S160, S180 and S200 Square Balers

OPERATOR'S MANUAL

S160, S180 and S200 Square Balers

OMFH347946 ISSUE D2 (ANGLAIS)

John Deere Arc-lès-Gray
European Edition
PRINTED IN U.S.A.

Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage. This manual and safety signs on your machine may also be available in other languages (see your John Deere dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine 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 require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction the implement travels when going forward.

WRITE PRODUCT IDENTIFICATION NUMBERS (PIN) in the Specification or Serial Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection.

THIS SQUARE BALER IS DESIGNED SOLELY for use in customary agricultural or similar operations (”INTENDED USE”). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS SQUARE BALER SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this machine relieves the manufacturer of all liability for any resulting damage or injury.

REGISTER USED PRODUCTS. If you purchased used John Deere products from an authorized John Deere dealer, the warranty registration information was updated by the dealer and requires no further information on your part.

If you purchased any used John Deere product from an auction, through a trader or from a farmer, please register it now. John Deere and John Deere dealers value their customer’s safety and satisfaction. Your local John Deere dealer is best equipped and anxious to provide you superior levels of support for your machine. Please enter your product details and your address online, using the John Deere website corresponding to your country, then select the dealer of your choice.

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Predelivery Inspection

The following checks, adjustments, and service jobs were performed prior to delivery of the machine:

1. □ Have all parts been delivered with the bundle and installed on the baler?
2. □ Is the gear case oil level correct?
3. □ Has shipping plug been replaced with relief valve on gear case?
4. □ Are all grease fittings lubricated?
5. □ Is the powerline cut to the correct dimensions?
6. □ Is drive slip clutch correctly adjusted?
7. □ Is pickup spring tension properly adjusted?
8. □ Are knotters or twisters correctly adjusted?
9. □ Measuring arm adjustment is correct?
10. □ Is clearance between plunger head and stationary knives correct?
11. □ Is baler correctly timed?
12. □ Are chains correctly tensioned and lubricated?
13. □ Are all screws and nuts tightened to specified torque?
14. □ Are all moving parts working freely?
15. □ Are all shields secured and in place?
16. □ Make a test run of the machine.
17. □ Have all lines and hoses been checked and are they free of leaks?
18. □ Has tire inflation been checked?
19. □ Are paint and decals smooth and neat?
20. □ Have all controls and safety rules been explained to the operator?
21. □ Has Operator's Manual been given to operator?

Date:

Signature Dealer/Service Technician:

OUCC002,0002302 -19-31MAR10-1/1

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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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Identification Views

CC381335 —UN—13SEP19

GA87848,0000C42 -19-03JUN19-1/1

Recognize Safety Information

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.

T81389 —UN—28JUN13

DX,ALERT -19-29SEP98-1/1

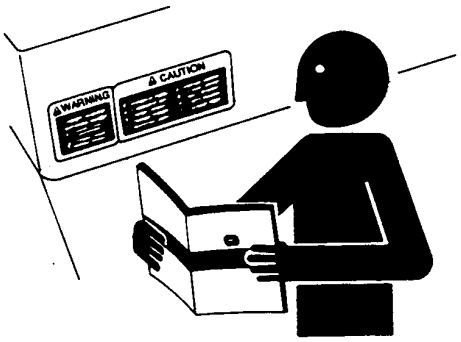
Follow Safety Instructions

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.



TS201 —UN—15APR13

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

DX,READ -19-16JUN09-1/1

Understand Signal Words

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

TS187 —19—30SEP88

precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL -19-05OCT16-1/1

Observe Road Traffic Regulations

Always observe local road traffic regulations when using public roads.

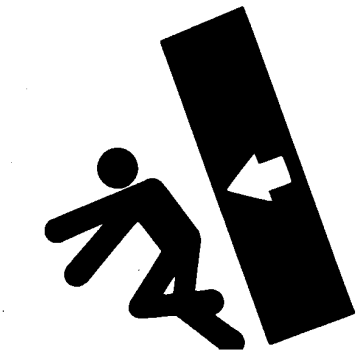
H28930 —UN—30JUN89

FX,ROAD -19-01MAY91-1/1

Store Attachments Safely

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.



TS219 —UN—23AUG88

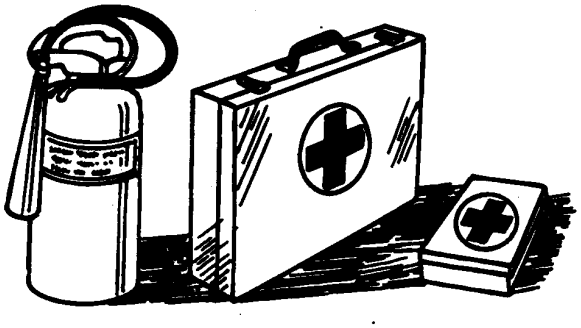
DX,STORE -19-03MAR93-1/1

Prepare for Emergencies

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.



TS291 —UN—15APR13

DX,FIRE2 -19-03MAR93-1/1

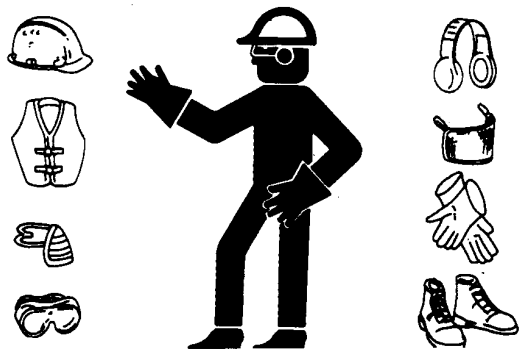
Wear Protective Clothing

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.

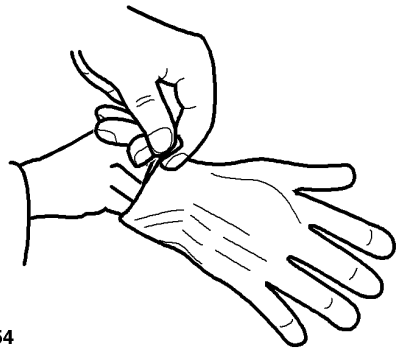


TS206 —UN—15APR13

DX,WEAR -19-10SEP90-1/1

Handling of Knives

Prevent personal injury by wearing safety gloves to handle knives.



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CC1026928 —UN—26JAN05

OUCC006,0000DB6 -19-04JAN05-1/1

Check Machine Safety

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

FX,READY -19-28FEB91-1/1

Stay Clear of Rotating Drivelines

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.

Only use power take-off driveshafts with adequate guards and shields.

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 driveshaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

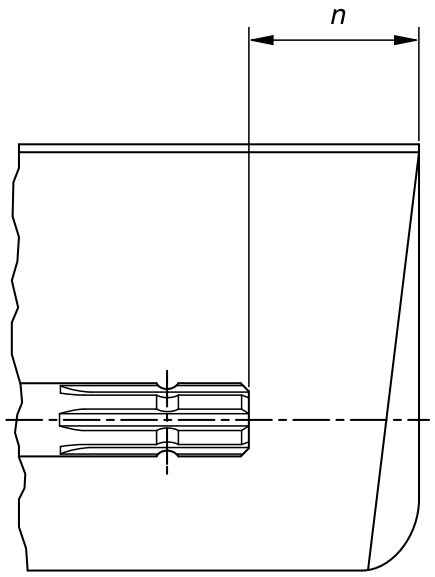
Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

The angle at which the primary implement PTO driveshaft can be inclined may be reduced depending on the shape and size of the tractor master shield and the shape and size of the guard of the primary implement PTO driveshaft.

Do not raise implements high enough to damage the tractor master shield or guard of primary implement PTO driveshaft. Detach the PTO driveline shaft if it is necessary to increase implement height. (See Attching/Detaching PTO Driveline)

When using Type 3/4 PTO, inclination and turning angles may be reduced depending on type of PTO master shield and coupling rails.

TS1644 —UN—22AUG95



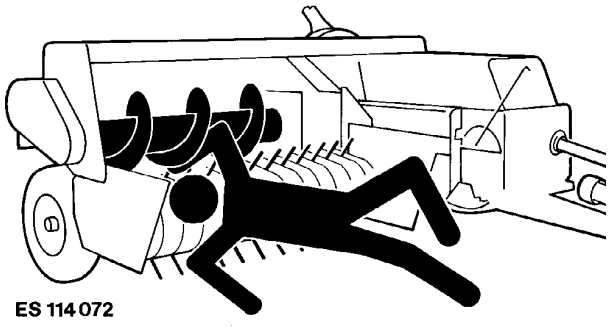
H96219 —UN—29APR10

PTO Type	Diameter	Splines	n ± 5 mm (0.20 in.)
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)
4	57.5 mm (2.264 in.)	22	100 mm (4.00 in.)

DX,PTO -19-28FEB17-1/1

Keep Clear of Feeder Elements

During operation, always maintain an adequate safety distance to the feeder elements, e.g. pickup, auger, etc. Due to their function, these elements cannot be completely covered with shields.



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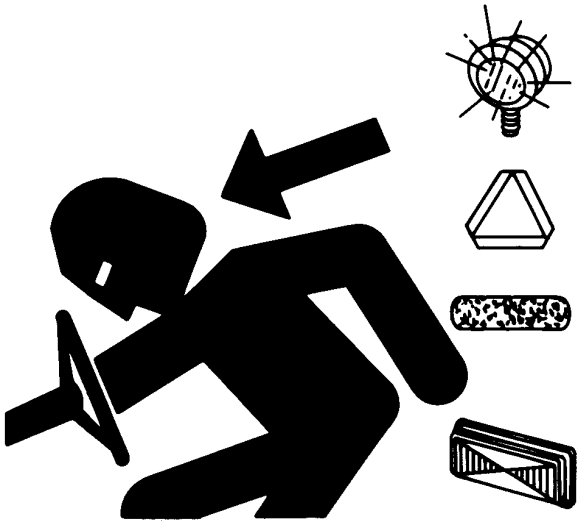
Use Safety Lights and Devices

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. An implement safety lighting kit is available from your John Deere dealer.



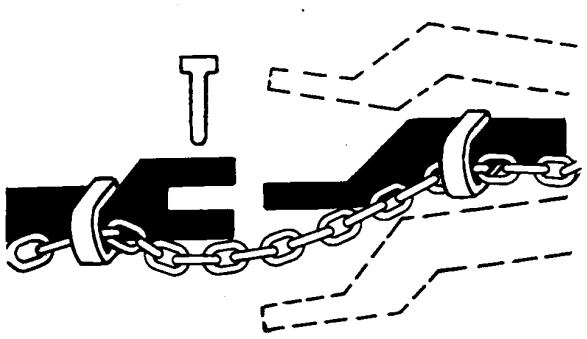
DX,FLASH -19-07JUL99-1/1

Use a Safety Chain

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.

See your John Deere dealer for a 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 -19-03MAR93-1/1

Observe Maximum Transport Speed

IMPORTANT: Maximum transport speed is determined by local road traffic regulations and speed capability of this implement.

Always observe local road traffic regulations when driving on public roads.

NOTE: See your John Deere dealer for more information.

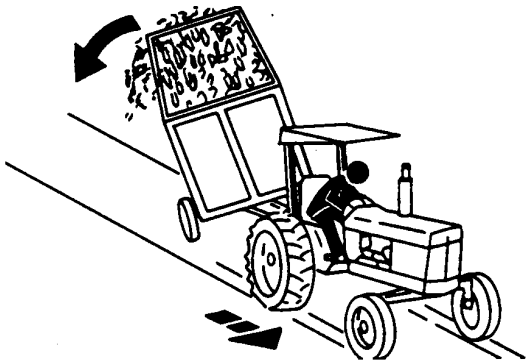
Do not exceed implement gross weight (PTAC) when towing this implement at transport speed.

Some tractors can operate at speeds that exceed the maximum transport speed capability of this implement. Regardless of the maximum speed capability of the tractor being used to tow this implement, do not exceed the implement maximum transport speed.

Maximum transport speed capability for this implement is 40 km/h (25 mph).

For machine equipped with a single-line hydraulic brake system, it is recommended not to exceed 25 km/h (15.5 mph).

Exceeding the implement maximum transport speed can result in:



TS216 —UN—23AUG88

- Loss of control of the tractor/implement combination
- Reduced or no braking ability
- Implement tire failure
- Damage to the implement structure or its components

Use additional caution and reduce speed when towing under adverse surface conditions, when turning, and when on inclines.

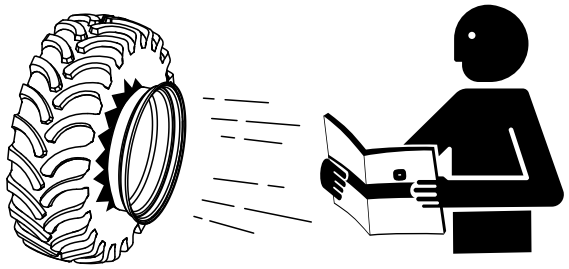
CC03745,000131F -19-26NOV20-1/1

Follow Tire Recommendations

Keep your machine in proper working order.

Use only prescribed tire sizes with correct ratings and inflate to the pressure specified in this manual.

Use of other than prescribed tires may decrease stability, affect steering, result in premature tire failure, or cause other durability or safety issues.



H111235 —UN—13MAY14

DX,TIRE,INFO -19-19MAY14-1/1

Service Tires Safely

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.

RXA0103438 —UN—11JUN09

Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

DX,WW,RIMS -19-28FEB17-1/1

Check Ballast, Wheel Spacing and Tire Inflation

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. Refer to the tractor operator's manual.

CC502369 —UN—21JAN21

GA87848,00010EA -19-21JAN21-1/1

Operate Baler Safely

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

Before entering the working area of the machine, always:

- Disengage PTO
- Shut off tractor engine
- Remove main switch key
- Relieve hydraulic pressure
- Engage park lock
- Engage park brake.
- Wait for all moving parts to come to a standstill.

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.

GA87848,0000C9C -19-13SEP19-1/1

Operate Baler Safely on Slopes

Be especially careful when operating on hillsides. The baler may tip sideways if it strikes a hole, ditch, or other irregularity.

GA87848,0000C9D -19-20JUN19-1/1

Prevent Fire

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

- Clean the machine several times during the baling day depending on baling conditions, see Clean the Machine to Prevent Fire in Operating the Baler—General Purposes section.
  - Do not smoke around the baler or in the fields.
  - Never stop baling with crop material in the bale chamber.
  - Promptly eject bales after they have been tied.
  - Do not use the machine to transport bales.
  - Use extreme care if it is necessary to park the machine in a field. Whenever possible, park the machine on bare ground or in an area surrounded by bare ground.
  - Before leaving the machine which has been operating, verify that there are no areas which are hot enough to start a fire.
  - Do not leave the machine unattended near bales which have been baled wet, because spontaneous combustion can occur.
- Check regularly the condition of bearings, see Daily: Prevent Fire in Lubrication and Maintenance section.

TS227 —UN—15APR13

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.

- Equip the machine an extinguisher.
- Follow the fire prevention guidelines for service work, see Prevent Fire at Each Service in Service section.

GA87848,00009F9 -19-13NOV18-1/1

In Case of Fire

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:

TS227 —UN—15APR13

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 -19-22AUG13-1/1

Keep Riders Off Machine

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.

TS249 —UN—23AUG88

CC03745,0000FE4 -19-03NOV09-1/1

Service Machine Safely

To aid in servicing the baler, disconnect telescoping hook-up from the tractor PTO shaft and rotate the flywheel by hand.

GA87848,00010D4 -19-18JAN21-1/1

Practice Safe Maintenance

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.

TS218 —UN—23AUG88

DX,SERV -19-28FEB17-1/1

Protect People and Animals

Never allow anyone to walk or work near a running machine.

Be sure that people, livestock or pets are not standing in the working area of the machine while operating.

GA87848,0000C9E -19-20JUN19-1/1

Avoid High-Pressure Fluids

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.

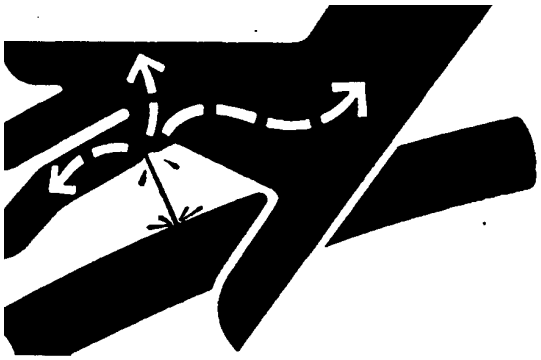
Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

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.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.



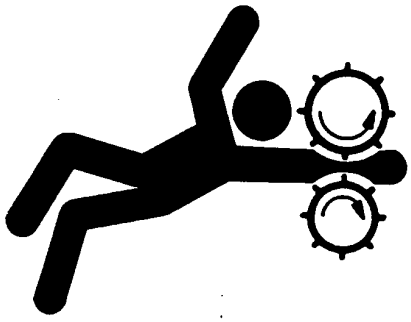
X9811 —UN—23AUG88

DX,FLUID -19-12OCT11-1/1

Service Machines Safely

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.



TS228 —UN—23AUG88

DX,LOOSE -19-04JUN90-1/1

Remove Paint Before Welding or Heating

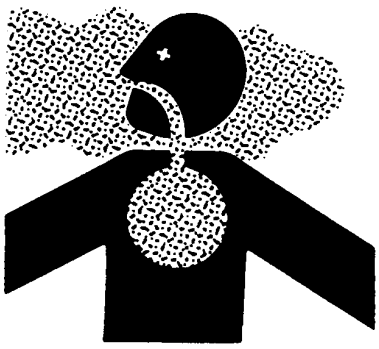
Avoid potentially toxic fumes and dust.

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.



TS220 —UN—15APR13

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 -19-24JUL02-1/1

Avoid Heating Near Pressurized Fluid Lines

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.

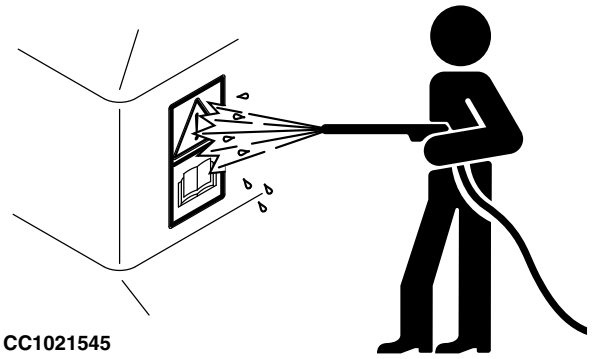
TS953 —UN—15MAY90

DX,TORCH -19-10DEC04-1/1

Avoid High-Pressure Jet on Safety Signs

Pressurized water can remove or damage safety signs. Avoid to direct high-pressure jet on safety signs.

Immediately replace missing or damaged safety signs. Replacement safety signs are available from your John Deere dealer.



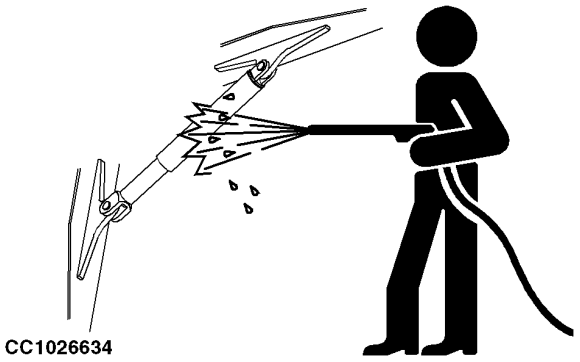
CC1021545

CC1021545 —UN—23APR02

CC03745,0001031 -19-23JUN11-1/1

Avoid High-Pressure Jet on Cylinders

Pressurized water can damage cylinders. Avoid to direct high-pressure jet on cylinders.



CC1026634

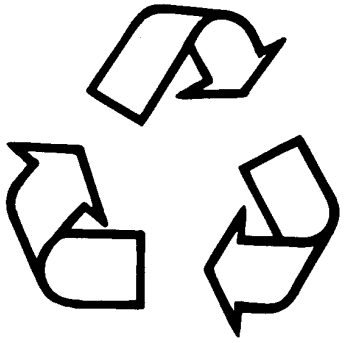
CC1026634 —UN—03DEC04

CC03745,0000FD3 -19-08SEP09-1/1

Decommissioning — Proper Recycling and Disposal of Fluids and Components

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);



TS1133 —UN—15APR13

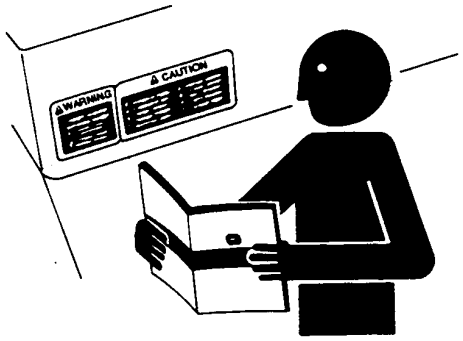
filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations 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 -19-01JUN15-1/1

Replace Safety Signs

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.



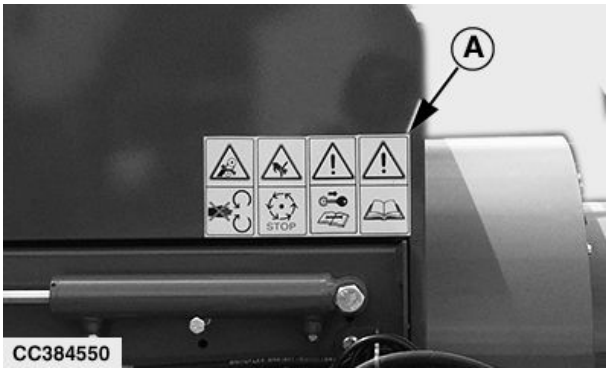
TS201 —UN—15APR13

DX,SIGNS -19-18AUG09-1/1

Operator's Manual

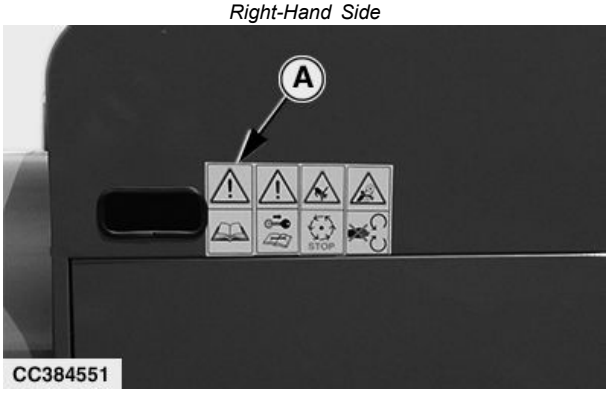
This operator's manual contains all important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.

A—Operator's Manual Safety Sign



CC384550 —UN—26JUN19

Right-Hand Side



CC384551 —UN—26JUN19

Left-Hand Side

GA87848,0000CB9 -19-26JUN19-1/1

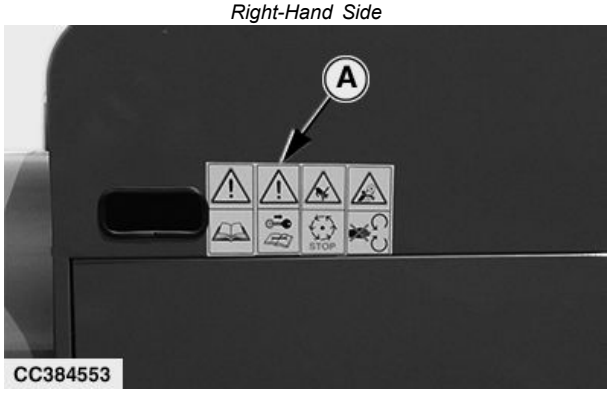
Repair and Maintenance

Before carrying out repair and maintenance work, shut off tractor engine and remove key.

A—Repair and Maintenance Safety Sign

CC384552 —UN—26JUN19

Right-Hand Side



CC384553 —UN—26JUN19

Left-Hand Side

GA87848,0000CBA -19-26JUN19-1/1

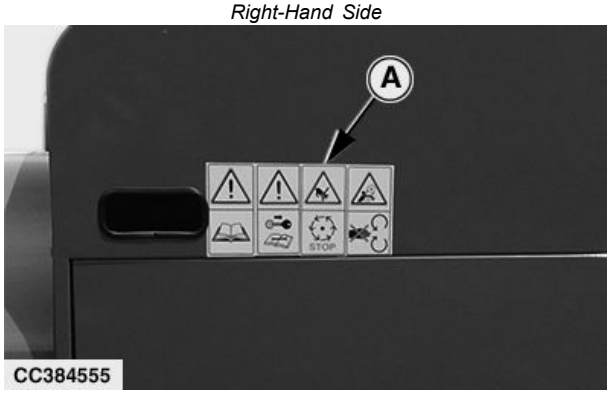
Flywheel

Do not touch any moving machine parts. Wait until moving parts have stopped.

A—Flywheel Safety Sign

CC384554 —UN—26JUN19

Right-Hand Side



CC384555 —UN—26JUN19

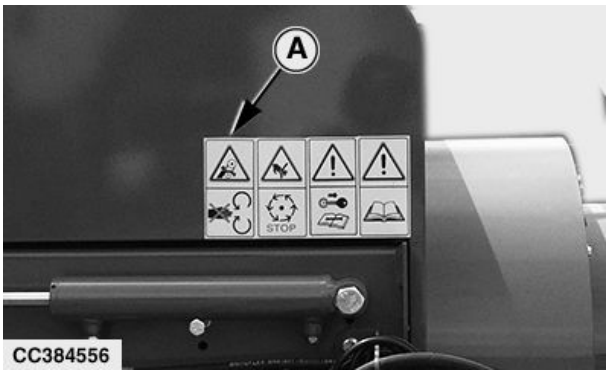
Left-Hand Side

GA87848,00010D5 -19-18JAN21-1/1

Drive Belt

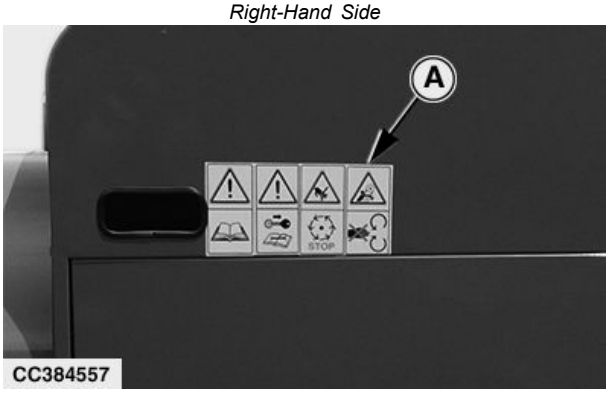
Stay clear of rotating belt to avoid personal injury.

A—Drive Belt Safety Sign



CC384556 —UN—26JUN19

Right-Hand Side



CC384557 —UN—26JUN19

Left-Hand Side

GA87848,0000CBC -19-18SEP19-1/1

Baler Drive Line

Stay clear of rotating drive line to avoid personal injury.

CC384558 —UN—26JUN19

GA87848,0000CBD -19-26JUN19-1/1

540 RPM

Work with the relevant speed of PTO.

CC384559 —UN—26JUN19

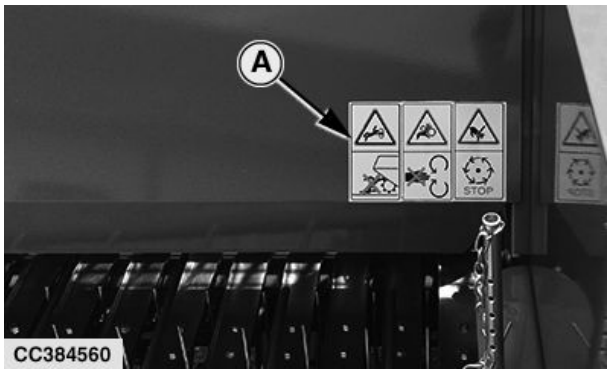
GA87848,0000CBE -19-26JUN19-1/1

Pickup

Rotating pickup can catch you faster than you can move away.

Stay clear of rotating pickup as it may result in death or serious injury.

A—Pickup Safety Sign



CC384560 —UN—26JUN19

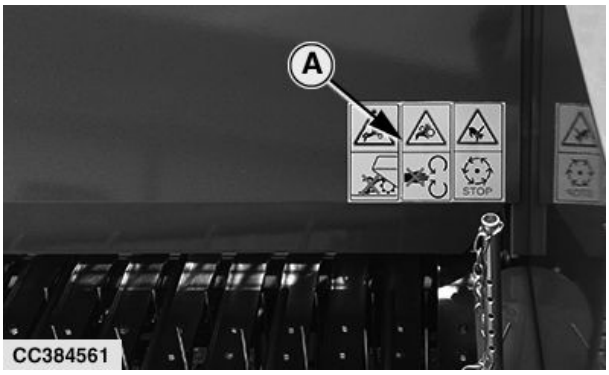
GA87848,0000CBF -19-26JUN19-1/1

Fork

Stay clear of rotating chain to avoid personal injury.

Do not open or remove guard when the baler is running.

A—Fork Safety Sign



CC384561 —UN—26JUN19

CC384564 —UN—26JUN19

Fork Guard—Right-Hand Side

CC384565 —UN—26JUN19

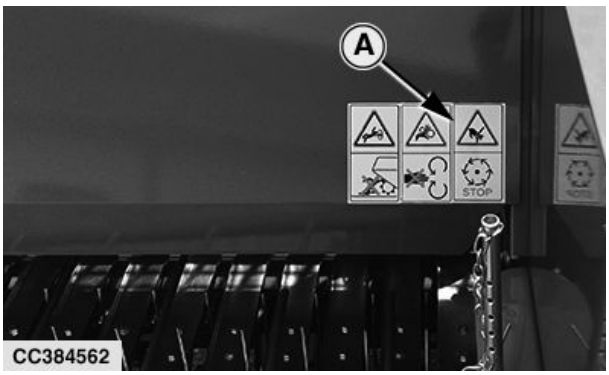
Fork Guard—Left-Hand Side

GA87848,0000CC0 -19-18SEP19-1/1

Plunger

Do not touch any moving machine parts. Wait until moving parts have stopped.

A—Plunger Safety Sign



CC384562 —UN—26JUN19

GA87848,0000CC1 -19-26JUN19-1/1

Knotter

Stay clear of the knotter when the baler is running.

CC384563 —UN—26JUN19

GA87848,0000CC2 -19-26JUN19-1/1

Bale Chute

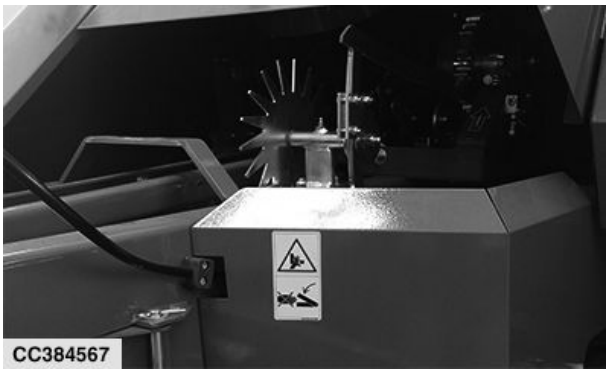
Stay clear of rear of the baler when the baler is running.

CC384566 —UN—26JUN19

GA87848,0000CC3 -19-26AUG19-1/1

Needle

Stay clear of rear of the needle when the baler is running.



CC384567 —UN—26JUN19

GA87848,0000CC4 -19-26JUN19-1/1

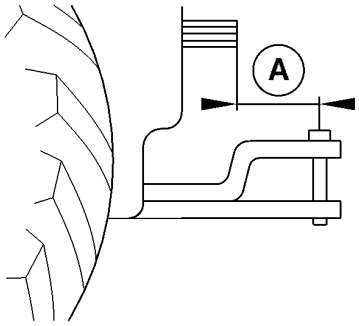
Adjust Drawbar

CAUTION: Any setting operation can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on and machine is completely arrested.

IMPORTANT: Before attaching baler, be sure to adjust drawbar. Replace all shields.

Vertically align drawbar hitch pin hole with centerline of tractor PTO shaft.

Set drawbar to obtain the minimum distance (A) between end of PTO shaft to drawbar hitch pin hole.



CC531755

A—Distance

CC531755 —UN—22FEB22

OUCC007,00019C4 -19-11FEB22-1/1

Select Tractor PTO Speed

NOTE: Refer to tag on the front of the baler to select tractor PTO speed.

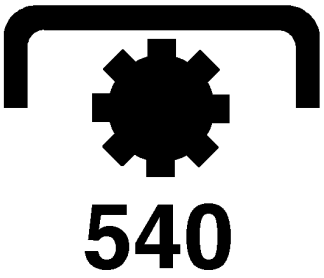
Baler with 540 rpm gear case:

IMPORTANT: Under no circumstances should a baler equipped for 540 rpm PTO drive be operated with a tractor at 750 or 1000 rpm PTO speed. Always run tractor at rated PTO speed. Overspeed will damage baler.

The tractor PTO shaft size must be 3.5 cm (1-3/8 in).

Always operate the baler with tractor PTO speed at 540 rpm.

Refer to the tractor Operator's Manual to install the appropriate PTO shaft and set the PTO speed.



CC1020007

CC1020007 —UN—09JUL01

GA87848,0000C95 -19-18SEP19-1/1

Select Twine and Wire Coil

Twine

We recommend you to use polypropylene twine with 300 mt/kg yarn count. Please check for the compatibility of the yarn count for your twine. You must considerate that, for example, the weight for 30 twine meters must be 100 grams to be sure of a 300 mt/kg yarn count. In the twine box, which is on the machine backside, one coil for each slot must be placed.

All coils must be placed with words on their wrap in an upright position (not inverted) to avoid any twine unwinding.

Periodically (every 4—6 hours or at the end of the working day), make sure that there are coils inside the twine box.

Check always that coils never end completely in order not to repeat the twine insertion.

