435 and 535 Round Balers

(Serial No. 000001-915000)

JOHN DEERE

OPERATORS MANUAL

435 and 535 Round Balers
(Serial No. 000001-915000)

OME79133 Edition L8 English

John Deere Ottumwa Works
OME79133 Edition L8

LITHO IN U.S.A.
ENGLISH

Introduction

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

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

THIS MACHINE is of metric design. Measurements in this manual are metric with the customary U.S. measurement following. Use only metric hardware and tools as specified.

WRITE PRODUCT IDENTIFICATION NUMBERS in the space provided in the Specifications 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. If this manual is kept on the machine, also file the identification numbers in a secure place off the machine.

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

This warranty provides you the assurance that John Deere will back its products where defects appear within the warranty period. In some circumstances, John Deere also provides field improvements, often without charge to the customer, even if the product is out or warranty. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements may be denied. Setting fuel delivery above specifications or otherwise overpowering machines will result in such action.

THE TIRE MANUFACTURER'S warranty supplied with your machine may not apply outside the U.S.

E32229 -UN-16SEP88

John Deere 435 and 535 Round Balers

EX,435A,IFCOM -19-01SEP88

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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.

OME79133 L8-19-13DEC89

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Page

Safety

RECOGNIZE SAFETY INFORMATION

This is the 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-07DEC88

053,ALERT -19-16JUN87

UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

Safety signs with signal word DANGER or WARNING are typically near specific hazards.

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

TS187 -19-30SEP88

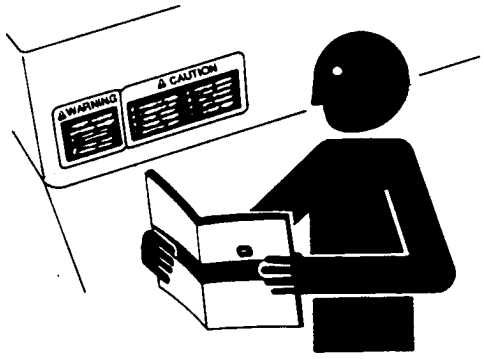
O53,SIGNAL -19-07OCT85

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.

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.

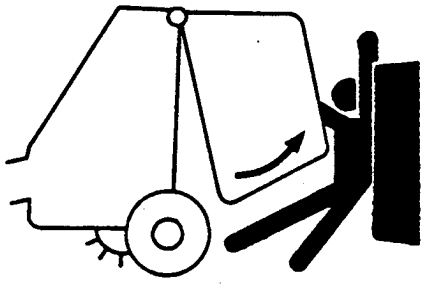


TS201 -UN-23AUG88

O53,READ -19-23APR87

PROTECT BYSTANDERS

To prevent crushing injury be sure bystanders stand clear before operating gate and unloading bale.



E32162 -UN-12SEP88

EX,435C,A -19-01SEP88

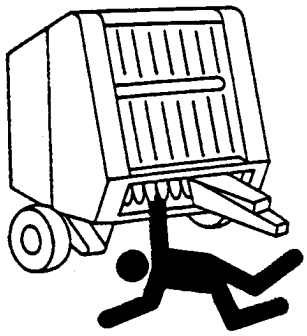
OPERATE BALER SAFELY

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

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

• Disengage PTO and shut off engine.

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



E32161 -UN-12SEP88

EX,435C,B -19-01SEP88

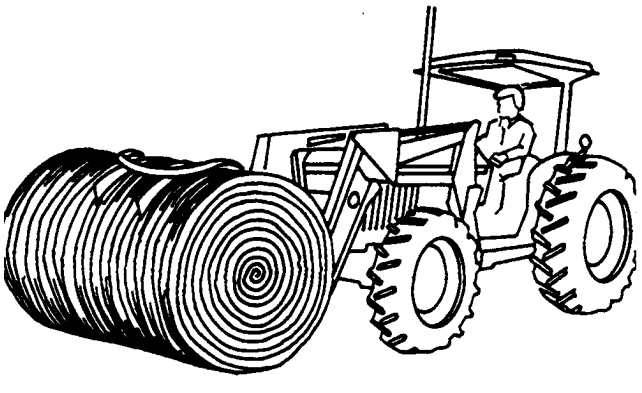
OPERATE SAFELY ON SLOPES

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

To prevent injury or damage from a rolling bale, discharge bales on level ground or in such a manner that the bale will not roll.

EX,435C,C -19-01SEP88

HANDLE ROUND BALES SAFELY



To help prevent personal injury, do not handle round bales without approved John Deere Round Bale Handling attachments.

Improper use of loaders to handle round bales can result in serious injury or death to the tractor/loader operator. This could be caused by the bale rolling back down the loader into the operator's station.

To attain optimum stability and visibility:

• Do not handle bales that exceed the bale weight limitations of the loader.

• Carry the bale slowly and as low as possible to the ground.

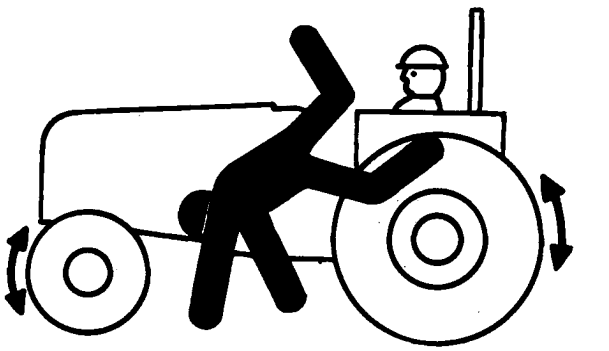
• Operate the loader controls smoothly, avoiding jerky operation.

• When handling round bales on a slope, always approach the bale with the tractor facing uphill.

• Never use the tractor/loader to stop a rolling bale.

EX,435C,D -19-01SEP88

KEEP RIDERS OFF MACHINE

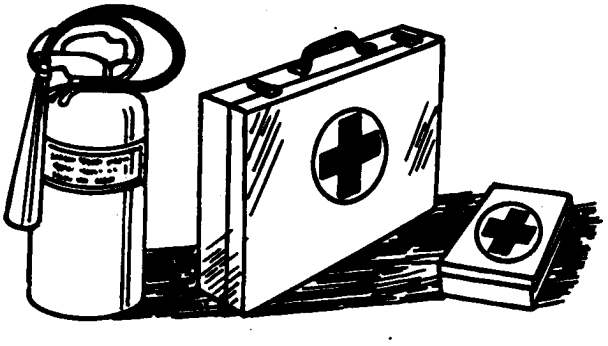


Only allow the operator on the machine. Keep riders off.

Riders on machine 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.

O53,RIDER -19-03MAY88

PREPARE FOR EMERGENCIES



TS291 -UN-23AUG88

Be prepared if a fire starts.

1. Eject bale immediately.

2. Move tractor and baler upwind 9 m (30 ft) away from flammable material.

3. Raise gate and engage gate lock valve.

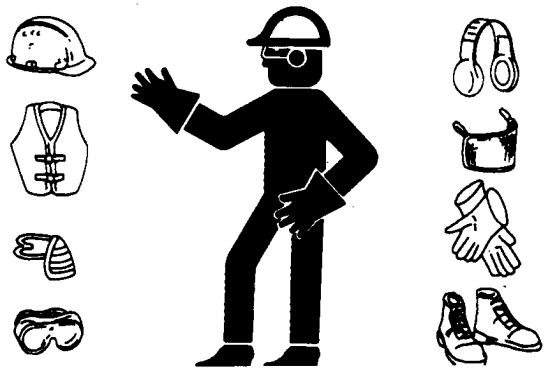
4. Use fire extinguisher or other water supply to put out fire.

Keep first aid kit handy.

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

EX,435C,J -19-01NOV88

WEAR PROTECTIVE CLOTHING



TS206 -UN-23AUG88

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.

O53,WEAR -19-23APR87

STAY CLEAR OF ROTATING DRIVELINES

TS198 -UN-23AUG88

Entanglement in rotating driveline can cause serious injury or death.

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

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

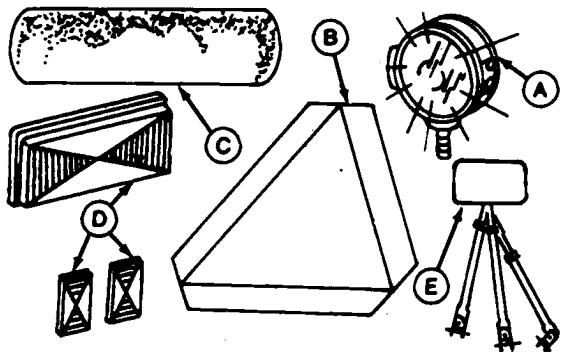
O53,PTO -19-16JUN87

USE SAFETY LIGHTS AND DEVICES

When transporting your machine on a road or highway at night or during the day, use necessary safety lights. Check local governmental regulations. A safety lighting kit is available from your John Deere dealer.

Keep safety items in good condition. Replace missing or damaged items.

A—Lights
B—SMV Emblem
C—Reflector Tape
D—Reflectors
E—Mirror and Extension



E22683 -UN-15SEP88

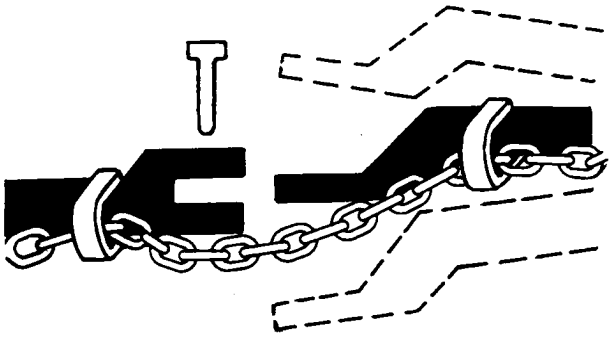
EX,435C,E -19-01SEP88

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.

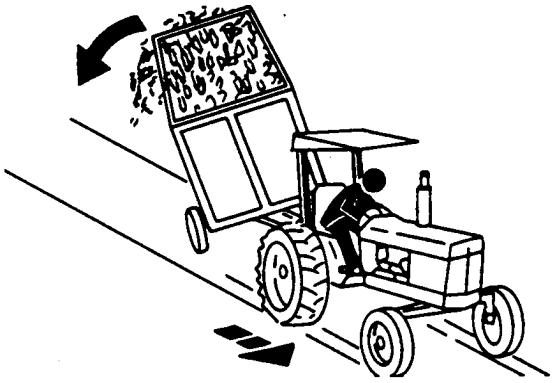
See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine. Do not use safety chain as a tow chain for towing.



TS217 -UN-23AUG88

EX,435C,L -19-21NOV88

REDUCE SPEED WHEN TOWING LOADS



TS216 -UN-23AUG88

Braking to stop towed loads from transport speeds can cause the towed load to swerve and upset. Reduce speed if towed load weighs more than the tractor and is not equipped with brakes.

Follow recommended speed-weight ratio guidelines:

• Maximum speed is 20 mph (32 km/h) when towing load equal to or less in weight than the tractor.

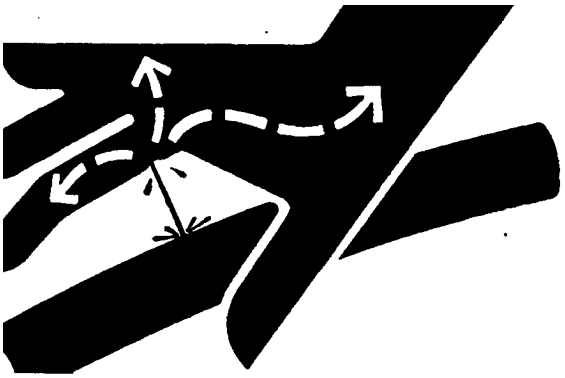
• Reduce speed to 10 mph (16 km/h) when towing load up to double the tractor weight.

• Do not tow loads exceeding double the tractor weight.

• Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

O53,TOW -19-08JUN88

AVOID HIGH-PRESSURE FLUIDS



X9811 -UN-23AUG88

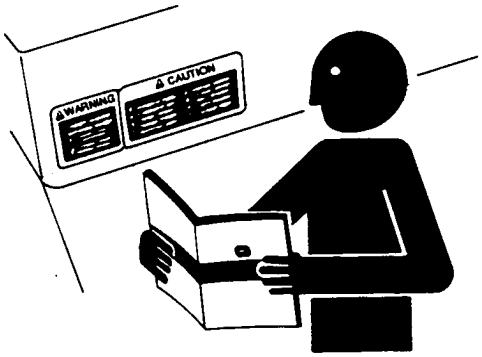
Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before unhooking hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes and nozzles which eject fluids under high pressure. Use a piece of cardboard to search for leaks.

If ANY fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type injury or gangrene may result.

O53,FLUID -19-18SEP87

REPLACE SAFETY SIGNS

Replace missing or damaged safety signs. See the machine operator's manual for correct safety sign placement.

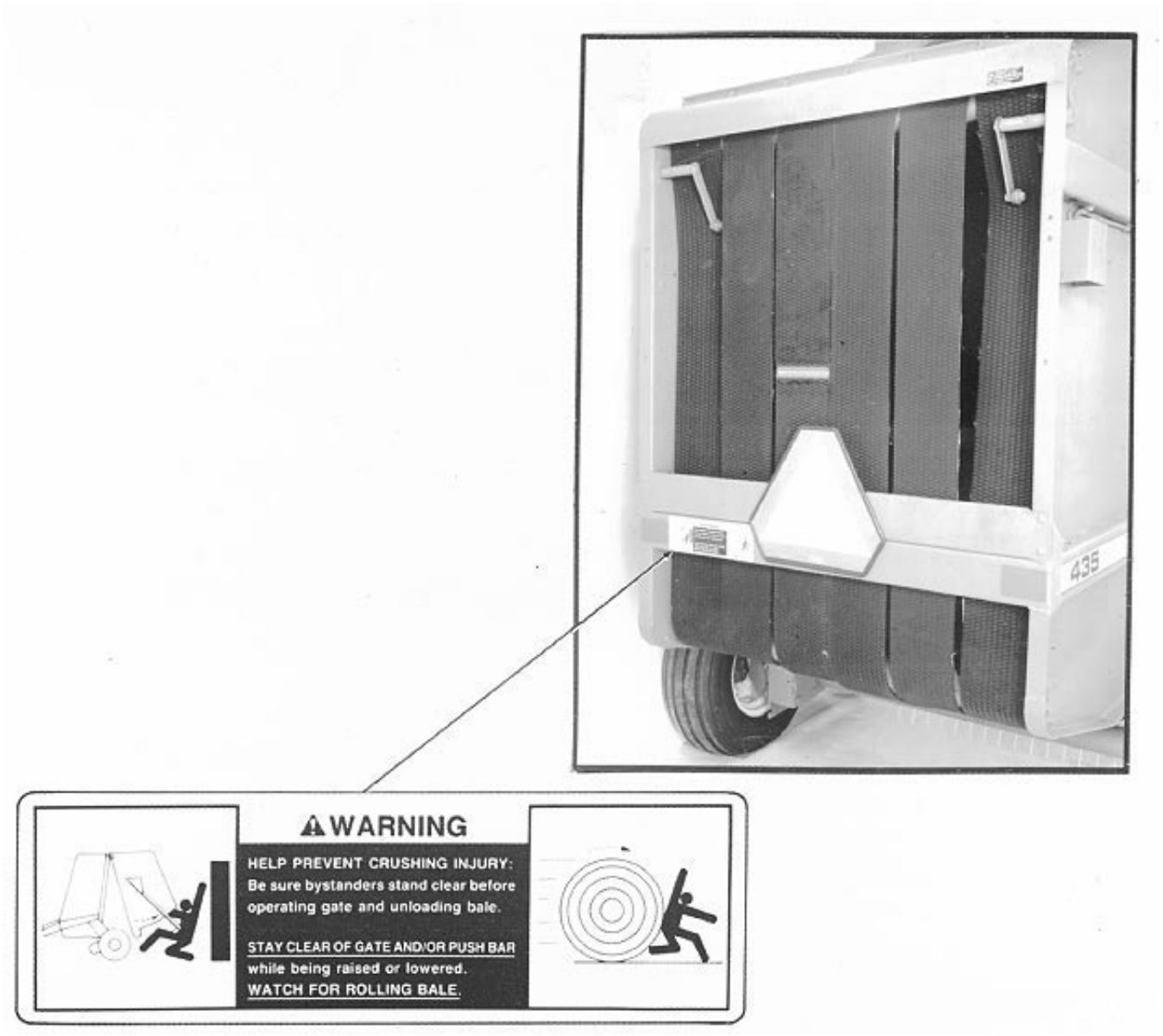


TS201 -UN-23AUG88

O53,SIGNS1 -19-22DEC87

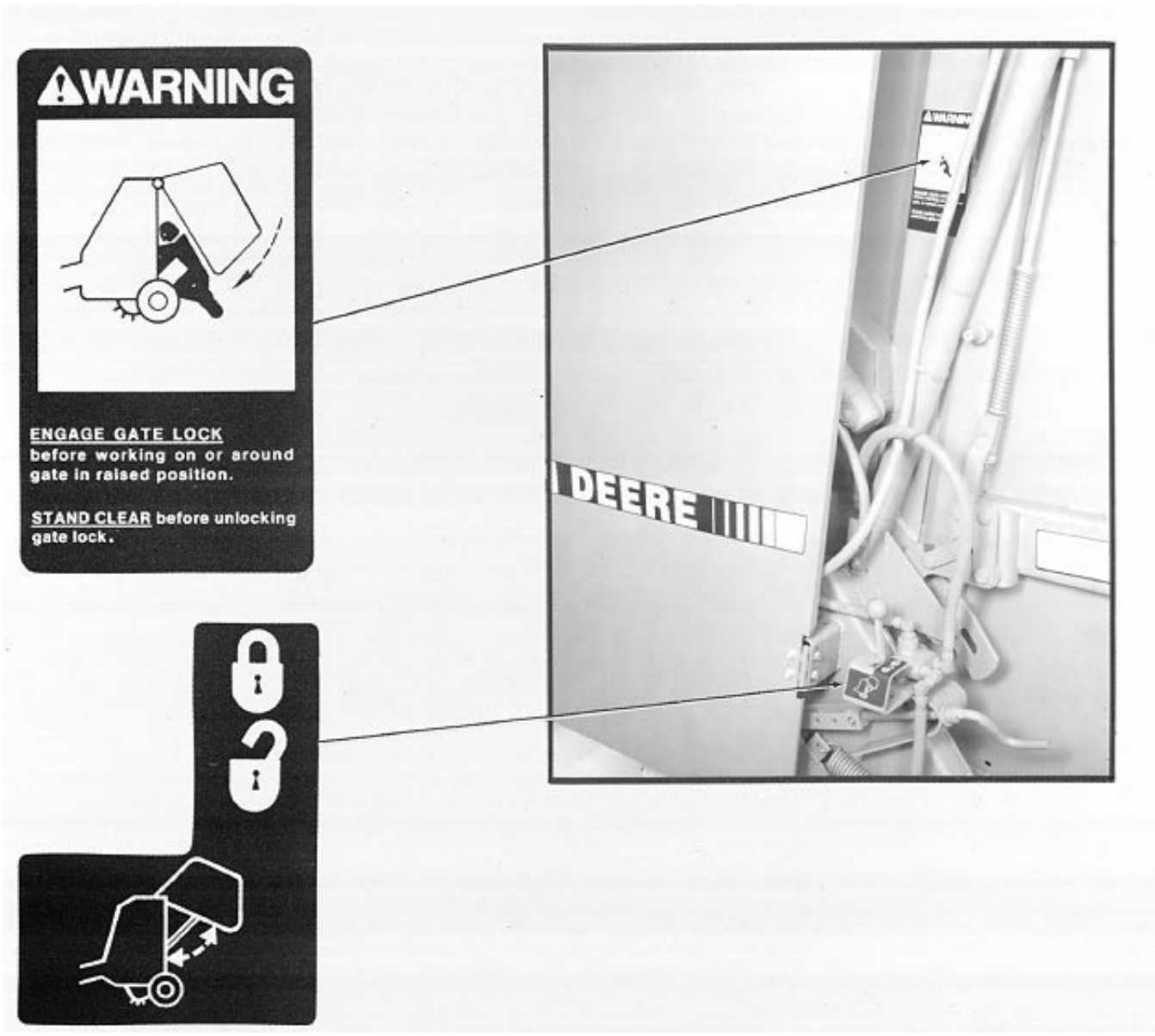
E32079 -19-23NOV88

EX,435C,F -19-01SEP88



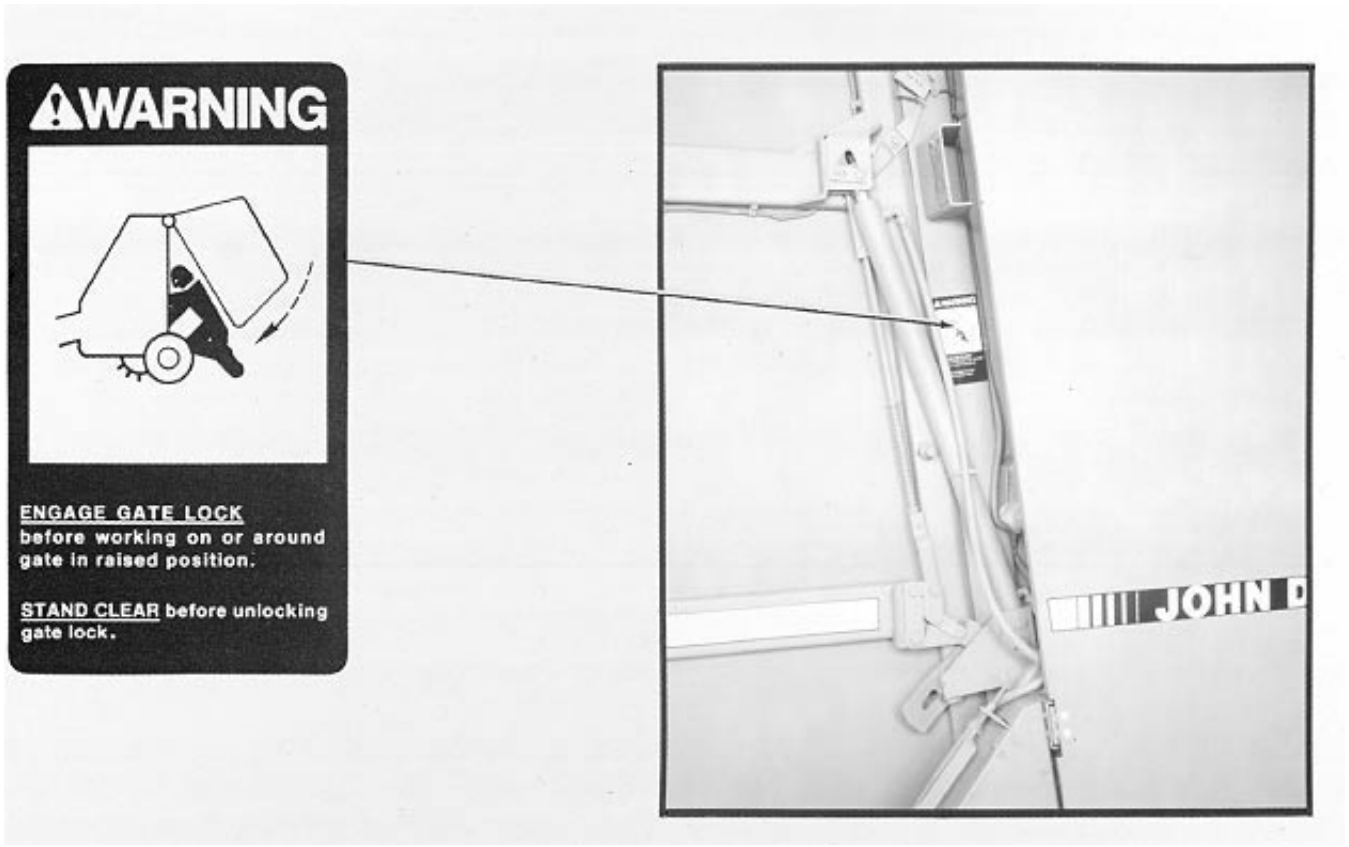
E32080 -19-23NOV88

EX,435C,G -19-01SEP88



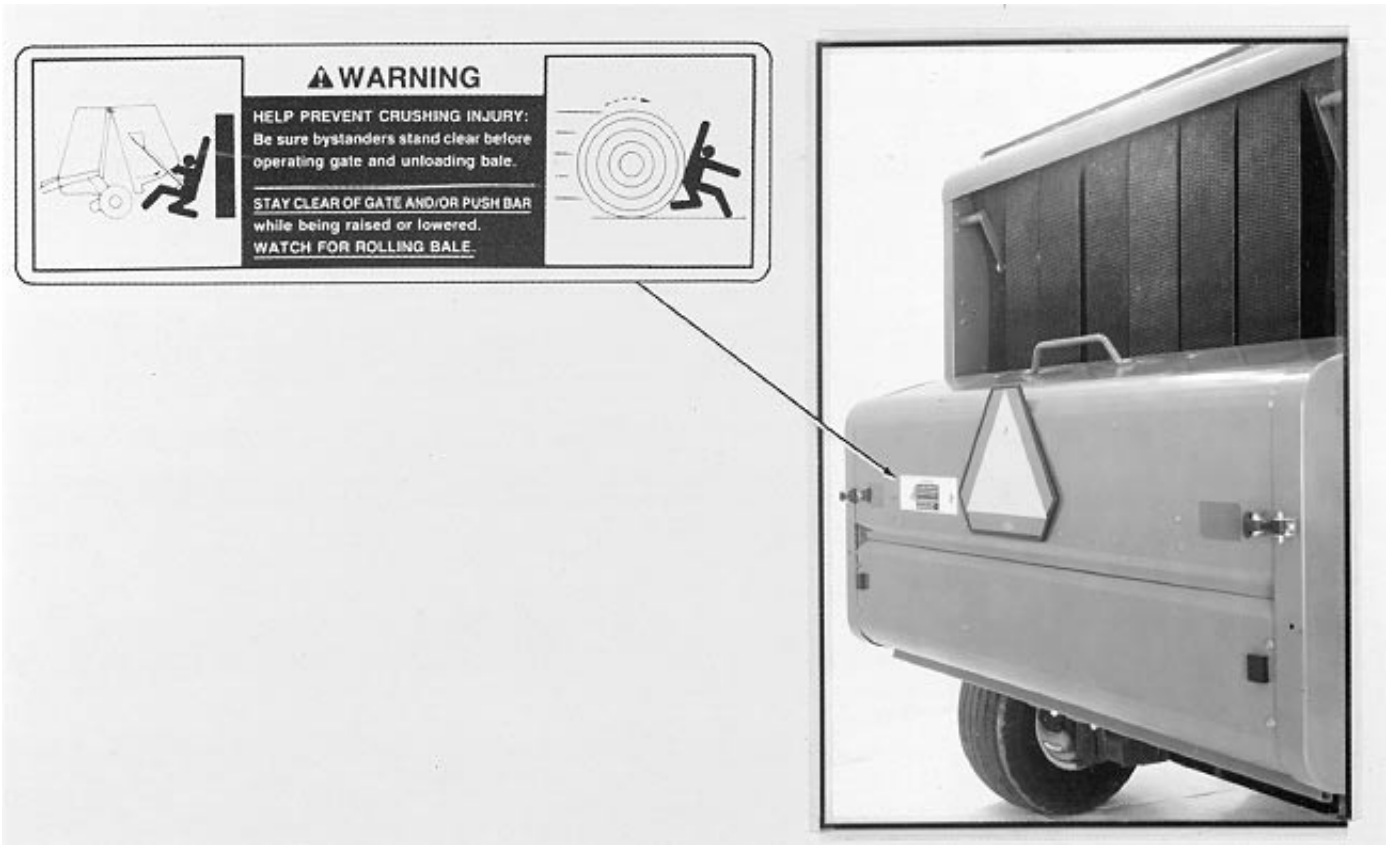
E32081 -19-23NOV88

EX,435C,H -19-01SEP88



E32082 -19-23NOV88

EX,435C,I -19-01SEP88



E32603 -19-23NOV88

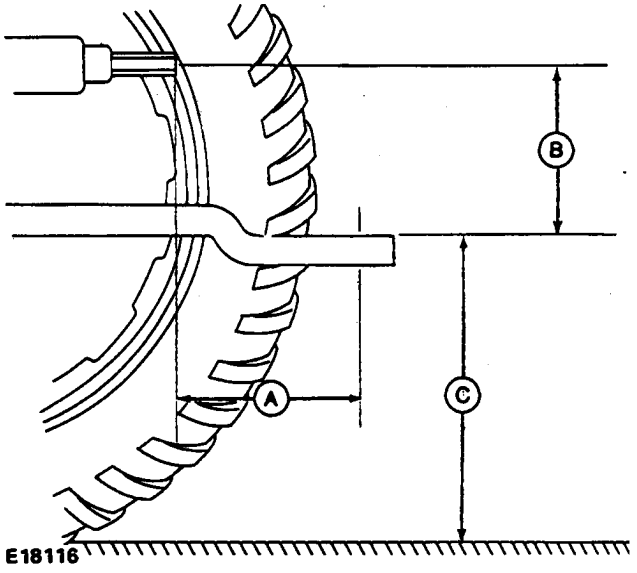
EX,435C,K -19-08NOV88

ADJUSTING THE DRAWBAR

Vertically align drawbar hitch pin hole with centerline of tractor power take-off shaft.

Set drawbar to the following dimensions:

A—356 mm (14 in.) (540 rpm)
—406 mm (16 in.) (1000 rpm)
B—152—305 mm (6—12 in.)
C—330—508 mm (13—20 in.)



-UN-12SEP88
E18116

EX,435V,A -19-01SEP88

ADJUSTING TRACTOR WHEELS

Adjust front wheels to provide an inside tire to tire dimension of 1372 to 1524 mm (54 to 60 in.) on the 435 Baler or 1676 to 1829 mm (66 to 72 in.) on the 535 Baler.

-UN-12SEP88
E21602

EX,435V,B -19-01SEP88

Adjust rear tractor wheels to provide an outside tire dimension of 2591 to 2743 mm (102 to 108 in.).

IMPORTANT: Do not make extremely short turns or cause the baler to jackknife while backing as damage may occur to the converging wheels.

If converging wheels are installed, the outside dimension of the rear wheels must not exceed 2286 mm (90 in.) for the 435 Baler and 2388 mm (94 in.) for the 535 Baler.

-UN-12SEP88
E21603

EX,435V,C -19-01SEP88

CHECKING BALLAST, WHEEL SPACING, AND TIRE INFLATION

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

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

EX,435V,D -19-01SEP88

SETTING HYDRAULIC OUTLETS

Set tractor hydraulic remote outlets to maximum flow rate.

For tractors with low hydraulic flow (less than 25 L/min [6.5 gpm]), install orifice in bale density control valve to prevent pinching belts when closing gate. (See Install Orifice in Tractors With Low Hydraulic Flow in the Service Section.)

EX,435V,E -19-02NOV88

TRACTOR ELECTRICAL HOOKUP

The bale monitor is designed for use on 12-volt negative or positive ground electrical systems.

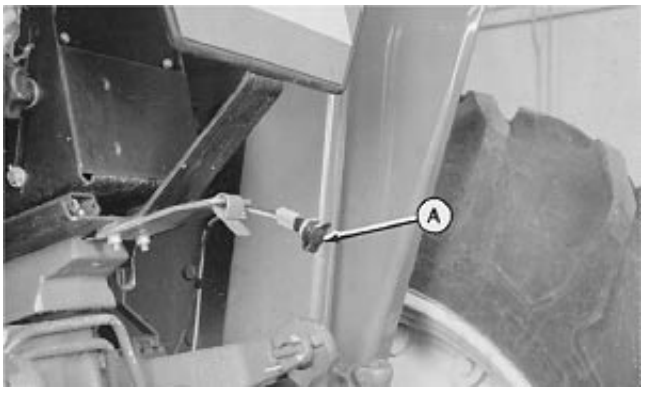
Determine whether your tractor is negative or positive ground and follow the instructions for that system.

EX,435V,W -19-03NOV88

INSTALL CONVENIENCE OUTLET ON NEGATIVE GROUND TRACTORS WITHOUT SOUND-GARD® BODIES

1. Install socket (A) in convenient location.

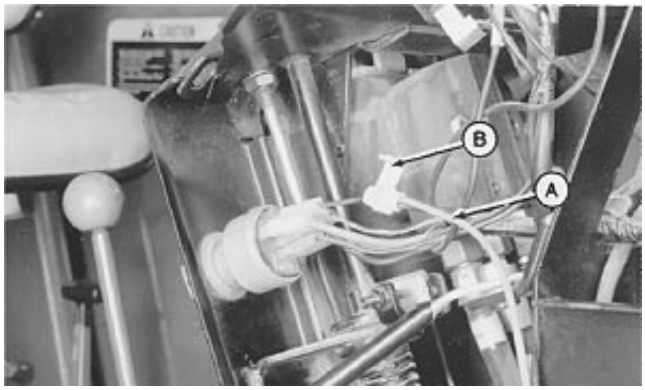
NOTE: Route wires away from tires, lift links, and other pinch points. Avoid all sharp edges. Secure wires with tie straps provided.



EX,435V,X -19-03NOV88

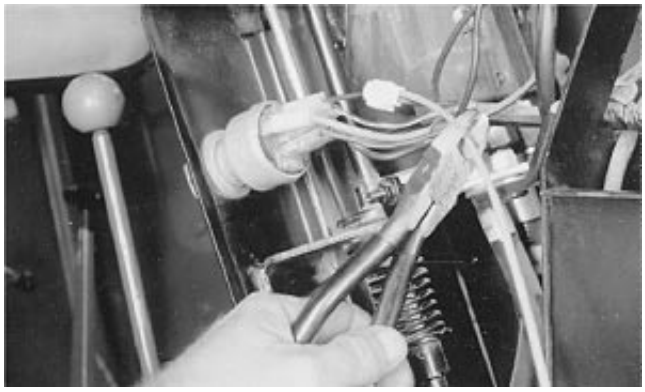
CAUTION: To avoid injury from a spark or short circuit, DISCONNECT THE BATTERY GROUND STRAP FROM THE BATTERY when working on any part of the electrical system.

2. Locate a switch-controlled terminal. Cut red wire (A) to length and splice to a “hot” wire from terminal using connector (B).



EX,435V,Y -19-03NOV88

3. Cut red wire approximately 102 mm (4 in.) from the terminal and strip the end. Strip end of cut wire connected to convenience outlet.

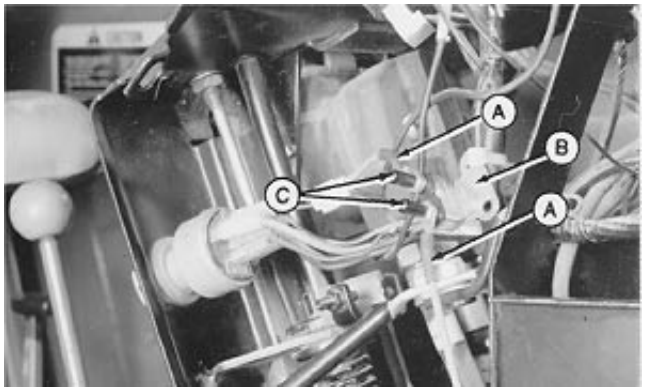


EX,435V,Z -19-03NOV88

4. Slip insulating sleeve (B) and eyelets over stripped wires. Crimp eyelets to wires and cover crimp with insulating sleeves (A).

5. Connect wires to circuit breaker (B) using two #10 nuts on each post clamping eyelet between nuts.

6. Wrap circuit breaker posts with electrical tape (C) to prevent shorting and secure circuit breaker using tie strap.

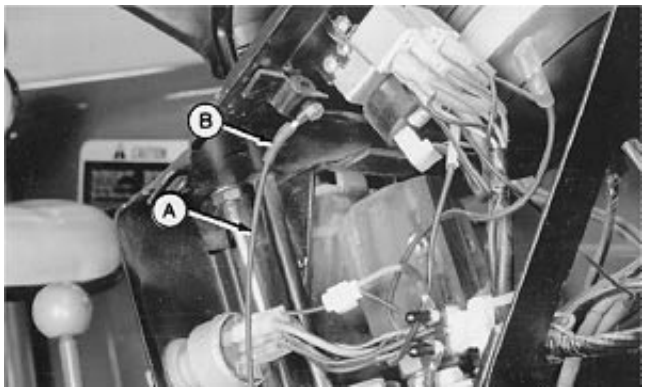


EX,435V,AA -19-03NOV88

7. Locate a ground screw and cut black wire to reach this location. Strip end of wire.

8. Slip insulating sleeve (B) and eyelet over stripped end of black wire (A). Crimp eyelet to wire and cover crimp with insulating sleeve (B).

9. Connect eyelet to ground screw.

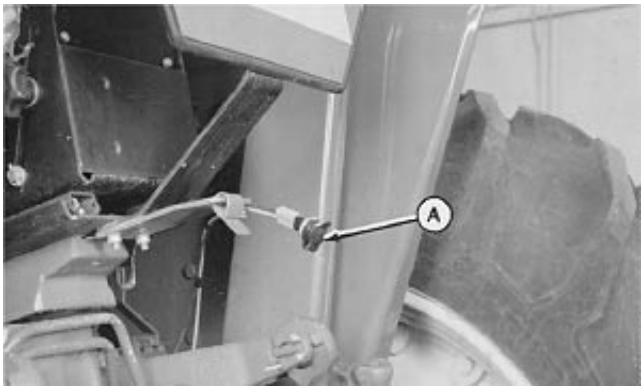


EX,435V,AB -19-03NOV88

INSTALL CONVENIENCE OUTLET ON POSITIVE GROUND TRACTORS WITHOUT SOUND-GARD BODIES

1. Install socket (A) in convenient location.

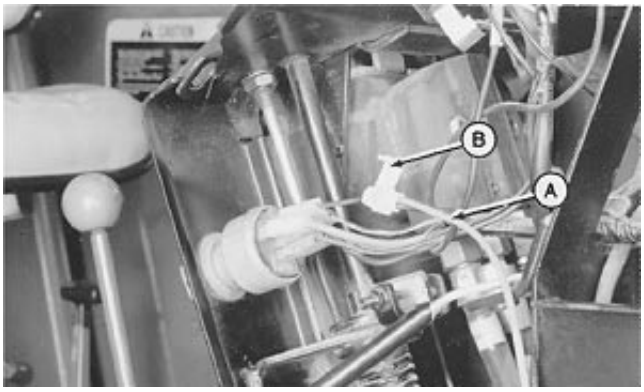
NOTE: Route wires away from tires, lift links, and other pinch points. Avoid all sharp edges. Secure wires with tie straps provided.



EX,435V,AC -19-03NOV88

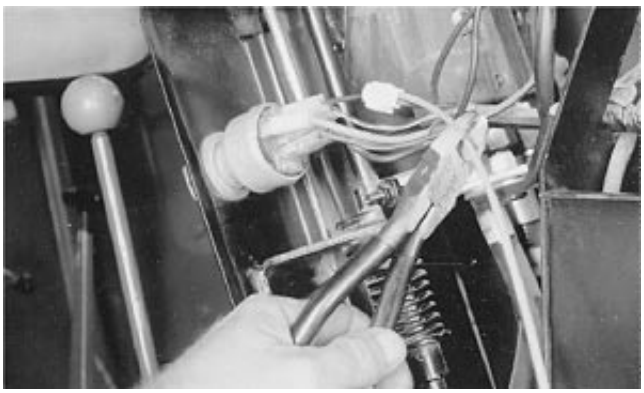
CAUTION: To avoid injury from a spark or short circuit, DISCONNECT THE BATTERY GROUND STRAP FROM THE BATTERY when working on any part of the electrical system.

2. Locate a switch-controlled terminal. Cut black wire (A) to length and splice to a “hot” wire from terminal using connector (B).



EX,435V,AD -19-03NOV88

3. Cut black wire approximately 102 mm (4 in.) from the terminal and strip the end. Strip end of cut wire connected to convenience outlet.

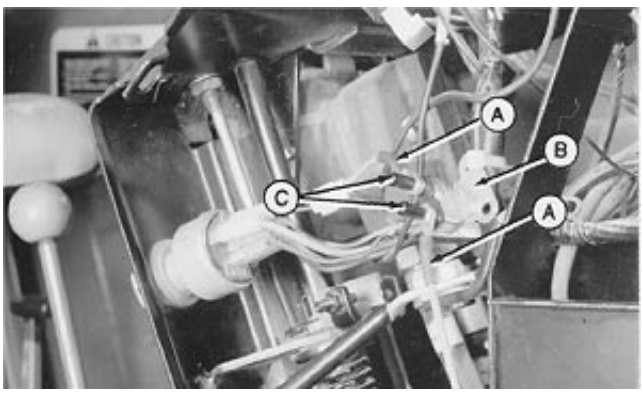


EX,435V,AE -19-03NOV88

4. Slip insulating sleeves (A) and eyelets over stripped wires. Crimp eyelets to wires and cover crimp with insulating sleeves (A).

5. Connect wires to circuit breaker (B) using two #10 nuts on each post clamping eyelet between nuts.

6. Wrap circuit breaker posts with electrical tape (C) to prevent shorting and secure circuit breaker using tie strap.

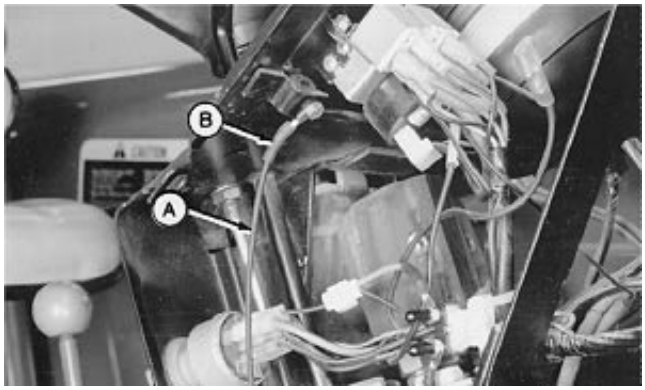


EX,435V,AF -19-03NOV88

7. Locate a ground screw and cut red wire to reach this location. Strip end of wire.

8. Slip insulating sleeve (B) and eyelet over stripped end of red wire (A). Crimp eyelet to wire and cover crimp with insulating sleeve (B).

9. Connect eyelet to ground screw.

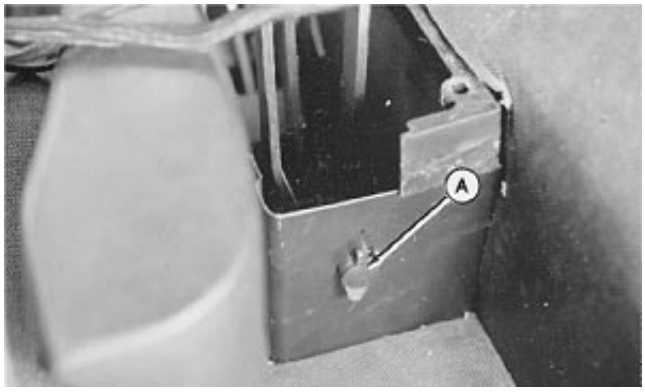


EX,435V,AG -19-03NOV88

INSTALL CONVENIENCE OUTLET ON TRACTORS WITH SOUND-GARD BODIES

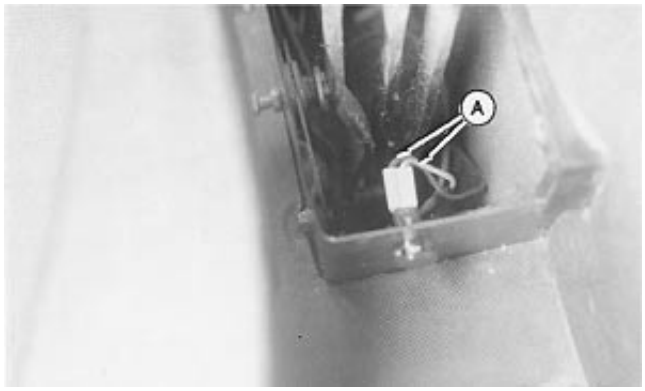
1. Remove top of control console at the right-hand side of the operator. Move all control levers to their rear positions.

2. Locate the socket so it will not interfere with the control levers. Drill a 19 mm (3/4-in.) hole in the panel and install socket (A). Secure with nut.



EX,435V,AH -19-03NOV88

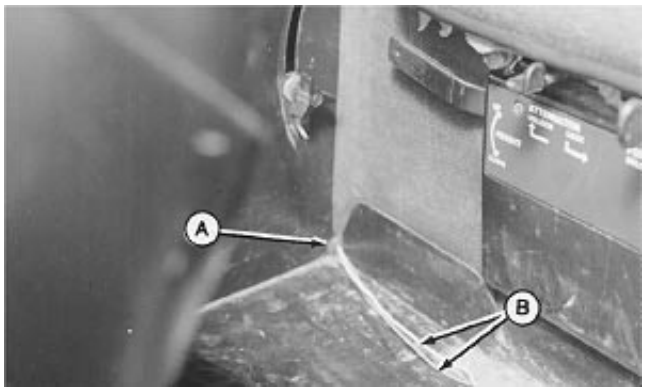
3. Connect wires (A) to socket. Route wires (A) to the floor level of console, avoiding all moving parts and pinch points.



EX,435V,AI -19-03NOV88

4. Drill a 14 mm (9/16-in.) hole in console at floor level and install grommet (A).

5. Route wires (B) through the hole and under the floor mat to the left cowl.

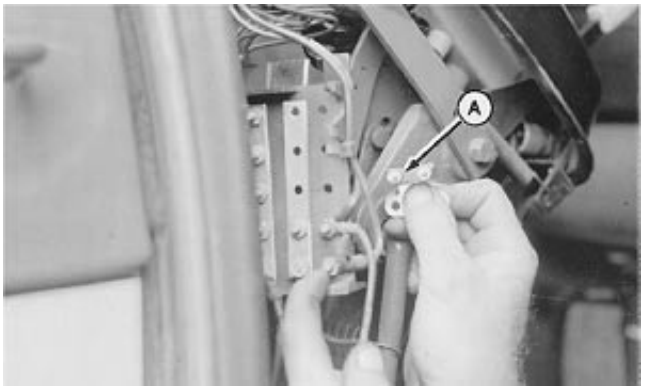


EX,435V,AJ -19-03NOV88

CAUTION: To avoid injury from a spark or short circuit, DISCONNECT THE BATTERY GROUND STRAP.

6. Remove the left cowl and plate covering the tractor electrical center.

7. Connect circuit breaker (A) to the right-hand switch-controlled terminal strip. Secure with nuts.



EX,435V,AK -19-03NOV88

8. Route the red wire (positive) (A) to circuit breaker and cut to length. Strip end of wire.

9. Slip the insulating sleeve (B) and eyelet over the stripped wire. Crimp eyelet to wire and cover crimp with insulating sleeve (B).

10. Connect red wire (A) to circuit breaker using #10 nut.

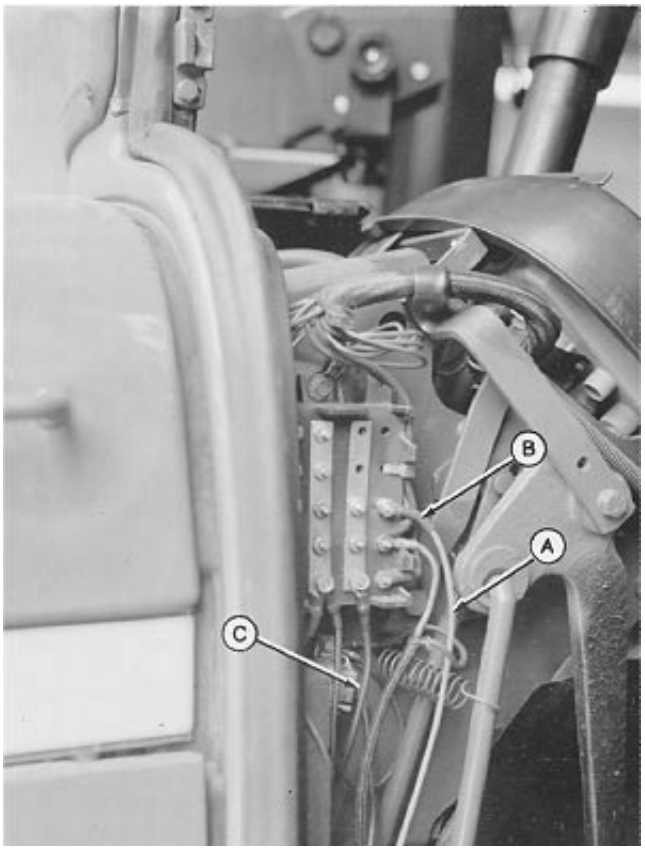
11. Route the black wire (negative) (C) to any convenient ground bolt or screw. Cut to length and strip end.

12. Slip insulating sleeve and eyelet over the stripped wire (C). Crimp eyelet to wire and cover with insulating sleeve (B).

13. Connect to ground bolt or screw.

14. Reinstall the electrical center cover and the left cowl.

15. Reinstall top of control console.



EX,435V,AL -19-03NOV88

INSTALL BALE-TRAK® MONITOR CONSOLE

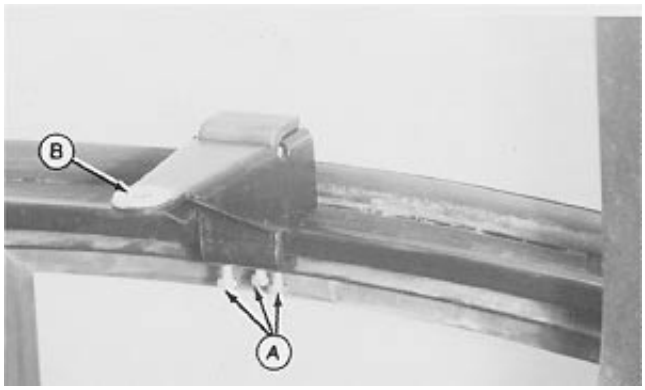
NOTE: If the tractor is not equipped with a cab or SOUND-GARD body, mount the monitor bracket on cowling, fender, or any convenient area. Be sure to check for mounting hardware clearance before drilling.

An additional monitor unit is available to allow convenient changing of baler from one tractor to another.

EX,435V,AM -19-03NOV88

1. Assemble mounting brackets and secure to window ledge with three 5/16 x 1-3/4 in. cap screws (A).

2. Remove round-head bolt, knob, and washer from monitor console. Place washer (B) over hole.



E21705 -UN-15SEP88

EX,435V,AN -19-03NOV88

3. Fasten console to bracket with knob (A) and round-head bolt.

E32566 -UN-03NOV88

EX,435V,AO -19-03NOV88

4. Route monitor harness along the side of cab away from operating levers and back to the right-hand rear of cab.

E21707 -UN-15SEP88

EX,435V,AP -19-03NOV88

5. Connect monitor harness to convenience outlet (A).

6. A grommet is provided to route harness through back of cab in a convenient location. A 38 mm (1-1/2 in.) diameter hole is required.

EX,435V,AQ -19-21NOV88

USING HEAVY-DUTY TRACTOR DRAWBAR

IMPORTANT: Some tractor drawbars may not be strong enough for use with 435 or 535 Balers and should be replaced with heavy-duty drawbars. Inspect your tractor drawbar frequently for cracking or bending. Replace it immediately if any damage is observed. (See your dealer for information on special heavy-duty drawbars that are available for many John Deere tractor models.)

EX,435V,G -19-01SEP88

USING DRAWBAR SHIELD

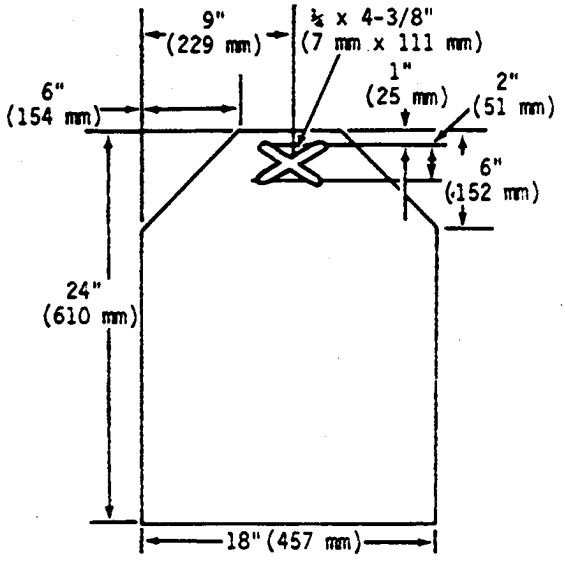
If a tractor drawbar catches and disturbs the windrow under the tractor, a drawbar shield can be used.

E26220 -UN-12SEP88

EX,435V,H -19-02SEP88

MAKING DRAWBAR SHIELD

Use 2 or 4 ply belting.



