Round Balers
410 and 510

OPERATOR'S MANUAL
Round Balers
410 and 510
OMCC18555 Issue B0 (ANGLAIS)

John Deere Arc-lès-Gray
Version européenne
Printed in U.S.A.

To the Purchaser

Your new round baler was carefully designed and manufactured to give years of dependable service. To keep it running efficiently, read the information in this operator's manual. Each section is clearly identified so you can easily find the information you need—whether it is operation, lubrication, or service. Read the Table of Contents to learn where each section is located. Use the alphabetical index for fast reference.

Like any precision machine your baler will require some attention at regular intervals. Use your manual as a guide to service your machine the right way. For additional information or special servicing not covered in this manual, see your John Deere dealer.

This safety alert symbol indicated important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

IMPORTANT! Your operator's manual contains the international standardized SI metric measurement system.

To assure safe operation of this machine, read the Safety Rules on page 2 of this manual.

"Right-hand" and "left-hand" sides are determined by facing in the direction the baler will travel when in use.

Record your baler serial number in the space provided on page 48 or 49. Your dealer needs this information to give you prompt, efficient service when you order parts. If your baler requires replacement parts, go to your John Deere dealer where you can obtain Genuine John Deere parts—accept no substitutes.

E13405

Contents

	Page
Safety Rules	2
Identification Views	4, 5
Operation	6
Storage	27
Lubrication	28
Service	30
Trouble Shooting	37
Special Equipment	42
Assembly	44
Specifications	48,49
Index	50

Safety Rules

The safety of the operator was one of the prime considerations in the minds of John Deere engineers when this baler was designed. Shielding, simple adjustments, and other safety features were built into the baler wherever possible.

You can make your farm a safer place to live and work if you observe the safety suggestions given. Study these suggestions carefully and insist that they be followed by those working with you and for you.

All machinery should be operated only by responsible persons who have been delegated to do so.

Before servicing, adjusting, or removing material from the baler, always:

1. Disengage all power,

2. Shut off engine.

Due to the weight and the rolling tendency of round bales, exercise care whenever moving bales.

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

Do not attempt to pull hay or twine from pickup when machine is running.

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.

Clothing worn by the baler operator should be fairly tight and belted. Loose jackets, skirts or sleeves should never be worn because of the danger of getting into moving parts.

If using a tractor loader to move bales, the loader MUST be equipped with a grapple to prevent bale from rolling down loader frame onto tractor operator.

Never hand-feed twine or hay into the baler. Be especially careful when operating on hillsides. The baler may tip sideways if it strikes a hole, ditch, or other irregularity.

Keep hands, feet, and clothing away from moving parts.

Do not allow anyone to stand near the rear of the baler when it is discharging a bale.

Never clean, oil, or adjust the baler when it is running.

Do not operate this machine without proper shielding over the powershaft and universal joints. Hook-up shields must rotate freely.

Check to make sure hookup is securely latched.

Use a wrench to turn the hex. gear case output shaft to aid in servicing or unclogging baler.

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

2. REMOVE wrench and CLOSE shield before operating baler.

To prevent injury from accidental operation of rear gate or from fall of gate in the event of hydraulic system failure:

1. Stay clear of gate while it is being raised and lowered.

2. Be sure that bystanders are clear before operating gate.

3. Engage hydraulic cylinder safety stop before working on or around gate in raised position.

Improper use of front-end loaders to handle round bales can result in injury to the tractor operator from:

a. The bale rolling back down the loader boom into the operator's station or —

b. A tractor roll-over accident caused by instability when the bale is not carried low.

⚠ **WARNING! Exercise extreme caution when using a front-end loader to handle round bales. Be careful and prevent bodily injury.**

1. Even when using proper equipment, handling round bales can be hazardous. Follow the instructions shown in this manual and on the decals attached to the loader and round bale clamp.

2. Do not handle round bales with a loader unless a specially designed round bale clamp is installed. Without the clamp, the bale can fall on the operator when the loader is raised.

3. To avoid handling and stability problems, do not exceed the manufacturers rated capacity of the front-end loader.

4. The tractor must be equipped with a roll-over protective structure to prevent operator injury in case of a tractor roll-over accident.

5. The tractor must have maximum rear ballast per wheel and maximum tread width. See your tractor operator's manual.

6. Reduce the tractor ground speed. Carry the bale as low as possible and maintain adequate visibility and ground clearance at all times.