Wire

It is recommended to use iron N.12, or iron N.13 which can be used in case of special density needs. Iron coils must be annealed and previously kept in oil bath.

Coils must not exceed 320 mm (1 ft 2/4 in) in diameter and 160 mm (6-1/4 in) in height.

Please make sure that coils are correctly rolled to avoid any tangle which can be harmful for knotters.

Periodically (every 2—4 hours or at the end of the working day), make sure that there are coils inside the iron wire box. Check always that coils never end completely in order not to repeat the wire insertion.

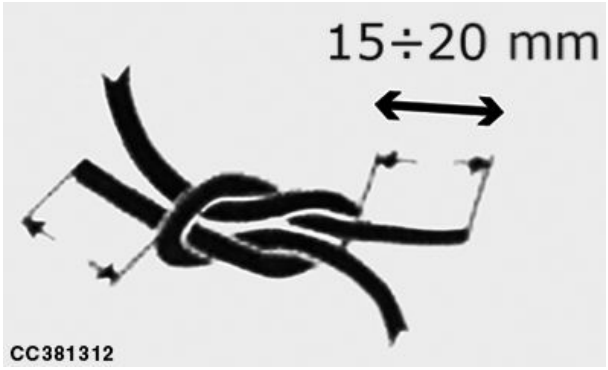
GA87848,00010DF -19-22JAN21-1/1

Install Twine

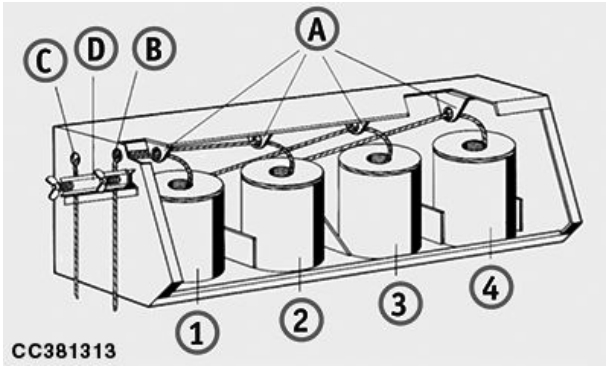
CAUTION: Before any assembly operation, it is important to deactivate P.T.O, turn off the tractor engine, remove the key from tractor dashboard, put on the brake, and make sure that all machine components are arrested.

1. Please put 4 coils inside the twine box. Take the first end of each twine and put it through the corresponding hole (A).
2. Please tie the end of coil 1 with the head of coil 3, and the end of coil 2 with the head of coil 4, making a joint as shown, with 15—20 mm (19/32—25/32 in) in length for the two ends.
3. Take the end of coil 1 and put it through hole (B), and take the end of coil 2 and put it through hole (C), then both the ends must be put through the lying press (D).
4. Take both ends of the coils which come out from holes (C) and (B), and put them inside the twine guide (P) for the arm and then inside the first twine guide (Q) which is situated on the needle guard. After this operation, take the ends separately and put each one inside the wire guide (R) of each needle, then put them inside the eye of each needle and tie all to the lower transversal bar (L) of the chamber.

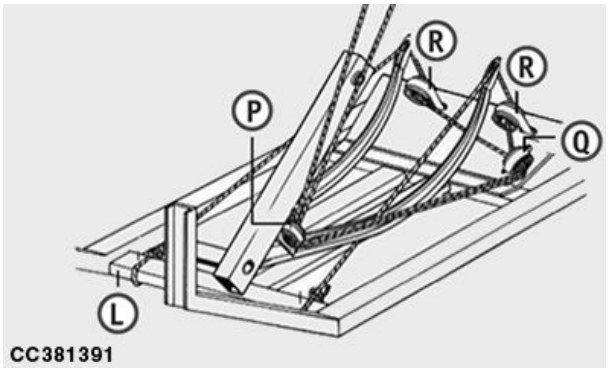
A—Coil
B—Hole
C—Hole
D—Lying Press
L—Lower Transversal Bar
P—Twine Guide
Q—Twine Guide
R—Guide
1—Coil
2—Coil
3—Coil
4—Coil



CC381312 —UN—18JUN19



CC381313 —UN—19JUN19



CC381391 —UN—18JUN19

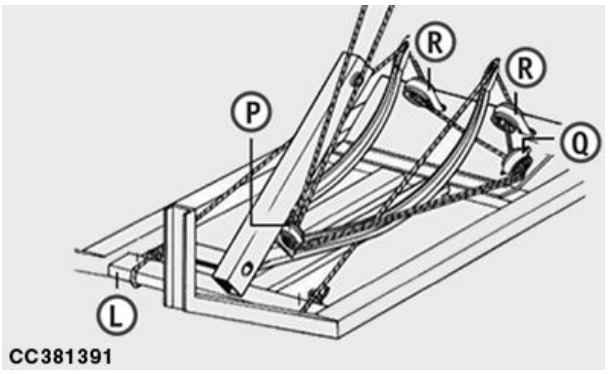
Continued on next page

GA87848,00010D6 -19-22JAN21-1/2

5. Rotate the star-shaped disk (C) by hand until the knotter lever (G) will be released. Turn the flywheel counterclockwise by hand in order to push the needles up so that the knotter gets wires, and then still turn until needles are at rest. At this point, loose the twines from the lower transversal bar (L). The machine is ready to bale.

C—Star-Shaped Disk
G—Knotter Lever
L—Lower Transversal Bar
P—Twine Guide
Q—Twine Guide
R—Guide

CC381353 —UN—18JUN19



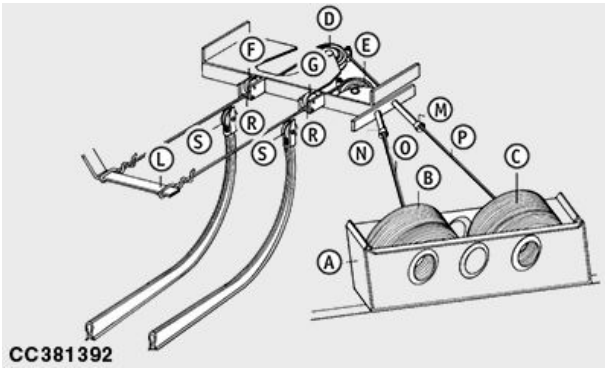
CC381391 —UN—18JUN19

GA87848,00010D6 -19-22JAN21-2/2

Install Wire

CAUTION: Before any assembly operation, it is important to deactivate P.T.O, turn off the tractor engine, remove the key from tractor dashboard, put on the brake, and make sure that all machine components are arrested.

1. Remove one or two wrapping tape from the skein.
2. Put the coils inside the box (A).
3. Cut the other wrapping tapes away from the coils.
4. Take the inside end of the coil (P) and put it in the wire guide (M), roll it around the pulley (D), insert it between the pulley (F) and the pin (R) and tie the wire end to the bar (L).
5. Take the wire end (O) of the coil (B) and put it in the wire guide (N), roll it around the pulley (E), insert it between the pulley (G) and the pin (R) and tie the end to the bar (L).
6. Release the knotter lever and turn the flywheel counterclockwise by hand until the needles bring wires to the knotter system.



CC381392 —UN—18JUN19

A—Box
B—Coil
C—Coil
D—Pulley
E—Pulley
F—Pulley
G—Pulley
L—Bar
M—Wire Guide
N—Wire Guide
O—Wire
P—Wire
R—Pin
S—Pulley

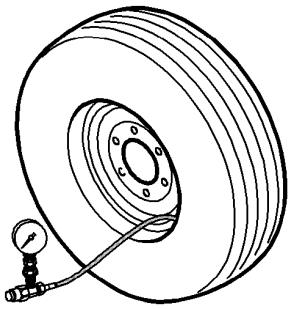
7. Remove the wires from the bar (L) and so the machine is ready for baling.

GA87848,00010D7 -19-18JAN21-1/1

Tire Inflation

Refer to the following table to obtain the correct tire pressure.

IMPORTANT: Always observe local road traffic regulations when driving on public roads. See Observe Maximum Transport Speed in Safety section.



CC1030245

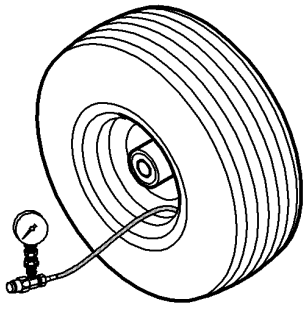
CC1030245 —UN—27SEP07

S160	Pressure
Right-Hand Side: 7-R12 PR6	300 kPa (3 bar; 43 psi)
Left-Hand Side: 10/75-R15.3 PR10	400 kPa (4 bar; 58 psi)

S180 and S200	Pressure
Right-Hand Side: 10/80-R12 PR8	350 kPa (3.5 bar; 50 psi)
Left-Hand Side: 10/75-R15.3 PR10	400 kPa (4 bar; 58psi)

OUCC007,00019D5 -19-22MAR22-1/2

Inflate pickup gauge wheels and third wheel to specified pressure:



CC1030246

CC1030246 —UN—01OCT07

	Pressure
Pickup Gauge Wheel	300 kPa (3 bar; 43 psi)
Third Wheel	650 kPa (6.5 bar; 94 psi)

OUCC007,00019D5 -19-22MAR22-2/2

Check Wheel Nut Torque

IMPORTANT: Whenever a wheel has been removed and installed, check wheel nut torque at intervals specified in Break-In Period section.

Tighten wheel nuts diagonally to specified torque:

Specification	
Wheel Nuts—Torque	115—135 N·m (85—100 lb·ft)

CC381399 —UN—28JUN19

GA87848,00010BA -19-12JAN21-1/2

Tighten pickup wheel nut to specified torque:

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

CC502350 —UN—14JAN21

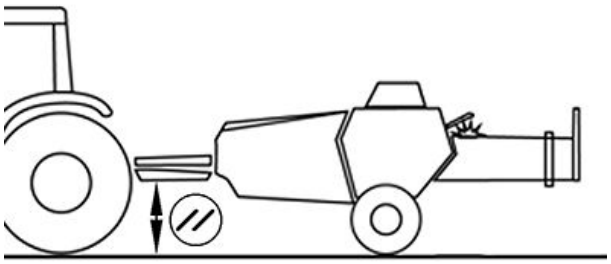
GA87848,00010BA -19-12JAN21-2/2

Attach Baler to Tractor

1. Adjust drawbar, see Adjust Drawbar in Preparing the Tractor section.
2. Back up tractor to baler. Align tractor hitch with front of baler tongue.
3. Engage tractor park lock, shut off engine, and remove ignition key.
4. Attach the baler to tractor. See tractor Operator's Manual.
5. Move jackstand in horizontal position.

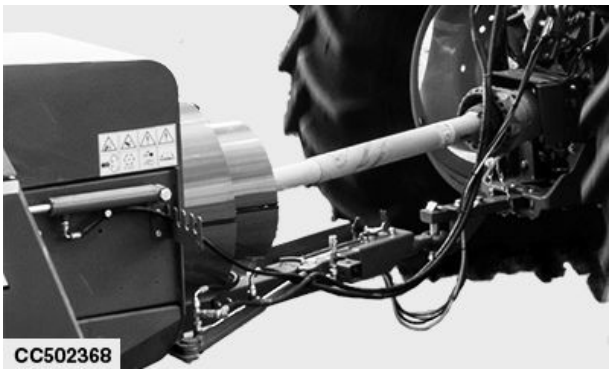
IMPORTANT: Baler position has a direct impact on the picking quality and crop flow.

6. Check that the baler tongue is the most horizontal as possible. If necessary, adjust tractor's drawbar.
7. Connect telescoping driveline to tractor PTO shaft, see Connect Telescoping Driveline to Tractor PTO Shaft in this section.
8. Connect to tractor hydraulic system, see Connect to Tractor Hydraulic System in this section.
9. Connect trailer socket, see Connect Seven-Terminal Trailer Socket in this section.
10. Connect fan harness, see Connect Fan in this section.
11. If equipped, connect pneumatic device, see Connect Pneumatic Density Device (If Equipped) in this section.



CC531822

CC531822 —UN—21FEB22



CC502368 —UN—21JAN21

12. If equipped, connect video camera harness, see Connect Video Camera Harness (If Equipped) in this section.

OUCC007,00019C5 -19-23FEB22-1/1

Set Tongue Position

CAUTION: Danger of crushing!

• **For machine equipped with mechanical folding device of tongue**, apply the procedure below.

1. To change from working to transport position, proceed as follow:
   a. Place a chock block behind the right baler wheel.
   b. Unlock tongue by pulling hocking pin (B) out of locking position.
   c. Move the tractor backward until the tongue reaches transport position.
   d. Lock tongue by pushing hocking pin (B) inside locking hole (A).
   e. Remove chock block.
2. To change from transport to working position, proceed as follow:
   a. Place a chock block in front of the right baler wheel.
   b. Unlock tongue by pulling hocking pin (B) out of locking position.

IMPORTANT: Two working positions are possible. Depending of tractor width, choose one of the two holes (C) to lock the machine in working position.

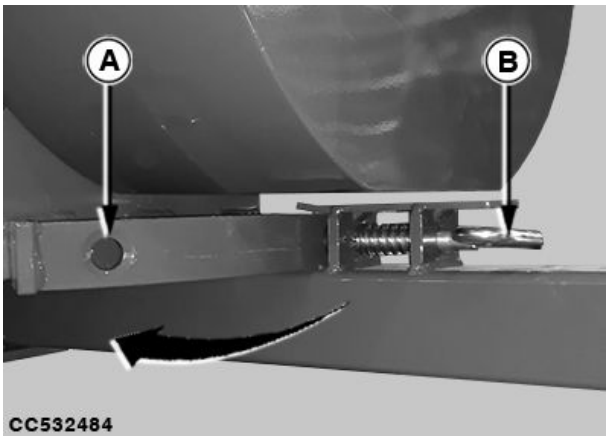
   c. Move the tractor forward until the tongue reaches the most appropriate working position.
   d. Lock tongue by pushing hocking pin (B) inside locking hole (C).
   e. Remove chock block.

• **For machine equipped with hydraulical folding device of tongue**, apply the procedure below.

IMPORTANT: Two working positions are possible. Depending of tractor width, choose one of the two holes (C) to lock the machine in working position.

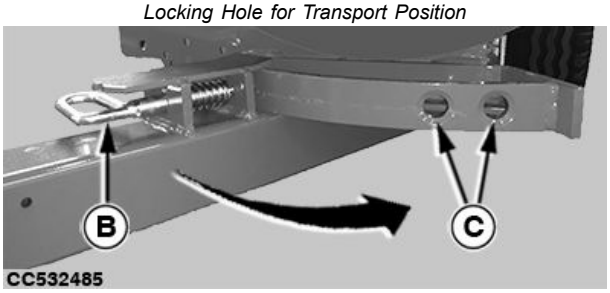
IMPORTANT: Stop to use the tractor hydraulic circuit if the machine does not move, damage the machine could occur.

1. Activate tongue folding circuit to move to transport or working position.



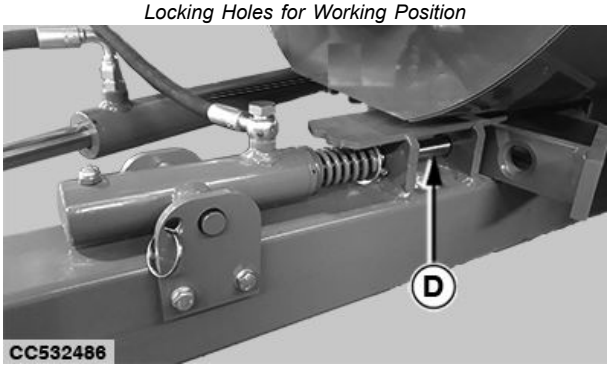
CC532484 —UN—08MAR22

Locking Hole for Transport Position



CC532485 —UN—15MAR22

Locking Holes for Working Position



CC532486 —UN—15MAR22

A—Locking Hole for Transport Position
B—Mechanical Hocking Pin
C—Locking Holes for Working Position
D—Hydraulical Hocking Pin

   • If machine does not move or hocking pin (D) can not be unlocked, see Adjust Timing of Hydraulic Tongue Folding Device (If Equipped) in Service section.
2. Be sure that the hocking pin (D) is inside locking hole (A) or (C).

OUCC007,00019CD -19-16MAR22-1/1

Connect Telescoping Driveline to Tractor PTO Shaft

CAUTION: Before telescopic driveline installation or telescopic driveline disconnection, it is important to deactivate tractor P.T.O, turn off the engine, remove the key from the dashboard, put on the brake, and make sure that all machine components are arrested.

Telescopic driveline must always be the last to be connected to the tractor P.T.O, and the first to be disconnected at the end.

Never climb over the area situated between tractor and machine for any reason, despite of cardan state.

CC381314

CC381314 —UN—18JUN19

The machine is equipped with a transmission system which relies on the telescopic driveline supplied by the manufacturer.

Before telescopic driveline installation, please read very carefully all the instructions given in the telescopic driveline handbook.

Please follow all assembly instructions given by the manufacturer and suggested on guard coating.

On telescopic pipe guard, you can find an icon indicating which side of telescopic driveline must be assembled on tractor's P.T.O spigot.

If you are using telescopic driveline with wide angle joint, this must be assembled on tractor side.

CONNECTING TELESCOPIC DRIVELINE SUPPLIED BY MANUFACTURER

1. Insert the telescopic driveline on the machine splined shaft, keeping the shear pin pressed. Then release the shear pin, and take the telescopic driveline back until you can hear a "clack" indicating the shear pin is in. If this will not happen, please repeat the process.
2. Please do the same process for connecting the telescopic driveline to the tractor after P.T.O cleaning and lubricating.
3. Please hook the chains to avoid any cardan guard rotation.

CONNECTING TELESCOPIC DRIVELINE NOT SUPPLIED BY MANUFACTURER

If you are going to use a telescopic driveline different from the one supplied, before connecting to the tractor please make sure to follow these rules:

When driveline is "closed", 10 cm at least of space are necessary not to damage the joints.

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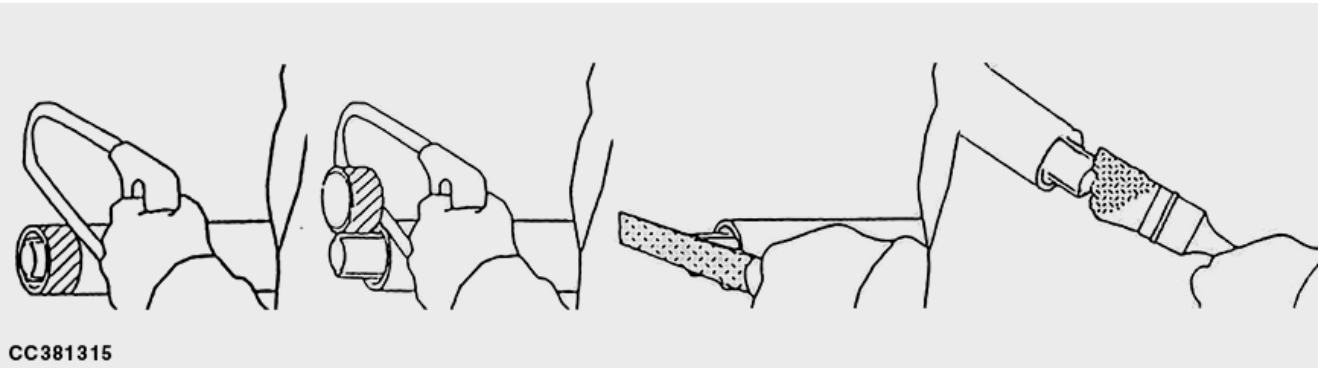
GA87848,0000C6D -19-28JUN19-1/3



CC381315 —UN—19JUN19

If telescopic driveline is too long, please make it shorter as suggested:

1. Cut plastic guards to make them shorter.
2. Make the inner pipe as short as guards.
3. Remove any imperfection due to cut.
4. Lubricate the inner pipe with grease.

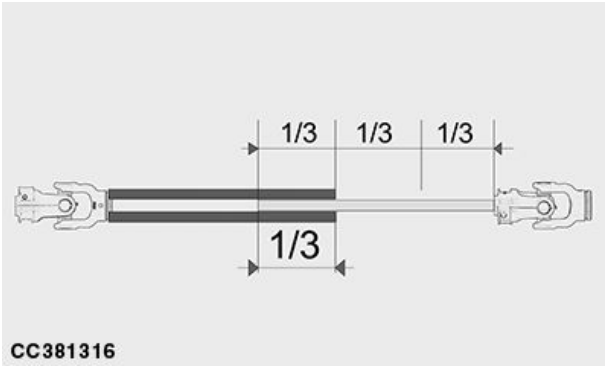
GA87848,0000C6D -19-28JUN19-2/3

When telescopic driveline is completely extracted, the two telescopic pipes must be superposed for 1/3 at least of their length.

For telescopic driveline with wide angle joint, the two telescopic pipes must be superposed for 1/2 at least of their length.

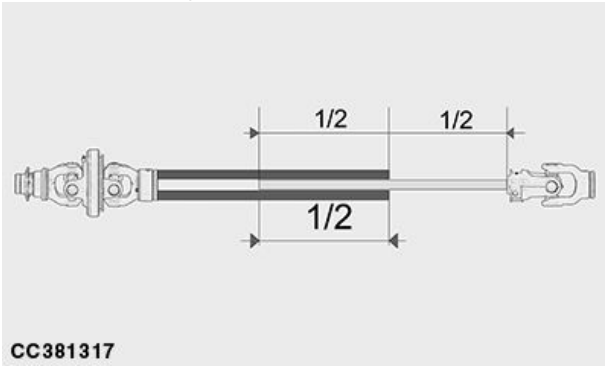
AFTER THIS, PLEASE CONNECT TELESCOPIC DRIVELINE TO THE TRACTOR AS SUGGESTED:

1. Lubricate the telescopic driveline according to manufacturer instructions and put the guards on again.
2. Clean and lubricate P.T.O.
3. Connect telescopic driveline to the machine and tractor as previously suggested, and make sure that it is firmly locked.
4. Make sure that machine and tractor cowlings are superposed over telescopic driveline guard according to current rules (5 cm (2 in)).



CC381316 —UN—18JUN19

Telescopic Driveline with Universal Joint



CC381317 —UN—18JUN19

Telescopic Driveline with Wide Angle Joint

GA87848,0000C6D -19-28JUN19-3/3

Connect to Tractor Hydraulic System

CAUTION: Any operation on the hydraulic system can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on and all machine components are arrested.

Please release the pressure in both machine and tractor hydraulic systems, before any operation on them.

All machine models can be provided with hydraulic equipment here mentioned:

- Pick-up hydraulic lift.
- Hydraulical folding device of tongue (if equipped).

CONNECTION INSTRUCTIONS:

1. Take machine hydraulic hoses and let them join tractor couplings, paying attention to the colored recognition code. The inversion of hoses will cause opposed movements instead of required ones.
2. Make sure circuits on tractor and machine are not under pressure, moving distributor levers in both directions with the engine off.
3. Connect the couplings to the tractor distributor.

OUCC007,00019CE -19-09MAR22-1/1

Connect Seven-Terminal Trailer Socket

CAUTION: Any operation on system can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on and all machine components are arrested.

Electric circuits are required for lighting system functioning.

FOR CONNECTION, PLEASE FOLLOW INSTRUCTIONS HERE REPORTED:

Lighting system is equipped with a 7 pole plug and a cable which protrude from machine drawbar. For connection, please connect the plug to a 7 pole tap on the tractor.

Please check periodically if lights are working properly, and replace them in case of damage.

GA87848,0000C6F -19-18SEP19-1/1

Connect Fan

CAUTION: Any operation on system can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on and all machine components are arrested.

Electric circuits are required for fan functioning.

FOR CONNECTION, PLEASE FOLLOW INSTRUCTIONS HERE REPORTED:

Fan is equipped with 2 pole plug and a cable which protrude from machine drawbar. For connection, please connect the plug with a 2 pole tap in the tractor.

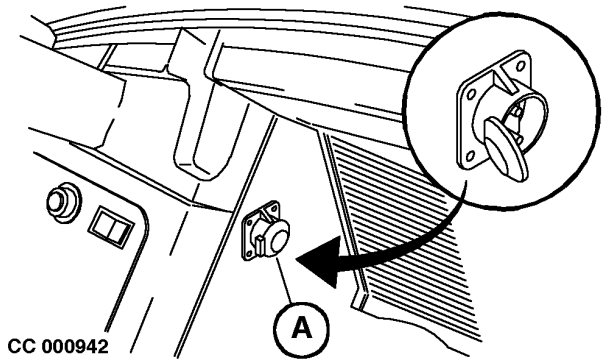
GA87848,0000C70 -19-18SEP19-1/1

Connect Pneumatic Density Device (If Equipped)

Ensure that the connections are clean before joining the pressure hoses. Seal the connections with the dust caps whenever the hoses are disconnected.

1. Connect diverter (B) to convenient outlet (A).
2. Connect compressor (C) to diverter (B).
3. Connect compressor (C) to fitting (D) using the dedicated pneumatic hose.
4. Open valve (E).

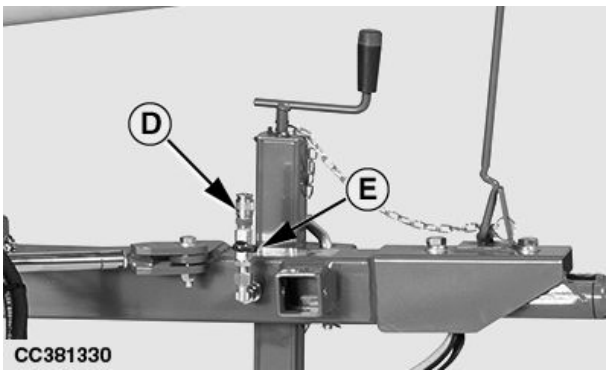
A—Convenient Outlet
B—Diverter
C—Compressor
D—Fitting
E—Valve



CC000942 —UN—05APR95

CC381328 —UN—12SEP19

CC381329 —UN—12SEP19



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GA87848,0000D11 -19-16SEP19-1/1

Connect Video Camera Harness (If Equipped)

A video camera can be connected to the cab socket. See your tractor Operator's Manual to locate it.

OUCC007,00019D0 -19-01MAR22-1/1

Detach Baler from Tractor

CAUTION: Before getting off the tractor for disconnection, please deactivate P.T.O, put the brake on, turn the engine off, remove the key from tractor dashboard, and wait until all moving parts are completely arrested.

The lack of experience and knowledge about machine connection/disconnection from the tractor and drawbar-jack can cause several problems for machine stability; before machine disconnection, please make sure that all machine parts involved in the hook up process are working perfectly.

For disconnection from the tractor, please lay the machine on a flat ground, and make sure it will not hinder the passage or cause any damage to people and animals.

FOR DISCONNECTION, PLEASE FOLLOW INSTRUCTIONS HERE REPORTED:

1. Put wedges under the wheels, avoiding any machine unexpected movement.
2. Disconnect the cardan shaft from the tractor splined shaft.
3. Extract the drawbar-jack, disconnecting gudgeon-pin from its place, and use the crank in order to bring drawbar-jack down the ground.
4. Lock the drawbar-jack, connecting the gudgeon-pin in its place.
5. Make sure that fork eye has been set between the two plates of the tractor hook, discharging the drawbar weight on its jack.
6. Disconnect all electrical connectors.
7. If there are any hydraulic couplings, please disconnect them from tractor distributors.
8. Disconnect pneumatic density device.
9. Remove the pin from tractor towing hook.
10. Get on the tractor again, turn the engine on, put the brake off, drive away very slowly, and check if all components are correctly disconnected from the tractor.
11. During cardan shaft disconnection, please make sure that all guards are in good condition. If there are any damages on them, please replace them immediately before connecting again.

GA87848,0000CF1 -19-18SEP19-1/1

Tow Baler on Public Roads

CAUTION: Use of flashing warning lights and turn signals is recommended when towing this equipment on public roads. An implement safety lighting kit is available from your John Deere dealer.

CAUTION: Use care when towing baler at transport speeds. Reduce speed if the weight of baler exceeds weight of tractor. Baler must be empty when towing it on roads.

IMPORTANT: Do not make sharp turns when towing baler. Damage could result if tongue strikes tractor tire.

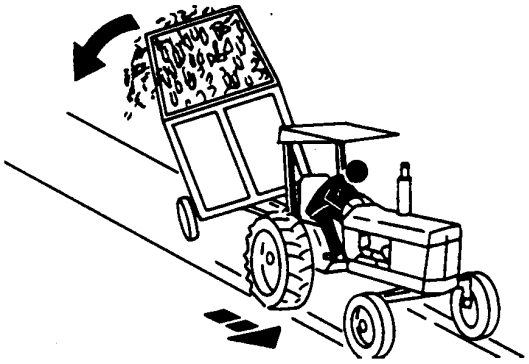
IMPORTANT: Maximum transport speed is determined by local road traffic regulations and speed capability of the implement. To determine the appropriate tire pressure, see Tire Inflation in Preparing the Baler section.

Always observe local road traffic regulations when driving on public roads.

When transporting baler at high speeds, a rocking motion may occur. Reduce speed until rocking stops.

Towing a trailer with the rear hitch of the baler is prohibited on public road.

H28930 —UN—30JUN89



TS216 —UN—23AUG88

GA87848,0000CCD -19-18SEP19-1/1

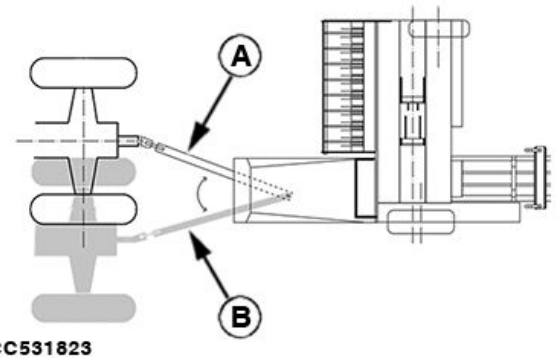
Prepare Baler for Transport

CAUTION: For safe traffic flow on the road, it is necessary to abide by the exact road regulations following the appropriate laws in the current country of use, paying particularly attention to the choice of speed, and the weight of the tractor.

CAUTION: When driving on public roads, the machine must be set in transport position.

BEFORE ACCESSING TO A PUBLIC ROAD, APPLY THE FOLLOWING OPERATIONS:

- Disengage the PTO.
- Verify tidiness of machine, in particular the tires, in order to avoid staining the road surface.
- Lift and block the pickup.
- Lift and block in vertical position the rear pipe.
- Check correct assembly and pressure of the tires.
- Check the bolts are clamped correctly, in particular the bolts of the tires.
- Connect the plug of the rear lights to the socket of the tractor and verify that the installation is functioning.
- Verify that the last bale has been expelled or blocked in such a way that it cannot fall and cause a dangerous incident.
- Set the tongue in the transport position for road towing, as in the following figure and block it with the specific latch. See Set Tongue Position in Attaching section.
- Block the towing eye of the baler to the towing hook of the tractor.
- Disconnect every hydraulic connection to tractor.
- Put the shaft support in the horizontal position.
- Check that the incline of the road where you drive to ensure that it is not more than 10° incline diagonal and 8° of incline longitudinal, to guarantee the correct stability of the machine.
- Detach any additional trailed device from the rear hitch of the baler.



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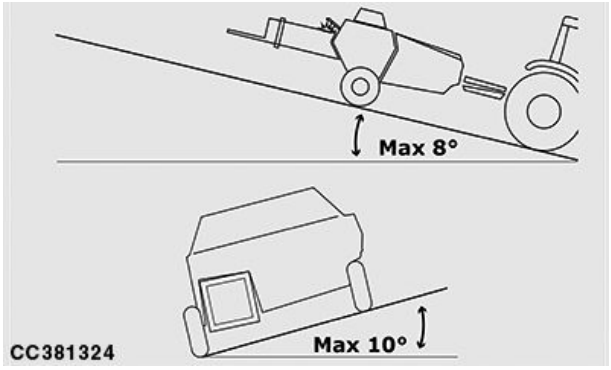


CC381324 —UN—01JUL19

Maximum Road Incline

A—Transport Position **B—Working Position**

OUCC007,00019C6 -19-08MAR22-1/1

Transport Baler by Vehicle

CAUTION: For load/unload, please operate in a lighted place and without obstacles around. Please make sure that brakes are working efficiently in order to avoid any machine moves which can cause accidents, even deadly ones.

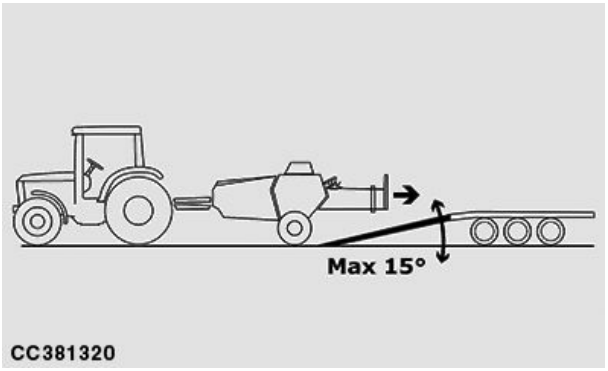
For machine anchorage and load, please follow instructions here reported:

MACHINE LOAD AND TRANSPORT BY VEHICLE

For machine load, please use ramps secured to a vehicle flatcar or an appropriate platform.

For machine transport, please use a transport vehicle with appropriate power and size.

IMPORTANT: For machine anchorage, do not use fragile parts as support, and make sure that machine is firmly locked to avoid any sudden moves.