E19561 -UN-12SEP88

EX,535V,I -19-02SEP88

Preparing the Baler

SELECTING TWINE

A good quality twine plays a very important part in proper baler operation.

For a more trouble-free baling operating, select the twine which meets the ASAE standards.

Twine of good tensile strength and uniformity in size should be selected for proper baling operation. This will also help prevent twine from breaking during handling and transporting of bales.

EX,435I,A -19-02SEP88

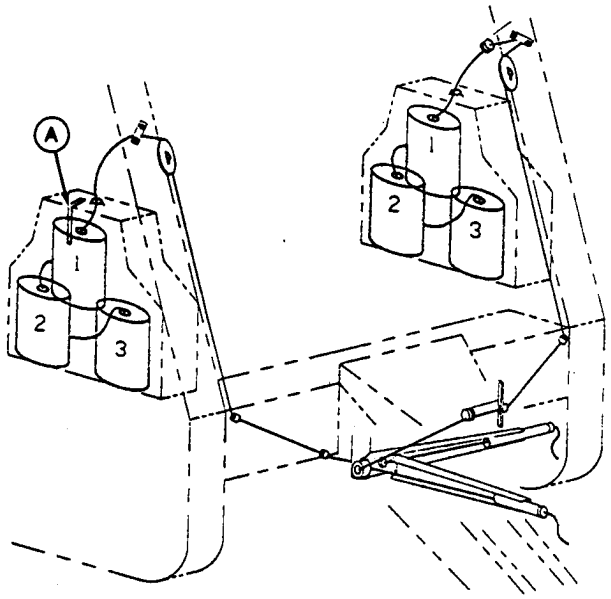
LOADING TWINE BOXES

1. Place three balls of good quality twine in each twine box. Be sure twine is pulled from end of the ball marked “top”.

2. Join twine by tying the inside end of one ball to the outside of other ball as illustrated in diagram. In joining twine, use a modified square knot with sisal twine and a sheet bend knot with plastic twine.

3. Trim loose ends of twine as close to knot as possible.

4. Retain top ball by using bracket “A”.



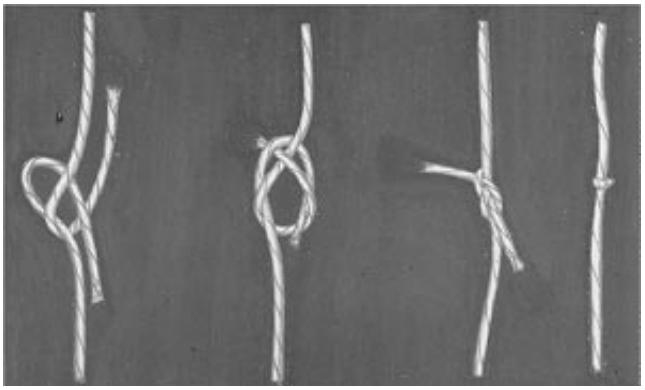
E32150 -UN-14NOV88

EX,435I,B -19-02NOV88

TYING SHEET BEND KNOT - PLASTIC TWINE

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

Tie plastic twine balls together with a sheet bend knot as shown.



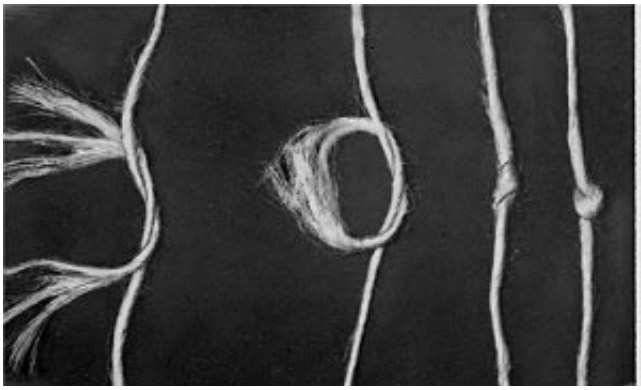
E26419 -UN-12SEP88

EX,435I,C -19-02SEP88

TYING MODIFIED SQUARE KNOT - SISAL TWINE

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

Tie twine balls together with a square or modified square knot as shown.



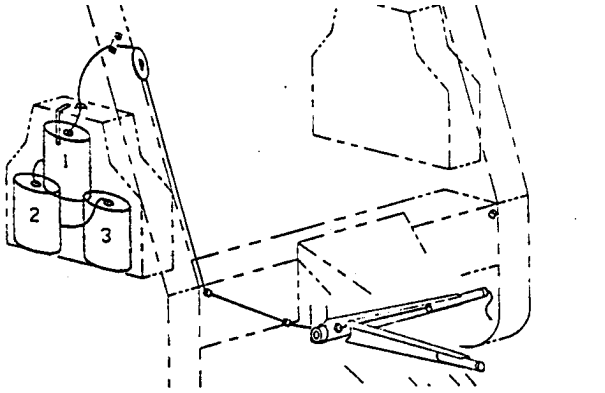
E7986 -UN-16SEP88

EX,435I,D -19-02SEP88

ROUTING TWINE FROM RIGHT-HAND TWINE BOX (REAR ARM)

NOTE: A detailed threading diagram is located inside right-hand shield door.

1. Connect twine ends as shown.



E32209 -UN-14NOV88

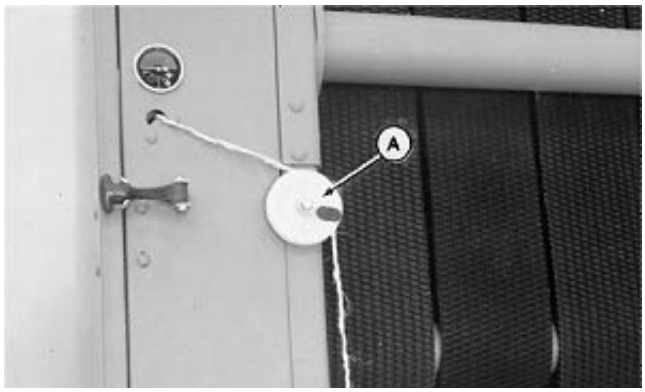
EX,435I,E -19-02SEP88

2. Pull twine through twine tension plate (A) and frame opening on right-hand side.

E32092 -UN-12SEP88

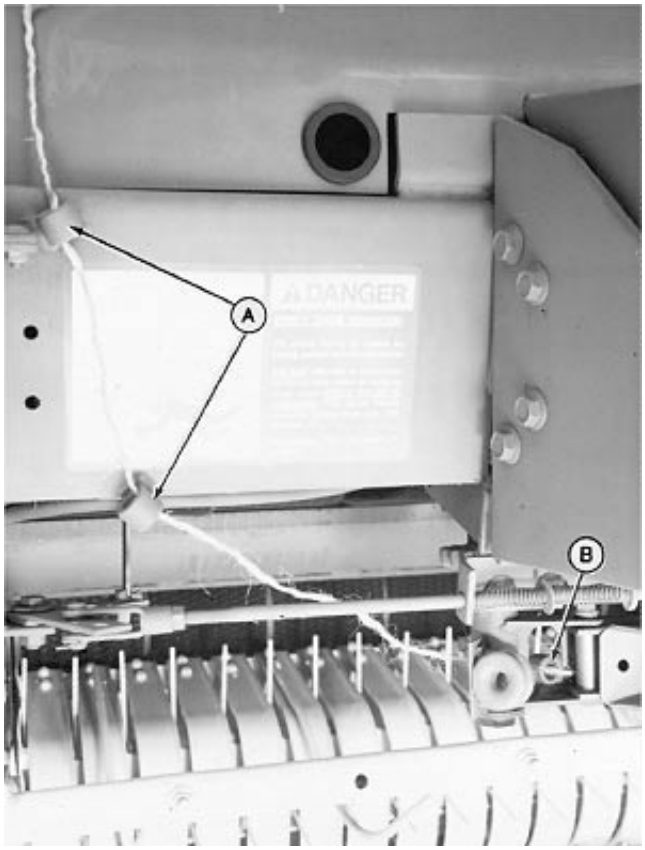
EX,435I,F -19-02SEP88

3. Wrap twine a full turn around twine moving indicator (A).



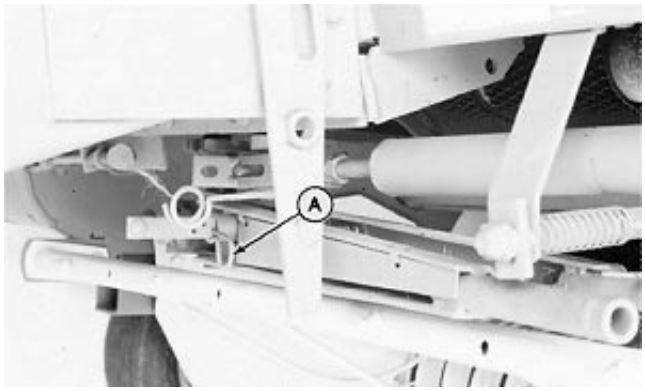
EX,435I,G -19-02SEP88

4. Route twine through guides (A) behind arm pivot and through guide (B) on rear twine arm.



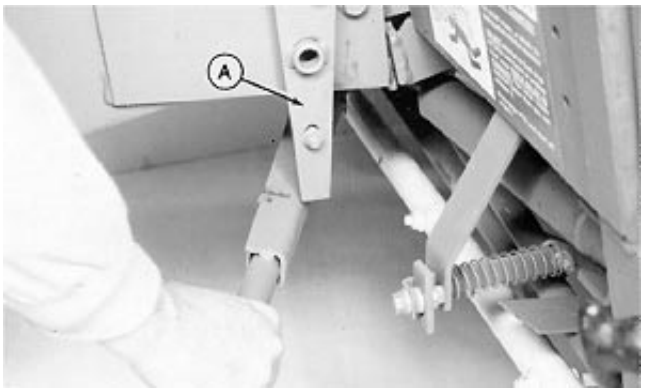
EX,435I,H -19-02SEP88

5. Hold twine arm tubes together and remove spring pin (A). Release twine arm tubes.



EX,435I,I -19-02SEP88

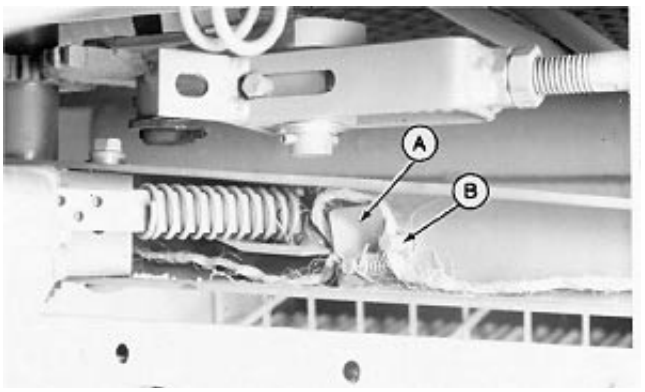
6. Lift twine arm stop (A) and move front twine arm away from rear twine arm.



EX,435I,J -19-02SEP88

7. Put twine over top of tension plate (A) and under guide pin (B).

8. Pull on twine to get twine under plate.

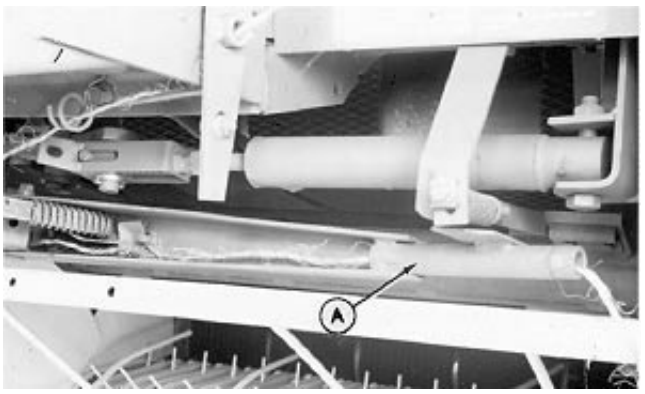


EX,435I,K -19-02SEP88

9. Put twine through twine tube (A). Pull twine through tube to remove slack between guides. Check for clear twine path.

10. Cut twine 305 to 381 mm (12 to 15 in.) beyond end of twine tube (A).

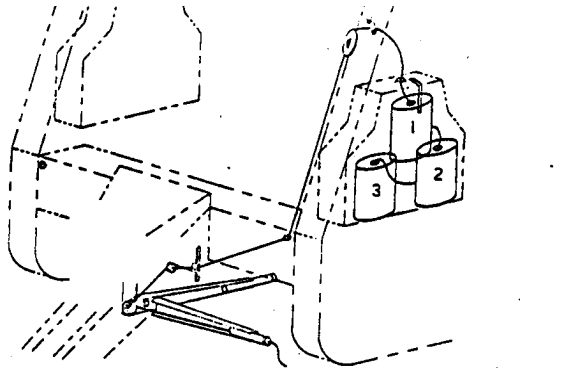
11. Install spring pin, removed in step 5, in one of the four positions for desired twine spacing. (See Adjusting Twine Spacing in this section.)



EX,435I,L -19-02NOV88

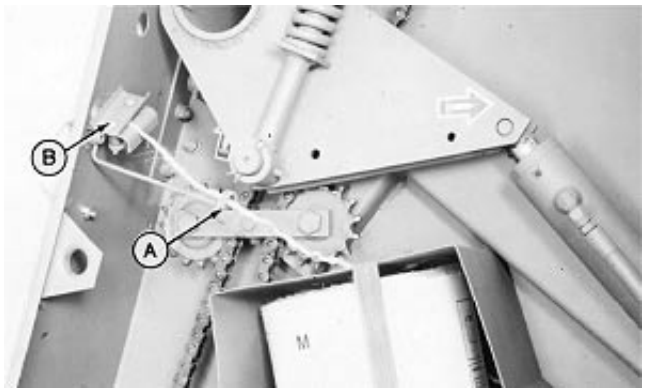
ROUTING TWINE FROM LEFT-HAND TWINE BOX (FRONT ARM)

1. Connect twine ends as shown.



EX,435I,M -19-02SEP88

2. Pull twine through guide (A), twine tension plate (B), and frame opening.

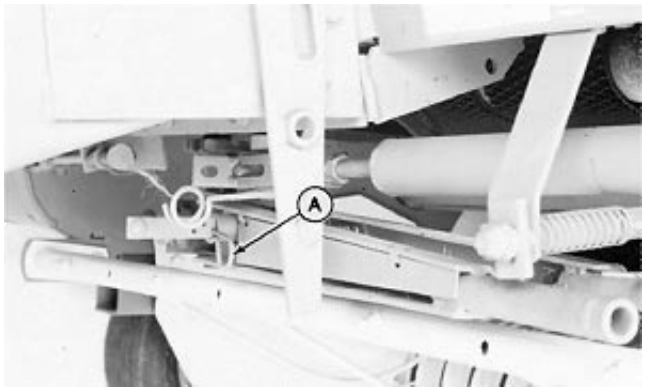


EX,435I,N -19-02SEP88

3. Wrap twine a full turn around twine moving indicator (A).

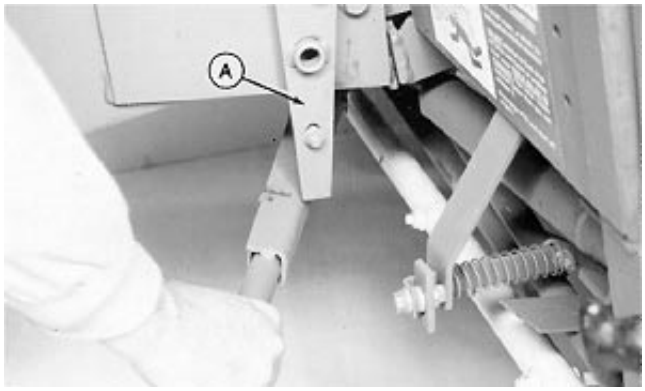
EX,435I,O -19-02SEP88

4. Remove spring pin (A).



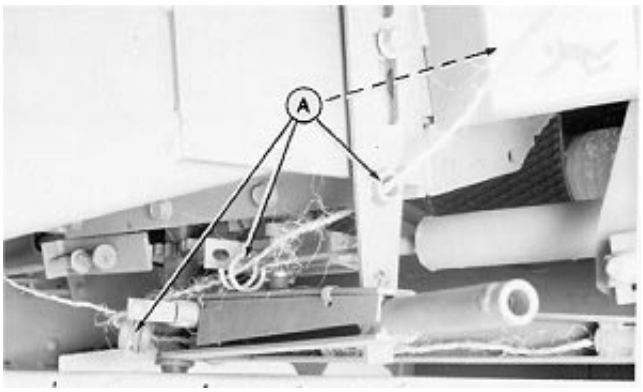
EX,435I,P -19-02NOV88

5. Raise twine arm stop (A) and move twine arm in front of stop (A).



EX,435I,Q -19-02NOV88

6. Route twine through guides (A).



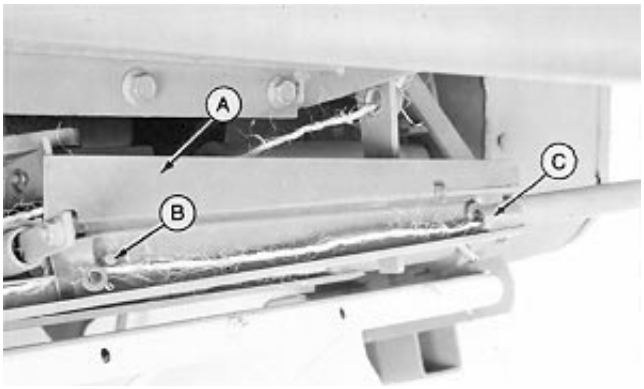
EX,435I,R -19-02NOV88

7. Raise twine arm shield (A). Put twine over top of tension plate and under guide pin (B).

8. Pull on twine and route through twine tube (C). Pull twine through tube to check for clear twine path.

9. Cut twine 305 to 381 mm (12 to 15 in.) beyond twine tube (C).

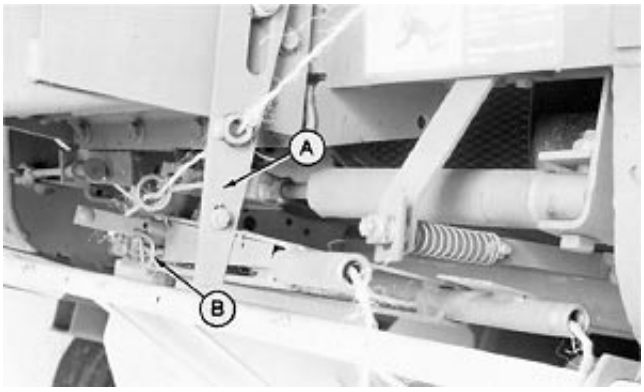
10. Close twine arm shield.



EX,435I,S -19-02SEP88

11. Move front twine arm behind stop plate (A). Lower stop plate.

12. Hold twine arm tubes together and install spring pin (B) in one of the four positions for desired twine spacing. (See Adjusting Twine Spacing in this section).



EX,435I,T -19-02SEP88

ADJUSTING TWINE SPACING

Flow control valve controls twine arm speed from right-hand side of baler to left-hand side of baler.

To obtain uniform twine spacing on a bale, spacing between twine arms and twine arm speed must work together.

1. Set distance between twine arms to one of the following dimensions and install spring pin in the correct position:

   50 mm (2 in.)
   100 mm (4 in.)
   150 mm (6 in.)
   200 mm (8 in.)

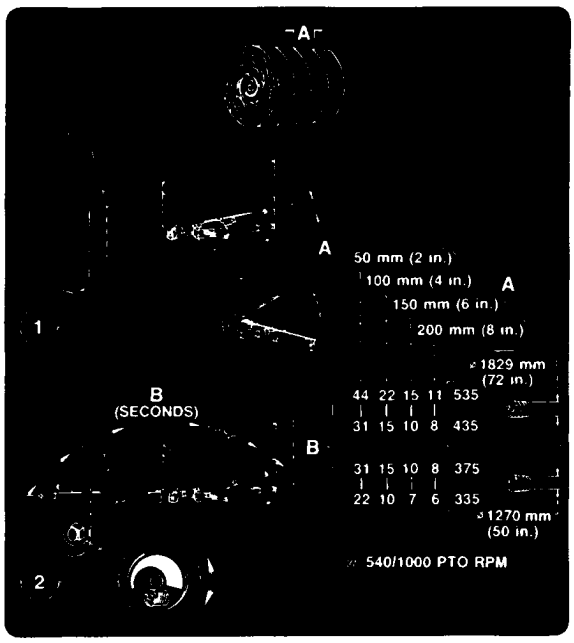
2. Set twine arm speed (B) (turn control valve knob) to match desired twine spacing (A).

NOTE: If twine arm speed is not set correctly, twine spacing will not be uniform.

For closer twine spacing (decrease twine arm speed), turn flow control knob clockwise; for wider twine spacing (increase twine arm speed), turn flow control knob counterclockwise.

For example: (Refer to chart at right) If you are making 1830 mm (72 in.) bales with a 535 baler and twine arm spacing is set at 100 mm (4 in.), adjust flow control valve to allow 22 seconds for twine arms to move from right-hand side of baler to twine cut-off point. If twine spacing between any two wraps is spaced less than 100 mm (4 in.) apart, increase twine arm speed (turn knob counterclockwise); if twine spacing between any two wraps is more than 100 mm (4 in.) apart, decrease twine arm speed (turn knob clockwise.)

NOTE: For consistent twine spacing from one bale to the next, bale rotation speed must be the same when tying off. Therefore, run tractor PTO at one speed when tying bales.



E32370 -UN-04OCT88

EX,435I,U -19-02NOV88

TIRE INFLATION

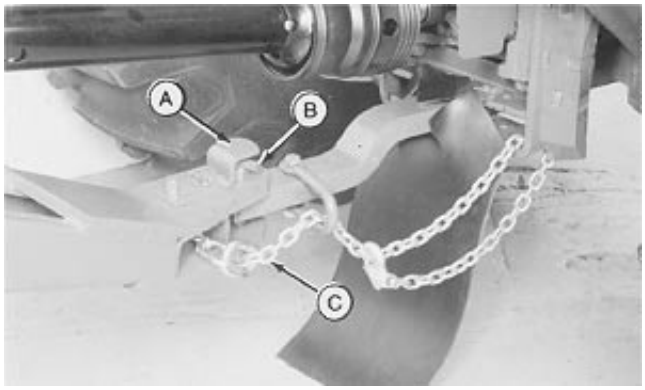
TIRE PRESSURE CHART

Tires	kPa	(Bar)	(Psi)
Hi-Flotation (31.5 x 13.5 - 15 6 PR)	207	(2.1)	(30)
Regular (11L - 14 8 PR)	207*	(2.1)*	(30)*
Pickup Gauge Wheel	138	(1.4)	(20)

* For making bales at maximum weight and density, inflate 11L-14 8PR tires to 248 kPa (2.5 bar) (36 psi).

EX,435I,V -19-02NOV88

CONNECTING BALER TO TRACTOR DRAWBAR



E26081 -UN-22SEP88

1. Adjust tractor drawbar. (See Adjusting the Drawbar in Preparing the Tractor section.)

2. Remove quick-lock pin, raise and turn bracket (A) to the side.

3. Connect baler to tractor by installing hitch pin (B).

4. Return bracket (A) to operating position and install quick-lock pin.

5. Connect safety chain (C) and fasten to drawbar supporting structure. Do not fasten to drawbar. Remove all slack except what is needed for turns.

EX,435W,A -19-02SEP88

CONNECTING PTO DRIVELINE

CAUTION: Stop the engine and be sure PTO driveline is stopped before connecting PTO.

IMPORTANT: Under no circumstances should a baler equipped for 540 rpm PTO drive be operated with a tractor equipped with 1000 rpm PTO drive or machine damage could occur.

IMPORTANT: Keep driveline and powershaft splines clean of paint, dirt, and chaff.

E26161 -UN-22SEP88

1. Shut off tractor engine.

2. Align splines and start driveline on tractor shaft.

3. Pull back on collar (A). Push driveline onto shaft until collar (A) snaps forward.

4. Pull rearward on driveline to be sure it is properly connected. DO NOT pull back on collar (A) as this will release latch.

5. Install all shields, if removed.

NOTE: Master shield shown in open position. Replace in closed position after PTO is hooked up.

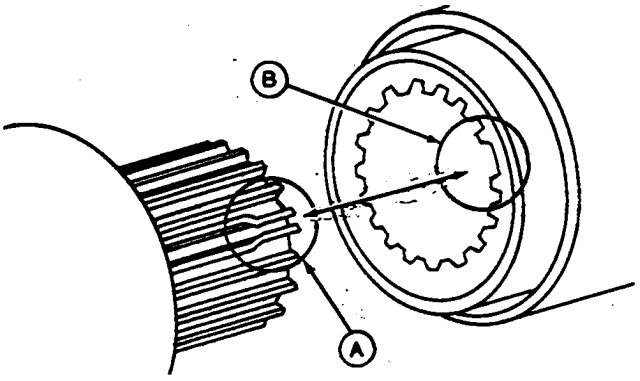
EX,435W,B -19-02NOV88

ASSEMBLING SPLINED TELESCOPING MEMBERS

1. Wipe excess grease from shaft and sleeve to see timing marks.

2. Line crimped or welded pair of shaft teeth (A) with the locating groove in sleeve (B).

3. Assemble telescoping members together.



EX,435W,C -19-02SEP88

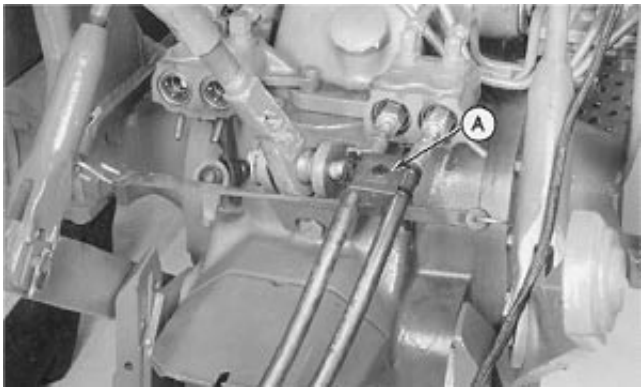
CONNECTING HYDRAULIC LINES

ISO hydraulic couplers are standard with the baler. If they do not fit the tractor, see your John Deere dealer for correct couplers.

1. Identify which receptacle is pressurized when tractor lever is moved rearward.

2. Connect hose with cylinder extension symbol on identification tag (A) to this receptacle.

3. Connect remaining hose.



EX,435W,D -19-02NOV88

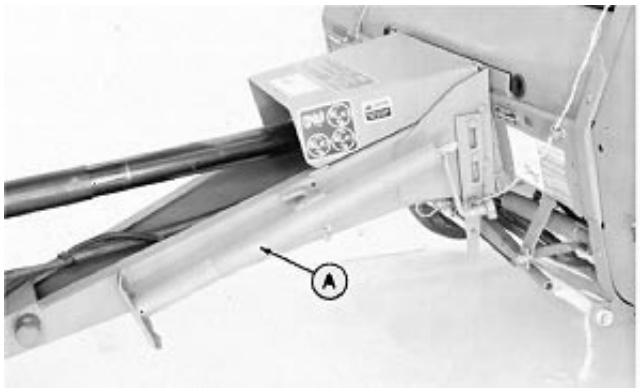
CONNECTING WIRING HARNESS

Line up timing mark on connectors and tighten locking ring.

EX,435W,E -19-02SEP88

STORING JACKSTAND

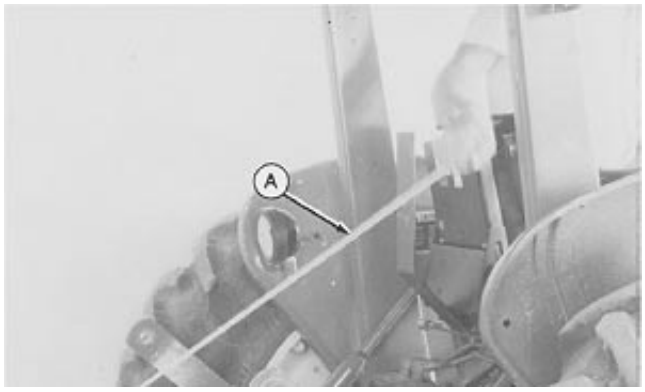
Put jackstand (A) in storage location as shown.



EX,435W,F -19-02SEP88

CONNECTING TWINE WRAP RECYCLE ROPE

Attach twine wrap recycle rope (A) to a convenient location near tractor centerline. This will reduce the possibility of tractor tires tripping the rope when turning. Allow small amount of slack for free movement of twine linkage.



EX,435W,G -19-02SEP88

REMOVING PTO DRIVELINE

CAUTION: Stop the engine and be sure PTO driveline has stopped before disconnecting PTO.

1. Shut off tractor engine.

2. Support driveline and pull back on collar (A). Slide driveline off tractor shaft.

3. Replace all PTO shields.

EX,435W,H -19-02NOV88

REMOVING BALER FROM TRACTOR HITCH

1. Remove PTO driveline.

2. Put jackstand (A) in vertical position. Secure with pin and quick-lock pin. Raise jack to take load from drawbar.

3. Disconnect safety chain from tractor.

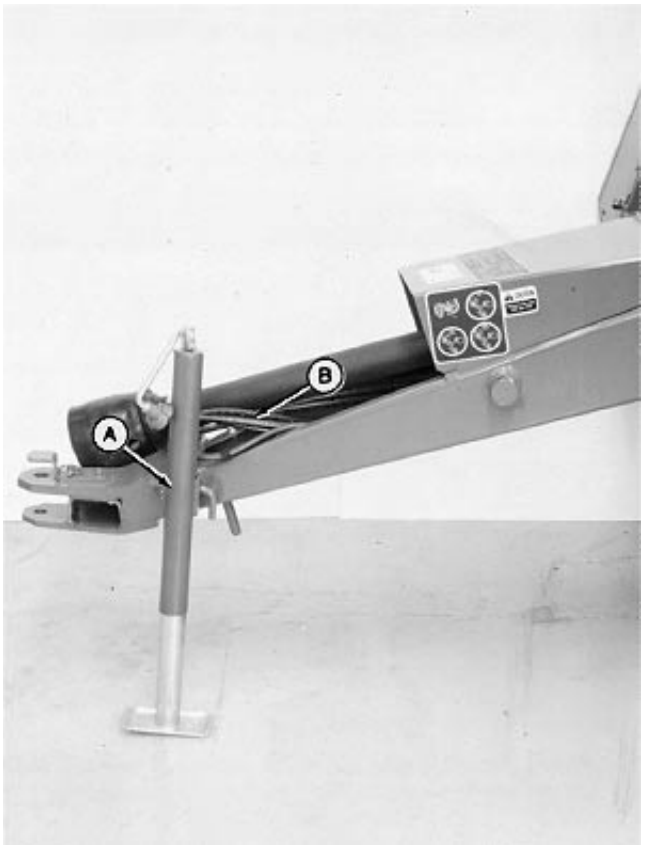
4. Disconnect rope and wiring harness from tractor.

CAUTION: To avoid injury from escaping hydraulic oil under pressure, relieve the pressure in the system by stopping the engine and operating all hydraulic control valves.

5. Disconnect hydraulic hoses (B). Store rope, wiring harness, and hydraulic hoses (B) in tongue.

6. Remove hitch pin.

7. Drive tractor away from baler.



E32146 -UN-14SEP88

EX,435W,I -19-02NOV88

Transporting

WARNING LIGHTS

CAUTION: When transporting the machine on a road or highway at night or during the day, use accessory lights and devices for adequate warning to operators of other vehicles. Check local governmental regulations. Various safety devices are available from your John Deere dealer. Keep safety items in good condition. Replace missing or damaged items.

EX,435L,A -19-06SEP88

PREPARING FOR TRANSPORT

Close gate and raise pickup. If converging wheels are installed, remove chain (A) from support and raise wheel. Install chain (A) back in support. Repeat on opposite side.

E26007 -UN-12SEP88

When transporting machine behind a truck or other vehicle, remove clutch and PTO driveline assembly and carry in other vehicle. This helps prevent possible loss, damage, and contamination to driveline parts.

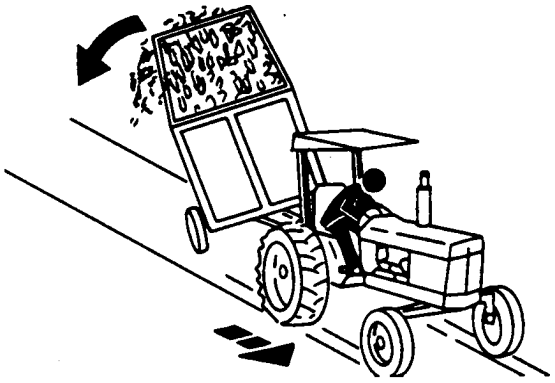
CAUTION: Always use a safety chain while transporting baler. Sudden jolts or rocking could cause the drawbar to break. If a rocking motion occurs when transporting, reduce speed until rocking stops. Check rear tractor wheels and tires for being out of round and/or adjust air pressure to the maximum the tractor operator's manual recommends.

E26085 -UN-12SEP88

IMPORTANT: Route safety chain from baler through hitch and secure to drawbar supporting structure as shown. Do not fasten baler safety chain to drawbar. Remove all slack except what is needed for turns. Do not make sharp turns when operating or transporting baler. Damage could result if tongue strikes tractor tire.

EX,435L,B -19-02NOV88

REDUCE SPEED WHEN TOWING LOADS



Braking to stop towed loads from transport speeds can cause the towed load to swerve and upset. Reduce speed if towed load weighs more than the tractor and is not equipped with brakes.

Follow recommended speed-weight ratio guidelines:

• Maximum speed is 20 mph (32 km/h) when towing load equal to or less in weight than the tractor.

• Reduce speed to 10 mph (16 km/h) when towing load up to double the tractor weight.

• Do not tow loads exceeding double the tractor weight.

• Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

O53,TOW -19-08JUN88

USING EXTENDED REAR-VIEW MIRROR

CAUTION: When towing the baler on public roads, an extended mirror to improve visibility of traffic behind the baler is recommended. See your John Deere dealer.

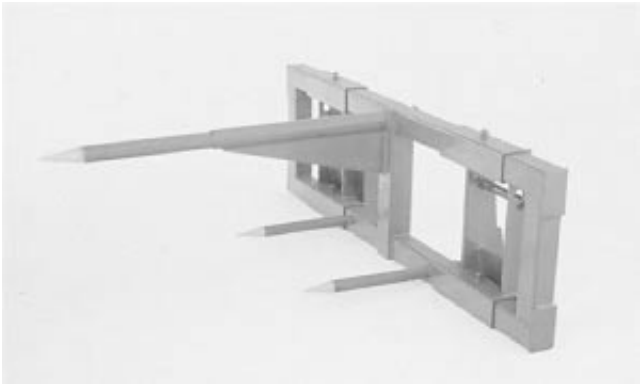
EX,435L,D -19-07SEP88

Handling Round Bales

APPROVED APPLICATIONS

The Bale Fork is approved for handling round bales when mounted on John Deere 100, 146, 148, 158, 175, 245, 260, 265, and 280 Farm Loaders.

Also, it can be used with Category 2, 3, and 3N three-point hitch.

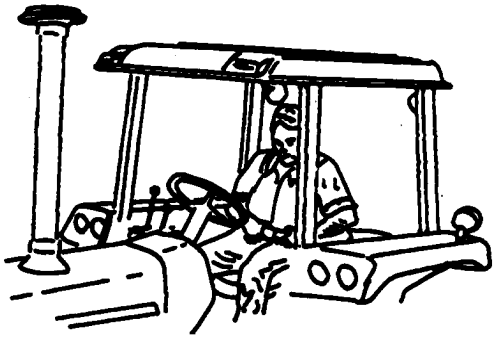


W12316 -UN-05OCT88

EX,435H,A -19-07SEP88

HANDLING ROUND BALES WITH BALE FORK

Handling round bales can be hazardous; always use proper equipment. (Refer to Operating the Loader section in the loader operator's manual.) Also, read the decals attached to both the loader and the round bale fork.



W13130 -UN-05OCT88

DO NOT handle round bales with a loader unless the specially designed John Deere Round Bale Fork is installed. Without the fork, the bale can fall on the operator when the loader is raised.

To help prevent handling and stability problems:

W12361 -UN-05OCT88

• DO NOT exceed the following round bale weight limitations:

JD 100	**450 kg (1000 lb)**
JD 146/3 cyl tractor	
JD 175	
JD 146/4 cyl tractor	**680 kg (1500 lb)**
JD 245	
JD 148	**907 kg (2000 lb)**
JD 158	
JD 260	
JD 265	
JD 280	

• Equip the tractor with a roll-over protective structure (ROPS).

• Adjust rear tread width and all specified rear ballast per wheel. (See Selecting Rear Tread and Adding Rear Ballast in Preparing the Tractor section in the loader operator's manual.)

EX,435H,B -19-02NOV88

APPROVED LOADER APPLICATIONS

The Round Bale Grapple is approved for handling round bales when mounted on John Deere 146, 148, 158, 245, 260, 265, and 280 Farm Loaders.

W12605 -UN-05OCT88

EX,435H,C -19-07SEP88

HANDLING ROUND BALES WITH GRAPPLE

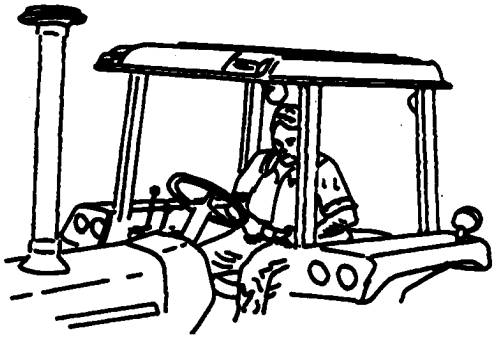
Handling round bales can be hazardous, always use proper equipment. (Refer to Operating the Grapple section in the loader operator's manual.)

DO NOT handle round bales with a loader unless a specially designed John Deere Round Bale/Silage Grapple is installed. Without a grapple, the bale can fall on the operator when the loader is raised.

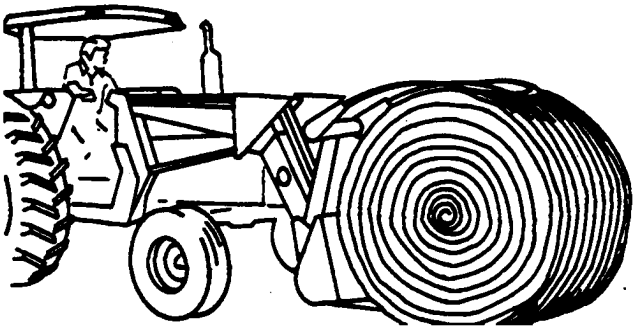
To help prevent handling and stability problems:

• DO NOT exceed the following round bale weight limitations:

JD 146	**450 kg (1000 lb)**
JD 245	
JD 148	**907 kg (2000 lb)**
JD 158	
JD 260	
JD 265	
JD 280	



W13130 -UN-05OCT88



W7793 -UN-06OCT88

• Equip the tractor with a roll-over protective structure (ROPS).

• Adjust rear tread width and add specified rear ballast per wheel. (See Selecting Rear Tread and Adding Rear Ballast in Preparing the Tractor section in your loader operator's manual.)

EX,435H,D -19-07SEP88

HANDLING ROUND BALES WITH SURFACE WRAP

When handling round bales with surface wrap, do not snag or tear the wrapping material. Snags or tears in the surface wrapping can reduce weatherability of the bales and detract from hay quality when bales are stored outside.

EX,435H,E -19-15NOV88

FEEDING ROUND BALES

It is recommended to remove wrapping material from bales before they are fed. This will reduce possible problems of material wrapping on machinery, ingestion by livestock, etc.

EX,435H,F -19-15NOV88

BALE-TRAK® MONITOR

NOTE: If operating with surface wrap, refer to BALE-TRAK Monitor in Surface Wrap—Operating the Baler section.

A—Green light — GATE LATCHED.
This light when on indicates the gate is closed and latched. It also acts as a pilot light showing the monitor box has power.

IMPORTANT: Damage to gate or gate latches can occur if only one side of gate is latched. Green light must be on before starting a bale. Hold tractor valve in closed position for 1 to 2 seconds after light comes on. Check light after transport.

B—Yellow light — AUTOMATIC TWINE WRAP
This light will start flashing when the bale is near its finished size. This allows time to even the bale up before the automatic twine wrap starts.

When the twine arm starts the cycle, light will go solid and buzzer will sound for a few seconds. Light will stay solid until the twine arm returns to home position. At this time, the yellow light will go out.

C—Red light and buzzer — OVERSIZE BALE
Light and buzzer when on indicates the baler is filled to maximum capacity. Stop immediately or damage may occur to baler. After stopping forward travel, the bale can be wrapped with twine by pulling and releasing the manual control rope. This light should not come on during normal operation of the baler.

NOTE: As an indication of an oversize bale, red light comes on and green light goes out.

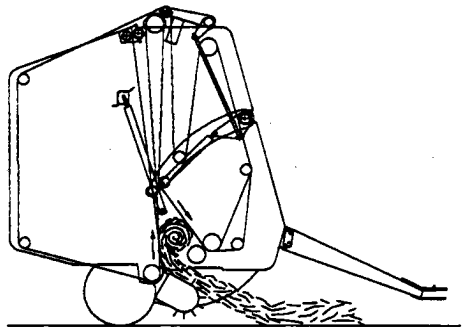
D—BALE SHAPE GAUGES
Bale shape gauges show the shape of each end of the bale by measuring slack in the two outside belts nearest the left-hand and right-hand side sheets. When the left-hand belt is tight, the left-hand gauge will read high in the green area showing that side of baler is filled with hay. As the gauge falls in the green area or into the red area, it indicates that side of the bale needs hay to tighten the belt.

NOTE: Dimmer switch located in back of monitor allows lights to be dimmed for night operation.

EX,435J,A -19-02NOV88

HOW THE BALER FORMS A BALE

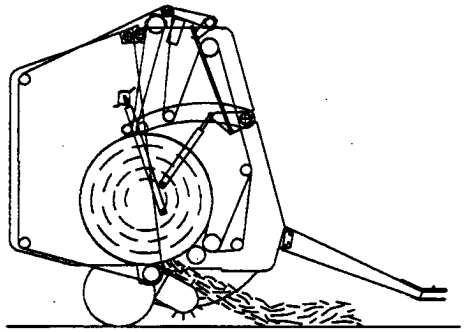
1. Starting the bale.



E32238 -UN-12SEP88

EX,435J,B -19-02NOV88

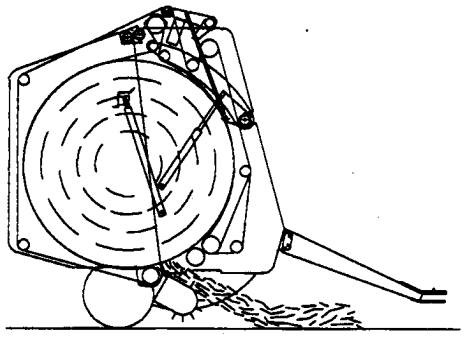
2. Forming the bale.



E32239 -UN-12SEP88

EX,435J,C -19-02NOV88

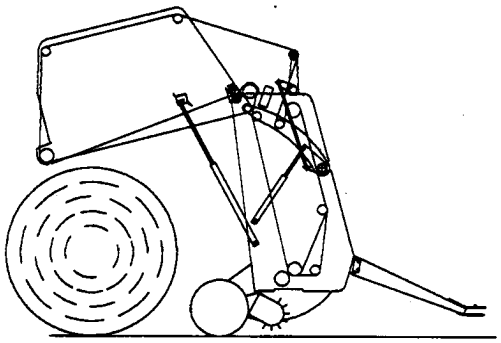
3. Completed bale.



E32240 -UN-12SEP88

EX,435J,D -19-02NOV88

4. Discharging the bale.



E32241 -UN-12SEP88

EX,435J,E -19-02NOV88

CROP PREPARATION

Make windrows either:

- Not more than one-half the width of the baler pickup.
- The full width of the baler pickup to eliminate weaving.

Unless bales are being made for silage or a preservative is being applied to hay, wait until moisture content of hay is 20% or drier before baling.

EX,435J,F -19-02NOV88

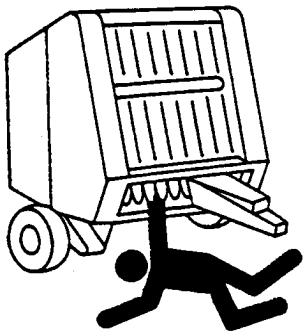
BREAKING-IN

IMPORTANT: Belts and drive loads increase as bale size approaches maximum diameter. Frequent forming of oversize bales (red light on and alarm sounding) (green light out) can lead to premature failures.

A break-in period of approximately 50 bales can increase the life and reduce maintenance of baler. During the break-in period, a smaller and lower density bale is recommended. Baler is preset at factory. Density knob has been turned counterclockwise three turns from maximum and the bale size knob rearward from bottom of slot 12.7 to 19 mm (1/2 to 3/4 in.). This will yield approximately a 1676 mm (5-1/2 ft) bale.

EX,435J,G -19-02NOV88

FORMING A BALE



E32161 -UN-12SEP88

CAUTION: DON'T TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine before servicing.

1. Operate tractor at rated PTO speed.

2. Move tractor selector valve lever to close gate. Hold in this position until green light is on. Move selector valve lever back to neutral position.

IMPORTANT: To ensure that the twine mechanism is latched, tractor must be operated at PTO speed and selector valve lever moved to full flow position. If this is not done, the twine pump drive idler may not be latched, which would cause the bale to be wrapped before reaching its finished size.

3. Engage PTO.

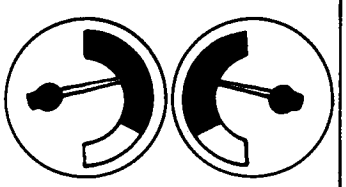
EX,435J,H -19-07SEP88

The following illustrations are examples of gauge readings and appropriate driver responses when making a typical bale. The windrow size, shape, etc. may give different readings and responses.

BALE SHAPE INDICATORS
LEFT RIGHT

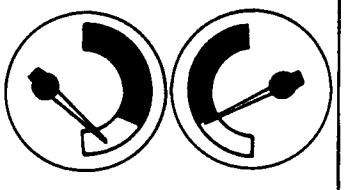
Normal gauge reading with empty baler.

4. Drive into windrow.



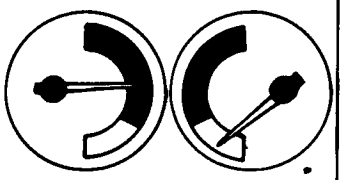
NOTE: Gauge needles may not be even with empty baler.

5. Feed hay to left-hand side until left-hand needle rises.



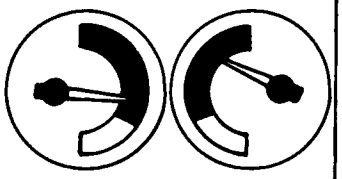
NOTE: When forming the bale core, it is possible for both gauges to read in red area.

6. Feed hay to right-hand side.



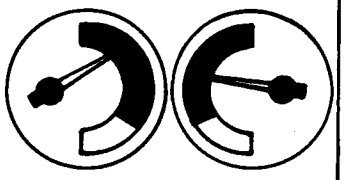
NOTE: When weaving from side to side, weave quickly.

7. Feed hay to left-hand side.



NOTE: Crowd ends by driving with inside of front tractor tire near edge of windrow.

8. Continue feeding left-hand side for longer period.

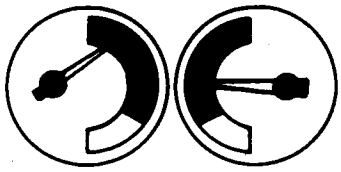


E32600 -19-23NOV88

EX,435J,I -19-02NOV88

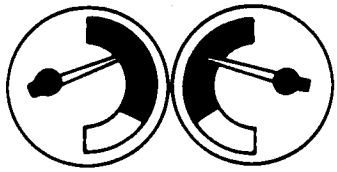
BALE SHAPE INDICATORS
LEFT RIGHT

9. Feed right-hand side.



NOTE: Left-hand side gauge should be as high as possible before weaving.

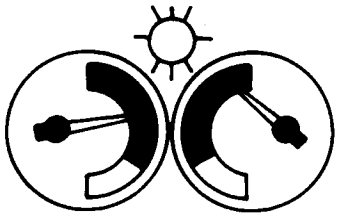
10. Continue feeding right-hand side for longer period.



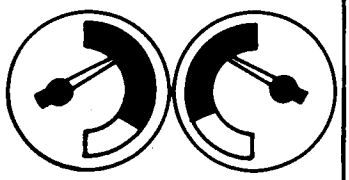
NOTE: Weaving too often puts too much hay in center of bale. Keep both gauges as high as possible at all times to obtain the best bale shape and quality.

11. Feed left-hand side.

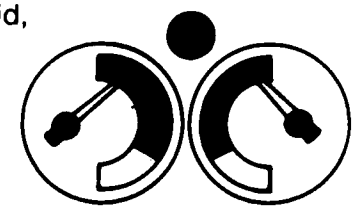
Flashing yellow light comes on.



12. Keep gauge needles even and as high as possible by weaving more often until yellow light goes solid.



13. Flashing yellow light goes solid, and buzzer sounds for a few seconds.



E32601 -19-23NOV88

EX,435J,J -19-02SEP88

260696
PN=43

14. Continue forward travel. Look back at spinners to ensure twines are moving.

NOTE: If operating with surface wrap, refer to BALE-TRAK Monitor Operation with Surface Wrap in Surface Wrap—Operating the Baler section.

15. Stop forward travel.

16. Back up baler 2 to 3 m (8 to 10 ft).

NOTE: If bale push bar is installed, it is not necessary to back up baler.

17. Solid yellow light goes out when twine arm returns home.

18. To ensure twine is cut, glance back to see that twine spinners have stopped moving.

IMPORTANT: Do not continue to turn bale for long periods after twine cycle is complete or damage may occur to the twine pump.

19. Raise gate. Drive forward to clear bale and close gate.

NOTE: If bale push bar is installed, do not drive forward. Raise gate to remove the bale then close the gate.

NOTE: If bale surface is scuffed or damaged during discharge, disengage tractor PTO while gate is being raised.

NOTE: On some tractor hydraulic systems, it may be necessary to return hydraulic lever to neutral position after gate is closed and green light is on.

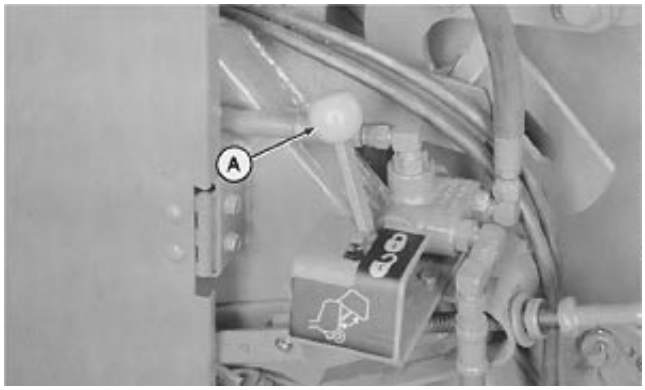
20. Close gate at rated PTO speed.

EX,435J,K -19-02NOV88

GATE LOCK VALVE

CAUTION: While working inside or around the baler with an open gate, the gate lock lever (A) must be moved to locked position. Use this safety feature any time gate is open. Close gate any time the baler must be left unattended.

This valve locks each gate lift cylinder independently with gate in any position. If the hydraulic lift system failed on one side of machine, the gate would still be held open by the other side.



E21627 -UN-12SEP88

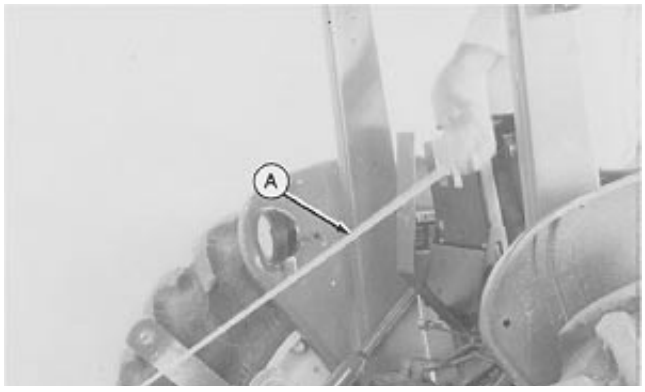
EX,435J,L -19-07SEP88

USING MANUAL TWINE-TRIP ROPE

If twine is not caught by the bale, pull rope (A) and release. This will recycle the twine arm.

Any bale size larger than 813 mm (32 in.) diameter can be wrapped by pulling and releasing rope (A).

If the red light on monitor comes on and buzzer starts, and the green light goes out, stop forward travel immediately. Pull and release rope (A) to wrap oversized bale.