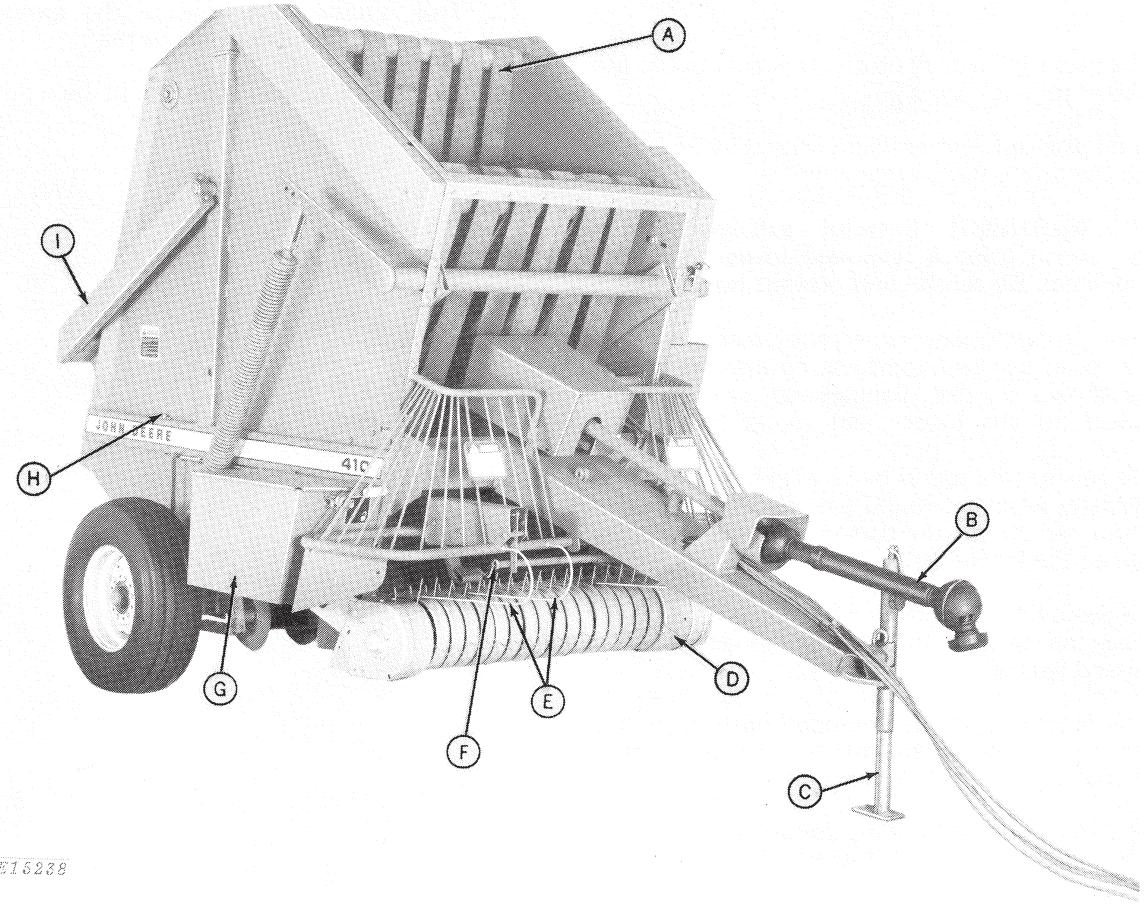
7. Jerky operation causes tractor-loader instability. Operate the loader controls smoothly.