CC381320 —UN—18JUN19

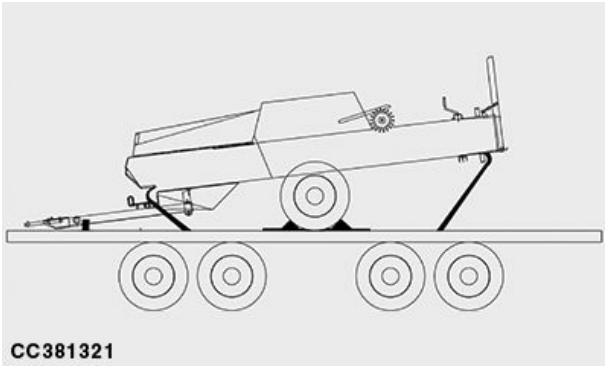
Please make sure that brakes are working efficiently in order to avoid any machine moves which can cause accidents, even deadly ones.

GA87848,0000C73 -19-18SEP19-1/2

ANCHORAGE TO VEHICLE

For transport, the machine must be firmly locked. Please anchor your machine to the vehicle using sturdy ropes or straps, and lock the wheels using wedges.

Put the drawbar-jack in horizontal position and lock it using gudgeon and shear pin.



CC381321 —UN—18JUN19

GA87848,0000C73 -19-18SEP19-2/2

Break-In Period

Break In Baler

IMPORTANT: Belt and drive loads increase as the bale size approaches maximum diameter. Frequent forming of oversize bales can lead to premature failures.

Consider the period necessary to form approximately the first fifty bales as the break-in period, i.e. until paint inside bale chamber has worn off.

Before operation, lubricate members of telescoping driveline liberally.

IMPORTANT: If slippage occurs during action on cam-type cut out clutch, disengage PTO and re-engage at low idle until cam clutch re-engages, then operate again at rated PTO speed.

OUCC006,0001977 -19-15OCT12-1/1

Break-in Period: After the First 10 Hours - Wheel Nut Torque

Check wheel nut torque after the first 10 hours of use. See Check Wheel Nut Torque in Preparing the Baler section.

IMPORTANT: Repeat the procedure each time a wheel has been removed and installed.

CC381399 —UN—28JUN19

GA87848,0000CC5 -19-28JUN19-1/1

Break-in Period: After the First 10 Hours - Check Pickup Drive Belt

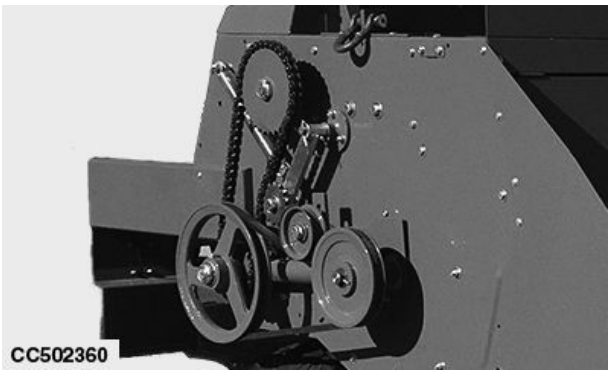
Check pickup drive belt tension after the first 10 hours of use. See Adjust Pickup Drive Belt in Service section.

CC502361 —UN—14JAN21

GA87848,00010C5 -19-14JAN21-1/1

Break-in Period: After the First 10 Hours - Check Auger Drive Belt (If Equipped)

Check auger drive belt tension after the first 10 hours of use. See Adjust Auger Drive Belt in Service section.



CC502360 —UN—14JAN21

GA87848,00010C4 -19-14JAN21-1/1

Before Each Use of the Baler

CAUTION: Before the machine will start to work, please make sure that, in case of people or animals nearby, they must be 20 meters at least far from the machine. Moreover, before machine starts up, please make sure that all guards are working correctly, not damaged at all and set in the right places.

BEFORE STARTING TO HARVEST:

1. P.T.O rotation rate must be fixed at 540 rpm. Make sure that the plunger strokes per minute are 90.
2. Put the chute down.
3. Put the pickup down, and make sure that tines are 4—5 cm (1-9/16—2 in) high from the ground.

Please follow instructions here reported:

1. Drive the machine close to the windrow and set the pickup central to the windrow.
2. Move forward, adapting the tractor speed rate according to the type of product and the available windrows
3. Always operate ensuring steady access of the product into the chamber.
4. Make sure that pickup tines cannot touch the ground to avoid any transmission overload or any machine early wear.
5. Once the product entered into the chamber and the first tine operation for wrapping was done, please deactivate P.T.O, put on the brake, turn the engine off, and remove the key from the tractor dashboard
6. Make sure that the first bale wrapping was done correctly.
7. Go on producing the second bale, as previously reported. Check for bale length and density settings.

GA87848,0000C78 -19-18SEP19-1/1

Clean the Machine to Prevent Fire

CAUTION: Before working on the machine, disengage PTO, engage parking brake, shut off tractor engine and remove key. Wait for all moving parts to come to a standstill.

To reduce risk of fire, clean the machine several times per day, adjust cleaning frequency based on baling conditions.

Remove buildup of crop material and other debris by hand or using any other available tools, especially near bearings and moving parts.

DC82261,00004F8 -19-12AUG14-1/1

In Case of Fire Take Following Action

Stop baling immediately at the first sign of flames, smoke, scorched smell, or an unusual sound.

CAUTION: Do not risk personal injury. Burning tires and heated gas springs can explode unexpectedly. Avoid burns or smoke inhalation. Do not attempt to extinguish a fire that is too far advanced, move safely away from the fire.

If the fire can be extinguished or contained safely, proceed carefully and follow these guidelines.

1. Position the tractor upwind from the baler to avoid the fire overtaking the tractor.
2. Open the baler gate, eject any crop material from the bale chamber, drive away from the material.
3. Disengage PTO, engage parking brake, shut off tractor engine and remove key.
4. Pull the draw pin, detach safety chains, disconnect electrical harness.

TS227 —UN—15APR13

5. Drive the tractor away from the baler (letting the driveline, and hydraulic connections pull free).
6. Call the fire department and give them your location.
7. Do not position yourself under an open baler gate. It may fall if the baler is on fire.
8. Stay upwind of the fire; follow instructions on your fire extinguisher when available.

CC03745,000114C -19-25SEP14-1/1

Prepare the Crop

IMPORTANT: A high moisture rate for the product can cause some blockages into the feeding pipe and also problems for the bale production cycle.

Working conditions can change anytime, depending on product features, working environment and field condition. Windrow assessment plays a principal role in the machine performance. Collecting the product into solid windrows, which must be 80÷100 cm in width and the same height as the pickup, is required for the machine's highest production performance.

In this way, you will easily achieve these results:

- A more flowing way for the harvest
- High performance for baling operation
- More bale weight
- Reduced losses of product
- Best way for shaping bale and storing them
- Easier machine working operations
- No petrol and time waste

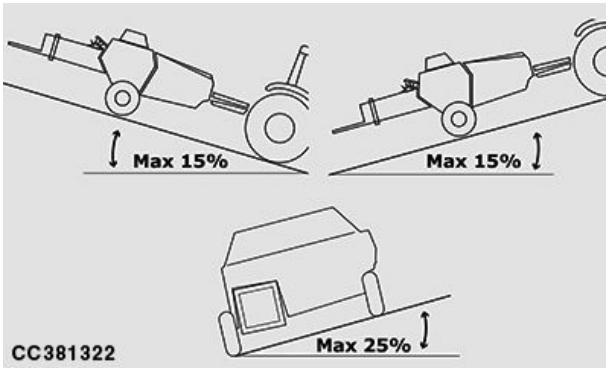
GA87848,0000C77 -19-18SEP19-1/1

Operate Baler on Slopes

CAUTION: Operator must be highly qualified for current working conditions.

Machine stability can be reduced by ground conditions and tractor type, and bales inside the machine can dangerously change machine-tractor balance.

For this reason, the operator must correctly know the ground that he is going to operate on, and work according to all safety and security instructions.



CC381322 —UN—18JUN19

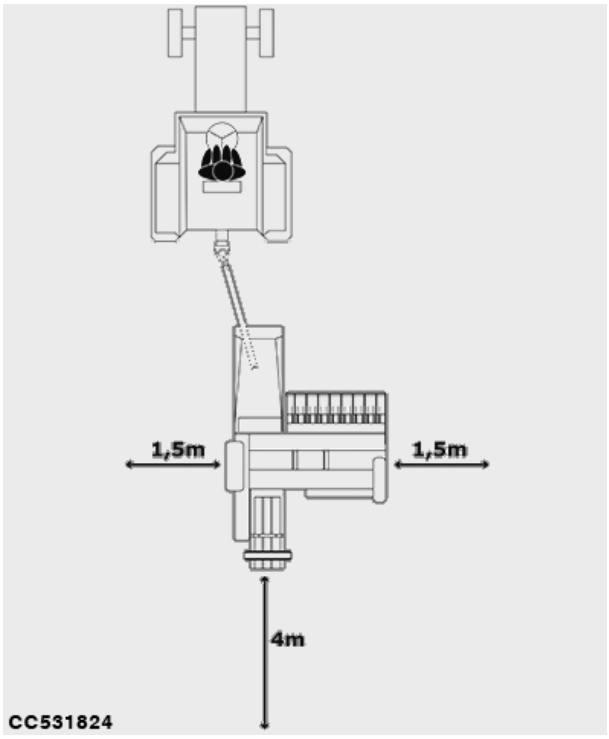
GA87848,0000C75 -19-18SEP19-1/1

Operate Baler at Night

CAUTION: Before any operation, please deactivate P.T.O, put tractor brake on, turn the engine off, remove the key from the tractor dashboard, and make sure that all machine parts are completely arrested.

USING MACHINE DURING NIGHT TIME CAN INCREASE THE RISK OF DAMAGES, SO IT IS EXTREMELY IMPORTANT TO PAY ATTENTION TO THE FOLLOWING CAUTIONS:

1. Operator must correctly know the ground that he is going to operate on, and work according to all safety and security instructions.
2. Machine must be working in good visibility. Operator must be able to view up to 20 meters (safety range of visibility) far from machine; if necessary, make use of tractor lighting system.
3. For settings, checks or any other operation on machine, please operate in a lighted place.



CC531824 —UN—21FEB22

OUCC007,00019C7 -19-14FEB22-1/1

Remove Blockage

CAUTION: Never remove any blockage when baler is on and operating.

Before removing any blockage, please make sure that the flywheel is completely arrested.

In order to remove any blockage, before getting off the tractor, please deactivate P.T.O, put on the brake, turn off the engine, remove the key from the tractor dashboard, and wait until all moving parts are completely arrested.

During the baling operation, a blockage between the feeding chamber and the compression chamber can occur due to foreign matters picked-up, or excessive speed race or uneven windrows.

AFTER APPLYING THESE SAFETY AND SECURITY INSTRUCTIONS, PLEASE PROCEED AS SUGGESTED:

1. Make sure that all machine parts (the flywheel, first) are completely arrested.
2. Do not use any driving equipment or hoses as a grip.
3. In case of any blockage, please remove all the material involved paying attention to all safety & security instructions.
4. Before using the machine, please check for the state of all pickup components (tines, rods, bushes, cam, wrappers) and make sure that safety bolts or other machine parts are not damaged or deformed.
5. In order to start working again, turn on the engine, put off the brake, activate P.T.O and drive away very slowly, and check if all components are working properly. Adapt the tractor speed rate according to the type of product and field condition.

GA87848,00010D8 -19-18JAN21-1/1

Replace Flywheel Safety Bolt

CAUTION: Before any operation on the flywheel, please deactivate the tractor P.T.O, turn off the engine, remove the key from the tractor dashboard, put the brake on, and make sure that all machine parts are completely arrested.

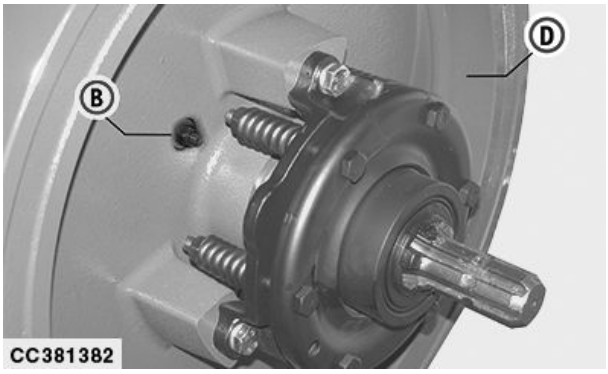
The safety bolt (B), which is inside one of the bushes (E), has been assembled on the flywheel (D) in order to avoid damages to any machine components due to working overload or unexpected events.

1. Locate cause of shearing and correct.
2. Remove all safety bolt debris.
3. Rotate flywheel to align one bushing (E) with the drive hub.
4. Check that the bushing (E) is not ovalized. If necessary, replace bushing (E).
5. Install a new safety bolt T.E. 8 X 80 UNI 5737 8.8. Do not replace with a standard bolt.

   Nut of safety bolt must be oriented to tractor side.

NOTE: Do no use the free bushing (E) to place a spare safety bolt.

NOTE: The breaking of the flywheel safety bolt does not cause any change on machine timing.



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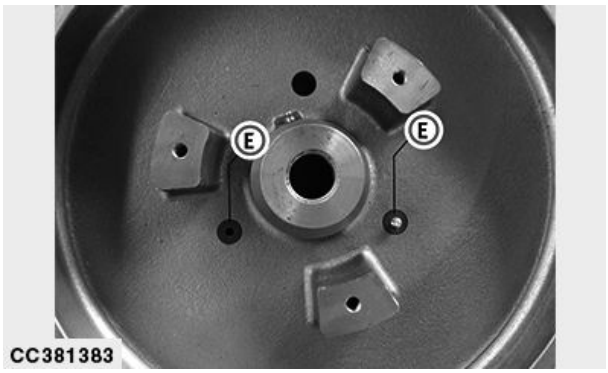

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B—Safety Bolt
D—Flywheel
E—Bushes

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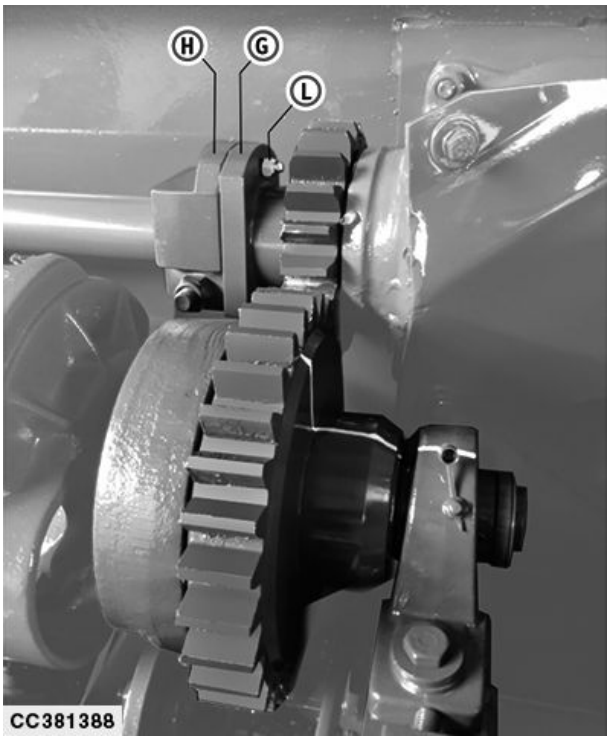
Replace Knotter Safety Bolt

The knotter safety bolt (L) has the function to protect the knotter system and needles, avoiding any kind of damage due to malfunctioning.

G—Gear
H—Hub
L—Safety Bolt



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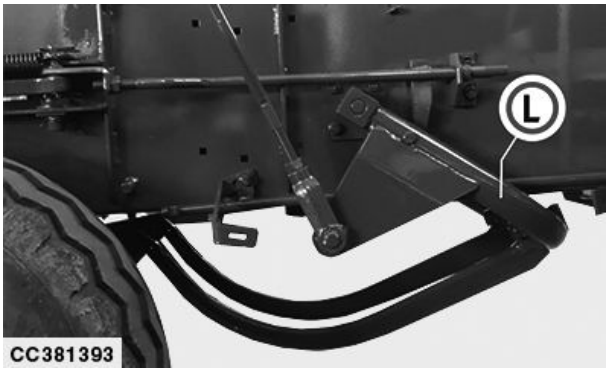
GA87848,00010CC -19-18JAN21-1/2

Please follow all instructions in order to replace the knotter safety bolt:

1. Remove all the reasons which led to the breaking.
2. Pull the needle arm (L) back at rest.
3. Replace the flywheel safety bolt. See Replace Flywheel Safety Bolt in this section.
4. Rotate the flywheel by hand and proceed with the machine timing. See Adjust Timing of the Machine in Service section.
5. Rotate the gear (I) counterclockwise until signs (A), (B), and, (C) match each other, and then replace the needle safety bolt.
6. Install a new safety bolt T.E. 6 X 40 UNI 5739 8.8. Do not replace with a standard bolt.

A—Sign
B—Sign
C—Sign
I— Gear
L—Arm
S—Support



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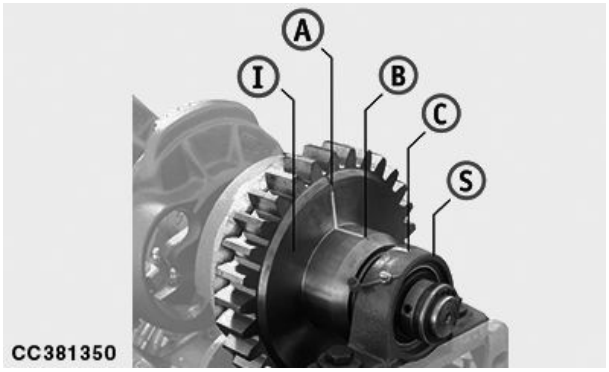

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GA87848,00010CC -19-18JAN21-2/2

Replace Forks Safety Bolt

CAUTION: Before any operation on the forks, please deactivate the tractor P.T.O, put on the brake, turn off the engine, remove the key from the tractor dashboard, and make sure that all machine parts are completely arrested.

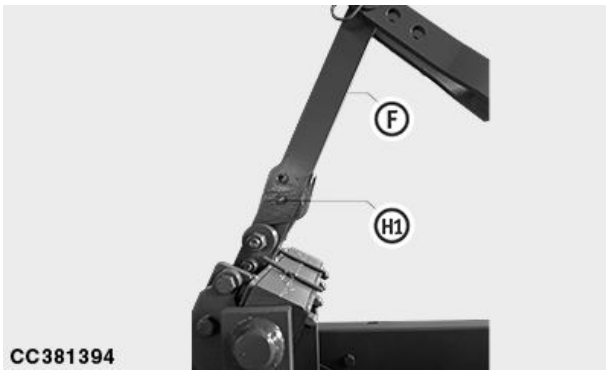
All safety bolts (H1) and (H2) of the fork (F) and (G) have been assembled to protect the feeding system, avoiding any kind of damage due to overload or foreign matters.

When the safety bolt (H1) of fork (F) breaks down, it moves upward and its function of letting the product flow in the compression chamber is seriously prejudiced.

In this case, please stop the machine immediately in order to avoid the breaking of the safety bolt (H2) also for fork (G). Then, clear the feeding channel from the product and replace the damaged bolt with a new safety bolt T.E. 6 X 40 UNI 5737 8.8. Do not replace with a standard bolt.

NOTE: The breaking of safety bolts does not cause any change on timing.

F—Fork
G—Fork
H1—Safety Bolt
H2—Safety Bolt



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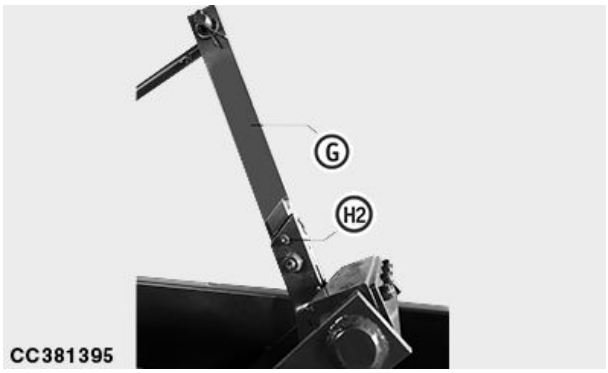

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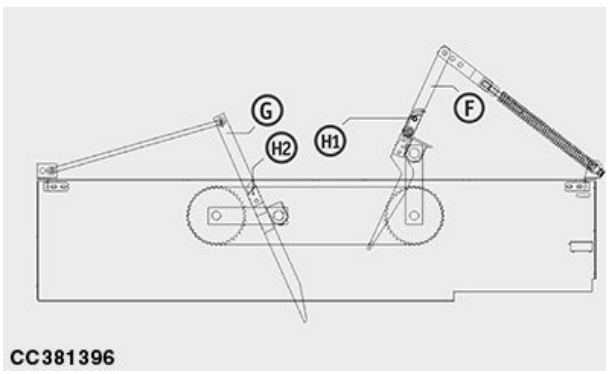

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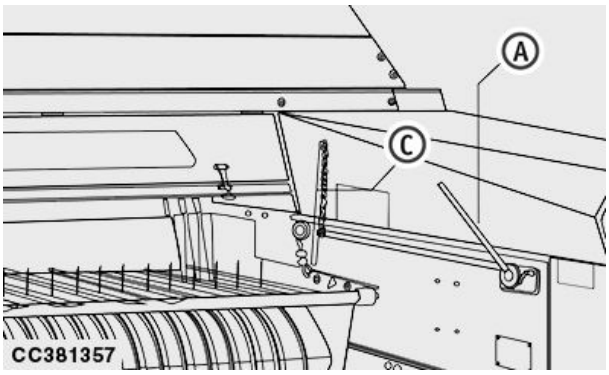
GA87848,0000C99 -19-28JUN19-1/1

Adjust Pickup Height

CAUTION: Any setting operation can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on, and machine is completely arrested. At the end of machine work and during machine transport, please make sure that pickup is totally lifted up and locked with the proper rod.

Pickup height needs to be set using the lever-jack equipment (A) and secured by the rod (C) with its safety pin.



CC381357 —UN—18JUN19

A—Jack Lever **C—Rod**

Setting Pickup Height with Mechanical Device

How to Set the Pickup Height

1. Extract the safety pin from the lever pin (C).
2. Pull the jack lever (A) until a click is made by the roller, then go on pulling the lever until pickup tines will reach the required distance from the ground.

Specification

Pickup Tines-to-Ground—Distance.....4—5 cm (1-9/16—2 in)

3. Insert again the pin for the rod (C) in the hole which matches the required pickup setting, so insert again the safety pin.

How to Set the Pickup for Transport

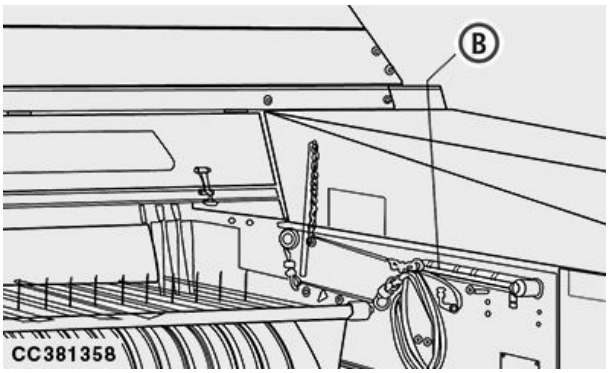
1. Pull the jack lever (A) until two clicks are made by the roller, then go on pulling the lever until the pickup will reach the maximum height above the ground.
2. Extract the safety pin from the rod (C) and insert it in the hole in order to reach the maximum height of the pickup above the ground.

GA87848,00010C3 -19-15JAN21-1/3

Setting Pickup Height with Hydraulic Device

When the machine is provided with a hydraulic device (B), setting operation can be performed directly from the tractor's driving cab using the hydraulic jack's lever.

B—Hydraulic Device



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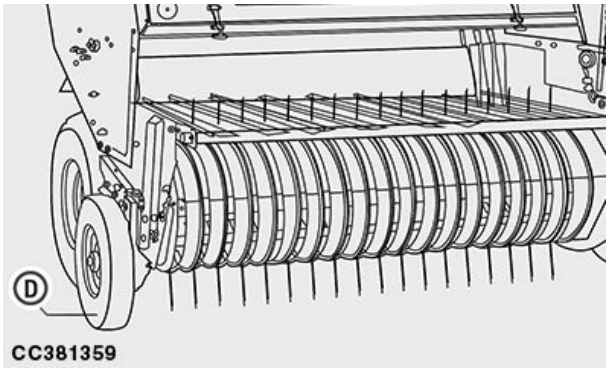
GA87848,00010C3 -19-15JAN21-2/3

Pickup Support Wheel

In case of uneven field, pickup tines can accidentally touch the ground. The machine can be equipped with a wheel (D) in order to avoid this situation.

The aim of this wheel is to support the pickup and to protect pickup tines when they are suffering pressure on the ground.

D—Support Wheel



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GA87848,00010C3 -19-15JAN21-3/3

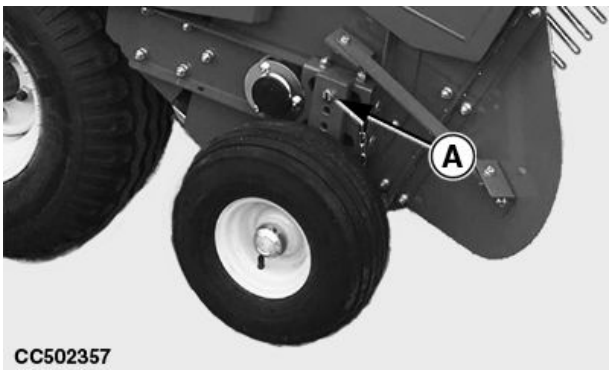
Adjust Pickup Wheel Height

CAUTION: Any setting operation can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on, and machine is completely arrested. At the end of machine work and during machine transport, please make sure that pickup is totally lifted up and locked with the proper rod.

In case of uneven field, pickup tines can accidentally touch the ground. The machine can be equipped with a wheel to avoid this situation.

Adjust pickup wheel height as follows:

1. Remove screws (A).
2. Move pickup wheel at the required height.



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A—Screw

3. Install screws (A).

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Adjust Bale Chute

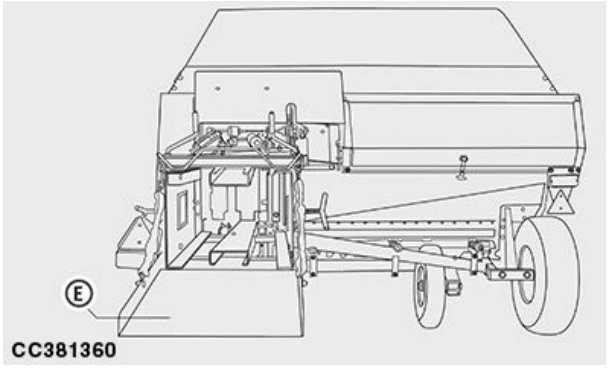
CAUTION: During chute handling, please pay attention to possible damages due to hitting, pinching, and cutting. Do not forget to close the chute during the machine transport and lock it with the proper chains.

IMPORTANT: Move the chute down before working.

Each machine is provided with a chute (E) on its backside which helps wrapped bales to be ejected.

HOW TO SET THE CHUTE FOR WORKING:

1. Unlock the chute, taking chains out from their hooking sites.
2. Put the chute in horizontal position and make sure that chains are stretched in order to support it.



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E—Chute

GA87848,0000C4B -19-30SEP19-1/1

Adjust Bale Length

Bale length is defined by the run of the arm (G), which can be set using the retainer (F). The arm (G) runs on the roller (I) of the star-shaped disk (S), which rotates when in contact with the bale during its shaping cycle.

So, the star-shaped disk (S) and the roller (I) lift the arm up. At the end of the arm run, the knotter system is triggered, it starts binding and the bale is tied.

For bale length, you need to move gradually the retainer (F) on the arm (G) until the required run, that triggers the knotter, will be achieved.

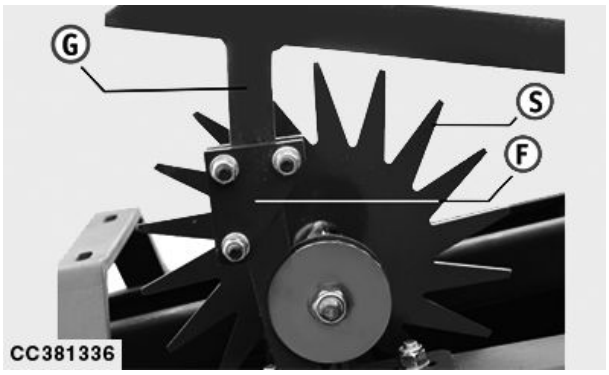
How to Set Bale Length

To increase the length:

1. Unloose the three nuts of the retainer.
2. Move up the retainer (F) gradually.
3. Tighten the nuts of the retainer (F) after any work and start to harvest again.
4. Check the bale length after 2—3 bales are completed.

To reduce the length:

1. Unloose the three nuts of the retainer (F).
2. Move the retainer (F) down gradually.
3. Tighten the nuts of the retainer (F) after any work and start to harvest again.
4. Check the bale length after 2—3 bales are completed.



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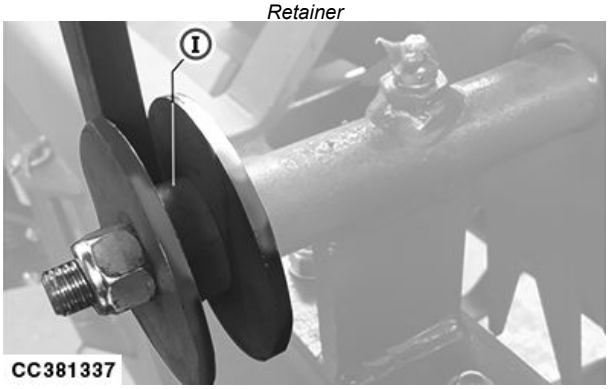
Retainer



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Roller

F—Retainer
G—Arm
I— Roller
S—Star-Shaped Disk

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Adjust Bale Density (Mechanical Device)

Bale density is defined by pressure made by the bulkhead convergence in the chamber, and it must be set according to the type of product to bale, bale weight and machine speed rate.

To change convergence and then the work pressure, you need to work on upper pressers, lower pressers, and also side pressers controlled by levers (I).

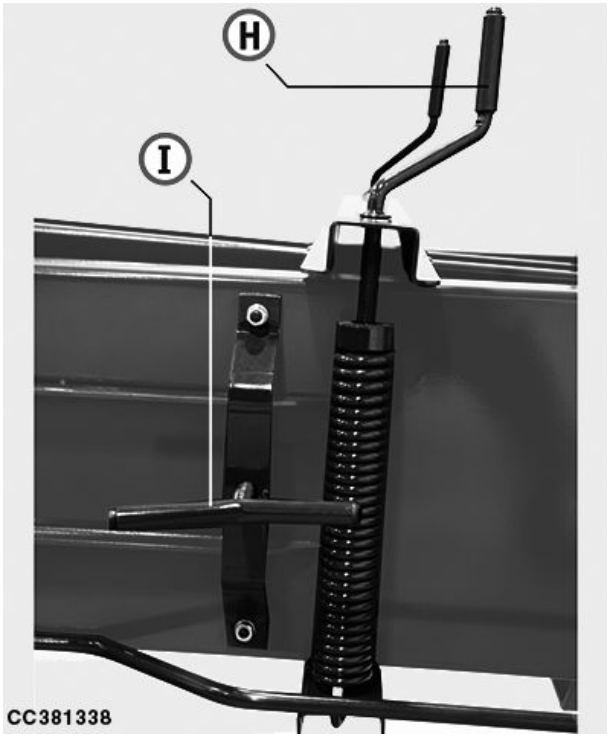
To increase the density: please screw levers (H) and (I), gradually until your bale density target is reached.

To reduce the density: please unscrew levers (H) and (I), gradually until your reduced pressure target is reached.

Check for effective pressure after 2—3 bales are completed.

Do not forget to unscrew levers (H) and (I) enough to remove all the pressure in the chamber at the end of machine work.

H—Lever **I— Lever**



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Adjust Bale Density (Pneumatic Device)

IMPORTANT: Relieve the pressure at the end of work.

Bale density is defined by pressure made by the bulkhead convergence in the chamber, and it must be set according to the type of product to bale, bale weight and machine speed rate.

To change convergence and then the work pressure, you need to work on upper pressers, lower pressers, and also side pressers controlled by levers (B).

To increase the density:

- Move the diverter lever (A) to the UP position until the desired pressure is reached.
- Screw lever (B), gradually until your bale density target is reached.

To reduce the density:

- Move the diverter lever (A) to the DOWN position until the desired pressure is reached.
- Unscrew lever (B), gradually until your bale density target is reached.

Check for effective pressure after 2—3 bales are completed.

Do not forget to relieve pneumatic pressure and to unscrew levers (B) to remove all the pressure in the chamber at the end of machine work.

A—Lever **B—Lever**

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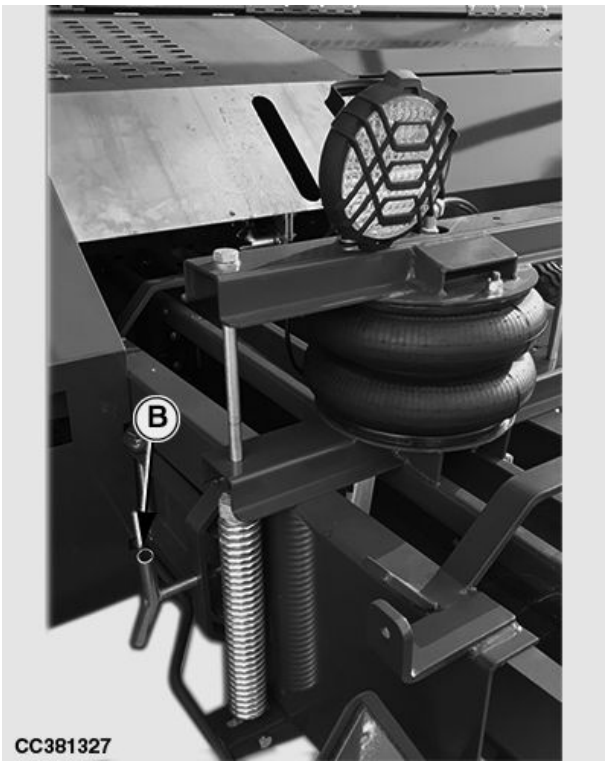

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Adjust Feeding Forks (Machine Equipped with Double Forks)

In particular working conditions, fork setting can cause irregular bales shape. If this happens, you need to change the position of the forks.