E26006 -UN-22SEP88

EX,435J,M -19-02NOV88

OPERATING TWINE ARM WITH EMPTY BALER

NOTE: If operating with surface wrap, close on-off valve. (See Changing from Surface Wrapping to Twine Wrapping in Surface Wrap—Operating the Baler section.)

1. Raise gate fully.

2. Lock gate.

3. With gate selector lever on tractor, lower belt tension arm until bale forming belts are tight.

EX,435J,P -19-02NOV88

IMPORTANT: Do not leave the PTO engaged for more than two minutes with twine arm in home position, or oil in baler pump may overheat.

4. Engage PTO and run tractor at rated PTO speed. Twine arm will move through its cycle.

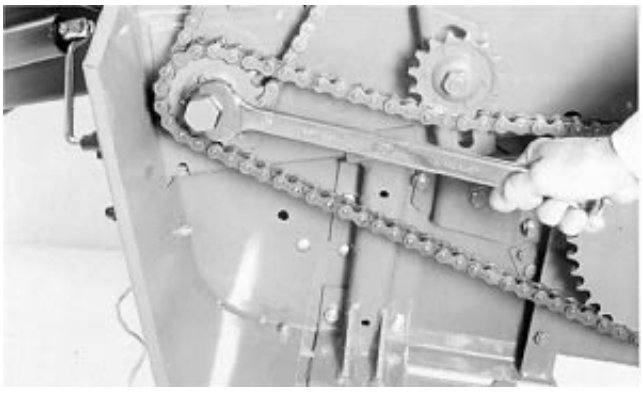
5. To recycle, pull and release twine rope.

EX,435J,Q -19-02NOV88

ROTATING BALER BY HAND

CAUTION: Never use any type of tool or wrench on shaft while tractor engine is running. Always remove tool from the shaft when you are finished using it.

An open-end wrench can be placed on the gear case output shaft of the baler if it is necessary to rotate the baler by hand.



E32105 -UN-12SEP88

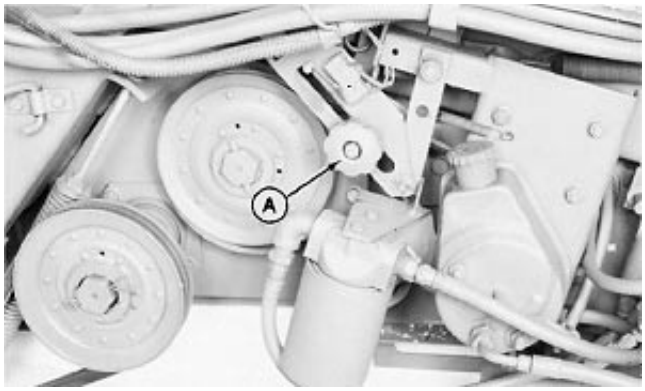
EX,435J,R -19-08SEP88

ADJUSTING BALE SIZE

IMPORTANT: Belts and drive loads increase as bale size approaches maximum diameter. Forming of oversize bales (red light on and alarm sounding) can lead to premature failures.

1. Close gate.

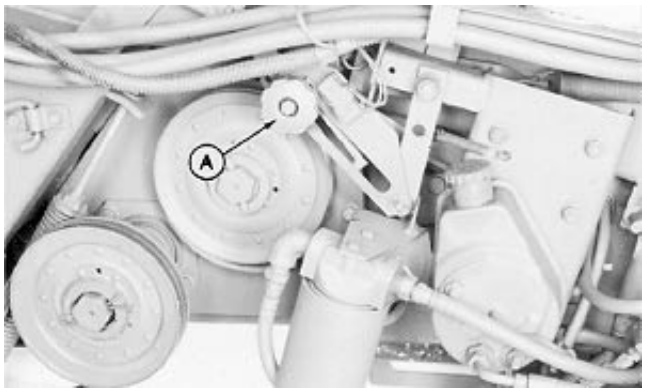
2. For maximum bale size, loosen knob (A). Move knob all the way down in slot. Tighten knob (A).



EX,435J,S -19-08SEP88

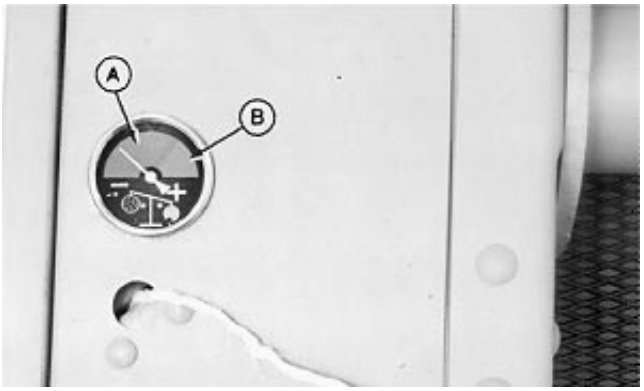
3. For minimum bale size (approximately 991 mm [39 in.]), loosen knob (A). Move knob all the way back in slot. Tighten knob (A).

NOTE: If bale size is changed, flow valve setting for number of wraps (twine or surface wrap) may have to be adjusted. (See Adjusting Twine Spacing in Surface Wrap—Preparing the Baler section or Adjusting Number of Surface Wraps in Surface Wrap—Operating the Baler section.)



EX,435J,T -19-08SEP88

BALE DENSITY GAUGE



The gauge indicates the relative pressure within the hydraulic bale tensioning system while forming a bale.

Turning the bale density knob counterclockwise will cause the needle to move toward the minus sign and make lighter bales.

Turning the bale density knob clockwise will cause the needle to move toward the plus sign and make heavier bales.

NOTE: The gauge will not register a higher setting until more hay is fed into the baler.

The green band (A) represents normal baler operating pressure range.

If the needle reaches the red band (B):

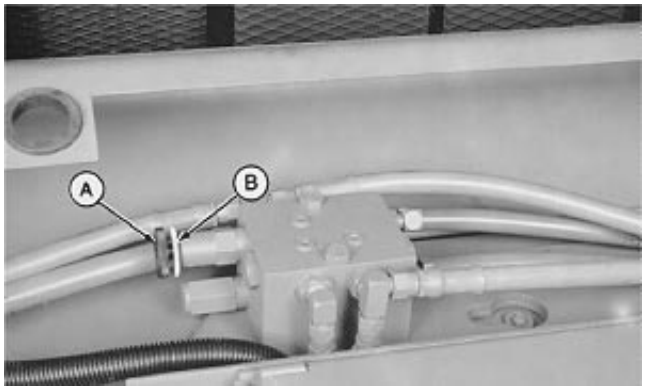
1. Make sure tractor selector valve returns to neutral while baling.

2. Reduce bale density.

3. Check for faulty gauge or relief valve.

EX,435J,U -19-08SEP88

ADJUSTING BALE DENSITY



E21633 -UN-03OCT88

Baler has been preset at factory for a break-in period (approximately 50 bales). The correct adjustment for this break-in period may be checked by the following procedure:

Loosen locking ring (B) and turn knob (A) clockwise until seated. Turn knob (A) counterclockwise three turns and tighten locking ring (B).

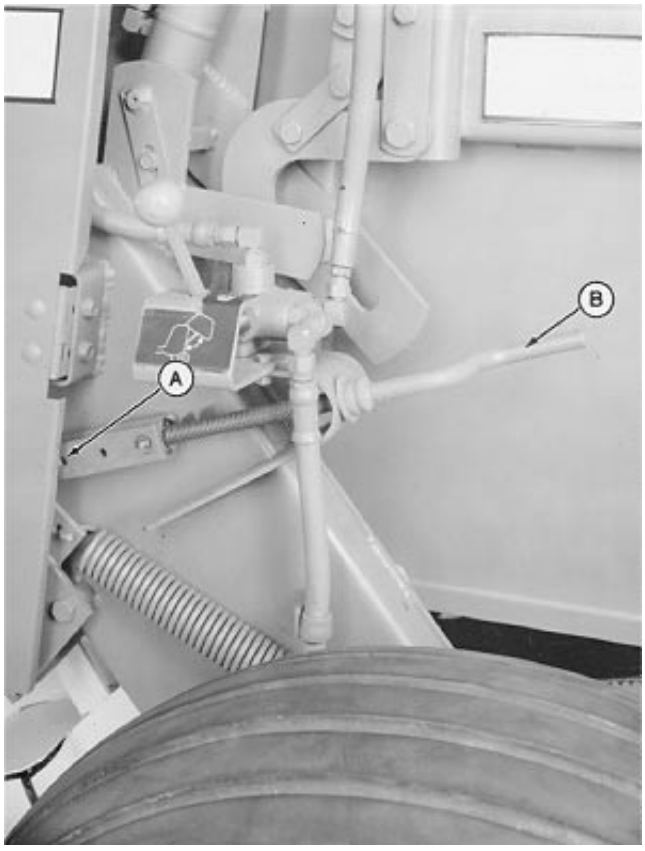
After the break-in period, adjust bale density as follows:

NOTE: To adjust the bale density, close gate and lower belt tension arm. This will allow the bale density knob (A) to be turned more easily.

If lighter bales are desired, loosen locking ring (B), turn knob (A) counterclockwise; for heavier bales, turn knob (A) clockwise. Tighten locking ring (B).

EX,435J,V -19-08SEP88

ADJUSTING PICKUP HEIGHT



E21628 -UN-12SEP88

1. Turn pickup crank (B) to align second gauge hole (A) on clevis with rear edge of door as initial adjustment.

2. The final adjustment will be determined by field conditions. To raise the pickup, turn crank (B) clockwise; to lower the pickup, turn crank (B) counterclockwise.

If baler is equipped with a hydraulic pickup lift, the crank acts as the downstop controlling pickup operating height. This feature allows the pickup to return to the same operating height after raising and lowering.

Always raise pickup when crossing ditches, moving from field to field, etc.

EX,435J,W -19-02NOV88

ADJUSTING CONVERGING WHEEL HEIGHT

1. Remove chain (A) from chain anchor support and lower wheel (B) to ground.

2. Raise chain (A) one link and install back in chain anchor support. Wheel should be approximately 25 mm (1 in.) from the ground.

NOTE: This is an initial setting; final adjustment will be determined by field conditions. The converging wheel should never be in heavy contact with the ground.

EX,435J,X -19-08SEP88

UNPLUGGING BALER UNDER POWER

1. Shut off tractor.

2. Place gate lock valve in “Lock” position (A).

NOTE: If operating with surface wrap, close on-off valve. (See Changing from Surface Wrapping to Twine Wrapping in Surface Wrap—Operating the Baler section.)

3. Raise belt tension arm with tractor selector valve until upper arm (B) starts to move.

4. Engage PTO.

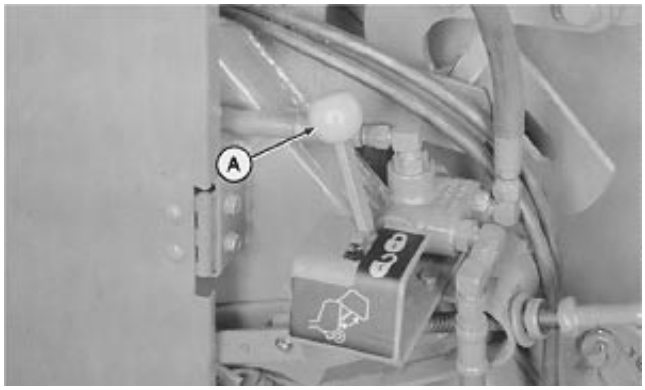
IMPORTANT: If belts slip, lower belt tension arm. Do not prolong belt slippage as damage may occur to the baler.

5. If this does not unplug the baler, unlock gate, discharge bale and shut off tractor.

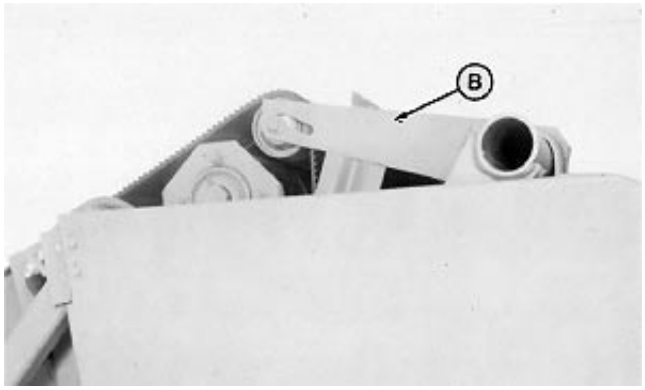
6. With gate open, place gate lock valve in “Lock” position (A).

7. Lower the pickup and unplug manually.

NOTE: If operating with surface wrap, open shut-off valve.



E21627 -UN-12SEP88



E32088 -UN-12SEP88

EX,435J,Y -19-08SEP88

UNPLUGGING BALER WITH HYDRAULIC PICKUP LIFT

1. Back clear of windrow.

2. Operate tractor at 1500 - 2100 rpm and engage PTO.

IMPORTANT: Do not prolong operating a raised pickup to clear the baler or the pickup drive may be damaged.

3. Raise and lower pickup a couple of times by moving tractor selector valve.

4. If baler does not clear, shut off PTO and tractor. (See Unplugging Baler Under Power in this section.)

5. If baler clears, lower pickup to operating height and continue baling.

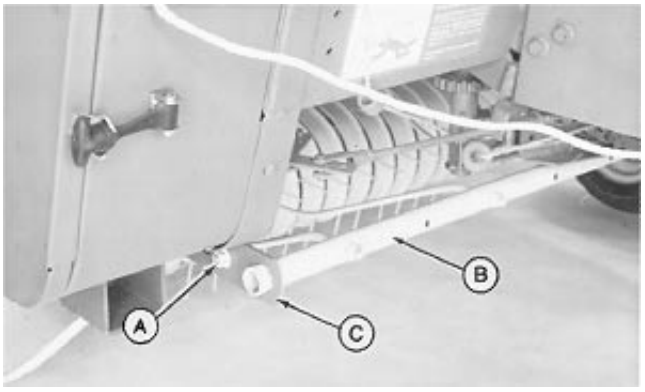
EX,435J,Z -19-08SEP88

REMOVING COMPRESSOR RACK ASSEMBLY

1. Remove round head bolt and nut (A).

2. Slide compressor rack (B) away from right-hand bracket (C).

3. Lower right-hand end and remove compressor rack from left-hand bracket.

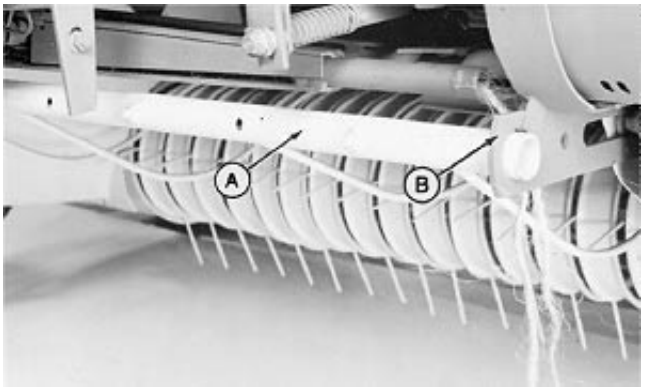


E32089 -UN-12SEP88

EX,435J,AA -19-02NOV88

INSTALLING COMPRESSOR RACK ASSEMBLY

1. Install compressor rack (A) in left-hand bracket (B).



E32090 -UN-12SEP88

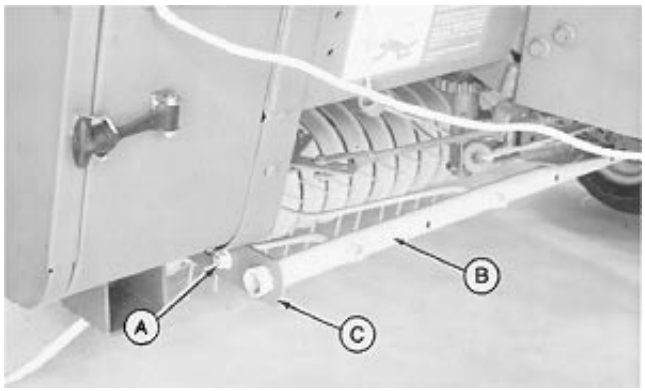
EX,435J,AB -19-02NOV88

2. Lift right-hand end and slide compressor rack (B) into bracket (C).

3. Install round head bolt and nut (A).

4. Adjust to desired operating height. Tighten nut (A).

NOTE: Make sure compressor rods do not interfere with timing arm. Adjust rods as necessary for clearance.



E32089 -UN-12SEP88

EX,435J,AC -19-02NOV88

ADJUSTING COMPRESSOR RACK ASSEMBLY

To improve feeding, the compressor rack may be adjusted up or down.

1. Loosen bolt (A).

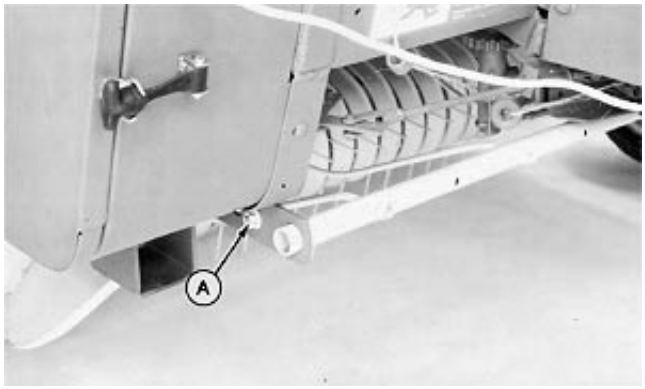
2. Adjust rack to desired height.

NOTE: Make sure compressor rods do not interfere with twine arm. Adjust rods as necessary for clearance.

3. Tighten bolt (A).

In short, dry, slick crops it may be necessary to remove compressor rods or compressor rack if material builds up on top of rods. (See Removing Compressor Rack Assembly in this section.) Belt damage may occur if crop is allowed to build up on top of compressor rack.

NOTE: Reinstall compressor rack when build-up conditions cease or when returning to bale hay crops.



E32592 -UN-14NOV88

EX,435J,AD -19-02NOV88

STARTING A BALE IN DIFFICULT CONDITIONS

1. Check pickup drive belt tension and condition.

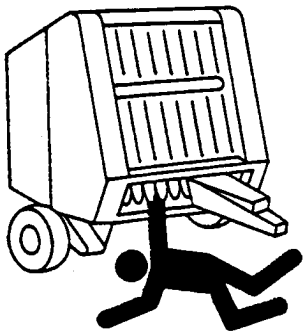
2. Check for broken or missing pickup teeth.

3. Select a gear that will give 6 - 8 km/h (4 - 5 mph) at rated PTO speed and run tractor at low idle (900 - 1200 rpm) when starting the bale.

4. Drive forward at least 3 m (10 ft) without stopping to allow enough crop into the baler to start rolling, then resume PTO speed.

EX,435J,AW -19-09DEC88

BALING SHORT, DRY, SLICK CROPS



E32161 -UN-12SEP88

CAUTION: DON'T TAKE CHANCES! To avoid injury or death by being pulled into the machine:

Do not attempt to feed crop or twine into baler or unplug feed area while baler is running. The baler feeds material faster than you can release it.

Disengage PTO and shut off engine.

To reduce plugging try one or more of the following techniques:

1. Check pickup belt condition and tension.

2. Check for missing or broken pickup teeth.

3. Raise pickup as high as practical.

4. Reduce engine speed to 1500 rpm and shift to higher gear.

5. Reduce bale density as necessary.

6. Remove compressor rack assembly, or individual rods, if material accumulates on it. Always replace compressor rack under normal conditions.

7. Make larger windrows (rake together as necessary).

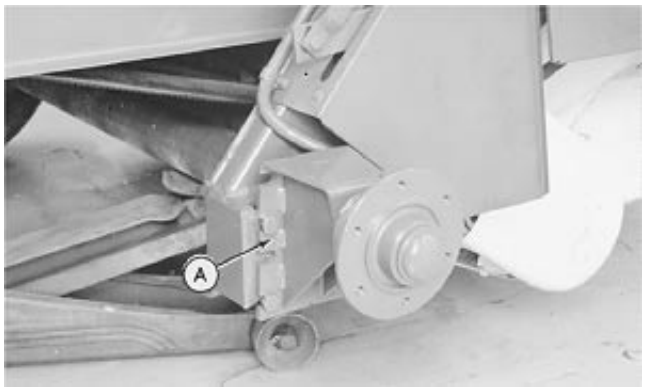
EX,435J,AE -19-02NOV88

7. In extremely short, dry conditions, it may be necessary to lower the baler. Position wheel spindles (A) as shown.

NOTE: Install spindle bolts with nuts on outside.

IMPORTANT: Position wheel spindles in "normal" position for all other baling conditions.

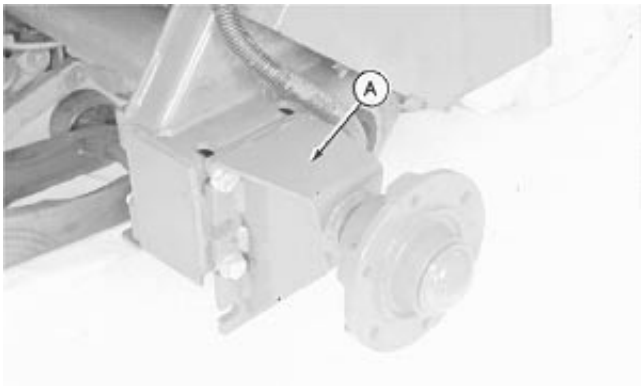
If bale push bar is installed, lowering the baler is not recommended.



E26228 -UN-12SEP88

EX,435J,AF -19-02NOV88

BALING CORNSTALKS



1. Cut stalks prior to baling to improve pickup tooth life.

2. Do not rake more than six rows together or plugging may occur at the pickup area. Higher productivity can be obtained by baling smaller windrows at faster ground speeds.

3. Increase feed opening by:

• Lowering pickup as low as practical.

• Installing high flotation tires to reduce sinking into soft ground.

• Be sure spindles (A) are in normal position as shown.

• Adjust compressor rack to highest position. (See Adjusting Compressor Rack Assembly.)

4. Check for missing or broken teeth. Replace if necessary.

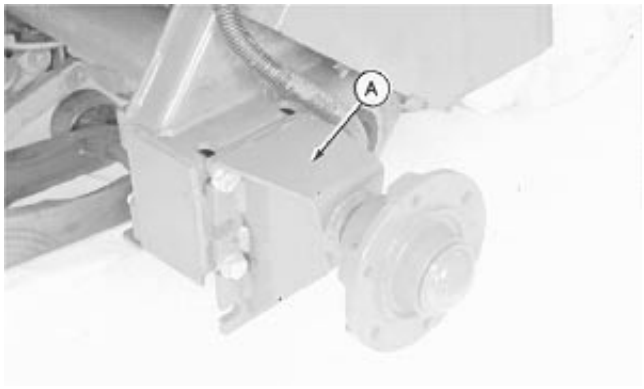
5. Check condition and tension on pickup belt.

6. Remove rack if cornstalks build up on top of rods. (See Removing Compressor Rack Assembly.)

7. Try adding extra compressor rods if cornstalks push up between existing rods and cause plugging.

EX,435J,AG -19-02NOV88

BALING WET HAY



E24214 -UN-20SEP88

If bales fail to start rotating due to windrows being wet on the bottom, try the following suggestions:

1. Check pickup belt idler. (See Adjusting Pickup Belt Idler in the Service Section.)

2. Increase feed opening by:

• Operating pickup as low as practical.

• Installing hi-flotation tires to reduce sinking into soft ground.

• Be sure spindles (A) are in normal position as shown.

• Adjust compressor rack to highest position. (See Adjusting Compressor Rack.)

3. Select a gear which will give a 6 - 8 km/h (4 - 5 mph) forward travel speed at rated PTO speed.

4. Reduce tractor engine speed to low idle (900 - 1200 rpm) while starting.

5. Approach windrow with crop centered on pickup to reduce plugging at crop dividers. Do not cut across the windrow.

6. Travel forward at least 3 m (10 ft) without stopping to allow enough crop into the baler to start rolling.

7. Resume rated PTO speed.

8. Be sure the tractor drawbar pin or hitch parts are not dragging and bunching the windrow. Use drawbar shielding as necessary. (See Using Drawbar Shield in Preparing the Tractor section)

9. Surface moisture on bottom of windrow causes crop to slip more easily against forming belts. Turn windrows with a rake or tedder to improve bale starts.

EX,435J,AH -19-02NOV88

EXTINGUISHING A FIRE

CAUTION: When extinguishing a fire:

1. Eject bale immediately.

2. Move tractor and baler upwind 9 m (30 ft) away from flammable material.

3. Raise gate fully and engage gate lock valve.

4. Use fire extinguisher or other water supply to put out fire.

EX,435J,AI -19-08SEP88

BALE PUSH BAR OPERATION (OPTIONAL)

CAUTION: Bale push bar is activated when gate is opened. Be sure bystanders are clear and there is sufficient clearance behind baler when opening gate.

When gate is closed (normal baling operation), the push bar remains in home position behind the axle. The chains attached to the gate pins, and the tension springs hold the push bar in this position.

As the gate is opened, the chains go slack until the gate is raised high enough to allow the bale to fall to the ground. During this time the tension springs, which are slightly over center, hold the push bar in home position.

E32630 -UN-22NOV88

EX,435J,AJ -19-14NOV88

As the gate is raised farther, the chains pull the push bar back, making the tension springs go over center to the rear. During the upper part of the gate travel, the chain force and the tension spring force swing the push bar back, rolling the bale to the rear and clear of the gate.

The tension springs hold the push bar up while the gate is lowered and until it is almost closed. This position of the push bar prevents the bale from rolling ahead underneath the gate (in gently rolling ground conditions).

E32628 -UN-19NOV88

EX,435J,AK -19-14NOV88

As the gate is closed, the chains tighten and pull the push bar forward to the home position.

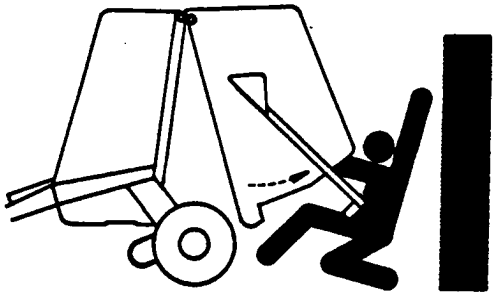
E32629 -UN-19NOV88

EX,435J,AL -19-14NOV88

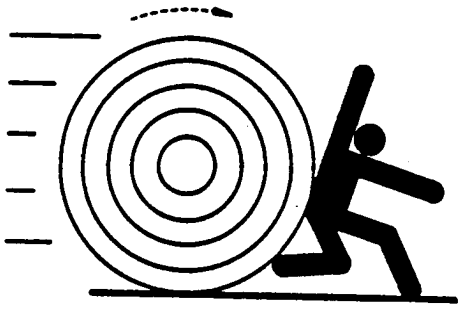
OPERATING BALER WITH BALE PUSH BAR (OPTIONAL)

CAUTION: Bale push bar is activated when gate is opened. Be sure bystanders are clear and there is sufficient clearance behind baler when opening the gate.

CAUTION: To prevent injury or damage from a rolling bale, discharge bales on level ground or in such a manner that the bale will not roll.



E32671 -UN-29NOV88

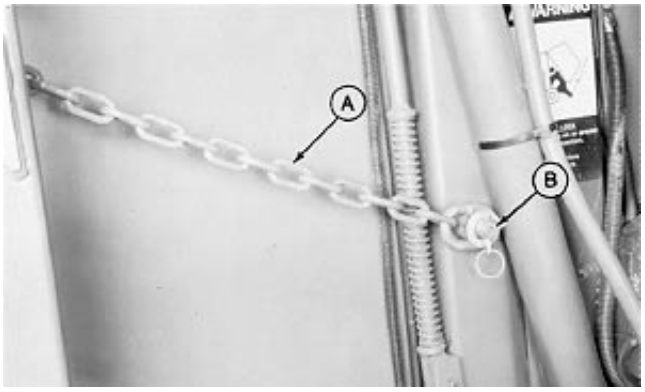


E32692 -UN-06DEC88

EX,435J,AV -19-21NOV88

NOTE: Tractor hydraulic flow must be at least 25L/min (6.5 gpm) to operate bale push bar when making full diameter and full density bales. Set tractor hydraulic flow controls at maximum.

1. Be sure that both chains (A) are attached to the gate pins (B). (See Engaging Bale Push Bar in this section.)



E32610 -UN-19NOV88

EX,435J,AM -19-14NOV88

2. Form and wrap bale as usual.

CAUTION: To prevent injury or damage from a rolling bale, discharge bales on level ground or in such a manner that the bale will not roll.

3. Backing up baler is not required unless in rolling terrain conditions where runaway bales are likely. In these conditions, lockout the push bar and position baler so bale will not roll after being ejected.

4. Raise gate to eject bale. Hold tractor hydraulic lever until gate is fully raised. Do not stop gate while raising.

NOTE: A slight forward movement of the tractor may be felt as the bale is rolled back by the push bar.

E32628 -UN-19NOV88

EX,435J,AN -19-14NOV88

5. Lower the gate. Keep hydraulic lever engaged until green light on monitor comes on.

6. Proceed making the next bale.

NOTE: If a bale sticks in the bale chamber, the push bar may swing back before the bale has dropped to the ground. This will prevent the gate from closing (green light will not come on after lowering the gate). Raise gate fully and drive forward to clear the bale. Push bar will roll over bales up to 1829 mm (6 ft) in diameter.

To improve bale ejection when baling in high moisture or sticky crop conditions, install crop deflectors in gate. Crop deflectors are available through Service Parts. (See Silage Bundle in the Attachment section.)

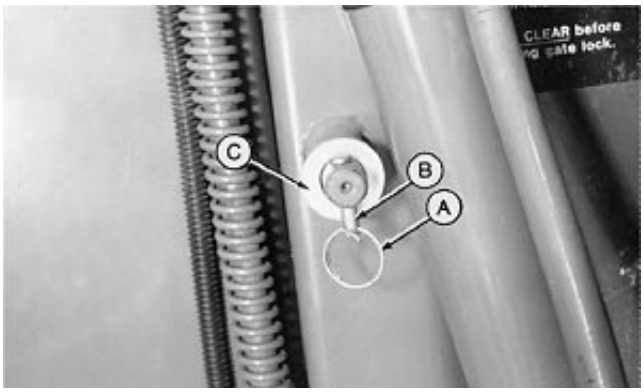
E32629 -UN-19NOV88

EX,435J,AO -19-14NOV88

ENGAGING BALE PUSH BAR (OPTIONAL)

1. Remove retaining ring (A) from pin (B).

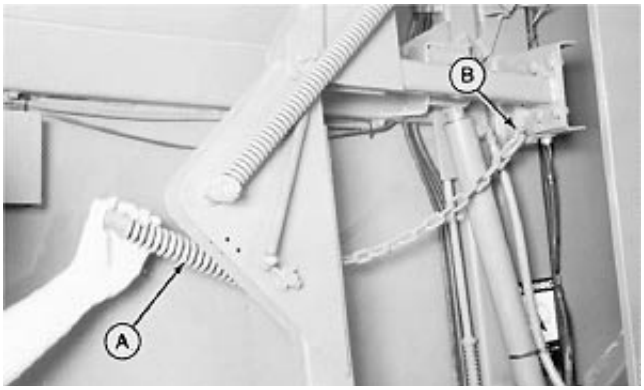
2. Remove pin (B) and washer (C) from gate pin.



EX,435J,AP -19-14NOV88

3. Remove tension from chain by rotating the spring assembly (A) to the rear. Remove end chain link from lockout hook (B).

4. Let chain hang free to remove any twists.



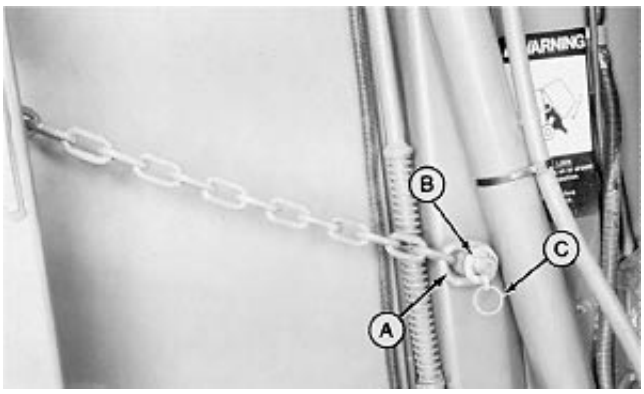
EX,435J,AQ -19-14NOV88

5. Attach end chain link (A) on gate pin.

6. Install washer (B), pin, and retaining ring (C).

7. Repeat on opposite side.

IMPORTANT: Both chains must be attached to gate pins before operating the push bar. Damage can occur to the push bar and/or gate if one chain is left in the lockout position or is unhooked completely.



EX,435J,AR -19-14NOV88

LOCKING OUT BALE PUSH BAR (OPTIONAL)

Bale push bar will remain in home position, regardless of gate movement, when in the locked out position.

To lockout push bar:

1. Remove retaining ring (A) from pin (B).

2. Remove pin (B) and washer from gate pin.

EX,435J,AS -19-14NOV88

3. Remove tension from chain by rotating spring assembly (A). Remove end chain link from gate pin.

4. Let chain hang free to remove any twists.

EX,435J,AT -19-14NOV88

5. Attach the end chain link (A) on lockout hook (B). Release spring assembly.

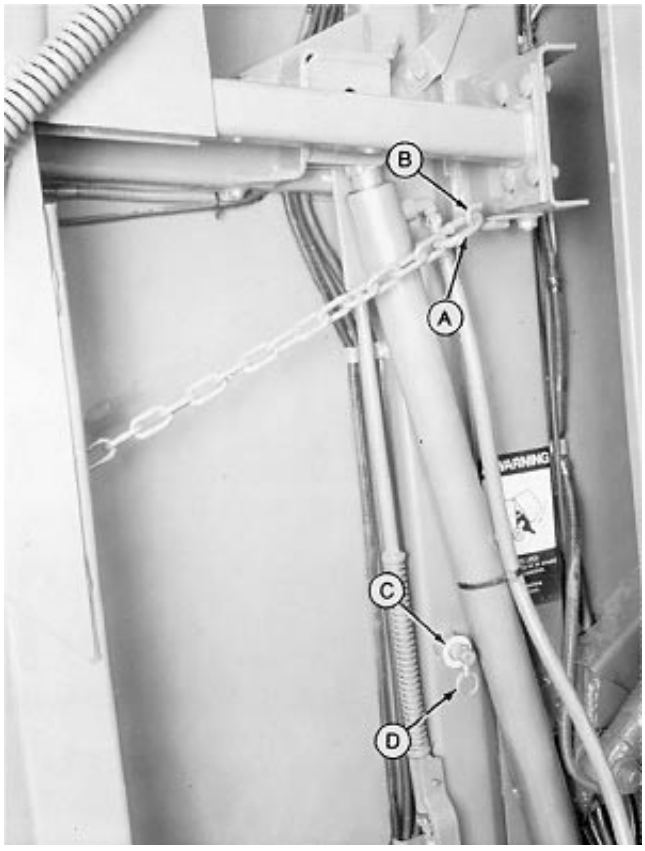
6. Install washer (C), pin, and retaining ring (D) on gate pin.

7. Repeat on opposite side.

IMPORTANT: Both chains must be attached to lockout pins to lockout push bar. Damage can occur to the push bar and/or gate if one chain is left attached to the gate pin or is unhooked completely.

NOTE: If operating the baler with push bar locked out, it will be necessary to back up baler before ejecting the bale.

A—Chain Link
B—Lockout Hook
C—Washer
D—Retaining Ring

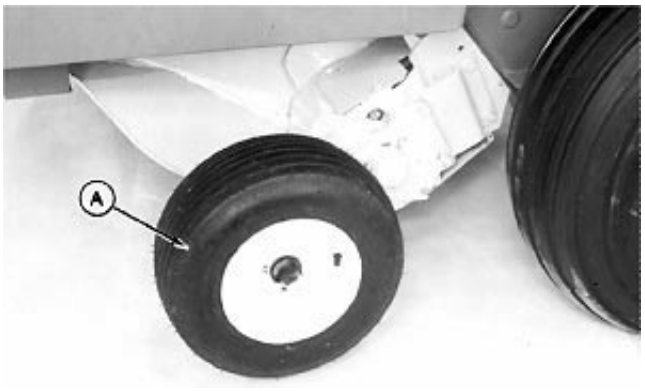


EX,435J,AU -19-14NOV88

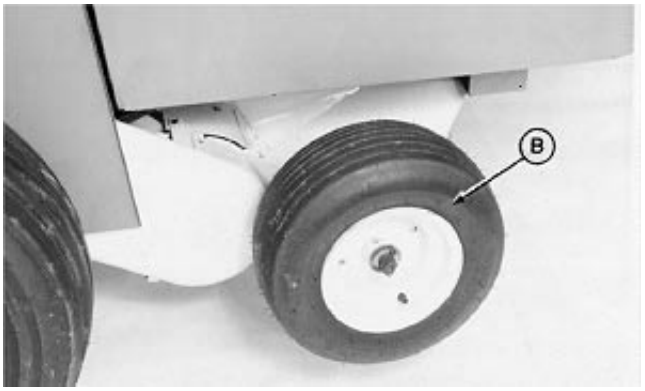
PICKUP GAUGE WHEELS

Left-hand gauge wheel (A) and/or right-hand gauge wheel (B) improves pickup flotation in uneven terrain.

The wheels are not designed to be in constant contact with the ground.



E32373 -UN-04OCT88



E32374 -UN-04OCT88

EX,435K,A -19-08SEP88

CONVERGING WHEELS

These wheels are mounted on each side of baler in front of the pickup.

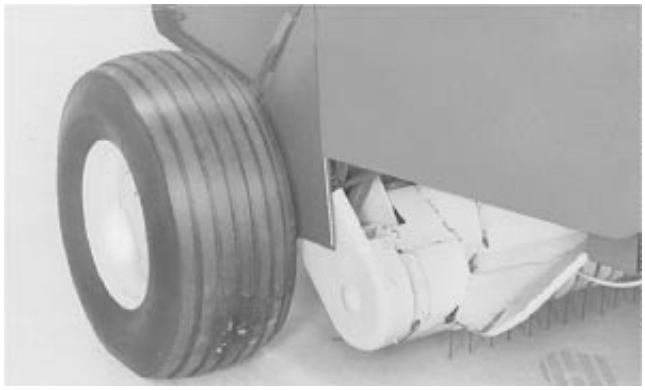
Converging wheels aid in handling wider windrows and reducing crop loss in uneven windrows. The wheels also have a special “breakaway” feature to minimize damage from hitting obstructions.

E21643 -UN-22SEP88

EX,435K,B -19-02NOV88

HI-FLOTATION TIRES

Hi-flotation tires (31.5 x 13.5) reduce ground compaction.



E21644 -UN-22SEP88

EX,435K,C -19-08SEP88

BALE PUSH BAR

Operates mechanically with the rear gate to assure dependable operation.

Two long spring-loaded arms and a center bar push the ball rearward with a positive force to ensure clearance for closing the gate.

The push bar arms can be easily locked out if operation is not desired.

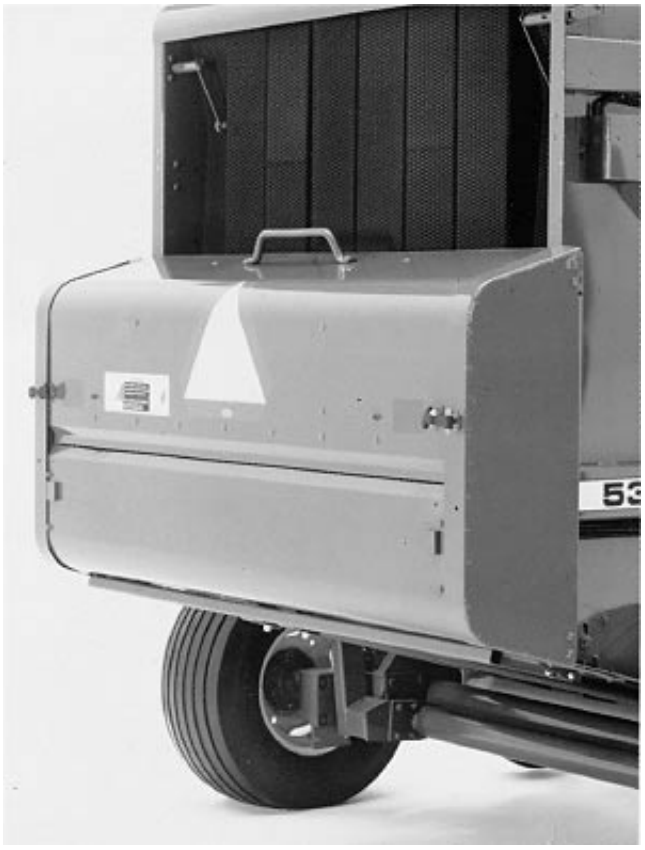
E32231 -UN-14NOV88

EX,435K,D -19-02NOV88

SURFACE WRAP BUNDLE

Wraps entire surface of bale for a smooth weather resistant surface.

Greatly increases baler productivity and improves ability to retain higher hay quality in storage.



E32230 -UN-14SEP88

EX,435K,E -19-08SEP88

SILAGE BUNDLE

The silage bundle is designed to reduce wrappage of high-moisture hay at the starter roll and at ends of the rolls on the front of baler. Also included are crop deflectors to improve bale ejection.

E27579 -UN-14SEP88

E27580 -UN-14SEP88

EX,435K,F -19-08SEP88

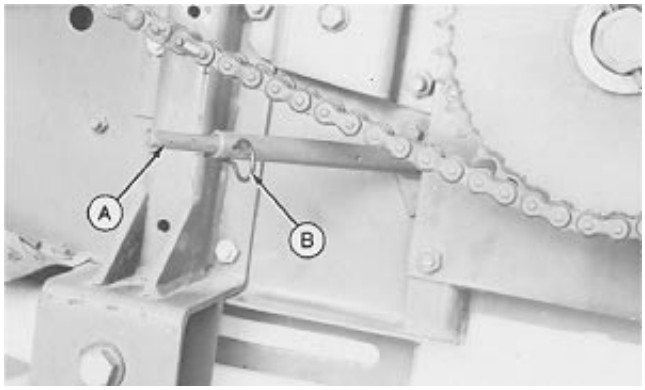
ADJUSTABLE LEFT-HAND TWINE GUIDE

Used for dry, slick crops such as straw or flax.

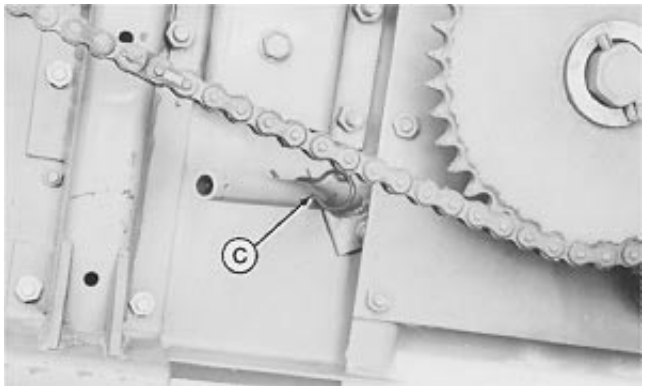
Moves left-hand outer wraps of twine closer to center of the bale.

For normal operating conditions, align hole in twine guide rod (A) with outside hole (B) of twine guide tube. Secure with spring-locking pin.

For baling short, dry, slick crops, align hole in twine guide rod with inside hole (C) of twine guide tube. Secure with spring-locking pin.



E27583 -UN-14SEP88



E27584 -UN-14SEP88

EX,435K,G -19-02NOV88

BALE-TRAK MONITOR

This optional attachment can be mounted on a second tractor for easy plug-in to the baler. This includes a monitor box and an electrical harness for tractor/monitor connection.

E32585 -19-29AUG89

EX,435K,H -19-02NOV88

HYDRAULIC PICKUP LIFT

The hydraulic pickup lift enables control from the tractor seat. Hydraulic lines attach to tractor hydraulic system.

E32104 -UN-14SEP88

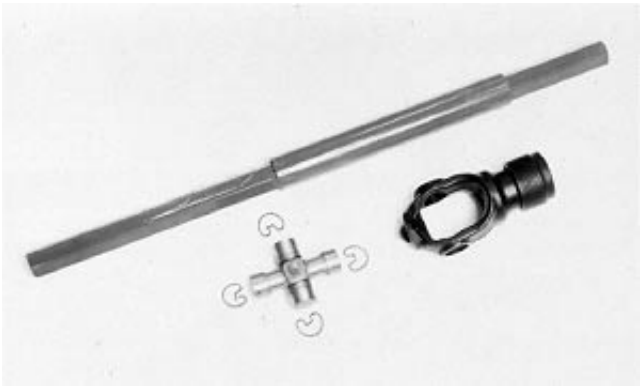
EX,435K,I -19-08SEP88

PTO CONVERSION PARTS—1000 RPM

The 1000 rpm conversion consists of a yoke, cross kit, shaft, and instructions for converting the gear case. Conversion parts are available through Service Parts.

The installation of this conversion will convert the baler for operation with a tractor having a 1000 rpm PTO.

CAUTION: Never hook up a 540 rpm baler to a 1000 rpm tractor.

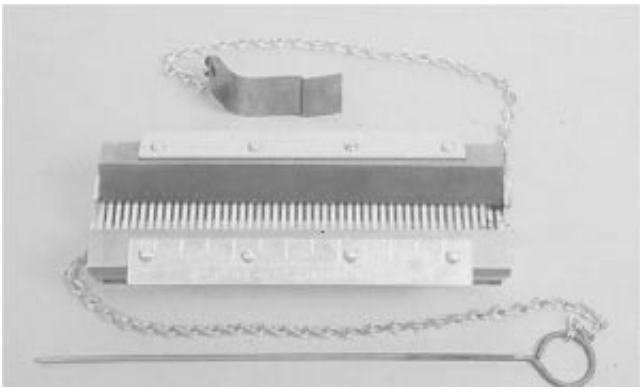


E32611 -UN-19NOV88

EX,435K,J -19-02NOV88

BELT LACING TOOL

A belt lacing tool and hardware is available for repairing broken belts.



E21645 -UN-22SEP88

EX,435K,K -19-08SEP88

BALE COUNTER

Bale counter keeps a record of the number of bales baled.

1. Install counter (A) with three No. 5 x 5/8-in. machine screws, No. 5 lock washers, and nuts.

2. Put short spring link (B) in eye of cotter pin (C).

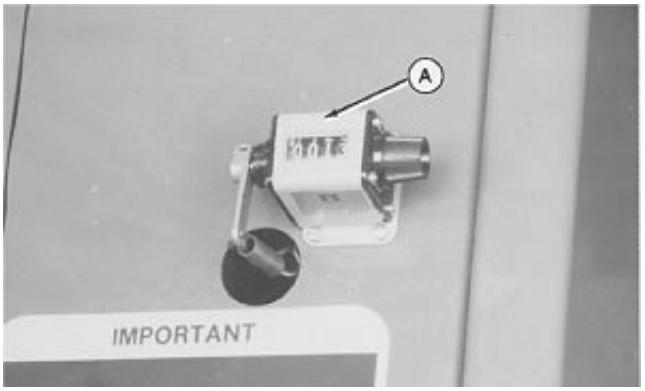
NOTE: Long spring link is not used in this application.

3. Install spring (D) as shown and close ends.

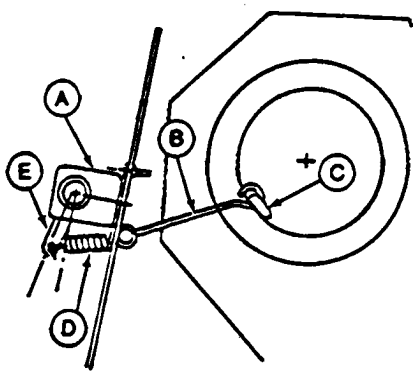
NOTE: Belt tension arm must be in down position.

4. Adjust counter arm (E) so slack is just removed from spring (D).

A—Bale Counter
B—Spring Link
C—Cotter Pin
D—Spring
E—Bale Counter Arm



E21738 -UN-22SEP88



E32345 -UN-06APR89

EX,435K,L -19-08SEP88

SAFETY CHAIN

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

E32192 -UN-16SEP88

EX,435K,R -19-02NOV88

WARNING LIGHT KIT

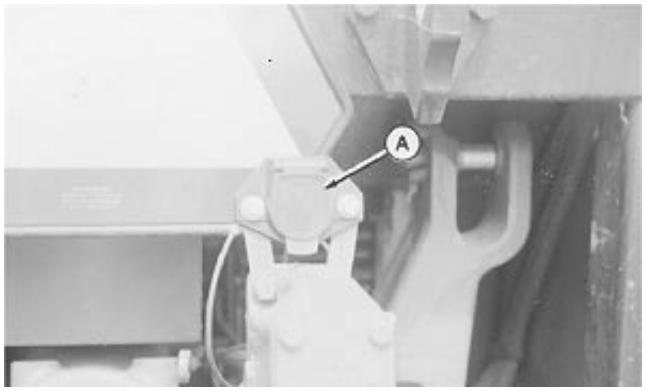
This kit includes two amber warning lamps, one red tail lamp, 12 m (40 ft) of electrical cable, and all the attaching hardware necessary for installation. Electrical outlet socket is required.

E32375 -UN-04OCT88

EX,435K,M -19-08SEP88

ELECTRICAL OUTLET SOCKET

This seven-terminal auxiliary outlet socket (A) may be installed on tractors to plug in electrical equipment such as the warning lamp.



E22681 -UN-22SEP88

EX,435K,N -19-08SEP88

REAR-VIEW MIRROR EXTENSION

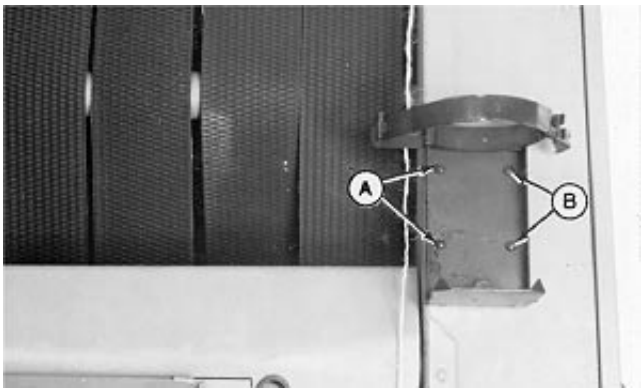
To improve visibility of traffic behind the baler, an extended mirror is recommended. See your John Deere dealer.

EX,435K,O -19-08SEP88

FIRE EXTINGUISHER AND MOUNTING BRACKET

A 9.5 L (2-1/2 gal) pressurized-water fire extinguisher can be mounted in the holes that are provided on the baler.

1. Install bracket using two existing round head bolts (A) and nuts. Install two M8 x 25 cap screws (B) and nuts.



EX,435K,P -19-08SEP88

2. Fasten fire extinguisher to bracket.

EX,435K,Q -19-08SEP88

PERFORM LUBRICATION AND MAINTENANCE

CAUTION: Do not clean, lubricate or adjust baler while it is running.

IMPORTANT: The recommended intervals are based on normal conditions. Severe or unusual conditions may require shorter intervals.

Clean grease fittings before lubricating. Replace lost or broken fittings immediately.

EX,435N,A -19-08SEP88

ALTERNATIVE LUBRICANTS

Additional information on cold weather operation is available from your John Deere dealer.

Conditions in certain geographical areas may require special lubricants and lubrication practices which do not appear in this operator's manual. If you have any questions, consult your John Deere dealer to obtain the latest information and recommendations.

O53,ALTER -19-05AUG86

HYDRAULIC PUMP OIL

John Deere All-Weather Hydrostatic Fluid or Type F automatic transmission fluids are recommended.

EX,435N,B -19-08SEP88

CHAINS

CAUTION: To help prevent injury, do not lubricate chains with machine running.

Liberally apply SAE 30 or heavier oil to chains every 10 hours of operation.

Lubricate chains immediately after operation when the chains are still warm. Let the machine stand idle for a short period to ensure effective oil penetration, resulting in longer chain life.

