeys on the Feed System Management Screen. With knives set 1 then being highlighted to indicate that the valve is active and that knives set 1 can be moved. The knives set 1 function is selected by either pressing the Knives Set 1 (A), Knives Set 1 and 2 (B), or Drop Floor and Knives Softkeys (C).



E85179—UN—24OCT17

- A—Knives Set 1 Softkey
- B—Knives Set 1 and 2 Softkey
- C—Drop Floor and Knives Softkey

Position of knife set 1 according to the sensor readings is displayed to the right of the “Knife Set 1 Status” text, with the following states being shown:



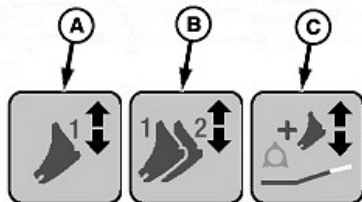
E84972—UN—17OCT17

Knives Set 1 Detected Down



E84974—UN—17OCT17

Knives Set 2 Detected Down



E85179—UN—24OCT17

Knives Set 1 Detected Down



E84975—UN—17OCT17

Knives Set 2 Detected Up

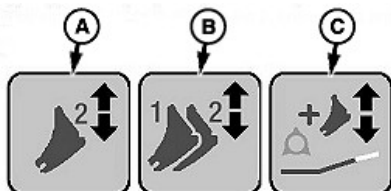
- A—Knives Set 1 Softkey
- B—Knives Set 1 and 2 Softkey
- C—Drop Floor and Knives Softkey

If a DTC for the Knife Set 1 Valve is detected, the “Knife Set 1 Status” text switches from black to red and bold. The following happens according to the active knife set 1 valve and pickup valve DTCs:

- If a Knife Set 1 Valve short to battery is detected then the function is always highlighted and the Knife Set 1 Softkey (A), Knife Set 1 and 2 Softkey (B), and Drop Floor and Knives Softkey (C) is hidden.
- If a Pickup Valve or Knife Set 1 Valve open load or short to ground DTC is active, then the Knife Set 1 Softkey (A), Knife Set 1 and 2 Softkey (B), and Drop Floor and Knives Softkey (C) is hidden.

Knives Set 2 Status Control

The position of the knives set 2 are controlled and monitored by the operator from the display in the cab. The operator can select to control knives set 2 through the use of softkeys on the Feed System Management Screen. With knives set 2 then being highlighted to indicate that the valve is active and that knives set 2 can be moved. The knives set 2 function is selected by either pressing the Knives Set 2 (A), Knives Set 1 and 2 (B), or Drop Floor and Knives Softkeys (C).



E84973—UN—17OCT17

- A—Knives Set 2 Softkey
- B—Knives Set 1 and 2 Softkey
- C—Drop Floor and Knives Softkey

Position of knife set 2 according to the sensor readings is displayed to the right of the “Knife Set 2 Status” text, with the following states being shown:

If a DTC for the Knife Set 2 Valve is detected then the “Knife Set 2 Status” text switches from black to red and bold. The following happens according to the active knife set 2 valve and pickup valve DTCs:

- If a Knife Set 2 Valve short to battery is detected then the function is always highlighted. The Knife Set 2 Softkey (A), Knife Set 1 and 2 Softkey (B), and Drop Floor and Knives Softkey (C) is hidden.
- If a Pickup Valve or if a Knife Set 2 Valve open load or short to ground DTC is active, then the Knife Set 2 Softkey (A), Knife Set 1 and 2 Softkey (B), and Drop Floor and Knives Softkey (C) is hidden.

wkjqwj,1682408340678-19-14JUN23

Counters Screen

The Counters Screen provides bale count and parameter feedback to the customer for the user selectable fields, customers, season total, and machine lifetime totals. The field, customer, and season bale counts and parameter feedback are reset by the operator using softkeys while the total bale count cannot be reset.

Customer and Field Counters Page

The Customer and Field Counters Page allows the operator to select and edit customer names, select a field number for bales and data to be counted in, and to select additional data other than bale counts to be viewed. The operator can separate the number of bales created and data collected in different fields for a given customer for tracking.

Counters

John Doe

1	0	0	0
2	2	2	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
	2	2	0

E85546—UN—10NOV17

Editing and Selecting Customer Name

The customer name to use for collecting bale counts and data can be selected by using the drop-down next to the customer name button. The currently selected customer name can be edited up to ten characters by pressing the customer name button.



E85157—UN—20OCT17

Selecting Field Number

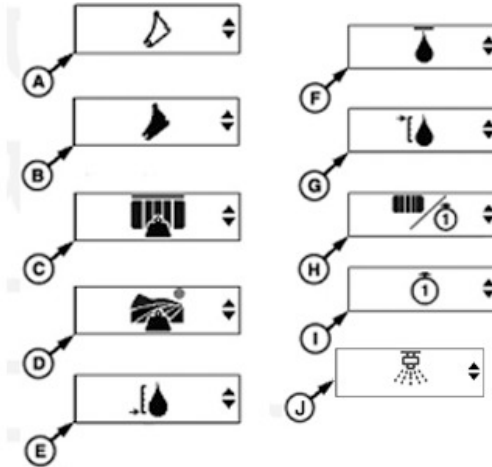
The field within the customer name selected can then be selected by using the drop-down next to the field icon with fields 1—10 being selectable. A rectangle highlights the data for the field selected under the current customer name.



E85158—UN—20OCT17

Selectable Counter Data

In addition to the bale count, other data can be selected by the operator by using the drop-downs located to the right-hand side of the bale symbol at the top of the field counters. The drop-downs include the following selectable data, with the data being dependent on what type of options the machine is equipped with and has enabled.



EX571843—UN—13APR23

- A—Number of Non-Precut Bales
- B—Number of Precut Bales
- C—Average Bale Weight
- D—Total Harvested Weight
- E—Minimum Bale Moisture (Currently Hidden)
- F—Average Bale Moisture
- G—Maximum Bale Moisture (Currently Hidden)
- H—Bales Per Hour
- I—Time Harvesting
- J—Total Preservative Applied

Modifying Field Bale Count

The operator is able to add or subtract bales from the selected field by using the Increment Bale Softkey and Decrement Bale Softkey.

NOTE: Some of the calculated data tied to field data counters are affected.



E85161—UN—20OCT17

Clearing Customer and Field Counters

The operator is able to clear individual field counters in addition to customer counters (which clears all of the fields under that customer name). The currently selected field can be cleared by using the Reset Field Counter Softkey.



E83985—UN—31JUL17

If the operator wants to clear all of the fields and data under the currently selected customer name, the Reset Customer Counter Softkey can be used.



E83984—UN—31JUL17

When clearing the customer counters, the operator is

prompted by the Warning Erase All Counters Screen. When the Accept Button is pressed, the counters are reset or if the Cancel Button is pressed, the counters remain the same.



E85162—UN—20OCT17

Switching Between Counters Pages

The operator is able to switch between the Customer and Field Counters Page and the Season and Total Counters Page by using the Field Counter Softkey and Total Counter Softkey. If the Customer and Field Counters Page is displayed on the Counters Screen, then the Total Counter Softkey is displayed. When the Total Counter Softkey is pressed, the Season and Total Counters Page is shown.



E85163—UN—23OCT17

If the Season and Total Counters Page is displayed on the Counters Screen, then the Field Counter is displayed. If the Field Counter Softkey is pressed, the Customer and Field Counters Page is shown.



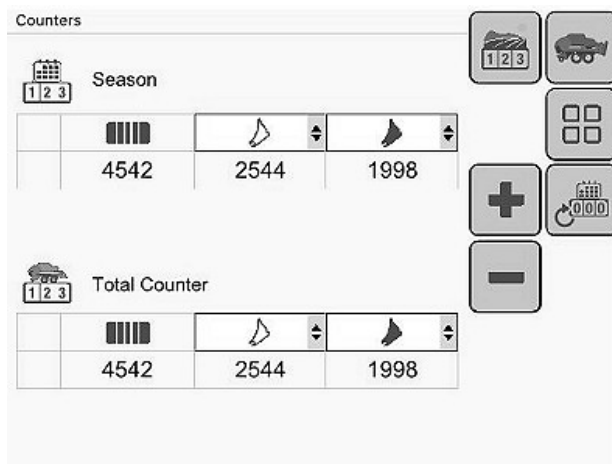
E85191—UN—23OCT17

When navigating out of the Counters Screen and back into the Counters Screen, the last viewed Counters Page (either Customer and Field Counters Page or Season and Total Counters Page) is shown.

Season and Total Counters Page

The Season and Total Counters Page provides field and data over the season and lifetime of the machine. The season counters add all of the customer totals together and display that total number. The total counters provide the lifetime total of the bales and data are not clearable

by the operator. Similar to the Counter and Field Counters Page, the operator is able to select different data to view both on a season and total counters level. This data matches the selectable information outlined in section Selectable Counter Data.



E85547—UN—10NOV17

Modifying Season Bale Count

The operator is able to add or subtract bales from the season bale count using the Increment Bale Softkey and Decrement Bale Softkey.



E85192—UN—23OCT17

NOTE: Adding or subtracting bale counts affects the calculated data tied to the season data counters.

Clearing Season Counters

The operator is able to clear the season counters by pressing the Clear Season Counters Softkey. Pressing the Clear Season Counters Softkey also clears all of the customer and field counters.



E83983—UN—31JUL17

After the Clear Season Counters Softkey is pressed, the operator is prompted by the warning Erase All Counters Screen. If the Accept Button is pressed, the counters are reset or if the Cancel Button is pressed, the counters remain the same.



E85162—UN—20OCT17
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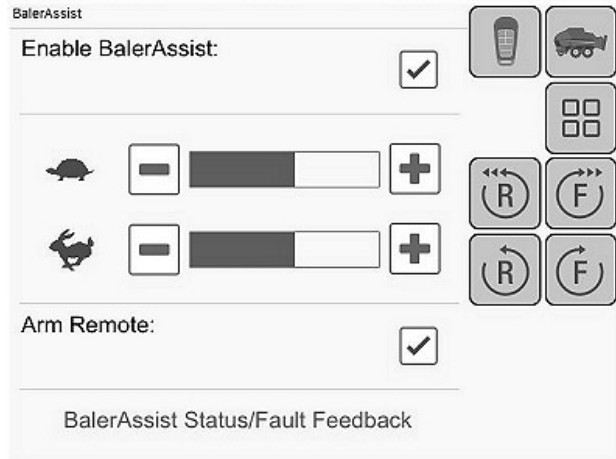
BalerAssist

BalerAssist Screen

The BalerAssist Screen allows an operator to control the BalerAssist functions on the machine and to pair and run diagnostics on the BalerAssist remote control. The operator is able to enable the BalerAssist function, adjust the slow and fast speed setpoints, see system status, and pair and test the remote. The BalerAssist Screen contains the BalerAssist Control Page for operating and modifying the BalerAssist and the BalerAssist Remote Page to test and pair new remotes.

BalerAssist Control Page

The BalerAssist Control Page provides the ability to enable BalerAssist, customize the slow and fast speed setpoints, and activate the BalerAssist remote. Status of the BalerAssist system is provided on the bottom of the screen, including requirements to fully activate the feature and show the softkeys or enable the remote for moving BalerAssist in forward or reverse direction.



E85228—UN—26OCT17

BalerAssist Enable and Speed Setpoints

The operator can Enable BalerAssist by checking the Enable BalerAssist checkbox, activating the BalerAssist Engage Valve and allows for the system to be engaged by sending hydraulic flow with the corresponding SCV. Once the cylinder has been extended with the SCV, the flywheel brake is disengaged, the PTO is off, and there are no BalerAssist system faults then the operator can then run the system in the forward or reverse direction.

The Slow Reverse Softkey, Fast Reverse Softkey, Slow Forward Softkey, and Fast Forward Softkey are then displayed as long as the system meets the above criteria and the remote is not armed. These softkeys can then be used to move the BalerAssist system in the corresponding direction and speed to the Softkey pressed. If the Slow Forward Softkey or Fast Forward Softkey is pressed then the Slow Reverse and Fast Reverse Softkeys will be hidden until the Slow Forward and Fast Forward Softkeys are no longer pressed the system has ramped down in speed. If the Slow Reverse Softkey or Fast Reverse Softkey is pressed then the Slow Forward and Fast Forward Softkeys will be hidden until the Slow Reverse and Fast Reverse Softkeys are no longer pressed and the system has ramped down in speed.



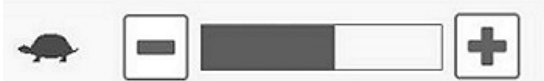
E85229—UN—26OCT17

The BalerAssist system will stay enabled with the softkeys shown on the following Screens, navigating to the Menu Screen will keep the system enabled while switching to the other screens listed below:

- BalerAssist Screen
- Bale Eject Screen
- Diagnostics Screen
- Test Inputs Screen
- Test Outputs Screen

The operator can change the slow and fast speed

setpoints by utilizing the Plus and Minus buttons next to the respective bar graphs. The slow speed bar graph corresponds to the set speed for the slow reverse and slow forward BalerAssist speeds. The speeds are initiated with either the Slow Reverse softkey and Slow Forward softkey or remote:



E85230—UN—26OCT17

The fast speed bar graph corresponds to the set speed for the fast reverse and fast forward BalerAssist speeds. The bar graph is initiated with either the Fast Reverse Softkey and Fast Forward softkey or remote.



E85231—UN—26OCT17

BalerAssist Remote Enable

To use the BalerAssist Bluetooth Remote, the operator must select the Arm Remote checkbox, hiding the Slow Reverse, Fast Reverse, Slow Forward, and Fast Forward softkeys so it can only be operated using the remote. The checkbox is disabled if there is a fault for the BalerAssist remote system and if a button has not been pressed during the current power cycle. The initial button press within a power cycle helps ensure that a remote is within range and properly paired for use.

BalerAssist Feedback

The bottom of the screen provides text feedback on steps to get BalerAssist activated and faults that inhibit the system. The following text is shown in priority order to the operator:

1. Flywheel brake is engaged – Is displayed when the flywheel brake is engaged.
2. Activating BalerAssist – Is shown when the checkbox is first checked for 500 ms.
3. Check pressure – Is shown if the cylinder is not fully extended and SCV engaged.
4. Blank (no text).

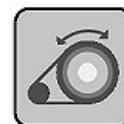
Switching Between BalerAssist Pages

The operator is able to switch between the BalerAssist Control Page and the BalerAssist Remote Page by using the BalerAssist Control softkey and BalerAssist Remote softkey. If the BalerAssist Control Page is displayed on the BalerAssist Screen, the BalerAssist remote system does not have a fault active, and the BalerAssist remote system is enabled on the Machine Setup pages then the BalerAssist Remote softkey is displayed. If the BalerAssist Remote softkey is pressed the BalerAssist page is shown.



E85232—UN—26OCT17

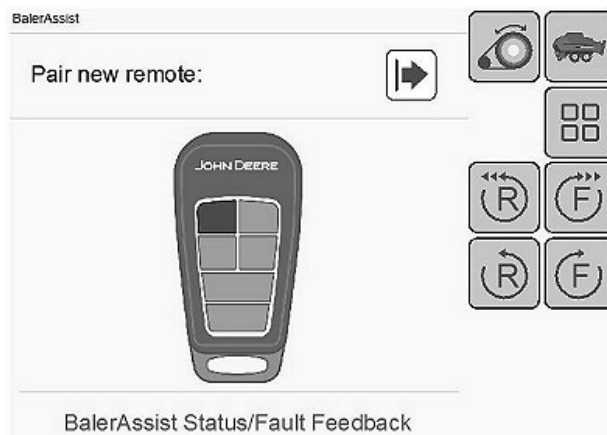
If the BalerAssist remote page is displayed on the BalerAssist Screen then the BalerAssist Control softkey is displayed, if pressed the BalerAssist Control page is shown.



E85233—UN—26OCT17

BalerAssist Remote

The BalerAssist remote page allows the operator to test the remote for button feedback and to pair a new remote. Feedback on the remote system and pairing process is provided at the bottom of the screen.



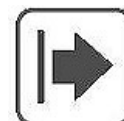
E85254—UN—26OCT17

Remote Diagnostics

For remote diagnostics a picture of the remote is provided on the screen. The operator is able to press any of the buttons on the remote with the corresponding button being shown highlighted in green. If the operator presses a button but no feedback is provided on the screen the operator should ensure that the remote used is paired and there is no fault with the system or perform further troubleshooting. Only one remote can be paired at a time.

Pair New Remote

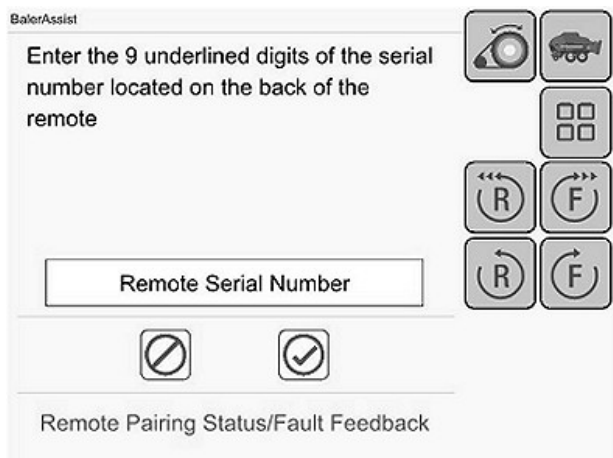
The operator is also able to pair a new remote in case one is lost or damaged by pressing the Pair New Remote button at the top of the BalerAssist Remote page.



E85255—UN—26OCT17

Once the Pair New Remote button is pressed the

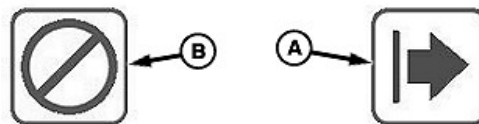
remote diagnostics and button are hidden. The pairing instructions and a field for entering the remote serial number is provided.



E85256—UN—26OCT17

Enter the underlined nine digits of the serial number on

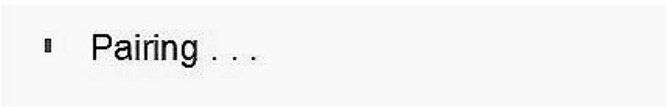
the back of the remote. Once entered with 9 or less digits, the Next Step button (A) is shown and the operator can press it to initiate pairing. To exit the pairing procedure and return back to the remote press the Cancel button (B).



E85257—UN—26OCT17

A—Next Step Button
B—Cancel Button

When the operator presses the Next button, the previously stored paired remote is removed and Removing Previous Remote animation is shown at the bottom of the screen. Only one remote is paired and can be activated at a time for safety in running the feature. The software pairs the new remote with “Pairing” displayed at the bottom with an animation.



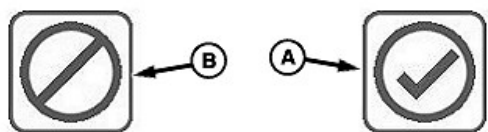
E85258—UN—26OCT17

The software designates whether pairing was successful or not with the following text at the bottom of the screen and buttons shown:

- “Pairing error” is shown if an error has occurred. The Cancel button is hidden and Unsuccessful button shown.
- “Pairing failed” is shown if pairing failed. The Cancel button is hidden and Unsuccessful button shown.
- “Pairing disabled” is shown if the remote system disables pairing. The Cancel button is hidden and Unsuccessful button shown.
- Pairing successful” is shown if pairing succeeded. The Cancel button is hidden and Successful button shown.

- for BalerAssist Remote Not Present or BalerAssist Remote Connection Lost DTCs are active
- 2.Cycle Power to Attempt Pairing Remote Again -If a remote pairing attempt has already occurred in the power cycle due to the system being limited to allowing pairing only once per power cycle
- 3. Too many digits entered if more than 9 digits were entered for the underlined portion of the remote serial number
- 4. Paired remote out of range or battery dead if the paired remote is not currently detected by the system
- 5. Blank (no text) otherwise

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E85259—UN—26OCT17

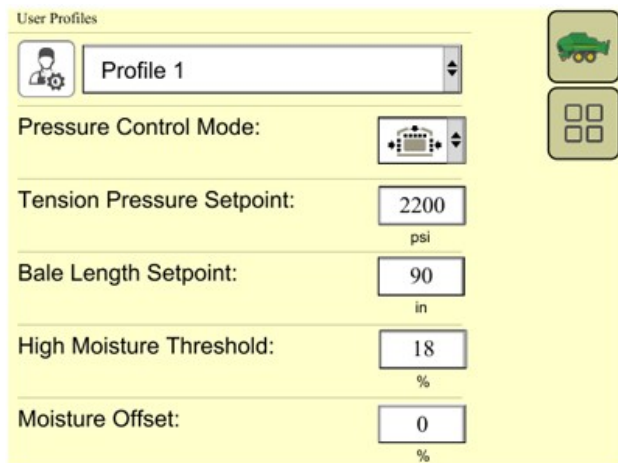
If the Cancel button, Pairing Unsuccessful button, or Pairing Successful button is pressed, the pairing setup page is hidden and the test remote buttons information is shown.

The bottom of the screen can provide additional textual feedback beyond the pairing process to help provide feedback faults that inhibit the remote system from working. The following text will be shown in priority order to the operator:

User Profile Screen

The user profile data mask allows an operator to setup different profiles that can be linked to driver preference, crop type, crop conditions, or other factors for baling. Each profile will have its own set of setpoints, user offsets, and calibrations tied to it to allow operators to switch between different crop conditions or types without having to recalibrate or modify all of their settings each time.

1. BalerAssist Remote System Not Detected-If the fault



EX580431—UN—14JUN23

Editing and Selecting User Profile Name



EX580432—UN—14JUN23

The user profile that is currently selected and being used by the machine can be changed and being used by the machine can be changed by using the drop down next to the user profile name button. Each user profile has unique setpoints, user offsets, and calibrations (weighing system and bale length) tied to it. To help in labeling and customizing a given user profile the currently selected user profile name can be edited up to 24 characters by pressing the user profile name button.

User Profile Pressure Control Mode

The pressure control mode drop down allows the operator to select between manual pressure control and machine load control modes for controlling the density of the machine for the selected user profile, which also reflects on the machine setup page.



Machine Load Control

EX580433—UN—14JUN23



Manual Pressure Control

EX580434—UN—14JUN23

If a fallback mode is active for the currently selected control mode (either load pin fallback or pressure sensor fallback) then the “Pressure Control Mode” text turns bold and red. This setting is shown for all machine types and option configurations to the operator.

Additionally if a dual load pin failure is active such that machine load cannot be calculated then the system automatically switches to manual pressure control mode and hide machine load control as an option. The system returns to the previously saved setting once one or both of the load pins are no longer faulty.

User Profile Machine Load Setpoint

The Machine Load Setpoint is displayed if the user profile pressure control mode is set to ‘Machine Load Control’. The current setpoint for machine load control can then be modified and is saved for the currently selected user profile, with the setpoint value being synced between what is shown on the main page and what is shown on the user profile page.

User Profile Tension Pressure Setpoint

The Tension Pressure Setpoint is displayed if the user

profile pressure control mode is set to 'Manual Pressure Control'. The current setpoint for tension pressure can then be modified and is saved for the currently selected user profile, with the setpoint value being synced between what is shown on the main page and what is shown on the user profile page.

User Profile Bale Length Setpoint

The Bale Length Setpoint is displayed if the machine has E-Tie installed and enabled. The current setpoint for bale length can then be modified and is saved for the currently selected user profile, with the setpoint value being synced between what is shown on the main page and what is shown on the user profile page.

User Profile High Moisture Threshold

The High Moisture Threshold setting allows an operator to setup an audible alarm that is trigger whenever the moisture is detected above the set threshold for the currently selected user profile. This can help alert the operator to chan ging crop conditions, in addition the readings displayed in the Moisture Data Tile will be red and bold if above the threshold value.

User Profile Moisture Offset

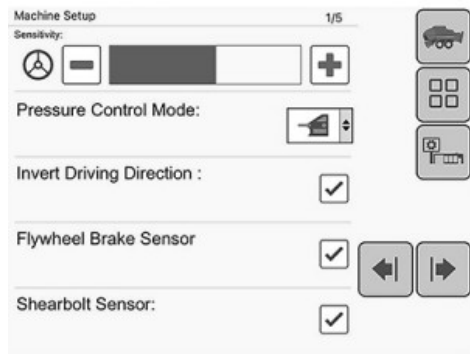
The Moisture Offset can be modified by the operator by selecting the input number with the white box around it next to "Moisture Offset" and entering in the desired offset percentage that will be applied to the displayed moisture readings for the selected user profile.

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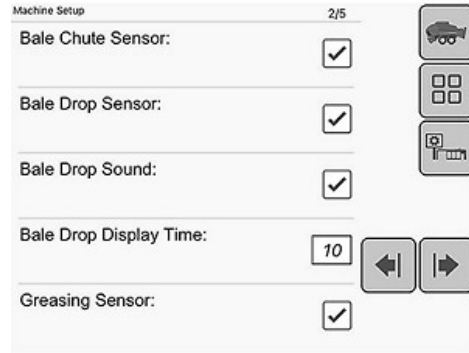
Machine Setup Screen

Machine Setup Screen

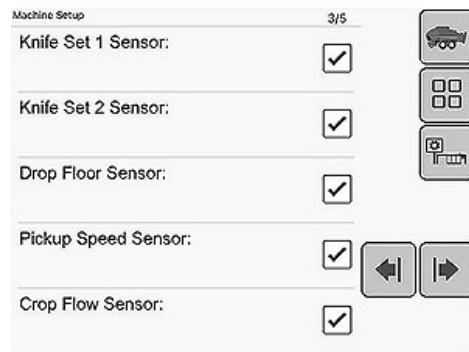
The Machine Setup Page allows the operator to modify the machine setup and enable or disable different sensors or subsystems.



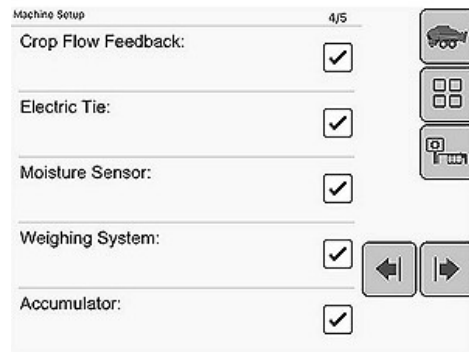
E85334—UN—31OCT17



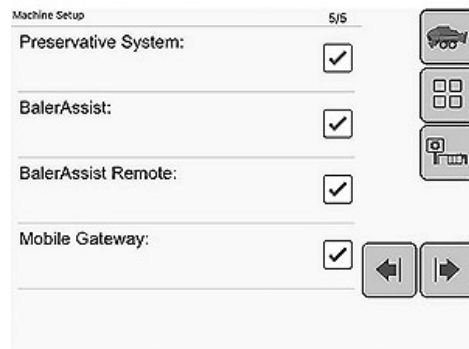
E85335—UN—31OCT17



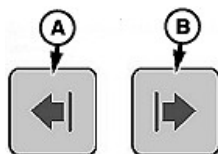
E85336—UN—31OCT17



E85337—UN—31OCT17



E85338—UN—31OCT17



E85339—UN—31OCT17

A—Previous Page
B—Next Page

The operator can navigate between the different Machine Setup Pages by using the Previous Page (A) and Next Page (B) Softkeys.

Machine Setup Order

The Machine Setup Screen changes in order according to what options are enabled on the machine so there are no gaps between setup features.

1. Driving Direction Sensitivity Adjustment
2. Pressure Control Mode
3. Invert Driving Direction
4. Flywheel Brake Sensor Enable
5. Shear Bolt Sensor Enable
6. Bale Chute Sensor Enable
7. Bale Drop Sensor Enable
8. Bale Drop Sound Enable
9. Bale Drop Display Time Enable
10. Greasing System Sensor Enable
11. Knife Set 1 Sensor Enable
12. Knife Set 2 Sensor Enable
13. Drop Floor Sensor Enable
14. Pickup Speed Sensor Enable
15. Crop Flow Sensor Enable
16. Crop Flow Feedback Enable
17. Crop Flow Sensitivity Adjustment
18. Electric Tie Enable
19. Moisture Sensor Enable
20. Weighing System Enable
21. Accumulator Enable
22. Preservative System Enable
23. Preservative Selectable Nozzle Tips
24. BalerAssist Enable
25. BalerAssist Remote Enable
26. Mobile Gateway Enable
27. Bale Documentation System Enable

Machine Setup Options and Settings

The following options and settings are shown on the Machine Setup pages to allow the operator to enable, disable, or adjust different settings and options.

Driving Direction SensitivityThe Driving Direction Sensitivity bar graph and buttons allow the operator to modify and see the sensitivity of the driving direction feedback displayed on the main page. The sensitivity

can be increased by using the plus button or decreased by using the minus button. The sensitivity level is shown in the bar graph.



E85192—UN—23OCT17

The setting is shown for all machine types and option configurations to the operator.

Pressure Control ModeThe Pressure Control Mode drop-down allows the operator to select between the manual pressure control and machine load control modes for controlling the density of the machine.



E85340—UN—01NOV17
Machine Load Control



E85341—UN—01NOV17
Machine Pressure Control (Red)

If a fallback mode is active for the currently selected control mode, load pin fallback or pressure sensor fallback, the Pressure Control Mode text turns bold and red. The setting is shown for all machine types and option configurations to the operator.

If a dual load pin failure is active and the machine load cannot be calculated, the system will be automatically switch to the manual pressure control mode and hide the machine load control as an option. The system will return to the previously saved setting when one or both of the load pins are no longer faulty.

Invert Driving Direction

The Invert Driving Direction checkbox allows the operator to invert the side of the screen arrows are shown for driving to the left or right according to driving direction feedback. The checkbox will keep the same status over a power cycle with this setting being shown for all machine types and option configurations to the operator.

Flywheel Brake Sensor EnableThe Flywheel Brake Sensor Enable checkbox allows the operator to enable or disable the flywheel brake sensor feedback. The checkbox will be reset to checked after each power cycle and causes the following:

- If the checkbox is not checked, the flywheel brake status is not provided on the status bar of the Main Screen. The DTCs for the flywheel brake are inhibited.
- If the checkbox is checked then the flywheel brake status is displayed on the Main Screen. The DTCs for the flywheel brake are monitored.

The text Flywheel Brake Sensor is switched to red and bold when a Flywheel Brake fault is active. The setting

is shown for all machine types and option configurations to the operator.

Shear Bolt Sensor EnableThe Shear Bolt Sensor Enable checkbox allows the operator to enable or disable the shear bolt sensor fault monitoring. The checkbox will be reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the shear bolt sensor DTCs are inhibited.
- If the checkbox is checked, the DTCs for the shear bolt sensor is monitored.

The text Shear Bolt Sensor is switched to red and bold when a Shear Bolt Sensor fault is active. The setting is shown for all machine types and option configurations to the operator.

Bale Chute Sensor Enable

The Bale Chute Sensor Enable checkbox allows the operator to enable or disable the bale chute sensor feedback as described. The checkbox will be reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the bale chute status is not provided on the status bar of the Main Screen. The DTCs for the bale chute are inhibited.
- If the checkbox is checked, the bale chute status is displayed on the Main Screen. The DTCs for the bale chute are monitored.

The text Bale Chute Sensor is switched to red and bold when a Bale Chute fault is active. The setting is shown for machines that have the Bale Chute Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Bale Drop Sensor Enable

The Bale Drop Sensor Enable checkbox allows the operator to enable or disable the bale drop sensor feedback as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the bale drop status is not provided on the status bar of the Main Screen. The DTCs for the bale drop sensor are inhibited.
- If the checkbox is checked, the bale drop status is displayed on the Main Screen. The DTCs for the bale drop sensor are monitored.

The text Bale Drop Sensor is switched to red and bold when a Bale Drop Sensor fault is active. The setting is shown for machines that have the Bale Drop Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Bale Drop Sound Enable

The Bale Drop Sound Enable checkbox allows the operator to enable or disable the bale drop audible beep provided when a bale drop event is detected as described below. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then the bale drop sound will not be provided by the display whenever a bale is detected as being dropped
- If the checkbox is checked then the bale drop sound will be provided by the display whenever a bale is detected as being dropped

The text “Bale Drop Sound” will be switched to red and bold if a Bale Drop Sensor fault is active, this setting is shown for machines that have the Bale Drop Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Bale Drop Display Time

The Bale Drop Display Time setting allows the operator to specify how long the bale drop symbol is shown on the status bar after a bale drop is detected. The operator is able to modify the value by selecting the input number with the white box around it and entering in the desired display time.

The text Bale Drop Display Time is switched to red and bold when a Bale Drop Sensor fault is active. The setting is shown for machines that have the Bale Drop Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Greasing Sensor Enable

The Greasing Sensor Enable checkbox allows the operator to enable or disable the greasing sensor feedback as described. The checkbox will be reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the greasing system status is not provided on the status bar of the Main Screen. The DTCs for the greasing system are inhibited.
- If the checkbox is checked, the greasing system status is displayed on the Main Screen. The DTCs for the greasing system are monitored.

The text Greasing Sensor is switched to red and bold when a Greasing System fault is active. The setting is shown for all machine types and option configurations to the operator.

Knife Sensor Enable (0 Series Balers Only)

The Knife Sensor Enable checkbox allows the operator to enable or disable the knife sensor feedback as described below. The checkbox will be reset to checked

after each power cycle and the status will cause the following:

- If the checkbox is not checked then the knife status will not be provided on the status bar of the Main Screen and DTCs for the knife system will be inhibited
- If the checkbox is checked then the knife status will be displayed on the Main Screen and DTCs for the knife system will be monitored

The text “Knife Sensor” will be switched to red and bold if a Knife System fault is active, this setting is shown only for precutter models.

Knife Set 1 Sensor Enable

The Knife Set 1 Sensor Enable checkbox allows the operator to enable or disable the knife set 1 sensor feedback as described. The checkbox will be reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, knife set 1 status is not provided on the status bar of the Main Screen. The DTCs for knife set 1 unintended movement is inhibited.
- If the checkbox is checked, knife set 1 status is displayed on the Main Screen. The DTCs for knife set 1 unintended movement is monitored.

The text Knife Set 1 Sensor is switched to red and bold when a Knife Set 1 Unintended Movement fault is active. The setting is shown only for precutter balers.

Knife Set 2 Sensor Enable

The Knife Set 2 Sensor Enable checkbox allows the operator to enable or disable the knife set 2 sensor feedback as described. The checkbox will be reset to checked after each power cycle and the status causes the following:

- When the checkbox is not checked, knife set 2 status not provided on the status bar of the Main Screen. The DTCs for the knife set 2 unintended movement is inhibited.
- If the checkbox is checked then the knife set 2 status is displayed on the Main Screen. The DTCs for the knife set 1 unintended movement is monitored.

The text Knife Set 1 Sensor is switched to red and bold when a Knife Set 2 Unintended Movement fault is active.

Drop Floor Sensor

The Drop Floor Sensor Enable checkbox allows the operator to enable or disable the drop floor sensor feedback as described. The checkbox will be reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the drop floor status is not provided on the status bar of the Main Screen. The DTCs for drop floor unintended movement are inhibited.
- If the checkbox is checked, the drop floor status is displayed on the Main Screen. The DTCs for drop floor unintended movement is monitored.

The text Drop Floor Sensor is switched to red and bold when a Drop Floor Unintended Movement fault is active.

Pickup Speed Sensor Enable

The Pickup Speed Sensor Enable checkbox allows the operator to enable or disable the pickup speed sensor feedback as described. The checkbox is reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the Feeding System Plugged fault is inhibited.
- If the checkbox is checked, the Feeding System Plugged fault is monitored.

The text Pickup Speed Sensor is switched to red and bold when the Feeding System Plugged fault is active. The setting is shown for all machine types and option configurations to the operator.

Crop Flow Sensor Enable

The Crop Flow Sensor Enable checkbox allows the operator to enable or disable the crop flow sensor feedback as described. The checkbox is reset to checked after each power cycle and the status causes the following:

- If the checkbox is not checked, the crop feature is disabled and crop flow sensor faults are inhibited.
- If the checkbox is checked, the crop flow feature is enabled and crop flow sensor faults are monitored.

The text Crop Flow Sensor is switched to red and bold when a Crop Flow Sensor fault is active. The setting is shown for machines that have the Crop Flow Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Crop Flow Feedback Enable

The Crop Flow Feedback Enable checkbox allows the operator to enable or disable the crop flow feedback on the main page as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the crop flow status is not provided on the Main Screen.
- If the checkbox is checked, the crop flow status is provided on the Main Screen.

The text Crop Flow Feedback is switched to red and

bold when a Crop Flow Sensor fault is active. The setting is shown for machines that have the Crop Flow Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Crop Flow Sensitivity



EX641126—UN—05AUG24

The Crop Flow Sensitivity bar graph and buttons allows an operator to modify and see the sensitivity of the crop flow detection system. The sensitivity can be increased by using the Plus Button or decreased by using the Minus Button with the sensitivity level being shown in the bar graph:

This setting is shown for all machine types and option configurations to the operator. A lower sensitivity setting will typically work better in larger windrows, whereas a higher sensitivity should work better in lighter windrows.

Electric Tie Enable

The Electric Tie Enable checkbox allows the operator to enable or disable the electric tie system as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the automatic tying of the Electric Tie system is disabled. The manual tying can still be initiated using the Electric Tie Screen.
- If the checkbox is checked, the automatic tying of the Electric Tie system is enabled

The text Electric Tie is switched to red and bold when an Electric Tie System fault is active. The setting is shown for machines that have the Electric Tie Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Moisture Sensor Enable

The Moisture Sensor Enable checkbox allows the operator to enable or disable the moisture sensor as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the moisture sensor system is disabled and DTCs for the moisture system is inhibited.
- If the checkbox is checked, the moisture sensor system is enabled and DTCs for the moisture system are monitored.

The text Moisture Sensor is switched to red and bold when a Moisture Sensor fault is active. The setting is shown for machines that have the Moisture Sensor Option installed and activated by the dealer, factory or

other service provider (checked on the Dealer Setup Screen).

Weighing System Enable

The Weighing System Enable checkbox allows the operator to enable or disable the weighing system as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the weighing system is disabled and DTCs for the feed pan sensors are inhibited.
- If the checkbox is checked, the weighing system is enabled and DTCs for the feed pan sensors are monitored.

The text Weighing System is switched to red and bold when a Feed Pan Sensor fault is active. The setting is shown for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Accumulator Enable

The Accumulator Enable checkbox allows the operator to enable or disable the accumulator feedback as described below. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then the accumulator status will not be provided on the status bar of the Main Screen and DTCs for the accumulator will be inhibited
- If the checkbox is checked then the accumulator status will be displayed on the Main Screen and DTCs for the accumulator will be monitored

The text “Accumulator” will be switched to red and bold if an Accumulator fault is active, this setting is shown for machines that have the Accumulator Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Harvest Tec System Enable (0 Series Balers Only)

The Harvest Tec System Enable checkbox allows the operator to enable or disable the Harvest Tec system feedback as described below. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then the Harvest Tec system will be disabled and DTCs for the Harvest Tec system will be inhibited
- If the checkbox is checked then the Harvest Tec system will be enabled and DTCs for the Harvest Tec system will be monitored

The text “Harvest Tec System” will be switched to red and bold if a Harvest Tec System fault is active, this

setting is shown for machines that have the Harvest Tec System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative System Enable

The Preservative System Enable checkbox allows the operator to enable or disable the preservative system feedback as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the preservative system is disabled and DTCs for the preservative system are inhibited.
- If the checkbox is checked, the preservative system is enabled and DTCs for the preservative system are monitored.

The text Preservative System is switched to red and bold when a Preservative System fault is active. The setting is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative Selectable Nozzle Tips Enable

The Preservative Selectable Nozzle Tips Enable checkbox allows the operator to enable or disable the ability to select nozzle tip configurations on the John Deere preservative system. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then the selectable nozzle tip functionality will be hidden on the Preservative System Page and the original factory 20 size tips will be used for the front and rear nozzle locations
- If the checkbox is checked then the selectable nozzle tip functionality will be shown on the Preservative System Page allowing the operator to switch between different tip configurations

The text “Selectable Nozzle Tips” will be switched to red and bold if a Nozzle fault is active, this setting is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

BalerAssist Enable

The BalerAssist Enable checkbox allows the operator to enable or disable the BalerAssist system as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the BalerAssist system is disabled and DTCs for the BalerAssist system are inhibited.
- If the checkbox is checked, the BalerAssist system is

enabled and DTCs for the BalerAssist system are monitored.

The text BalerAssist is switched to red and bold when a BalerAssist System fault is active. The setting is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

BalerAssist Remote Enable

The BalerAssist Remote Enable Checkbox allows the operator to enable or disable the BalerAssist remote as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the BalerAssist remote is disabled and DTCs for the BalerAssist remote is inhibited.
- If the checkbox is checked, the BalerAssist remote is enabled and DTCs for the BalerAssist remote are monitored.

The text BalerAssist Remote is switched to red and bold when a BalerAssist Remote fault is active. The setting is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Mobile Gateway Enable

The Mobile Gateway Enable checkbox allows the operator to enable or disable the mobile gateway as described. The checkbox keeps the same status over a power cycle and the status causes the following:

- If the checkbox is not checked, the Mobile Gateway system is disabled and DTCs for the mobile gateway are inhibited.
- If the checkbox is checked, the Mobile Gateway system is enabled and DTCs for the Mobile Gateway are monitored.

The text Mobile Gateway is switched to red and bold when a Mobile Gateway fault is active. The setting is shown for machines that have the Mobile Gateway Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Bale Documentation System Enable

The Bale Documentation System Enable checkbox allows the operator to enable or disable the Bale Doc system as described below. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then documentation data will not be sent to the John Deere display

- If the checkbox is checked then documentation data will be sent to the John Deere display

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utilizing feedback on the bottom of the page or the Automation Diagnostics Page.

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Automation Systems Screen

The Automation Systems Screen allows the operator to enable and troubleshoot automation systems on the baler. All feedback, settings, and control for the Baler Ride Control are provided through the baler interface on the baler main page, automation systems main page, and automation diagnostics page. Feedback on the main page is provided on the Baler Main Page section and indicates the current state the system is running in and the capability to pause the feature. The Automation Systems Main Page includes the ability to turn on or off the Baler Ride Control and to utilize the Automation Diagnostics page to perform further diagnostics.

Automation Systems Main Page



E94303—UN—27AUG20

The Automation Systems Main Page provides the ability to enable or disable the Baler Ride Control and to view the feedback on how the system is currently performing.

Baler Ride Control Enable

The Baler Ride Control checkbox allows the operator to enable or disable the Baler Ride Control feature for tractor and baler systems that are capable of running the feature. If the tractor or baler are not capable of running the feature then the checkbox will be unchecked and greyed out or disabled such that it cannot be checked by the operator. Feedback on the bottom of the screen will help to indicate why the checkbox is disabled. The checkbox will keep the same status over a power cycle and the status will cause the following:

- If the checkbox is not checked then the Baler Ride Control feature will be disabled and DTCs for the feature are inhibited
- If the checkbox is checked then the Baler Ride Control feature will be enabled and DTCs for the feature are monitored

The text “Baler Ride Control” will be switched to red and bold if a fault currently exists on the baler or tractor that inhibits the feature from working. Additional troubleshooting can be performed to diagnose the issue

Automation Systems Feedback

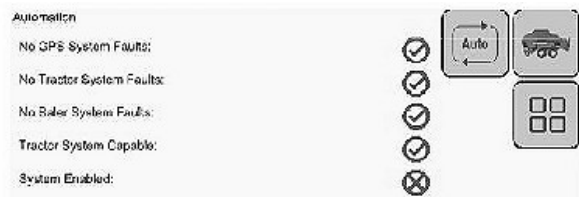
Automation Systems Feedback

The bottom of the screen provides feedback for any faults that are inhibiting the Baler Ride Control from working. The following text will be shown in priority order to the operator:

1. Fault with Automation System—Is displayed when the tractor or baler reports a fault with the system that inhibits the Baler Ride Control from working.
2. Tractor Not Automation Capable—This is shown when the tractor is detected not supporting Baler Ride Control.
3. No GPS position received—Is shown if no GPS position is received on the implement CANbus.
4. Blank (no text)

Automation Diagnostics Page

The Automation Diagnostics Page provides further diagnostic information about the overall system to aid in troubleshooting a fault and identify which part of the system has an issue.



E94304—UN—27AUG20

Baler Ride Control System Diagnostics

Feedback for the Baler Ride Control and the components that are required to make the system work are shown to provide whether each component is working or has a fault associated with it. Feedback for each of the components in the system will have either a 'Good' or 'Bad' icon shown to represent whether a fault is not active or active with the given component.



System 'Good'



System 'Bad'

E94305—UN—27AUG20

Feedback for each component is provided in the following way:

- 'No GPS System Faults' provides information when a fault is detected with the GPS receiver.

The 'Good' icon indicates when no fault is detected with the GPS receiver.

'Bad' icon indicates when either the GPS receiver is not detected or providing faulty data.

- 'No Tractor System Faults' provides information when a fault is detected with the tractor that inhibits the Baler Ride Control feature from working.

The 'Good' icon indicates when no fault is detected or sent from the tractor.

The 'Bad' icon indicates when either the tractor is indicating that there is a fault inhibiting the Baler Ride Control from working, the baler lost communication, or is receiving invalid communication from the tractor. See the tractor Operator's Manual for troubleshooting.

- 'No Baler System Faults' provides information when a fault is detected with the baler that inhibits the Baler Ride Control from working.

The 'Good' icon indicates that no fault is detected inhibiting Baler Ride Control.

The 'Bad' icon indicates that the plunger position cannot be calculated when expected and requires troubleshooting by the dealer. See a John Deere dealer or other service provider.

- 'Tractor System Capable' provides whether the tractor that is attached to the baler is compatible with the Baler Ride Control.

The 'Good' icon indicates that the tractor is compatible for running the Baler Ride Control.

The 'Bad' icon indicates that the tractor is not compatible for running the Baler Ride Control. Check the tractor compatibility list and ensure that the tractor is running the latest software.

- 'System Enabled' indicates whether the feature is enabled or disabled on the Automation Systems Main Page

The 'Good' indicates that the system is enabled by checking the Baler Ride Control checkbox on the Automation Systems Main Page.

The 'Bad' indicates that the system is not enabled due to the Baler Ride Control checkbox on the Automation Systems Main Page not being checked.

GW44282_0000CD7-19-13NOV25

Calibrations Screen

Calibrations Screen

The Calibrations Screen allows an operator to calibrate the systems and sensors that are currently installed and enabled on the machine. Each system or sensor with a calibration provides a step by step process including instructions to the operator, calibration status and fault

indication, and calibration feedback. Each calibration utilizes the same buttons for navigation and to provide successful or unsuccessful status:



E85350—UN—02NOV17
Next Step Button



E85351—UN—02NOV17
Cancel Button (red)



E85352—UN—02NOV17
Calibrations Successful Button (green)



E85353—UN—02NOV17
Calibration Unsuccessful Button (red)

Slack Arm Position Calibration

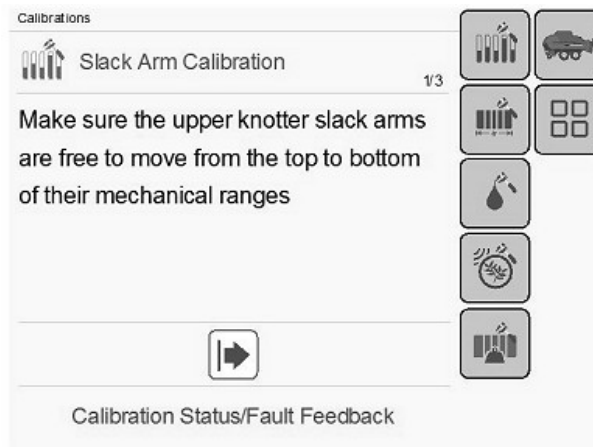
Slack Arm Position Calibration allows an operator to calibrate the full mechanical range of the slack arm position sensors 1-4 on a 3x3 or 1-6 on a 3x4 machine. This calibration is shown when first entering the calibration page by default or by pressing the Slack Arm Calibration Softkey:



E85354—UN—02NOV17

Slack Arm Position Calibration Step 1

The first step of the slack arm position calibration provides instructions to ensure that the slack arms are free to move from the top to bottom of their mechanical range. The Next Button will be shown to go to the next step unless all of the slack arms have faults active. The text is provided at the bottom of the screen accordingly.

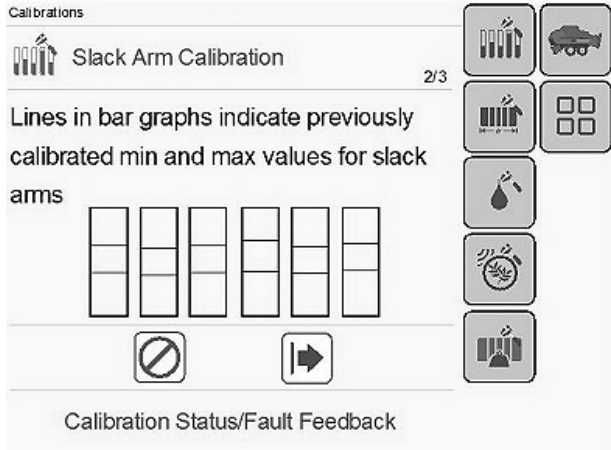


E85355—UN—02NOV17

Slack Arm Position Calibration Step 2

The second step of the slack arm position calibration provides visual feedback on the current calibration position for each of the slack arm position sensors. The

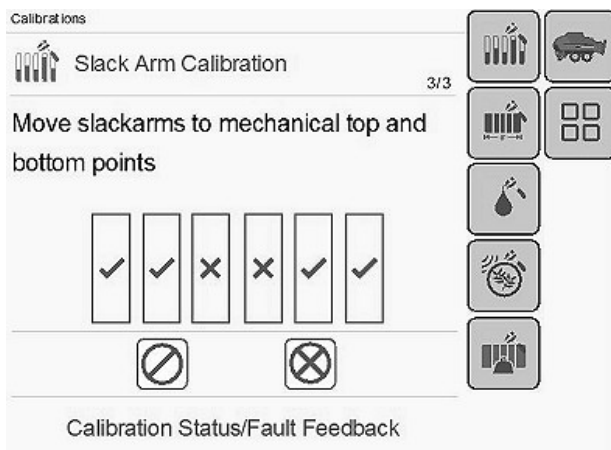
horizontal black bars shown within each of the bar graph provide the minimum and maximum calibrated sensor positions saved from the last calibration completed. The operator can press the Next Button to continue to the next step or Cancel Button to go back to the first step and cancel the calibration.



E85356—UN—02NOV17

Slack Arm Position Calibration Step 3

The third step of the slack arm position calibration requires the operator to move the slack arms from the minimum to maximum mechanical positions to calibrate the sensor range. For slack arms that are not detected to move the red outline and “X” is shown, for slack arms to move a green outline and checkmark is shown.



E85358—UN—02NOV17

Once the operator is done moving the desired slack arms up and down to calibrate press the Next Button. The Calibration Successful Button appears if the calibration saves properly or the Calibration Unsuccessful Button if not. Pressing either button returns the operator to step 1 of the calibration.

Slack Arm Calibration Feedback

The slack arm calibration feedback is provided on the bottom of the screen to provide calibration state information and faults as the different steps are used. The following text is shown at the bottom of the screen in priority order:

1. “Saving successful calibration values” if at least one of the slack arm sensors was successful in calibrating after pressing the Next Button in step 3 of the calibration.
2. “Calibration Unsuccessful” if all 4 (if a 3x3 machine) or all 6 (if a 3x4 machine) slack arms were not successful in after pressing the Next Button in step 3 of the calibration.
3. “Calibrating . . .” When in step 3 of the calibration and the Next Button has not been pressed.
4. “Sensor Fault” if any of the slack arm sensors have a short to ground or short to reference voltage DTC active.

Bale Length Calibration

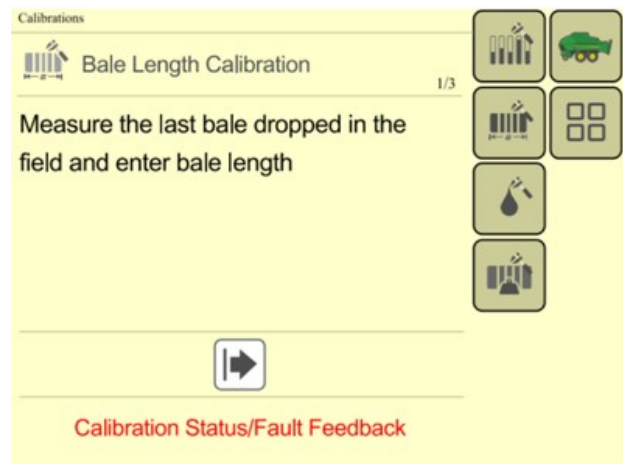
The Bale Length Calibration allows an operator to calibrate the bale length system for the selected crop type to provide accurate bale length feedback. This calibration is shown by pressing the Bale Length Calibration Softkey:



E85359—UN—02NOV17

Bale Length Calibration Step 1

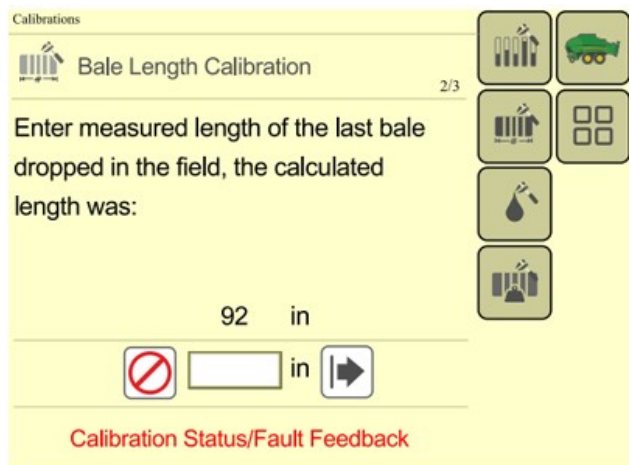
The first step of the bale length calibration provides instructions to the operator to measure the length of the last bale dropped in the field. The operator can proceed to the next step by pressing the next step button:



EX582576—UN—14JUN23

Bale Length Calibration Step 2

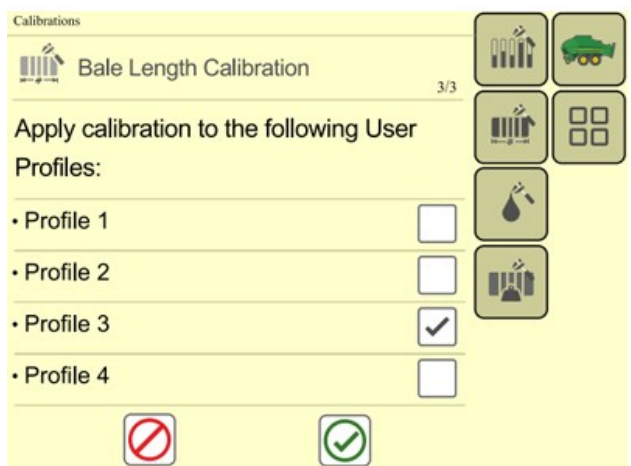
The second step of the bale length calibration requires the operator to enter the measured bale length of the last dropped bale in the field. The calculated bale length by the baler controller will be shown as a reference, the operator can then input the measured length into the input field. If the length is within 30% of the previous value the Next Button will be shown, if it is outside of that range then a red Next Button will be shown with a warning at the bottom of the screen.



EX580435—UN—14JUN23

Once the next button is pressed the calibration will move to step 3 for selecting which user profiles to tie the calibration.

Bale Length Calibration Step 3



EX580436—UN—14JUN23

The third step of the bale length calibration requires the operator to select which user profiles the updated bale length calibration should be saved to. This allows an operator to maintain unique calibrations per a given user profile to easily switch between varying crop conditions such as springy crops like straw back to crops like alfalfa. To do this the operator should select the checkbox next to each user profile names that the calibration should be saved to and then select the 'Calibration Successful' button, which will then save the calibration value to those user profiles. Selecting the 'Cancel Calibration' button will not save the calibration to any user profiles or at all and will go back to the first step of the bale length calibration.

NOTE: The names shown for the user profiles will match the user entered values on the User Profile page. To change the name the operator must navigate to the user profile page and select the edit user profile name button .

Bale Length Calibration Feedback

The bale length calibration feedback is provided on the bottom of the screen to provide calibration state information and faults as the different steps are used. The following text is shown at the bottom of the screen in priority order:

1. "Calibration Successful" if successful in calibrating after pressing the Next Button in step 2 of the calibration.
2. "Warning: Will result in large calibration shift" if the measured bale length value entered into the input field by the operator is outside $\pm 30\%$ of the currently stored calibration value.
3. "Sensor Fault" if any of the bale length sensor channels have a DTC active.

Moisture Sensor Calibration

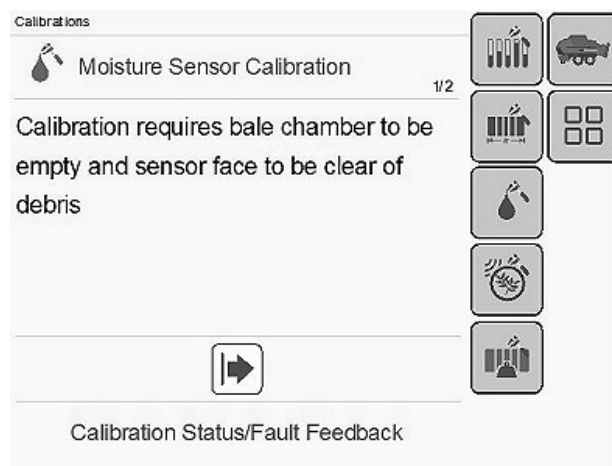
The Moisture Sensor Calibration allows an operator to request an empty cell calibration to be done by the moisture sensor. The calibration sets a reference reading for no crop being in front of the sensor and is used for calculating moisture readings when harvesting crop. This calibration is shown by pressing the Moisture Calibration Softkey:



E85362—UN—02NOV17

Moisture Calibration Step 1

The first step of the moisture calibrations provides instructions to the operator to ensure that the bale chamber is empty and the sensor face is clean. The Next Button for the next step of the calibration is only shown if there is not a moisture sensor communication fault active and if the moisture sensor is done warming up. Warming up takes 5 minutes.

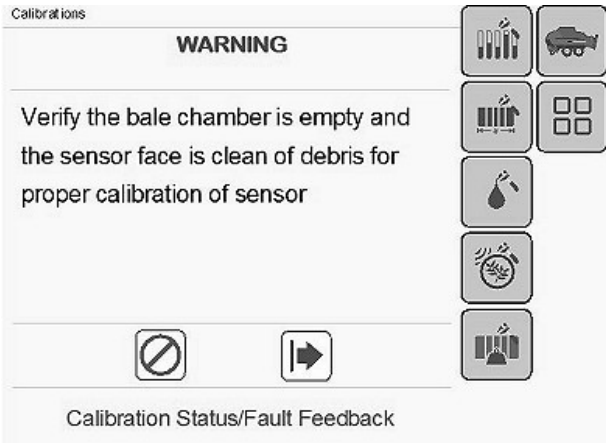


E85363—UN—02NOV17

Moisture Calibration Warning

The moisture sensor calibration warning page is shown to verify that the bale chamber is empty and the sensor

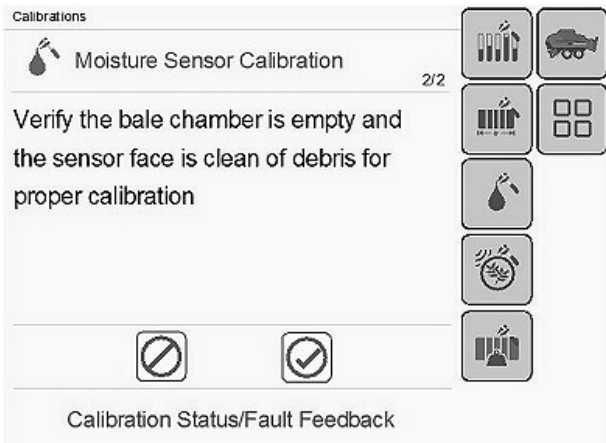
face is clean of debris. The operator can press the Next Button to continue to the next step. The Next Button initiates the calibration procedure with the moisture sensor. The Cancel Button goes back to the first step and cancels the calibration and returns to the first step.



E85364—UN—02NOV17

Moisture Calibration Step 2

The second step of the moisture calibration provides feedback on the calibration as it is being run. The feedback is provided at the bottom of the screen. Once the calibration has finished the Calibration Successful Button is shown if the calibration saves properly. If the calibration does not save properly the Calibration Unsuccessful Button is shown. If either of these buttons or the Cancel Button is pressed the calibration returns to step 1.



E85365—UN—02NOV17

Moisture Calibration Feedback

The moisture calibration feedback is provided on the bottom of the screen to provide calibration state information and faults as the different steps are used. The following text is shown at the bottom of the screen in priority order:

1. "Calibration Successful" if the moisture sensor reports being successful in calibrating.
2. "Calibration Unsuccessful" if the moisture sensor reports not being successful in calibrating.

3. "Moisture sensor communication fault" if the DTC Moisture sensor connection lost is active.
4. "Calibrating . . ." after pressing the Next Button on the warning page and while the moisture sensor is calibrating.
5. "Waiting for sensor to warm up" while the moisture sensor is reporting warming up, it is shown for approximately 5 minutes.
6. "Sensor Fault" if the moisture sensor reports having a fault or the baler control unit detects a fault with it.

Weighing System Calibration

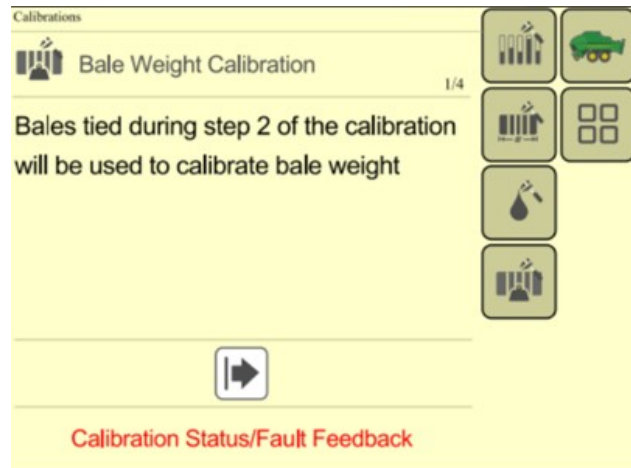
The Weighing System Calibration allows an operator to calibrate the weighing system by measuring the weight of previous bales created and entering an average bale weight. This calibration is shown by pressing the Weighing System Softkey.



E85434—UN—03NOV17

Weighing System Calibration Step 1

The first step of the weighing system calibration provides instructions to the operator. When moving to step 2 of the calibration causes the baler to start taking measured bale weights while in step 2 of the calibration for calculating the new calibration value. The Next Button to move onto the next step of the calibration is shown only if both feed pan sensors do not have a fault.

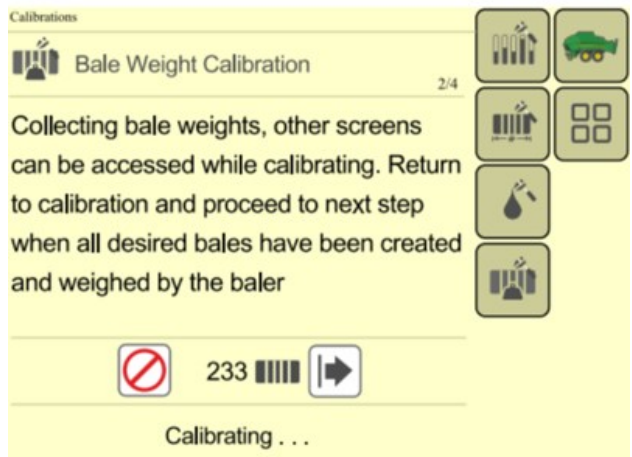


EX582579—UN—14JUN23

Weighing System Calibration Step 2

The second step of the weighing system calibration provides feedback on the calibration as it is being run. The second step also shows how many bales have been included for the calibration. While on step 2 of the calibration the operator is able to switch to other screens and run the baler. Once the operator returns to the weighing system calibration, step 2 of the calibration is shown. Pressing the Cancel Button cancels the calibration and goes back to step 1. Pressing the Next

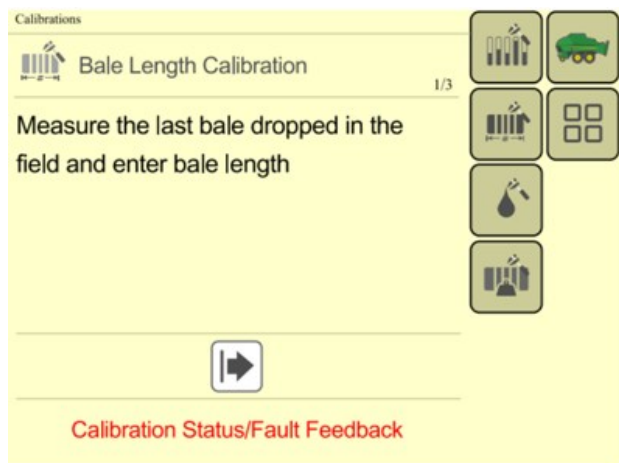
Button moves the calibration to step 3 with both buttons stopping the baler from taking any new bale weights into the calibration.



EX582580—UN—14JUN23

Weighing System Calibration Step 3

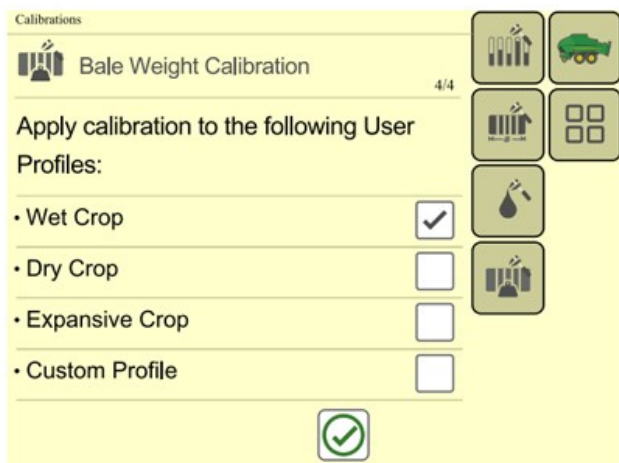
The third step of the weighing system calibration allows the operator to enter the measured average bale weight while step 2 of the calibration is running. It can relate to a truck load or single bale that was weighed and entered as an average of all the bales weighed while in step 2 of the calibration. The value is entered by the operator into the input field. The baler displays the calculated average weight from the current calibration value above the input field.



EX582576—UN—14JUN23

Once a value is entered the operator can then press the Next Button to update the calibration value according to the measured average bale weight. The Calibration Successful Button is shown if the calibration saves properly or the Calibration Unsuccessful Button if not. If either of these buttons is pressed or if the Cancel Button is pressed the calibration returns to step 1.

Weighing System Calibration Step 4



EX580438—UN—14JUN23

The fourth step of the weighing system calibration requires the operator to select which user profiles the updated weighing system calibration must be saved to. This allows an operator to maintain unique calibrations per a given user profile to easily switch between varying crop conditions such as between a cutting of silage and a dry cutting of crop. To do this the operator should select the checkbox next to each user profile names that the calibration must be saved to and then select the 'Calibration Successful' button, which will then save the calibration value to those user profiles. Selecting the 'Cancel Calibration' button will not save the calibration to any user profiles or at all and will go back to the first step of the weighing system calibration.

NOTE: The names shown for the user profiles will match the user entered values on the User Profile page. To change the name the operator must navigate to the user profile page and select the edit user profile name button

Weighing System Calibration Feedback

The weighing system calibration feedback is provided on the bottom of the screen to provide calibration state information and faults as the different steps are used. The following text is shown at the bottom of the screen in priority order.

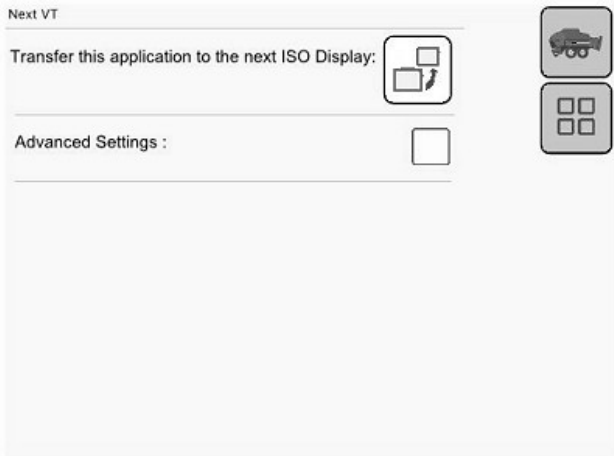
1. "Calibration Successful" if the calibration is completed and successful.
2. "Calibration Unsuccessful" if the calibration is completed but unsuccessful.
3. "Warning: Will result in large calibration shift" if the measured average bale weight value entered into the input field by the operator is outside $\pm 30\%$ of the currently stored calibration value.
4. "Sensor Fault" if any of the right or left feed pan sensor DTCs are active.

5. "Calibrating . . ." while in step 2 of the calibration in the control unit is collecting bale weights.

wkjquwj,1686745515825-19-14JUN23

Next VT Screen

The Next VT Screen allows the operator to switch between different VTs on the ISOBUS when more than one is present. The operator can select advanced functions when multiple VTs are present to set the primary VT and how long to wait for the primary VT to appear before switching to the next available VT.



E85473—UN—06NOV17

NOTE: If the other display has not yet uploaded the current object pool, then it has to load the object pool and then the baler is displayed

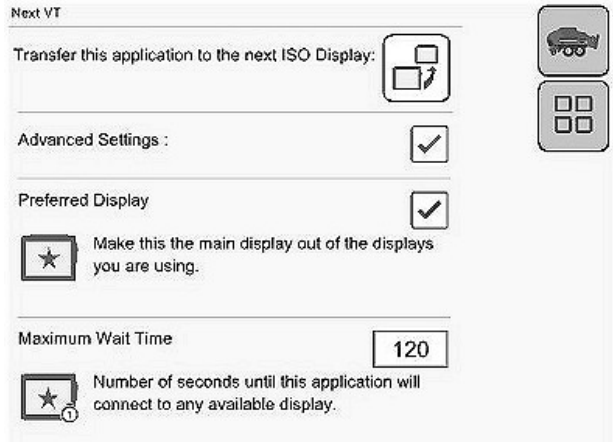
To switch to another ISOBUS display on the bus, the operator can press the Next VT Button.



E84072—UN—07NOV17
SF04007,000122C-19-21SEP18

Advanced Settings

In addition to changing between ISOBus displays, the operator is also able to set advanced settings for how to manage multiple displays. The operator must ensure the "Advanced Settings" checkbox is checked. It displays a Preferred Display and Maximum Wait Time setting that can be specified.



E85527—UN—07NOV17
GW44282,0000D74-19-27OCT20

Lighting System Screen

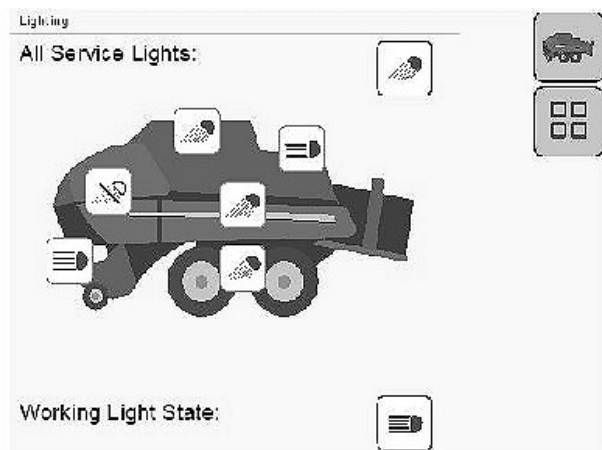
The Lighting System Screen allows the operator to turn on and off the lights driven by the LSB controller. In addition, the operator can see what lights are turned on or off including the service and the working lights. It can be used for diagnostic reasons or to control whether certain lights are on or off while servicing or running the machine. The lights are shown with respect to position of the lights on the physical baler. The pairs of lights are grouped next to one another with the icon going in a different direction.

Light Systems Screens



E94220—UN—24AUG20
Light Systems Screens Pre

Lighting System Screen

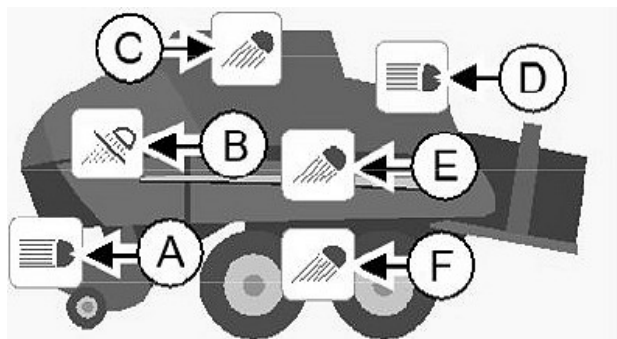


E94221—UN—24AUG20

Lighting System Screen for MY21 and Newer Machines

Individual Service and Worklight Control

The operator is able to control the service and worklights. The lights can be turned on or off to perform diagnostics or to customize which lights are on at a given time. The following layout is shown for each of the lights that can be controlled:



E94224—UN—25AUG20

Individual Service and Worklight Control for MY21 and Newer Machines

- A—Front Working Lights (including nozzle light for machines with a John Deere preservative system installed)
- B—Gull Wing Door Service Lights
- C—Knotter Service Light
- D—Rear Working Lights
- E—Twine Box Service Lights, Left-Hand Side, and Right-Hand Side (dealer activated)
- F—Needle Service Light

Each of the buttons provides feedback when a fault is active and what the current light state is. Pressing the button results in toggling the state of the light unless a fault has occurred.



E94226—UN—26AUG20

- The service light is off and there is not an active DTC.



E94225—UN—26AUG20

- The service light is on and there is not an active DTC.



E94226—UN—26AUG20

- The service light (red) shorted to ground or open load DTC is active and the light is forced off.



E94225—UN—26AUG20

- The service light (red) short to battery DTC is active and the light is forced on.



E94227—UN—26AUG20

- The worklight is off and there is not an active DTC.



E94228—UN—26AUG20

- The worklight is on and there is not an active DTC.



E94227—UN—26AUG20

- The worklight (red) shorted to ground or open load DTC is active and the light is forced off.



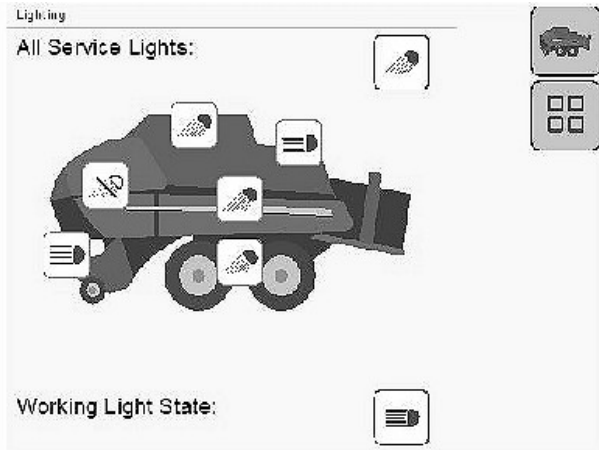
E94228—UN—26AUG20

- The worklight (red) short to battery DTC is active and the light is forced on.

Working Light Feedback

The Working Light Feedback provides feedback on the detected working light state. The working lights are supplied by the tractor lighting connector and not controlled by the baler. The controller working lights are shown as either on or off at the bottom of the screen.

The working lights are controlled by the baler controller and can be turned on and off directly from the lighting page. In addition to maintaining the lights turning on automatically if the rear tractor worklights are turned on.



E94221—UN—24AUG20
Lighting System Screen f

All Service Lights Control

The All Service Lights button allows an operator to turn on or off all of the service lights together. If one or more of the lights are on, pressing the button turns off all of the lights. If all of the lights are off, pressing the button turns on all of the service lights enabled for the baler. The status of the light symbol on the button also indicates what the current all service light state is.



E94222—UN—24AUG20
Turn Off Service Lights Button

If no fault exists on any of the service light outputs the operator can press the Turn Off All Service Lights button to turn off the working lights.



E94223—UN—24AUG20
Turn On Service Lights Button

If no fault exists on any of the service light outputs, the operator can press the Turn On All Service Lights button to turn on the service lights.



If a fault exists on any of the service light outputs, the operator can press the Turn On All Service Lights (red) with the Fault Button to turn on all of the capable service lights.



E94222—UN—24AUG20
Turn On Service Lights Button (red)

If a fault exists on any of the service light outputs, the operator can press the Turn Off All Service Lights (red) with the Fault button to turn off all of the capable service lights.

All Working Light Feedback and Control

The All Working Lights button allows the operator to turn on or off all of the working lights together. If one or more lights are on, pressing the button turns off all of the lights. If all of the lights are off, pressing the button turns on all of the working lights on the baler. The status of the light symbol on the button indicates what the current all working light state is. If no fault exists on any of the worklight outputs the operator can press the Turn On All Working Lights button to turn on all of the working lights.



E94301—UN—26AUG20
If no fault exists on any of the worklight outputs the operator can press the Turn On All Working Lights button to turn on all of the working lights.



E94302—UN—27AUG20
If a fault exists on any of the worklight outputs the operator can press the Turn On All Working Lights with Fault button to turn on all of the capable working lights.



E94301—UN—26AUG20
If a fault exists on any of the worklight outputs the operator can press the Turn Off All Working Lights with Fault (red) button to turn off all of the capable working lights.

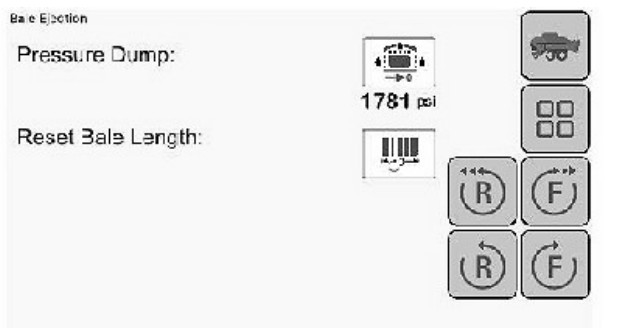
wkjqwj.1682417174504-19-14JUN23

Bale Ejection Screen

Bale Ejection Screen

The Bale Ejection Screen allows an operator to manually drop the tension panel pressure to more easily enable a bale to be ejected from the bale chamber.

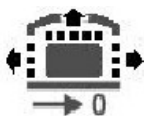
Additionally the operator is able to reset the bale length in order to aid in clearing the bale chamber and starting to bale again after partially or fully clearing the bale chamber.



E94218—UN—28AUG20

Pressure Dump Feature

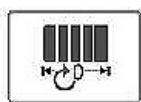
The pressure dump shows current measured tension panel pressure if the pressure sensor is not faulty. If the pressure sensor is faulty dashes are shown. In addition to the pressure feedback, the pressure dump button is also shown on the screen.



E94217—UN—18AUG20

When the pressure dump button is pressed, the tension panel pressure is dropped in the hydraulic circuit and remains as long as the Bale Ejection Screen remains active. Leaving the Bale Ejection Screen causes the system to go back to the pressured state according to the density control mode and setting.

Bale Length Reset Feature



Icon

E94219—UN—18AUG20

The bale length reset utilizes the bale length reset button on the screen.



EX641127—UN—05AUG24

If the Bale Length Reset button is pressed then it will cause a pop up confirmation to be shown.

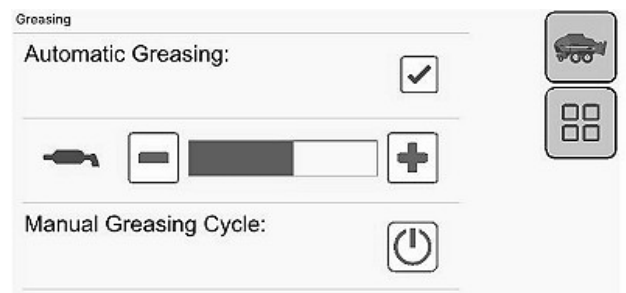
If the accept button is pressed then the bale length will be reset to the distance from the plunger face to the starwheel, otherwise if the cancel button is pressed then the bale length will remain the same. When bale length is reset the main page will show dashes for bale length until movement of the starwheel occurs, signifying that bale length was reset in the system. Once starwheel movement occurs then bale length will increment up from the distance from the plunger face to the starwheel in the bale chamber.

ep2rqpn,1722519397333-19-13AUG24

Greasing System Screen

Greasing System Screen

The Greasing System Screen allows an operator to modify, control, and initiate greasing system functions.



E85347—UN—02NOV17

Auto Greasing

The Auto Greasing Checkbox allows an operator to disable or enable automatic greasing cycles for the machine. This checkbox will be reset to enabled after each power cycle for automatic greasing of the machine. If the checkbox is not checked then automatic greasing cycles do not occur. When the checkbox is checked the machine automatically greases according to the operator set Greasing Off Time with the on time being fixed.

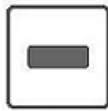
Greasing Off Time

Greasing off time bar graphs allows an operator to adjust the length of time between greasing cycles, showing feedback of the greasing system status matching the status bar of the Main Screen. Using the Plus Button and Minus Button to increase and decrease the bar graph value the following lengths of time between greasing cycles set by the operator:

1. 15 minutes off time between greasing
2. 10 minutes off time between greasing
3. 5 minutes off time between greasing
4. 2.5 minutes off time between greasing
5. 1 minute off time between greasing
6. Continuous greasing



Plus Button



Minus Button

E85348—UN—02NOV17

Greasing System Manual Start

The Greasing System Manual Start Button allows an operator to manually start a greasing cycle from the display.



E85349—UN—02NOV17

Once the cycle is completed the machine goes back to automatic greasing intervals if automatic greasing is enabled or not grease until manually initiated again if not in automatic greasing mode.

GW44282,0000850-19-29NOV17

Electric Tie Screen

The Electric Tie Screen allows an operator to manually start a tying cycle using electronic tie feature from a button press on the display and provides textual feedback on the bottom of the display.



E85443—UN—03NOV17

The E-Tie Activate button is enabled at all times, including with the PTO off or if the Electric Tie is disabled on the Machine Setup page so that the operator can manually activate the system. When the button is pressed, on the bottom of the screen text shows the E-Tie System Activated indicating that the E-Tie system has been triggered and the button will be disabled for two plunger strokes.



E83986—UN—01AUG17

If an Electric Tie system fault is active, red and bold text is displayed on the bottom of the screen showing E-Tie System Fault.

Electric Tie System Feedback

The bottom of the screen provides textual feedback on system activation status and faults that inhibit the system from working or being used. The following text will be shown in priority order to the operator:

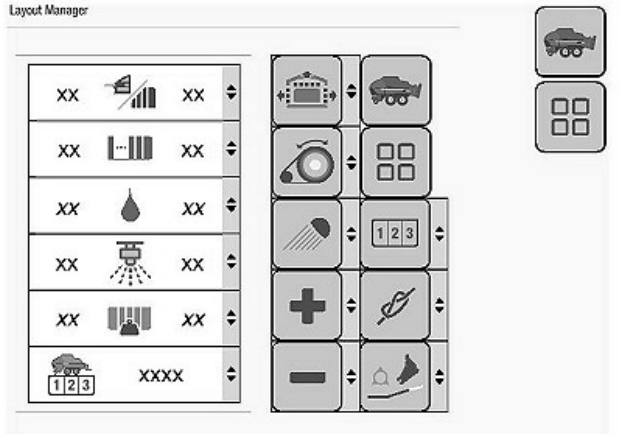
1. 'E-Tie System Armed' – if the Electric Tie button has been pressed within the last two plunger cycles
2. 'Tying Complete' – Shown for 5 seconds after the baler detects a tying cycle to have occurred
3. 'Motor Fault' – If any faults are currently active for the electric tie motor or if the fault for system not tripping has occurred without successfully tying since
4. 'PTO Off' – If the PTO is detected as off
5. Blank (no text) otherwise

wkjquwj,1681211925032-19-11APR23

Layout Manager Screen

The Layout Manager Screen allows the operator to select and customize the information displayed on the Main Screen in addition to selecting shortcuts to other screens. The six user data tiles displayed on the Main Page can be changed according to the drop-down lists. The drop-down lists provide different data to the

operator in whatever order desired. The selectable tiles are displayed according to the machine type and options installed on the machine. The eight User Selectable Quick Access Softkeys on the Main Page allow Softkeys 3-10 to be changed according to the drop-down lists provided for each Softkey. The Home and Menu Softkeys are not adjustable and are always shown on the home page. The operator can select what functions are most accessed from the menu. The operator can select those functions for the Quick Access Softkeys so one button press is required to access those pages from the Main Page.



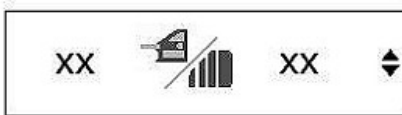
E85439—UN—03NOV17

User Data Tile Selectors

The six drop-down lists on the left-hand side of the Layout Manager Screen are used to select what User Data Tiles are displayed on the Main Screen. It allows an operator to customize what is shown and where, according to personal preference and the options that are installed on the machine. The orientation of the drop-downs on the Layout Manager Screen matches where the selected data tile is shown on the Main Screen (top is top, bottom is bottom).

Strokes Per Flake

Selecting the Strokes per Flake image in the user data tile selector drop-down lists displays the Strokes Per Flake Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85440—UN—03NOV17

Flakes Per Bale

Selecting the Flakes per Bale image in the user data tile selector drop-down lists displays the Flakes Per Bale Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85441—UN—06NOV17

Bales Per Hour

Selecting the Bales per Hour image in the user data tile selector drop-down lists displays the Bales Per Hour Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85442—UN—03NOV17

Moisture

Selecting the Moisture image in the user data tile selector drop-down lists displays the Moisture Data Tile on the Main Screen for selected locations. It is selectable only for machines that have Moisture Sensor Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85446—UN—03NOV17

Preservative

Selecting the Preservative image in the user data tile selector drop-down lists displays the Preservative Data Tile on the Main Screen for selected locations. It is selectable only for machines that have Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85447—UN—06NOV17

User Clearable Total Preservative Applied

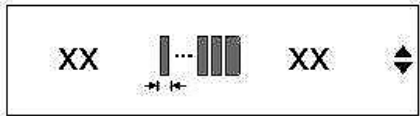
Selecting the User Clearable Total Preservative Applied image in the user data tile selector drop down lists will display the user clearable total preservative applied data tile on the main screen for the selected locations. This is selectable only for machines that have the Preservative System Option (MY23+ system) installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



EX571844—UN—13APR23

Flake Thickness

Selecting the Flake Thickness image in the user data tile selector drop-down lists displays the Flake Thickness Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85448—UN—06NOV17

Previous Bale Weight

Selecting the Previous Bale Weight image in the user data tile selector drop-down lists displays the Previous Bale Weight Data Tile on the Main Screen for selected location. It is selectable for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85449—UN—06NOV17

Three Bale Average Weight

Selecting the Three Bale Average Weight image in the user data tile selector drop-down lists displays the Three Bale Average Weight Data Tile on the Main Screen for selected locations. It is selectable for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85450—UN—06NOV17

User Clearable Average Bale Weight

Selecting the User Clearable Average Bale Weight

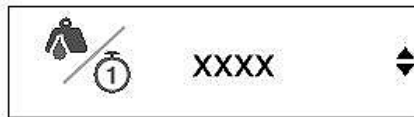
image in the user data tile selector drop-down lists displays the User Clearable Average Bale Weight Data Tile on the Main Screen for selected locations. It is selectable for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85451—UN—06NOV17

Wet Mass Flow

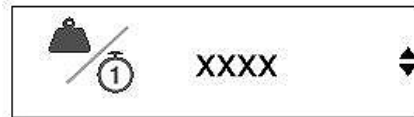
Selecting the Wet Mass Flow image in the user data tile selector drop-down lists displays the Wet Mass Flow Data Tile on the Main Screen for selected locations. It is selectable for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85452—UN—06NOV17

Dry Mass Flow

Selecting the Dry Mass Flow image in the user data tile selector drop-down lists displays the Dry Mass Flow Data Tile on the Main Screen for selected locations. It is selectable only for machines that have the Weighing System Option and Moisture Sensor Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85453—UN—06NOV17

Field Bale Count

Selecting the Field Bale Count image in the user data tile selector drop-down lists displays the Field Bale Count Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations. If bale doc is not active, otherwise if Bale Doc is active this shall be hidden.

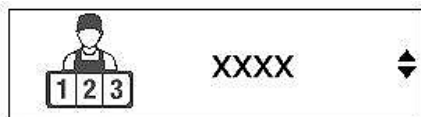


E85454—UN—06NOV17

Customer Bale Count

Selecting the Customer Bale Count image in the user data tile selector drop-down lists displays the Customer Bale Count Data Tile on the Main Screen for selected

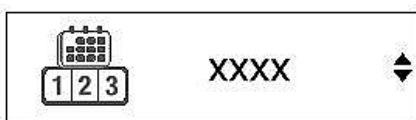
locations. It is selectable for all machine types and configurations. If Bale Doc is not active, otherwise if bale doc is active this shall be hidden.



E85455—UN—06NOV17

Season Bale Count

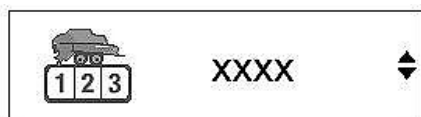
Selecting the Season Bale Count image in the user data tile selector drop-down lists displays the Season Bale Count Data Tile on the Main Screen for the selected locations. It is selectable for all machine types and configurations.



E85463—UN—06NOV17

Total Bale Count

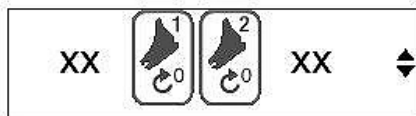
Selecting the Total Bale Count image in the user data tile selector drop-down lists displays the Total Bale Count Data Tile on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85464—UN—06NOV17

Knife Set Counter

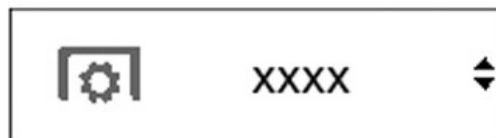
Selecting the Knife Set Counter image in the user data tile selector drop-down lists displays the Knife Set Counter Data Tile on the Main Screen for the selected locations. It is selectable only for the precutter machines.



E85465—UN—06NOV17

PTO Speed

Selecting the PTO Speed image in the user data tile selector drop down lists will display the PTO speed data tile on the main screen for the selected location(s). This is selectable for all machine types and configurations.



EX571845—UN—13APR23

Manual Bale Flags



EX582577—UN—14JUN23

Selecting the manual bale flags image in the user data tile selector drop down lists will display the knife manual bale flags data tile on the main screen for the selected locations. This is selectable only for all machine types and configurations.

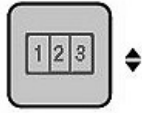
User Quick Access Softkey Selection

The eight drop-down lists on the left-hand side of the Layout Manager Screen are used to select the User Quick Access Softkeys displayed on the Main Screen. It allows an operator to customize what softkeys are shown and where, according to personal preference and the options that are installed on the machine. Orientation of drop-downs on the Layout Manager Screen matches where the selected Quick Access Softkey is shown on the Main Screen for a ten softkey display. Locations vary according to the display type that is used.

Counter

Selecting the Counter Softkey image in the user Quick Access Softkey selector drop-down lists displays the Counter Softkey on the Main Screen for the selected

locations. It is selectable for all machine types and configurations.



E83957—UN—27JUL17

E-Tie

Selecting the E-Tie Softkey image in the user Quick Access Softkey selector drop-down lists displays the E-Tie Softkey on the Main Screen for the selected locations. It is selectable only for machines that have Electric Tie System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85474—UN—06NOV17

Feed System Management

Selecting the Feed System Management Softkey image in the user Quick Access Softkey drop-down lists displays the Feed System Management Softkey on the Main Screen for selected locations. It is selectable only for pre-cutter machines.



E85467—UN—06NOV17

Preservative System

Selecting the Preservative System Softkey image in the user quick access softkey selector drop down lists will display the preservative system softkey on the main screen for the selected locations. This is selectable only for 1 series machines with the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



EX571847—UN—25APR23

Knife Control (0 Series Only)

Selecting the Knife Control Softkey image in the user quick access softkey selector drop down lists displays the knife control softkeys on the main screen for the selected locations.



EX571848—UN—25APR23

Bale Eject

Selecting the Bale Eject Softkey image in the user Quick Access Softkey selector drop-down lists displays the Bale Eject Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85468—UN—06NOV17

Lighting Setup

Selecting the Lighting Setup Softkey image in the user Quick Access Softkey selector drop-down lists displays the Lighting Setup Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85469—UN—06NOV17

Plus

Selecting the Plus Softkey image in the user Quick Access Softkey drop-down lists displays the Tension Panel Pressure Increase or Machine Load Increase Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85470—UN—06NOV17

Minus

Selecting the Minus Softkey image in the user Quick Access Softkey drop-down lists displays the Tension Panel Pressure Decrease or Machine Load Decrease Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85471—UN—06NOV17

Machine Setup

Selecting the Machine Setup Softkey image in the user Quick Access Softkey drop-down lists displays the Machine Setup Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85475—UN—06NOV17

Diagnostics

Selecting the Diagnostics Softkey image in the user Quick Access Softkey drop-down lists displays the Diagnostics Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85476—UN—06NOV17

Greasing

Selecting the Greasing Softkey image in the user Quick Access Softkey selector drop-down lists displays the Greasing Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85477—UN—07NOV17

Calibration

Selecting the Calibration Softkey image in the user Quick Access Softkey selector drop-down lists displays the Calibration Softkey on the main screen for selected locations. It is selectable for all machine types and configurations.



E85478—UN—07NOV17

BalerAssist

Selecting the BalerAssist Softkey image in the user Quick Access Softkey selector drop-down lists displays the BalerAssist Softkey on the Main Screen for selected locations. It is selectable only for machines with the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E85479—UN—07NOV17

Bale Mobile

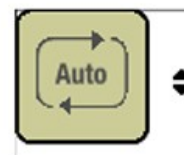
Selecting the Bale Mobile Softkey image in the user Quick Access Softkey selector drop-down lists displays the Bale Mobile Softkey on the Main Screen for the selected locations. It is selectable only for machines that have the Mobile Gateway Option installed for the Bale Mobile and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



E89547—UN—16AUG18

Automation Systems

Selecting the Automation Systems Softkey image in the user quick access softkey selector drop down lists will display the Automation Systems Softkey on the main page for the selected locations.



EX571849—UN—25APR23

Machine Setup

Selecting the Diagnostics Softkey image in the user quick access softkey selector drop down lists will display the diagnostics softkey on the main screen for the selected location(s). This is selectable for all machine types and configurations.



EX582578—UN—14JUN23

PhiBer Dump

Selecting the PhiBer Dump Softkey image in the user quick access softkey selector drop down lists will display the PhiBer Dump softkey on the main screen for the selected location(s). This is selectable only for machines that have the Accumulator installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).



EX571850—UN—25APR23

Next VT

Selecting the Next VT Softkey image in the user Quick Access Softkey drop-down lists displays the Next VT Softkey on the Main Screen for selected locations when multiple displays are detected. It is selectable for all machine types and configurations.



E85480—UN—07NOV17

Test Input

Selecting the Test Input Softkey image in the user Quick Access Softkey selector drop-down lists displays the Test Input Softkey on the Main Screen for selected locations. It is selectable for all machine types and configurations.



E85481—UN—07NOV17

Test Output

Selecting the Test Output Softkey image in the user Quick Access Softkey drop-down lists displays the Test Output Softkey on the Main Screen for selected locations when the PTO is OFF. It is selectable for all machine types and configurations.



E85482—UN—07NOV17

Blank

Selecting the Blank Softkey image in the user quick access softkey selector drop down lists will display an empty space and no softkey on the main screen for the selected location(s). This is selectable for all machine types and configurations.

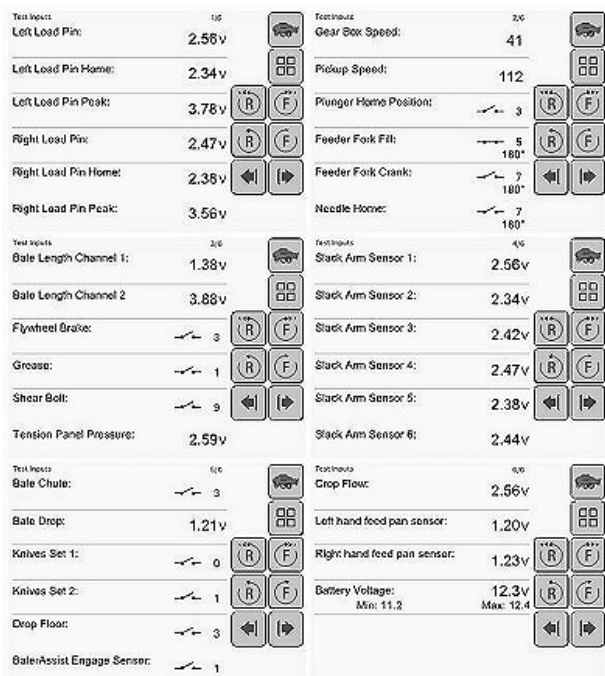


EX576094—UN—26APR23

wkjquwj,1679916737171-19-13NOV25

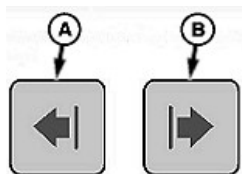
Test Input Screen

The Test Inputs Screen provides feedback on each of the sensor inputs to provide diagnostics for the operator. It can be used for troubleshooting machine issues or verifying machine functionality. Status of the switch state, voltage, or measured speed is provided according to the sensor that is being displayed. Additionally if a fault is active for a given sensor the text is red and bold, helping to indicate where faults exist on the system.



E85530—UN—08NOV17

The operator can navigate between the different Test Input Pages by using the Previous Page and Next Page Softkeys.



A—Previous Page Softkey
B—Next Page Softkey

E85531—UN—08NOV17

GW44282,000085C-19-15DEC17

Test Input Order

The Test Inputs Screen changes according to what options are enabled on the machine such that there are no gaps between feedback for each of the sensors. The sensor feedback on the Test Inputs Screen is displayed in the following order:

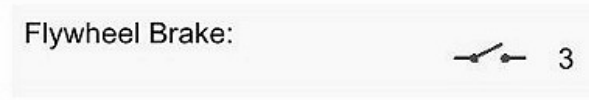
1. Left Load Pin Current Reading
2. Left Load Pin Home Reading
3. Left Load Pin Peak Reading
4. Right Load Pin Current Reading
5. Right Load Pin Home Reading
6. Right Load Pin Peak Reading
7. Gearbox Speed Reading
8. Pickup Speed Reading
9. Plunger Home Sensor Reading
10. Feeder Fork Fill Sensor Reading
11. Feeder Fork Crank Sensor Reading

12. Needle Home Sensor Reading
13. Tension Panel Pressure Sensor Reading
14. Bale Length Sensor Channel 1 Reading
15. Bale Length Sensor Channel 2 Reading
16. Flywheel Brake Sensor Reading
17. Greasing Sensor Reading
18. Shear Bolt Sensor Reading
19. Slack Arm 1 Sensor Reading
20. Slack Arm 2 Sensor Reading
21. Slack Arm 3 Sensor Reading
22. Slack Arm 4 Sensor Reading
23. Slack Arm 5 Sensor Reading
24. Slack Arm 6 Sensor Reading
25. Bale Chute Sensor Reading
26. Bale Drop Sensor Reading
27. Knife Set 1 Sensor Reading
28. Knife Set 2 Sensor Reading
29. Drop Floor Sensor Reading
30. BalerAssist Engage Sensor Reading
31. Crop Flow Sensor Reading
32. Left Feed Pan Sensor Reading
33. Right Feed Pan Sensor Reading
34. Preservative System Pressure Sensor Reading
35. Preservative System Tank Level Sensor Reading
36. Battery Voltage

wkjquwj,1679384877448-19-13NOV25

Test Input Sensor Readings

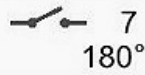
The following sensor readings are shown on the Test Input Pages to allow the operator to view sensor switch states, voltages, or measured speeds. For digital switches, the switch state and number of times the switch state has changed in the form of a counter is provided for feedback.



E85533—UN—08NOV17

For digital switches that are plunger position dependent, the switch state, number of times switch state has changed, and plunger position where switch was activated is provided for feedback.

Needle Home:



E85534—UN—08NOV17

For analog sensors, the measured voltage at the control unit input is provided for feedback.

Slack Arm Sensor 1:

2.56v

E85536—UN—08NOV17

For speed sensors, the calculated speed according to the sensor input frequency is provided.

Gear Box Speed:

41

E85541—UN—08NOV17

Left Load Pin Current Voltage

Left Load Pin Current Voltage reading allows the operator to see the currently measured voltage of the left load pin sensor on the display. The text “Left Load Pin Current” is switched to red and bold when a Left Load Pin Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Left Load Pin Home Voltage

Left Load Pin Home Voltage reading allows the operator to see measured voltage of the left load pin sensor at the plunger home position on the display. The text “Left Load Pin Home” is switched to red and bold when a Left Load Pin Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Left Load Pin Peak Voltage

The Left Load Pin Peak Voltage reading allows the operator to see the measured peak voltage of the left load pin sensor on the display. The text “Left Load Pin Peak” is switched to red and bold when a Left Load Pin Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Right Load Pin Current Voltage

Right Load Pin Current Voltage reading allows the operator to see the currently measured voltage of the right load pin sensor on the display. The text “Right Load Pin Current” is switched to red and bold when a Right Load Pin Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Right Load Pin Home Voltage

Right Load Pin Home Voltage reading allows the operator to see measured voltage of the right load pin sensor at the plunger home position on the display. The text “Right Load Pin Home” is switched to red and bold when a Right Load Pin Sensor fault is active. The

reading is shown for all machine types and option configurations to the operator.

Right Load Pin Peak Voltage

The Right Load Pin Peak Voltage reading allows the operator to see the measured peak voltage of the right load pin sensor is on the display. The text “Right Load Pin Peak” is switched to red and bold when a Right Load Pin Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Gearbox Speed

The Gearbox Speed reading allows the operator to see what the calculated gearbox speed is on the display. The text “Gearbox Speed” is switched to red and bold when a Gearbox Speed Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Pickup Speed

The Pickup Speed reading allows the operator to see the calculated pickup speed on the display. The text “Pickup Speed” is switched to red and bold when the Feed System Plugged fault is active. The reading is shown for all machine types and option configurations to the operator.

Plunger Home Position

The Plunger Home Position reading allows the operator to see the current state of the plunger home position sensor. In addition, how many times the state has changed on the display. The text “Plunger Home Position” is switched to red and bold when a Plunger Home Position Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Feeder Fork Fill Sensor

Feeder Fork Fill Sensor reading allows the operator to see the current state of the feeder fork fill sensor. In addition, how many times the state has changed and at what plunger position the sensor is active on the display. The text “Feeder Fork Fill” is switched to red and bold when a Feeder Fork Fill Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Feeder Fork Crank Sensor

Feeder Fork Crank Sensor container allows the operator to see the current state of the feeder fork crank sensor. In addition, how many times the state has changed and at what plunger position the sensor is active on the display. The text “Feeder Fork Crank” is switched to red and bold when a Feeder Fork Crank Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Needle Home Sensor

The needle home sensor container allows the operator to see the current state of the needle home sensor. In

addition, how many times the state has changed and at what plunger position the sensor is active on the display. The text “Needle Home” is switched to red and bold when a Needle Home Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Bale Length Sensor Channel 1

The Bale Length Sensor Channel 1 reading allows the operator to see the measured voltage on the bale length sensor channel 1 on the display. The text “Bale Length Channel 1” is switched to red and bold when a Bale Length Sensor Channel 1 or Bale Length Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Bale Length Sensor Channel 2

The Bale Length Sensor Channel 2 reading allows the operator to see the measured voltage on the bale length sensor channel 2 on the display. The text “Bale Length Channel 2” is switched to red and bold when a Bale Length Sensor Channel 1 or Bale Length Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Flywheel Brake Sensor

The Flywheel Brake Sensor reading allows the operator to see the current state of the flywheel brake sensor. In addition, how many times the state has changed on the display. The text “Flywheel Brake” is switched to red and bold when the Flywheel Brake Engaged fault is active. The reading is shown for all machine types and option configurations to the operator.

Greasing Sensor

Greasing Sensor reading allows the operator to see the current state of the greasing sensor. In addition, how many times the state has changed on the display. The text “Grease” is switched to red and bold when the Greasing Stuck fault is active. The reading is shown for all machine types and option configurations to the operator.

Shear Bolt Sensor

Shear Bolt Sensor reading allows the operator to see the current state of the shear bolt sensor. In addition, how many times the state has changed on the display. The text “Shear Bolt” is switched to red and bold when the Needle Shear Bolt Broken fault is active. The reading is shown for all machine types and option configurations to the operator.

Tension Panel Pressure Sensor

Tension Panel Pressure Sensor reading allows the operator to see what the currently measured voltage of the tension panel pressure sensor is on the display. The text “Tension Panel Pressure” is switched to red and bold when a Tension Panel Pressure Sensor fault is active. The reading is shown for all machine types and option configurations to the operator.

Slack Arm 1 Sensor

Slack Arm 1 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 1 sensor is on the display. The text “Slack Arm Sensor 1” is switched to red and bold when a Slack Arm Sensor 1 fault is active. The reading is shown for all machine types and option configurations to the operator.

Slack Arm 2 Sensor

Slack Arm 2 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 2 sensor is on the display. The text “Slack Arm Sensor 2” is switched to red and bold when a Slack Arm Sensor 2 fault is active. The reading is shown for all machine types and option configurations to the operator.

Slack Arm 3 Sensor

The Slack Arm 3 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 3 sensor is on the display. The text “Slack Arm Sensor 3” is switched to red and bold when a Slack Arm Sensor 3 fault is active. The reading is shown for all machine types and option configurations to the operator.

Slack Arm 4 Sensor

Slack Arm 4 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 4 sensor is on the display. The text “Slack Arm Sensor 4” is switched to red and bold when a Slack Arm Sensor 4 fault is active. The reading is shown for all machine types and option configurations to the operator.

Slack Arm 5 Sensor

Slack Arm 5 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 5 sensor is on the display. The text “Slack Arm Sensor 5” is switched to red and bold when a Slack Arm Sensor 5 fault is active. The reading is shown for 3x4 machines.

Slack Arm 6 Sensor

Slack Arm 6 Sensor reading allows the operator to see what the currently measured voltage of the slack arm 6 sensor is on the display. The text “Slack Arm Sensor 6” is switched to red and bold when a Slack Arm Sensor 6 fault is active. The reading is shown for 3x4 machines.