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

9. Never use the tractor-loader to stop a rolling bale.

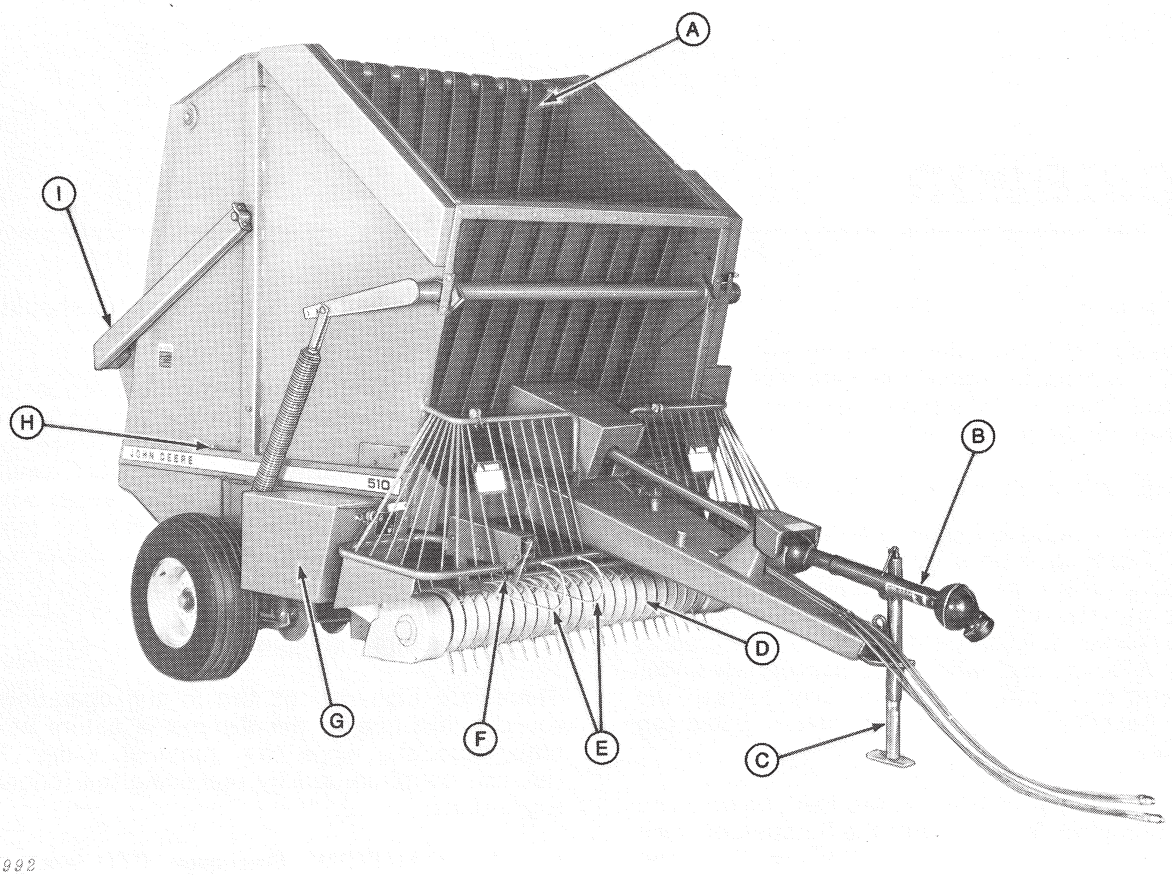
To limit the damage in case of fire, attach a 10 l (approx. 2 1/2 US gal.) pressurized water fire extinguisher in an easily accessible location (see page 7). This should not replace the extinguisher that is recommended for the tractor.

Be alert, the life you save could be your own.



A Upper Belts
B Hook-Up
C Jack Stand
D Pickup
E Compressor Rods
F Twine Tube
G Twine Box
H Storage Position for Lock-Out Pin
I Gate

Right Front View of John Deere 410 Round Baler



E14992

A Upper Belts
B Hook-Up
C Jack Stand
D Pickup
E Compressor Rods
F Twine Tube
G Twine Box
H Storage Position for Lock-Out Pin
I Gate

Right Front View of John Deere 510 Round Baler

Operation

Preparing the Baler

The Operator

The degree of satisfaction given by your baler is directly dependent upon the care given by the operator. Once the baler has been adjusted to meet the crop condition, the rest is up to the operator.

Understand the Function of All Working Units

This baler is built to handle a wide range of conditions. Field conditions vary from year to year, from day to day, and even from hour to hour. Different varieties of crops present widely different baling problems. A careful study of the adjustments on your baler, and what they accomplish under different conditions, will help you to reap the many benefits and economies that a baler can provide.

Before starting your baler in the field, be sure you are thoroughly familiar with the function of each working unit. Study the illustrations carefully and become familiar with the adjustments necessary to obtain best results.

Lubrication

Check to see that your baler has been lubricated according to lubricating instructions on pages 28 and 29.

Inflating Tires

Proper inflation is essential to the long life of a tire. Lack of air pressure allows the tire to slip on the rim and buckles the side walls, resulting in torn valve stems and uneven tread wear. Too much pressure causes undue strain on tire structure and may result in ruptures due to impact with stones, roots, or ruts. It also causes excessive tread wear and allows tire to cut in more on wet ground.

Keep valve caps screwed finger-tight onto valve stems. This will prevent dust, fine gravel, mud, and other foreign material from accumulating in the valve core and permitting the compressed air to escape.

Keep wheel bolts tightened to 75 Nm (7.5 mkp; 55 ft-lb) torque.

Check tire pressures frequently. Pressure should be 2 bar (28 psi).

CAUTION! Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your John Deere dealer or a qualified tire repair service.

Attaching a Fire Extinguisher

There is a high risk of fire in the operation of round balers due to the flammable nature of the crop, especially when the material is dry. This risk can be minimized by practicing the following suggestions:

1. **CAUTION! Disengage PTO and shut off engine before doing any work on the baler.**

2. Remove all crop material accumulated on the ends of the rollers, the main chain drive area behind the left-hand access door, and pickup drive area.

3. Check periodically for overheated machine components, bearings, etc.

4. Twine wrappage can cause overheated parts and should be removed immediately.

To limit the damage in case of a fire, attach a 10 l (2.5 U.S. gal.) pressurized water fire extinguisher in an easily accessible location. The pressurized water fire extinguisher is the most effective on grass and hay fires. Recharge according to fire extinguisher manufacturer's recommendations.