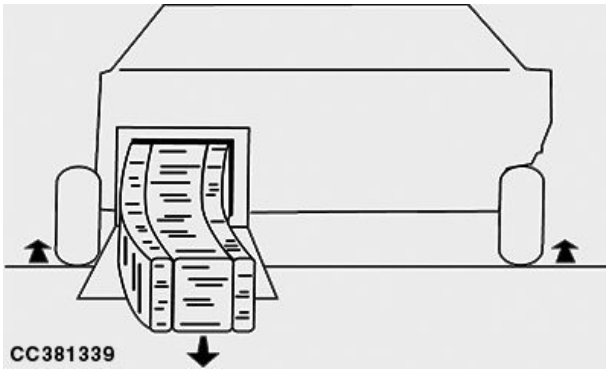
How to Correct Bale Curving

• Bale curved to the right

In this case, more product on the left side, opposite the feeding opening, comes into the chamber.

1. Make sure the plunger runs at 90 strokes per minute.
2. Move the rod (A) from hole (1) (standard position) to hole (2). Check for effectiveness after 2—3 bales are completed.
3. If the bale is still curved, move the rod from the hole (2) to hole (3). Check for effectiveness after 2—3 bales are completed.
4. If the anomaly still remains, you need to:
   a. Bring the rod (A) back to the standard position inside hole (1), extract the bolts (J) and turn the "mirrored" fork tines for 180°. Insert bolts (J) again and lock with nuts.
   b. Check for effectiveness after 2—3 bales are completed, and if the bale is still curve please follow instructions as suggested at step 2 and 3.

A—Rod
F—Fork
J—Bolt
1—Hole (Standard Position)
2—Hole
3—Hole



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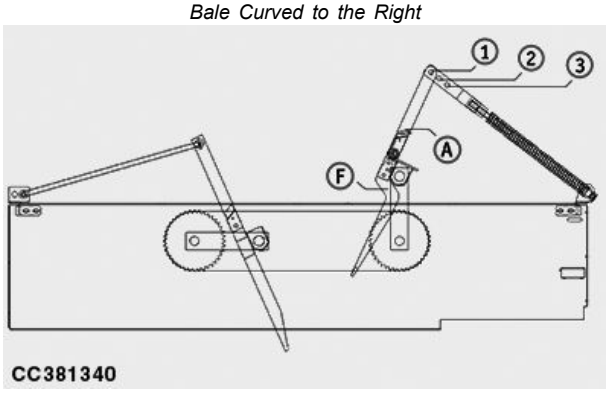
Bale Curved to the Right



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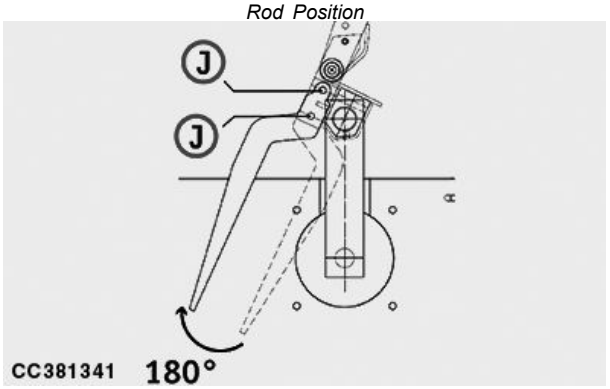
Rod Position



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Fork Position

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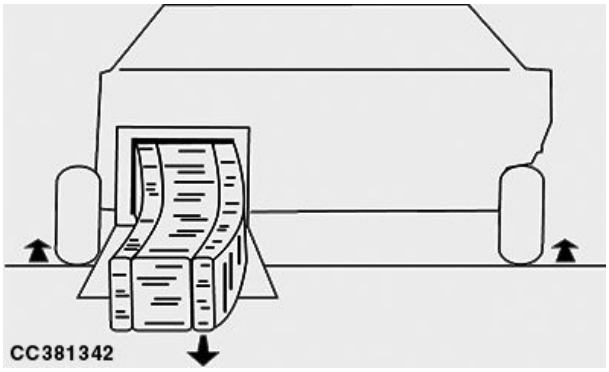
• Bale curved to the left:

In this case, more product on the right side, where the feeding opening is situated, comes into the chamber.

1. Make sure the plunger runs at 90 strokes per minute.
2. Move the rod (A) and fork tines in the standard position. Check for effectiveness after 2—3 bales are completed.
3. If the bale is still curved, please do as suggested:
   a. Extract the safety bolt (P) out of the standard position - hole (a) matches hole (c).
   b. Turn the fork (F) until hole (a) matches hole (b) on the rod.
   c. Insert the safety bolt (P) again in this position and lock using the proper nut and with hole (d) clearly visible.

A—Rod
F—Fork
P—Safety Bolt
a—Hole
b—Hole
c—Hole
d—Hole



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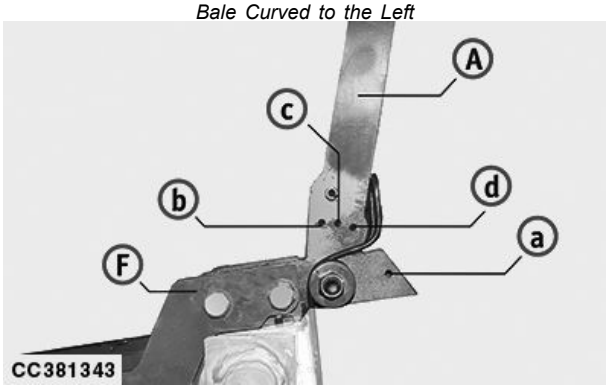
Bale Curved to the Left



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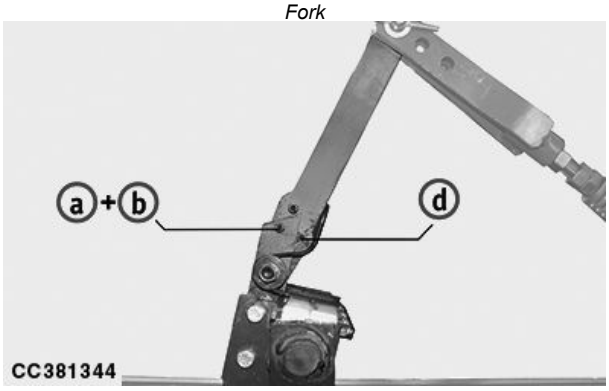
Fork



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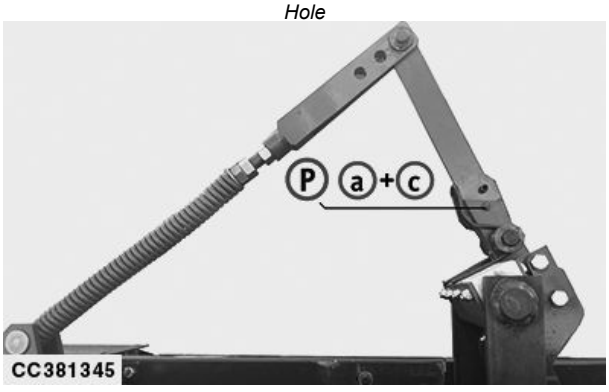
Hole



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Safety Bolt

GA87848,00010EB -19-21JAN21-2/2

Adjust Feeding Fork (Machine Equipped with Auger)

In particular working conditions, fork setting can cause irregular bales shape. If this happens, adjust the fork setting.

How to Correct Bale Curving

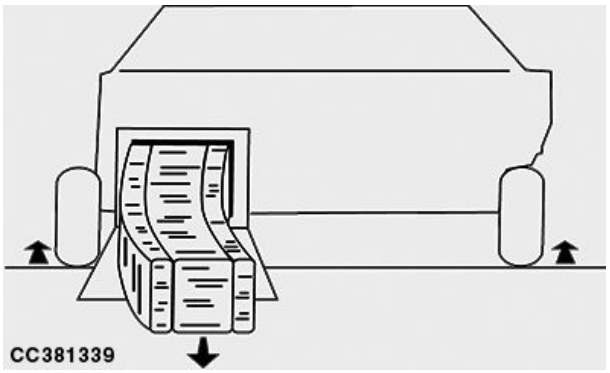
• Bale curved to the right

In this case, more product on the left side, opposite the feeding opening, comes into the chamber.

1. Make sure the plunger runs at 90 strokes per minute.
2. Move the rod (A) from hole (1) (standard position) to hole (2). Check for effectiveness after 2—3 bales are completed.
3. If the bale is still curved, move the rod from the hole (2) to hole (3). Check for effectiveness after 2—3 bales are completed.

NOTE: To achieve maximum performance, it is not recommended to move fork (F) in its mirrored position.

A—Rod
F—Fork
J—Blot
1—Hole (Standard Position)
2—Hole
3—Hole



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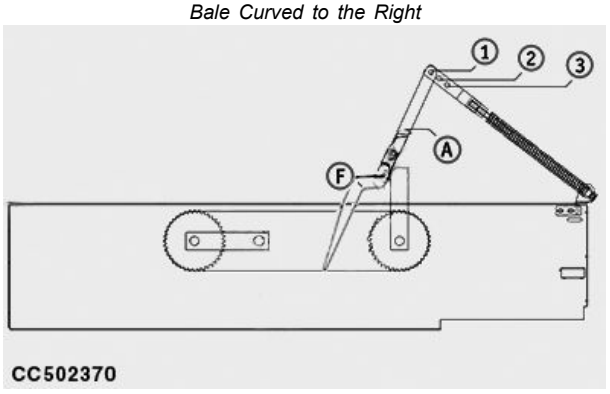
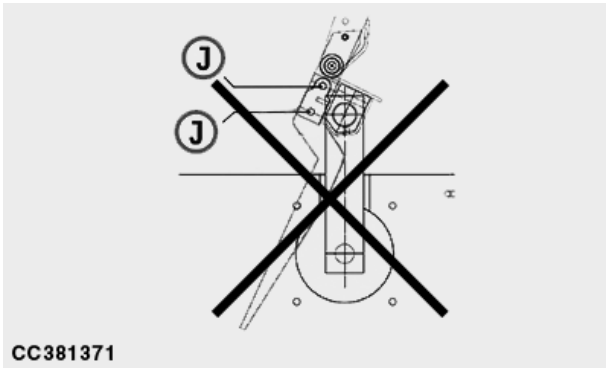
Bale Curved to the Right



CC502370 —UN—21JAN21



CC502371 —UN—22JAN21

Mirrored Position

Continued on next page

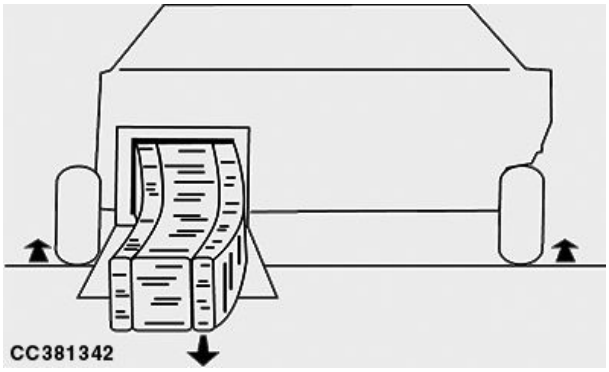
GA87848,00010EC -19-22JAN21-1/2

• Bale curved to the left:

In this case, more product on the right side, where the feeding opening is situated, comes into the chamber.

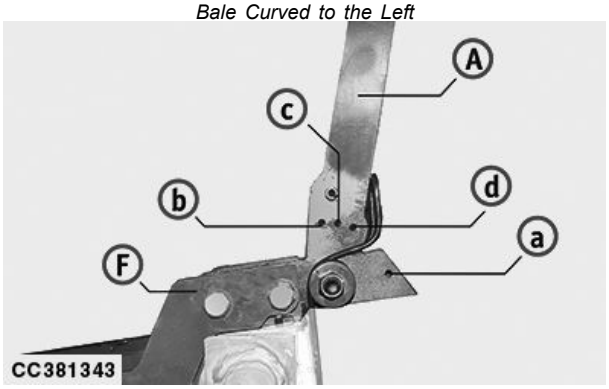
1. Make sure the plunger runs at 90 strokes per minute.
2. Move the rod (A) and fork tines in the standard position. Check for effectiveness after 2—3 bales are completed.
3. If the bale is still curved, please do as suggested:
   a. Extract the safety bolt (P) out of the standard position - hole (a) matches hole (c).
   b. Turn the fork (F) until hole (a) matches hole (b) on the rod.
   c. Insert the safety bolt (P) again in this position and lock using the proper nut and with hole (d) clearly visible.

A—Rod
F—Fork
P—Safety Bolt
a—Hole
b—Hole
c—Hole
d—Hole



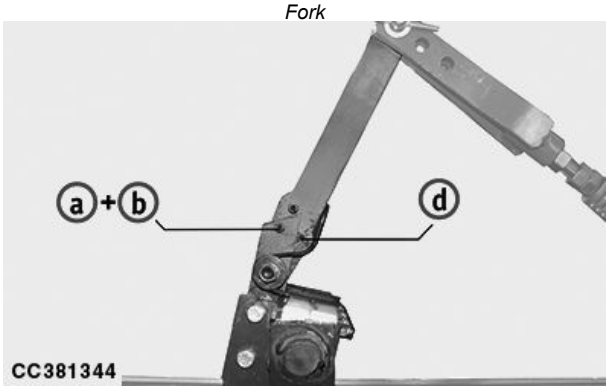
CC381342 —UN—18JUN19

Bale Curved to the Left



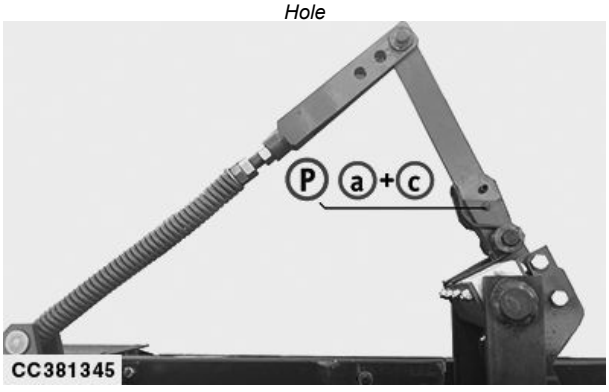
CC381343 —UN—18JUN19

Fork



CC381344 —UN—18JUN19

Hole



CC381345 —UN—18JUN19

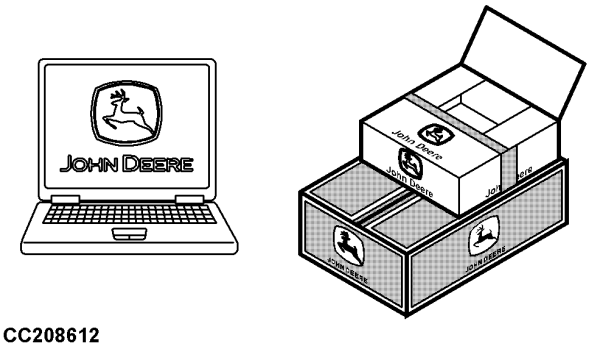
Safety Bolt

GA87848,00010EC -19-22JAN21-2/2

Attachments

Find Attachments

See your John Deere dealer or the John Deere online attachment website to check the attachments suitable for your machine.



CC208612

CC208612 —UN—14APR14

DC82261,0000447 -19-18OCT14-1/1

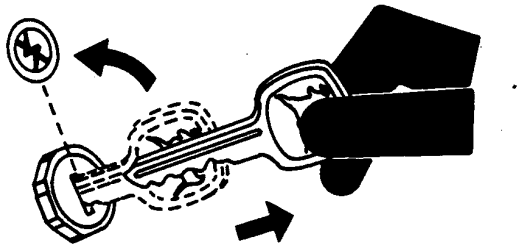
Lubricating and Maintaining Machine Safely

CAUTION: To help prevent personal injury caused by unexpected movement, be sure to service machine on a level surface.

Do not lubricate or maintain the machine while it is in motion.

If machine is connected to tractor, engage tractor parking brake and/or place transmission in "Park", shut off engine and remove key.

If machine is detached from tractor, block wheels to prevent movement.



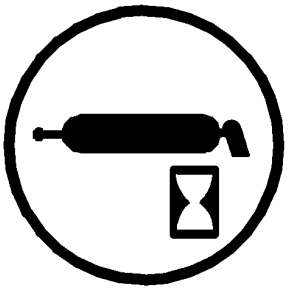
TS230 —UN—24MAY89

CC03745,00002A8 -19-27AUG01-1/1

Observe Service Intervals

Using tractor hour meter as a guide, perform services at the hourly intervals indicated on following pages.

IMPORTANT: Recommended service intervals are for average conditions. Service MORE OFTEN if baler is operated in adverse conditions.



CC 000934

CC000934 —UN—05APR95

CC03745,00002A9 -19-27AUG01-1/1

Perform Lubrication and Maintenance

Clean lubrication fittings before using grease gun. Replace any lost or broken fittings immediately. If a new fitting fails to take grease, remove and check for failure of adjoining parts.

Carefully perform lubrication and maintenance at hour intervals provided in this section to ensure optimum performance and avoid premature failure.

Bearing failures or overheating can result in a fire. To reduce bearing failures or overheating, thoroughly lubricate all greasing points of the machine:

- After each time the machine is washed.
- When placing the machine in storage.
- Just before using the machine after it has been stored.

Regularly check that grease is coming out of bearings while greasing them.

Crop material and other debris may accumulate around bearings and bearing covers. Inspect and clean these areas periodically throughout the working day.

DC82261,0000538 -19-18OCT14-1/1

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

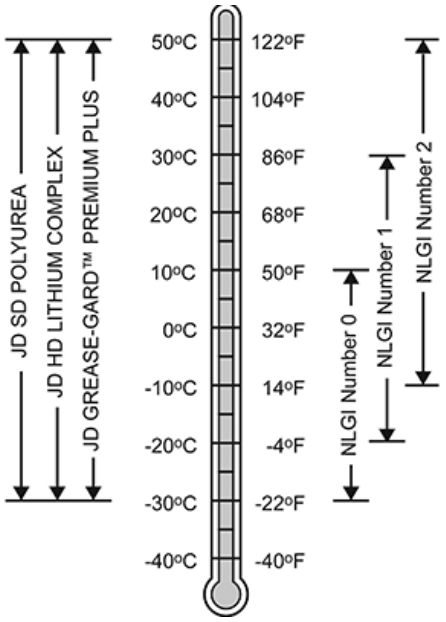
- John Deere HD Lithium Complex Grease
- John Deere Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm2/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

Grease-Gard is a trademark of Deere & Company



Greases for Air Temperature Ranges

DX,GREA1 -19-13JAN18-1/1

Gear Oil

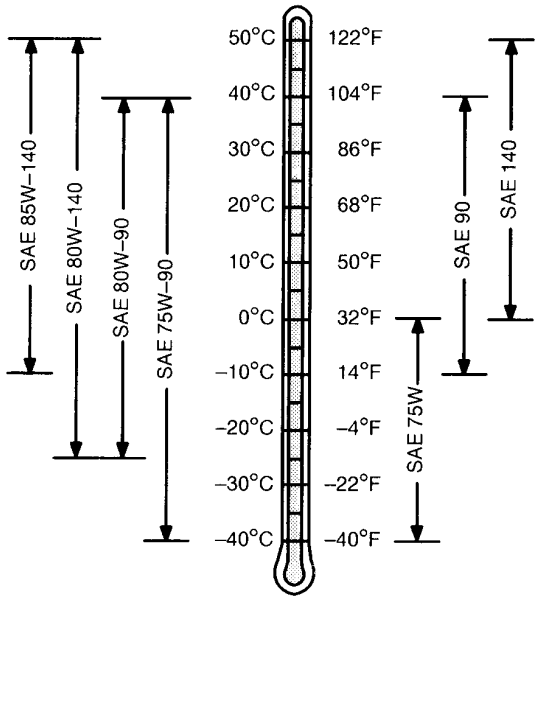
Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere GL-5 Gear Lubricant
- John Deere EXTREME-GARD™

Other oils may be used if they meet the following:

- API Service Category GL-5



Oil Viscosities for Air Temperature Ranges

EXTREME-GARD is a trademark of Deere & Company

DX,GEOIL -19-14APR11-1/1

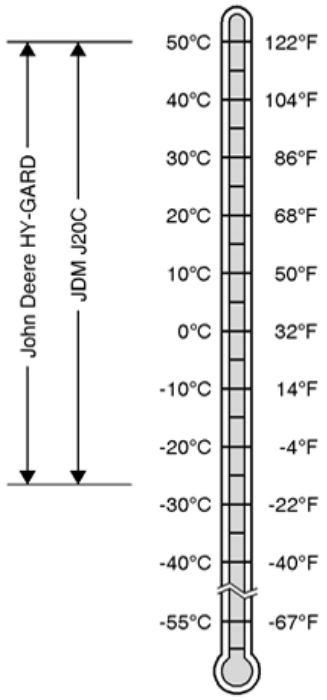
High Viscosity Gear Case Oil

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere HY-GARD ™ (high viscosity) is recommended.

Other oils may be used if they meet the John Deere Standard JDM J20C.

John Deere Low Viscosity HY-GARD™ and BIO-HY-GARD™ oils are NOT recommended.



HY-GARD is a trademark of Deere & Company
BIO-HY-GARD is a trademark of Deere & Company

CC03745,000101C -19-25OCT10-1/1

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER -19-13JAN18-1/1

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 -19-11APR11-1/1

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.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX -19-18MAR96-1/1

After the First 4 Hours: Check Plunger Crank Bolt

Check for bolt tightening.

Please tighten all bolts.

GA87848,0000CA2 -19-21JUN19-1/1

As Required: Clean Filter of Pneumatic Density Device (If Equipped)

Clean filter (A) of pneumatic density device.

A—Filter

CC533969 —UN—21MAR22

OUCC007,00019D1 -19-22MAR22-1/1

Daily: Prevent Fire

Use compressed air to remove buildup of crop material and to keep the machine clean.

Avoid high-pressure power-washing next to the bearings to prevent damaging seals.

Check bearings for early signs of damage, and replace as indicated. Turn off power to baler and check for unusual noises, hot parts, smells of scorching, and discolored paint or metal.

Check condition of bearings:

- Open gate and lock it.
- With the belts slackened, rotate each of the rollers by hand, paying attention to dry, noises, or rough rotation.
- Push, pull, or gently pry to check bearing radial play.
- Watch and feel for looseness in the bearings. Replace worn or damaged bearings.
  Just after operation, check the temperature of each bearing, if one or some are hotter than the others replace the bearings.

GA87848,0000548 -19-08FEB18-1/1

Every 8 Hours: Check Needle Openings

Make sure there are not any stones, product or foreign matters.

GA87848,0000CA4 -19-21JUN19-1/1

Every 8 Hours: Check Compression Chamber

Make sure there are not any stones, product or foreign matters.

GA87848,0000CA5 -19-21JUN19-1/1

Every 8 Hours: Check Telescopic Driveline Guards

Check for the state of guards.

GA87848,0000CA6 -19-21JUN19-1/1

Every 8 Hours: Check Knotter

Check for the efficiency of all knives and replace them if necessary.

Check for knots tied appropriately.

Keep the knotter system always clean.

GA87848,0000CA7 -19-26JUN19-1/1

Every 8 Hours: Check Pickup

Check tines and wrappers.

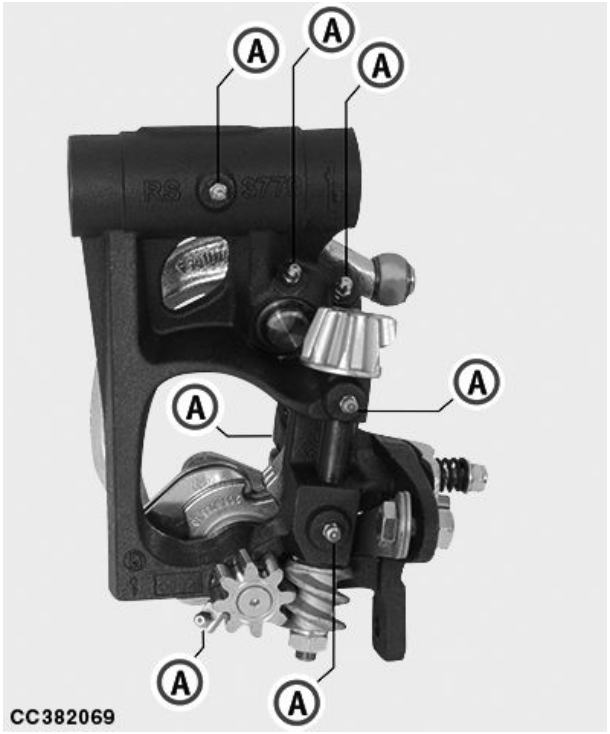
Check bearings.

GA87848,0000CA8 -19-21JUN19-1/1

Every 8 Hours: Grease Knotters

Grease all the fittings (A).

A—Fittings



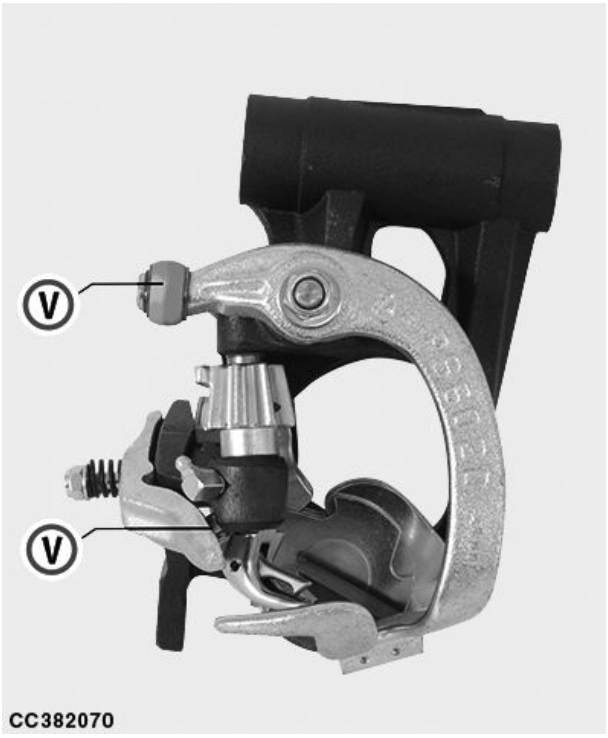
CC382069 —UN—18JUN19

GA87848,0000C7B -19-13JUN19-1/1

Every 8 Hours: Grease Knotter Rollers

Put a line of grease on rollers (V).

V—Roller



CC382070 —UN—18JUN19

GA87848,00010DE -19-19JAN21-1/1

Every 8 Hours: Grease Locking Bar

Lubricate with grease.

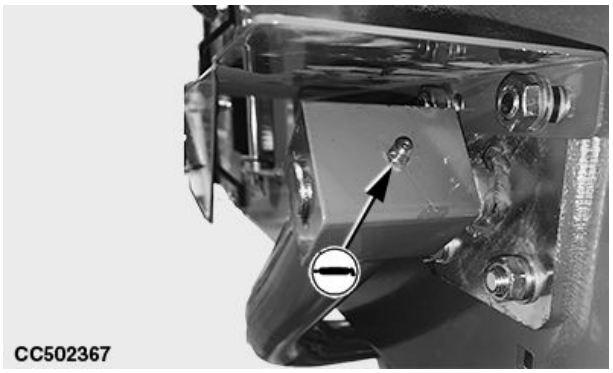
CC382071 —UN—18JUN19

GA87848,0000C7D -19-19JUN19-1/1

Every 8 Hours: Grease Support for Needle Arm

Lubricate with grease.

CC502366 —UN—19JAN21



CC502367 —UN—19JAN21

GA87848,00010CA -19-19JAN21-1/1

Every 8 Hours: Grease Pickup Cam

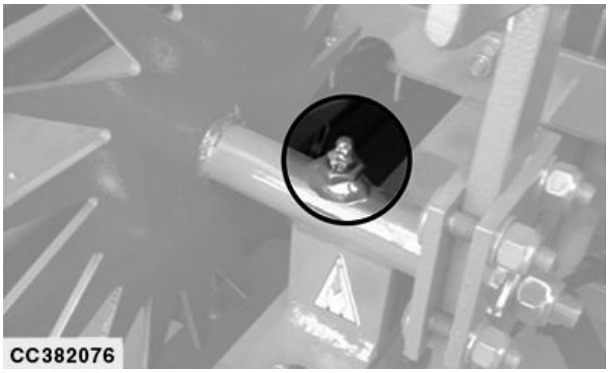
Lubricate with grease.

CC382074 —UN—18JUN19

OUCC007,00019D3 -19-16MAR22-1/1

Every 8 Hours: Grease Support for Star-Shaped Disk

Lubricate with grease.

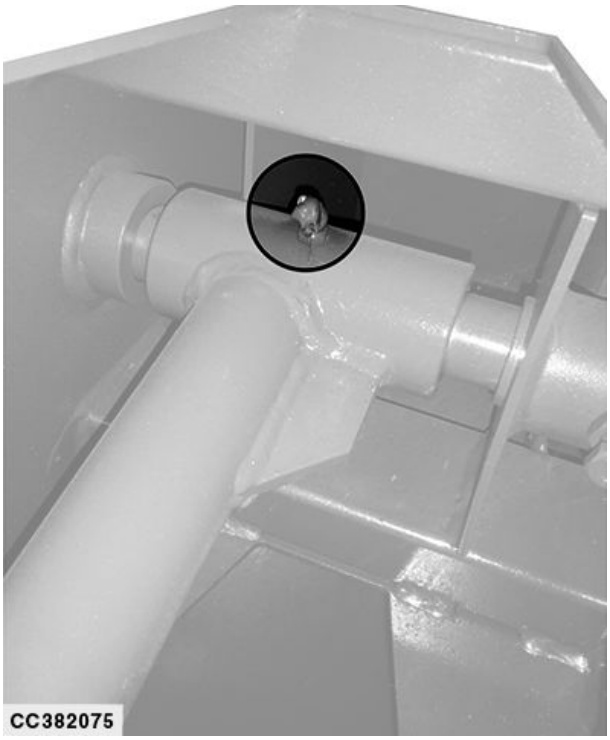


CC382076 —UN—18JUN19

GA87848,00010F1 -19-22JAN21-1/1

Every 8 Hours: Grease Rod-Jack

Lubricate with grease.



CC382075 —UN—18JUN19

GA87848,0000C81 -19-21JUN19-1/1

Every 8 Hours: Grease Front Fork

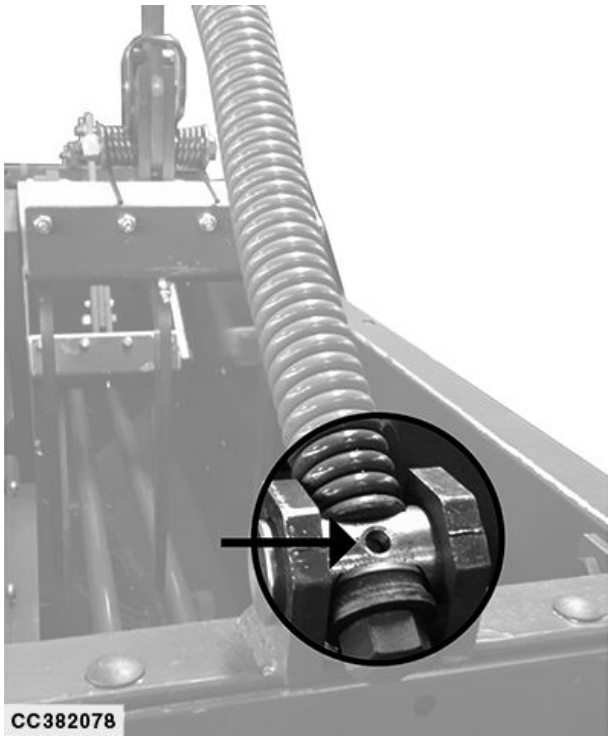
Lubricate with grease.

CC382077 —UN—18JUN19

GA87848,0000C82 -19-21JUN19-1/1

Every 8 Hours: Lubricate Tie Rod for Front Fork

Lubricate with oil.



CC382078 —UN—18JUN19

GA87848,0000C83 -19-21JUN19-1/1

Every 8 Hours: Grease Flywheel Hub

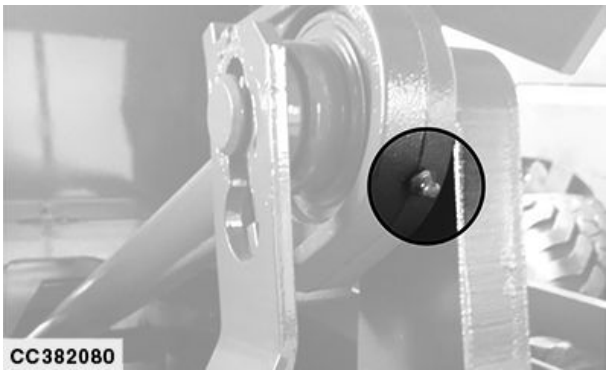
Lubricate with grease.

CC382079 —UN—18JUN19

GA87848,00010D9 -19-18JAN21-1/1

Every 8 Hours: Grease Rod Head

Lubricate with grease.