Bale Chute Sensor

Bale Chute Sensor reading allows the operator to see the current state of the bale chute sensor. In addition, how many times the state has changed on the display. The text “Bale Chute” is switched to red and bold when the Bale Chute Up fault is active. The reading is shown for machines that have the Bale Chute Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Bale Drop Sensor

Bale Drop Sensor reading allows the operator to see what the currently measured voltage of the bale drop

sensor is on the display. The text “Bale Drop” is switched to red and bold when a Bale Drop Sensor fault is active. The reading is shown for machines that have the Bale Drop Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Knives Sensor (0 Series Only)

The Knives Sensor reading allows the operator to see the current state of the knives sensor in addition to how many times the state has changed on the display. The text “Knife Sensor” will be switched to red and bold if a Knife System fault is active.

Knife Set 1 Sensor

Knife Set 1 reading allows the operator to see the current state of the knives set 1 sensor. In addition, how many times the state has changed on the display. The text “Knife Set 1” is switched to red and bold when a Knife Set 1 Unintended Movement fault is active.

Knife Set 2 Sensor

Knife Set 2 reading allows the operator to see the current state of the knives set 2 sensor. In addition, how many times the state has changed on the display. The text “Knife Set 2” is switched to red and bold when a Knife Set 2 Unintended Movement fault is active.

Drop Floor Sensor

Drop Floor Sensor container allows the operator to see the current state of the drop floor sensor. In addition, how many times the state has changed on the display. The text “Drop Floor” is switched to red and bold when a Drop Floor Unintended Movement fault is active.

BalerAssist Engaged Sensor

BalerAssist BalerAssist Engaged Sensor reading allows the operator to see the current state of the BalerAssist engaged sensor. In addition, how many times the state has changed on the display. This reading is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Crop Flow Sensor

Crop Flow Sensor reading allows the operator to see what the currently measured voltage of the crop flow sensor is on the display. The text “Crop Flow” is switched to red and bold when a Crop Flow Sensor fault is active. The setting is shown for machines that have the Crop Flow Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative System Pressure Sensor

The Preservative System Pressure Sensor reading allows the operator to see what the currently measured voltage of the pressure sensor used by the preservative system is on the display. The text “Preservative Pressure” will be switched to red and bold if a

Preservative Pressure Sensor fault is active. This value is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative System Tank Level Sensor

The Preservative System Tank Level Sensor reading allows the operator to see what the currently measured voltage of the tank level sensor used by the preservative system is on the display. The text “Preservative Tank Level” will be switched to red and bold if a Preservative Tank Level Sensor fault is active. This value is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Left Feed Pan Sensor

Left Feed Pan Sensor reading allows the operator to see what the currently measured voltage of the left feed pan sensor is on the display. The text “Left Hand Feed Pan Sensor” is switched to red and bold when a Left Feed Pan Sensor fault is active. The setting is shown for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Right Feed Pan Sensor

Right Feed Pan Sensor reading allows the operator to see what the currently measured voltage of the right feed pan sensor is on the display. The text “Right Hand Feed Pan Sensor” is switched to red and bold when a Right Feed Pan Sensor fault is active. The setting is shown for machines that have the Weighing System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

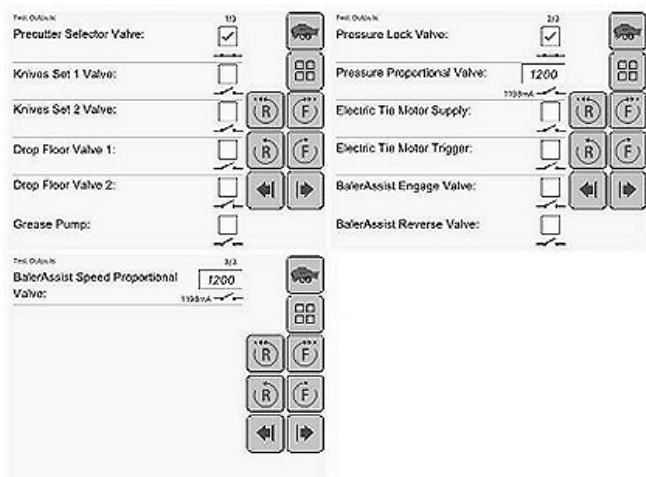
Battery Voltage

Battery Voltage readings allow the operator to see what the currently measured, minimum, and maximum battery voltage is on the display. The text “Battery Voltage” is switched to red and bold when a Battery Voltage fault is active. The reading is shown for all machine types and option configurations to the operator.

wkjqwj,1679918071734-19-13NOV25

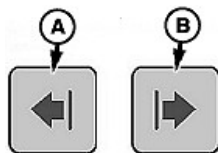
Test Outputs Screen

Test Outputs Screen provides feedback on each of the control unit output driver states in addition being able to manually turn on or off an output. It can be used for troubleshooting machine issues or verifying machine functionality. Status of the driver state, a manual override switch, and current feedback can be available depending on the type of driver. Additionally, when a fault is active for a given output the text is red and bold, indicating where faults exist on the system.



E85542—UN—08NOV17

The operator can navigate between the different Test Output Pages by using the Previous Page and Next Page Softkeys.



A—Previous Page Softkey
B—Next Page Softkey

E85339—UN—31OCT17

GW44282,0000859-19-10NOV17

Test Outputs Order

The Test Outputs Screen changes according to what options are enabled on the machine, eliminating gaps between feedback of the output drivers of the control unit. The driver feedback on the Test Outputs Screen is displayed in the following order

1. Precutter Selector Valve
2. Knives Set 1 Valve
3. Knives Set 2 Valve
4. Drop Floor Valve 1
5. Drop Floor Valve 2
6. Grease Pump
7. Pressure Lock Valve
8. Pressure Proportional Valve
9. Electric Tie Motor Supply
10. Electric Tie Motor Trigger
11. BalerAssist Engage Valve
12. BalerAssist Reverse Valve
13. BalerAssist Speed Proportional Valve

14. Preservative System Nozzle Solenoid 1
15. Preservative System Nozzle Solenoid 2
16. Preservative System Application Pump Motor

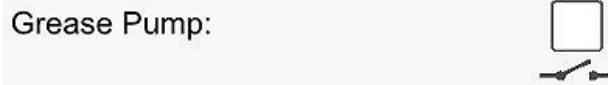
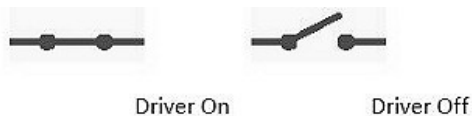
The controller output driver feedback on the test outputs Screen is displayed in the following order:

1. Pressure Lock Valve
2. Pressure Selector Valve
3. Pressure Proportional Valve
4. Knives Engage Valve
5. Knives Disengage Valve
6. Knives Enable Valve

wkjquwj,1679385786006-19-13NOV25

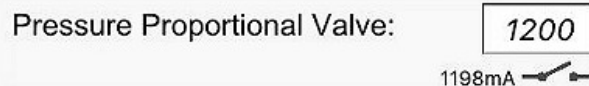
Test Outputs Page Containers

The following control unit output drivers are shown on the Test Output Pages. It allows the operator to force on the output, view driver state, and view measured current depending on the driver. For on-off drivers, the operator is able force on and off the driver. In addition, being able to see the driver state of either being on or off.



E85543—UN—08NOV17

For proportional drivers, operator is able to force the driver on and off, see the driver on-off state, and see the measured current on the driver.



E85544—UN—08NOV17

Precutter Selector Valve

Precutter Selector Valve checkbox allows for the operator to force the driver on by checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “Precutter Selector Valve” is switched to red and bold when a Precutter Selector Valve fault is active.

Knives Set 1 Valve

The Knives Set 1 Valve checkbox allows for the operator to force the driver on by checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “Knives Set 1” is switched to red and bold when a Knife Set 1 Valve fault is active.

Knives Set 2 Valve

Knives Set 2 Valve checkbox allows for the operator to force the driver only checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “Knives Set 2” is switched to red and bold when a Knife Set 2 Valve fault is active.

Drop Floor Valve 1

Drop Floor Valve 1 checkbox allows for the operator to force the driver on by checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “Drop Floor Valve 1” is switched to red and bold when a Drop Floor Valve 1 fault is active.

Drop Floor Valve 2

Drop Floor Valve 2 checkbox allows the operator to force on the driver by checking the checkbox. The driver state is viewable by the operator to indicating when the driver is being powered. The text “Drop Floor Valve 2” is switched to red and bold when a Drop Floor Valve 2 fault is active.

Knives Engage Valve (V2) (0 Series Only)

The Knives Engage Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Knives Engage Valve” will be switched to red and bold if a Knives Engage Valve (V2) fault is active.

Knives Disengage Valve (V3)

The Knives Disengage Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Knives Disengage Valve” will be switched to red and bold if a Knives Disengage Valve (V3) fault is active.

Knives Enable Valve (V6)

The Knives Enable Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Knives Enable Valve” will be switched to red and bold if a Knives Enable Valve (V6) fault is active.

Greasing Motor

Greasing Motor checkbox allows the operator to force the driver on by checking the checkbox. The driver state can also be viewed by the operator to indicate when the driver is being powered. The text “Greasing Motor” is switched to red and bold when a Greasing Motor fault is active. This function is shown for all machine types and option configurations to the operator.

Pressure Lock Valve (V7)

The Pressure Lock Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Pressure Lock Valve” will be switched to red and bold if a Pressure Lock Valve (V7) fault is active, this function is shown for all machine types and option configurations to the operator.

Pressure Selector Valve (V1) (0 Series Only)

The Pressure Selector Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Pressure Selector Valve” will be switched to red and bold if a Pressure Selector Valve (V1) fault is active.

Pressure Proportional Valve (V5)

Pressure Proportional Valve input box allows the operator to set a current for the driver to control by selecting the white input box and entering the desired supplied current in milliamps. The driver state and measured current on the driver is viewable by the operator to indicate when the driver is being powered. The text “Pressure Proportional Valve” is switched to red and bold when a Pressure Proportional Valve (V5) fault is active. This function is shown for all machine types and option configurations to the operator.

Electric Tie Motor Supply

The Electric Tie Motor Supply output checkbox allows for the operator to force on the driver by checking the checkbox. The driver state is viewable by the operator to indicate whether the driver is being powered. The text “Electric Tie Motor Supply” is switched to red and bold when an Electric Tie Motor Supply Output fault is active. This function is shown for machines that have the Electric Tie Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Electric Tie Motor Trigger

The Electric Tie Motor Trigger output checkbox allows for the operator to force on the driver by checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “Electric Tie Motor Trigger” is switched to red and bold when an Electric Tie Motor Trigger Output fault is active. This function is shown for machines that have Electric Tie Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

BalerAssist Engage Valve

The BalerAssist Engage Valve checkbox allows for the operator to force on the driver by checking the checkbox. The driver state is viewable by the operator to indicate whether the driver is being powered. The text

“BalerAssist Engage Valve” is switched to red and bold when a BalerAssist Engage Valve fault is active. This function is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

BalerAssist Reverse Valve

The BalerAssist Reverse Valve checkbox allows for the operator to force on the driver by checking the checkbox. The driver state is viewable by the operator to indicate when the driver is being powered. The text “BalerAssist Reverse Valve” is switched to red and bold when a BalerAssist Reverse Valve fault is active. This function is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

BalerAssist Speed Proportional Valve

The BalerAssist Speed Proportional Valve input box allows the operator to set a current for the driver to control to by selecting the white input box and entering the desired supplied current in milliamps. The driver state and measured current on the driver is viewable by the operator to indicate when the driver is being powered. The text “BalerAssist Speed Proportional Valve” is switched to red and bold when a BalerAssist Speed Proportional Valve fault is active. This function is shown for machines that have the BalerAssist Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative System Nozzle Solenoid 1

The Preservative System Nozzle Solenoid 1 checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Preservative Nozzle Solenoid 1” will be switched to red and bold if a Preservative Nozzle Solenoid 1 fault or general nozzle fault is active. This function is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

Preservative System Nozzle Solenoid 2

The Preservative System Nozzle Solenoid 2 checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Preservative Nozzle Solenoid 2” will be switched to red and bold if a Preservative Nozzle Solenoid 2 fault or general nozzle fault is active. This function is shown for machines that have the Preservative System Option installed and activated by the dealer or factory (checked on the Dealer Setup Screen).

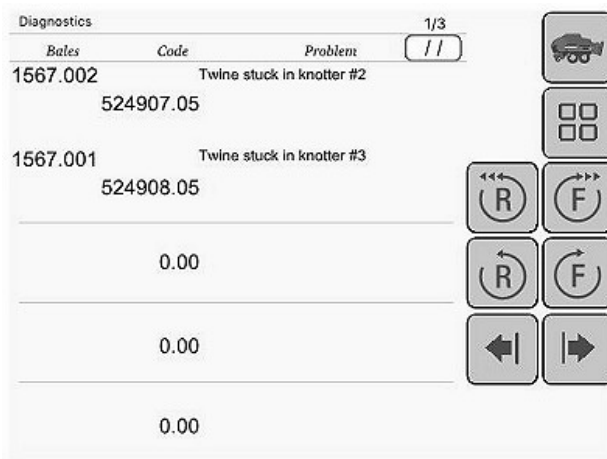
Preservative System Application Pump Motor

The Preservative System Application Pump Motor checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Preservative Application Pump” will be switched to red and bold if a Preservative Application Pump fault is active. This function is shown for machines that have the Preservative System Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen).

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Diagnostics Screen

The Diagnostics Screen allows an operator to view Diagnostic Trouble Codes (DTCs) that have been reported while running the machine. Three pages of diagnostic screens are provided to list up to 15 of the most recent DTCs that were thrown on the machine. These pages can be navigated between by using the Next Page Softkey and Previous Page Softkey.



E85571—UN—09NOV17

The most recent DTCs are shown on the top of the first page. Each of the displayed DTCs provides the following information:

- Bale Number: XXXXXX.YYY
 - XXXXXX indicates the bale number the error code occurred at
 - YYY indicates the occurrence number of the DTC being thrown
- DTC Number: XXXXXX.YY
 - XXXXXX indicates the SPN (Suspect Parameter Number providing the system that the error occurred in)
 - YY indicates the FMI (Failure Mode Indicator)
- Description of the error code. This description matches the level 1 text displayed for the DTC.

The operator can clear all of the recorded DTCs by pressing the DTC Reset Button at the top right of each of the Diagnostic Pages:

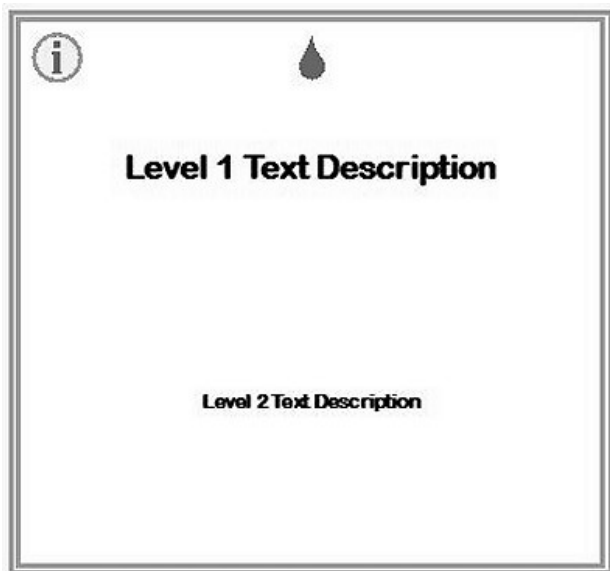


E85572—UN—09NOV17
GW44282,0000862-19-29NOV17

DTC Fault Messages

The controller provides DTC (Diagnostic Trouble Code) fault messages for sensors and systems that are detected to be out of range or not working properly. This message is presented to the operator as a full screen pop-up and audible alarm. A severity level icon is shown in the top left. A descriptor icon is shown in the top middle. Level 1 text provides the sensor or system fault description and the general cause. Level 2 text provides further actions to be taken and is shown with each DTC displayed on the screen.

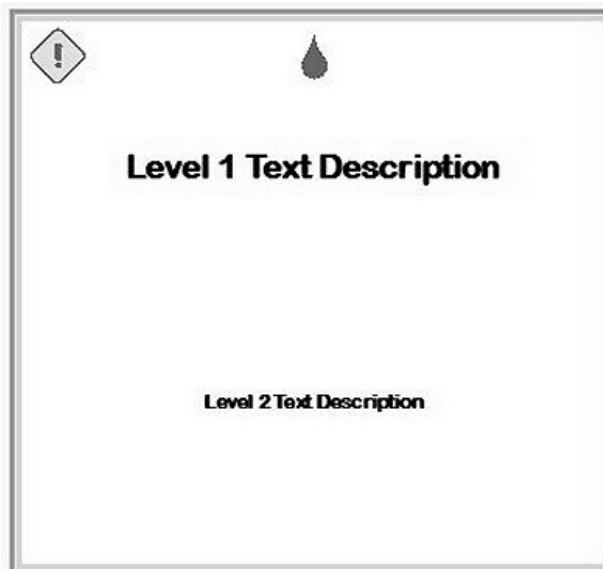
Informational Alarm DTCs are shown in the following way:



Informational Alarm DTC

E85458—UN—06NOV17

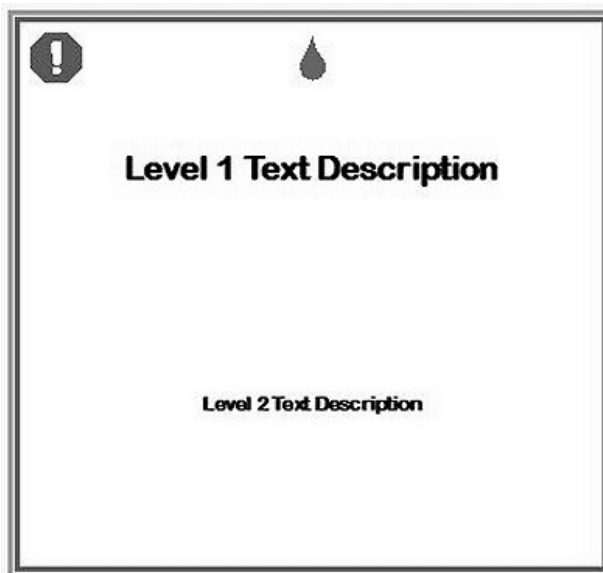
Warning Alarm DTCs are shown in the following way with the same text and icon layout:



Warning Alarm DTCs (Yellow)

E85459—UN—06NOV17

Stop Alarm DTCs are shown in the following way with the same text and icon layout:



Stop Alarm DTC (Red)

E85460—UN—06NOV17

GW44282,0000855-19-06NOV17

About Screen

The About Screen provides hardware and software-specific information about the main Large Square Baler control unit and machine. The information can help the operator verify the correct or most recent software and hardware components installed on the machine. In addition, it has the serial number aid for software updates.

About	
Hardware Part Number:	AFH207876
Serial Number:	003022
Software Part Number:	FH321529
Software Version:	04.16
Boot Block Version:	15.00
OS Version:	05.29
Configuration Data Part Number:	FH321530
Configuration Data Version:	04.15
Machine Type:	Large Square Baler
Machine Serial Number:	1E0L340CXNC000001
Manufacturer:	Deere & Company, Moline (USA)



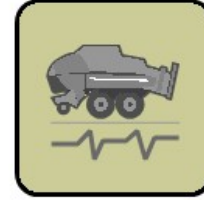
E85540—UN—07NOV17

The operator is able to see the following information about the machine control unit, programmed software, and general information on the machine itself:

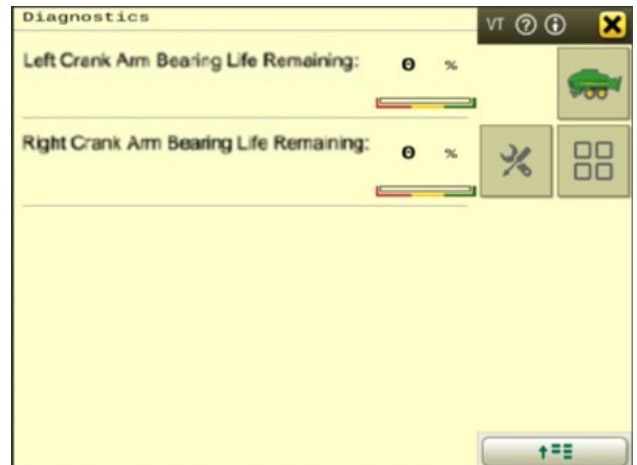
- Large Square Baler Controller Information (Top):
 - Hardware Part Number— Provides the John Deere part number for the main control unit (AFH207876)
 - Serial Number— Provides the serial number for the main control unit
- Large Square Baler Software Information (Middle):
 - Software Part Number – Provides the software application part number (FH321529)
 - Software Version – Provides the version of the application software loaded to the control unit
 - Boot Block Version – Provides the boot block version loaded to the control unit
 - OS Version – Provides the operating system version loaded to the control unit
 - Configuration Data Part Number – Provides the software configuration part number (FH321530)
 - Configuration Data Version – Provides the version of the configuration data loaded to the control unit
- Machine Information (Bottom):
 - Machine Type – Provides the type of machine (Large Square Baler)
 - Machine Serial Number – Provides the serial number for the machine
 - Manufacturer – Provides the manufacturer (Deere & Company)

Switching Between Diagnostics DTC and Machine Health Pages

A John Deere dealer or other service provider can switch between the Diagnostics DTC Page and the Machine Health Page by using the Machine Health Softkey and Diagnostics Softkey. If the Diagnostics DTC Page is currently being shown then the Machine Health Softkey will be displayed. If the Machine Health Softkey is pressed the Machine Health Page will then be shown.



EX561619—UN—21MAR23



EX560428—UN—09JUN23

The percent life remaining for the displayed components will be shown as both a numerical percentage and as a bar graph. The following components will have a lifetime health shown:

- Left Crank Arm Bearing Life Remaining
- Right Crank Arm Bearing Life Remaining

If the Machine Health Page is currently being displayed then the Diagnostics Softkey will be displayed, if pressed the Diagnostics DTC Page will then be shown.



EX580427—UN—09JUN23

To navigate back to the Diagnostic DTC screen, press the diagnostics softkey.



EX580422—UN—06JUN23

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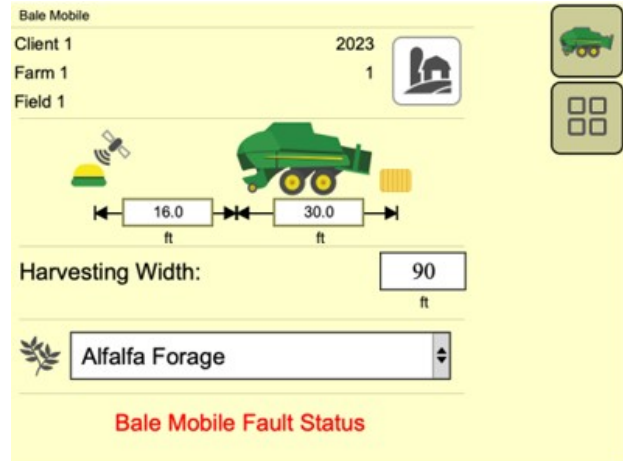
Bale Mobile Screen

The Bale Mobile Screen allows an operator to control Bale Mobile specific features and can work in conjunction with the release of Bale Documentation on John Deere displays. For machines running on Bale Mobile the currently selected client, farm, and field can be modified in addition to the GPS offsets of the baler work points, harvesting width, and selected crop type. For customers running Bale Documentation in parallel with Bale Mobile the currently selected client, farm, and field on the display will be shown in addition to the GPS offsets. Additionally a pop-up is provided after traveling without the PTO on or crop flow for an extended distance to ensure that the operator is still working in the same field.

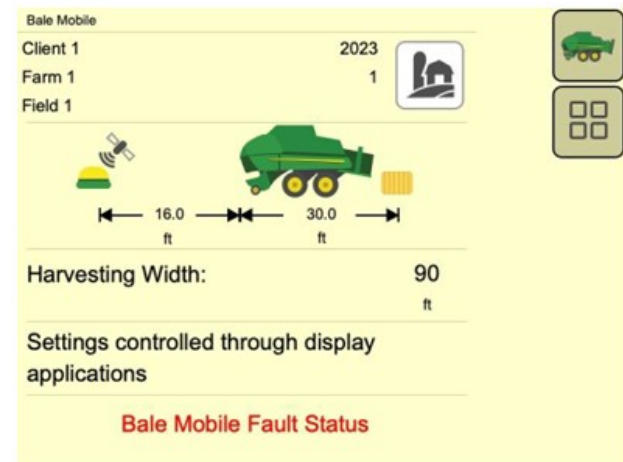
Bale Mobile Main Page

The Bale Mobile Main Page provides the ability to view or if not running bale documentation on a John Deere display select to modify the currently selected Client, Farm, Field, Season, or Cutting, modify the GPS offset

for the pickup or bale drop location, and to change the harvesting width used for painting values on the mobile app and calculating yield.




EX582572—UN—14JUN23



EX582573—UN—14JUN23

Selected Client, Farm, and Field

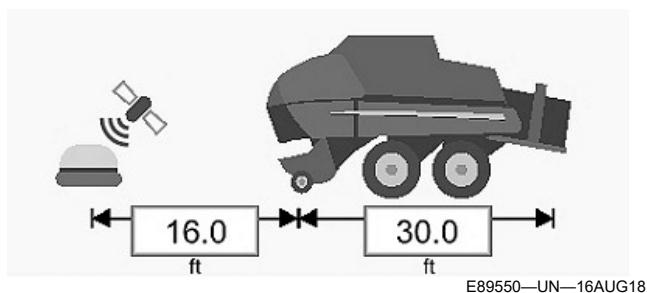
The currently selected Client, Farm, Field, Season, and Cutting is displayed at the top of the screen as received from the Wireless Data Server (WDS) if only running Bale Mobile or from the John Deere display if running Bale Documentation. On the top left of the screen is the currently selected Client Name, with the Farm Name located below that, and the Field Name Below that. Towards the right of the screen next to the button is the selected Season on the top and the cutting number located below that. Pressing the Field Button located on the right will take you to the Field Selection Page allowing the operator to modify the currently selected Client, Farm, Field, Season, or Cutting if running Bale Mobile only. If running Bale Documentation on a John Deere display the operator will see the currently selected client, farm, field, and season as set on the display and be able to modify the cutting selected that will then be sent to the WDS and Bale Mobile.

Client 1	2018	
Farm 1	1	
Field 1		

E89549—UN—16AUG18


GPS Position Offsets

The pickup and bale drop GPS positions can be modified by selecting either of the input fields and entering an updated value. The pickup GPS Position Offset on the left-hand side should have the distance from the GPS receiver (typically on the tractor) to the pickup on the baler. The bale drop GPS Position Offset on the right-hand side should have the distance from the pickup to the back of the baler where the bale drops off. It depends on whether an accumulator is installed on the machine and can be adjusted accordingly.



Harvesting Width

The Harvesting Width Setting allows the operator to modify the machine harvesting width that is used for calculating yield values, if only running bale mobile or view the value set on the display if running bale documentation on a John Deere display. The harvesting width inputted should match the windrowed or raked width of crop that the baler is harvesting per pass. This can be modified by the operator by selecting the input number with the white box around it next to "Harvesting Width" and entering the harvesting width. This setting is shown for machines that have the Mobile Gateway Option installed and activated by the dealer, factory or other service provider (checked on the Dealer Setup Screen) but does not have Bale Documentation running actively on a John Deere display.

 Harvesting Width: ft

E89813—UN—16AUG18

Bale Mobile System Feedback

The Bale Mobile system feedback is provided on the bottom of the screen to provide feedback of communication between the baler controller, GPS receiver, and WDS to aid in troubleshooting any issues that would prevent the Bale Mobile application from working. The following text will be shown at the bottom of the screen in priority order:

1. The "WDS Controller Fault" is shown if either the WDS is not present or the WDS connection is lost and the DTCs are active.
2. "No GPS position received" appears if no GPS

position CAN message has been received on the implement bus continually for 5 seconds.

3. "Mobile Gateway feature not enabled" appears if the Mobile Gateway Enabled checkbox on the Machine Setup Page is not checked.
4. Otherwise no text is shown.

Field Selection Page

The Field Selection Page allows the operator to change the selected Client, Farm, Field, Season, and Cutting used for associating data for the Bale Mobile. The page is accessed from the Confirm Field Pop-Up and the Bale Mobile Page using the Field button. All of the Client, Farm, Field, Season, and Cutting names available are requested from the WDS and only consist of names already used for that specific baler and WDS. It can vary from what the iPad has available due to the synced Client, Farm, Field, Season, and Cutting names only being available on the iPad until they are set as the active field on the WDS tied to that baler.

Field Selection

 Client 1

 Ross Farms







Select from drop down

E89814—UN—16AUG18

Selecting Client Name

Upon entering the field selection page the baler requests and populate the Client Name selected on the display if running bale documentation on a John Deere display, which can only be changed on the John Deere display. Otherwise the controller will request the available names from the WDS, these will then be displayed in the drop down for an operator to select.

To create a new name the operator must open the drop down and select "+ New", this then brings up a window to enter in a new name with up to 24 characters. Once a new name is created or the operator selects a pre-existing name from the drop down then the Next Button must be pressed to continue, this will cause the baler to load Farm Names for the selected Client. Alternatively the operator can select the Cancel Button to exit the Field Selection Page at any time during the process.



E89815—UN—17AUG18



E89816—UN—17AUG18

Selecting Farm Name

If Bale Documentation is running on a John Deere display the farm name will be populated automatically, which can only be changed on the John Deere display. Otherwise after selecting a Client and pressing the Next Button the baler will then request and load the Farm names associated to that Client selected.

The loaded Farm names then be populated in the drop down list where the operator can either select one of the available names or create a new name. To create a new name the operator must open the drop down and select “+ New”, this will then bring up a window to enter in a new name with up to 24 characters. Once a new name is created or the operator selects a pre-existing name from the drop down then the Next Button must be pressed to continue, this causes the baler to load Field Names for the selected Client and Farm. Alternatively the operator can select the Cancel Button to exit the Field Selection Page at any time during the process.

Selecting Field Name

If Bale Documentation is running on a John Deere display the field name is populated automatically, which can only be changed on the John Deere display. Otherwise after selecting a Farm and pressing the Next Button the baler will then request and load the Field names associated to that Client and Farm selected. The loaded Field names will then be populated in the drop down list where the operator can either select one of the available names or create a new name.

To create a new name the operator must open the drop down and select “+ New”, this then bring up a window to enter in a new name with up to 24 characters. Once a new name is created or the operator selects a pre-existing name from the drop down then the Next Button should be pressed to continue, this will cause the baler to load Season Names for the selected Client, Farm, and Field. Alternatively the operator can select the Cancel Button to exit the Field Selection Page at any time during the process.

Selecting Season Name

If Bale Documentation is running on a John Deere display the season name is populated automatically, which can only be changed on the John Deere display. Otherwise after selecting a Field and pressing the Next Button the baler then requests and load the Season names associated to that Client, Farm, and Field selected. The loaded Season names show the current year as received over GPS. The operator can select the pre-existing name and then select the Next Button to continue, this will cause the baler to load Cutting Names

for the selected Client, Farm, Field, and Season. Alternatively the operator can select the Cancel Button to exit the Field Selection Page at any time during the process.

Selecting Cutting Name

After selecting a Season and pressing the Next Button, the baler requests and loads the Cutting Names associated with the Client, Farm, Field, and Season selected. The loaded Cutting Names of 1—15 are then populated in the drop-down list only without the option to create a new name. The operator can select a pre-existing name and then select the Next Button to continue, it causes the baler to request a change for the selected Client, Farm, Field, Season, and Cutting that data is being associated to for the Bale Mobile. Alternatively the operator can select the Cancel Button to exit the Field Selection Page at any time during the process.

Changing Already Selected Name

While selecting a Client, Farm, Field, Season, or Cutting, the operator can change one of the names already selected by pressing the button on the left-hand side of that name. It then reloads the names for that specific Client, Farm, Field, Season, or Cutting to be selected and to continue from.

Field Selection Feedback

The moisture calibration feedback is provided on the bottom of the screen to provide the calibration state information and faults as the different steps are used. The following texts are shown at the bottom of the screen in priority of order:

1. Mobile Gateway Fault—If either the **WDS is not present** or the **WDS connection is lost**, DTC's are active.
2. Communication Fault—If the number of names sent by the WDS does not match what it specified.
3. Loading—If the baler has requested names and is still waiting to receive all of them.
4. Fault loading names—If the requested names have not been received in 10 seconds after sending the request.
5. Requested change unsuccessful—If the updated Client, Farm, Field, Season, or Cutting sent to the WDS is **not** received back after two requests.
6. Requested change successful—If the updated Client, Farm, Field, Season, or Cutting sent to the WDS is accepted.
7. Select from drop-down—After received names have been populated in the drop-down.

Confirm Field Page

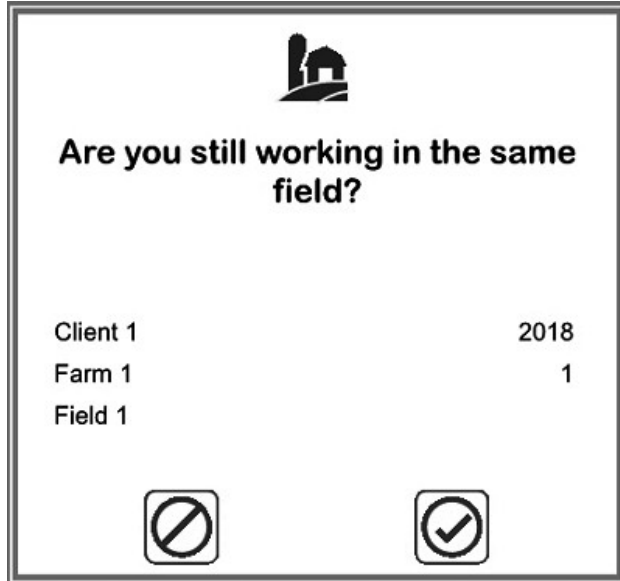
If the baler has detected that the PTO has been OFF or no crop flow has been detected for an extended distance, the Confirm Field Page pops up during baling. The pop-up is designed to ensure that the operator is

still in the same selected Client, Farm, Field, Season, or Cutting for associating data to the Baler Software and display what is currently selected. The operator can then confirm that the same Client, Farm, Field, Season, or Cutting is being used by using the Confirm Button or change the selected field by using the Incorrect Button.

- Crop Flow Sensor
- Generation 4 or G5 Display

For more information regarding the tractor and implement setup see the Generation 4 CommandCenter and Generation 5 CommandCenter Operator's Manual.

wkjquwj,1681797671523-19-13NOV25



E89817—UN—20AUG18

Pressing the Confirm Button returns the operator to the previous page while pressing the Incorrect Button takes the operator to the Field Selection Page.



E89815—UN—17AUG18



E89818—UN—20AUG18

wkjquwj,1686748538874-19-13NOV25

Bale Doc

The Bale Doc system allows operators to monitor, record and analyze their baling operation. Bale doc can be used to monitor different parameters while running in the field. Bale doc also allows data to be brought into the John Deere Operations Center where the data can be analyzed on their fields from cutting to cutting and year to year.

Bale Doc monitors the following information.

- Crop Moisture
- Total Tonnage
- Bale Counts
- Bale Size

Requirements to operate Bale Doc :

- Tractor equipped with Starfire Receiver

Preservative Screens and Menus (If Equipped)

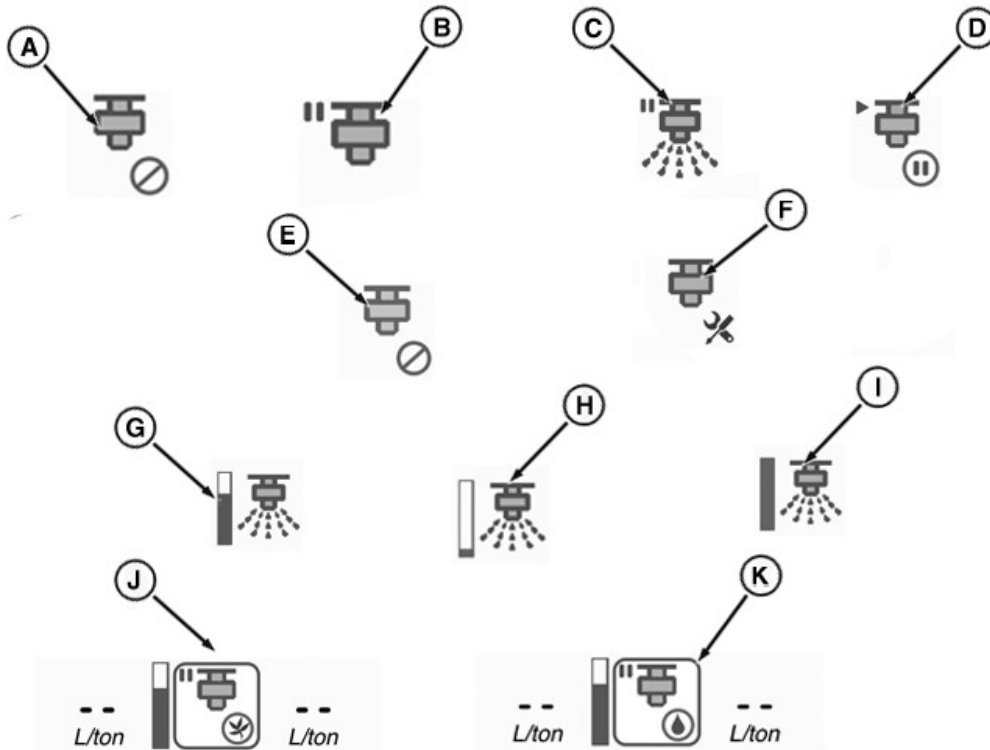
Preservative System Screen

The Preservative System Screen allows an operator to select the control mode for the preservative system to run in and modify specific settings for those different modes. All feedback, settings, and control for the Preservative System feature are provided through the baler interface on the baler main page, preservative page, test inputs page, and test outputs page. Feedback on the main page is provided on the Baler

Main Page section and indicates the current state the system is running in, target and actual flow rates, and the capability to pause preservative fluid application. The Preservative System Screen provides the ability to select operation mode, modify settings for that mode, and view system feedback on faults.

wkjquwj.1679638619307-19-24MAR23

Preservative Icons



Display Icons

EX582581—UN—19JUN23

A—Feedback on the current system state and tank level is provided to the left of the operation mode selection input list. The system off or unavailable icon is shown when it is in the off mode or when the preservative system is not enabled.

B—The preservative system not applying icon is shown if the preservative system is actively running in the automatic mode, manual curve mode, or fixed rate mode but is not currently applying fluid.

C—The preservative system applying icon is shown if the preservative system is actively running in automatic mode, manual curve mode, or fixed rate mode and is currently applying fluid.

D—The preservative system user pause mode icon is

shown if the preservative system is actively running in automatic mode, manual curve mode, or fixed rate mode and the user pause mode is currently active.

E—The preservative system fault icon is shown if there is a fault inhibiting the preservative system currently from running.

F—The preservative system service mode icon is shown if the service operating mode is currently selected by the operator.

G—The bar graph provides the current measured amount of fluid in the tank. The bar graph shows green if there are no sensor faults and more than 10% of the tank is currently filled.

H—If there is no tank level sensor fault and less than 5% of the tank is full the bar graph turns red as a warning.

I—If there is a fault with the tank level sensor the bar graph shows filled and turns red.

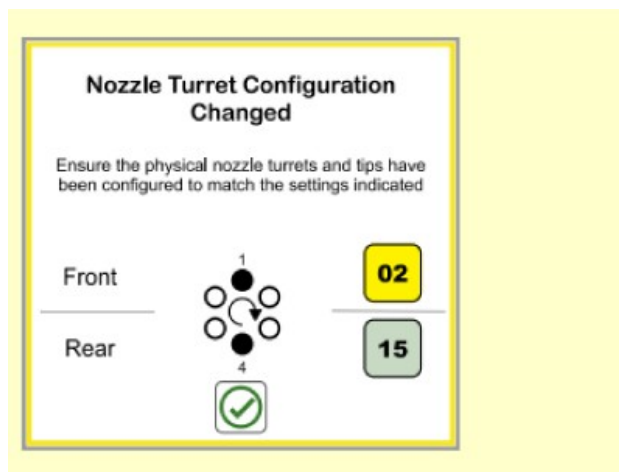
J—If the preservative system is enabled with no faults, user pause mode is not active, and no crop is detected by the baler causing no preservative to be applied then, not applying due to the crop flow icon being displayed within the user pause mode button.

NOTE: The button displayed with the icon is used to activate the user pause mode.

K—If the preservative system is enabled with no faults, user pause mode is not active, the crop is detected, and the moisture is below the turn on threshold causing no preservative to be applied then the not applying due to moisture icon is displayed within the user pause mode button.

NOTE: The button displayed with the icon is used to activate user pause mode.

wkjquwj,1662381713340-19-16JUN23

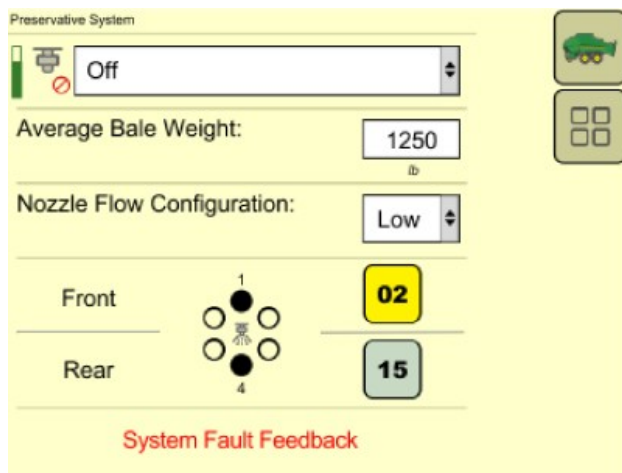


EX641129—UN—05AUG24

If a different nozzle flow configuration is selected by the operator then a pop up will be displayed showing what turret positions should be turned to on the nozzle and what the tip sizes should be at those positions. This notifies the operator to physically turns the turret of the nozzle to match the turret positions shown and verify the correct nozzle tips are installed in those locations.

ep2rqpn,1722520323583-19-13AUG24

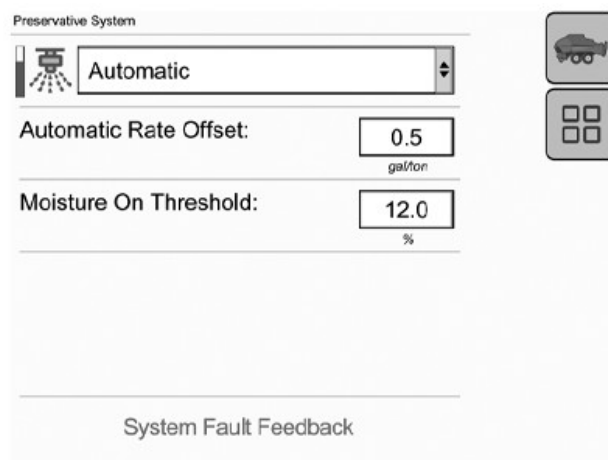
Off Operating Mode Screen



EX641128—UN—05AUG24

The Off Operating Mode has all preservative system functions shut off and is the default mode the system will go into when powering up the baler. The options for interaction by the operator will be limited to selecting a different mode using the input list or modifying the average bale weight for machines with the weighing system not enabled or installed. Additionally if the Preservative Selectable Nozzle Tips are enabled then the operator will be able to select between nozzle flow configurations (low, medium, and high settings depending on machine form). The associated nozzle tip color and size will be shown on the right in addition to nozzle turret position shown in the middle according to the selected nozzle flow configuration.

Automatic Operating Mode Screen



EX547522—UN—06SEP22

The Automatic Operating Mode screen is shown when the operator selects the automatic operating mode for running the preservative system.

This results in the preservative system using the currently sensed mass flow and moisture values and automatically calculating the application rate required for Green-Gard preservative to be applied at.

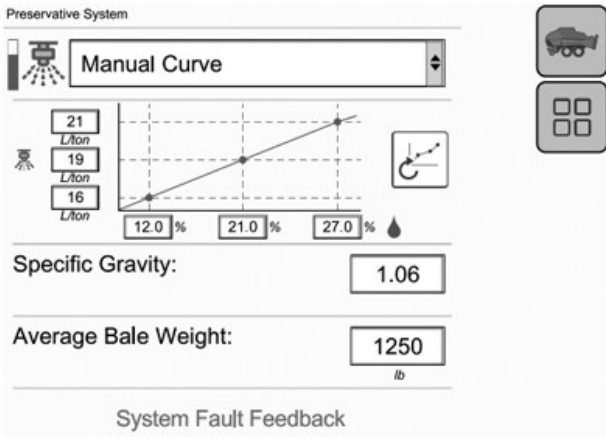
The operator can additionally add an additional offset to the application rate if more preservative is desired to be applied.

The moisture threshold at which the system turns on and starts to apply preservative can also be configured by the operator. If a weighing system is not installed or

enabled on the baler the input field for average bale weight is displayed.

wkjquwj,1662381796060-19-13NOV25

Manual Curve Operating Mode Screen



EX547523—UN—08SEP22

The Manual Curve Operating Mode screen is shown when the operator selects the manual curve operating mode for running the preservative system.

This results in the preservative system using the currently sensed mass flow and moisture values and automatically calculating the application rate required based off the user configured curve.

The operator can modify the curve used by inputting the desired application rate for a given moisture value. The system ensures that values are inputted starting from lowest to highest for both the inputted moisture and application rates.

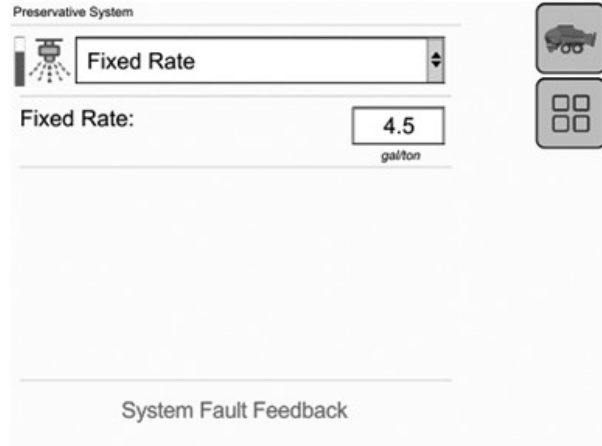
If the reset button to the right of the curve is pressed the curve resets to factory default values.

Additionally depending on the preservative fluid being used the operator must set the specific gravity of the solution compared to water if different than the default value to ensure that the system accurately applies the preservative fluid being used.

If a weighing system is not installed or enabled on the baler the input field for average bale weight is displayed.

wkjquwj,1662381809237-19-08SEP22

Fixed Rate Operating Mode Screen



EX547524—UN—06SEP22

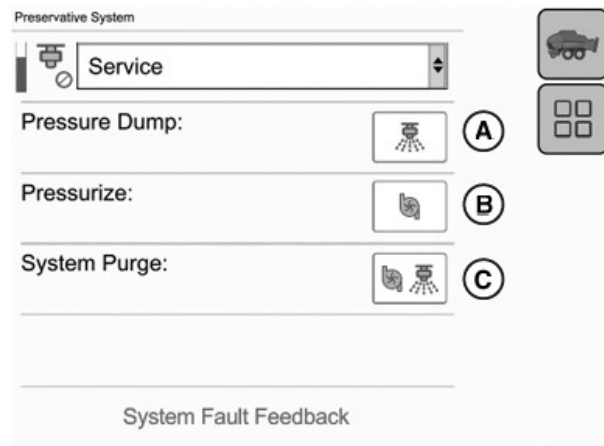
The Fixed Rate Operating Mode screen is shown when the operator selects the fixed rate operating mode for running the preservative system.

This results in the preservative system using only the currently sensed mass flow value and the fixed application rate set by the operator, not considering any type of variance in the measured moisture.

If a weighing system is not installed or enabled on the baler the input field for average bale weight is displayed.

wkjquwj,1662381958738-19-08SEP22

Service Operating Mode Screen



EX547525—UN—08SEP22

- A—Pressure Dump mode
- B—Pressurize Mode
- C—System Purge Mode

The Service Operating Mode screen is shown when the operator selects the service operating mode for running the preservative system. This results in the preservative system running in the off mode and only turning the specific components on tied to the service mode activated.

Selecting the Pressure Dump mode (A) turns on both

the nozzle solenoids in order to relieve pressure in the lines.

Selecting the Pressurize mode (B) turns on just the pump and pressurize the system.

Selecting the System Purge mode (C) turns on both the nozzle solenoids and the pump, such that any preservative fluid in the system is sprayed.

wkjquwj.1662381969355-19-08SEP22

Average Bale Weight Input

Average Bale Weight:

1250

lb

EX547527—UN—06SEP22

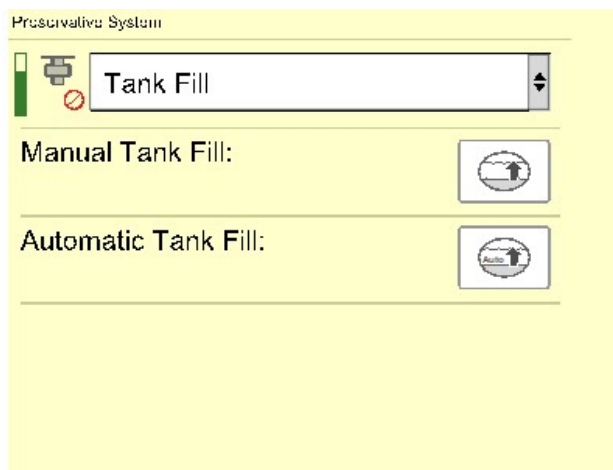
The average bale weight input field is displayed for machines that do not have the weighing system installed or enabled on the Machine Setup page on the machine.

For the different operating modes to work without the weighing system the operator must input what the average weight of a bale being formed in the field. This is used to calculate a mass flow value that is used when running in the automatic operating mode, manual curve operating mode, or fixed rate operating mode.

If the weighing system is enabled but has a fault on both feed pan sensors the last known bale weight is automatically set for average bale weight and used until at least one of the sensors no longer has a fault on it.

wkjquwj.1662382002395-19-08SEP22

Tank Filling Operating Mode Screen



EX571838—UN—13APR23

The Tank Filling Operating Mode screen is shown when the operator selects the fill operating mode for running the preservative system. This results in the preservative system running in the off mode and only enabling the fill system when selected by the operator. Selecting the 'Manual Tank Fill' mode will turn on and keep on the fill system pump until it is turned off by the operator. Selecting the 'Automatic Tank Fill' mode will turn on the pump and keep it on until the measured tank level reaches full. If a fault with the tank level sensor is active the automatic fill mode will not be available to use.

wkjquwj.1679638785866-19-06JUN23

Preservative System Feedback

The bottom of the screen provides feedback on any faults that are inhibiting the preservative system from working. The following information is given in priority order to the operator:

1. Preservative System Fault – This is displayed if the preservative system is not present or the preservative system connection is lost, DTCs are active, or if the preservative system is reporting a fault that inhibits it from working.
2. Preservative System Operating Mode Fault – This is shown if the user is requested operating mode does not report the mode of the preservative system is in running mode.
3. Preservative Nozzle Fault – This is shown if there is a fault with the nozzle that is inhibiting it from working.
4. Nozzle Tip Size Not Matching – This is shown if the selected nozzle tip sizes do not match the sizes the preservative system is using for control.
5. Minimum Pressure Not Reached – This is shown if the minimum system pressure is not reached when running with the system set to the automatic operating mode, manual curve operating mode, or fixed rate operating mode.
6. Preservative Pump Fault – This is shown if there is

a fault with the preservative pump that inhibits it from working.

7. Weighing System Failure – This is shown if a DTC is currently active for both the left and right feed pan sensors inhibiting the weighing system from working.
8. Mass Flow Value Invalid – This is shown if an invalid mass flow value is being sent to the preservative system.
9. Fill System Pump Fault – This is shown if there is a fault with the preservative fill system pump that inhibits it from working.
10. Tank Level Fault – This is shown if there is a fault with the preservative tank level sensor that inhibits it from working.
11. Blank (no text) otherwise.

ep2rqpn,1722521520855-19-13AUG24

Fire Prevention

Recommended Fire Prevention

Machine must be inspected periodically throughout the day. Buildup of crop material and other debris must be removed to ensure proper machine function and to reduce risk of fire.

Regular and thorough cleaning of machine combined with other routine maintenance procedures listed in Operator's Manual greatly reduces risk of fire, chance of costly downtime, and improve machine performance.

Before carrying out any inspection or cleaning, always follow all safety procedures posted on machine and in Operator's Manual.

PP98408,00000BF-19-27AUG14

In Case of Fire



TS227—UN—15APR13

CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

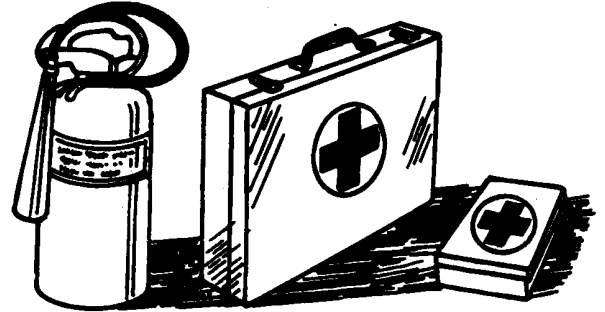
If your extinguisher does not have instructions, follow these general guidelines:

1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.

2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX.FIRE4-19-22AUG13

Prepare for Emergencies



TS291—UN—15APR13

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

DX.FIRE2-19-03MAR93

Regular Machine Inspections



TS227—UN—15APR13

Keep foreign material from building up on the machine near potentially hot areas, such as bearings. Remove this buildup as part of the regular service operations and at the end of each use.

Leaf blowers, blower-vacuums, or similar devices can be used to remove loose crop buildup. Compressed air can be used to remove more difficult buildup.

Avoid high-pressure power-washing next to the bearings to prevent damaging seals.

Regularly check bearings for early signs of failure, and replace as indicated. Turn off power to baler and check

for unusual noises, hot parts, smells of scorching, and discolored paint or metal.

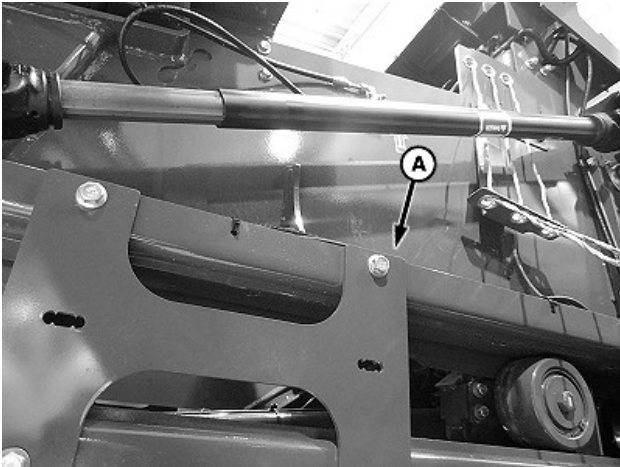
PP98408,00000C9-19-03SEP14

Remove Accumulated Crop Debris

⚠ CAUTION: Do not clean the baler while machine is running. Dirt, oil, chaff, and crop debris is a fire hazard. Direction of wind, type of crop, and its moisture content effects where and how much chaff and debris accumulate. Check and clean this area frequently.

Build up of chaff and crop debris is a fire hazard. Check and clean around the following areas frequently:

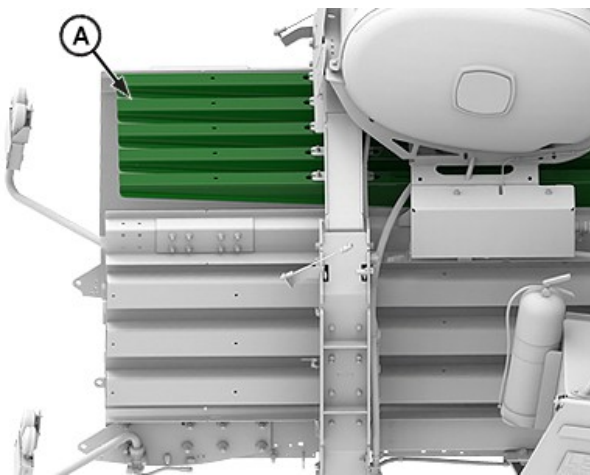
Plunger Rails



A—Plunger Rails

E84576—UN—15SEP17

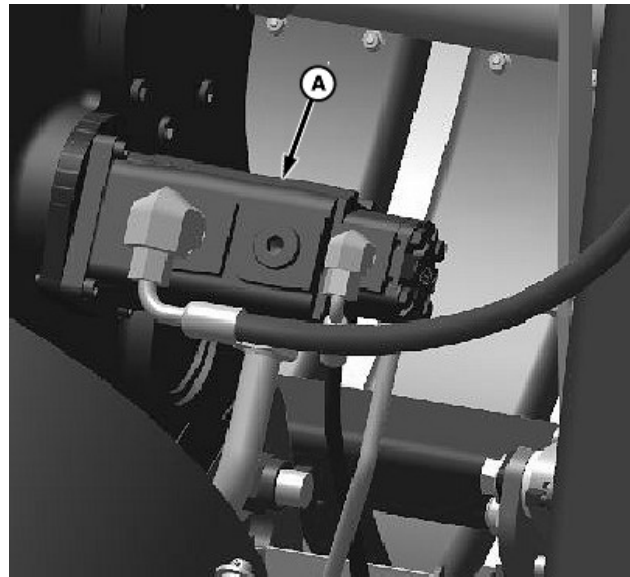
Tension Panels



A—Tension Panels

EX571832—UN—21MAR23

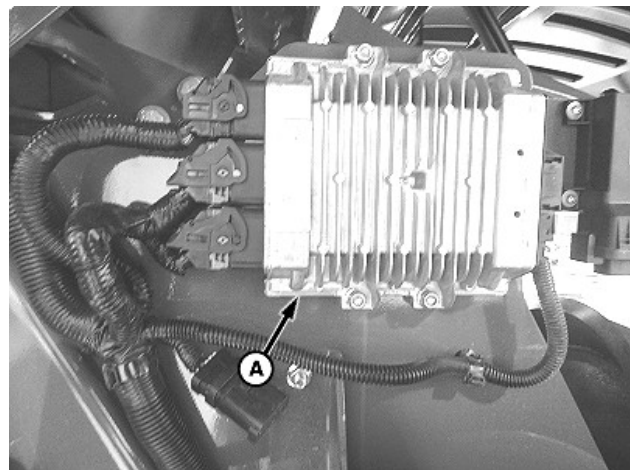
Hydraulic Pumps



A—Hydraulic Pumps

E94927—UN—04OCT20

ECU

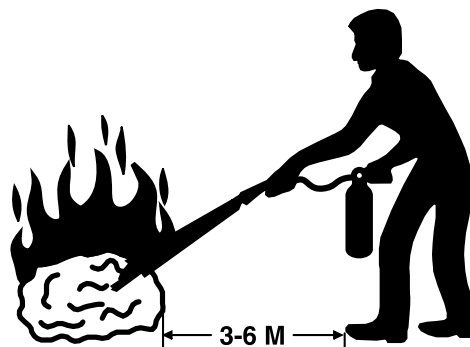


A—Electronic Control Unit (ECU)

E84578—UN—18SEP17

wkjquwj,1679394723196-19-21MAR23

Fire Extinguisher Operation



If machine is equipped with a water type fire

E70256—UN—19JUN13

extinguisher, extinguisher must be checked daily to ensure proper working condition. Fire extinguisher must be recharged after any usage.

Fire Extinguisher Recommendations:

Water Type Fire Extinguisher:

- Use extinguisher for crop material buildup and crop debris fires.

Use of a Fire Extinguisher:

Diagram shows recommended method to extinguish a fire. Always aim towards base of fire.

The following are basic steps for use of a fire extinguisher:

1. Pull the pin. Hold extinguisher with nozzle pointing away from you, and release locking mechanism.
2. Aim low. Point extinguisher at base of fire.
3. Squeeze lever slowly and evenly.
4. Sweep nozzle from side-to-side.

Inspection Checklist:

At least once per month, inspect fire extinguishers and ensure the following:

1. Is fire extinguisher positioned in designated location?
2. Are there any obstructions to proper access or visibility?
3. Are operating instructions on nameplate legible and facing outward?
4. Is extinguisher full? (Determined by weighing or hefting)
5. Is there any physical damage, corrosion, leakage, or a clogged nozzle?

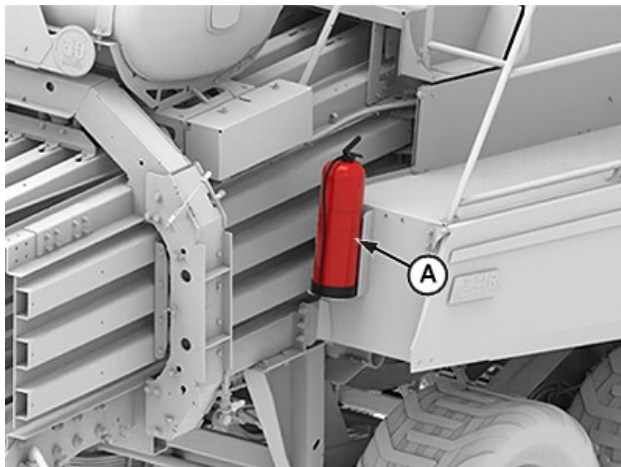
If equipped, a water type fire extinguisher is located on rear of baler.

Read label on extinguisher and become familiar with instructions on how to use and maintain them.

wkjquwj,1679394837562-19-21MAR23

PP98408,00000C1-19-11MAR15

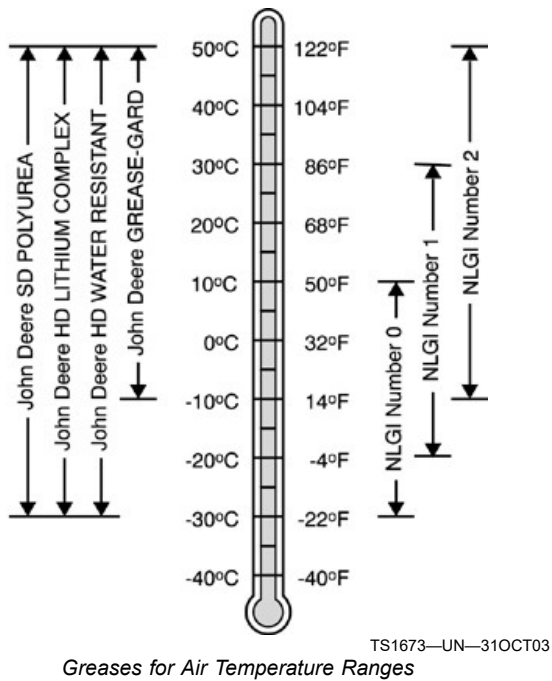
Fire Extinguisher Location



EX571833—UN—21MAR23

Lubricants and Capacities

Grease



Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere HD Lithium Complex Grease is preferred.

John Deere SD Polyurea grease can also be used.

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB

IMPORTANT: Some types of grease thickeners are not compatible with others. Consult your grease supplier before mixing different types of grease.

PP98408,00007D4-19-01OCT15

Multiluber Grease

John Deere HD Lithium Complex Grease is recommended.

The system is designed for commercially available multi-purpose grease lubricants up to NLGI Class 2 for use in summer and wintertime.

Use only greases of same specification.

NOTE: Grease lubricants containing solid lubricants must not be used. Moly and graphite grease plugs the distributors and must not be used!

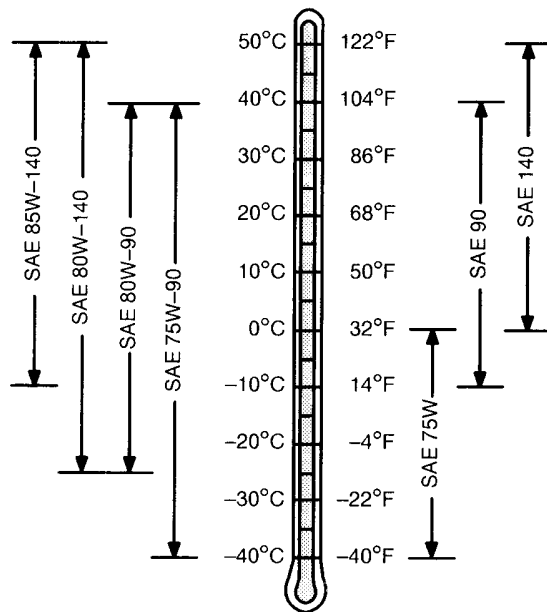
The grease specifications for the automatic lubrication system are shown in the following table:

- Grease Specification

Automatic Lubrication System	
Content	Specification
Grease	NLGI 1-2, DIN 51818 Lithium

PP98408,00007D5-19-30NOV15

Gear Oil



Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere GL-5 Gear Lubricant

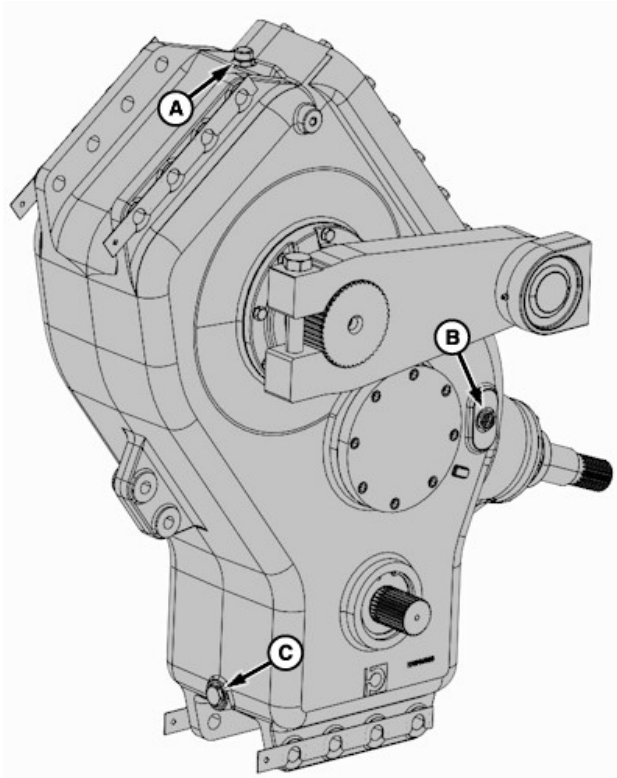
Other oils may be used if they meet the following:

- API Service Category GL-5

DP99999,0000BC6-19-01OCT15

Use of Gear Oil

Main Gear Case



E73474—UN—19MAR14

A—Filler Plug
B—Sight Glass
C—Drain Plug

L331R (Non-Precutter and Precutter) Large Square Baler—Capacity:

26.3 L (7 gal)

L341R (Non-Precutter and Precutter) and L341R HD (Non-Precutter and Precutter) Large Square Baler—Capacity:

42 L (11 gal)

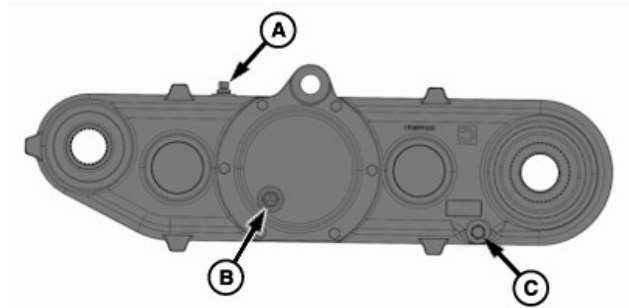
To check oil level in main gear case:

Oil level must be at least flush with bottom of sight glass (B).

1. To add oil, remove filler plug (A).
2. Add oil if necessary and reinstall filler plug (A).

NOTE: To drain the gear case oil, remove the drain plug (C).

Packer Gear Case



E73475—UN—19MAR14

A—Filler Plug
B—Sight Glass
C—Drain Plug

Capacity: 3.7 L (1 gal)

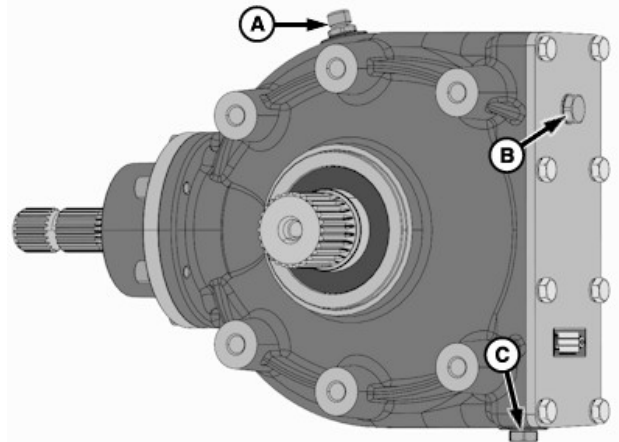
To check oil level in packer gear case:

Oil level must be at least flush with bottom of sight glass (B).

1. To add oil, remove filler plug (A).
2. Add oil if necessary and reinstall filler plug (A).

NOTE: To drain the gear case oil, remove the drain plug (C).

Lower Knotter Drive Gear Case



E73476—UN—19MAR14

A—Filler Plug
B—Check Plug
C—Drain Plug

Capacity: 3.6 L (0.951 gal)

To check oil level in lower knotter gear case:

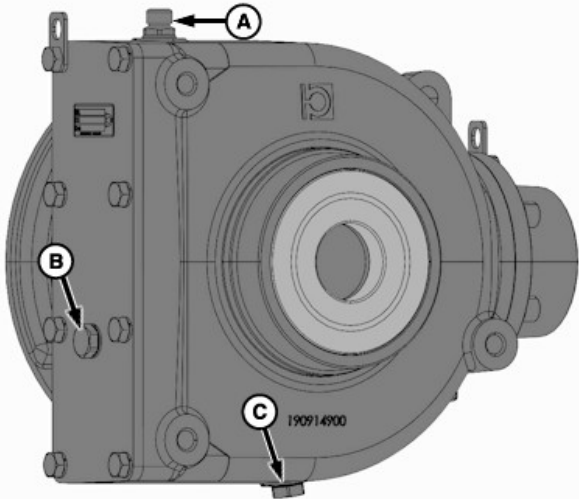
Oil level must at the bottom of the hole at the check plug (B).

1. To add oil, remove filler plug (A).
2. Add oil if necessary and reinstall check plug (B).
3. Reinstall filler plug (A).

NOTE: To drain the gear case oil, remove the drain plug (C).

Transmission and Hydraulic Oil

Upper Knotter Drive Gear Case



E73472—UN—19MAR14

- A—Filler Plug
- B—Check Plug
- C—Drain Plug

Capacity: 1.9 L (0.5 gal)

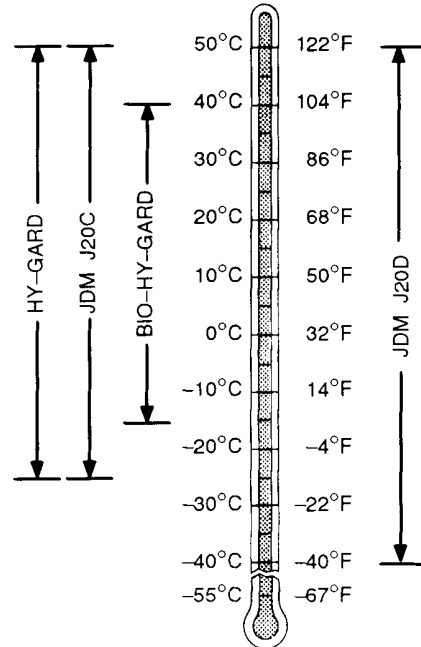
To check oil level in upper knotter gear case:

Oil level must at the bottom of the hole at the check plug (B).

1. To add oil, remove filler plug (A).
2. Add oil if necessary and reinstall check plug (B).
3. Reinstall filler plug (A).

NOTE: To drain the gear case oil, remove the drain plug (C).

hcmw3gg,1679518227305-19-10APR23



ZX1050789—UN—17SEP12

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere Hy-Gard

John Deere Hy-Gard oil can also be used.

Other oils may be used if they meet one of the following:

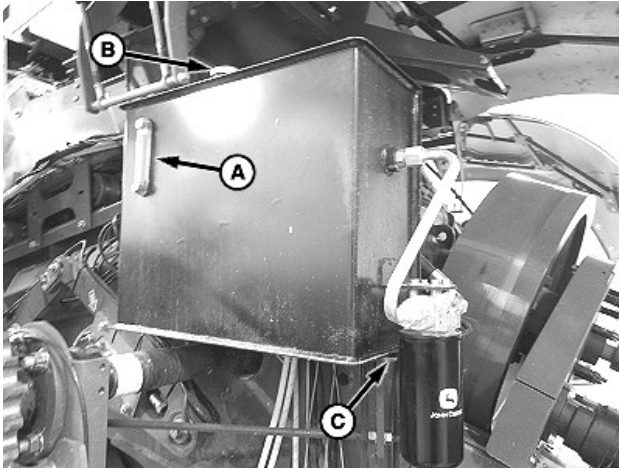
- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Arctic oils (such as Military Specification MIL-L-46167B) may be used at temperatures below -30°C (-22°F).

PP98408,00007D8-19-13NOV25

Use of Hydraulic Oil

Hydraulic Reservoir



E82451—UN—24MAR17

- A—Sight Glass
- B—Filler Cap
- C—Oil Drain Plug

Capacity: 50 L (13.2 gal)

Check level of hydraulic oil via sight glass (A):

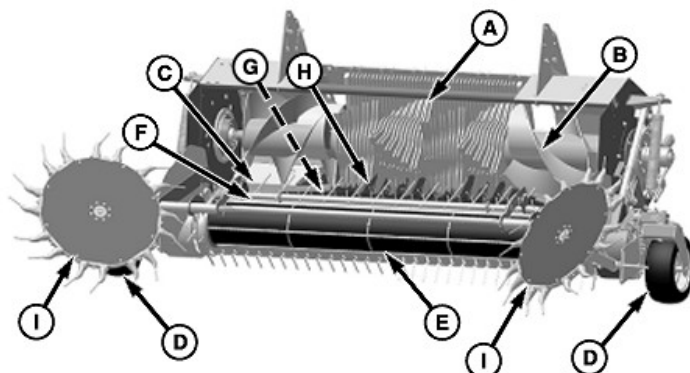
- At a pressure of 0 kPa (0 bar) (0 psi).
- With bale chamber cylinders retracted.
- After machine has run for 5 minutes (warm oil).

Oil level must be at top of sight glass (A).

GW44282,0000793-19-24MAR17

Operating the Baler

Pickup and Rotor Description



A—Rotor Tines
B—Rotor Auger
C—Auger Scrapers (2 used)
D—Gauge Wheel
E—Roller Baffle

F—Compressor Rack
G—Pickup Reel and Strippers
H—Precutter Knives (if equipped)
I—Gathering Wheels (optional)

E84407—UN—06SEP17

As baler moves forward, pickup collects windrowed crop from the ground and delivers it to the front of the main rotor. The roller baffle (E) and compressor rack (F) compresses and controls the windrow. The roller baffle and the compressor rack hold the crop against pickup teeth and strippers (G) maintaining a positive flow of material up into the rotor. Crop is fed into the rotor system. It is converged to the width of the bale chamber with flights of rotor auger (B) and auger scrapers (C). The crop is fed back to the precompression chamber by the rotor tines (A). The feeder forks feed crop smoothly into the bale chamber.

If equipped, pickups with precutters cut crop into shorter lengths using knives (H) as crop is fed into precompression chamber by rotor tines. The feeder fork system finishes feeding the crop into the bale chamber.

Pickup height is determined by adjusting pickup gauge wheels (D) on both sides of the pickup. Gauge wheels can be adjusted to several vertical positions using mounting bracket on each wheel. An average height for teeth-to-ground clearance is approximately 20—30 mm (0.75—1.2 in). Correct adjustment depends on terrain, type of crop, and crop conditions.

Rotor is protected by a cam type clutch. The pickup reel is protected by a cam type clutch on the left-hand side of the rotor shaft.

Pickup suspension is adjusted with the vertical float spring on both sides of the rotor.

Gathering wheels (I) are optional equipment.

GW44282,0000807-19-17NOV17

Filling Empty Baler Chamber

NOTE: Until crop reaches star wheel in top of bale case the following functions on monitor will not read out accurately: Feeder fork ratio, flakes in current bale, flakes in last bale, machine load readout, bale growth indicator.

1. Set baler to pressure control mode and set pressure to 1000 psi.
2. Start baling as normal, watch knotter flags for indication of hay pushing twine. Monitor knotter flags after first tie cycle. At this point, bale should be close to starwheel and above functions may start working.
3. After second tie cycle is complete stop baler and cut twines on the first bale sticking out of bale case. Tie one end of twines to baler frame so they do not end up laying in the field. This allows the starter bale to flake out gradually across the field for easy rebale instead of rebaling a whole bale later.
4. Set the baler to desired pressure or switch to machine load control mode and set desired machine load.
5. Continue to bale normally at desired settings.

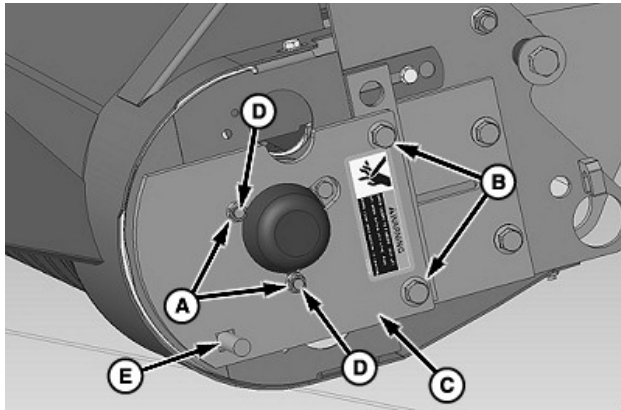
GW44282,0000454-19-10MAR15

Install Pickup Gauge Wheels

IMPORTANT: Operating the pickup too close to the ground can cause excessive tooth breakage. Recommended pickup tooth clearance: 2—3 cm (0.8—1.2 in).

Pickup Caster Gauge Wheels

NOTE: Be sure that 1/2—2 threads are showing when installing the lock nuts (A).



E84947—UN—19OCT17

- A—Lock Nut (2 used)
- B—Cap Screw (2 used)
- C—Plate
- D—Cam Stud (2 used)
- E—Carriage Bolt

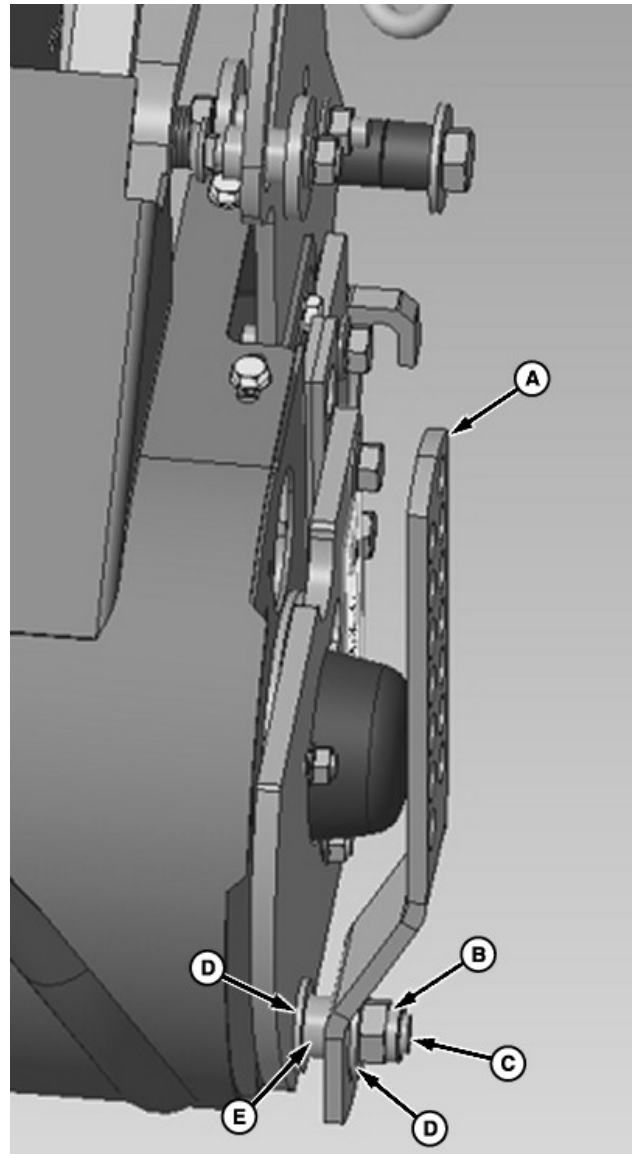
1. Remove all lock nuts (A) and cap screws (B).
2. Install the plate (C) with the carriage bolt (E) started through the hole as shown.

NOTE: If 1/2—2 threads are not showing beyond the lock nuts (A), the cam studs (D) have turned back inside while tightening the lock nuts (A). If the cam stud has turned back inside, remove the arm. To turn out the cam studs 1/2—2 threads, place double nuts on the cam stud (D) and turn counterclockwise. Remove the double nuts and continue the installation.

3. Reinstall the lock nuts (A) and cap screws (B). Tighten lock nuts (A) to specification.

Specification

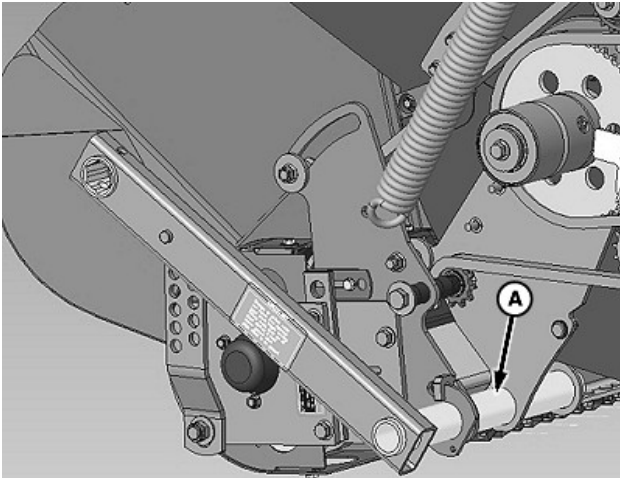
Lock Nut (A)—Torque.	47 N·m (35 lb·ft)
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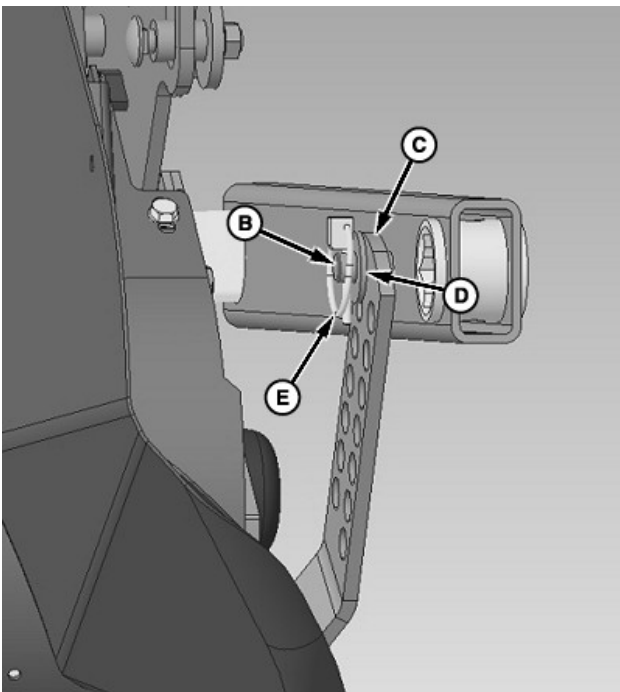
E84948—UN—19OCT17

- A—Strap
- B—Nut
- C—Carriage Bolt
- D—Washer (2 used)
- E—Bushing

4. Install the strap (A) on the carriage bolt (C) with washers (D) and bushing (E).
5. Tighten the nut (B).



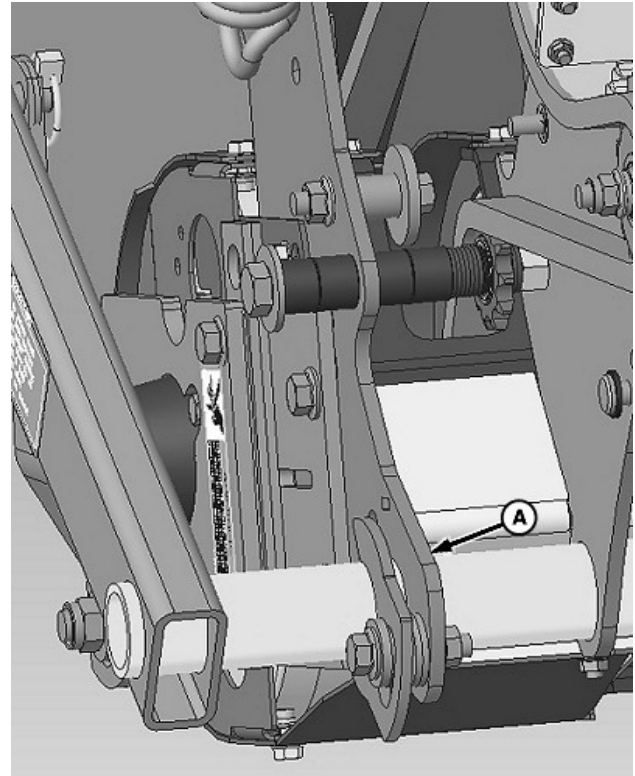
E84949—UN—20OCT17



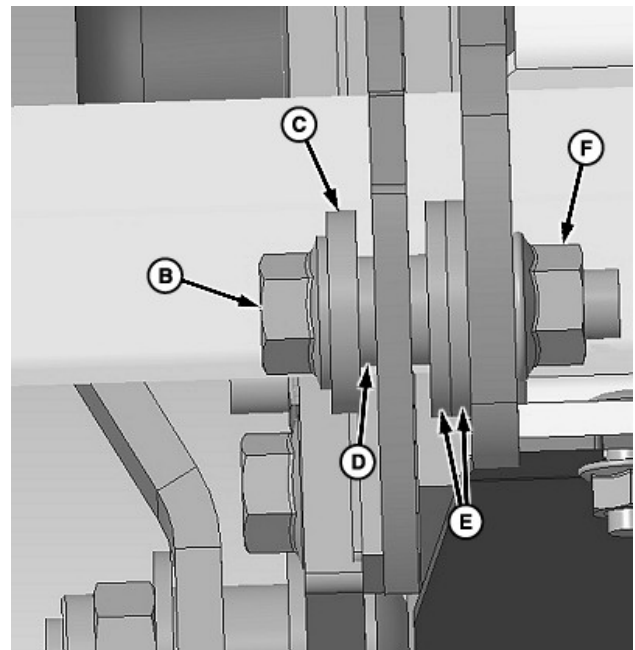
E84950—UN—20OCT17

- A—Tube
- B—Pin
- C—Strap
- D—Washer
- E—Quick-Lock Pin

6. Insert the tube (A) of the wheel arm through holes in the pickup frame as shown.
7. Insert the pin (B) of the wheel arm through the hole in the strap (C).
8. Secure with the washer (D) and quick-lock pin (E).



E89829—UN—29AUG18



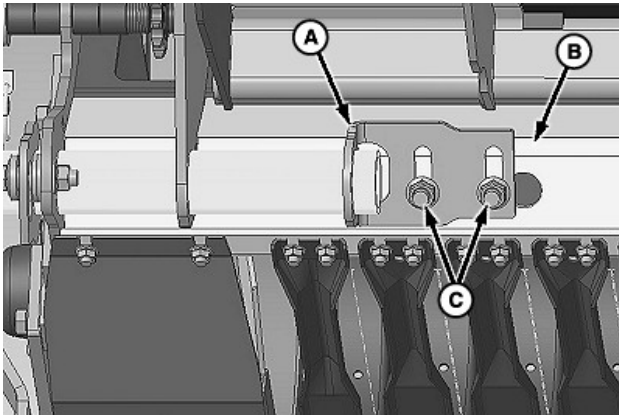
E89828—UN—29AUG18

- A—Caster Gauge Wheel Arm
- B—Cap Screw
- C—Washer
- D—Bushing
- E—Washer (2 used)
- F—Lock Nut

NOTE: Steps 9 and 10 only apply to 2.2 m pickups.

9. Secure the caster gauge wheel arm (A). Install the

cap screw (B), washer (C), bushing (D), washers (E), and lock nut (F) as shown.



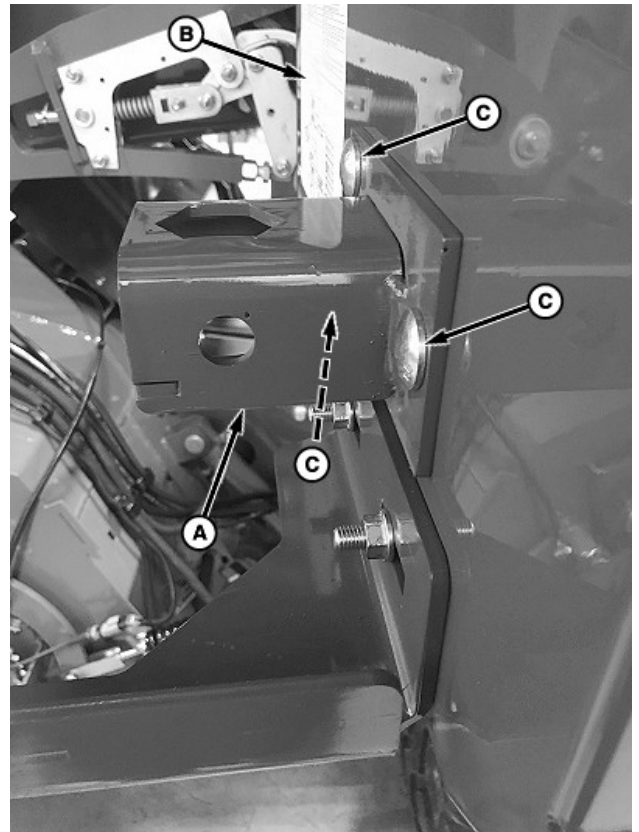
E89830—UN—29AUG18

- A—Bracket
- B—Pickup Frame
- C—Carriage Bolt and Lock Nut (2 each used)

10. For additional support, install the bracket (A) to the pickup frame (B). Secure with the carriage bolts and lock nuts (C) as shown. Tighten to specification.

Specification

Carriage Bolt and Lock Nut	
(C)—Torque	110 N·m (81.13 lb·ft)



E87913—UN—24APR18

- A—Storage Bracket (1 each side)
- B—Twine Box (1 each side)
- C—Carriage Bolt and Nut (3 each side)

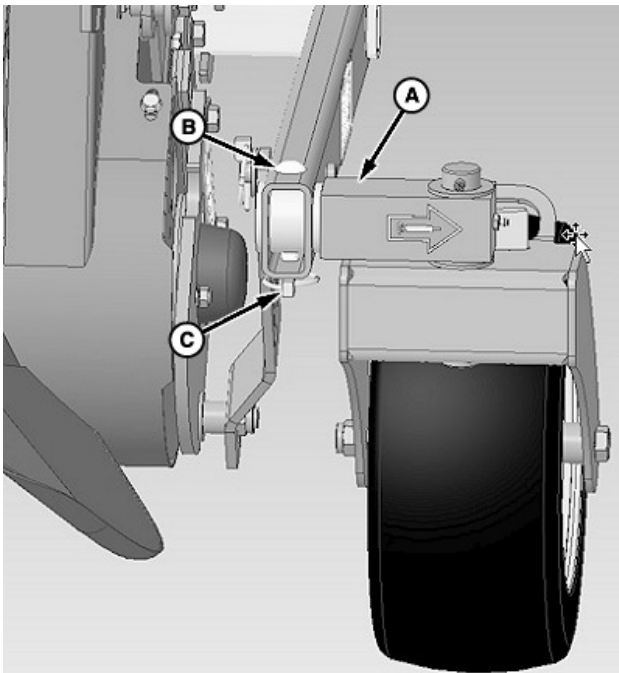
13. Install the storage bracket (A) on the front of the left-hand and right-hand side of the twine boxes (B).

NOTE: Install the storage bracket with the hex hole facing up.

14. Install carriage bolts and nuts (C) and tighten to specification.

Specification

Carriage Bolts and Nuts—Torque	88 N·m (65 lb·ft)
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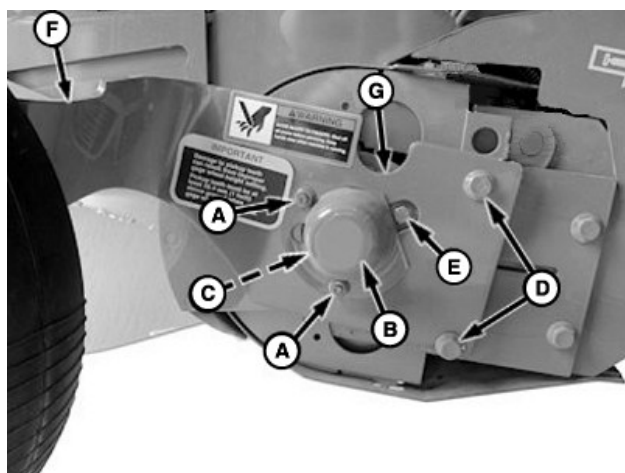
E84953—UN—20OCT17

- A—Wheel Assembly
- B—Pin
- C—Quick-Lock Pin

11. Install the wheel assembly (A) on the wheel arm and secure with the pin (B) and quick-lock pin (C).

12. Repeat on the opposite side.

Fixed Gauge Wheels



E84954—UN—16NOV17

- A—Lock Nut, 3/8 in (2 used)
- B—End Cap
- C—Disk
- D—Cap Screw, M12 x 40 (2 used)
- E—Bolt
- F—Depth Gauge Wheel Arm
- G—Notch

1. Remove and retain lock nuts (A) and end cap (B). Disk (C) remains in place.
2. Remove and retain the cap screws (D).

NOTE: Do not remove the bolt (E).

3. Install depth gauge wheel arm (F) with the notch (G) as shown using the previously removed cap screws (D).
4. Install previously removed end cap (B) with previously removed lock nuts (A). Tighten to specification.

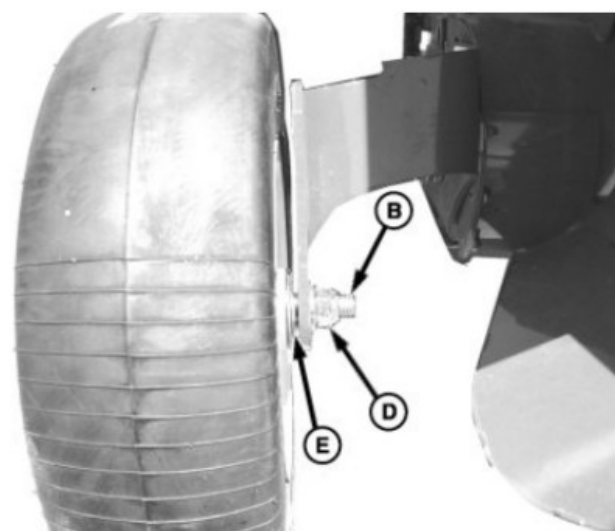
Specification

Lock Nut (A)—Torque 47 N·m
(35 lb·ft)

5. Tighten the cap screws (D).
6. Repeat on the opposite side.



E85175—UN—16NOV17



E85176—UN—20OCT17

- A—Wheel Assembly
- B—Cap Screw
- C—Bushing or Spacer
- D—Flange Nut
- E—Washer (2 used)

7. Install the wheel assembly to the gauge arm in the following procedure:
 - a. Stand the wheel assembly (A) upright. The long hub points towards the baler.
 - b. Insert the bushing or spacer (C) inside the wheel bearings.
 - c. Place a washer (E) on each side of the wheel.
 - d. Insert the cap screw (B) through washers (E), wheel assembly (A), and the wheel arm. Position the cap screw (B) so the threads are facing the baler.
 - e. Install the flange nut (D) on the cap screw (B).
8. Tighten the cap screw (B) and flange nut (D).

NOTE: Ensure that the wheel rotates.

9. Repeat on the opposite side.
10. Adjust the wheel assemblies.

SF04007,0001236-19-15NOV18

Adjust Gauge Wheels

IMPORTANT: Gauge wheels must be positioned so the pickup is as high as possible, yet low enough to allow the pickup teeth to clean the field adequately. Operating with pickup teeth contacting the ground causes pickup damage.

Two factors determine the adjustment for the gauge wheels:

- Tractor draw bar height
- Baler tire size

See Adjust Baler Hitch in Preparing The Baler section

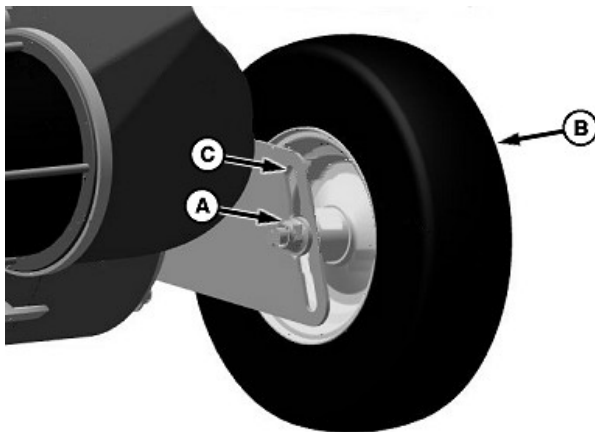
Adjust gauge wheels if any one of these factors change.

Position gauge wheels to operate pickup teeth as high as possible and still adequately clean the field .

Adjust Fixed Gauge Wheels

1. Park the baler on a level surface.

NOTE: Baler hitch height must match the tractor draw bar height.



Fixed Gauge Wheel

E84685—UN—06OCT17

A—Lock Nut
B—Gauge Wheel
C—Slot

2. Loosen lock nut (A).

3. Raise the gauge wheel (B) to the top of the slot (C).
4. Tighten lock nut.
5. Repeat steps 2-4 for the opposite side.

IMPORTANT: Distance between the gauge wheel and the ground must always be equal to or less than the distance between the pickup teeth and the ground. Incorrect distance and the gauge wheels do not protect the pickup.

6. Adjust the pickup until the pickup teeth have a minimum of 25 mm (1 in) of ground clearance.
7. Loosen lock nut (A).
8. Lower the gauge wheel (B) until it contacts the ground.
9. Tighten lock nut (A).
10. Repeat steps 7-9 for the opposite side .

IMPORTANT: Pickup float springs must be adjusted after gauge wheels are installed.

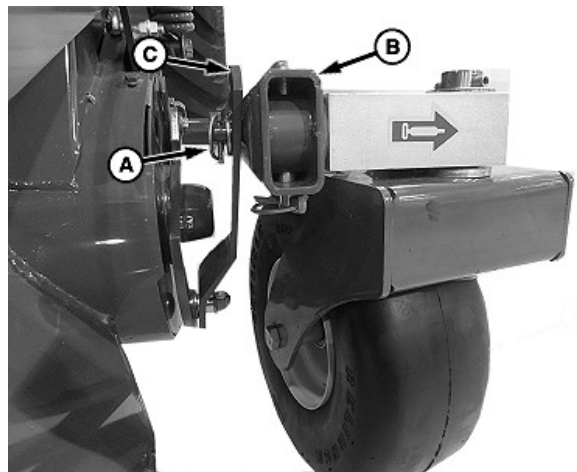
NOTE: For initial float spring setting with the gauge wheels installed (see Adjust Pickup Float) in the service section in this manual. If excessive bouncing of the pickup occurs, decrease the float spring force as needed.

Field conditions determine any final adjustments necessary.

Adjust Pivoting Gauge Wheels

Adjust pickup working height as follows:

1. Fully raise the pickup.



Pivoting Gauge Wheel

E84682—UN—05OCT17

A—Spring Pin
B—Gauge Wheel Arm
C—Bracket

2. Remove spring pin (A) from pin.
3. Adjust gauge wheel arm (B) to the top hole in bracket (C).
4. Reinstall spring pin (A).
5. Repeat steps 2-5 for the opposite side.

IMPORTANT: Distance between the gauge wheel and the ground must always be equal to or less than the distance between the pickup teeth and the ground. Incorrect distance and the gauge wheels do not protect the pickup.

6. Adjust the pickup until the pickup teeth have a minimum of 25 mm (1 in.) of ground clearance.
7. Remove from pin and adjust gauge wheel arm (B) so the gauge wheel contacts the ground.
8. Reinstall gauge wheel arm pin (B) to the bracket (C) and reinstall the spring pin (A).
9. Repeat steps 7 and 8 for the opposite side.

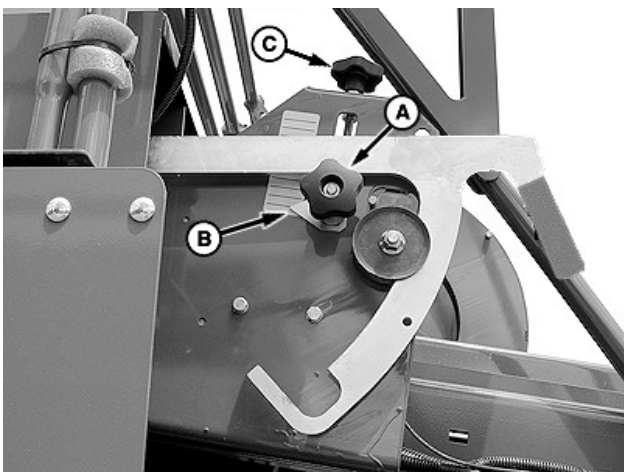
IMPORTANT: Pickup float springs must be adjusted after gauge wheels are installed.

NOTE: For initial float spring setting with the gauge wheels installed (see Adjust Pickup Float) in the service section in this manual. If excessive bouncing of the pickup occurs, decrease the float spring force as needed.

Field conditions determine any final adjustments necessary.

GW44282,00007E6-19-27NOV17

Adjust Bale Length



E77713—UN—03DEC14

- A—Locking Knob
- B—Arrow
- C—Adjusting Knob

⚠ CAUTION: Disengage PTO, engage parking brake or place transmission in PARK, shut off tractor engine, remove key and apply flywheel brake before adjusting bale length.

Bale length must be set mechanically (on machine).

NOTE: Bale length setting range: 60—300 cm (23.62—118.11 in.).

Adjust desired bale length as follows:

1. Release locking knob (A).
2. To move arrow (B), turn adjusting knob (C) until required bale length is reached.
 - Move arrow (B) up to decrease bale length.
 - Move arrow (B) down to increase bale length.
3. Tighten locking knob (A).

PP98408,00007C2-19-03DEC14

Operate Baler—General Instructions

IMPORTANT: Avoid stopping machine during a tie cycle. Damage to the needles and knotters can occur.

Re-Baling Bales

When re-baling bales:

- Remove all twine from bale.
- Spread material out to avoid overloading the pickup, rotor, and feeder fork.
- If used, retract precutter knives.
- Drive slowly into material, only allow baler to take in small amounts of crop at a time. If a large amount of crop is picked up in wait until it is fed through the rotor and precompression chamber before taking in additional crop.
- Remember, re-baled crop is much more dense than virgin crop. What appears to be a low volume of crop going into the baler can create very high loads.

Driving

IMPORTANT: Do not disengage PTO while feeding crop into machine. Always operate machine at rated PTO speed (1000 rpm).

Whenever possible let machine run for 3—5 plunger strokes without feeding material before shutting down PTO. In high load conditions, use Pressure Dump feature on the bale eject page before shutting down the baler. This allows to reduce high loads at the next startup.

Choose a drive speed that feeds crop smoothly and

consistently through the rotor and into the precompression chamber. Excessive speed can lead to plugging of the rotor or precompression chamber; poor field cleaning can also result.

To achieve maximum bale density, flakes in bale must not be thicker than 50 mm (1.96 in.).

Operating the baler at a 1:1 filling stroke to plunger ratio maximizes the capacity of the machine.

NOTE: Filling stroke to plunger ratio is displayed on monitor as Feeder Fork Ratio (see Baler-Main Page in Operating Baler Application section).

Start slowly straight on windrow.

In light or narrow windrows it may be necessary to weave machine from side to side for complete filling of bale chamber, as follows:

1. Position baler so windrow is near outside edge of pickup on right side.
2. Weave tractor gradually across windrow while driving forward until windrow is near outside edge of pickup on left side.
3. Continue this gradual back-and-forth pattern to maintain quality bale shape in lighter or narrow windrows.

End of baling

At end of job:

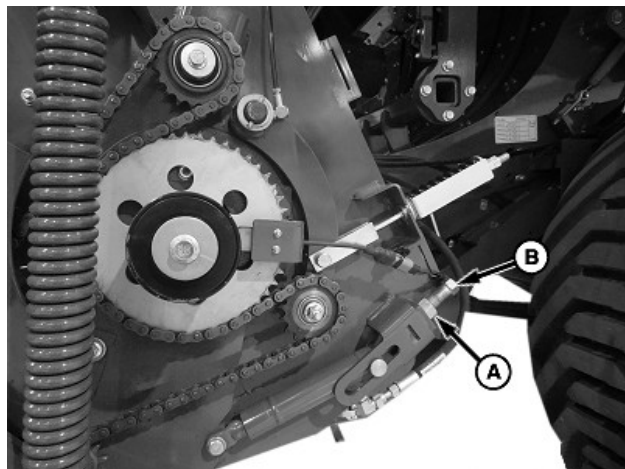
- Execute a tying cycle to last bale.
- Disengage tractor PTO.
- Eject last bale (see Operate Last Bale Eject in this section).
- Fold up bale chute (see Operate Bale Chute in this section).

hy01057,1678780917756-19-30MAR23

Adjust Pickup Height

NOTE: To protect the pickup teeth, it is recommended to run the depth gauge wheels on the ground. Only use the down stop jack screws if the ground is uneven enough to prevent proper height gauging from the wheels. To avoid damage to the pickup or depth gauge wheels, raise the pickup when crossing borders, mounds, pivot tracks, or other ground.

1. Fully lower the pickup using the tractor SCV.



E84683—UN—06OCT17

Left-Hand Side Shown

A—Lock Nut
B—Jack Bolt

2. Loosen lock nut (A).
3. Adjust the height by turning the jack bolt (B) clockwise to raise the pickup or counterclockwise to lower the pickup.
4. Tighten lock nut (A).

IMPORTANT: To avoid pickup frame damage, the left-hand and right-hand adjustments must be equal.