IMPORTANT! This should not replace the fire extinguisher that is recommended for the tractor. Water should never be used for electrical or fuel fires. A suggested mounting location is shown on the next page.

If a fire should occur, the following procedure is recommended:

1. Eject bale immediately.

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

3. When the gate is in the extreme upper position, lower the hydraulic safety stop to its engaged position.

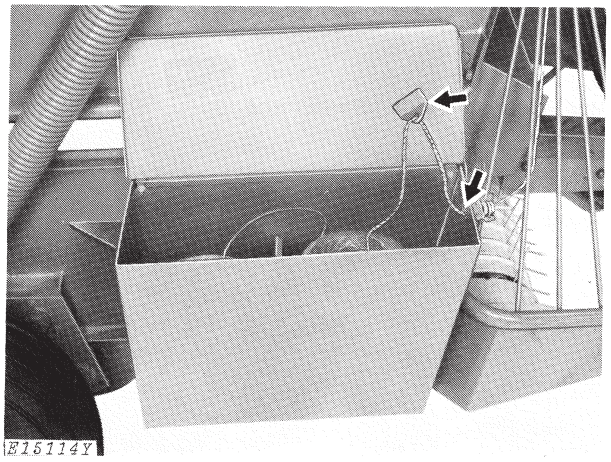
4. Use fire extinguisher to put out fire.

Twine Selection

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

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.

Loading Twine Box



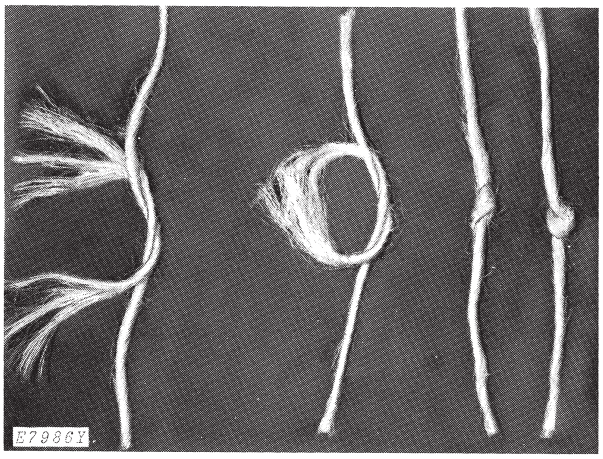
Place one ball of good quality twine in each compartment of the twine box.

NOTE: When joining the two balls, be sure twine is pulled from the end of the ball marked "top". The twine should be joined by tying the inside end of one ball to the outside end of the other ball. In joining the twine, use a square knot when tying sisal and a sheet bend knot if using plastic twine. The loose ends of the twine should be trimmed as close to the knot as possible.

Pass twine through guide (arrow). See page 8 if threading baler for the first time.

When a new ball of twine is to be added, place remaining ball in the forward compartment, add new ball in the rear compartment and join together.

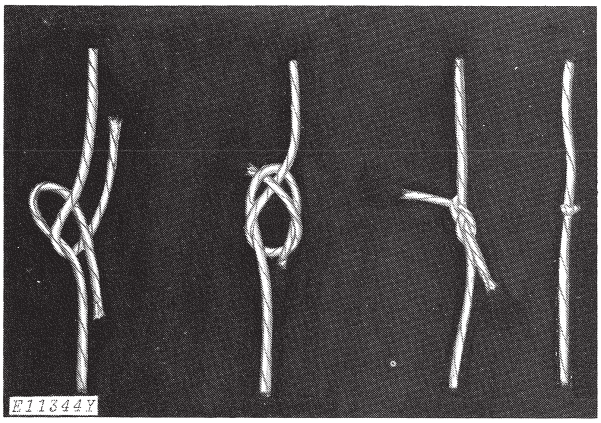
Tying Modified Square Knot – Sisal Twine



Tie twine balls together with a square or modified square knot. The knot is made by first crossing the twine ends over each other, then unraveling both ends of the twine about 40 mm (1-1/2 in.). Insert the frayed ends into each other and roll the ends between the fingertips. Then, tighten the knot securely. Push knot into the center of the second twine ball to prevent interference to the twine.

IMPORTANT! The knot must be small enough to pass through the guide.