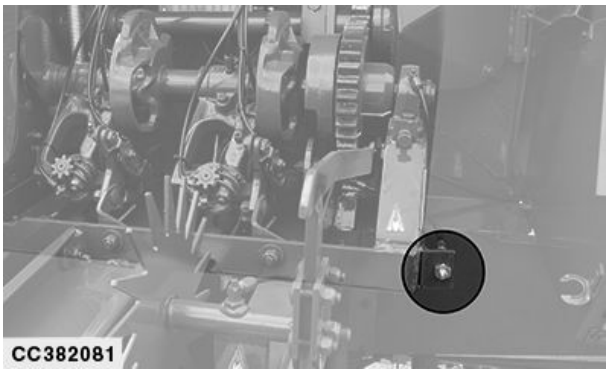


CC382080 —UN—18JUN19

GA87848,0000C85 -19-21JUN19-1/1

Every 8 Hours: Grease Knotter

Lubricate with grease.



CC382081 —UN—18JUN19

GA87848,0000C86 -19-21JUN19-1/1

Every 8 Hours: Grease Knotter Gear

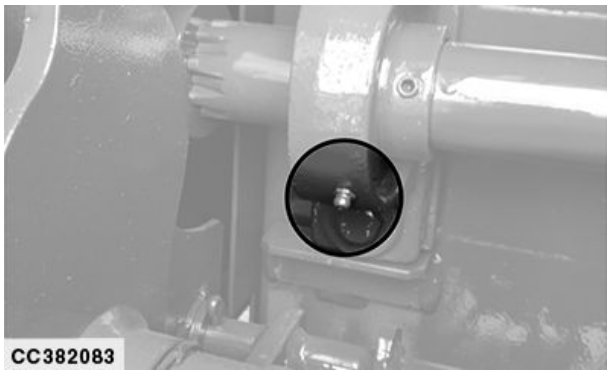
Lubricate with grease.

CC382082 —UN—18JUN19

GA87848,0000C87 -19-21JUN19-1/1

Every 8 Hours: Grease Shaft Support

Lubricate with grease.



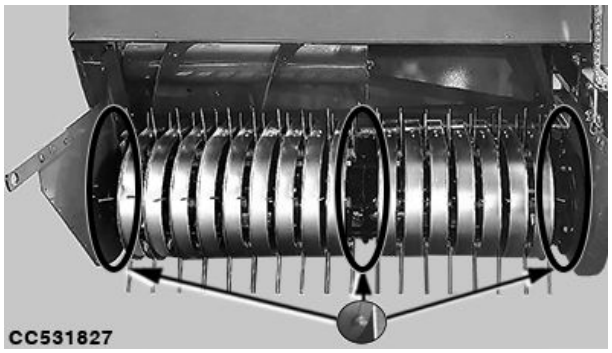
CC382083 —UN—18JUN19

GA87848,0000C88 -19-21JUN19-1/1

Every 8 Hours: Grease Pickup Tines

Lubricate fittings (A) with grease.

A—Fitting (15 Nipples)

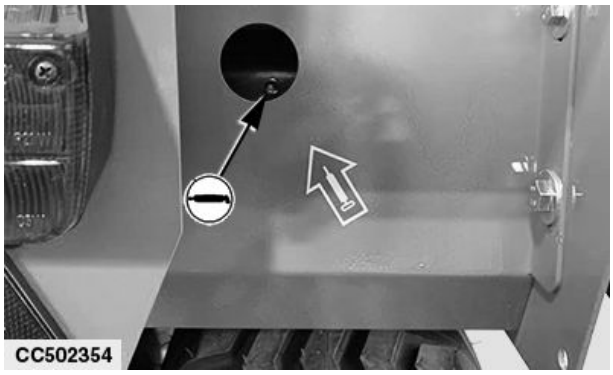


CC531827 —UN—21FEB22

OUCC007,00019C9 -19-14FEB22-1/1

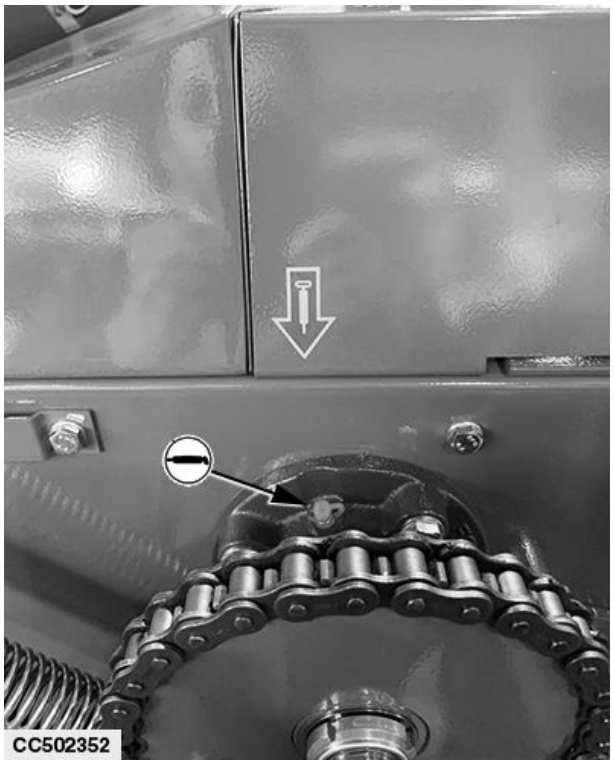
Every 8 Hours: Grease Auger Transmission (If Equipped)

Lubricate with grease.



CC502354 —UN—14JAN21

CC502351 —UN—14JAN21

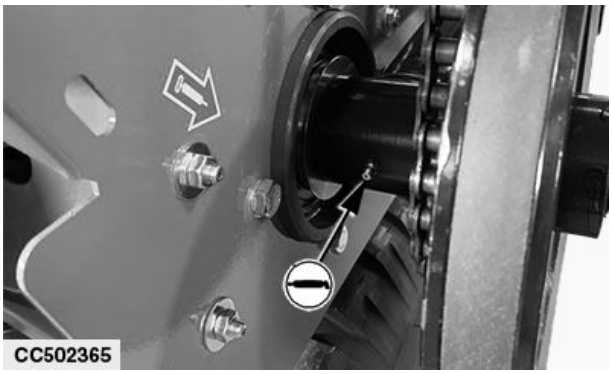


CC502352 —UN—14JAN21

Continued on next page

Lubricate with grease.

CC502364 —UN—14JAN21

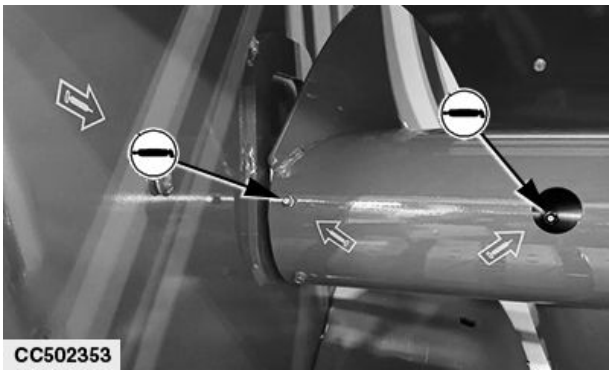


CC502365 —UN—14JAN21

GA87848,00010ED -19-21JAN21-2/2

Every 8 Hours: Grease Auger (If Equipped)

Lubricate with grease.



CC502353 —UN—14JAN21

GA87848,00010EE -19-21JAN21-1/1

Every 20 Hours: Check Pickup

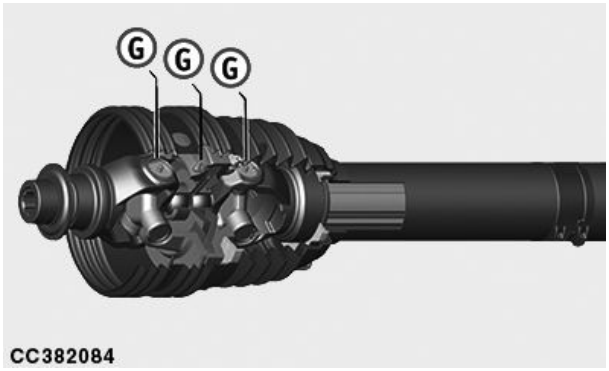
Check for the pick-up and its floating movements.

GA87848,0000CAA -19-21JUN19-1/1

Every 25 Hours: Grease Telescopic Driveline

Grease all the fittings (Q).

G—Fittings



CC382084 —UN—19JUN19

GA87848,0000C89 -19-25JUN19-1/1

Every 50 Hours: Check Plunger Crank Bolt

Please tighten all bolts.

Check for bolt tightening.

GA87848,0000CA3 -19-21JUN19-1/1

Every 50 Hours: Check Hydraulic System

Check if the hydraulic system and pick-up are working properly.

Check if the drawbar is well working.

Check for possible leaks.

GA87848,0000CAB -19-21JUN19-1/1

Every 50 Hours: Check Tires

Check tire inflation pressure and pick-up wheel pressure.

GA87848,0000CAC -19-21JUN19-1/1

Every 50 Hours: Check Wheel Nut Torque

Check hubs and the tightening of all wheel nuts.

GA87848,0000CAD -19-21JUN19-1/1

Every 50 Hours: Check Tongue and Hitch Screws

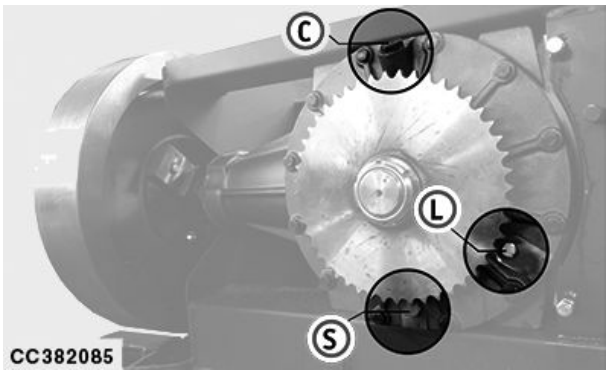
Check the tightening of all screws.

GA87848,0000CAE -19-18SEP19-1/1

Every 100 Hours: Check Gear Case Oil Level

Check oil level. As required, refill with gear case oil until cap (L) is reached.

C—Cab
L—Cap
S—Cap

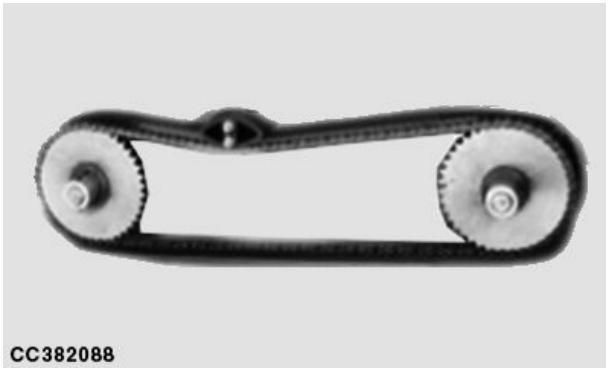


CC382085 —UN—18JUN19

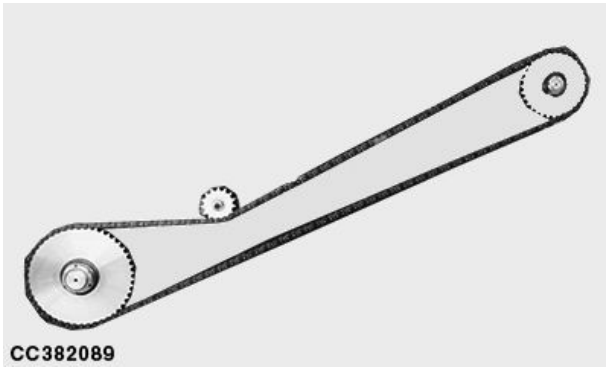
GA87848,0000C8A -19-28JUN19-1/1

Every 125 Hours: Lubricate Chains

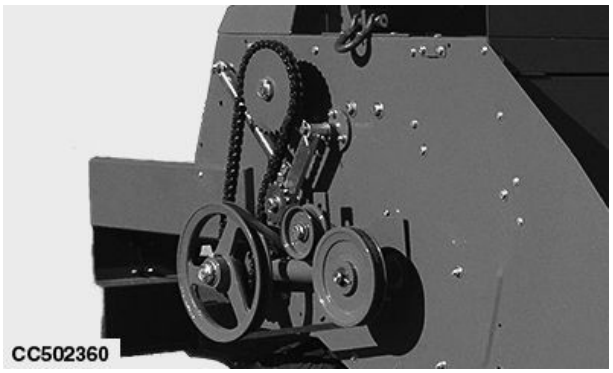
Lubricate with oil.



CC382088 —UN—18JUN19



CC382089 —UN—18JUN19



CC502360 —UN—14JAN21

Auger Chain (If Equipped)

GA87848,00010BD -19-14JAN21-1/1

Every 150 Hours: Check and Replace Safety Bolts Bushes

Check for state of wear and tightening. Replace if necessary.

GA87848,0000C9F -19-20JUN19-1/1

Every 150 Hours: Check and Replace Knives

Check for their efficiency and replace them if necessary.

GA87848,0000CA0 -19-26JUN19-1/1

Every 150 Hours: Check and Replace Chains

Check for any wear on chains and check if chains are well stretched.

Stretch them or replace them if necessary.

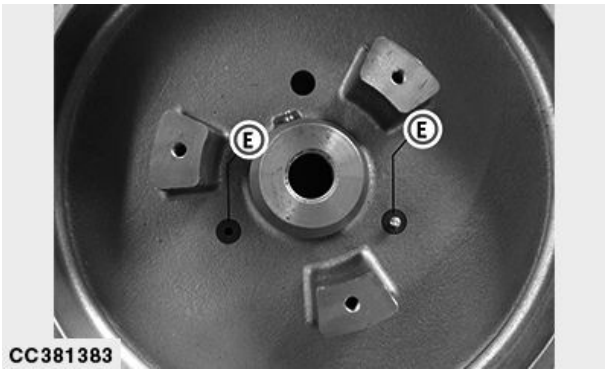
Check for chain lubrication.

GA87848,0000CA1 -19-20JUN19-1/1

Yearly: Check Flywheel Safety Bolt Bushes

Check that the bushes (E) are not ovalized. If necessary, replace bushes (E).

E—Bushes



CC381383 —UN—18JUN19

OUCC007,00019CC -19-22FEB22-1/1

Yearly: Check Drawbar Screws

Check the tightening of all screws.

GA87848,0000CAF -19-21JUN19-1/1

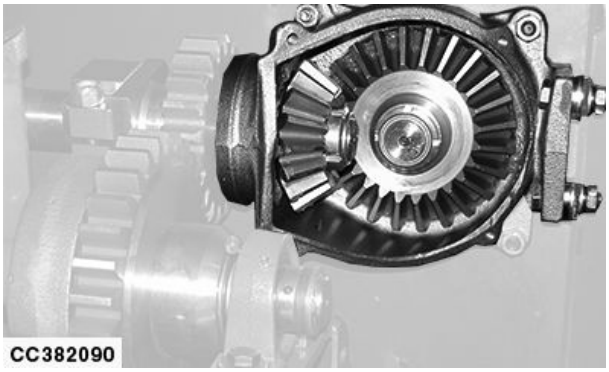
Yearly: Check Wheel Nut Torque

Check hubs and the tightening of all wheel nuts.

GA87848,0000CB0 -19-21JUN19-1/1

Yearly: Grease Fork Case

Lubricate with grease.

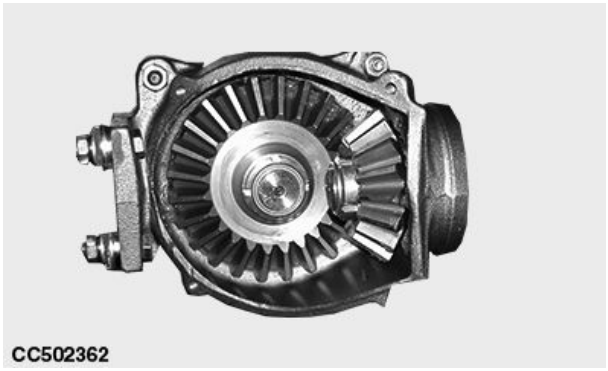


CC382090 —UN—18JUN19

GA87848,0000C8D -19-21JUN19-1/1

Yearly: Grease Auger Case (If Equipped)

Lubricate with grease.



CC502362 —UN—15JAN21

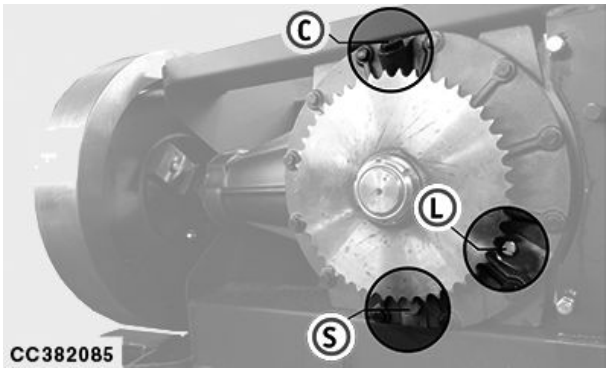
GA87848,00010C7 -19-20JAN21-1/1

Yearly: Drain and Refill Gear Case Oil

Replace the gear case oil using cab (S) and cab (C).

Specification	
Gear Case—Capacity	2.8 L (0.74 gal)

C—Cab
L—Cap
S—Cap



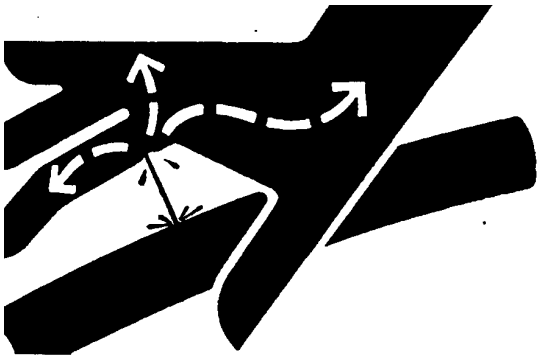
CC382085 —UN—18JUN19

GA87848,0000C8B -19-18SEP19-1/1

Every 6 Years - Hydraulic Hoses

Due to wear on hydraulic hoses over time, it is recommended to change hydraulic hoses every 6 years.

In some countries, regulations make this recommendation mandatory.



X9811 —UN—23AUG88

AP00976,000018D -19-14DEC10-1/1

Bale Shape

Symptom	Problem	Solution
Light bale.	Wrong pressure settings.	Increase the work pressure and, in case of dry product, please set the proper clips in the chamber. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	Too high-speed rate.	Please reduce the speed rate.
	Very dry product.	Please work with lower temperatures.
	Small windrows.	Make sure that windrows are more solid.
Too heavy bale.	Too much work pressure.	Please reduce the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	Too wet product.	Collect a drier product.
Broken wires, due to a high pressure when the bale is out of the compression chamber.	Too much work pressure.	Please reduce the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
Bale curved to the right.	Not enough product comes from the right side of the chamber.	Please set the fork. See Adjust Feeding Forks (Machine Equipped with Double Forks), or Adjust Feeding Fork (Machine Equipped with Auger) in Operating-General Purposes section.
Bale curved to the left.	Not enough product comes from the left side of the chamber.	Please set the fork. See Adjust Feeding Forks (Machine Equipped with Double Forks), or Adjust Feeding Fork (Machine Equipped with Auger) in Operating-General Purposes section.
Changeable bale length.	Not solid windrows.	Make windrows more uniform and adopt a more constant feed rate.
	The roller of the star-shaped disk is worn out.	Please replace the roller.
	The release equipment is worn out.	Repair or replace the equipment.

GA87848,00010EF -19-22JAN21-1/1

Safety Bolts

Symptom	Problem	Solution
Breaking of the front fork safety bolt (folder).	Blockage in the feeding channel.	Clear the feeding channel of the product.
	Very wet product in the feeding channel.	Clear the feeding channel of the product.
	Foreign matters in the feeding channel.	Clear the feeding channel of foreign matters.
	The site of the safety bolt is damaged.	Replace the rod.
Breaking of the back fork safety bolt (feeder)	Blockage in the feeding channel.	Clear the feeding channel of the product.
	Foreign matters in the feeding channel.	Clear the feeding channel of foreign matters.
	Very wet product in the feeding channel.	Collect a drier product.
	The seat of the safety bolt is damaged.	Replace the bush.
The breaking of the knotter safety bolt (with also the breaking of the flywheel safety bolt).	The knotter brake is too tightened.	Set the knotter brake. See Adjust Knotter Brake in Service section.
	Knotter components are damages, worn out or blocked.	Replace all damaged components, or fix blocked parts.
	Too high work pressure.	Reduce the pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	Knotter bust does not eject knots.	Check knotter billhook and arm settings. See Adjust Knotter (Twine Knotter) in Service section.
		Make sure that needle is not curved.
	There are obstacles along needle run.	Remove foreign matters or tangled wires/twines.
	Shaft is curved.	Make sure that all knotter system is clean and shafts are working properly. Replace all damaged components.
The breaking of the flywheel safety bolt.	A foreign matter is situated among knives	Remove the foreign matter.

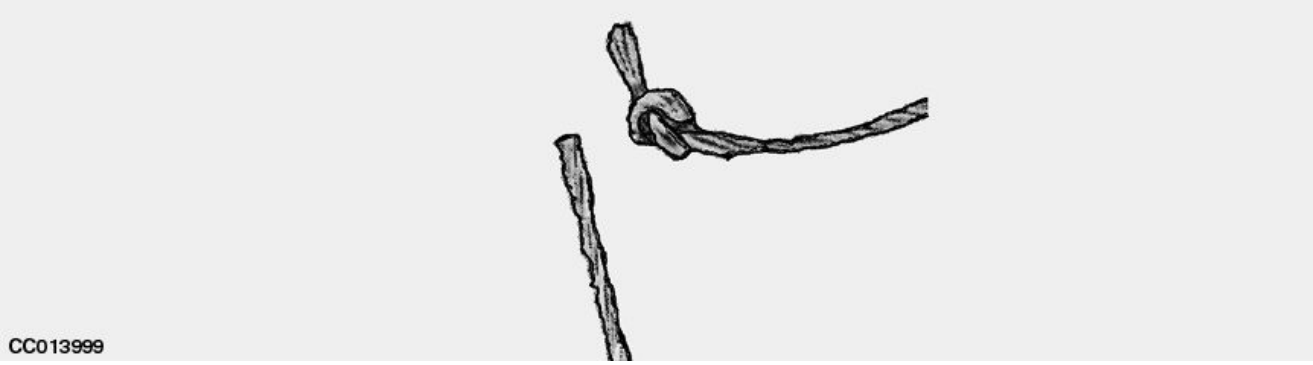
Continued on next page

GA87848,00010DC -19-22JAN21-1/2

Symptom	Problem	Solution
	The locknut of the safety pin is too slack.	Tighten the locknut.
	The knife of the plunger is too far from the one of the compression chamber.	Set the distance of 0.5—1.5 mm (1/64—1/16 in) between the knife of the plunger and the one of the compression chamber.
	Knives are not enough sharp for cutting.	Sharpen the knife of the plunger and turn the knife of the chamber.
	Bales are too dense.	Reduce the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	The bush of the safety bolt is worn out.	Replace the bush. See Replace Flywheel Safety Bolt in Service section.
	Too much moisture in the product that causes some problems for the plunger stroke.	Remove the blockage from the chamber and collect a drier product.
	The knotter safety bolt breaks down, leading to the breaking of the flywheel safety bolt too.	Search for the reason of the breaking..
		Replace the knotter safety bolt. See Replace Knotter Safety Bolt in Service section.
	The locking bar has been inserted, causing the stoppage of the plunger.	Check the timing of the plunger. See Set Plunger Position for Timing in Service section.
		Check the knotter brake settings and put the locking bar in its proper position. See Adjust Knotter Brake in Service section.

GA87848,00010DC -19-22JAN21-2/2

Knotter Difficulties



CC013999 —UN—22OCT98

Symptom	Problem	Solution
Knot in Twine Over Bale Only	Tucker fingers did not pick up needle twine or move into tying position properly	Adjust tucker fingers. Adjust twine disk and/or needles. Check twine tension at twine disk and twine box.
	Hay dogs not holding end of bale[1]	Free seized hay dogs. Replace broken hay dog springs. Reduce feeding rate.

[1]Hay dogs must extend into bale case completely with each plungerhead stroke.

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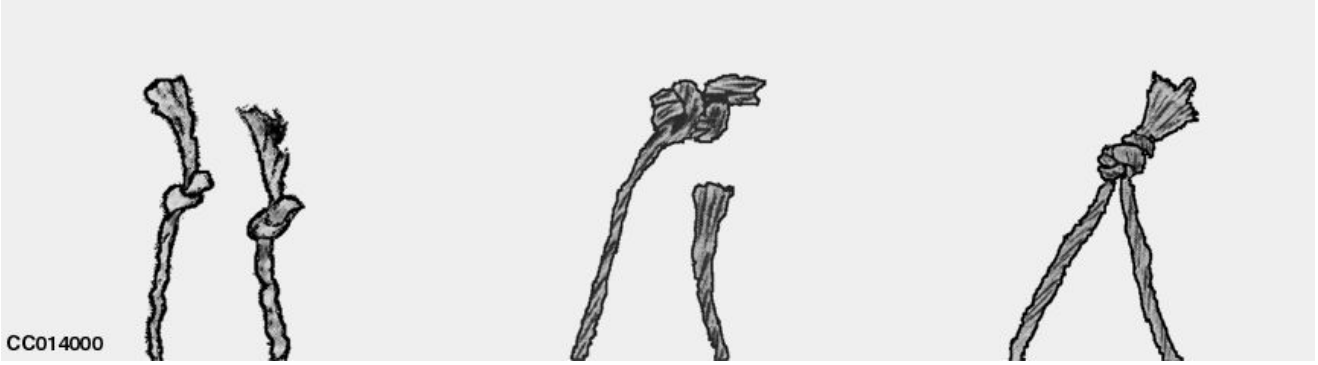
GA87848,000104A -19-19JAN21-1/7



Symptom	Problem	Solution
Knot in each end of twine	Tucker fingers did not pick up needle twine or move it into twine disk properly. This twine will be longer than mating twine on opposite side of baler	Adjust tucker fingers. Adjust twine disk and/or needles. Check twine tension at twine disk and twine box.
	Hay dogs not holding end of bale[1].	Free seized hay dogs. Replace broken hay dog springs. Reduce feeding rate.
Twine broken or frayed in knot	Excessive twine tension around billhook during tying cycle causes twine to shear or pull apart	Loosen twine disk spring. Smooth off all rough surfaces and edges on billhook.
	Excessive twine tension	Reduce twine tension.
	Insufficient clearance between billhook and knife (wiper) arm	Adjust clearance.
Twine ends frayed	Dull twine knife	Sharpen or replace knife.

[2]Hay dogs must extend into bale case completely with each plungerhead stroke

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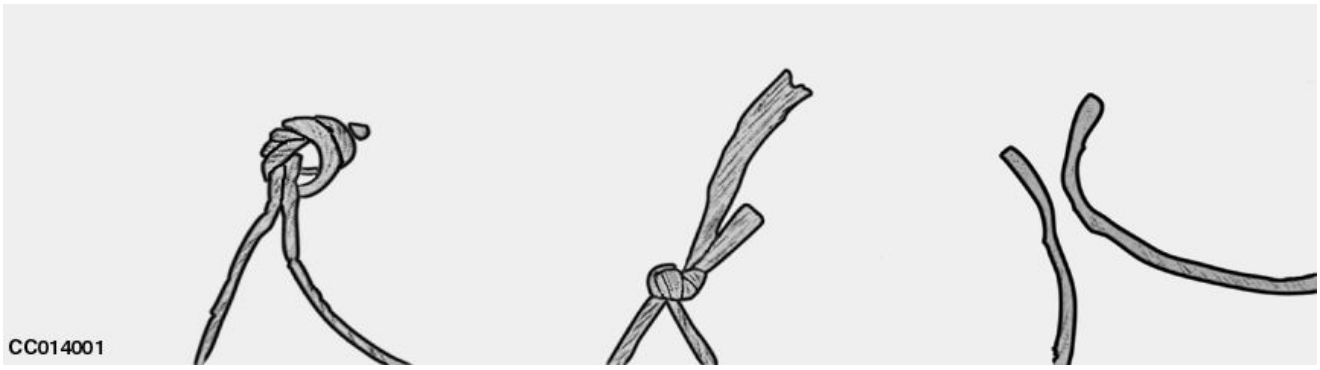
GA87848,000104A -19-19JAN21-2/7



CC014001 —UN—22OCT98

Symptom	Problem	Solution
Knot too loose	Worn or damaged billhook tongue	Replace billhook. See the John Deere dealer.
	Bale density too low	Increase bale density.
	Normal wear of knotter	Adjust knife arm wiper.
	Improper adjustment of twine disk	Adjust twine disk.
Twine ends uneven	Insufficient tension on twine disk	Tighten twine disk spring.
	Dull or chipped knife	Sharpen or replace knife.
No knot in either twine end	Twine sheared in twine disks	Loosen twine holder and/or remove all sharp edges and burrs on twine holder and disks.
	Billhook not revolving	Check for lost or sheared pin in billhook pinion.
	Billhook tongue fails to open	Check for lost billhook tongue roller, excessive wear on roller and cam face, or damaged billhook tongue.

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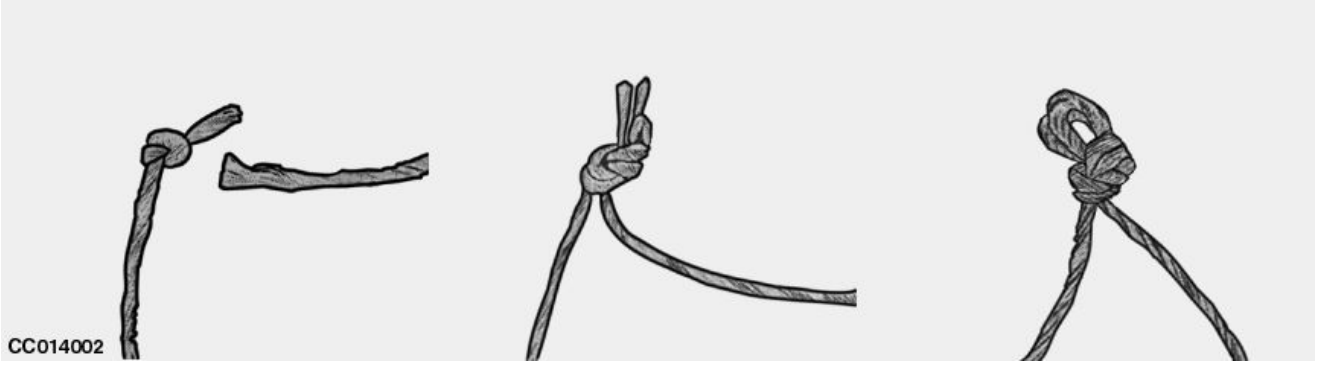
GA87848,000104A -19-19JAN21-3/7



Symptom	Problem	Solution
Knot in needle twine	Twine over the bale pulled out of twine disk. (Can be detected by square cut end which has been flattened in disks. This twine is usually shorter than mating twine tied on opposite side of bale.)	Increase tension on twine disk spring and/or decrease bale tension. Relocate feeder fingers.
	Twine over bale sheared out of twine disks. (In this case, the twine end will be frayed and torn, not cut squarely by knife as described above.)	Decrease tension on twine disk spring. Decrease bale tension.
One twine strand doubled back through knot (does not affect knot strength)	Billhook tongue is closing on top of twine	Bend knife arm so that knife arm groove will hold twine over billhook tongue further to right. Adjust timing of twine disks.
	Twine hanging up on knife arm	Polish knife arm at bend.
	Insufficient clearance between billhook and knife (wiper) arm	Adjust clearance.
Double twine bow knot	Insufficient travel of knife arm past billhook	Bend knife arm to obtain correct travel.
	Billhook pressure arm spring to loose	Tighten adjusting nut on billhook pressure arm spring. Bend knife arm to obtain more clearance between knife and twine disk. Check knife arm cam in intermittent gear for excessive wear. Replace gear if cam is worn.

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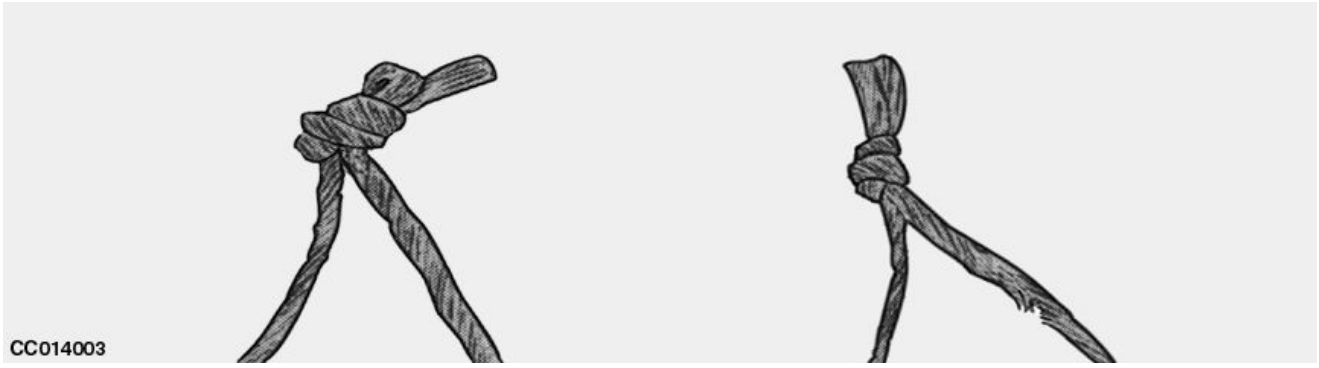

Symptom	Problem	Solution
Single twine bow knot	Insufficient travel of knife arm past billhook	Bend knife arm to obtain correct travel.
	Billhook pressure arm spring too loose	Tighten adjusting nut on billhook pressure arm spring.
		Bend knife arm to obtain more clearance between knife and twine disk.
		Check knife arm cam in intermittent gear for excessive wear. Replace gear if cam is worn.
	Twine is not sliding back on knife arm properly	Polish knife arm.
Twine cut and/or frayed behind knot	As billhook turns, twine is pinched between billhook and knife arm and twine is damaged 13—25 mm (0.5—1 in.) from knot	Bend knife arm so that billhook turns freely. Make certain that wiper plate on knife arm contacts back face of billhook.
	Rough knife arm cuts twine 19—32 mm (0.75—1.26 in.) from knot	Smooth off rough edge in twine notch of knife arm.
	Extremely high top twine tension	Reduce bale weight by decreasing bale tension and/or check twine tension.
	Rough wiper hole edge	Smooth off rough edge.