SF04007,0001245-19-03OCT18

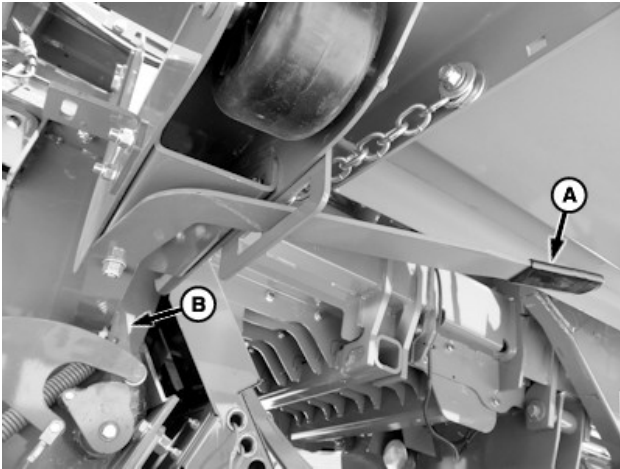
Set Precompression Chamber Density

Conditions to Run Feeder Fork in 1:1 Mode



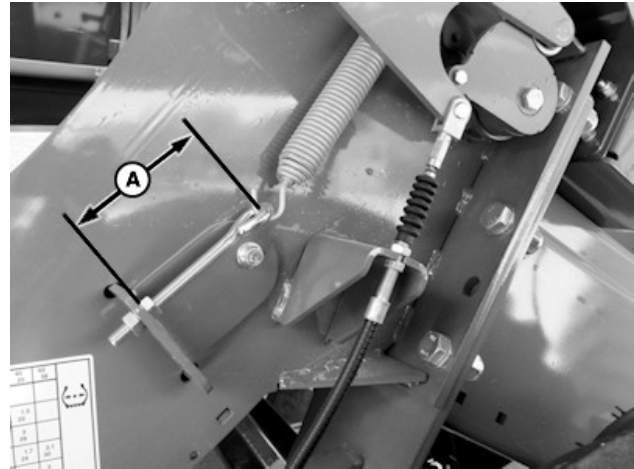
E85603—UN—17NOV17

Locking Lever in Automatic Feeding Mode



E77682—UN—19NOV14

Locking Lever in 1:1 Mode



E75753—UN—01OCT14

A—Distance, 120 mm (4.72 in)



E85604—UN—17NOV17

Locking Lever in 1:1 Mode

1. Disengage PTO.
2. Set precompression chamber density by measuring distance (A) from the spring hook to the face of the plate. Recommended distance (A) is 120 mm (4.72 in).

IMPORTANT: If precompression chamber density is increased too much frequent slipping of the feeder fork clutch occurs. Reduce precompression chamber density.

3. If higher precompression chamber density is required shorten distance (A).
If lower precompression chamber density is required lengthen distance (A).

GW44282,0000792-19-17NOV17

A—Locking Lever

Feeder Fork System

Locking lever (A) can be set in two modes:

- In **Automatic Feeding Mode**, measuring plates move backwards until required density and volume is reached. Then crop is fed into press chamber. Use this position to adjust pre-chamber density.

NOTE: Automatic feeding mode is standard setting.

- In **1:1 Mode**, measuring plates are moved backwards and are locked in this position. Now, at every plungerhead stroke a filling stroke takes place.

NOTE: Pre-chamber density cannot be set with locking lever (A) in 1:1 mode.

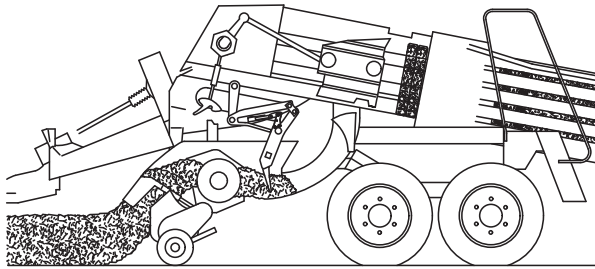
Bale Forming

IMPORTANT: Avoid feed system overload. Feeder fork has two strokes to each plunger stroke.

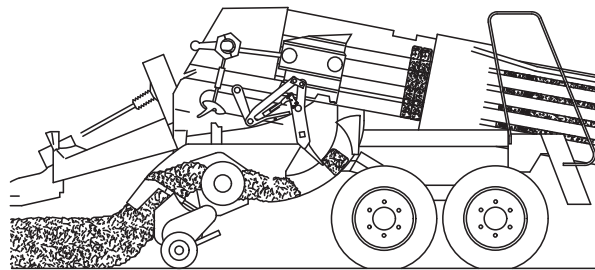
Feeder fork can only make an extended fill stroke on second feeder fork stroke of each plunger stroke cycle.

After the “trip” has been activated, feeder fork can take one-to-two additional collection strokes before lifting the collected crop into bale forming chamber. An overload can occur on feeder fork clutch when too much crop is being pushed into bale forming chamber.

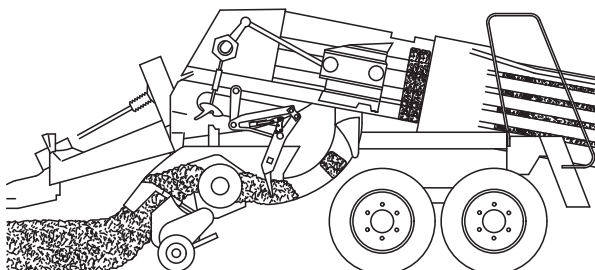
Operating the Baler



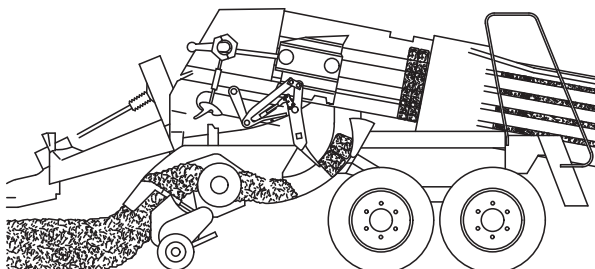
E76229—UN—11JUL14



E76230—UN—11JUL14



E76231—UN—11JUL14



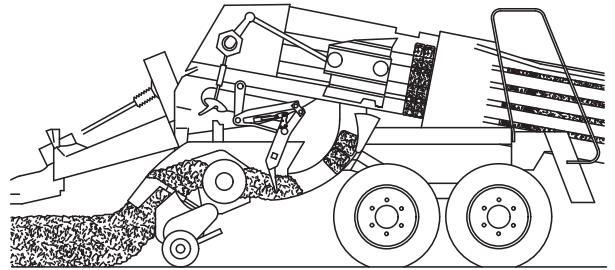
E76232—UN—11JUL14

Cut crop is collected in windrows through pickup and fed into precompression chamber by two converging augers and rotor tines.

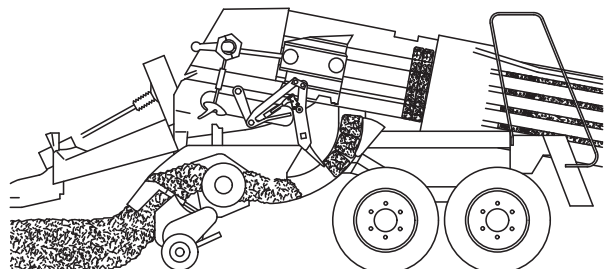
When precompression chamber is clear of crop, it is ready to begin forming a new "flake" of crop for the bale forming chamber.

Operating in automatic mode (normal), measuring plates are fully extended into precompression chamber as "flake" is being built using a series of collection strokes.

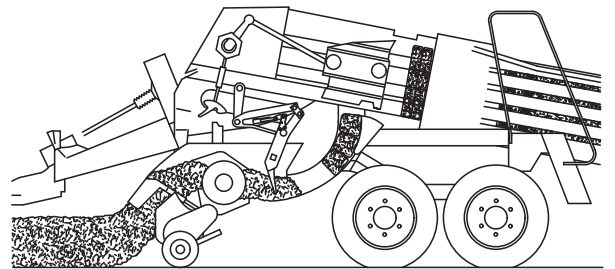
Each feeder fork stroke collects crop sections and packs crop tight against bottom of plunger.



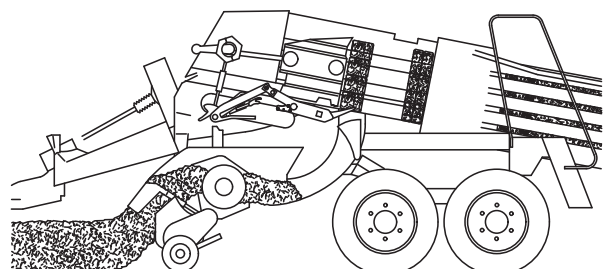
E76233—UN—11JUL14



E76234—UN—11JUL14



E76235—UN—11JUL14



E76236—UN—11JUL14

As precompression chamber fills with sections of crop, measuring plates are beginning to retract.

Once sufficient density is reached in precompression chamber, measuring plates are pressed out of chamber.

Measuring plates trip feeder fork mechanism to execute a filling stroke as forks are fully extended and push crop “flake” into bale chamber.

When feeder forks return from filling stroke and precompression chamber is clean, measuring plates return to “home” position to begin building the next “flake”.

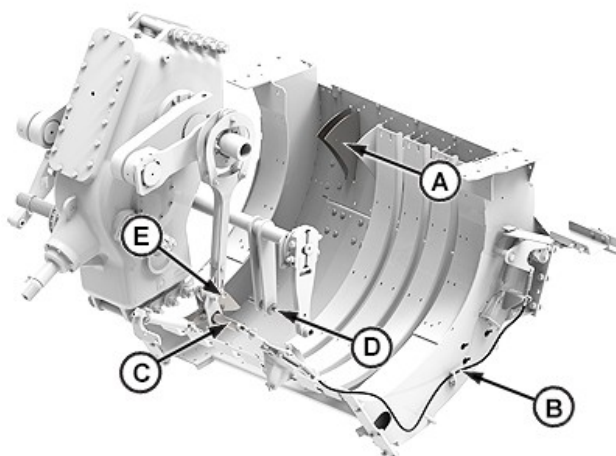
Once bale reaches a predetermined length, double tie knotters are activated and bale is complete.

1:1 Mode Baling:

In 1:1 Mode, feeder fork will take one collection stroke and a second collection with a fill stroke. Fill stroke will lift crop into bale forming chamber to be pressed to next bale. This process is repeated to build each bale to desired length.

In heavy crop conditions, 1:1 mode is recommended.

Measuring Plate Function



APY565549—UN—29MAR23

- A—Measuring Plates
- B—Cable
- C—Lock Pin
- D—Pin
- E—Hook

Measuring plates (A) are held in the precompression chamber by spring tension. When crop pushes measuring plates (A) back, cable (B) pulls on lock pin (C). This allows hook (E) to be lowered at the correct time and catch pin (D). With pin (D) captured the feeder fork will make a filling stroke instead of a gathering stroke.

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Break In Baler

During the first 50—100 bales paint becomes worn in

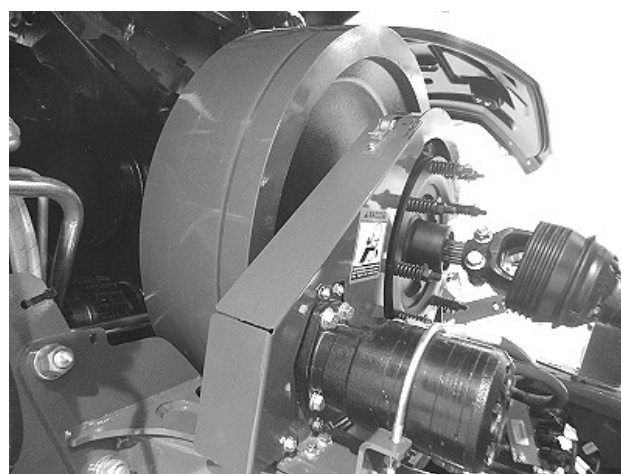
bale chamber and on all other crop engaging surfaces. Twine tensioner springs break in as well.

IMPORTANT: Twine tensioners need tightened sometime during the break-in period to maintain adequate tension on the tie system. Before performing more diagnostics on knotters, check and adjust twine tension during break-in period.

PP98408,0000053-19-01OCT14

BalerAssist

Theory of Operation



E83124—UN—22MAY17

BalerAssist

The BalerAssist system consists of a valve block, three solenoid valves, a pilot operated valve, a single-acting cylinder, and a hydraulic motor. The motor is connected to the flywheel by a double band belt and large sheave mounted to the front of the slip clutch plate.

The valve block contains a reverser valve, enable valve, and speed control valve. These valves work in combination to engage the BalerAssist motor in the desired direction and speed.

The BalerAssist valve block gets power directly from a double-acting SCV on the tractor. For the most reliable operation of BalerAssist, it is recommended to leave the SCV in the float position during normal baling. SCV in the float position allows any trapped oil in the valve or the cylinder to flow back to the tractor tank. For best performance, it is also recommended to set the SCV flow to maximum and the timer to continuous.

The BalerAssist system has been sized such that it is able to reverse the baler during most precompression chamber or rotor plug situations. BalerAssist is not powerful enough to compress a flake of hay. However, the plunger can be cycled through a full stroke with no incoming crop and a partial bale still in the chamber. The BalerAssist system and wireless remote can be used to

position the baler for service operations without the need for manual rotation of the flywheel.

Terminology for BalerAssist operation sequence

Enable – The enable checkbox in the BalerAssist page which allows the operator to engage and operate the BalerAssist feature. Once enabled, the operator can select the desired speed and direction by using the softkeys on the page. The operator must have the SCV moved to the constant flow position to engage the belt tensioner pulley and provide flow to the hydraulic motor.

Arm Remote – The checkbox has been selected after BalerAssist is enabled and the SCV is pressurized. The “arm remote” checkbox prevents BalerAssist from being engaged from the tractor cab. It is only used when the operator wants to leave the cab and position the machine with the wireless remote. This procedure is recommended only for service operations.

Activate – Applies to the wireless remote method of control only. After the remote is armed from the cab, the operator must double press the activate button on the remote to engage the machine in either direction. Once activated, the operator must press one of the 4 engage buttons within 15 seconds or the system goes back to the armed state and requires another double press of the activation button. 15 seconds of inactivity results in the system going back to the armed state.

Engage – The BalerAssist motor is being powered by the hydraulic oil and turning the machine over. The BalerAssist can be engaged from the tractor display screen or by the wireless remote (after the arm and activate steps are complete as previously described). On either device, the flow of oil stops to the motor when the engage button is released. Due to inertia in the flywheel, the machine does not instantly stop when the button is released.

When the operator enables BalerAssist from the tractor monitor, the enable solenoid is powered allowing oil to flow from the tractor to the enable cylinder and tension the belt. The operator must lock the respective SCV in constant flow from this point forward for BalerAssist to respond to control inputs from the display or remote.

The operator selected speed determines how far the speed control valve is opened once the BalerAssist is engaged. When the operator depresses the forward or reverse key on the display or the remote, the speed control valve is powered open to the commanded set point. If the reverse operation is selected, the reverser valve is also fired, which pilots the hydraulic reverse shuttle valve into position so the machine is spun backwards. The speed control valve operates in a pulse width modulation mode to provide consistent and reliable operation. The speed of the flywheel is ramped up or down by the speed control valve to prevent damage to the motor and driving components.

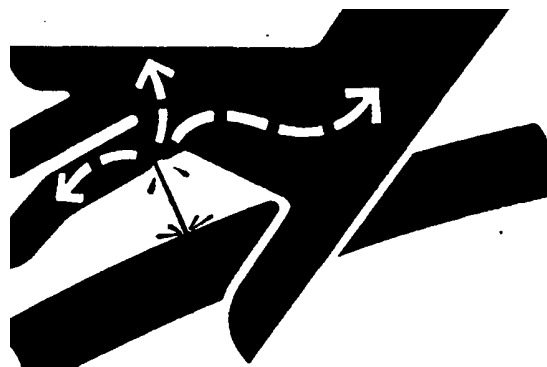
After enabling the BalerAssist system and locking the SCV in constant flow, the operator can choose to arm

the wireless remote. When the remote is armed, the controls on the in-cab display are unavailable. BalerAssist can only be controlled from one point at a time.

With the wireless remote armed, the baler control unit is maintaining a monitoring signal to the wireless receiver, to detect any inputs from the wireless remote. This signal is known as the “heartbeat” signal. If the heartbeat signal is unavailable from the wireless receiver the remote is not allowed to control the BalerAssist system. When a remote button is pressed, a signal is sent to the wireless receiver and the baler control unit responds to the input.

SF04007,0001274-19-13NOV25

Operate BalerAssist



X9811—UN—23AUG88

CAUTION: Prevent possible injury or death. Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A. Hydraulic hoses can fail due to physical damage, kinks, age, and exposure. Check hoses regularly. Replace damaged hoses. Never work on the machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off engine, remove key from ignition, set the park brake, and engage the flywheel brake before repair or servicing. Only restart the machine once the cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

1. Place the PTO into Neutral and ensure that the flywheel has come to a complete stop.

NOTE: Releasing the PTO brake during the operation allows more torque to be transmitted to the BalerAssist since it does not have to overcome the PTO brake when turning the driveline in reverse.

2. Navigate to the BalerAssist Control Page and select the Enable BalerAssist checkbox.
3. Engage the SCV for the BalerAssist in constant flow.

NOTE: The SCV can only be engaged in one direction for the BalerAssist to operate properly. If the message Check Pressure is displayed, the SCV must be engaged in the opposite direction.

4. Adjust the desired slow and fast speed set points if necessary.

NOTE: If using the BalerAssist remote control check the Arm Remote Checkbox on the BalerAssist Control Page.

5. Engage the BalerAssist in the desired direction and speed mode from the in-cab display.

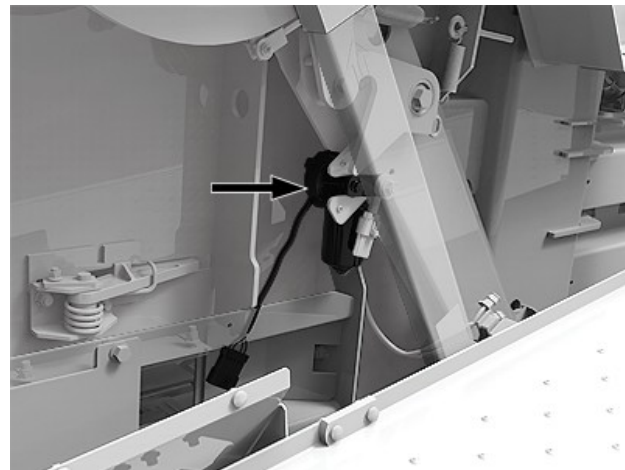
NOTE: If using the BalerAssist remote control, press the activate button on the remote two times, then engage the BalerAssist in the desired direction and speed mode within 5 seconds. After 5 seconds of inactivity from the BalerAssist remote, the activate button must be double pressed again to allow engagement.

6. When done operating the BalerAssist, uncheck the Enable BalerAssist checkbox.
7. Wait 2—3 seconds to ensure that the belt tensioner returns to the home position, then disengage the SCV flow.
8. Return to the baler home screen.

IMPORTANT: If the error message “BalerAssist Tensioner not in Home Position” is displayed when returning to the baler home screen, reenter the BalerAssist Control Page. To relieve oil from the belt tensioner cylinder, check the Enable BalerAssist checkbox and put the SCV in the float position.

SF04007,000122E-19-13NOV25

Electronic Knotter Trip



APY565550—UN—29MAR23

Electronic Knotter Trip

The electrical trip system offers the following advantages:

- Bale length adjustment made from the cab
- Ability to tie off the last bale from the cab
- Reduction in maintenance requirements
- More consistent bale length with use of predictive tie

The predictive tie takes into account the flake size throughout the bale and the desired length of bale. When a bale is approaching the desired length and the next flake will put it at or over the desired length,

predictive tie will trip the tie system. Without the electronic knotter trip, the mechanical system would pass the desired length then it would tie on the next flake.

hy01057,1678781222250-19-30MAR23

Operate Baler Ride Control

Feedback for the Baler Ride Control and the components that are required to make the system work are shown to provide whether each component is working or has a fault associated with it. Feedback for each of the components in the system will have either a 'Good' or 'Bad' icon shown to represent whether a fault is not active or active with the given component.



System 'Good'



System 'Bad'

E94305—UN—27AUG20

Feedback for each component is provided in the following way:

- 'No GPS System Faults' provides information when a fault is detected with the GPS receiver.
The 'Good' icon indicates when no fault is detected with the GPS receiver.
The 'Bad' icon indicates when either the GPS receiver is not detected or providing faulty data.
- 'No Tractor System Faults' provides information when a fault is detected with the tractor that inhibits the Baler Ride Control feature from working.
The 'Good' icon indicates when no fault is detected or sent from the tractor.
The 'Bad' icon indicates when either the tractor is indicating that there is a fault inhibiting the Baler Ride Control from working, the baler lost communication, or is receiving invalid communication from the tractor. See the tractor Operator's Manual for troubleshooting.
- 'No Baler System Faults' provides information when a fault is detected with the baler that inhibits the Baler Ride Control from working.
The 'Good' icon indicates that no fault is detected inhibiting Baler Ride Control.
The 'Bad' icon indicates that the plunger position cannot be calculated when expected and requires troubleshooting. See a John Deere dealer or other service provider.
- 'Tractor System Capable' provides whether the tractor that is attached to the baler is compatible with the Baler Ride Control.

The 'Good' icon indicates that the tractor is compatible for running the Baler Ride Control.

The 'Bad' icon indicates that the tractor is not compatible for running the Baler Ride Control. Check the tractor compatibility list and ensure that the tractor is running the latest software.

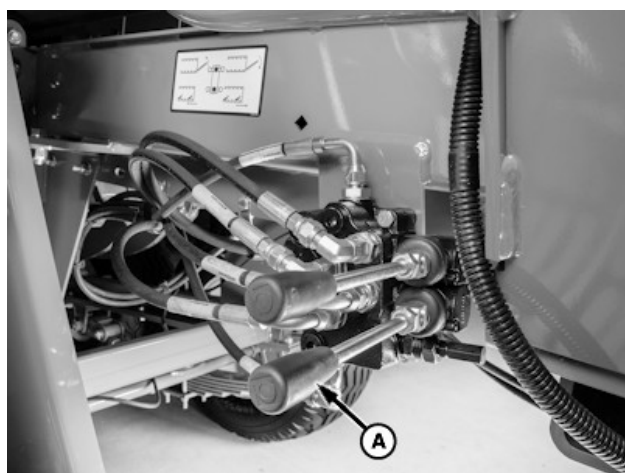
- 'System Enabled' indicates whether the feature is enabled or disabled on the Automation Systems Main Page

The 'Good' indicates that the system is enabled by checking the Baler Ride Control checkbox on the Automation Systems Main Page.

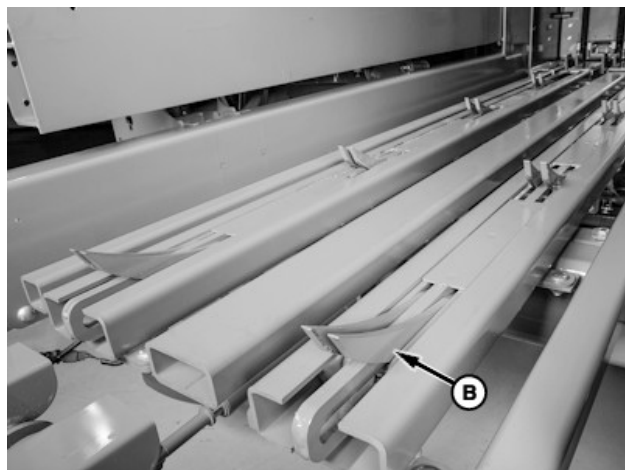
The 'Bad' indicates that the system is not enabled due to the Baler Ride Control checkbox on the Automation Systems Main Page not being checked.

GW44282,0000D43-19-13NOV25

Operate Last Bale Ejector



E75755—UN—13OCT14



E75754—UN—13OCT14

A—Lever
B—Hooks

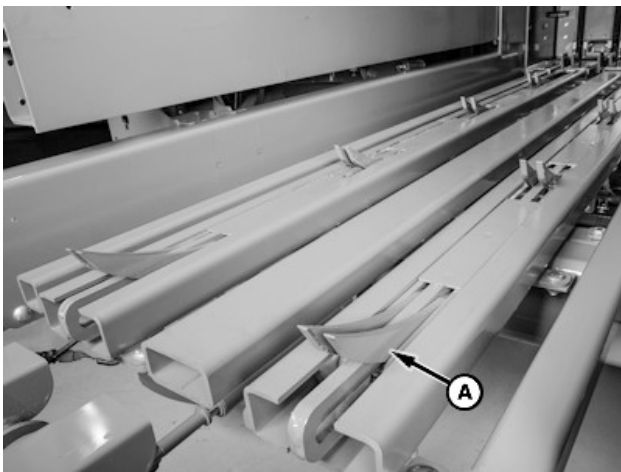
When finished, last bale can be cleared out. Proceed as follows:

1. Engage PTO and run at 1000 rpm.
2. Manually trip knotters.
3. Decrease PTO speed to 500 rpm.
4. Zero the bale chamber pressure using the pressure dump page under baler settings.
5. Disengage PTO.

IMPORTANT: Wait until top and side bale chamber panels have been moved out.

6. Activate tractor Selective Control Valve (see Attaching and Detaching section).
7. To eject the bale, alternately move lower lever (A) back and forth .

IMPORTANT: Move bale ejector hooks (B) to their most forward position every stroke.



E82999—UN—01MAY17

A—Bale Ejector Hook

8. After bale ejection, place ejector hooks (A) in their most forward position.
9. If necessary, fold up bale chute (see Operate Bale Chute in this section).

GW44282.00007E7-19-27NOV17

Baler Ride Control System

The Large Square Baler Ride Control feature is designed to provide improved comfort and reduced fatigue while harvesting crop with a large square baler. Due to the high loads and horse power demands of the large square balers during harvest, strong pitching movements can occur in the tractor cab. With intelligent vibration damping, these vibrations can be reduced on compatible John Deere tractor models in conjunction with John Deere large square balers. Based on signals

from the acceleration sensors in the GPS receiver and other signals within the tractor, the continuously variable drive of the transmission is adjusted with the plunger frequency of the baler so that a periodic change of the speed setting compensates for the pitching created. This technology specifically developed for active vibration reduction provides a considerable improvement in ride quality and fatigue in operating the baler.

All interaction with Baler Ride Control including visualization of the feature, toggling the feature on, off, or pausing it, and diagnostics are done through the baler interface. The main page of the baler provides feedback of what state the system is running in and provides a pause button when the system is actively running. The pause button can be used to momentarily pause the feature. The Automation Systems Page provides the ability to run the feature on and off, and also to perform diagnostics if an issue is experienced.

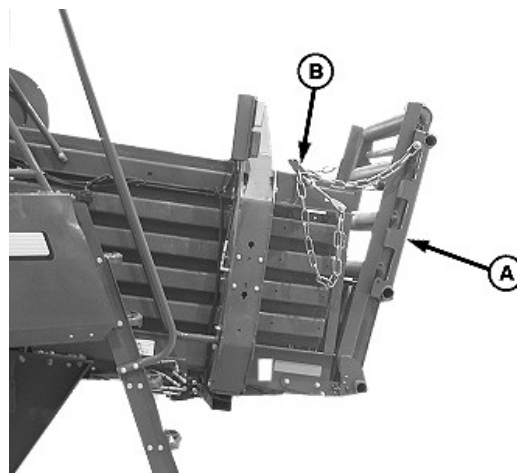
GW44282.0000D42-19-27OCT20

Operate Bale Chute

CAUTION: Bale chute is heavy. To prevent personal injury to you or others, make sure that bystanders stand clear of chute when lowering.

IMPORTANT: To avoid damage to bale the chute lift cylinder during transport, always latch bale chute in raised position with chains and remove slack using lever.

IMPORTANT: If PTO is engaged and bale chute is in up position, operator is warned to lower bale chute.



E77814—UN—17DEC14

For L331R and L341R Shown

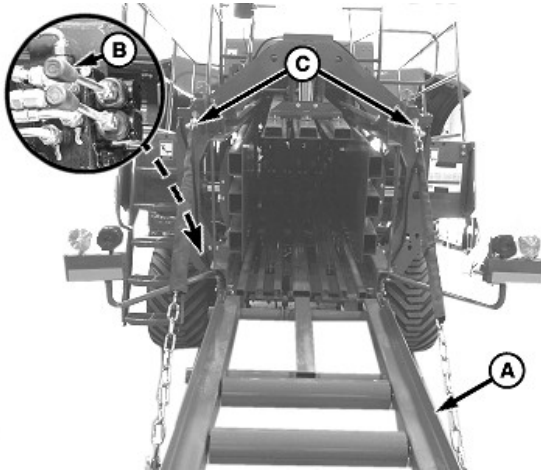


L341R HD Shown

APY565552—UN—30MAR23

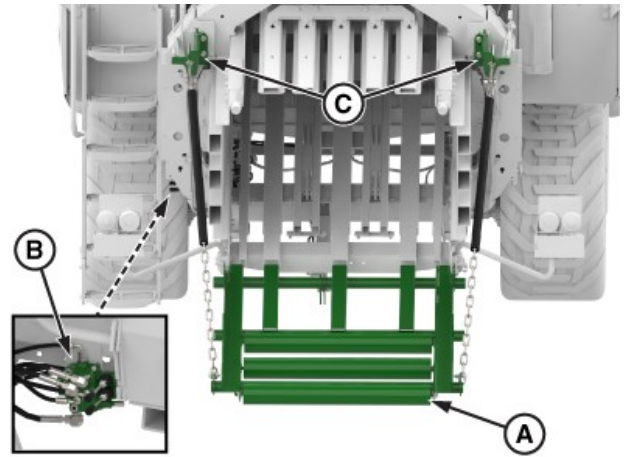
- A—Bale Chute
- B—Lock Pin (2 used)

1. For field operation, fully lower and set bale chute (A) horizontally.
2. On both sides of baler, remove lock pins (B).
3. Activate tractor Selective Control Valve (see Attaching and Detaching section).



L331R and L341R Shown

E84521—UN—13SEP17

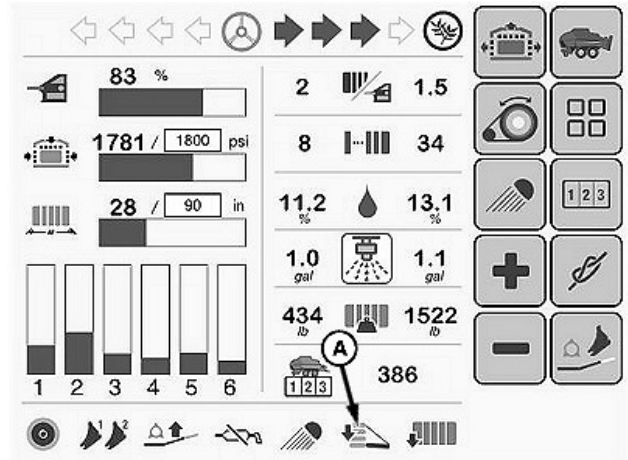


APY565560—UN—13APR23

L341R HD Shown

- A—Bale Chute
- B—Top Lever
- C—Chain Adjusting Yokes

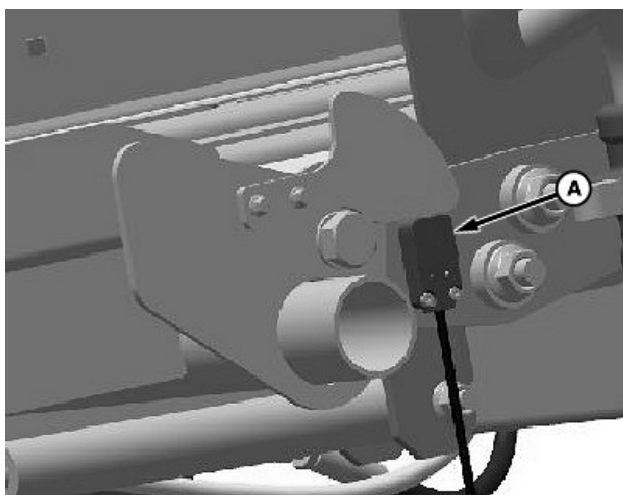
4. Fold down bale chute (A). Use top lever (B) to lower bale chute.
5. If necessary, align the bale chute with bale chamber bottom using chain adjusting yokes (C).



E84575—UN—13SEP17

- A—Bale Chute Indicator

6. With the monitor under Operating Display mode (see Operating Baler Application), check that bale chute indicator in lowered position (A) is displayed.



A—Bale Chute Sensor

E94926—UN—04OCT20

If not, check bale chute sensor (A).

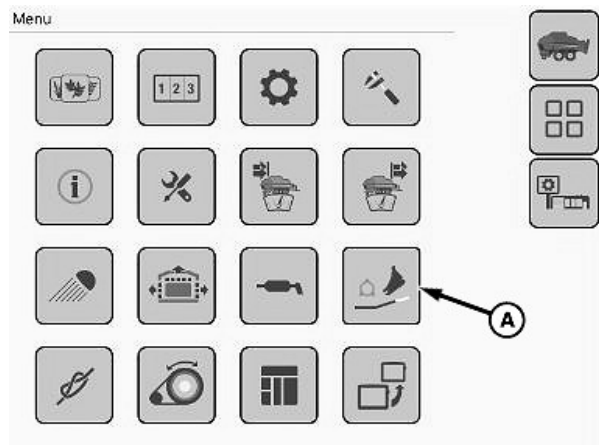
hy01057,1680172556332-19-06JUN23

Operate Drop Floor (L331R Precutter, L341R Precutter, and L341R HD Precutter Only)

IMPORTANT: Only operate the baler with the drop floor in the raised position, unless unplugging.

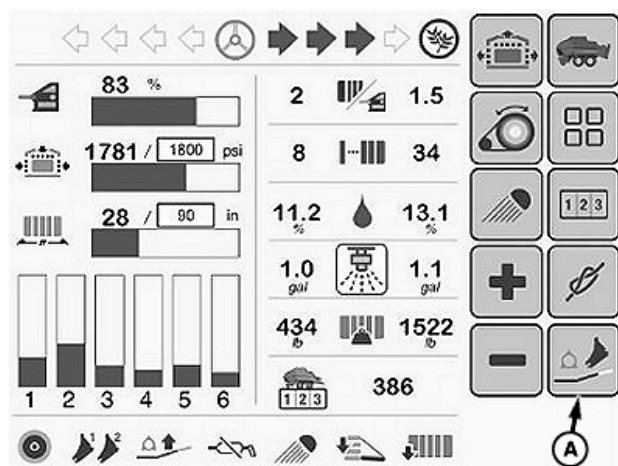
NOTE: If the drop floor is down and monitor is at the main screen, alarm sounds if PTO is engaged.

After the drop floor is raised and returning to the main baling screen, the pickup can raise slightly. Monitor frequently and lower pickup when necessary. To help the pickup follow the field terrain, it is recommended to operate the pickup SCV in the float position.



Main Menu Screen

E84640—UN—28SEP17

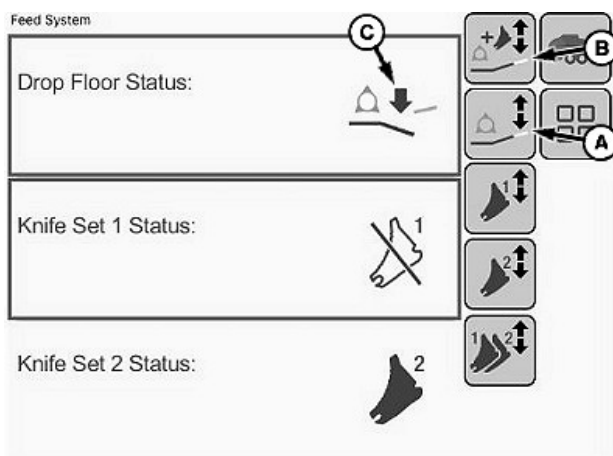


Baler Screen

E84667—UN—28SEP17

A—Feed System Menu Icon

1. Press the feed system menu icon (A) from the main menu or baler screen.



E83696—UN—04OCT17

A—Drop Floor Icon
B—Drop Floor Plus Knives Icon
C—Floor Icon

2. Press drop floor up-down icon (A) to select only the drop floor or the floor plus knife icon (B) to select floor plus knife banks.
3. Operate the feed system SCV lever to raise or lower the floor.
4. If the floor is raised, floor icon (C) appears slanted up with arrow pointing up in the feed system menu and baler screen. If the floor is lowered, floor icon (C) appears slanted down with arrow pointing down.



Baler Icon

E83959—UN—31JUL17

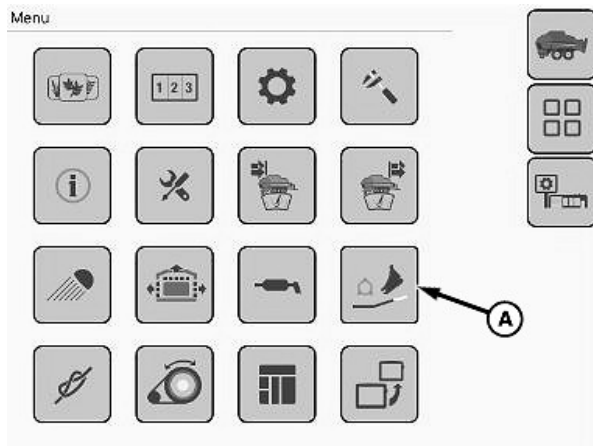
5. Press the baler icon to return to the main baling screen.

hy01057,1678781380792-19-30MAR23

Operate Precutter Knives (L331R Precutter, L341R Precutter, and L341R HD Precutter Only)

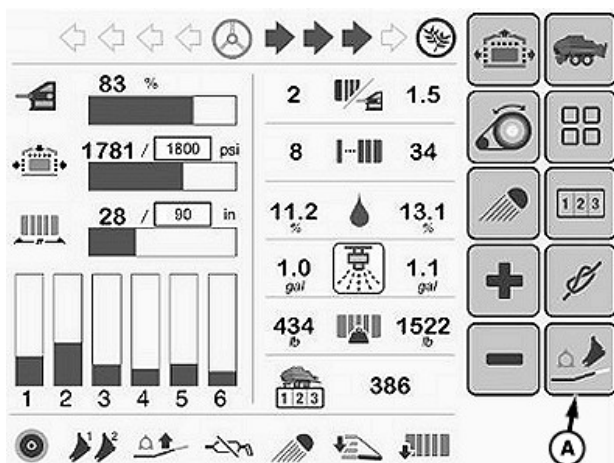
IMPORTANT: Set amount of knives used as described under Remove or Install Precutter Knives (L331R Precutter, L341R Precutter, and L341R HD Precutter Only) in Preparing the Baler section.

NOTE: On L331R Precutter, L341R Precutter, and L341R HD Precutter, cutting length depends on number of knives engaged.



E84640—UN—28SEP17

Menu Screen

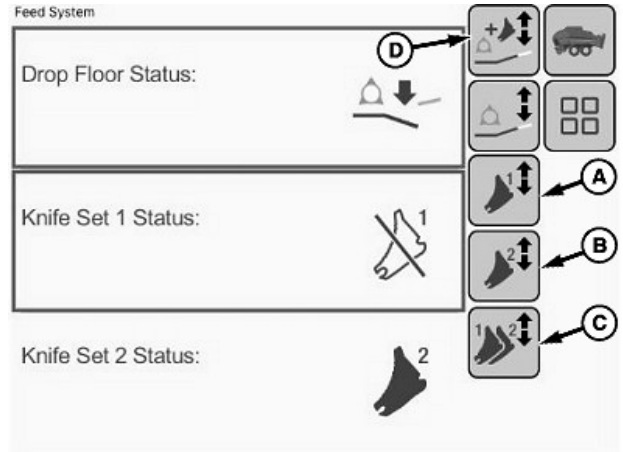


E84667—UN—28SEP17

Baler Screen

A—Feed System Menu Icon

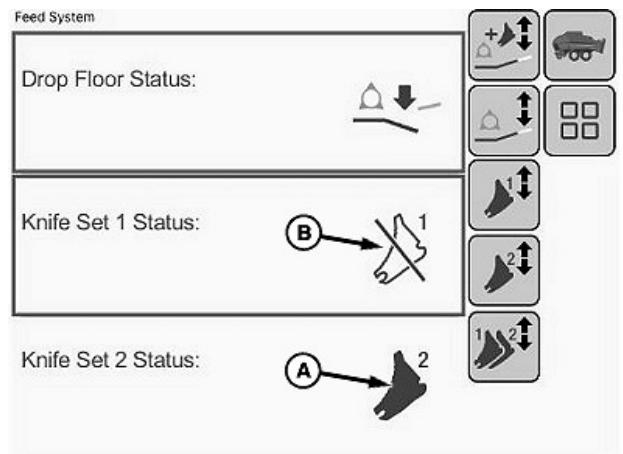
1. Press the feed system menu icon (A) from the menu screen or baler main screen.



E84668—UN—28SEP17

A—Knife Icon
B—Knife Icon
C—Knife Icon
D—Drop Floor Icon

2. To select knife bank 1, press icon (A).
3. To select knife bank 2, press icon (B).
4. To select both knife banks press icon (C).
5. To select knife bank 1, 2 or both with the drop floor, or drop floor plus both knife banks, press icon (D).
6. To engage or disengage the selected knife banks, operate the feed system SCV lever .



E84669—UN—28SEP17

A—Engaged Knife Icon
B—Disengaged Knife Icon

NOTE: When a knife bank is engaged the knife icon (A) appears solid in the feed system menu and the baler screen.

When a knife bank is disengaged the knife icon (B) appears as an outline with a line through it.

hy01057,1678781386754-19-28MAR23

Prepare Baler for Field Operation

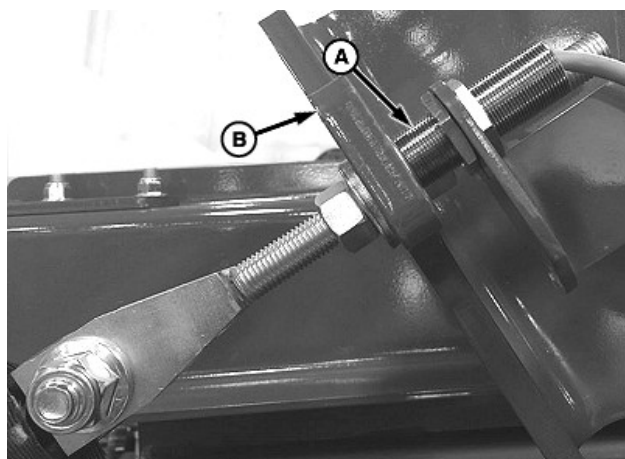
Before field operation, make sure that the following steps have been performed:

1. Twine loading and routing (see Preparing the Baler section).
2. Bale length adjustment (see Adjust Bale Length in this section).
3. Pickup working height (see Adjust Pickup Working Height in this section).
4. Bale density adjustment (see Pressure Control Mode in this section).
5. Bale chute in lower position (see Operate Bale Chute in this section).
6. Last bale ejector in rest position (see Operate Last Bale Ejector in this section).
7. Precutter knife engagement (see Operate Precutter Knives (L331R Precutter, L341R Precutter, and L341R HD Precutter Only) in this section).
8. Baler hydraulic and electrical circuits connected (see Attaching and Detaching section).
9. Release flywheel brake (see Attaching and Detaching section).
10. Keep tractor at mid-idle, slowly engage the PTO.
11. Watch pickup and rotor to ensure main drive friction clutch is not slipping.
12. With PTO fully engaged increase tractor RPM to reach rated PTO speed (1000 rpm).

NOTE: If the main drive friction clutch is slipping at startup, the bale chamber pressure should be set to 0. This will ease the baler startup.

hy01057,1678781423934-19-30MAR23

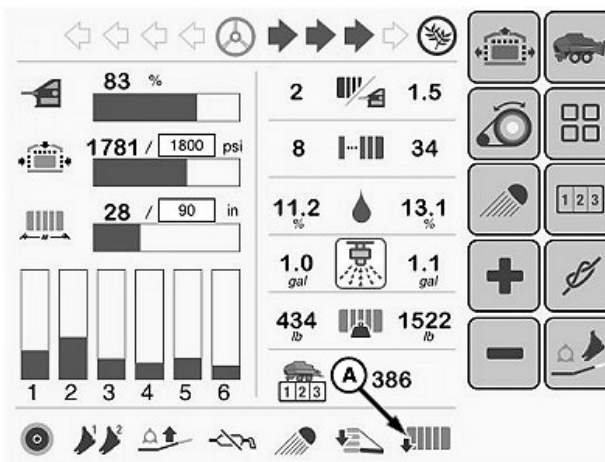
Bale Drop Sensor



E84409—UN—07SEP17

A—Bale Drop Sensor
B—Chain Bracket

The bale drop sensor (A) is at the top right-hand side of the bale chute on the chain bracket (B).



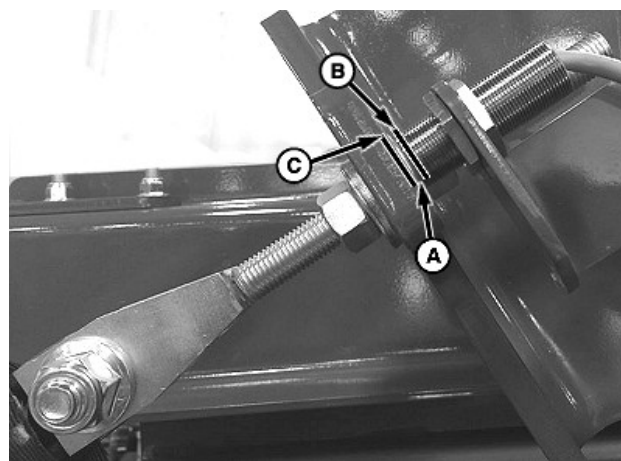
E84410—UN—07SEP17

A—Bale Drop Icon

When a bale slides off the chute, a tone sounds in the cab and the bale drop icon (A) is displayed in the icon area of the display.

The time the icon is displayed is adjusted in the settings page of the baler.

The tone notification is turned on or off in the baler settings page.



E84411—UN—07SEP17

A—Clearance Gap
B—Bale Drop Sensor
C—Chain Bracket

Specification

Bale Drop Sensor—Clearance. 1 mm
(0.039 in)

Clearance gap (A) between the bale drop sensor (B) and the chain bracket (C) is 1 mm (0.039 in) with no bale on the chute.

GW44282,0000808-19-27NOV17

Unplugging Feed System

1. If feed system plug is indicated on the monitor, or a clutch disengagement is heard, stop the tractor and baler. Switch off the PTO drive and back up away from the windrow.

⚠ CAUTION: Do not attempt to feed crop or unplug feed area of running baler. Death or injury can result from being pulled into the machine.

2. As the flywheel spins down, determine which portion of the feed system is plugged:

- If the rotor is turning, but the pickup is not turning, then the pickup is plugged.
- If the rotor and pickup are turning, the pre-compression chamber is plugged.
- If the pickup and rotor are not turning, the rotor is plugged and possibly the pre-compression chamber as well. The rotor can become unplugged while the flywheel spins down.

3. Disengage PTO and shut off engine.

4. If precutter knives are engaged, disengage them during the unplugging process.

5. If the pickup is plugged, restart the PTO and quickly raise and lower the pickup to help loosen the crop.

6. If equipped with BalerAssist, the pre-compression chamber and rotor plugs can be reversed and advanced until crop is loosened and fed through. Operate BalerAssist in fast mode when unplugging.

- For pre-compression chamber plugs, set feeder forks into 1:1 mode.
- Cycle BalerAssist forward and reverse to loosen the material.
- If the plug has not cleared, lower the pre-compression chamber drop floor then continue to cycle BalerAssist.
- After plug has cleared, raise pre-compression chamber floor and continue baling.

7. If not equipped with BalerAssist, and the pre-compression chamber remains plugged:

- Turn off the tractor engine and remove the key.
- Lower the pre-compression chamber drop floor by pulling the pins and turning them to lock them open on each side of the floor.
- To clean out the pre-compression chamber, remove crop from the pre-compression chamber.
- If crop is packed too tight to remove with just drop floor lowered, unbolt pre-compression chamber strippers to relieve pressure on the crop for easier removal.

- Close drop floor and engage pins to secure the floor.

- Restart tractor and engage PTO.

8. If not equipped with BalerAssist and the rotor remains plugged:

- Perform step 6 to unplug pre-compression chamber to relieve restriction for the crop behind rotor.

- If the rotor remains plugged, lower the precutter floor, if equipped, by activating the hydraulic circuit for the floor and lower the floor.

- Turn off the tractor key.

- Remove crop from the rotor and floor.

- Return the floor to the closed position.

- Restart the tractor and engage the PTO.

KW18595,000022D-19-13NOV25

After Field Operation



E85604—UN—17NOV17

Locking Lever in 1:1 Mode



E85603—UN—17NOV17

Locking Lever in Automatic Feeding Mode

A—Locking Lever

 **CAUTION: Do not take chance. Never work on a machine while it is running.**

Due to its inertia, baler continues to rotate after PTO is disengaged. Stay clear of machine until it has come to a complete standstill. Apply flywheel brake.

Clean Precompression Chamber:

1. Move locking lever (A) to 1:1 mode.
2. Disengage flywheel brake. (See Use Flywheel Brake in Attaching and Detaching section.)
3. Engage tractor PTO. Feeder fork will now empty precompression chamber.
4. Disengage PTO.
5. Move locking lever to automatic feeding mode.

Clean Bale Chamber:

When the precompression chamber has been cleaned, bale chamber can also be cleaned as follows:

1. Eject last bale with the bale ejector (See Operate Last Bale Ejector in this section).
2. Remove key and wait until the baler has come to a complete standstill.
3. Place trip mechanism lever (A) in locked position (see Install Twine) in Preparing the Baler section.
4. Manually clear the last flakes of the crop from the bale chamber.

hy01057,1678781467712-19-30MAR23

Troubleshooting

Diagnostic Trouble Codes

Baler or monitor issues identified and displayed on the display are displayed with an appropriate icon and tone for the issue involved. A diagnostic trouble code (DTC), a text string about the importance of the issue and potential causes, and actions are included on the screen. The warning screen disappears when the machine detects that the malfunction has been corrected.

Suspect parameter numbers and failure mode indicators (SPN.FMI) are given in the following table:

NOTE: Each time a diagnostic trouble code about a solenoid valve is displayed, the component is deactivated until next power cycle.

Item or Function	Description	SPN.FMI	Description Text	Action Text
Supply voltage	Battery voltage too high	168.16	Battery voltage above 16V	Check battery
	Battery voltage too low	168.18	Battery voltage below 9V	Check battery
	Sensor supply voltage too high	3509.03	Sensor supply voltage above 5.5V	Check sensor, connector and harness
	Sensor supply voltage too low	3509.04	Sensor supply voltage below 4.5V	Check sensor, connector and harness
Bale growth	Bale length too long	3779.15	Bale length is greater than maximum expected length	Check knotters and or adjust bale length setting
	Bale length sensor one channel failure	516863.02	Bale length sensor channel 1 or 2 does not work properly	Check sensor, connector and harness
	Bale length sensor two channels failure	516870.02	Bale length sensor does not work properly	Check sensor, connector and harness
	Bale length sensor channel 2 short to VREF	518167.00	Bale Length Sensor Channel 2 shorted to 5V reference	Check sensor, connector and harness
	Bale length sensor channel 2 short to GND	518167.01	Bale Length Sensor Channel 2 shorted to ground	Check sensor, connector and harness
	Bale length sensor channel 1 short to VREF	518167.03	Bale Length Sensor Channel 1 shorted to 5V reference	Check sensor, connector and harness
	Bale length sensor channel 1 short to GND	518167.04	Bale Length Sensor Channel 1 shorted to ground	Check sensor, connector and harness
	Bale length sensor failure	518167.12	Bale Length Sensor Failure	Check sensor, connector and harness
	Plunger monitoring	Plunger Home Sensor Failure	516864.02	Plunger home sensor problem
Plunger Position Unavailable		516864.07	Plunger position not detected when expected	Machine performance is degraded. Check gearbox speed, plunger home, feeder fork crank, and feeder fork fill sensors and harness connections
Load pin RH sensor out of range high		516865.16	Right load pin sensor out of range high Maximum machine load reduced	Check sensor, connector and harness
Load pin RH sensor out of range low		516865.18	Right load pin sensor out of range low Maximum machine load reduced	Check sensor, connector and harness
Load pin LH sensor out of range high		516913.16	Left load pin sensor out of range high Maximum machine load reduced	Check sensor, connector and harness
Load pin LH sensor out of range low		516913.18	Left load pin sensor out of range low Maximum machine load reduced	Check sensor, connector and harness
	Machine Load (Plunger) Overload	518187.00	Plunger overload Pressure has been decreased	Decrease pressure set point or density level
	Left Plunger Roller Bearing Life Exceeded	518895.00	Left plunger roller bearing detected past recommended wear life	Bearing failure possible. See regular spare part channels for replacement.

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	Left Plunger Roller Bearing Life Low	518895.16	Left plunger roller bearing life detected as low	Bearing life getting low. See regular spare part channels for replacement.
	Right Plunger Roller Bearing Life Exceeded	518896.00	Right plunger roller bearing detected past recommended wear life	Bearing failure possible. See regular spare part channels for replacement.
	Right Plunger Roller Bearing Life Low	518896.16	Right plunger roller bearing life detected as low	Bearing life getting low. See regular spare part channels for replacement.
Bale release	Bale drop sensor stuck	516430.06	Bale drop sensor malfunction	Check harness from control unit to sensor and check for proper connection
	Bale Drop Sensor short to VREF	518168.03	Bale drop sensor shorted to 5V reference	Check sensor, connector and harness
	Bale Drop Sensor short to GND	518168.04	Bale drop sensor shorted to ground	Check sensor, connector and harness
	Bale Chute Up	524118.07	Bale chute is up	Lower the bale chute Check harness and sensor
Mass flow	Feed pan force LH sensor short to VREF	518169.03	Left hand feed pan sensor for weighing system shorted to 5V reference	Check harness from controller to sensor and check for wiring shorts
	Feed pan force LH sensor short to GND	518169.04	Left hand feed pan sensor for weighing system shorted to ground	Check harness from controller to sensor and check for wiring shorts
	Feed pan force RH sensor short to VREF	518170.03	Right hand feed pan sensor for weighing system shorted to 5V reference	Check harness from controller to sensor and check for wiring shorts
	Feed pan force RH sensor short to GND	518170.04	Right hand feed pan sensor for weighing system shorted to ground	Check harness from controller to sensor and check for wiring shorts
	Crop flow proximity sensor short to VREF	518171.03	Crop flow sensor shorted to 5V reference	Check harness from controller to sensor and check for wiring shorts
	Crop flow proximity sensor short to GND	518171.04	Crop flow sensor shorted to ground	Check harness from controller to sensor and check for wiring shorts
	Crop flow pickup up calibration not completed	518171.13	Crop flow pickup up calibration not completed	Please perform calibration to ensure proper operation
	Crop flow pickup down calibration not completed	518171.14	Crop flow pickup down calibration not completed	Please perform calibration to ensure proper operation
Tension panel control	Pressure selector valve (V1) short to GND	516254.04	Pressure selector valve short to ground	Check harness from controller to valve and check for wiring shorts
	Pressure selector valve (V1) open load	516254.05	Pressure selector valve open load	Check harness from controller to valve and check for proper connection
	Tension panel pressure lock valve(V7) short to GND	516464.04	Pressure lock valve short to ground	Check harness from controller to valve and check for wiring shorts
	Tension panel pressure lock valve(V7) open load	516464.05	Pressure lock valve open load	Check harness from controller to valve and check for proper connection
	Tension system pressure over-limit	516866.14	Tension panel pressure over limit	Check tension panel pressure proportional valve (V5)
	Tension panel pressure sensor short to VREF	516867.03	Tension panel pressure sensor shorted high	Check sensor, connector and harness
	Tension panel pressure sensor short to GND	516867.05	Tension panel pressure sensor short to ground	Check sensor, connector and harness
	Machine load control fault	517217.14	Machine load control has been disabled	Machine is now operating in pressure control mode. Check load pins, bale length sensor, filling sensor,

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				and connections to harness.
	Rear tension panel pressure sensor short to VREF	518188.00	Rear tension panel pressure sensor shorted high	Check sensor, connector and harness
	Rear tension panel pressure sensor short to GND	518188.01	Rear tension panel pressure sensor short to ground	Check sensor, connector and harness
	Rear tension panel pressure lock valve (V9) short to GND	518188.04	Rear pressure lock valve short to ground	Check harness from controller to valve and check for wiring shorts
	Rear tension panel pressure lock valve (V9) open load	518188.05	Rear pressure lock valve open load	Check harness from controller to valve and check for proper connection
	Rear tension system pressure over-limit	518188.14	Rear tension panel pressure over limit	Check tension panel pressure proportional valve (V5)
	Tension panel pressure prop valve (V5) open load	521079.05	Tension panel valve open load	Check harness from control unit to valve and check for proper connection
Feeder fork monitoring	No filling strokes with bale growth	516868.07	No filling strokes detected with bale growth	Check the feeder fork tripping pin and cable Ensure proper sensor mounting and air gap Check harness between controller and sensor
	Feeder fork filling sensor always active	516868.14	Feeder fork filling sensor problem	Check sensor, connector and harness
	Feeder fork is continuously feeding	518189.02	Feeder forks are filling all the time	Check the feeder fork tripping pin and cable Check the feeder fork catch hook and excenter roller
	Filling sensor problem	518189.11	Feeder forks are not filling	Check the feeder fork tripping pin and cable Ensure proper sensor mounting and air gap Check harness between controller and sensor
	Feeder fork over load	518189.14	Feeder forks plugged	Stop PTO
Precutter	Pickup valve short to VBATT	3763.03	Pickup valve short to battery, precutter features may move	check harness from controller to valve and check for wiring shorts
	Pickup valve short to GND	3763.04	Pickup valve short to ground, precutter features unavailable	check harness from controller to valve and check for wiring shorts
	Pickup valve open load	3763.05	Pickup valve open load, precutter features unavailable	check harness from controller to valve and ensure proper connection
	Knives not fully engaged (Kuhn E174)	3778.07	Precutter knife set 1 not fully engaged	ensure knives in desired position check sensor and valve for proper operation
	Knives not fully disengaged (Kuhn E175)	3778.07	Precutter knife set 1 not fully disengage	ensure knives in desired position check sensor and valve for proper operation
	Knives not fully disengaged (Kuhn E175)	516871.04	Precutter enable knife valve short to ground	check harness from controller to valve and check for wiring shorts
	Enable knives actuation valve (V6) open load	516871.05	Precutter enable knife valve open load	check harness from controller to valve and ensure proper connection
	Knives set 1 disengage valve (V3) short to GND	516914.04	Precutter knife set 1 disengage valve short to ground	check harness from controller to valve and check for wiring shorts
	Knives set 1 disengage valve (V3) open load	516914.05	Precutter knife set 1 disengage valve open load	check harness from controller to valve and ensure proper connection

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	Knives set 1 engage valve (V2) short to GND	516915.04	Precutter knife set 1 engage valve short to ground	check harness from controller to valve and check for wiring shorts
	Knives set 1 engage valve (V2) open load	516915.05	Precutter knife set 1 engage valve short to battery	check harness from controller to valve and ensure proper connection
	Baling with drop floor down	518172.07	Drop floor is detected down while baling	ensure drop floor in desired position check switch for proper operation
	Drop floor status changed	518172.14	Unexpected movement of drop floor from previous state	ensure drop floor in desired position check switch for proper operation
	Precutter knives valve 1 short to VBATT	518173.03	Precutter knives set 1 valve short to battery, knives set 1 may move	check harness from controller to valve and check for wiring shorts
	Precutter knives valve 1 short to GND	518173.04	Precutter knives set 1 valve short to ground, feature control unavailable	check harness from controller to valve and check for wiring shorts
	Precutter knives valve 1 open load	518173.05	Precutter knives set 1 valve open load, feature control unavailable	check harness from controller to valve and ensure proper connection
	Precutter knives valve 2 short to VBATT	518174.03	Precutter knives set 2 valve short to battery, knives set 2 may move	check harness from controller to valve and check for wiring shorts
	Precutter knives valve 2 short to GND	518174.04	Precutter knives set 2 valve short to ground, feature control unavailable	check harness from controller to valve and check for wiring shorts
	Precutter knives valve 2 open load	518174.05	Precutter knives set 2 valve open load, feature control unavailable	check harness from controller to valve and ensure proper connection
	Drop floor valve 1 short to VBATT	518175.03	Drop floor valve 1 short to battery, drop floor may move	check harness from controller to valve and check for wiring shorts
	Drop floor valve 1 short to GND	518175.04	Drop floor valve 1 short to ground, feature control unavailable	check harness from controller to valve and check for wiring shorts
	Drop floor valve 1 open load	518175.05	Drop floor valve 1 open load, feature control unavailable	check harness from controller to valve and ensure proper connection
	Drop floor valve 2 short to VBATT	518176.03	Drop floor valve 2 short to battery, drop floor may move	check harness from controller to valve and check for wiring shorts
	Drop floor valve 2 short to GND	518176.04	Drop floor valve 2 short to ground, feature control unavailable	check harness from controller to valve and check for wiring shorts
	Drop floor valve 2 open load	518176.05	Drop floor valve 2 open load, feature control unavailable	check harness from controller to valve and ensure proper connection
	Precutter knives set 1 status changed	518190.14	Unexpected movement of knives set 1 from previous state	Ensure knives are in desired position Check sensor and valve for proper operation
	Feeding system plugged	518196.14	The feeding system is plugged	Stop PTO
	Precutter knives set 2 status changed	521075.14	Unexpected movement of knives set 2 from previous state	ensure knives in desired position check switch for proper operation
Drivetrain	Beacon light output short to VBATT	2386.03	Beacon light is shorted to battery	Check the light, bulb and the harness
	Beacon light output short to GND	2386.06	Beacon light is shorted to ground	Check the light, bulb and the harness
	Fly wheel brake engaged (Kuhn E169)	516872.14	Flywheel brake is engaged	Disengage flywheel brake
	Gearbox speed sensor failure	516873.11	Gear box sensor failure	Check sensor, connector and harness

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	Light Driver 1 (Right Knotter Service / Rear Work Lights) short to VBATT	516875.03	Right knotter light is shorted to battery Rear work lights shorted to battery	Check the light, bulb and the harness
	"Light Driver 1 (Right Knotter Service / Rear Work Lights) short to GND "	516875.04	Knotter light is shorted to ground Rear work lights shorted to ground	Check the light, bulb and the harness
	Light Driver 1 (Right Knotter Service / Rear Work Lights) Open Load	516875.05	Right knotter light is disconnected Rear work lights disconnected	Check the light, bulb and the harness
	Light Driver 2 (Needle Service Light) short to VBATT	516876.03	Needle light is shorted to battery	Check the light, bulb and the harness
	Light Driver 2 (Needle Service Light) short to GND	516876.04	Needle light is shorted to ground	Check the light, bulb and the harness
	Light Driver 2 (Needle Service Light) Open Load	516876.05	Needle light is disconnected	Check the light, bulb and the harness
	Light Driver 3 (Right Gullwing Door Service Light / Gull Wing Door Service Lights) short to VBATT	516877.03	Gullwing door lights shorted to battery	Check the light, bulb and the harness
	Light Driver 3 (Right Gullwing Door Service Light / Gull Wing Door Service Lights) Short to GND	516877.04	Gullwing door lights shorted to ground	Check the light, bulb and the harness
	Light Driver 3 (Right Gullwing Door Service Light / Gull Wing Door Service Lights) Open Load	516877.05	Gullwing door lights disconnected	Check the light, bulb and the harness
	Light Driver 4 (Left Knotter Service Light / Knotter Lights) short to VBATT	516878.03	Knotter light shorted to battery	Check the light, bulb and the harness
	Light Driver 4 (Left Knotter Service Light / Knotter Lights) short to GND	516878.04	Knotter light is shorted to ground	Check the light, bulb and the harness
	Light Driver 4 (Left Knotter Service Light / Knotter Lights) Open Load	516878.05	Knotter light is disconnected	Check the light, bulb and the harness
	Light Driver 5 (Left Gullwing Door Service Light / Front Working Lights) short to VBATT	516879.03	Left gullwing door light is shorted to battery Front working lights shorted to battery	Check the light, bulb and the harness
	Left Gullwing Door Service Light short to GND	516879.04	Left gullwing door light is shorted to ground Front working lights shorted to ground	Check the light, bulb and the harness
	Light Driver 5 (Left Gullwing Door Service Light / Front Working Lights) open load	516879.05	Left gullwing door light is disconnected Front working lights disconnected	Check the light, bulb and the harness
	Twine Box Service Lights short to VBATT	518177.03	Twine box lights are shorted to battery	Check the light, bulb and the harness
	Twine Box Service Lights short to GND	518177.04	Twine box lights are shorted to ground	Check the light, bulb and the harness
	Twine Box Service Lights Open Load	518177.05	Twine box light is disconnected	Check the light, bulb and the harness
	Greasing pump motor output short to GND	518191.04	Electrical greasing motor is shorted to ground	Check wire harness from controller to motor
	Greasing pump motor output open load	518191.05	Electrical greasing motor open load	Check wire harness from controller to motor

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	Greasing system stuck	523836.07	Greasing system error	Check grease level and sensor
Machine jog	BalerAssist activate valve short to VBATT	518178.03	BalerAssist activate valve short to battery	Check harness from controller to valve and check for wiring shorts
	BalerAssist activate valve short to GND	518178.04	BalerAssist activate valve short to ground	Check harness from controller to valve and check for wiring shorts
	BalerAssist activate valve open load	518178.05	BalerAssist activate valve open load	Check harness from controller to valve and ensure proper connection
	BalerAssist reverse valve short to VBATT	518179.03	BalerAssist reverse valve short to battery	Check harness from controller to valve and check for wiring shorts
	BalerAssist reverse valve short to GND	518179.04	BalerAssist reverse valve short to ground	Check harness from controller to valve and check for wiring shorts
	BalerAssist reverse valve open load	518179.05	BalerAssist reverse valve open load	Check harness from controller to valve and ensure proper connection
	BalerAssist stuck on	518180.07	BalerAssist tensioner not home	Place SCV in float, check if tensioner is retracted, check that sensor is active, do not start PTO
	BalerAssist stuck on with PTO	518180.14	BalerAssist engaged with PTO on	Stop PTO
	BalerAssist gateway connection lost	518181.11	Connection to BalerAssist remote system has been lost	Check BalerAssist remote system and harness connections
	BalerAssist gateway not present	518181.14	BalerAssist remote system not detected	Check BalerAssist remote system and harness connections
Double tie knotters	Knotter continuously cycling	516874.11	Knotter continuously tripping	Check tripping mechanism
	E-Tie motor supply short to VBATT	518182.00	Electric tie supply wire shorted to battery	Electric Tie motor power wire was detected as shorted to battery. Check motor, wiring, and harness
	E-Tie motor supply short to GND	518182.01	Electric tie supply wire shorted to ground	Electric Tie motor power wire was detected as shorted to ground while tying. Check motor, wiring, and harness
	E-Tie motor trigger short to VBATT	518182.03	Electric tie trigger wire shorted to battery	Power to the electric tie motor was detected outside of a tie cycle. Check motor, wiring, and harness.
	E-Tie motor trigger short to GND	518182.04	Electric tie trigger wire shorted to ground	Electric Tie motor power wire was detected as shorted to ground while tying. Check motor, wiring, and harness
	E-Tie did not trip	518182.14	Electric tie did not trip	A tie cycle was not detected after a tie cycle was commanded. Check motor, wiring, harness, and sensors.
	Slack arm sensor 6 short to VREF	524111.03	Slack arm sensor 6 shorted high	Check harness from controller to sensor and check for wiring harness shorts.
	Slack arm sensor 6 short to GND	524111.04	Slack arm sensor 6 shorted to ground	Check harness from controller to sensor and ensure proper connection.
	Slack arm sensor 6 out of calibration	524111.13	Slack arm sensor 6 out of calibration	Please perform calibration to ensure proper operation.

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	Twine in knotter 6	524111.15	Twine stuck in knotter 6	Check knotter. Clear twine before continuing.
	No twine tension 6	524111.17	No twine tension on knotter 6	Check knotters.
	Slack arm sensor 5 short to VREF	524112.03	Slack arm sensor 5 shorted high	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 5 short to GND	524112.04	Slack arm sensor 5 shorted to ground	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 5 out of calibration	524112.13	Slack arm sensor 5 out of calibration	Please perform calibration to ensure proper operation.
	Twine in knotter 5	524112.15	Twine stuck in knotter 5	Check knotter. Clear twine before continuing.
	No twine tension 5	524112.17	No twine tension on knotter 5	Check knotter.
	Slack arm sensor 4 short to VREF	524113.03	Slack arm sensor 4 shorted high	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 4 short to GND	524113.04	Slack arm sensor 4 shorted to ground	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 4 out of calibration	524113.13	Slack arm sensor 4 out of calibration	Please perform calibration to ensure proper operation.
	Twine in knotter 4	524113.15	Twine stuck in knotter 4	Check knotter. Clear twine before continuing.
	No twine tension 4	524113.17	No twine tension on knotter 4	Check knotters.
	Slack arm sensor 3 short to VREF	524114.03	Slack arm sensor 3 shorted high	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 3 short to GND	524114.04	Slack arm sensor 3 shorted to ground	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 3 out of calibration	524114.13	Slack arm sensor 3 out of calibration	Please perform calibration to ensure proper operation.
	Twine in knotter 3	524114.15	Twine stuck in knotter 3	Check knotter. Clear twine before continuing.
	No twine tension 3	524114.17	No twine tension on knotter 3	Check knotters.
	Slack arm sensor 2 short to VREF	524115.03	Slack arm sensor 2 shorted high	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 2 short to GND	524115.04	Slack arm sensor 2 shorted to ground	Check harness from controller to valve and check for wiring shorts.
	Slack arm sensor 2 out of calibration	524115.13	Slack arm sensor 2 out of calibration	Please perform calibration to ensure proper operation.
	Twine in knotter 2	524115.15	Twine stuck in knotter 2	Check knotter. Clear twine before continuing.
	No twine tension 2	524115.17	No twine tension on knotter 2	Check knotters.
	Slack arm sensor 1 short to VREF	524116.03	Slack arm sensor 1 shorted high	Check harness from controller to sensor and check for wiring shorts
	Slack arm sensor 1 short to GND	524116.04	Slack arm sensor 1 shorted to ground	Check harness from controller to sensor and ensure proper connection
	Slack arm sensor 1 out of calibration	524116.13	Slack arm sensors out of calibration	Please perform calibration to ensure proper operation
	Twine in knotter 1	524116.15	Twine stuck in knotter 1	Check knotter, clear twine before continuing
	No twine tension 1	524116.17	No twine tension on knotter 1	Check knotters

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	Knotter shaft position error	524129.07	Knotter shaft position error	Knotter shaft not in the home position. Stop machine and check tie system.
	Needle shearbolt broken	524129.14	Needle liftarm shearbolt broken or sensor failure	Check shearbolt, needles and sensor
PhiBer	Accumulator Connection Lost	518183.11	Connection to Phiber Accumulator System lost	check harness and connections from accumulator to square baler to ensure proper connection and no damage
	Accumulator Not Identified	518183.19	Phiber Accumulator System not correctly identified	Check Phiber system for latest software version
Moisture sensor	Moisture sensor config mismatch	518184.07	Moisture sensor problem	Cycle power and see a John Deere dealer or other service provider if problem persists.
	Moisture sensor connection lost	518184.11	Connection to moisture sensor lost	check harness and connections from moisture sensor to square baler to ensure proper connection and no damage
	Moisture sensor hardware failure	518184.12	Moisture sensor failure	Cycle power and see a John Deere dealer or other service provider if problem persists.
	Moisture Sensor not present	518184.14	Moisture sensor not detected	check harness and connections from moisture sensor to square baler to ensure proper connection and no damage
Mobile App System	Wireless Gateway Connection Lost	518185.11	Connection to mobile gateway lost	Check harness and connections from the mobile gateway to baler controller to ensure proper connection and no damage
	Wireless Gateway Data Connection Issue	518185.12	Data connection to mobile gateway lost	Check harness and connections from the mobile gateway to baler controller to ensure proper connection and no damage
	Wireless Gateway Not Present	518185.14	Mobile gateway not detected	Check harness and connections from the mobile gateway to baler controller to ensure proper connection and no damage
Tractor Automation System	Tractor Automation Communication Lost	518193.11	Communication with tractor lost	Check the tractor system diagnostic trouble codes, cycle power and see a John Deere dealer or other service provider if problem persists.
	Tractor Automation System Fault	518193.14	The tractor system has a fault inhibiting Baler Ride Control	Check the tractor system diagnostic trouble codes, cycle power and see a John Deere dealer or other service provider if problem persists.
	Ride Smoothing State Mismatch	518193.19	Mismatch on Baler Ride Control feature communication between tractor and baler	Cycle power and see a John Deere dealer or other service provider if problem persists.
EEPROM	Crop variables checksum failure w/o power-down	518186.02	Crop Table EEPROM checksum failure without proper power down detected	no further action required. failure corrected

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	Crop variables checksum failure w/ power-down	518186.12	Crop Table EEPROM checksum failure on last power down	No further action required. failure corrected
	Crop variables mirror section checksum failure	518194.02	Crop Table mirror EEPROM checksum failure on last power down	crop table eeprom reset to default. baler setup and calibration may be required
	Calibration mirror section checksum failure	522022.02	Calibration mirror EEPROM checksum failure on last power down	calibration eeprom reset to default. baler setup and calibration may be required
	Field mirror section checksum failure	522023.02	Field mirror EEPROM checksum failure on last power down	field eeprom reset to default. baler setup and calibration may be required
	User mirror section checksum failure	522024.02	User mirror EEPROM checksum failure on last power down	user eeprom reset to default. baler setup and calibration may be required
	Automation mirror section checksum failure	522025.02	Automation mirror EEPROM checksum failure on last power down	automation eeprom reset to default. baler setup and calibration may be required
	Dealer mirror section checksum failure	522026.02	Dealer mirror EEPROM checksum failure on last power down	dealer eeprom reset to default. baler setup and calibration may be required
	Factory mirror section checksum failure	522027.02	Factory mirror EEPROM checksum failure on last power down	factory eeprom reset to default. baler setup and calibration may be required
	Calibration checksum failure w/o power-down	522028.02	Calibration EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	Calibration checksum failure w/ power-down	522028.12	Calibration EEPROM checksum failure on last power down	no further action required. failure corrected
	Field checksum failure w/o power-down	522029.02	Field EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	Field checksum failure w/ power-down	522029.12	Field EEPROM checksum failure on last power down	no further action required. failure corrected
	User checksum failure w/o power-down	522030.02	User EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	User checksum failure w/ power-down	522030.12	User EEPROM checksum failure on last power down	no further action required. failure corrected
	Automation checksum failure w/o power-down	522031.02	Automation EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	Automation checksum failure w/ power-down	522031.12	Automation EEPROM checksum failure on last power down	no further action required. failure corrected
	Dealer checksum failure w/o power-down	522032.02	Dealer EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	Dealer checksum failure w/ power-down	522032.12	Dealer EEPROM checksum failure on last power down	no further action required. failure corrected
	Factory checksum failure w/o power-down	522033.02	Factory EEPROM checksum failure without proper power down detected	no further action required. failure corrected
	Factory checksum failure w/ power-down	522033.12	Factory EEPROM checksum failure on last power down	no further action required. failure corrected
Driver calibration	Output calibration data error	518195.02	Control unit output problem	Output operation may have reduced performance Replace controller at earliest convenience

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Internal software failures	Softkey event queue full	518307.02	Internal to app software	The code is removed at next power cycle.
	Button event queue full	518308.02	Internal to app software	The code is removed at next power cycle.
	Standard signal queue full	518309.02	Internal to app software	The code is removed at next power cycle.
	Priority signal queue full	518310.02	Internal to app software	The code is removed at next power cycle.
	No process timer available	518311.02	Internal to app software	The code is removed at next power cycle.
	No signal timer available	518312.02	Internal to app software	The code is removed at next power cycle.
	Unreachable code	518313.02	Internal to app software	The code is removed at next power cycle.
Crank-Arm Bearing	Left Crank-Arm Bearing Detected Past Recommended Wear Life	518895.00	The calculated Left Plunger Roller Bearing Life [%] goes from being greater to less than 0.	Replace Plunger Roller Bearing. Circuit Checks.
	Left Crank-Arm Bearing Life Detected As Low	518895.16	The calculated Left Plunger Roller Bearing Life [%] goes from being greater to less than EEPROM value Lifetime Plunger Count Proactive Fault Triggered [%].	Replace Plunger Roller Bearing. Circuit Checks
	Right Crank-Arm Bearing Detected Past Recommended Wear Life	518896.00	The calculated Right Plunger Roller Bearing Life [%] goes from being greater to less than 0.	Replace Plunger Roller Bearing Circuit Checks
	Right Crank-Arm Bearing Life Detected As Low	518896.16	The calculated Right Plunger Roller Bearing Life [%] goes from being greater to less than EEPROM value Lifetime Plunger Count Proactive Fault Triggered [%].	Replace Plunger Roller Bearing Circuit Checks
Preservative Controller Fault (PAS)	Nozzle Supply Voltage Too Low	158.04	Preservative Nozzle Voltage Too Low	Nozzle functionality limited. Check nozzle, wiring, and cycle power
	System Voltage Too High	168.16	Preservative System Voltage too High	Check harness going to the preservative system
	System Voltage Too Low	168.18	Preservative System Voltage too Low	Check harness going to the preservative system
	Nozzle Sync Line Fault	1668.02	Preservative Nozzle Sync Line Fault	Nozzle functionality limited. Check nozzle, wiring, and cycle power
	Nozzle Communication Lost	1668.09	Connection to Preservative Nozzle Lost	Check preservative system wiring and nozzle
	Nozzle Addressing Fault	1668.11	Preservative Nozzle Addressing Fault	Nozzle functionality limited. Check nozzle, wiring, and cycle power
	Sensor Supply Voltage Too High	3509.03	Preservative System Sensor Supply Voltage High	Check sensor, connector and harness
	Sensor Supply Voltage Too Low	3509.04	Preservative System Sensor Supply Voltage Low	Check sensor, connector and harness
	Nozzle Supply Voltage Too High	6822.03	Preservative Nozzle Voltage Too High	Nozzle functionality limited. Check nozzle, wiring, and cycle power
	Sub-Domain Power Short to Battery	518887.03	Preservative Nozzle Power Short to Battery	Check preservative system wiring and nozzle
	Sub-Domain Power Short to Ground	518887.04	Preservative Nozzle Power Short to Ground	Check preservative system wiring and nozzle
	Sub-Domain Power Driver Unavailable	518887.12	Preservative Nozzle Power Driver Issue	Cycle power and see a John Deere dealer or other

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				service provider if problem persists.
	Application Rate Not Reached	518890.18	Preservative Target Application Rate Not Reached	Try reducing speed, check nozzle for faults or issues, and check system pressure
	System Over Pressure	518891.16	Preservative System Pressure Too High	Check preservative fluid, application pump, hoses, and nozzle
	System Not Pressurizing	518891.18	Preservative System Pressure Too Low	Check preservative fluid, application pump, hoses, and nozzle
	Pressure Sensor Out of Range High	518892.03	Preservative Pressure Sensor Shorted High	Check sensor, connector and harness
	Pressure Sensor Out of Range Low	518892.04	Preservative Pressure Sensor Short to Ground	Check sensor, connector and harness
	Tank level Sensor Out of Range High	518897.03	Preservative Tank Level Sensor Shorted High	Check sensor, connector and harness
	Tank Level Sensor Out of Range Low	518897.04	Preservative Tank Level Sensor Shorted to Ground	Check sensor, connector and harness
	Fill System Pump Motor Short to Battery	518898.03	Preservative Filling System Pump Motor Short to Battery	Check relay, pump, and harness
	Fill System Pump Motor Short to Ground	518898.04	Preservative Filling System Pump Motor Short to Ground	Check relay, pump, and harness
	Fill System Pump Motor Open Load	518898.05	Preservative Filling System Pump Motor Open Load	Check relay, pump, and harness
	Fill System Pump Motor Driver Unavailable	518898.12	Preservative Filling System Pump Motor Driver Fault	Cycle power and see a John Deere dealer or other service provider if problem persists.
	Application Pump Motor Short to Battery	518899.03	Preservative Application Pump Motor Short to Battery	Check relay, pump, and harness
	Application Pump Motor Short to Ground	518899.04	Preservative Application Pump Motor Short to Ground	Check relay, pump, and harness
	Application Pump Motor Open Load	518899.05	Preservative Application Pump Motor Open Load	Check relay, pump, and harness
	Application Pump Motor Driver Unavailable	518899.12	Preservative Application Pump Motor Driver Fault	Cycle power and see a John Deere dealer or other service provider if problem persists.
	Nozzle Sync Line Short to Battery	518900.03	Preservative Nozzle Sync Line Short to Battery	Check preservative system wiring and nozzle
	Nozzle Sync Line Short to Ground	518900.04	Preservative Nozzle Sync Line Short to Ground	Check preservative system wiring and nozzle
	Nozzle Sync Line Driver Unavailable	518900.12	Preservative Nozzle Sync Line Driver Fault	Cycle power and see a John Deere dealer or other service provider if problem persists.
	Nozzle Solenoid A Open Load	520349.05	Preservative Nozzle Solenoid A Open Load	Application rate limited, check nozzle and harness
	Nozzle Solenoid A Shorted to Ground	520349.06	Preservative Nozzle Solenoid A Shorted to Ground	Application rate limited, check nozzle and harness
	Nozzle Limited Communication	520349.14	Preservative Nozzle Feedback Limited	Application rate feedback limited, cycle power and contact dealer if problem persists
	Nozzle Not Detected	520349.31	Preservative Nozzle Not Detected	Check preservative system wiring and nozzle
	Nozzle Solenoid A Plug Detected	521710.31	Preservative Nozzle Valve A Plugged	Application rate limited, check nozzle and nozzle tip

	Nozzle Solenoid B Plug Detected	521711.31	Preservative Nozzle Valve B Plugged	Application rate limited, check nozzle and nozzle tip
	Nozzle Solenoid B Open Load	522289.05	Preservative Nozzle Solenoid B Open Load	Application rate limited, check nozzle and harness
	Nozzle Solenoid B Shorted to Ground	522289.06	Preservative Nozzle Solenoid B Shorted to Ground	Application rate limited, check nozzle and harness

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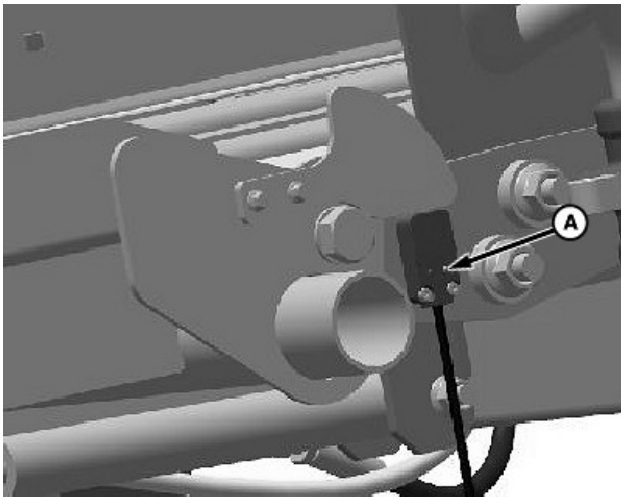
NOTE: Test input screen can be used to check the current state as read by the control unit or if transitions in the sensor are being registered. (See Test Sensors and Switches in Baler Application Service section.)

Check Sensor Functionality

NOTE: Sensor functionality can also be checked using the ISOBUS monitor.

GW44282,0000D1A-19-08OCT20

IMPORTANT: Verify that sensor connector is connected to harness.



E94930—UN—04OCT20

A—LED (2 used)

1. With tractor ignition switch ON and ISOBUS connector connected, verify light emitting diodes (LED) (A) are illuminated when metal is within specification.

Specification

Sensor Face-to-Target—Distance. 4—6 mm
(0.157—0.236 in)

- Green LED illuminates when the sensor is powered.
- Any metal object placed near sensor face causes yellow LED to illuminate.
- If no metal is near the sensor face, the yellow LED does not illuminate.

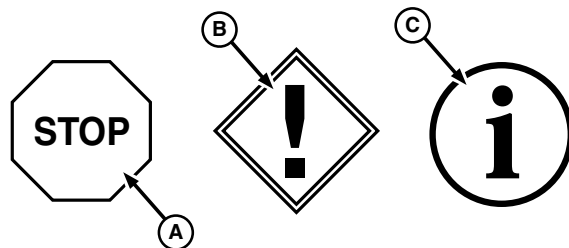
2. Sensor is functioning properly.

Monitor Warning Screens

The ISOBUS display supports WARNING messages to inform about certain behaviors or error conditions in system. Warning screens allow operator to monitor system problems.

WARNING:

A warning is displayed over entire screen to inform about the critical system malfunctions and requires operators full attention. The screen is designed as follows:

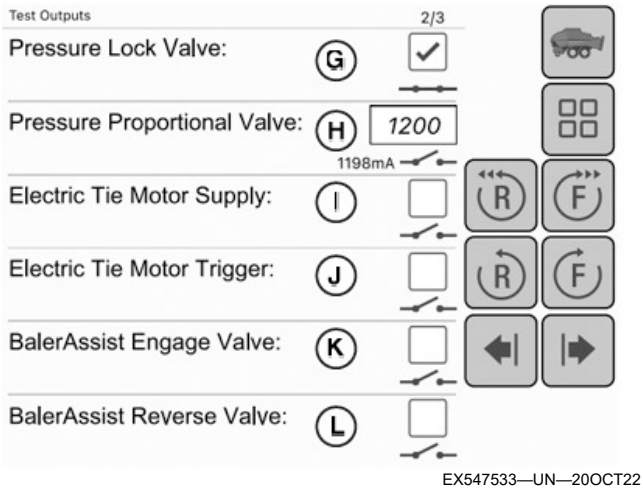


A—Stop System Icon
B—Service Alert Icon
C—Information Icon

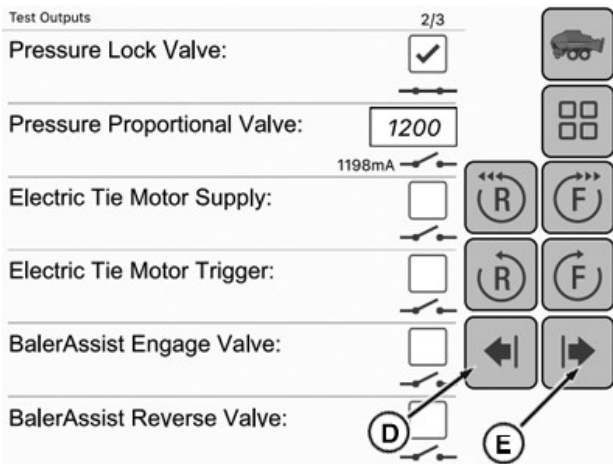
E65002—UN—21JUN12

1. Warning icons (A), (B), or (C) alarm tones define importance of the warning:

- Icon (A) indicates that machine has detected a serious malfunction and requires immediate action or damage to machine can occur. Stop system immediately.
- Icon (B) indicates that machine has detected a problem and action. If it is not serviced or repaired, machine can be damaged or have significant performance reduction.
- Icon (C) indicates that machine has detected a fault in a system or component. Machine can continue to operate without damage, however



EX547533—UN—20OCT22



EX547534—UN—16SEP22

- A—Precutter Selector Valve
- B—Knives Set 1 Valve
- C—Knives Set 2 Valve
- D—Drop Floor Valve 1
- E—Drop Floor Valve 2
- F—Grease Pump
- G—Pressure Lock Valve
- H—Pressure Proportional Valve
- I—Electric Tie Motor Supply
- J—Electric Tie Motor Trigger
- K—BalerAssist Engage Valve
- L—BalerAssist Reverse Valve
- M—BalerAssist Speed Proportional Valve

A— Feedback of the current system state and tank level is provided to the left of the operation mode selection input list. The system off or unavailable icon is shown when it is in the off mode or when the preservative system is not enabled.

B—The Knives Set 1 Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Knives Set 1” is switched to red and bold if a Knife Set 1 Valve fault is active.

C—The Knives Set 2 Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being

powered or not. The ext “Knives Set 2” will be switched to red and bold if a Knife Set 2 Valve fault is active.

D —The Drop Floor Valve 1 checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Drop Floor Valve 1” is switched to red and bold if a Drop Floor Valve 1 fault is active.

E—The Drop Floor Valve 2 checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Drop Floor Valve 2” is switched to red and bold if a Drop Floor Valve 2 fault is active.

F—Grease Pump

G—The Pressure Lock Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Pressure Lock Valve” is switched to red and bold if a Pressure Lock Valve (V7) fault is active, this function is shown for all machine types and option configurations to the operator.

H—The Pressure Proportional Valve input box allows for the operator to manually set a current for the driver to control to by selecting the white input box and entering the desired supplied current in milliamps. The driver state and measured current on the driver can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Pressure Proportional Valve” is switched to red and bold if a Pressure Proportional Valve (V5) fault is active, this function is shown for all machine types and option configurations to the operator.

I—The Electric Tie Motor Supply output checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Electric Tie Motor Supply” is switched to red and bold if an Electric Tie Motor Supply Output fault is active.

J—The Electric Tie Motor Trigger output checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “Electric Tie Motor Trigger” is switched to red and bold if an Electric Tie Motor Trigger Output fault is active.

K—The BalerAssist Engage Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “BalerAssist Engage

Valve” is switched to red and bold if a BalerAssist Engage Valve fault is active.

L—The BalerAssist Reverse Valve checkbox allows for the operator to manually force on the driver by checking the checkbox. The driver state can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “BalerAssist Reverse Valve” is switched to red and bold if a BalerAssist Reverse Valve fault is active.

M—The BalerAssist Speed Proportional Valve input box allows for the operator to manually set a current for the driver to control to by selecting the white input box and entering the desired supplied current in milliamps. The driver state and measured current on the driver can also be viewed by the operator to indicate whether the driver is currently being powered or not. The text “BalerAssist Speed Proportional Valve” is switched to red and bold if a BalerAssist Speed Proportional Valve fault is active.

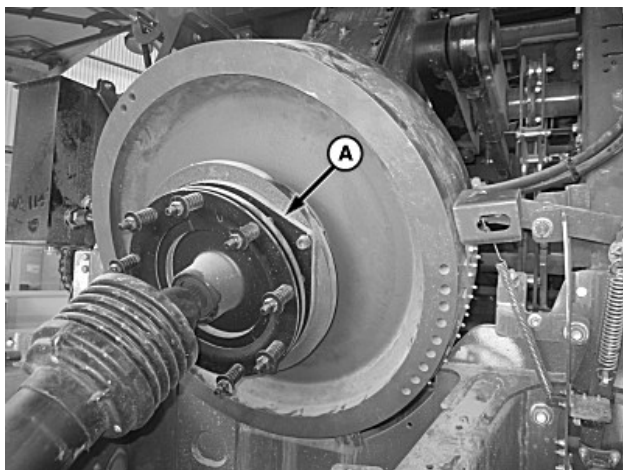
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Baler Component Overload Protections

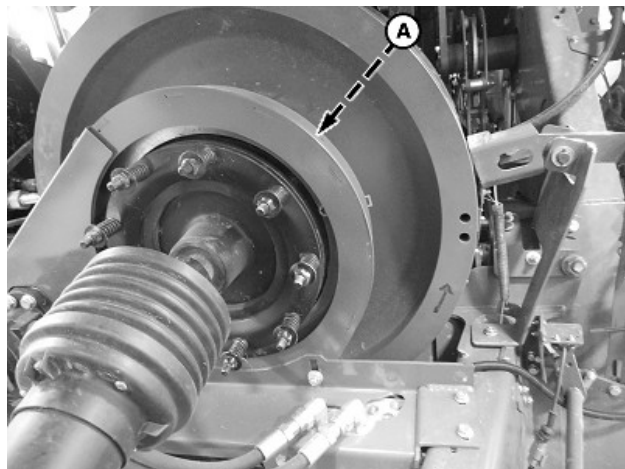
⚠ CAUTION: Before approaching machine:

1. Turn off PTO.
2. Stop tractor engine and remove ignition key.
3. Apply flywheel brake.

Do not start up baler again until cause of problem has been identified and solved.



E80646—UN—16NOV15



E82449—UN—20MAR17

A—Slip clutch

Secondary Driveline Protection:

⚠ CAUTION: Only restart machine once cause of failure has been identified and solved. Working with a defect or unsafe machine results in serious personal injuries or heavy material damage.

IMPORTANT: To check and adjust slip clutch (A) see Service section.

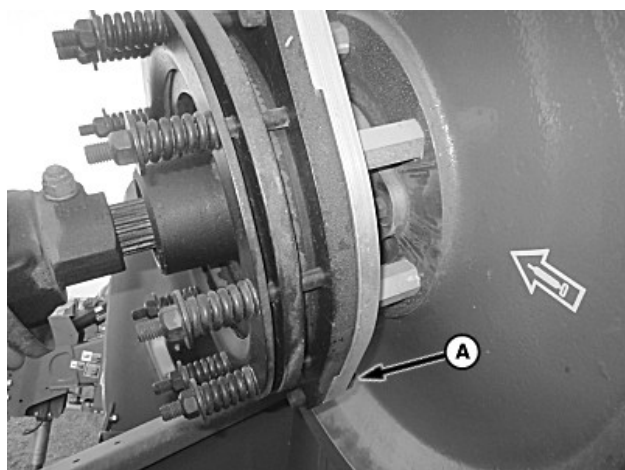
The slip clutch (A) protects the secondary driveline.

Slip clutch activation is caused by:

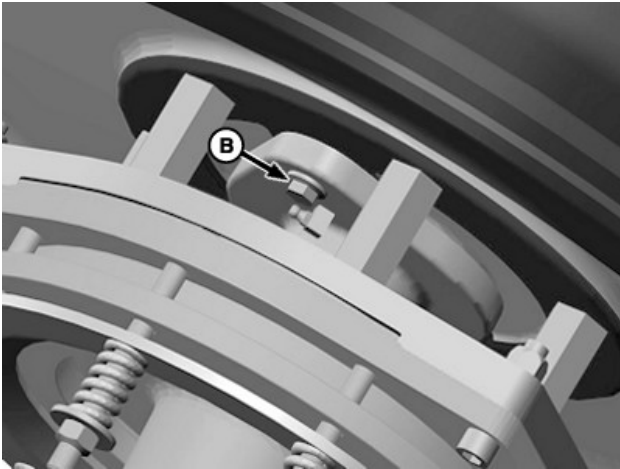
- An active flywheel brake.
- A too high plungerhead load during starting.
- A too high PTO rpm during starting.

Solutions:

1. Release flywheel brake.
2. Decrease tension system pressure.
3. Start at a low PTO rpm and slowly increase PTO rpm.



E80647—UN—17NOV15



E80648—UN—17NOV15

A—Shear Bolt
B—Shear Bolt

Main Gear Case Protection

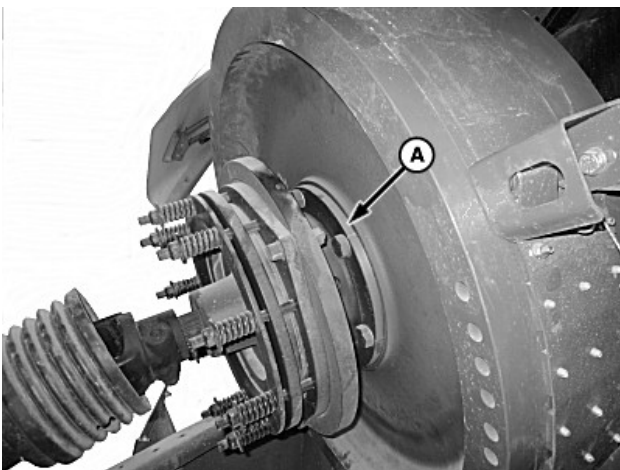
The shear bolt clutch protects main gear case.

If main drive has stopped due to an overload and shear bolt (B) is broken:

1. Stop PTO.
2. Replace shear bolt (B) with a genuine replacement shear bolt.

IMPORTANT: Do not use a substitute bolt higher than a grade 10.9 strength or damage to machine occurs. Only use genuine shear bolt. (See regular spare part channels to order.)

3. Clear pickup, rotor, and precompression chamber of any crop plug or foreign objects.
4. If necessary, dump tension system pressure using ISOBUS monitor.
5. Start-up machine.
6. Continue baling.



E80649—UN—17NOV15

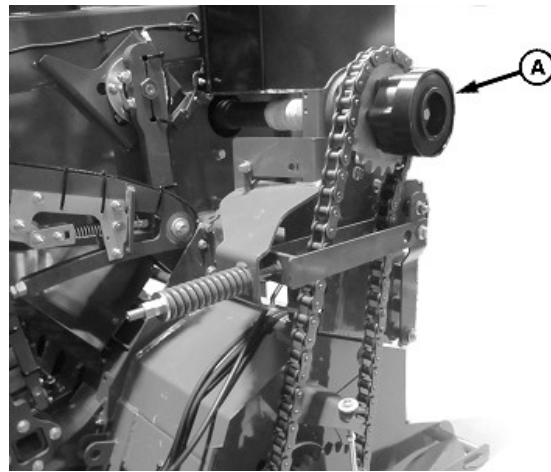
A—Cam Type Clutch

Main Gear Case Protection—(if equipped):

The cam-type clutch (A) protects the main gear case from overload. Cam clutch disengages when crop load becomes too high or foreign object blocks plunger.

To re-engage the automatic cam-type clutch, decrease PTO rpm.

- Re-engage PTO as soon as the cam clutch engages to avoid a hard start-up of the machine.
- If the cam clutch does not engage, dump tension system pressure and attempt restart.
- If necessary, clear crop from precompression chamber and front of plunger.



E84676—UN—29SEP17

A—Cam-Type Clutch

Rotor Protection:

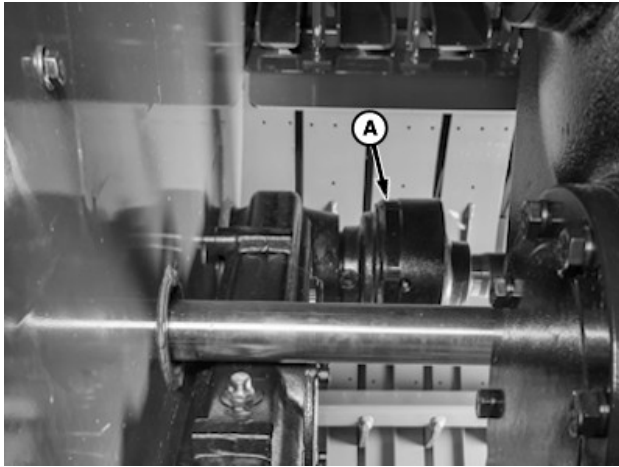
⚠ CAUTION: Only restart machine once cause of failure has been identified and solved. Working with a defect or unsafe machine results in serious personal injuries or heavy material damage.

The cam-type clutch (A) protects the intake rotor.

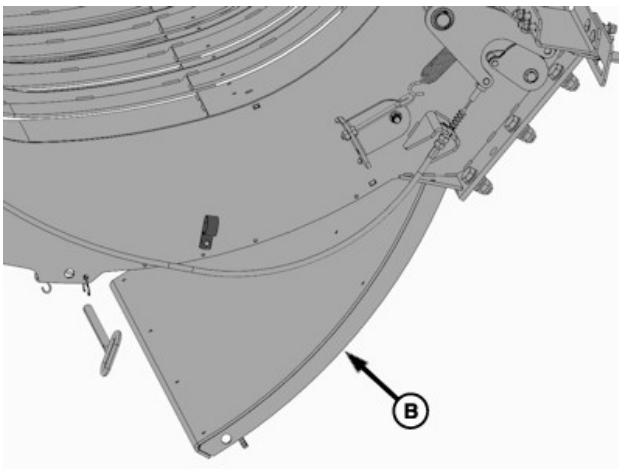
To re-engage the cam-type clutch, decrease PTO rpm.

Move 1—2 m (3—6 ft) backwards to stop crop flow.

Slowly increase PTO rpm.



E75977—UN—21MAY14



E75978—UN—21MAY14

A—Cam-Type Clutch
B—Service Cover

Feeder Fork Protection:

⚠ CAUTION: Overload is the result of excessive load on feeder fork (for example driving speed too high, presence of foreign objects, and others).

Stay clear of service cover during opening. Compressed material causes the cover to spring open suddenly and cause injury.

⚠ CAUTION: Only restart machine once cause of failure has been identified and solved. Working with a defect or unsafe machine results in serious personal injuries or heavy material damage.

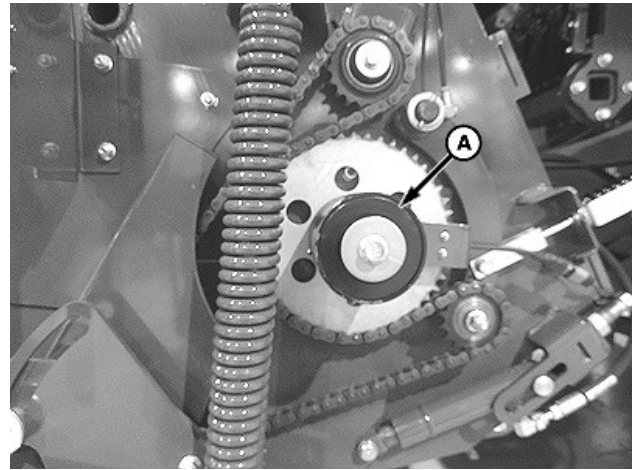
The phased cam-type clutch (A) protects the packer.

To re-engage the automatic cam-type clutch, decrease PTO rpm.

If the feeder fork clutch does not re-engage:

1. Stop machine.
2. Stop PTO.

3. Open service cover (B) underneath precompression chamber and clear crop or foreign objects.



E83006—UN—04MAY17

A—Freewheel Clutch

Pickup Protection:

⚠ CAUTION: Only restart machine once cause of failure has been identified and solved. Working with a defect or unsafe machine results in serious personal injuries or heavy material damage.

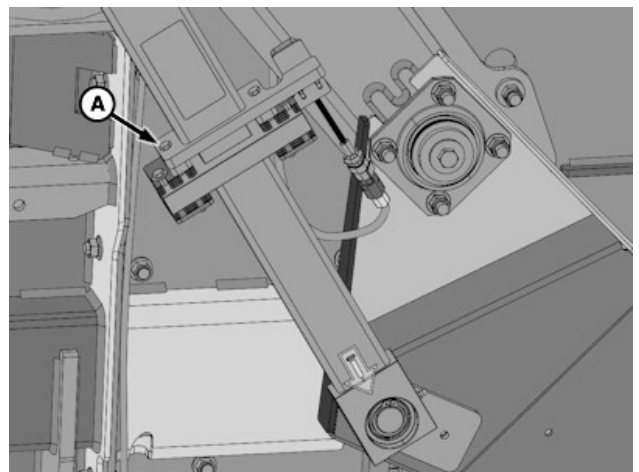
The pickup freewheel clutch (A) protects the pickup drive.

Automatic clutch activation is caused by:

- An excessive load on pickup.
- Pickup too low to ground.
- Foreign objects in the pickup reel.

Stop tractor, shut off engine, engage flywheel brake, and wait for all motion to stop. Clear plug from pickup and restart baler.

Needle Protection:



E75980—UN—13NOV14

A—Shear Bolt (2 used)

CAUTION: Only restart machine once cause of failure has been identified and solved. Working with a defect or unsafe machine results in serious personal injuries or heavy material damage.

If there is an overload, the two shear bolts (A) protect the needles.

IMPORTANT: Shear bolts are designed to fail under a predetermined load. Always replace shear bolts with identical grade:

- Shear bolts 1/4 x 3-1/4 in, Grade 8
- Lock nuts, Grade 9

Only use genuine shear bolts. (See regular spare part channels to order.)

Replace shear bolts (A) with genuine parts. Tighten nuts to 5.4 N·m + 1/2 turn (48 lb·in + 1/2 turn).

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Driveline Difficulties

CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut off engine, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Friction clutch slips too often.	Incorrect adjustment.	Check clutch spring length. (See Adjust Friction Clutch in Service section.)
	Clutch plates overheated & glazed.	Replace friction plates and clutch disks.
Automatic torque limiter of flywheel runs too often (if equipped).	Bale density too high.	Reduce hydraulic pressure.
	Accumulation of dirt in bale chamber.	Empty and clean bale chamber.
		Lower machine load set point.
Shear bolt in flywheel shears too often (L331R and L331C only).	Bale density too high.	Reduce hydraulic pressure.
	Accumulation of dirt in bale chamber.	Empty and clean bale chamber.
		Lower machine load set point.
Primary or secondary driveline vibration.	Flywheel bearing worn.	Replace bearings. See regular spare part channels to order.
	Pedestal bearings worn.	Replace bearings. See regular spare part channels to order.

Symptom	Problem	Solution
	Free play in PTO shaft. Primary driveline near separating length or bottoming out when articulating.	Check tractor drawbar length and collapsed driveline length per chart. (See Telescoping Driveline in Preparing the Baler section.) Install different driveline if needed.

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Crop Flow Difficulties

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
Breakage of pickup teeth.	Pickup height too low.	Raise pickup height. See Adjust Pickup Height in Service section.
	Pickup float incorrectly adjusted.	Increase float spring tension. See Adjust Pickup Float Springs in Service section.
	Missing or damaged crop strippers.	Replace strippers.
	Twine wrapped in tooth bars.	Clear twine from pickup reel.
Pickup teeth bent or broken	Pickup set too low	Raise pickup. See Adjust Pickup Height in Operating the Baler section. Adjust gauge wheels. See Adjust Gauge Wheels in Operating the Baler section.
	Foreign material inside pickup strippers or broken teeth.	Remove material or replace teeth.
	Noisy pickup.	Cam roller broken or missing.
Crop strippers badly aligned or damaged.		Correct crop stripper alignment. Replace strippers.
Twine wrapped in tooth bars.		Clear twine from pickup reel.

Troubleshooting

Symptom	Problem	Solution
Feeder fork clutch disengages frequently.	Too much crop coming into machine.	Reduce forward speed.
	Uneven windrows.	Adjust rake or windrower settings.
	Foreign object in machine.	Clean out machine and remove object.
	Pre-chamber density too high.	Reduce pre-chamber density. See Adjust Precompression Chamber Density in Service section.
Rotor clutch disengages frequently.	Too much crop coming into machine.	Reduce forward speed.
	Uneven windrows.	Adjust rake or windrower settings.
	Foreign object in machine.	Clean out machine and remove object.
Noisy feeder fork operation even when machine is empty.	Forks bent, out-of-time, or hardware has loosened.	Check condition of forks for straightness, feeder timing, and bolt adjustment.
Windrow is not picked up.	Pickup in raised position.	Lower pickup.
	Pickup height too high.	Adjust gauge wheels to lower pickup operation height.
	Precompression Chamber Door Open	Close Precompression Chamber Door
	Pickup slip clutch disengaged.	Check pickup for foreign objects or excessive material. Clear from machine and restart.
	Drive chain is broken or jumped off sprocket.	Replace chain, check clutch stub shaft, and bearing.
	Excessive ground speed.	Lower ground speed.
	Windrow too small and thin.	Make wider or thicker windrows.
	Pickup teeth bent or broken.	Replace teeth. See regular spare part channels to order.
	Crop wrapping around rotor.	Excessive rotor scraper clearance.
Pickup is blocked.	Too much crop coming into machine.	Remove crop and check for foreign object before restarting.
	Foreign object in machine.	Remove crop and check for foreign object before restarting.