EX,435N,C -19-08SEP88

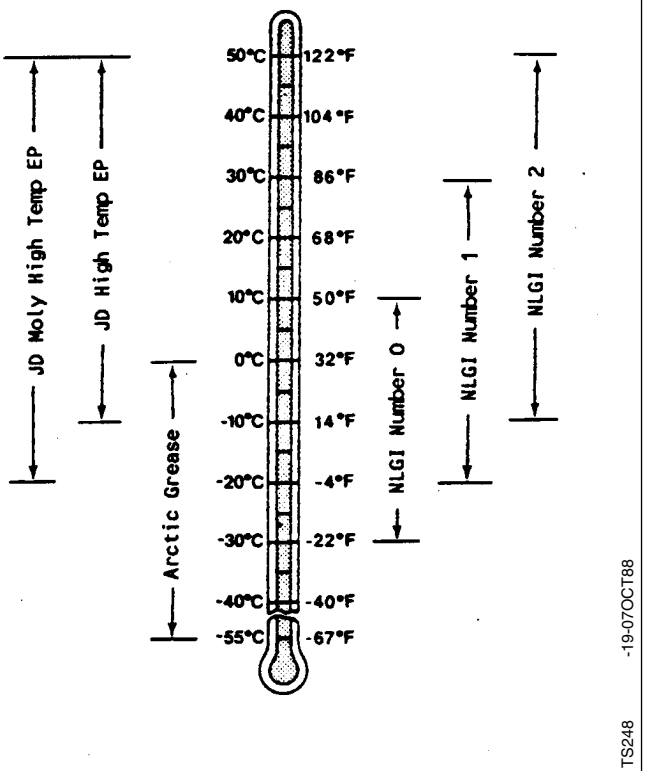
EXTREME PRESSURE GREASE

Use grease based on the expected air temperature range during the service interval.

John Deere Moly High Temperature EP Grease and John Deere High Temperature EP Grease are recommended.

Other greases that may be used are:

- SAE Multipurpose EP Grease with 3 to 5 percent molybdenum disulfide.
- SAE Multipurpose EP Grease.
- Greases meeting Military Specification MIL-G-10924C may be used as arctic grease.



O53,GREA1 -19-08FEB88

GEAR OIL

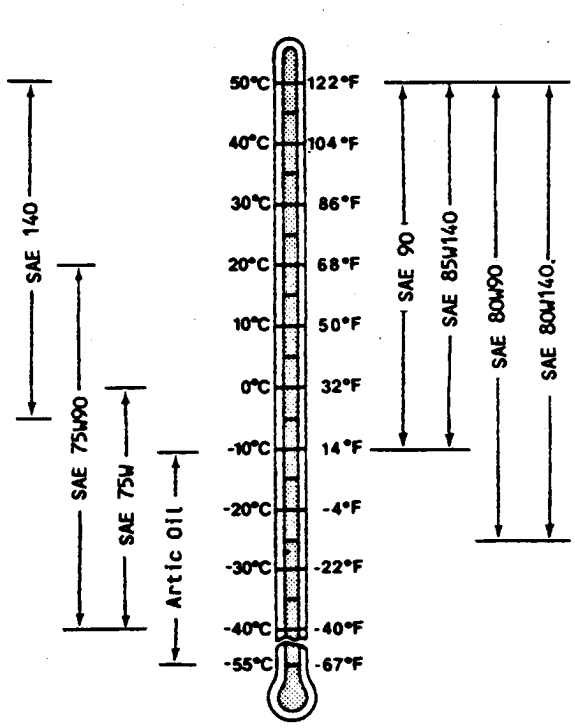
Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere GL-5 Gear Lubricant is recommended.

Other oils may be used if they meet one or more of the following:

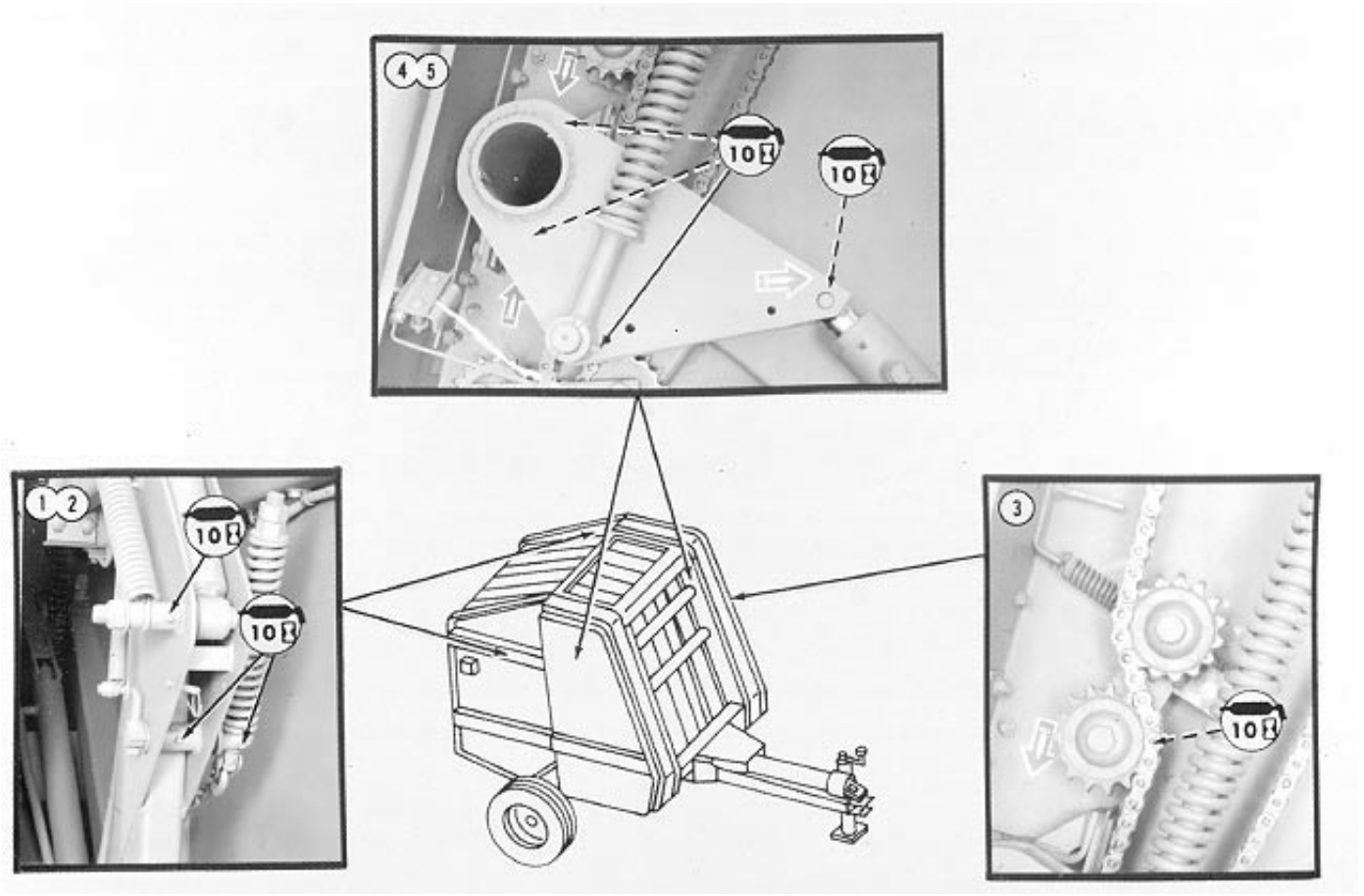
- API Service Classification GL-5
- Military Specification MIL-L-2105D
- Military Specification MIL-L-2105C
- Military Specification MIL-L-2105B

Oils meeting Military Specification MIL-L-10324A may be used as arctic oils.



O53,GEOIL -19-23FEB88

EVERY 10 HOURS



1—Push Bar Shock Absorbers and Spring Bolts (Optional)

2—Eyebolts and Eyebolt Pivots

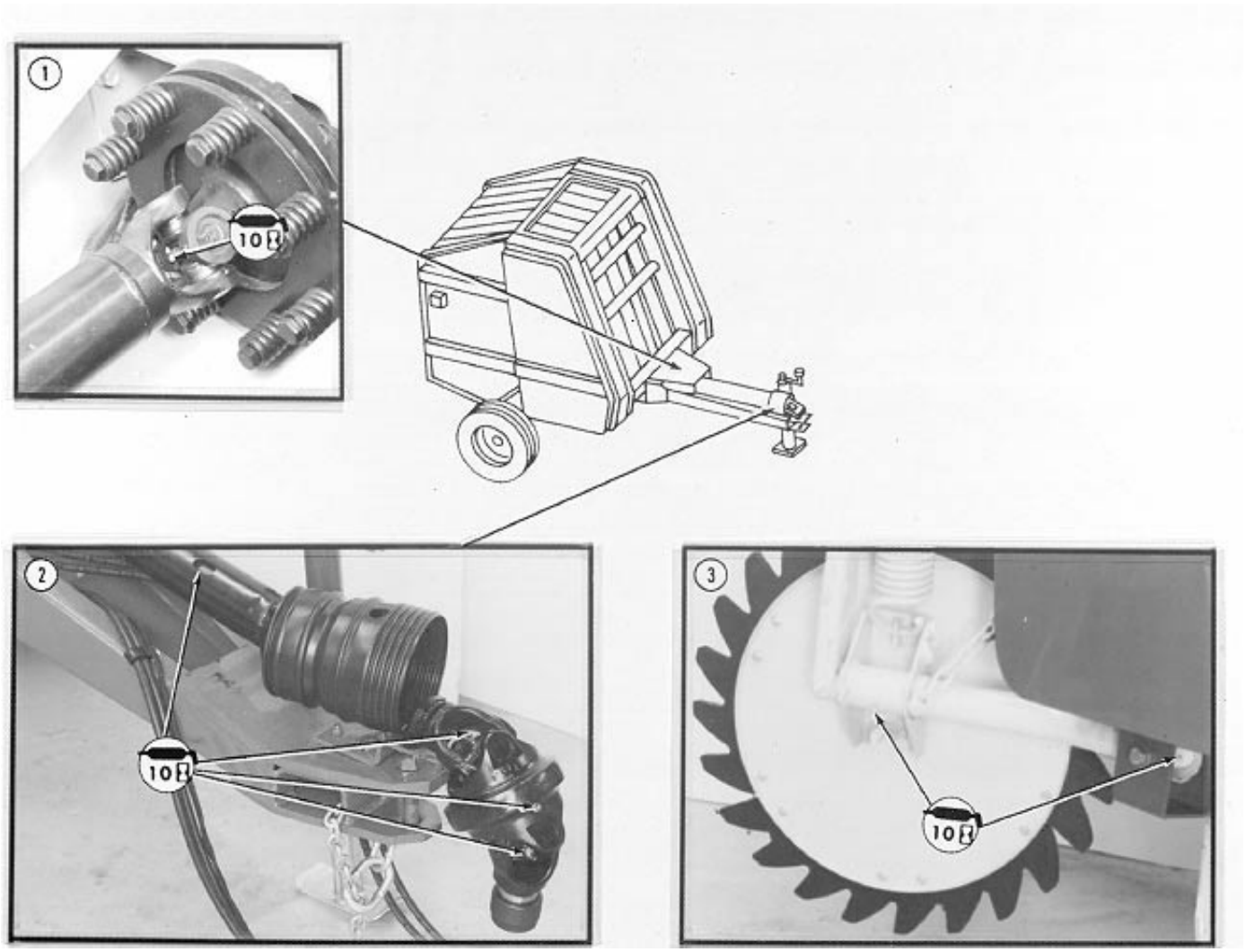
3—Drive Chain Idler

4—Tension Arm Pivots

5—Tension Cylinder Rods

EX,435N,D -19-02NOV88

EVERY 10 HOURS



1—PTO Driveline

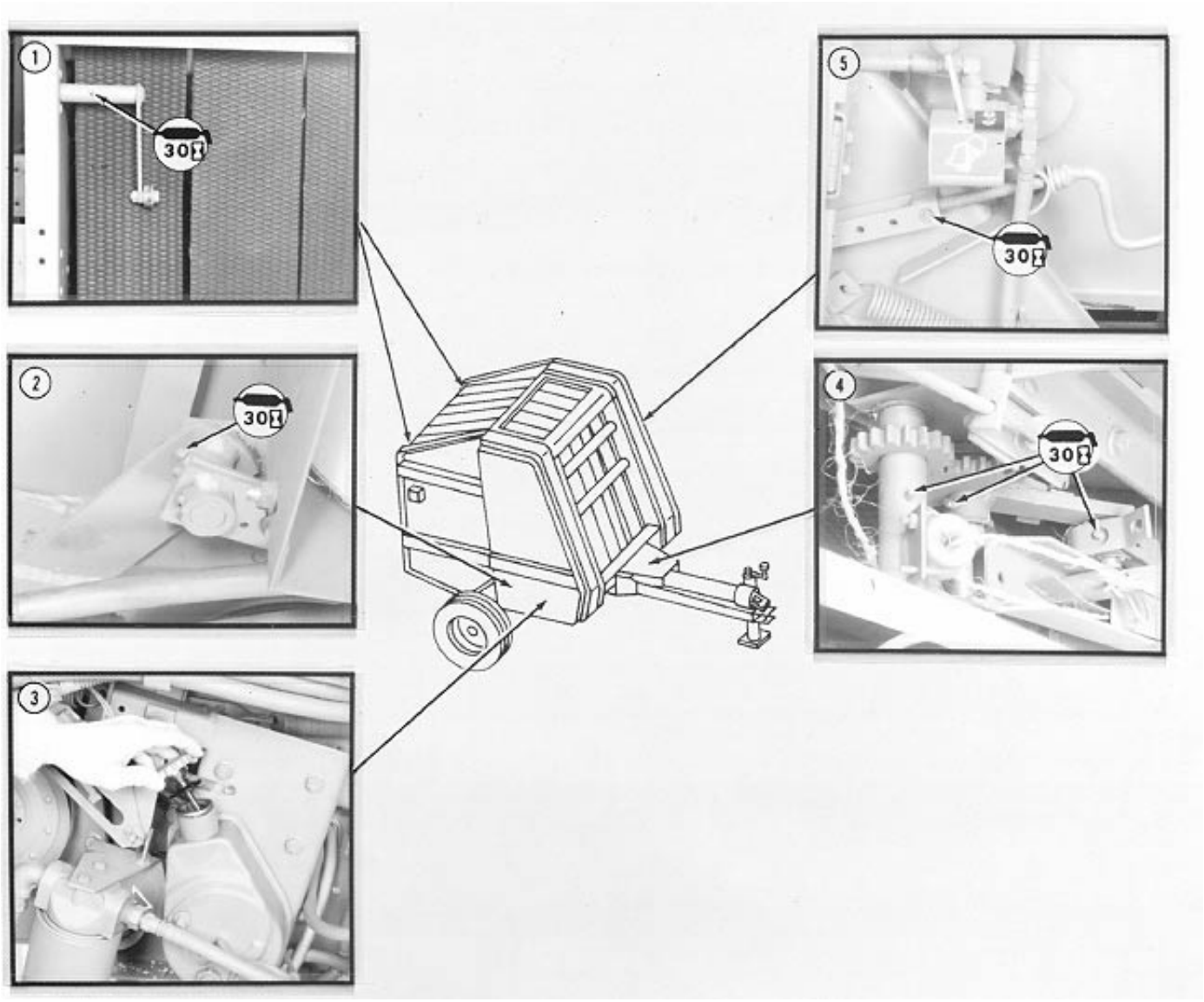
2—PTO Driveline

3—Converging Wheel and Support Pivot (Optional)

NOTE: Shield removed for illustration purposes. Fittings can be greased with shield in place.

EX,435N,E -19-02NOV88

EVERY 30 HOURS



E32195 -UN-13SEP88

1—Bale Shape Sender Arms

2—Automatic Twine Linkage Bellcrank

IMPORTANT: When checking twine pump oil level, remove all dirt and dust before removing filler cap. Use a clean container when adding oil.

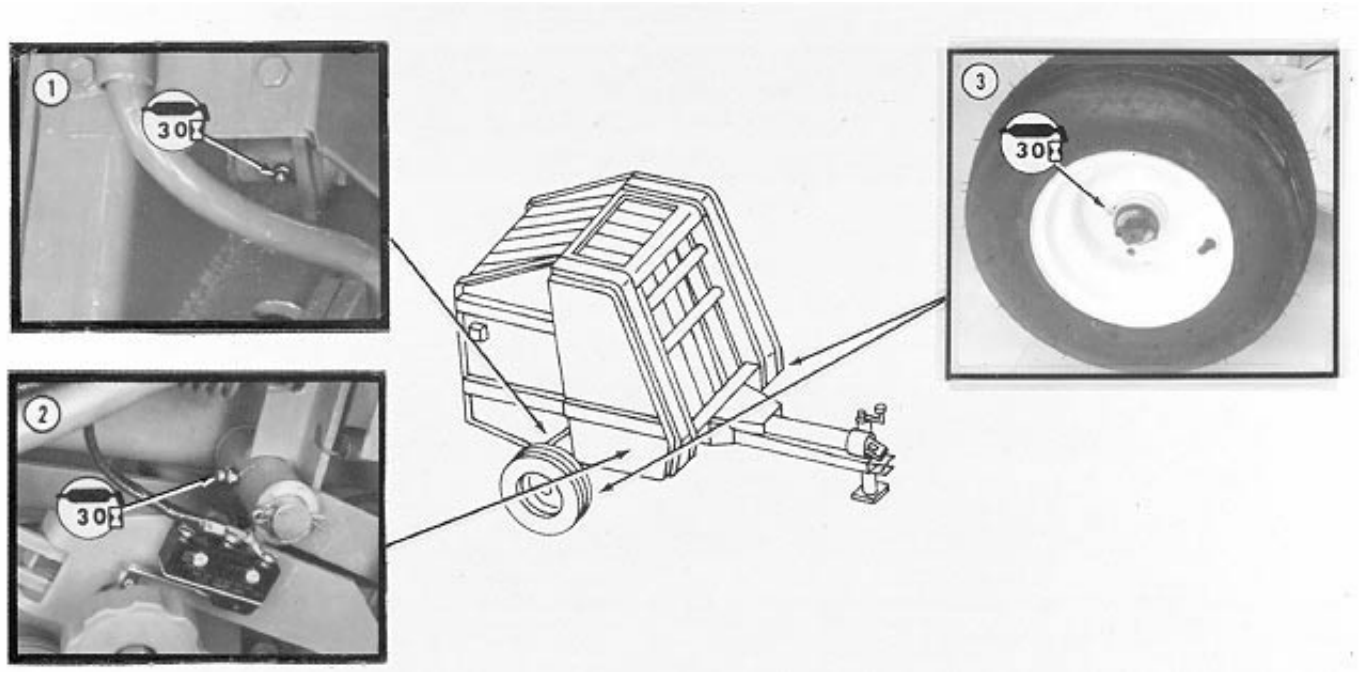
3—Hydraulic Twine Pump
Use John Deere All Weather Hydrostatic Fluid or Type F automatic transmission fluids.

4—Twine Arm Hub, Gear Hub, and Twine Arm Cylinder Block

5—Pickup Lift Crank

EX,435N,F -19-09SEP88

EVERY 30 HOURS



-UN-13SEP88
E32196

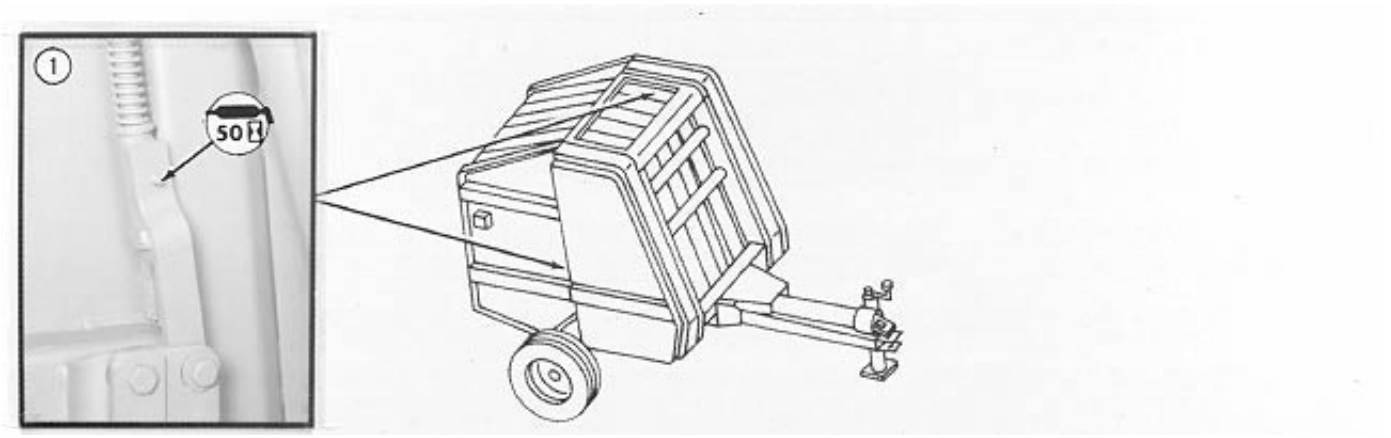
1—Pickup Belt Idler

2—Twine Pump Drive Bellcrank

3—Pickup Gauge Wheels (Optional)

EX,435N,G -19-02NOV88

EVERY 50 HOURS



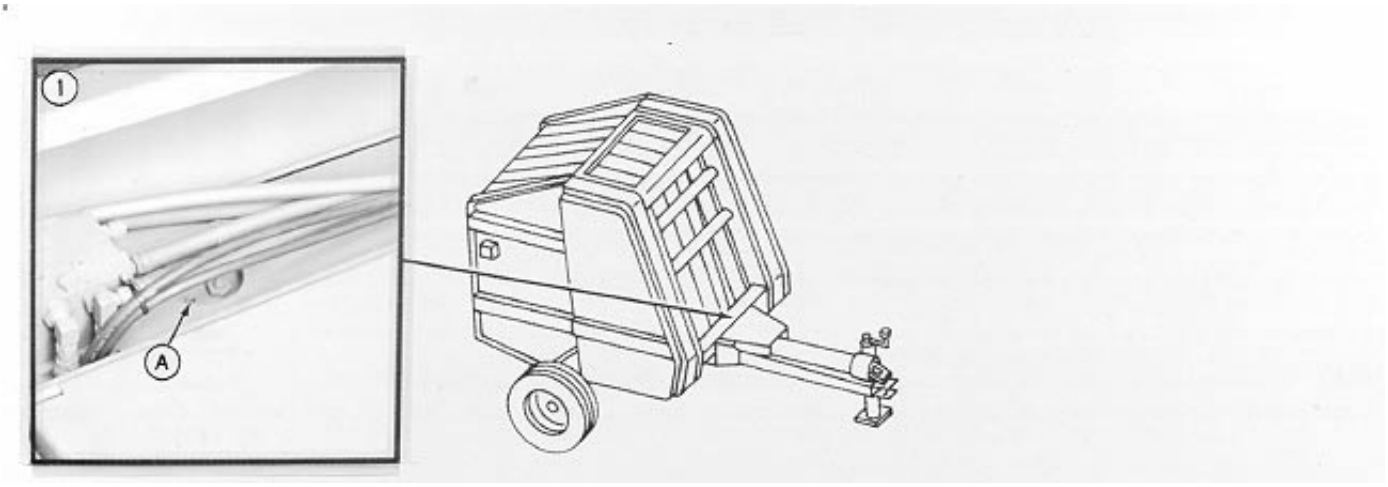
E32210 -UN-13SEP88

1—Gate Latch Rod Arms

Check belt pins for wear and/or breakage.
Replace if necessary.

EX,435N,H -19-02NOV88

EVERY 100 HOURS



E32197 -UN-19NOV88

IMPORTANT: Do not over fill gear case as this will result in overheating and oil leakage.

1—Gear Case

Check level of lubricant with dipstick (A).

If gear case housing is aluminum, lubricant must fall in flattened area on the dipstick.

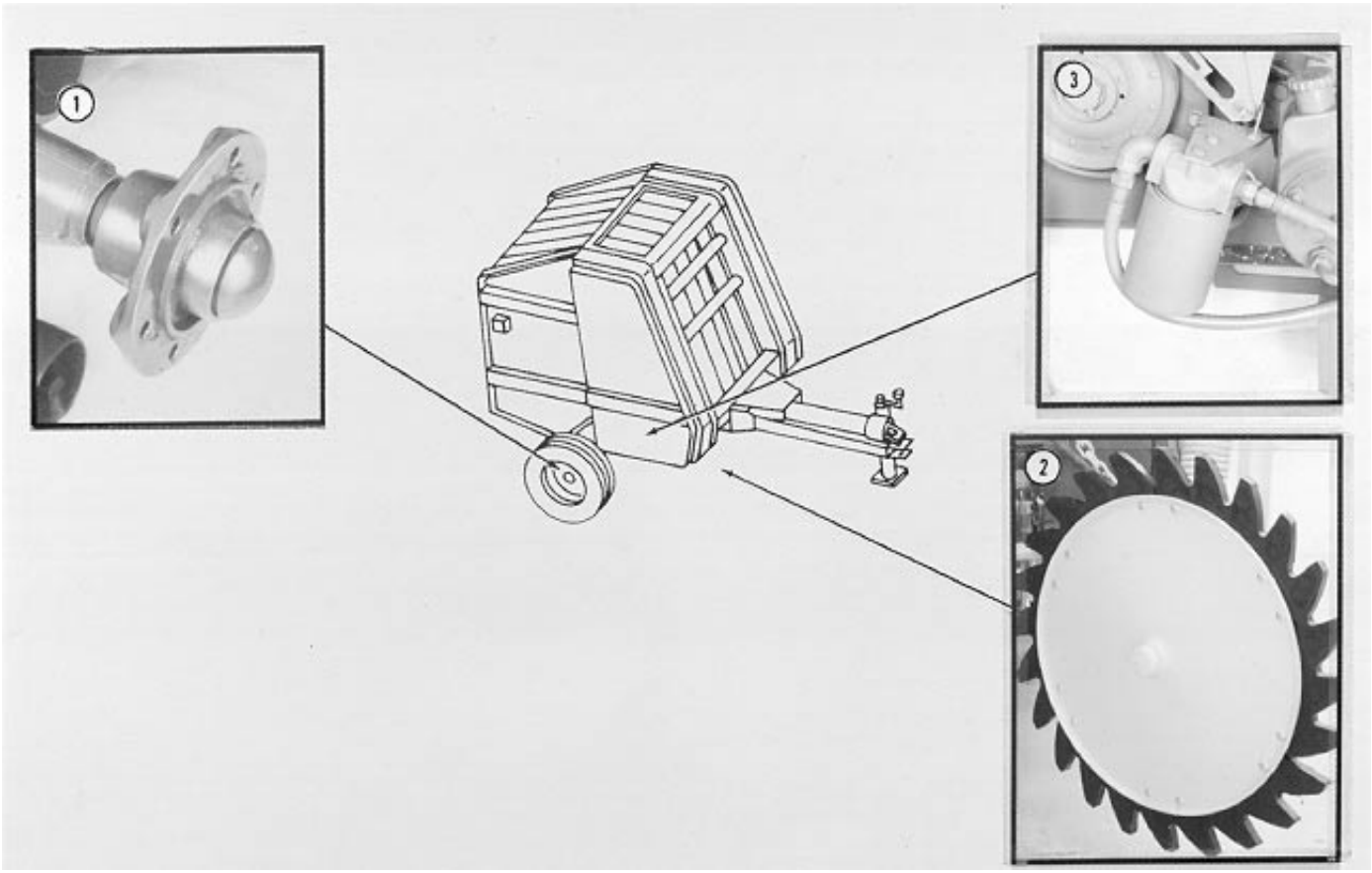
If gear case housing is cast iron, lubricant must fall between notches on the dipstick. If dipstick has only one notch, minimum oil level is at the notch; maximum oil level is 15 mm (9/16 in.) above the notch.

Refill as necessary using SAE 85-140 API GL-5 gear lubricant. Drain and refill gear case once each season.

Aluminum gear case capacity is 0.6 L (0.7 qt). Cast iron gear case capacity is 1.2 L (1.25 qt).

EX,435N,I -19-09SEP88

ANNUALLY



1—Wheel Bearings
Remove the wheels; then clean, repack and adjust the bearings. Use John Deere EP Moly or an equivalent SAE multipurpose type grease, or wheel bearing grease.

2—Converging Wheel Bearings (Optional)
Remove the wheels; then clean, repack and adjust the bearings. Use John Deere EP Moly or an equivalent SAE multipurpose type grease, or wheel bearing grease.

3—Twine System Oil Filter
Before installing new filter, fill with John Deere All Weather Hydrostatic Fluid or Type F automatic transmission fluids.

EX,435N,J -19-03NOV88

AUTOMATIC TWINE WRAP

Symptom	Problem	Solution
Twine arms move too slow from left to right (more than 9 seconds).	Dirt in cylinder port screen or orifice.	Replace filter and/or replace hydraulic oil.
		Clean and flush cylinder. See your John Deere dealer.
	Valve not shifting fully. Binding in linkage or valve.	Find cause of binding and correct.
	Internal cylinder leakage.	Install cylinder seal kit or replace cylinder. See your John Deere dealer.
	Springs on valve linkage weak or broken.	Replace springs.
	Drive belt slipping.	Replace belt.
	If surface wrap bundle is installed, surface wrap flow control valve closed.	Open valve. (See Adjusting Number of Surface Wraps in Surface Wrap—Operating the Baler section.)
	If surface wrap bundle is installed, surface wrap flow control valve dirty.	Flush valve.
Flashing yellow light does not go solid, twine arms will not move.	Spool valve not shifted up.	1) Pull recycle rope and release, letting rope return freely.
		2) Look for binding in valve linkage or latch. Repair.
		3) Valve shifting spring broken.
	Low oil level in pump.	Fill to proper level. (See Lubrication and Maintenance section.)
	Belt idler tension spring broken.	Replace spring.
	PTO speed too slow.	Run tractor full PTO speed.
	Broken or slipping drive belt.	Replace belt.
	Pump lost prime due to low oil level.	See instructions for priming pump. (See Priming Hydraulic Pump in Service section.)
	Defective pump.	Replace pump. See your John Deere dealer.

Continued on next page

Symptom	Problem	Solution
	Recycle rope tied too short not allowing valve to shift.	Provide slack in rope. (See Adjusting Twine Trip Rope in Service section.)
	If surface wrap bundle is installed, surface wrap flow control valve closed.	Open valve.
Twine too tight or twine breaks while wrapping.	Twine routing wrong.	Check for correct routing. (See Preparing the Baler section.)
	Bad twine, knots in twine, new ball with tight core, wet twine.	Pull out bad twine or replace twine.
	Wrong twine tension plate pin or springs.	Replace with correct parts.
	Deep grooves worn in twine guide.	Replace twine guide.
Twine falls off twine indicator wheel.	Retaining strap behind twine indicator wheel is not in correct position.	Adjust retaining strap. (See Adjusting Twine Indicator Retaining Strap in Service section.)
	Twine not wrapped a full turn around pulley.	Wrap twine a full turn around pulley.
Twine too loose on bale.	Broken or missing twine tension spring.	Replace spring.
	Wrong tension spring pin.	Replace pin.
	Worn twine tension plates.	Replace worn parts.
Twine tension not uniform across width of bale.	Twine catching on bent compressor rod.	Straighten rod.
	Bale tension not uniform from side to side.	See Operating the Baler section for proper baling technique.
		Check for leaks in tension system. See your John Deere dealer.
		Adjust bale shape senders (See Adjusting Bale Shape Senders in Service section.)
Solid yellow light on, no hay in baler. Twine arms not in home position.	Twine arm went part way through cycle.	See Operating Twine Arm with Empty Baler in Operating the Baler section.
	Spool valve leaking.	Check for poppet and spring in spool valve. See your John Deere dealer.

Continued on next page

Symptom	Problem	Solution
	Cylinder leaking.	Check cylinder. Repair or replace. See your John Deere dealer.
Twine arms move to right-hand side of baler and will not return.	Flow control valve closed.	Open valve and readjust (See Adjusting Twine Spacing in Operating the Baler section.)
	Low oil level in twine pump.	Fill to proper level. (See Lubrication and Maintenance section.)
	Two-way valve or valve arm does not move freely.	Find interference and repair or replace part.
	Dirt in line between flow control valve and hydraulic cylinder.	Remove hose between flow control valve and hydraulic cylinder. Clean hose and connecting ports.
	Valve latch does not trip because of binding or obstruction in latch linkage or twine arm.	Repair or remove obstruction.
	Broken valve trip linkage spring(s).	Replace spring(s).
	(435) Valve shifter push rod adjusted too short.	Adjust. (See Adjusting Twine Distance From Right-Hand Side of Baler in Service section.)
	(535) Twine arm not shifting valve linkage.	Adjust. (See Adjusting Twine Arm Travel to Shift Valve (535) in the Service section.)
	Twine arm hangs up on compressor rod.	Align compressor rod down. (See Adjusting Compressor Rack Assembly in Operating the Baler section.)
	Internal cylinder leakage.	Install cylinder seal kit or replace cylinder. See your John Deere dealer.
Twine spacing not consistent.	Twine arm speed and arm spacing are not matched.	See Adjusting Twine Spacing in Preparing the Baler section.
	Low oil level.	Fill to proper level. (See Lubrication and Maintenance section.)
	Slipping or worn pump drive belt.	Replace belt.
	Dirty oil filter.	Replace filter.

Continued on next page

Symptom	Problem	Solution
	Two-way spool valve not shifting down fully due to binding in valve or linkage, or spring(s) are weak or broken.	Correct binding. Replace spring(s).
	Twine or twine arm contacting compressor rod.	Lower compressor rack or align rod. (See Adjusting Compressor Rack Assembly in Operating the Baler section.)
	Internal cylinder leakage.	Install cylinder seal kit or replace cylinder.
	Flow control valve moving out of adjustment.	Make adjustment and lock locking ring. (See Adjusting Twine Spacing in Operating the Baler section.)
	Oil cold at start-up.	Some change in twine spacing may be expected during the first few bales made with cold oil.
	Varying tractor engine speed.	Maintain consistent engine speed while wrapping bales.
	Dirt in hydraulic hose between base end of cylinder and flow control valve.	Remove hose and flush out dirt. Connect hose using care to keep dirt out.
No twine on bale or twine not caught by bale.	Twine from end of twine tube too short.	With tractor shut off, pull out twine until 305 to 381 mm (12 to 15 in.) is exposed from end of twine arms.
	Twine tension too high.	See “Twine too tight or twine breaks while wrapping” in this section.
	Twine not fed in with crop.	Do not stop forward travel of tractor as soon as yellow light goes solid. Allow a few seconds for twine to be fed in with hay.
	Twine box empty.	Add twine.
Twine too close to edge of bale.	Missing or bent twine guide rod.	Replace or straighten rod.
	Barrel or cone shaped bales.	Fill ends of bale by crowding windrow. Adjust bale shape senders as necessary. (See Adjusting Bale Shape Senders in Service section.)
	Dry, slick crops such as straw or flax.	Use more twine. Install adjustable twine guide bundle for adjusting left-hand twine spacing.

Continued on next page

Symptom	Problem	Solution
	(435) Twine arm travel on right-hand side is out of adjustment.	Adjust. (See Adjusting Twine Distance From Right-Hand Side of Baler in the Service section.)
Twine not cut.	Bale is ejected before twine is cut.	Look at twine to see that it has stopped moving before discharging bale.
	Twine cutter out of adjustment.	Adjust twine cutter. (See Adjusting Twine Cutter Tension in Service section.)
	Dull knife or uneven edge not making contact with anvil.	Sharpen or replace knife.
	(435) Front twine arm stop installed backwards.	Install stop with trimmed edge toward twine arm.
	Crop buildup on top of anvil.	Adjust height of twine cutter to allow 0.5 to 3.5 mm (0.020 to 0.138 in.) between anvil and bottom of front twine arm tube. (See Adjusting Twine Cutter Anvil in Service section.)
	Twine cutter anvil not level.	Adjust twine cutter so anvil is level (parallel with bottom edge of frame).
	Knife not contacting anvil fully.	Align knife pivot shaft so full length of knife makes contact with anvil. (See Checking Knife Register in Service section.)
	Obstruction causing twine not to be guided under knife.	Remove obstruction.
	Bent twine guide rod.	Straighten or replace.
	Anvil is worn under knife.	Replace anvil.
	Binding in twine arm or cutter linkage.	Repair or replace so linkage operates freely.
	Incorrect twine routing or bad ball of twine causing high twine tension.	Correct cause of high tension.
	Twine arm gears out of time.	Check alignment of timing marks and retime if necessary.

Continued on next page

Symptom	Problem	Solution
Solid yellow light comes on, twine arms go through cycle prematurely and wraps a small bale.	Bale size knob adjusted for small bale size.	Readjust to desired size. (See Adjusting Bale Size in Operating the Baler section.)
	Pump drive latch does not relatch.	1) Make sure belt tension arm is returning all the way to start position when closing gate. (See Installing Orifice in Tractors with Low Hydraulic Flow in Service section.) 2) V-belt tension bellcrank spring is missing. Replace spring. 3) Check twine trip rod for proper adjustment. (See Adjusting Twine Trip Rod and Valve Latch Clearance in Service section.) 4) Mud buildup on rollers. Clean rollers. 5) Trip rope tied too short. (See Adjusting Twine Trip Rope in Service section.)
	Bale size link does not telescope freely.	Find cause of binding and correct.
	Tractor tire trips rope.	Check for proper rope routing.

EX,435O,A -19-09SEP88

BALE-TRAK MONITOR DIFFICULTIES

Symptom	Problem	Solution
Red light and continuous buzzer comes on, green light goes out, solid yellow light did not come on and twine arm did not cycle.	Twine trip bell crank arm out of adjustment.	Adjust arm. (See Adjusting Twine Trip Rod and Valve Latch Clearance in Service section.)
	Twine trip rod clevis out of adjustment.	Adjust clevis. (See Adjusting Pump Drive Idler in Service section.)
	Red light switch not adjusted properly.	Adjust switch. (See Adjusting Oversize Bale Switch in Service section.)
	Twine arms have not cycled properly.	See “Flashing yellow light does not go solid, twine arms will not move” in Automatic Twine Wrap section of Troubleshooting.
Solid yellow light on, twine arm in home position.	Switch not adjusted properly.	Adjust twine arm switch. (See Adjusting Twine Arm Switch in Service section.)
	Defective switch.	Check microswitch. Replace if necessary. (See Checking Microswitches in Service section.)
	Wire from twine arm switch shorted to baler or tractor frame.	Find short and repair.
No flashing yellow light, yellow light comes on solid, and twine arm goes through its normal cycle.	Switch not adjusted properly.	Adjust switch near bale size knob. (See Adjusting Flashing Yellow Light Switch in Service section.)
	Defective flasher or loose connection.	Replace flasher or repair connection.
	Defective switch.	Check microswitch. Replace if necessary. (See Checking Microswitches in Service section.)
	Low voltage.	Make sure connection to power source is full 12-volt.
	Defective module inside monitor.	Replace module if necessary. See your John Deere dealer.
No flashing yellow light, no solid yellow light, and twine arms do not cycle normally.	Binding in linkage does not allow pump drive linkage to relatch.	Find cause of binding and correct.

Continued on next page

Symptom	Problem	Solution
Green light does not come on when gate is closed.	Gate lockout lever engaged.	Unlock gate.
	Gate not fully closed due to an obstruction.	Remove obstruction.
	Gate switch not adjusted properly.	Adjust switch. (See Adjusting Gate Latch Switch (Green Light) in Service section.)
	Belts pinched between lower gate roller and axle tube.	Raise gate fully and close gate at full tractor speed. If tractor has low hydraulic flow, install orifice. (See Installing Orifice in Tractors with Low Hydraulic Flow in Service section.)
	Defective bulb or switch.	Replace defective bulb. Check microswitch. Replace if necessary. (See Checking Microswitches in Service section.)
	Poor connection or broken wire.	Make repair.
	Gate is twisted.	See your John Deere dealer.
Green light goes out while baling.	Gate latch switch not adjusted properly.	Adjust switch. (See Adjusting Gate Latch Switch in Service section.)
	Gate latch not adjusted properly.	Adjust gate latch. (See Adjusting Gate Latch Stop in Service section.)
	Tractor hydraulic valve leaking oil into baler.	Repair tractor hydraulic valve. See your John Deere dealer.
	Air in hydraulic system.	Open and close gate several times to remove air.
	Internal leak in gate hydraulic cylinder.	Repair or replace cylinder. See your John Deere dealer.
Gate not latched. Green light on.	Defective switch.	Check Microswitch. Replace if necessary. (See Checking Microswitches in Service section.)
	Shorted wire to baler or tractor frame.	Repair wire.
Gauges read low or uneven with tight well-shaped bale.	Gauge sending units not adjusted properly.	Adjust sending units. (See Adjusting Bale Shape Senders in Service section.)
	Defective gauge or sending unit.	Replace defective part. See your John Deere dealer.

Continued on next page

Symptom	Problem	Solution
Bale shape gauges will not function. Lights OK.	Reversed polarity on electrical hookup.	Refer to wiring diagram in Service section.
Lights too bright or too dim.	Dimmer switch in wrong position.	Flip switch.
Intermittent buzzer actuation while operating in rough ground conditions.	Bale size microswitch is tripped intermittently due to movement in the pump trip linkage.	Slow down travel speed.
		Reset bale size switch to just actuate when bale size linkage is extended and switch roller is centered on knob.
Buzzer will not operate.	Wrong polarity.	Male connector of plug must be positive off tractor battery. (See Installing Convenience Outlet in Preparing the Tractor section.)

EX,435O,B -19-09SEP88

FEEDING DIFFICULTIES

Symptom	Problem	Solution
Baler won't feed hay, plugged at feed opening.	Missing pickup teeth.	Replace teeth.
	Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust pickup drive belt or replace belt if necessary. (See Adjusting Pickup Drive Belt in Service section.)
	Compressor rack too low.	Raise rack. (See Adjusting Compressor Rack Assembly in Operating the Baler section.)
	Gate opening while baling.	Adjust gate latch. Correct leaky gate hydraulic cylinders and/or tractor valve.
	Plugging at crop dividers.	See "Plugging at crop dividers" in Pickup Difficulties of Troubleshooting section.
	Gate not closed and/or latched (Green light out).	Eject bale. Close gate.
	Incorrect belt routing.	Properly route belts. (See Installing Belts in Service section.)
	Clutch not adjusted properly.	Adjust clutch. (See Adjusting Drive Slip Clutch in Service section.)
	Wrappage of foreign material on starter roll.	Remove material.
	Large windrows and/or too fast ground speed.	Reduce windrow size and/or reduce speed.
Baler will not feed short, dry, slick or brittle crops. (Refer to Baling Short, Dry, Slick Crops in Operating the Baler section.)	Excessive buildup on top of compressor rack.	Remove compressor rack assembly. (See Removing Compressor Rack in Operating the Baler section.)
	Pickup drive idler not adjusted properly or pickup belt damaged.	Adjust pickup drive belt or replace belt, if necessary. (See Adjusting Pickup Drive Belt in Service section.)
	PTO speed too fast.	Reduce engine speed to 1500 rpm and shift to higher gear.
	Bale density too high.	Decrease density.
	Pickup too low.	Raise pickup. (See Adjusting Pickup Height in Operating the Baler section.)

Continued on next page

Symptom	Problem	Solution
	Windrows too small.	Make larger windrows by raking.
	Weathered windrows (rained on several times).	Make larger windrows by raking.
Baler will not feed cornstalks. (Refer to Baling Cornstalks in Operating the Baler section.)	Pickup too high.	Lower pickup. Install flotation tires.
	Windrows too large.	Make windrows smaller.
	Missing pickup teeth.	Replace teeth.
	Pickup drive idler not properly adjusted or pickup belt damaged.	Adjust pickup drive belt or replace belt, if necessary. (See Adjusting Pickup Drive Belt in Service section.)
Baler will not feed wet hay.	Surface moisture on bottom of windrow.	See Baling Wet Hay in Operating the Baler section.

EX,435O,C -19-12SEP88

PICKUP DIFFICULTIES

Symptom	Problem	Solution
Pickup teeth do not revolve.	Belt slipping.	Replace or adjust belt. (See Adjusting Pickup Belt Idler in Service section.)
	Drive chain broken or missing.	Repair or replace.
	Broken cam and/or other internal pickup parts.	Check for failed or worn cam and/or internal parts.
Pickup will not float or drop freely.	Excess or insufficient float assist.	Adjust float spring. (See Adjusting Pickup Float Springs in Service section.)
	Binding between flare and end strippers.	Remove chaff and dirt. Straighten any bent parts.
		Install gauge wheel(s) to improve ground gauging.
Not picking up hay cleanly.	Pickup teeth set too high.	Lower pickup. (See Adjusting Pickup Height in Operating the Baler section.)
	Pickup stays up.	Loosen float spring. (See adjusting Pickup Float Spring in Service section.)
	Ground speed too fast.	Reduce ground speed.
	Windrows too light.	Rake heavier windrows.
	Pickup teeth bent or broken.	Straighten or replace teeth.
Pickup teeth digging in ground.	Pickup set too low.	Raise pickup. (See Adjusting Pickup Height in Operating the Baler section.)
	Poor pickup flotation.	Tighten float springs. Check pivots. (See Adjusting Pickup Float Springs in Service section.)
	Rough terrain.	Install gauge wheel.
Pickup tooth breakage.	Pickup set too low.	Raise pickup. (See Adjusting Pickup Height in Operating the Baler section.)
	Foreign material inside pickup strippers and/or broken teeth.	Remove material and/or replace teeth.
Pickup too high in down position.	Wheel spindles installed upside down.	Correctly install spindles.

Continued on next page

Symptom	Problem	Solution
Plugging at crop dividers.	Overcrowding ends.	Reduce crowding. Install converging wheels. (See Attachment section.)
	Pickup set too low.	Raise pickup. (See Adjusting Pickup Height in Operating the Baler section.)
	Tractor tires smashing crop into stubble.	Widen wheel spacing.
	Pivoting crop divider overlaps (shingles) stationery end stripper on the wrong side.	Straighten pivoting crop divider as needed to give proper overlap (shingle). Front crop dividers should be inside end stripper.
Inside of strippers worn.	Strippers bent up hitting tooth coils.	Check for binding at crop dividers.
		Increase float. (See Adjusting Pickup Float Springs in Service Section.)
		Raise pickup. (See Adjusting Pickup Height in Operating the Baler section.)
		Install gauge wheels. (See Attachment section.)
		Bend strippers down for clearance and check tooth coils on pickup teeth for damage.

EX,435O,D -19-12SEP88

BALE QUALITY

Symptom	Problem	Solution
Cone shaped bale. Monitor gauges read high and even.	Bale shape senders out of adjustment.	Adjust. (See Adjusting Bale Shape Senders in Service section.)
	Broken spring on sender arm.	Replace spring.
	Defective gauge or sending unit.	Replace defective part. See your John Deere dealer.
	Outside belts are not the same length.	Belts should be the same length within 38 mm (1-1/2 in.). See Repairing Belts in Service section.
Barrel shaped bale. Gauges read high and even in green.	Bale shape senders not adjusted properly.	Adjust. (See Adjusting Bale Shape Senders in Service section.)
	Outside belts too short.	Check and correct belt length. (See Repairing Belts in Service section.)
Baler will not make dense bales.	Density control adjusted for light bales.	Adjust for heavier bale. (See Adjusting Bale Density in Operating the Baler section.)
	Internal leak in belt tension hydraulic cylinder.	See your John Deere dealer.
	Dirty or defective relief valve.	See your John Deere dealer.
	Bale ends not filled tightly.	Crowd more hay in ends of baler. (See Forming a Bale in Operating the Baler section.)
	Extremely light crop conditions.	Make larger windrows by raking.
	Dirty hydraulic oil in tractor.	Change tractor filter and/or oil.
	Bale forming belts too short or too long.	Check length and correct. (See Repairing Belts in Service section.)
Baler will not make full size bale.	Bale size knob not adjusted to maximum bale size.	Adjust knob to maximum bale size. (See Adjusting Bale Size in Operating the Baler section.)
	Twine trip bell crank arm not adjusted properly.	Check adjustment. (See Adjusting Twine Trip Rod and Valve Latch Clearance in Service section.)
	Bale forming belts are too short.	Increase belt length to recommended length. (See Repairing Belts in Service section.)

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Symptom	Problem	Solution
	Pump latch adjustment incorrect.	Adjust. (See Checking Pump Drive Latch Adjustment in the Service section.)
Ends of bale have rough appearance (dry hay crops).	Gate fillers installed for high moisture crops.	Remove fillers.
	Not filling bale ends properly.	Drive to fill bale ends. (See Forming Belts in Operating the Baler section.)

EX,435O,E -19-12SEP88

GENERAL BALER DIFFICULTIES

Symptom	Problem	Solution
Gate opens while baling. (Green light goes out)	Gate not latched.	When closing gate, hold tractor selector valve until green light comes on.
	Gate latches not adjusted properly.	Adjust gate latches. (See Adjusting Gate Latch in Service section.)
	Gate latch switches not adjusted properly.	Adjust switches. (See Adjusting Gate Latch Switch (Green Light) in Service section.)
	Tractor selector valve leaking.	See your John Deere dealer.
	Internal leak in baler hydraulic system.	See your John Deere dealer.
	Gate sprung.	Straighten. See your John Deere dealer.
Gate not latched. Green light not on.	Obstruction between gate and frame.	Remove obstruction.
	Hay buildup on belts in gate area in some crop conditions.	Remove buildup. Operate PTO while closing gate.
	Too much clearance between latch hooks and shim pad.	Adjust gate latch stop. (See Adjusting Gate Latch Stop in Service section.)
	Gate sprung.	Straighten. See your John Deere dealer.
	Hay buildup at gate latch area due to misrouting of hydraulic pickup lift hoses.	Route hoses correctly.
Belts do not track properly.	Belt tracking rollers out of adjustment.	Adjust rollers. (See Adjusting Belt Tracking in Service section.)
	Twine or mud buildup on baler rolls.	Remove buildup.
	Belts not cut square when splicing.	Resplice belt. (See Repairing Belts in Service section.)
	Bad bearing on roller.	Rotate all rollers by hand and inspect for loose bearings, etc.
	Belts not routed correctly.	See belt routing diagram and reroute belts. (See Installing Belts in Service section.)
	Belts not correct length.	Correct belt length. (See Repairing Belts in Service section.)

Continued on next page

Symptom	Problem	Solution
Bale density gauge reading in red.	Tractor selector valve not in neutral position while baling.	Move hydraulic lever to neutral while baling.
	Defective density gauge.	Replace gauge. See your John Deere dealer.
	Defective bale density valve cartridge.	Replace or repair valve. See your John Deere dealer.
Bale forming belts rubbing together.	Upper belt tension roll in shipping position.	Move to operating position. (See Adjusting Belt Tracking in Service section.)
	Crop or mud buildup on rollers.	Clean rollers.
	Belt tension arm not fully down.	Lower tension arm with tractor hydraulic lever.
	Belts not routed properly.	See belt routing diagram and reroute. (See Installing Belts in Service section.)
	Belts too short.	Repair belts. (See Repairing Belts in Service section.)
Starter roll wraps with hay.	Pickup drive slipping.	Adjust drive or replace belt. (See Adjusting Pickup Belt Idler in Service section).
	Windrow wet on bottom.	Turn windrow. (See Baling Wet Hay in Operating the Baler section.)
	Ground speed and rpm too high when starting bale.	Reduce rpm until bale core has formed.
	Windrow too large.	Decrease windrow size.
	Material pinched under pickup crop divider, tire, or gauge wheels.	Start bale with windrow centered on pickup. Converging wheels may help for scattered windrows.
	Nicks or rough places on starter roller.	Smooth with file.
	Damp hay.	Install silage bundle. (See Silage Bundle in Attachment section.)
Bale density control knob hard to turn.	Locking ring locked against valve body.	Unscrew locking ring before adjusting density control knob.
	Dry thread on adjusting screw.	Apply a few drops of oil or a dry graphite lubricant to the threads.

Continued on next page

Symptom	Problem	Solution
	Raised gate and/or belt tension arm causes additional turning resistance.	Adjust with gate closed and belt tension arm down. (See Adjusting Bale Density in Operating the Baler section.)
Belt lacing failure.	Extended usage wearing hooks thin at the splice pin.	Replace lacing pins when plastic coating is worn through.
	Improper belt splice hooks or poor quality splice.	Repair belts. (See Repairing Belts in Service section.)
	Belts are not the same length.	Repair belts. (See Repairing Belts in Service section.)
Belt slipping or not turning.	Belt tension arm not returning all the way down to tension belts.	Operate tractor at full rpm when closing gate to ensure tension arm tightens belts before green light comes on.
	Belts too long.	Check belts for proper length. (See Repairing Belts in Service section.)
Gate latch closes or locks before gate is closed.	Gate lock valve spool is not in full unlocked position (snap ring should be against housing).	Make sure valve spool is not binding. If handle contacts bracket before spool is fully out, bend bracket slightly to allow full travel of valve spool in both directions.
Bale sticks in chamber.	Paint on side sheets of new baler.	Reduce density until baler has made several bales to polish side sheet. (See Adjusting Bale Density in Operating the Baler section.)
	Bale density too high.	Lower bale density at control valve.
	Bale sticks in front frame due to damp crop.	Install crop deflectors. (See Silage Bundle in Attachment section.)
	Excessive side sheet friction caused by “gummy” buildup on side sheets.	Remove buildup. Be sure crop deflectors are installed in gate.
Damage to belt diamond pattern. Belts cut or broken.	Material buildup on compressor rack causing belts to contact starter roll.	See Baling Short, Dry, Slick Crops and Baling Cornstalks in Operating the Baler section.
	Foreign objects in windrow (rocks, sticks, etc.).	Operate with pickup as high as possible.
		Remove foreign objects from windrow.
	Wrappage on lower drive roll forcing belt into starter roller.	Remove wrappage.