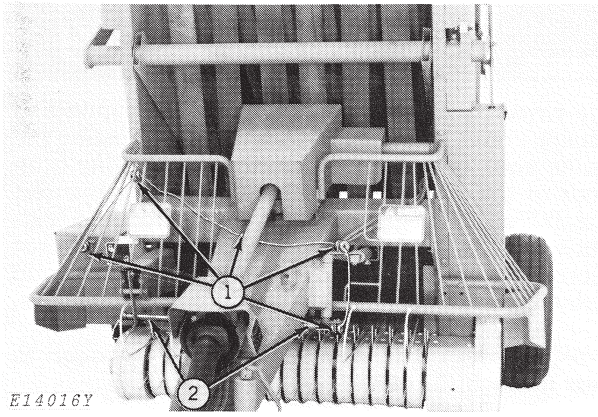
Tying the Sheet Bend Knot – Plastic Twine



The plastic twine balls are tied together by using a sheet bend knot. Begin the knot by making a loop in the one end of the plastic twine. Make a loop in the remaining end and pass the first loop through the center of the second loop. Take the remaining end with the right hand and cross over the top of the twine and pass through the "eye" of the first loop. Then, tighten the knot securely. Cut off loose ends.

IMPORTANT! The knot must be small enough to pass through the guide.

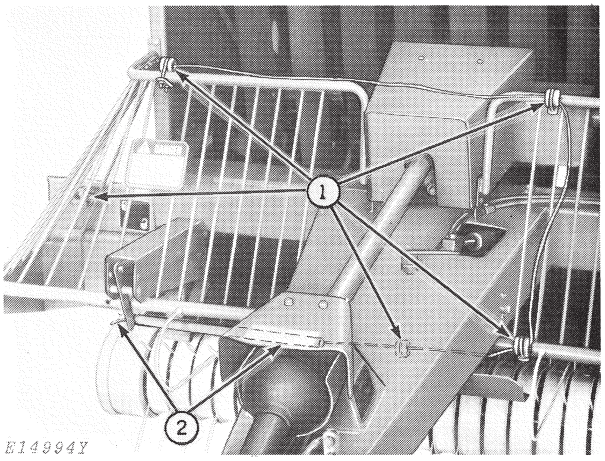
Threading Baler



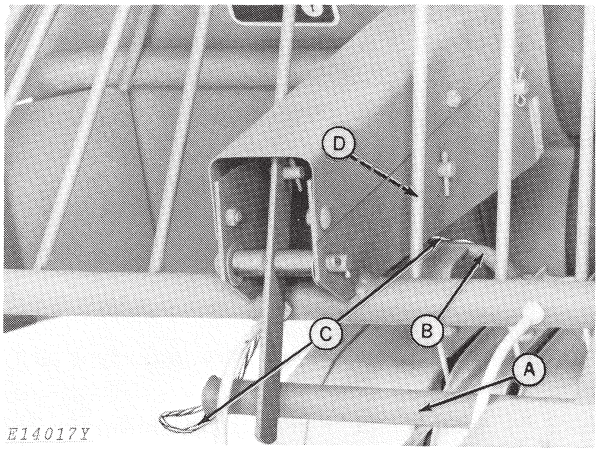
Twine Tube in Right-Hand Position (Baler 410)

1. With twine tube in right-hand position, pass twine through guides in sequence as shown above.

2. Form a loop in end of approximately 1.25 m (4 ft) of wire and place twine in loop. Run wire through final segment of twine tube catching twine and pulling twine through tube.



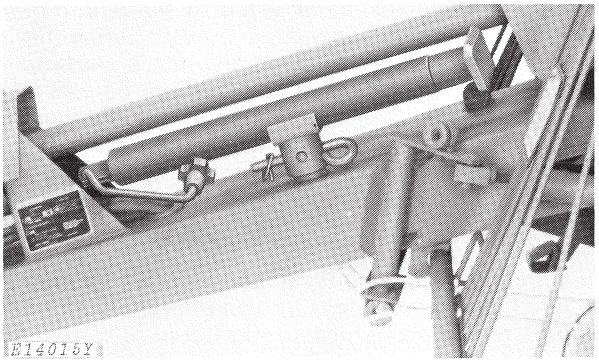
Twine Tube in Right-Hand Position (Baler 510)



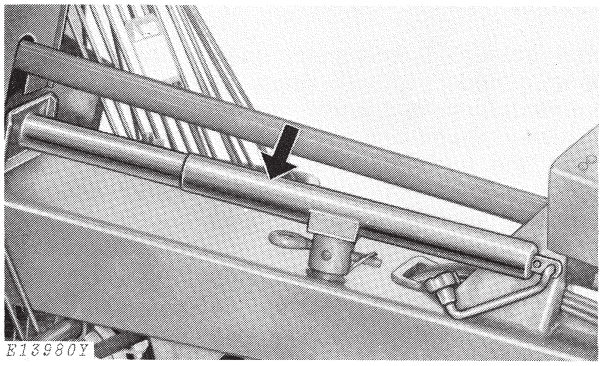
A Twine Tube
B Knife Anvil
C Twine
D Knife

3. Pull approximately 0.15 m (6 in.) of twine from the twine tube (A). Press down knife anvil (B) and place twine (C) between knife anvil (B) and knife (D). Release knife anvil (B) leaving approximately 40 mm (1-1/2 in.) of twine (C) left over which is held between the knife anvil (B) and the knife (D).