GW44282.0000D1B-19-13NOV25

Plungerhead Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Plunger noisy.	Clearance between rail and plunger roller too large.	Adjust clearance within specified limits. (See Adjust Roller in Service section.)
	Knives missing.	Install new plunger knife sections. (See Adjust Knife in Service section.)
	Knives dull.	Sharpen knives.
	Knife clearance too big.	Adjust knife clearance. (See Adjust Knife in Service section.)
Heating of plunger rollers.	No clearance between rails and plunger rollers.	Adjust clearance to within specified limits. (See Adjust Roller in Service section.)
	Accumulation of crop.	Clean plunger rollers.
	Wear of roller bearing.	Replace rollers. See regular spare part channels to order.

PP98408,0000905-19-13NOV25

Hydraulics Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Hydraulic pressure not increasing.	Control valve not connected.	Connect control valve.
	PTO not engaged.	Engage PTO.

Symptom	Problem	Solution
	Low oil level.	Fill with recommended oil, if necessary. (See Use of Hydraulic Oil in Lubricants and Capacities section.)
	Air in hydraulic system.	Bleed hydraulic system. Check all hoses and connections.
	Pump overheated.	Check lines and reservoir for excessive material buildup. Check coolers (fan circuit) for material buildup. Stop machine and wait for oil to cool. Replace pump if necessary. See regular spare part channels to order.
	Dirty oil.	Drain, flush system, refill with new oil, and replace filter.
	Manual override valve not working correctly.	Replace manual override valve.
	Pump not working correctly.	Check flow. Repair or replace pump if necessary. See a John Deere dealer or other service provider.
	Rotor sensor faulty.	Replace rotor speed sensor. See regular spare part channels to order.
	Pressure sensor faulty.	Replace sensor. See regular spare part channels to order.
Hydraulic pressure drops with each plunger stroke.	Plunger overload.	Lower tension system pressure or decrease machine load setting.

PP98408,0000906-19-13NOV25

Baling Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Banana shaped bales.	Crop flow into machine is not even.	Adjust windrow forming equipment (rake, merger, or mower) to lay out windrows approximately 70% as wide as the pickup width. Weave baler back and forth to feed light windrows equally across pickup.
	Uneven hydraulic pressure on bale tension panels.	Zero the tension system pressure. (See Pressure Dump in Service section.) Bleed tension system. Resume baling at desired tension system setting.
Incomplete bale chamber fill (bales soft on top).	Damp crop.	Adjust precompression chamber setting. (See Adjust Precompression Chamber Density in Service section.) Install silage kit.
	Feeder fork timing incorrect.	Adjust feeder fork timing. (See Adjust Feeder Fork Timing in Service section.)
	Build up of trapped material in precompression chamber or bale chamber.	Empty and clean out bale chamber and precompression chamber.
	Loss of plunger scraper.	Replace scraper and set clearance to specification. (See Adjust Plunger Scraper in Service section.)
	Precompression chamber density too low.	Increase measuring plate tension. (See Adjust Precompression Chamber Density in Service section.)
	PTO rpm not correct.	Run PTO at 1000 rpm only.
Bale does not come out of bale chamber with last bale eject system.	Hooks of bale ejector not adjusted correctly.	Adjust hooks of bale ejector. (See Adjust Bale Ejector in Service section.)
	Bale chamber pressure is > 0 kPa (0 bar) (0 psi).	Zero the tension system pressure. (See Pressure Dump in Service section.)
	Ejector teeth do not engage last bale.	Bale ejector teeth must move using full strokes forward and backward to walk final bale toward roller chute.

Symptom	Problem	Solution
		Visually verify that cylinder is moving its full range of motion on each stroke.

PP98408,0000907-19-16OCT14

Feed Difficulties

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
Baler does not feed hay. Plugged at feed opening.	Missing the pickup teeth.	Replace teeth.
	Slip clutch worn.	Check the pickup slip clutch. (See a John Deere dealer or other service provider.) Replace pickup slip clutch. (See regular spare part channels to order.)
	Plugging at the crop dividers.	See Plug at Crop Dividers in Pickup Difficulties in this section.
	Large windrows and ground speed is too fast.	Reduce windrow size and reduce speed.
Baler does not feed short, dry, slick, or brittle crops.	Pickup is too low.	Raise the pickup. (Adjust Pickup Height in Operating the Baler section.)
	Slip clutch worn.	Check the pickup slip. (See a John Deere dealer or other service provider.) Replace pickup slip clutch. (See regular spare part channels to order.)
	Windrows are too small.	Make larger windrows by raking.
	Weathered windrows (rained on several times).	Make larger windrows by raking.
	Brittle crop breaks into smaller pieces easily.	Bale with dew on crop, especially rotary combined straw

Symptom	Problem	Solution
Baler does not feed cornstalks.	Pickup is too high.	Lower the pickup. (See Adjust Pickup Height in Operating the Baler section.)
	Slip clutch worn.	Check the pickup slip. (See a John Deere dealer or other service provider.)
		Replace pickup slip clutch. (See regular spare part channels to order.)
	Windrows are too large.	Make windrows smaller. Slow ground speed.
	Missing or broken pickup teeth.	Replace teeth.
Pickup plugs in the cornstalks.	Pickup stalls. Float on the roller baffle is too light.	Check compressor rack torsion springs or add a chain link in-line with the float springs to make the roller baffle heavier.

GW44282,0000D1C-19-13NOV25

Feed Difficulties with Roller Baffle

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
Crop pushing ahead of the roller.	Tall stubble.	Raise the pickup.
	Low drawbar.	Raise the pickup.
Crop wrapped on the roller.	Ties are missing.	Replace missing ties on the roller.
Pickup plugs in the cornstalks.	Pickup stalls. Float on the roller baffle is too light.	Check compressor rack torsion springs, or add a chain link in-line with the float springs to make the roller baffle heavier.

GW44282,0000D1D-19-08OCT20

Needles Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Frequent breakage of needle frame shear bolt.	Wrong shear bolt used.	Install correct shear bolt. (See Replace Needle Frame Drive Shear Bolts in Service section.)
	Foreign object in machine.	Clean out machine to find object.
	Needles out of adjustment.	Check needle adjustments. (See Adjust Needles to Knotter Frame and Adjust Needles to Plunger Timing in Service section.)
	Knotter shaft brake out of adjustment.	Adjust knotter shaft brake to specification. (See Adjust Knotter Shaft Brake in Service section.)
	Needle-to-plunger timing out of adjustment.	Check knotter drive shaft for evidence of twisting. Adjust timing of needle-to-plunger. (See Adjust Needles to Plunger Timing in Service section.)
	Twine spools tangled up.	Check spools of twine and twine tension plates.
Needle fails frequently	Lower twine tension too high.	Decrease lower twine tension.
	Gear pawl worn on one side or on both side	Inspect every 6,000 bales. Replace gear pawl if worn on one side or other side.
Erratic tripping of the tying system.	Sector arm is not dropping freely.	Check clearance between sector arm and sector wheel. (See Adjust Sector Arm in Service section.)
No tripping of the tying system.	Seized mechanism.	Clean and lubricate trip mechanism.
	Sector arm in locked position.	Put arm in work position.
	Teeth of sector arm and/or sector wheel worn.	Replace if necessary. See regular spare part channels to order.

Symptom	Problem	Solution
Needle breakage.	Needle-to-plunger timing out of adjustment.	Check knotter drive shaft for evidence of twisting. Adjust timing of needle-to-plunger. (See Adjust Needles to Plunger Timing in Service section.)

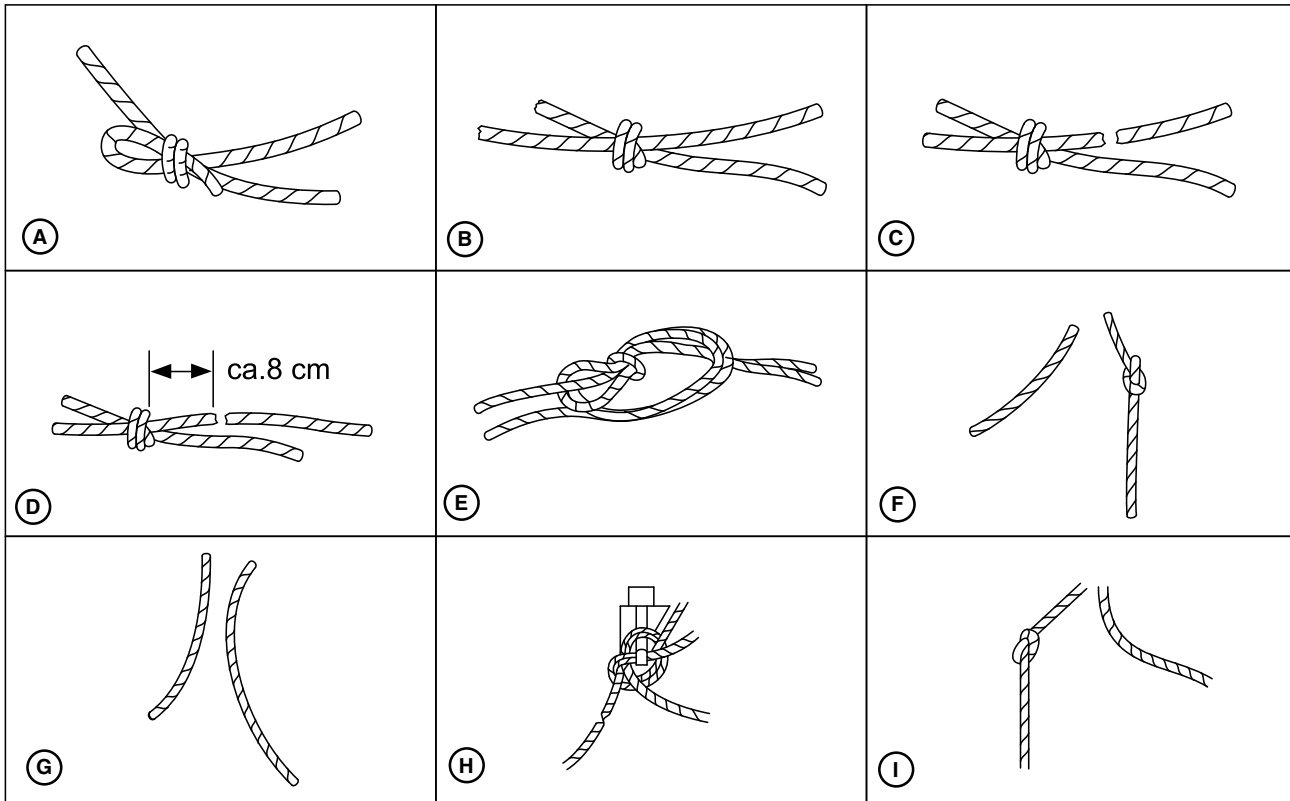
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Knotters Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Knotters are inoperable.	Knotter drive system failure.	Check knotter drive shaft, gear cases, and clutch mechanism.
Tying system does not engage.	Sector arm is not engaging freely.	Check clearance between sector arm and sector wheel. (See Adjust Sector Arm in Service section.)
	Seized mechanism.	Clean and lubricate trip mechanism.
	Trip mechanism locking lever in locked position.	Disengage locking lever.
	Sector wheel teeth worn.	Replace if necessary.
	Trip mechanism bearing worn.	Replace if necessary.



E71994—UN—11NOV13

Symptom

Twine breaks.

Problem

Density pressure too high.

Twine inserted wrong.

Poor twine quality.

Twine tension set too high.

Twine tangled in twine box.

(A)—Twine end is looped into knot. (Does not affect knot strength.) Spring tension on hook too low.

Billhook tongue is closing on top of twine.

Twine hanging up on knife arm.

Excessive clearance between billhook and knife or wiper arm.

Twine retainer in poor adjustment.

Solution

Reduce density pressure.

Check twine routing.

Replace twine using recommended twine.

Adjust twine tension.

Check twine and untangle.

Tighten set nut 1/2 turn.

Adjust timing of twine disks. (See Twine Disk Timing in Service section.)

Polish knife or wiper at bend.

Adjust clearance. (See Adjust Wiper Arm and Adjust Wiper Plate in Service section.)

Adjust twine retainer. (See Twine Disk Timing and Twine Holder Pressure in Service section.)

Troubleshooting

Symptom	Problem	Solution
	Knotter knife dull or damaged.	Sharpen or replace knife. (See Replace Twine Knife and Wiper Plate in Service section.)
	Wiper arm stroke is too short.	Replace wiper arm. (See Remove and Install Wiper Arm Assembly in Service section.)
		Check knotter disk cam for wear.
(B)—Frayed or different twine ends.	Insufficient tension on twine disk holder.	Increase clamping force by adjusting disk holder spring. (See Twine Holder Pressure in Service section.)
	Knotter knife dull or damaged.	Sharpen or replace knife. (See Replace Twine Knife and Wiper Plate in Service section.)
(C)—Twine damaged or broken just behind knot.	Twine tension is too high and increases probability of damages.	Decrease pressure or tension on knotter disk.
	Wiper arm opening surface is rough.	Smooth rough edges of wiper arm.
(D)—Knot has been made, but twine around bale is broken.	Tucker finger does not return to home position. When needle returns, twine is positioned over twine finger.	Verify that tucker finger has free movement. Spring must return tucker finger to home position.
		Tucker finger bearing needs replaced. (See Remove and Install Tucker Finger and Bearing in Service section.)
(E)—Knot is loose.	Billhook tongue is worn or damaged.	Replace billhook. (See Remove and Install Billhook Assembly in Service section.)
	Bale density is too low.	Increase bale chamber tension.
		Install stationary hay dogs. (See Remove and Install Stationary Hay Dogs in Service section.)
	Normal wear of knotter.	Adjust knife and wiper plate. (See Replace Twine Knife and Wiper Plate in Service section.)
	Low billhook tongue pressure.	Adjust billhook tongue. (See Billhook Tongue Pressure Setting in Service section.)
	Twine disk out of adjustment.	Adjust twine disk. (See Twine Disk Timing and Twine Holder Pressure in Service section.)

Troubleshooting

Symptom	Problem	Solution
(F)—A single knot on needle twine.	Twine is pulled from twine retainer due to low compression spring pressure. (Twine not frayed.)	Adjust or increase tension of compression spring.
	Twine over bale pulled out of twine disk. (Is detected by square cut end which has been flattened in disks. This twine is shorter than mating twine tied on opposite side of bale.)	Increase tension on twine holder disk spring. (See Twine Holder Pressure in Service section.)
		Decrease bale tension.
		Adjust feeder fingers.
	Twine over bale sheared out of twine disks. (Different from aforementioned. Twine end is frayed and torn, not cut squarely by knife.)	Decrease tension on twine holder disk. (See Twine Holder Pressure in Service section.)
		Reduce bale tension.
(G)—No knot in either twine end.	Twine retainer is out of adjustment or worn. (Twine not frayed.)	Adjust twine retainer. (See Twine Holder Pressure in Service section.)
		Replace if necessary. (See Remove and Install Twine Disk Assembly in Service section.)
	Twine breaks at twine retainer. (Twine frayed.)	Adjust twine tension. Decrease baling pressure.
		Inspect twine integrity. Replace with recommended twine if necessary.
	Twine brake is set to strong.	Adjust twine tension.
	Billhook tongue does not open.	Check for lost billhook tongue roller, excessive wear on roller and cam face, or damaged billhook tongue.
Billhook does not rotate because spring pin in pinion gear has been sheared.	Replace spring pin. (See Remove and Install Billhook Assembly in Service section.)	
Tucker finger does not return to home position. (Twine not frayed.)	Inspect tucker finger and springs for proper movement. Adjust or repair if necessary.	
Twine is clamped in twine retainer. (Both ends frayed.)	Check twine retainer adjustment. (See Twine Holder Pressure in Service section.)	
A knot is made, but twine ends have not been fully cut due to a dull knife. Removing action loosens knot.	Sharpen or replace knife. (See Replace Twine Knife and Wiper Plate in Service section.)	

Troubleshooting

Symptom	Problem	Solution
	Twine sheared in twine disks.	Loosen twine holder. (See Twine Holder Pressure in Service section.) Remove all sharp edges and burrs on twine holder and disks.
Knot in each end of twine.	Tucker fingers did not pick up needle twine or move it into twine disk correctly.	Adjust tucker fingers. Adjust twine disk and needles.
	This twine is longer than mating twine on opposite side of bale.	Check twine disk and twine box tension.
	Hay dogs not holding end of bale ¹ .	Loosen frozen hay dogs. Replace broken hay dog springs. (See Remove and Install Hay Dog in Service section.) Reduce feeding rate.
		Verify that plunger scrapers are in place. (See Adjust Plunger Scraper in Service section.)
Twine has slipped off back of needle and twine end is tied inside previous knot.	Twine does not come in at correct position at back of needle due to poor guidance. Twine is positioned next to slot of needle and caught by billhook.	Check alignment of twine guide to needle.
	Twine tensioner not adjusted strong enough.	Adjust twine tension.
(H)—Knot stays on billhook and twine breaks.	Wiper arm stroke is too short.	Replace wiper arm or check cam on knotter disk for wear. (See Remove and Install Wiper Arm Assembly in Service section.)
	Compression spring shutter tension is too high.	Adjust spring tension.
	Billhook is rough or grooved.	Smooth or replace billhook. (See Remove and Install Billhook Assembly in Service section.)
	Bale pressure setting is too low, causing twine not being tensioned to enable knot to be removed from billhook.	Adjust bale pressure.

¹ Hay dogs must extend into bale chamber completely with stroke of plunger.

Troubleshooting

Symptom	Problem	Solution
	Dull knotter knife.	Sharpen or replace knife. (See Replace Twine Knife and Wiper Plate in Service section.)
Knot does not slip off billhook.	Excessive billhook tongue tension.	Loosen billhook pressure arm spring adjusting nut.
	Insufficient travel of wiper arm past billhook.	Adjust knife/wiper arm. (See Adjust Wiper Arm in Service section.) Check cam for wear. Replace when necessary.
	Knife/wiper arm plate is not contacting back face of billhook.	Adjust wiper plate until plate contacts profile of billhook.
	Knife/wiper arm lift (or rise) is not sufficient.	To increase movement past end of billhook, adjust knife/wiper arm. (See Adjust Wiper Arm in Service section.)
	Rough billhook.	Smooth off all rough edges on billhook using emery cloth.
	Worn or bent billhook.	Replace billhook. (See Remove and Install Billhook Assembly in Service section.)
	Bale density is too low.	Increase bale chamber tension. Install stationary hay dogs. (See Remove and Install Stationary Hay Dogs in Service section.)
	Twine tension too high.	Reduce tension.
Twine disk out of adjustment.	Adjust timing of twine disk. (See Twine Disk Timing in Service section.)	
(I)—A single knot in twine over bale.	Tucker finger does not position twine on end of needle correctly.	Check and adjust tucker finger. (See Adjust Tucker Finger Plate and Link in Service section.)
	Twine at end of needle is not caught by twine retainer.	Adjust twine retainer and needle. (See Twine Holder Pressure in Service section.)
	Twine retainer is dirty.	Clean twine retainer.
	Twine retainer worn.	Replace worn parts. (See Remove and Install Twine Disk Assembly in Service section.)
	Baling pressure too high.	Decrease baling pressure.

Troubleshooting

Symptom	Problem	Solution
	Hay dogs not holding end of bale ² .	Loosen frozen hay dogs. Replace broken hay dog springs. (See Remove and Install Hay Dog in Service section.) Reduce feeding rate. Verify that plunger scrapers are in place.
Twine cut and frayed behind knot.	As billhook turns, twine is pinched between billhook and knife arm. Twine is damaged 13—25 mm (0.5—1 in.) from knot.	Replace knife/wiper arm. (See Remove and Install Wiper Arm Assembly in Service section.) Wiper plate on knife/wiper arm must contact profile of billhook.
	Rough knife/wiper arm cuts twine 19—32 mm (0.75—1.25 in.) from knot.	Smooth off rough edge in twine notch of knife/wiper arm.
	High top twine tension.	Reduce bale weight by reducing bale tension. Check twine tension.
	Rough wiper hole edge.	Remove sharp edge.
Twine broken at base of knot.	Poor quality twine.	Use recommended twine only.
	Twine strength too low. High twine tension due to high bale density.	Use recommended twine only, or reduce bale density.
Shutter hits knot remover mechanism of knotter body.	There is no spring pressure on roller of billhook.	Check presence and movability of all parts. Replace parts as necessary.
Twine is not feeding. Knots with 3 twines.	Needles out of adjustment.	Adjust needle stroke. (See Adjust Needles to Knotter Frame in Service section.) Check twine routing.
Twine is not caught. (Twine not frayed.)	Clamping disks do not catch twine.	Adjust needle height. (See Adjust Needles to Knotter Frame in Service section.) Adjust grooves of retaining disks and removers.
After knot is tied, twine ruptures upon ejection of bale.	Crop is too wet.	Decrease baling density. Allow crop to dry.

² Hay dogs must extend into bale chamber completely with stroke of plunger.

Troubleshooting

Symptom	Problem	Solution
	Baling pressure too high.	Decrease baling pressure.
	Crop feed is too small.	Drive over center of windrow. Merge smaller windrows together using rake.
	Twine quality is poor.	Use recommended baling twine.
	Retaining disk tension is too high.	Decrease retaining disk tension. (See Twine Holder Pressure in Service section.)
Needles not raising. No twine in twine disk and no knot in either twine.	Sheared needle-drive shear bolt.	Replace shear bolt. (See Replace Needle Frame Drive Shear Bolts in Service section.)
Knotter clutch drive lug not engaging.	Broken release arm spring or knotter clutch spring lost.	Replace broken or lost spring.

PP98408,0000909-19-16OCT14

Automatic Greasing System Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut engine off, remove key from ignition, set parking brake, and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

IMPORTANT: If lubrication points have been dry for an extended period, purge system using bypass lubrication fitting at main divider block or at each secondary divider block until sufficient lubrication appears.

Automatic Greasing System		
Problem	Cause	Solution
Pump does not work.	Electrical harness broken.	Repair or replace electrical harness.
	Electric motor broken.	Replace motor.
	Fuse blown.	Find cause and replace fuse.
Pump works, but no grease output.	Air bubble in pump plunger.	Bleed pump. (See <u>Bleeding Automatic Grease System</u> in Section 30, Group 15.)
	Grease level in reservoir below minimum.	Refill reservoir with recommended grease. (See <u>Use of Grease</u> in Section 10, Group 20.)
	Pump piston broken.	Replace pump piston. (See <u>Remove and Install Pump Piston</u> in Section 30, Group 15.)
	Motor runs in wrong direction (see arrow on reservoir).	Change polarity of wires to pump motor.
	Overflow tube is blocked.	If reservoir has been overfilled, a vacuum inside reservoir can be present and will hold grease in reservoir. Clean overflow tube.
All lubrication points are dry.	Pump not working.	Replace pump piston. (See <u>Remove and Install Pump Piston</u> in Section 30, Group 15.)
	Grease system setting too low.	Increase grease system setting using ISOBUS display.
	System is blocked.	Check for grease at pressure release valve.
Several lubrication points are dry.	Lines to divider blocks broken or leaking.	Repair lines as necessary.
	Compression couplings leaking.	Tighten or replace compression couplings.

Troubleshooting

Automatic Greasing System		
Several points in one area of machine are dry.	Line from primary divider block is leaking or broken.	Remove secondary supply line from divider block and cycle pump. If no grease is present, repair or replace line.
	Fitting is leaking at secondary divider block or inlet.	Check fittings for leakage. Repair or replace fitting as necessary.
One lubrication point is dry.	Line is broken or leaking.	Repair lines as necessary.
	Compression coupling leaking.	Tighten or replace compression coupling.
Grease at the output of the pressure release valve.	System pressure too high.	Test the system.
	Divider blocked.	Repair or replace divider block. (See <u>Auto Grease System Blockage</u> in Section 30, Group 15.) or (See <u>Remove and Install Divider Blocks</u> in Section 30, Group 20.)
	System blocked.	Repair blocked or failed bearings.
	Spring in pressure release valve is broken.	Replace pressure release valve.
Pump rotates slowly.	High pressure in system.	Check pressure relief valve for grease. If no grease is present, loosen each secondary divider block inlet fitting one at a time. If pressure relieves at fitting, check individual points for restrictions. Clear restriction from line.
	Extremely cold temperatures.	Clean out reservoir and fill with low temperature grease or grease of lower NLGI rating.

If grease alarm appears on monitor, first check the following:

- Presence of grease in reservoir.
 - Fill reservoir with recommended grease. (See Use of Grease in Section 10, Group 20.)
 - Bleed system if necessary. (See Bleeding Automatic Grease System in Section 30, Group 15.)
- Visually check to see if pump is running. Grease agitator will constantly stir contents in reservoir while machine is in operation.
 - Check grease settings.
 - Check power connections.
 - Check for correct drive direction (arrow on container).

PP98408,000090B-19-16OCT14

Precutter Difficulties

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
Rotor plugged at frontside.	Ground speed is too high.	Reduce ground speed.
	PTO speed low.	Increase PTO speed. Always run the baler at rated PTO speed.
	Irregular crop flow.	Adjust windrower or rake.
Excessive crop loss.	Crop being cut too fine.	Reduce number of knives. (See Remove and Install Precutter Knives in Preparing the Baler section.)
Rotor plugged at backside.	Cutting length is too short.	Reduce number of knives. (See Remove and Install Precutter Knives in Preparing the Baler section.)
Crop wrapping around rotor.	Rotor strippers or auger strippers have excessive clearance.	Adjust strippers to correct clearance. (Rotor stripper tips: 4-9 mm stripper to tube) (Auger scrapers: 0.1-3 mm scraper to auger)
Excessive power required to operate machine.	Dull knives.	Sharpen knives. (See Sharpen Knives in Service section.)
	PTO speed low.	Increase PTO speed. Always run the baler at rated PTO speed.
	Excessive ground speed.	Reduce ground speed.
Knives cannot be engaged.	Dirt between or around knife mechanism is blocking knife movement.	To remove blockage; clean knife slots, knife sides, and knife mechanism. (See Operate Precutter Knives in the Operating the Baler section.)
	Oil cannot flow to the knife cylinders.	Check the shutoff valve of the hydraulic system.
Knives cannot be disengaged.	Oil cannot flow to the knife cylinders.	Check shutoff ball valves of the hydraulic system.

Symptom	Problem	Solution
Bales are not holding together.	Crop being cut too fine.	Reduce number of knives. (See Remove and Install Precutter Knives in Preparing the Baler section.)

GW44282,0000D1E-19-08OCT20

Pickup Difficulties

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
Windrow is not picked up.	Pickup is in raised position.	Lower pickup.
	Pickup height is too high.	Adjust gauge wheels to lower pickup operation height.
	Pickup slip clutch disengaged.	Check pickup for foreign objects or excessive material. Clear from machine and restart.
	Precompression Chamber Door Open	Close Precompression Chamber Door
	Drive chain is broken or jumped off sprocket.	Replace chain, check clutch stub shaft, and bearing.
	Excessive ground speed.	Lower ground speed.
	Windrow too small and thin.	Make wider or thicker windrows.
Crop wrapping around rotor.	Pickup teeth bent or broken.	Replace teeth. (See regular spare part channels to order.)
	Excessive rotor scraper clearance.	Adjust rotor scrapers.
Pickup is blocked.	Too much crop is coming into the machine.	Remove crop and check for foreign object before restarting.
	Foreign object is in the machine.	Remove crop and check for foreign object before restarting.
Pickup teeth do not revolve.	Feed opening plugged with crop.	Reduce ground speed or windrow size.

Troubleshooting

Symptom	Problem	Solution
	Slip clutch worn.	Check the pickup slip clutch. (See Check Pickup Slip Clutch Torque in Service section.) Replace pickup slip clutch. (See regular spare part channels to order.)
	Broken cam or other internal pickup parts.	Check for failed or worn cam or internal parts. Repair or replace as necessary. (See a John Deere dealer or other service provider.)
Pickup will not float or drop freely.	Excess or insufficient float assist.	Adjust pickup float springs. (See Adjust Pickup Float Springs in Service-Baler section.)
	Binding between flare and end strippers.	Remove chaff and dirt. Straighten any bent parts.
Not picking up hay cleanly.	Pickup teeth set too high.	Lower pickup. (See Adjust Pickup Height in Operating the Baler section.)
	Too much float spring tension, pickup bounces or stays up.	Reduce float spring tension. (See Adjust Pickup Float Springs in Service-Baler section.)
	Damaged crop dividers or stripper, causing pickup to stay up.	Straighten or replace damaged parts. (See a John Deere dealer or other service provider.)
	Ground speed too fast.	Reduce ground speed.
	Windrows too light.	Rake heavier windrows.
	Pickup teeth bent or broken.	Straighten or replace teeth. (See a John Deere dealer or other service provider.)
	Hitch position not correct.	See Adjust Baler Hitch in Preparing Baler section.
	Overcrowding ends.	Reduce crowding. Install converging wheels if not equipped.
	Tractor tires smashing crop into stubble.	Widen wheel spacing. (See Adjust Tractor Wheels in the Preparing the Tractor section.)
Pickup teeth digging in the ground.	Pickup set too low.	Raise pickup. (See Adjust Pickup Height in Operating the Baler section.)
	Gauge wheels are set too high relative to teeth.	Adjust gauge wheels. (See Adjust Gauge Wheels in Operating the Baler section.)

Troubleshooting

Symptom	Problem	Solution
	Poor pickup flotation.	Increase float spring tension. Check pivots. (See Adjust Pickup Float Springs in the Service-Baler section.)
	Soft ground. Pickup does not raise high enough.	Turn tractor drawbar over. (See Adjust the Drawbar in Preparing the Tractor section.)
Pickup teeth bent or broken.	Pickup set too low.	Raise pickup height. (See Adjust Pickup Height in Operating the Baler section.) Adjust gauge wheels. (See Adjust Gauge Wheels in Operating the Baler section.)
	Foreign material inside pickup strippers or broken teeth.	Remove material or replace teeth.
	Baling cornstalks.	Raise pickup. Higher tooth breakage can be expected.
Plugging at crop dividers.	Overcrowding ends.	Reduce crowding. Install gathering wheels. (See Attachments section.)
	Pickup set too low.	Raise pickup. (See Adjust Pickup Height in Operating the Baler section.)
	Tractor tires smashing crop into stubble.	Widen wheel spacing. (See Adjust Tractor Wheels in Preparing the Tractor section.)
Inside of strippers worn.	Strippers bent up hitting the tooth coils.	Raise pickup. (See Adjust Pickup Height in Operating the Baler section.) Check for binding at crop dividers. Increase float. (See Adjust Pickup Float Springs in Service-Baler section.) Bend strippers down for clearance and check tooth coils on pickup teeth for damage.

GW44282,0000D1F-19-13NOV25

Rotor and Auger Difficulties

⚠ CAUTION: Never work on machine while it is running. Driveline can continue after disengaging PTO. Stay clear of machine until it has come to a complete stop. Shut off engine, remove key from ignition, set park brake and engage flywheel brake before repair or servicing.

Only restart machine once cause is identified and resolved. Working with an unsafe machine can result in serious injury or damage to equipment.

Symptom	Problem	Solution
Rotor is plugged at the front side.	Ground speed is too high.	Reduce the ground speed.
	Crop floor is irregular.	Check the compressor rack torsion springs. Adjust the windrower or rake.
	PTO speed is low.	Increase PTO speed. Always run the baler at rated PTO speed.
Crop wrapping around the rotor.	Rotor strippers or auger strippers have excessive clearance.	Adjust the strippers to correct clearance. (See Adjust Auger Scrapers in the Service section.)
Excessive power required to operate the machine.	Ground speed is excessive.	Reduce the ground speed.
	Dull knives (precutter machines only)	Sharpen the knives. (See Sharpen Knives in the Service section.)

GW44282,0000D20-19-08OCT20

Ride Control Difficulties

⚠ CAUTION: Never work on a machine while it is running. The driveline can continue after disengaging the PTO. Stay clear of the machine until it has come to a complete stop. Shut off the engine, remove the key from the ignition, set the park brake and engage the flywheel brake before repair or servicing.

Only restart the machine once cause is identified and resolved. Working with an unsafe machine results in serious injury or damage to equipment.

Symptom	Problem	Solution
No Main Page Feedback.	Feature is not enabled.	Navigate to the Automation Systems Page and enable the Baler Ride Control Checkbox.

Symptom	Problem	Solution
	Tractor is not capable.	Navigate to the Automation Systems Page and check the status at the bottom of the page or navigate to the Automation Systems Diagnostics to verify that the tractor is compatible. If not please see a John Deere dealer or other service provider for further help.
Tractor System has a fault inhibiting Baler Ride Control or the Baler Ride Control fault icon is shown on the main page.	Tractor system fault exists that is inhibiting the Baler Ride Control feature from working.	Navigate to the Automation Systems Diagnostics Page and check what system currently has a fault active. If the tractor system has a fault active then consult the Tractor Operator's Manual and see a John Deere dealer or other service provider.
	GPS system fault exists that is inhibiting the Baler Ride Control feature from working.	Navigate to the Automation Systems Diagnostics Page and check what system currently has a fault active. If the GPS system has a fault active then ensure that a Starfire receiver is plugged into the tractor and not under a covered building. If the problem persists, consult a Starfire Receiver Operator's Manual or see a John Deere dealer or other service provider.
Baler System has a fault inhibiting Baler Ride Control or the Baler Ride Control fault icon is shown on the main page.	Baler system fault exists that is inhibiting the Baler Ride Control feature from working.	Navigate to the Automation Systems Diagnostics Page and check what system current has a fault active. If the Baler system has a fault active then see a John Deere dealer or other service provider.
Communication with Tractor Lost.	Communication between the baler and tractor was interrupted or has stopped.	Restart the tractor. If the problem persists see a John Deere dealer or other service provider.
Mismatch on Baler Ride Control feature communication between tractor and baler	Communication between the baler and tractor does not match as expected	Restart the tractor. If the problem persists see a John Deere dealer or other service provider.

Status Alerts—Preservative Applicator (If Equipped)

Two status alerts appear on the Auto and Manual Mode screens when the Job Records are approaching, or full of records:

- **Bale Records: Less Than 1K Remaining**— The system is now approaching the maximum number of

records saved. When this code appears, download and delete jobs in the Job Records menu.

- **Bale Records Failed - Memory Full**—The system no longer accepts any new data until the jobs in the Job Records menu are downloaded and deleted.

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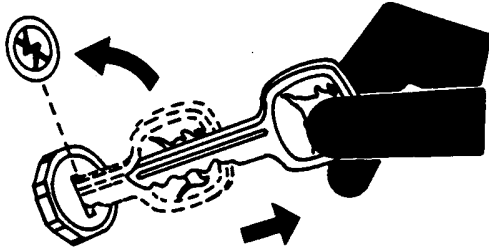
Diagnosing Preservative Applicator

Preservative Applicator		
Problem	Cause	Solution
Pump does not run.	No voltage to the pump control unit.	Check for a short or low voltage. Replace the fuses if necessary.
	Pump is locked up.	Clean or rebuild the pump if the motor is OK.
	Damaged wire.	Repair or replace the damaged wire.
	Fuse blown on the pump control unit.	Replace the fuse and check the pump for a short in the wire or a locked motor.
Pumps run but will not prime.	Air leak in the intake.	Tighten the fittings on the intake side.
	Clogged intake.	Clean the intake.
	Restricted outlet.	Check and clean the sprayer nozzle tips and strainers.
	Check if the valve on the outlet is stuck closed.	Clean or repair the check valve.
	Dirt inside the pump.	Replace the pump check valve.
Pump does not develop enough output.	Air leaks or clogs on the inlet side.	Tighten or clean the filter bowl assembly.
	Pump worn or dirty.	Rebuild the pump.
Product is less than actual product used.	The voltage supplied to the meter is less than 6 volts.	Check for a minimum of 6 volts supplied at the pump control unit.
	Dirty or defective nozzle.	Clean or replace nozzle in nozzle body.
Product shown is more than actual product used.	Light interference with meter.	Reflection into meter can cause a high reading. Move the meter or protect it from the sunlight.
	Air leak in intake.	Look for air bubbles in lines. Replace the line or other defective area that is allowing air into the system.
System leaks product after shut down.	Dirty or defective nozzle.	Clean or replace nozzle in nozzle body.
System does not pause at the end of a row.	Verify with a multimeter actual voltage. Voltage range must be between 12—14 volts.	Clean connections and make sure that the applicator has power.
	Damaged sensor.	Replace the sensor.
	Poor alignment of sensor.	Adjust sensor.
Display is locked or frozen.	CAN communication is not responding	Check connections at the pump control unit including the terminating resistors. Power the display DOWN and restart.

hy01057,1710344910522-19-13MAR24

Lubrication and Maintenance

Lubricating and Maintaining Machine Safely



TS230—UN—24MAY89

CAUTION: To help prevent personal injury caused by unexpected movement, be sure to service machine on a level surface.

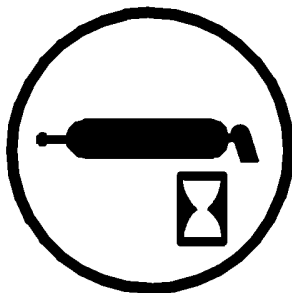
Do not lubricate or maintain machine while it is in motion.

If machine is connected to tractor, engage tractor parking brake and place transmission in Park, shut off engine, and remove key.

If machine is detached from tractor, block wheels to prevent movement.

PP98408,000088F-19-29NOV17

Observe Service Intervals



CC 000934

CC000934—UN—05APR95

Using bale total counter as a guide, perform services at hourly or bale intervals indicated on following pages.

IMPORTANT: Recommended service intervals are for average conditions. Service **MORE OFTEN** if baler is operated in adverse conditions.

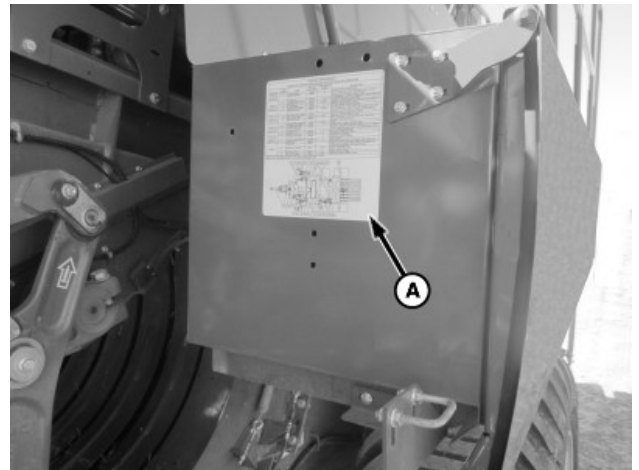
Before performing any maintenance, the following must be obtained:

- Never work on a machine while it is running.
- PTO must be switched off.

- Tractor engine must be switched OFF and ignition key must be removed.
- Apply flywheel brake.
- Clean machine.

PP98408,0000890-19-14OCT14

Maintenance Decal Location



E80230—UN—14OCT15

Left-Hand Twine Box Front

A—Maintenance Decal

Maintenance decal (A) shows different locations of grease points around machine. Follow lubrication and maintenance times provided on decals and see service intervals listed in this section for further information.

Bearing failures or overheating can result in a fire. To reduce bearing failures or overheating, follow service intervals listed in this section for further information.

Crop material and other debris can accumulate around bearings and bearing support plates. Inspect and clean these areas periodically throughout the day.

PP98408,000001B-19-14OCT15

Perform Lubrication and Maintenance

Clean lubrication fittings before using grease gun. Replace any lost or broken fittings immediately. If a fitting fails to take grease, remove and check for failure of adjoining parts.

PP98408,000001C-19-29NOV17

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected

from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX.LUBST-19-11APR11

Mixing of Lubricants

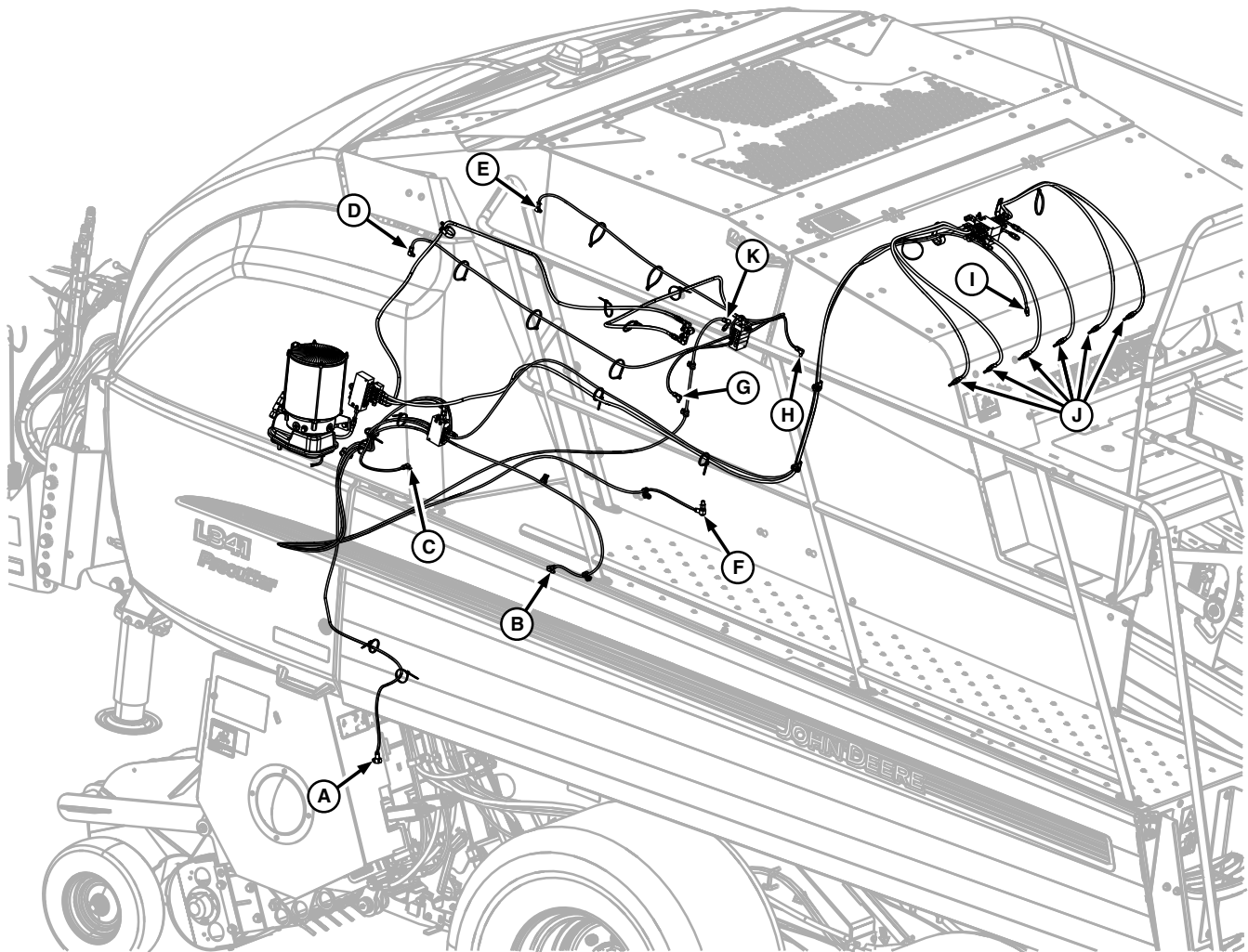
In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

DX.LUBMIX-19-18MAR96

Automatic Greasing System

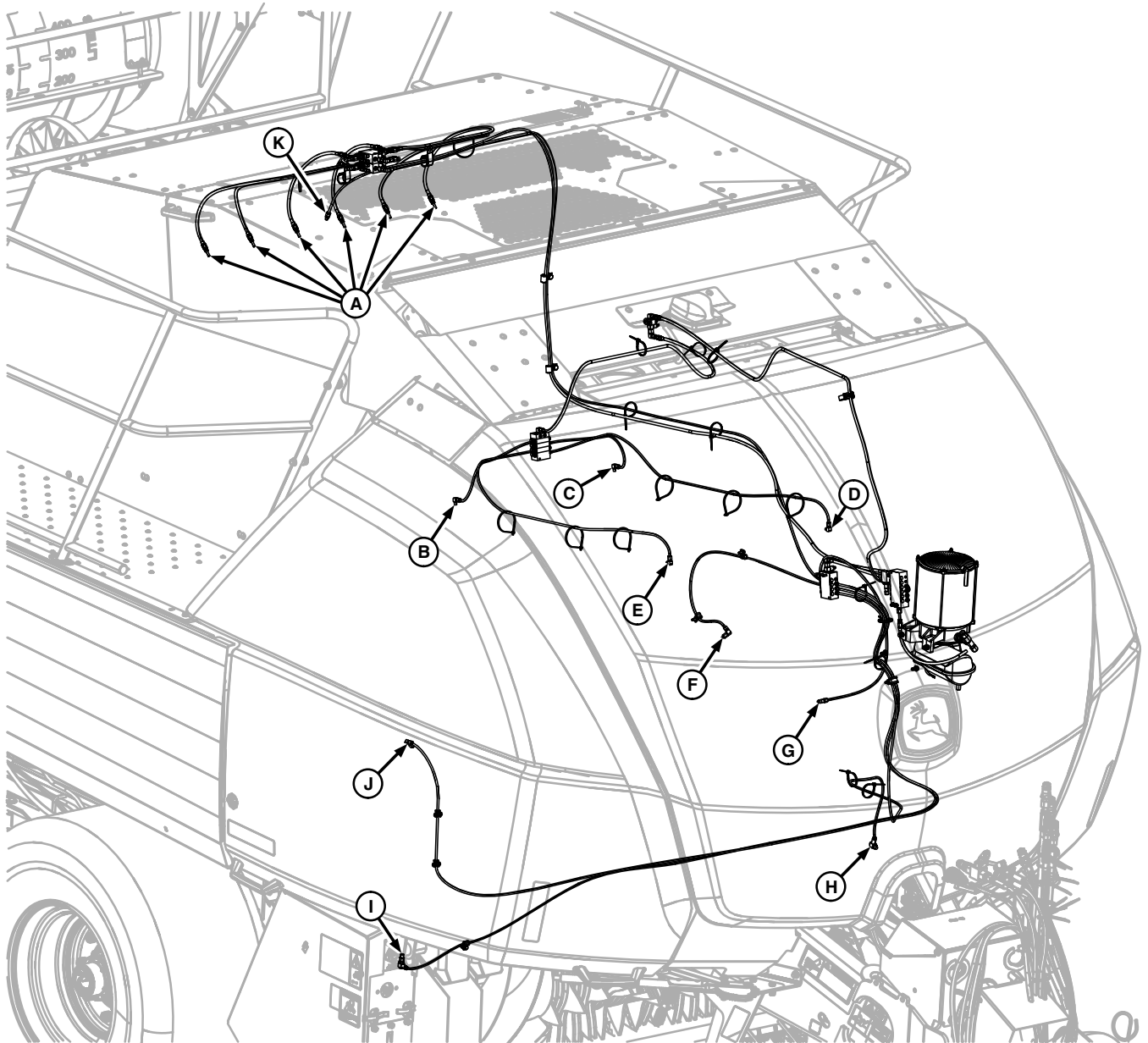
Automatic Greasing Function



E84968—UN—24OCT17

A—Pickup Chain Tensioner
 B—Short Crank Arm Bearing
 C—Feeder Hook Bushing
 D—Front Plunger Arm, Left-Hand Side
 E—Front Plunger Arm, Right-Hand Side
 F—Rotor Chain Tensioner

G—Rear Plunger Arm, Left-Hand Side
 H—Rear Plunger Arm, Right-Hand Side
 I—Knotter Center Shaft Support
 J—Knotters (6 used)
 K—Rotor Drive Shaft Bearing



E84969—UN—24OCT17

- A—Knotters (6 used)
- B—Rear Plunger Arm, Right-Hand Side
- C—Rear Plunger Arm, Left-Hand Side
- D—Front Plunger Arm, Left-Hand Side
- E—Front Plunger Arm, Right-Hand Side
- F—Short Crank Arm Bearing

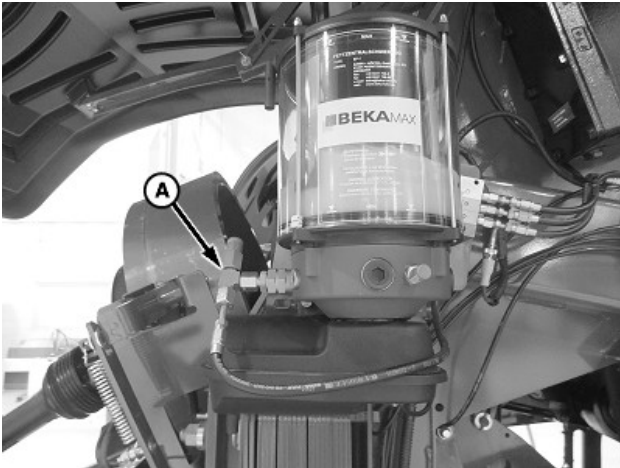
- G—Feeder Hook Bushing
- H—Pickup Chain Tensioner
- I—Rotor Chain Tensioner
- J—Rotor Drive Shaft Bearing
- K—Knotter Center Shaft Support

NOTE: Depending on machine equipment, some greasing points are not connected to the automatic greasing system. This section shows which greasing points are connected or not connected to the automatic greasing system.

disable, or set automatic greasing system, see Operate Baler Display in Operating Baler Application section.

System provides a grease pump driven by an electric motor, greasing lines, grease distributors, and an electronic timer controlled with monitor. Once system is enabled, grease pump turns at regular ON and OFF intervals according to operator settings. To enable,

Check System for Proper Operation



A—Pressure Relief Valve

E84939—UN—18OCT17

Manually initiate automatic greasing cycle with the monitor for 15 minutes.

If blockage occurs at a lube fitting or in a lube line, grease escapes from pressure relief valve (A). This valve is a safety feature which allows system checks.

Intermediate Greasing

Manually initiate automatic greasing cycle with the monitor:

- During first 5 minutes at the start of each harvesting season.
- During first 5 minutes after cleaning with a high-pressure washer or steam cleaning.
- During last 5 minutes at end of season.

Service

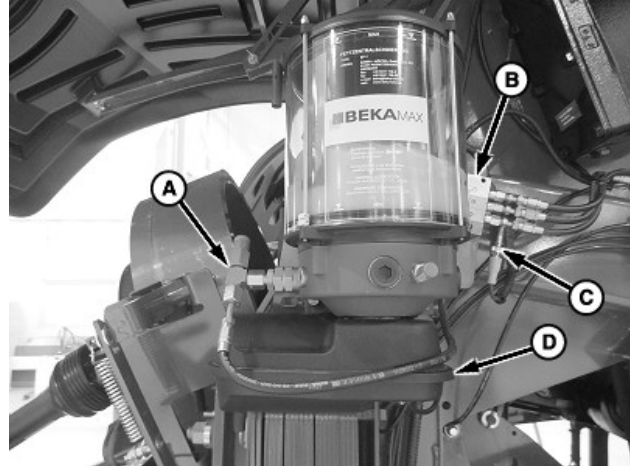
NOTE: All system components are maintenance-free.

During first few weeks of operation, periodically check system and following points:

- Sufficient grease at bearing points.

- Broken or leaking lines.

Automatic Grease System



**A—Pressure Relief Valve
B—Main Divider Block
C—Grease Sensor
D—Grease Pump**

E84940—UN—18OCT17

Machine is equipped with an automatic grease system. The system consists of a pressure relief valve (A), main block divider (B), grease sensor (C), and a grease pump (D). Additional left and right side divider blocks distribute grease to all points connected to the system.

The baler control unit controls the automatic grease system.

System is refilled using:

- Standard manual grease gun.
- Grease gun or volume filler (air driven) using different connectors.
- Standard cartridge using a refill press.

Fill grease container of the pump to maximum as indicated on outside of the grease container.

hcmw3gg,1679520606599-19-28MAR23

Service Intervals

SERVICE	INTERVAL					
	Every 10 Hours or 400 Bales ^a	Every 50 Hours or 2000 Bales ^a	Every 150 Hours or 6000 Bales ^a	Every 250 Hours or 10,000 Bales ^a	Every 500 Hours or 20,000 Bales ^a	Yearly
• Required service interval						
Check rotor chain tension	•					
Check pickup chain tension	•					
Oil pickup and rotor chains	•					
Lubricate pickup slip clutch				•		
Precutter Knives	•					
Clean Drop Floor	•					
Lubricate rear PTO shaft	•					
Lubricate front PTO shaft	•					

Lubrication and Maintenance

SERVICE • Required service interval	INTERVAL					
	Every 10 Hours or 400 Bales ^a	Every 50 Hours or 2000 Bales ^a	Every 150 Hours or 6000 Bales ^a	Every 250 Hours or 10,000 Bales ^a	Every 500 Hours or 20,000 Bales ^a	Yearly
Lubricate feeder fork	•					
Check lower knotter gear case oil level		•				
Check upper knotter gear case oil level		•				
Check main gear case oil level		•				
Check packer gear case oil level		•				
Check hydraulic oil level		•				
Check plunger needle slots		•				
Check knotters		•				
Check feeder fork timing		•				
Check automatic grease system		•				
Lubricate axle pivots		•				
Lubricate axle hinges		•				
Lubricate rotor driveshaft				•		
Lubricate fan driveshaft				•		
Lubricate needle carrier connecting rod		•				
Lubricate knotter clutch		•				
Check knotter gearbox pawl			•			
Check knotter trip mechanism			•			
Check finger of trip arm			•			
Check measure plate cable			•			
Check knotter shaft brake			•			
Check twine retainer disk			•			
Lubricate knotter driveshaft			•			
Lubricate shear bolt housing			•			
Lubricate main drive overload clutch ^b			•			
Lubricate pivoting gauge wheel pivots			•			
Lubricate converging wheel arms			•			
Lubricate precutter floor pivot pins			•			
Check plunger knife clearance				•		
Check plunger adjustment				•		
Lubricate BalerAssist tensioner arm				•		
Lubricate feeder fork slip clutch ^b				•		
				•		
Replace hydraulic oil and filter					•	
Replace main gear case oil					•	
Replace upper knotter gear case oil					•	
Replace lower knotter gear case oil					•	
Replace packer gear case oil					•	
Check tucker finger spring						•
Check needle to knotter clearances						•
Check twine placement arm spring						•
Check twine path						•
Check wheel bolt torque						•
Check friction clutch						•

^aWhichever occurs first.

^bOnly lubricate if clutch has been slipping.

Service Intervals—Preservative Applicator (If Equipped)

Required service interval	Service Intervals					
	Daily	Every 10 Hours	Every 400 Hours	Weekly	Monthly	Each Season
Clean Filter Bowl		•				•
Clean Tips and Tips Screen	•					•
Clean Tank Lid		•				•
Check Valves			•			
Inspect Hoses				•		•

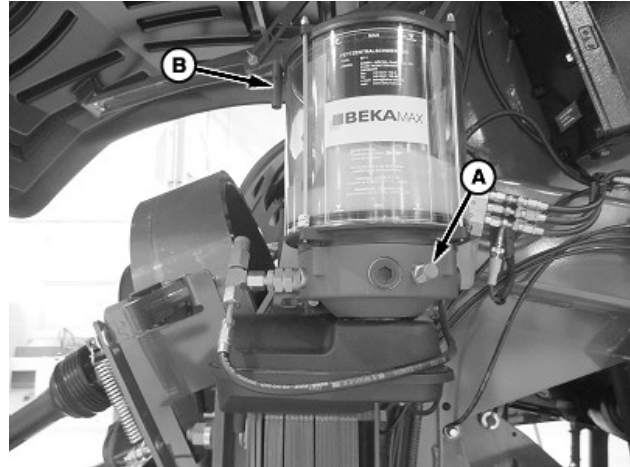
wkjqwj.1661491132302-19-08SEP22

As Required Service

Refill Automatic Greasing System Reservoir (If Equipped)



E84941—UN—18OCT17



E84942—UN—18OCT17

A—Filling Nipple
B—Vent Tube

IMPORTANT: Cleanliness is a must when filling system.

Refill the reservoir as required, depending on the automatic greasing system settings. Use only grease specified in Lubricant and Capacities section.

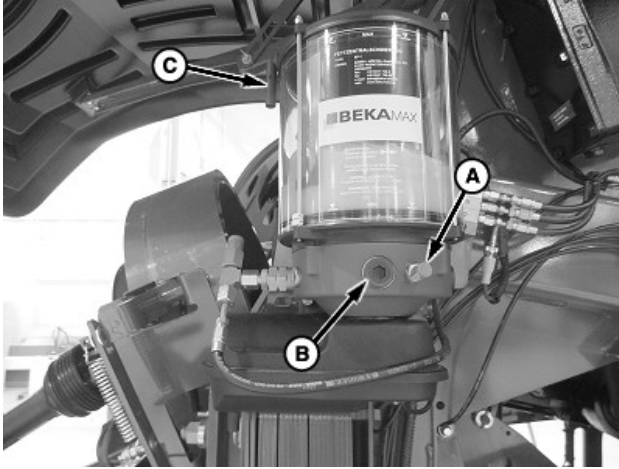
Specification

Greasing Reservoir—Capacity. 1.9 kg
(4.2 lb)

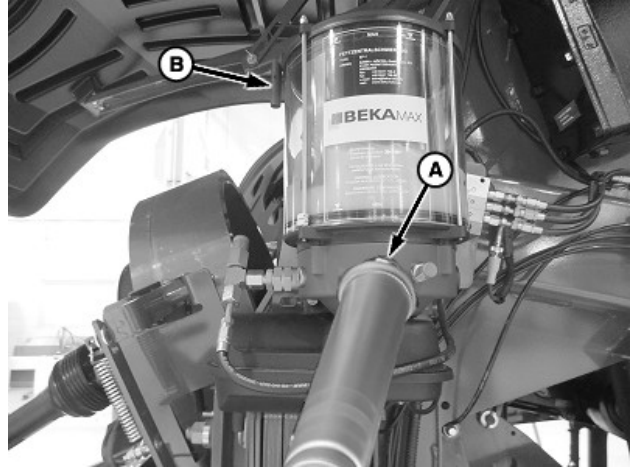
Standard filling using lubrication nipple with manual or pneumatic grease gun

1. Remove filling nipple (A) cover.
2. Fill system using manual or pneumatic grease gun. Do not fill the reservoir beyond the maximum fullness level.
3. Make sure that the vent tube (B) on outside of reservoir is not plugged.
4. Dispose of any greasy cleaning rags according to local and national regulations.

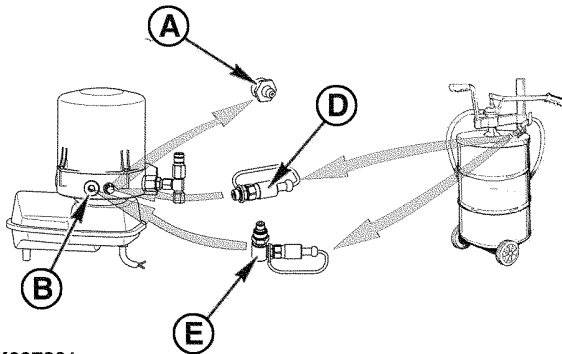
Filling using filling socket and high-flow filling press



E84943—UN—18OCT17



E84944—UN—19OCT17



ZX207291

ZX207291—UN—08NOV13

- A—Filling Nipple
- B—Filling Plug
- C—Vent Tube
- D—Filling Socket
- E—Filling Socket

1. Remove filling nipple (A) and replace with filling socket (D) or remove filling plug (B) and replace with filling socket (E) for grease.
2. Fill system using a high-flow filling press. Do not fill the reservoir beyond the maximum fullness level.
3. Make sure that the vent tube (C) on outside of reservoir is not plugged.
4. Dispose of any greasy cleaning rags according to local and national regulations.

Filling using a quick refill kit



E77391—UN—14OCT14

- A—Filling Plug
- B—Vent Tube
- C—Straight Filling Joint
- D—Quick Refill Kit

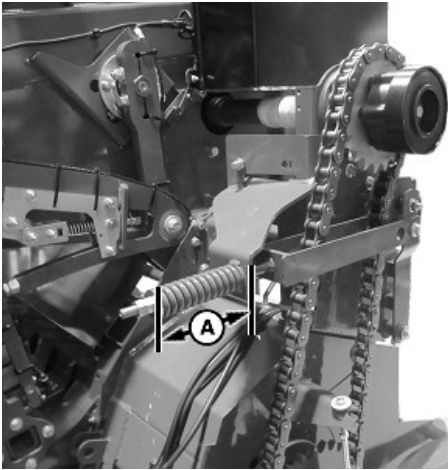
1. Remove filling plug (A) and replace with a straight filling joint (C).
2. Fill system using a quick refill kit (D). Do not fill the reservoir beyond the maximum fullness level.
3. Make sure that the vent tube (B) on the outside of reservoir is not plugged.
4. Dispose of any greasy cleaning rags according to local and national regulations.

czhk963,1684839275959-19-30MAY23

Every 10 Hours or 400 Bales Service

NOTE: Perform the following services after every 10 operating hours or 400 bales, whichever occurs first.

Check Rotor Chain Tension



E84675—UN—28SEP17

A—Spring Length

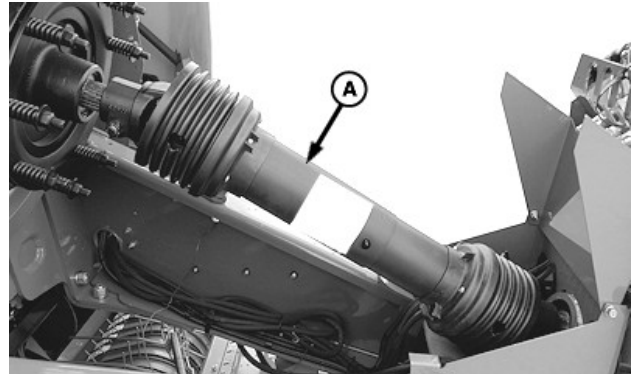
Every 10 hours of operation, check the rotor chain tension.

Make sure that rotor chain tension spring length (A) is within specification. Adjust as needed.

Specification

Rotor Chain Tension—Length..... 160 mm
(6.3 in)

Lubricate Rear PTO Shaft

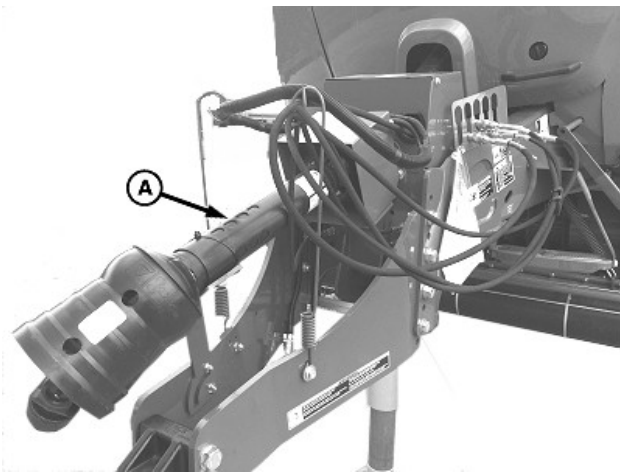


E77838—UN—17DEC14

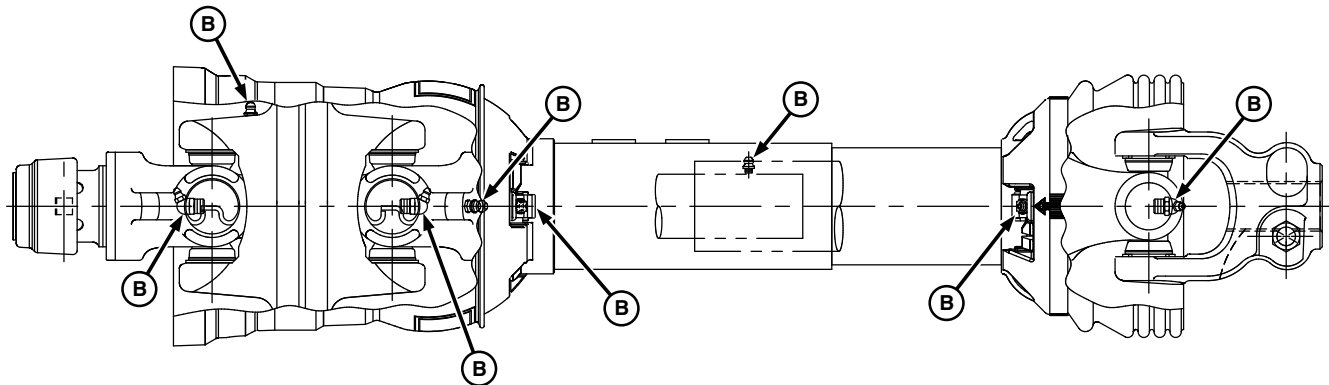
A—PTO Shaft

Every 10 hours of operation, lubricate rear PTO shaft. PTO shaft (A) is equipped with three lubrication fittings. Lubricate with recommended grease.

Lubricate Front PTO Shaft



E84511—UN—11SEP17



PTO Shaft (A)

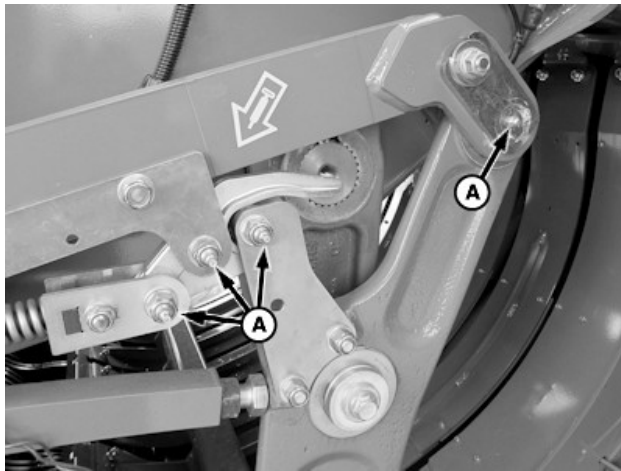
E77485—UN—13NOV14

A—PTO Shaft

Every 10 hours of operation, lubricate front PTO shaft. PTO shaft (A) is equipped with eight lubrication fittings (B).

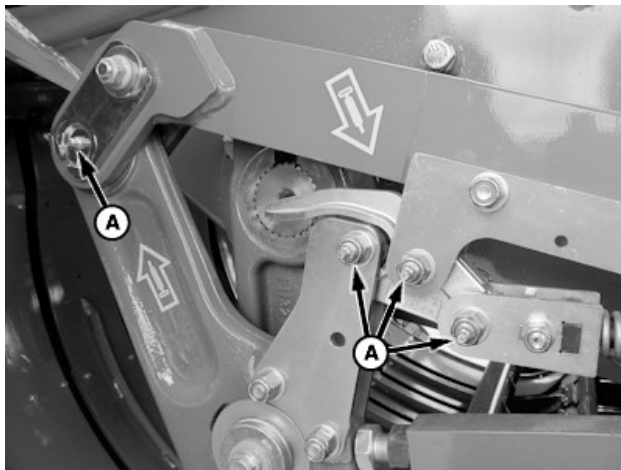
Lubricate with recommended grease.

Lubricate Feeder Fork



Left-Hand Side

E76533—UN—16JUL14



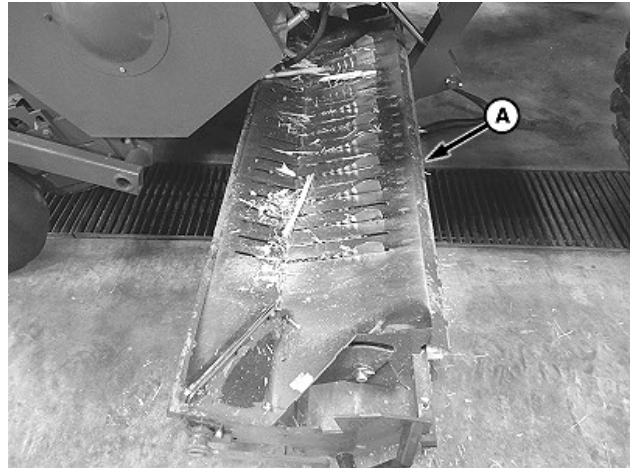
Right-Hand Side

E76534—UN—16JUL14

A—Lubrication Fitting (4 per side)

Every 10 hours of operation, lubricate feeder fork. Feeder fork has four lubrication fittings (A) per side.

**B—Lubrication Fittings (8 used)
Clean Drop Floor**



E84670—UN—28SEP17

A—Knife Drawer

1. Lower the drop floor (see Operating Drop Floor in Operating the Baler section).
2. Engage and retract knives several times ending with knives engaged. (see Operate Precutter Knives in Operating the Baler section).

NOTE: Material is easily removed when the knives are engaged.

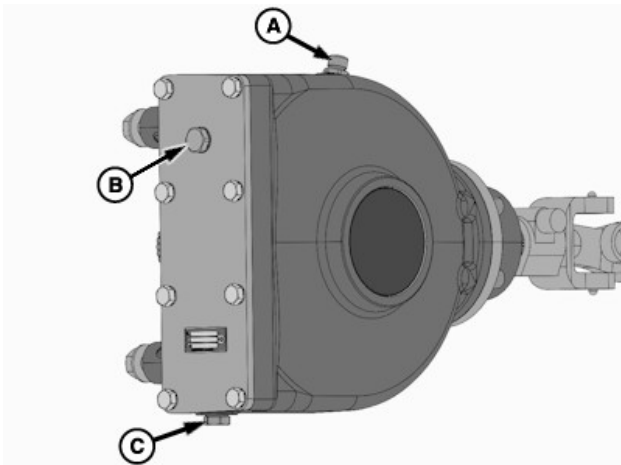
3. Turn off tractor engine and remove the key.
4. Apply the flywheel brake.
5. Lock the knife shutoff valves.
6. Pull knife drawer out (A). (see Remove and Install Precutter Knives (L331R Precutter, L341R Precutter, and L341R HD Precutter Only) in Preparing The Baler section).
7. Remove material by blowing compressed air from below the drawer.
8. Push knife drawer (A) back in to operating position.

hcmw3gg,1679525274520-19-28MAR23

Every 50 Hours or 2000 Bales Service

NOTE: Perform the following services after every 50 operating hours or 2000 bales, whichever occurs first.

Check Lower Knotter Gear Case Oil Level



E75920—UN—19MAY14

- A—Fill Plug
- B—Check Level Plug
- C—Drain Plug

Every 50 hours of operation, check the lower knotter gear case oil level.

Remove the check level plug (B). If oil comes out of the hole, the level is correct.

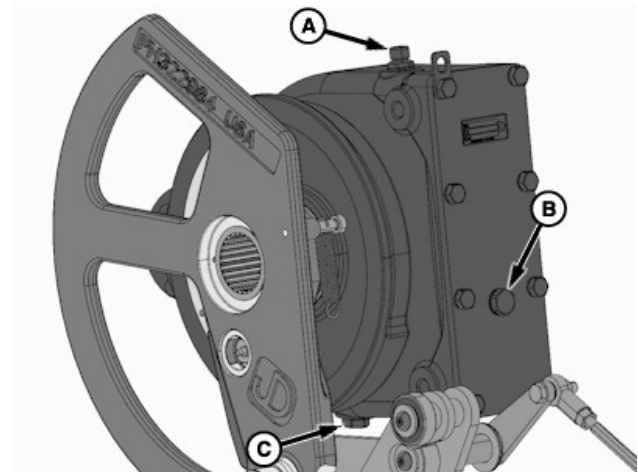
Reinstall the check level plug (B). If no oil comes out, the gear case needs to be filled.

Filling the lower knotter gear case:

1. Remove the check level plug (B).
2. Remove the fill plug (A).
3. Replenish the oil using the opening of the fill plug (A), until a little oil comes out of the check level plug (B) hole. Use oil specified in Lubricants and Capacities section.
4. Reinstall the check level plug (B).
5. Reinstall the fill plug (A).

NOTE: To drain the lower knotter gear case oil, remove the drain plug (C).

Check Upper Knotter Gear Case Oil Level



E76535—UN—16JUL14

- A—Fill Plug
- B—Check Level Plug
- C—Drain Plug

Every 50 hours of operation, check the upper knotter gear case oil level.

Remove the check level plug (B). If oil comes out of the hole, the level is correct.

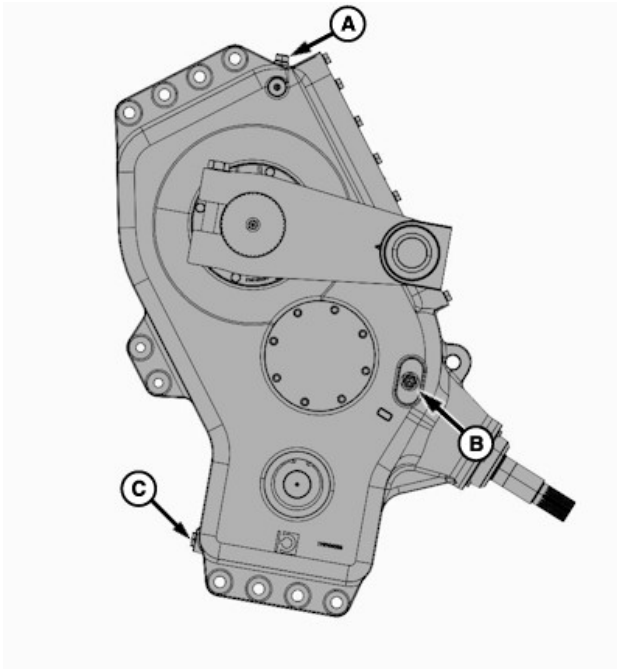
Reinstall the check level plug (B). If no oil comes out, the gear case needs filled.

Filling the upper knotter gear case:

1. Remove the check level plug (B).
2. Remove the fill plug (A).
3. Replenish the oil using the opening of the fill plug (A), until a little oil comes out of the check level plug (B) hole. Use oil specified in Lubricants and Capacities section.
4. Reinstall the check level plug (B).
5. Reinstall the fill plug (A).

NOTE: To drain the upper knotter gear case oil, remove the drain plug (C).

Check Main Gear Case Oil Level



E75922—UN—19MAY14

- A—Fill Plug
- B—Check Level Plug
- C—Drain Plug

Every 50 hours of operation, check the main gear case oil level.

If oil is visible using the window of the check level plug (B), the level is correct.

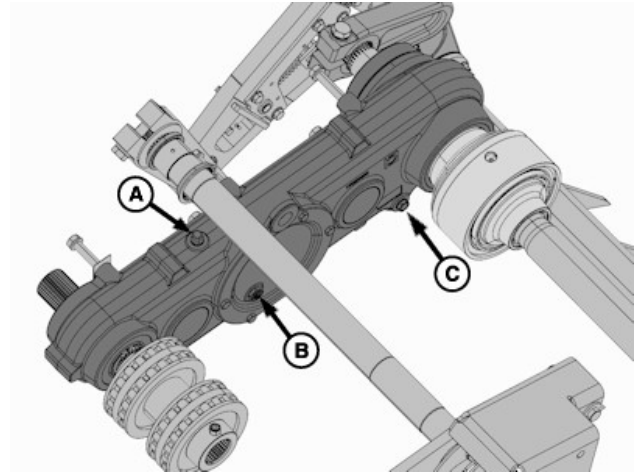
If no oil is visible, the gear case needs to be filled.

Filling the main gear case:

1. Remove the fill plug (A).
2. Replenish the oil using the opening of the fill plug (A), until oil is visible using the window of the check level plug (B). Use oil specified in Lubricants and Capacities section.
3. Reinstall the fill plug (A).

NOTE: To drain the main gear case oil, remove the drain plug (C).

Check Packer Gear Case Oil Level



E75921—UN—20MAY14

- A—Fill Plug
- B—Check Level Plug
- C—Drain Plug

Every 50 hours of operation, check the packer gear case oil level.

If the oil is visible using the window of the check level plug (B), the level is correct.

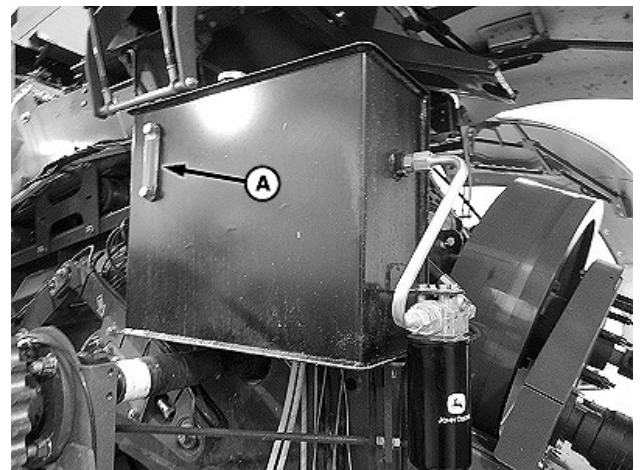
If no oil is visible, the gear case needs to be filled.

Filling the packer gear case:

1. Remove the fill plug (A).
2. Replenish the oil using the opening of the fill plug (A), until the oil is visible using the window of the check level plug (B). Use oil specified in Lubricants and Capacities section.
3. Reinstall the fill plug (A).

NOTE: To drain the packer gear case oil, remove the drain plug (C).

Check Hydraulic Oil Level



E82448—UN—20MAR17

- A—Sight Glass

Every 50 hours of operation, check the hydraulic oil level.

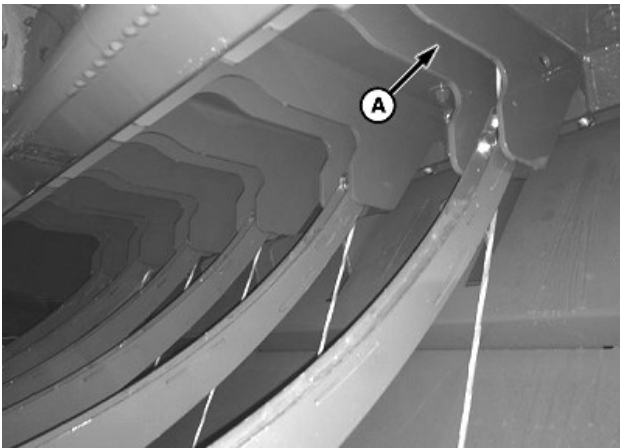
Check the level of hydraulic oil using the sight glass (A):

- With 0 kPa (0 bar) (0 psi) pressure.
- With bale chamber cylinders retracted.
- After the baler has run for 5 minutes (warm oil).

The hydraulic oil level is correct when the top of the oil is at top of the sight glass (A).

Use recommended oil specified in Lubricants and Capacities section.

Check Plunger Needle Slots



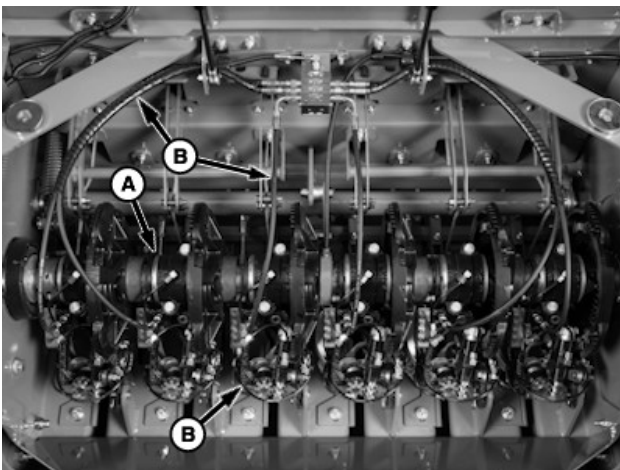
E84580—UN—18SEP17

A—Plunger Needle Slot (as required)

Every 50 hours of operation, check the plunger needle slots (A).

Clear needle slots of all crop buildup or debris.

Check Knotters



E75907—UN—16MAY14

L341R Shown

A—Knotter (6 used)
B—Grease Line (6 used)

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly (See Inspect Knotter Assembly in the Service section).

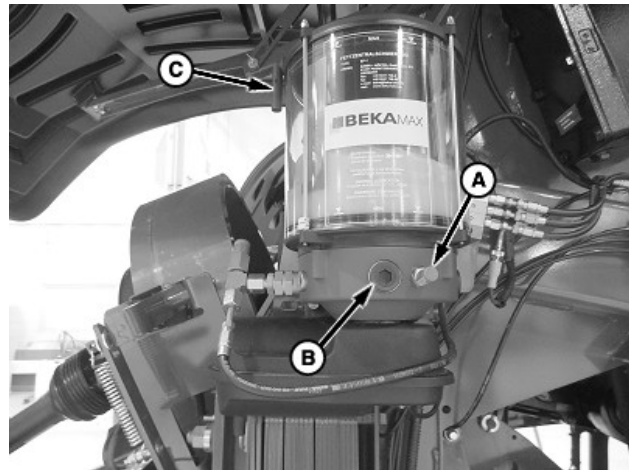
Every 50 hours of operating, check the knotters.

Knotters (A) are lubricated automatically. Make sure that grease lines (B) are functioning properly.

Check Packer Timing

Every 50 hours of operating, check the packer timing.

Check Automatic Greasing System



E84943—UN—18OCT17

A—Filling Nipple
B—Filling Plug
C—Vent Tube

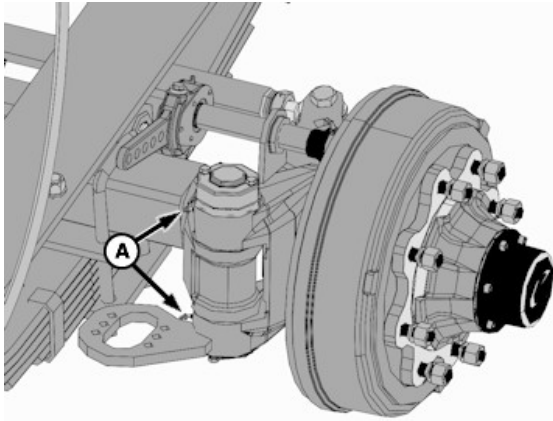
Every 50 hours of operating, check the automatic greasing system.

Fill the greasing system using the recommended grease and check for leaks.

The system can be filled using a manual or pneumatic grease gun, high-flow filling press or a quick fill kit. To fill the greasing system, use a filling nipple (A) or filling plug (B).

Make sure that the vent tube (C) is not plugged. Dispose of all greasy cleaning rags according to local and national regulations.

Lubricate Axle Pivots (Tandem Axle Only)

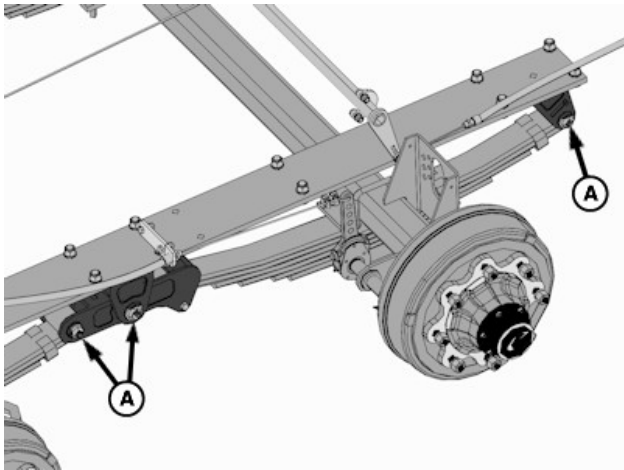


E75925—UN—20MAY14

A—Lubrication Fitting (2 used each side)

Every 50 hours of operation, lubricate axle pivots. Lubrication fittings (A) are on both sides of the machine. Lubricate with the recommended grease.

Lubricate Axle Hinges (Tandem Axle Only)

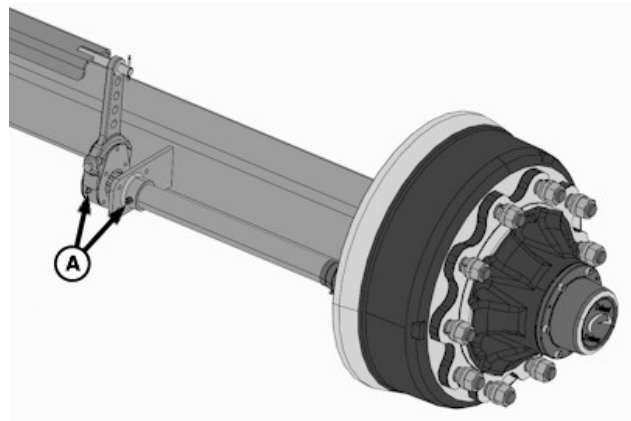


E75924—UN—20MAY14

A—Lubrication Fitting (3 used each side)

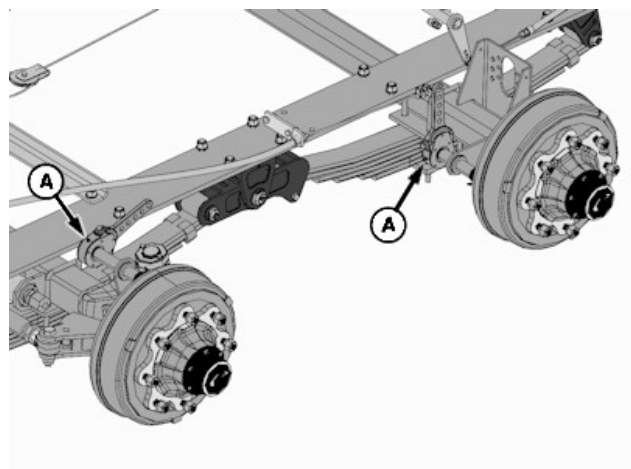
Every 50 hours of operation, lubricate axle hinges. Lubrication fittings (A) are on both sides of the machine. Lubricate with recommended grease.

Lubricate Brake Lever (If Equipped)



E75926—UN—20MAY14

Single Axle



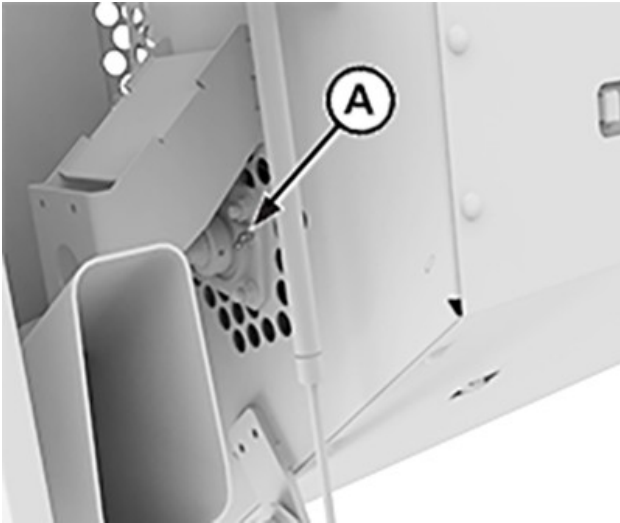
E75927—UN—20MAY14

Tandem Axle

A—Lubrication Fitting (2 used each side)

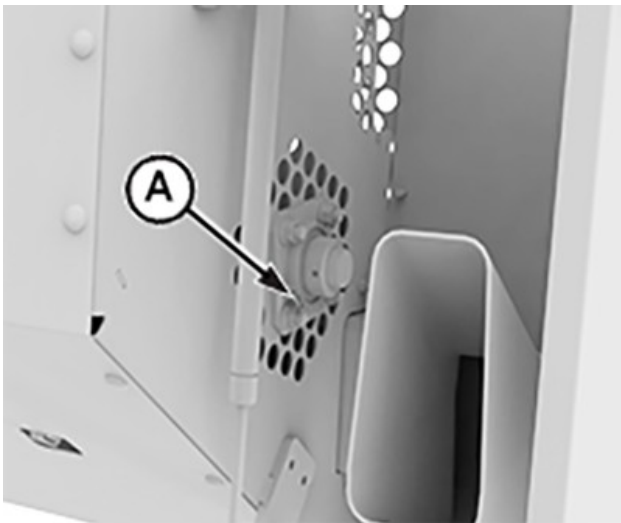
Every 50 hours of operation, lubricate the brake lever. Lubricate fittings (A) with the recommended grease.

Lubricate Fan Driveshaft



Left-Hand Side

PY572320—UN—06APR23



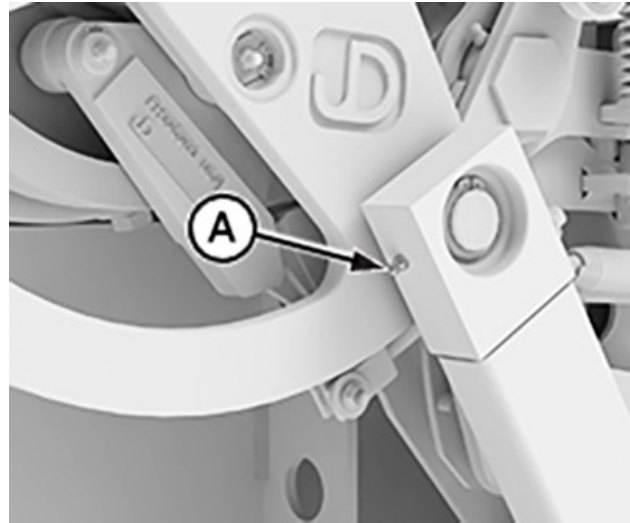
Right-Hand Side

PY572321—UN—06APR23

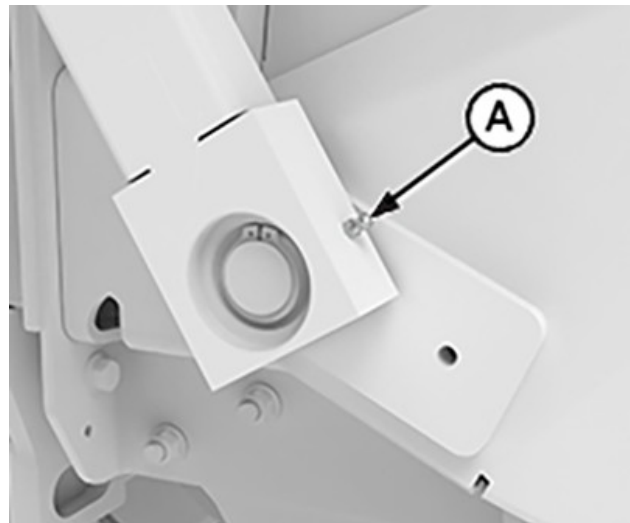
A—Lubrication Fitting (1 per side)

Every 50 hours of operation, lubricate the fan driveshaft. Lubrication fittings (A) are on both sides of machine. Lubricate with the recommended grease.

Lubricate Needle Carrier Connecting Rod



PY572322—UN—06APR23



PY572323—UN—06APR23

A—Lubrication Fitting (2 used)

Every 50 hours of operation, lubricate needle carrier connecting rod at grease fittings (A).

Lubricate with the recommended grease.

Check and Adjust Hook Lifting Mechanism

Every 50 hours, check the hook-to-roller clearance and adjust if necessary (Refer Check and Adjust Hook Lifting Mechanism in the Service section).

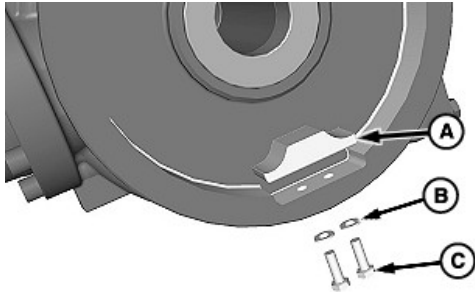
hcmw3gg.1679525274290-19-07APR23

Every 150 Hours or 6000 Bales Service

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on the knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in the Service section in this manual.)

NOTE: Perform the following services after every 150 operating hours or 6000 bales, whichever occurs first.

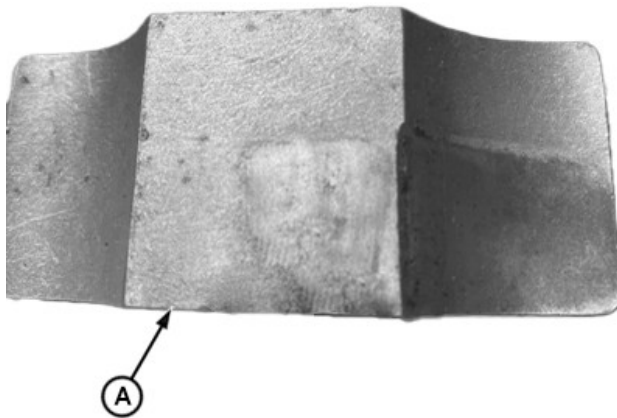
Check Knotter Gearbox Pawl



- A—Gearbox Pawl
- B—Washer (2 used)
- C—Cap Screw (2 used)

E72850—UN—14FEB14

1. Rotate flywheel by hand until gearbox pawl (A) is away from cam roller and engage flywheel brake.
2. Remove cap screws (C), washers (B), and gearbox pawl (A) from upper knotter gear case.
3. Check for wear on gearbox pawl (A).



Gearbox Pawl Wear

EX569019—UN—01MAR23

A—Gearbox Pawl

NOTE: Inspect and flip the gearbox pawl every 6,000 bales. Replace the gearbox pawl when the pawl is worn on both sides.

4. Install worn side of gearbox pawl towards the front of machine or replace if necessary.
5. Install in reverse order of removal.

Check Knotter Trip Mechanism

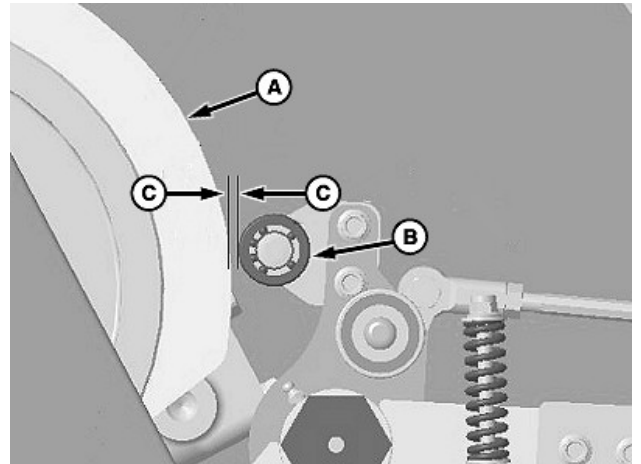


E85605—UN—17NOV17

A—Sector Arm

Every 150 hours of operation, check the knotter trip mechanism.

The sector arm (A) must fall freely to the reset position when the tying system is resetting.

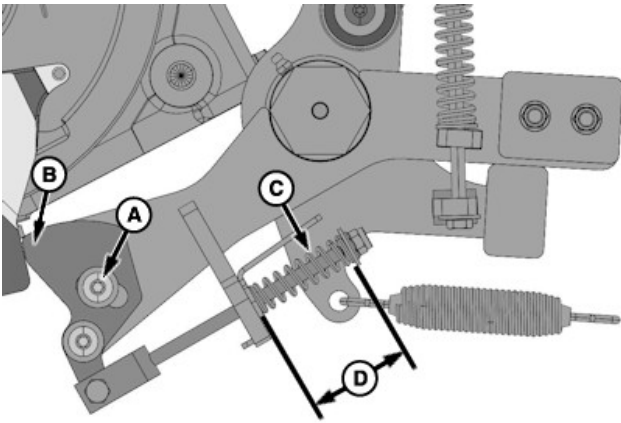


E84956—UN—11OCT17

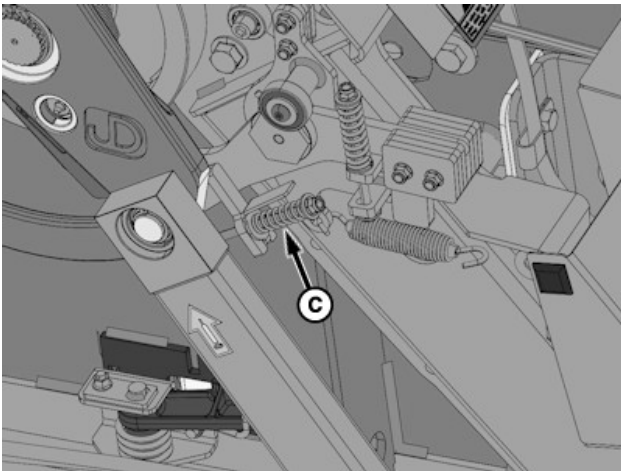
- A—Blocking Lobe
- B—Roller
- C—Gap

When the tying system is not tripped, position the upper gear case so the blocking lobe (A) is tangent to the roller (B). The gap (C) between the blocking lobe and the roller is 3—5 mm (0.11—0.19 in).

Check Finger of Trip Arm



E77631—UN—13NOV14



E77632—UN—13NOV14

- A—Pin
- B—Finger
- C—Spring
- D—Spring Length

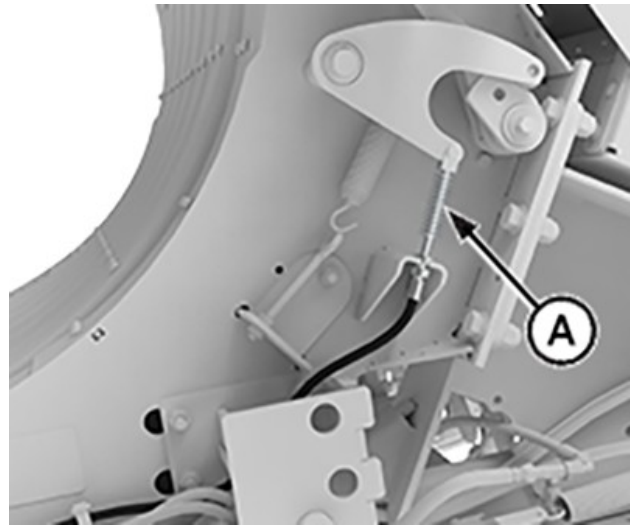
Every 150 hours of operation, check the finger of the trip arm.

The pin (A) must be at the end of the slot in the finger (B). It corresponds with a spring length (D) of 58 ± 1 mm (2.28 ± 0.04 in).

NOTE: E-Tie clutch spring length is 56—57 mm (2.08—2.25 in).

Adjust the spring (C) length if necessary.

Check Measure Plate Cable



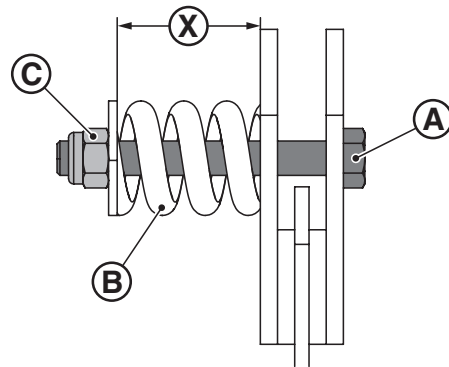
PY572324—UN—06APR23

A—Measure Plate Cable

Every 150 hours of operation, check the measure plate cable (A).

Check the cable for wear, sticking, and seals out of place.

Check Knotter Shaft Brake



ZX1050759—UN—06AUG12

- A—Bolt
- B—Spring
- C—Nut
- X—Length

Every 150 hours of operation, check the knotter shaft brake.

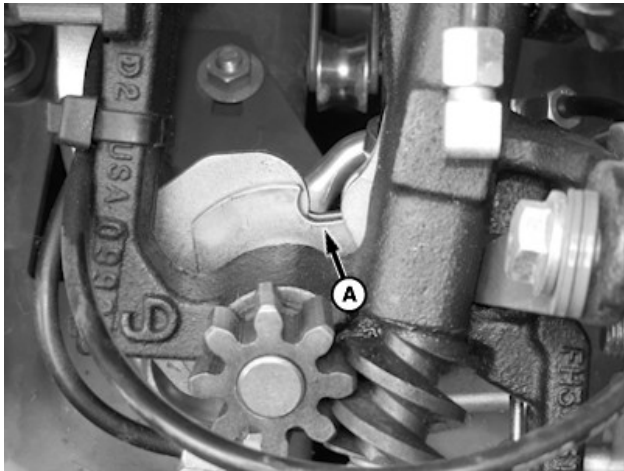
IMPORTANT: Check the spring tension regularly. Replace the brake linings as soon as they are worn. Never grease the brake disks.

To adjust, use the bolt (A) keeping the spring (B) at an equal length. The length (X) is 43—45 mm (1.69—1.77 in).

1. To adjust the tension of the spring (B), loosen or tighten the nut (C).

2. To make sure that linings are parallel, use the set bolts.

Check Twine Retainer Disk



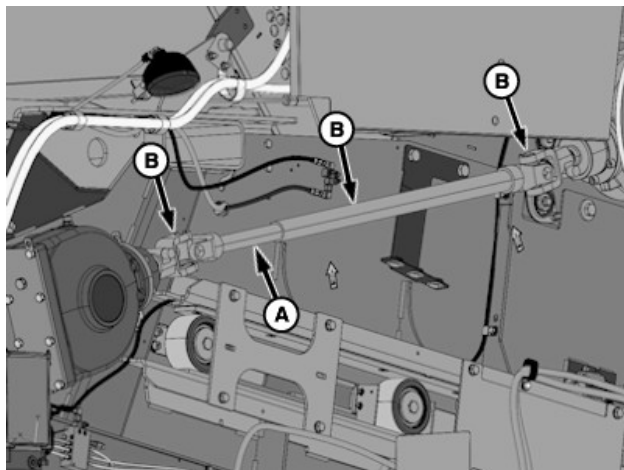
E76560—UN—21JUL14

A—Retainer Disk

Every 150 hours of operation, check the twine retainer disk.

Check the retainer disk (A) for wear and timing.

Lubricate Knotter Driveshaft



E75906—UN—11NOV14

Left-Hand Side

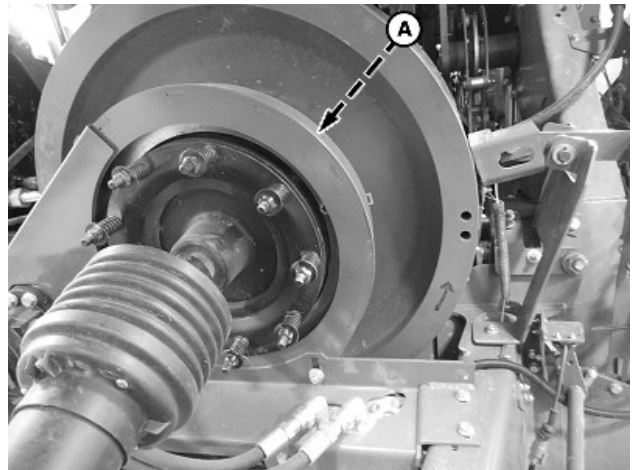
**A—Knotter Driveshaft
B—Lubrication Fitting (3 used)**

Every 150 hours of operation, lubricate the knotter driveshaft.

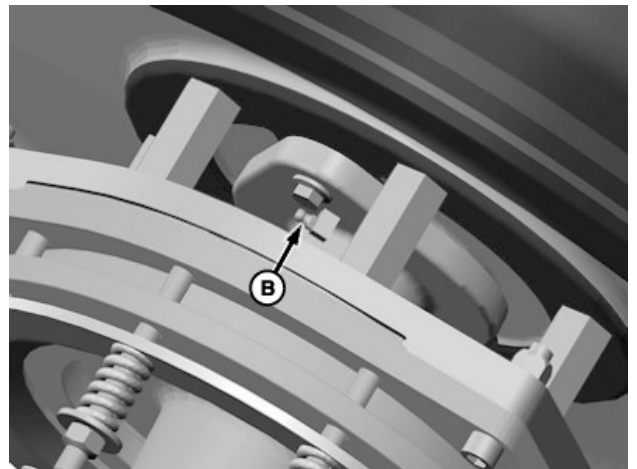
The knotter driveshaft (A) has three lubrication fittings (B).

Lubricate with the recommended grease.

Lubricate Shear Bolt Housing (If Equipped)



E82449—UN—20MAR17



E76547—UN—12NOV14

**A—Shear Bolt Clutch
B—Lubrication Fitting**

Every 150 hours of operation, lubricate the shear bolt housing.

L331R and L331R Precutter: The shear bolt clutch (A) protects the main gear case. The shear bolt housing has one lubrication fitting (B).

Lubricate with the recommended grease.

Lubricate Overload Clutch



E75913—UN—19MAY14

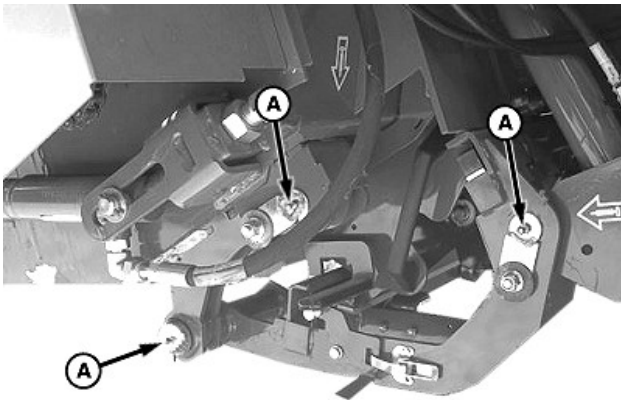
A—Lubrication Fitting

Every 150 hours of operation, lubricate the overload clutch if it has been slipping.

The overload clutch has one lubrication fitting (A).

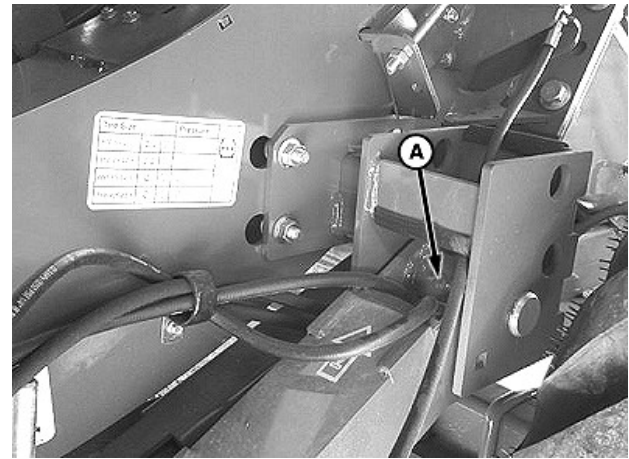
Lubricate with the recommended grease.