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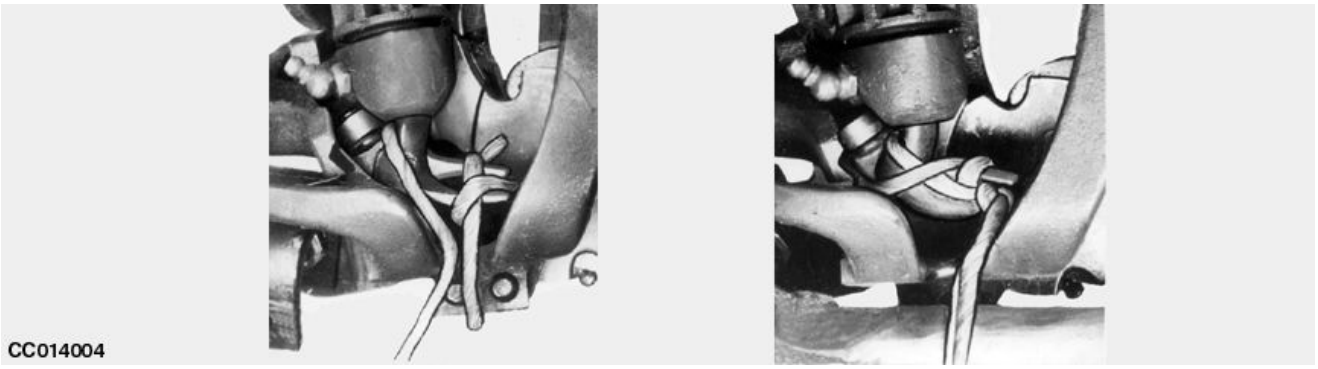
GA87848,000104A -19-19JAN21-5/7



CC014004 —UN—22OCT98

Symptom	Problem	Solution
Needle twine over billhook tongue roller	Needle twine does not enter twine disk	Check twine disk timing and/or adjust needles. Check for sheared or lost pin in twine disk pinion or in disk worm gear. Make certain twine coming from box is correctly passing tensioning devices on box.
	Improper twine tension	Adjust twine tension.
	Improper twine threading	See Install Twine in Preparing the Baler Section.
Needle twine over billhook tongue roller and second knot tied on billhook	As for preceding malfunction; however, this condition occurs usually more often than the condition described above	Make corrections as instructed previously; examine complete knotter for broken or damaged parts.

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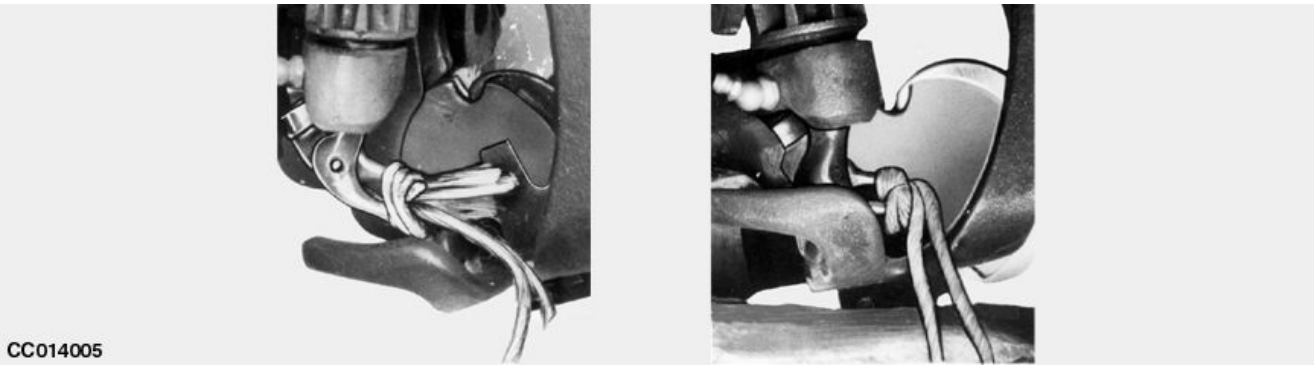
GA87848,000104A -19-19JAN21-6/7



CC014005 —UN—22OCT98

Symptom	Problem	Solution
Knot not stripped off billhook	Excessive billhook tongue tension	Loosen adjusting nut of billhook pressure arm spring.
	Insufficient clearance between billhook and knife (wiper) arm	Adjust clearance.
	Knife arm wiper is not contacting back face of billhook	Adjust wiper plate so that wiper is in proper contact with billhook.
	Knife arm lift is not sufficient	Bend knife arm to increase movement past end of billhook.
	Rough billhook	Smooth off all rough edges on billhook with emery cloth.
	Worn or bent billhook	Replace billhook. See the John Deere dealer.
	Insufficient bale density	Increase bale density.
	Twine tension too high	Reduce tension.
	Improper twine disk adjustment	Adjust disk timing.
Needle twine goes under billhook tongue during first quarter of billhook travel	Tucker fingers not carrying twine back to tying position	Adjust tucker fingers.

GA87848,000104A -19-19JAN21-7/7

Twine Knotter

Symptom	Problem	Solution
The knot is attached to the billhook, causing the breaking of the twine.	The knife of the knotter is not enough sharp for cutting.	Replace the knife.
	The strain of the twine holder is not appropriate.	Check for the strain of the twine holder. Tighten the twine holder pin in order to increase the strain. See Adjust Knotter (Twine Knotter) in Service section.
One end of the twine is longer than the other.	There is a problem about the arm run.	Check the state of all arms. See Adjust Knotter (Twine Knotter) in Service section.
		Check the knotter twine disk.
		Check the roller.
	Low density of the bale.	Increase the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
The needle brings the knot to the first end of the twine.	The distance between the tucker finger arms is more than the one allowed.	Reduce the distance of the tucker finger arms. See Adjust Tucker Finger Position (Twine Knotter) in Service section.
	The twine disk is damaged.	Check the timing of the disk. See Adjust Knotter (Twine Knotter) in Service section.
	The key is curved and cannot open as required.	Straighten the key or replace it or replace the open bill.
	The jaw cam is damaged.	Check the state of the jaw cam.
The twine disk brings the knot to the first end of the twine.	The twine stop is too slack.	Tighten the twine stop. See Install Twine in Preparing the Baler section
No knots due to broken twine.	Straw-stops cannot come inside the chamber.	Check all straw-stops.
	Twine holder is too tightened.	Loosen the proper pin. See Adjust Knotter (Twine Knotter) in Service section.
Knots cannot leave the billhook.	Too much pressure on the billhook roller.	Loosen the spring gradually.

Continued on next page

GA87848,000104B -19-22JAN21-1/2

Symptom	Problem	Solution
	Bales are too dense.	Reduce the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	The arm is damaged.	Fix or replace the arm.
	The billhook is damaged.	Replace the billhook.
Twines are not cut or broken.	The wiper arm is too tight	The wiper arm must verge on the backside of the billhook. See Adjust Knotter (Twine Knotter) in Service section.
Knots have been tied only on one site	The strain of the twine holder is not appropriate.	Check for the strain of the twine holder. Tighten the twine holder. See Adjust Knotter (Twine Knotter) in Service section.
Twines are not twisted: one end has been straight cut, the other is curved.	The twine cannot get to the knotter.	Increase the number of plunger strokes.
	Straw-stops cannot come inside the chamber.	Check all straw-stops.
	Twine cannot slide correctly.	Check all twine ways.

GA87848,000104B -19-22JAN21-2/2

Iron Wire Knotter

Symptom	Problem	Solution
Wires are not twisted: one end has been straight cut, the other is curved.	The wire cannot get to the twister.	Increase the number of plunger strokes.
	Straw-stops cannot come inside the chamber.	Check all strawstops.
	Wire cannot slide correctly.	Check all wire ways.
Wires are not twisted: **One end has been straight cut, the other is curved with signs left by the plier for wire-stop.**	The plier cannot hold the wire correctly.	Increase the pressure for the plier.
Wires are untied due to the pressure made by the product.	Wire is rusty or not lubricated.	Lubricate the coils. Clean the twister.
	The twister is retarded.	Make one pitch clockwise in order to anticipate all the twister movements.
Wire breaks during twister operations.	Wire cannot slide correctly.	Check all wire ways.
	The twister is anticipated.	Make one pitch counterclockwise in order to postpone all the twister movements.
Bale is not wrapped.	The needle cannot insert the wire correctly.	Align pulleys S and G with pulley S.
		Align the needle with the twister.
Wire twists along the twister.	Plier cannot hold the wire and so it cannot cut the wire.	Check needle and twister settings.
	The twister is out of timing.	Check the timing of twister.
Wires are not twisted: one end has been cut, the other is broken.	Wire cannot slide correctly.	Check and lubricate all wire ways.
		Replace all damaged parts.
	Wire cannot slide correctly.	Reduce the work pressure.

GA87848,000104C -19-19JAN21-1/1

Transmission System

Symptom	Problem	Solution
The breaking of cardan joints.	The tractor makes sudden swerves.	Deactivate PTO in case of sharp curves.
	Machine has not been correctly hooked to the tractor.	Check hooking settings.
	Drawbar is not properly set.	Adjust drawbar. See Adjust Drawbar in Preparing the Tractor section.
	Lubrication is not enough.	Lubricate every 8 hours of work. See Every 25 Hours: Grease Telescopic Driveline in Lubrification and Maintenance section.
The cardan shaft is out of place.	The safety clutch is too tightened.	Calibrate the clutch and replace all damaged components. See Adjust Flywheel Clutch Torque in Service section.
Too many slippings for the clutch.	The clutch is too slack.	Calibrate the clutch. See Adjust Flywheel Clutch Torque in Service section.
	Knives are not enough sharp for cutting.	Sharpen or replace all knives. See Replace Flywheel Safety Bolt in Service section.
	Knives are not set properly.	Check knife settings. See Replace Flywheel Safety Bolt in Service section.
	Bales are too dense.	Reduce the work pressure. See Adjust Bale Density (Mechanical Device) or Adjust Bale Density (Pneumatic Device) in Operating-General Purposes section.
	There is a blockage in the chamber.	Remove the blockage. See Remove Blockage in operating-General Purposes section.

OUCC007,00019CA -19-14FEB22-1/1

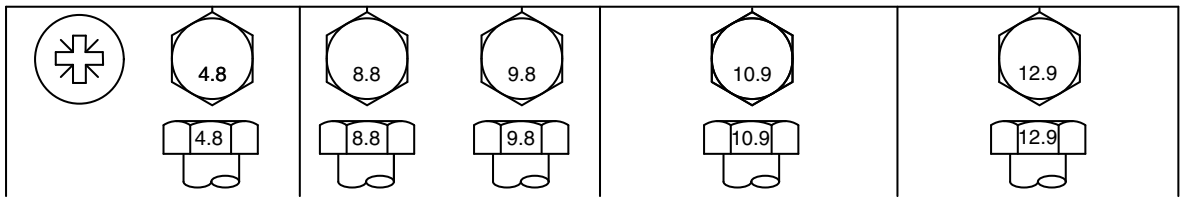
Pickup

Symptom	Problem	Solution
Product is not picked up.	Tines are curved or broken.	Replace all tines.
	Pickup height from the ground is wrong.	Set pick-up height. See Adjust Pickup Height in Operating-General Purposes section.
	Windrows are not solid	Check rod settings.
	Machine speed rate is high.	Release pickup spring.
		Make sure that windrows are more solid.
		Reduce machine speed rate.
	Machine not in horizontal position.	Adjust tractor's drawbar position to obtain the machine's position as horizontal as possible. See Attach Baler to Tractor in Attaching section.
Pick-up tines are curved or broken.	The pick-up is too close to the ground.	Set pickup height. See Adjust Pickup Height in Operating-General Purposes section.
		Check rod settings.
	Pick-up springs are too slack.	Tighten all springs.
Pick-up support wheel is curved.	The wheel found some obstacles on the road.	Fix or replace all damaged components.
	Pick-up springs are too slack.	Tighten all springs.

OUCC007,00019CB -19-22FEB22-1/1

Metric Bolt and Screw Torque Values

TS1742 —UN—31MAY18



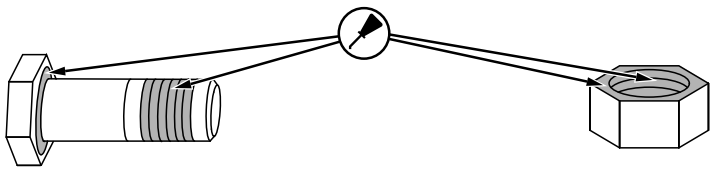
Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]		Hex Head[a]		Flange Head[b]	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
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
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
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
	N·m	lb·ft														
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



[a]Hex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.
[b]Hex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2 -19-30MAY18-1/1

Before Each Service

Follow these guidelines if the use of welder, cutting torch or grinder is required for service work:

1. Park baler on pavement or bare ground.
2. Remove chaff to avoid exposure of flammable material to sparks; if chaff cannot be removed, soak it thoroughly with water before starting. Protect hoses and belts from exposure to sparks, arcs, or flames.
3. Have a source of extinguishing agent ready for immediate use.
4. Use an assistant to check for fire while welding, cutting, or grinding.
5. After welding, cutting or grinding allow parts to cool down before starting to bale. Verify that no fire has started before leaving service area.

GA87848,0000555 -19-01FEB18-1/1

Prevent Fire at Each Service

Keep foreign material (crop, chaff, twine, etc.) from building up on the machine near potentially hot areas, such as bearings and slip clutch. Remove this buildup as part of the regular service operations.

Avoid high-pressure power-washing adjacent to the bearings to prevent damaging seals.

Check bearings regularly for early signs of failure, replace as necessary. Turn off power to baler and check for unusual noises, hot parts, smells of scorching, and discolored paint or metal. Check condition of bearings. (See Daily: Prevent Fire in Lubrication and Maintenance section.

Follow these guidelines if the use of welder, cutting torch or grinder is required for service work:

1. Park baler on pavement or bare ground.
2. Remove chaff to avoid exposure of flammable material to sparks; if chaff cannot be removed, soak it thoroughly with water before starting. Protect hoses and belts from exposure to sparks, arcs, or flames.
3. Have a source of extinguishing agent ready for immediate use.
4. Use an assistant to check for fire while welding, cutting, or grinding.
5. After welding, cutting or grinding allow parts to cool down before starting to bale. Verify that no fire has started before leaving service area.

GA87848,0000D19 -19-18SEP19-1/1

Practice Safe Service Procedures

CAUTION: This machine feature automatic sequence with dwelling positions: the machine may seems to be stopped and restart unexpectively.

To avoid bodily injury or death always:

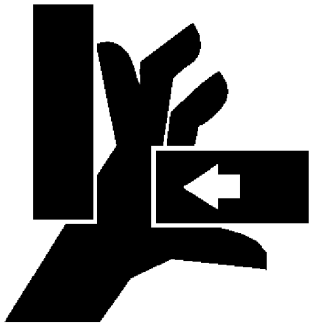
- **Disengage PTO**
- **Shut off tractor engine**
- **Remove main switch key**
- **Relieve hydraulic pressure**
- **Engage parking lock**
- **Apply handbrake**
- **Wait until all moving parts have stopped**
- **Let all components cool**

before servicing the machine.

To help prevent personal injury caused by unexpected movement, be sure to service machine on a level surface.

If machine is detached from tractor, block wheels to prevent movement.

IMPORTANT: Disconnect power supply to all electronic components when welding on machine. Over-voltage can damage electronic controls.



LX002510

E41125 —UN—25OCT96

LX002510 —UN—17JAN95

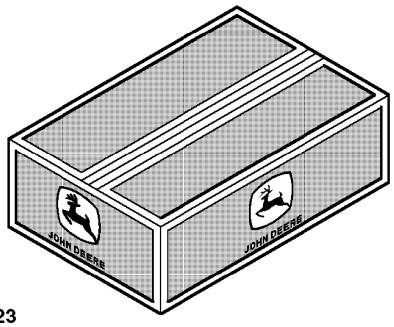
CC03745,000042F -19-28NOV02-1/1

Use Genuine John Deere Parts

Genuine John Deere parts have been specifically designed for John Deere machines.

Other parts are neither examined nor released by John Deere. Installation and use of such products could have negative effects upon the design characteristics of the machine and thereby affect its safety.

Avoid this risk by using only genuine John Deere parts.



CC1020723

CC1020723 —UN—25OCT01

CC03745,0000FD5 -19-18SEP09-1/1

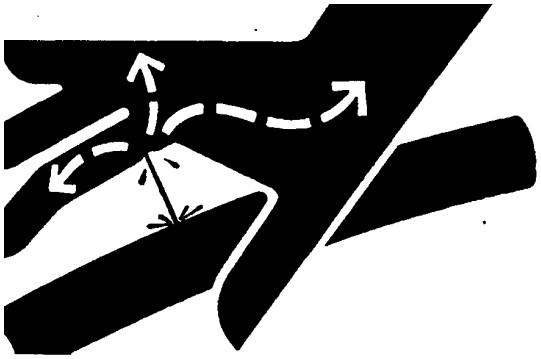
Replacing Hydraulic Components

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.

Always relieve hydraulic pressure before servicing hydraulic components.

To prevent twisting the hydraulic tubes, use two wrenches when removing or connecting hoses to tubes.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.



X9811 —UN—23AUG88

CC03745,0000286 -19-23AUG01-1/1

Adjust Timing of Hydraulic Tongue Folding Device (If Equipped)

Depending of the tractor hydraulic flow, it can be necessary to adjust the unlocking sequence of the hydraulic cylinders (A) and (B). When the hydraulic circuit is actuated, hocking pin (F) of locking cylinder (B) needs to be retracted before that hydraulic cylinder (A) move the tongue.

To adjust timing, proceed as follow:

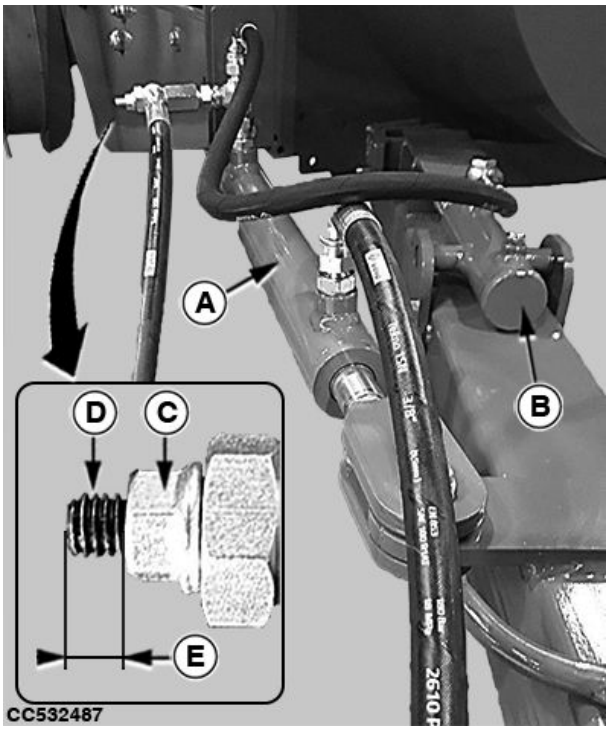
1. Loose lock nut (C).

NOTE: The distance (E) of oil flow screw (D) is factory set to 6 mm (1/4 in).

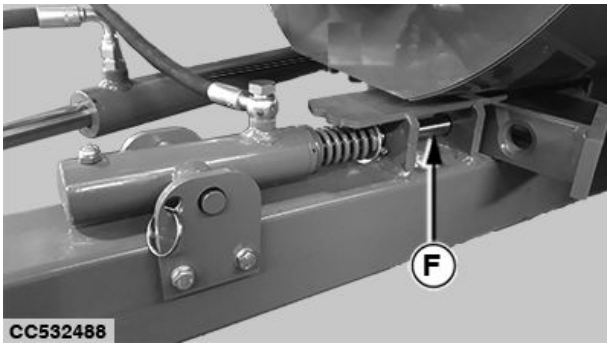
2. Screw or unscrew the oil flow screw (D) by a quarter turn.
3. Maintain screw (D) in position then tight lock nut (C).
4. Change tongue position.

   • If tongue continues to be blocked, restart procedure by turning screw (D) by a quarter turn more.

A—Tongue Folding Hydraulic Cylinder
B—Hydraulical Hocking Hydraulic Cylinder
C—Lock Nut
D—Screw
E—Distance
F—Hydraulical Hocking Pin



CC532487 —UN—15MAR22



CC532488 —UN—10MAR22

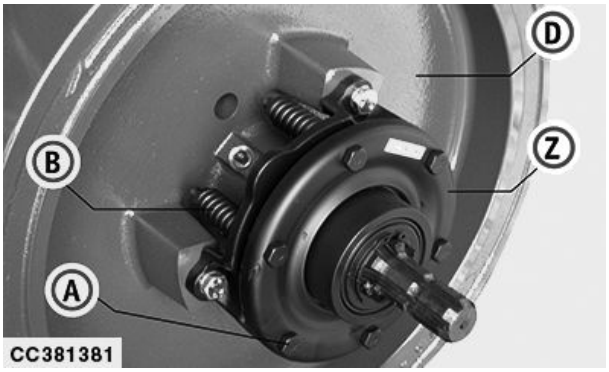
OUCC007,00019D2 -19-15MAR22-1/1

Adjust Flywheel Clutch Torque

⚠ CAUTION: Before any adjustment, it is important to deactivate the tractor P.T.O, turn off the engine, remove the key from the tractor dashboard, put on the brake, and make sure that all machine components are arrested.

IMPORTANT: Please pay attention not to tighten the bolts completely in order to avoid any clutch malfunction which can cause serious damages to the transmission system.

The clutch (Z) on the flywheel (D) has been calibrated in our factory. In case of several slippings due to working overload, it can wear out, and therefore a new calibration needs to be performed screwing all the bolts (A) of the springs (B) evenly for one fourth turn.



CC381381 —UN—18JUN19

A—Bolt
B—Spring
D—Flywheel
Z—Clutch

GA87848,00010CD -19-15JAN21-1/1

Adjust Timing of the Machine

In case of extraordinary maintenance or malfunction, a check for the machine timing is required. You must pay much attention to this operation because it is extremely important in order to maintain your Machine always highly-efficient and to avoid possible damages on any machine parts.

Timing check or reset is performed through checking all the conditions for the plunger synchronism, as listed here below:

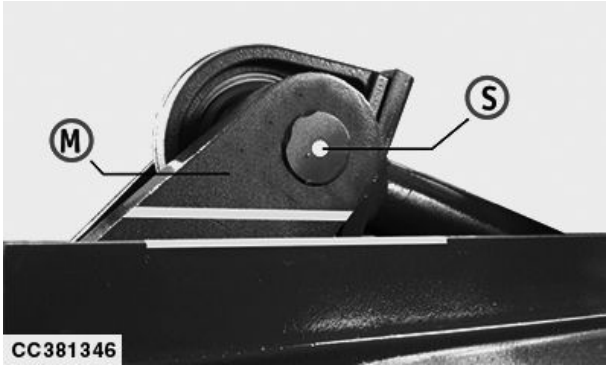
1. Setting the plunger position for timing
2. Timing of the plunger together with forks
3. Timing of the plunger together with tines

GA87848,0000C4C -19-30SEP19-1/1

Set Plunger Position for Timing

1. Rotate the flywheel by hand until the sign marked on the crank (M) matches the one on the chamber side (gear box side). The plunger will be timed this way.
2. If signs are not visible, please rotate the flywheel by hand until the middle of the crank gudgeon-pin (S) is 2—4 cm (25/32—1-9/16 in) higher that the chamber side platform. The plunger will be timed this way.

M—Crank **S—Gudgeon-Pin**



CC381346 —UN—18JUN19

Crank

GA87848,00010CE -19-18JAN21-1/1

Adjust Feeding Forks Timing

1. Make sure that the plunger is in the correct position. See Set Plunger Position for Timing in this section.

   Make sure that crankshaft (O) is in an upright position and that crankshaft (P) is in horizontal position.

   Forks will be timed this way and synchronized with the plunger.

2. If crankshafts are not positioned as previously described in step 1, please follow instructions for cases a and b:

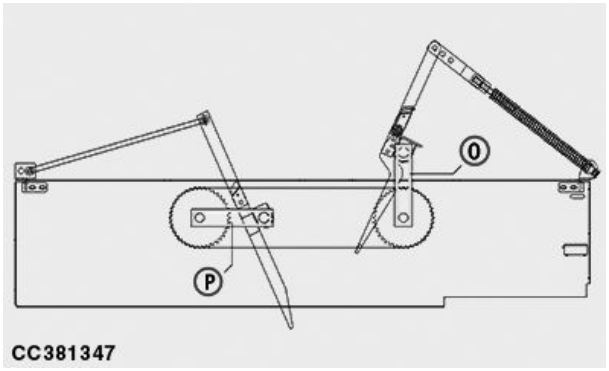
   a. **Crankshaft (O) is not in an upright position.**
   In this case, you need to release the idler (R) from the 3/4” chain.
   So, with free chain and the transmission gear (T) arrested, move the chain making one pitch on the gear (T), checking each movement with the chain stretched, as here described:

      1. If the crankshaft is sloping towards the other fork, move the chain counterclockwise.
      2. If the crankshaft is sloping towards the opposite side, that is the chamber, move the chain clockwise.

   b. **One or two crankshafts (P) are not in horizontal position.**
   In this case, you need to release the idler (R) from the 5/8” chain. So, with free chain and the transmission gear (V) arrested, move the chain making one pitch on the gear (V), checking each movement with the chain stretched, as here described:

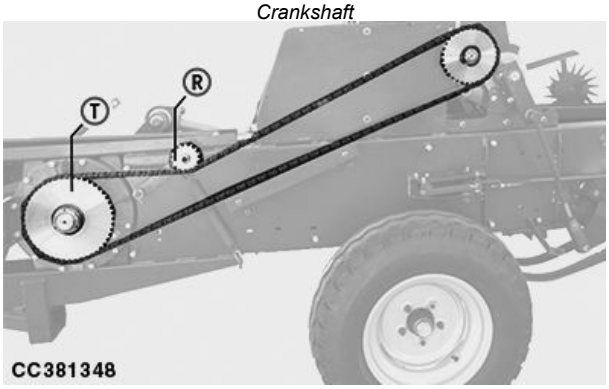
      1. If the crankshaft is sloping under the horizontal position, move the chain counterclockwise on the gear.
      2. If the crankshaft is sloping on the horizontal position, move the chain clockwise on the gear.

O—Crankshaft
P—Crankshaft
R—Idler
T—Gear
V—Gear



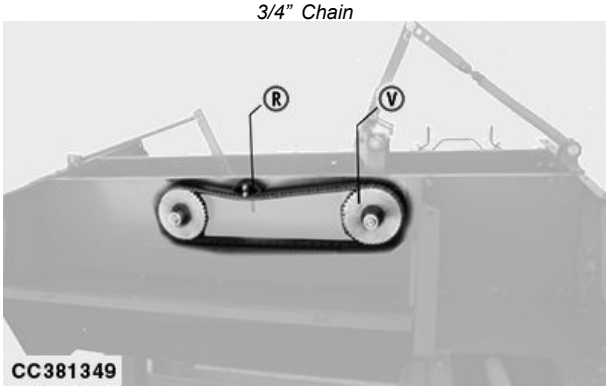
CC381347 —UN—18JUN19

Crankshaft



CC381348 —UN—18JUN19

3/4” Chain



CC381349 —UN—18JUN19

5/8” Chain

GA87848,0000C4E -19-30SEP19-1/1

Adjust Pickup Drive Belt

CAUTION: Before any operation, please deactivate P.T.O, put tractor brake on, turn the engine off, remove the key from the tractor dashboard, and make sure that all machine parts are completely arrested.

CAUTION: DO NOT TAKE RISKS! Do not allow anyone to remain near the machine when working around rotating parts. Be careful around rotating parts, unexpected movement could occur.

1. Adjust pickup height. See Adjust Pickup Height in Operating-General Purposes section.
2. Adjust the belt tension so that the belt (A) does not slip when baling.

A—Belt

CC502359 —UN—14JAN21

GA87848,00010C6 -19-15JAN21-1/1

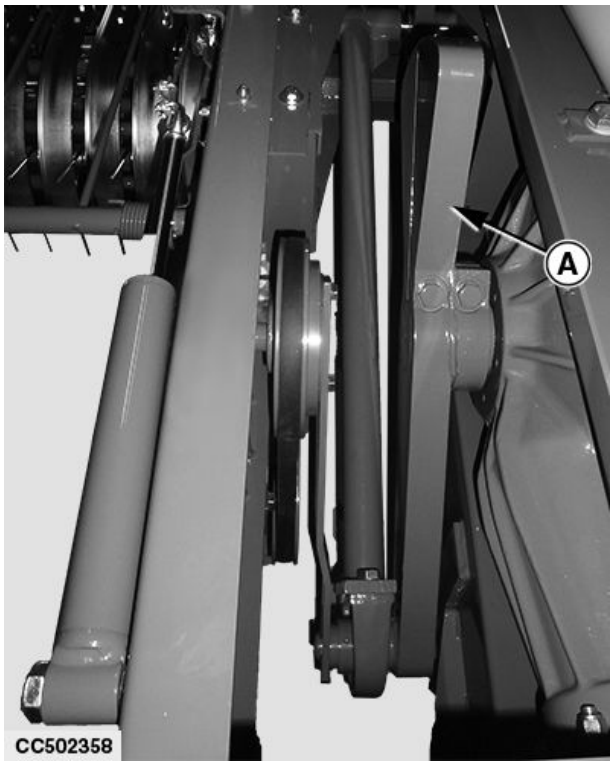
Replace Auger Drive Belt

CAUTION: Before any operation, please deactivate P.T.O, put tractor brake on, turn the engine off, remove the key from the tractor dashboard, and make sure that all machine parts are completely arrested.

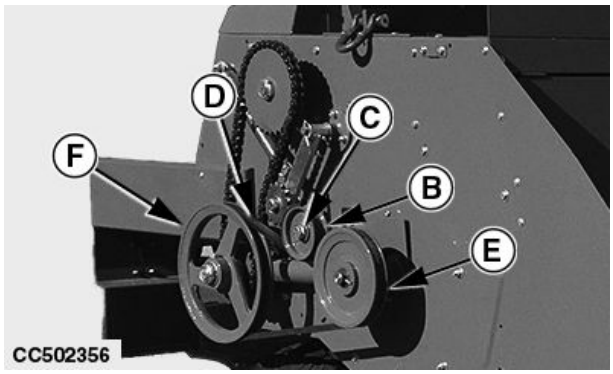
CAUTION: DO NOT TAKE RISKS! Do not allow anyone to remain near the machine when working around rotating parts. Be careful around rotating parts, unexpected movement could occur.

1. Rotate flywheel until the gear case rod (A) is at the vertical.
2. Remove right-hand side guard.
3. Loosen screw (C).
4. Remove belt (D).
5. Check the condition of the pulleys (E) and (F).
6. Check that the pulleys (E) and (F) are correctly aligned.
7. Install belt (D).
8. Adjust belt (D). See Adjust Auger Drive Belt in this section.
9. Tighten screw (C).

A—Rod
B—Idler Pulley
C—Screw
D—Belt
E—Pulley
F—Pulley



CC502358 —UN—14JAN21



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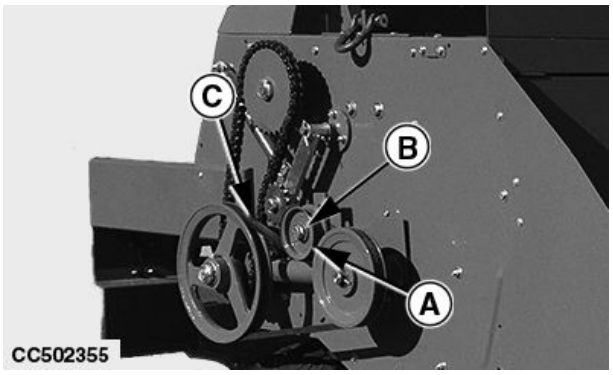
GA87848,00010C1 -19-20JAN21-1/1

Adjust Auger Drive Belt

CAUTION: Before any operation, please deactivate P.T.O, put tractor brake on, turn the engine off, remove the key from the tractor dashboard, and make sure that all machine parts are completely arrested.

CAUTION: DO NOT TAKE RISKS! Do not allow anyone to remain near the machine when working around rotating parts. Be careful around rotating parts, unexpected movement could occur.

1. Remove right-hand side guard.
2. Check that the belt does not slip while baling.
   - If OK: Adjustment OK.
   - IF not OK: Go to next step.
3. Loosen screw (B).
4. Move idle pulley (A) to apply proper belt tension.