Operating Jack Stand

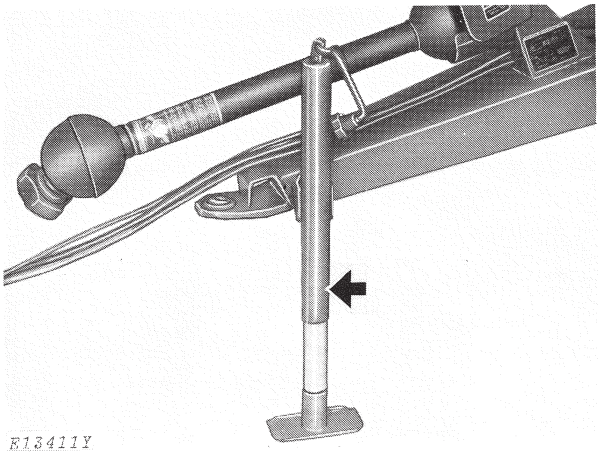


Baler 410



Baler 510

During transporting, the jack stand is locked firmly out of the way on the tongue by removing Quik-Lock pin, then placing the stand in the horizontal position. Lock the jack stand in this position with the Quik-Lock pin.



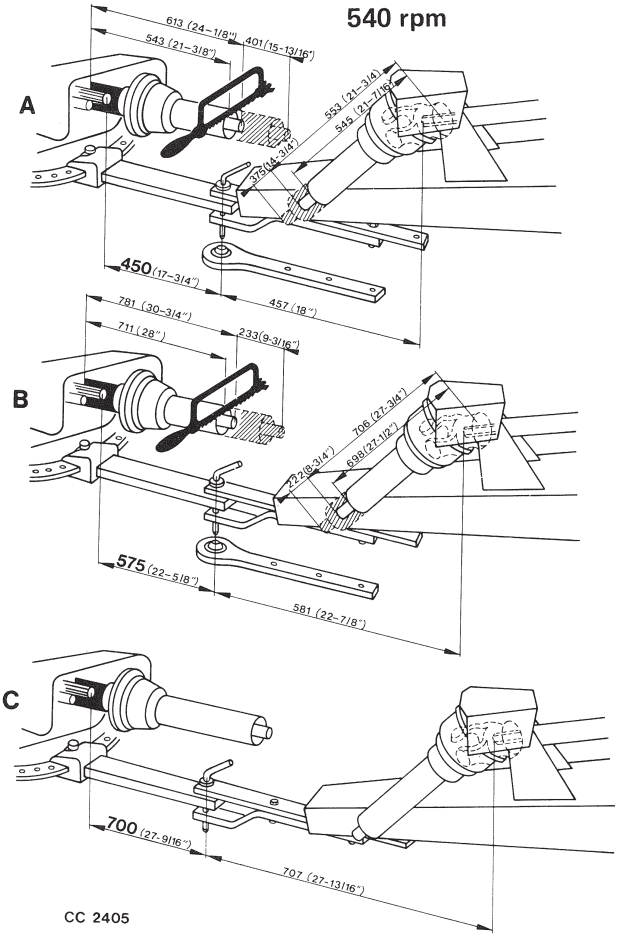
When unhitching the tractor from the baler, remove the jack stand and place in the vertical position securing with Quik-Lock pin. Crank the stand down until it reaches the ground. Several more turns will lift the tongue hitch ball from the equal angle hitch pin, allowing the removal of the equal angle hitch from the tractor drawbar.

Preparing the Tractor

The baler can be attached to any tractor having a standard drawbar and power take-off and having a 540 rpm power take-off speed to match the powershaft speed of the baler.

CAUTION! Never operate 540 rpm baler with 1000 rpm tractor.

ADJUSTING TELESCOPING HOOK-UP



A. Hitching at 450 mm (17-3/4 in.)
Shorten tubes and plastic shields as shown on sketch A.
Hitch straps or ball-joint hitch should be in rear position.

B. Hitching at 575 mm (22-5/8 in.)
Shorten tubes and plastic shields as shown on sketch B.
Hitch straps or ball-joint hitch should be in medium position.

C. Hitching at 700 mm (27-9/16 in.)
The hook-up does not need to be shortened (see sketch C).

Hitch straps should be in their front position. Ball-joint hitch cannot be used in this case.

NOTE: Dimensions between brackets are in inches.

IMPORTANT! Never use a steel hammer when connecting or removing the hook-up.

Keep splines on hook-up and PTO shaft clean.