Continued on next page

Symptom	Problem	Solution
		Install silage bundle. (See Silage Bundle in Attachment section.)
Belt edges fuzzy.	Normal break-in.	After break-in period, the fuzzing will stop.
Wear on belt guides and/or tension arm.	Improper belt tracking or tension arm not centered.	Adjust belt tracking or extension arm. (See Adjusting Belt Tracking in the Service section.)
Belts pinched between lower gate roller and axle tube.	Gate is closing before tension arm removes slack from belts.	Operate tractor at full rpm when closing gate to ensure that tension arm tightens belts. If operating with low hydraulic flow tractor, see Installing Orifice in Tractors with Low Hydraulic Flow in the Service section.
Belts turn over or cross.	Closing gate with PTO engaged and strong winds prevailing and/or side hill operation.	Disengage PTO before opening gate.
	Operating baler empty with gate up and no tension on belts for extended periods.	Do not operate in this manner for an extended time.
	Driving too long on one side of windrow at bale start. Hay pushes out between belts.	Center pickup on windrow at bale start.
Tension arm rubbing side sheet.	Tension arm not centered between sides.	Adjust tension arm. (See Adjusting Belt Tracking in Service section.)

EX,435O,F -19-12SEP88

SILAGE BUNDLE DIFFICULTIES

NOTE: Refer to Baling Wet Hay in Operating the Baler section for proper baling procedures when making silage bales.

Symptom	Problem	Solution
Starter roll wraps with scraper installed.	Bent scraper bar or too much clearance between scraper and starter roll bars.	Straighten scraper bar. Adjust bar to obtain 0.5 to 1.0 mm (0.02 to 0.04-in.) clearance between scraper bar and starter roll bars.
	Nicks on starter roll bars catch hay.	Remove nicks with a file.
Staggered roll spirals wrap.	Weld not on trailing side of spiral. Nicks or excess weld catches hay.	Relocate welds on trailing edge of spirals. Remove nicks by filing or grinding.
	Excessive scraper clearance.	Adjust scraper to obtain 0.5 to 0.8 mm (0.02 to 0.03-in.) clearance to spirals on the roll.
Staggered belt roll wraps in center of roll.	Acceptable if not over 8 mm (5/16 in.) thick. Generally does not continue to grow.	Remove wrappage once a day or as necessary.
Ticking noises while running empty baler.	Scrapers contacting spirals or starter roll bars. Spirals contacting side sheet.	Adjust scraper to obtain 0.5 to 0.8 mm (0.02 to 0.03-in.) clearance to spiral on the roll. Center roll in side sheet as necessary.
Loose buildup over spiral scrapers	Normally occurs on downhill side and self-cleans on uphill side.	Remove once a day or as necessary.
Belts slipping or not turning.	Excessive side sheet friction caused by “gummy” buildup on side sheets.	Be sure crop deflectors are installed in gate.
		Remove buildup by scraping or high-pressure washer
		Avoid baling when moisture content causes “gummy” buildup. Bale crop when moisture content is different.
Bale does not eject.	Bale sticks in front frame due to “gummy” buildup on baler sides.	Remove buildup. Be sure crop deflectors are installed in gate.
		Avoid baling when moisture content causes “gummy” buildup. Bale crop when moisture content is different.

EX,435O,G -19-12SEP88

PRACTICE SAFETY

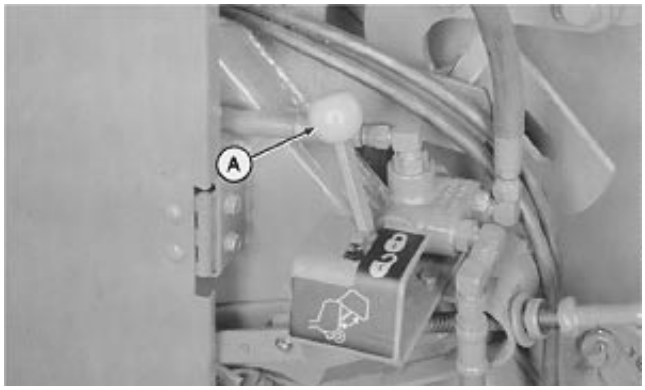
CAUTION: Before servicing or adjusting baler:

1. **Disengage all power.**
2. **Shut off engine.**
3. **Wait until all moving parts have stopped.**

While working inside or around the baler with an open gate, the gate lock lever (A) must be moved to locked position. Use this safety feature any time gate is open. Close gate anytime the baler must be left unattended.

If bale push bar is installed, be sure bystanders are clear and there is sufficient clearance behind baler when opening gate for service.

If gate is partially raised, push bar may remain in the home position held only by slight spring force. If arms are pushed backwards, they will spring upward slowly under spring force. When servicing machine with gate open, raise gate fully and lock the gate, or lock out push bar. (See Locking Out Bale Push Bar in Operating the Baler section.)



E21627 -UN-12SEP88

EX,435P,A -19-12SEP88

MOUNTING TIRES

Mounting a tire without the proper equipment can be very dangerous.

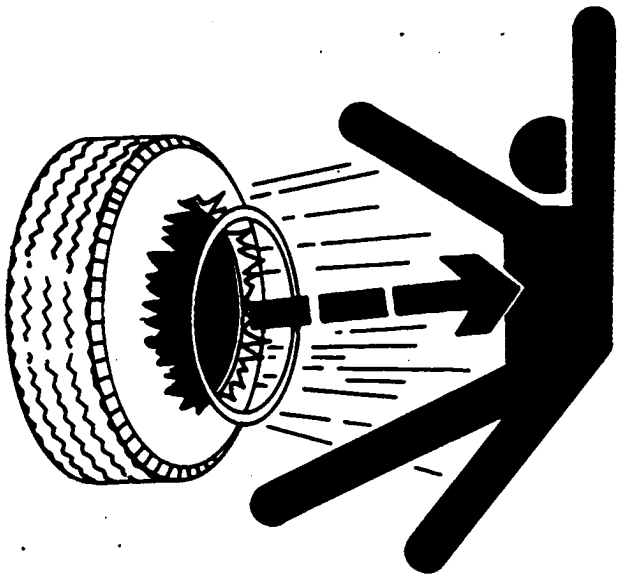
CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.

Only attempt to mount a tire if you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified repair service.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

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.

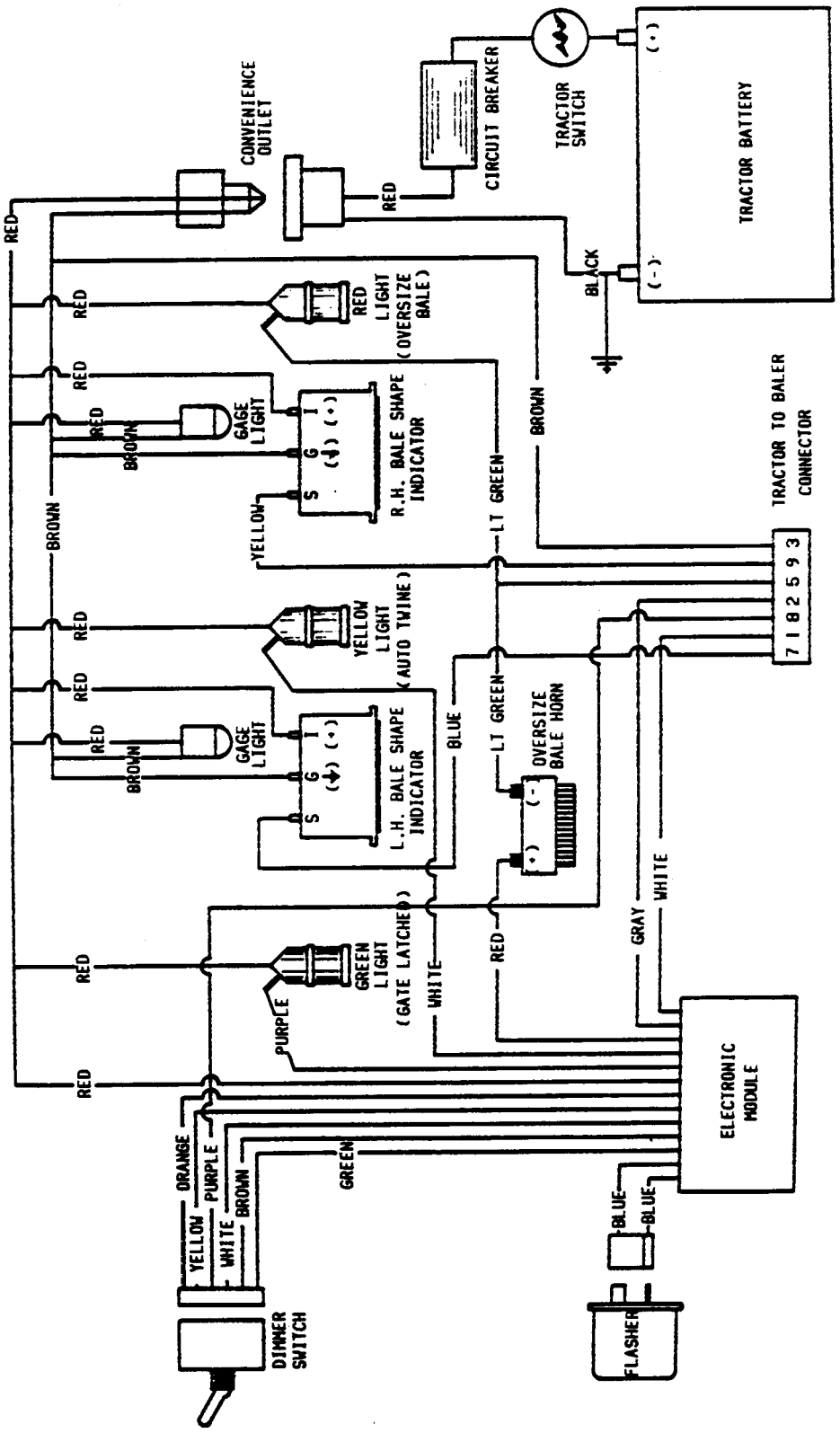
Inspect tires and wheels daily. Do not operate with low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



TS211 -UN-23AUG88

EX,435P,B -19-12SEP88

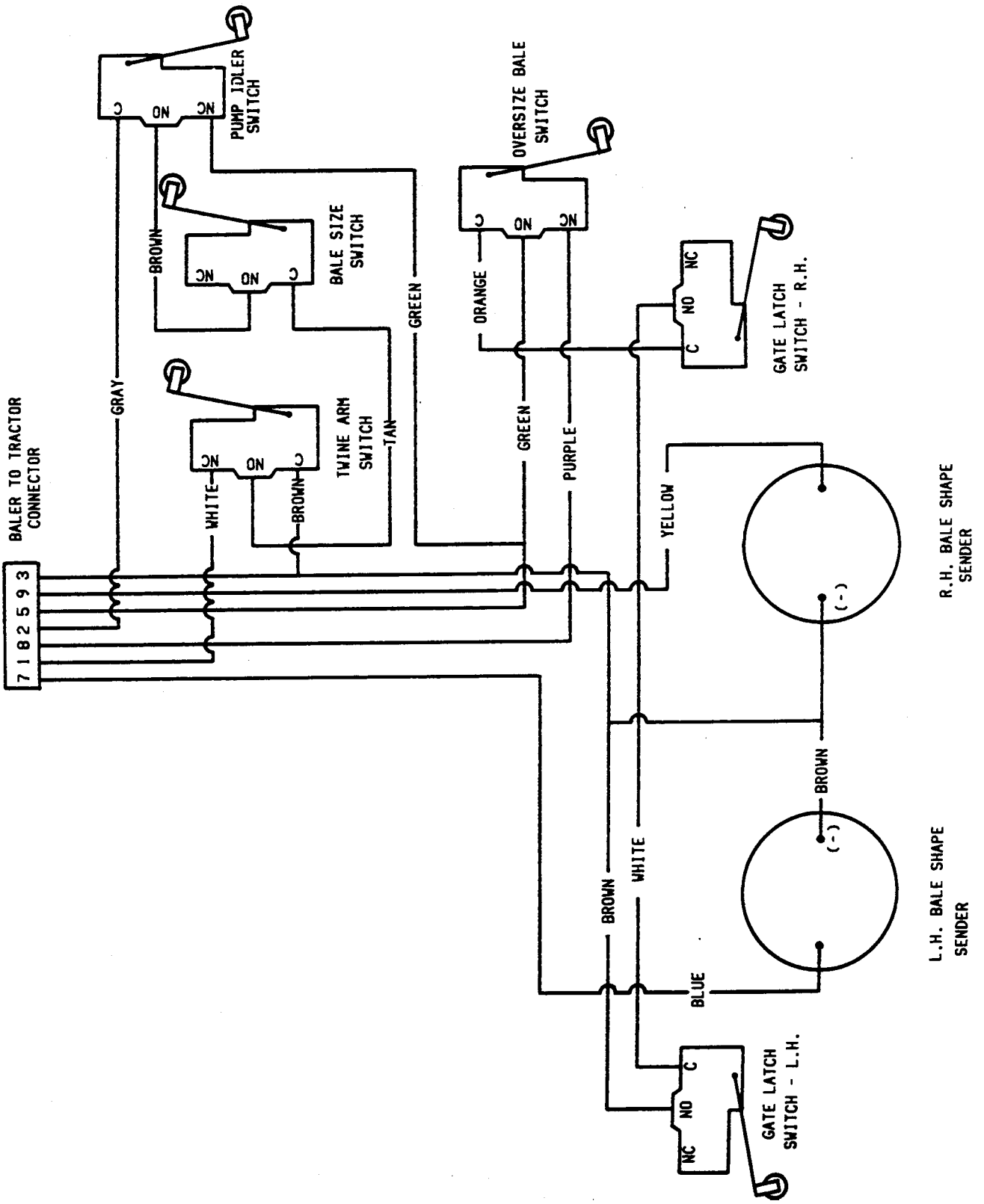
TRACTOR/MONITOR WIRING DIAGRAM



E32599 -19-23NOV88

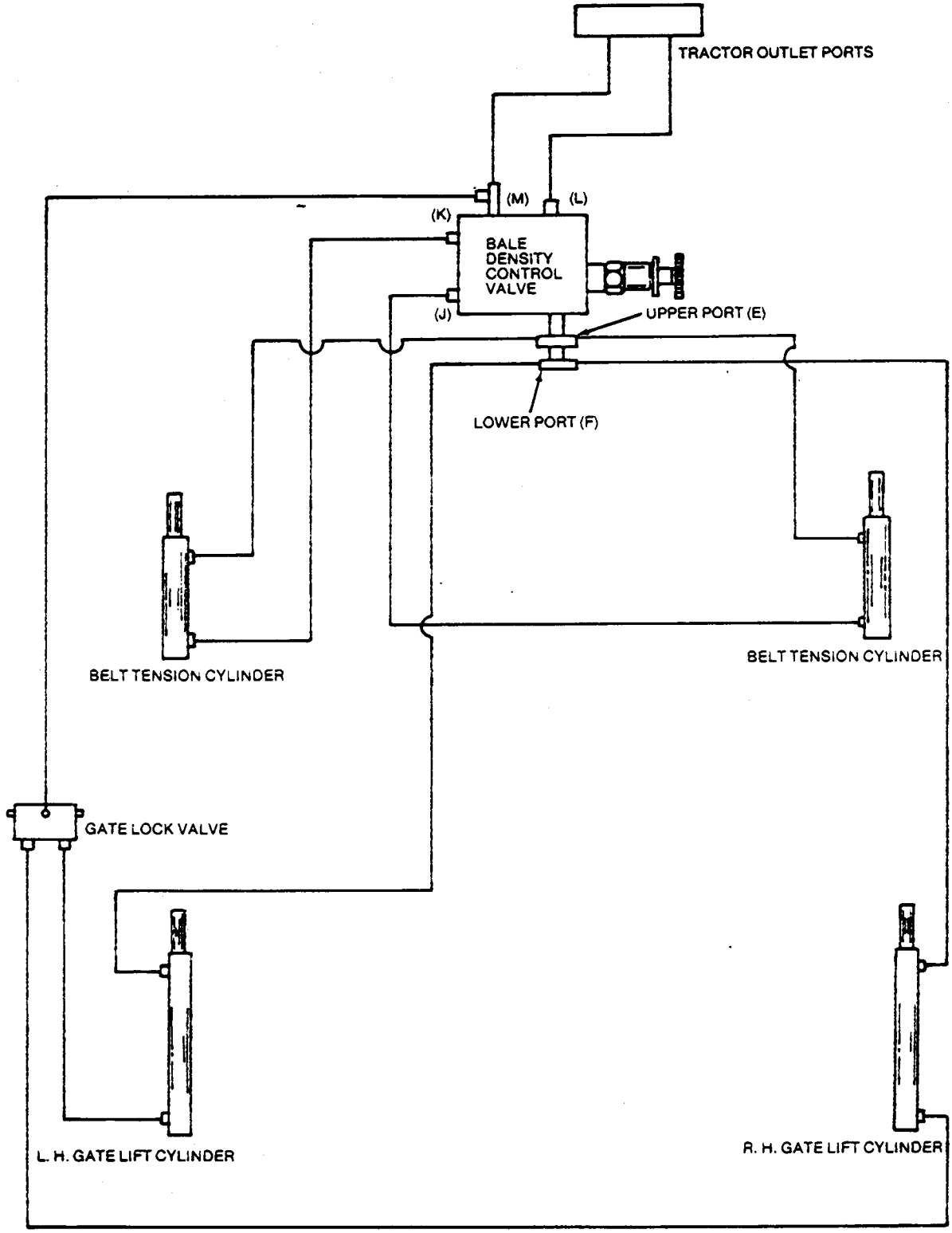
EX,435P,C -19-02NOV88

BALER WIRING DIAGRAM



EX,435P,CG -19-02NOV88

BALE TENSION AND GATE HYDRAULIC SYSTEM



-19-23NOV88

E21742

EX,435P,D -19-02NOV88

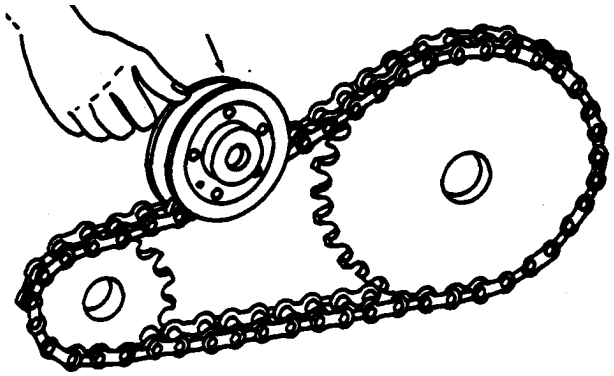
ADJUSTING CHAINS

To ensure that all slack is removed from chains, close gate and engage PTO a few seconds. Shut off tractor.

Adjust tension on all roller chains by loosening idler mounting bolts and pressing idler against chain with 22 to 44 N (5 to 10 lb) pressure.

Tighten idler mounting cap screw to 163 N·m (120 lb-ft).

Readjust if necessary.

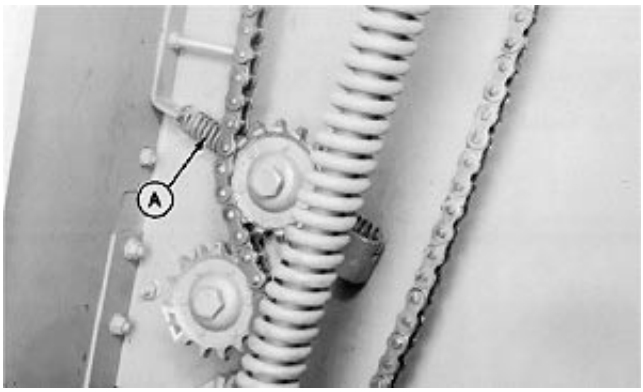


E21791 -UN-03OCT88

EX,435P,E -19-13SEP88

ADJUSTING UPPER DRIVE ROLL CHAIN

If dimension between hooks on spring (A) is less than 150 mm (5-29/32 in.), remove one link from drive chain.

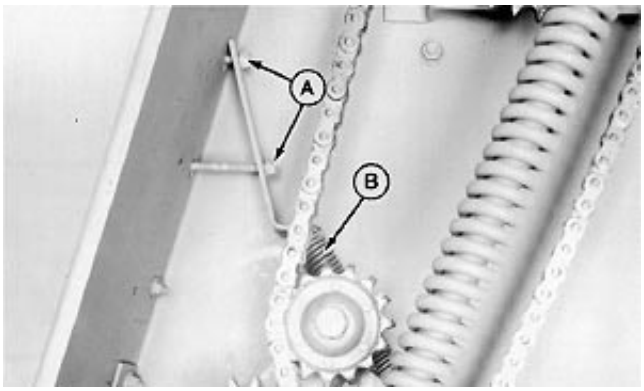


E32173 -UN-12SEP88

EX,435P,F -19-02NOV88

SERVICING UPPER CHAIN AND IDLER

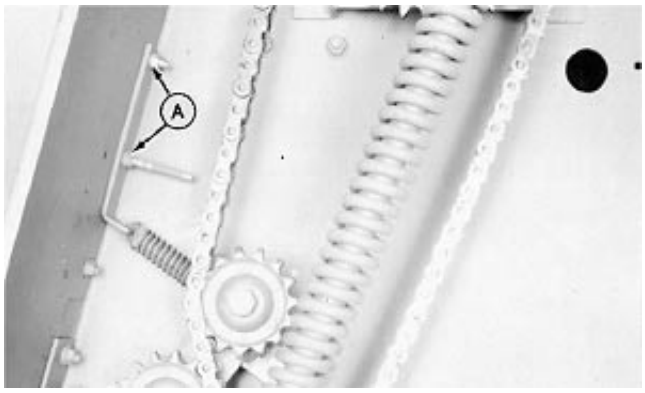
1. Loosen nuts (A) to release spring tension. Remove spring (B). Chain and idler are now free to remove or replace.



E32174 -UN-14NOV88

EX,435P,G -19-02NOV88

2. To reassemble, install spring and tighten nuts (A).



EX,435P,H -19-02NOV88

ADJUSTING DRIVE SLIP CLUTCH

Check slip clutch spring length if excessive slipping occurs during operation or if is has been disassembled.

For 540 rpm, the clutch is properly adjusted when dimension (A) is 35 mm (1-3/8 in.) from end coil to end coil.

For 1000 rpm, the clutch is properly adjusted when dimension (A) is 41 mm (1-5/8 in.) from end coil to end coil.

IMPORTANT: The slip clutch has been designed to furnish protection to the drive train; overtightening will decrease this protection.

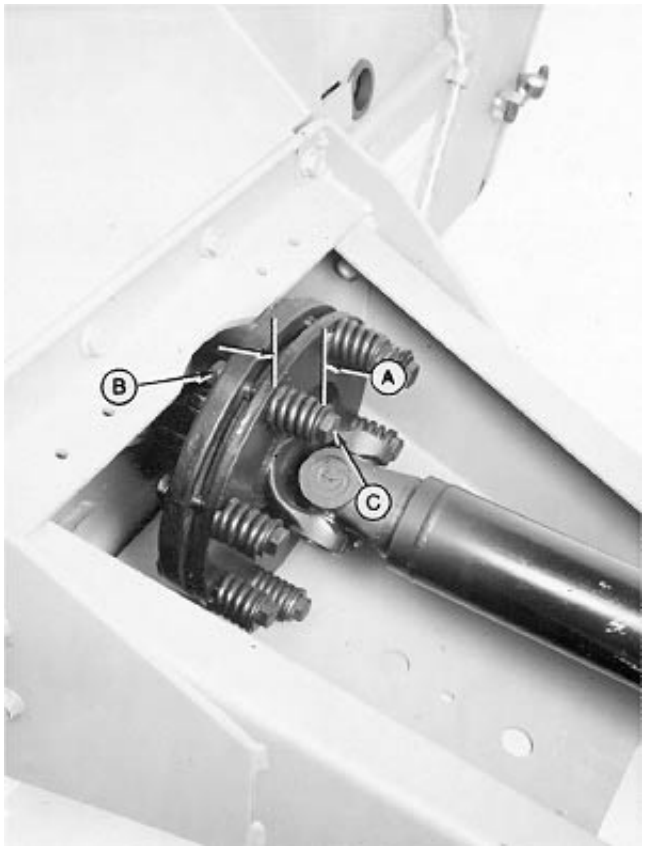
To adjust slip clutch:

1. Shut off tractor engine.

2. Loosen jam nut (B).

3. Turn spring adjusting bolt (C) until proper spring dimension (A) is attained.

4. Tighten jam nut (B).



A—35 mm (1-3/8 in.) 540 rpm
—41 mm (1-5/8 in.) 1000 rpm
B—Jam Nut
C—Adjusting Bolt

EX,435P,I -19-02NOV88

CHECKING BELT TRACKING

1. Remove any wrappage or buildup on rollers.

2. Determine if gate closes evenly by moving tractor selector valve to float with the tractor shut off. If both sides contact at the bottom, proceed. If there is a gap on one side when the other side is contacting, see your John Deere dealer for proper procedure to straighten the gate.

3. Adjust gate latches properly. (See Adjusting Gate Latch Stop in this section.)

4. Park baler on a level surface. With baler empty and gate closed, engage PTO and run at slow speed. Check the tracking of the belts.

NOTE: Lock gate with hydraulic valve and raise tension arm with tractor selector control valve to release belt tension before adjusting rollers.

5. Shut off tractor engine and adjust rollers, if necessary. (See Adjusting Belt Tracking on the following pages.)

EX,435P,K -19-02NOV88

ADJUSTING BELT TRACKING

IMPORTANT: Belt tracking must be checked before adjustments are made. (See Checking Belt Tracking on preceding page.)

NOTE: Refer to illustration on facing page.

1. If belts are not centered at the lower belt guide (D), make the following adjustment:

• If belts track to the right, raise left-hand end of lower rear gate roller (C).

• If belts track to the left, raise right-hand end of lower rear gate roller (C).

NOTE: If optional surface wrap is installed, adjustment is made only on right-hand end of lower rear gate roller.

2. If belts are not centered at the upper front belt guide (I), make the following adjustments:

• If belts track to the right, raise the right-hand end of the front idler roller (F).

• If belts track to the left, raise the left-hand end of the front idler roller (F).

3. If belts are not centered at the upper rear guide, make the following adjustment:

• If belts track to the right, move the right-hand end of the take-up roller (J) in the direction shown in the short leg portion of the “L” shaped slot.

• If belts track to the left, move the left-hand end of the take-up roller (J) in the direction shown in the short leg portion of the “L” shaped slot.

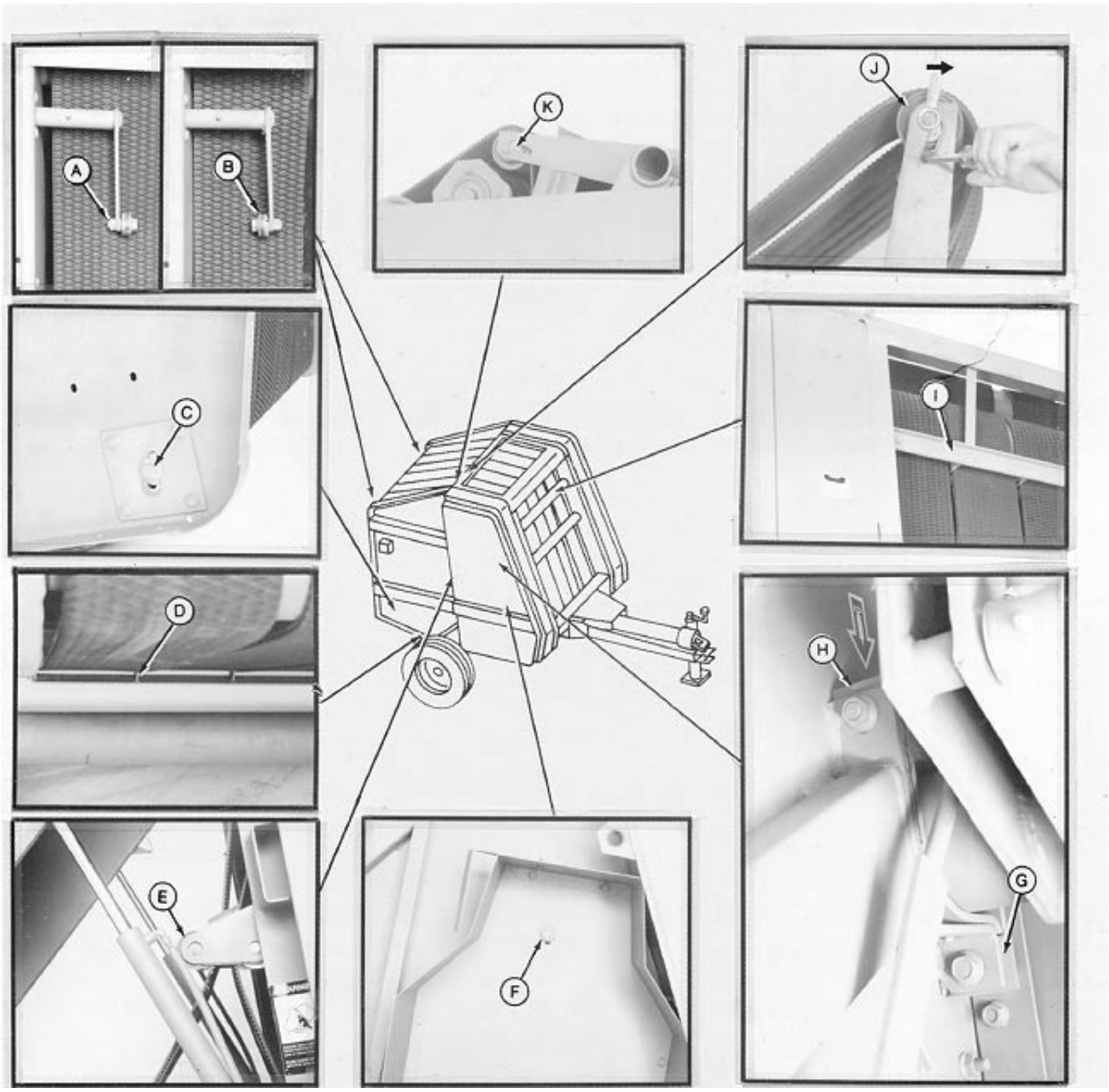
4. If outside belts track to the outside rubbing the lower belt guide (D) or side of baler, adjust as follows:

• Move the roller from the normal outside position (B) on the sender arm to the inside position (A). The belt will track towards the middle of the baler.

5. If tension arm is rubbing inside of side sheet and/or the outside belt is rubbing hard at the rear tip of the tension arm (E), make the following adjustment:

• Center tension arm at the front pivot brackets by transferring shims (G) and (H) from one side of baler to the other side.

EX,435P,L -19-03NOV88



A—Inside Position
B—Normal Position
C—Lower Rear Gate Roller
D—Lower Belt Guide
E—Tension Arm Tip
F—Front Idler Roller
G—Pivot Bracket Shims
H—Tension Arm Spacers
I—Upper Front Belt Guide
J—Take-Up Roller
K—Take-Up Roller Normal Operation Position

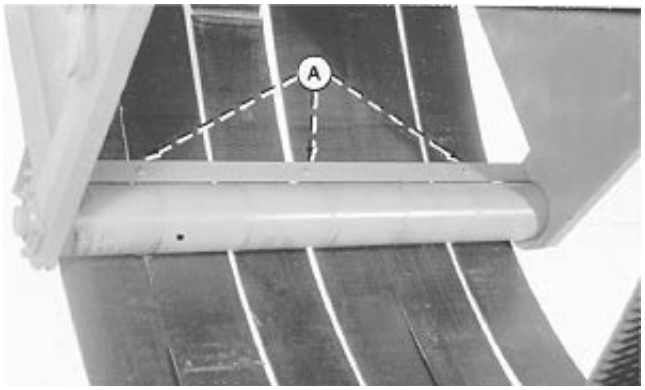
EX,435P,M -19-03NOV88

ADJUSTING LOWER FEED ROLL SCRAPER

1. Open gate to convenient height and lock with gate lock valve.

2. Move tractor selector valve to raise belt tension arm to highest position. Shut off tractor.

3. Loosen nuts (A).

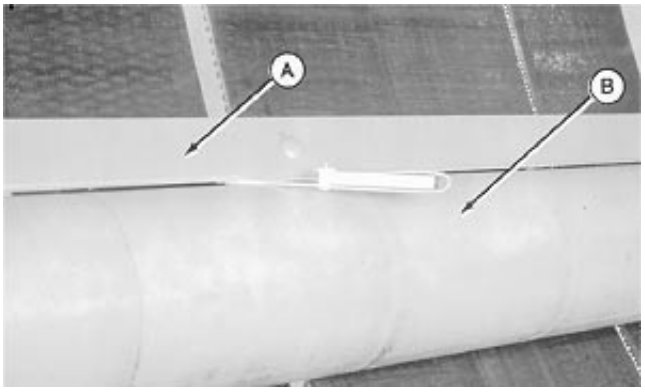


EX,435P,N -19-13SEP88

4. Set scraper (A) to clear gate roll (B) by 1 to 2 mm (1/32 to 3/32 in.).

5. Retighten nuts.

6. Roll must not contact scraper when rotated.



EX,435P,O -19-13SEP88

ADJUSTING BALE SIZE INDICATOR

1. Lock gate in closed position.

2. Using tractor selector valve, raise belt tension arm (A) to the highest position. Shut off tractor.

3. Tie rope to the hole of bale size indicator (B) and thread it through guide (C).

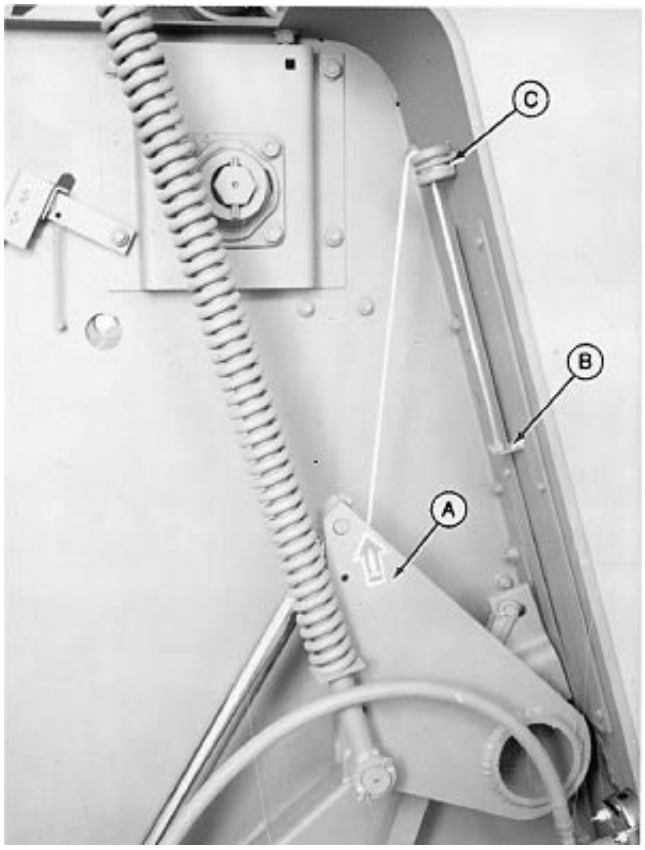
4. Tie other end of rope to belt tension arm (A).

5. Adjust rope so number “6” is centered in the bale size window (D).

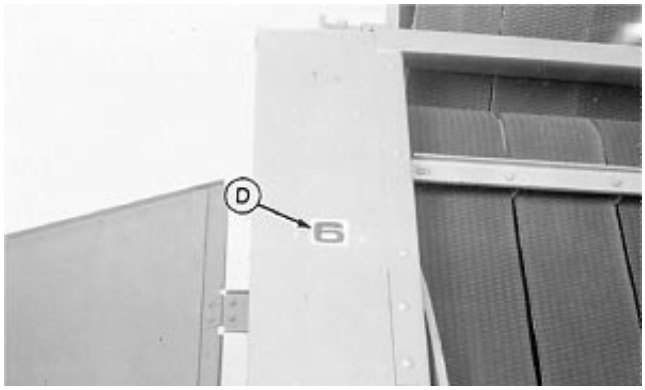
6. Using tractor selector valve, lower belt tension arm.

7. Unlock gate.

A—Belt Tension Arm
B—Bale Size Indicator
C—Guide
D—Bale Size Window



E32147 -UN-12SEP88



E32108 -UN-12SEP88

EX,435P,P -19-03NOV88

REPLACING TENSION WEAR CHANNEL

1. Raise gate and engage gate lock valve.

2. Position tension arm as shown. Shut off tractor.

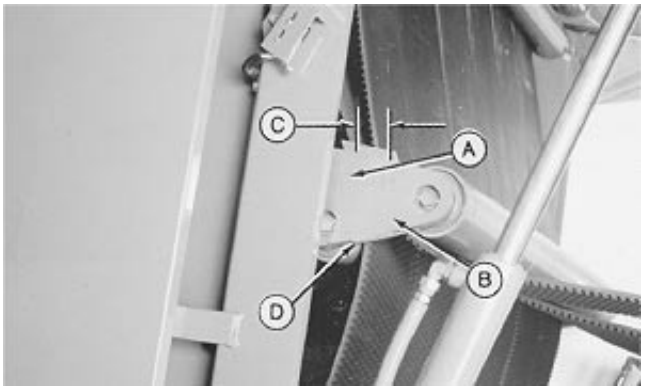
3. Remove old channel.

4. Place new channel in same location between rollers with bottom leg against arm.

5. Clamp channel flat against arm at positions (A) and (B).

6. Center a 30 mm (1-3/16 in.) (C) weld on top leg of channel.

7. Weld bottom of channel 50 mm (2 in.) starting from front edge at (D).



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E26231

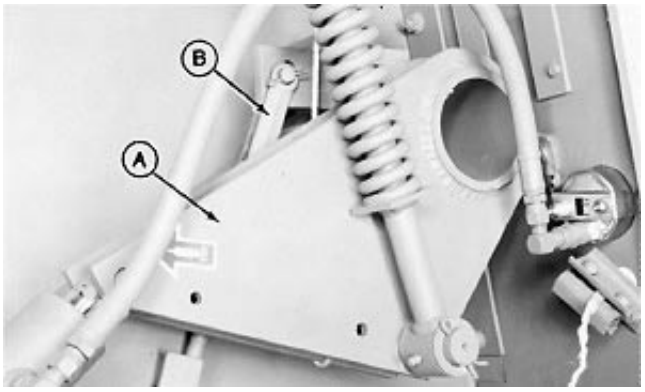
A—Clamp Position
B—Clamp Position
C—30 mm (1-3/16 in.) Weld
D— Front Edge of Channel

EX,435P,Q -19-03NOV88

ADJUSTING TWINE TRIP ROD AND VALVE LATCH CLEARANCE

1. Close gate and lower belt tension arm (A) with tractor selector valve. Shut off tractor.

2. Remove cotter pin and pin from twine trip rod clevis (B).



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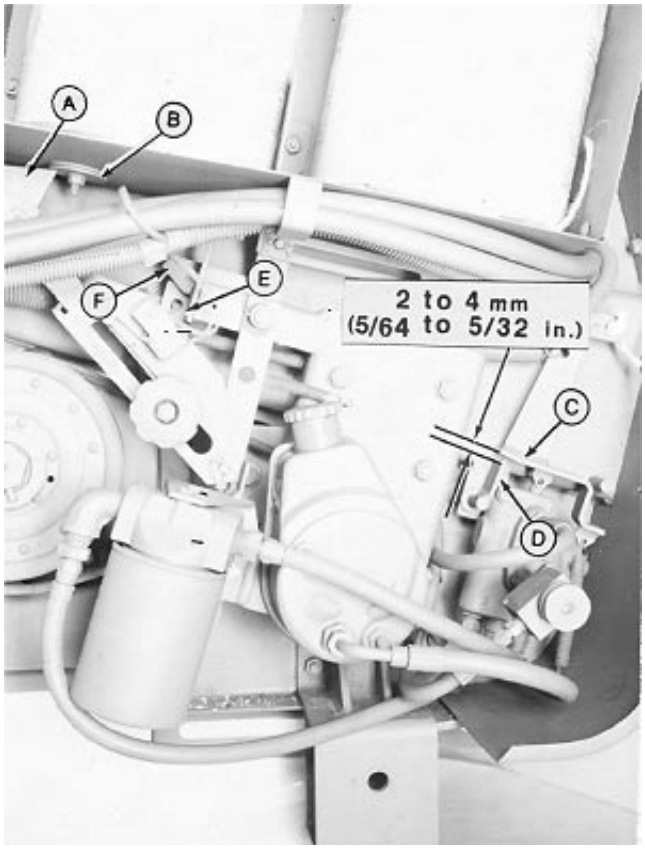
E32109

EX,435P,S -19-13SEP88

3. With bell crank (A) against stop washers (B), add or subtract washers as needed to obtain 2 to 4 mm (5/64 to 5/32 in.) between valve arm latch (C) and valve arm (D). The pump drive bell crank (E) must latch freely with the pump drive latch (F). If not, adjust by removing one stop washer.

A—Bell Crank
B—Stop Washers
C—Valve Arm Latch
D—Valve Arm
E—Pump Drive Bell Crank
F—Pump Drive Latch



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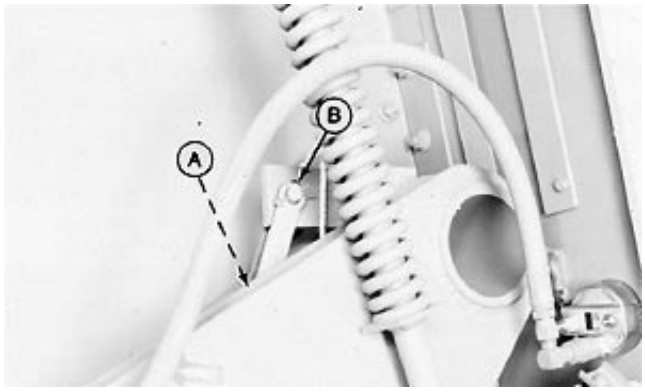
E32110

EX,435P,T -19-13SEP88

4. With bell crank against stop washer, loosen jam nut (A).

5. Adjust twine trip rod clevis so it is centered in slot (B) on belt tension arm.

6. Tighten jam nut (A). Install pin and cotter pin.



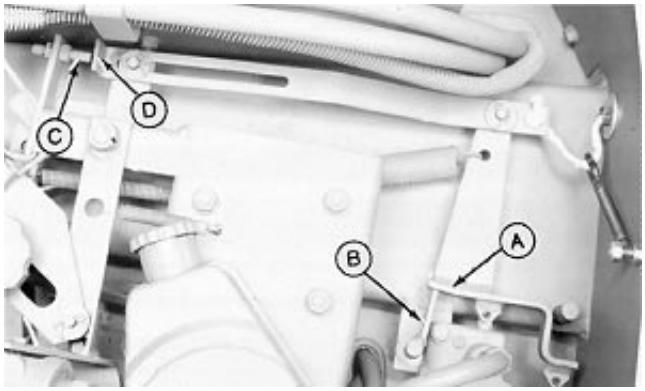
-UN-12SEP88
E32111

EX,435P,U -19-13SEP88

7. Move valve arm (A) to rear by hand until it just contacts the valve latch (B). With valve arm (A) in this position, loosen locking nuts and adjust stop pin (C) until it contact valve link (D).

8. Tighten locking nuts.

A—Valve Arm
B—Valve Latch
C—Stop Pin
D—Valve Link



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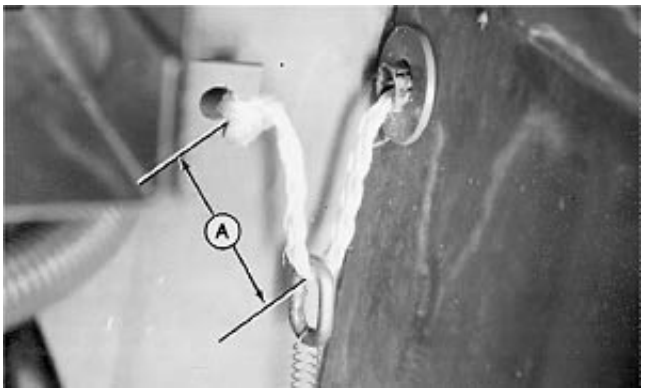
E32112

EX,435P,V -19-13SEP88

ADJUSTING TWINE TRIP ROPE



1. Raise tension arm until number “4” appears in the bale size window. Shut off tractor.

2. Pull rope from tractor seat and release. Pump linkage should be tripped (V-belt tight). If not, rope is tied too long. If pump linkage trips properly, lower tension arm fully and be sure pump linkage re-latches. If not, rope is tied too short.

If an adjustment is needed, set rope length as follows:

3. With pump trip linkage latched and rope pull strap in home position, against the baler, length of rope between the link strap and the return spring link should be 42 mm (1-21/32 in.) (A).

4. Adjust knot in front of the rope pull strap as required.

EX,435P,CP -19-11NOV88

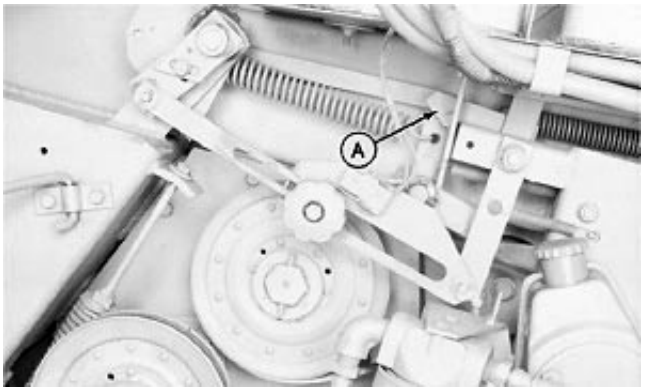
CHECKING PUMP DRIVE LATCH ADJUSTMENT

This adjustment was sealed at the factory and should not need further adjustment.

1. To check adjustment, adjust bale size knob (A) to largest bale size (all the way forward).

EX,435P,W -19-13SEP88

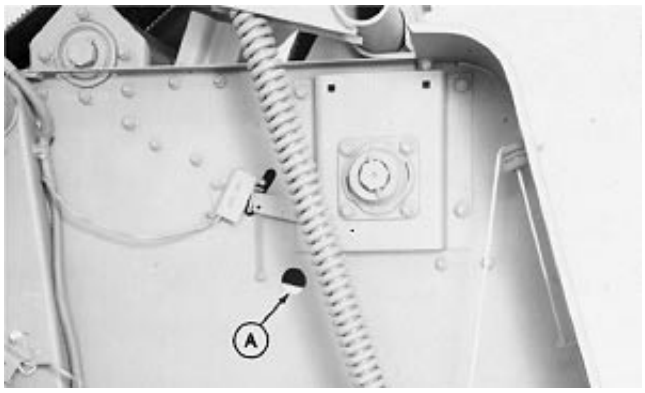
2. Lock gate and raise belt tension arm VERY SLOWLY until pump latch (A) is JUST tripped.



EX,435P,X -19-03NOV88

3. The top edge of belt tension arm (A) should be in the lower one third of the side sheet hole. If so, the pump drive latch is adjusted correctly.

If an adjustment is necessary, see your John Deere dealer.

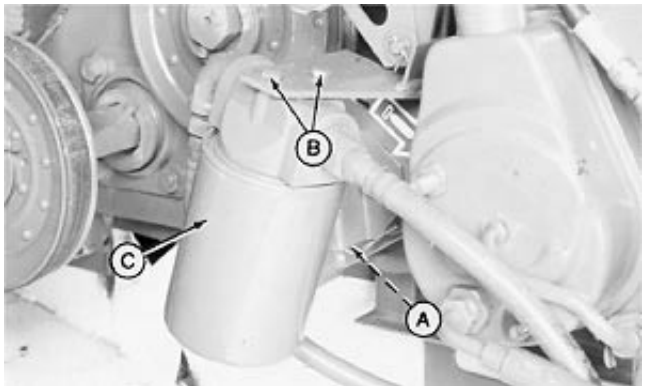


EX,435P,Y -19-03NOV88

ADJUSTING PUMP IDLER SWITCH

1. Close gate and lower tension arm fully to latch pump linkage. Shut off tractor.

2. To access switch (A), remove two cap screws (B) and lower filter assembly (C).

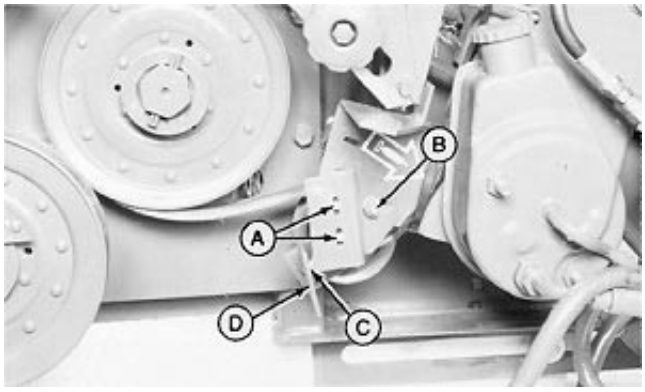


EX,435P,CM -19-11NOV88

3. Loosen screws (A) and/or cap screw (B) to obtain 1 mm (1/32 in.) clearance between roller (C) and ramp (D) with switch arm against switch body.

4. Tighten screws (A) and/or cap screw (B).

A—Screws
B—Cap Screw
C—Roller
D—Ramp



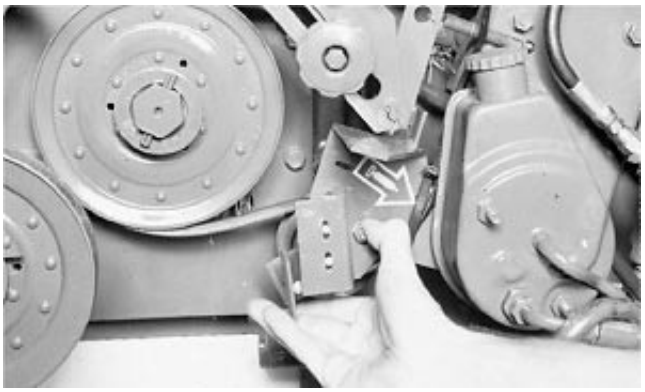
EX,435P,CN -19-11NOV88

5. Check switch adjustment by lifting pump idler arm to remove slack in the linkage. The switch must remain activated while pump idler arm is raised.

6. The switch ramp must clear the switch bracket through its full travel.

7. Raise tension arm fully to trip linkage and check for interference with the switch bracket in the upper switch ramp position.

8. Install filter assembly.



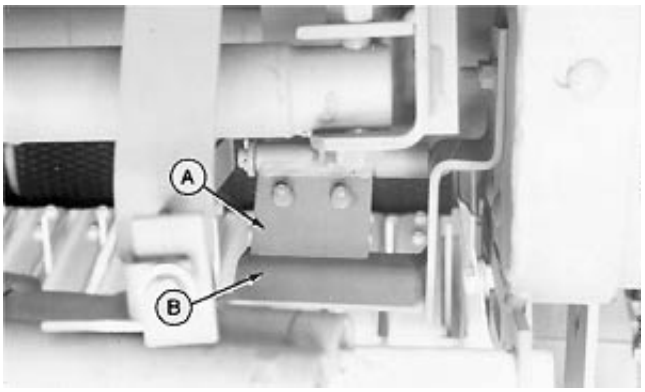
E32655 -UN-17NOV88

EX,435P,CO -19-11NOV88

CHECKING KNIFE REGISTER

With knife (A) in cutting position, full length of knife (A) should contact anvil (B). If not, align knife and anvil.

Check clearance between twine arm and anvil. (See Adjusting Twine Cutter Anvil in this section.)



E32116 -UN-12SEP88

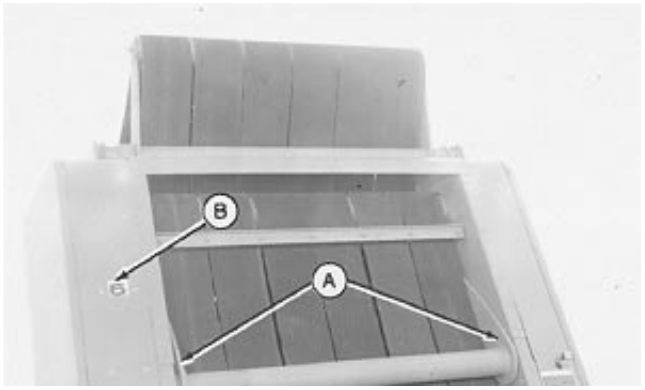
EX,435P,Z -19-03NOV88

ADJUSTING TWINE CUTTER ANVIL

1. Lock gate in closed position with gate lock valve.

2. Move tractor selector valve to raise belt tension arm (A) until the number “6” appears in bale size window (B). This will shift the twine valve to the up position allowing the twine arm to be moved by hand.