Lubricate Precutter Floor Pivots



E84671—UN—28SEP17

Grease Fittings, Left-Hand Side Shown



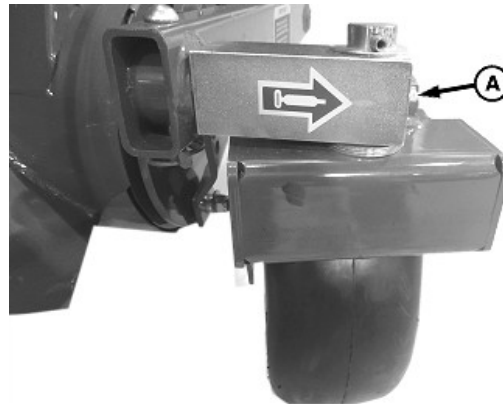
E84672—UN—28SEP17

Grease Fittings, Left-Hand Side Shown

A—Grease Fitting (4 each side)

There are eight grease fittings (A) total, four on each side of the baler.

Lubricate Depth Gauge Wheel Fittings

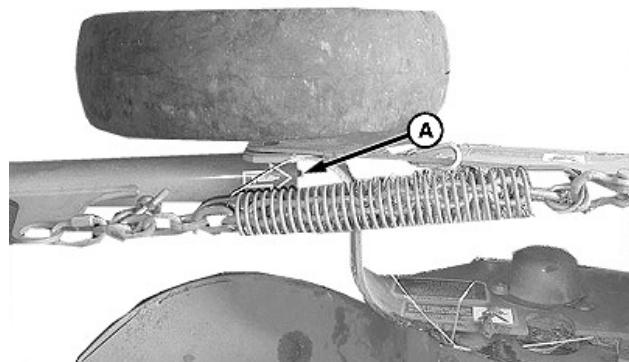


E84673—UN—28SEP17

A—Grease Fitting

Each depth gauge wheel has one grease fitting (A).

Lubricate Converging Wheel Pivot (If Equipped)



E84674—UN—28SEP17

A—Grease Fitting

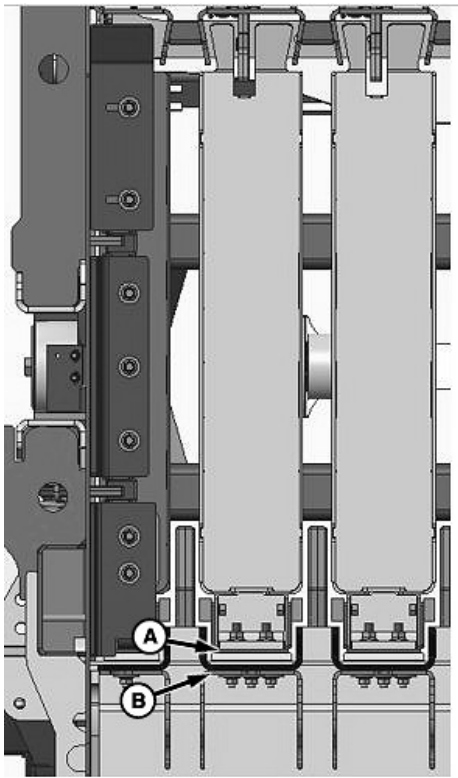
If equipped, each converging wheel pivot has one grease fitting (A).

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Every 250 Hours or 10,000 Bales Service

NOTE: Perform the following services after every 250 operating hours or 10,000 bales, whichever comes first.

Check Plunger Knife Clearance



A—Plungerhead Knife
B—Stationary Knife

After every 250 operating hours, check the plunger knife clearance.

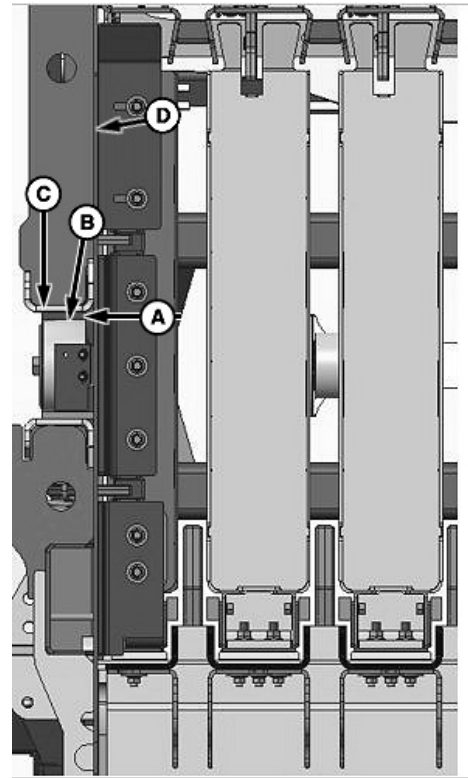
1. Check that the spacing between the plungerhead knife (A) and the stationary knife (B) is within specification.

Specification

Stationary Knife-to-Plungerhead	
Knife—Distance.....	1—3 mm (0.039—0.118 in)

2. To adjust the plunger knife spacing, see Adjust Plunger Knives in this section.

Check Plunger Adjustment



A—Spacing
B—Roller
C—Upper Rail
D—Spacing

After every 250 operating hours, check the plunger adjustment.

Check and adjust the plunger as follows:

1. Check that the spacing (A) between the top of the roller (B) and the upper rail (C) is within specification. Use shims to adjust for excess space.

Specification

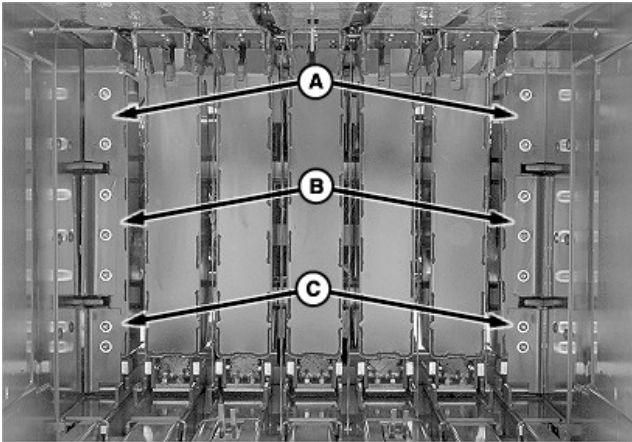
Top of Roller-to-Upper Rail	
—Distance.....	0.1—2.0 mm (0.004—0.08 in)

2. Check the spacing (D) between scrapers and the inside of the bale chamber measured at the narrowest section of the plunger travel. Typically the measurement is from the stationary knife to the full plunger extension.

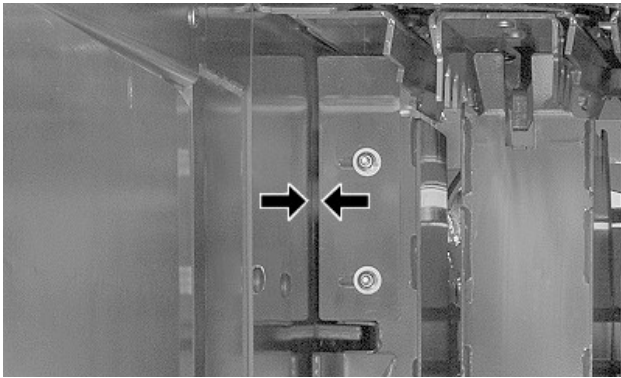
Specification

Scrapers-to-Inside Bale	
Chamber—Distance.....	2 ± 1 mm (0.079 ± 0.039 in)

Adjust Plunger Scrapers



E83399—UN—08JUN17



E83453—UN—13JUN17

Distance (Upper Left-Hand Scraper Shown)

- A—Scraper, Upper (1 each side)
- B—Scraper, Middle (1 each side)
- C—Scraper, Lower (1 each side)

The distance between the edge of scrapers (A—C) and the wall of the bale forming chamber must be within specification.

Adjust the spacing by completing the following steps:

1. Loosen cap screws on scrapers requiring adjustment.
2. Using a feeler gauge, adjust the plunger scraper to specification.

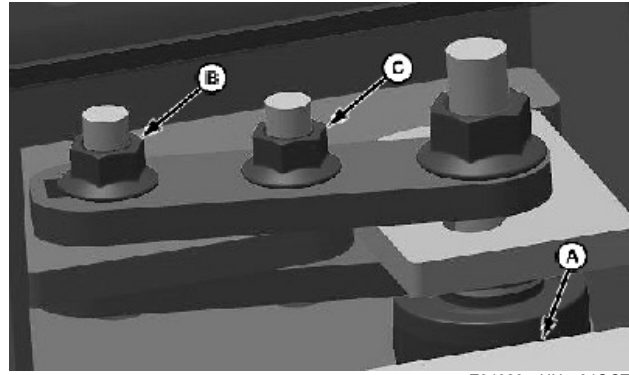
Specification

Plunger Scrapers to Bale Chamber Wall—Distance.	1—3 mm (0.039—0.118 in)
---	----------------------------

3. Tighten cap screws.
4. Repeat for remaining scrapers.

Adjust Guide Rollers

NOTE: It is critical that the total gap between the plunger roller and the lower plunger rails must be within the specification on both sides of the plunger.



E94929—UN—04OCT20

- A—Gap
- B—Pivot Lock Nut
- C—Adjusting Lock Nut

1. Move the plunger inside the bale forming chamber by rotating the flywheel by hand.
2. Using a feeler gauge, verify the gap (A) between the guide rollers and the lower track plate. Check the gap at the front, middle, and rear positions of the plunger stroke.
3. To adjust the plunger side-to-side, loosen the plunger scrapers so they do not interfere with the guide roller adjustment.
 - Turn the flywheel by hand until the plunger roller guides are visible between the roller track plates. Engage the flywheel brake.
 - Center the plunger in the bale forming chamber an equal distance on each side using suitable pry tools.
 - Loosen the pivot lock nut (B) and the adjusting lock nut (C).
 - Move the plunger guide roller to within the specified gap on both sides of the plunger.

Specification

Plunger Guide Roller-to-Lower Plunger Rails—Narrowest Point on Both Sides—Total	
Gap—Clearance.	0.25—1 mm (0.01—0.39 in)

Specification

Plunger Guide Roller-to-Lower Plunger Rails—Widest Point on Both Sides—Total	
Gap—Clearance.	0.25—3 mm (0.01—0.118 in)

4. Tighten lock nuts to specification on both sides.

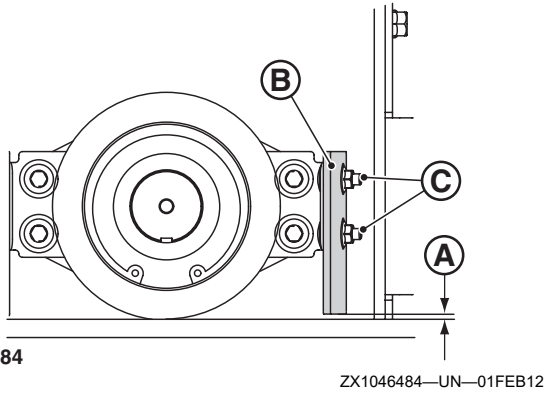
Specification

Plunger Guide Roller Nut—Torque.	102 N·m (75 lb·ft)
--	-----------------------

5. Check the clearance of the plunger scraper plates

and scrapers. Adjust as necessary. (See Adjust Plunger Scraper in the Service section.)

Adjust Scraper to Bale Chamber Rail



- A—Spacing
- B—Roller Scraper
- C—Cap Screw (2 used)

Check that the spacing (A) between the roller scraper (B) and the bale chamber rail measured over the full length of the plunger stroke is within specification.

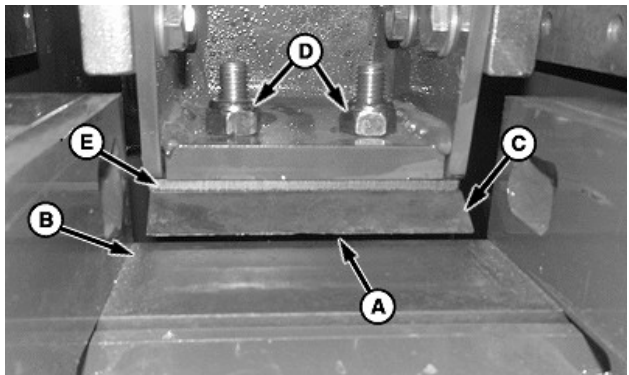
Specification

Scraper to Bale Chamber Rail—Distance. 1—3 mm
(0.039—0.118 in)

Adjust the spacing by completing the following steps:

1. Loosen cap screws (C) of the roller scraper.
2. Slide the roller scraper downward until the distance is within specification.
3. Tighten scraper cap screws.
4. Repeat for the opposite side.

Adjust Plunger Knives



E84622—UN—21SEP17

- A—Spacing
- B—Fixed Knife
- C—Plunger Knife
- D—Nut (2 used)
- E—Shim (as required)

Check that the spacing (A) between the fixed knife (B) and the plunger knife (C) is within specification.

Specification

Fixed Knife-to-Plunger Knife—Distance. 1—3 mm
(0.039—0.079 in)

To adjust the plunger knife spacing, complete the following steps:

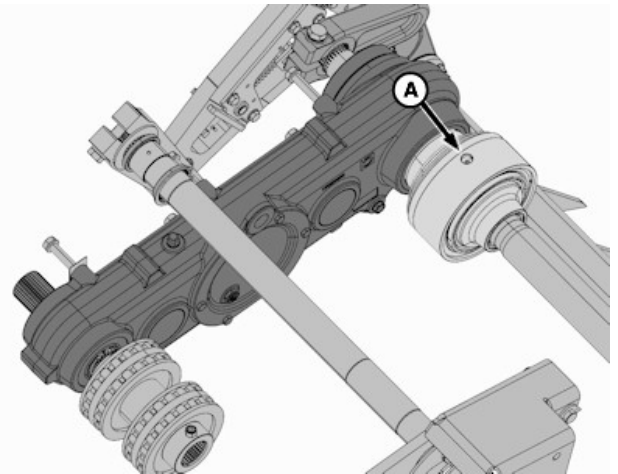
1. Block the flywheel using the brake.
2. Loosen nuts (D).
3. Add or remove shims (E) as required.
4. Tighten nuts to specification.

Specification

Nuts—Torque. 120 N·m
(88 lb·ft)

5. Repeat for remaining knives.

Lubricate Packer Clutch



E76548—UN—17JUL14

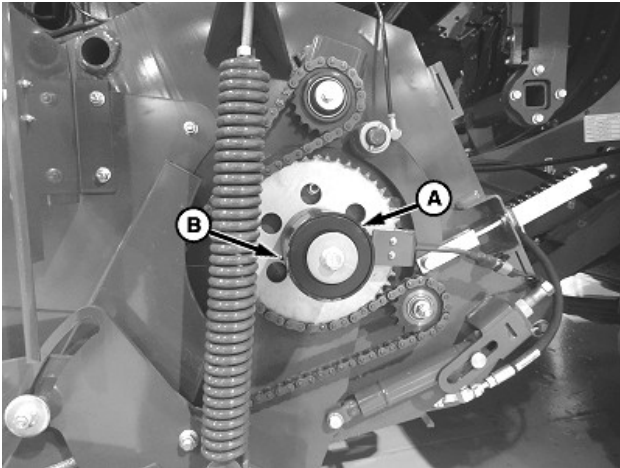
A—Lubrication Fitting

Every 250 operating hours, lubricate the packer clutch if it has been slipping.

The packer clutch has one lubrication fitting (A).

Lubricate with the recommended grease.

Lubricate Pickup Freewheel Clutch



E83001—UN—01MAY17

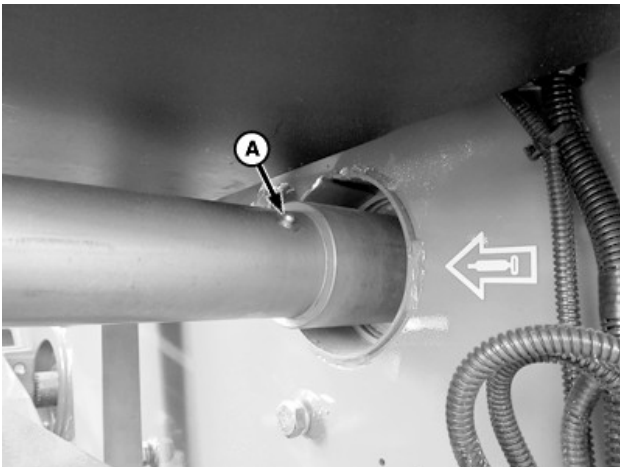
A—Pickup Freewheel Clutch
B—Lubrication Fitting

Every 250 hours of operation, lubricate the pickup freewheel clutch.

The pickup freewheel clutch (A) has one lubrication fitting (B).

Lubricate with the recommended grease.

Lubricate Feed System Driveshaft



E77395—UN—14OCT14

A—Fitting

Every 250 hours of operation, lubricate the feed system driveshaft.

Lubricate the fitting (A) with the recommended grease.

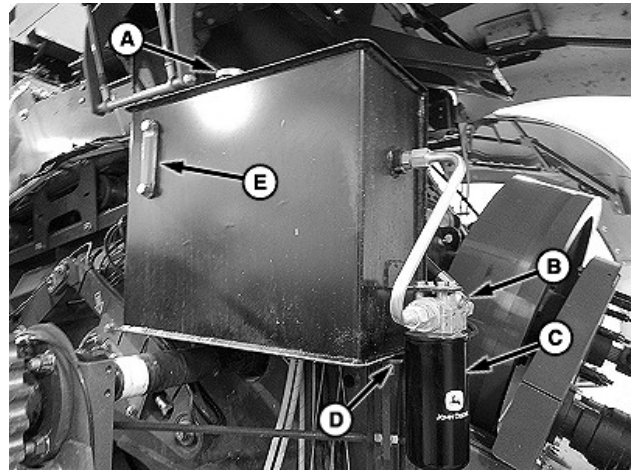
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Every 500 Hours or 20,000 Bales Service

NOTE: Perform the following services after every 500 operating hours or 20,000 bales, whichever occurs first.

Replace Hydraulic Oil and Filter

Every 500 hours of operation, replace the hydraulic oil and filter.



E82447—UN—17MAR17

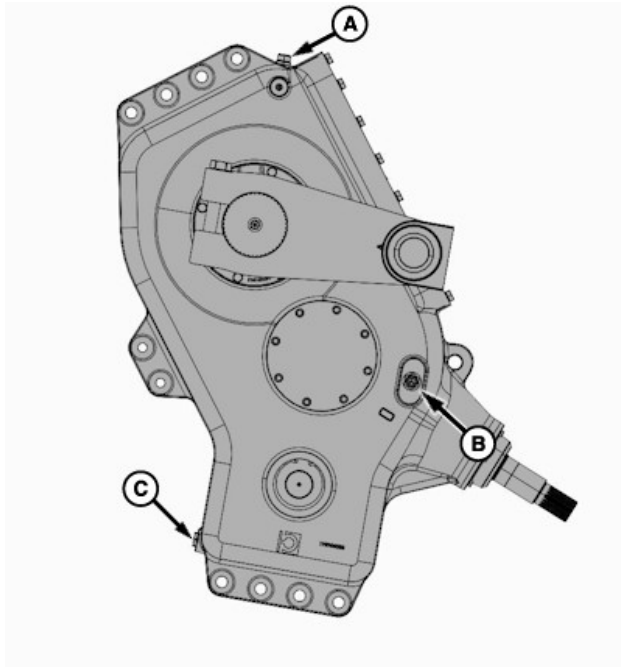
A—Hydraulic Oil Filler Cap
B—Hydraulic Oil Filter Block
C—Oil Filter
D—Drain Plug
E—Sight Glass

1. Park machine on a firm and level surface.
 2. Clean area around the hydraulic oil filler cap (A), hydraulic oil filter block (B), oil filter (C), and drain plug (D).
 3. Place a suitable container under the drain plug (D) and remove the drain plug.
 4. Place an acceptable container under the oil filter (C) and remove the oil filter.
 5. After the oil has drained, apply a clean film of oil on the new oil filter (C) gasket.
 6. Install a new oil filter by hand.
 7. Fill the hydraulic oil reservoir to the top of sight glass (E) with new oil.
- Capacity:** 50 L (13.2 gal)
- Use hydraulic oil recommended in Lubricants and Capacities section.
8. Close the hydraulic oil filler cap (A).
 9. Start the engine.
 10. Run the machine at 700—800 rpm for several minutes.
 11. Check for leaks.

IMPORTANT: Dispose of waste oil and filters in accordance with local and regional environmental regulations.

NOTE: Sight glass (E) includes a thermometer. To check oil temperature, use this thermometer.

Replace Main Gear Case Oil



E75922—UN—19MAY14

- A—Fill Plug
- B—Sight Glass
- C—Drain Plug

Every 500 hours of operation, replace the main gear case oil.

Place the machine on a firm level surface with wheels blocked to prevent rolling.

Check and monitor the oil level by viewing the sight glass (B). Oil must be visible in the glass.

1. Clean the area around the main gear case and fill plug (A) to remove debris and dirt which contaminate the system.
2. Place a suitable container under the drain plug (C) and remove old oil.

IMPORTANT: Dispose of all waste oil in accordance with local and regional environmental regulations.

3. After the oil is drained, clean the drain plug and install.

NOTE: If plugs in this procedure have an o ring, check the condition. If it is hard and brittle, replace it.

4. Slowly fill new oil into the fill plug (A) until it is visible in the sight glass (B). Use oil specified in Lubricants and Capacities section.
5. Replace fill the plug (A).

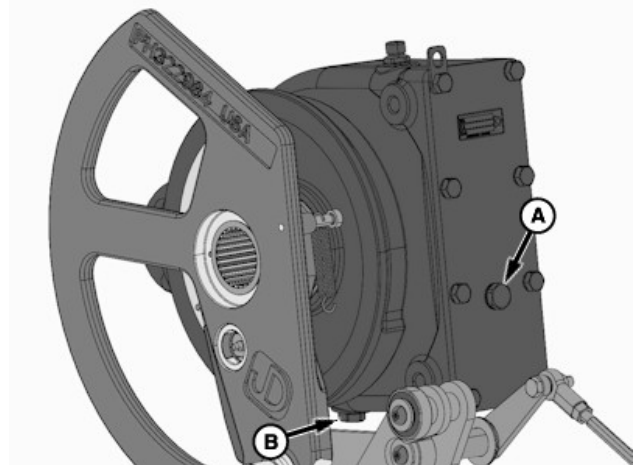
Specification

L331R and L331R
 Precutter—Capacity 25 L
 (6.6 gal)

Specification

L341R, L341R HD, L341R
 Precutter, and L341R HD
 Precutter—Capacity 37 L
 (9.8 gal)

Replace Upper Knotter Drive Gear Case Oil



E75974—UN—20MAY14

- A—Fill Plug
- B—Drain Plug

Every 500 hours of operation, replace the knotter drive gear case oil.

Place the machine on a firm, level surface with wheels blocked to prevent rolling.

Check and monitor the oil level by opening the fill plug (A). Oil must be level with the bottom of the fill plug hole.

1. Clean the area around the main gear case and fill plug (A) to remove debris and dirt which contaminate the system.
2. Remove the fill plug (A).
3. Place a suitable container under the drain plug (B) and remove old oil.

NOTE: Dispose of all waste in accordance with local and regional environmental regulations.

4. After the oil is removed, clean the drain plug and install it.
5. Slowly fill new oil into the fill plug opening until the oil just starts to come out of the check plug hole. Use oil specified in Lubricants and Capacities section.
6. Reinstall the fill plug.

Specification

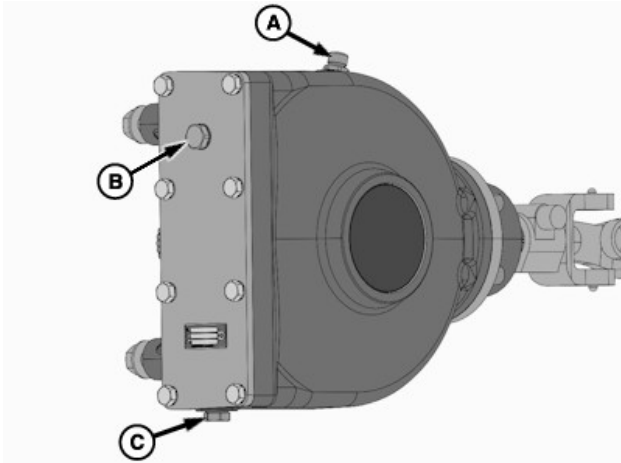
Upper Knotter Drive Gear	
Case—Capacity	1.9 L (0.50 gal)

Specification

Lower Knotter Drive Gear	
Case—Capacity	3.3 L (0.87 gal)

Replace Lower Knotter Drive Gear Case Oil

Replace Packer Gear Case Oil



E75920—UN—19MAY14

- A—Fill Plug
- B—Oil Level Plug
- C—Drain Plug

Every 500 hours of operation, replace the lower knotter drive gear case oil.

Place the machine on a firm level surface with wheels blocked to prevent rolling.

Check and monitor the oil level by opening the oil level plug (B). The oil must be level with the bottom of the fill plug (A) hole.

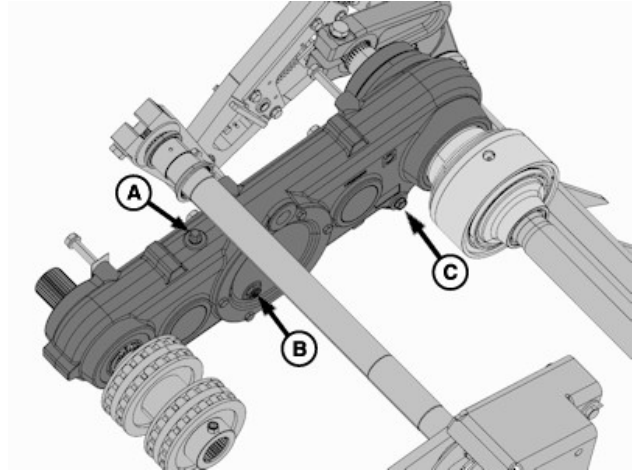
1. Clean the area around the main gear case and fill plug (A) to remove debris and dirt which contaminate the system.
2. Clean the area around the oil level plug (B) and remove it.
3. Place a suitable container under the drain plug (C) and remove old oil.

IMPORTANT: Dispose of all waste oil in accordance with local and regional environmental regulations.

4. After the oil is drained, clean the drain plug and reinstall it.

NOTE: If plugs in this procedure have an o ring, check the condition. If it is hard and brittle, replace it.

5. Slowly fill new oil into the fill plug (A) opening until it just begins to run out of the check plug hole. Use oil specified in Lubricants and Capacities section.
6. Replace the oil level plug (B).
7. Replace the fill plug (A).



E75921—UN—20MAY14

- A—Fill Plug
- B—Sight Glass
- C—Drain Plug

Every 500 hours of operation, replace the packer gear case oil.

Place the machine on a firm level surface with wheels blocked to prevent rolling.

Check and monitor the oil level by viewing the sight glass (B). The oil must be visible in the glass.

1. Clean the area around the main gear case and fill plug (A) to remove debris and dirt which contaminate the system.
2. Clean the area around the oil level plug (B) and remove it.
3. Place a suitable container under the drain plug (C) and remove old oil.

IMPORTANT: Dispose of all waste oil in accordance with local and regional environmental regulations.

4. After the oil is drained, clean the drain plug and reinstall.

NOTE: If plugs in this procedure have an o ring, check the condition. If it is hard and brittle, replace it.

5. Slowly fill new oil into the fill plug (A) opening until it is visible in the sight glass (B). Use oil specified in Lubricants and Capacities section.
6. Replace the fill plug (A).

Specification

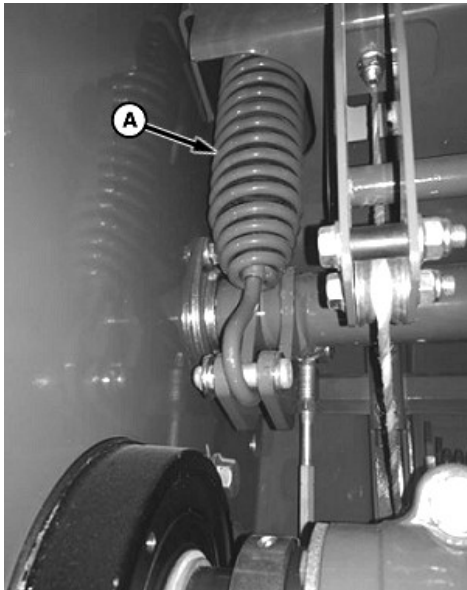
Packer Gear Case
 Oil—Capacity. 4.0 L
 (1.06 gal)

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Yearly Service

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in the Service section of this manual.)

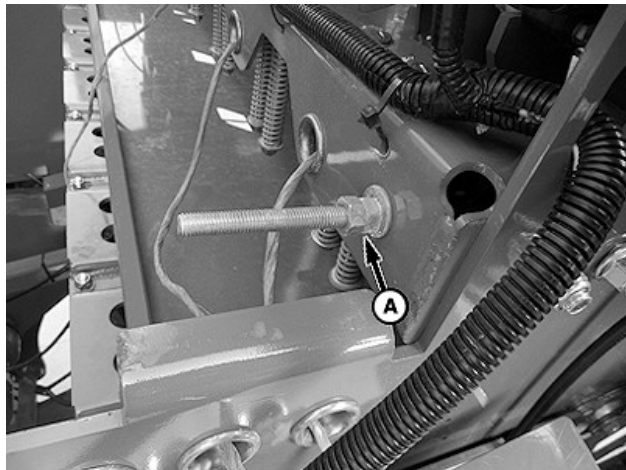
Check Tucker Finger Spring



E84623—UN—21SEP17

A—Tucker Finger Spring

Every year of operation, check the tucker finger spring (A).

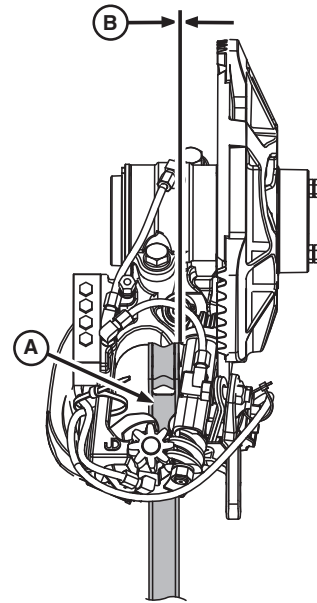


E83002—UN—02MAY17

A—Nut (2 used)

Make sure that nuts (A) are fully tightened. The spring must spin on the swivel hook when the nuts are tightened.

Check Needle-to-Knotter Clearances



E72598—UN—18FEB14

A—Needle
B—Distance, 0 mm (0 in)

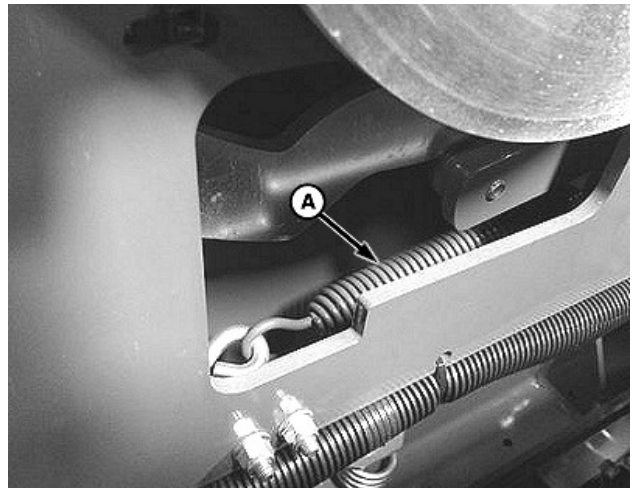
Every year of operation, check the needle-to-knotter clearances.

The distance between the side of the needle (A) and the knotter frame must be set to the specified distance (B) (slightly touching).

Specification

Needle-to-Knotter
 Frame—Distance. 0 mm
 (0 in)

Check Twine Placement Arm Spring



E84624—UN—21SEP17

A—Twine Placement Arm Spring

Every year of operation, check the twine placement arm spring.

Ensure that the twine placement arm spring (A) is attached and check for wear. Replace the spring as needed.

Check Twine Path



E77891—UN—18DEC14



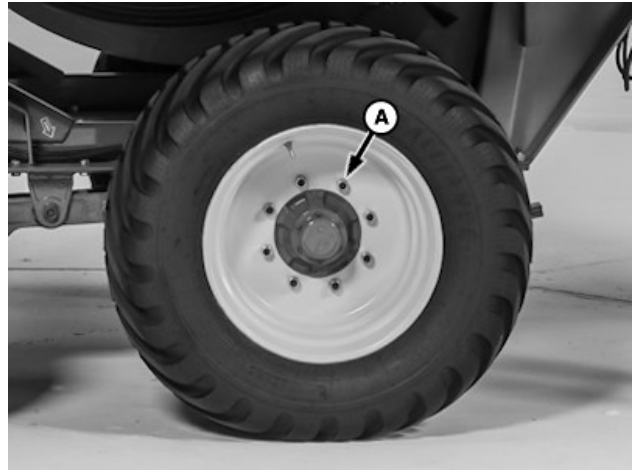
E76552—UN—17JUL14

- A—Eyelet (as required)
- B—Tensioner (as required)

Every year of operation, check the twine path.

Check for any debris or components contacting the twine in its normal path. Check eyelets (A) and tensioners (B) for groove wear.

Check Wheel Nut Torque



E75698—UN—08MAY14

A—Wheel Nut

Every year of operation, check the wheel nut torque.

IMPORTANT: Check the wheel nut torque after the first ten operating hours.

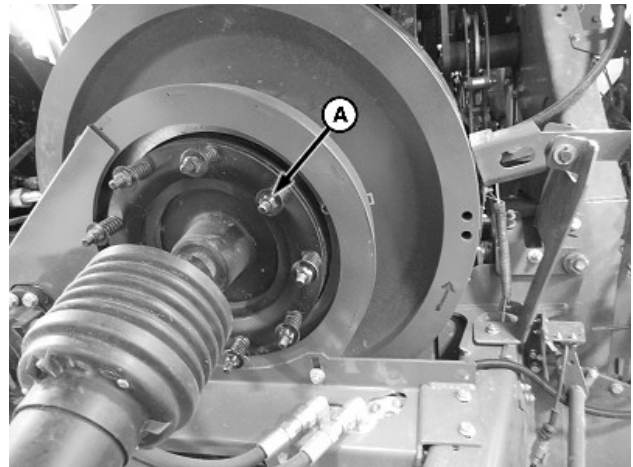
Whenever a wheel has been removed and installed, check the torque after ten operating hours. Tighten wheel nuts (A) to specification.

Specification

M18 Wheel Nuts (8)—Torque.	270 N·m (200 lb·ft)
M22 Wheel Nuts (10)—Torque.	450 N·m (332 lb·ft)

Check Friction Clutch

Every year of operation, check the friction clutch.

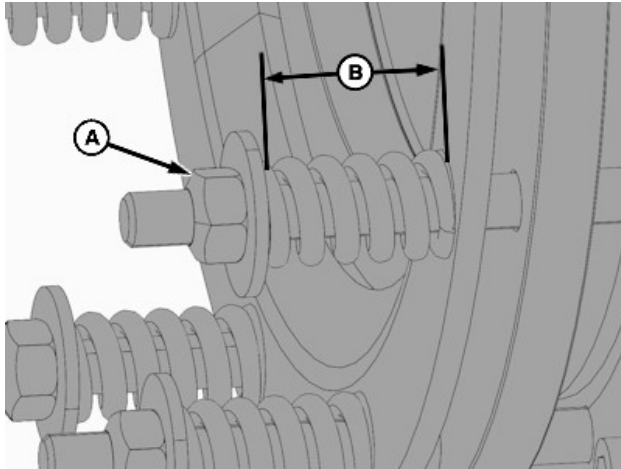


E82450—UN—21MAR17

A—Nut (8 used)

1. Loosen nuts (A).
2. Rotate the clutch by hand.

Repair, or replace, the clutch when the clutch does not rotate freely or is damaged.



E83004—UN—02MAY17

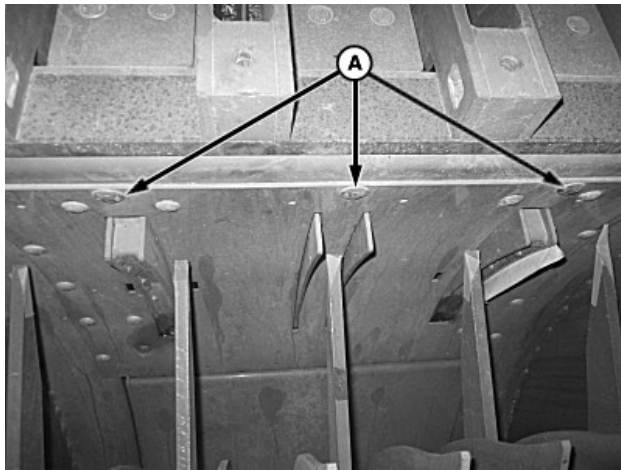
A—Clutch Tightening Nut (as required)
B—Distance, 42.8 mm (1.69 in)

- Adjust slip clutch tightening nuts (A) until the specified distance (B) is reached.

Specification

Spring Length—Distance 42.8 mm
 (1.69 in)

Check Precompression Chamber Bolts



E80429—UN—16NOV15

A—Carriage Bolt (3 used)

Every year of operation, check the bolts at the rear of the precompression chamber for wear.

- Inspect the carriage bolt (A) heads at the top rear of the precompression chamber for wear.

IMPORTANT: Carriage bolts must be grade 8.8 or higher.

- If bolts are worn flat, remove and replace with new hardware.

SF04007,000126F-19-03OCT18

As Required Service—Preservative Applicator (If Equipped)

IMPORTANT: Perform a pressure dump prior to servicing the system. See Preservative Screens and Menus (If Equipped) section of this manual for more information.

Depending on the product being used, flush the system with water at a regular interval (consult the manufacturer information on the chemical).

Although the pump can run dry, extended operations of a dry pump increases wear. Watch the preservative level in the tank.

If using bacterial inoculants, flush the system daily or after every use.

czhk963,1684839564232-19-23MAY23

Daily—Clean Nozzle Tips and Screens

IMPORTANT: Perform a pressure dump prior to servicing the system. See Preservative Screens and Menus (If Equipped) section of this manual for more information.



EX544416—UN—29AUG22

A—Nozzle Body

Remove the nozzle tip from the nozzle body (A) and clean the nozzle tip and tip screens.

wkjquwj,1661764394786-19-23MAY23

Every 10 Hours—Preservative Applicator (If Equipped)

IMPORTANT: Perform a pressure dump prior to servicing the system. See Preservative Screens and Menus (If Equipped) section of this manual for more information.

NOTE: Perform the following services after every ten operating hours and at the beginning of each season.

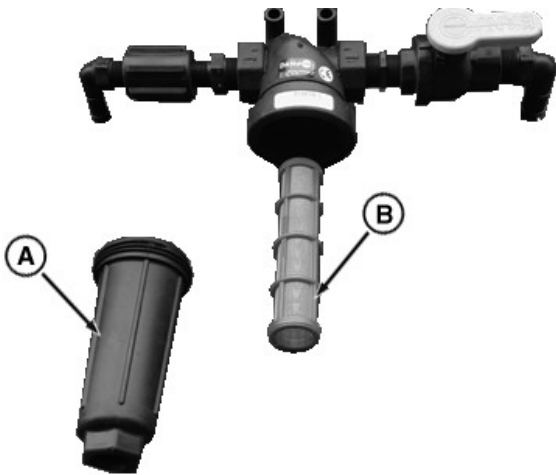
Clean Filter Bowl



EX544415—UN—29AUG22

CLOSED

1. Turn main valve lever (A) to the CLOSED position.

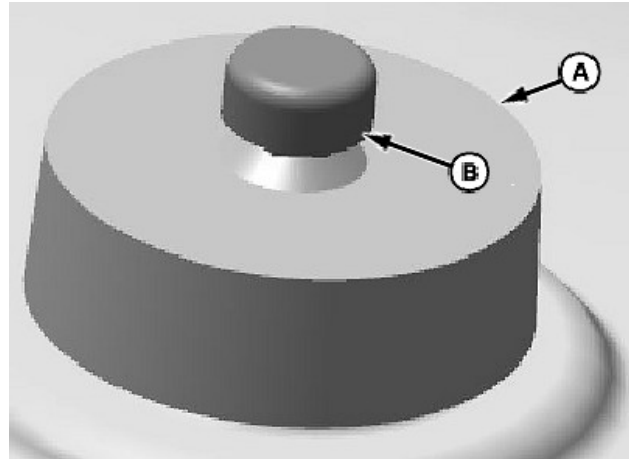


EX544413—UN—26AUG22

A—Filter Bowl
B—Strainer

2. Remove and retain filter bowl (A) and strainer (B).
3. Clean off any debris and soak in warm water with a mild soap.
4. Reinstall by following the directions in reverse.

Clean Tank Lid



E94928—UN—04OCT20

A—Tank Lid
B—Tank Breather

IMPORTANT: To prevent debris from falling into the solution tank, remove debris around the tank lid before removing.

1. Unscrew and remove tank lid (A).
2. Use compressed air to clean out the tank breather (B) located in the lid.
3. Reinstall tank lid.

wkjquwj,1661490913392-19-23MAY23

Weekly Service—Preservative Applicator (If Equipped)

NOTE: Perform the following services weekly and at the beginning of each season.

Inspect Hoses

Inspect all hoses for leaks, wear, and cracks. Replace as necessary.

wkjquwj,1661485874149-19-25AUG22

Service

Practice Safe Maintenance



TS218—UN—23AUG88

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing away from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Avoid Heating Near Pressurized Fluid Lines



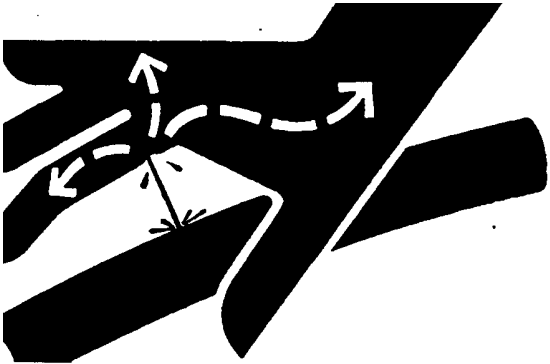
TS953—UN—15MAY90

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to

yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

DX,TORCH-19-10DEC04

Avoid High-Pressure Fluids



X9811—UN—23AUG88

Inspect hydraulic hoses periodically—at least once per year—for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

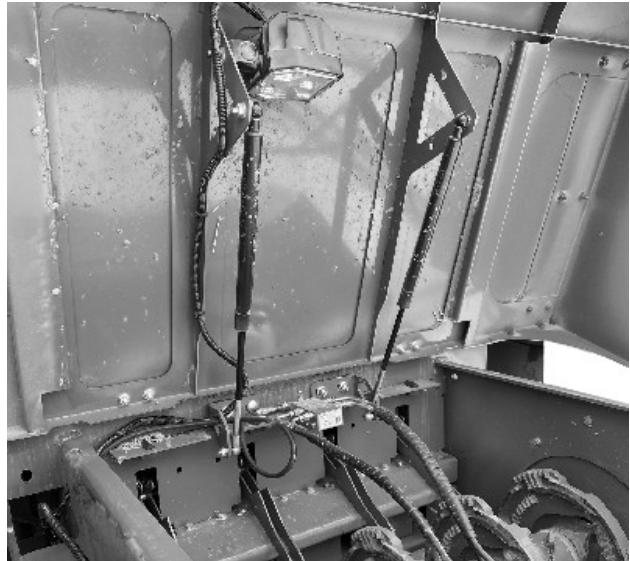
In case of accidental skin injection, seek immediate surgical treatment.

DX,FLUID-19-05NOV25

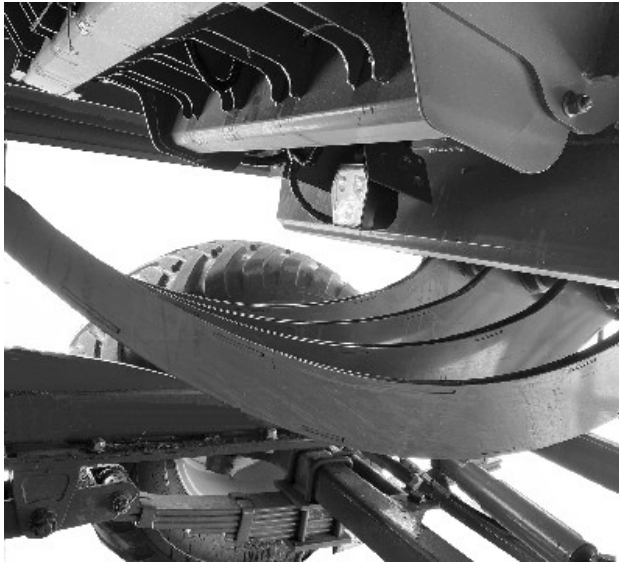
Service Work Lights



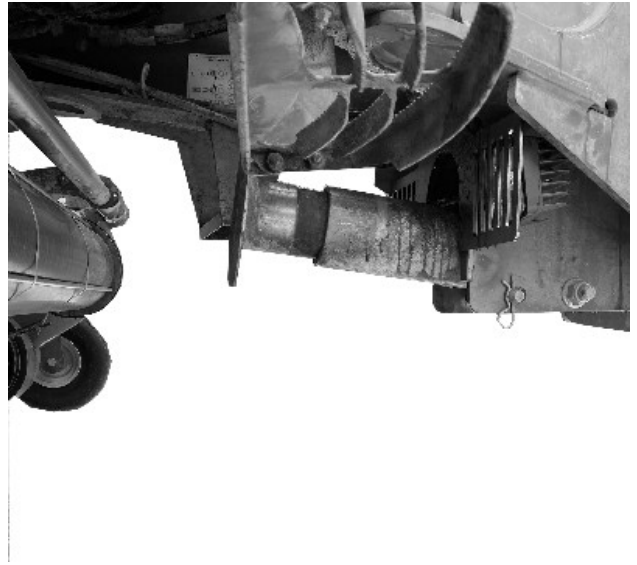
E95061—UN—22OCT20



E95056—UN—22OCT20



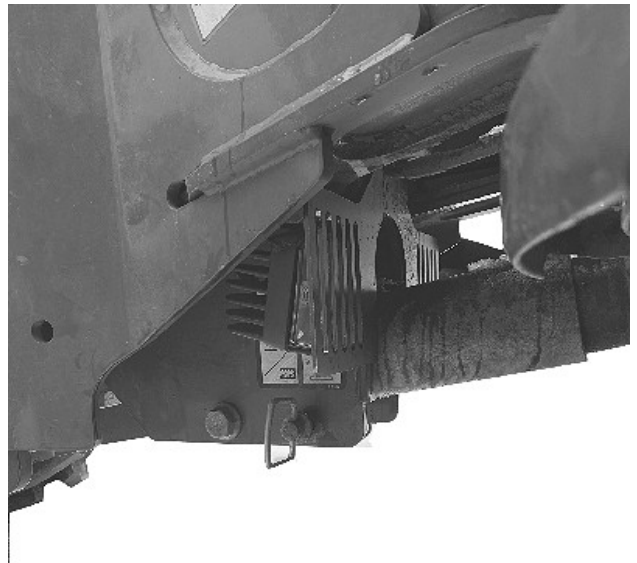
E95057—UN—22OCT20



E95059—UN—22OCT20



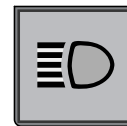
E95058—UN—22OCT20



E95060—UN—22OCT20



E95055—UN—22OCT20



E76980—UN—14AUG14

1. From baler application main page, select Service Light softkey to activate service work lights.
2. To deactivate service work lights, select Service Light softkey again.

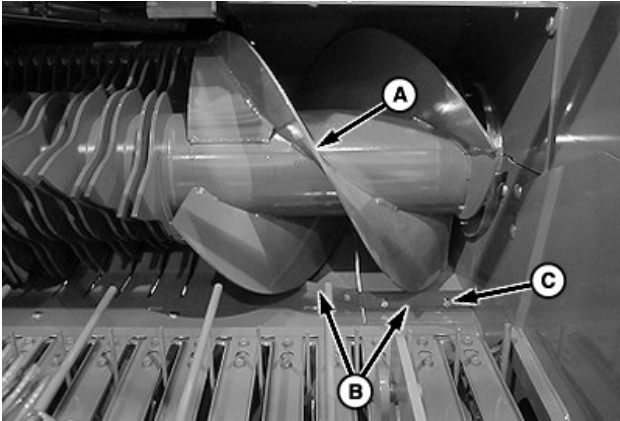
Service lights turn on automatically when PTO speed returns to 0 and rear work lights are turned on. Rear work lights are powered by tractor 7-pin connector.

Lights turn off when the PTO has been engaged for five continuous minutes.

Lights can be overridden to ON or OFF at any time by hitting the service light softkey to turn them on or off.

Adjust Auger Scrapers

Adjust Auger Scrapers



E83405—UN—07JUN17

Left-Hand Side Shown

- A—Auger
- B—Scraper (2 each side)
- C—Cap Screw (2 each scraper)

1. Loosen cap screws (C).
2. Position scraper (B) to the auger (A) according to specifications, at closest point. To check clearance, rotate the auger using the flywheel.

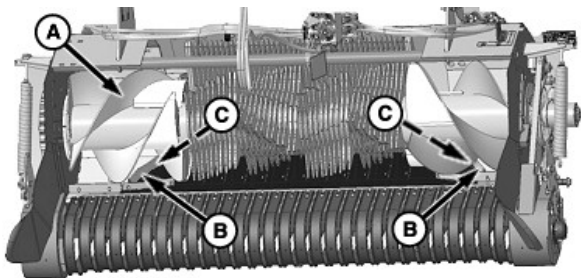
Specification

Scraper-to-Auger—Clearance. 0.1-3 mm
(1/32 in)

3. Tighten cap screws (C).
4. Repeat procedure on the opposite side.

Adjust Auger Secondary Scrapers

NOTE: Precutter machines only: Lower drop floor.



E84927—UN—06OCT17

- A—Auger
- B—Secondary Scraper (1 each side)
- C—Cap Screw (2 each side)

1. Loosen cap screws (C)
2. Position secondary scraper (B) to the auger (A) according to specifications, at closest point. To check clearance, rotate the auger using the flywheel.

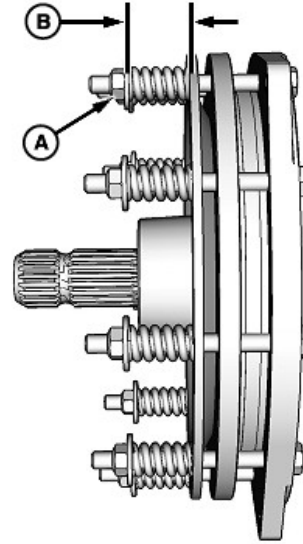
Specification

Scraper-to-Auger—Clearance. 0.1-3 mm
(1/32 in)

3. Tighten cap screws (C).
4. Repeat procedure on the opposite side.

KW18595,000022A-19-06OCT17

Adjust Friction Clutch



E76993—UN—19AUG14

- A—Nut (9 used)
- B—Distance

1. Loosen nuts (A).
2. Rotate friction clutch by hand.
Repair or replace friction clutch when it does not rotate freely or is damaged.
3. Adjust nuts (A) until specified distance (B) is reached.

Specification

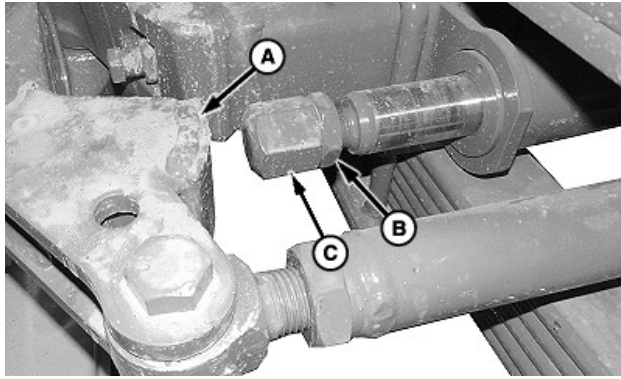
Friction Clutch Washers-to-
Plate—Distance. 42.8 mm
(1.68 in.)

PP98408,00000D4-19-10SEP14

Adjust Steering Lock Cylinders

IMPORTANT: Cylinder arm must be kept clean of debris.

Steering locks must be engaged when using public roadways and backing machine.



E73123—UN—26FEB14

- A—Stop (2 used)
- B—Locking Nut (2 used)
- C—Outer Hex Nut (2 used)

1. Align steering axle wheels. (See Check and Adjust Steering Axle Alignment in this section)
2. Loosen locking nuts (B) and move outer hex nuts (C) as far in as possible.
3. Without operating steering lock cylinders, align steering axle with machine on a smooth, level surface.
4. Add hydraulic pressure to cylinders and extend rods and maintain pressure.
5. Move outer hex nut (C) out until it contacts stops (A) without adding force.
6. Tighten locking nuts (B) against outer hex nuts (C).
7. Recheck wheel alignment. (See Check and Adjust Steering Axle Alignment in this section)

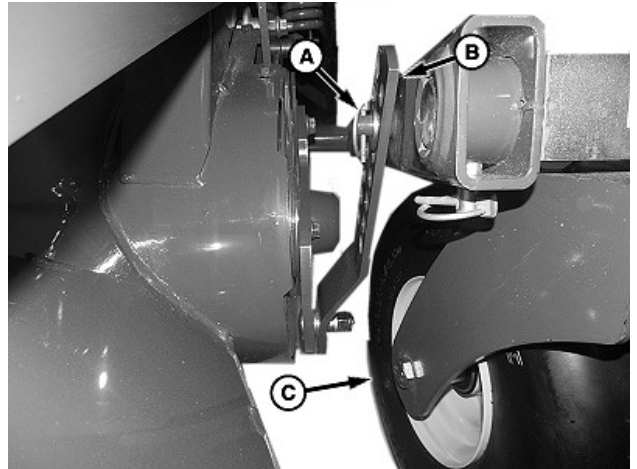
PP98408,00000D5-19-24SEP14

Adjust Pickup Height

IMPORTANT: Operating pickup too close to ground can cause excessive tooth breakage.

Adjust pickup working height as follows:

1. Connect hydraulic hoses to the tractor selective control valve.
2. Fully raise the pickup with the selective control valve lever.



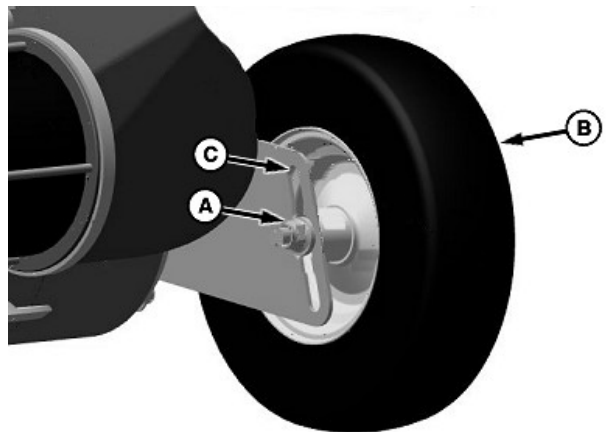
E82728—UN—21APR17

- A—Spring Pin
- B—Bracket
- C—Gauge Wheel

3. Remove spring pin (A).
4. Move bracket (B) to raise or lower gauge wheel (C) at desired position.
5. Reinstall spring pin (A).
6. Repeat steps 3—5 on the opposite side of the baler.
7. Lower pickup and check that tips of tines are approximately 20—30 mm (0.78—1.18 in) above the ground.

NOTE: The dimension of 20—30 mm (0.78—1.18 in) is just a recommendation since correct value depends on soil and crop conditions.

8. If necessary, repeat steps 3—7.



E84685—UN—06OCT17

- A—Lock Nut
- B—Gauge Wheel
- C—Slot

9. For fixed gauge wheel adjustment, park the baler on a level surface.

NOTE: Baler hitch height must match the tractor draw bar height.

10. Loosen lock nut (A).
11. Raise the gauge wheel (B) to the top of the slot (C).
12. Tighten lock nut (A).
13. Repeat steps 10—12 on the opposite side.

IMPORTANT: Distance between the gauge wheel and the ground must always be equal to or less than the distance between the pickup teeth and the ground. Incorrect distance and the gauge wheels do not protect the pickup.

14. Adjust the pickup until the pickup teeth have a minimum of 25 mm (1 in) of ground clearance.
15. Loosen lock nut (A).
16. Lower the gauge wheel (B) until it contacts the ground.
17. Tighten lock nut (A).
18. Repeat steps 15—17 on the opposite side.

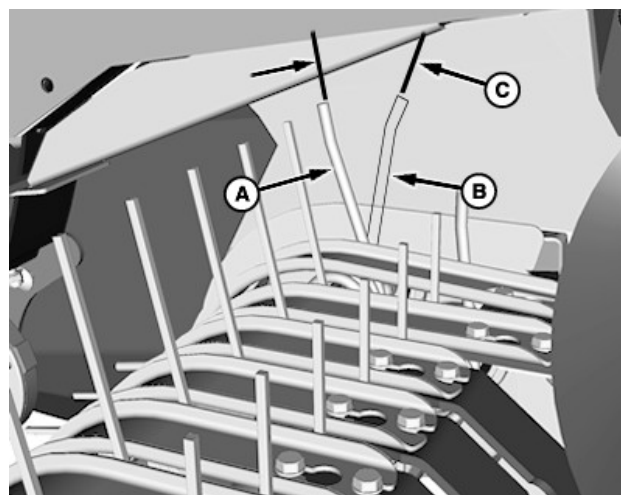
IMPORTANT: Pickup float springs must be adjusted after the gauge wheels are installed.

NOTE: See Adjust Pickup Float in the service section in this manual for initial float spring settings with the gauge wheels installed. If excessive bouncing of the pickup occurs, decrease the float spring force as needed. Field conditions determine any final adjustments necessary.

GW44282,00007EC-19-16OCT17

Check Pickup Tooth Rotational Play

NOTE: Excessive tooth rotational play reduces bale starting and feeding performance. Worn cams, spider bores, cam arm shafts, and cam bearings contribute to excessive tooth rotational play.



E66866—UN—23JUL12

A—Tooth Tip
B—Tooth Tip
C—Distance

1. To check for rotational play, rotate the flywheel until a row of pickup teeth are positioned straight up. Lock the flywheel brake.
2. Rotate the tooth bar forward by hand until rotation has stopped. Mark the position of the outside tooth tip (A) on the end stripper panel.

NOTE: Perform on each end of pickup since tooth bars are staggered.

3. Rotate the tooth bar rearward by hand until the rotation has stopped. Mark the position of the outside tooth tip (B) on the end stripper panel. Measure and record the distance between marks.
4. Mark the row and repeat Steps 1-3 on the remaining rows of teeth.
5. If the average distance (C) between marks exceeds specifications, then check wear in cams, spider bores, cam arm shafts, and cam bearings. Replace as needed.

Specification

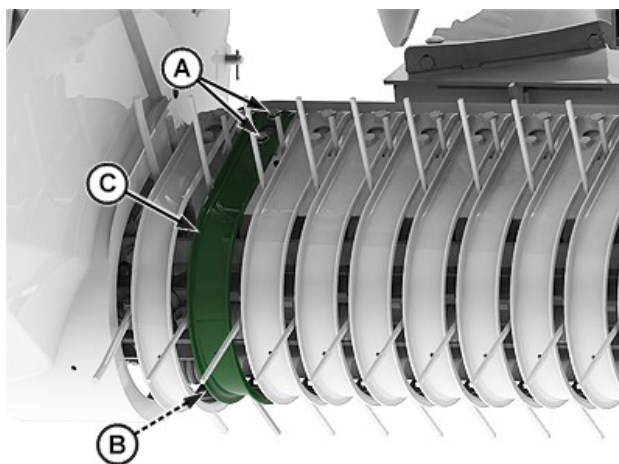
Marks on End Stripper	
Panel—Distance.	51 mm (2 in)

KW18595,000022B-19-17NOV17

Replace Teeth (Pickup Installed)

NOTE: Machine parts are removed for clarity purpose.

1. Rotate flywheel until the pickup is in the desired position.
2. Lock flywheel brake before servicing pickup.



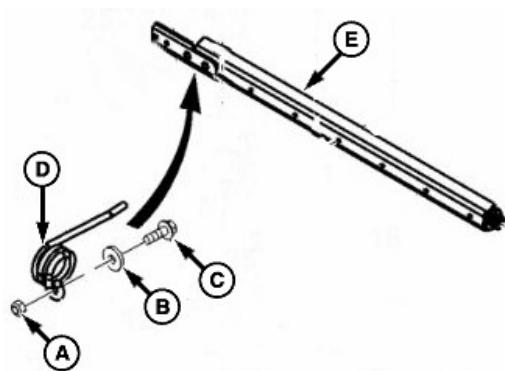
APY565551—UN—29MAR23

- A—Self-Tapping Screws
- B—Nuts
- C—Strippers

3. Loosen the self-tapping cap screws (A) and nuts (B) on the strippers (C) directly over the damaged teeth.
4. Remove the strippers.

NOTE: Outside teeth are larger than the center teeth. Outside teeth are single tine pieces and center teeth are double tine pieces. Both types of teeth are mounted to the tooth bar differently. There are large outside teeth on each tooth bar on the left-hand and right-hand ends of the pickup.

Remove and Install Outside Teeth



E84926—UN—11OCT17

- A—Flange Nut
- B—Washer
- C—Cap Screw
- D—Coil
- E—Tooth Bar

1. Remove flange nut (A), washer (B), and cap crew (C) and remove teeth.
2. Install new tooth with the coil (D) against the inside angle of the tooth bar (E) with the new tooth pointing away from the bar.
3. Retain teeth using new flange nuts (A), cap crew (B), and washer (C).

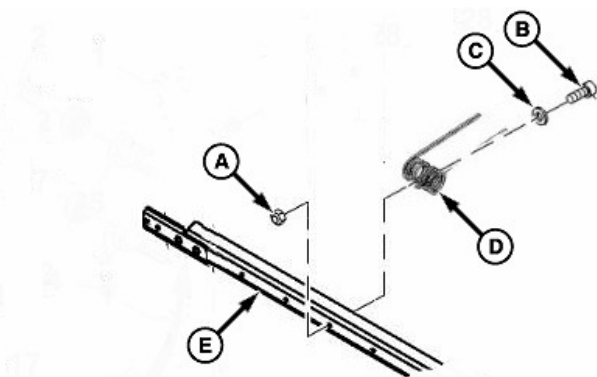
NOTE: It is recommended to replace the hardware when replacing teeth.

4. Tighten to specification.

Specification

Outside Spring Tooth-to-Tooth—Torque.	61 N·m (45 lb·ft)
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Remove and Install Center Teeth



E84955—UN—11OCT17

- A—Flange Nut
- B—Socket Head Screw
- C—Washer
- D—Coil
- E—Tooth Bar

1. Remove flange nut (A), socket head screw (B), and washer (C).
2. Install new tooth with the coil (D) against the inside angle of the tooth bar (E) with the new tooth pointing away from the bar.
3. Retain teeth using new flange nut (A), socket head screw (B), and washer (C).

NOTE: It is recommended to replace the hardware when replacing teeth.

4. Tighten to specification.

Specification

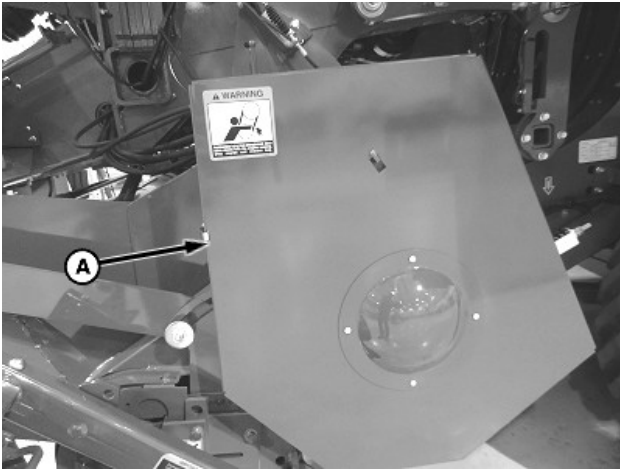
Inside Spring Tooth-to-Tooth—Torque.	61 N·m (45 lb·ft)
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hy01057,1680493568463-19-11APR23

Adjust Pickup Float Springs

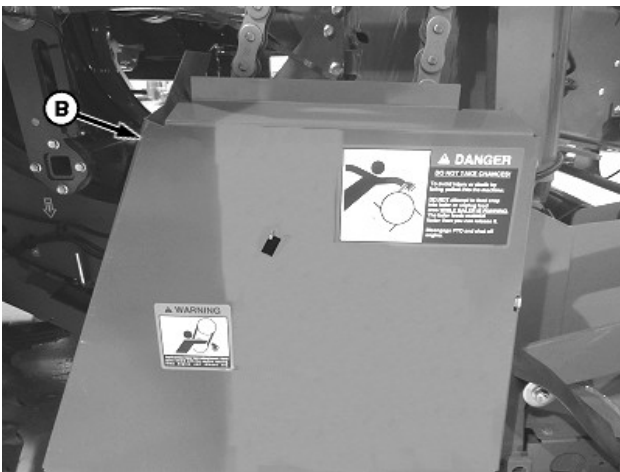
IMPORTANT: Verify that spring tension is same on both sides of pickup.

NOTE: The amount of spring tension determines the amount of pickup float.



E83268—UN—07JUN17

Left-Hand Shield

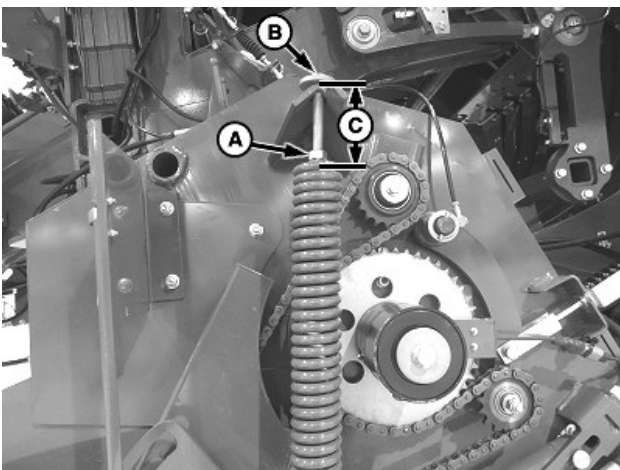


E83270—UN—07JUN17

Right-Hand Shield

A—Left-Hand Shield
B—Right-Hand shield

1. Remove left-hand shield (A) and right-hand shield (B).



E83269—UN—07JUN17

A—Lock Nut
B—Cap Screw
C—Distance

2. Loosen lock nut (A).
3. Turn the cap screw (B) until the desired setting is obtained. Or set the initial distance (C) between the top of the float spring to the bottom of the spring mount, as shown.

Pickup	mm (in)
2.2 m	100 (4)
2.5 m	75 (3)

4. More spring force is needed if:
 - Operating at pickup-to- tooth ground clearance above 50 mm (2 in).

Less spring force is needed if:

 - The pickup does not lower to desired operating height.
 - The pickup bounces too much and leaves crop in the window.
5. Repeat for the opposite side.
6. Ensure that distance (C) is the same on both sides of the baler.
7. Reinstall left-hand and right-hand shields.

czhk963,1684909541233-19-19OCT23

Adjust Pickup Float Weight

IMPORTANT: Exceeding the pickup float recommendation could damage the depth gauge wheel and affect the pickup function.

NOTE: Verify that the float spring setting does not exceed the recommended 300 lb total (150 lbs per side of pickup).

1. Set the tractor tongue to operating height.
2. Attach the baler to the tractor.
3. Park the baler on a flat, level surface.
4. Turn off tractor and remove the key.
5. To set the pickup operating height, see Adjust Pickup Working Height in this section.
6. Raise the pickup.
7. Position a floor scale under each pickup depth gauge wheel.
8. Lower the pickup onto the floor scales.
9. To adjust the float spring weight, see Adjust Float Spring in this section.
 - Less spring force is needed if the pickup weight exceeds 150 lbs per side of the pickup.

- More spring force is needed if the pickup weight is below 150 lbs per side of pickup.

10. After adjusting the pickup float springs, raise the pickup and remove the scales.

GW44282,0000CBB-19-28OCT20

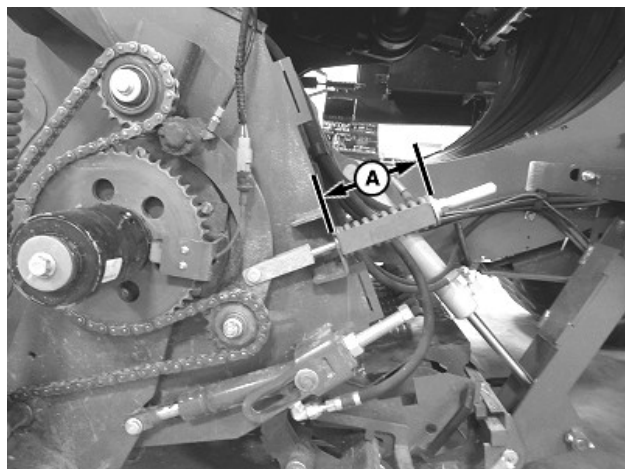
Adjust Pickup Chain Tension



E84679—UN—29SEP17

A—Shield

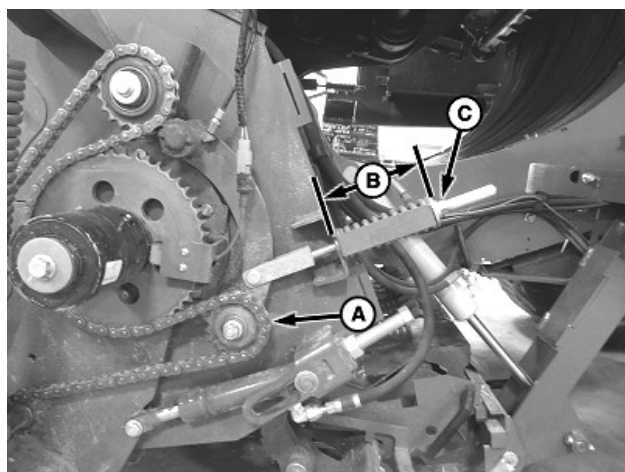
1. Remove left-hand shield (A).



E82452—UN—12APR17

A—Specification

2. Verify that pickup drive chain idler is within specification (A).



E82453—UN—12APR17

A—Pickup Chain Idler
B—Specification
C—Lock Nut

3. To adjust pickup chain idler (A) to specification (B), turn lock nut (C) clockwise to tighten chain idler or counterclockwise to loosen chain idler.

Specification

Pickup Drive Chain	
Tension—Distance	123 mm (4.84 in)

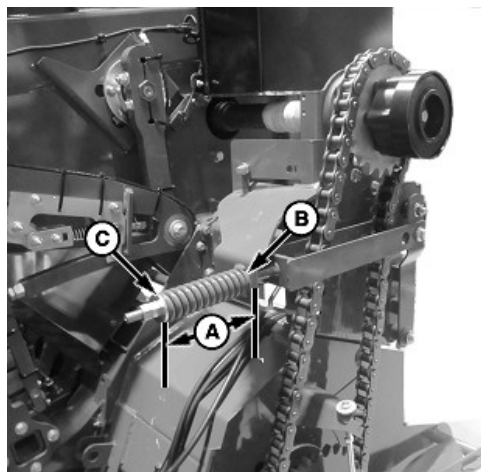
4. Reinstall left-hand shield.

GW44282,00007D6-19-17NOV17

Adjust Rotor Drive Chain Tension

Adjust Rotor Drive Chain Tension

1. Open right-hand door.
2. Remove shield if necessary.



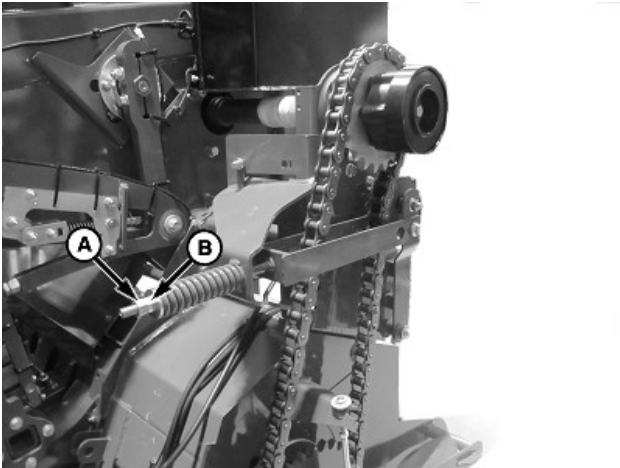
E84680—UN—29SEP17

A—Distance
B—Bracket
C—Washer

3. Verify specification by measuring distance (A) between bracket (B) and washer (C).

Specification

Rotor Chain Tension—Distance 160 mm
(6.3 in)

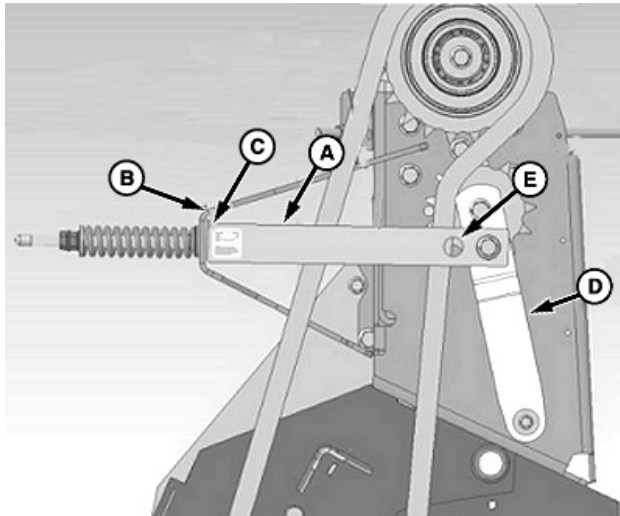


E84681—UN—29SEP17

A—Lock Nut
B—Adjusting Nut

4. To adjust the chain tension, loosen lock nut (A).
5. Turn adjusting nut (B) clockwise to tighten chain or counterclockwise to loosen chain.
6. Adjust chain tension to specification.
7. Tighten lock nut (A).
8. Replace any removed shields and close door.

Tensioner Bracket

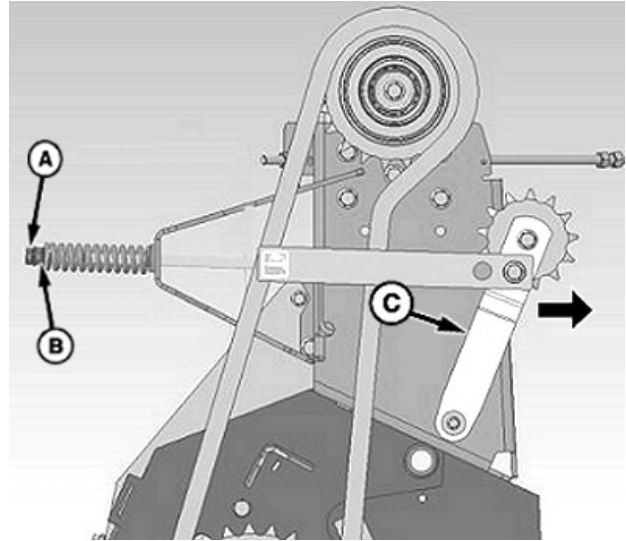


E84686—UN—06OCT17

A—Tensioner Bracket
B—Structure Bracket
C—Location
D—Tensioner Arm
E—Second Hole

When chain is worn to the point that the tensioner bracket (A) is touching the structure bracket (B) at location (C), move the tensioner arm (D) to the second hole (E) in the tensioner bracket.

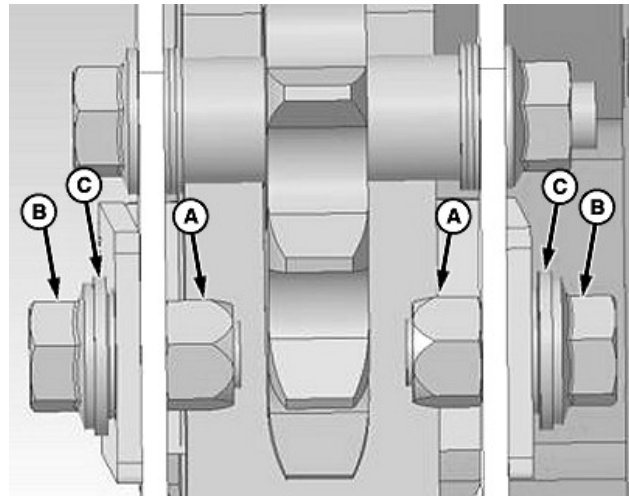
Adjust the chain tensioner bracket as follows:



E84687—UN—06OCT17

A—Lock Nut
B—Adjusting Nut
C—Tensioner Arm

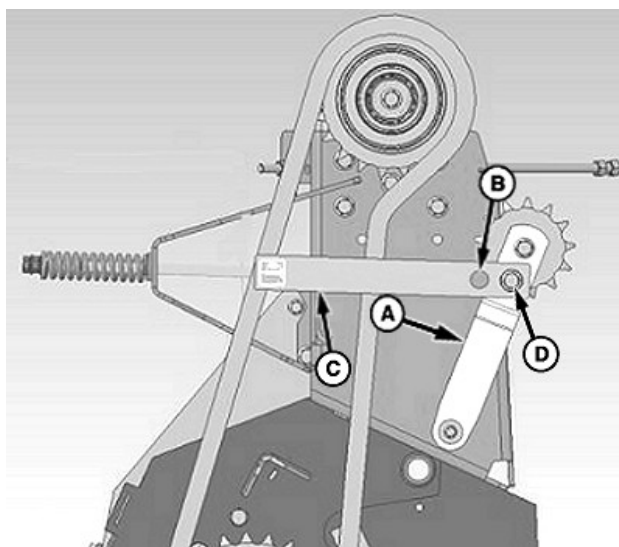
1. Loosen lock nut (A) and adjusting nut (B).
2. Move the tensioner arm (C) forward.



E84688—UN—06OCT17

A—Lock Nut (2 used)
B—Cap Screw (2 used)
C—Washers (2 used)

3. Remove and retain lock nuts (A), cap screws (B), and washers (C).



E84917—UN—06OCT17

- A—Tensioner Arm
- B—Second Hole
- C—Tensioner Bracket
- D—Lock Nuts, Washers, and Cap Screws

4. Reinstall tensioner arm (A) in the second hole (B) in the tensioner bracket (C) and retain using previously removed lock nuts, washers, and cap screws (D).
5. Adjust chain to specification.

Specification

Rotor Chain Tension—Distance. 160 mm
(6.3 in)

GW44282,00007D5-19-17NOV17

Sharpen Knives



E77215—UN—30SEP14

CAUTION: Knives can be sharp. Prevent personal injury by wearing suitable gloves when handling knives.

Protect eyes. Always wear appropriate eye protection when sharpening knives. Flying metal debris and sparks can cause serious injury.

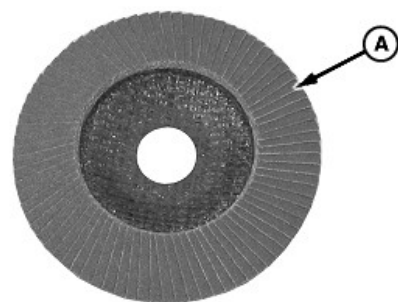
Sharpen knives every 1000 bales. Depending on crop

conditions, a more frequent sharpening schedule may be necessary.

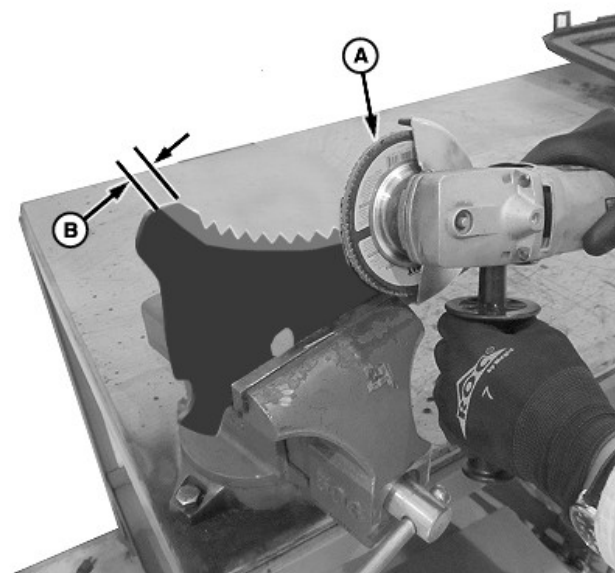
IMPORTANT: Avoid metal from getting overheated during sharpening. To avoid overheating cutting edge, keep flap wheel moving along the edge of knife and take small amounts of material in each pass. If steel is blued, it decreases integrity of blade leaving it brittle and a cutting edge that will not last.

NOTE: A flap wheel grinding disk (A) is recommended for sharpening knives.

Always keep cutting knives sharp. Sharp knives save power and provide higher capacity.



E71992—UN—30OCT13



E83608—UN—13JUL17

- A—Flap Wheel Grinding Disc
- B—Grinding Edge

1. Remove knife from the machine:
 - (See Remove and Install Precutter Knives [L331R Precutter] in Preparing the Baler section.)
 - (See Remove and Install Precutter Knives [L341R Precutter] in Preparing the Baler section.)

2. Clamp knife in a vise as shown.
3. Sharpen knives using a flap wheel grinding disk (A) at a 12° angle.
4. Maintain a maximum grinding edge (B) of 10 mm (0.5 in).
5. Reinstall knife:
 - (See Remove and Install Precutter Knives [L331R Precutter] in Preparing the Baler section.)
 - (See Remove and Install Precutter Knives [L341R Precutter] in Preparing the Baler section.)

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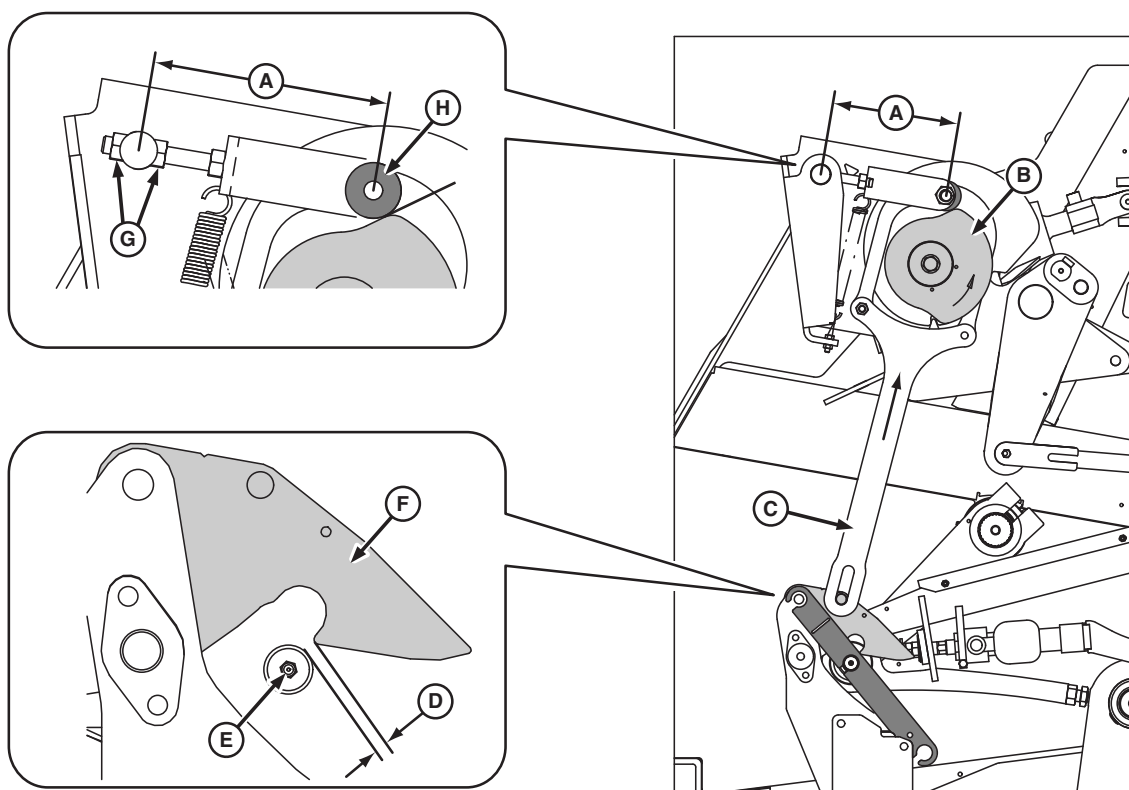
Check and Adjust Hook Lifting Mechanism

NOTE: Procedure shown using a 3x3 baler with adjusting rod facing forward. 3x4 procedure is the same with adjusting rod facing rearward.

IMPORTANT: Serious damage to mechanism can result from improper hook-to-roller distance (D).

Distance (D) should only be checked when roller is riding up leading face of cam as shown in illustration.

NOTE: Place the feed system into the 1:1 mode before performing this check.



3x3 Baler Shown

E72858—UN—08OCT14

- A—Roller-to-Lock Nut Distance
- B—Cam
- C—Plate
- D—Hook-to-Roller Distance

- E—Roller
- F—Hook
- G—Lock Nut (2 used)
- H—Cam Roller

1. Turn flywheel by hand until hook (F) begins to lift. Verify cam roller (H) is riding up leading face of cam (B) as shown. Continue turning flywheel until roller (E) is centered under lowest part of hook (F) as shown.

NOTE: A drill bit of the specified diameter is to be used if an appropriately sized feeler gauge is not available.

2. Check that hook (F)-to-roller (E) distance (D) is within specification.

Specification

Hook-to-Roller 3x3—Distance.....	8 ± 1 mm (0.315 ± 0.04 in)
----------------------------------	-------------------------------

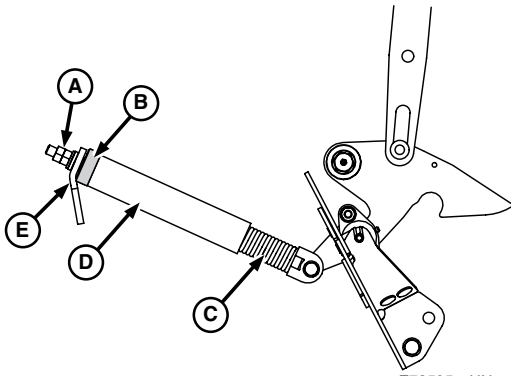
Specification

Hook-to-Roller 3x4—Distance.....	4 ± 1 mm (0.157 ± 0.04 in)
----------------------------------	-------------------------------

IMPORTANT: If distance (D) is not achieved with adjustment of distance (A), the hook lifting mechanism needs to be rebuilt (See Checking and Repair Hook Lifting Mechanism for Wear in this section).

Adjust cam roller (H) as follows:

- a. Loosen lock nuts (G).
 - b. Adjust cam roller (H)-to-nut distance (A) until hook (F)-to-roller (E) distance (D) is within specification.
 - Moving cam roller (H) rearward will **increase** distance (D)
 - Moving cam roller (H) forward will **decrease** distance (D)
 - c. Tighten lock nuts.
3. Turn flywheel by hand and complete an entire filling cycle and observe hook (F) for smooth motion.
 4. Run baler at a low RPM with feeder fork in 1:1 and automatic mode for several minutes.
 5. Disengage PTO, set tractor parking brake, shut off tractor, and remove key.
 6. Recheck hook-to-roller (E) distance (D), readjust as necessary.



E72595—UN—14FEB14

- A—Nut (2 used)
- B—Hose Clamp
- C—Spring
- D—Cover
- E—Plate

7. Adjust Hook Spring Setting

IMPORTANT: Upper part of spring (C) has to fit against plate (E). Verify that spring is not rotating while tightening nuts (A).

Complete following steps to set hook spring:

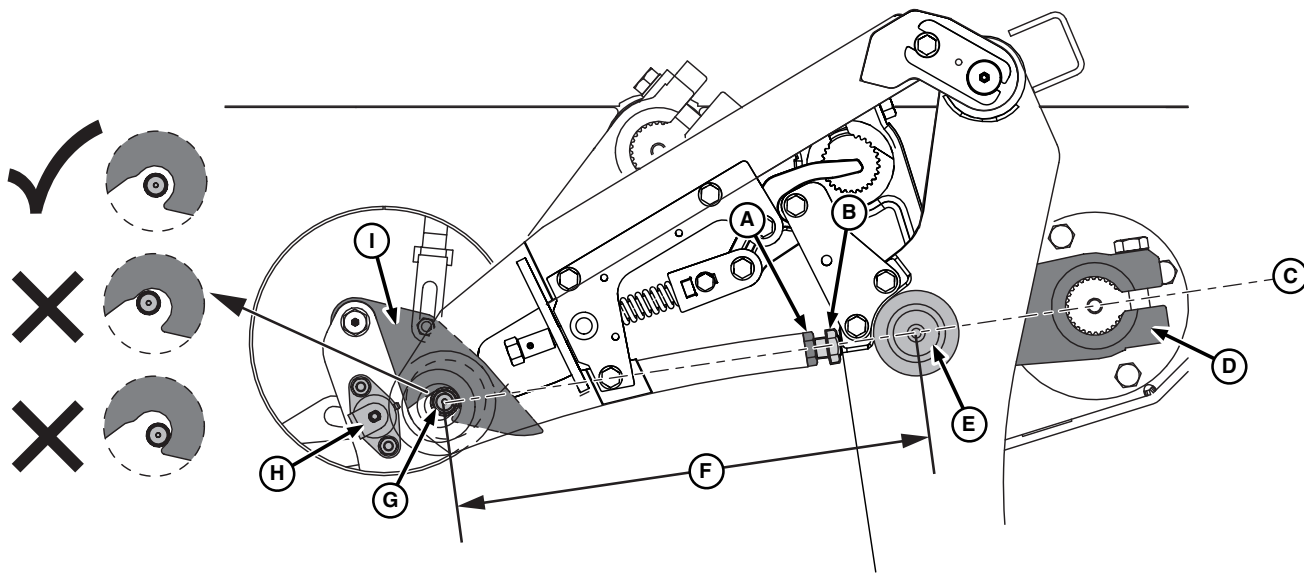
- a. Tighten nuts (A).
 - b. Fit cover (D) tightly over spring (C).
 - c. Tighten hose clamp (B).
8. Check hook synchronization (See Check and Adjust Hook Synchronization in this section).

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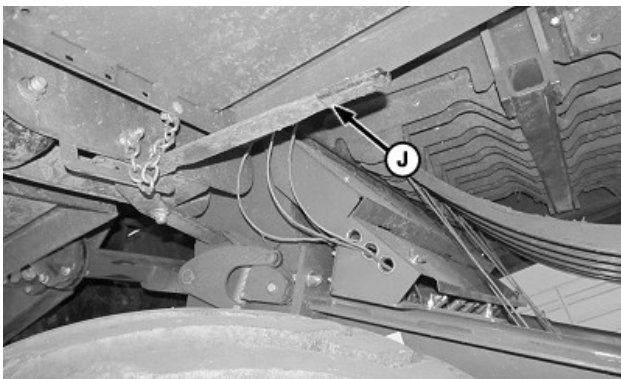
Check and Adjust Hook Synchronization

NOTE: In order to check distance (F) a fill stroke must be completed by moving 1:1 locking lever (J) forward to initiate a fill stroke.

IMPORTANT: Check hook synchronization only when system is at beginning of filling stroke, and center of crank arm (D), bearing (E), and pin (G) are aligned. See illustration.



E72859—UN—07MAR14



E72597—UN—11NOV14

- A—Lock Nut
- B—Bolt
- C—Centerline
- D—Arm
- E—Bearing
- F—Distance
- G—Pin
- H—Lock Pin
- I—Hook
- J—1:1 Locking Lever

Adjust Pin Position

IMPORTANT: Verify center of crank arm (D), bearing (E), and pin (G) are still in alignment with each other.

1. On right side:

- Loosen lock nut (A) and turn bolt (B) clockwise until it bottoms.

2. On left side:

- Use a pry bar to lift hook off-and-on pin (G) while setting pin-to-hook.
- Loosen lock nut (A).
- Tighten adjustment bolt (B) until you can feel resistance in hook movement due to roller rubbing on rear of hook slot.
- Count adjustment bolt “flats” while loosening bolt until a similar resistance can be felt in hook movement due to roller rubbing front surface of hook slot.
- Divide total number of “flats” in half and tighten

1. Disengage flywheel brake.
2. Turn flywheel by hand counterclockwise until center of crank arm (D), bearing (E), and pin (G) are in alignment and hook is down over pin (G).
3. Verify three points are aligned by holding a straight edge through center points.
4. Pin (G) is now fully forward and ready to be checked for alignment with center of hook (I).

NOTE: Significant force is required to overcome spring force of hook.

5. Use a pry bar to lift hook off of pin (G). Pin must not move forward or backward and hook must lift cleanly off pin.
6. Lower hook back over pin and watch for any movement of pin or catching of hook. Pin must be in middle of slotted hole of hook as shown.
7. If hook does not fall smoothly and completely back over pin when pry bar is released, pin position needs to be adjusted.

adjustment bolt (B) that amount of “flats” to center pin-to-hook slot.

- Tighten lock nut (A).

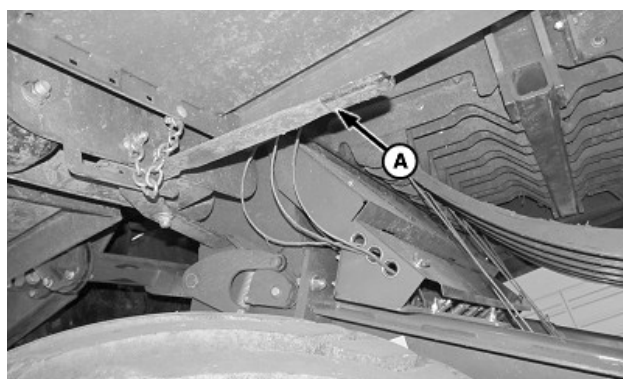
3. **On right-hand side**, adjust bolt (B) out until it slightly touches arm then tighten lock nut (A).
4. Run machine for a few minutes and engage 1:1 locking lever several times to verify a smooth, downward movement of hook (I).

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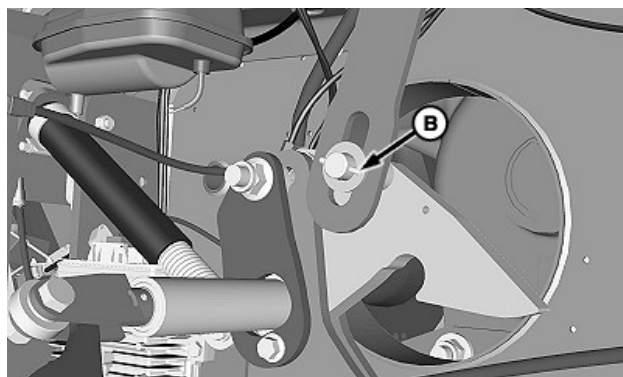
Check and Repair Hook Lift Mechanism

Check for Wear

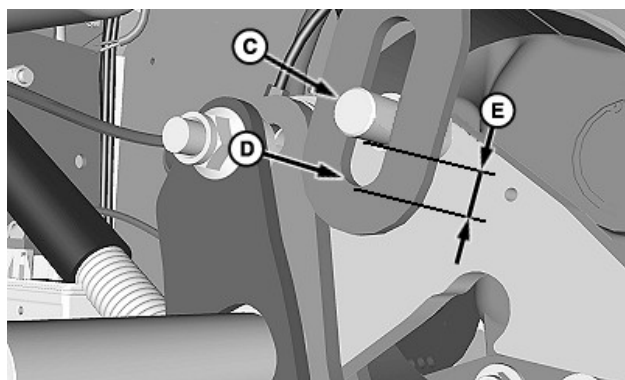
NOTE: Checking for wear using a 3x3 baler. 3x4 baler is similar.



E76997—UN—11NOV14



E76998—UN—22AUG14



E80235—UN—22OCT15

- A—1:1 Locking Lever
- B—Spring Pin
- C—Hook Pin
- D—Lift Link Slot
- E—Distance

1. Engage 1:1 locking lever (A) and place into LOCKED position.
2. Turn flywheel counterclockwise until hook latches fully over pin and feeder forks start rearward motion into a filling stroke.

IMPORTANT: Verify that roller is fully down on lower portion of cam.

3. Remove spring pin (B) and washer from top of hook.
4. Measure distance (E) from bottom of hook pin (C) to bottom of lift link slot (D).

If distance is greater than specification, hook lifting mechanism has excessive wear and parts must be replaced.

Specification

Hook Pin-to-Lift Link	
Slot—Distance.	6 mm (0.24 in)

Repair Hook Lift Mechanism

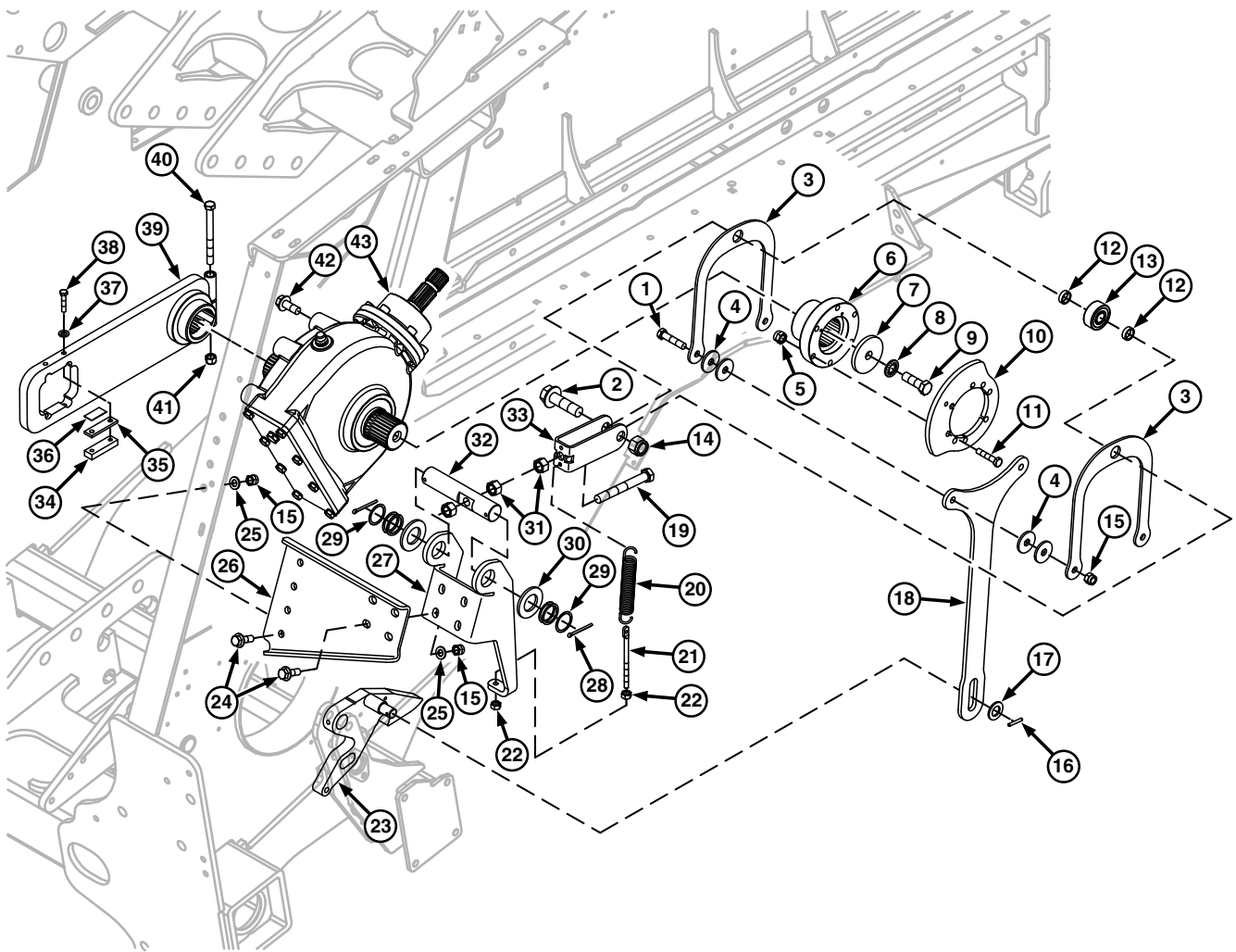
Refer to mechanism exploded views. (See Hook Lifting Mechanism Exploded View in this section.)

- **3x3 Baler:** Replace timing plates (3), spacers (12), roller (13), and timing arm (18).
- **3x4 Baler:** Replace roller plate (10), bushings (11), roller (13), timing plates (16), and timing arms (17).

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Hook Lifting Mechanism Exploded View

3x3 Baler

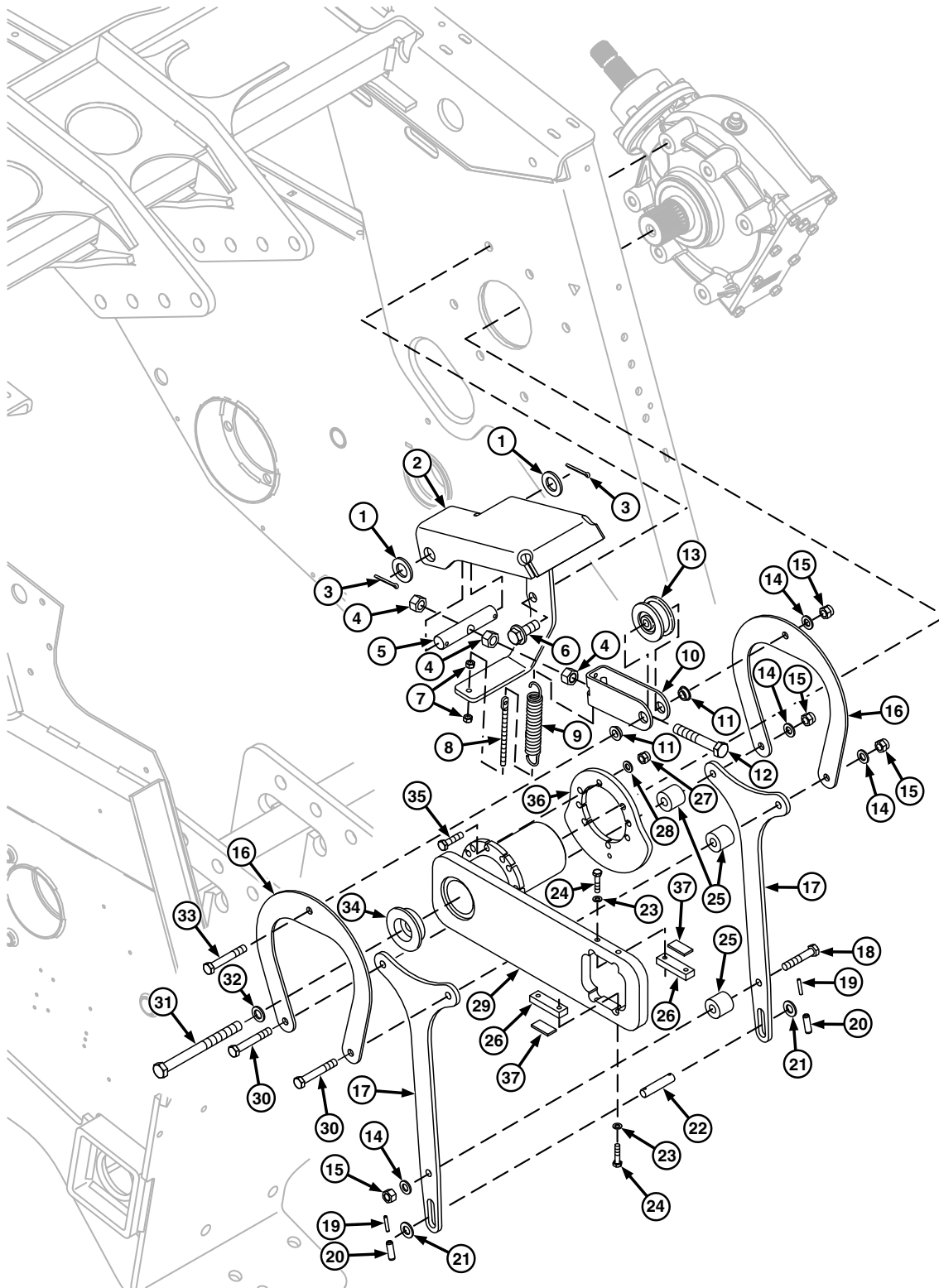


- 1—Cap Screw (2 used)
- 2—Cap Screw
- 3—Feed Timing Plate (2 used)
- 4—Washers (8 used)
- 5—Lock Nut (6 used)
- 6—Hub
- 7—Washer
- 8—Spring Washer
- 9—Cap Screw
- 10—Cam
- 11—Cap Screw (6 used)
- 12—Spacer (2 used)
- 13—Roller
- 14—Lock Nut
- 15—Lock Nut (10 used)
- 16—Spring Pin
- 17—Washer
- 18—Timing Arm
- 19—Cap Screw
- 20—Spring
- 21—Eyebolt
- 22—Nuts (2 used)

- 23—Hook
- 24—Cap Screws (8 used)
- 25—Washers (8 used)
- 26—Feeder Cam Bracket
- 27—Cam Roller Bracket
- 28—Spring Pin (2 used)
- 29—Shims (as required)
- 30—Washer (2 used)
- 31—Nuts (3 used)
- 32—Pin
- 33—Plate
- 34—Bar (2 used)
- 35—Plate (2 used)
- 36—Shim (2 used)
- 37—Washers (4 used)
- 38—Cap Screws (4 used)
- 39—Drive Arm
- 40—Cap Screw
- 41—Lock Nut
- 42—Cap Screw (6 used)
- 43—Lower Knotter Gear Case

E76227—UN—16JUL14

3x4 Baler



- 1—Washer (2 used)
- 2—Timing Support Cover
- 3—Cotter Pin (2 used)
- 4—Nut (3 used)

- 5—Pin
- 6—Cap Screw (6 used)
- 7—Nut (2 used)
- 8—Eyebolt

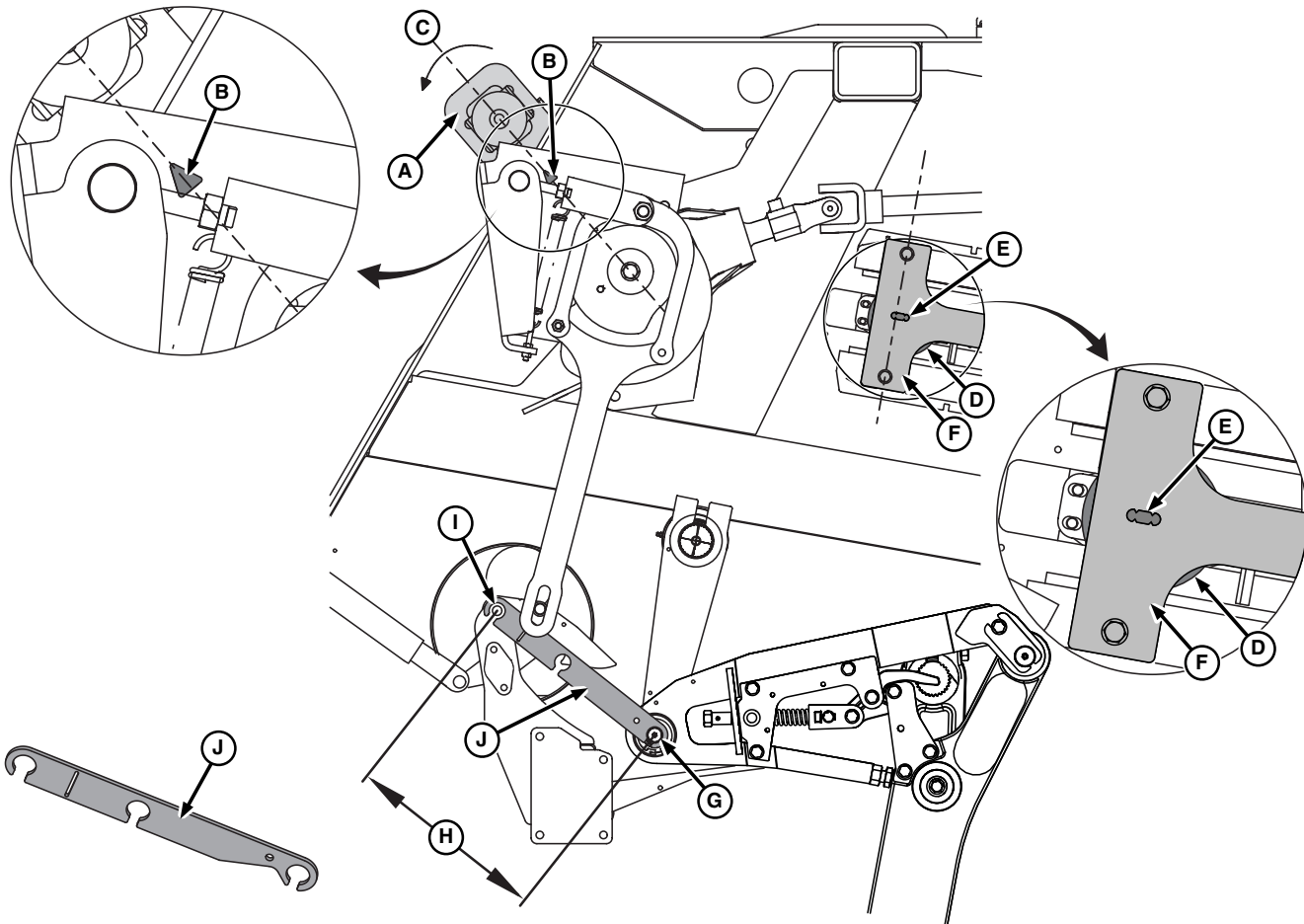
E76226—UN—21MAR18

- 9—Spring
- 10—Roller Plate
- 11—Bushing (2 used)
- 12—Cap Screw
- 13—Roller
- 14—Washer (4 used)
- 15—Lock Nut (4 used)
- 16—Timing Plate (2 used)
- 17—Timing Arm (2 used)
- 18—Cap Screw
- 19—Inner Spring Pin
- 20—Outer Spring Pin
- 21—Washer (2 used)
- 22—Pin
- 23—Washer (4 used)
- 24—Cap Screw (4 used)
- 25—Spacer (3 used)
- 26—Bar (2 used)
- 27—Lock Nut (4 used)
- 28—Washer (4 used)
- 29—Crank
- 30—Cap Screw (2 used)
- 31—Cap Screw
- 32—Washer
- 33—Cap Screw
- 34—Bushing
- 35—Cap Screw (4 used)
- 36—Cam

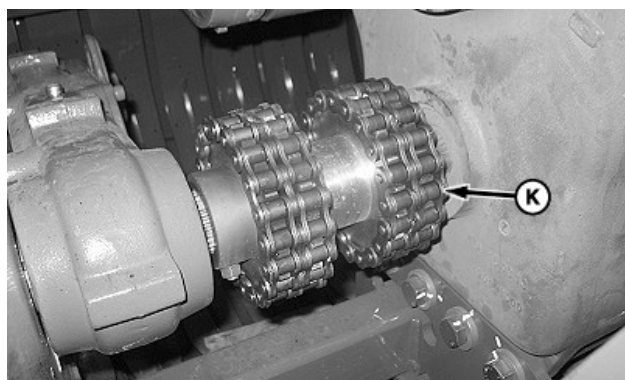
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Adjust Feeder Fork Timing

NOTE: Timing tool (J) is on the front of the left-hand side twine box.