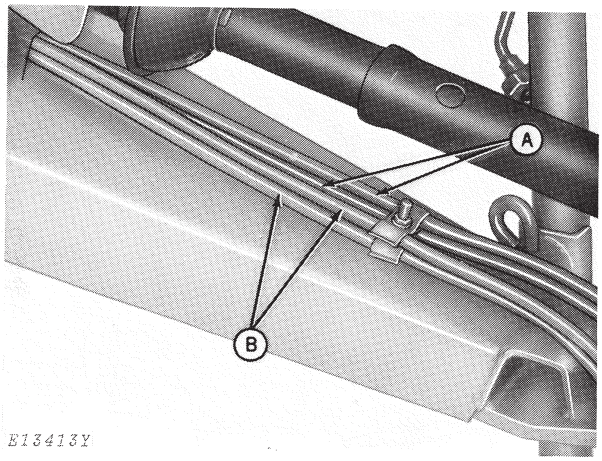
With the telescoping tubes and shields shortened, it is necessary to clean, trim and lubricate the ends of both tubes and shields.

Positioning Tractor Rear Wheels

Set the front and rear wheels out on tractors having adjustable tread width to avoid driving over hay.

IMPORTANT! Do not make sharp turns with tractor wheels in the wide position. Damage could result if the tractor tire strikes the baler.

Attaching to Tractor Hydraulic System



A Paired Hydraulic Lines to Twine Cylinder
B Paired Hydraulic Lines to Gate

To attach the baler hydraulic lines, remove caps from the left pair of hydraulic lines (A) and insert the hose end with groove into the right-hand receptacle with notch and the remaining hose into the left-hand receptacle. Remove caps from right pair of hydraulic lines (B) and attach to remaining outlets using same procedure.

A selector control valve is available for tractors having one dual hydraulic receptacle. See page 42.

IMPORTANT! Do not intermix hydraulic lines when hooking up.

CAUTION! Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Checking Hydraulic System

After hookup is complete, operate the gate and twine cylinder several times. Move the tractor remote hydraulic control levers to the operating position through one full cycle. This will eliminate air in the hydraulic system, which might cause improper operation of the hydraulic cylinders. Pull hydraulic lever rearward to move twine tube to the left, then pull the second hydraulic lever rearward to raise the gate. If levers function in reverse—reverse hose connections. Return twine tube to the right and lower gate.

Check the oil level in the tractor hydraulic reservoir and add oil as necessary. (See your tractor operator's manual.) Operate the hydraulic cylinders several times and recheck oil level.

Baler Operation

Crop Preparation

When a mower-conditioner is used to cut the hay, the crushing or crimping of the stems permits moisture to escape from the stems at the same rate as from the leaves, providing a fast, uniform curing of the crop. This will allow you to bale quicker and cause less wrappage of hay on the rolls.

If the hay has been mowed and conditioned in one operation and the hay is dry, raking is not necessary. If the hay is heavy, the top will dry faster than the bottom and the hay must be raked.

Preparation of windrows is important to the productivity of round baler operation. Windrows should have sufficient material to provide good capacity at ground speeds less than 8 km/h (5 mph). Uniform well-filled windrows are the key to troublefree operation. Conditioning is beneficial in heavy-stemmed crop. If plugging occurs regularly in a large windrow, reduce ground speed; or if possible, size of the windrows.

With baler 410, best results can be obtained by using a single medium-heavy windrow the same width of the pickup and eliminate weaving.

With baler 510, best results can be obtained by using a single, medium-heavy windrow not more than 0,90 m (3 ft.) wide or a windrow 1.5 m (5ft.) wide. When baling in a 1.5 m (5 ft.) windrow, the operator must drive in a relatively straight line.

The baler can bale all types of grass, including, soybean and maize stalks.

NOTE: In order to obtain firm, round bales that are not "egg" shaped, the windrows should be uniform. If baling soybean straw or maize stalks, rake four to six rows together and bale in the normal manner.

Moisture Content

The round baler will make firm, compact bales that weather well in the winter and will not continue to dry inwardly after baling. In order to prevent loss due to spoilage, do not bale with the round baler until the hay could be baled with a conventional baler.

The moisture content of the hay at baling time should be approximately 20 percent.

If the material is extremely dry, bale early in the morning or late evening when the dew is on the windrow.

IMPORTANT! If hay wraps around the rolls of the baler, the hay is not ready to bale. Baling at a high moisture content will result in heat and hay spoilage; damage to rollers and belts can occur.

Direction of Travel

Bale the driest hay first; and travel in the direction that the rake or windrower traveled to pick up the hay in a head-first position.

Material Buildup in Shielding Area and Between Upper Belts

CAUTION! DO NOT REMOVE FRONT SHIELDING.

When baling in certain crop conditions, buildup can occur in the front shielding area and/or between the upper belts when running the baler at rated PTO speed. This buildup obstructs visibility and can wedge between the belts and belt guides. This wedging can cause upper belt connectors to fail.