3. Shut off tractor.



E21761 -UN-03OCT88

EX,435P,AA -19-13SEP88

4. Manually move front twine arm tube (A) until centered over knife anvil (B).

5. Loosen nuts (C).

6. Adjust twine cutter assembly so clearance between knife anvil (B) and front twine arm tube (A) is 0.5 to 3.5 mm (0.020 to 0.138 in.) (D). Anvil should be level (parallel with bottom edge of frame).

7. Tighten nuts (C).

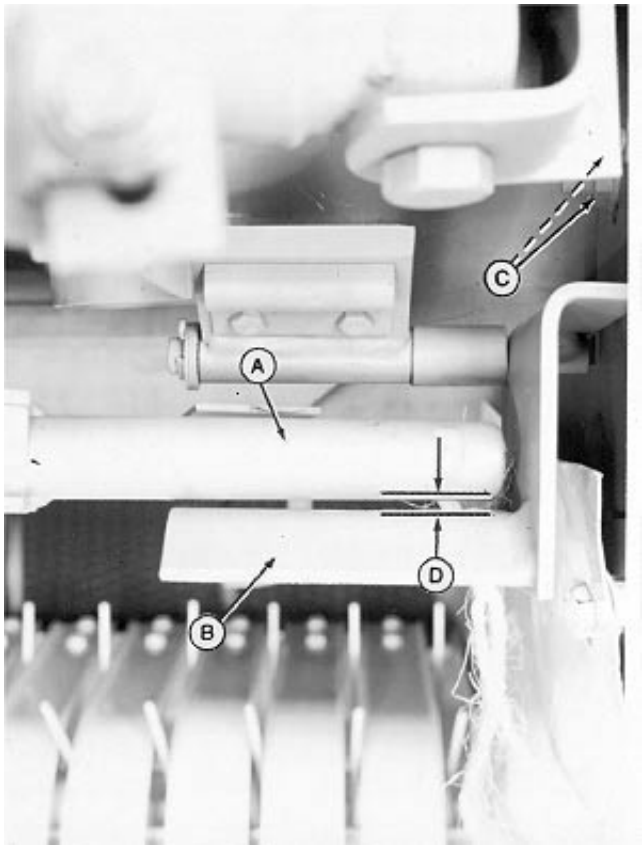
8. Manually move twine arm forward to home position.

9. Start tractor and move tractor selector valve to lower belt tension arm.

10. Shut off tractor.

11. Unlock gate.

A—Twine Arm Tube
B—Knife Anvil
C—Nuts
D—0.5 to 3.5 mm (0.02 to 0.138 in.) Clearance

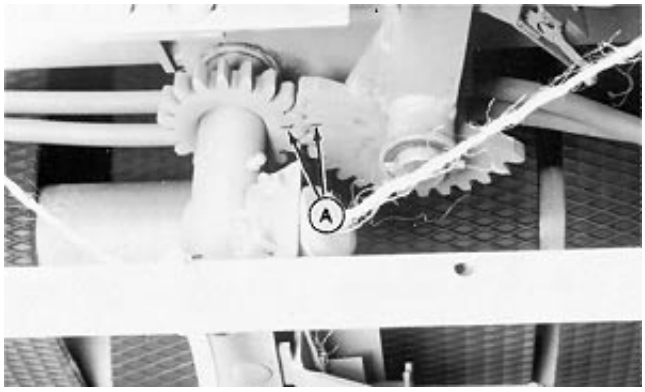


-UN-14NOV88
E32117

EX,435P,AB -19-03NOV88

TWINE ARM TIMING (435)

When replacing or servicing twine arm or drive gear, make sure timing marks (A) are lined up as shown.



-UN-12SEP88
E32128

EX,435P,BI -19-03NOV88

TWINE ARM TIMING (535)

When replacing or servicing twine arm or drive gear, make sure timing marks (A) are lined up as shown.

-UN-19NOV88
E32618

EX,435P,CK -19-03NOV88

ADJUSTING TWINE CUTTER TENSION (435)

NOTE: If surface wrap is installed, be sure the on-off valve is shut off (turn fully clockwise).(See Changing From Surface Wrap to Twine Wrap in the Surface Wrap—Service section.)

1. Raise gate fully.

2. Lock gate.

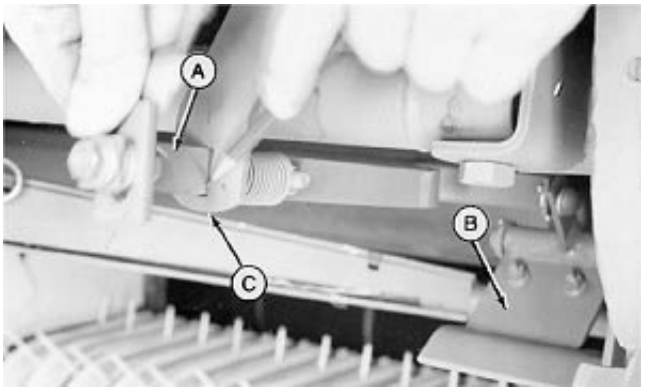
3. With selector control valve lever on tractor, lower belt tension arm until belts are tight.

4. Shut off tractor.

5. Manually move twine arm back from home position.

6. Pull cutter strap (A) gently forward until knife (B) contacts anvil. Remove slack, but DO NOT deform cutter strap.

7. Put a mark along cutter strap (C).



E32153 -UN-19NOV88

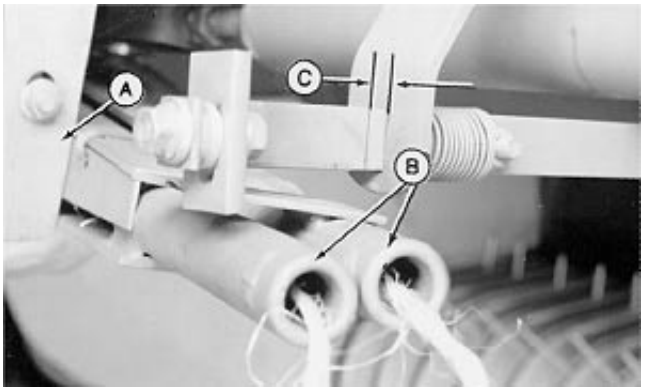
EX,435P,AC -19-11NOV88

8. Make sure twine arm stop (A) is in the down position.

IMPORTANT: Do not leave PTO engaged for more than two minutes with twine arm in home position, or oil in baler pump may overheat.

9. Cycle twine arms (B) and return to home position by engaging PTO and running tractor at rated PTO speed.

10. Distance between mark on cutter strap and strap support should be 5 to 7 mm (3/16 to 9/32 in.) (C).



E32154 -UN-29NOV88

EX,435P,AD -19-11NOV88

11. If an adjustment is needed, loosen jam nut (A) and turn cylinder rod in cylinder clevis slightly.

To increase the distance, turn rod into clevis.

To decrease the distance, turn rod out of clevis.

12. Tighten jam nut (A).

If twine cylinder or clevis assembly have been removed or replaced; or if twine cutter tension adjustment cannot be made, see Twine Cylinder Installation Dimensions (435) in this section.

-UN-12SEP88
E32155

EX,435P,AE -19-11NOV88

ADJUSTING NUMBER OF TWINE WRAPS ON RIGHT-HAND END OF BALE (435)

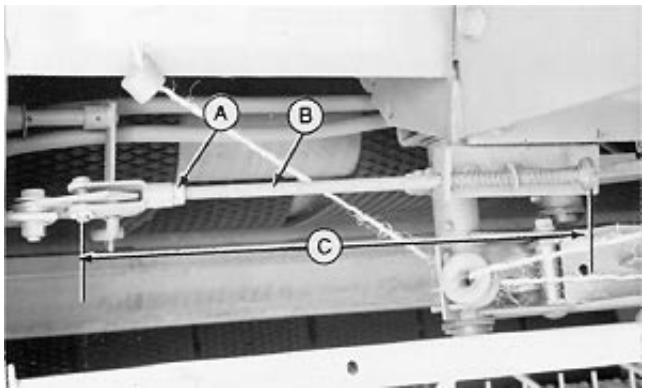
1. Loosen jam nut (A) and turn pushrod (B) in clevis to adjust number of wraps on right-hand end of bale.

To increase number of end wraps, turn rod into clevis.

To decrease number of end wraps, turn rod out of clevis.

2. Tighten jam nut (A).

If push rod has been removed or replaced, and twine arm will not return from right-hand side, set dimension (C) to 387 mm (15-1/4 in.). Additional adjustments may be required after wrapping a bale.



-UN-17NOV88
E32640

EX,435P,AF -19-11NOV88

ADJUSTING TWINE DISTANCE FROM RIGHT-HAND END OF BALE (435)

1. Raise gate fully.

2. Lock gate.

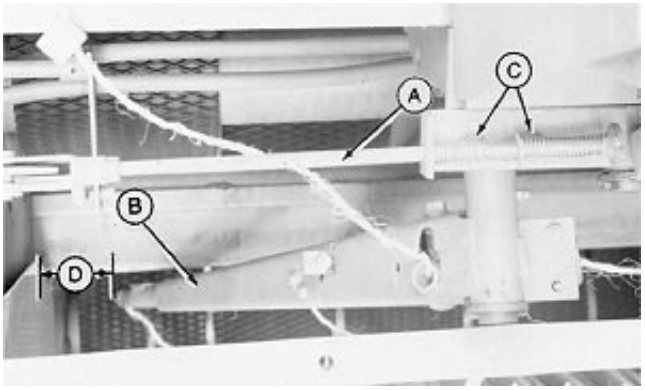
3. Using gate selector lever on tractor, lower belt tension arm until belts are tight.

4. With tractor running at rated PTO speed, engage PTO. When valve trip rod (A) starts to move, disengage PTO. Twine arm (B) will be in extreme right-hand position.

5. Shut off tractor.

6. Loosen bolts (C).

7. Move twine arm to desired position. Recommended distance (D) from right-hand side sheet to closest twine arm tube is 83 to 133 mm (3-1/4 to 5-1/4 in.) when arm and stop contact.



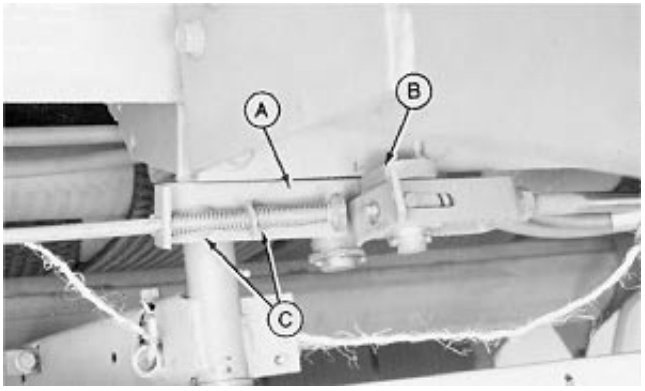
A—Valve Trip Rod
B—Twine Arm
C—Bolts
D—83 to 133 mm (3-1/4 to 5-1/4 in.) Dimension

EX,435P,AG -19-11NOV88

8. Set stop (A) to contact cylinder arm (B) squarely.

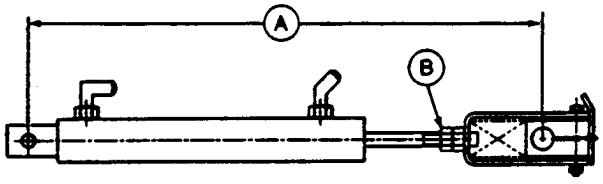
9. Tighten bolts (C).

If twine cylinder or clevis assembly have been removed or replaced; or if twine arm adjustments cannot be made, see Twine Cylinder Installation Dimensions (435) in this section.



EX,435P,AH -19-11NOV88

TWINE CYLINDER INSTALLATION DIMENSIONS (435)



E32644 -UN-19NOV88

If twine cylinder or clevis assembly have been removed or replaced; or if twine cutter tension adjustment cannot be made, assemble cylinder in this manner.

1. Retract cylinder fully.

2. Dimension (A) between center of hole in base end of cylinder to center of hole in block should be 460 mm (18-1/8 in.).

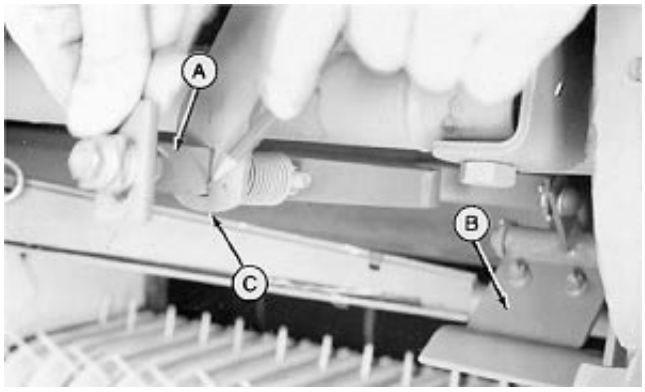
3. If an adjustment is necessary, loosen jam nut (B) and adjust clevis.

4. Tighten jam nut (B).

This will be close to the desired setting for right-hand end wrap placement and twine cutter tension. Adjustments must be checked and reset if necessary with cylinder in place. (See Adjusting Twine Distance From Right-Hand End of Bale (435) and Adjusting Twine Cutter Tension (435) in this section.)

EX,435P,AI -19-11NOV88

ADJUSTING TWINE CUTTER TENSION (535)



E32153 -UN-19NOV88

NOTE: If surface wrap is installed, be sure the on-off valve is shut off (turn fully clockwise). (See Changing From Surface Wrap to Twine Wrap in the Surface Wrap—Operating the Baler section.)

1. Raise gate fully.

2. Lock gate.

3. With selector control valve lever on tractor, lower belt tension arm until belts are tight.

4. Shut off tractor.

5. Manually move twine arm back from home position.

6. Pull cutter strap (A) gently and bring knife (B) into light contact with anvil. Remove slack, but DO NOT deform cutter strap.

7. Mark cutter strap (A) at support (C) as shown.

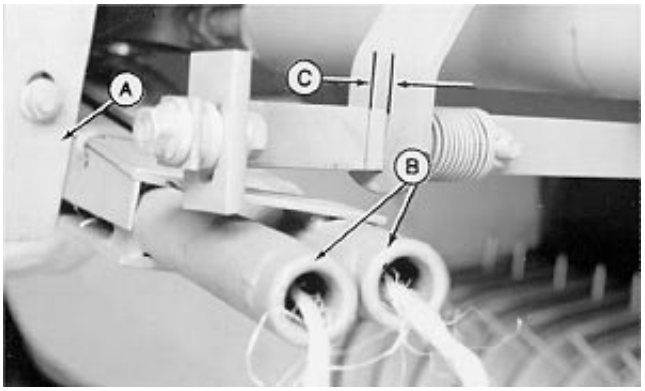
EX,435P,CQ -19-11NOV88

8. Make sure twine arm stop (A) is in the down position.

9. Cycle twine arms (B) and return to home position by engaging PTO and running tractor at rated PTO speed.

10. Place twine arm in home position with cylinder retracted (long hex block contacting cylinder barrel).

Distance from mark on cutter strap to support should be 5 to 7 mm (3/16 to 9/32 in.) (C).



-UN-29NOV88
E32154

EX,435P,CR -19-11NOV88

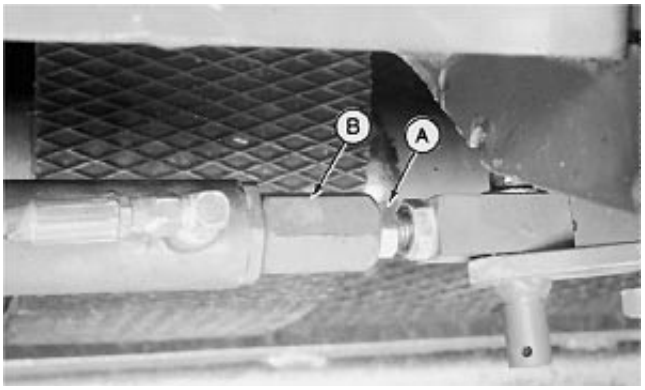
11. To adjust distance, loosen jam nut (A) and turn hex block (B) on cylinder rod.

To increase distance, turn hex block (B) away from cylinder barrel.

To decrease distance, turn hex block (B) toward cylinder barrel.

12. Tighten jam nut (A) after adjustment.

If twine cylinder, hex block, or end block have been removed or replaced; of if twine system adjustments cannot be made, see Twine Cylinder Installation Dimensions (535) in this section.



-UN-19NOV88
E32612

EX,435P,CS -19-11NOV88

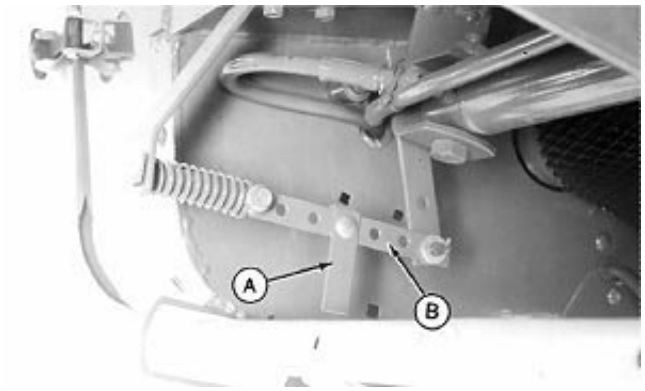
ADJUSTING NUMBER OF TWINE WRAPS ON RIGHT-HAND END OF BALE (535)

Change position of strap (A) along sliding strap (B) to increase or decrease number of wraps on right-hand end of bale.

To increase, move strap (A) forward on sliding strap (B).

To decrease, move strap (A) rearward on sliding strap (B).

If strap is moved forward, cycle twine arm to be sure the twine arm will shift the valve linkage to reverse the arm direction. (Refer to Adjusting Twine Arm Travel to Shift Valve, this section.)



-UN-14NOV88
E32379

EX,435P,AJ -19-11NOV88

ADJUSTING TWINE ARM TRAVEL TO SHIFT VALVE (535)

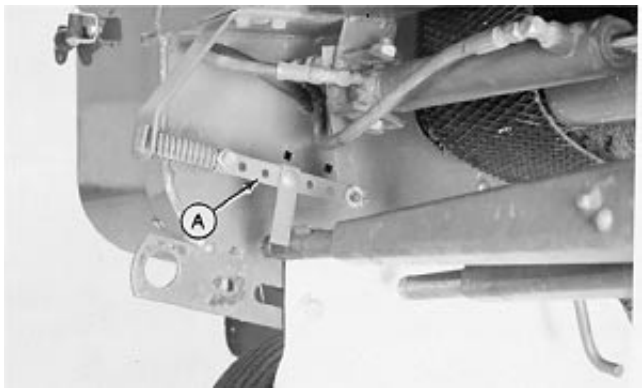
For normal twine arm operation, arm must swing far enough forward on the right-hand side to shift the valve linkage (A) to reverse the arm direction.

1. If the arm does not swing far enough forward, loosen jam nut (B) and turn cylinder rod out slightly from end block (C).

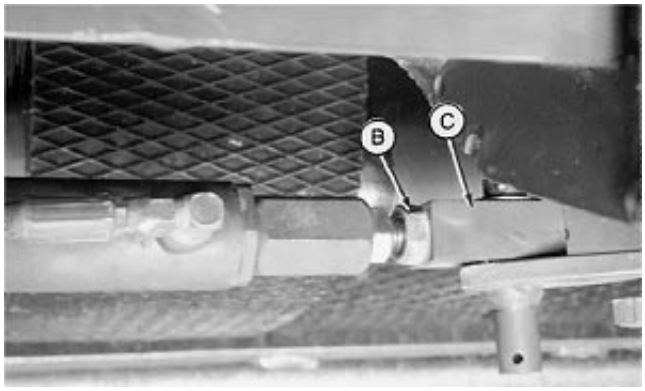
2. Tighten jam nut (B) after making adjustment. Check adjustment.

3. Recheck twine cutter tension and adjust if necessary. (Refer to Adjusting Twine Cutter Tension (535) in this section.)

If twine cylinder, hex block, or end block have been removed or replaced; or if twine system adjustments cannot be made, see Twine Cylinder Installation Dimension (535) in this section.



E32614 -UN-19NOV88



E32615 -UN-19NOV88

EX,435P,CT -19-11NOV88

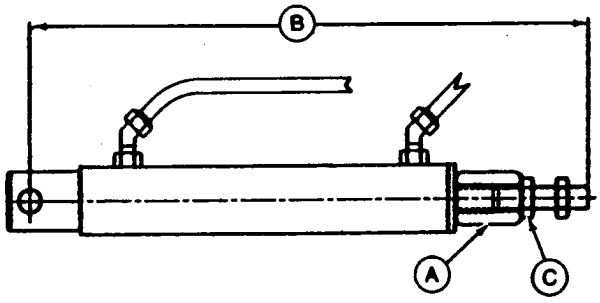
TWINE CYLINDER INSTALLATION DIMENSIONS (535)

If twine cylinder, hex block, or end block have been removed or replaced; or if twine system adjustments cannot be made, assemble cylinder and blocks as follows:

1. Remove end block.

2. Retract cylinder until hex block (A) contacts cylinder barrel. Distance (B) from center of hole in base end of cylinder to end of cylinder rod should be 396 mm (15-19/32 in.).

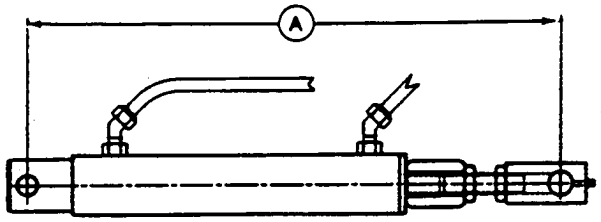
3. If an adjustment is necessary, loosen jam nut (C). Turn hex block (A) on cylinder rod to obtain correct dimension. Tighten jam nut (C).



E32642 -UN-23MAY89

EX,435P,CU -19-11NOV88

4. Turn cylinder rod into end block until distance (A) from center of hole in base end of cylinder to center hole in end block is 434 mm (17-3/32 in.). This will be close to the desired setting for valve shifting and twine cutter tension. Adjustments must be checked and reset if necessary with cylinder in place. (See Adjusting Twine Arm Travel to Right-Hand Side (535) and Adjusting Twine Cutter Tension (535) in this section.)



-UN-19NOV88
E32643

EX,435P,CV -19-11NOV88

ADJUSTING GATE LATCH STOP

1. Remove any material buildup between gate and frame.

2. Close and latch gate. Push gate latch (A) forward by hand to remove slack. If distance between gate latch stop (B) and stop pad (C) is not 1 to 3 mm (1/32 to 1/8 in.), shim as necessary following this procedure.

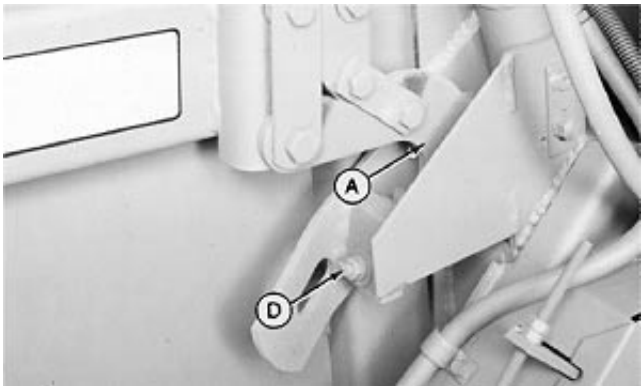
3. Loosen bolt (D). Shims are slotted so bolt does not have to be removed.

4. If dimension is greater than 3 mm (1/8 in.), transfer shims from storage position to shimming position until a dimension of 1 to 3 mm (1/32 to 1/8 in.) is obtained.

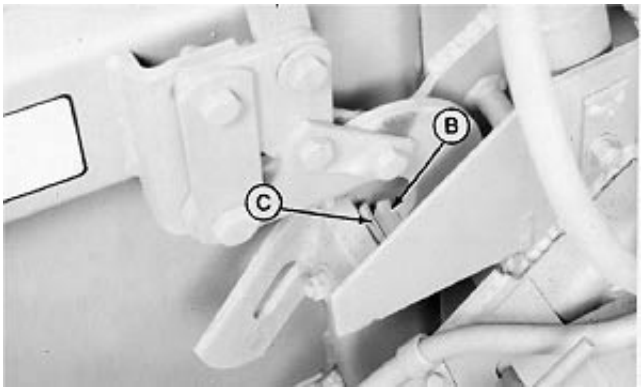
5. If dimension is less than 1 mm (1/32 in.), transfer shims from shimming position to storage position until a dimension of 1 to 3 mm (1/32 to 1/8 in.) is obtained.

NOTE: If proper adjustment cannot be obtained, lower gate with tractor engine shut off. If there is a gap on one side when the other side is contacting, see your John Deere dealer for proper procedure to straighten the gate.

6. Center shims and stop pad and tighten bolt (D). If necessary, repeat procedure on opposite side.



-UN-12SEP88
E32118



-UN-12SEP88
E32119

A—Gate Latch
B—Gate Latch Stop
C—Stop Pad
D—Bolt

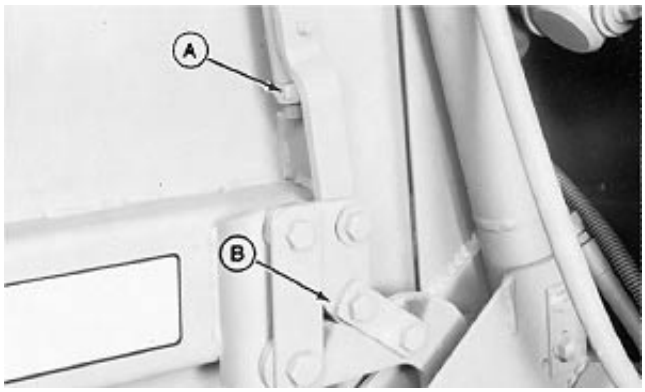
EX,435P,AK -19-03NOV88

ADJUSTING GATE LATCH LINKAGE

1. Close gate completely. Make sure gate cylinders are fully retracted.

2. Adjust nut (A) until plate (B) just touches relief notch in hook.

3. Repeat on opposite side.



EX,435P,J -19-02NOV88

ADJUSTING TWINE INDICATOR RETAINING STRAP

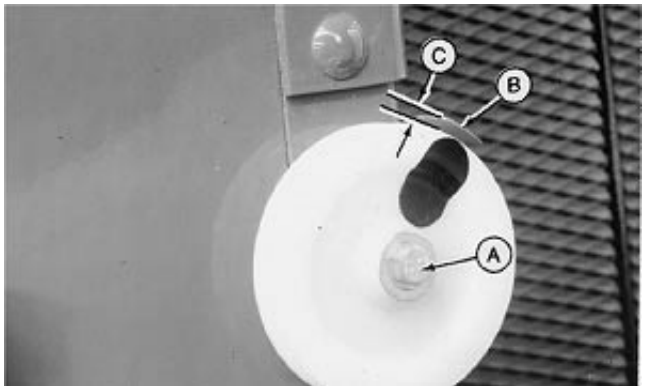
1. Loosen cap screw (A).

2. Put retaining strap (B) in the one o'clock position on the right-hand side of baler and the eleven o'clock position on the left-hand side of baler.

3. Adjust strap until there is a 0.50 to 1 mm (1/64 to 1/32-in.) dimension (C) between strap and twine indicator wheel.

4. Tighten cap screw (A).

5. Twine indicator wheel must spin freely after adjustment.



EX,435P,AL -19-02NOV88

CHECKING MICROSWITCHES

1. Disconnect all wires at switch.

2. Attach one lead of continuity tester to “common” terminal.

3. Attach the other lead of continuity tester to “normally open” terminal.

When switch lever is free (not compressed), there should be no continuity through the switch.

When switch is compressed (click is heard), there should be continuity through the switch.

4. Move the lead from the “normally open” to the “normally closed” terminal.

When the switch lever is free (not compressed), there should be continuity through the switch.

When the switch is compressed (click is heard), there should be no continuity through the switch.

EX,435P,CH -19-03NOV88

ADJUSTING GATE LATCH SWITCH (GREEN LIGHT)

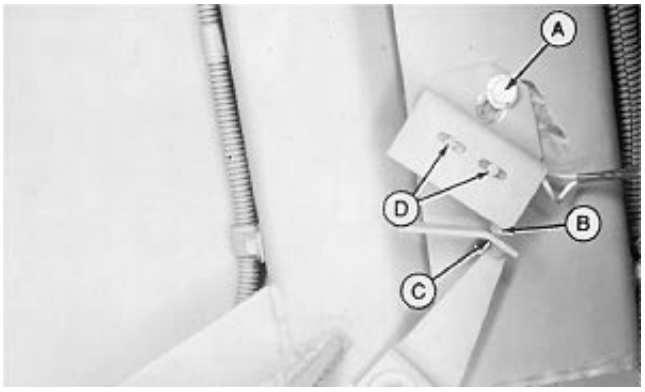
1. Close and latch gate. Cylinder should be fully retracted.

2. Roller (B) must be centered on short leg of switch ramp (C).

3. With switch arm contacting the switch body, the dimension should be 0.50 to 2 mm (1/64 to 3/32 in.) between the switch roller (B) and the ramp (C).

4. Adjust bracket on switch using capscrew (A) and/or screws (D) to obtain correct dimension.

5. Repeat on opposite side.



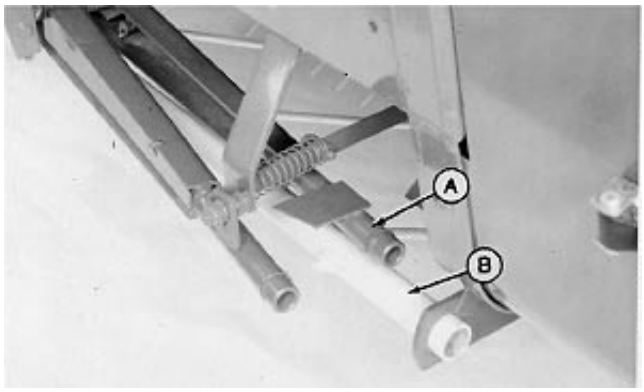
A—Cap Screw
B—Roller
C—Ramp
D—Screws

EX,435P,AM -19-03NOV88

ADJUSTING TWINE ARM SWITCH (SOLID YELLOW LIGHT)

1. Raise and lock gate to shift twine valve so twine arms can be moved manually. Shut off tractor.

2. Move twine arms so rear arm (A) is over compressor tube (B).



EX,435P,AN -19-14SEP88

3. Loosen two cap screws (A) on switch mounting plate.

4. Move switch horizontally until it is positioned as shown.

5. Move switch vertically until switch is just activated.

6. Tighten cap screws (A).

7. Unlock and close gate.

EX,435P,AO -19-14SEP88

ADJUSTING FLASHING YELLOW LIGHT SWITCH

1. Using tractor hydraulics, raise tension arm fully. Shut off tractor.

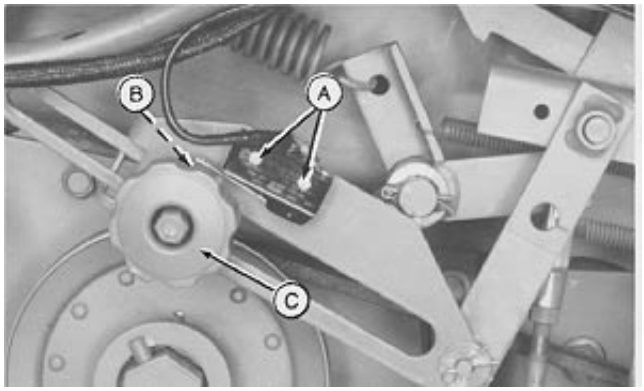
2. Loosen switch mounting screws (A).

3. Position switch roller (B) on highest point of bale size adjusting knob (C).

4. Adjust switch so it is just activated.

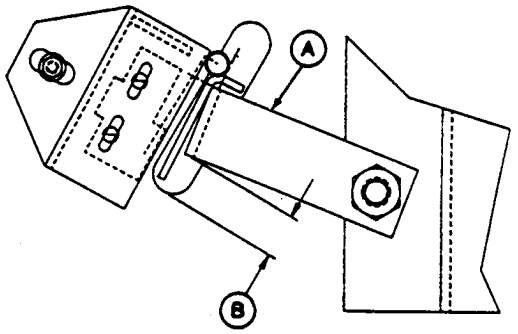
5. Tighten screws (A).

NOTE: Yellow light will begin flashing within a few seconds after switch is activated.



EX,435P,AP -19-03NOV88

ADJUSTING OVERSIZE BALE SWITCH (RED LIGHT)



E32693 -UN-06DEC88

1. Close gate. The green light must be on to make this adjustment.

2. Raise oversize bale switch lever (A) to a position 18 mm (23/32 in.) (B) above the lower end of the slot in side sheet.

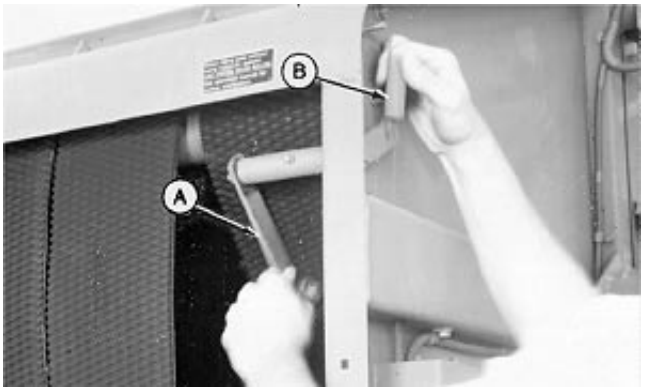
3. Position switch roller on ramp as shown. Clearance between switch arm and switch body should be 1 to 2 mm (1/32 to 3/32 in.).

4. Red light and buzzer will be activated, green light will go out when oversize bale switch lever is in this position.

5. Rotate oversize bale switch lever upward fully. Lever must not bind or interfere with switch or switch bracket.

EX,435P,AQ -19-02NOV88

ADJUSTING BALE SHAPE SENDERS



E32121 -UN-12SEP88

Bale shape senders are located at the rear of baler on the left-hand and right-hand sides.

1. Lock gate in closed position.

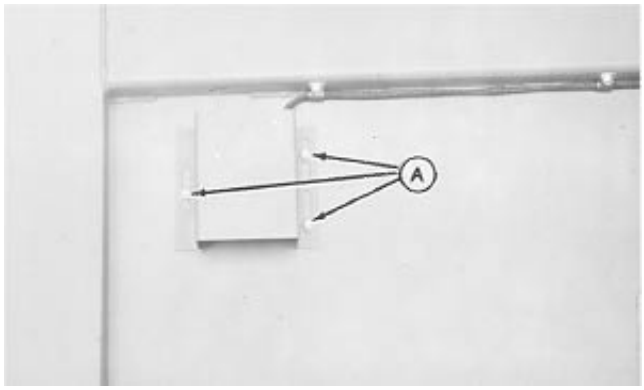
2. Raise belt tension arm to highest position with tractor selector valve to slacken belts.

3. Push in bale shape sender arms (A) and unhook springs (B).

EX,435P,AR -19-03NOV88

4. Lower belt tension arm and engage PTO for a few seconds to ensure belts are tensioned. Shut off tractor.

5. Loosen nuts (A).



EX,435P,AS -19-14SEP88

NOTE: Shield (C) has been cut away for illustration purposes only.

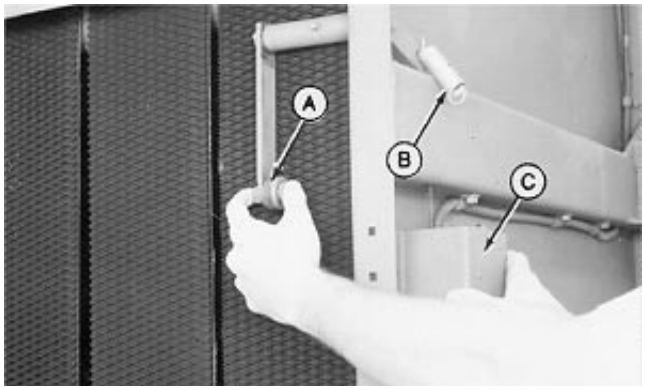
6. With roller (A) just contacting belt, move shield (C) up or down as needed to obtain approximately 1 mm (1/32 in.) between sending unit arm (E) and bottom stop.

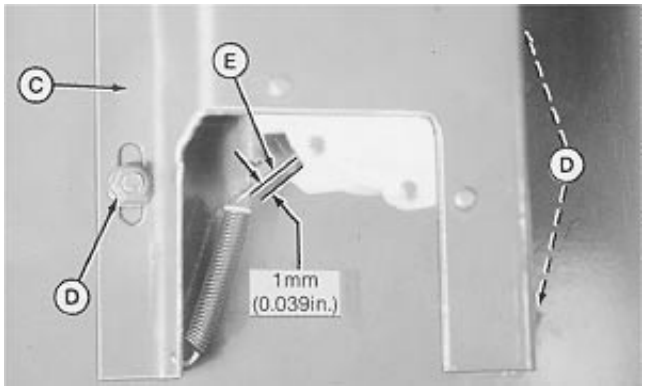
7. Tighten nuts (D).

NOTE: Both gauges in monitor box should be in full position at this point (needle pointing at top dot).

8. Raise belt tension arm to slacken belts and hook up spring (B).

A—Roller
B—Spring
C—Shield
D—Nuts
E—Sending Unit Arm





EX,435P,AT -19-03NOV88

ADJUSTING PICKUP FLOAT SPRINGS

1. Loosen jam nut (A).

2. Adjust left-hand side by tightening screw into spring plug until 138 mm (5-7/16-in.) dimension is attained between spring plug and end of adjusting screw.

3. Tighten jam nut (A).

EX,435P,AU -19-03NOV88

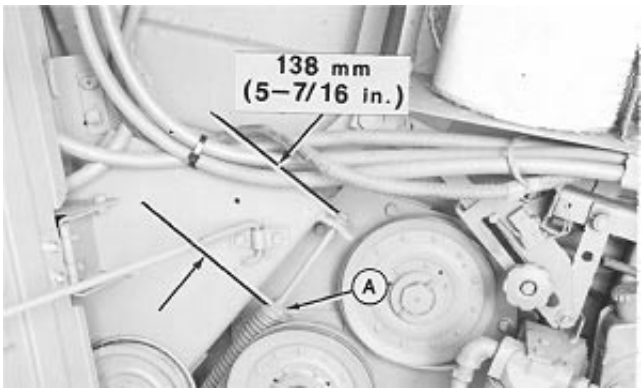
4. Loosen jam nut (A).

5. Adjust right-hand side by tightening screw into spring plug until 138 mm (5-7/16-in.) dimension is attained.

6. Tighten jam nut.

This setting should allow the pickup to drop completely when lowered. If not, slightly reduce spring setting.

When operating at heights other than extreme down position, or when optional gauge wheels are installed, additional spring force will be required to obtain adequate float.



-UN-14NOV88
E32124

EX,435P,AV -19-03NOV88

ADJUSTING PICKUP BELT IDLER

IMPORTANT: The belt tensioner is designed to protect pickup components; overtightening reduces the protection. Check adjustment daily.

Before adjusting idler, engage PTO and observe washer (B) movement with respect to sight hole (C). If total movement is more than 3 mm (1/8 in.), there may be a burnt or thin spot in the belt. Inspect belt and replace if necessary.

To adjust pickup belt idler:

1. Shut off tractor.

2. Loosen jam nuts (A).

3. Adjust spring until washer (B) is CENTERED at the sight hole (C).

4. Lock jam nuts (A).

-UN-03OCT88
E21780

EX,435P,AW -19-03NOV88

REMOVING CENTER AND REAR TENSION ARM ROLLS

1. Close gate and lower belt tension arm with tractor selector valve.

2. Raise gate until cylinder is extended approximately 432 mm (17 in.).

3. Lock the gate with gate lock valve.

E32125 -UN-22NOV88

EX,435P,AX -19-03NOV88

4. Lower tension arms until bolts (B) and (D) are accessible. Shut off tractor.

5. To remove rear roll (A), remove bolt (B). Repeat on opposite side.

6. To remove center roll (C), remove bolt (D). Repeat on opposite side.

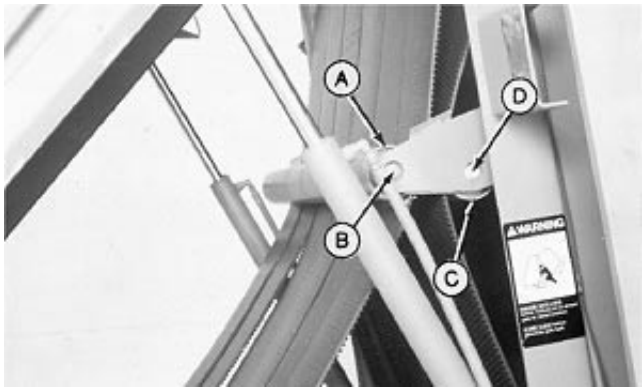
NOTE: Install rolls with belts between them as shown.

7. Install center roll (C) and fasten with bolts. Tighten bolts to 140 N·m (103 lb-ft).

8. Install rear roll (A) and fasten with bolts. Tighten bolts to 140 N·m (103 lb-ft).

9. Lower the belt tension arm.

10. Unlock and close gate.



E32127 -UN-12SEP88

A—Rear Roll
B—Bolt
C—Center Roll
D—Bolt

EX,435P,AZ -19-03NOV88

REMOVING FRONT TENSION ARM ROLL

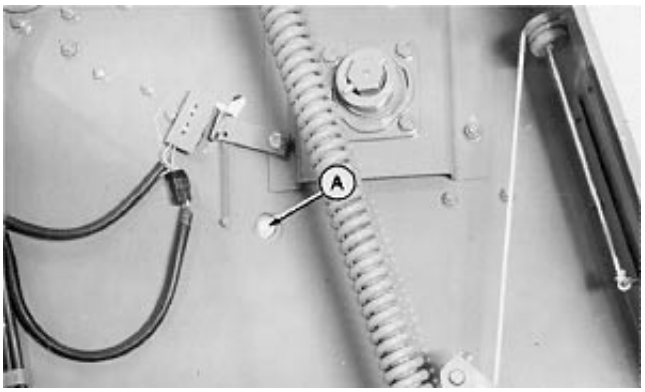
1. Raise gate fully. Lock gate.

2. Adjust tension arm to align front roll cap screws (A) with hole in side sheet.

3. Support roll on both ends and remove cap screws (A).

4. When reinstalling roll, refer to belt threading diagram in Installing Belts in this section.

5. Install cap screws (A). Tighten to 140 N·m (103 lb-ft).



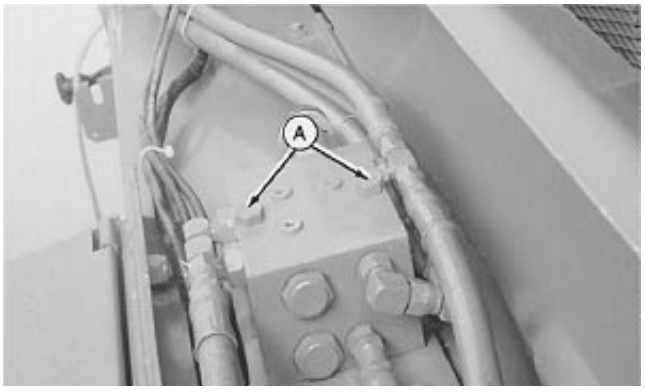
EX,435P,CJ -19-03NOV88

INSTALLING ORIFICE IN TRACTORS WITH LOW HYDRAULIC FLOW

For tractors with hydraulic flow less than 25 L/min (6.5 gpm), the gate may close before the belt tension arm returns and twine mechanism relatches. This may result in belts being pinched between the lower gate roller and axle tube. To correct this situation, install orifice which is available through your John Deere dealer.

1. Clean fittings and valve area before disconnecting hydraulic hoses.

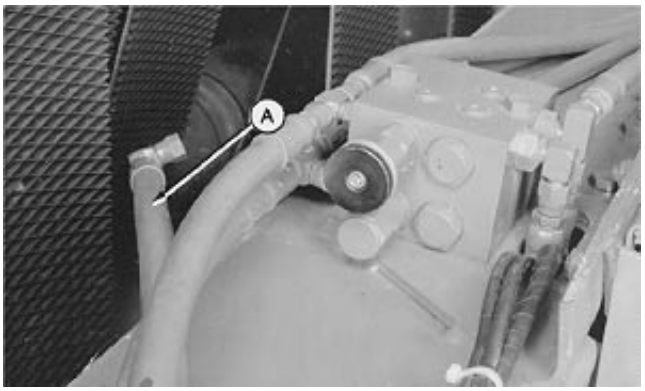
2. Remove nuts from cap screws (A). Bale density control valve can then be lifted for access to lower hydraulic fitting.



EX,435P,BA -19-03NOV88

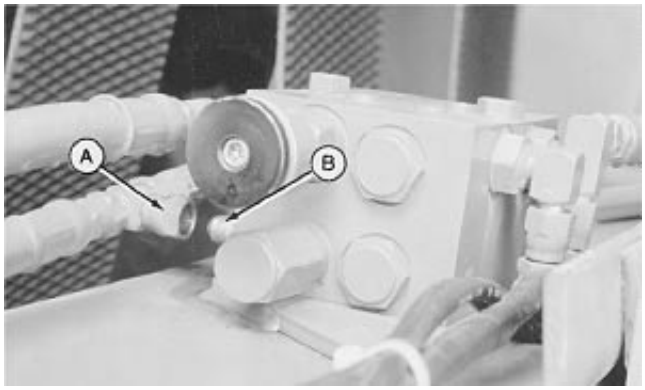
NOTE: Shield removed for illustration purposes.

3. Disconnect hydraulic hose (A).



EX,435P,BB -19-14SEP88

4. Disconnect bottom hydraulic line (A) and remove fitting (B).



E21787 -UN-13SEP88

EX,435P,BC -19-14SEP88

5. Install orifice in valve with smooth face towards fitting. Tighten fitting.

IMPORTANT: Be sure orifice is installed flush with valve. It must not be tilted.

6. Connect and tighten hydraulic lines.

7. Install nuts on cap screws in bale density control valve.

E21788 -UN-13SEP88

EX,435P,BD -19-03NOV88

PRIMING TWINE HYDRAULIC PUMP

If the twine mechanism will not cycle after installing a new pump or adding a large quantity of oil, use the following procedure to prime the pump.

NOTE: Check pump drive belt for wear and proper adjustment.

1. Open right-hand shield door and clean area around pump filler cap (A). Remove dipstick and check oil level. Add oil if needed.

E21790 -UN-03OCT88

EX,435P,BE -19-03NOV88

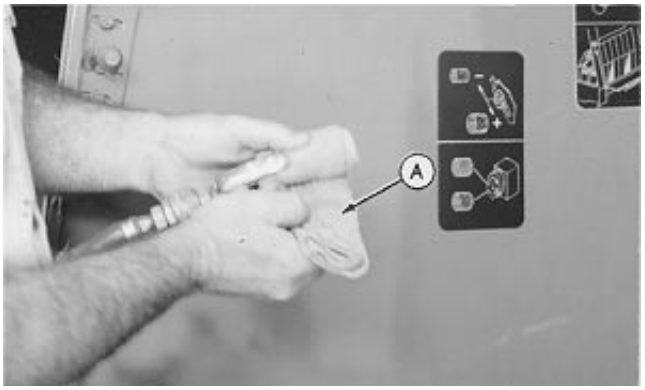
2. Fold a shop cloth (A) until it is about 60 mm (2-3/8 in.) wide.

3. Wrap the cloth tightly around end of air nozzle.

NOTE: If operating with surface wrap, close on-off valve. (See Changing from Surface Wrapping to Twine Wrapping in Surface Wrap—Operating the Baler section.) After pump is primed, open on-off valve for surface wrap operation.

4. Raise gate fully with tractor hydraulics. Lock the gate.

5. With gate hydraulic selector lever on tractor, lower belt tension arm until belts are tight.



EX,435P,BF -19-03NOV88

6. With tractor in neutral and parking brake engaged or with tractor in park, engage PTO and run at maximum rpm.

CAUTION: Stay clear of moving parts.

7. Remove pump filler cap and place end of hose with cloth on filler opening. Form a tight seal between cloth and filler neck as shown.

8. Blow air into reservoir for three or four seconds. The twine arm should start to move immediately. Let twine arm complete its normal cycle.

9. Check oil level. Add oil if necessary.

10. If twine arm does not move, tap pump lightly with plastic mallet to unseat vanes in pump. Repeat step 8, if needed.

IMPORTANT: Do not operate baler PTO for more than 2 minutes after the pump is primed or pump may overheat.

11. Disengage PTO.

12. Unlock gate.

13. Lower gate and shut off tractor.

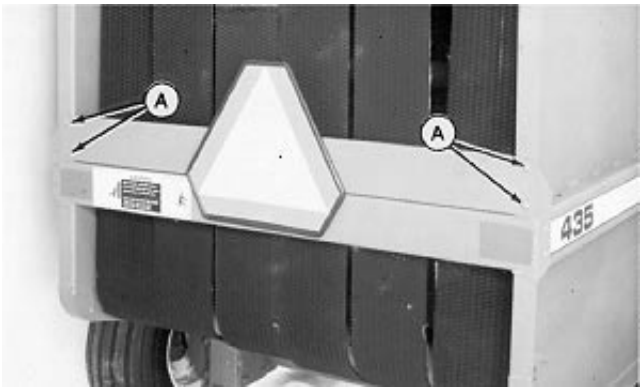
EX,435P,BG -19-03NOV88

RAISING GATE WITH HOIST

1. Remove four round head bolts (A) to remove top belt shield.

2. Wrap chain hoist around cross frame member and raise gate.

3. When finished, replace shield and SMV symbol.

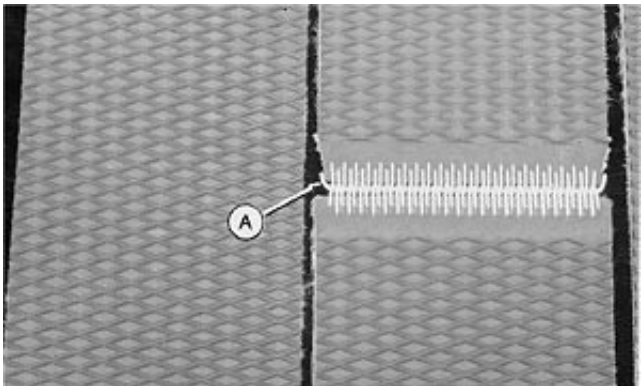


E32602 -UN-14NOV88

EX,435P,BH -19-03NOV88

CHECKING BELT PINS

Check pins (A) for wear or damage every 1000 bales (every 500 bales in sandy conditions). Replace pins if broken or if plastic covering is worn through.



E32158 -UN-12SEP88

EX,435P,BJ -19-03NOV88

REMOVAL OF ALL BELTS OR SPRING RODS

IMPORTANT: If it is necessary to remove all belts from the baler, be sure upper tension arm stops are in place and spring rods are attached.

If spring rods are removed from baler, be sure belts are on the machine.

Refer to technical manual for service instructions. Failure to follow recommended procedure can result in machine damage.

EX,435P,CL -19-03NOV88

INSTALLING BELTS

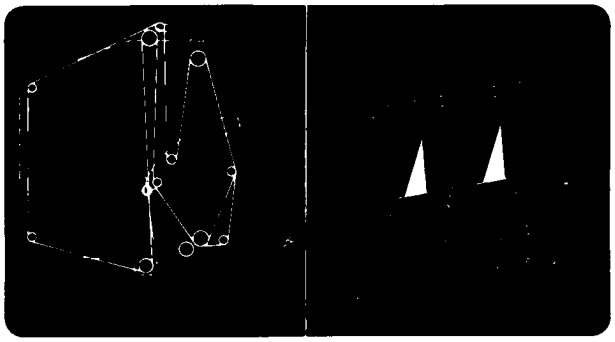
NOTE: See illustration for location of long and short belts. Install belts with diamond portion of the belt to the outside. Make sure belts are installed through the individual guides.

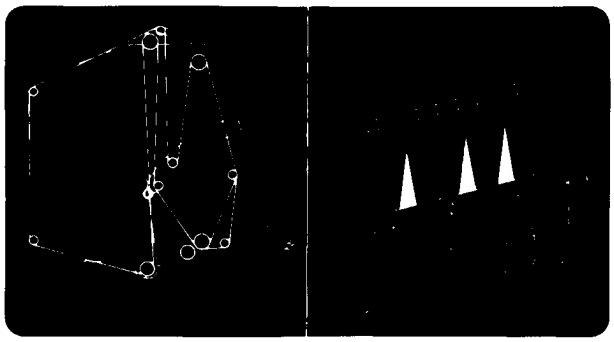
Refer to Specification section for proper length of belts.