E72591—UN—25NOV14



E72592—UN—03FEB14

3x4 Baler Shown

- A—Crank Arm
- B—Alignment Arrow
- C—Center Line
- D—Front Plunger Roller
- E—Slotted Hole
- F—Front Plunger Roller Timing Plate
- G—Nut
- H—Distance
- I—Cap Screw
- J—Timing Tool Plate
- K—Duplex Chain (2 used)

When the center of the bearing of the front plunger roller (D) is not visible in the slotted hole (E) when timing tool (J) is used to check alignment, the machine is out of adjustment.

NOTE: Place the feed system in the automatic mode to perform this check.

1. Set the locking lever to automatic feeding mode and ensure the feeder fork hook is locked-up so a filling stroke does not happen.
2. Turn the flywheel counterclockwise by hand until the crank arm (A) is at the height of the alignment arrow (B) on the side sheet. The main arm also lines up with the center line (C).
3. Place the timing tool (J) on the cap screw (I) and nut (G) using the outer holes. The tool maintains a distance (H) of 346.5 mm (13.64 in).
4. Engage the flywheel brake.

NOTE: 3x3 baler uses only one set of chains.

3x4 baler uses two sets of chains and a duplex sprocket. Only the chain closest to the main drive gear case needs to be removed.

5. Remove duplex chain (K).
6. Disengage the flywheel brake.
7. Turn the flywheel by hand clockwise or counterclockwise until the center of the bearing of the front plunger roller (D) is at the middle of the slotted hole (E) of the front plunger roller timing plate (F).

NOTE: Some angle displacement between the sprockets is allowed if the center of the bearing of the front plunger roller remains within the slotted hole (E).

8. When the feeder fork sprocket alignment is set, make only slight movements using the flywheel to align the sprocket teeth. If both duplex chains (K)

were removed, install the feeder fork gear case chain first and then main gear case chain at last.

9. Check the lifting mechanism (See Check and Adjust Hook Lifting Mechanism in this section).
10. Return the timing tool plate (J) to the front of the left-hand side twine box or place in the machine tool box.

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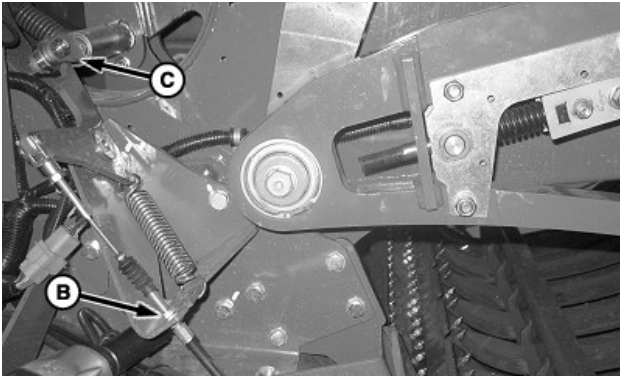
Adjust Locking Pin

Locking pin is disengaged from hook when:

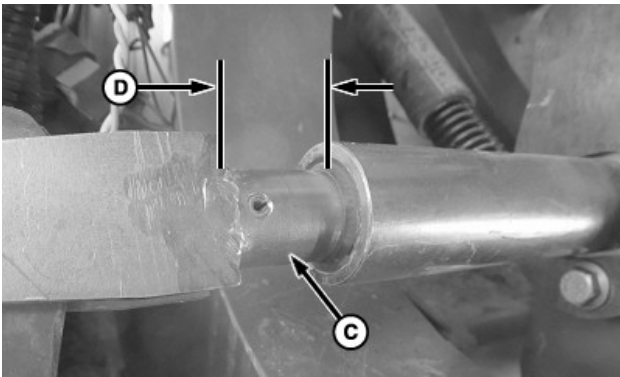
- 1:1 locking lever is engaged and locked.
- When measuring plates are pressed out of precompression chamber after predetermined density is reached.



E76431—UN—15SEP14



E76432—UN—16JUL14



E76433—UN—16JUL14

- A—1:1 Locking Lever
- B—Nuts (4 used)
- C—Locking Pin
- D—Distance

1. Engage 1:1 locking lever (A) and place into locked position.
2. Verify specified distance (D) on locking pin (C).

Specification

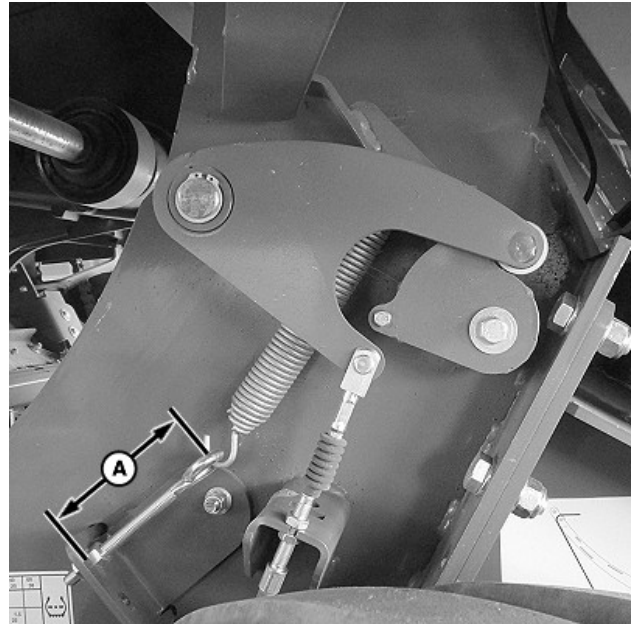
Locking Pin—Distance. 34 mm
(1.33 in.)

3. If locking pin is not within specification, adjust cable using nuts (B) until specification is obtained.
4. Tighten nuts (B).
5. Disengage 1:1 locking lever.
6. Run machine and verify smooth movement between hook and pin.

PP98408,00000DE-19-10SEP14

Adjust Precompression Chamber Density

IMPORTANT: When precompression density is set too high, feeder fork slip clutch is activated.



E75942—UN—15SEP14

A—Distance

Recommended density for precompression chamber is distance (A) on eyebolt.

Specification

Measuring Plate
Eyebolt—Distance. 120 mm
(4.8 in)

- To raise crop density, decrease distance (A)
- To lower crop density, increase distance (A)

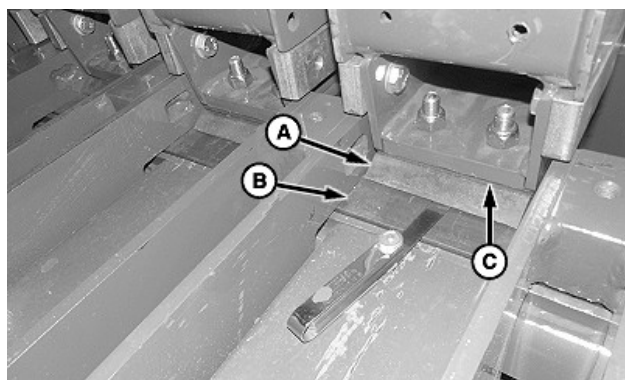
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Adjust Knife

⚠ CAUTION: Avoid serious injury. Wearing Personal Protective Equipment (PPE) can help reduce chances of serious injury. Throughout this procedure, a technician is required to be inside bale chamber to complete task.

Avoid serious injury. Do not allow any part of your body to get trapped between plunger and bale forming chamber. Serious injury can result if plunger moves unexpectedly. Verify that flywheel brake is engaged before working inside the bale chamber.

1. Eject last bale and clean bale chamber of debris.
2. Verify that ejector teeth are retracted fully.



E84626—UN—03OCT17

- A—Plunger Knife
- B—Fixed Knife
- C—Shims

3. Distance between plunger knife (A) and fixed knife (B) must be within specification.

NOTE: Distance is determined by shims (C).

Specification

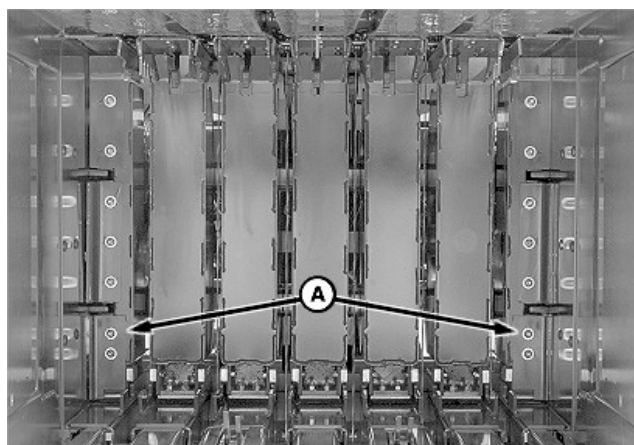
Plunger Knives-to-Fixed	
Knife—Distance	1—3 mm (0.039—0.078 in)



E72580—UN—27JAN14

Knives Centered Between Fixed Knife and Precompression Chamber

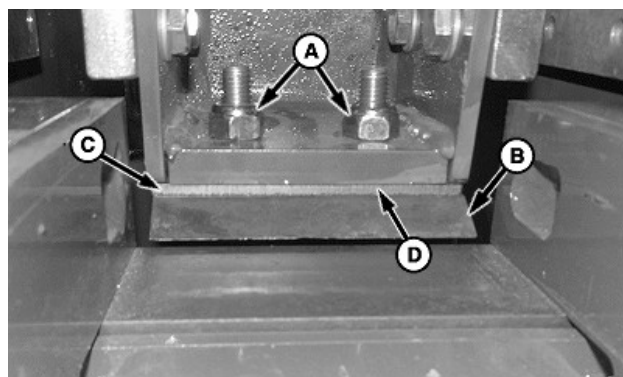
4. Advance flywheel by hand until knives are located between fixed knife and precompression chamber as shown.



E84619—UN—20SEP17

- A—Lower Scrapers

5. Remove and retain lower scrapers (A).



E84627—UN—03OCT17

- A—Lock Nuts
- B—Plunger Knife
- C—Shims

6. Remove lock nuts (A), remove plunger knife (B), and adjust shims (C) as required.

7. Install plunger knife (B) using lock nuts (A) and tighten to specification.

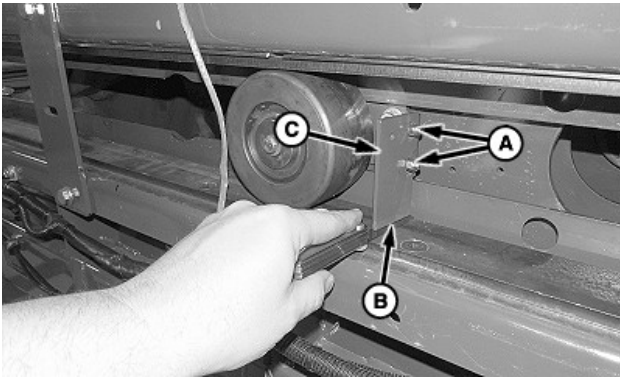
Specification

Plunger Knife Lock	
Nuts—Torque	120 N·m (106 lb·ft)

8. Reinstall lower scrapers. (See Adjust Plunger Scraper in this section.)

GW44282.000080F-19-01NOV17

Adjust Roller Scraper



E72577—UN—27JAN14

- A—Lock Nuts (2 used)
- B—Distance
- C—Scraper

Distance (B) must be within specification through entire plunger stroke for all six scrapers (C).

1. Loosen lock nuts (A).
2. Adjust scraper (C) to lower rail until within specification.

Specification

Plunger Roller Scraper Plate-to-Lower Rail—Distance. 1—3 mm
(0.039—0.118 in)

3. Tighten lock nuts (A).

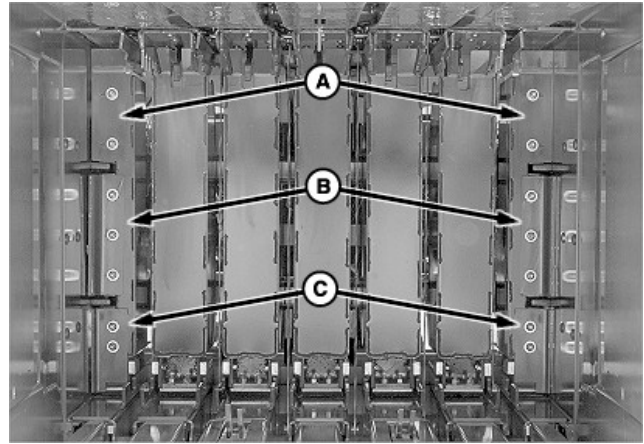
KW18595,0000241-19-01NOV17

Adjust Plunger Scraper

CAUTION: Avoid serious injury. Wearing Personal Protective Equipment (PPE) can help reduce chances of serious injury. Throughout this procedure, a technician is required to be inside bale chamber to complete task.

Avoid serious injury. Do not allow any part of your body to get trapped between plunger and bale forming chamber. Serious injury can result if plunger moves unexpectedly. Verify that flywheel brake is engaged before working inside the bale chamber.

The plunger has 2 upper scrapers (A), 2 middle scrapers (B), and 2 lower scrapers (C) as shown.



E84581—UN—18SEP17

- A—Upper Scraper Plates (2 used)
- B—Middle Plunger Scrapers (2 used)
- C—Lower Scraper Plates (2 used)



E84631—UN—25SEP17

- A—Scraper Edge

The plunger scrapers edges (A) must be within specification to wall of bale forming chamber on both sides of plunger through entire plunger stroke.

Adjust plunger scrapers as follows:

1. Loosen cap screws on scrapers requiring adjustment.
2. Using a feeler gauge, adjust plunger scraper to specification.

Specification

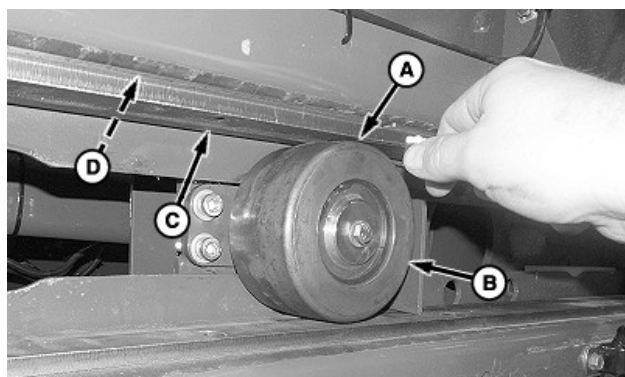
Plunger Scrapers-to-Bale Chamber Wall—Distance. 1—3 mm
(0.039—0.118 in)

3. Retighten cap screws.

GW44282,0000810-19-17NOV17

Adjust Roller

NOTE: It may be helpful to refer to an exploded view. (See Plunger Rollers, Scrapers, and Track Exploded View in this section.)



E72576—UN—24JAN14

- A—Distance
- B—Roller (4 used)
- C—Upper Rail (2 used)
- D—Shims (as required)

1. Verify distance (A) between top of rollers (B) and upper rail (C) is within specification for entire length of plunger stroke.

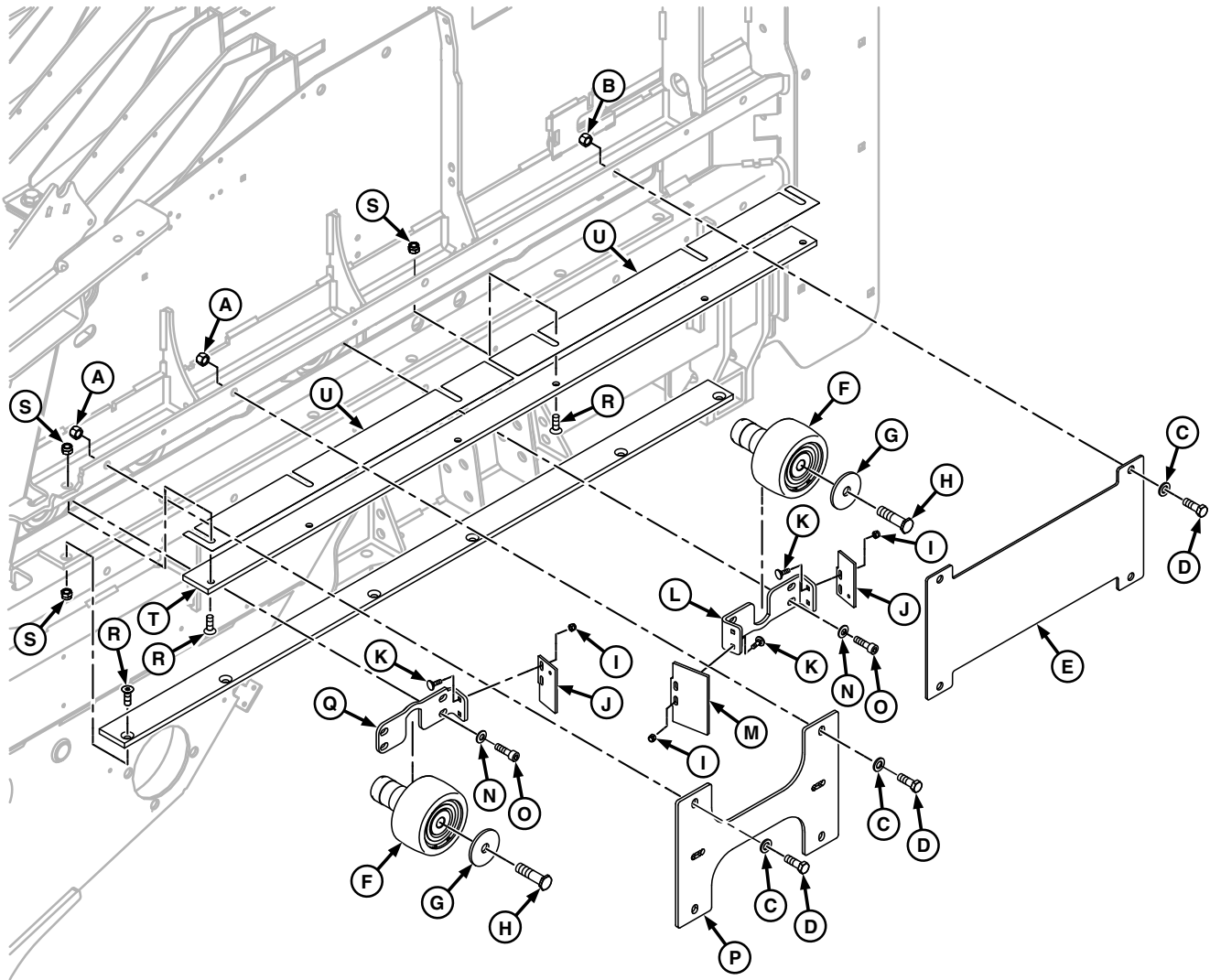
Specification

Top of Plunger Roller-to-Upper	
Track—Distance.	0.1—2 mm (0.004—0.078 in)

2. To adjust distance (A), loosen countersunk socket head cap screws to lower rail.
3. Add or remove shims (D) as required.
4. Tighten screws and recheck specification as described in Step 1.

KW18595,0000242-19-01NOV17

Plunger Rollers, Scrapers, and Track Exploded View



- A—Nut (4 used)
- B—Lock Nut (4 used)
- C—Washer (8 used)
- D—Cap Screw (4 used)
- E—Plate
- F—Roller Alignment Strip (2 used)
- G—Countersunk Socket Head Screw (12 used)
- H—Lock Nut (12 used)
- I—Rail (2 used)
- J—Shim (as required)

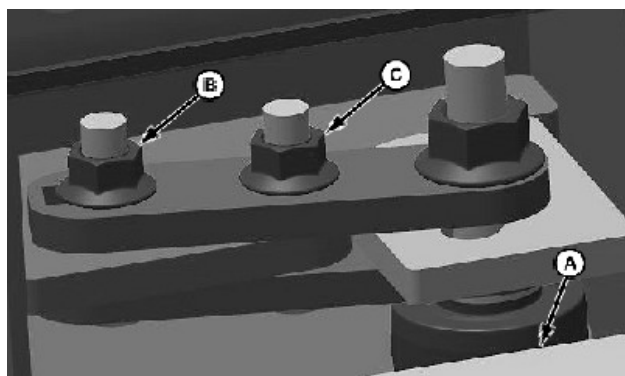
- K—Carriage Bolt (6 used)
- L—Rear Scraper Support
- M—Plate
- N—Spring Washer (8 used)
- O—Socket Head Cap Screw (8 used)
- P—Front Scraper Support
- Q—Lock Nut (12 used)
- R—Rail (2 used)
- S—Shim (as required)

E84971—UN—23OCT17

SF04007,0000FF0-19-23OCT17

Adjust Plunger Side Rollers

NOTE: When either of the side rollers are adjusted, clearance between the plunger and stationary retainers on the bale floor must be checked. Clearance to the knotter table, and knotter table haydogs must be checked as well.



E94929—UN—04OCT20

- A—Pivot Nut
- B—Adjustment Nut
- C—Side Roller

Adjust plunger side rollers as follows:

1. Loosen the pivot nut (A) and adjustment nut (B).
2. Slide the side roller (C) in or out as necessary to specification.

Specification

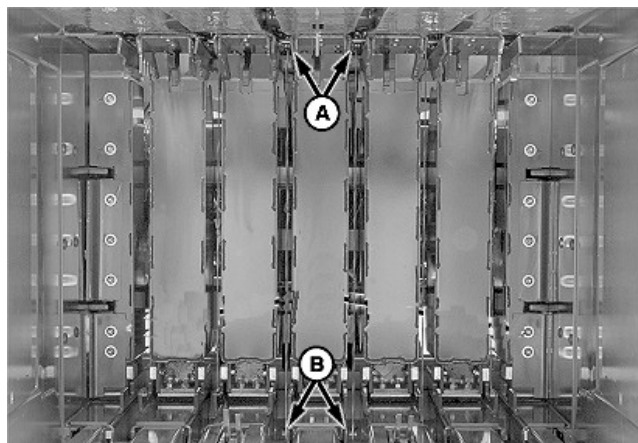
Plunger Side Roller Minimum
 Clearance—Clearance. 1 mm
 (0.04 in)

Specification

Plunger Side Roller Maximum
 Clearance—Clearance. 3 mm
 (0.12 in)

NOTE: Total clearance between the plunger rails at the narrowest point, should be 0.25—1 mm (0.01—0.039 in). At the widest point, total clearance between the plunger rails should be 0.25—3 mm (0.01—0.118 in).

3. Tighten the nuts.



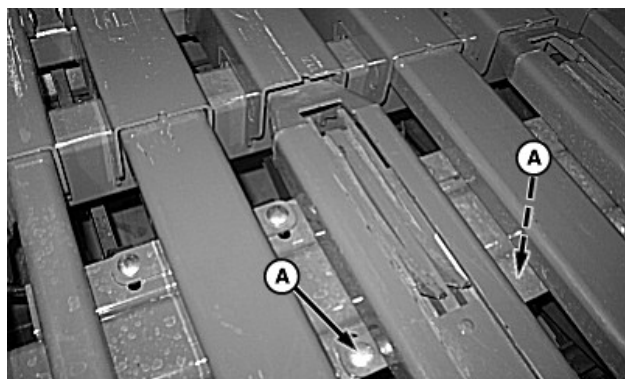
E84632—UN—25SEP17

- A—Retainers
- B—Scrapers

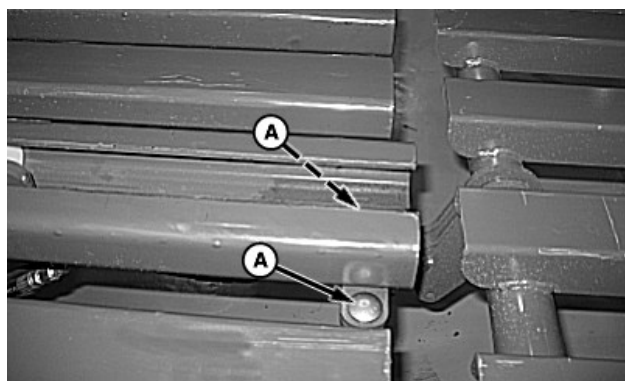
4. Verify equal distance from plunger to retainer locations (A) and to scraper locations (B).

5. Repeat for the opposite side.

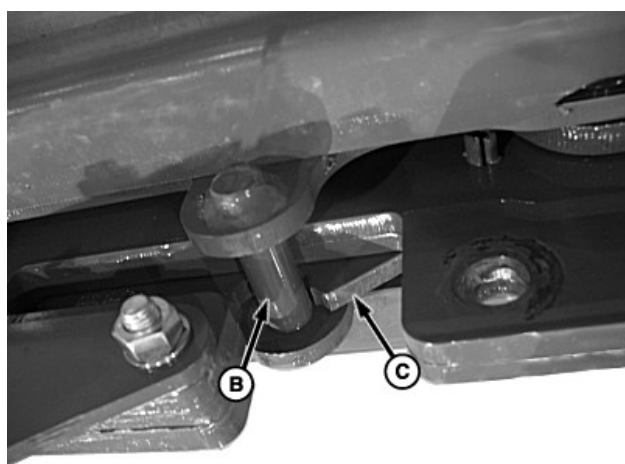
Adjust Bale Ejector



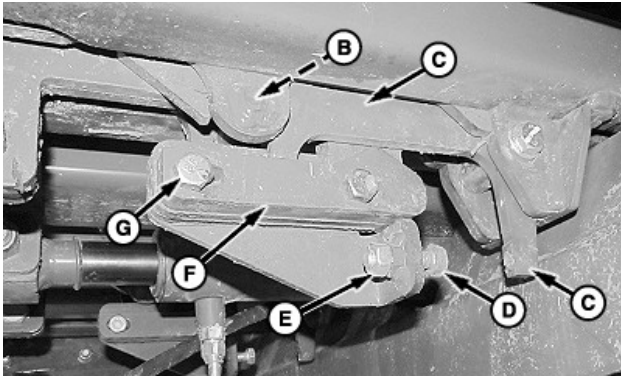
E72772—UN—29JAN15



E72773—UN—29JAN15



E72774—UN—12FEB14



E72775—UN—11NOV14

- A—Carriage Bolt (4 used)
- B—Pin
- C—Hook Plate
- D—Adjustment Screw
- E—Lock Nut
- F—Ramp Plate
- G—Cap Screw (2 used)

Check to see that hook of hook plate (C) is positioned on pin (B) as shown.

Adjust Hook-to-Pin

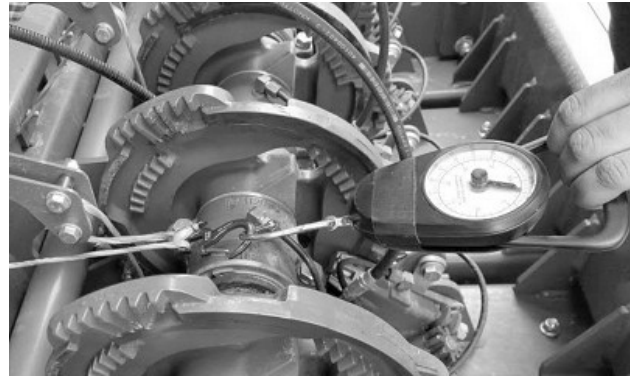
- Loosen carriage bolts (A) on bale floor tube.
- Loosen lock nut (E) and adjustment screw (D).
- Adjust ejector frame until hook of hook plate (C) is positioned on pin (B) as shown.
- Tighten carriage bolts (A).
- Turn adjustment bolt (D) until it slightly touches stop section of hook plate (C). Tighten lock nut (E).

Adjust Ramp Plate-to-Hook Plate

- Extend bale ejector cylinder and watch ramp plate (F) interact with hook plate (C) as ejector slides rearward.
- Top of ramp plate (F) must contact and raise hook off pin (B) before cylinder begins pushing ejector rearward.
- Loosen cap screws (G) and adjust ramp plate (F) until hook lifts before movement of pin (B).
- Tighten cap screws (G) when ramp plate is at desired setting.

PP98408,00000E6-19-10SEP14

Check Twine Tension



E97932—UN—18APR22

Upper Twine Tension Check Shown



E97933—UN—18APR22

Lower Twine Tension Check Shown

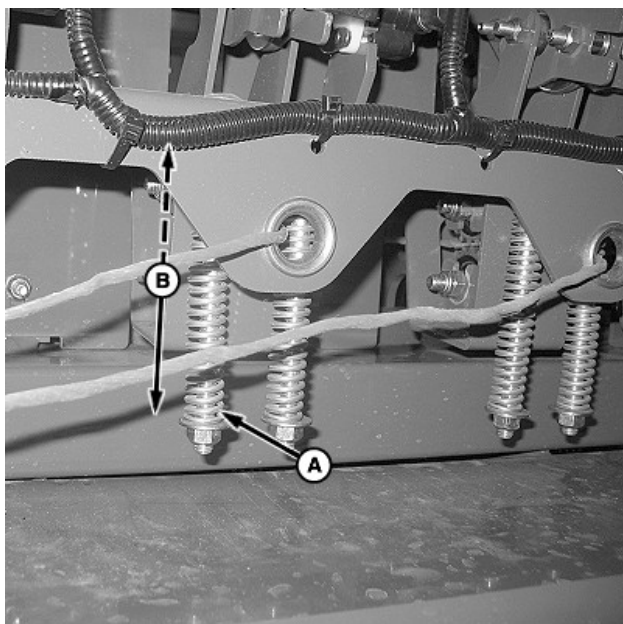
1. Install a spring scale as shown.
2. Record the twine tension and adjust the slack arm springs as necessary. (See **Balance and Adjust Twine Tension.**)

Check and Adjust Upper and Lower Twine Tension

IMPORTANT: Balance the upper and lower tension to factory settings before checking and adjusting the twine tension. (See **Balance and Adjust Twine Tension.**)

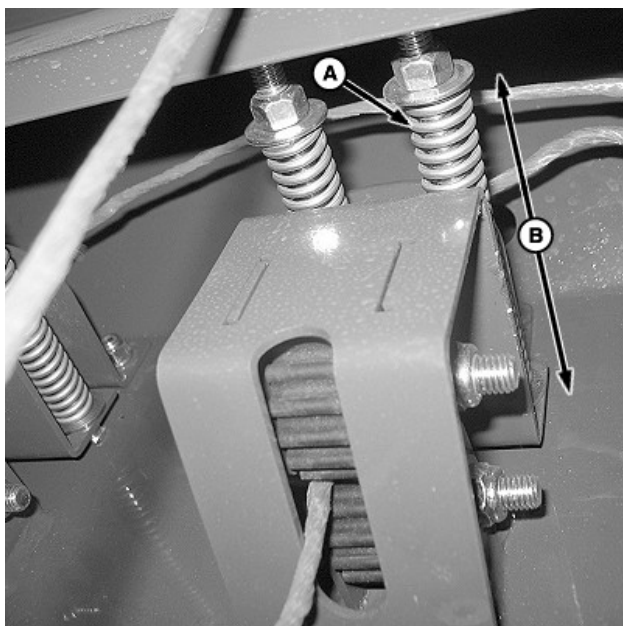
NOTE: A majority of tying issues arise between the twine ball and the knotter.

Balance and Adjust Twine Tension



E76428—UN—11JUL14

Upper Slack Arm Springs Shown



E76429—UN—11JUL14

Lower Slack Arm Springs Shown

- A—Spring
(2 used per tensioner)
- B—Distance

Balance the slack arm twine tension to the factory settings specification.

Specification

Upper Slack Arm Twine

Tension—Tension. 44.5—71 N, set target as 71 N and not to exceed maximum 80 N
(10—16 lbf, set target as 16 lbf and not to exceed maximum 18 lbf)

Lower Slack Arm Twine

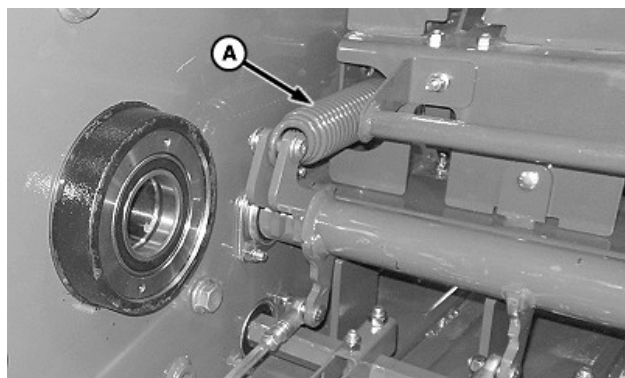
Tension—Tension. 89—107 N, set target as 93.4—98 N and not to exceed maximum 107 N
(20—24 lbf, set target as 21—22 lbf and not to exceed maximum 24 lbf)

Slack arm tension is maintained by a distance over coils of springs (A):

- Tighten nuts for each slack arm evenly to shorten distance (B) of springs (A) to increase the twine tension.
- Loosen nuts for each slack arm evenly to lengthen distance (B) of springs (A) to decrease the twine tension.

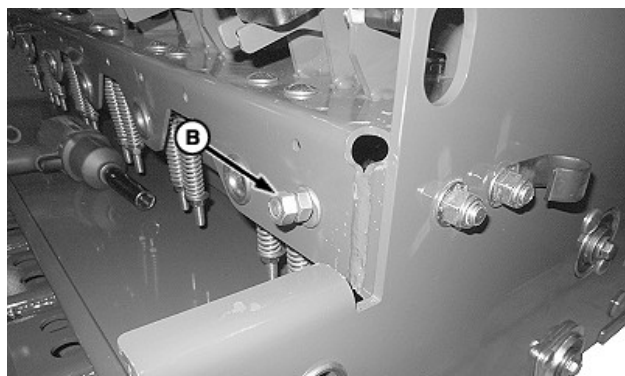
hy01057,1707218872027-19-20FEB24

Adjust Tucker Finger Plate and Link



E72178—UN—20NOV13

Knotter Shaft is Removed for Photo Clarity Only



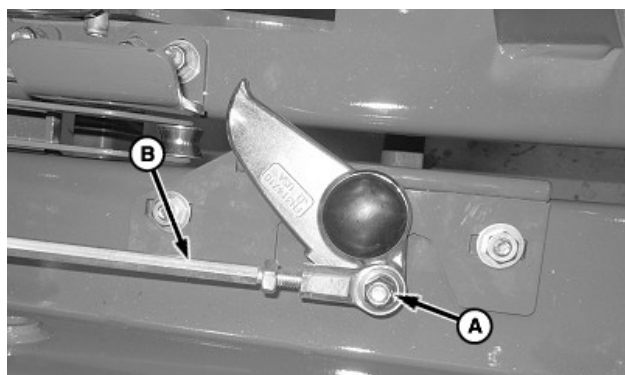
E72242—UN—03DEC13

- A—Spring
- B—Nut (2 used)

1. Tucker finger adjustments must be done after all needle adjustments are completed.
 - See Adjust Needles in Top Dead Center Position in this section
 - See Adjust Needles to Knotter Frame in this section
 - See Adjust Needles to Plunger Timing in this section
2. Trip knotters using sector arm and rotate the

flywheel by hand until twine placement arm is at the same level as tucker finger. Engage flywheel brake.

- Remove clevis pin and raise knotted.



E72167—UN—18NOV13

A—Nut
B—Shaft

- Remove nut (A) and shaft (B) from tucker finger assembly.
- Loosen two lock nuts on plate.



E72384—UN—09DEC13

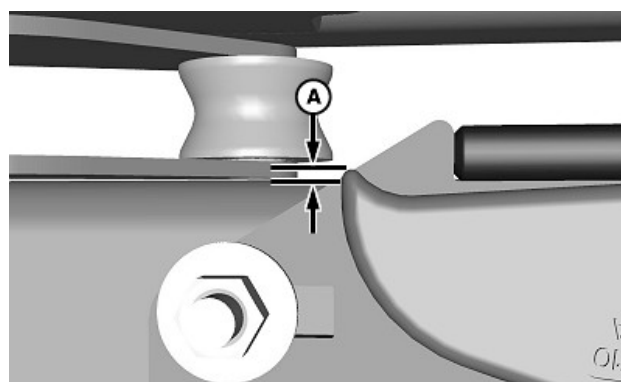
A—2 mm Gauge

- Verify gap between the tucker finger and twine placement arm wheel is to specification. Check gap using a 2 mm feeler gauge (A). Adjust tucker finger plate as needed.

Specification

Tucker Finger-to-Twine Placement Arm Wheel—Gap. 2 mm (0.079 in)

- Tighten two lock nuts on plate.



E72385—UN—09DEC13

A—Specification

- Loosen lock nuts on link and adjust link until eye of link is aligned to tucker finger stud and tucker finger tip is within specification (A) to frame.

Specification

Tip of Tucker Finger-to-Frame—Gap. 0.0—5 mm (0.0—0.2 in)

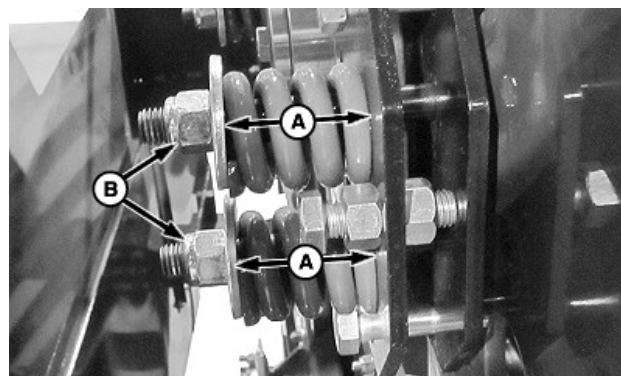
- Tighten locking nuts on link.
- Fully tighten nuts on tucker finger shaft spring.
- Lower knotters and attach using clevis pins.

PP98408,00000E8-19-11APR23

Adjust Knotted Shaft Brake

CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotted components. Use the knotted lift tool when raising the knotted assembly. (See Inspect Knotted Assembly in this section.)

NOTE: Brake pads are always clamped to the disk.



E72112—UN—28FEB14

A—Distance
B—Lock Nut (2 used)

- Inspect brake pads for excessive or irregular wear. Replace brake pads if worn.

2. Using lock nuts (B), adjust distance (A) to specification.

Specification

Brake Adjustment (Washer-to-
Brake Surface)—Distance. 43—45 mm
(1-11/16—1-3/4 in)

SF04007,0001256-19-19SEP18

Adjust Knotter Clutch

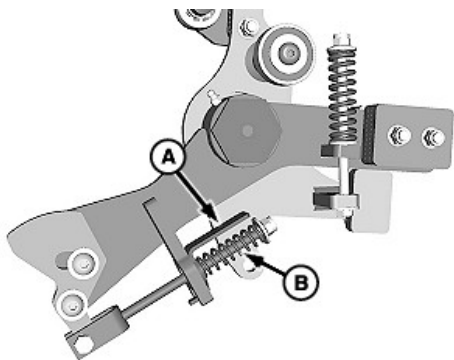
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)

IMPORTANT: Incorrect adjustment of trip mechanism leads to:

- Variation in bale length
- Unintended knotter trip cycles

IMPORTANT: Check the condition of the teeth on the sector arm and wheel, replace if necessary.

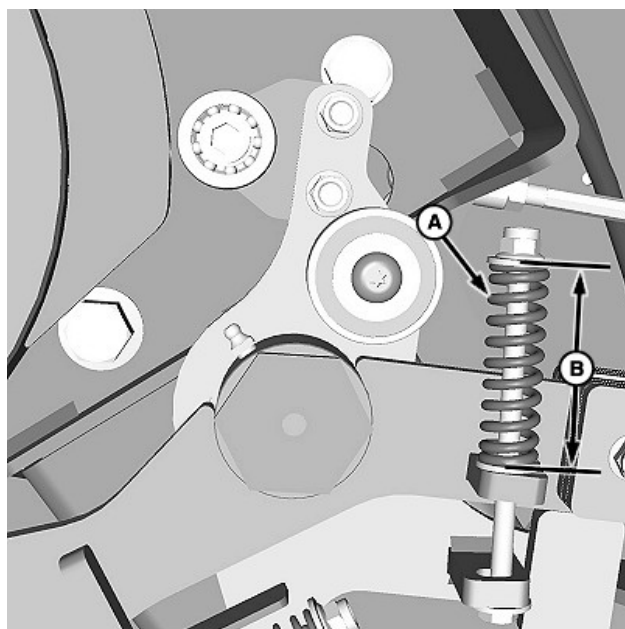
Check and Adjust Clutch Spring (Mechanical)



E77610—UN—14NOV14

A—Spring Tension Gauge
B—Spring

1. Adjust the spring (B) coil length using the spring tension gauge (A) to maintain the trip finger plate tension.



E78635—UN—27FEB15

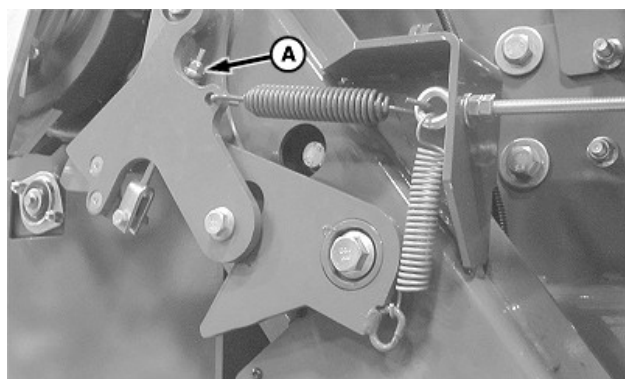
A—Spring
B—Distance

2. Adjust spring (A) so that the distance (B) is within specification.

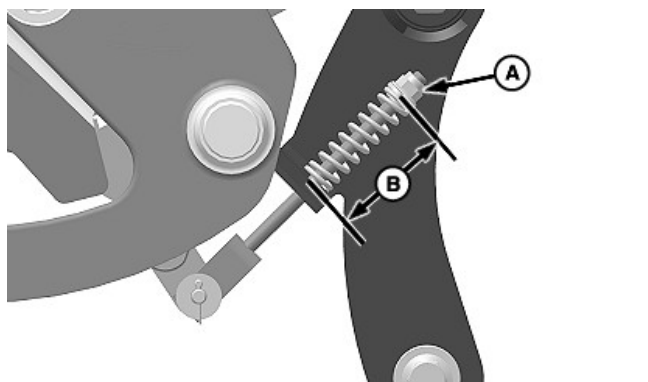
Specification

Stop Roller Spring
Length—Distance. 67 mm
(2.63 in)

Check and Adjust Clutch Spring (Electronic)



E89924—UN—05SEP18



E89925—UN—05SEP18
Outer Plate Removed for Clarity

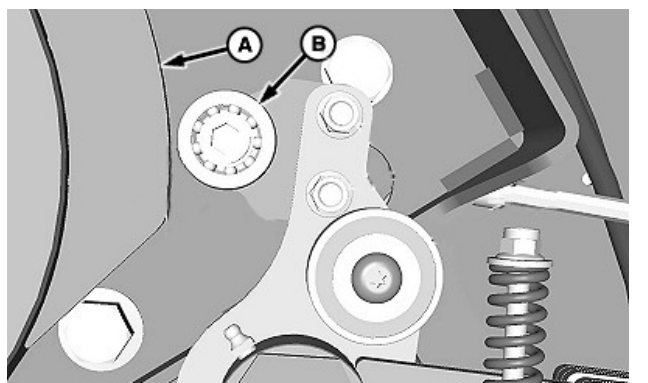
A—Lock Nut
B—Distance

Adjust the lock nut (A) IN or OUT until the distance (B) over the coils of the spring is within specification.

Specification

Electronic Tie Clutch Spring
Adjustment—Distance. 53—57 mm
(2.08—2.25 in)

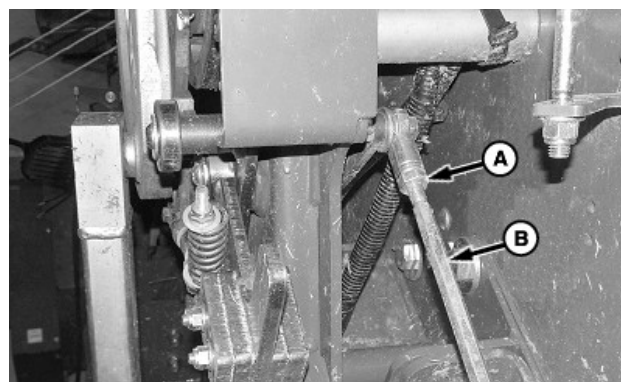
Adjust Stop Roller Clearance



E85577—UN—09NOV17

A—Stop Arm Cam
B—Stop Roller

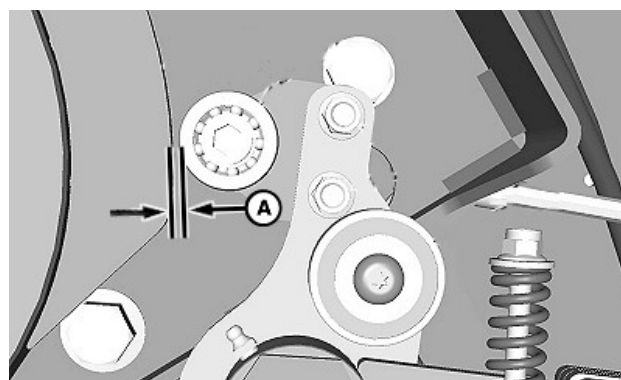
1. Check the clearance with the sector arm engaged normally on the sector wheel (no tie cycle).
2. Turn the flywheel by hand counterclockwise until the stop roller (B) is aligned with the stop arm cam (A) as shown.



E85579—UN—09NOV17

A—Locking Nut (2 used)
B—Linkage

3. Loosen locking nuts (A) and turn the linkage (B).



E85578—UN—09NOV17

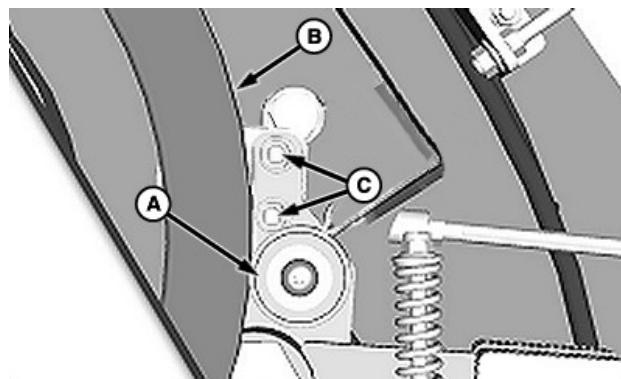
A—Gap

4. Turn linkage until gap (A) is within specification.

Specification

Stop Roller-to-Stop Cam—Gap. 2—4 mm
(0.078—0.157 in)

5. Tighten lock nuts.
6. Move the sector arm up until the sector wheel is in the notch and the clutch is engaged.



E85580—UN—09NOV17

A—Reset Roller
B—Crank
C—Lock Nut (2 used)

7. Turn the flywheel by hand counterclockwise until the

reset roller (A) is on the crank (B) and the sector arm drops to the bale length setting stud.

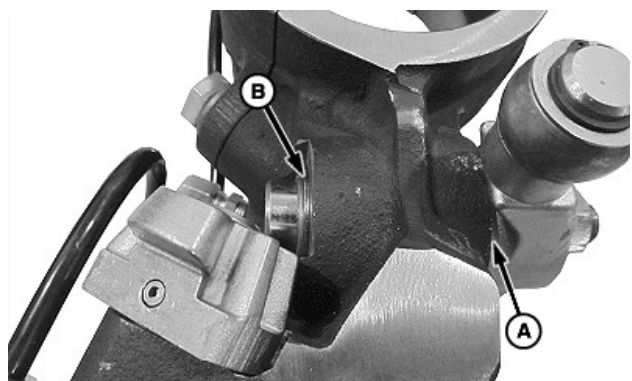
8. If the sector arm does not fall freely to the setting stud, loosen lock nuts (C), slide the roller as far rearward as possible, and repeat the adjustment.
9. If the sector arm falls freely to the stud, the adjustment is correct.

SF04007,0001244-19-13DEC23

Adjust Wiper Arm

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter components. (See Inspect Knotter Assembly in this section.)

IMPORTANT: The billhook makes a full 360° rotation with the wiper arm in the “home” position. There must be no interference between the billhook and the wiper arm casting.



E72246—UN—04DEC13

Knотter Removed from Intermittent Gear for Photo Clarity

A—Location
B—Location

1. The billhook tongue must clear the wiper plate as the billhook tongue passes the wiper arm.
To check the clearance at the closest point between the tongue and the plate, rotate the billhook 180° and move the tongue by hand up and down.
2. To increase the clearance, adjust the wiper arm by adding shims to location (A) between the wiper arm and the knotter frame. To decrease the clearance, replace the existing shim with a thinner shim. (See Remove and Install Wiper Arm Assembly in this section.)
3. To adjust the end play, add shims as necessary at location (B) between the knotter frame and the snap ring on the shaft. Adjust to specification.

Specification

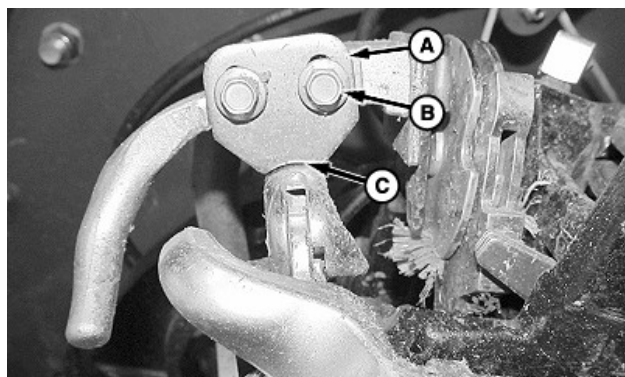
Wiper Arm Shaft—End Play. 0.15—0.4 mm
(0.006—0.016 in)

4. Adjust the wiper plate to the billhook. (See Adjust Wiper Plate in this section.)

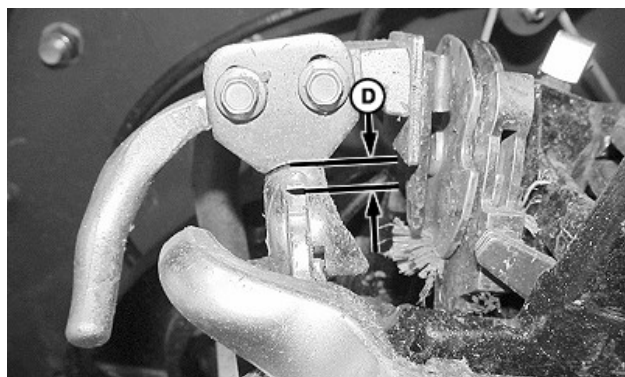
SF04007,0001257-19-02OCT18

Adjust Wiper Plate

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knотter Assembly in this section.)



E72107—UN—14NOV14



E72108—UN—14NOV14

A—Wiper Plate
B—Flanged Cap Screw (2 used)
C—Gap
D—Location

1. Loosen flanged cap screws (B) and wiper plate (A).
2. The wiper plate must be centered on the heel of the billhook as shown. Move the arm until the wiper plate is approximately 8 mm (5/16 in) from the groove in the bottom of the billhook as shown at location (D).

IMPORTANT: Avoid damage to the billhook:

- If the wiper plate clearance is too large, the knot does not wipe cleanly off the billhook,

which can result in a broken billhook and mis-ties.

- If the wiper plate clearance is too small, the wiper plate can break off and can cause premature wear to the billhook and wiper plate. It also puts undue stress on the knotter system because of a higher torque required to rotate through the cycle.

3. Allow the wiper plate to rest on the billhook until there is no gap (C) and tighten flanged cap screws (B) to specification.

Specification

Wiper Plate Flanged Cap	
Screws—Torque.....	10 N·m (90 lb·in)

To wipe knot from billhook, measure an ideal wiper plate setting using a spring scale with the specified force.

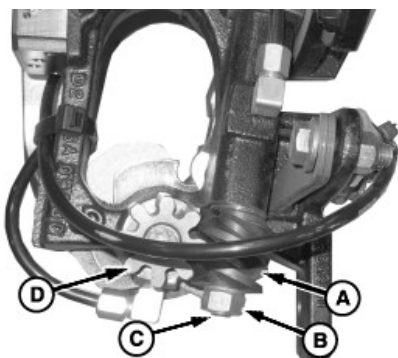
Specification

Wiper Plate Setting—Force.....	35.5—66.5 N (8—15 lbf)
--------------------------------	---------------------------

4. Verify that the wiper arm is in correct alignment with the billhook. Adjust if necessary. (See Adjust Wiper Arm in this section.)

SF04007,0001258-19-02OCT18

Twine Disk Timing



E72239—UN—03DEC13



E72240—UN—03DEC13

+1 mm Specification is Shown

- A—Worm Gear
- B—Nut
- C—End of Shaft
- D—Twine Disk Driven Gear

1. Loosen the nut (B), tap the end of the shaft (C) with a soft faced hammer to release the worm gear from the tapered end of the shaft.
2. Rotate the twine disk driven gear (D) until the specification is obtained between the twine disk and twine cleaner.

Specification

Twine Disk-to-Twine Disk	
Cleaner—Distance.....	-1—+1 mm (-0.039—+0.039 in)

3. Teeth of both gears (A) and (D) must meet in the drive direction and turned until they fit tight.

IMPORTANT: Prevent possible damage or malfunction to the worm gear. Always tighten the worm gear spindle nut to specification using a torque wrench.

- Overtightening can result in cracking the worm gear
- Undertightening can result in the worm gear slipping

4. Tighten the nut (B) to specification.

Specification

Worm Gear Spindle	
Nut—Torque.....	34 N·m (25 lb·ft)

5. Check the twine disk and worm gear end play using a feeler gauge. Add shims as necessary.

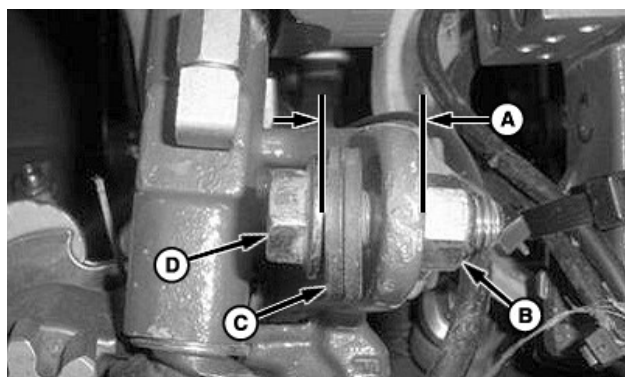
Specification

Twine Disk—Maximum—End Play.	0.1—0.4 mm (0.004—0.016 in)
Worm Gear—End Play.	0.1—0.4 mm (0.004—0.016 in)

- Recheck the gap between the twine disk and twine cleaner. If further adjustment is necessary, repeat until the ideal setting is obtained.

OOU06064,0002B57-19-17JUL19

Twine Holder Pressure



E72241—UN—03DEC13

- A—Distance
- B—Lock Nut
- C—Leaf Spring (2 used)
- D—Cap Screw

The measured distance (A) determines the tightness of a knot and amount of tail left on second knot.

NOTE: Optimal tail length on the second knot is 19—25 mm (3/4—1 in).

Twine holder pressure setting is balanced with twine tension. If twine tension is increased, distance (A) must be less.

Adjust Twine Holder Spring Pressure (Default)

NOTE: Knotter frame is threaded. Adjust leaf spring distance by turning cap screw (D) clockwise or counterclockwise and save setting by jamming lock nut (B) into knotter frame.

- Loosen lock nut (B).
- Turn cap screw (D) clockwise or counterclockwise until distance (A) is within the specification.

Specification

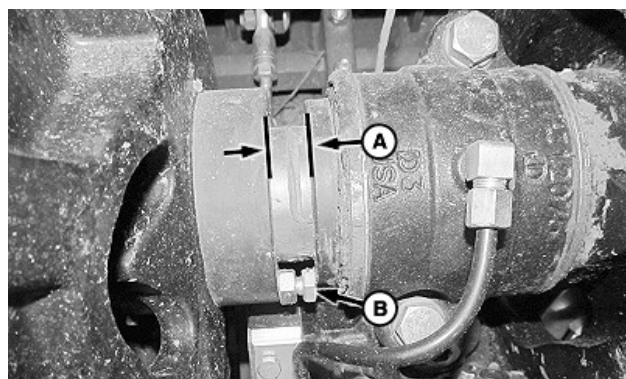
Outer Leaf Spring Surface-to-Outer Knotter Frame Surface—Distance (default).	15.75—16 mm (0.62—0.63 in)
--	-------------------------------

- Hold cap screw (D) and tighten lock nut (B) against knotter frame to retain desired setting.

MR67966,0001CBC-19-06MAY22

Adjust Intermittent Gear Clearance

IMPORTANT: Depending on which intermittent gear is out of adjustment, adjacent knotters may need to be adjusted to allow room for movement on shaft. Begin checking specification on all intermittent gears from left-to right-hand side of knotter shaft.



E72138—UN—14NOV14

- A—Distance
- B—Cap Screw (2 used)

- Loosen two nuts on cap screws (B).
- Adjust cap screws until distance (A) is within specification.

Specification

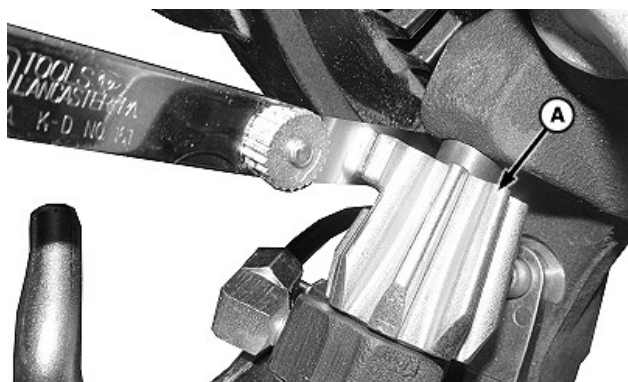
Intermittent Gear-to-Intermittent Gear—Distance.	15.5 ± 2 mm (0.61 ± 0.079 in.)
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- Tighten nuts to lock cap screws at specification and slide intermittent gear from right- to left-hand gear against cap screws (B). Repeat process for remaining intermittent gears.
- Verify knotter alignment. (See Adjust Knotter Assembly to Intermittent Gear in this section.)

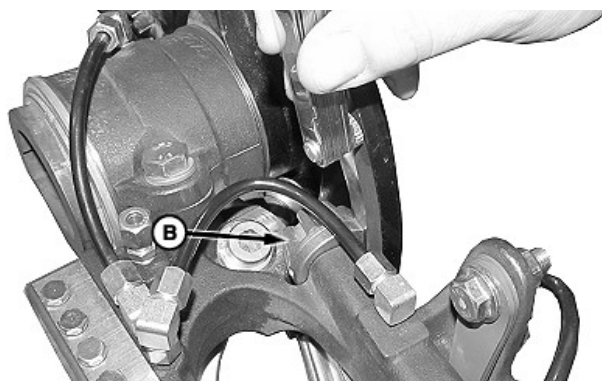
PP98408,00000EF-19-10SEP14

Adjust Knotter Assembly to Intermittent Gear

CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E72249—UN—04DEC13



E72250—UN—04DEC13

A—Billhook Pinion
B—Twine Disk Pinion

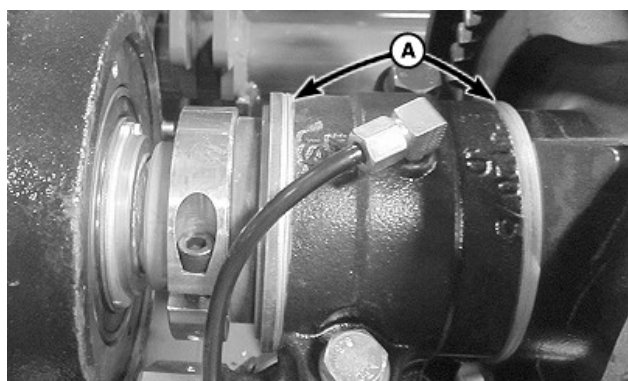
Verify that the wiper arm roller is inside the intermittent gear cam track. Ensure that the flat sides of the billhook pinion (A) and the twine disk pinion (B) are flush with the flat surface of the gear.

Both pinions must be within specification. Verify using a feeler gauge.

Specification

Billhook-to-Intermittent Gear
 Surface—Gap. 0.15—0.5 mm
 (0.005—0.019 in)

Twine Disk Pinions-to-
 Intermittent Gear Surface—Gap. 0.15—0.5 mm
 (0.005—0.019 in)



E72247—UN—04DEC13

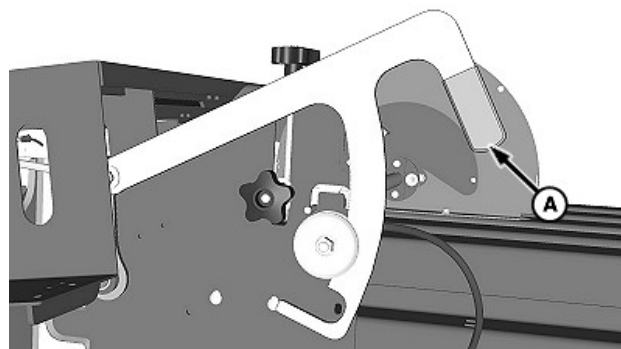
A—Shim Location (2 used)

Shims can be swapped at locations (A), as needed, to

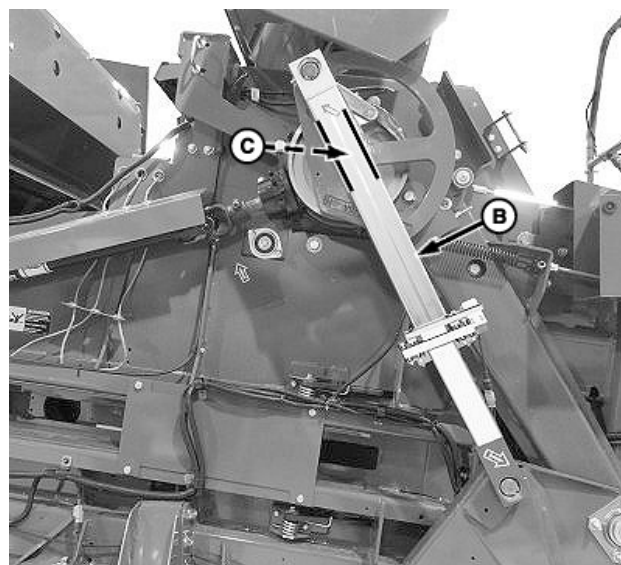
obtain the specification. (See Remove and Install Knotter in this section.)

SF04007,000125A-19-19SEP18

Place Needles in Top Dead Center Position



E73317—UN—29OCT14



E73318—UN—17NOV14

Twine Box Removed for Photo Clarity

A—Sector Arm
B—Needle Lift Link
C—End of Knotter Shaft

1. Trip knotting mechanism by moving sector arm (A) UP to engage sector wheel with notch in sector arm.
2. Turn flywheel by hand counterclockwise until needle lift link (B) is aligned with end of knotter shaft (C).

PP98408,00000F2-19-26NOV14

Adjust Needles to Knotter Frame

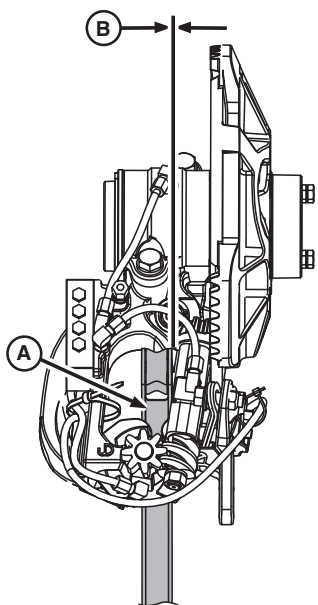
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)

Adjusting needles requires the following procedures:

- Adjust Needle Side-to-Side
- Adjust Needle Height
- Adjust Needle Throw

Place needles at the top dead center (TDC) position for each adjustment required. (See Place Needles in Top Dead Center Position in this section.)

Adjust Needle Side-to-Side



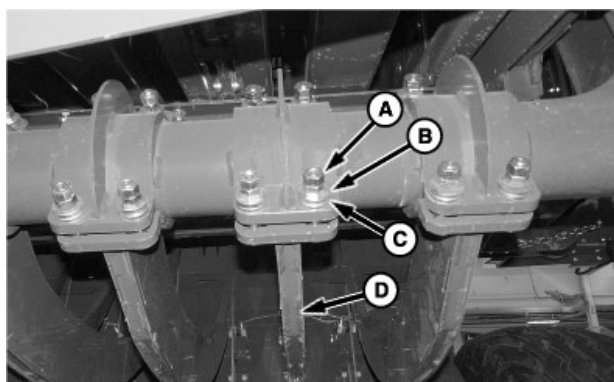
E72598—UN—18FEB14

A—Needle
B—Distance

1. The distance between the side of the needle (A) and the knotter frame closest to intermittent gear must be set to specified distance (B) (slightly touching).

Specification

Needle-to-Knotter Frame—Distance.	0 mm (0 in)
---	----------------



E80761—UN—30NOV15

A—Lock Nut (4 used)
B—Nut (4 used)
C—Washer (8 used)
D—Needle

2. Loosen lock nuts (A) and nuts (B).
3. Move the needle (D) to the left or right as necessary.
4. Tighten nuts (B) against washers (C) to specification.

Specification

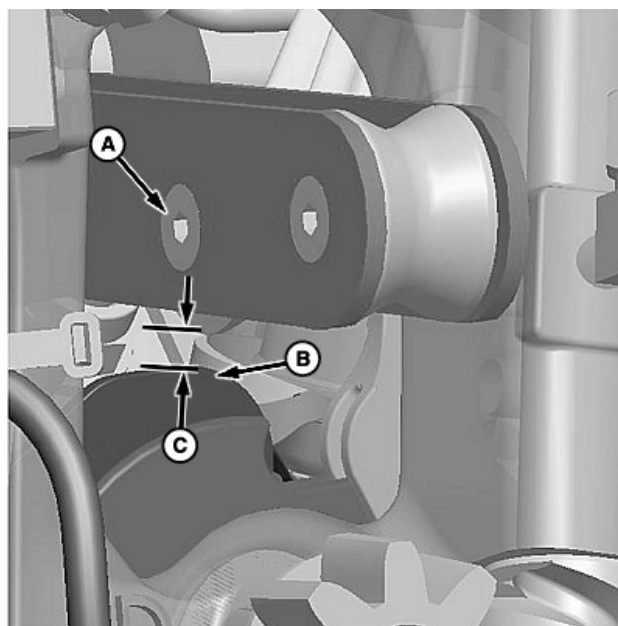
Nuts (B)—Torque (Minimum).	100 N·m (74 lb·ft)
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5. Tighten lock nuts (A) to specification.

Specification

Lock Nuts (A)—Torque.	100 N·m (74 lb·ft)
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Adjust Needle Height



E77629—UN—19NOV14

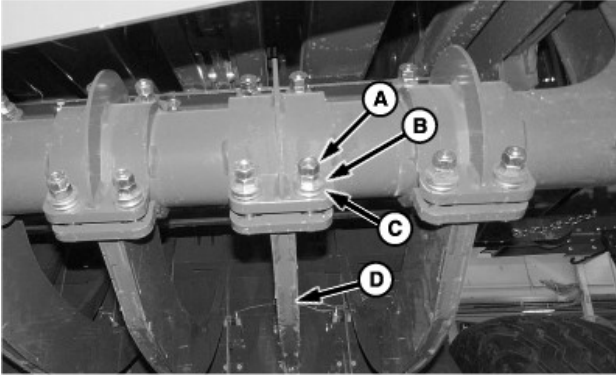
A—Lower Needle Roller
B—Twine Disk Cleaner
C—Distance

1. Check the specified distance (C) between the lower needle roller (A) as it passes over the twine disk cleaner (B).

Specification

Lower Needle Roller-to-Twine	
Disk Cleaner—Distance.	2—3 mm (0.079—0.118 in)

NOTE: Adjustment nuts must be moved evenly.



E80761—UN—30NOV15

Needles Shown at Home Position

- A—Lock Nut (4 used)
- B—Nut (4 used)
- C—Washer (8 used)
- D—Needle

2. To adjust the needle distance to the twine disk cleaner, loosen all lock nuts (A) and nuts (B).
 - To move the needle down in the knotter frame, loosen upper nuts while tightening lower nuts to rotate the needle around the tube.
 - To move the needle up in the knotter frame, loosen lower nuts while tightening upper nuts to rotate the needle around the tube.
3. When the desired setting is obtained, tighten nuts (B) against washers (C) to specification.

Specification

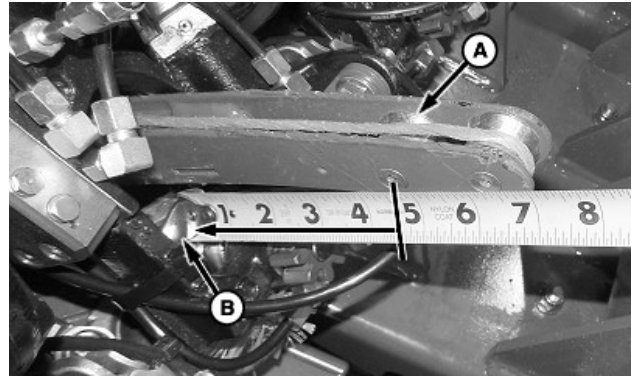
Nuts (B)—Torque (Minimum).	100 N·m (74 lb·ft)
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4. Tighten the lock nuts (A) to specification.

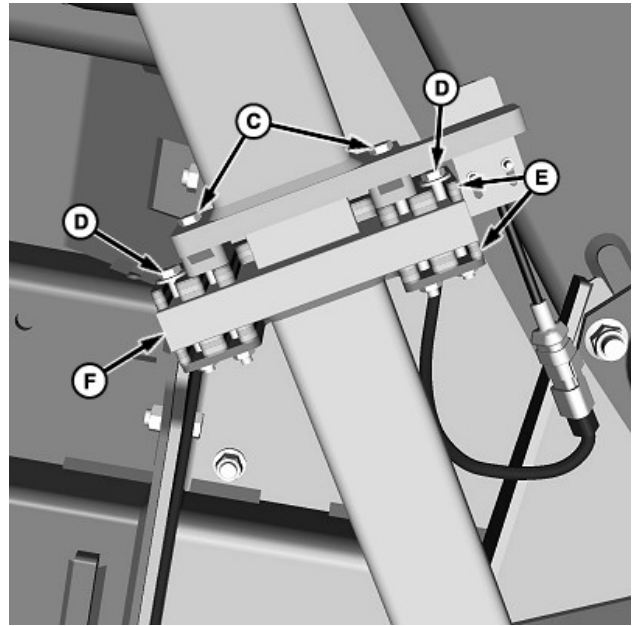
Specification

Lock Nuts (A)—Torque.	100 N·m (74 lb·ft)
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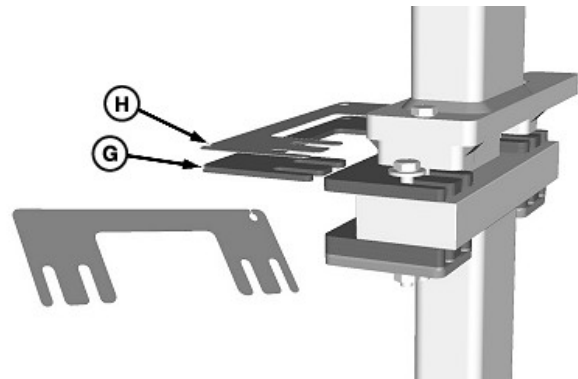
Adjust Needle Throw



E77607—UN—13NOV14



E77608—UN—13NOV14



E77609—UN—13NOV14

- A—Lower Needle Roller
- B—Twine Retainer Disk
- C—Shear Bolt (2 used)
- D—Cap Screw (2 used)
- E—Shim Location (2 used)
- F—Lift Link Block
- G—Shim, 3 mm (0.118 in)
- H—Shim, 0.5 mm (0.02 in)

1. Check the specified distance between twine retainer

disk (B) and the center of the lower needle roller (A).
If necessary, proceed as follows:

Specification

Twine Retainer Disk-to-Center of Lower Needle	
Roller—Distance	120—130 mm (4.75—5 in)

2. Loosen shear bolts (C) and cap screws (D).

NOTE: A 0.5 mm (0.02 in) shim moves the needle tip approximately 2—2.5 mm (0.079—0.098 in).

3. Adjust the needle throw by arranging shims (G and H) in shim locations (E) on either side of the lift link block (F) until the distance is within specification.

4. Tighten cap screws (D).

5. Tighten shear bolts (C) to specification.

Specification

Needle Frame Drive Shear Bolts—Torque Turn	5.4 N·m + 1/2 turn (48 lb·in + 1/2 turn)
---	---

6. Turn the flywheel by hand until the needle frame is in the REST position.

Check and adjust the needle-to-plunger timing if necessary. (See Adjust Needles to Plunger Timing in this section.)

SF04007.0001272-19-20SEP18

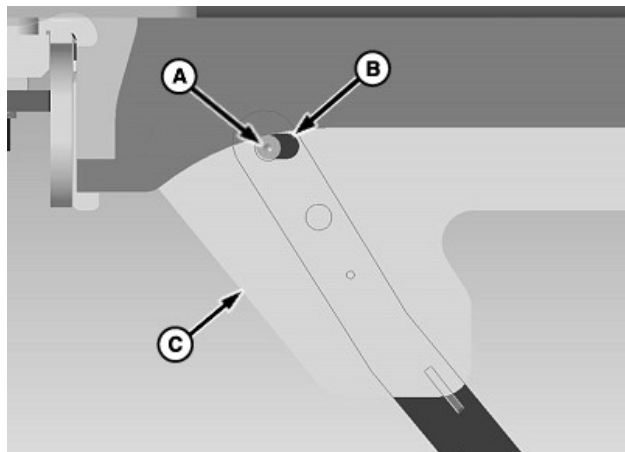
Adjust Needles to Plunger Timing

CAUTION: Before adjusting needle-to-plunger timing:

- PTO must be switched OFF
- Tractor engine must be OFF, park brake set, and ignition key removed
- Needle throw must be in adjustment

Verify Needle-to-Plunger Timing

1. Trip the knotting mechanism.
2. Open the twine box and remove the rear plunger roller shield plate.



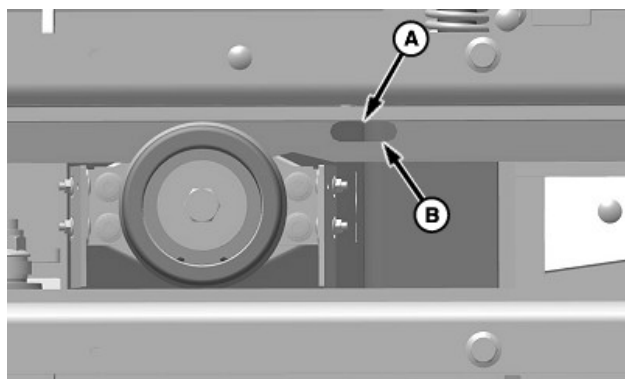
E85211—UN—24OCT17

A—Top Roller
B—Slot in Needle Angle
C—Needle Angle

3. Disengage the flywheel brake and turn by hand, counterclockwise, until the top needle roller (A) is visible in slot (B) in the needle angle (C) on both sides of the machine. Engage the flywheel brake.

IMPORTANT: Avoid machine damage. Verify that the plunger face is located in the baler frame slot (B) and not the plunger scraper edge.

NOTE: Plunger alignment in the baler frame slot is on the left-hand side of the machine only.

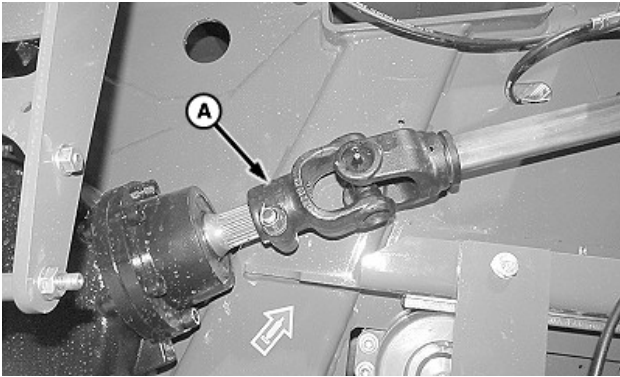


E85212—UN—24OCT17

A—Plunger Face
B—Baler Frame Slot

4. Verify that the plunger face (A) is visible in the baler frame slot (B) toward the rear of the plunger stroke.

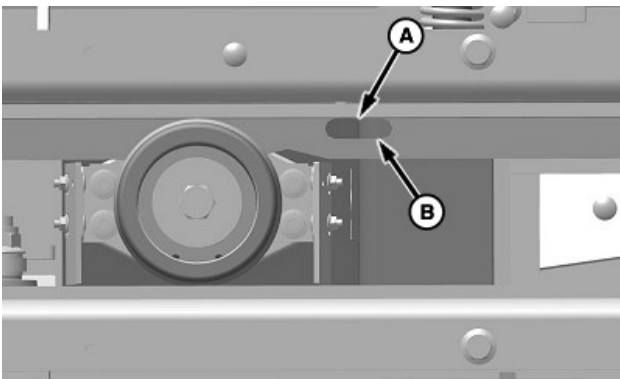
Adjust Needle-to-Plunger Timing



E85213—UN—24OCT17

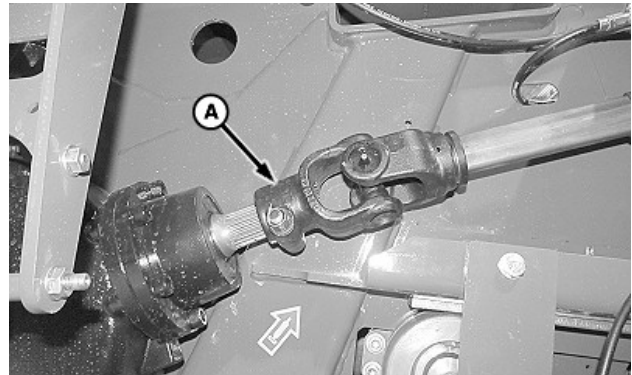
A—Knotter Driveshaft

1. Disconnect the knotter driveshaft (A) at the lower knotter drive gear case.



E85212—UN—24OCT17

2. Disengage the flywheel brake and turn counterclockwise until the plunger face (A) is centered in the baler frame slot (B). Engage the flywheel brake.



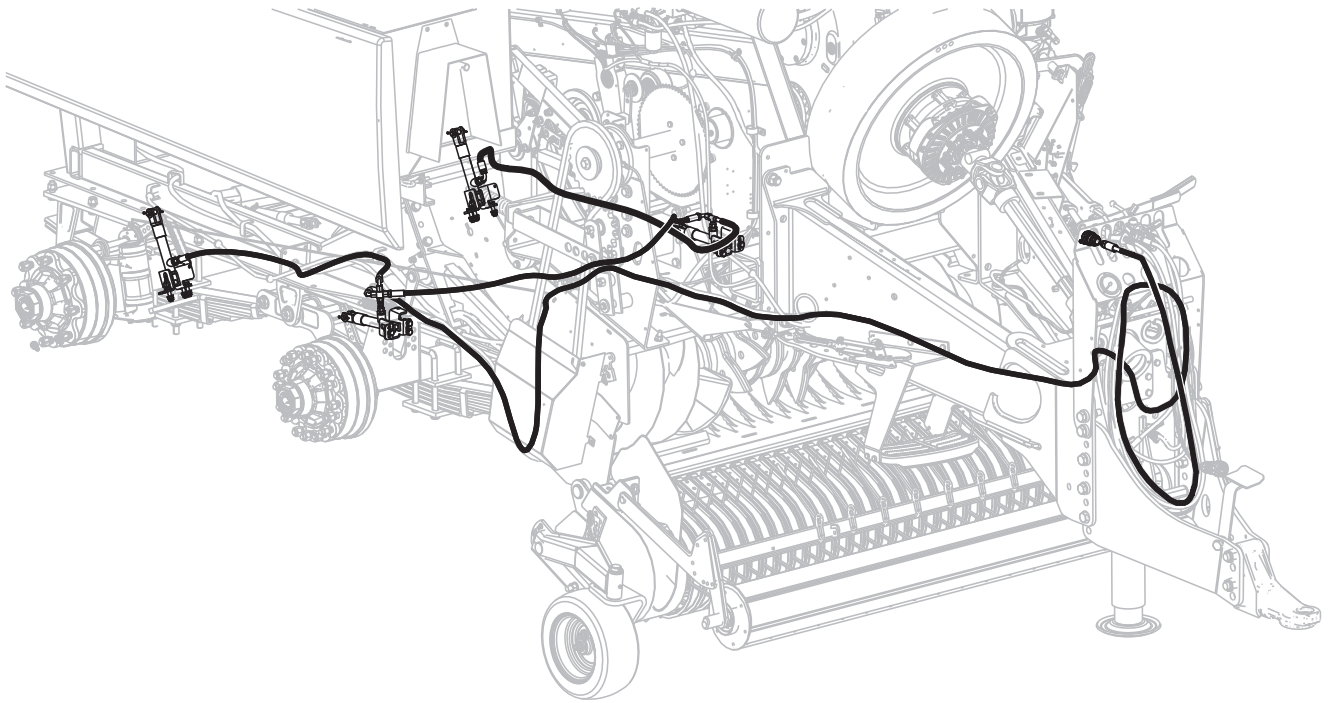
E85213—UN—24OCT17

3. Connect the knotter driveshaft (A).
4. Disengage the flywheel brake.
Turn the flywheel by hand, clockwise, through a complete plunger stroke cycle.
5. Recheck the timing.
6. Check and adjust the needles-to-knotter if necessary. (See Adjust Needles to Knotter Frame in this section.)

KW18595,0000238-19-20NOV17

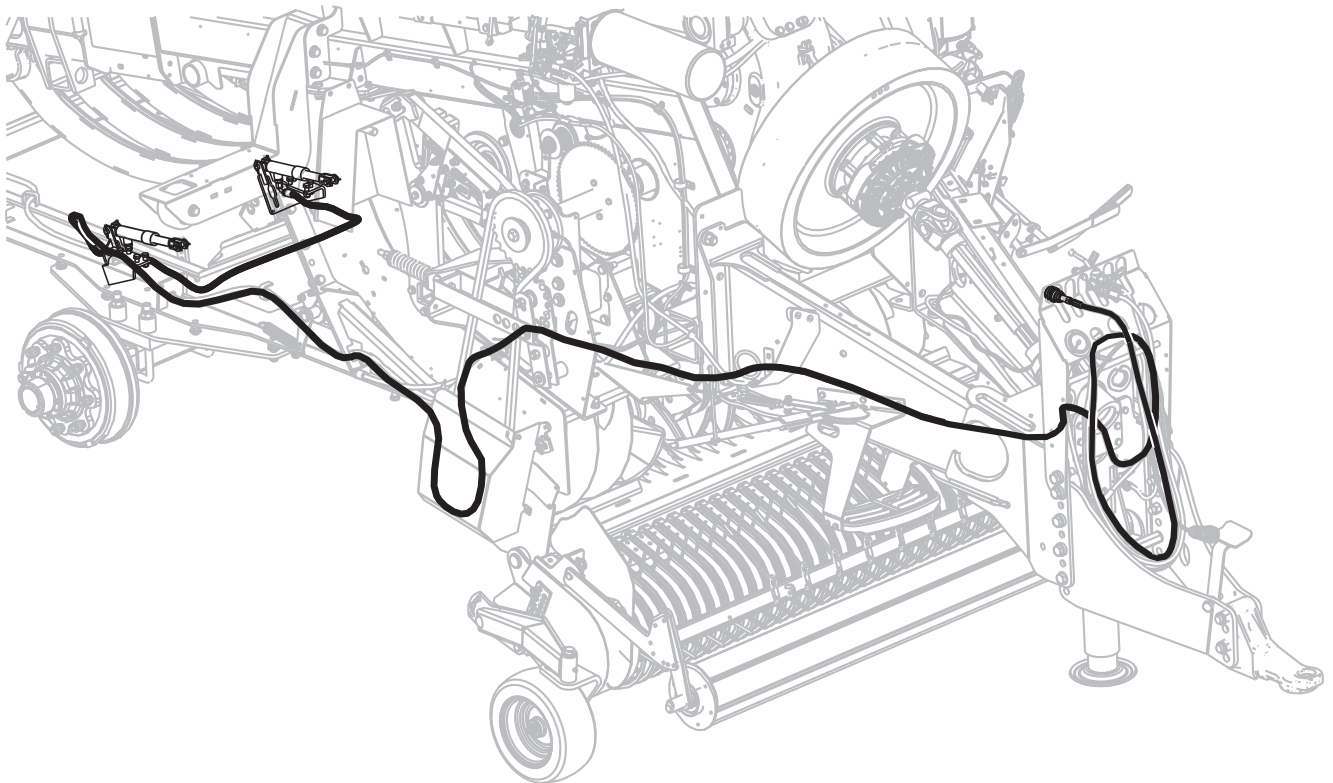
Hydraulic Brake Hose Routing

Tandem Axle Hydraulic Brake Hose Routing



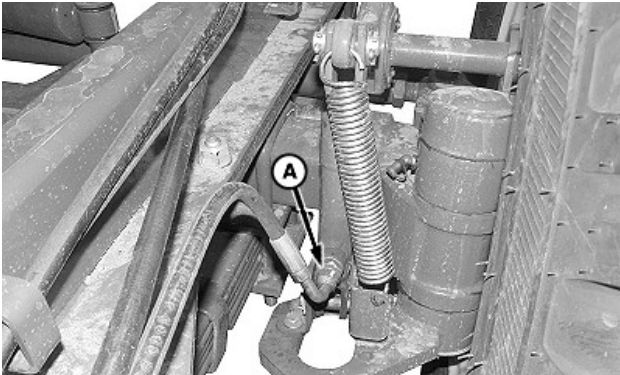
E73133—UN—28AUG14

Single Axle Hydraulic Brake Hose Routing



E73134—UN—28AUG14

Bleed Hydraulic Brake System



A—Coupling

E72848—UN—28FEB14

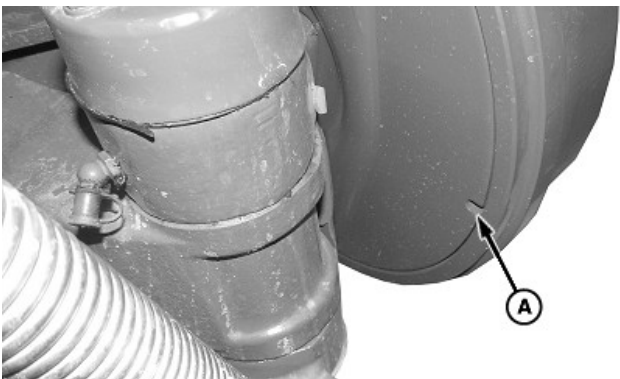
The brake circuit is a single acting system connected by a hose to the tractor with a quick coupler hose. Bleed system of air as follows:

- Loosen coupling (A) at brake cylinder one turn
- Push tractor brake pedal gently
- Repeat until no more air escapes coupling
- Tighten coupling at brake cylinder

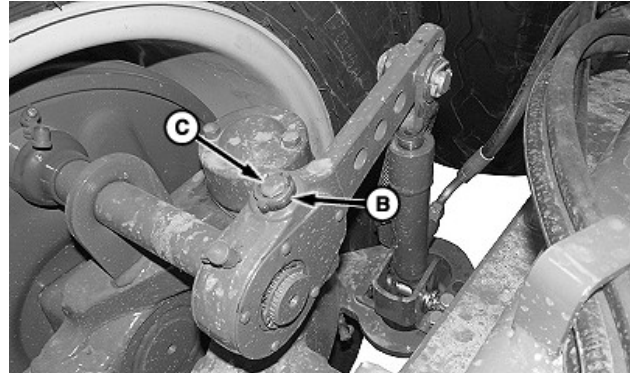
PP98408,00000F6-19-10SEP14

Adjust Hydraulic Brakes

IMPORTANT: Brake shoes must be replaced as soon as minimum lining thickness is detected.



E72879—UN—21FEB14



E72880—UN—21FEB14

A—Inspection Hole
(2 used, per wheel)
B—Lock
C—Adjustment Screw

Using a suitable jack, raise machine and support axle using a suitable jack stand. Chock wheels and release brakes.

Check and test brakes before heavy use, or every 3 months.

Visually check brake lining wear and clearance between brake linings and drum at inspection holes (A) at both front and back of drum.

Adjust brakes when hydraulic cylinder stroke reaches approximately 2/3 of maximum travel. This can indicate that brake shoes need replaced. Check minimum thickness specification on brake shoe lining. Replace brake shoes if necessary. (See Remove and Install Brake Shoes in this section.)

Specification

Brake Shoe Lining—Minimum	
Thickness	2 mm (0.079 in.)

To adjust, push lock (B) IN and turn adjustment screw (C) on lever to adjust position of cam and lever.

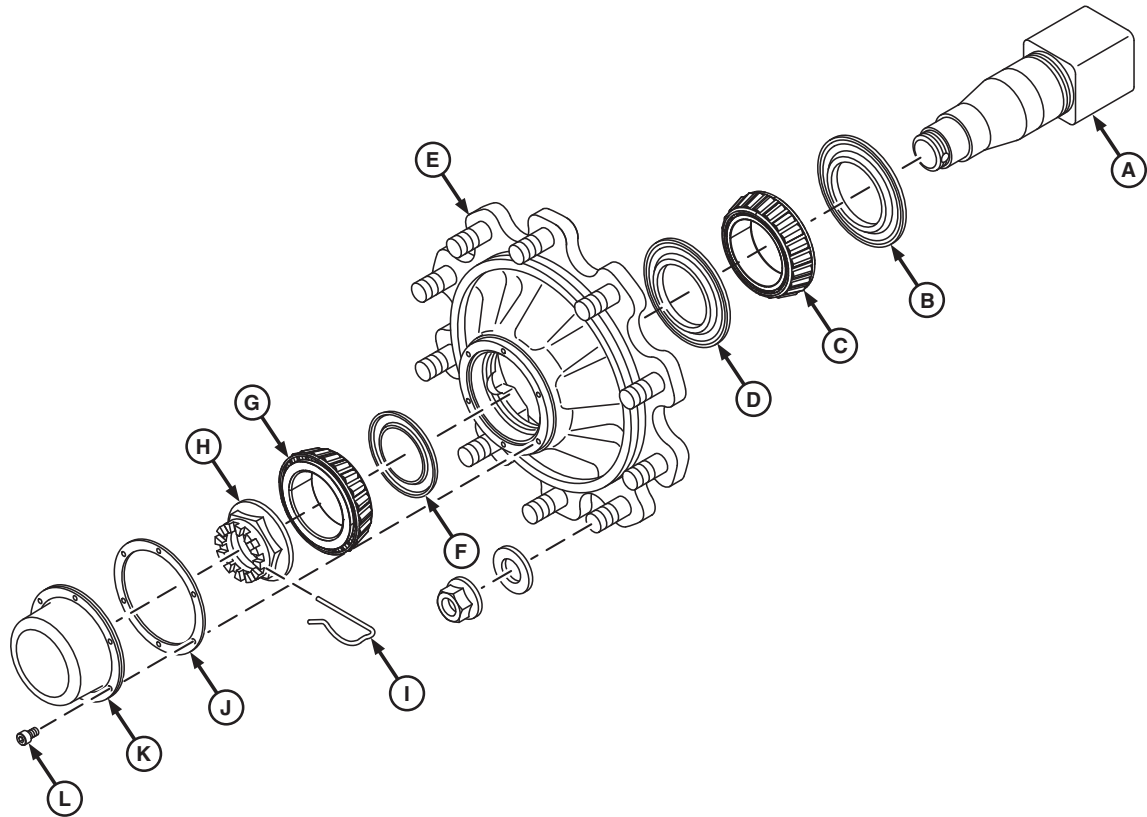
Turn adjustment screw to move brake cam in a direction that removes slack.

Turn wheel until brakes engage while turning adjustment screw. Back off nut until wheel begins to turn without interference.

Remove stands and jacks from machine.

KW18595,000022E-19-06OCT17

Check and Adjust Wheel Bearing Play



A—Spindle
 B—Seal
 C—Bearing Cone
 D—Grease Retaining Plate
 E—Hub
 F—Seal

G—Bearing Cone
 H—Castellated Nut
 I—Locking Pin
 J—Seal
 K—Hubcap
 L—Socket Head Cap Screws

E73118—UN—27FEB14

Wheel bearings are subject to wear and lifetime depends on operating conditions:

- Load
- Speed
- Lubrication
- Adjustment

Check Wheel Bearing Play

IMPORTANT: If bearings are damaged or worn, bearings and seals must be replaced.

1. Chock wheels and raise wheel off ground using a suitable jack.
2. Rotate wheel at a slow speed in both directions to check for rough points or friction.
3. Rotate wheel at a high speed and check for unusual noises, grating, or grinding.

IMPORTANT: Verify that play does not come from suspension or steering axle kingpin, if equipped.

NOTE: It may be necessary to use a pry bar for larger wheels between tire and ground to check for play.

4. Grip wheel at top and bottom and check for play in bearings by tilting wheel.
5. If play is detected, proceed to Adjusting Wheel Bearings.

Adjusting Wheel Bearings

1. After checking for bearing play, lower wheel until tire contacts ground.
2. Loosen wheel nuts.
3. Using a suitable jack, raise machine and support axle using a suitable jack stand on a firm surface.
4. Chock wheels and remove wheel from machine.
5. Remove hubcap (K).

- Remove locking pin (I) from castellated nut (H).

NOTE: When castellated nut is tightened fully, technician should feel resistance in hub rotation.

- Tighten castellated nut until internal play is removed.
- Loosen castellated nut (B) until there is no longer friction between castellated nut and outer bearing (G).
- Align notches in castellated nut with hole in spindle and install locking pin (I).

IMPORTANT: Avoid over tightening hub and having too much preload on bearings. It is best to have a hub that is too loose instead of being too tight.

- Check that hub rotates more freely with little resistance.
- Install hubcap (K) and wheel. (See Remove and Install Wheels in this section.)

PP98408,00000FC-19-10SEP14

B—Beveled Washer

- Chock wheels and loosen wheel nuts (A).
- Using a suitable jack, raise machine and support axle using a suitable jack stand on a firm surface.
- Remove wheel nuts (A) and beveled washers (B).
- Repair or replace tire or wheel as necessary.
- Install wheel to hub with valve stem outwards, using beveled washers (B) and wheel nuts (A) to a snug fit.
- Lower machine and tighten wheel nuts, in an alternating sequence, to specification.

Specification

8-Bolt Wheel—Torque.	270 N·m (200 lb.-ft.)
10-Bolt Wheel—Torque.	450 N·m (330 lb.-ft.)

- Remove jacks, jack stands, and wheel chocks.

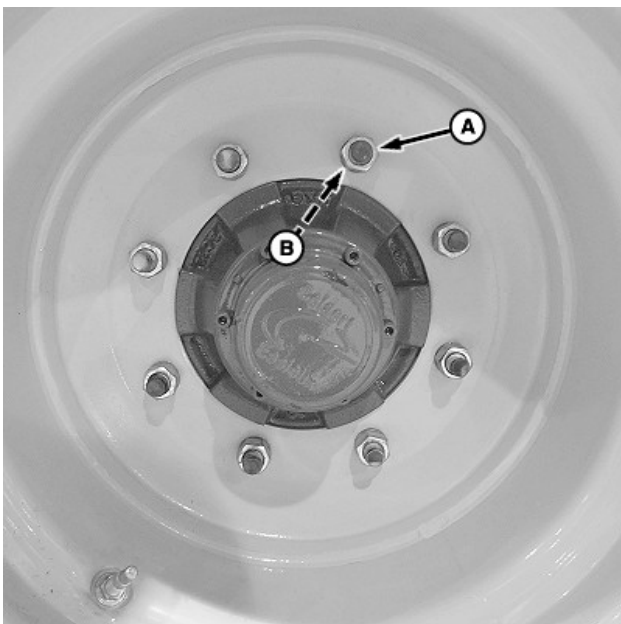
NOTE: Re-torque wheel nuts after 10 hours of operation.

PP98408,0000102-19-11MAR15

Remove and Install Wheels

IMPORTANT: It is permissible to use a pneumatic wrench to remove wheel nuts. A torque wrench must be used for tightening process to avoid damage to wheel or hub.

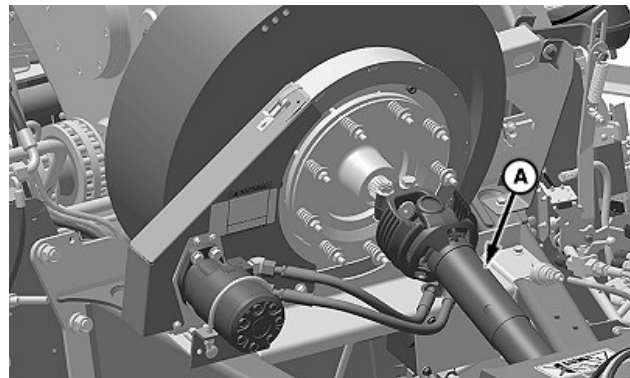
NOTE: Procedure shown with an 8-bolt configuration. 10-bolt wheel is similar.



E73119—UN—24FEB14

A—Wheel Nut

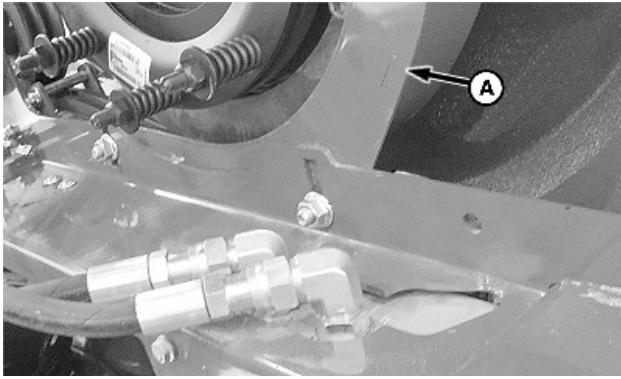
BalerAssist Remove and Install Belt



E82003—UN—17MAY17

A—Driveline

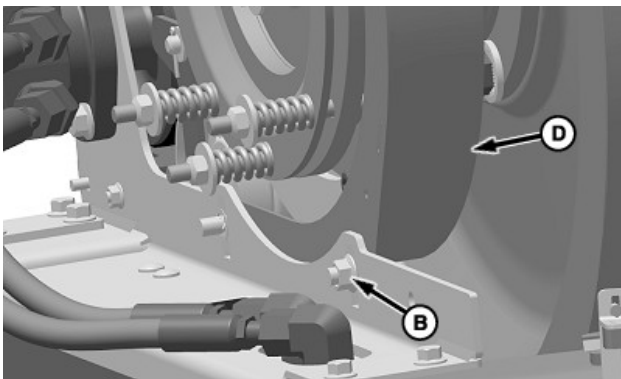
- Verify that the BalerAssist is disengaged using the ISOBUS monitor so that there is slack in the drive belt.
- Disconnect the secondary driveline (A) from the flywheel.



E85608—UN—20NOV17

A—Drive Belt Shield

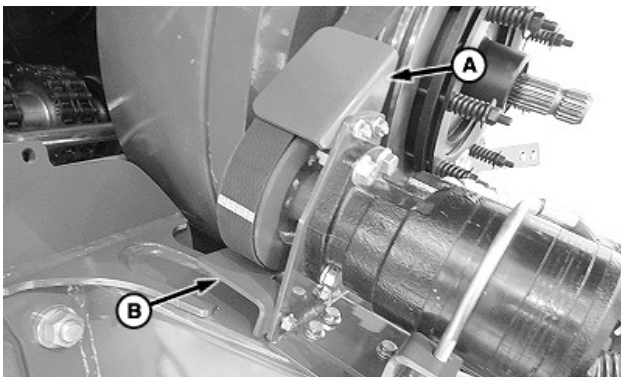
3. Remove the drive belt shield (A).



E82005—UN—17MAY17

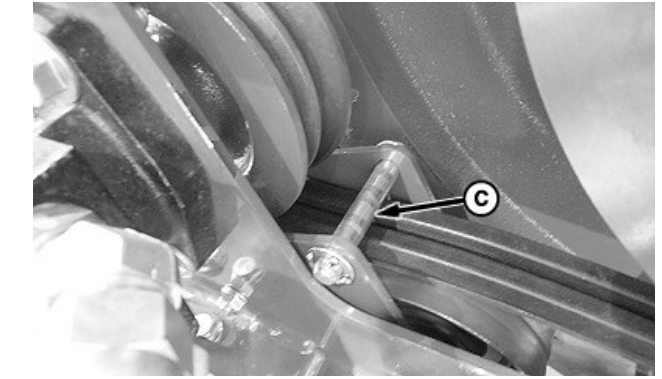
**A—Lower Belt Guide
B—Upper Belt Guide**

4. Remove the belt guides (A) and (B).



E82006—UN—30MAY17

Right-Hand Side



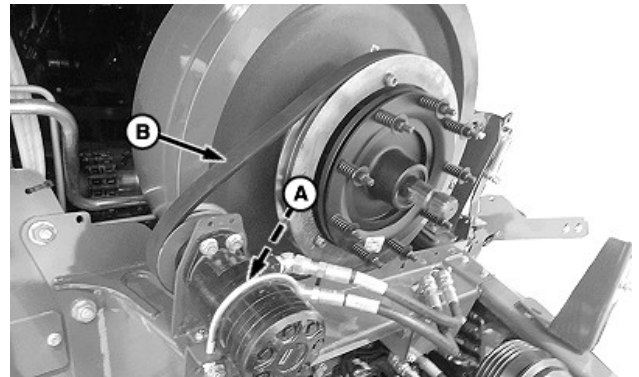
E82007—UN—30MAY17

Left-Hand Side

**A—Cap Screws (5 used)
B—Baler Assist Frame**

5. Remove cap screws (A).

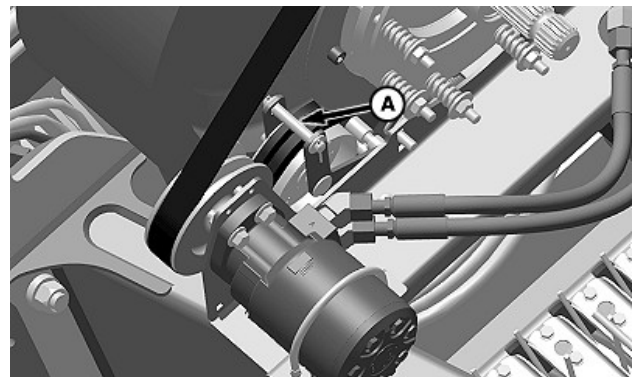
6. Slide the frame (B) forward on the tongue.