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A—Idler Pulley
B—Screw
C—Belt

5. Tighten screw (B).
6. Go to step 2.

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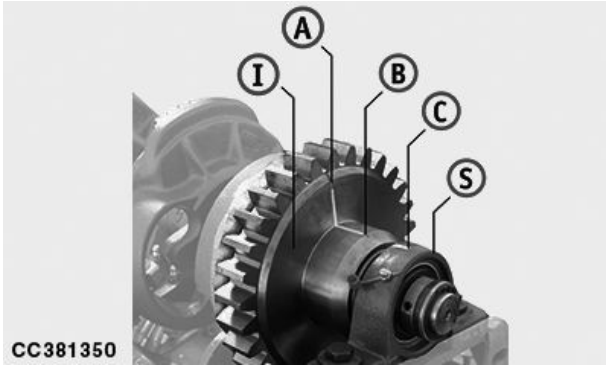
Adjust Needle Timing

1. Make sure that the plunger is in the correct position. See Set Plunger Position for Timing in this section.
2. Make sure that forks are timed. See Adjust Feeding Forks Timing in this section.
3. Make sure signs (A and B) marked on the gear (I) match the one (C) marked on the support (S).
4. If signs (A), (B) and (C) are clearly visible but they do not match each other, you need to rotate the gear (I) clockwise or counterclockwise so that they finally match each other.

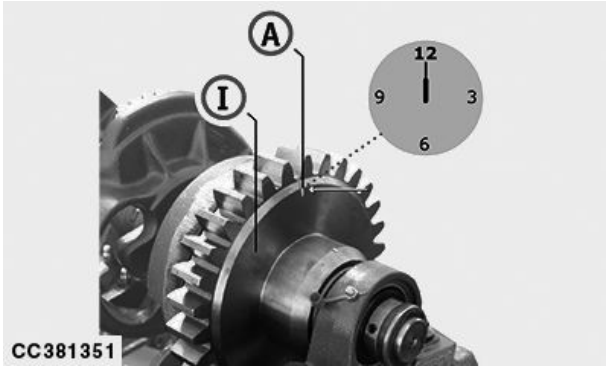
In case signs (A), (B) and (C) are not clearly visible, set the sign A, which is marked on the gear (I), at 12 o'clock position.

A—Sign
B—Sign
C—Sign
I— Gear
S—Support



CC381350 —UN—18JUN19

Alignment



CC381351 —UN—18JUN19

No Sign Alignment

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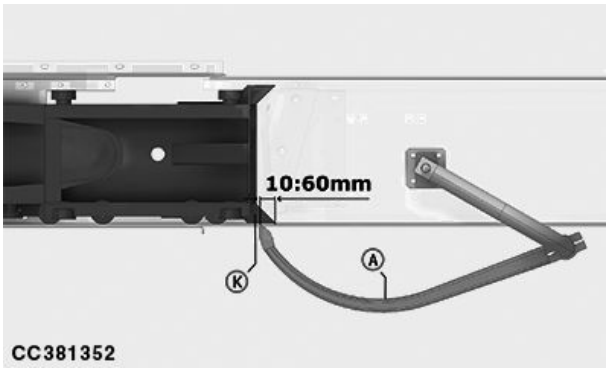
GA87848,00010CF -19-15JAN21-1/3

Manual Timing Check for Needles

To check the timing of the needles, please follow instructions here reported:

1. Release the needles by hand, rotating the star-shaped disk (C).
2. Rotate the flywheel clockwise by hand until the needles are positioned as illustrated.
3. Check if the lower tips (K) of the plunger exceed the needle tips (A) for 10—60 mm (4 in—1 ft 11-5/8 in).

A—Needle Tip
C—Star-Shaped Disk
G—Arm
K—Lower Tip



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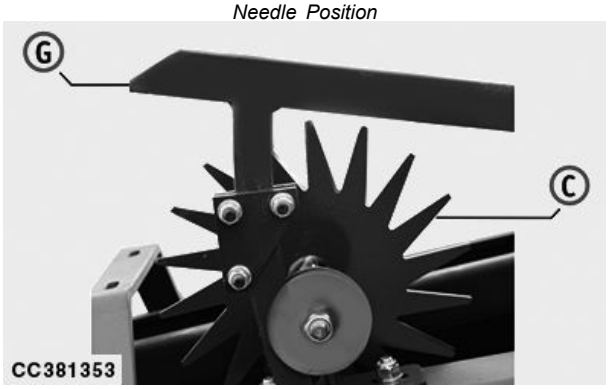
Needle Position



CC381353 —UN—18JUN19

Star-Shaped Disk

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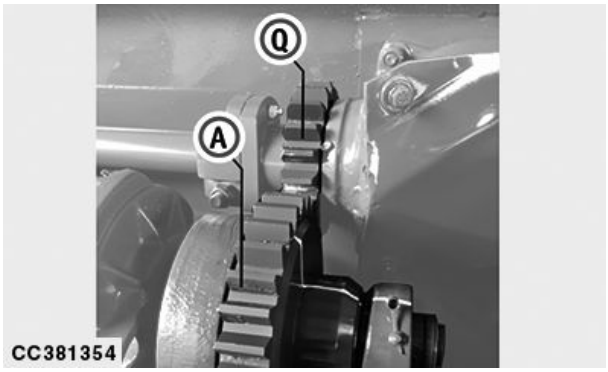
GA87848,00010CF -19-15JAN21-2/3

After this process, if the distance of 10—60 mm (4 in—1 ft 11-5/8 in) is not accomplished, the following setting is required:

1. In case of more than 60 mm (1 ft 11-5/8 in) in distance: move the gear (A) making one pitch clockwise more than the gear (Q), in order to anticipate the entrance of tines in the chamber. If not enough, please repeat this process for timing.
2. In case of less than 10 mm (4 in) in distance: move the gear (A) making one pitch counterclockwise more than the gear (Q), in order to postpone the entrance of tines in the chamber. If not enough, please repeat this process for timing.

IMPORTANT: When the machine is timed (plunger-forks-knotter), the safety pin for the knotter (L), which is on the gear (Q), has to be situated at 12 o'clock position and at 6 o'clock position alternatively after each plunger stroke.

A—Gear
Q—Gear
L—Safety Pin



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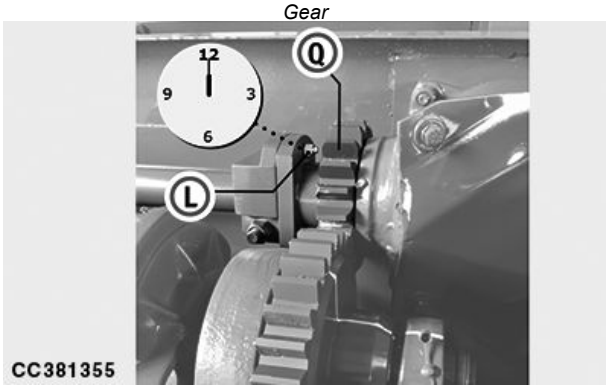
Gear



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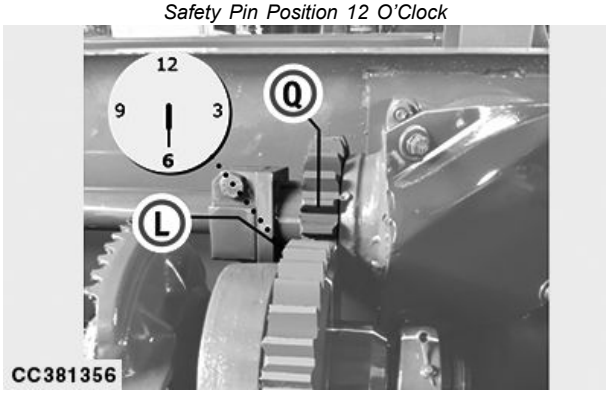
Safety Pin Position 12 O'Clock



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Safety Pin Position 6 O'Clock

GA87848,00010CF -19-15JAN21-3/3

Adjust Knotter Brake

CAUTION: Any setting operation can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on, and machine is completely arrested.

The knotter brake (C) has been designed to hold the arm (L) at rest during the bale shaping cycle.

When the brake is too slack or lubricated, it cannot hold the arm back anymore. For this reason, the arm can move from its rest position.

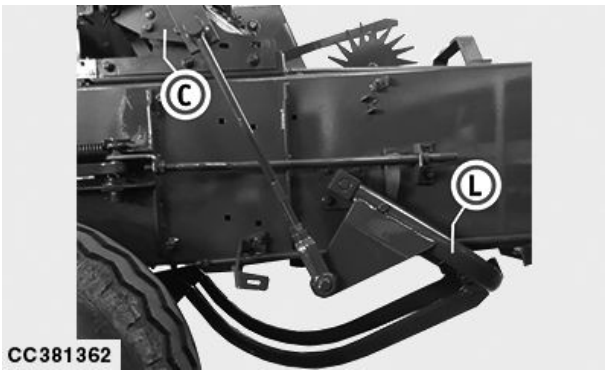
Here the events that can happen in this case:

1. The arm brings the needles in the compression chamber without any control.
2. As expected, the locking bar will be immediately inserted in the compression chamber by the security system, so that the plunger cannot run over the needles.
3. The flywheel safety bolt breaks down immediately, in order to protect all machine components.

NOTE: When the locking bar is not set in its proper place, this can also lead to the breaking of the flywheel safety bolt.

Please restore the distance of 20—25 mm (13/16—1 in) between the locking bar and the side of the compression chamber. See Adjust Locking Bar in this section.

C—Knotter Brake **L—Arm**



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CC381363 —UN—18JUN19

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GA87848,00010D0 -19-15JAN21-1/2

When the Brake is too Slack:

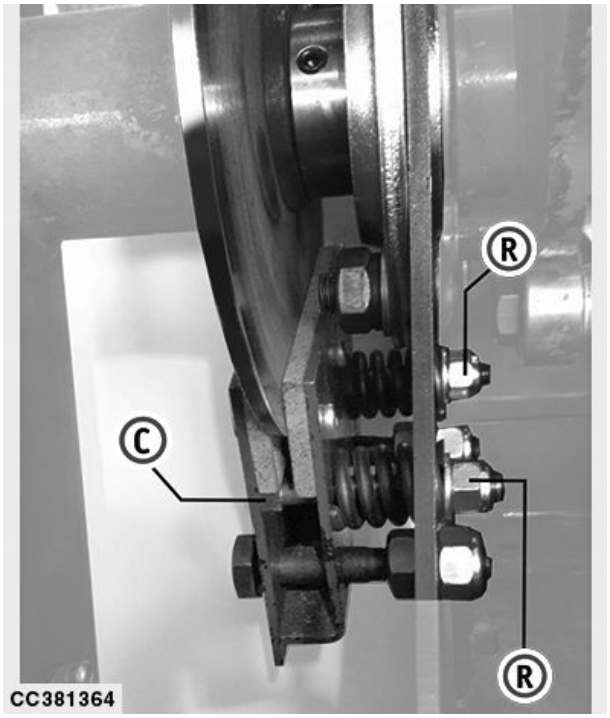
Please make sure that the two nuts (R) are evenly screwed for one half turn at time, so that the needles, now released, will not be firm and locked at the end of their work, and no rebound inside the compression chamber will occur.

NOTE: Because of rust or excessive pressure on the brake linings, the brake can appear too tightened. For this reason, all movements of the arm are prevented, causing the breaking of the knotter safety bolt and the shearing of the flywheel safety bolt.

When the Brake is too Tightened:

Please make sure that the two nuts (R) are evenly unscrewed for one half turn at time, so that the needles, now released, will not be able to flow in the compression chamber.

C—Brake **R—Nut**



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GA87848,00010D0 -19-15JAN21-2/2

Adjust Locking Bar

CAUTION: Any setting operation can only be performed when tractor P.T.O is deactivated, engine is turned off, the key from the tractor dashboard is removed, brake is on and machine is completely arrested.

All machines are fully equipped with safety & security devices, and the locking bar (D) is one of them. It has been assembled on the left side of the machine and it has been designed to block the plunger stroke.

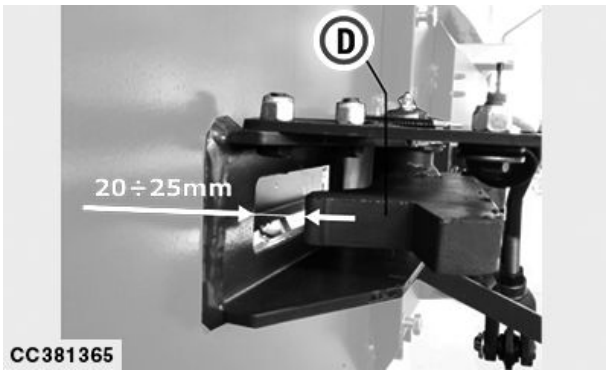
HOW TO SET THE LOCKING BAR

1. Return the needle arm (L) at rest as shown.
2. The tie rod (I), which is directly connected to the roller (H), keeps the locking bar out of the compression chamber
3. At this point, please set the distance of 20—25 mm (13/16—1 in) between the locking bar and the side of the compression chamber.

FOR THIS OPERATION, YOU NEED TO:

1. Extract the gudgeon-pin (E).
2. Screw or unscrew the component (F) to set the required distance for the locking bar (20—25 mm (13/16—1 in)).
3. Put the gudgeon-pin (E) on again using the locknut (G).

D—Locking Bar
E—Gudgeon-Pin
F—Component
G—Locknut
H—Roller
I— Tie Rod
L—Arm



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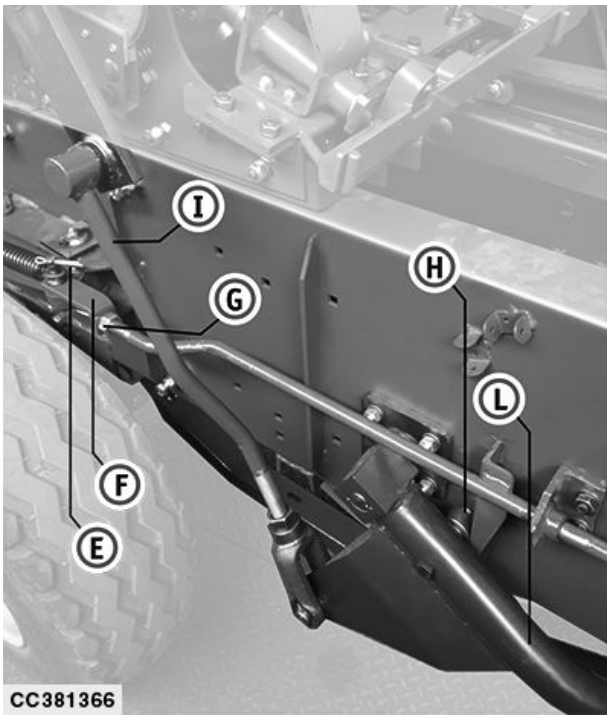

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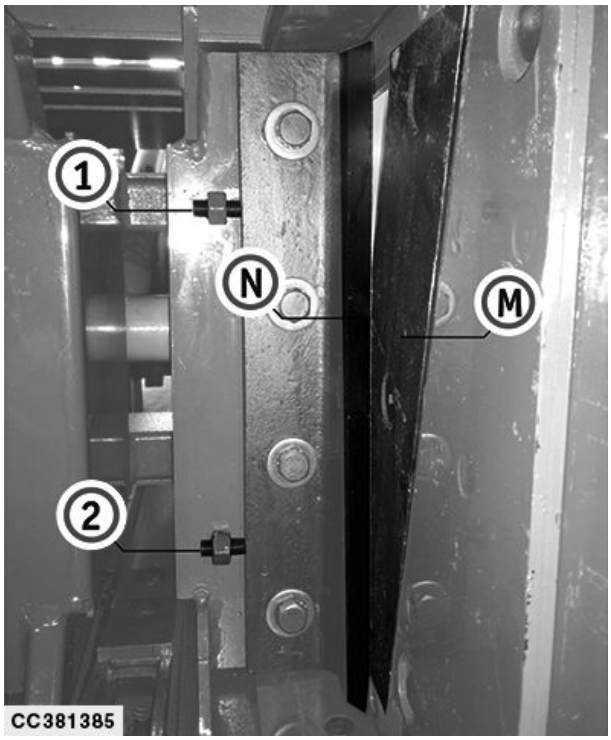
GA87848,0000C5C -19-18SEP19-1/1

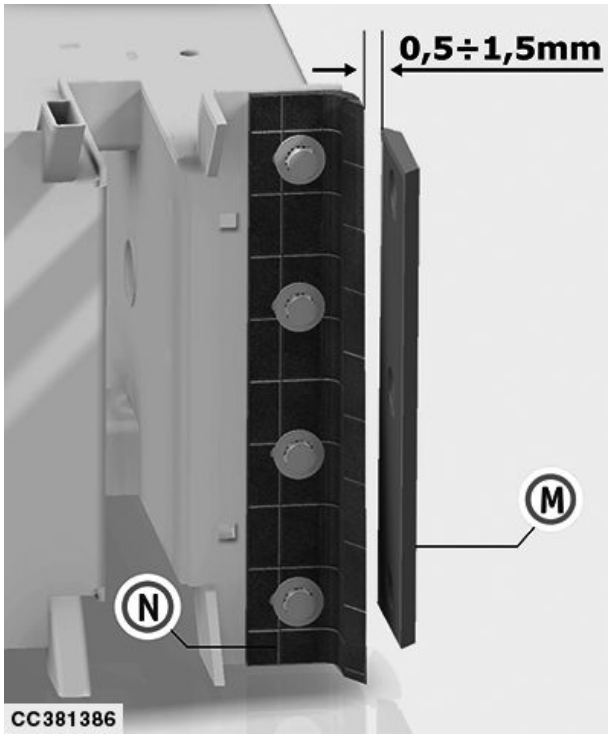
Adjust Knives of the Plunger

1. The knife of the plunger (N) is too far from the one of the compression chamber (M). In this case, you need to restore the distance of 0.5—1.5 mm (1/64—1/16 in) between the two knifes, using the proper pins (1) and (2).
2. The knifes are damaged and they do not cut properly. In this case, you need to sharpen the knife of the plunger (N) and turn the knife of the chamber (M).

1— Pin
2— Pin
M—Knife of Plunger
N—Knife of the Compression Chamber



CC381385 —UN—18JUN19



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GA87848,0000C9A -19-01JUL19-1/1

Adjust Knotter (Twine Knotter)

1. **Twine Disk**

   The function of the twine disk (8) is to set the twine for binding.

   It must be assembled between the protrusions of the twine holder (5) and of the stripper plate (7), making the twine set perfectly. After two cycles are completed, the protrusions of the twine holder (5) must partially cover the groove.

   For twine disk setting, unloose the nut (14), and hit it softly in order to release the bolt. Then, set the twine disk in its proper site and turn the bolt so that it leans on the washer. At last, tighten the nut (14) while the twine disk is not moving.

2. **Twine Holder**

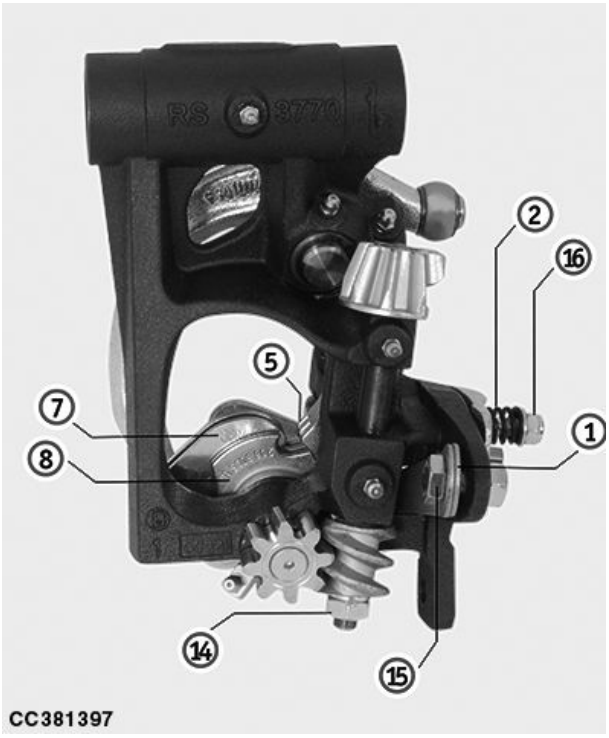
   The function of the twine holder (5) is to tighten the twine during the binding cycle.

   Two leaf springs (1) keep the twine holder stretched and they can be regulated by the leaf spring nut (15) and its locknut (16). Their action holds the twine during the cycle, together with an appropriate pressure on it.

   Too much pressure on twine can cause several problems as:

   - The breaking of the twine
   - Early wear for the twine
   - Damages on the bush
   - Excessive strain for the jaw which can cause its distortion

   A reduced pressure, instead, can prejudice the binding operation, and only one knot appears on the twine lead by the needle. For repairing, screw or unscrew the leaf spring nut (15) gradually as required, until all knotter settings are correctly applied.



CC381397 —UN—18JUN19

1— Leaf Spring
2— Spring
5— Twine Holder
7— Stripper Plate
8— Twine Disk
14— Worn Gear Nut
15— Leaf Spring Nut
16— Locknut

Continued on next page

GA87848,00010D1 -19-19JAN21-1/2

3. **Billhook**

   The function of the billhook (11) is to tie the knot.

   Because of the importance of this step, it is essential that no rust, no smears, and no rough edges appear on it.

   The billhook tongue (13) has to hold the ends of the twine enough to tie the knot without any blockage. For key setting, screw or unscrew the locknut (17) on the spring (2) gradually as required, until the appropriate pressure of the jaw cam (3) on the billhook roller (4) is achieved.

4. **Wiper Arm**

   The operations related to the wiper arm (10) are here listed:

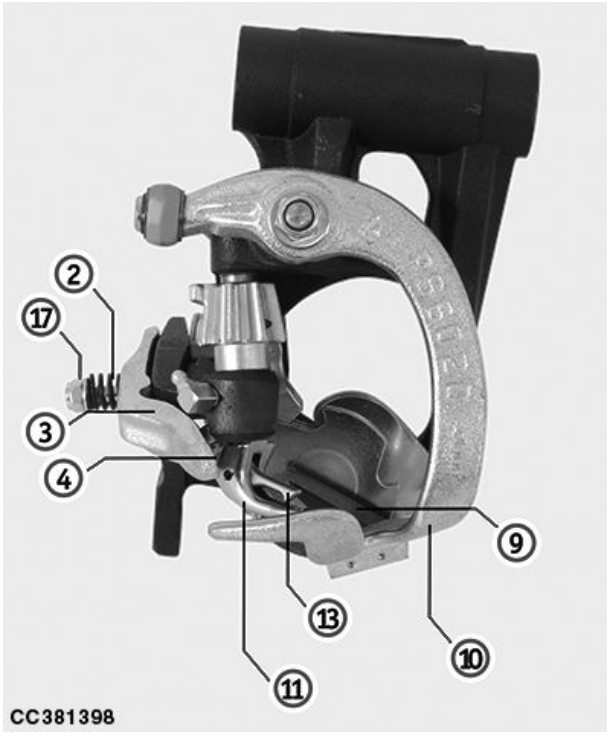
   - It cuts the twine between the twine holder and the billhook (10).
   - It takes the knot out of the billhook (10).
   - It steers the twine.

   For the expulsion of the knot, it is important that the wiper arm (10) operates verging on the billhook (11).

   At the end of its run, the wiper arm (10) must exceed the end of the bush for 10 mm (13/32 in).

   The knife (9) can be easily changed thanks to two bolts assembled on the wiper arm (10).

   Replace the knife (9) if the ends of the twine are frayed or badly cut.



CC381398 —UN—18JUN19

2— Spring
3— Jaw Cam
4— Billhook Roller
9— Knife
10— Wiper Arm
11— Billhook
13— Billhook Tongue
17— Locknut

GA87848,00010D1 -19-19JAN21-2/2

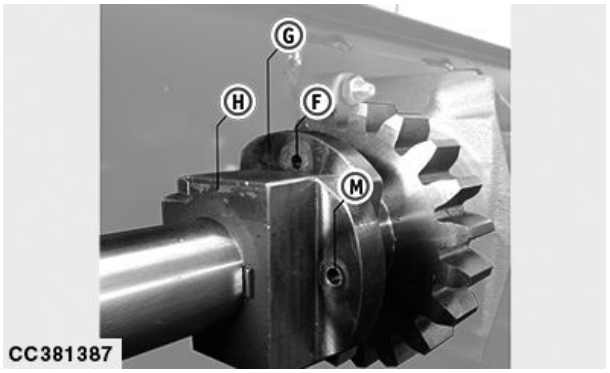
Replace Knotter Safety Bolt Seats

The knotter safety bolt has the function to protect the knotter system and needles, avoiding any kind of damage due to malfunctioning.

If the seat (M) of the hub (H) or the seat (F) of the gear (G) are worn out as shown, replace the hub (M) or the gear (G).

If both are damaged, please replace them.

F— Seat
G—Gear
H—Hub
M—Seat



CC381387 —UN—18JUN19

GA87848,0000C9B -19-20JUN19-1/1

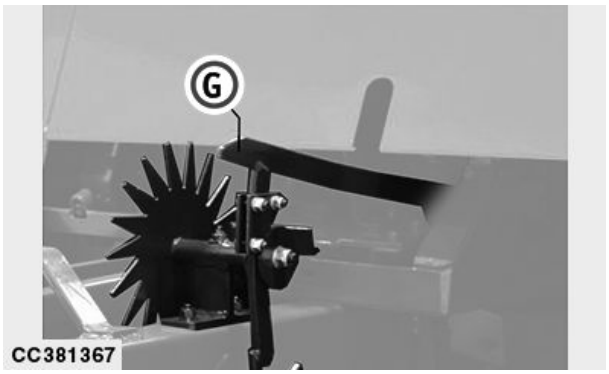
Check Needle Position (Twine Knotter)

Needles must be placed in their proper sites in order to achieve the highest machine performance during bale binding, working in every condition with the maximum potential and without any problem.

How to Place the Needles for Work:

1. Release the knotter lever (G) and turn the flywheel by hand.
2. Push the needles up (A), and make sure they verge on the knotter frame and their distance from the twine disk, which can be regulated using the proper screws, is 4—5 mm (5/32—6/32 in).
3. Make sure that the end of each needle, when at the maximum of the run, are 145—150 mm (5-3/4—5-7/8 in) far from the twine disk.

A—Needle
B—Knotter
G—Knotter Lever



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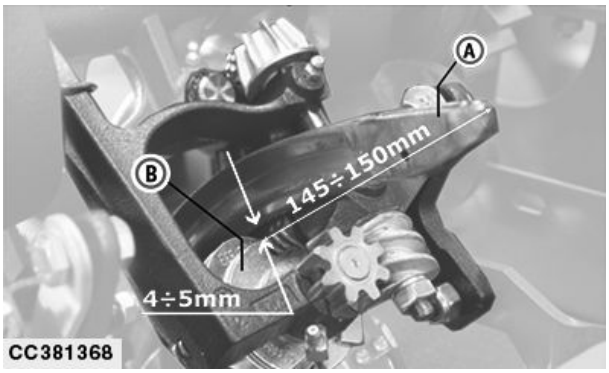
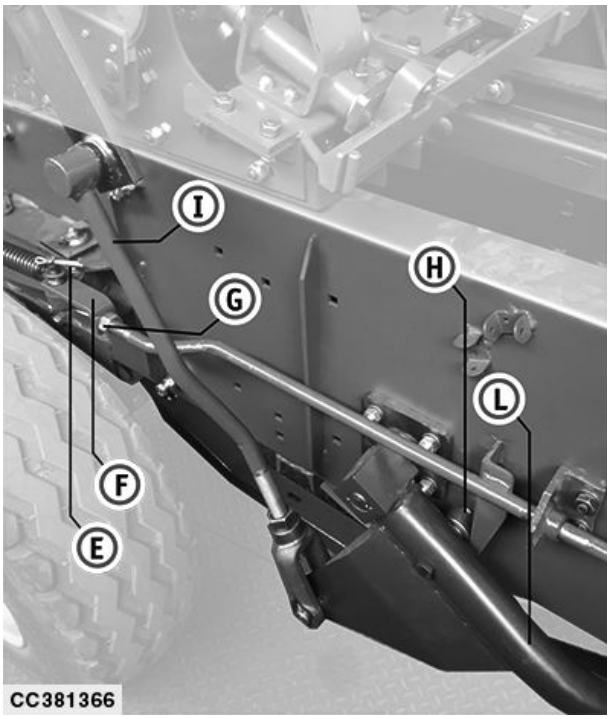


CC381368 —UN—18JUN19

GA87848,00010D2 -19-22JAN21-1/2

4. You can regulate the distance using the fork of the tie rod (I).

D—Locking Bar
E—Gudgeon-Pin
F—Component
G—Locknut
H—Roller
I— Tie Rod
L—Arm



CC381366 —UN—18JUN19

GA87848,00010D2 -19-22JAN21-2/2

Adjust Tucker Finger Position (Twine Knotter)

The function of the tucker finger equipment (T) is to bring the twine near the billhook, quickly dragging the twine to the middle of the upper opening of the compression chamber.

For checking:

1. Checking for working position:

   Tucker finger equipment achieves the highest performance when its end (B), which is situated in the middle of the opening, is 5—6 mm (3/16—15/64 in) spaced from the inner edge.

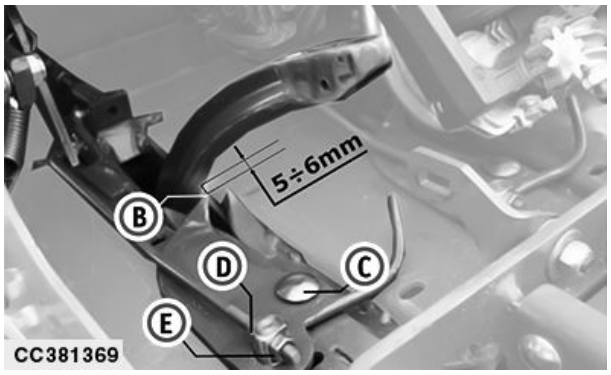
2. Checking for rest position:

   Tucker finger equipment is at rest when its end (B) is alongside the side edge of the opening (see the dashed line Z).

For required correction:

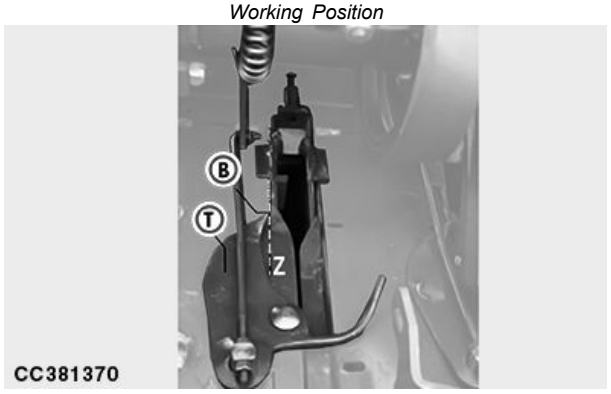
1. Use the nuts (D) and (E) to bring the end of the tucker finger alongside the side edge of the upper opening of the compression chamber.
2. Use the pin (C) to bring the end of the tucker finger near the needle or far from it.

B—End
C—Pin
D—Nut
E—Nut
T—Tucker Finger Equipment
Z—Dashed Line



CC381369 —UN—18JUN19

Working Position



CC381370 —UN—18JUN19

Rest Position

GA87848,00010D3 -19-19JAN21-1/1

Adjust Needle Position (Iron Wire Knotter)

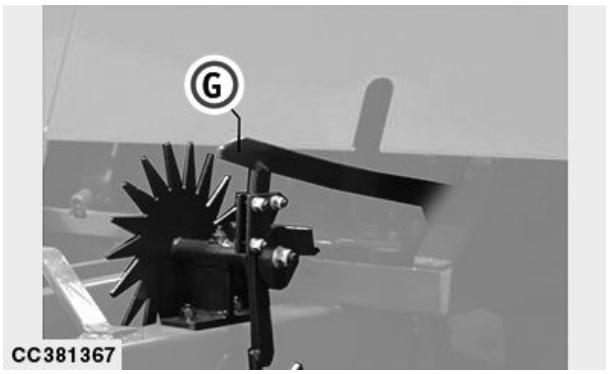
Needles must be placed in their proper sites in order to achieve the highest machine performance during bale binding, working in every condition with the maximum potential and without any problem.

For needle timing, please set their correct distance from the shafts and the cover-plier.

NEEDLES CORRECT POSITION:

1. Release the knotter lever (G) and turn the flywheel by hand
2. Bring the needles (A) beside the shafts (H) and make sure that they are 1 mm (3/64 in) spaced from each other

A—Needle
G—Knotter Lever
H—Shaft



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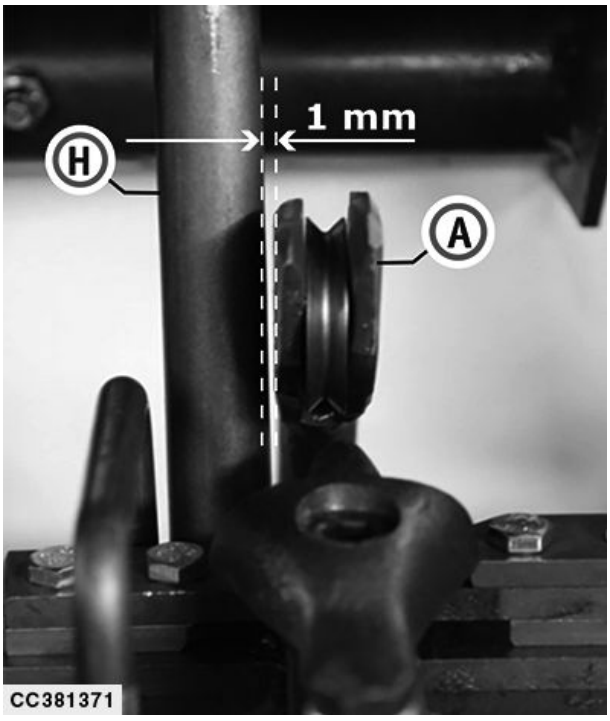
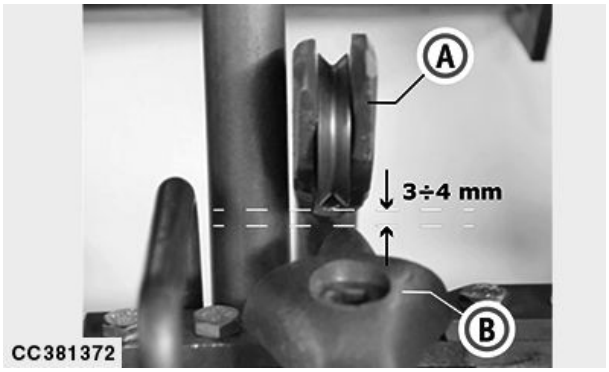


CC381371 —UN—18JUN19

GA87848,00010DA -19-18JAN21-1/3

3. The exterior edge of the needle pulley (A) must be 3—4 mm (1/8—5/32 in) far from the cover-plier (B) when the needle is close to the cover-plier (B). You can regulated it using the needle bolts.