1. Loosen belt tension by locking the gate in any position and raising the belt tension arm with the tractor hydraulic lever.

2. When replacing a belt, rotate belt until splice appears in back vertical strand. Shut off tractor.

3. Remove splicing pin. Hook trimmed end of new belt to square end of old belt with splicing pin. Pull new belt through baler using the old belt.





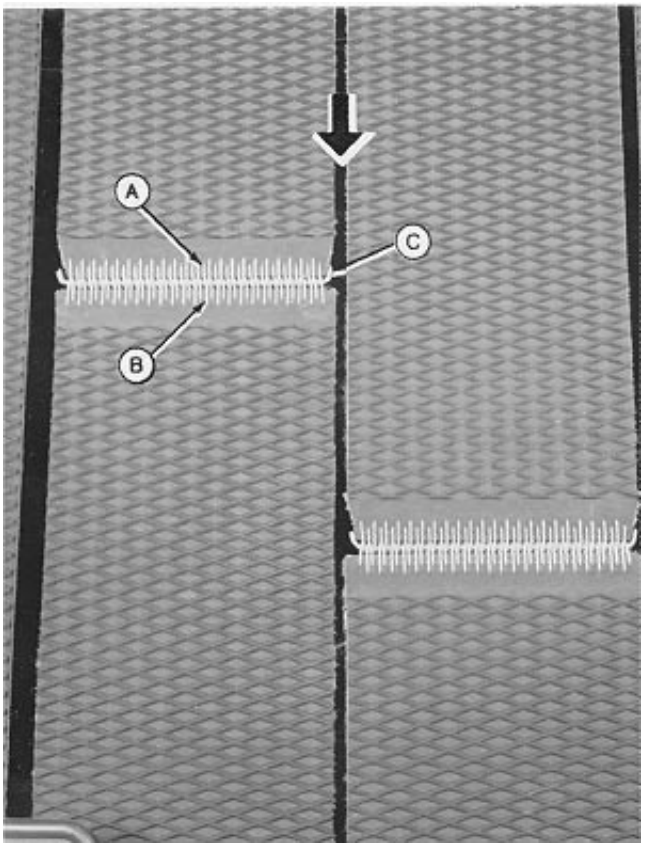
E32208 -UN-12SEP88

EX,435P,BK -19-02NOV88

4. Thread belts so trimmed end of belts are trailing in normal direction of travel (arrowed). After belt routing, there must be 44 hooks in splice (A) and 45 hooks in splice (B).

5. Install pin. Bend ends of pin at 70 to 80 degree angle pointing toward the trimmed end (C) of belt as shown.

IMPORTANT: If belts have been shortened or replaced, see Adjusting Twine Trip Rod and Valve Latch Clearance in this section for proper adjustment of twine trip rod.



E21796 -UN-13SEP88

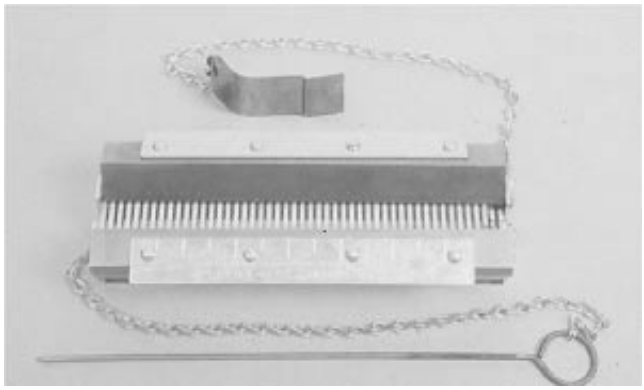
EX,435P,BL -19-03NOV88

REPAIRING BELTS

A belt lacing tool and hardware is available for repairing belts.

Belt slack may be obtained by locking the gate in any position and raising the belt tension arm with the tractor hydraulic lever.

NOTE: Belts may fray at the edges. Cutoff the frayed cords as they appear; this reduces the chances of frayed cords being caught as the bale is formed, causing additional fraying or damage to the belts.

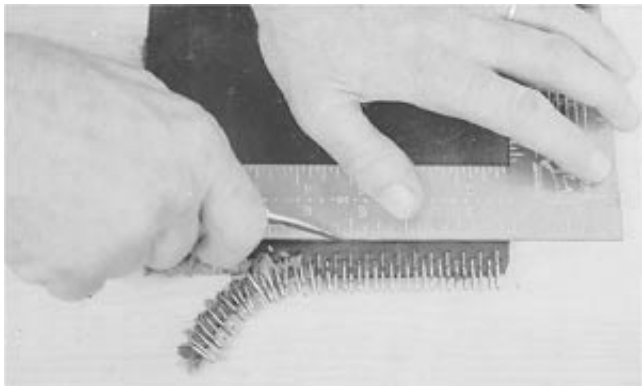


E21645 -UN-22SEP88

EX,435P,BM -19-03NOV88

1. Remove broken belt.

2. Using a square and sharp knife, remove damaged area.



E21797 -UN-13SEP88

EX,435P,BN -19-14SEP88

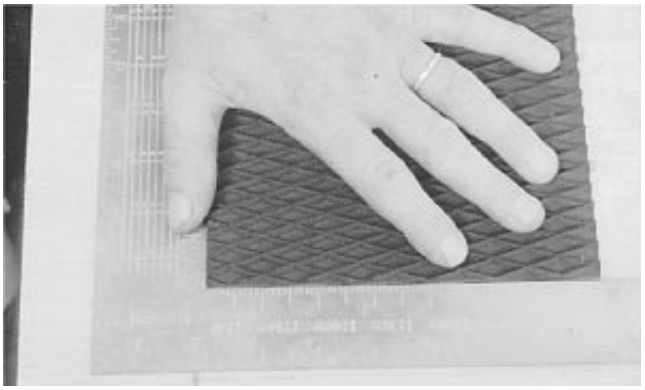
IMPORTANT: Check belt length to make sure it is not less than 13 259 mm (522 in.) for short belts or 13 411 mm (528 in.) for long belts. If belts are less than specified dimensions, they will contact each other damaging the diamond pattern.

NOTE: If belts are shorter than the above dimensions, a short piece of belt must be added to bring all belts to within 38 mm (1-1/2 in.) of the same overall length. Splices within a belt should be at least 305 mm (12 in.) apart.

The maximum length of any belt should not exceed 13 386 mm (527 in.) for short belts and 13 538 mm (533 in.) for long belts.

EX,435P,BO -19-03NOV88

3. Recheck belt to be sure it is cut squarely.

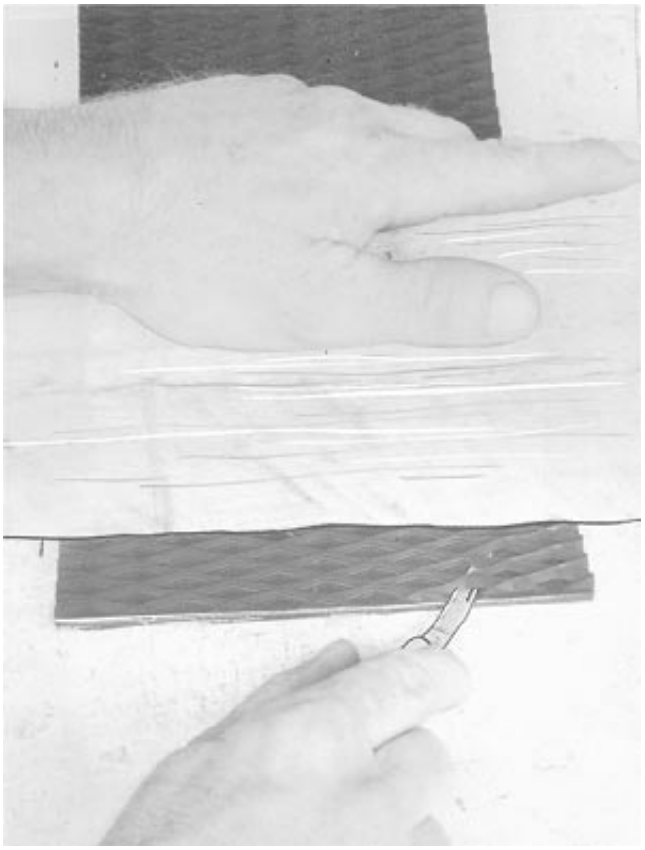


EX,435P,BP -19-14SEP88

4. Use a 25 to 51 mm (1 to 2-in.) thick board to hold belt as shown.

5. With a sharp knife, remove 25 mm (1 in.) of diamond pattern from end of belt, similar to that removed for original belt splice. To reduce cutting effort, dip knife blade in liquid soap.

IMPORTANT: Cut only the diamond pattern. Cutting deeper will damage the belt cords.



EX,435P,BQ -19-14SEP88

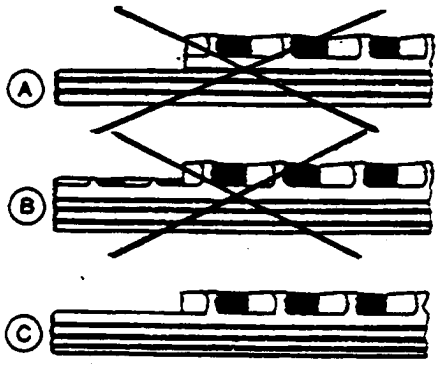
NOTE: The pictures of belts illustrate incorrect and correct removal of diamond pattern.

Belt (A) is cut too deep and will damage the belt cords.

Belt (B) is cut too high and will prevent the hooks from coming fully through the belt.

Belt (C) is cut correctly.

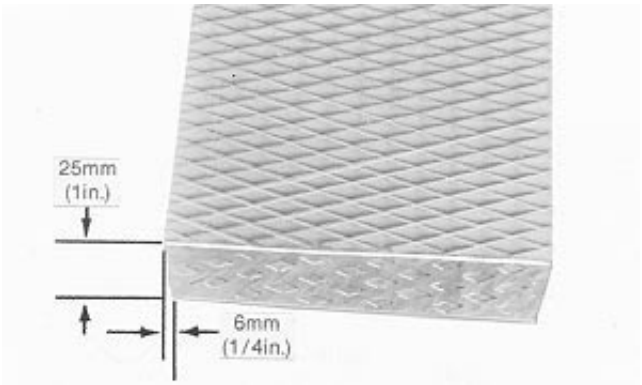
NOTE: Do not leave more than 0.50 mm (1/64 in.) on the pattern on belt in area to be laced.



E27606 -UN-12SEP88

EX,435P,BR -19-02NOV88

6. Cut off trailing end of belt ONLY as shown in illustration.



E22649 -UN-13SEP88

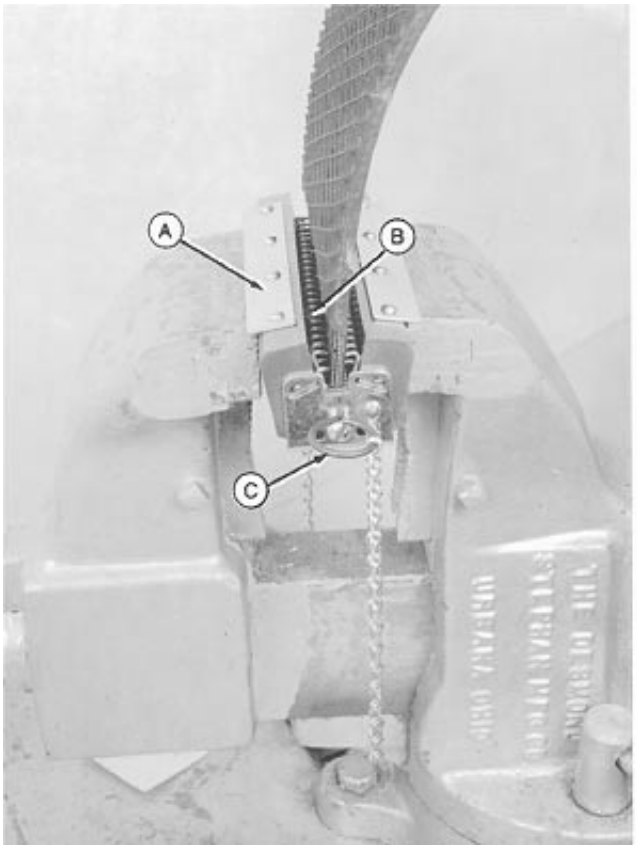
EX,435P,BS -19-15SEP88

NOTE: If repair is needed on only one end of belt, count the hooks. There should be 44 hooks for the trimmed end of belt and 45 hooks for the square end of belt.

7. Put belt lacing tool (A) in a vise, setting the determined amount of hooks (B) in center of the lacing tool, and inserting long pin (C) to hold hooks (B) in place.

NOTE: Remove cardboard holding the hooks together before splicing the belt.

8. Visually align belt so hooks (B) are centered in belt. Make sure full width of belt is in contact with bottom of lacer. Tighten vise forcing hooks through belt.

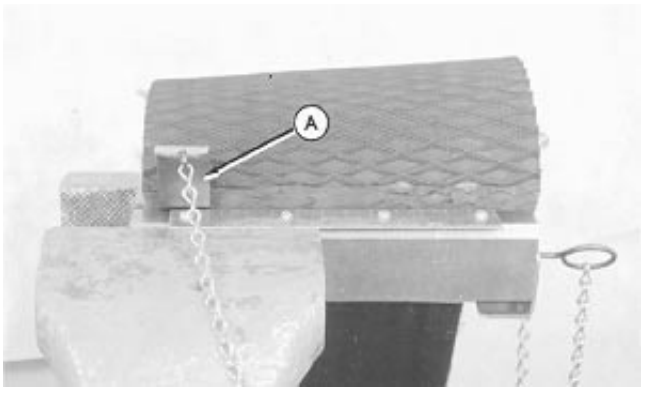


E21801 -UN-13SEP88

EX,435P,BT -19-03NOV88

IMPORTANT: To correct clinch hooks in the belt and ensure proper splice life, use the following procedure:

9. Starting at one end of belt, and keeping PRESSURE PLATE (A) centered in the vise, retighten vise to exert maximum pressure on approximately six hooks at a time.

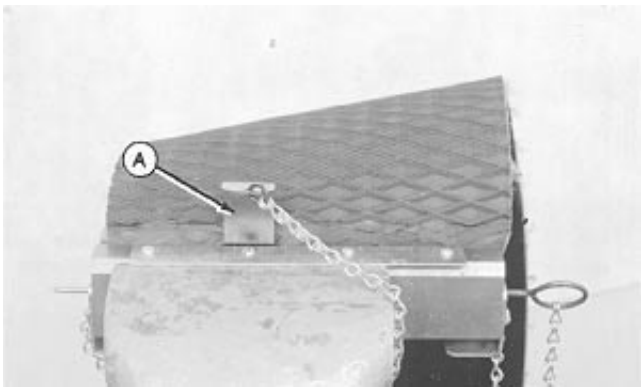


E21802 -UN-03AUG89

EX,435P,BU -19-15SEP88

10. Always keeping pressure plate (A) centered in the vise, move belt and lacing tool over and retighten vise.

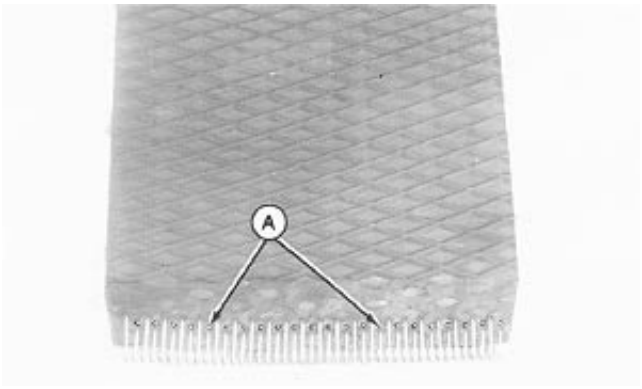
11. Repeat procedure until all hooks are clinched.



E21803 -UN-13SEP88

EX,435P,BV -19-15SEP88

12. When properly installed, the points (A) have come through the belt from the opposite side and are slightly clinched. (See Installing Belts for proper installation.)

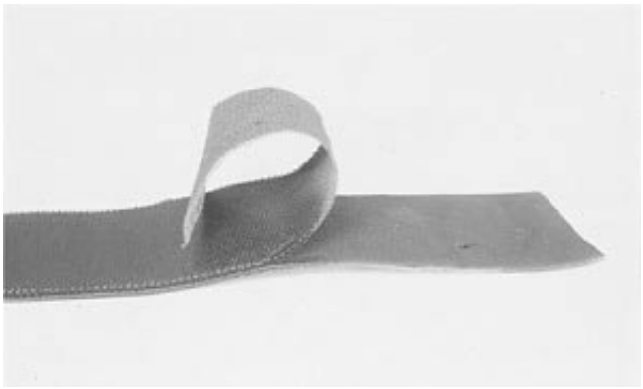


E21804 -UN-13SEP88

EX,435P,BW -19-15SEP88

BELTS ELIGIBLE FOR WARRANTY REPLACEMENT

Upper belts are warrantable if the material and/or workmanship is defective and machine is under warranty. Ply separation is considered warranty if within the item warranty.



E27607 -UN-12SEP88

EX,435P,BX -19-15SEP88

BELTS NOT ELIGIBLE FOR WARRANTY REPLACEMENT

The following illustrations are belts damaged by accumulation of crop and/or foreign objects on top of compressor rack and between belts in the starter roll area. A small slug of the buildup will pass between the lower drive roll and the belt, which forces the belt into the starter roll. The bars of the starter roll remove chunks of rubber from the belt and/or tear the belt fabric.

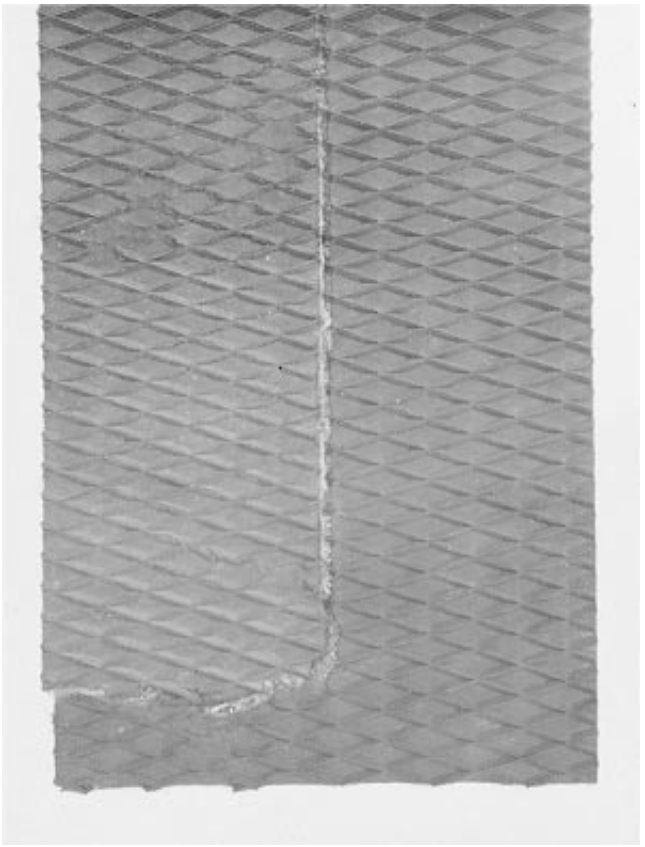
EX,435P,BY -19-15SEP88

Chunks of rubber missing from surface of belt.

EX,435P,BZ -19-15SEP88

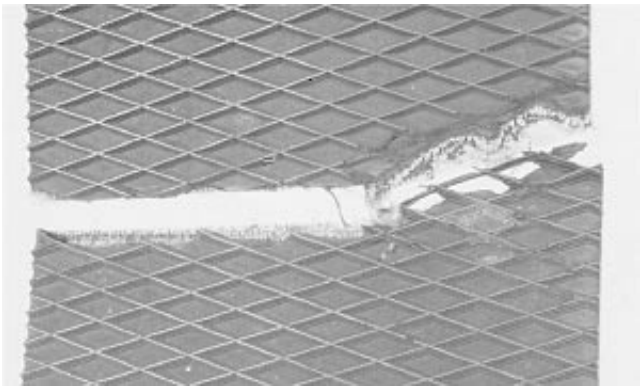
Belts with holes and/or tears.

NOTE: This is not ply separation.



EX,435P,CA -19-15SEP88

Belts that are cut and/or torn in two.

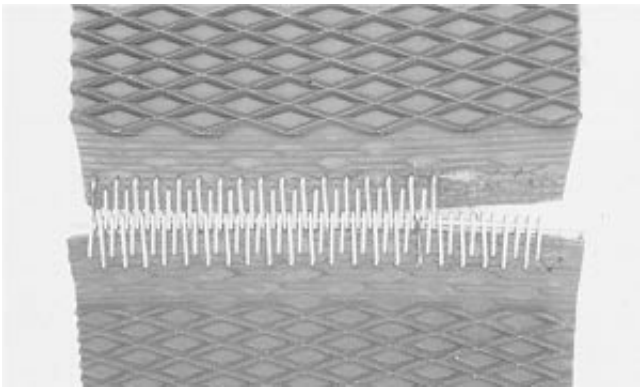


Back side of belt showing damage caused by foreign objects.

EX,435P,CB -19-15SEP88

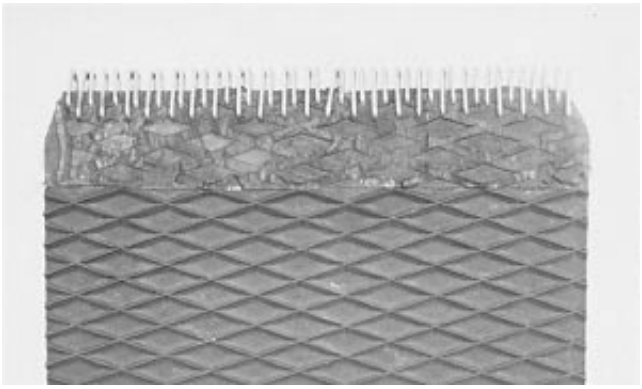
The following illustrations show the lacing (splice) pins wearing and/or breaking, and the use of improper hooks or lacing techniques.

The wearing and/or breaking of pins is normal. The severity of wear or breaking of pins is related to field conditions, density of bales, belt tracking, and type of crop. Pins are wear items and should be checked weekly and replaced as needed.



EX,435P,CC -19-03NOV88

Belt lacing not holding due to an insufficient amount of diamond pattern removed.



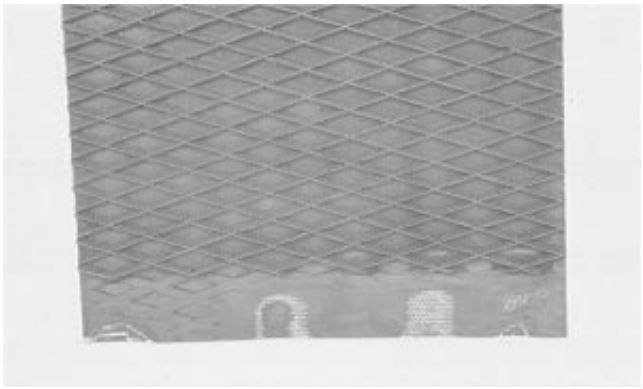
EX,435P,CD -19-15SEP88

Belt fabric cut when cutting down toward surface of the belt to remove diamond pattern.

E27614 -UN-12SEP88

EX,435P,CE -19-15SEP88

Too much of diamond pattern removed for belt lacing.



E27615 -UN-12SEP88

EX,435P,CF -19-15SEP88

Surface Wrap—Preparing the Baler

SELECTING SURFACE WRAP MATERIAL

In order to achieve optimum performance, we recommend the use of high-quality surface wrap. Use only surface wrap roll with a maximum diameter of 305 mm (12 in.). (See your John Deere dealer.)

For the 435 Round Baler use a roll size of 3000 m (9842 ft). The roll can make approximately 250 bales of 1.8 m (6 ft) diameter with 2 turns of surface wrap.

For the 535 Round Baler use a roll size of 2000 m (6562 ft). The roll can make approximately 165 bales of 1.8 m (6 ft) diameter with 2 turns of surface wrap.

EX,435SWI,A -19-10NOV88

CARE OF SURFACE WRAP MATERIAL

Protect surface wrap material from moisture and damage.

Snags can cause erratic performance and affect bale appearance and weatherability.

Store in a cool, dry place, away from direct sunlight.

Do not remove protective covering until ready for use.

EX,435SWI,B -19-14NOV88

ADDITIONAL SURFACE WRAP STORAGE

Brackets can be used to carry a spare roll of surface wrap material.

EX,435SWI,C -19-10NOV88

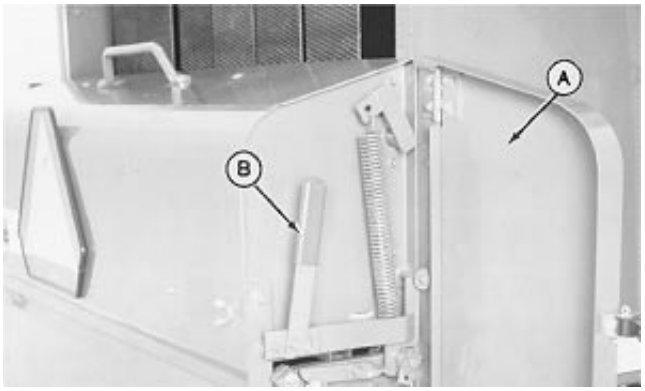
OPENING SURFACE WRAP BOX

CAUTION: Be sure PTO is disengaged and tractor engine is shut off before opening side doors.

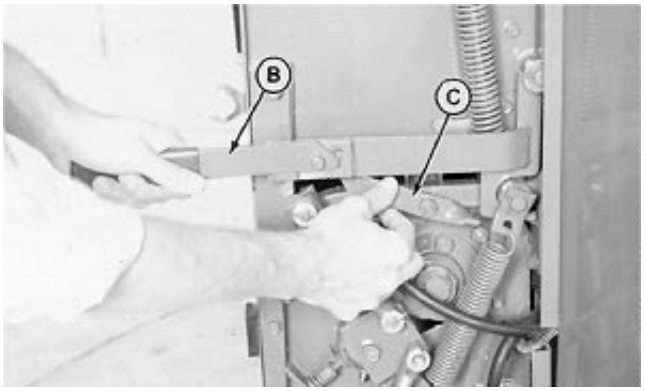
1. Open side door (A) of surface wrap unit.

CAUTION: Handle is spring loaded and will move up quickly when released.

2. Unfold handle (B) and pull down until stop (C) can be unlatched. SLOWLY raise handle (B). Repeat on opposite side.



-UN-29NOV88
E32621



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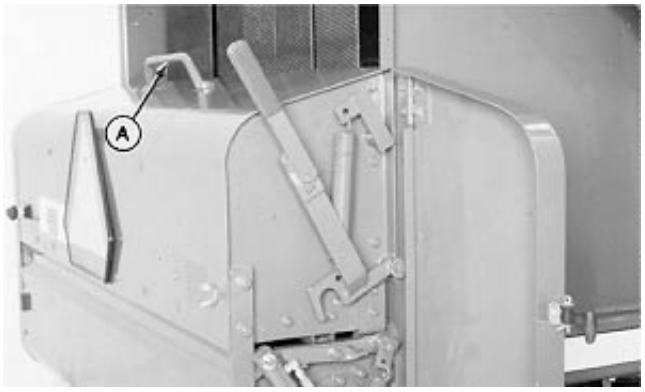
E32620

EX,435SWI,D -19-14NOV88

3. Open roll box by pulling rearward on upper handle (A).



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E32619

EX,435SWI,E -19-14NOV88

INSTALLING SURFACE WRAP AND ROUTING THROUGH ROLLS

1. Load surface wrap roll in box so material will be pulled from the front face of roll of material (illustrated).

2. Rotate knife arm back to disengage feed roll brake. (See Releasing the Knife Arm Manually in Surface Wrap-Operating the Baler section.)

3. Gather the end of surface wrap together and pull from the front face of the roll and over center of roller (A).

E32622 -UN-19NOV88

EX,435SWI,F -19-10NOV88

4. Fold approximately 305 mm (12 in.) of surface wrap back on itself, making a loop.

E32623 -UN-19NOV88

EX,435SWI,G -19-10NOV88

IMPORTANT: Do not thread more than 25 mm (1 in.) of loop between the two rolls or it may cause plugging.

5. Start end of loop between rubber feed rolls (A) by rotating rolls slightly.

NOTE: If surface wrap is not being pulled off the front face of roll, roll has been installed backward. (Refer to step 1 for correct installation.)

6. Rotate knife arm forward to engage brake.

7. Close surface wrap box. (See Closing Surface Wrap Box in this section.)

E32624 -UN-19NOV88

EX,435SWI,H -19-14NOV88

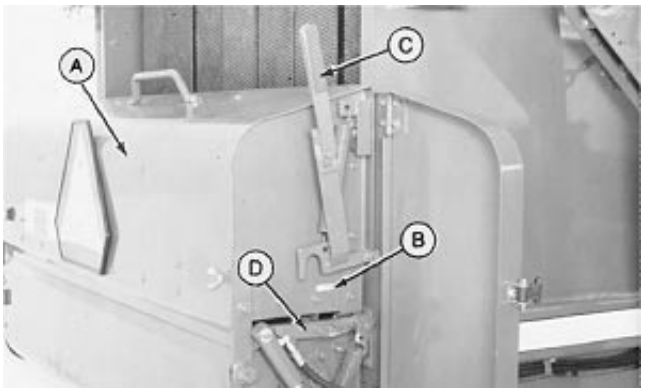
CLOSING SURFACE WRAP BOX

1. Close surface wrap box (A).

2. Look through observation slot (B). Surface wrap roll must be forward.

3. Pull handle (C) down until it is retained by stop (D). Release handle.

A—Surface Wrap Box
B—Observation Slot
C—Handle
D—Stop

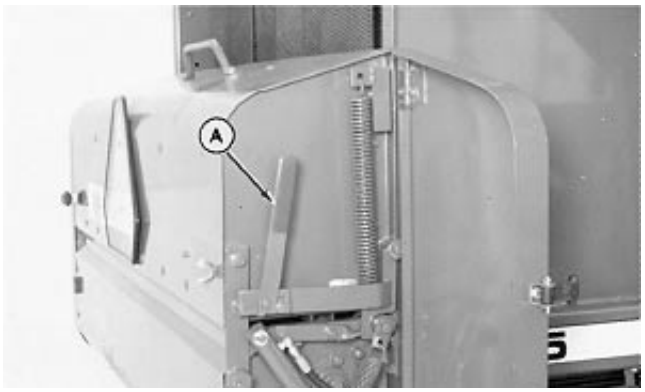


-UN-22NOV88
E32625

EX,435SWI,I -19-11NOV88

4. Fold handle (A) into upper position. Close and latch side door.

5. Repeat on opposite side.



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E32656

EX,435SWI,J -19-14NOV88

Surface Wrap—Operating the Baler

GENERAL INFORMATION

The baler can operate in either the surface wrapping or twine wrapping mode.

When using twine wrapping mode, refer to Preparing the Baler section for proper preparation.

Instructions regarding the operation of the surface wrapping system and changing from one wrapping mode to the other are found in this section of the manual.

EX,435SWJ,A -19-10NOV88

HOW THE SURFACE WRAPPING MECHANISM WORKS

While the bale is being formed, the surface wrapping system is idle. The surface wrapping mechanism is automatically tripped in the same manner as the conventional twine wrapping system.

When the baler is in the surface wrapping mode, both twine and surface wrapping mechanisms operate simultaneously. Although twine arms move when surface wrap is being applied, twine will not be applied to bale because twines are not threaded out the end of the tubes.

When the wrapping cycle begins, oil from the pump flows to extend the twine arm cylinder (moving the twine arm toward the right-hand side of the baler) and to the top surface wrap cylinder which moves the knife arm back and engages the V-belt which drives the rubber feed rolls.

While twine arm is moving from left to right, the surface wrap is fed from the surface wrap roll through the rubber feed rolls, along the baler belts underneath the gate, and then is caught by the bale and wrapped around it. The number of surface wraps applied to the bale is determined by the amount of time required for twine arm to travel from left to right.

When the twine arm reverses the valve, oil is directed to retract the twine cylinder (returning twine arm to home position) and to extend the lower surface wrap cylinder which moves the knife arm forward, disengaging the V-belt, stopping the rubber feed rollers with a brake, and cutting off the surface wrap.

As the surface wrap is cut off, the knife pushes the surface wrap forward. The surface wrap contacts a lever compressing a microswitch. The switch activates a buzzer and lights the red light. After the surface wrap is cut off, the lever and switch return to their original position, and the light and buzzer are shut off. The entire cut-off process takes approximately 1 second.

EX,435SWJ,B -19-14NOV88

BALE-TRAK MONITOR OPERATION WITH SURFACE WRAP

The basic function of the monitor is very similar, whether using twine wrap or surface wrap. The function of the green light (gate closed and latched), bale shape gauges, flashing yellow light (bale near full), and solid yellow light (twine arm moving) are the same.

When either wrapping system starts, a short buzzer sounds and the flashing yellow light changes to solid yellow. When baling with surface wrap, stop forward travel immediately to ensure surface wrap is on the outside of the bale and will not be partially covered by loose incoming material.

A second buzzer will sound briefly and the red light will flash briefly a few seconds after the first buzzer. The green light will stay on with this signal.

This indicates the surface wrap has fed onto the bale and has cut off properly. Bale may be ejected immediately.

If the second buzzer does not sound there is no wrap on the bale. The surface wrap roll may be empty or surface wrap has misfed. Investigate cause and wrap bale properly prior to ejection of the bale. (See Troubleshooting section.)

If second buzzer and red light stay on (with green light on), surface wrap is not cut off properly. Investigate prior to ejection of the bale. (See Troubleshooting section.)

The red light and buzzer (without green light) indicates an oversize bale.

EX,435SWJ,C -19-10OCT88

DISCHARGING BALE WITH SURFACE WRAPPING MECHANISM

If ejecting with PTO running, the bale can be ejected anytime after the cutoff buzzer stops.

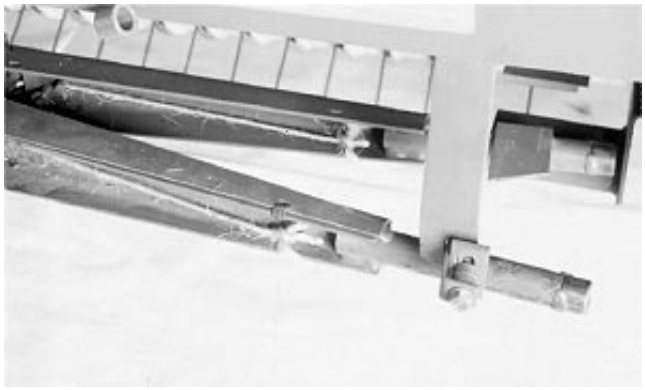
If PTO is shut off before ejecting the bale, wait until the twine arm returns home (yellow light goes out) before disengaging PTO.

EX,435SWJ,D -19-14NOV88

CHANGING FROM TWINE WRAPPING TO SURFACE WRAPPING

NOTE: If baler has been used for twine wrapping:

- *Pull twine back from twine tubes*
- *Tie off ends of twine through holes in twine arm channels as shown.*



E32676 -UN-29NOV88

EX,435SWJ,E -19-14NOV88

1. Turn on-off valve (A) fully open (counterclockwise) to activate the surface wrap mechanism.

2. For initial setting of surface wrap turns, loosen locking ring (B) and turn flow control knob (C) fully counterclockwise. Turn flow control knob (C) one turn back in clockwise direction and tighten locking ring.

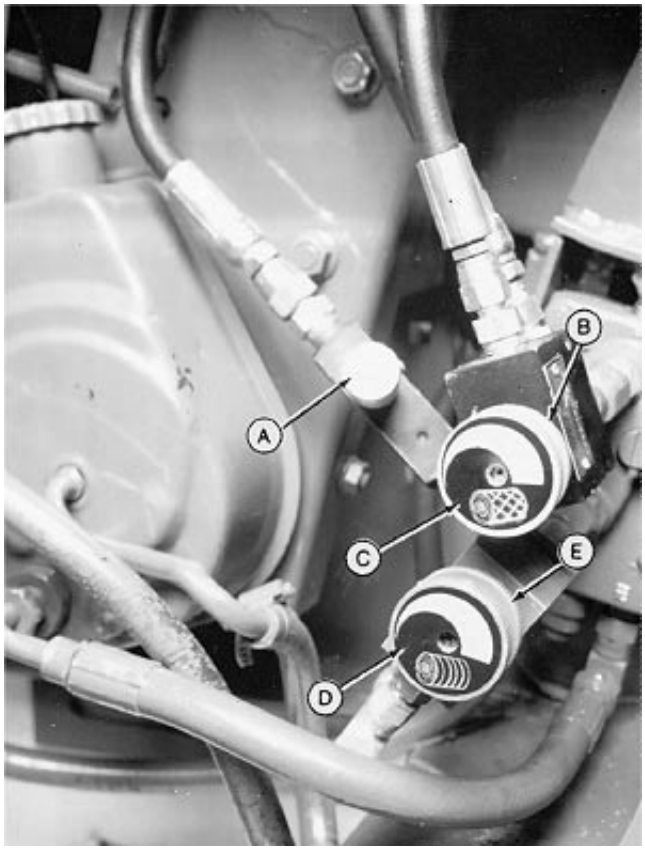
NOTE: If baler has previously been operated in surface wrap mode, adjustment of control knob (C) is not required.

3. Loosen locking ring (E) and fully turn control knob (D) counterclockwise. Re-tighten locking ring.

NOTE: If baler has been set properly for twine wrapping, note the number of turns required to fully open valve (D). This enables easy return to the same twine spacing setting when changing back to twine wrapping.

4. For final adjustment see Adjusting Number of Surface Wraps, this section.

5. Remove surface wrap material from between feed rolls and re-thread. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)

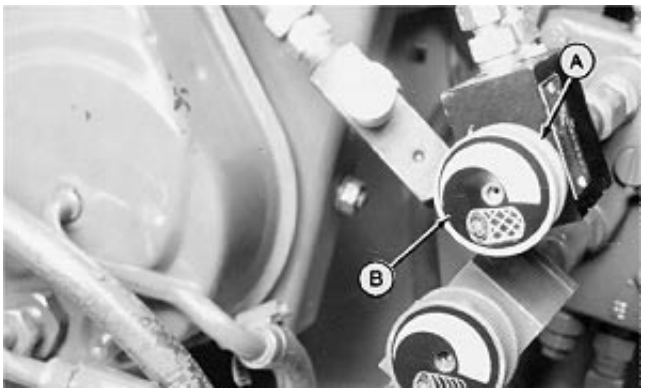


E32626 -UN-19NOV88

A—On-Off Valve
B—Locking Ring
C—Surface Wrap Flow Control Knob
D—Twine Flow Control Knob
E—Locking Ring

EX,435SWJ,J -19-21NOV88

ADJUSTING NUMBER OF SURFACE WRAPS



1. For initial setting of surface wrap turns, loosen locking ring (A) and turn flow control knob (B) fully counterclockwise. Turn flow control knob (B) back one turn in clockwise direction and tighten locking ring (A).

2. To increase number of wraps, loosen lock ring (A) and turn flow control knob (B) clockwise approximately 1/8 turn.

3. To decrease number of wraps, loosen lock ring (A) and turn flow control knob (B) counterclockwise approximately 1/8 turn.

NOTE: Number of wraps may change as the oil warms up. It is recommended to make a few bales before making final wrap adjustment.

It is recommended to use two complete wraps for normal baling conditions. More wraps may be required for very heavy silage bales or for baling stiff, stemmy crops.

If bale size has been changed, it may be necessary to adjust the flow valve setting to compensate for the size change.

PTO speed must be kept constant during the wrapping cycle and from one bale to the next in order for the number of wraps to be consistent.

EX,435SWJ,F -19-14NOV88

CHANGING FROM SURFACE WRAPPING TO TWINE WRAPPING

1. Route twine if needed. (See Routing Twine From Right-Hand and Left-Hand Twine Boxes in Preparing the Baler section.)

If previously threaded, untie ends of twine from twine arms and thread twine through twine tubes leaving approximately 305 mm (12 in.) of twine beyond end of tubes.

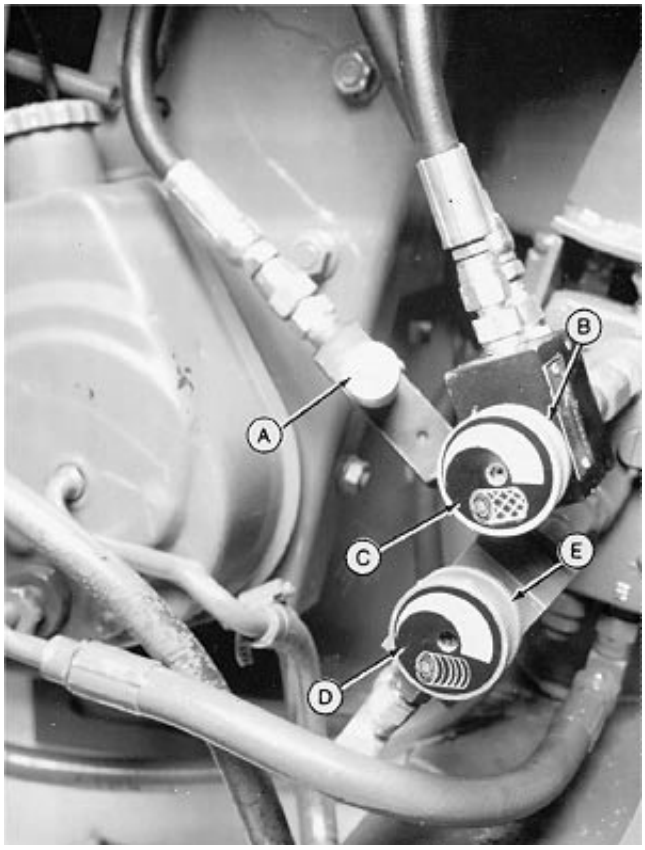
2. Turn knob on valve (A) fully clockwise to shut-off position.

3. Adjust twine spacing by loosening locking ring (E) and turning flow control knob (D) fully counterclockwise, then turn back clockwise 1-1/4 turns and tighten locking ring (E).

4. Final twine spacing adjustment can be made when the oil in the system is hot. (See Adjusting Twine Spacing in Preparing the Baler section.)

NOTE: When making the final adjustment, turn knob approximately 1/8 of a turn each time. If knob is turned too far clockwise, twine arm will move to the right but will not move to the left.

NOTE: Do not adjust surface wrap flow valve (C) when changing from surface wrap to twine. Once adjusted, valve (C) can be left in that position indefinitely.

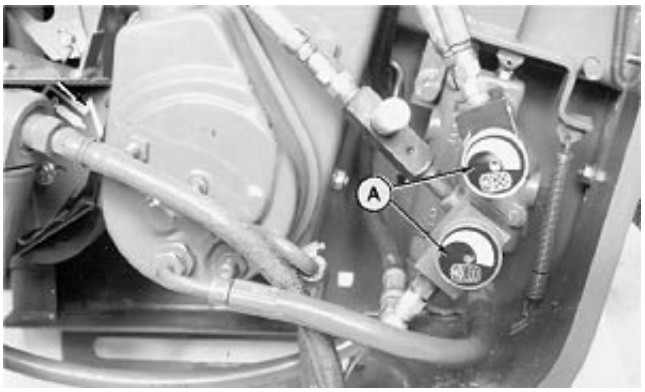


E32626 -UN-19NOV88

A—On-Off Valve
B—Locking Ring
C—Surface Wrap Control Knob
D—Twine Flow Control Knob
E—Locking Ring

EX,435SWJ,G -19-10NOV88

OPERATING SURFACE WRAP SYSTEM WITH EMPTY BALER



To observe knife operation and V-belt idler:

1. Lock gate in closed position with gate lock valve.

2. Raise tension arm fully.

3. Open surface wrap shield doors to observe movement of knife arm and V-belt idler.

CAUTION: Stay clear of moving parts. Knife will return automatically without warning.

4. Engage PTO.

5. Pull rope to recycle the system if necessary.

Twine arm and surface wrap will cycle. However, bale forming belts will not turn and V-belt drive does not rotate.

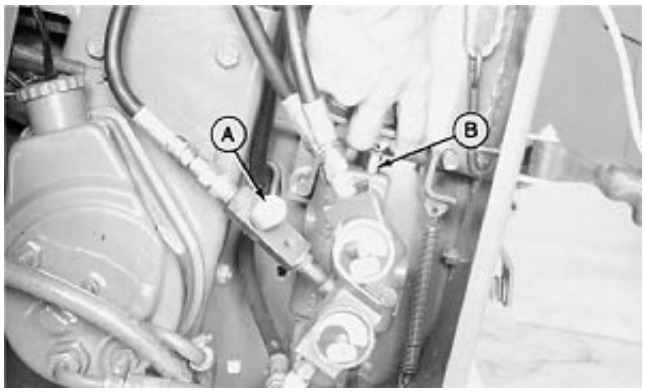
IMPORTANT: Do not operate more than one minute in this mode or bale forming belts may be damaged.

NOTE: Surface wrapping is a fast process. When adjusted for normal operation it takes only about 5 to 10 seconds for a complete cycle. It may be helpful to slow the process down by turning both flow control knobs (A) clockwise approximately 1 turn each to allow more time for observation.

Be sure flow valves are returned to original setting before making the next bale.

EX,435SWJ,H -19-14NOV88

RELEASING KNIFE ARM MANUALLY



E32632 -UN-19NOV88

If it is necessary to manually rotate the surface wrap feed rolls, service the knife, or check V-Belt length:

1. Disengage PTO and shut off tractor engine.

2. Open right-hand baler shield door to access the hydraulic valves.

NOTE: On-off valve (A) must be opened fully (counterclockwise). The spool in the shifter valve (B) must be in the raised position to release the hydraulic oil which holds the knife arm forward.

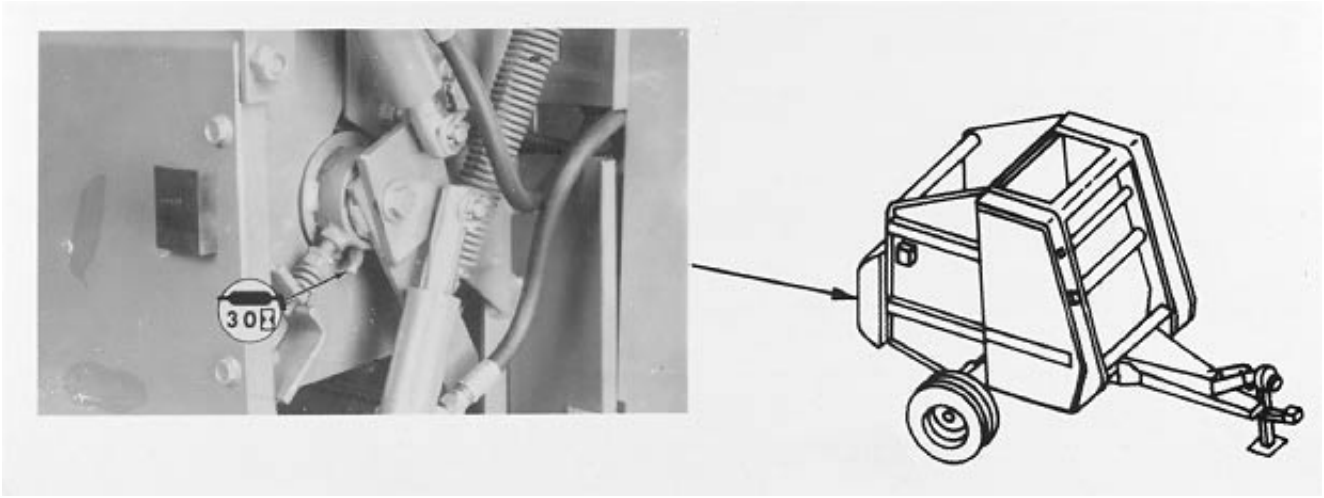
If tension arm is up, pull the trip rope and release to lift the spool. If the tension arm is not high enough to raise the spool fully when trip rope is actuated, lift the spool manually by placing fingers on either side of spool (illustrated) and pulling upward for 1 to 2 seconds.

3. With left-hand side door of the surface wrap unit open, swing the knife arm back until the brake is clear of the sheave. The rolls should be free to rotate.

EX,435SWJ,I -19-10NOV88

Surface Wrap—Lubrication

EVERY 30 HOURS



Surface Wrap Feed Rolls

EX,435SWN,A -19-14NOV88

ANNUALLY

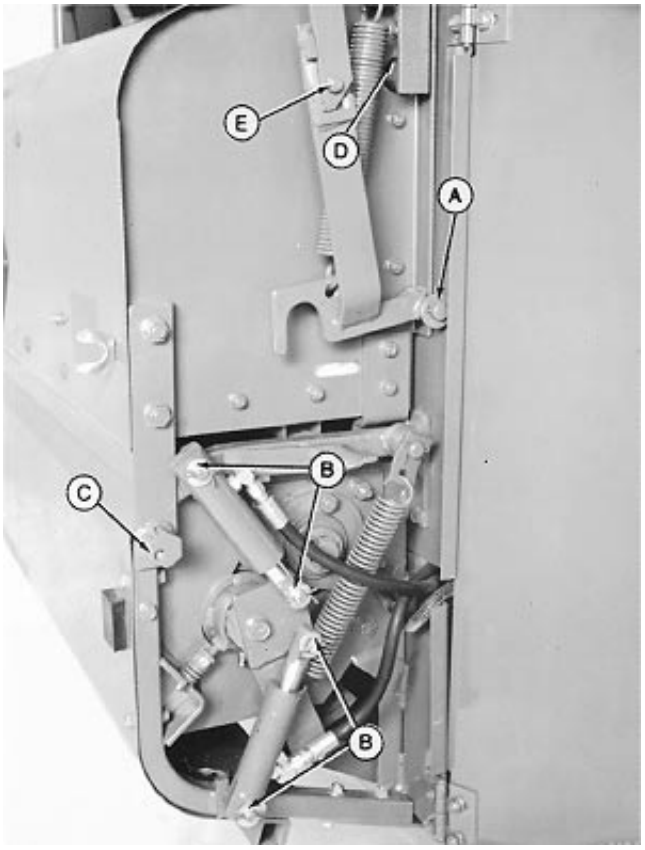
A—Surface Wrap Box Latch Pivots (Both Sides)

B—Cylinder Pins

C—Surface Wrap Box Pivots (Both Sides)

D—Surface Wrap Box Brake Pivots (Both Sides)

E—Handle Pivots (Both Sides)



EX,435SWN,B -19-14NOV88

Surface Wrap—Troubleshooting

Symptom	Problem	Solution
Bale not wrapped (No cut-off signal)	On-off valve shut off.	Open valve fully. (See Changing from Twine Wrapping in Surface Wrap-Operating the Baler section.)
	Surface wrap supply roll empty.	Install new roll. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)
	Surface wrap material wrapped around rubber feed rolls.	Remove material from rollers. (See Surface Wrap Material Wrapped Around Rubber Feed Rolls in this section.)
	Surface wrap material wrapped on roll with spirals.	File or grind smooth any weld slag or sharp end on spirals.
	Surface wrap material not started between rubber feed rolls.	Route surface wrap correctly. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)
	Surface wrap roll installed in the box backwards.	Install roll correctly. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)
	Surface wrap feed roll drive not engaged.	Check for broken or too long V-belt. (See Checking Drive Belt Length in Surface Wrap-Service section.)
		Check for binding at knife arm pivots.
	Twine arm did not cycle normally.	See Automatic Twine Wrap in Troubleshooting section.
		Check for binding at knife arm pivots.
	Feed roll pressure set too low.	Adjust feed roll pressure. (See Adjusting Feed Roll Pressure in Surface Wrap-Service section.)
	Roll of surface wrap material larger than 305 mm (12 in.).	Use correct size roll of surface wrap.
	Rust on box panels where roll of surface wrap contacts.	Remove rust. Protect areas from rust during periods of non-use by painting.