E82008—UN—30MAY17

**A—Sheave Shield
B—Nut**

7. Remove the nut (B) and sheave shield (A).



E82009—UN—17JAN17

A—Belt Guide Pin

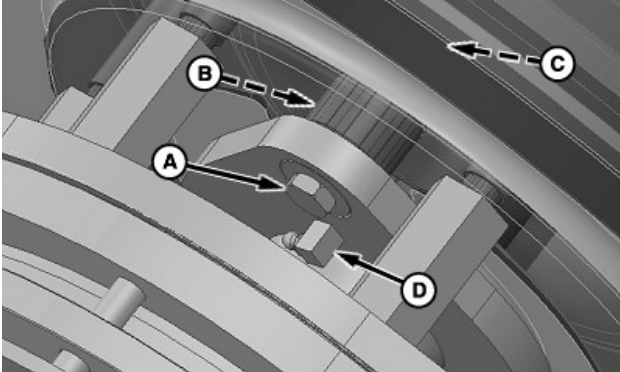
8. Remove the guide pin (A), push down on the drive belt idler, and remove the drive belt from sheaves.

9. Install new belt in reverse order of removal.

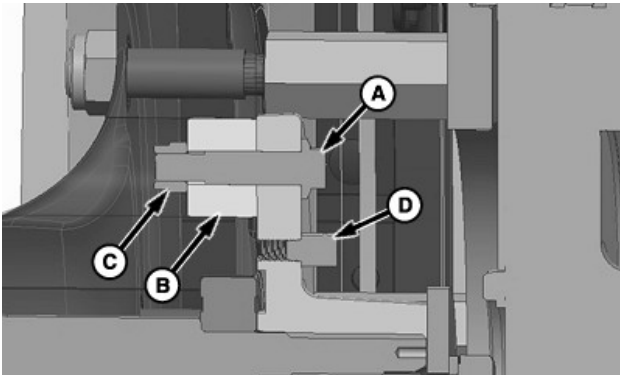
Replace Flywheel Shear Bolt

IMPORTANT: Needles must be in HOME position when replacing shear bolt. Using a substitute shear bolt can damage machine.

Shear bolts are designed to fail under a predetermined load. Always replace shear bolts with recommended parts.



E77559—UN—16DEC14



E77560—UN—12NOV14

- A—Shear Bolt
- B—Bushing
- C—Nut
- D—Lubrication Fitting

1. Stop PTO.
2. Zero the hydraulic pressure in the machine. (See Pressure Dump in Operating the Baler section.)
3. Determine cause of shearing and correct:
 - Shear plane may be separated.
 - Shear bolt hub may be damaged around shear bolt hole (hole edges must be sharp).
 - Bushing may be worn.
 - Obstruction in bale chamber.
 - Needles in bale chamber.
 - Needles or feeder system is out of time.
4. Install new specified flywheel shear bolt (A) by aligning shear bolt hub with rear bushing (B) in back of flywheel. Install nut (C) to shear bolt (A) and tighten to specification.

Specification

Flywheel Shear Bolt	
Nut—Torque	15 N·m (132 lb.-in.)

5. If needles are in bale chamber when bolt shears, return needles to HOME position by hand using flywheel.
6. Lubricate at lubrication fitting (D) on shear bolt hub after replacing shear bolt.
7. Start PTO and allow machine to build hydraulic bale pressure.

PP98408,0000001-19-12NOV14

Check Pickup Slip Clutch Torque

NOTE: Excessive slipping can be caused by improper pickup height, gauge wheel, or float spring adjustments.

At the beginning of each season, ensure that the pickup slip clutch is free to slip. It is not necessary to check the slip clutch torque values.

As the clutch wears, it can gradually transmit less power due to slipping. Feeding performance can be unsatisfactory.

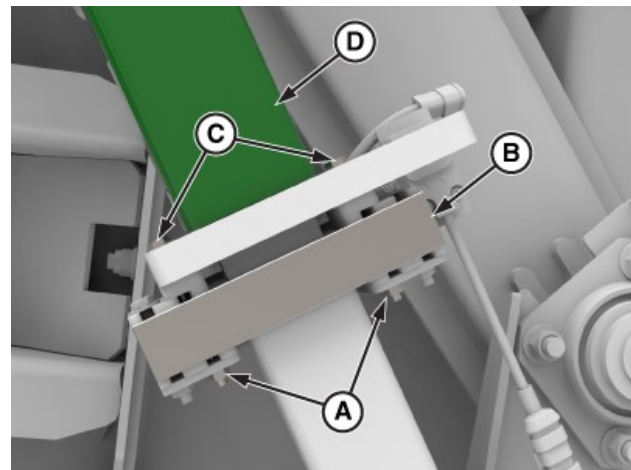
To Check Slip Clutch Torque see a John Deere dealer or other service provider.

GW44282,000081F-19-13NOV25

Replace Needle Frame Drive Shear Bolts

IMPORTANT: Shear bolts are designed to fail under a predetermined load. Always replace shear bolts with identical grade:

- Shear Bolts 1/4 x 3-1/4 in, Grade 8
- Lock Nuts, Grade 9



APY573759—UN—07APR23

- A—Nut (2 used)
- B—Lower Bar Connecting Rod
- C—Shear Bolt (2 used)
- D—Upper Tubular Frame

1. Remove sheared bolts from the needle frame connecting rods.
2. Install specified shear bolts (C) through the upper tubular frame (D) and lower bar connecting rod (B).
3. Install specified nuts (A) to shear bolts (C) and tighten to specification.

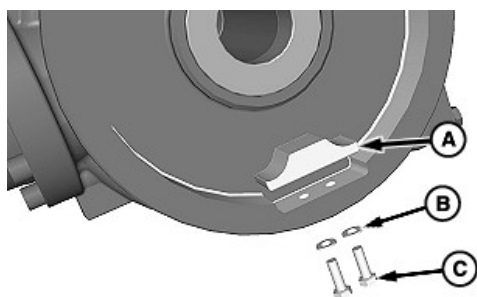
Specification

Needle Frame Drive Shear

Bolts—Torque Turn. 5.4 N·m + 1/2 turn
(48 lb·in + 1/2 turn)

hy01057,1680493912456-19-09APR23

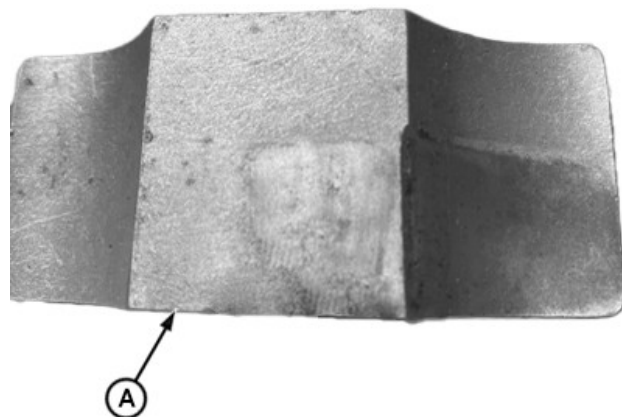
Remove and Install Upper Knotter Gear Case Pawl



- A—Pawl
- B—Washer (2 used)
- C—Cap Screw (2 used)

E72850—UN—14FEB14

1. Rotate flywheel by hand until pawl (A) is away from cam roller and engage flywheel brake.
2. Remove cap screws (C), washers (B), and pawl (A) from upper knotter gear case.
3. Check for wear on pawl.



EX569019—UN—01MAR23
Gearbox Pawl Wear

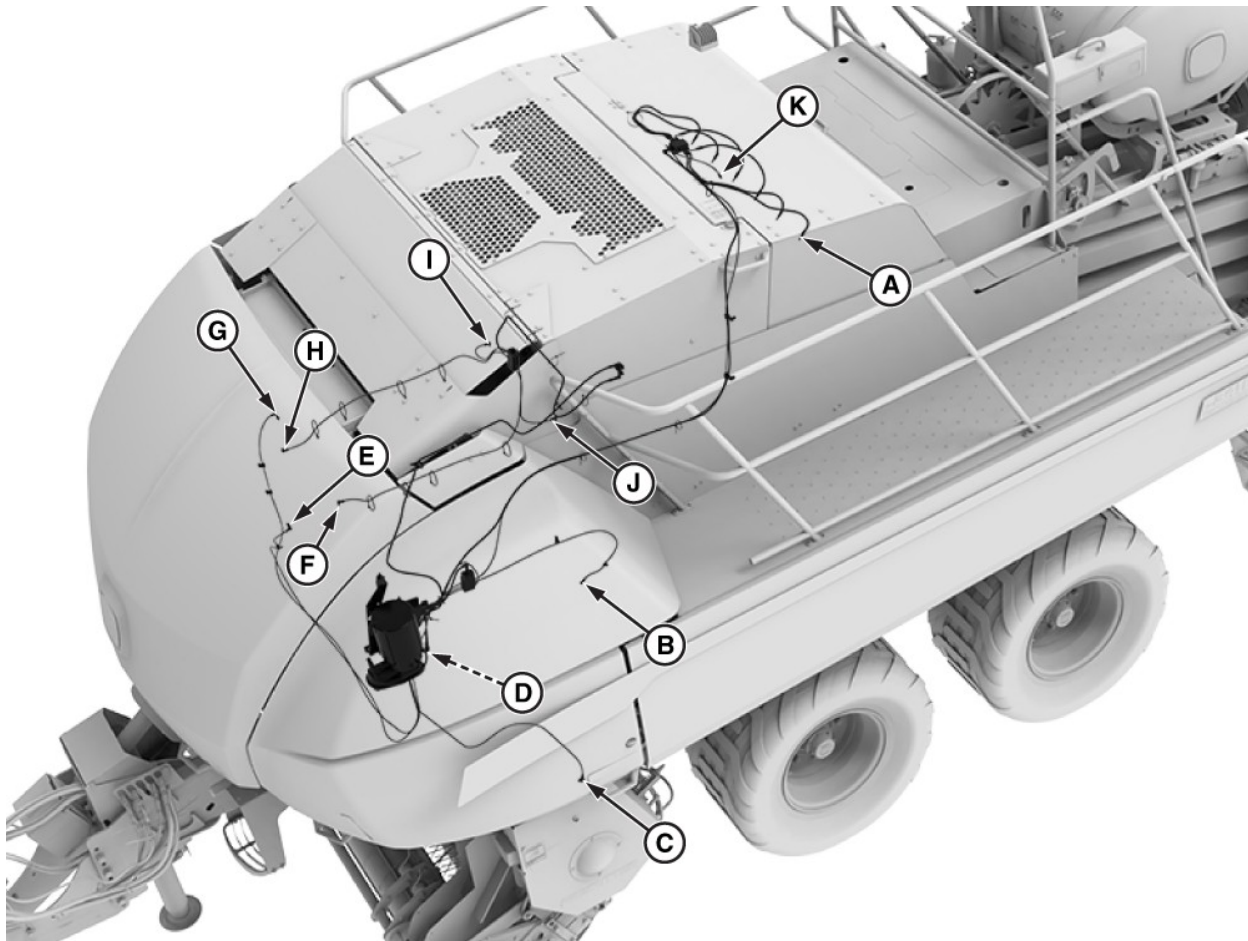
A—Gearbox Pawl

NOTE: Inspect and flip the gearbox pawl every 6,000 bales. Replace the gearbox pawl when the pawl is worn on both sides.

4. Install worn side of pawl toward front of machine or replace if necessary.
5. Install in reverse order of removal.

hy01057,1680494007956-19-02APR23

Component Locations



APY573754—UN—03APR23

A—Knotters
B—Short Crank Arm Bearing
C—Pickup Chain Tensioner
D—Feeder Hook Bushing
E—Rotor Chain Tensioner
F—Front Plunger Arm, Left-Hand Side

G—Rotor Drive Shaft Bearing
H—Front Plunger Arm, Right-Hand Side
I—Rear Plunger Arm, Right-Hand Side
J—Rear Plunger Arm, Left-Hand Side
K—Knotters Center Shaft Support

Machine is equipped with an electronic baler application that controls and monitors growing bale, tying, and clearing out of bale. System also provides error indicating functions.

Machine is equipped with several different kinds of sensors monitored by the baler application.

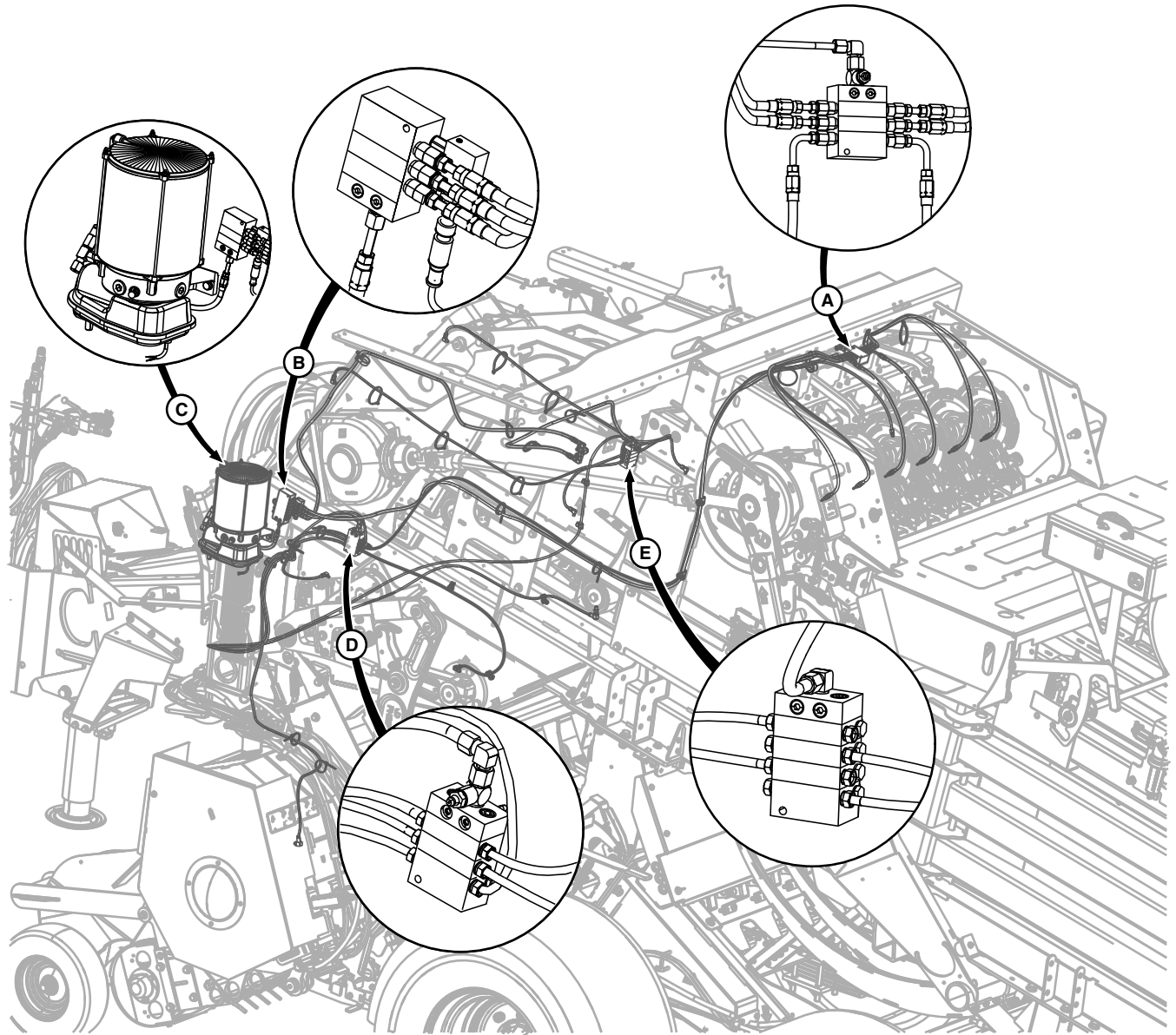
Monitor enables supervision of total baling procedure from tractor cab, such as:

- Tension pressure.
- Feeder fork plug.
- Twine (tension) detection and tying system functioning.
- Relation of filling strokes to plungerhead strokes.
- Bale counters.
- Knife position indication of Precutter.

- Bale length indication.
- Plungerhead load.

hy01057,1680494050018-19-09APR23

Auto Grease Component Locations



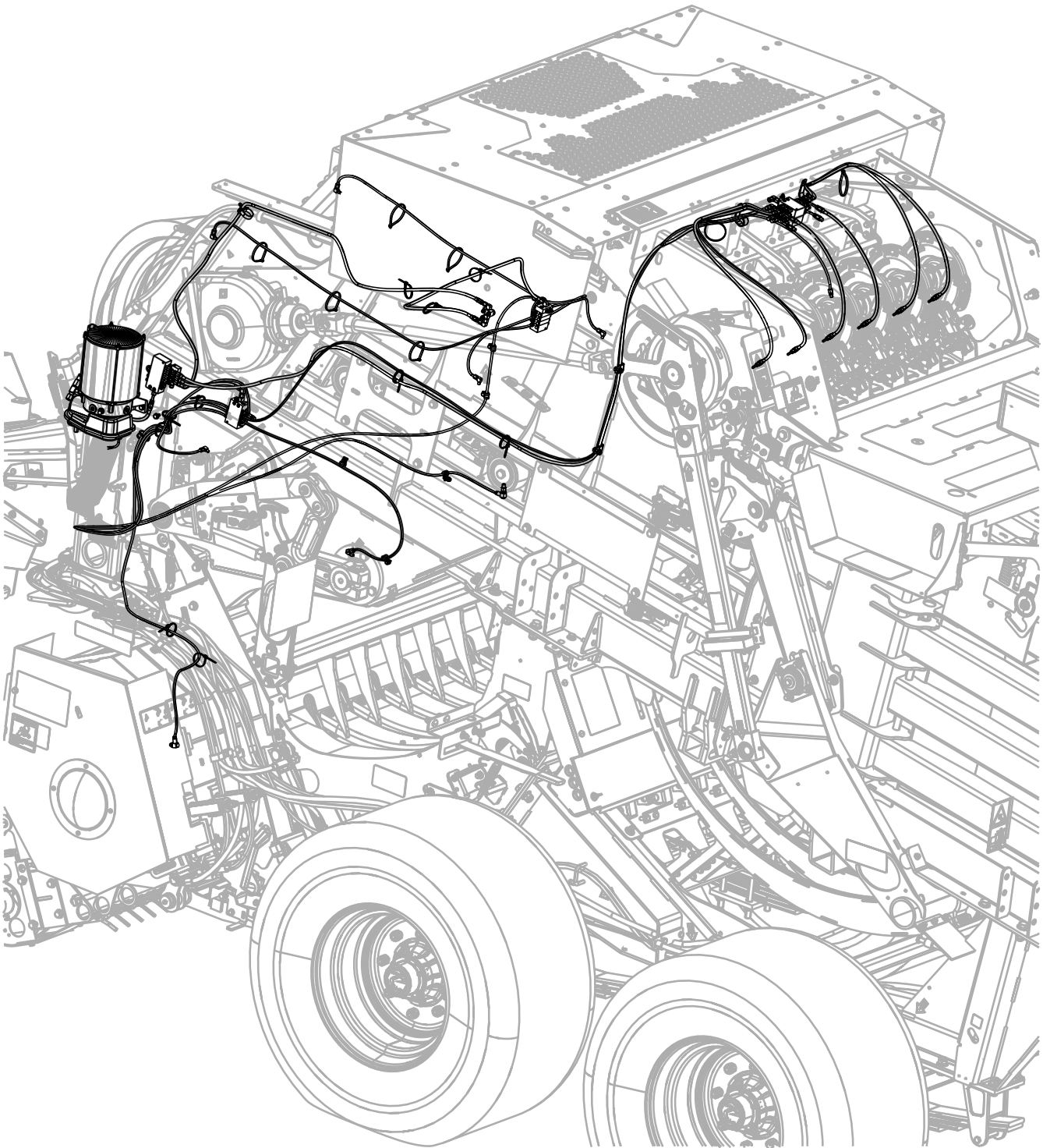
E84970—UN—20OCT17

A—Upper Knotter Divider Block
B—Main Divider Block
C—Auto Grease Pump and Reservoir

D—Auxiliary Divider Block
E—Plunger Divider Block

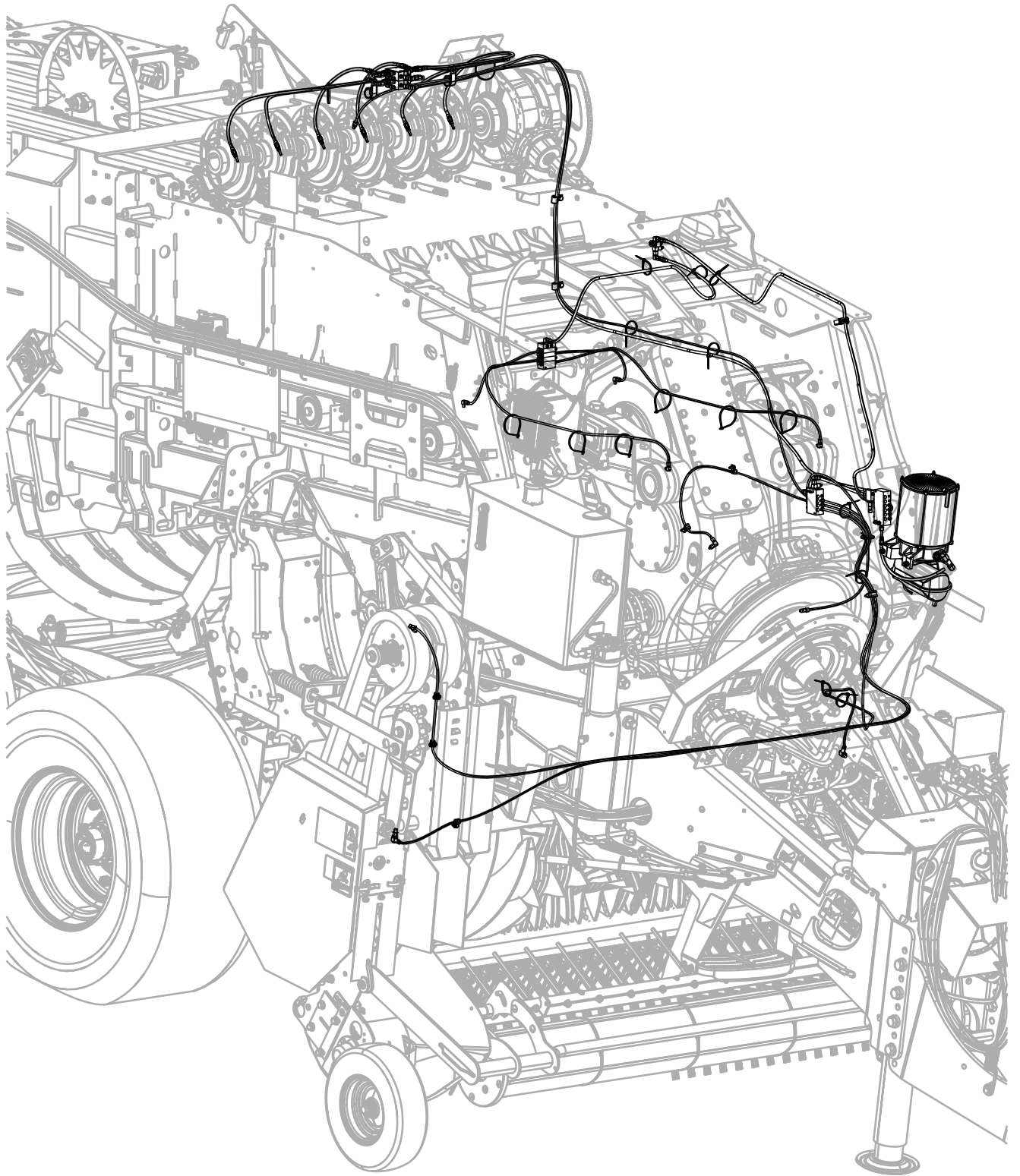
SF04007,0000FEF-19-01NOV17

Auto Grease Line Routing



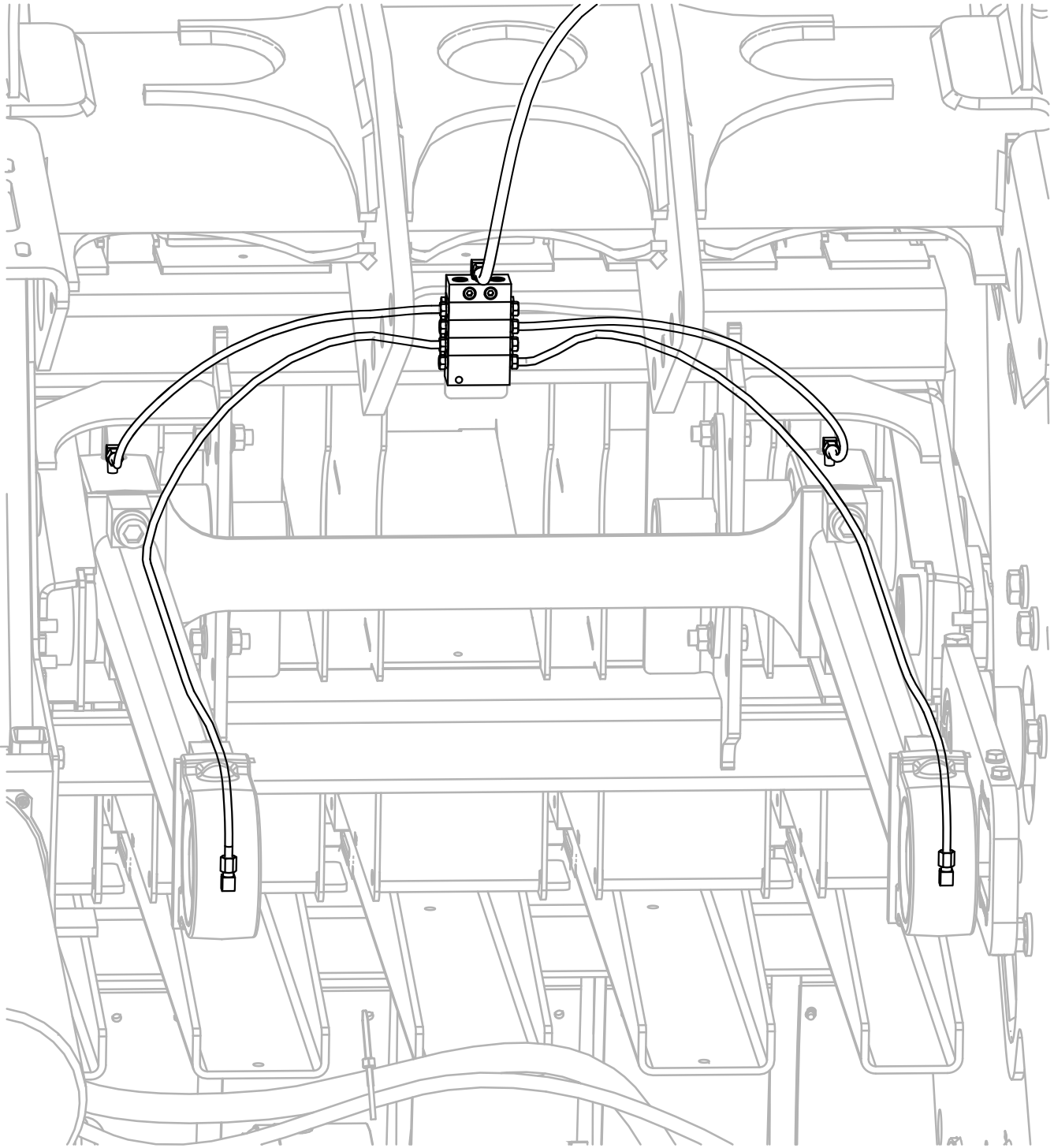
Left-Hand Side Shown

E84966—UN—20OCT17



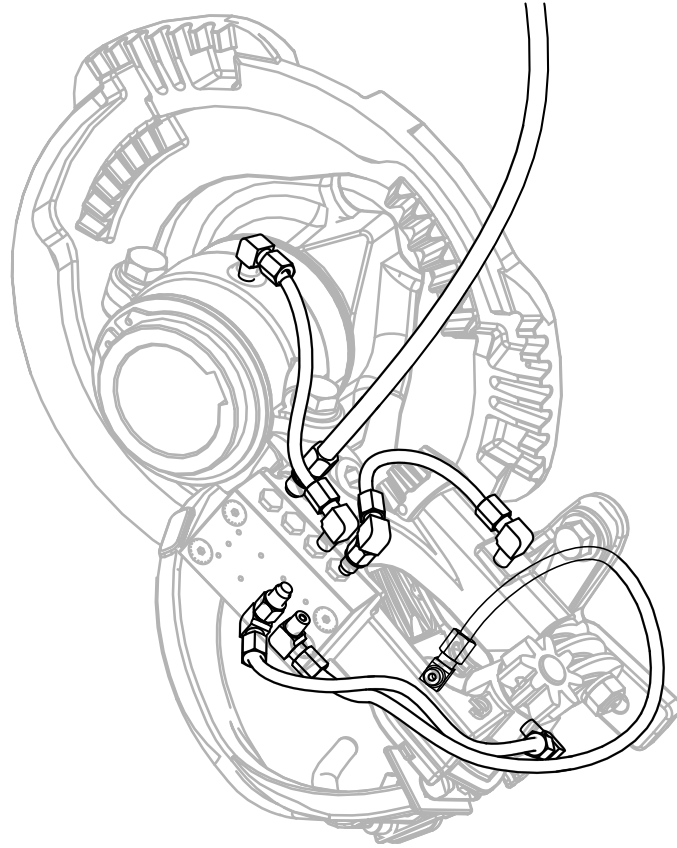
Right-Hand Side Shown

E84967—UN—20OCT17



Plunger Arms Shown

E72745—UN—19FEB14



Knotter Routing Shown

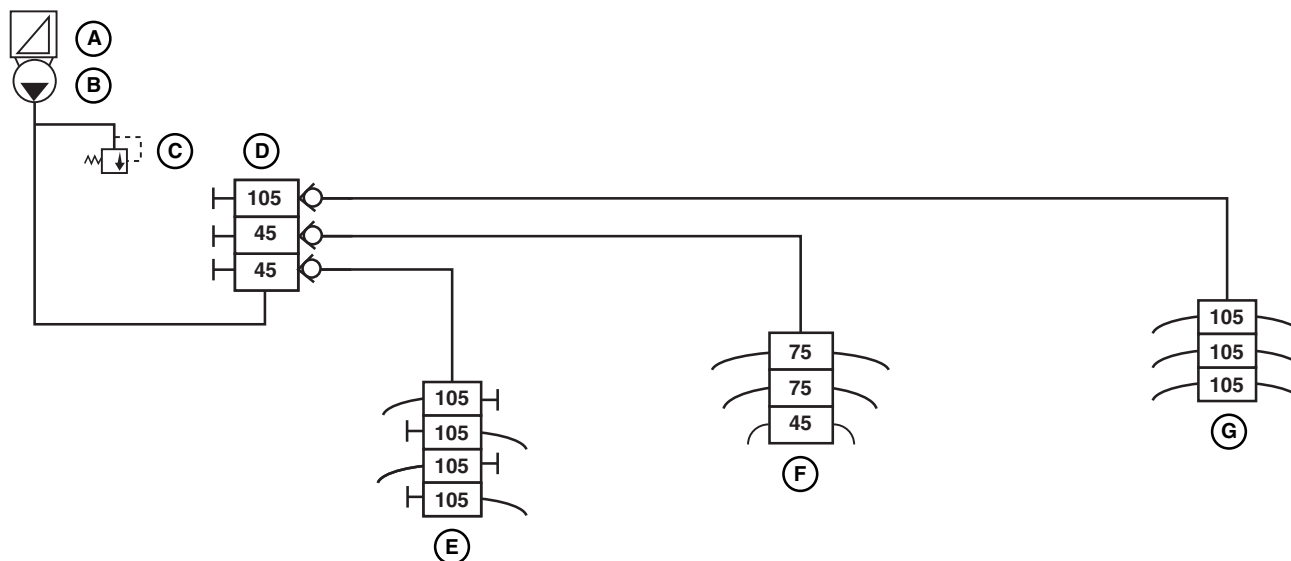
E72746—UN—19FEB14

SF04007,0000FED-19-19OCT17

Automatic Grease System Schematics

Main Circuit

NOTE: The 3x4 baler is shown. 3x3 baler is similar.



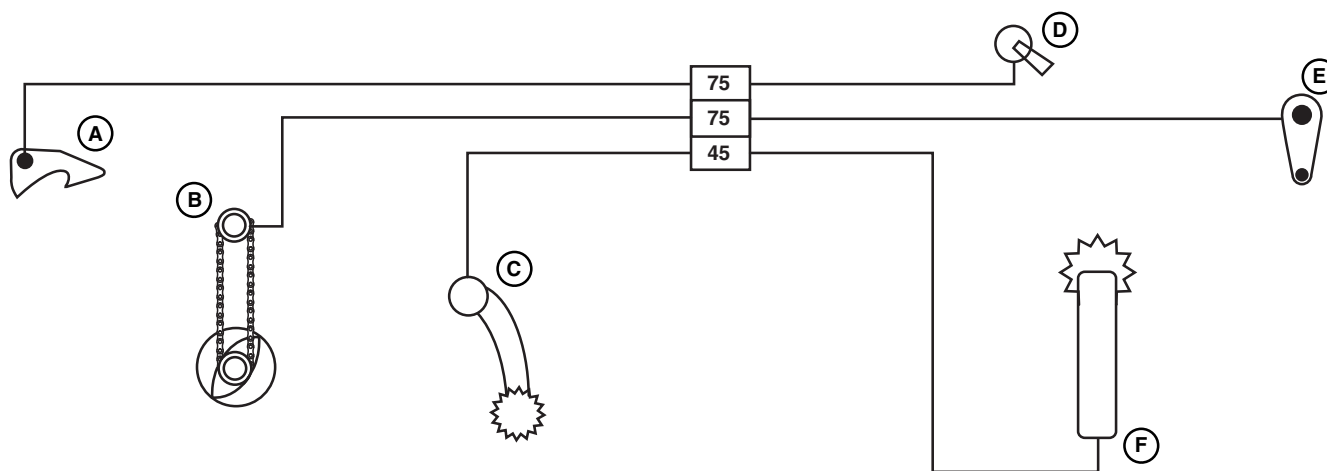
E85026—UN—25OCT17

- A—Grease Reservoir
- B—Pump Motor
- C—Pressure Release Valve
- D—Main Divider Block

- E—Plunger Divider Block
- F—Auxiliary Divider Block
- G—Knotter Divider Block (six knotters)

Auxiliary Circuit

NOTE: The 3x4 baler is shown. 3x3 baler is similar



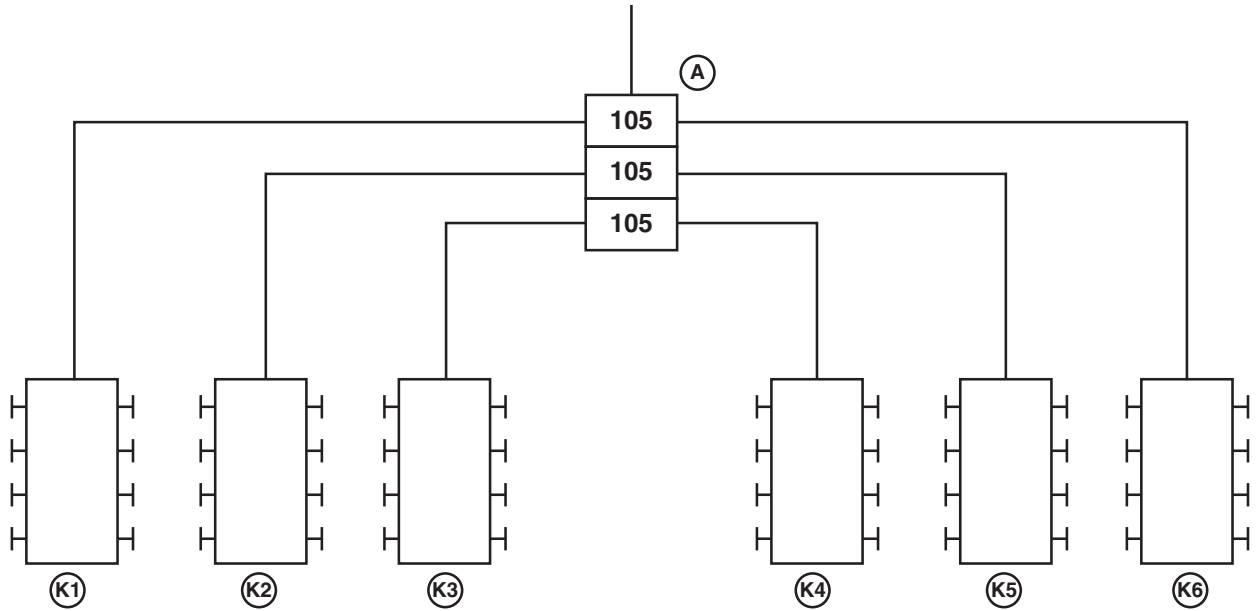
E85027—UN—25OCT17

- A—Feeder Hook Bushing
- B—Rotor Drive Shaft Bearing
- C—Pickup Chain Tensioner

- D—Knotter Center Shaft Support
- E—Short Crank Arm Bearing
- F—Rotor Chain Tensioner

Knotter Divider Block

NOTE: The 3x4 baler is shown. 3x3 baler uses only knotters (K1—K4) and divider block has one more block.

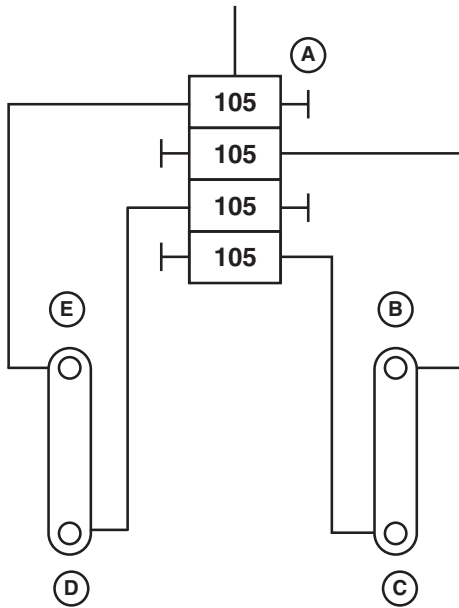


E75947—UN—25OCT17

A—Knotter Divider Block
 K1—Knotter 1
 K2—Knotter 2
 K3—Knotter 3
Plunger Divider Block

K4—Knotter 4
 K5—Knotter 5
 K6—Knotter 6

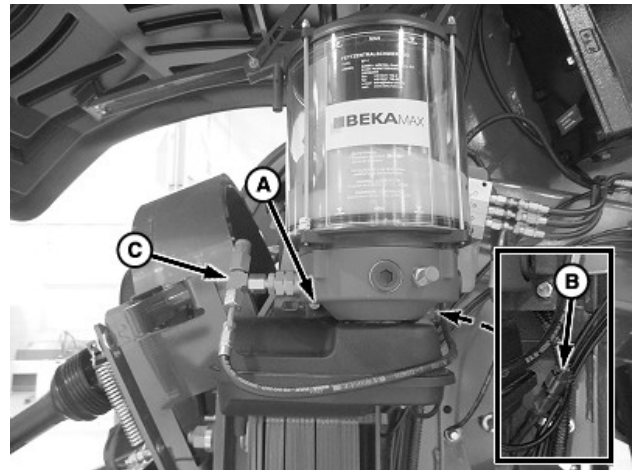
Remove and Install Grease Pump Assembly



E75946—UN—28MAY14

A—Plunger Divider Block
 B—Left-Hand Rear Plunger Arm
 C—Left-Hand Front Plunger Arm
 D—Right-Hand Front Plunger Arm
 E—Right-Hand Rear Plunger Arm

GW44282,000081C-19-25OCT17



E84945—UN—19OCT17

A—Cap Screw (2 used)
 B—Connector
 C—Supply Line

1. Disconnect connector (B).
2. Disconnect supply line (C).
3. Remove cap screws (A).
4. Replace assembly as necessary.
5. Install in reverse order.
6. Prime system. (See Prime Grease System in this section.)

7. Check for leaks.

SF04007,0000FEB-19-19OCT17

5. Connect main grease line (A) to pump.

6. Cycle grease pump

SF04007,0000FEC-19-19OCT17

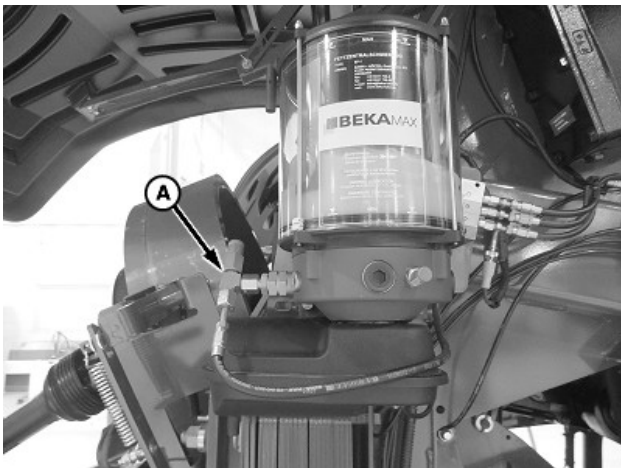
Prime Grease System

NOTE: It can take up to 3 minutes for the 3 X 4 and 2 minutes for the 3 X 3 to pump grease through lines from the main divider block to furthest lubrication point.

1. Bleed grease system. (See Bleed Automatic Greasing System in this section.)
2. Engage grease system. (See Baler Application Service section.)
3. Run auto grease system until grease is observed:
 - At the end-of-grease lines that were repaired or replaced
 - At the end-of-supply hose where the divider block was repaired or replaced

SF04007,0000FEB-19-29NOV17

Bleed Automatic Grease System



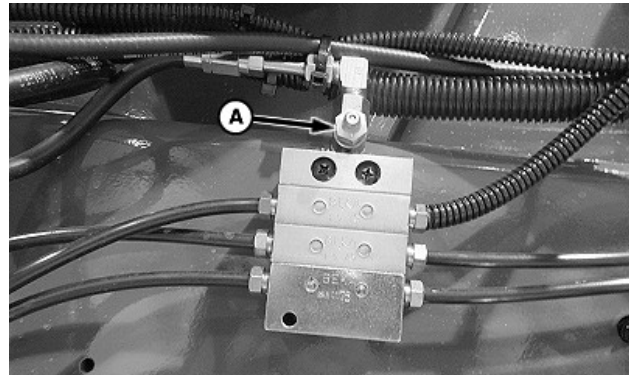
E84939—UN—18OCT17

A—Main Grease Line

If the grease reservoir is empty or pump piston was replaced, it is necessary to bleed pump system free of air. Proceed as follows:

1. Disconnect main grease line (A) from pump.
2. Engage grease system. (See Baler Application Service section.)
3. Let grease flow until no air remains in the pump system.
4. Power down pump by pressing auto grease power button on settings screen or by leaving grease management settings screen.

Auto Grease System Blockage



E73434—UN—18MAR14

A—Lubrication Fitting

“Grease Alarm” appears on ISOBUS display when auto greasing system detects a higher than usual pressure in system.

Another indication is when grease is flowing from pump pressure release valve.

Several factors cause a system blockage. Isolate blockage by checking the following:

- Flattened or clogged grease line.
- Overfilled bearings or blocked fittings.
- Non-use of recommended grease.
- Clogged divider block.

To locate a blockage in divider blocks:

- Connect a manual grease gun to lubrication fitting (A) on each divider block.
- Slowly inject grease into lubrication fitting.
- If grease cannot be injected into divider block, it is clogged. Clean the divider block (See Inspect Divider Block in this section).
- If block does not work after cleaning, replace the block. (See Remove and Install Divider Blocks in this section.)
- If grease can be injected into divider block system, but with resistance, one of the outputs is clogged or output lines is clogged. Clean or replace the line, or replace divider block if necessary. (See Remove and Install Divider Blocks in this section.)

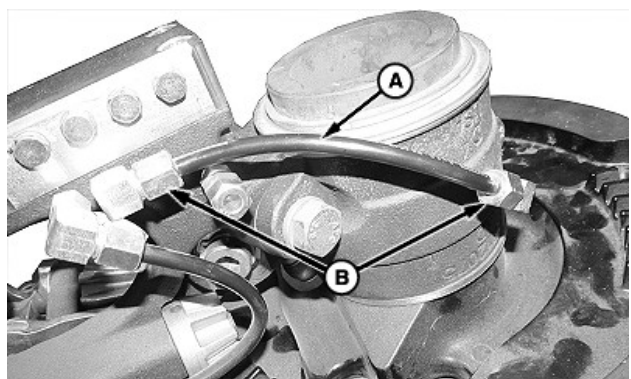
IMPORTANT: Tag each line to assure proper connection when installed.

If blockage continues, the main divider block must be checked.

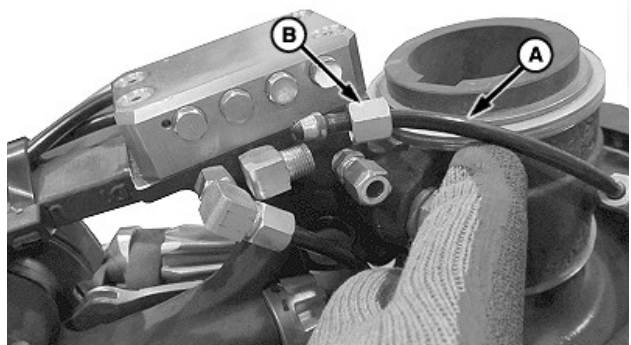
- Mark and disconnect all lines on main divider block.
- Cycle grease system. (See Baler Application Service section.)
- Verify that grease is coming out of each output of main divider block.
- If grease cannot be injected into divider block, it is clogged. Clean the divider block (see Inspect Divider Block in this section).
- If block does not work after cleaning, replace the block. (see Remove and Install Divider Blocks in this section).
- If grease is dispensing from block, connect lines as recorded during removal.

hy01057,1680494097756-19-11APR23

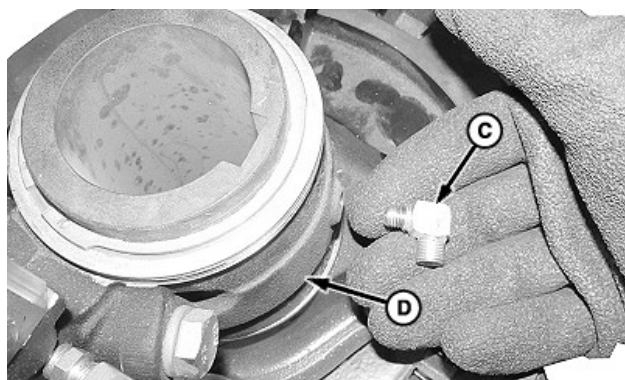
Remove and Install Knotter Grease Line



E72213—UN—25NOV13



E72214—UN—25NOV13



E72215—UN—25NOV13

- A—Grease Line
- B—Nuts (2 used, per line)
- C—Extension Fitting
- D—Knotter Frame

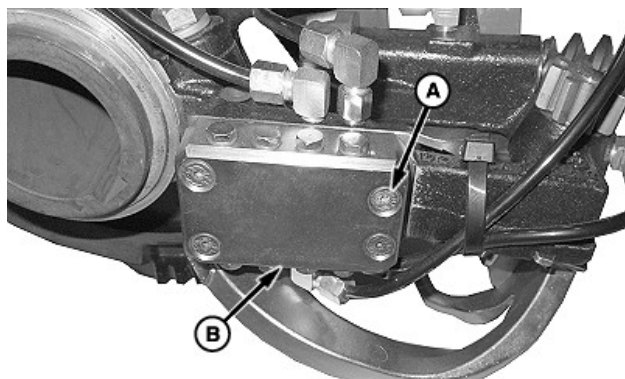
1. Record orientation of extension fitting (C) using a marker to aid in installation.
2. Loosen nuts (B) and remove grease line (A).
3. Replace line as necessary.
4. Remove extension fitting (C) from knotter frame (D) and replace as necessary.

IMPORTANT: Apply lubrication to threads going into knotter casting. It is not necessary to lubricate threads for grease line.

5. Install and orient fitting (C) to knotter frame (D) as removed.
6. Install grease line (A) and tighten nuts (B) to fittings.
7. Prime system. (See Prime Grease System in this section.)
8. Check for leaks.

PP98408,0000010-19-23SEP14

Remove and Install Knotter Divider Blocks



E72216—UN—25NOV13

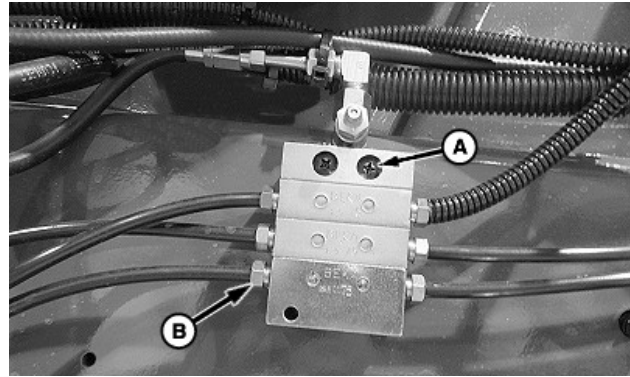
- A—Socket Head Cap Screw (4 used)
- B—Divider Block

1. Remove socket head cap screws (A) and divider block (B) from knotter frame.

2. Clean, repair, or replace as necessary.
3. Install new O-rings between block and frame.
4. Apply a medium strength thread lock to threads of socket head cap screws (A) and install divider block (B) to knotter frame.
5. Prime system. (See Prime Grease System in this section.)
6. Check for leaks.

PP98408,0000012-19-23SEP14

NOTE: Left-hand divider block shown in this procedure. Other divider blocks are similar.



E85609—UN—20NOV17

- A—Screw (2 used)
- B—Hoses (as required)

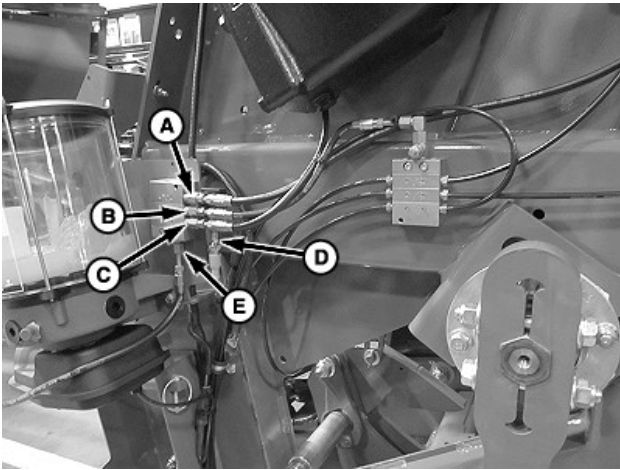
1. Disconnect all the hoses (B) from the divider block.
2. Remove screws (A) and divider block from machine.
3. Replace main divider block as necessary.
4. Install in reverse order of removal.
5. Prime system. (See Prime Grease System in this section.)
6. Check for leaks.

SF04007,0000FE9-19-20NOV17

Remove and Install Divider Blocks

Main Divider Block

IMPORTANT: To assure proper connection when installed, tag each grease line.



E84938—UN—17OCT17

- A—Knotter Supply Hose
- B—Left-Hand Side Supply Hose
- C—Plunger Supply Hose
- D—Sensor
- E—Main Supply Hose
- F—Hex Head Cap Screw, M5 x 40 (2 used)

1. Disconnect hoses (A—C) from the main divider block.
2. Disconnect sensor (D) and remove the sensor from the main divider block.
3. Remove and retain the cap screws (F).
4. Replace main divider block as necessary.
5. Install in reverse order of removal.
6. Prime system. (See Prime Grease System in this section.)
7. Check for leaks.

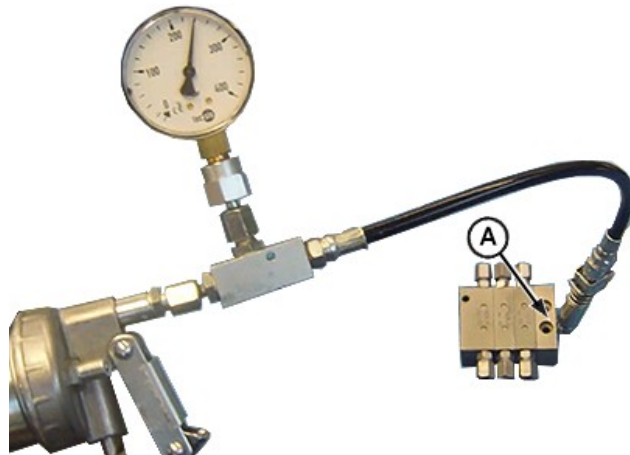
Divider Blocks

IMPORTANT: To assure proper connection when installed, tag each grease line.

Inspect Divider Block

Inspect

NOTE: This procedure will remove a blockage from the divider block.



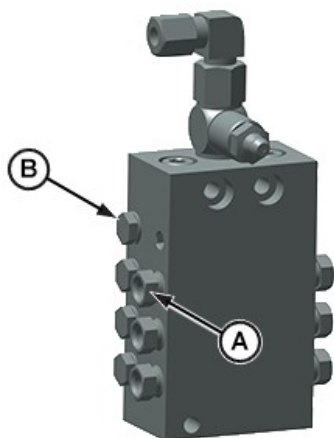
EX553998—UN—09NOV22

Divider Block Flow Check

- A—Divider Block

NOTE: The picture shows a failed divider block and no flow is found.

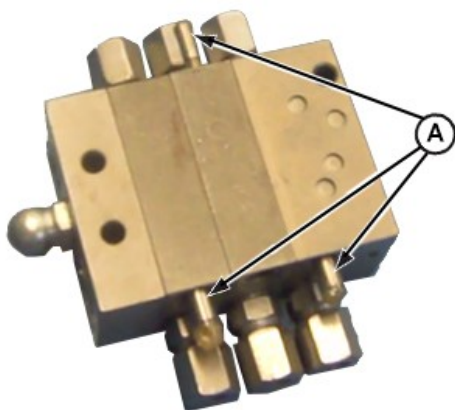
With the divider block removed use a grease gun to try and push grease through the divider block (A).



EX553997—UN—09NOV22
Divider Block Plugs

A—Line Ports
B—Plug

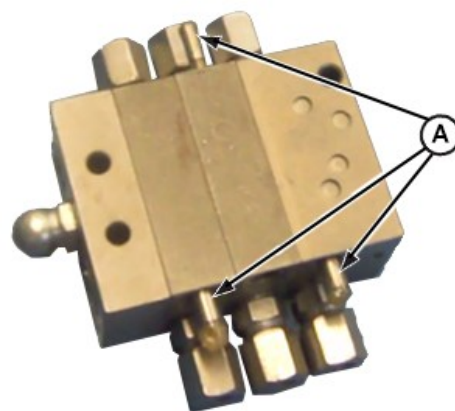
2. If grease does not flow through the divider block line ports (A) remove plugs (B) from both sides of the divider block. Retain the O-rings.



EX553999—UN—09NOV22
Divider Block Valve

A—Divider Block Valve

3. With the plugs removed, push the valves (A) out of the divider block and remove.
4. Clean the valves using solvent and a lint-free rag and blow out the divider block ports.



A—Divider Block Valve

EX553999—UN—09NOV22

NOTE: Divider blocks can have more than 3 valves per assembly.

Reinstall the valves (A) opposite of each other as the figure shows. Install the plugs back into one side of the valve block and then install the remaining plugs on to the other side.

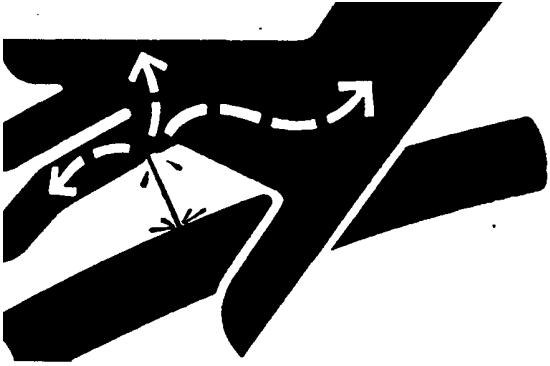
6. Attach grease gun to grease port and check for flow through all line ports of divider block.

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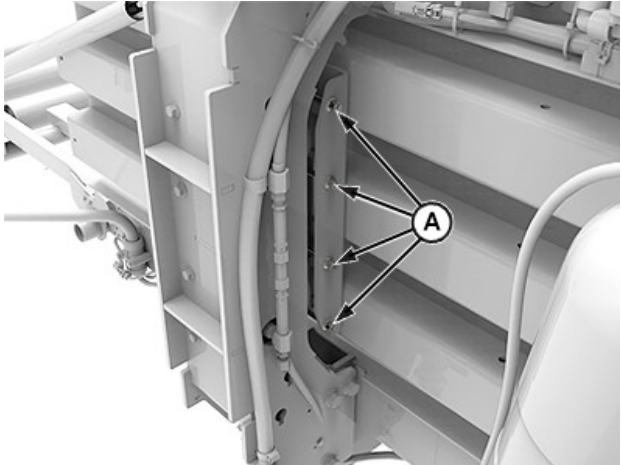
Remove and Install Tension Panel Cylinders

Horizontal Tension Cylinders

⚠ CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury can call the Deere & Company Medical Department in Moline, Illinois, USA, or other knowledgeable medical source.

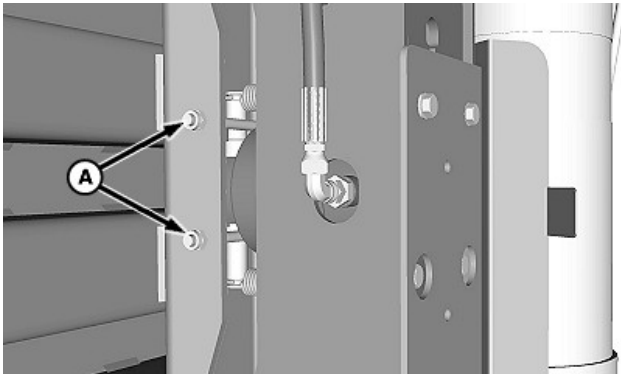


X9811—UN—23AUG88



APY565554—UN—30MAR23

Right-Hand Side of Baler Shown (L341R HD)

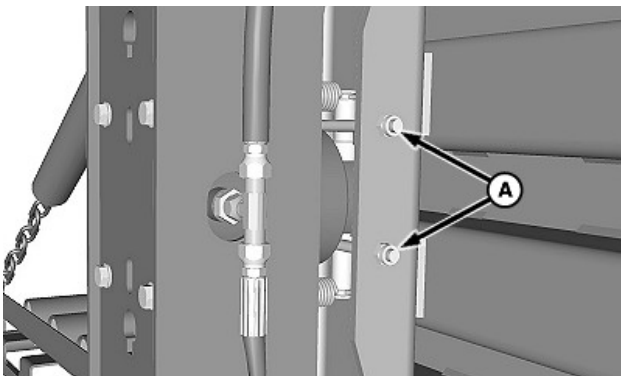


E76956—UN—14AUG14

Left-Hand Side of Baler Shown (L331R and L341R)

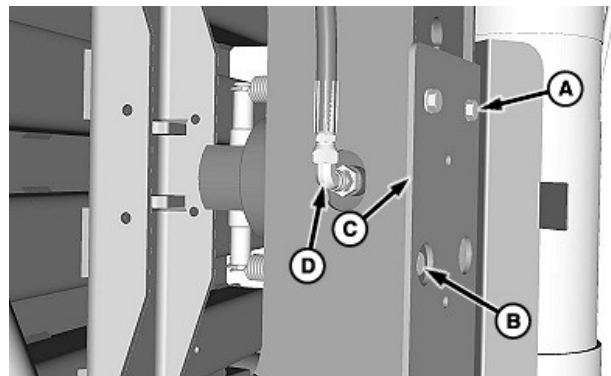
A—Lock Nut (2 used, each side for L331R and L341R) (4 used, each side for L341R HD)

1. Remove crop material from bale chamber using bale ejector.
2. Retract tensioning cylinders fully.
3. Turn off tractor engine, remove key from ignition, and set parking brakes.
4. Remove lock nuts (A) and cap screws from cylinder pin and push tension panel toward center of machine.

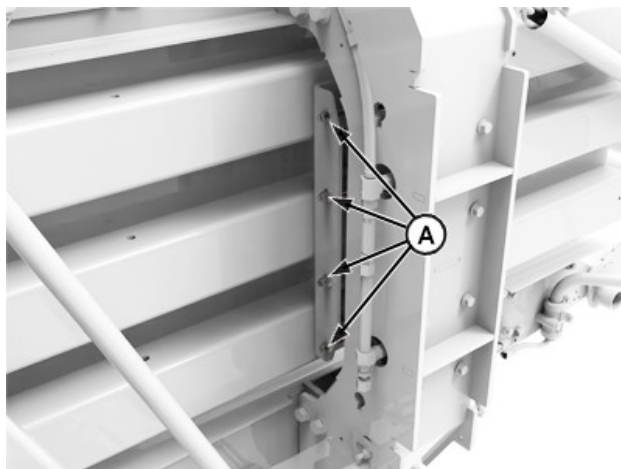


E76957—UN—14AUG14

Right-Hand Side of Baler Shown (L331R and L341R)

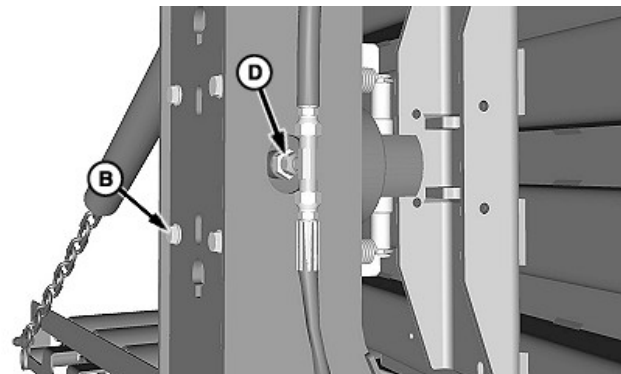


E76958—UN—14AUG14



APY565555—UN—30MAR23

Left-Hand Side of Baler Shown (L341R HD)

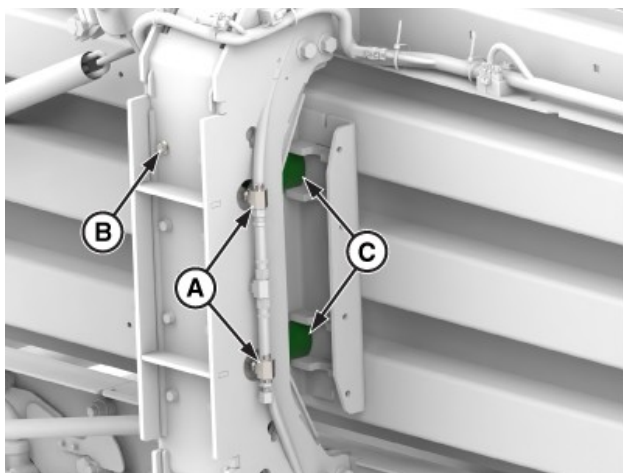


E76959—UN—14AUG14

Right-Hand Side of Baler Shown (L331R and L341R)

- A—Cap Screw (2 used, left-hand side only)
- B—Cap Screws (2 used, left-hand side only) (4 used, right-hand side only)
- C—Support (left-hand side only)
- D—Hose

5. **For L331R and L341R:** Disconnect hydraulic hose (D).
6. **Left-Hand Side:**
 - Remove top two cap screws (A), fire extinguisher, and fire extinguisher support (C) from frame.
 - Support weight of the horizontal tension cylinder.
 - Remove bottom two cap screws (B) and cylinder assembly from machine.
7. **Right-Hand Side:**
 - Support weight of the horizontal tension cylinder.
 - Remove four cap screws (B) and cylinder assembly from machine.



APY573760—UN—07APR23

L341R HD Machine Shown

- A—Hydraulic Hose (2 used)
- B—Screw, M10 x 1.5 x 35 (8 used)
- C—Cylinder Assembly (2 used)

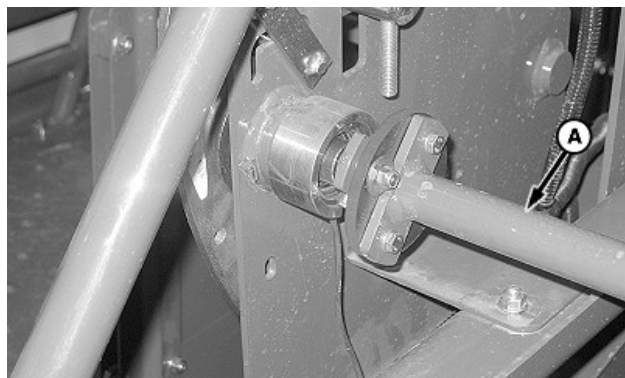
8. **For L341R HD:** Disconnect hydraulic hoses (A)
9. Support weight of the horizontal tension cylinder. Remove eight screws (B) from tension hoop and remove cylinder assembly (C).

NOTE: Remove one cylinder assembly at a time.

10. Repeat the procedure on the other side.
11. Replace cylinder assembly with new.
12. Install in reverse order of removal.

Vertical Tension Cylinders

NOTE: Procedure shown using a 3x4 large square baler. 3x3 baler is similar.



E76960—UN—14AUG14

A—Shaft

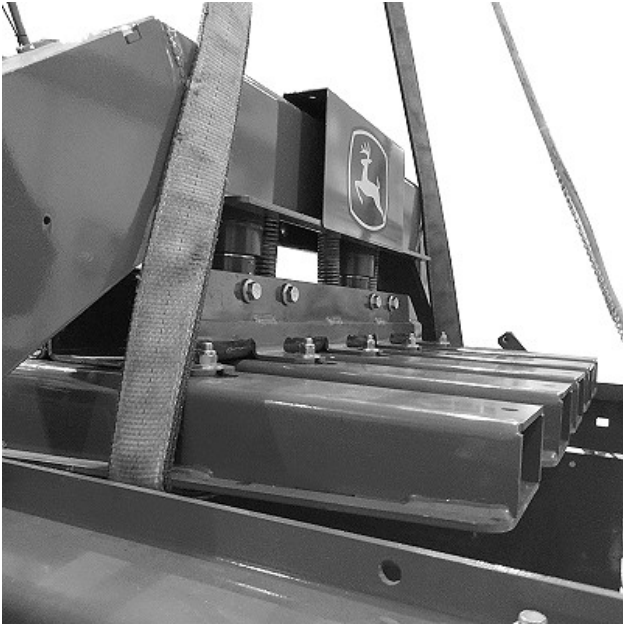
1. Remove crop material from bale chamber.
2. Retract tensioning cylinders fully.
3. Turn off tractor engine, remove key from ignition, and set parking brakes.
4. Remove star wheel shaft (A).

⚠ CAUTION: Tension beam assembly is heavy. Use suitable lifting device and support weight.

- 3 x 3 assembly is approximately 105 kg (235 lb)
- 3 x 4 assembly is approximately 235 kg (515 lb)

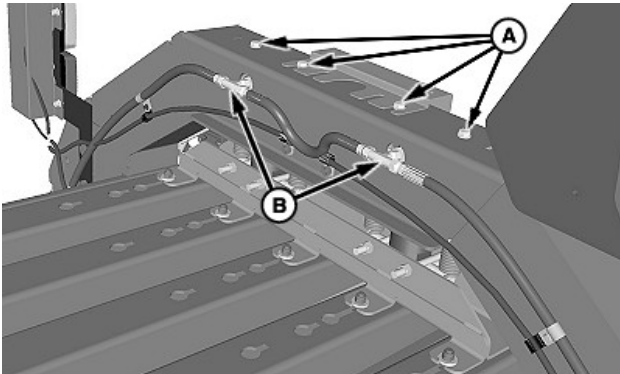
IMPORTANT: Avoid damage to hay dogs or tension beams.

- If hay dogs are installed, lower assembly only enough to remove and install cylinders.
- If hay dogs are not in use or in storage position, lower tension beam assembly to bale chamber floor.



E73320—UN—07MAR14

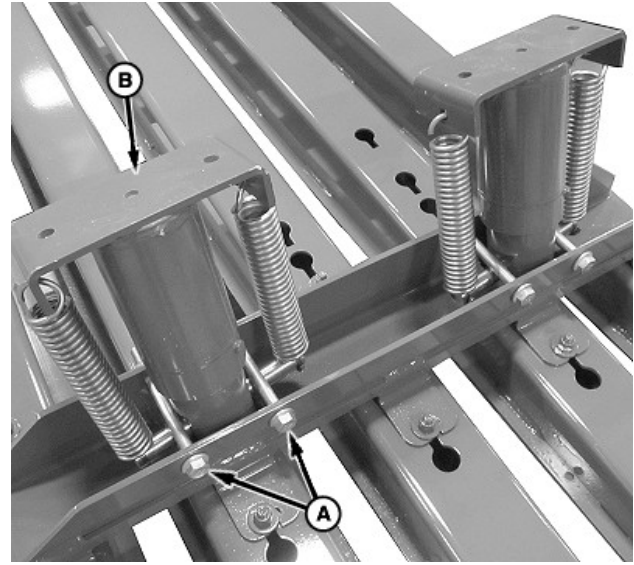
- Support weight of upper beams with suitable lifting strap as shown.



E72740—UN—12MAY14

- A—Cap Screws (4 used)
- B—Tee-Fittings (2 used)

- Remove tee-fittings (B), cap screws (A), and lower tension beam assembly only enough to remove and install cylinders.



E75739—UN—12MAY14

- A—Cap Screw
(2 used, each cylinder)
- B—Cylinder Assembly

- Remove cap screws (A) from cylinder being serviced, and remove cylinder assembly (B) from beam support.
- Cylinder assembly cannot be serviced and must be replaced with new.
- Install in reverse order of removal.

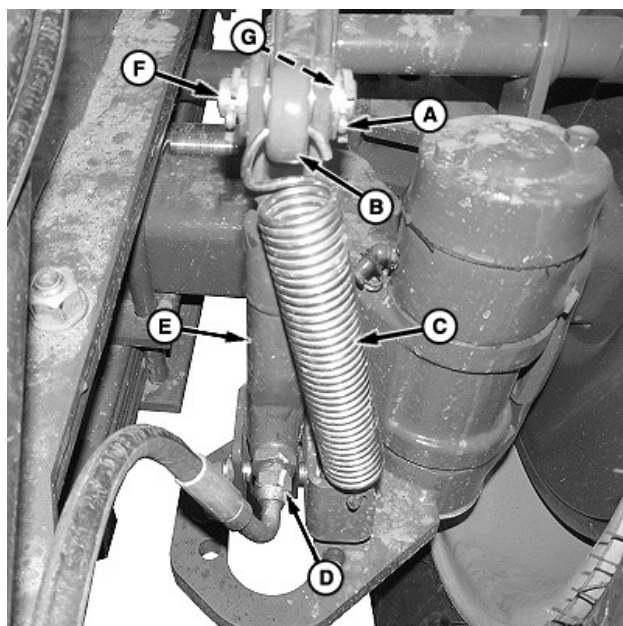
hy01057,1680494291216-19-24MAY23

Remove and Install Hydraulic Brake Cylinder

⚠ CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury can call the Deere & Company Medical Department in Moline, Illinois, USA, or other knowledgeable medical source.

- Park machine on flat surface and chock wheels.
- Disconnect hydraulic hoses and electrical connections from tractor.

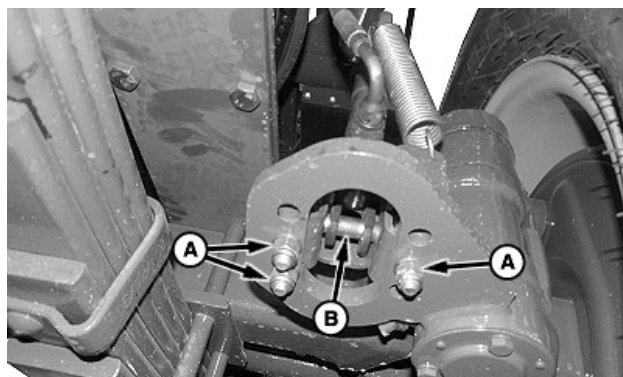
IMPORTANT: Upper cylinder pin must be installed in original slack arm location. Record pin location to aid in installation.



E72759—UN—10FEB14

- A—Cotter Pin (4 used)
- B—Slack Arm
- C—Spring
- D—Hose
- E—Cylinder
- F—Pin (2 used)
- G—Washer (4 used)

3. Disconnect hose (D).
4. Remove spring (C) from the slack arm (B).
5. Remove cotter pins (A), washers (G), pins (F), and cylinder (E).



E72760—UN—10FEB14

- A—Lock Nuts (3 used)
- B—Pin (2 used)

6. Repair or replace parts as necessary.
7. To aid in pin (B) alignment, loosen lock nuts (A) and cylinder brackets. Tighten lock nuts (A) when the cylinder is installed.
8. Install in reverse order of removal.

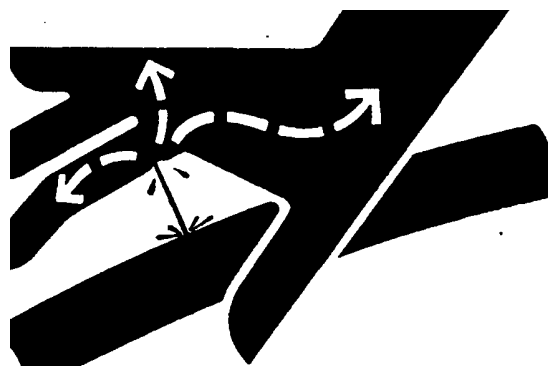
GW44282,0000821-19-20NOV17

Remove and Install Bale Chute Cylinder

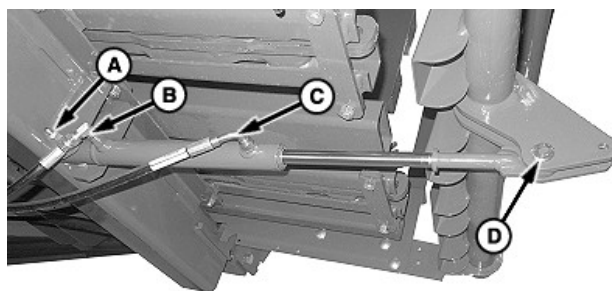
⚠ CAUTION: Escaping fluid under pressure can penetrate skin causing serious injury. Avoid hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury can call the Deere & Company Medical Department in Moline, Illinois, USA or other knowledgeable medical source.

⚠ CAUTION: Roller chute is heavy. Support weight of roller chute using suitable jack stands or by chute chains.

- 3x3 roller chute is approximately 91 kg (200 lb.)
- 3x4 roller chute is approximately 120 kg (265 lb.)

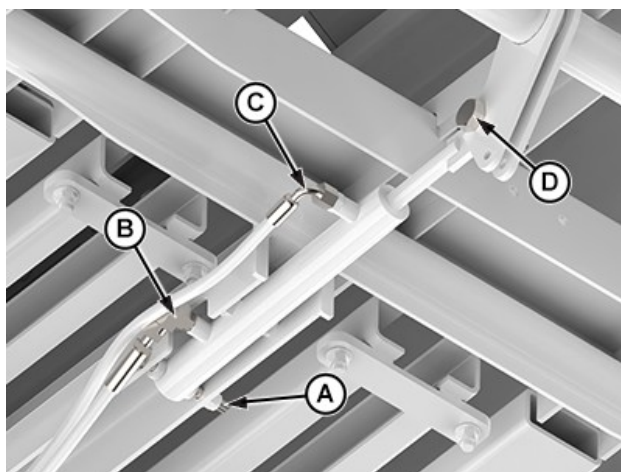


X9811—UN—23AUG88



L331R Model Shown

E75740—UN—14MAY14



APY580789—UN—07JUN23

L341R HD Model Shown

- A—Cap Screw
- B—90° Adapter Fitting
- C—Elbow
- D—Pin

1. Lower roller chute on jack stands or shorten chute chains and allow weight of chute to rest on chains.
2. Remove hoses from adapter fitting (B) and elbow (C).
3. Remove pin (D), cap screw (A), and cylinder from machine.
4. Replace cylinder with new.
5. Install in reverse order of removal including this instruction.

- Install 90° adapter fitting (B) to non-rod end of cylinder. Tighten to specification.

Specification

Bale Chute Cylinder 90° Adapter Fitting—Torque.	24 N·m (212 lb.-in.)
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- Install elbow (C) to rod end of cylinder. Tighten to specification.

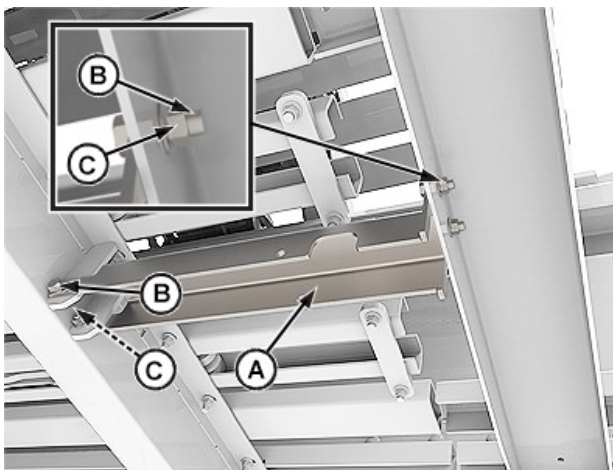
Specification

Bale Chute Cylinder Elbow Fitting—Torque.	24 N·m (212 lb.-in.)
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6. Connect hydraulic hoses to fittings as removed.
7. Test functionality and check for leaks at connections.
8. Remove jack stands or adjust roller chute chains to desired setting, if necessary.
9. Check reservoir level and fill with recommended oil as needed.

hy01057,1680494335789-19-13SEP23

Remove and Install Bale Chute Bracket (HD Only)



APY565558—UN—30MAR23

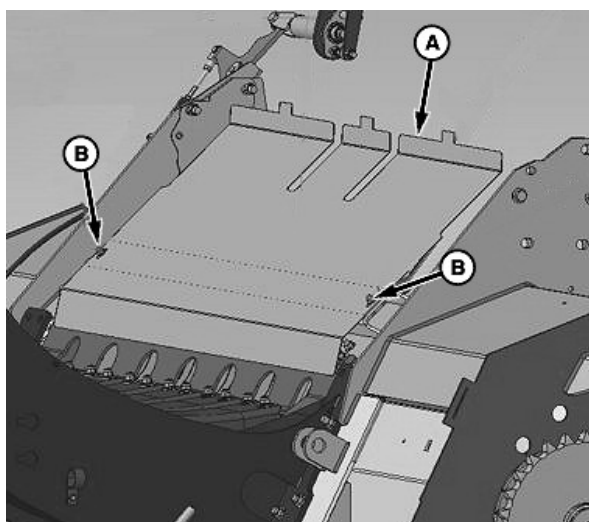
- A—Bracket
- B—Cap Screw, M12 (4 used)
- C—Nut, M12 (4 used)

1. Remove bale chute cylinder. (See Remove and Install Bale Chute Cylinder.)
2. Remove two cap screws (B) and nuts (C) from rear frame.
3. Remove two cap screws (B) and nuts (C) from front frame.
4. Remove bracket (A).
5. Assemble all parts in reverse order removal.

hy01057,1680494345057-19-10APR23

Remove and Install Rotor Tine Scraper

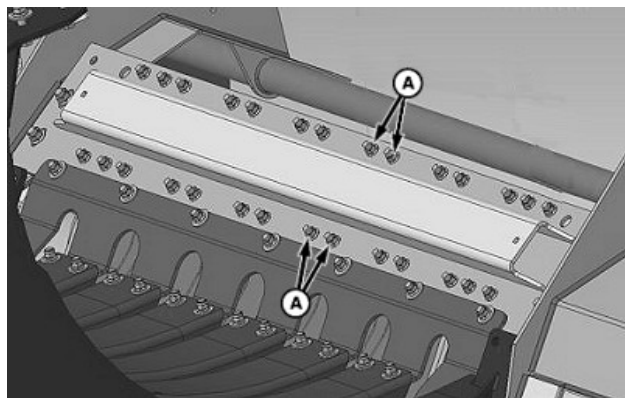
1. Shut off tractor engine, remove key, and set park brake.



E84918—UN—09OCT17

- A—Crop Shield
- B—Nuts (2 used)

- To remove crop shield (A), remove and retain nuts (B).



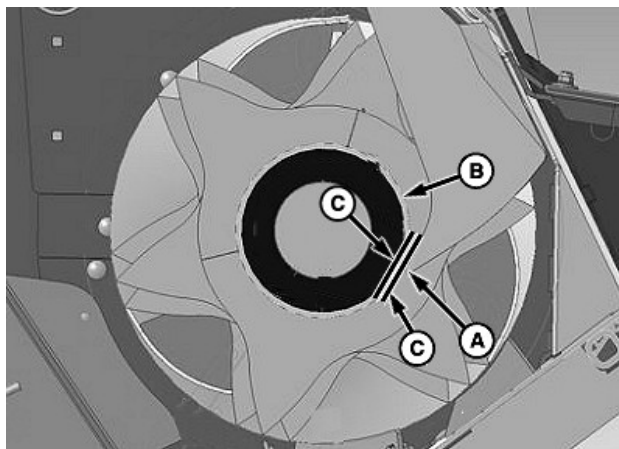
E84919—UN—09OCT17

A—Nuts and Carriage Bolts

- To remove rotor tine stripper, remove and retain nuts and carriage bolts (A).

NOTE: Each stripper has four nuts and carriage bolts.

- Repair or replace rotor tine strippers as needed.
- Install rotor tine stripper and retain using previously removed nuts and carriage bolts.



E84920—UN—09OCT17

**A—Rotor Tine Stripper Tip
B—Rotor Tube
C—Clearance**

- Adjust rotor tine stripper tip (A) to the rotor tube (B) clearance (C) to specification.

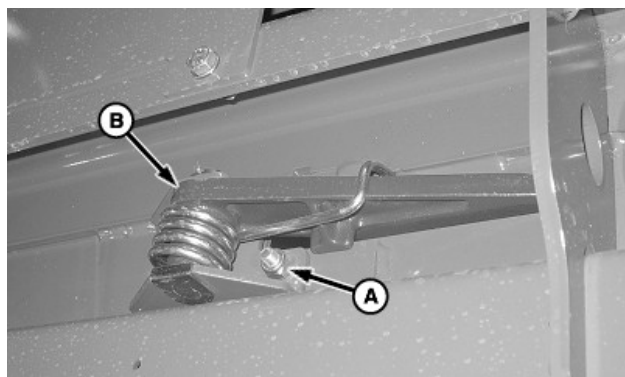
Specification

Stripper Tip-to-	
Rotor—Clearance	4—9 mm (0.157—0.354 in)

- Tighten all hardware.
- Reinstall crop shield.

GW44282.0000822-19-09OCT17

Remove and Install Plunger Hay Dogs



E76440—UN—21JUL14

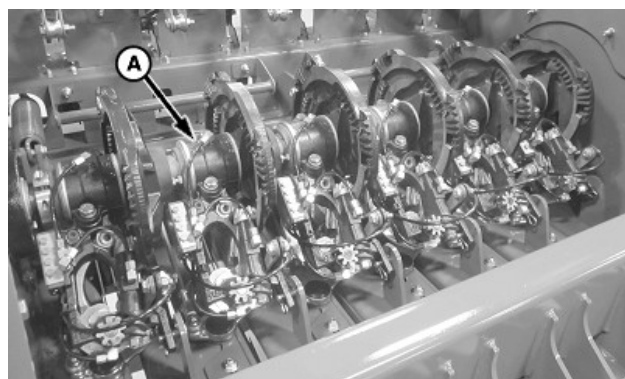
**A—Lock Nut (2 used)
B—Plunger Hay Dog Assembly**

- Engage the knotter cycle and clear the crop from the bale chute using the last bale ejected.
- Remove lock nuts (A) and the plunger hay dog assembly (B).
- Repair or replace as necessary.
- Install in reverse order of removal.

SF04007.000127B-19-08OCT18

Remove and Install Hay Dog

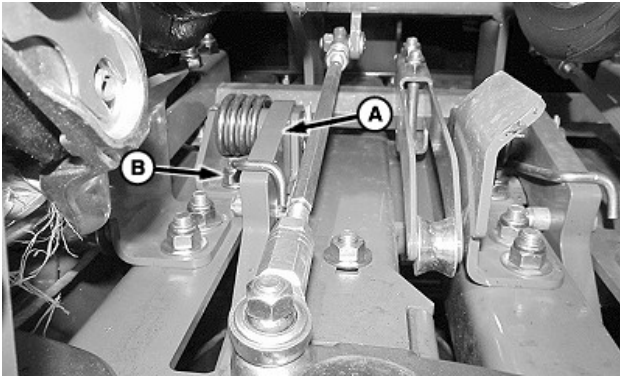
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on the knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E72169—UN—18NOV13

A—Knotter (4 or 6 used)

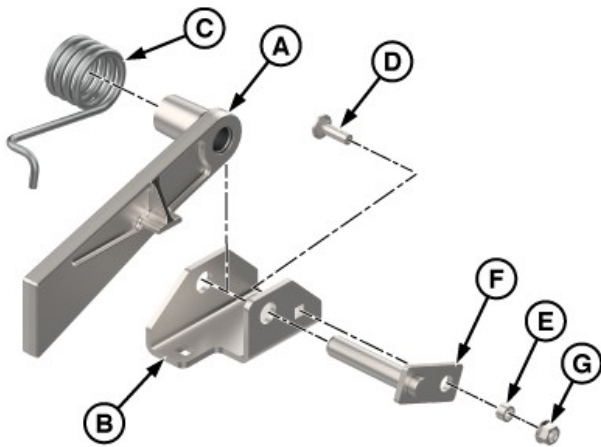
- Remove clevis pins and raise knotters (A) as necessary.



E72207—UN—05JUN14

A—Hay Dog Assembly
B—Lock Nut (2 used)

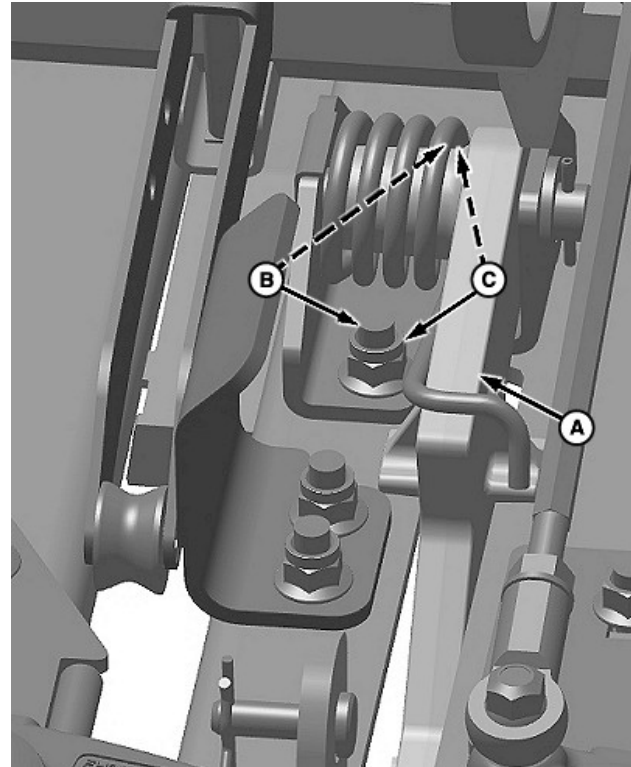
- Remove lock nuts (B), washers, and hay dog assembly (A).



EX633105—UN—16AUG24

A—Hay Dog
B—Bracket
C—Torsion Spring
D—Carriage Bolt, M8 x 25
E—Washer
F—Hay Dog Pin
G—Lock Nut, M8

- Disengage torsion spring (C) from the arm of the hay dog (A).
- Remove lock nut (G), washer (E), hay dog pin (F), carriage bolt (D), and torsion spring (C) from bracket (B) and hay dog (A).
- Repair or replace parts as necessary.
- Install torsion spring (C) onto hay dog (A).
- Install hay dog pin (F) into bracket (B) and onto the hay dog (A).
- Secure it with carriage bolt (D) from inside, washer (E), and lock nut (G).
- Engage torsion spring (C) with the arm of the hay dog (A).



E90159—UN—17OCT18

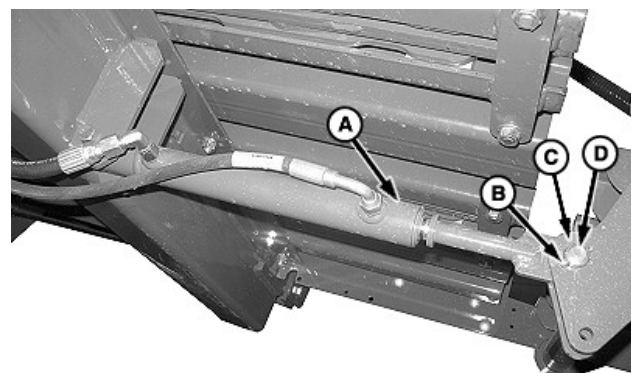
A—Hay Dog Assembly
B—Carriage Bolt (2 used)
C—Lock Nut (2 used)

- Install the hay dog assembly (A), secure with carriage bolts (B) and lock nuts (C).
- Lower knotters to the frame and install clevis pins.

cwv14h6,1724137519361-19-20AUG24

Remove and Install Roller Bale Chute

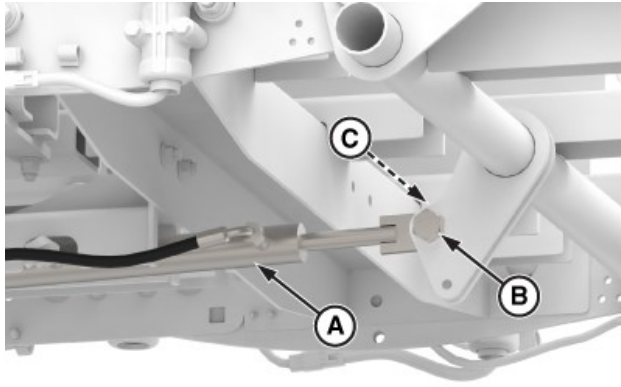
- Lower bale chute.



E75033—UN—10JUN14

A—Hydraulic Lift Cylinder
B—Spring Pin
C—Washer (2 used)
D—Pin

- For L331R and L341R:** Remove spring pin (B), washer (C), and pin (D).



- A—Cap Screws (2 used)
- B—Electrical Connector
- C—Cap Screw (3 used, each side)

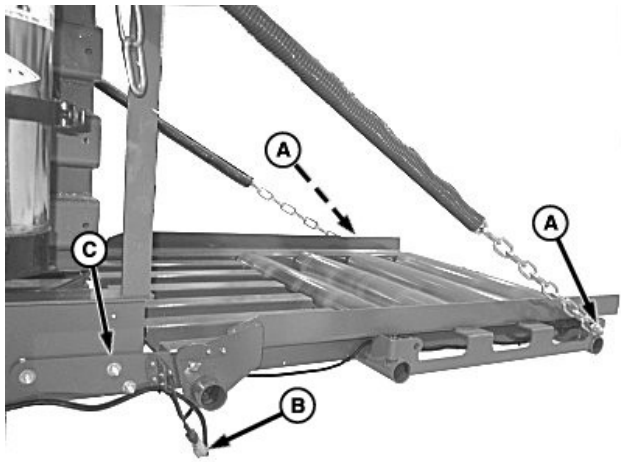
5. Attach appropriate lifting device, remove cap screws (A), and unhook chains.
6. Disconnect electrical connector (B).
7. Remove cap screws (C) and bale chute.
8. Inspect and replace parts as necessary.
9. Install bale chute in reverse order of removal.

hy01057,1680494406328-19-11APR23

APY573761—UN—13APR23

- A—Hydraulic Lift Cylinder
- B—Hex Head Screw
- C—Lock Nut

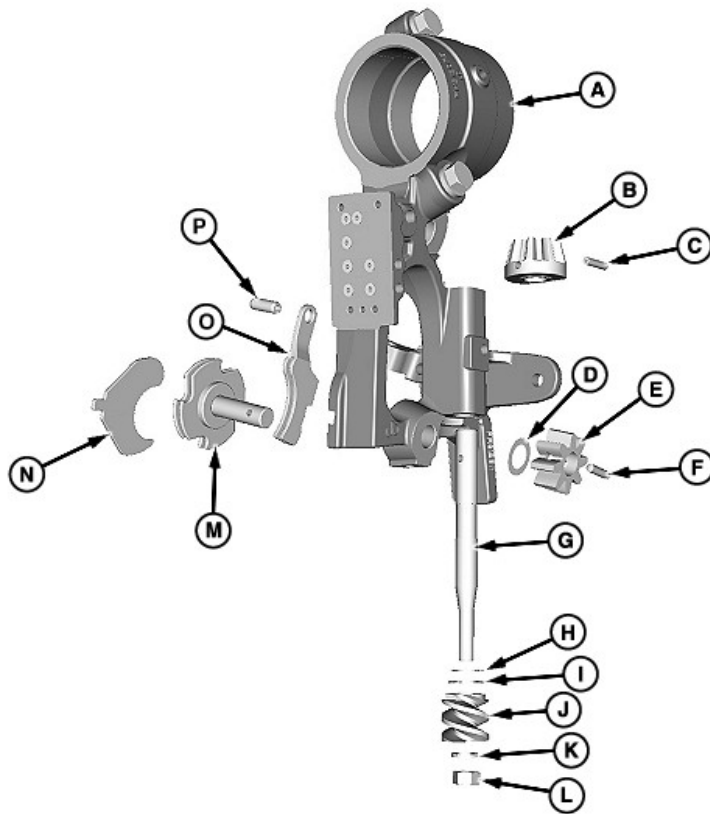
3. For L341R HD: Remove bolt (B) and nut (C).
4. Lower and support hydraulic lift cylinder (A).



E75032—UN—01APR14

Knotter Exploded Views

Twine Disk Assembly and Twine Disk Spindle Assembly

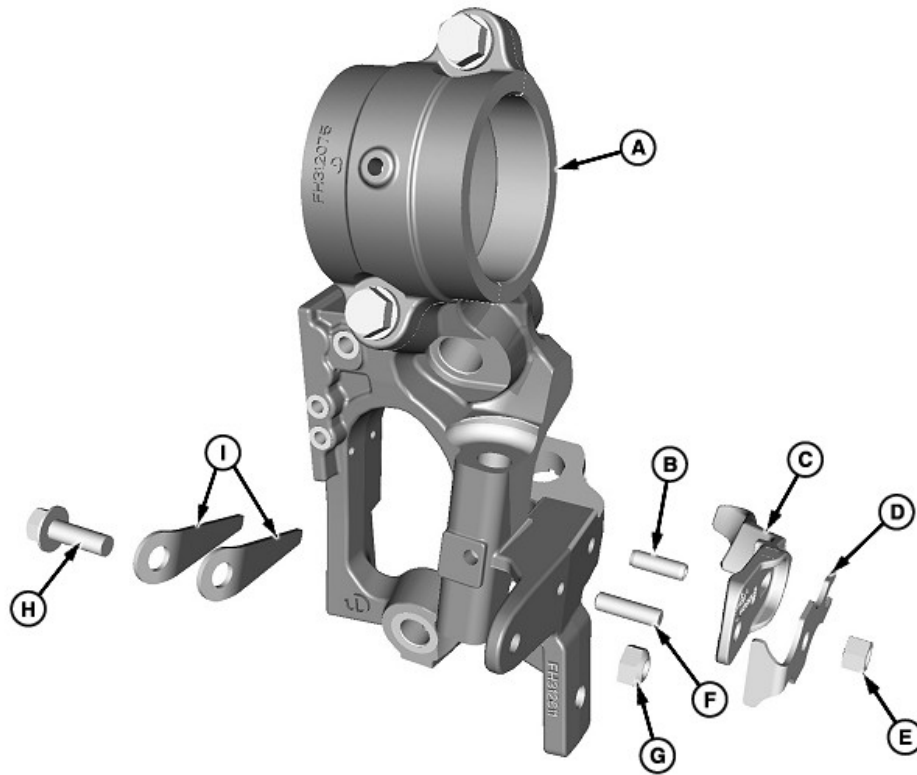


- A—Knotter Frame
- B—Pinion Gear
- C—Spring Pin
- D—Shim
- E—Twine Disk Driven Gear
- F—Spring Pin
- G—Spindle
- H—Shim

- I—Shim
- J—Worm Gear
- K—Lock Washer
- L—Nut
- M—Twine Disk Assembly
- N—Twine Disk Cleaner
- O—Twine Disk Holder
- P—Spring Pin

E72387—UN—16DEC13

Twine Holder Leaf Springs and Billhook Pressure Arm Spring Assemblies

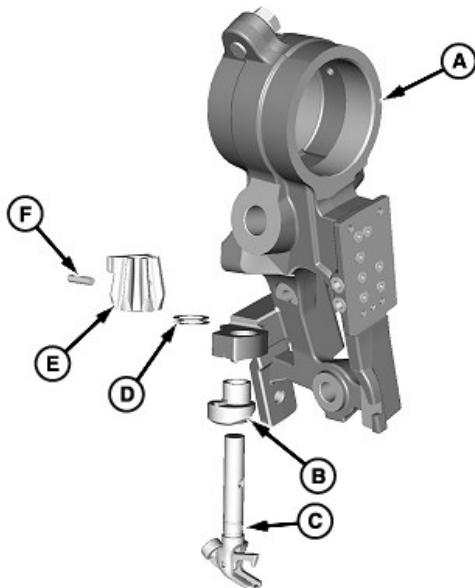


- A—Knotter Frame
- B—Spring Pin
- C—Billhook Pressure Arm
- D—Spring
- E—Nut

Billhook, Cam, and Pinion

- F—Threaded Stud
- G—Nut
- H—Cap Screw
- I—Leaf Springs (2 used)

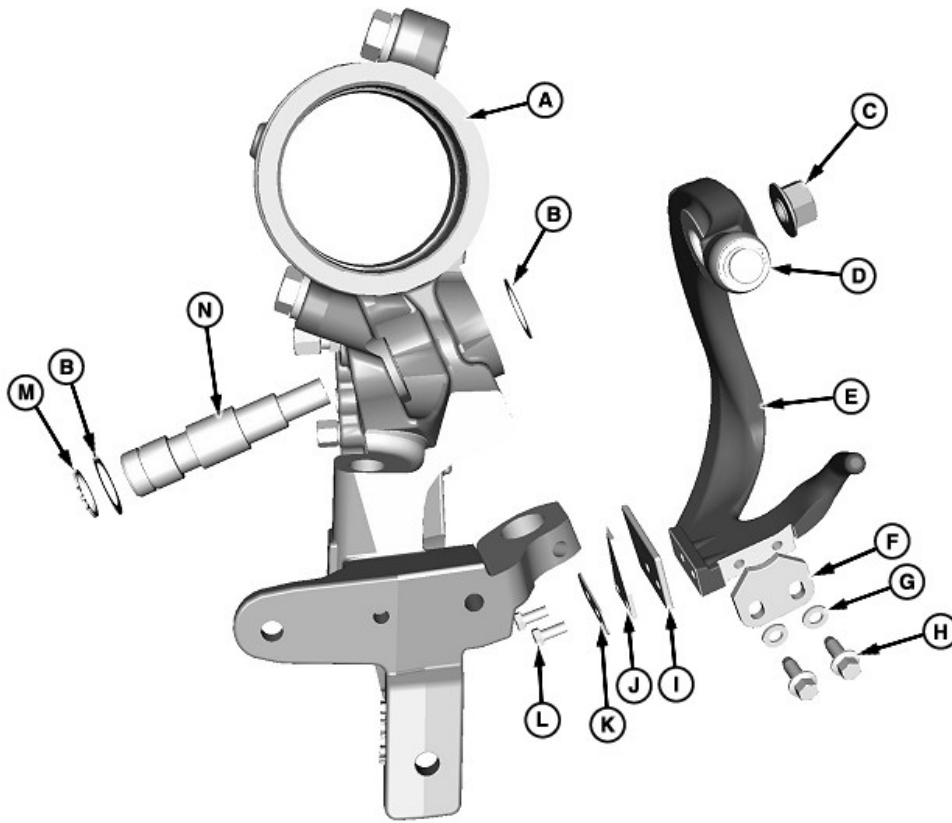
- A—Knotter Frame
- B—Billhook Cam
- C—Billhook Assembly
- D—Shims
- E—Pinion Gear
- F—Spring Pin



E72388—UN—16DEC13

E72389—UN—16DEC13

Wiper Arm

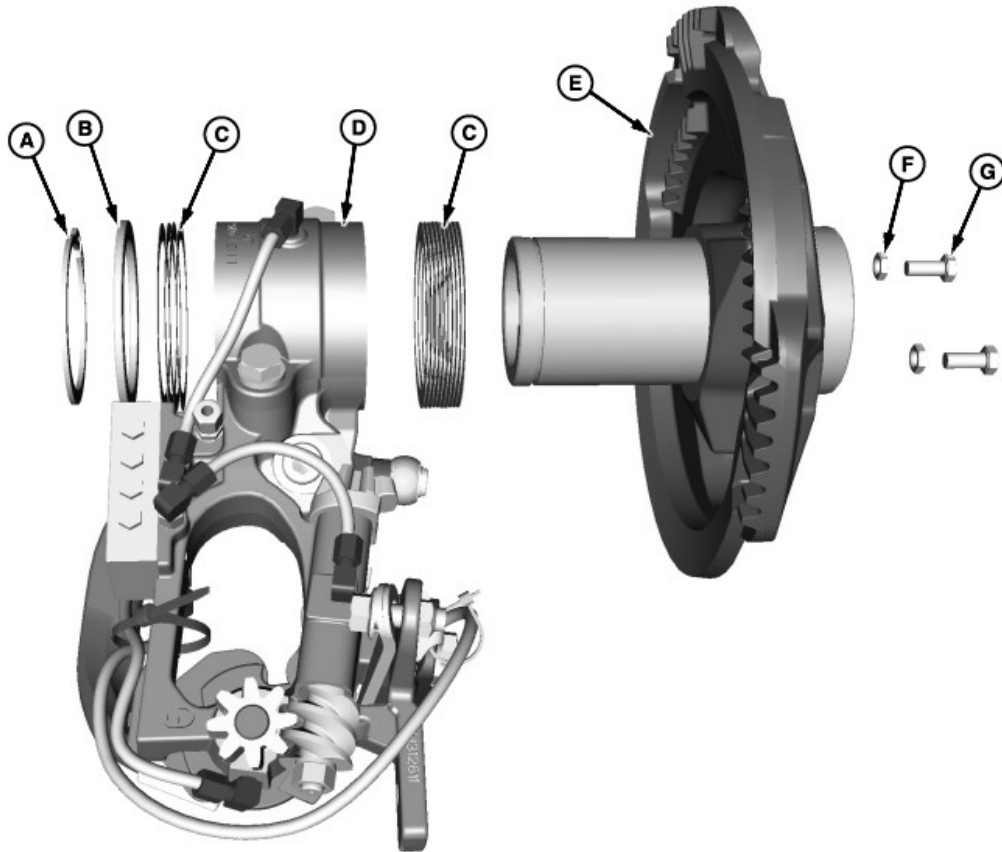


- A—Knotter Frame
- B—Shims
- C—Nut
- D—Wiper Arm Roller
- E—Wiper Arm
- F—Wiper Plate
- G—Washer (2 used)

- H—Screw (2 used)
- I—Knife Support Plate
- J—Knife
- K—Locking Plate
- L—Screw (2 used)
- M—Snap Ring
- N—Wiper Shaft

E72391—UN—16DEC13

Intermittent Gear

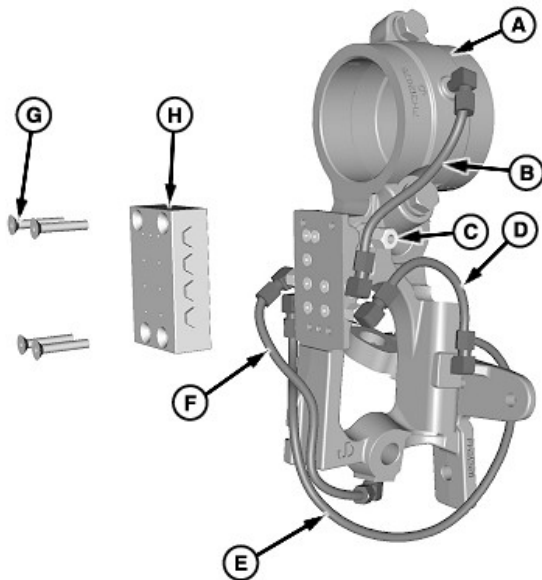


- A—Snap Ring
 - B—Retaining Washer
 - C—Shims (as required)
 - D—Knotter Assembly
- Auto Grease System**

- E—Intermittent Gear
- F—Locking Nut (2 used)
- G—Cap Screw (2 used)

E72392—UN—16DEC13

- B—Block-to-Intermittent Gear Line
- C—Auto Grease Inlet
- D—Block-to-Twine Disk Spindle Line
- E—Block-to-Billhook Line
- F—Block-to-Twine Disk Line
- G—Screw (4 used)
- H—Auto-Grease Bank

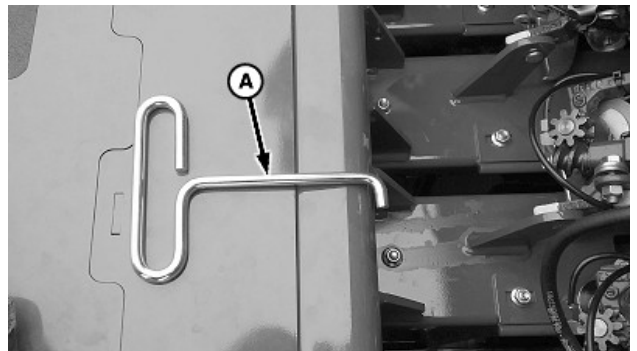


- A—Knotter Frame

E72390—UN—16DEC13

PP98408,000001E-19-23SEP14

Inspect Knotter Assembly

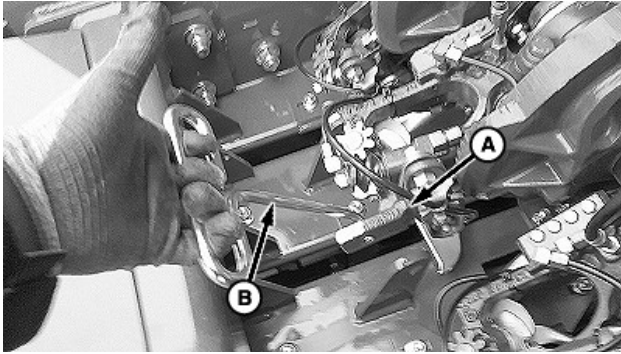


E89919—UN—11SEP18

A—Knotter Lift Tool

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on the knotter components. Use the knotter lift tool (A) when raising the knotter assembly.