A—Needle Pulley
B—Cover-Plier



CC381372 —UN—18JUN19

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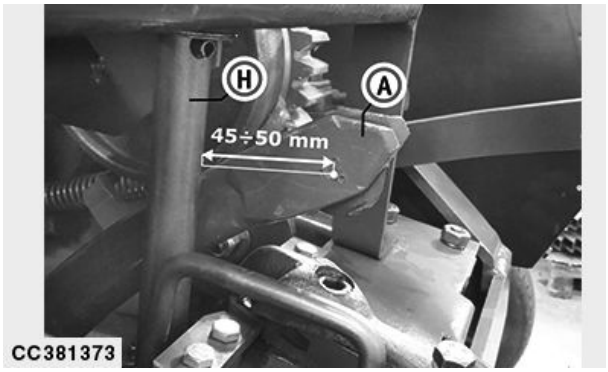
GA87848,00010DA -19-18JAN21-2/3

4. At the end of the needle run (A), the middle of the pulley must be 45—50 mm (1-9/16—1-31/32 in) spaced from the external surface of shafts (H). You can regulated it using the fork of the tie rod (I).

A—Needle Run
E—Gudgeon-Pin
F—Component
G—Locknut
I— Tie Rod
L—Needle Arm
H—Surface/Roller



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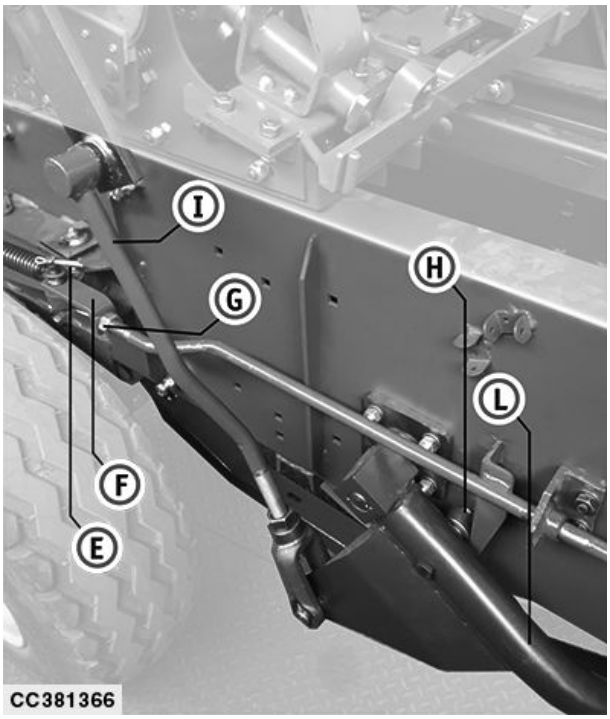


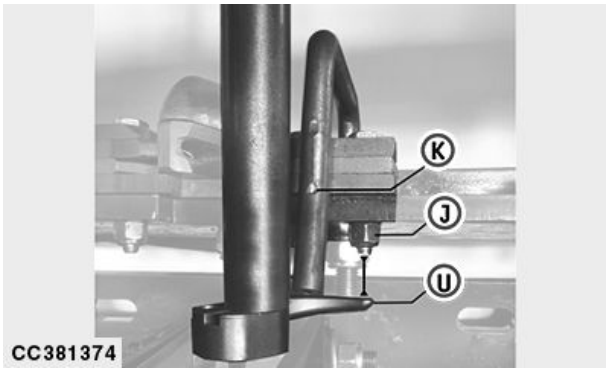
CC381366 —UN—18JUN19

GA87848,00010DA -19-18JAN21-3/3

Adjust Twister (Iron Wire Knotter)

Twisters (U) are properly set when, at rest, their end is under the knotter bush (K), alongside the nut (J) which is standing above.

K—Knotter Bush
J— Nut
U—Twister



CC381374 —UN—18JUN19

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GA87848,0000C63 -19-12JUN19-1/3

The twister must operate only when the middle of the needle pulley (W) matches the middle of the shaft (H).

H—Shaft **W—Needle Pulley**

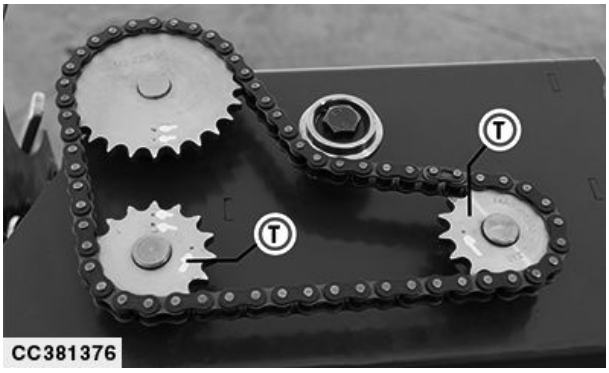
CC381375 —UN—18JUN19

GA87848,0000C63 -19-12JUN19-2/3

When knots are too slack, which means that they can be easily untied by the baled product, please move the gear (T) making one pitch clockwise in order to anticipate all the twister movements. The early timing position is now changed.

Instead, if knots are too tightened, which means that they can be easily damaged, please move the gear (T) making one pitch counterclockwise in order to postpone all the twister movements.

T—Gear



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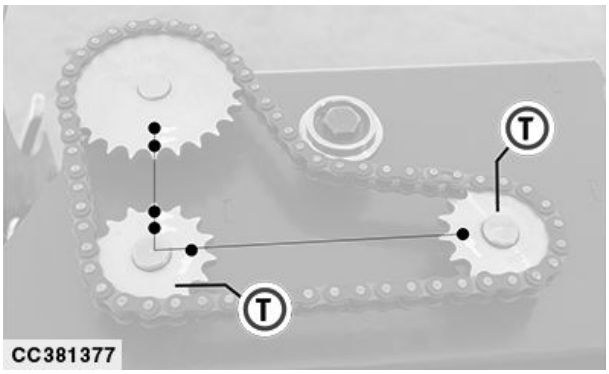


CC381377 —UN—18JUN19

Timing Position for the Gear

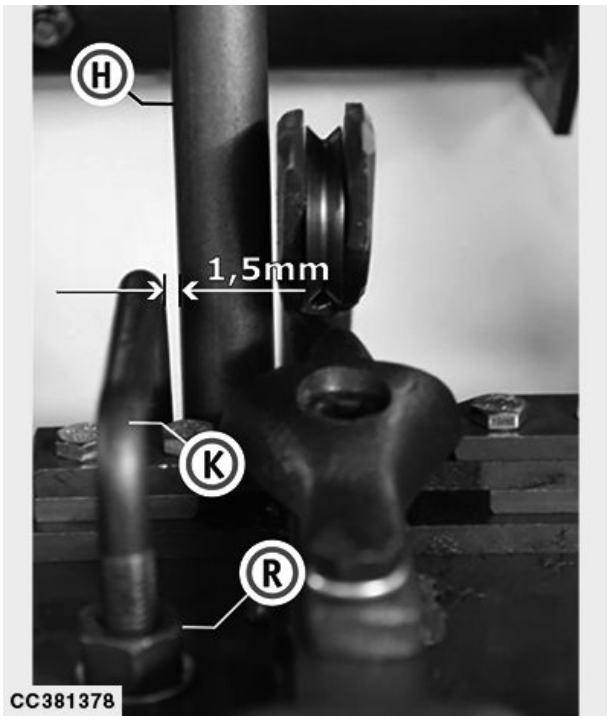
GA87848,0000C63 -19-12JUN19-3/3

Adjust Knotter Rod (Iron Wire Knotter)

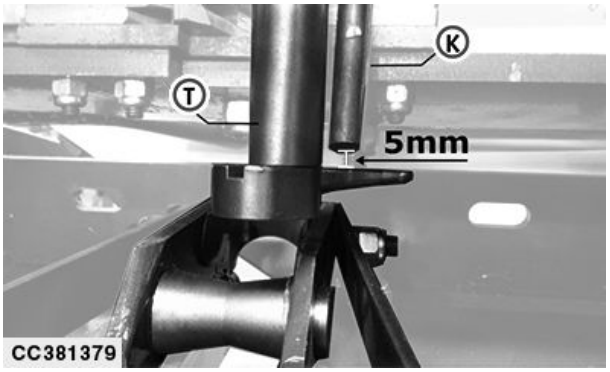
The knotter rod (K) is properly set when it is 1.5 mm (1/16 in) far from the shaft (H) and its end is 5 mm (3/16 in) spaced from the twister.

You can regulate it using the proper nut (R) and its locknut.

H—Shaft
K—Knoter Rod
R—Nut
T—Shaft



CC381378 —UN—18JUN19



CC381379 —UN—18JUN19

GA87848,0000C64 -19-12JUN19-1/1

Adjust Plier for Wire-Stop (Iron Wire Knotter)

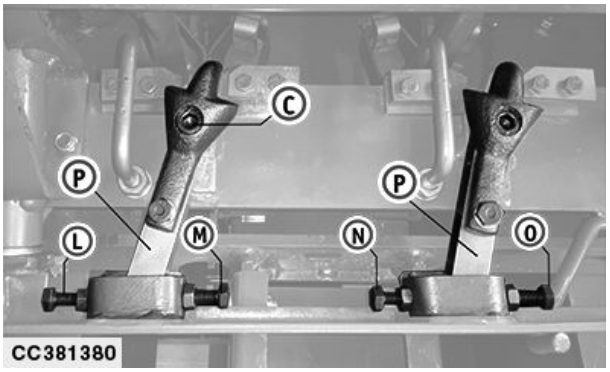
IMPORTANT: Do not tighten bolts (L), (M) ,(N), and, (O) too much: if the plier is too tightened, the wire can be cut, and several damages at the knotter system and the breaking of the bolt (C) can suddenly occur.

When pliers for wire stop cannot hold the wire during the harvest, it is extremely important to restore the proper pressure.

Please screw for one half turn at time, as suggested:

- Bolts (M) and (O) to correct the wrapping on the right.
- Bolts (L) and (N) to correct the wrapping on the left.

Check the correction after 2—3 bales are completed.

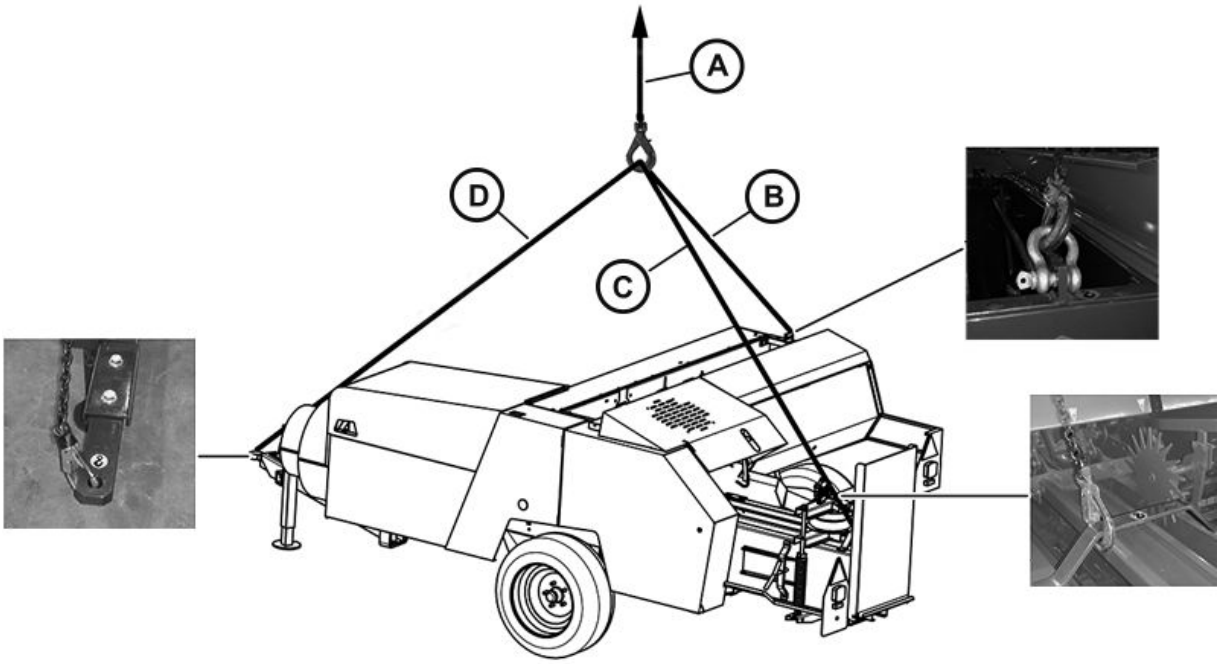


CC381380 —UN—18JUN19

C—Bolt
L—Bolt
M—Bolt
N—Bolt
O—Bolt
P—Plier

GA87848,0000C65 -19-18SEP19-1/1

Baler Hanging Points



CC531262 —UN—21FEB22

A—2300 kg (5070 lb)
B—S160: 1.65 m (5 ft 4-7/64 in), S180: 1.9 m (6 ft 2-5/64 in), S200: 2.15 m (7 ft 41/64 in)
C—S160: 2.45 m (8 ft 3/64 in), S180: 2.7 m (8 ft 10-1/32 in), S200: 2.61 m (8 ft 6-3/4 in)
D—S160: 3.15 m (10 ft 4 in), S180: 3.45 m (11 ft 3-5/64 in), S200: 3.97 m (13 ft 1/32 in)

CAUTION: No person must be near or around the hanging load or cranes for any reason.

Never use lift trucks.

Please pay attention to respect all the other current safety & security rules in the country where you are operating.

Please make sure to follow all cautions during machine lifting or moving operation in order to avoid any damage for people or objects.

When delivered, machine is completely assembled. For machine load/unload operations, please check lifting points as suggested on safety signs.

Please pay attention to follow all cautions for machine load/unload operations.

These kinds of operations need highly qualified staff (hookup men, truck operators, tractor drivers, etc.).

Before lifting, please check lifting capacity and the state of chains and straps for slinging , and compare this information with the one reported on machine data plate, or machine specification in Specifications section.

Before lifting, remove the top cover.

OUCC007,00019BF -19-22MAR22-1/1

Storage

Prepare the Baler for Storage

All machine must be kept in a safe place when they are not operating for a long period of time. This is extremely important in order to preserve your machine from weather or any other danger.

BEFORE DEPOSIT, PLEASE FOLLOW INSTRUCTIONS HERE REPORTED:

- Wash all machine parts, especially the pickup, and the inside, and clean them from all traces of product. Then, dry them all
- Clean all chains using naphtha and lubricate them using oil
- Put a line of grease on the knotter
- Grease all mechanic equipment, pins, and all machine parts subjected to friction
- Check the state of the knives of the plunger
- Check for possible damages on pickup springs and guide-tines
- Fix or replace any other machine part which seems to be damaged
- Please check all machine parts
- Make sure that all bolts are properly tightened
- Make sure that safety signs are readable and situated in the right places
- Park the machine in a safe place and on a flat ground
- Pay attention to tire inflation pressure and lock the machine using blocks so that rubble wheels cannot touch the ground
- Cover the machine using a sheet

GA87848,0000C43 -19-26JUN19-1/1

Store Baler at the End of Season

Store baler in a dry sheltered place. If stored outside, cover with waterproof material.

Block up baler, taking load off tires. Do NOT deflate tires. If exposed to light, grease and oil, cover tires for protection.

Remove tension of the pickup belt and the auger belt (if equipped). Check belt condition and wear. Check pulleys for any asperities that can damage the belt.

GA87848,00010C8 -19-14JAN21-1/1

Prepare the Baler for Beginning of Season

Please follow all the instructions here reported during the first machine start up, or even after machine restart after inactivity.

Before starting to work, please make these preliminary tests:

- Put the chute down
- Clean the grease away from the twine knotters
- Remove the paint, if there is any, away from the brake disk (C)
- Remove any rust away from the brake disk (C), especially after machine inactivity
- Make sure that all screws are well tightened
- Check if all machine parts have been lubricated
- Check for the correct tire inflation pressure
- Please activate PTO carefully and slowly, and let machine operate freely for a moment for a careful machine check

C—Brake Disk

CC381363 —UN—18JUN19

GA87848,00010F3 -19-22JAN21-1/1

Specifications for S160 Baler

Bale	
Cross-section	37 x 47 cm (1 ft 2-9/16 in x 1 ft 6-1/2 in)
Length	0.40—1.30 m (1 ft 3-3/4 in—4 ft 3-3/16 in)
Pickup	
Width (inside)	1.45 m (4 ft 9-1/16 in)
Width (on flare)	1.60 m (5 ft 3 in)
Number of teeth	64
Number of tooth bars	5
Auger (If Equipped)	
Diameter	400 mm (1 ft 3-3/4 in)
Length	730 mm (2 ft 4-3/4 in)
Plungerhead	
Speed	90 strokes/minute
Stroke	750 mm (2 ft 5-1/2 in)
Flywheel	
Diameter	550 mm (1 ft 9-21/32 in)
Weight	105 kg (231 lb)
Transmission	
Recommended tractor power	29 kW (39 hp) minimum at PTO
PTO speed	540 rpm
Hardware	metric
Right tire size	7.00-12 (6 PR)
Left tire size	10.00/75-15.3 (10 PR)
Third wheel tire size	5.00-8 (10 PR)
Pickup gauge wheel	4.80-8 (6 PR)
Miscellaneous	
Feed opening area	1850 cm^2 (287 in^2)
Length, transport position	4.87 m (15 ft 11-3/4 in)
Width (without pickup gauge wheel)	2.40 m (7 ft 10-1/2 in)
Width (with pickup gauge wheel)	2.48 m (8 ft 1-5/8 in)
Width (without pickup gauge wheel and side extension)	2.35 m (7 ft 8-1/2 in)
Width (machine equipped with auger)	2.50 m (8 ft 1-1/2 in)
Height (without arms cover)	1.56 m (5 ft 1-3/8 in)
Height	1.91 m (6 ft 3-3/16 in)
Weight (machine equipped with double forks)	1420 kg (3130 lb)

Continued on next page

Miscellaneous

Weight (machine equipped with auger)	1480 kg (3263 lb)
Weight on the towing eye (machine equipped with double forks)	210 kg (465 lb)
Weight on the towing eye (machine equipped with auger)	220 kg (485 lb)

Sound Level

Max. sound level in accordance with prEN1553; measurement method in accordance with ISO3744 (average value)	85 dB(A)

OUCC007,00019C1 -19-22MAR22-2/2

Specifications for S180 Baler

Bale	
Cross-section	37 x 47 cm (1 ft 2-9/16 in x 1 ft 6-1/2 in)
Length	0.40—1.30 m (1 ft 3-3/4 in—4 ft 3-3/16 in)
Pickup	
Width (inside)	1.62 m (5 ft 3-3/4 in)
Width (on flare)	1.80 m (5 ft 10-7/8 in)
Number of teeth	90
Number of tooth bars	5
Auger (if Equipped)	
Diameter	400 mm (1 ft 3-3/4 in)
Length	900 mm (2 ft 11-1/2 in)
Plungerhead	
Speed	90 strokes/minute
Stroke	750 mm (2 ft 5-1/2 in)
Flywheel	
Diameter	550 mm (1 ft 9-21/32 in)
Weight	105 kg (231 lb)
Transmission	
Recommended tractor power	37 kW (50 hp) minimum at PTO
PTO speed	540 rpm
Hardware	metric
Right tire size	10.00/80-12 (8 PR)
Left tire size	10.00/75-15.3 (10 PR)
Third wheel tire size	5.00-8 (10 PR)
Pickup gauge wheel	4.80-8 (6 PR)
Miscellaneous	
Feed opening area	1850 cm^2 (287 in^2)
Length, transport position	4.87 m (15 ft 11-3/4 in)
Width (without pickup gauge wheel)	2.57 m (8 ft 5-1/4 in)
Width (with pickup gauge wheel)	2.65 m (8 ft 8-3/8 in)
Width (without pickup gauge wheel and side extension)	2.52 m (8 ft 3-1/4 in)
Width (machine equipped with auger)	2.7 m (8 ft 10-1/4 in)
Height (without arms cover)	1.56 m (5 ft 1-3/8 in)
Height	1.91 m (6 ft 3-3/16 in)
Weight (machine equipped with double forks)	1520 kg (3350 lb)

Continued on next page

Miscellaneous

Weight (machine equipped with auger)	1590 kg (3505 lb)
Weight on the towing eye (machine equipped with double forks)	250 kg (550 lb)
Weight on the towing eye (machine equipped with auger)	260 kg (570 lb)

Sound Level

Max. sound level in accordance with prEN1553; measurement method in accordance with ISO3744 (average value)	85 dB(A)

OUCC007,00019C2 -19-22MAR22-2/2

Specifications for S200 Baler

Bale	
Cross-section	37 x 47 cm (1 ft 2-9/16 in x 1 ft 6-1/2 in)
Length	0.40—1.30 m (1 ft 3-3/4 in—4 ft 3-3/16 in)
Pickup	
Width (inside)	1.90 m (6 ft 2-51/64 in)
Width (on flare)	2.05 m (6 ft 8-45/64 in)
Number of teeth	110
Number of tooth bars	5
Auger	
Diameter	400 mm (1 ft 3-3/4 in)
Length	1180 mm (3 ft 10-29/64 in)
Plungerhead	
Speed	90 strokes/minute
Stroke	750 mm (2 ft 5-1/2 in)
Flywheel	
Diameter	550 mm (1 ft 9-21/32 in)
Weight	105 kg (231 lb)
Transmission	
Recommended tractor power	44 kW (59 hp) minimum at PTO
PTO speed	540 rpm
Hardware	metric
Right tire size	10.00/80-12 (8 PR)
Left tire size	10.00/75-15.3 (10 PR)
Third wheel tire size	5.00-8 (10 PR)
Pickup gauge wheel	15X6.00-6 (6 PR)
Miscellaneous	
Feed opening area	1850 cm^2 (287 in^2)
Length, transport position	4.87 m (15 ft 11-3/4 in)
Width (without pickup gauge wheel)	2.86 m (9 ft 4-19/32 in)
Width (with pickup gauge wheel)	3.12 m (10 ft 2-53/64 in)
Width (without pickup gauge wheel and side extension)	2.81 m (9 ft 2-5/8 in)
Width	2.98 m (9 ft 9-21/64 in)
Height (without arms cover)	1.56 m (5 ft 1-3/8 in)
Height	1.91 m (6 ft 3-3/16 in)

Continued on next page

Miscellaneous

Weight	1770 kg (3900 lb)
Weight on the towing eye	260 kg (570 lb)

Sound Level

Max. sound level in accordance with prEN1553; measurement method in accordance with ISO3744 (average value)	85 dB(A)

OUCC007,00019CF -19-22MAR22-2/2

EU Declaration of Conformity: S160 and S180 Square Balers

Deere & Company
Moline, Illinois USA

The person who signed this certificate declares that:

Machine type: Square Baler

Models: S160 and S180

From serial numbers: 1XGS160NAKA012465-
1XGS180NAKA012465-

fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery Directive	2006/42/EC	Self-certification
Electromagnetic Compatibility Directive	2014/30/EU	

The product is in conformity with the following standards and/or other normative documents:

ISO 3767-2 ISO 4254-1 ISO 4254-11 ISO 11684

Name and address of the person in the European Community authorized to compile the technical construction file:

Brigitte Birk
John Deere GmbH and Co. KG
Mannheim Regional Center
John Deere Strasse 70
D-68163 Mannheim, Germany

This declaration of conformity is issued under the sole responsibility of the manufacturer.

CE

CC384597 —UN—01OCT19

Place of declaration: Arc-lès-Gray, France

Date of declaration: 17 May 2019

Name: **Matt SCOTT**

Title: Manager Product Engineering

CC03745,000132F -19-17MAY19-1/1

EU Declaration of Conformity: S160 and S180 Square Balers

Deere & Company
Moline, Illinois USA

The person who signed this certificate declares that:

Machine type: Square Baler

Models: S160 and S180

From serial numbers: 1XGS160NALM012963-
1XGS180NALM012963-

fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery Directive	2006/42/EC	Self-certification
Electromagnetic Compatibility Directive	2014/30/EU	

The product is in conformity with the following standards and/or other normative documents:

ISO 3767-2 ISO 4254-1 ISO 4254-11 ISO 11684

The party in the European Community authorized to compile the technical construction file is:

John Deere Walldorf GmbH and Co. KG
Customer Support
Impexstraße 3
D-69190 Walldorf, Germany
EUConformity@JohnDeere.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

CE

CC384597 —UN—01OCT19

Place of declaration: Arc-lès-Gray, France

Date of declaration: 1 August 2020

Name: **Matt SCOTT**

Title: Engineering Manager

CC03745,000132A -19-01AUG20-1/1

EU Declaration of Conformity: S160, S180, and S200 Square Balers

Deere & Company
Moline, Illinois USA

The person who signed this certificate declares that:

Machine type: Square Baler

Models: S160, S180 and S200

From serial numbers: 1XGS160NALM012963-
1XGS180NALM012963-
1XGS200NAMN013314-

fulfills all relevant provisions and essential requirements of the following directives:

DIRECTIVE	NUMBER	CERTIFICATION METHOD
Machinery Directive	2006/42/EC	Self-certification

The product is in conformity with the following standards and/or other normative documents:

ISO 3767-2 ISO 4254-1 ISO 4254-11 ISO 11684

The party in the European Community authorized to compile the technical construction file is:

John Deere Walldorf GmbH and Co. KG
Customer Support
Impexstraße 3
D-69190 Walldorf, Germany
EUConformity@JohnDeere.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

CE

CC384597 —UN—01OCT19

Place of declaration: Arc-lès-Gray, France

Date of declaration: 1 March 2022

Name: **Matt SCOTT**

Title: Engineering Manager

OUCC005,0001CA9 -19-01MAR22-1/1

UK Declaration of Conformity: S160, S180, and S200 Square Balers

Deere & Company
Moline, Illinois USA

The person who signed this certificate declares that:

Machine type: Square Baler

Models: S160, S180, and S200

From serial numbers: 1XGS160NALM012963-
1XGS180NALM012963-
1XGS200NAMN013314-

fulfills all relevant provisions and essential requirements of the following UK regulation:

REGULATION	NUMBER	CERTIFICATION METHOD
Supply of Machinery (Safety) Regulations 2008	S.I. 2008/1597	Self-certification

The product is in conformity with the following standards and/or other normative documents:

ISO 3767-2 ISO 4254-1 ISO 4254-11 ISO 11684

The party authorized to compile the technical construction file is:

John Deere Ltd
Harby Road
Langar
Nottinghamshire
NG13 9HT
United Kingdom
EUConformity@JohnDeere.com

This declaration of conformity is issued under the sole responsibility of the manufacturer.

UK CA

CC532886 —UN—24FEB22

Place of declaration: Arc-lès-Gray, France

Date of declaration: 1 March 2022

Manufacturing unit: John Deere Arc-lès-Gray, France

Name: **Matt SCOTT**

Title: Engineering Manager

OUCC005,0001CAD -19-01MAR22-1/1

Eurasian Economic Union

This information applies only to products which bear the EAC conformity mark of the Eurasian Economic Union member states.

Manufacturer:
Deere & Company, Moline, Illinois U.S.A.

Name of the authorized representative in the Eurasian Economic Union:
Limited Liability Company
“John Deere Rus”

Address of the authorized representative:
142050, Russia, Moscow region, Domodedovo district, Domodedovo, Beliye Stolbi micro district, vladenye “Warehouse 104”, Building 2

For technical support, contact your dealer.

EAC Marking

Date of manufacture is denoted by the product marking on or near the serial number plate.

TS1738 —UN—26APR16

DX,EAC -19-27APR16-1/1

Serial Numbers

Serial Number Plate

Serial number identifying the baler is stamped on factory serial number plate.

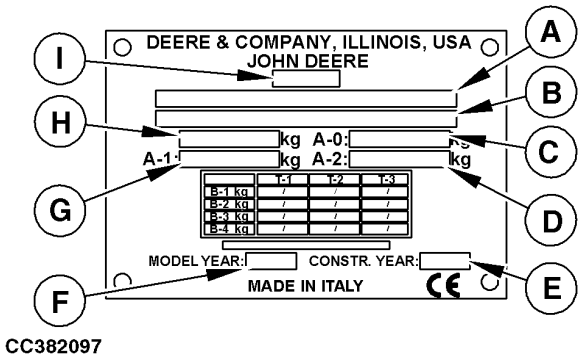
These numbers and letters are required when ordering baler or attachment replacement parts.

To ensure that you have these numbers at hand, enter the appropriate serial number in the table provided under the illustration.

OUCC006,000169A -19-29JUN10-1/1

Serial Number Plate Description

A—EU Type Approval Number
B—Identification Number
C—Vertical Load (S) on Coupling Point
D—Technically Permissible Maximum Mass for Axle 2
E—Year of Construction
F—Model Year
G—Technically Permissible Maximum Mass for Axle 1
H—Technically Permissible Maximum Laden Mass
I— European Vehicle Category



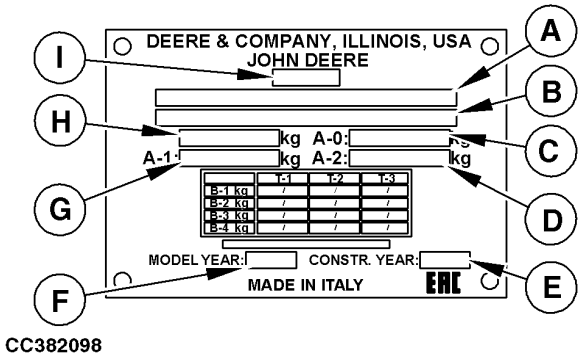
CC382097

CC382097 —UN—05SEP19

European Vehicle Identification Number Plate

GA87848,0000CCA -19-16SEP19-1/2

A—EAC Type
B—Identification Number
C—Vertical Load (S) on Coupling Point
D—Technically Permissible Maximum Mass for Axle 2
E—Month and Year of Construction (MM/YYYY)
F—Model Year
G—Technically Permissible Maximum Mass for Axle 1
H—Technically Permissible Maximum Laden Mass
I— EAC Vehicle Category



CC382098

CC382098 —UN—05SEP19

Eurasian Vehicle Identification Number Plate

GA87848,0000CCA -19-16SEP19-2/2

Machine Serial Number Record

The serial number plate is located on the right side of the front frame.

Record the serial number in the table below.

Serial Number																	
*																	*

GA87848,0000CCB -19-28JUN19-1/1

Keep Proof of Ownership

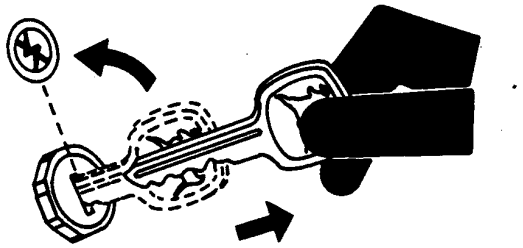
1. Maintain in a secure location an up-to-date inventory of all product and component serial numbers.
2. Regularly verify that identification plates have not been removed. Report any evidence of tampering to law enforcement agencies and order duplicate plates.
3. Other steps you can take:
   - Mark your machine with your own numbering system
   - Take color photographs from several angles of each machine

TS1680 —UN—09DEC03

DX,SECURE1 -19-18NOV03-1/1

Keep Machines Secure

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.



TS230 —UN—24MAY89

DX,SECURE2 -19-18NOV03-1/1

John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.

TS189 —UN—17JAN89

DX,SERVLIT -19-07DEC16-1/4

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.

TS191 —UN—02DEC88

DX,SERVLIT -19-07DEC16-2/4

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.

TS224 —UN—17JAN89

Continued on next page

DX,SERVLIT -19-07DEC16-3/4

EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines “real-world” problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

TS1663 —UN—10OCT97

DX,SERVLIT -19-07DEC16-4/4

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John Deere Service Keeps You on the Job

John Deere Parts

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.

TS100 —UN—23AUG88

DX,IBC,A -19-04JUN90-1/1

The Right Tools

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.

TS101 —UN—23AUG88

DX,IBC,B -19-04JUN90-1/1

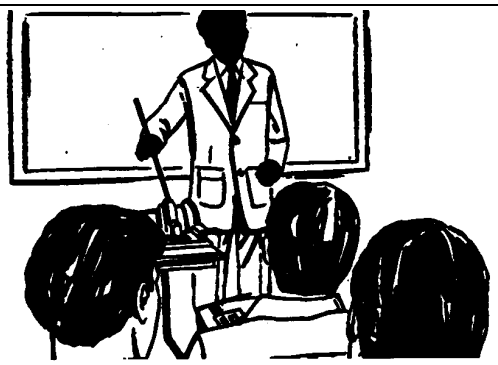
Well-Trained Technicians

School is never out for John Deere service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!



TS102 —UN—23AUG88

DX,IBC,C -19-04JUN90-1/1

Prompt Service

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances: see us, depend on us.

JOHN DEERE SERVICE SUPERIORITY: We'll be around when you need us.

TS103 —UN—23AUG88

DX,IBC,D -19-04JUN90-1/1