EX,435SWO,A -19-15NOV88

Symptom	Problem	Solution
Surface wrap material wrapped around rubber feed rolls.	V-Belt on surface wrap drive too short.	Check belt length. (See Checking Drive Belt Length in Surface Wrap-Service section.)
IMPORTANT: Do not cut surface wrap material from rubber feed rolls. Any knife cuts in the rubber roll covering may result in more frequent wrapping around the rollers and may require roller replacement. See Removing Wrappage from Surface Wrap from Rollers in Service section.	Feed roll pressure set too high.	Adjust feed roll pressure. (See Adjusting Feed Roll Pressure in Surface Wrap-Service section.)
	Surface wrap material improperly routed, or too much of the end loop started through feed rolls when threading.	Route and thread surface wrap correctly. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)
	Rubber roll damaged or sticky.	Clean by wiping with clean rag or soap and water. NEVER use solvents. Replace roller if damaged.
	Static electricity or dampness causing surface wrap material to cling to the rolls.	Dust the rubber drive rolls with talcum powder such as A51237, available from your John Deere dealer.
	Surface wrap material sticky from adhesive used in packaging (tape, etc.).	Remove any sticky material from the supply roll by unrolling, cutting and discarding.
	Knife not holding the surface wrap.	See Adjusting Knife Arm Stop in Surface Wrap-Service section.
	Roller scraper/guide damaged.	Replace. See your John Deere dealer.
	Knife installed on top of knife arms or with bevel up, or bolts through knife upside down.	Position knife and attaching bolts correctly. (See Removing and Installing Knife in Surface Wrap-Service section.)

EX,435SWO,B -19-15NOV88

Symptom	Problem	Solution
Bale not wrapped (cutoff signal does activate)	Surface wrap fed to other areas of the machine:	Locate and remove misfed surface wrap material before making the next bale. Otherwise, improper belt tracking and further misfeeding may result if material is not removed promptly and the cause is not corrected.
	a) Starter roll wrappage.	Remove all burrs, weld splatters, rough spots, etc. on starter roll. Mud or sticky crop residue can cause occasional starter roll wrappage.
	b) Baler drive roll wrappage.	Do not damage rubber strips when removing misfed material.
	c) Upper idler roll.	In rare occasions misfed material can be found on the upper idler roll.
	d) Surface wrap caught in rough belt splices (surface wrap is not transferred from belts to bale during wrapping cycle).	Inspect and repair broken or damaged belt splices.
	e) Surface wrap bunched behind lower belt guide on gate due to crop buildup.	Remove crop buildup from lower gate area. In some crops, reducing PTO rpm while baling will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions. (See Baling Short, Dry, Slick Crops in Operating the Baler section.)
Bale not uniformly wrapped (cutoff signal does activate)	Buildup of crop, etc., behind lower belt guide on gate.	Clean out buildup. In some crops, reducing PTO rpm will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions.
	Insufficient number of wraps.	Check to be sure the surface wrap supply roll has not run out. Machine should be set to apply a minimum of two wraps. (Refer to Adjusting Number of Surface Wraps in Surface Wrap-Operating the Baler section.)
	Belts not tracking properly.	Refer to Adjusting Belt Tracking in Service section.
	Surface wrap supply roll is installed in box backwards.	See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.

Continued on next page

Symptom	Problem	Solution
	Surface wrap box brake spring broken or missing.	Check springs on both sides of surface wrap box. Replace if necessary.
	Surface wrap box not latched on both sides.	Latch both sides of surface wrap box. (See Closing Surface Wrap Box in Surface Wrap—Preparing the Baler section.)
	Surface wrap not routed over spiral roll.	See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.
	Spiral roll installed backwards.	When surface wrap material is fed in normal direction of travel, rotation of the spirals will spread the surface wrap toward the outside of the baler.
	Roll of surface wrap material too narrow.	See your John Deere dealer. Use only approved material for best results.
	Surface wrap partially on bale, partially on feed roll or baler roll.	See Bale Not Wrapped (Cutoff Signal Does Activate) in this section.
	Bale has crop between layers of surface wrap on the bale or loose crop is outside the surface wrap on the bale.	Stop forward travel immediately when the full bale alarm sounds and solid yellow light goes on. Surface wrap begins to feed at that time, and any crop picked up after this will be placed between the layers of surface wrap or outside the wrapping.
Surface wrap not cut off at end of wrapping cycle	Dull knife.	Sharpen knife with file. Knife must be very sharp for clean cut-off. (See Removing and Installing Knife in Surface Wrap-Service section.)
	Misadjusted stop on knife arm.	See Adjusting Knife Arm Stop in Service section.
	Brake on front rubber feed roll misadjusted/worn.	Check and adjust brake. (See Checking Brake in Surface Wrap-Service section.)
	Knife not returning to cutting position freely.	Check for proper lubrication and binding at knife arm pivots. See your John Deere dealer if binding occurs.
	Twine arm not cycling normally.	See Automatic Twine Wrap in Troubleshooting section.

Continued on next page

Symptom	Problem	Solution
	Poor quality surface wrap material.	See your John Dealer for recommended material. For best results use only approved material.
	Hydraulic lines reversed at surface wrap cylinders or valves.	Refer to Surface Wrap Hydraulic System in Surface Wrap-Service section.
	Defective hydraulic lines to surface wrap unit.	Replace if necessary.
Buzzer, green light and red light stay on after surface wrap has cutoff.	Surface wrap microswitch is misadjusted.	Adjust correctly. (See Adjusting Microswitch in Surface Wrap-Service section.)
	Return spring on cutoff indicator flap (surface wrap microswitch ramp) is missing or damaged.	Replace spring.
	Knife arm stop is misadjusted (surface wrap is tightly gripped between front of knife and rubber flap after cutoff).	Adjust stop. (See Adjusting Knife Arm Stop in Surface Wrap-Service section.)
	Knife is dull, causing long strings to keep the cutoff indicator flap and microswitch activated.	Sharpen knife.
Brief, intermittent buzz signal when baling/transporting in very rough ground conditions.	Travel speed too high.	Slow down travel speed.
	Microswitch on surface wrap misadjusted.	Adjust switch. (See Adjusting Microswitch in Surface Wrap-Service section.)
	Return spring on cutoff indicator flap (surface wrap microswitch ramp) is damaged or defective.	Replace spring.
Surface wrap loose around bale.	Roll of surface wrap material is behind brake bar in surface wrap box.	Check to be sure roll of surface wrap material (if small diameter) is ahead of brake bar inside surface wrap box in the closed position. (Check roll position through observation slot in box.)
	Missing brake bar spring (on surface wrap box latch arms).	Replace missing parts.
	Too many wraps applied.	Normally no more than 3 wraps are needed. Excess wraps may appear to be loose.

Continued on next page

Symptom	Problem	Solution
	V-belt wrong length, or damaged.	See Checking Drive Belt Length in the Surface Wrap-Service section. Replace if necessary.
Varying number of wraps from one bale to the next	Bale size and shape not uniform.	Tighten loose bale size adjustment knob. Make bales uniform shape for following operating instructions in base machine section. NOTE: If wrapping a small bale (with manual pull rope) the small bale will have the same amount of surface wrap (higher number of wraps) unless flow valve is readjusted.
	Varying PTO speed while wrapping from one bale to the next.	Maintain rated PTO speed while wrapping. If difficult crop conditions require varying PTO speed while baling, return to rated speed at the “full bale” alarm.
	Flow valve lock ring is loose.	After adjusting flow valves for setting the number of wraps, tighten lock ring as indicated in Adjusting Number of Surface Wraps in Surface Wrap-Service section.
	Low oil in pump.	Check oil. (See Lubrication and Maintenance section.)
	Change in ambient air temperature from previous operation.	If air temperature is greatly different from when number of wraps was adjusted, flow valve may need to be readjusted.
Surface wrap is split around bale or stays behind the pickup.	Buildup of crop stems, etc, in lower gate belt guide area.	Remove buildup. In some crops, reducing PTO rpm will reduce buildup tendency. Ejecting bale with PTO running will reduce buildup in some conditions.
	End or corner of guide channel(s) bent upward into baler belt(s).	Reshape damaged end or replace with new part.
	Insufficient clearance between ends of belt guide straps and cross member (lower gate belt guide).	Check that clearance is at least 2 mm (3/32 in.) between all belt guide straps and cross member. Install washer at mounting bolts or replace cross member if required. Maximum gap is 5 mm (3/16 in.). (See Servicing Lower Front Gate Roller in Surface Wrap-Service section.)

Continued on next page

Symptom	Problem	Solution
	Extremely stemmy crops causing splitting or snagging.	Use more wraps of surface wrap material.
Bale wrapped normally, but cutoff signal does not activate	Surface wrap microswitch misadjusted.	Adjust. (See Adjusting Microswitch in Surface Wrap-Service section.)
	Gate latch misadjusted (green light goes out while baling).	Adjust gate latch. (See Adjusting Gate Latch Stop and Adjusting Gate Latch Switch (Green Light) in the Service section).
	Right or left-hand gate latch microswitch misadjusted or defective (green light not on).	Adjust or replace switch. (See Adjusting Gate Latch Switch (Green Light) in Service section.)
	Knife arm stop not adjusted properly.	Adjust knife arm correctly. (See Adjusting Knife Arm Stop in Surface Wrap-Service section.)
	Wrong return spring on cutoff indicator flap (surface wrap microswitch ramp).	Replace with correct spring.
	Defective microswitch.	Check switch. Replace if necessary. (See Checking Microswitches in Service section.)
	Wire connections unplugged or corroded/dirty.	Inspect connections in harness next to oversize bale switch, just ahead of the surface wrap unit on right-hand side, and at the surface wrap microswitch.

EX,435SWO,C -19-15NOV88

Surface Wrap—Service

PRACTICE SAFETY

CAUTION: Before servicing or adjusting baler:

1. Disengage all power.

2. Shut off engine

3. Wait until all moving parts have stopped.

EX,435SWP,A -19-10NOV88

ADJUSTING FEED ROLL PRESSURE

1. Release knife arm manually. (Refer to Releasing Knife Arm Manually in Surface Wrap-Operating the Baler section.)

2. Open both side doors (A) and open surface wrap box. (See Opening Surface Wrap Box in Surface Wrap-Preparing the Baler section.)

3. Remove any foreign material or surface wrap from between the rolls.

4. Loosen lock nut (B).

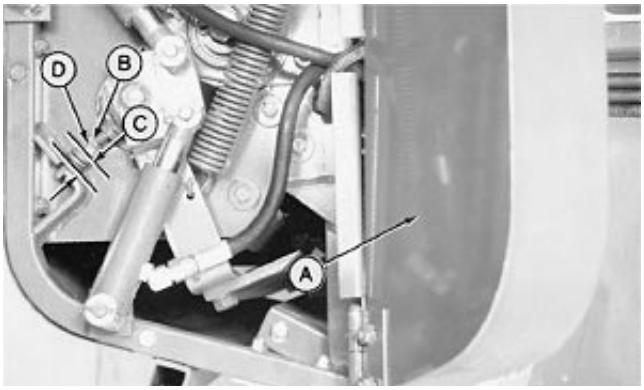
5. Adjust spring length until 20.5 mm (25/32-in.) dimension (C) is obtained by loosening or tightening spring adjusting nut (D).

6. Retighten lock nut (B).

7. Repeat steps 2 through 4 for left-hand side.

NOTE: Too much pressure can cause surface wrap to wrap on rubber rolls. A lack of pressure will prevent surface wrap from being fed by the rolls to the bale.

When knife arm is actuated by hydraulic force, it is normal for rolls to be slightly separated on one end or the other.



E32635 -UN-19NOV88

A—Side Doors
B—Lock Nut
C—20.5 mm (25/32-in.) Dimension
D—Spring Adjusting Nut

EX,435SWP,B -19-15NOV88

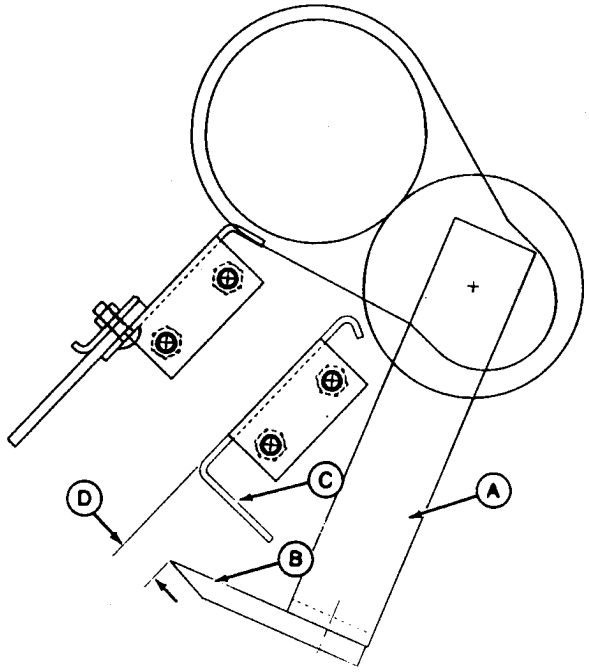
CHECKING DRIVE BELT LENGTH

1. Move knife arm manually. (Refer to Releasing Knife Arm Manually in Surface Wrap-Operating the Baler section.)

2. Pull knife arm (A) back until belt is tight. Cutting edge of knife (B) should be behind the corner of rear guide (C) 10 to 20 mm (13/32 to 25/32 in.) (D).

3. If top edge of knife (B) is less than 10 mm (13/32 in.) behind guide (C), the belt is too short. This condition can cause surface wrap to wrap on rubber rolls. Replace belt. (See your John Deere dealer.)

A—Knife Arm
B—Knife
C—Guide
D—10—20 mm (13/32—25/32 in.)



E32645 -UN-29NOV88

EX,435SWP,C -19-15NOV88

REMOVING AND INSTALLING BELT

1. Lock gate.

2. Raise tension arm to release belt tension.

3. Shut off tractor.

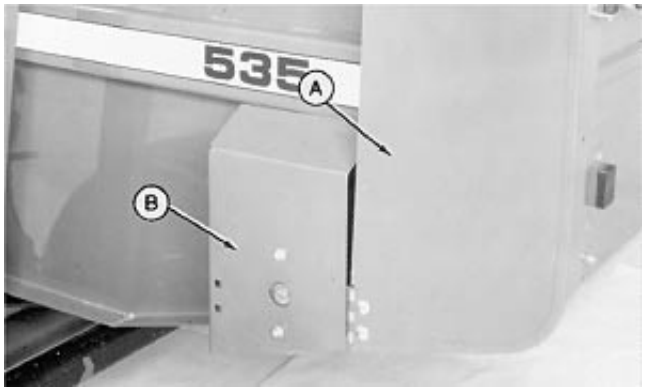
4. Manually release knife arm. (See Releasing Knife Arm Manually in Surface Wrap-Operating the Baler section.)

5. Remove left-hand door (A).

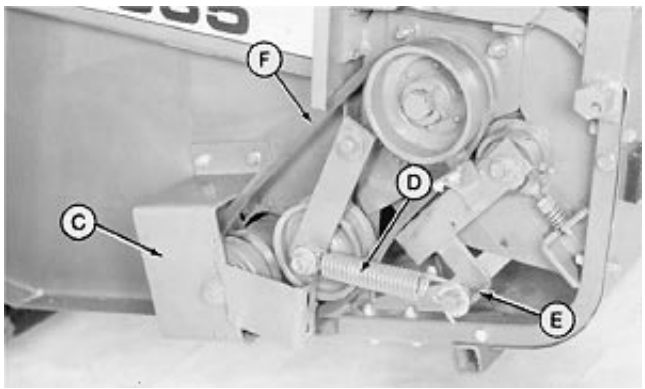
6. Remove shield (B), gate roll support (C), and tension spring (D) from knife arm (E).

7. Remove belt (F) from surface wrap roll sheave and gate roll sheave.

A—Left-Hand Door
B—Shield
C—Gate Roll Support
D—Tension Spring
E—Knife Arm
F—Belt



E32638 -UN-17NOV88



E32639 -UN-17NOV88

EX,435SWP,D -19-15NOV88

8. Install new belt around surface wrap roll sheave (A), gate roll sheave (B), and idler (C).

9. Install tension spring (D).

10. Install gate roll support (E).

11. Check clearance between roll and side sheet.

12. Install shield (F) and left-hand door (G).

13. Check for correct position of knife edge. (See Checking Drive Belt Length in this section.)

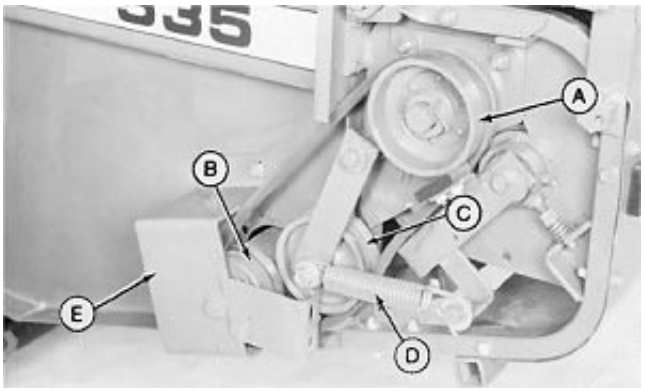
14. Manually move knife arm forward to cut-off position.

15. Lower tension arm fully.

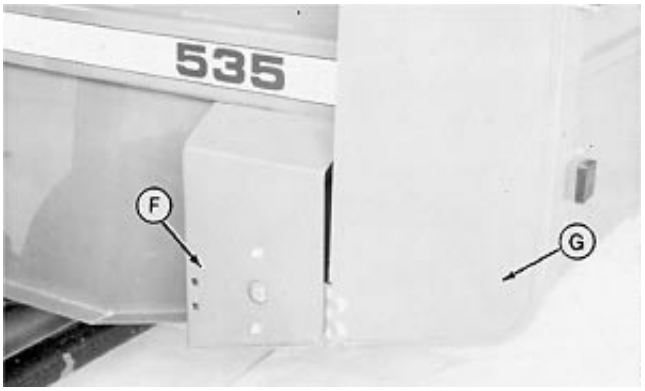
16. Unlock gate.

17. Check belt tracking. (See Adjusting Belt Tracking in the Service section.)

A—Surface Wrap Roll Sheave
B—Gate Roll Sheave
C—Idler
D—Tension Spring
E—Gate Roll Support
F—Shield
G—Left-Hand Door



E32636 -UN-17NOV88



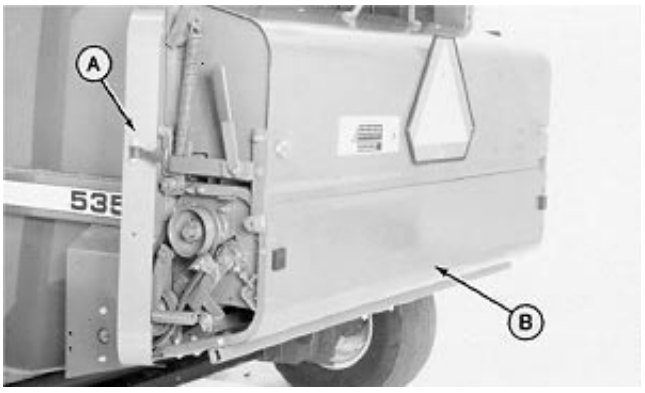
E32659 -UN-22NOV88

EX,435SWP,E -19-15NOV88

REMOVING AND INSTALLING KNIFE

1. Manually move knife arm back. (See Releasing Knife Arm Manually in Surface Wrap-Operating the Baler section.)

2. Open side doors (A) and remove rear shield (B).



E32637 -UN-17NOV88

EX,435SWP,F -19-10NOV88

CAUTION: Be careful when working around the knife. It is sharp.

3. Note position of knife cutting edge for reinstallation.

4. Remove bolts and nuts (B) on each end of knife (C). Remove knife (C) from knife arms (A).

5. Install knife (C) with bevel (D) down, under knife arms (A).

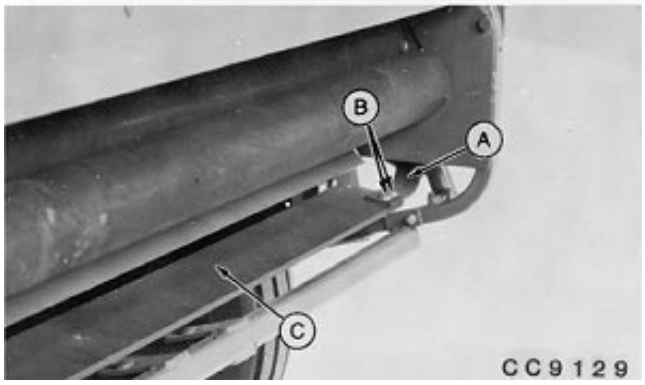
NOTE: Round heads of bolts must be up.

6. Tighten bolts to 55 N·m (40 lb-ft).

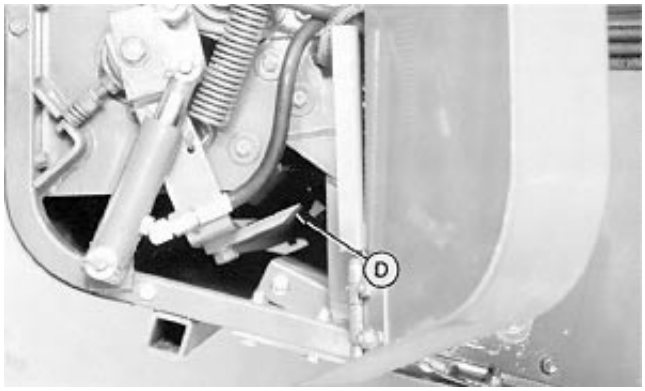
7. Manually push knife arm forward.

8. Install rear shield.

A—Knife Arms
B—Bolts and Nuts
C—Knife
D—Knife Bevel



CC9129 -UN-17NOV88



E32641 -UN-17NOV88

EX,435SWP,G -19-15NOV88

CHECKING BRAKE

1. Check that surface wrap roll (A) will not rotate by hand when knife arm (B) is in its most forward position.

2. Manually release knife arm. (See Releasing Knife Arm Manually in Surface Wrap-Operating the Baler section.)

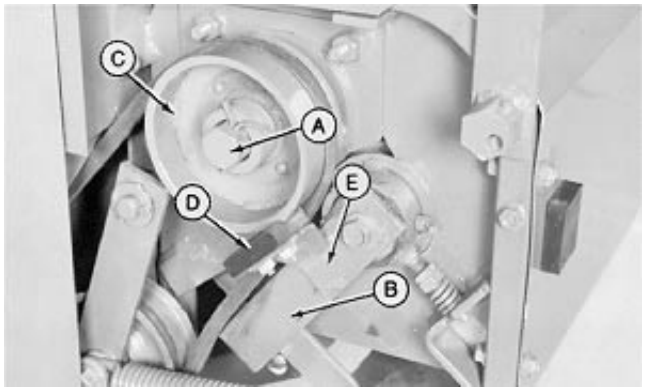
3. Brake must be completely disengaged when knife arm is swung back and belt is tightened.

4. If adjustment is required, pull knife arm (B) back, remove sheave (C). Install (or remove) washers as necessary, between rubber brake (D) and bracket (E).

NOTE: If worn, rubber brake pad can be reversed.

5. Replace sheave (C) and check brake adjustment as described in steps 1 through 3 above.

6. Push knife arm forward.



E32646 -UN-29NOV88

A—Surface Wrap Roll
B—Knife Arm
C—Sheave
D—Brake
E—Bracket

EX,435SWP,H -19-15NOV88

ADJUSTING MICROSWITCH

1. Open surface wrap box.

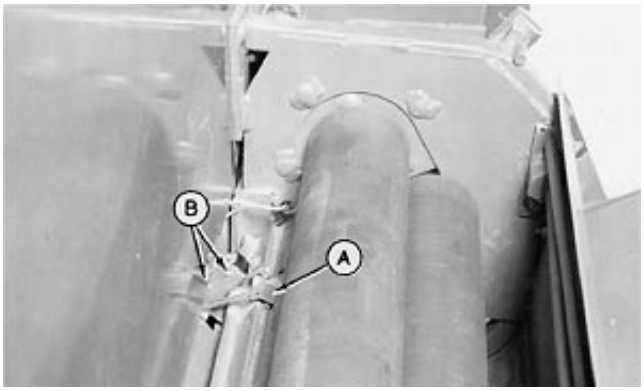
2. Check that switch ramp (A) pivots freely. Ramp must return freely under spring force.

3. Loosen both screws (B) on switch mounting plate. Move switch horizontally until it is positioned as shown.

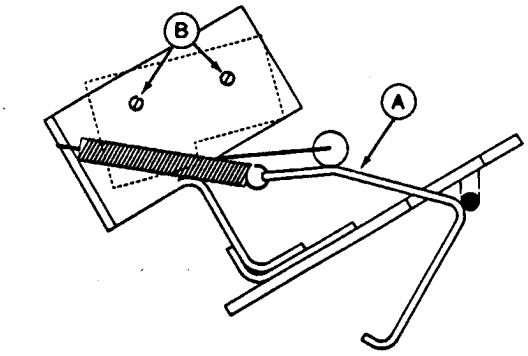
4. Move switch vertically until it just contacts ramp (A), but is not activated.

5. Tighten screws (B).

6. Close surface wrap box.



E32647 -UN-29NOV88



E32679 -UN-29NOV88

EX,435SWP,I -19-10NOV88

REMOVING WRAPPAGE FROM FEED ROLLERS

IMPORTANT: Do not cut surface wrap material from rubber feed rolls. Any knife cuts in the rubber roll covering may result in more frequent wrapping around the rolls and may require roller replacement.

If surface wrap becomes wrapped around either of the rubber feed rolls:

1. Open the surface wrap box. (See Opening Surface Wrap Box in Surface Wrap-Preparing the Baler section.)

2. Swing the knife arm back to release the brake. (See Releasing Knife Arm Manually in Surface Wrap-Preparing the Baler section.)

E32648 -UN-17NOV88

EX,435SWP,J -19-15NOV88

3. Cut the surface wrap material between the supply roll and the spiral roll.

EX,435SWP,K -19-11NOV88

4. Gather the free end of the surface wrap on the rubber roll.

5. Pull the surface wrap, rotating the rubber drive rollers in reverse.

6. Remove all of the wrapped material, including all strings, and discard. Do not place trimmings in the surface wrap box.

7. Wipe off rubber drive rolls and check for any sticky material. If necessary, rolls may be washed with soap and water. NEVER use solvents to clean rubber rolls.

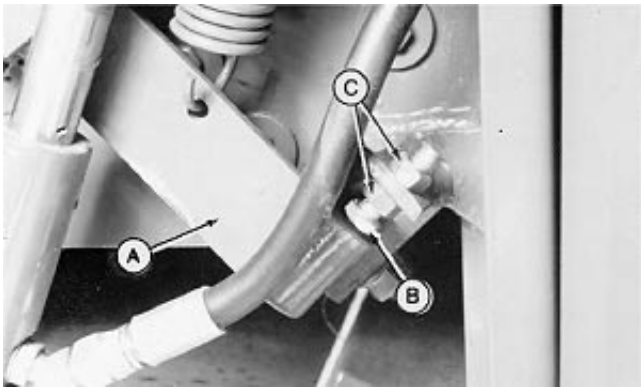
EX,435SWP,L -19-15NOV88

8. Re-thread the surface wrap material. (See Installing Surface Wrap and Routing Through Rolls in Surface Wrap-Preparing the Baler section.)

9. If static electricity or dampness causes surface wrap material to cling to the rolls, dust the rubber drive rollers with talcum powder such as A51237, available from your John Deere dealer.

EX,435SWP,M -19-15NOV88

ADJUSTING KNIFE ARM STOP



1. Manually release knife arm. (See Manually Releasing the Knife Arm in this section.)

2. Push the knife arm (A) forward until it contacts the stop bolt (B).

CAUTION: Be careful when working around the knife. It is sharp.

3. Check for light contact between the front edge of the knife and the rubber flap with the arm against the stop bolt.

NOTE: If the knife contacts the rubber flap too hard, it may clamp the surface wrap after it is cut off and cause the cutoff signal (buzzer, red light and green light) to stay on.

If the knife does not contact the rubber flap, the cut end of the surface wrap material may snap back to the feed rolls. This end may wrap around the rubber rolls when the next wrapping cycle starts.

4. Adjust the stop position as required by loosening jam nuts (C) and turning bolt (B) to desired position. Retighten jam nuts (C).

EX,435SWP,N -19-15NOV88

SERVICING LOWER FRONT GATE ROLL

1. Raise gate fully until lower front gate roll is approximately 1 m (3-1/3 ft) above the ground.

2. Lock gate. Shut off tractor.

3. Remove two round-head bolts (A) holding front corners of lower surface wrap guide assembly to belt guide.

4. Swing assembly (B) away from gate roll.

IMPORTANT: Do not lower gate with the lower surface wrap guide assembly detached from the belt guide or damage to the guide will result.

IMPORTANT: Do not operate the baler belts with the lower surface wrap guide assembly detached from the belt guide, or belt damage may result.

5. Lower tension arm. Shut off tractor.

E32661 -UN-22NOV88

E32662 -UN-22NOV88

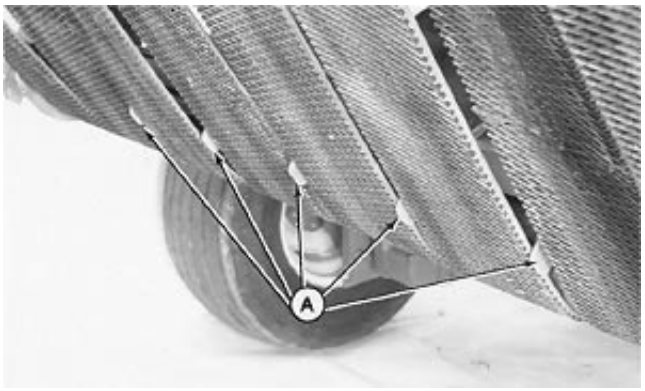
EX,435SWP,O -19-15NOV88

6. Position belts between guide straps (A).

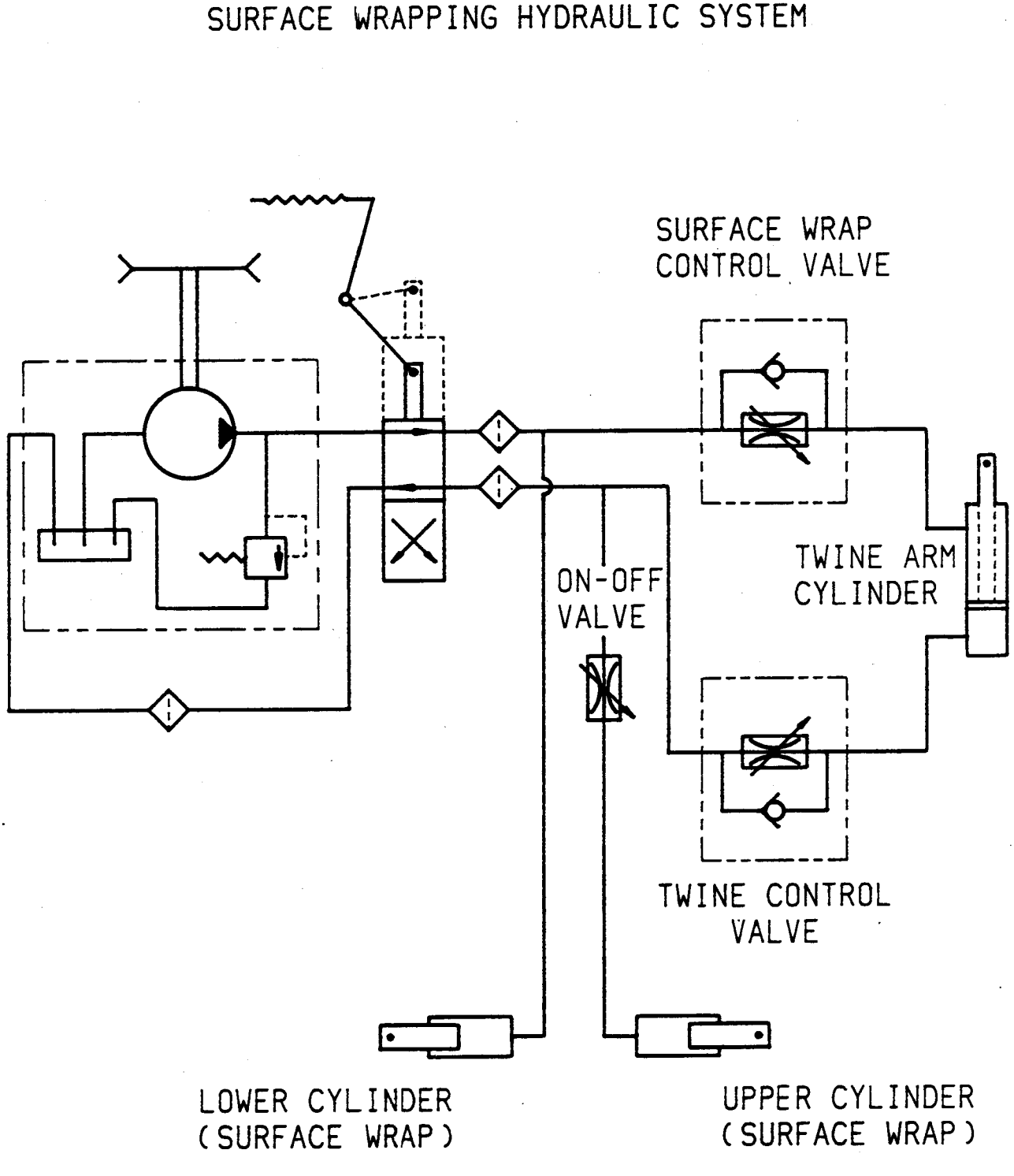
7. Swing assembly toward the roll.

8. Align the holes and attach with round-head bolts.

9. Check clearance between ends of all belt guide straps and the bottom crossmember. There must be 2 to 5 mm (3/32 to 3/16 in.) clearance.



EX,435SWP,Q -19-21NOV88



EX,435SWP,P -19-15NOV88

END OF SEASON

1. Move baler to a dry place. If baler must be stored outside, belt life can be prolonged by covering or removing belts to protect from sunlight and ozone exposure.

2. Remove twine from twine boxes. Store twine inside during storage season.

If surface wrap is installed, remove roll of surface wrap material and store in a cool, dry place.

3. Clean baler thoroughly inside and out. Trash and dirt will draw moisture and cause rust.

4. Apply a few drops of oil to all pivot points and linkages.

5. Thoroughly lubricate baler. (See Lubrication Section.)

6. Apply a thin layer of grease to threads of all adjustment bolts.

7. Paint all parts from which paint has been worn.

If surface wrap is installed, paint surfaces of mechanism, especially inside surfaces of surface wrap box, where paint is worn or chipped to prevent rust. Do not get paint on rubber feed rollers. Dust rubber feed rolls with talcum powder such as A51237. (See your John Deere dealer.)

8. Clean all chains by washing them with diesel fuel. Dry well and coat with a heavy oil.

9. Put blocking under baler frame to take load off tires. DO NOT DEFLATE TIRES. If exposed, put cover over tires to protect them from light, grease, and oil.

10. Order replacement parts as needed.

EX,435Q,A -19-03NOV88

BEGINNING OF SEASON

1. Check and fill gear case to dipstick level. (See Lubrication and Maintenance section.)

2. Replace twine system oil filter. (See Lubrication and Maintenance section.)

3. Remove the heavy oil from the chains and lubricate with 30W or heavier oil.

4. Lubricate complete machine. (See Lubrication and Maintenance section.) This will force any collected moisture out of the bearings.

EX,435Q,B -19-15SEP88

5. Loosen clutch spring bolts making sure clutch plates are free and have not become frozen. Reset clutch springs. (See Adjusting Drive Slip Clutch in the Service section.)

E32149 -UN-12SEP88

6. Check tires for proper air pressure.

7. Tighten all bolts, nuts, and setscrews.

8. Check all belt splice pins for damage and replace as necessary.

9. Check adjustments of baler as described in Service section.

10. Review your operator's manual.

11. Check oversize bale switch by locking gate and raising belt tension arm. Red light should come on and buzzer should sound. If not, refer to Adjusting Oversize Bale Switch in the Service section.

12. If equipped with converging wheel, lubricate fittings and trip wheel. If wheel does not pivot freely by hand, remove wheel bracket from tube. Apply grease to pivoting surfaces and reassemble.

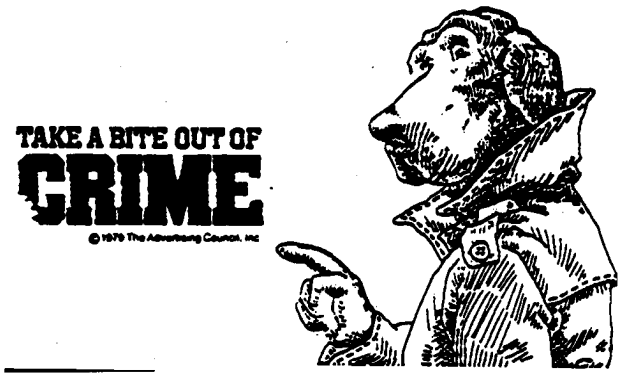
13. If surface wrap bundle is installed, check area which will contact surface wrap. Sand rusty surfaces, etc.

EX,435Q,C -19-03NOV88

Crime Prevention Tips

HELP PREVENT CRIME

You can help take a bite out of crime by properly documenting ownership and discouraging theft.



TS140 -19-07OCT88

O53,CRPRV,A -19-20NOV87

RECORD IDENTIFICATION NUMBERS

1. Mark your machines with your own unique numbering system.

2. Record the Product Identification Number (PIN) of the unit and also individual component identification numbers for engines, axles, pumps, etc.

3. Include the identification numbers on all documentation, such as insurance, financial, and warranty papers.

TS161 -UN-23MAR89

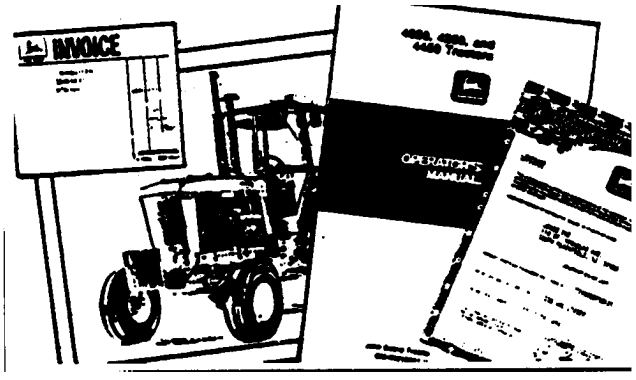
O53,CRPRV,B -19-20NOV87

KEEP PROOF OF OWNERSHIP

1. Take color photographs from several angles of each machine.

2. Maintain an up-to-date inventory of all your machines.

3. Keep your documented identification numbers, color photographs, and inventory in a safe, secure location.

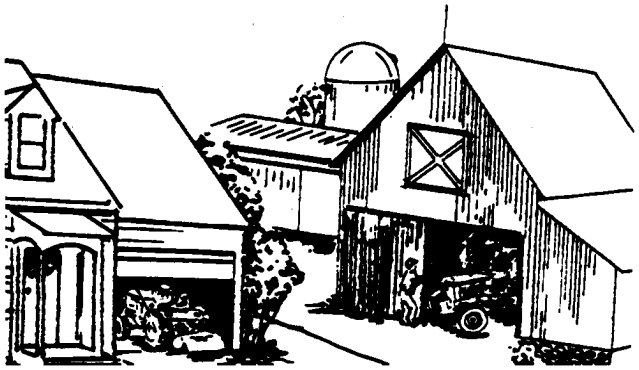


TS142 -UN-23MAR89

O53,CRPRV,C -19-11NOV87

PARK INDOORS OUT OF SIGHT

Make machines hard to move:
- Park hard-to-move equipment in front of exits.
- Lower all equipment to the ground.
- Remove ignition key. Remove battery if unit is stored for a long period.
- Lock cab doors, windows, and vandal protection devices.
- Set wheels in widest position, when possible, making loading more difficult.
- Lock storage building.

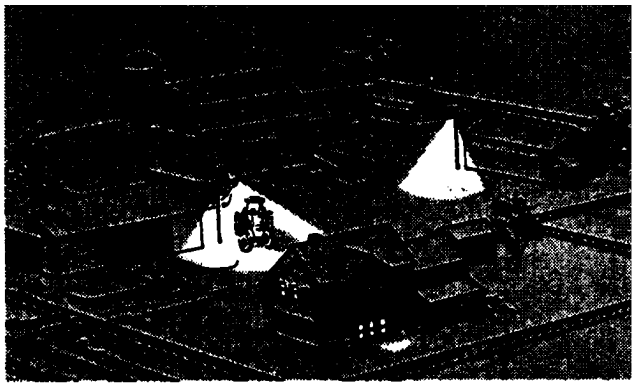


TS143 -UN-23AUG88

O53,CRPRV,D -19-09FEB88

WHEN PARKING OUTDOORS

Make machines hard to move:
- Park in a well-lighted, fenced area.
- Lower all equipment to the ground.
- Remove ignition key. Remove battery if unit is stored for a long period.
- Lock cab doors, windows, and vandal protection devices.
- Set wheels in widest position, when possible, making loading more difficult.



TS155 -UN-23AUG88

O53,CRPRV,E -19-09FEB88

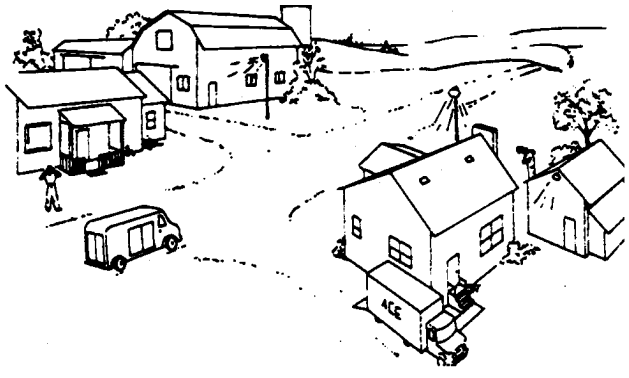
REDUCE VANDALISM

1. Install vandal protection devices

2. Participate in a neighborhood watch program.

3. Take written notes of suspicious vehicles or persons and report your findings to law enforcement agency.

4. Regularly verify that identification plates have not been removed. If they have, notify law enforcement agency. Order duplicate plates from your John Deere dealer.



TS145 -UN-23AUG88

O53,CRPRV,F -19-12NOV87

REPORT THEFTS IMMEDIATELY

1. Immediately notify your local law enforcement agency and insurance agent.

2. Provide a complete description of the machine, all of the documented identification numbers and color photographs.

3. Request verification of the identification numbers after they have been entered with any regional or national crime information center. Double check the numbers to be sure they are correct.

4. Notify your John Deere dealer of the theft and request that its loss be posted with full description and identification numbers.

TS146 -UN-09JAN89

O53,CRPRV,G -19-12NOV87

Specifications

BALE:

Diameter:	
435	1000 mm up to 1829 mm (39 in. up to 72 in.)
535	1000 mm up to 1829 mm (39 in. up to 72 in.)
Width:	
435	1171 mm (46.1 in.)
535	1565 mm (61.6 in.)
Weight:	
435	680 kg (1500 lb) (Depending on crop and moisture content)
535	907 kg (2000 lb) (Depending on crop and moisture content)

BALER:

Weight:	
435	1874 kg (4165 lb)
535	2129 kg (4730 lb)
Length, gate closed	3708 mm (146 in.)
Length, gate open	4750 mm (187 in.)
Height, gate closed	2794 MM (110 in.)
Height, gate open	3683 mm (145 in.)
Width:	
435	2438 mm (96 in.)
535	2845 mm (112 in.)

PICKUP:

Width (inside):	
435	1165 mm (45.9 in.)
535	1560 mm (61.4 in.)
Width (crop deflectors):	
435	1410 mm (55.5 in.)
535	1803 mm (71 in.)
Width (between outer teeth):	
435	1122 mm (44.2 in.)
535	1518 mm (59.8 in.)
Bars	4
Number of teeth:	
435	72
535	96
Tooth spacing	64 mm (2.5 in.)
Stripper diameter	254 mm (10 in.)

FORMING BELTS:

Number:	
435	6
535	8
Type	3-ply combination nylon polyester, diamond tread
Width	178 mm (7 in.)
Length	435 (2) - 13 335 mm (525 in.) (4) - 13 487 mm (531 in.) 535 (4) - 13 335 mm (525 in.) (4) - 13 487 mm (531 in.)

EX,435S,A -19-16SEP88

TWINE WRAP:
- Control . . . . . Self-activating, automatic to preset bale size
- Type . . . . . Hydraulic, self-contained
- Spacing . . . . . Double arm adjustable, infinitely variable with visual twine moving indicators

BALE TRAK MONITOR:
- Bale forming monitors . . . . . Dial indicators
- Near-full bale indicator . . . . . Flashing yellow light
- Automatic-wrap indicator . . . . . Solid yellow light; audible start
- Oversize bale protection . . . . . Red light with audible warning
- Gate closed . . . . . Green light
- Nighttime operation . . . . . Dimmer switch

TIRE SIZE . . . . . 11L x 14, 8-ply rating
31.5 x 13.5, 6 ply, optional

PTO SHAFT SPEED . . . . . 540 rpm
1000 rpm conversion

DRIVE PROTECTION . . . . . Slip clutch

TRACTOR RECOMMENDED:
- 435 . . . . . 41.0 kW (55 hp) minimum
- 535 . . . . . 56.0 kW (75 hp) minimum

- Hydraulic Requirement . . . . . One double acting SCV valve

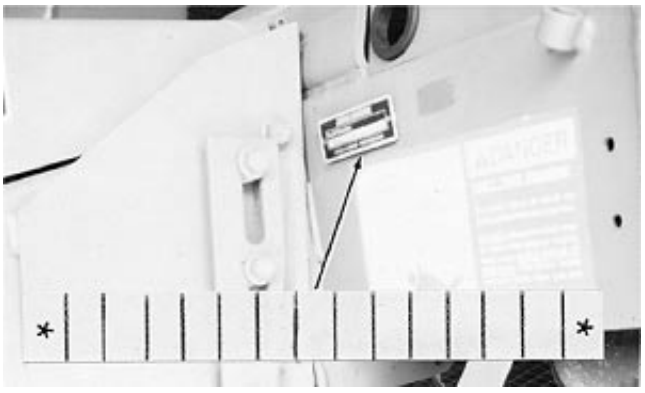
(Specifications and design are subject to change without notice.)

EX,435S,B -19-03NOV88

RECORD SERIAL NUMBERS

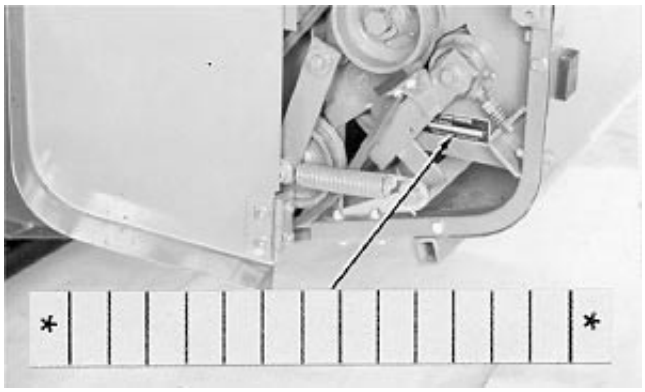
When ordering parts, always furnish model and serial number as given on serial number plate. For your convenience, a space is provided for recording this number.

The baler serial number is located on the front left-hand side of frame.



EX,435S,C -19-16SEP88

The surface wrap serial number is located on the left-hand side of frame.



EX,435S,D -19-15NOV88

CAP SCREW TORQUE CHART

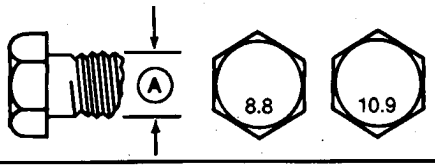
DO NOT use these values if a different torque value or tightening procedure is listed for a specific application. Torque values listed are for general use only. Check tightness of cap screws periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Make sure fastener threads are clean and you properly start thread engagement. This will prevent them from failing when tightening.

Tighten cap screws with plastic insert or crimped steel-type lock nuts to approximately 50 percent of amount shown in chart. Tighten toothed or serrated-type lock nuts to full torque value.

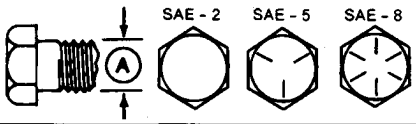


BOLT TORQUE CHART

Bolt Diameter "A"	Wrench Size	Marking on Head			
		8.8		10.9	
		N•m	(lb-ft)	N•m	(lb-ft)
5 mm	8 mm	6	(4.5)	9	(6.5)
6 mm	10 mm	10	(7.5)	15	(11)
8 mm	13 mm	25	(18)	35	(26)
10 mm	16 mm	50	(37)	75	(55)
12 mm	18 mm	85	(63)	130	(97)
16 mm	24 mm	215	(159)	315	(232)
20 mm	30 mm	435	(321)	620	(457)
24 mm	36 mm	750	(553)	1070	(789)
30 mm	46 mm	1495	(1103)	2130	(1571)

TS232 -19-07OCT88

Metric Cap Screw Torque Chart



BOLT TORQUE CHART

Bolt Diameter "A"	Wrench Size	Marking on Head					
		SAE 2		SAE 5		SAE 8	
		N•m	(lb-ft)	N•m	(lb-ft)	N•m	(lb-ft)
3/8"	9/16"	24	(18)	41	(30)	54	(40)
7/16"	5/8"	41	(30)	68	(50)	95	(70)
1/2"	3/4"	61	(45)	102	(75)	142	(105)
9/16"	13/16"	88	(65)	142	(105)	203	(150)
5/8"	15/16"	122	(90)	197	(145)	278	(205)
3/4"	1-1/8"	217	(160)	353	(260)	495	(365)
7/8"	1-5/16"	224	(165)	563	(415)	800	(590)
1"	1-1/2"	332	(245)	848	(625)	1193	(880)
1-1/4"	1-7/8"	665	(490)	1492	(1100)	2393	(1765)

TS233 -19-22NOV88

Inch Cap Screw Torque Chart

O53,TORQ1 -19-08AUG88

Index

John Deere Service Literature Available

PARTS CATALOG

The parts catalog lists 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

O53,PARTS -19-27NOV85

OPERATOR'S MANUAL

The operator's manual provides safety, operating, maintenance, and service information about John Deere machines.

An extra copy of the operator's manual is important if the copy furnished with your machine is misplaced.

TS190 -UN-17JAN89

O53,OM -19-27NOV85

TECHNICAL AND SERVICE MANUALS

Technical and service manuals are service guides for your machine. Included in the manual are specifications, diagnosis, and adjustments. Also illustrations of assembly and disassembly procedures, hydraulic oil flows, and wiring diagrams.

Component technical manuals are required for some products. These supplemental manuals cover specific components.

TS224 -UN-17JAN89

O53,TM -19-21DEC87

FMO AND FOS MANUALS

These are basic manuals covering most types and makes of machinery. FMO manuals tell you how to OPERATE agricultural machinery; FOS manuals tell you how to SERVICE machine systems. Each manual starts with basic theory and is fully illustrated with colorful diagrams and photographs. Both the "whys" and "hows" of adjustments and repairs are covered in this reference library.

TS195 -UN-02DEC88

O53,FMOFOS -19-27NOV85

John Deere Service Literature Available

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			x	=
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FMO Manual—Tillage	FMO-11102B		x	=
FMO Manual—Planting	FMO-12102B		x	=
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FOS Manual—Tires and Tracks	FOS-5505B		x	=
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Check or money order in U.S. Dollars enclosed . . . . . Total (Do not send cash or stamps)

Prices subject to change without notice.
SP-319 Jan-87

EX,435,SLIT -19-22SEP88

John Deere Service Keeps You On The Job

JOHN DEERE PARTS

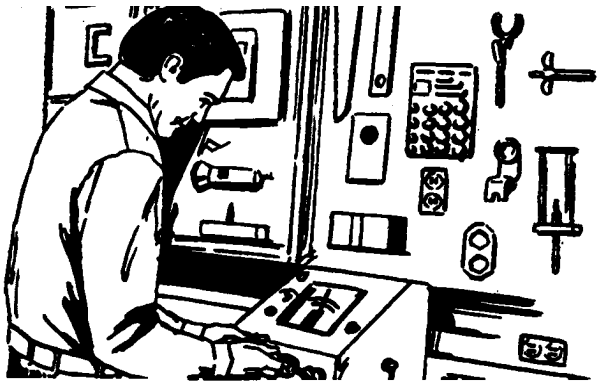
We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

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

O53,IBC,A -19-19AUG88

THE RIGHT TOOLS

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



O53,IBC,B -19-03SEP85

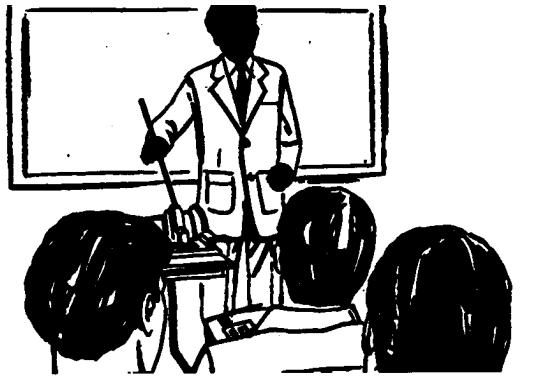
WELL-TRAINED TECHNICIANS

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!



O53,IBC,C -19-03SEP85