The knotter lift tool (A) is shipped in the tool box.

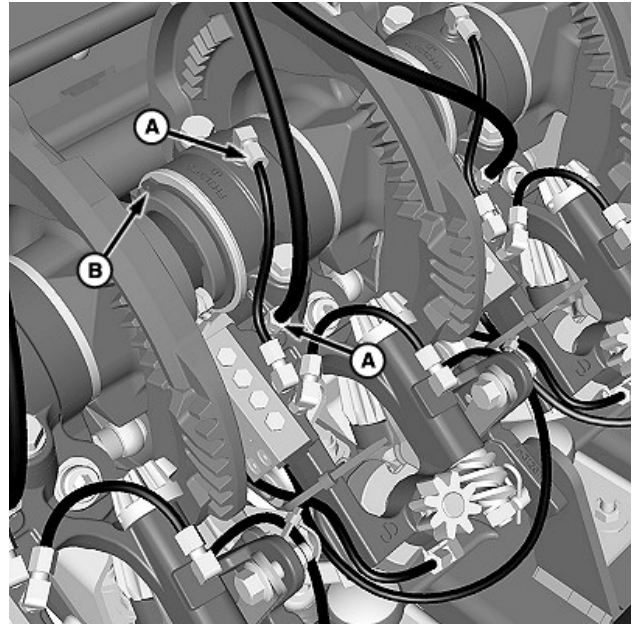


E89920—UN—11SEP18

A—Knotter Assembly
B—Knotter Lift Tool

To aid in lifting and rotating the knotter assembly (A), position the knotter lift tool (A) as shown.

SF04007,000124F-19-19SEP18



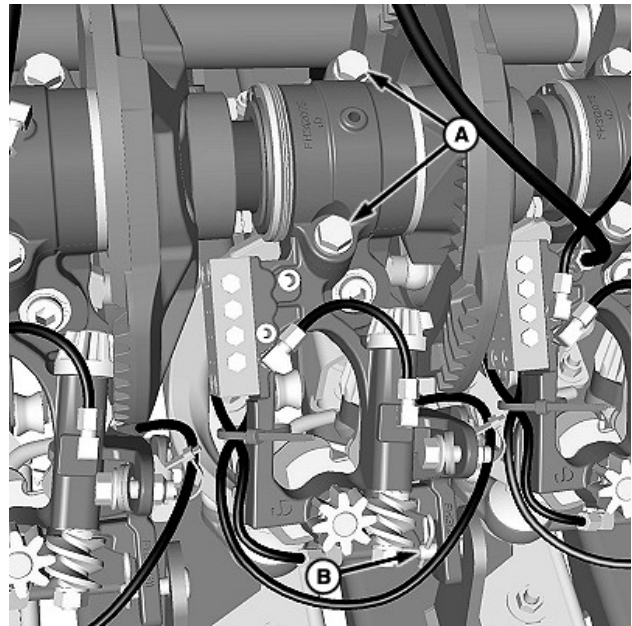
E72102—UN—08NOV13

A—Fitting (2 used)
B—Snap Ring

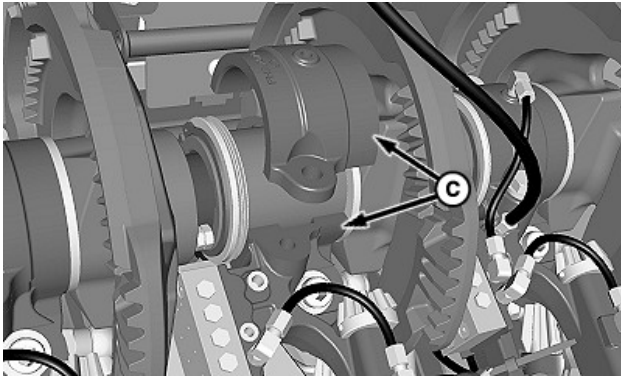
1. Remove grease lines at fittings (A).
2. Disengage the snap ring (B).
3. Slide the snap ring, retaining washer, and shim pack to the edge of hub.

Remove and Install Knotter

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



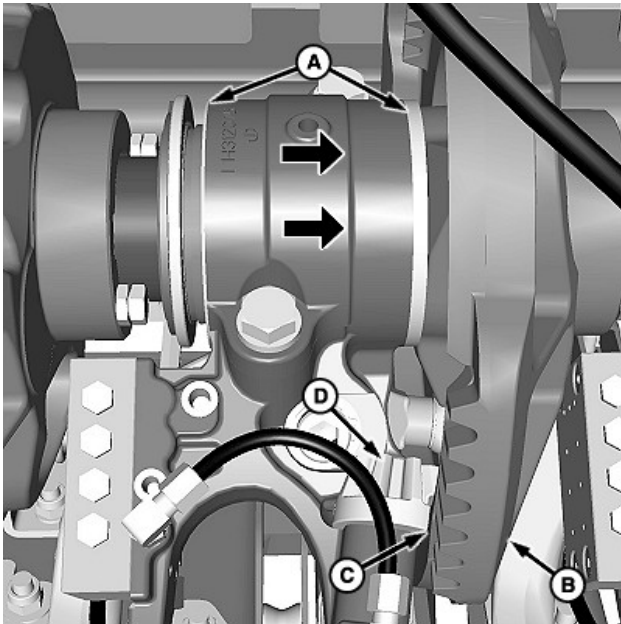
E72103—UN—08NOV13



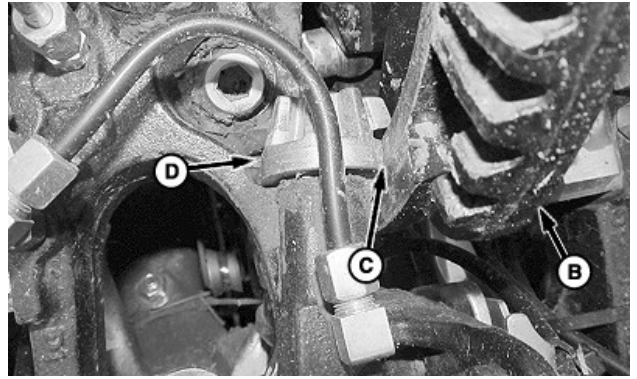
E72104—UN—08NOV13

- A—Cap Screw (2 used)
- B—Clevis Pin
- C—Knotter Casting (upper and lower)

4. Support the weight of the knotter, remove the clevis pin (B), cap screws (A), and separate knotter castings (C) from the intermittent gear hub.
5. Remove the knotter from the machine.
6. Repair or replace parts as necessary.
7. Install knotter castings (C) using washers and cap screws (A) and reinstall the clevis pin (B). Do not tighten the hardware.



E72105—UN—08NOV13



E76948—UN—14NOV14

- A—Shim (as needed)
- B—Intermittent Gear
- C—Gap
- D—Twine Disk Pinion Gear

8. Firmly hold the knotter castings against the intermittent gear (B) and engage the twine disk pinion gear (D).

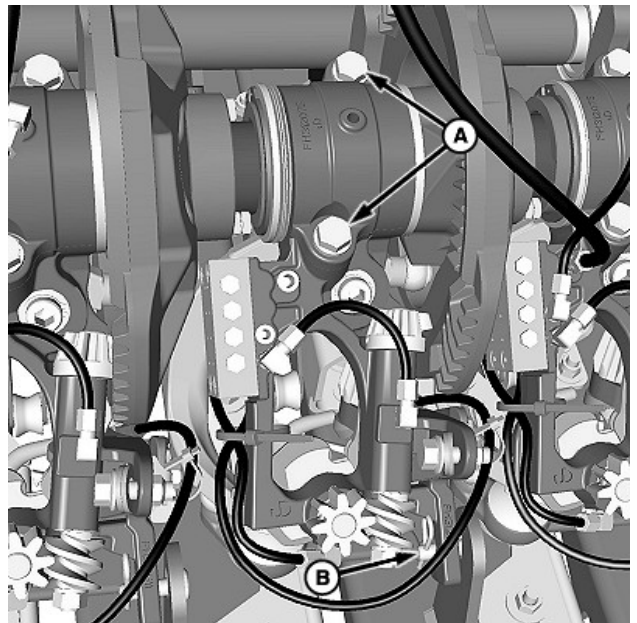
NOTE: As gears wear, gap specification can change. Verify the gap when installing the knotter assembly to the intermittent gear.

9. Check the gap between the billhook pinion, twine disk pinion gears, and the face of the intermittent gear using a feeler gauge. Gap (C) must be within specification.

Specification

Disk Pinion Gear-to-Intermittent	
Gear—Gap.	0.15—0.5 mm (0.005—0.019 in)

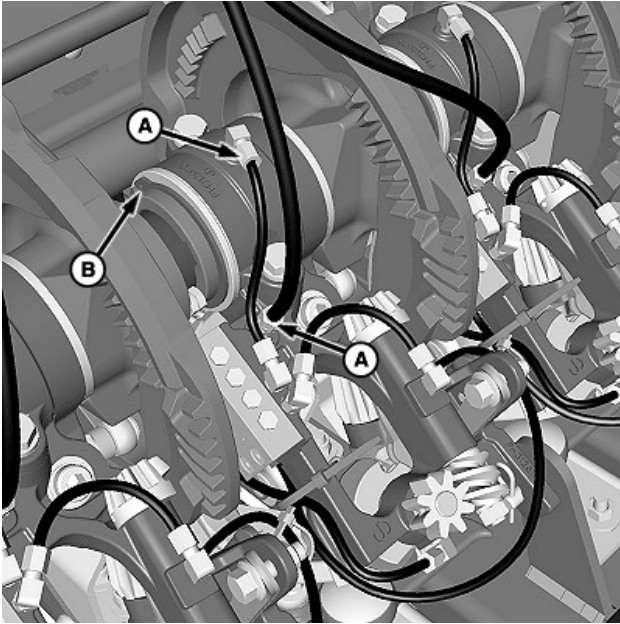
If necessary, remove the knotter castings from the hub and reposition shims (A) to obtain proper gap specification.



E72103—UN—08NOV13

- A—Cap Screw (2 used)
- B—Clevis Pin

10. Holding the knotter castings against the intermittent gear, install cap screws (A) and the clevis pin (B).



E72102—UN—08NOV13

- A—Fitting (2 used)
- B—Snap Ring

11. Install outer shims, retaining washer, and snap ring (B).

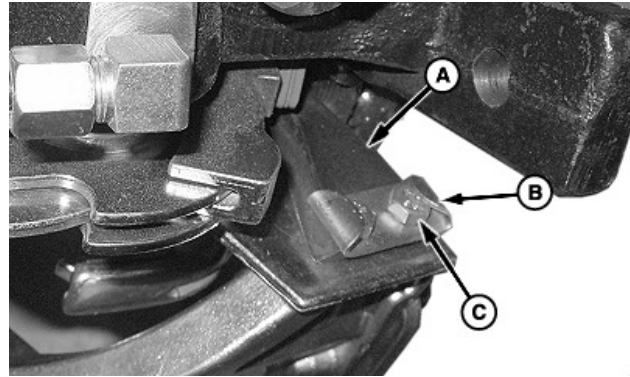
12. Install grease lines to fittings (A).

SF04007,0001250-19-19SEP18

Replace Twine Knife and Wiper Plate

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)

Twine Knife Blade



E72106—UN—08NOV13

- A—Knife Blade
- B—Plate
- C—Cap Screw (2 used)

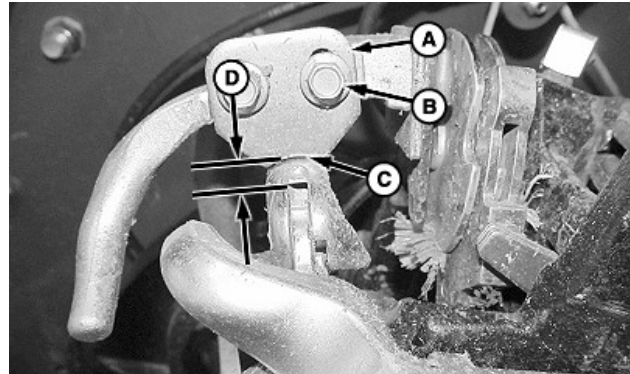
1. Bend tabs of the plate (B), remove cap screws (C), and replace the knife blade (A).
2. Install a new blade and tighten screws to specification.

Specification

Knife Cap Screws—Torque. 6 N·m
(53 lb·in)

3. Bend tabs of the plate over cap screws (C).

Wiper Plate



E83008—UN—10MAY17

- A—Wiper Plate
- B—Flanged Cap Screw (2 used)
- C—Groove
- D—Location

1. Remove flanged cap screws (B), washers, and the wiper plate (A).
2. Install the new wiper plate using washers and cap screws. Do not tighten.
3. The wiper plate must be centered on the heel of the billhook. Move the arm until the wiper plate is approximately 8 mm (0.236 in) from the groove (C) in the bottom of the billhook as shown at location (D).
4. Allow the wiper plate to rest on the billhook and tighten flanged cap screws (B) to specification.

Specification

Wiper Plate Flanged Cap
Screws—Torque. 10 N·m
(90 lb·in)

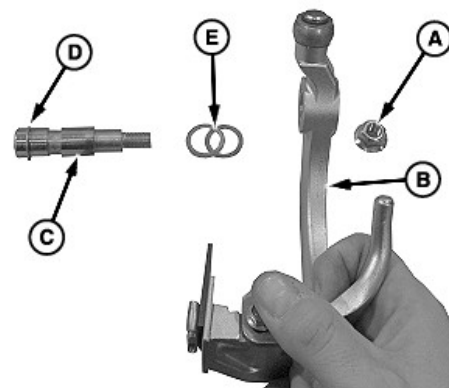
To wipe the knot from the billhook, the ideal wiper plate setting would take 3.5—6.8 N (8—15 lb) of force.

Specification

Wiper Plate Setting—Force. 35.5—66.5 N
(8—15 lb)

- Adjust the wiper arm if necessary. (See Adjust Wiper Arm in this section.)

SF04007,0001273-19-20SEP18



E72219—UN—26NOV13

- A—Lock Nut
- B—Wiper Arm Assembly
- C—Shaft Pin
- D—Snap Ring
- E—Shim (as required)

- To access the twine knife and wiper plate, remove the clevis pin and raise the knotter assembly.
- Remove the twine knife blade. (See Replace Twine Knife and Wiper Plate in this section.)
- Remove the lock nut (A), wiper arm assembly (B), shaft pin (C), and shims (E) from the knotter frame.
- Repair or replace as necessary.
- Install the shaft pin (C) with the snap ring (D) and shims (E) already installed.
- Install the wiper arm assembly (B) using lock nut (A). Tighten to specification.

Specification

Wiper Arm Assembly Lock
Nut—Torque. 90 N·m
(66 lb·ft)

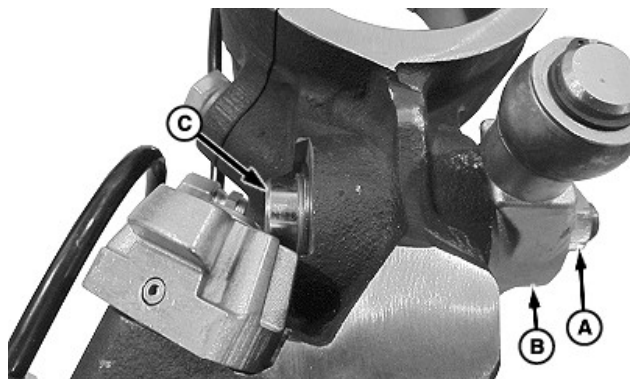
- Adjust the wiper plate to the billhook. (See Adjust Wiper Plate in this section.)
- Adjust the wiper arm if necessary. (See Adjust Wiper Arm in this section.)
- Install the twine knife blade if removed. (See Replace Twine Knife and Wiper Plate in this section.)
- Lower the knotter to the table frame and install the clevis pin.

SF04007,0001251-19-02OCT18

Remove and Install Wiper Arm Assembly

CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. The twine knife can be sharp and the wiper arm assembly can move without warning. (See Inspect Knotter Assembly in this section.)

NOTE: Remove the twine disk spindle auto grease line if necessary.

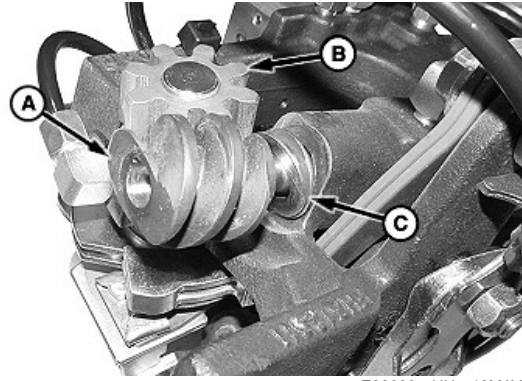


E72218—UN—03JAN14

Remove and Install Twine Disk Spindle Assembly

⚠ CAUTION: Avoid injury. Verify that needle lockout is engaged before working on knotter components. Twine knife can be sharp and wiper arm assembly can move without warning. Remove twine knife blade if necessary.

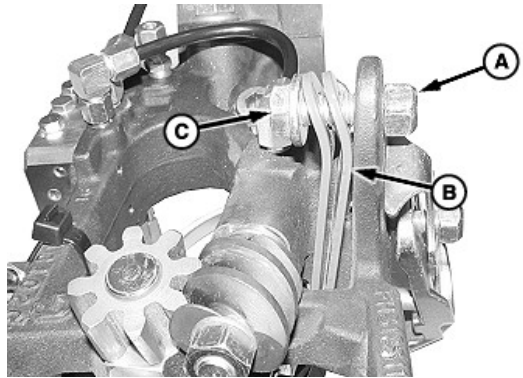
NOTE: Remove auto grease lines as necessary.



E83009—UN—10MAY17

A—Worm Gear

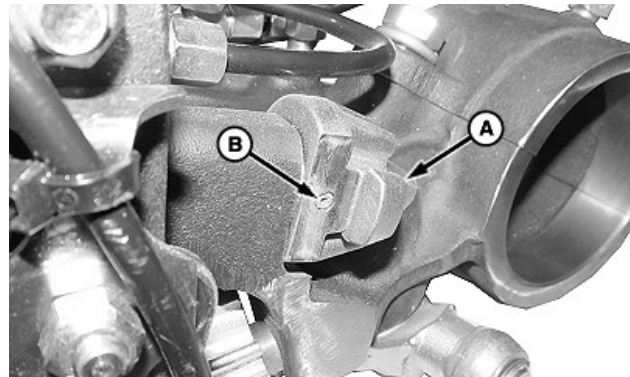
5. Rotate worm gear (A) and remove from twine disk gear (B).
6. Remove shims (C) from spindle.



E72220—UN—27NOV13

A—Nut
B—Leaf Spring (2 used)
C—Cap Screw

1. Remove clevis pin and raise the knotter upright.
2. To relieve twine holder leaf springs (B), loosen nut (A) and cap screw (C).

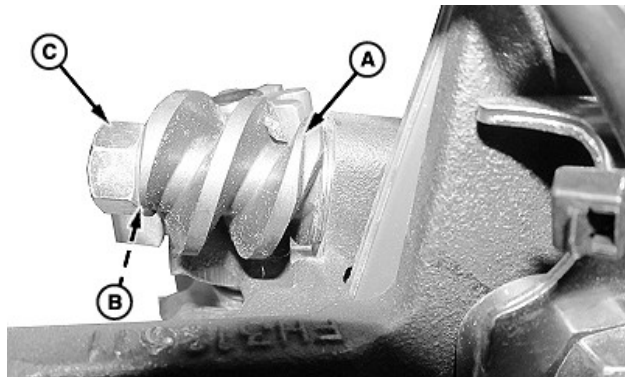


E72234—UN—27NOV13

A—Pinion Gear
B—Spring Pin
C—Spindle

7. Remove spring pin (B) using a punch.
8. Slide spindle (C) from casting and pinion gear (A).
9. Repair or replace parts as necessary.
10. Slide spindle (C) into the knotter frame.
11. Align spring pin (B) with holes in pinion gear (A) and spindle (C) and install.

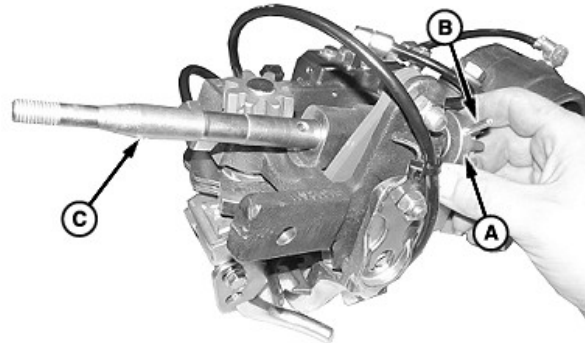
NOTE: Spring pin must be flush with the flat surface of pinion gear.



E72232—UN—03JAN14

A—Worm Gear
B—Lock Washer
C—Nut

3. Remove nut (C) and lock washer (B).
4. Strike end of shaft using a soft faced hammer to disengage worm gear (A) from tapered spindle.

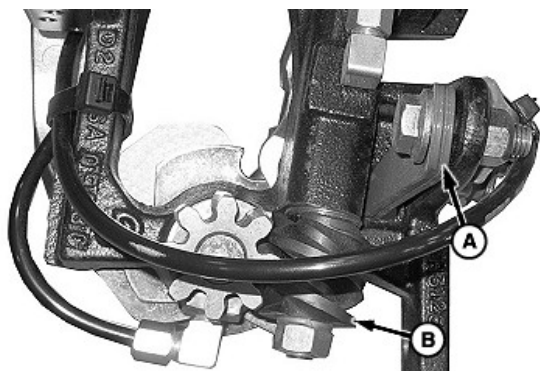


E72235—UN—27NOV13

12. Adjust twine disk timing. (See Twine Disk Timing in this section.)
13. Lower knotter to frame and install clevis pin.

GW44282,00007F4-19-10MAY17

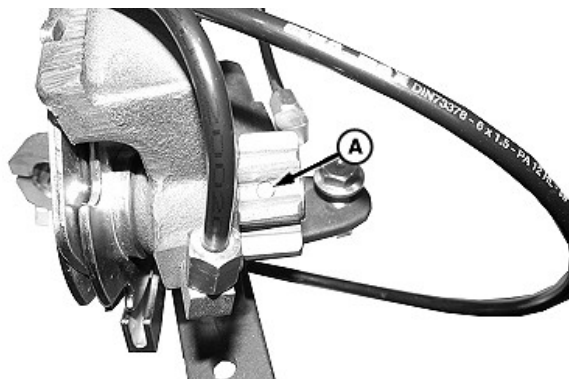
Remove and Install Twine Disk Assembly



E72377—UN—09DEC13

A—Leaf Spring (2 used)
B—Twine Disk Spindle Assembly

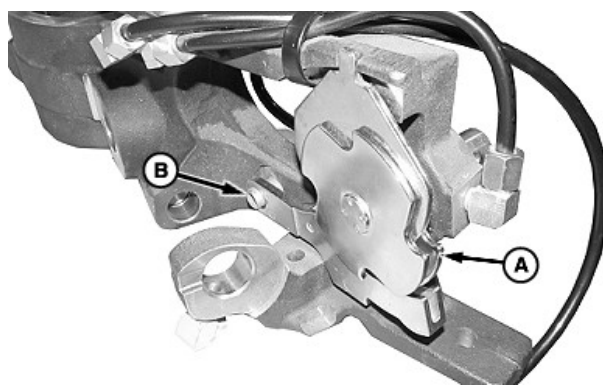
1. Remove auto-grease lines as needed. (See Remove and Install Knotter Grease Line in this section.)
2. Remove tension on twine holder leaf springs (A).
3. Remove twine disk spindle assembly (B). (See Remove and Install Twine Disk Spindle Assembly in this section.)



E72378—UN—09DEC13

A—Spring Pin

4. Drive spring pin (A) out and remove twine disk driven gear from twine disk shaft.



E72379—UN—09DEC13

Billhook Shown Removed for Photo Clarity

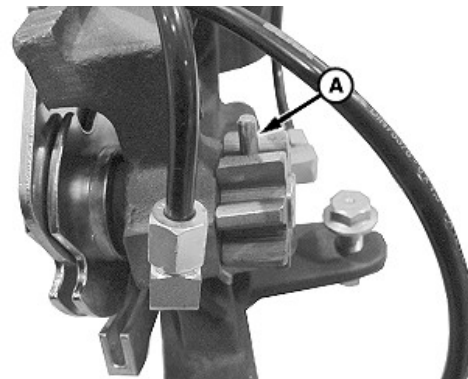
A—Assembly
B—Spring Pin

5. Remove twine disk, twine holder, and cleaner as an assembly (A) from knotter frame and spring pin (B) using a suitable pry tool.
6. Replace parts as necessary.

IMPORTANT: Verify twine disk cleaner is installed with wide end toward knotter shaft and tab in knotter frame slot.

7. Install assembly (A) as shown and install with twine holder over spring pin (B).

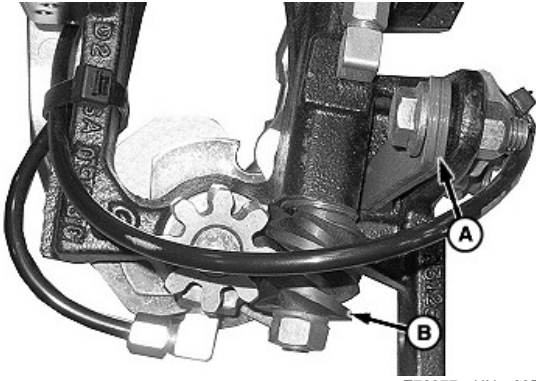
IMPORTANT: Spring pin (A) must be flush with bottom valley of gear when installed correctly.



E72380—UN—09DEC13

A—Spring Pin

8. Install driven gear using spring pin (A).



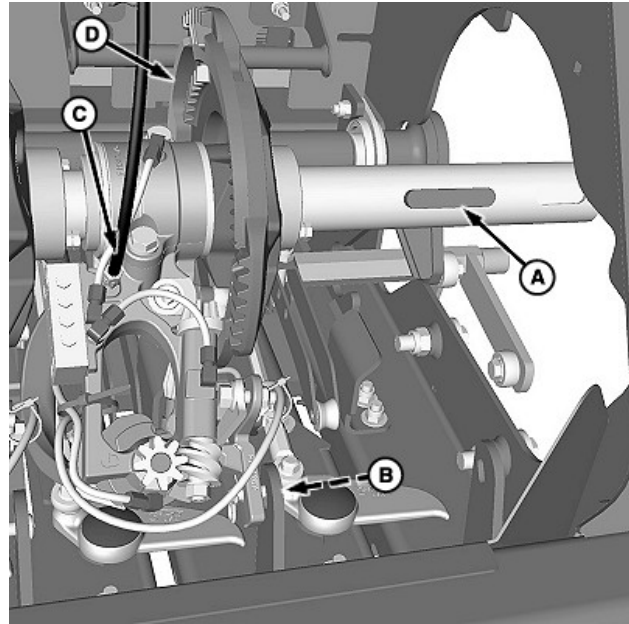
E72377—UN—09DEC13

A—Leaf Spring (2 used)
B—Twine Disk Spindle Assembly

9. Install twine disk spindle assembly (B). (See Remove and Install Twine Disk Spindle Assembly in this section.)
10. Adjust twine holder leaf springs (A). (See Twine Holder Pressure in this section.)
11. Install removed auto-grease lines if removed. (See Remove and Install Knotter Grease Line in this section.)

PP98408,0000023-19-23SEP14

3. Remove the knotter drive cam assembly.
4. Remove the protection plate (A).

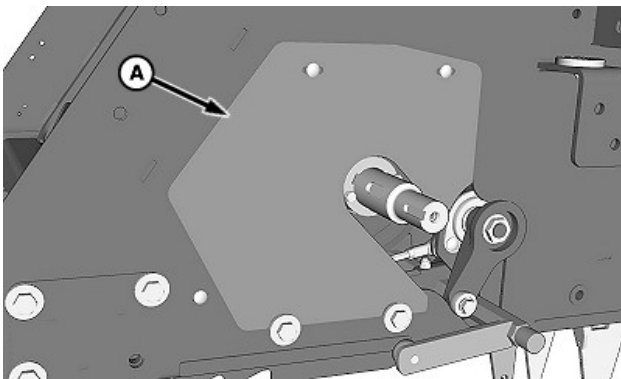


E72137—UN—12NOV13

Knotter Shown Removed

Remove and Install Intermittent Gear

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. The knotter shaft is extremely heavy with the knotters and intermittent gears installed. Support the weight of the knotter shaft using a suitable hoist. (See Inspect Knotter Assembly in this section.)



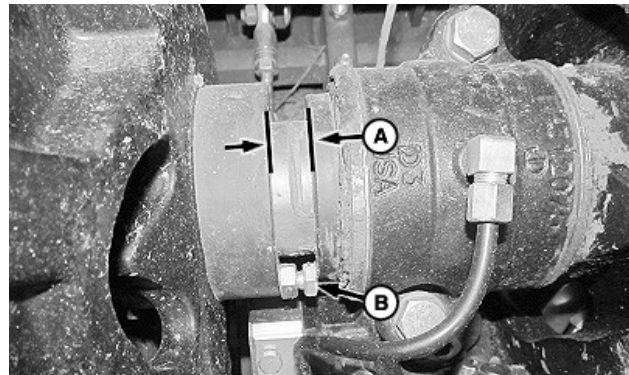
E72136—UN—12NOV13

A—Protection Plate

1. Remove the knotter shaft brake. (See Remove and Install Knotter Shaft Brake in this section.)
2. Remove the bearing plate. (See Remove and Install Knotter Shaft Bearing in this section.)

A—Shaft Key
B—Clevis Pin
C—Auto Grease Hose
D—Intermittent Gear

5. Remove the shaft key (A) under each intermittent gear (D) hub.
6. Disconnect the auto grease hose (C).
7. Remove the spring pin and clevis pin (B) from the knotter frame strap.
8. Remove the knotter assembly with the intermittent gear (D), as necessary, through the opening in the right-hand side knotter frame.
9. Remove the knotter assembly from the intermittent gear if necessary. (See Remove and Install Knotter in this section.)



E72138—UN—14NOV14

A—Gap
B—Cap Screw (2 used per gear)

10. Install in reverse order including this instruction:

- Apply an anti-seize lubricant at each intermittent gear position on the shaft and shaft key.
- Verify that the gap (A) between intermittent gears is within specification.

Specification

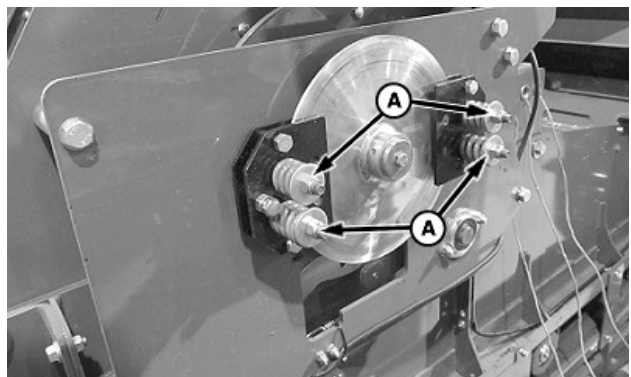
Intermittent Gear-to-Intermittent
 Gear—Gap. 15.5 ± 2 mm
 (0.625 ± 0.125 in)

- Adjust the gap using nut and cap screw (B)

SF04007,0001252-19-03OCT18

Remove and Install Knotter Shaft Brake

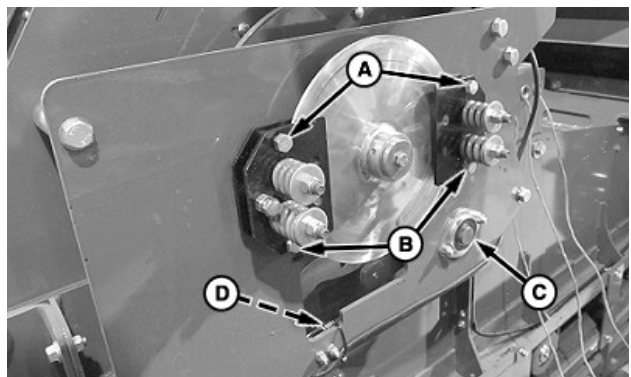
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E76949—UN—11AUG14

A—Lock Nut (4 used)

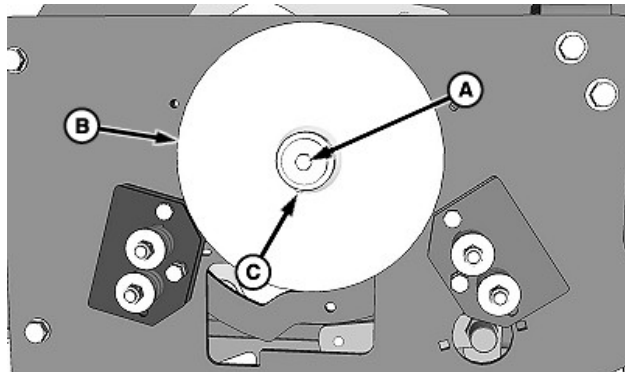
1. Remove the disk pressure by loosening lock nuts (A).



E72109—UN—28FEB14

A—Cap Screw (2 used)
 B—Cap Screw (2 used)
 C—Bearing Assembly
 D—Extension Spring

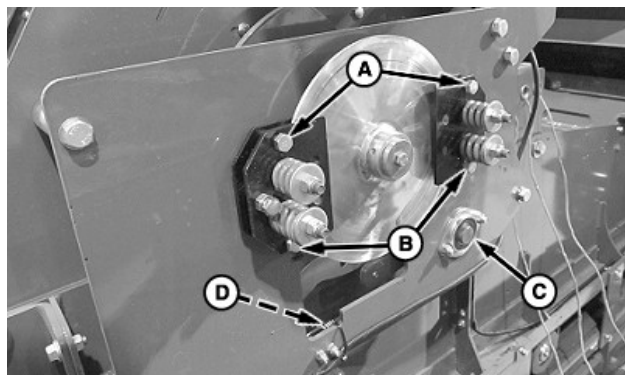
2. Disengage the extension spring (D).
3. Support the weight of the twine placement arm and remove the bearing assembly (C) from the bearing plate.
4. Loosen cap screws (B) and remove cap screws (A).



E83010—UN—10MAY17

A—Cap Screw
 B—Brake Disk
 C—Shaft Key

5. Remove the cap screw (A) and washer.
6. Remove the brake disk (B) from the knotter shaft.
7. Save the shaft key (C) for installation.
8. Repair or replace components as necessary.
9. Install the shaft key (C) into the keyway and align with the slot in the bore of brake disk (B).
10. Install the washer and cap screw (A).



E72109—UN—28FEB14

A—Cap Screw (2 used)
 B—Cap Screw (2 used)
 C—Bearing Assembly
 D—Spring

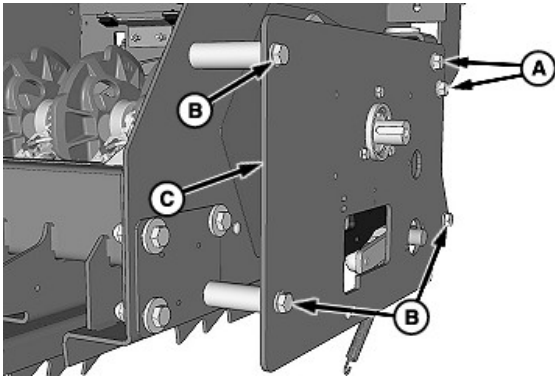
11. Install cap screws (A and B). Tighten cap screws (A and B).
12. Engage brake pads with disk and adjust the knotter shaft brake. (See Adjust Knotter Shaft Brake in this section.)
13. Align the bearing assembly (C) with the twine placement arm shaft and install to the bearing plate.

14. Engage the spring (D).

SF04007,000126A-19-02OCT18

Remove and Install Knotter Shaft Bearing

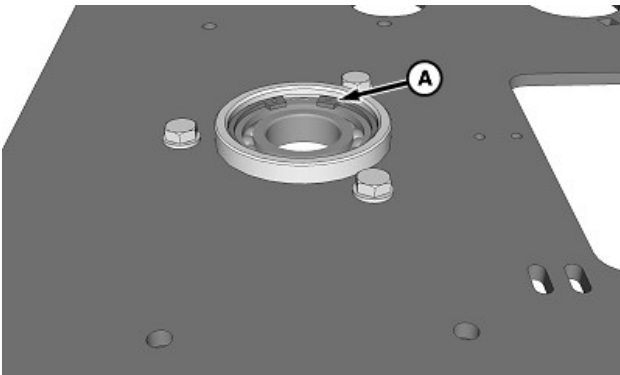
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E72114—UN—12NOV13

A—Cap Screw (2 used)
B—Cap Screw (3 used)
C—Bearing Plate

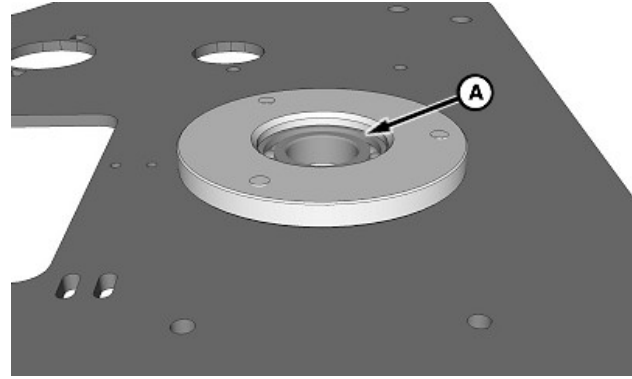
1. Remove the knotter shaft brake. (See Remove and Install Knotter Shaft Brake in this section.)
2. Support the weight of the knotter driveshaft using a suitable lifting device.
3. Remove cap screws (A and B), washers, spacers, lock nuts, and bearing plate (C) from the knotter driveshaft.



E72115—UN—12NOV13

A—Snap Ring

4. Lay the bearing plate on the bench and remove the snap ring (A).



E83117—UN—10MAY17

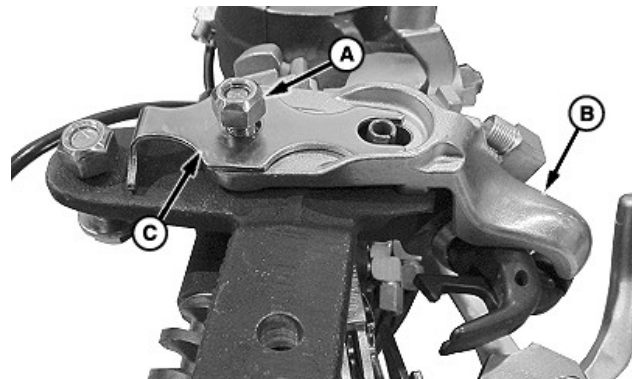
A—Bearing

5. Turn over the bearing plate and drive out the bearing (A) from the housing.
6. Replace with a new bearing.
7. Reinstall in the reverse order.

SF04007,000126B-19-02OCT18

Remove and Install Billhook Pressure Arm and Spring

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E72381—UN—09DEC13

A—Lock Nut
B—Billhook Pressure Arm
C—Spring

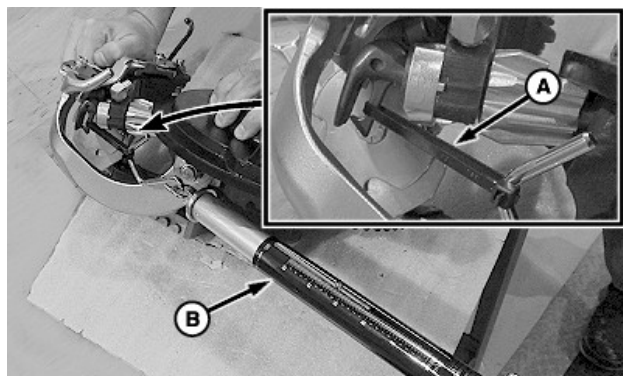
1. Remove the lock nut (A), spring (C), and billhook pressure arm (B).
2. Inspect and replace parts as necessary.
3. Install in the reverse order of removal and adjust the pressure arm spring. (See Billhook Tongue Pressure Setting in this section.)

SF04007,0001254-19-19SEP18

Billhook Tongue Pressure Setting

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)

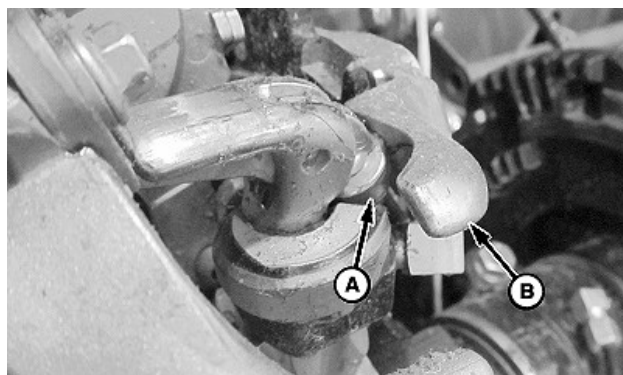
IMPORTANT: Adjust when the billhook tongue is free of twine.



E72243—UN—03DEC13

A—Tie Band
B—Spring Scale

1. Install the tie band (A) through the billhook jaws as shown.
2. Using a suitable spring scale (B), hook through the tie band and pull until the tongue begins to open.



E83118—UN—11MAY17

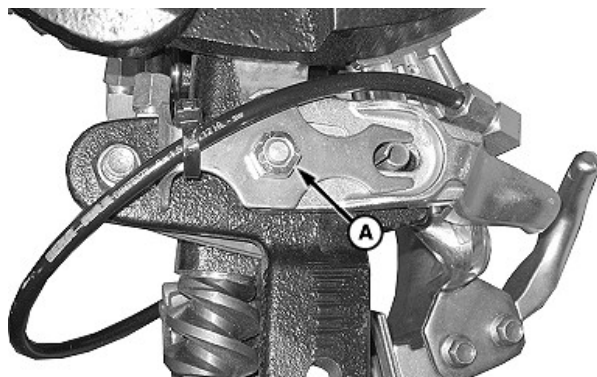
A—Tongue Wheel
B—Pressure Arm

3. Verify that the billhook tongue wheel (A) is against the pressure arm (B).
4. The billhook tongue must open with a force or resistance within specification.

Specification

Billhook Tongue—Force. 40—89 N
(9—20 lbf)

IMPORTANT: Avoid damage to the billhook tongue and roller. Adjust the pressure arm spring in 1/4 turn increments.



E72245—UN—03DEC13

A—Lock Nut

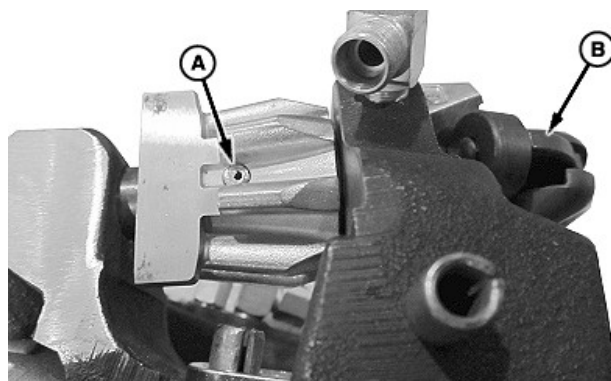
5. To adjust the billhook tongue pressure, loosen or tighten the lock nut (A) using 1/4 turn increments until the desired billhook pressure is obtained.

SF04007,000126C-19-02OCT18

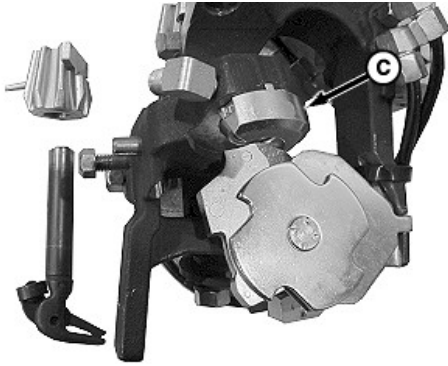
Remove and Install Billhook Assembly

⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)

NOTE: This procedure is shown with the knotter removed from the intermittent gear. It is not necessary to remove the knotter to repair the billhook.



E72382—UN—09DEC13



E72383—UN—06JAN14

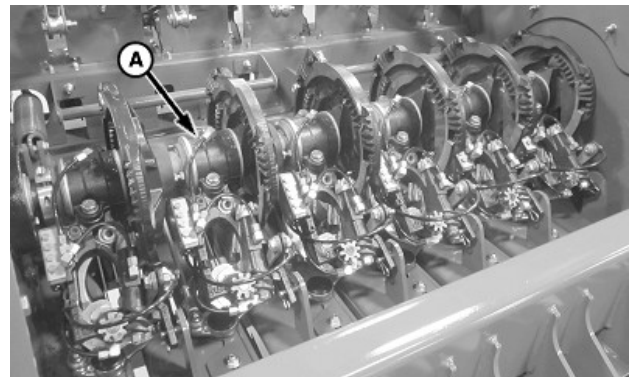
- A—Spring Pin
- B—Billhook Assembly
- C—Billhook Cam

1. Cycle the wiper arm from the billhook area.
2. Remove the billhook pressure arm. (See Remove and Install Billhook Pressure Arm and Spring in this section.)
3. Drive the spring pin (A) from the pinion gear and remove the billhook assembly (B) from the pinion, billhook cam, and knotter frame.
4. Remove the billhook cam (C) from the knotter frame.
5. Inspect billhook parts and replace as necessary.
6. Align notches on the billhook cam (C) with the knotter frame as shown and install.
7. Install the billhook assembly (B) through the billhook cam and knotter frame.
8. Orient the billhook pointing toward the auto grease block and pinion with the flat side against the intermittent gear.
9. Align the holes in the billhook shaft and pinion gear.
10. Install the spring pin (A) until the end of the spring pin is flush with the valley of the gear.
11. Install the billhook pressure arm and set the billhook tongue pressure. (See Remove and Install Billhook Pressure Arm and Spring in this section.)
12. Verify that the wiper arm is in correct alignment with the billhook. Adjust if necessary. (See Adjust Wiper Arm in this section.)
13. Verify the correct alignment of the wiper plate and billhook. Adjust the wiper plate if necessary. (See Adjust Wiper Plate in this section.)

SF04007,0001253-19-02OCT18

Remove and Install Twine Placement Arm and Needle Roller

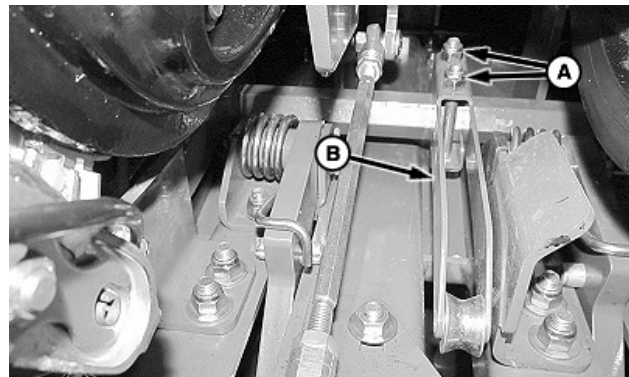
⚠ CAUTION: Prevent possible injury or death. Verify that the needle lockout is engaged before working on knotter components. Use the knotter lift tool when raising the knotter assembly. (See Inspect Knotter Assembly in this section.)



E72169—UN—18NOV13

A—Knotter

1. Remove the clevis pin and raise the knotter (A) as necessary.

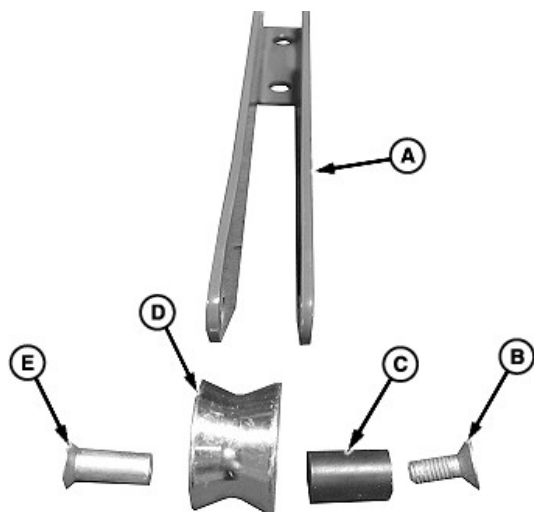


E72170—UN—05JUN14

Knottter Removed for Photo Clarity

A—Lock Nut (2 used)
B—Twine Placement Arm

2. Remove lock nuts (A), carriage bolts, and the twine placement arm (B) from the shaft.



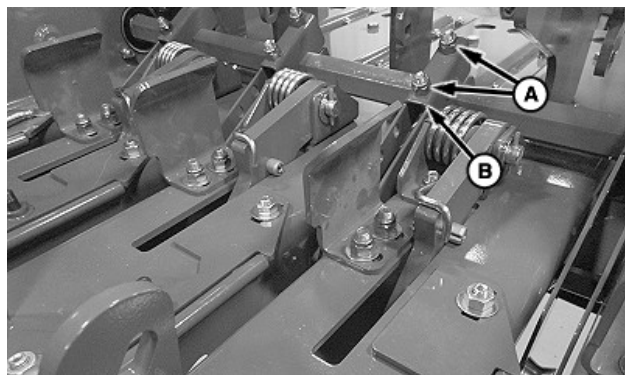
E72171—UN—18NOV13

- A—Twine Placement Arm Channel
- B—Roller Barrel Screw
- C—Bushing
- D—Needle Roller
- E—Roller Barrel Nut

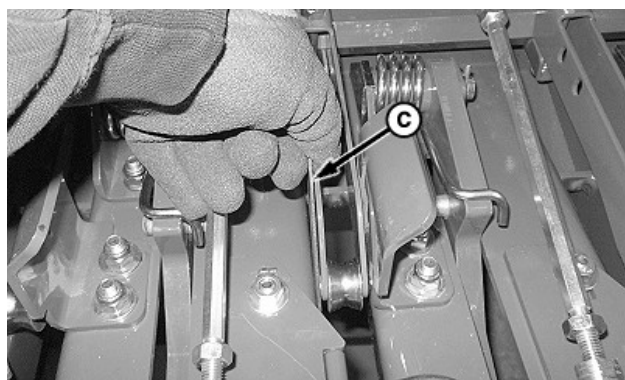
3. The roller barrel screw (B) has a high strength thread lock. Use heat to aid in disassembly, if necessary.
4. Remove the roller barrel screw (B), roller barrel nut (E), needle roller (D), and bushing (C).
5. Replace with new parts.
6. Install the bushing into the needle roller.
7. Align the roller and the bushing assembly with the holes in the end of the twine placement arm channel (A).
8. Install the roller barrel nut (E) through the channel and the bushing.

IMPORTANT: Do not allow the thread lock material to contact the bushing.

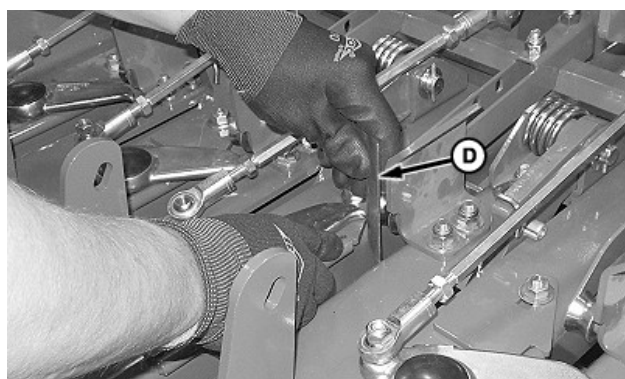
9. Apply a high strength thread lock to the threads of the roller barrel screw (B) and install.



E72159—UN—14NOV13



E72162—UN—14NOV13



E72163—UN—14NOV13

- A—Lock Nut (2 used per arm)
- B—Twine Placement Arm
- C—Shim, 1 mm (0.039 in)
- D—Shim, 2 mm (0.079 in)

10. Finger tighten lock nuts (A).
11. Verify the correct twine placement arm (B) gap specifications using a feeler gauge or shims (C and D). Adjust the tucker finger plate and twine placement arm if necessary.

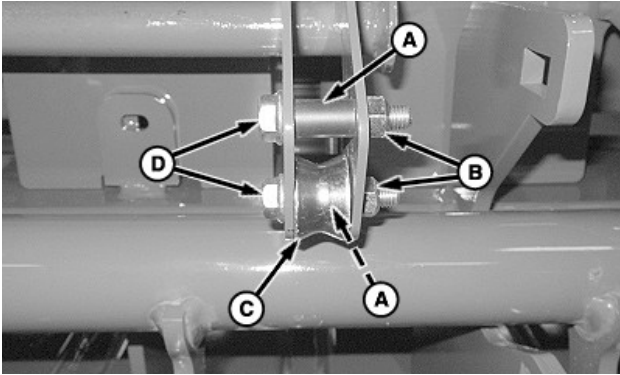
Specification

Twine Placement Arm-to-	
Knotter Frame—Gap	1 mm (0.039 in)
Twine Placement Arm Wheel-to-	
Tucker Finger—Gap	2 mm (0.079 in)

12. Tighten lock nuts (A) evenly.
13. Lower the knotter to the frame and install the clevis pin.

SF04007,0001255-19-19SEP18

Replace Slack Arm Needle Roller and Bushings

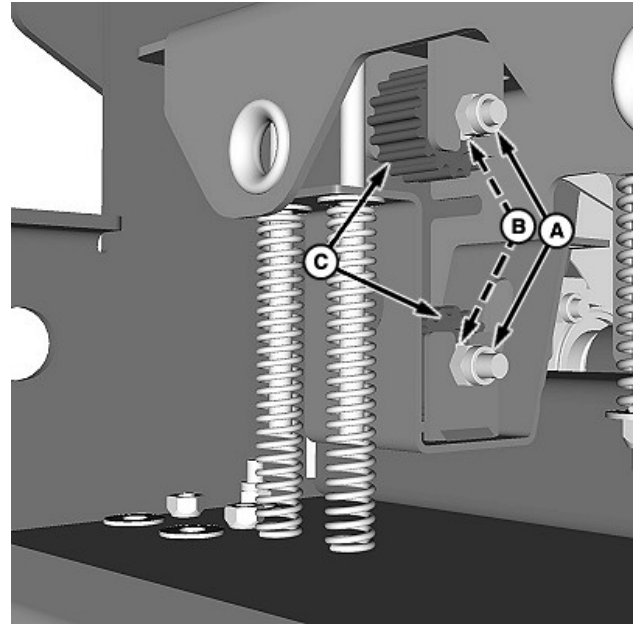


E72172—UN—18NOV13

- A—Bushings (2 used)
- B—Nuts (2 used)
- C—Needle Roller
- D—Cap Screws (2 used)

1. Remove nuts (B), cap screws (D), needle roller (C), and bushings (A) as necessary.
2. Replace as necessary.
3. Install in reverse order as removed.

PP98408.0000028-19-23SEP14

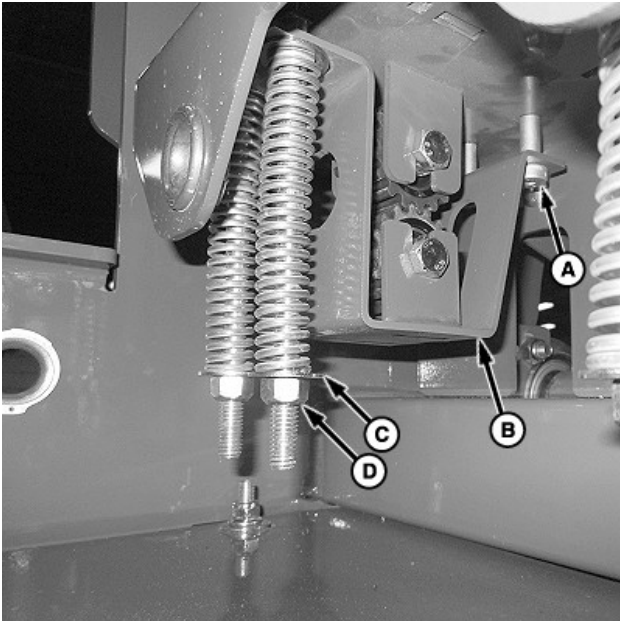


E72202—UN—20NOV13

- A—Lock Nuts (2 used)
- B—Washers (4 used)
- C—Gear
- D—Cap Screw (2 used)

2. Loosen lock nuts (A) and cap screws (D).
3. Remove gear assembly from the bracket.
4. Remove lock nut (A), washers (B), and gear (C) from the cap screw (D).
5. Repair or replace components as necessary.

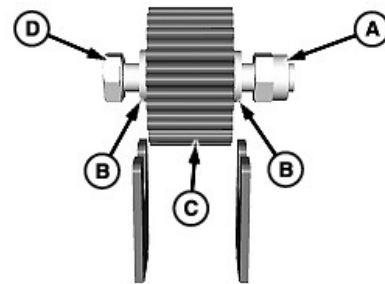
Remove and Install Twine Tension Gears



E72180—UN—28FEB14

- A—Socket Head Cap Screw (2 used)
- B—Bracket
- C—Washer (4 used)
- D—Nut (2 used)

1. Remove socket head cap screws (A), nuts (D), washers (C), and lower springs and bracket (B) to the air duct plate.

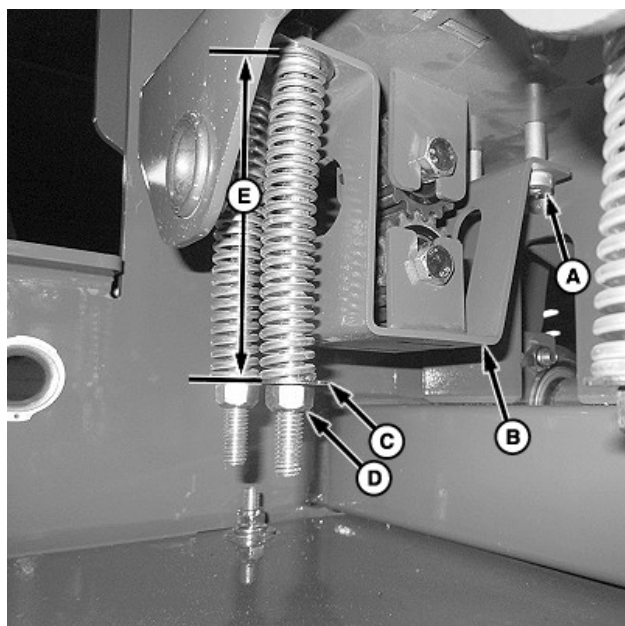


E72203—UN—20NOV13

Lower Twine Tension Gear Shown

- A—Lock Nuts (2 used)
- B—Washers (4 used)
- C—Gear
- D—Cap Screw (2 used)

6. Assemble gear assembly using cap screw (D), washer (B), gear (C), washer (B), and lock nut (A).
7. Install assembly into the bracket with washers between gear (C) and bracket.
8. Hold gear assembly into the bracket fully and tighten hardware.



E72204—UN—28FEB14

- A—Socket Head Cap Screw (2 used)
- B—Bracket
- C—Washer (4 used)
- D—Nut (2 used)
- E—Distance

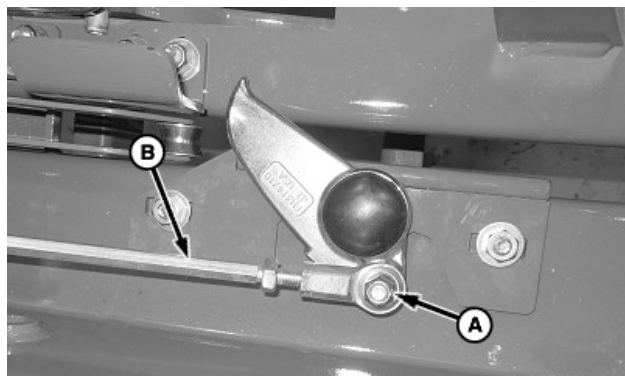
9. Install bracket (B) using socket head cap screws (A).
10. Slide springs and washers (C) up and install nuts (D). Tighten nuts until distance (E) is within specification.

Specification

Twine Tension Springs—	112—115 mm
Washer-to-Washer—Distance.....	(4-7/16—4-9/16 in)

GW44282,00007F8-19-20NOV17

Remove and Install Tucker Finger and Bearing

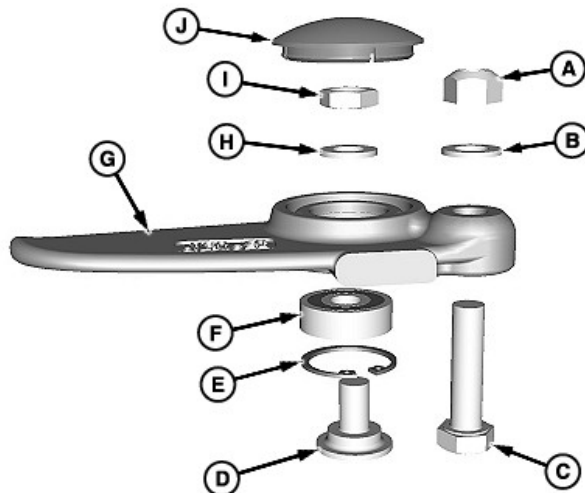


E72167—UN—18NOV13

- A—Nut
- B—Shaft

1. Remove clevis pins and raise knotters as necessary.

2. Remove nut (A), washer, and shaft (B) from tucker finger assembly.
3. Install washer and nut (A) to retain hardware and remove tucker finger assembly from machine.



E72168—UN—18NOV13

- A—Nut
- B—Washer
- C—Cap Screw
- D—Pin
- E—Snap Ring
- F—Bearing
- G—Tucker Finger
- H—Lock Washer
- I—Nut
- J—Hub Cap

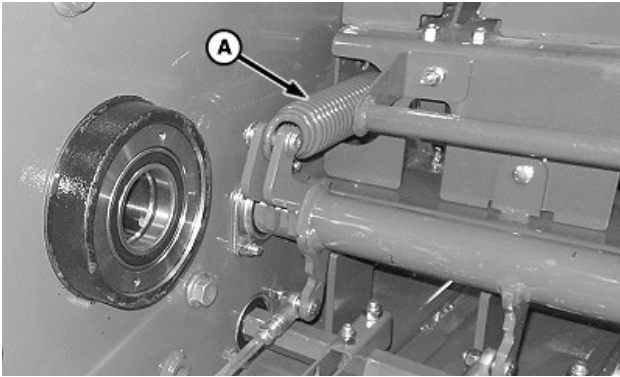
4. Remove nut (A), washer (B), and cap screw (C) from tucker finger (G).
5. Remove hub cap (J), nut (I), washer (H), and pin (D) from tucker finger.
6. Remove snap ring (E) and press bearing (F) from tucker finger.
7. Repair or replace parts as necessary.
8. Install in reverse order of removal including this instruction:
 - Before installing tucker finger link, verify gap between tucker finger and twine placement arm wheel in within specification. Adjust as needed.

Specification

Tucker Finger-to-Twine	2 mm
Placement Arm Wheel—Gap.....	(0.079 in.)

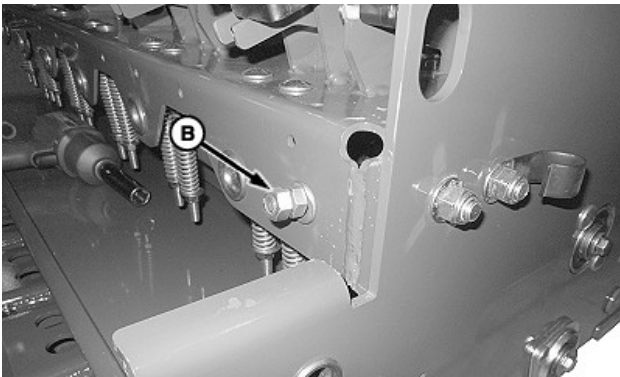
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Remove and Install Tucker Finger Link



E72178—UN—20NOV13

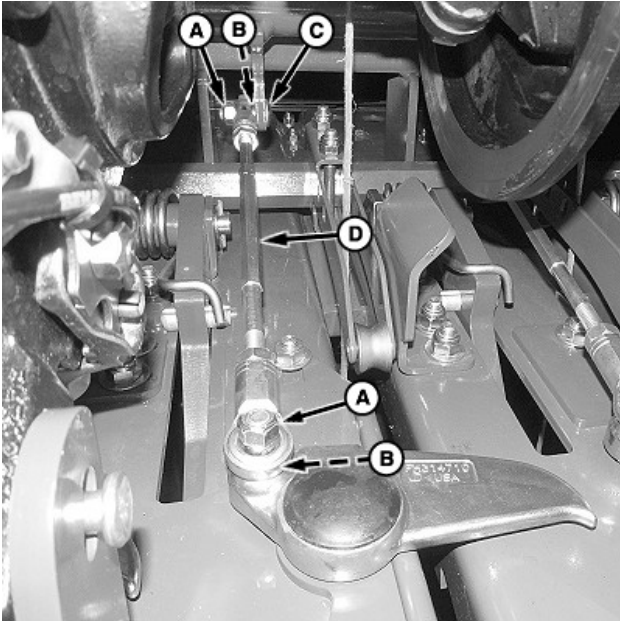
Knotter Shaft is Removed for Photo Clarity Only



E72242—UN—03DEC13

A—Spring
B—Nut (2 used)

1. Remove clevis pin and raise the knotter.
2. Remove tucker finger shaft spring (A) tension by loosening nuts (B).

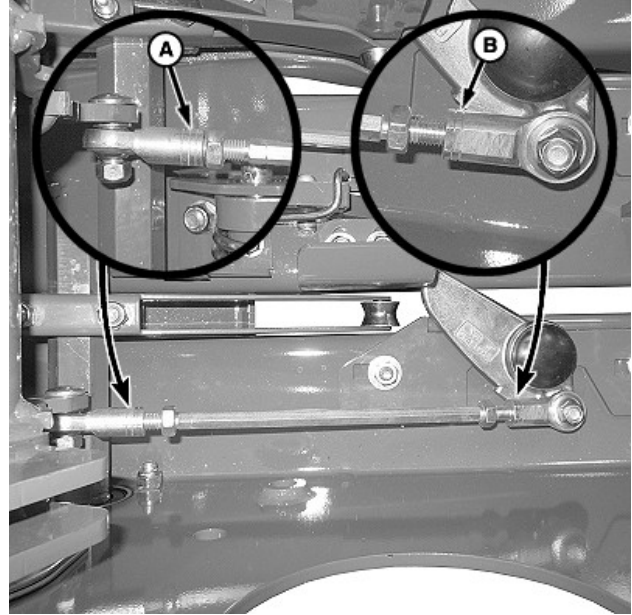


E72179—UN—05JUN14

A—Nuts (2 used)
B—Washers (2 used)

C—Carriage Bolt
D—Tucker Finger Link

3. Remove nuts (A), tucker finger link (D), washers (B), and carriage bolt (C).
4. Repair or replace parts as necessary.



E72177—UN—20NOV13

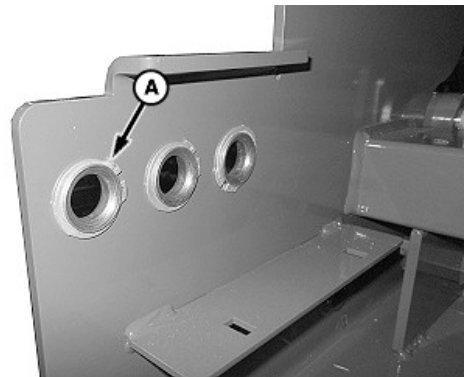
A—Position
B—Position

5. Install in reverse order including this instruction:

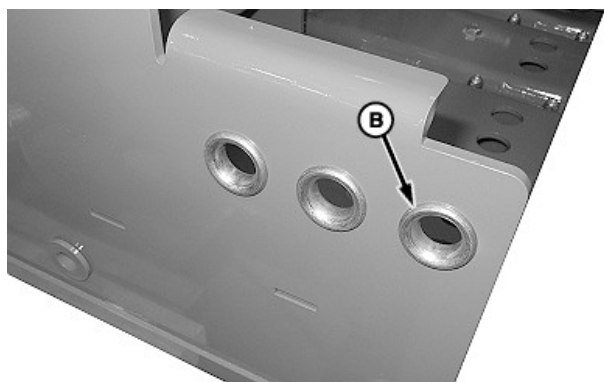
- Orient link with **three** rings scribed around link end at position (A) near shaft
- Orient link with **two** rings scribed around the link end at position (B) near the tucker finger
- Fully tighten nuts on tucker finger shaft spring

GW44282.00007F9-19-11MAY17

Remove and Install Twine Guide



E72205—UN—06JAN14



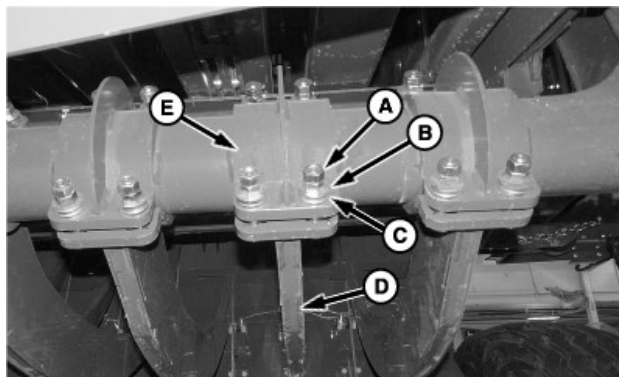
E72206—UN—20NOV13

A—Snap Ring
B—Twine Guide

1. Remove snap ring (A).
2. Remove guide (B) from plate.
3. Install in reverse order.

PP98408,000002D-19-23SEP14

Remove and Install Needle



E80762—UN—30NOV15

A—Nut (4 used)
B—Nut (4 used)
C—Washer (8 used)
D—Needle
E—Plate

1. Verify that needle frame is at home position.
2. Support weight of needle.
3. Remove jam nuts (A), nuts (B), washers (C), carriage bolts, and needle (D) from needle support frame plate (E).
4. Repair or replace parts as necessary.
5. Install in reverse order of removal including the following instruction.
 - Adjust needle-to-knotter frame and check needle-to-plunger timing. (See Adjust Needles to Knotter Frame and Adjust Needles to Plunger Timing in this section.)

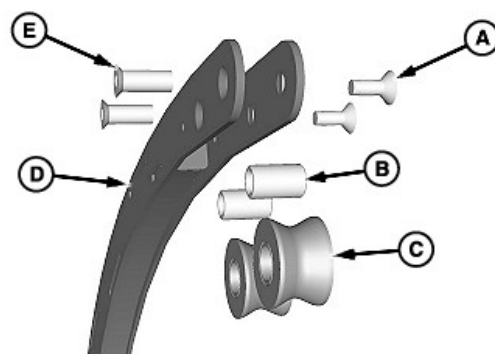
PP98408,000002E-19-30NOV15

Remove and Install Needle Rollers



E72582—UN—28JAN14

Heat Gun Used to Remove Screws from Barrel Nuts



E72237—UN—02DEC13

A—Roller Barrel Screw (2 used)
B—Bushing (2 used)
C—Needle Roller (2 used)
D—Needle
E—Roller Barrel Nut (2 used)

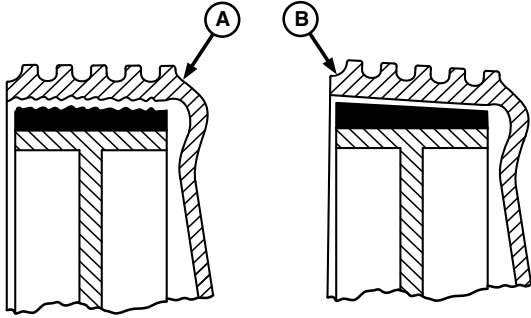
1. Remove screws (A), nuts (E), needle rollers (C), and bushings (B) from needle (D).
2. Repair or replace parts as necessary.
3. Install in reverse order including this instruction:

IMPORTANT: Use extra care not to get thread lock between barrel nut (E) and bushing (B).

- Apply a medium strength thread lock to threads of screws (A)

PP98408,000002F-19-23SEP14

Inspect Brake Drum, Brake Shoes, and Brake Linings



A—Scored Drum
B—Bellmouthed Drum

E72869—UN—28FEB14

Brake Linings

- Shoe linings must not be glazed, soiled with grease, or otherwise damaged. Verify linings are within specification.

Specification

Brake Shoe Lining—Minimum
Thickness. 2 mm
(0.079 in.)

- Brake shoes must not be distorted, cracked, or have broken welds.

Brake Drums

Rebore or replace brake drum if contact surface has scoring deeper than specification. The best method to check scoring depth is to mount brake drum on lathe.

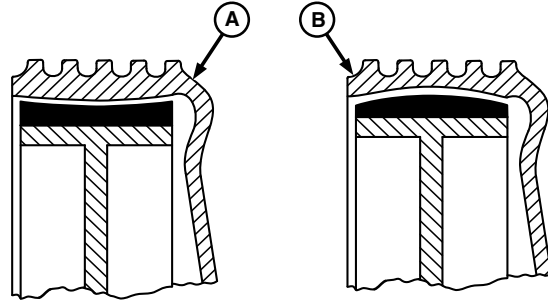
Specification

Brake Drum—Maximum Scoring
Depth. 0.25 mm
(0.010 in.)

Rebore or replace brake drum if ID of drum at open end exceeds ID at closed end by more than specified limit. Measure diameters using a brake drum micrometer.

Specification

Brake Drum—Maximum
Bellmouth Distance. 0.25 mm
(0.010 in.)



A—Convex Drum
B—Concave Drum

E72870—UN—28FEB14

Rebore or replace brake drum if surface variance exceeds specification. Measure using a straight edge and narrow feeler gauge.

Specification

Brake Drum—Maximum Surface
Variance—Flatness. 0.13 mm
(0.005 in.)



E72867—UN—11AUG14
Hard or Chill Spots on Brake Drum



E72866—UN—20FEB14
Heat Checked Areas on Brake Drum

Rebore or replace brake drum if hard or chill spots cause noticeable pulsations or brake roughness.

Rebore or replace brake drum if heat checks are plainly visible or can be felt using a fingernail. Smaller heat checks can smooth-out during normal operation. Larger

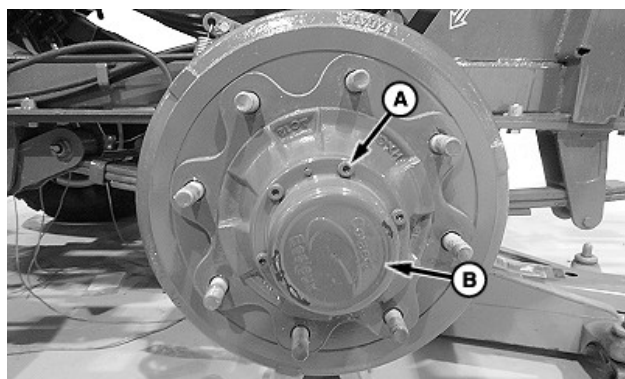
heat checks can lead to problems eventually and require replacement.

PP98408,0000030-19-23SEP14

Remove and Install Brake Shoes

IMPORTANT: Brake shoes must be replaced as soon as minimum lining thickness is reached.

NOTE: Some hubcaps only require to be pulled or pried from hub and do not require seals. Replace hubcaps if damaged.



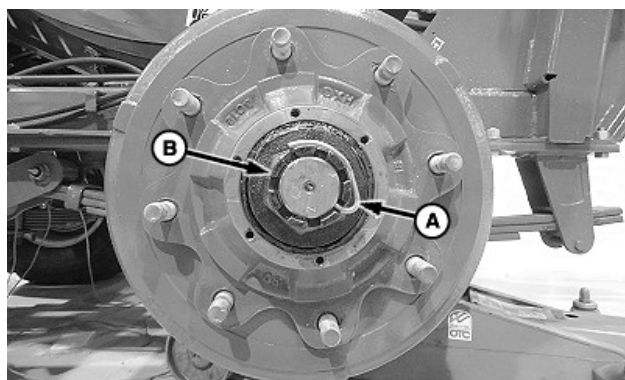
E72861—UN—19FEB14



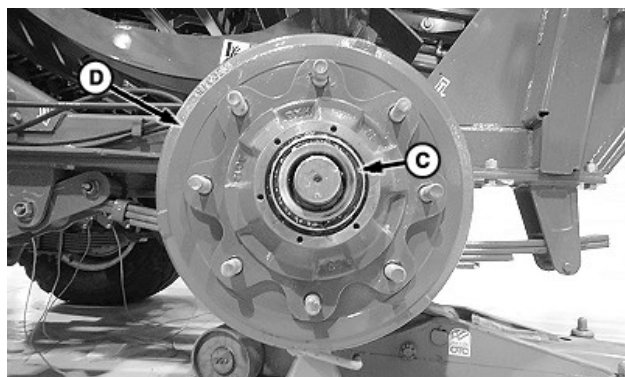
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**A—Socket Head Cap Screw
(6 used)
B—Hubcap
C—Seal**

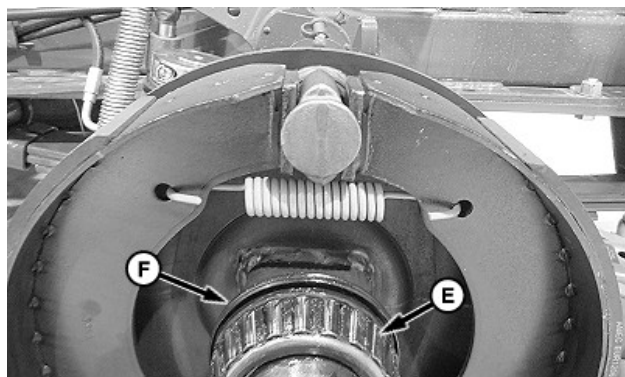
1. Chock wheels and loosen wheel nuts.
2. Using a suitable jack, raise machine and support axle using a suitable jackstand.
3. Release brakes and remove the wheel from the machine.
4. Remove socket head cap screws (A) and hubcap (B).
5. Inspect gasket (C) and replace as necessary.



E72862—UN—19FEB14



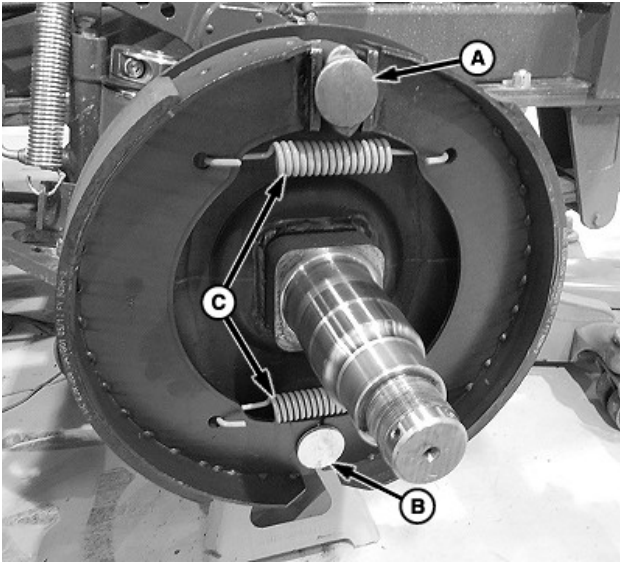
E72863—UN—19FEB14



E72864—UN—19FEB14

**A—Pin
B—Castellated Nut
C—Outer Bearing
D—Drum
E—Inner Bearing
F—Seal**

6. Remove pin (A) and castellated nut (B).
7. Remove outer bearing (C) and brake drum (D).
8. Remove inner bearing (E) and gasket (F).



E72865—UN—20FEB14

- A—Cam
- B—Pivot Pin
- C—Springs (2 used)

9. Pry brake shoes away from cam (A) and pivot pin (B).
 10. Remove springs (C) from brake shoes.
 11. Inspect all parts for wear and replace as necessary.
 12. Install in reverse order of removal including the following important steps:
 - Clean all parts using a safe solvent and dry using compressed air.
 - Inspect wheel bearings. Replace as necessary.
- IMPORTANT: Avoid getting grease on brake shoes and drum.**
- Pack wheel bearings with grease.
 - Adjust brakes. (See Adjust Hydraulic Brakes in this section.)

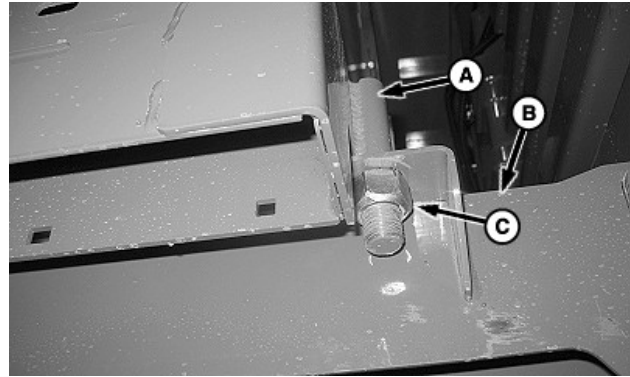
GW44282,0000876-19-20NOV17

Remove and Install Twine Box Rollers

⚠ CAUTION: Twine box is approximately 205 kg (450 lb.) without twine balls. Use a suitable lifting device to remove twine box.

NOTE: Procedure shown on left-hand side of machine. Right-hand side is similar.

Remove

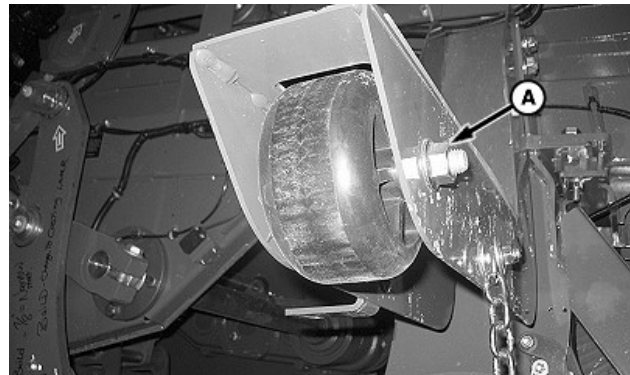


E72513—UN—20JAN14

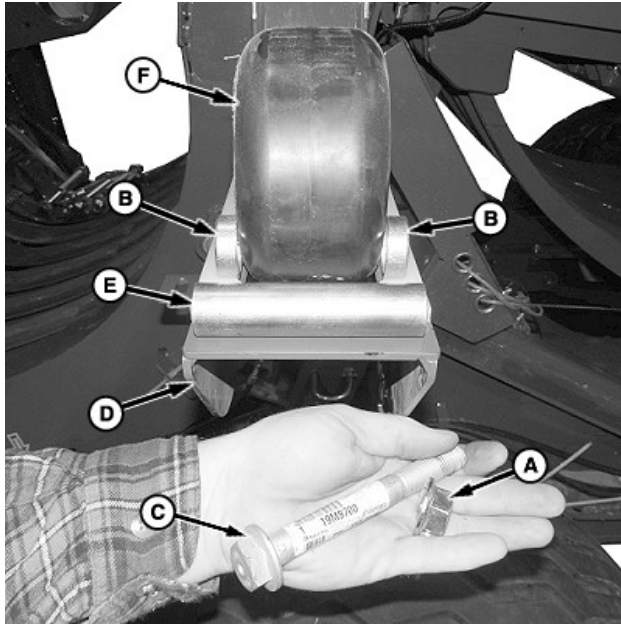
- A—Twine Box
- B—Support
- C—Nut

1. Loosen nut (C) to end of stud, do not remove.
2. Open left-hand side gull wing door.
3. Release latch and open twine box door.
4. Support weight of twine box using a suitable lifting device.
5. Raise twine box (A) until support (B) reaches nut (C) and enough room is allowed to work on twine box roller.

NOTE: Procedure shown with twine box removed. It is not necessary to fully remove twine box to replace roller.



E72514—UN—20JAN14



E72515—UN—20JAN14

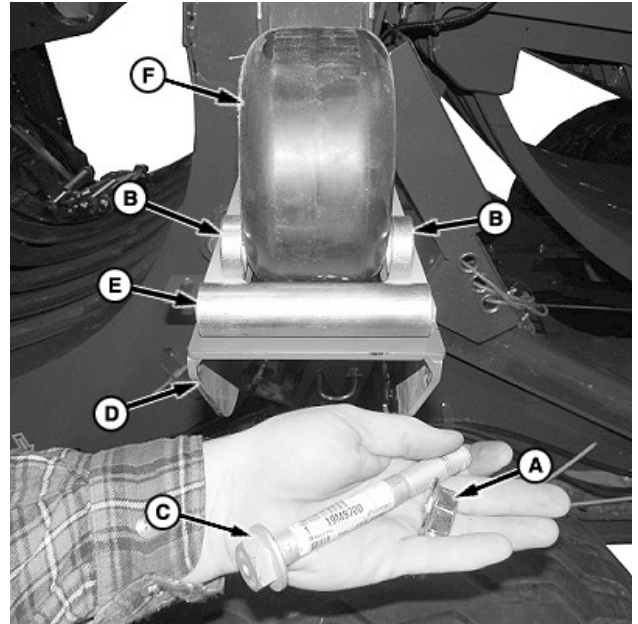
- A—Nut
- B—Bushings (2 used)
- C—Roller Bolt
- D—Support
- E—Axle
- F—Roller

6. Remove nut (A).
7. Hold roller assembly as roller bolt (C) is removed from support (D).
8. Remove bushings (B) as axle (E) is removed from roller (F).
9. Repair or replace parts as necessary.

Install



E72514—UN—20JAN14



E72515—UN—20JAN14

- A—Roller Nut
- B—Bushings (2 used)
- C—Roller Bolt
- D—Support
- E—Axle
- F—Roller

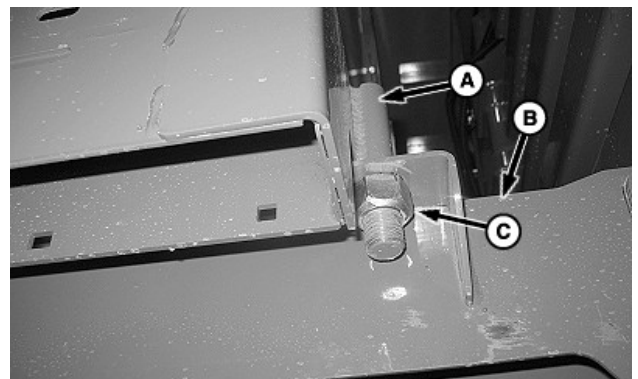
1. Install axle (E) into roller (F) with bushings (B) on each side of roller.

IMPORTANT: Orient roller bolt (C) threads rearward.

2. Install roller bolt (C) through support (D) and roller assembly and tighten roller nut (A).

NOTE: Adjust roller (F) above skid plate 1.5—3.5 mm (0.05—0.14 in.).

3. Adjust roller (F) in slotted holes in support (D) to assist twine box doors in sliding on skid plate and tighten hardware.



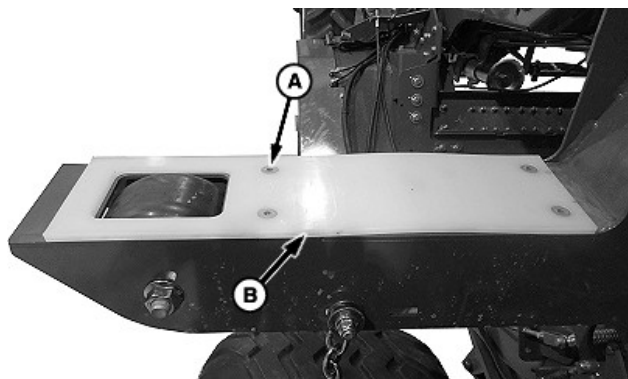
E72513—UN—20JAN14

- A—Twine Box
- B—Support
- C—Nut

4. Lower twine box (A) onto support (B) and tighten nut (C).

PP98408,0000032-19-21NOV14

Remove and Install Twine Box Skid Plates



E72525—UN—21JAN14

A—Screw (4 used)
B—Skid Plate

1. Remove twine box. (See a John Deere dealer or other service provider.)
2. Inspect both skid plates and replace if necessary.
3. Remove screws (A) and skid plate (B) from twine box support.
4. Install in reverse order of removal.

PP98408,0000039-19-13NOV25

Storage

End of Season

1. Move baler to a dry place.
2. Remove the twine. Store twine inside during winter.
3. Clean baler thoroughly inside and out. Debris and dirt draw moisture which can cause corrosion.

NOTE: Order replacement parts and make repairs as necessary before storage.

4. Check safety signs and replace any safety signs that cannot be easily read.
5. Apply a few drops of oil to all pivot points and linkages.
6. Coat chains with oil.
7. Apply a thin layer of clean grease to all threads of adjustment bolts.
8. Apply a thin layer of grease to all bright metal such as cylinder rods.
9. Fill grease pump, if equipped.
10. To ensure that grease is pushed throughout the system, manually activate the grease pump for several minutes.
11. Confirm that all grease fittings are taking grease.
12. Coat inside of the bale chamber with anti-rust spray.
13. Check the torque of necessary hardware.
14. If equipped with a fire extinguisher, follow manufacturers recommendation for inspection and maintenance. If the baler is subjected to cold weather, drain or treat fire extinguisher fluid with a nonflammable antifreeze solution to prevent damage.

GW44282,00007AD-19-05APR17

End of Season—Preservative Applicator (If Equipped)

1. Flush the system with water.
2. Remove the filter bowl and run dry until the water has cleared out of the intake side.
3. Run the pump for 30 seconds or until dry.
4. Drain all lines on the outlet side.
5. Never use oils or alcohol-based antifreeze in the system.
6. For spring start-up, if the pump is frozen, turn OFF power immediately to avoid motor damage or blowing a fuse. The pump head can be disassembled and freed or rebuilt in most cases. Check the fuses after the pump has been freed.

7. Disconnect power from the Precision Information Processor.
8. Remove display from tractor and store in a warm, dry place.

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Beginning of Season

1. Check oil level in all gear cases.
2. To push clean grease through all the fittings, operate the grease pump.
3. Make sure that the main drive slip clutch is free to slip. If the clutch does not slip, damage to the power train can occur.
4. Manually grease all fittings that the automatic grease pump does not lubricate.
5. Check tires for proper inflation.
6. Tighten and torque all necessary hardware.
7. Check fire extinguisher and follow the manufacturers recommendation for inspection and maintenance.
8. Review the Operator's Manual and perform any necessary adjustments.

GW44282,00007AE-19-29NOV17

Specifications

Machine Specification

Bale Dimension and Weight

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Width	2.76 m (9.1 ft)	3.00 m (9.8 ft)	3.00 m (9.8 ft)
Overall Length Bale Chute Folded Up	8.00 m (26.2 ft)	8.00 m (26.2 ft)	8.266 m (27.11 ft)
Overall Length Bale Chute Extended.	8.85 m (29 ft)	8.85 m (29 ft)	9.289 m (30.47 ft)
Overall Height	3.53 m (11.6 ft)	3.53 m (11.6 ft)	3.53 m (11.6 ft)
Weight ^a (Empty) (W/O Precutter / With Precutter)	8500 Kg (18700 lb) / 8825 Kg (19415 lb)	10655 kg (23440 lb) / 11150 Kg (24530 lb)	10755 Kg (23710 lb) / 11249 Kg (24800 lb)

^aMachine gross weight, No Twine, Tandem

Bale Size

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Height x Width	900 x 800 mm (35.4 x 31.5 in)	900 x 1200 mm (35.45 x 47.25 in)	
Length (Adjustable)	600—3000 mm (23.6—118.1 in)		

NOTE: Bale height and width is dependent on crop condition.

Pickup

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Working Width	2.2 m (7.2 ft)	2.2 or 2.5 m (7.2 or 8.1 ft)	
Number of Tooth Bars	4		
Number of Teeth	120	120 or 136	
Lift Control	Hydraulic		
Flotation	Spring tension, adjustable		
Stripper Diameter	278 mm (10.9 in)		
Gauge Wheel Type	Fixed or pivoting (2.2 m pickup)	Fixed with 2.2 m pickup, pivoting for 2.5 m pickup	

Plungerhead

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Speed	45 strokes per minute		
Stroke Length	696 mm (27.4 in)	696 mm (27.4 in)	

Feeding System

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Primary Feeding	Inline auger / Rotor with feeding tines		
Secondary Precompression Chamber Feeding	Intermittent feeder fork with 5 tines	Intermittent feeder fork with 7 tines	

Twine Knotting System

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Type	Double-tie knotter		
Number of Knotters	4	6	
Knots Per Bale	8	12	
Spacing	180 mm (7.1 in)		
Twine Capacity	30 balls		

Specifications

Twine Type	John Deere XtraTwine, Type 130 Recommended twine strength of 350—550 lb knot strength	Recommended twine strength of 350—550 lb knot strength
Lubrication	Central lubrication system	

Bale Chamber Tensioning

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Type	3 hydraulically controlled doors		
Density Control	3 hydraulic cylinders	4 hydraulic cylinders	6 hydraulic cylinders

Drivetrain Protection

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Main Drivetrain	Flywheel shear bolt Friction with an automatic overload clutch (optional)	Friction with an automatic overload clutch	
Pickup	Cam clutch		
Rotor	Cam clutch		
Feeder Fork	Automatic slip clutch		
Needles	Shear bolts		

Axle

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Single Axle	Free rolling or with hydraulic brakes		
Tandem Axle	Free rolling or with hydraulic brakes Following, lockable rear axle		
Brakes	Shoe on drum, hydraulic-activated brake system connected to the tractor brake system (if equipped)		
Parking Brakes	Cable activated with the ratchet arm (if equipped)		
Emergency Brakes	Rope pulls the park brake activation lever in case baler-to-tractor connection is interrupted (if equipped)		

Tire Size

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Single Axle	600/50-22.5 — 300 kPa (3 bar) (43 psi) 710/40R22.5 — 280 kPa (2.8 bar) (41 psi) 600/50-22.5 — 300 kPa (3 bar) (43 psi) 710/40R22.5 — 280 kPa (2.8 bar) (41 psi)		
Tandem Axle	500/55-20 — 200 kPa (2 bar) (29 psi) 550/45-22.5 — 220 kPa (1.6 bar) (23 psi) 500/55-20 — 200 kPa (2 bar) (29 psi) 550/45-22.5 — 220 kPa (2.2 bar) (32 psi)		

Monitor

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Baler Control Monitor	GreenStar 2 1800 Display GreenStar 2 2600 Display GreenStar 3 2630 Display GreenStar 4600 Display Gen 5 Display		

Oil Capacities

Specifications

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
Main Gear Case	26.3 L (7 gal)	42 L (11 gal)	
Lower Knotter Drive Gear Case	3.3 L (0.87 gal)		
Upper Knotter Drive Gear Case	1.9 L (0.5 gal)		
Feeder Fork Gear Case	4.0 L (1.06 gal)		
Hydraulic Reservoir	50.0 L (13.25 gal)		

Tractor Requirements

Item	L331R and L331R Precutter	L341R and L341R Precutter	L341R HD and L431R HD Precutter
PTO Minimum Power	74 kW (100 hp) 87 kW (115 hp) with Precutter	98 kW (130 hp) 109 kW (145 hp) with Precutter	
PTO Speed	1000 rpm		
1, 2, or 3 Double-Acting Control Valve Outlet	Bale chute / Last bale eject / Jackstand / Feed system (if equipped with precutter) / BalerAssist (if equipped)		
1 or 2 Single-Acting Control Valve Outlet	Steered tandem axle (if equipped) / Feed system (if not a precutter)		
Hydraulic Brakes	1 brake connection—ISO 5676 (if equipped)		
Electric Supply	DEUTSCH HD30 male 9-pin connector		

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Preservative Applicator (If Equipped)

Capacities

Solution Tank	567 L (150.0 gal)
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Outputs

Pump Output	20.1 LPM (5.3 GPM)
Tip Output	8 LPM (2 GPM)

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Tractor Compatibility

IMPORTANT: See tractor Operator's Manual for proper ballast.

Large Square Baler Tractor Compatibility (1 of 2)

Model No.	Recommended PTO Horsepower	PTO Speed	Implement Mass (unladen) ¹	Maximum Implement Transport Mass (laden) ²	Minimum Recommended Tractor Mass ³	Implement Vertical Load on Drawbar	Drawbar Size
L331R	74 kW (100 hp) Minimum	1000 Only	9 470 kg (20878 lb)	11 440 kg (25220 lb)	7 627 kg (16 815 lb)	1 450 kg (3 197 lb)	Category 3 or Category 4
L331R Precutter	87 kW (115 hp) Minimum	1000 Only	9 800 kg (21605 lb)	11 770 kg (25948 lb)	7 847 kg (17 300 lb)	1 650 kg (3 638 lb)	Category 3 or Category 4
L341R and L341R HD	98 kW (130 hp) Minimum	1000 Only	10 750 kg (23700 lb)	13 450 kg (29652 lb)	8 967 kg (19 769 lb)	1 550 kg (3 417 lb)	Category 3 or Category 4
L341R Precutter and L341R HD Precutter	109 kW (145 hp) Minimum	1000 Only	11 250 kg (24802 lb)	13 950 kg (30753 lb)	9300 kg (20 503 lb)	1 800 kg (3 968 lb)	Category 3 or Category 4

Specifications

- 1) Maximum Implement Transport Mass Includes: Fully configured baler (BalerAssist, Tandem Axle, Preservative Applicator, ect.)
 2) Maximum Implement Transport Mass Includes: Fully configured baler (BalerAssist, Tandem Axle, Preservative Applicator, ect.) + Full Preservative - 610 kg (1344 lbs) + 2 Bales @ 680 kg (1500 lbs) per bale for L331R & 1045 kg (2303 lbs) per bale for L341R and L341R HD
 3) Minimum Recommend Tractor Mass = Maximum Implement Transport Mass / 1.5

Large Square Baler Tractor Compatibility (2 of 2)								
Model No.	Road Speed Maximum Limit	Number of SCV Pairs	Hydraulic Minimum Flow Rate from SCV	Electrical System Amps	Electrical System Grounding	SAE 7-Pin Connector Required for Lights	ISOBUS Connector Required for Monitor	Tractor Cab Required
L331R	32 km/h (20 mph)	Single Axle Single acting SCV: 1 Double acting SCV: 1 Tandem Axle (if equip.) Single acting SCV: +1 BalerAssist (if equip.) Double acting SCV: +1	22.7—24.6 L/min. (6—6.5 gpm)	60 Preservative Applicator (if equip) +40	Negative	Yes	Yes	Yes
L331R Precutter	32 km/h (20 mph)	Single Axle Double acting SCVs: 2 Tandem Axle (if equip.) Single acting SCV: +1 BalerAssist (if equip.) Double acting SCV: +1	22.7—24.6 L/min. (6—6.5 gpm)	60 Preservative Applicator (if equip) +40	Negative	Yes	Yes	Yes
L341R and L341R HD	32 km/h (20 mph)	Single Axle Single acting SCV: 1 Double acting SCV: 1 Tandem Axle (if equip.) Single acting SCV: +1 BalerAssist (if equip.) Double acting SCV: +1	22.7—24.6 L/min. (6—6.5 gpm)	60 Preservative Applicator (if equip) +40	Negative	Yes	Yes	Yes
L341 Precutter and L341R HD Precutter	32 km/h (20 mph)	Single Axle Double acting SCVs: 2 Tandem Axle (if equip.) Single acting SCV: +1 BalerAssist (if equip.) Double acting SCV: +1	22.7—24.6 L/min. (6—6.5 gpm)	60 Preservative Applicator (if equip) +40	Negative	Yes	Yes	Yes

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Hitch Weights

*NOTE: Weights are with typical optional equipment.
Weights with other optional equipment will vary.*

The maximum static vertical load for these machines are achieved with bale chamber empty.

Maximum Static Vertical Load on Tractor Drawbar—Specification

L331R—Weight on Drawbar. 1360 kg (3000 lb)

L331R Precutter—Weight on Drawbar. 1587 kg (3500 lb.)

— Specification

L341R—Weight on Drawbar. 1451 kg (3200 lb)

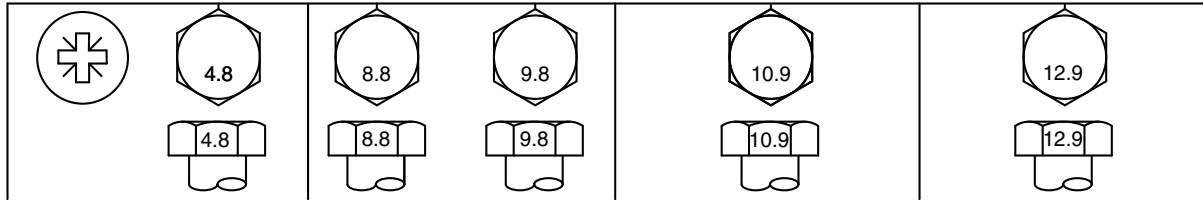
L341R Precutter—Weight on Drawbar. 1700 kg (3750 lb)

L341R HD—Weight on Drawbar. 1497 kg (3300 lb)

L341R HD Precutter—Weight on Drawbar. 1746 kg (3850 lb)

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Metric Bolt and Screw Torque Values



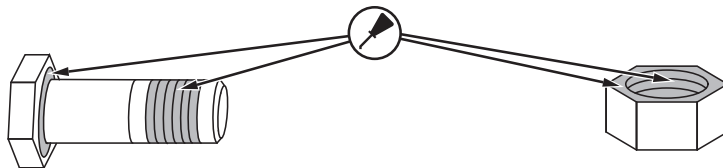
TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



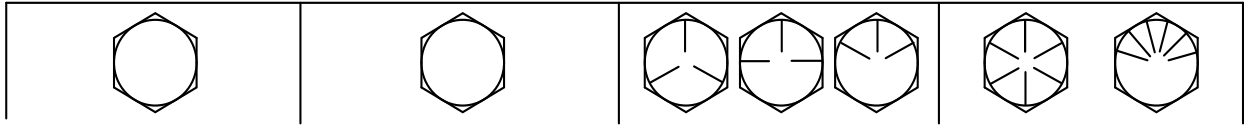
TS1741—UN—22MAY18

^aHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^bHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2(T)-19-09MAY22

Unified Inch Bolt and Screw Torque Values



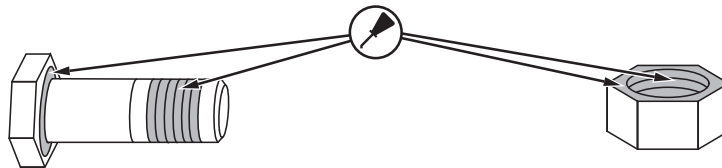
TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 ^a				SAE Grade 2 ^b				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard or equivalent oil under the head and on the threads of the fastener, as shown in the following image.
- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aGrade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.

^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^cHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^dHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

Serial Numbers

Serial Number Plate

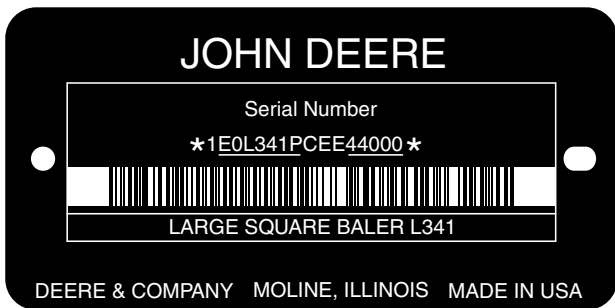
Serial number identifying the baler is stamped on factory serial number plate.

These numbers and letters are required when ordering baler or attachment replacement parts.

To ensure that you have these numbers at hand, enter the appropriate serial number in the table provided under the illustration.

PP98408,00000B5-19-29AUG14

Serial Number Plate Description



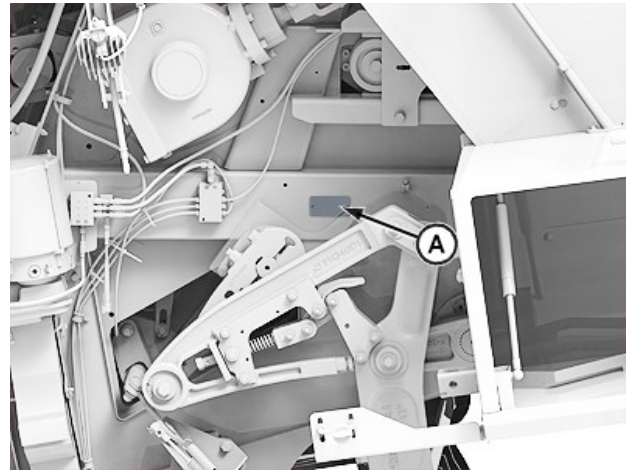
Example Shown

E85610—UN—20NOV17

Position	Use	Example
1—3	Factory Code	1E0
4—8	Model	L331R
9	Security Code	C
10	Year of Manufacture	C
11	Model Year	E
13—17	Sequential Manufacturing Number	44000

czhk963,1684909139872-19-24MAY23

Record Baler Serial Number



APY565548—UN—29MAR23

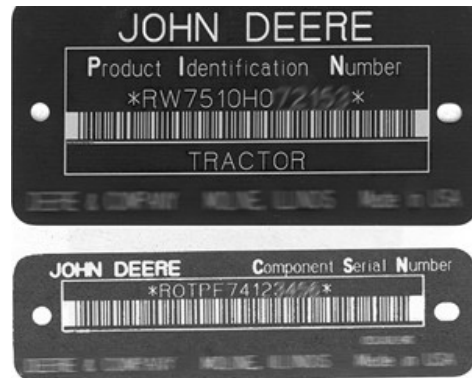
Left-Hand Side of Machine Shown

A—Serial Number Plate

The serial number plate (A) is located on the left-hand side of the machine.

hy01057,1680167521041-19-30MAR23

Keep Proof of Ownership

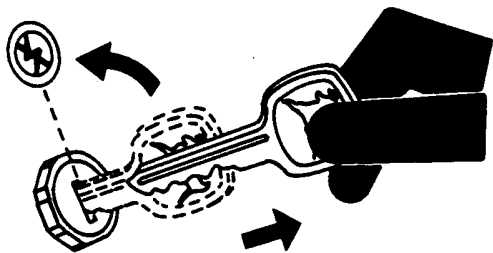


TS1680—UN—09DEC03

1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
 - Mark your machine with your own numbering system
 - Take color photographs from several angles of each machine

DX,SECURE1-19-18NOV03

Keep Machines Secure



TS230—UN—24MAY89

1. Install vandal-proof devices.
2. When machine is in storage:
 - Lower equipment to the ground
 - Set wheels to widest position to make loading more difficult
 - Remove any keys and batteries
3. When parking indoors, put large equipment in front of exits and lock your storage buildings.
4. When parking outdoors, store in a well-lighted and fenced area.
5. Make note of suspicious activity and report any thefts immediately to law enforcement agencies.
6. Notify your John Deere dealer of any losses.

DX, SECURE2-19-18NOV03

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