To reduce buildup, operate the baler at a reduced PTO speed. PTO speed should be reduced to half throttle or below. Use a higher gear ratio to maintain desired ground speed. Forming the bale with as few revolutions as possible will reduce buildup by decreasing disturbance of the material.

If loose hay buildup is observed between starter and scraper rolls or on the gate after discharging the bale, engage the PTO while lowering gate. This will aid in reducing buildup between the starter and scraper rolls.

Feeding Problems

If feeding problems occur in heavy windrows or adverse conditions, the four compressor rods may be removed.

The rods should be used under certain crop conditions, especially on windy days, light or short hay, and when baling cornstalks.

Starting and Driving

IMPORTANT! GATE MUST ALWAYS BE LATCHED WHEN BALING. Damage to the baler can result when baling with gate in unlatched position.

If you must run your baler empty for more than several minutes, raise the gate so the upper and lower belts are not contacting. These belts run in opposite directions and can be damaged by prolonged contact with each other.

When windrows have been raked to proper size (see crop preparation), the operating speed should average between 6 to 10 km/h (4 to 6 mph).

If it is necessary to operate the baler over 10 km/h (6 mph), full tractor throttle is necessary in order for the pickup to function properly.

Less agitation and turning of the bale will result in a well-shaped bale, less leaf loss, less hay wrappage and longer baler life. Therefore, generally operate the tractor at 3/4 throttle. In this throttle range, the pickup will gather the windrow into the machine with a minimum of agitation to the crop.

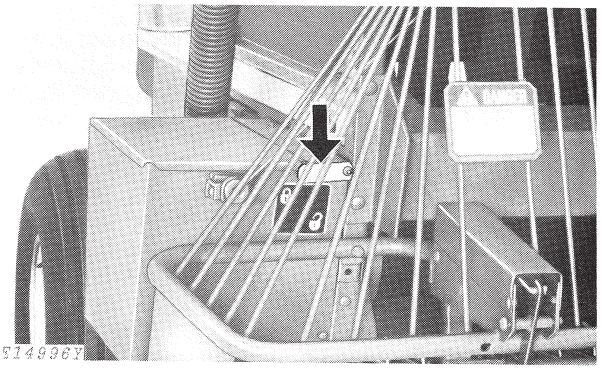
Adjust the pickup to run as high off the ground as possible and still be able to pick up all the hay in the windrow. See page 23.

NOTE: The four compressor rods should be used only under certain crop conditions. They are normally needed on windy days, when the hay is light or short, and when baling maize stalks. If these conditions do not exist, pickup compressor rods may be rotated for better baling results.

To start the bale in a 0.90 m (3 ft.) windrow, begin in the middle and quickly drive to the right-hand side and then to the left, causing the hay to be fed into the extreme sides of the machine. Crossing over too often will automatically fill the center of the bale and a "barrel-shaped" bale can result. Always drive to the extreme sides and cross over as quickly as possible so that the sides of the bale will be square and well-shaped.

NOTE: An alternate method for starting in heavy windrows is to push material ahead of the baler with the pickup prior to engaging PTO until the material is spread out to the width of the bale chamber. Then engage the PTO and continue to feed alternate sides as described.

Latching the Gate



T149961

The gate is latched when gate latch indicator arm (arrowed) is in parallel position as shown in illustration.

IMPORTANT! GATE MUST ALWAYS BE LATCHED WHEN BALING. Damage to the baler can result when baling with gate in unlatched position.

See page 23 for gate latch indicator adjustment.

Starting the Bale

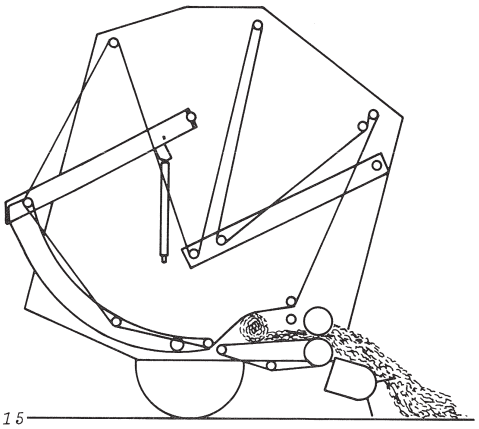
Start the bale by feeding the windrow into the middle of the baler. Then immediately drive to one side and then the other (this will vary according to windrow width), forming an even core in the bale chamber. After the core is started, feed alternate sides of the baler for longer periods of time, moving quickly when shifting from side to side resulting in well-shaped bales.

E15032

Proper Baling Procedure

IMPORTANT! When hay is fed into the side of the baler first, hay may be forced up through the space between the outside upper belt and side sheet. This will push the outside belts toward the center, wedging between the scraper roll and starter roll causing upper belt connector failure.

Forming the Bale



E13415

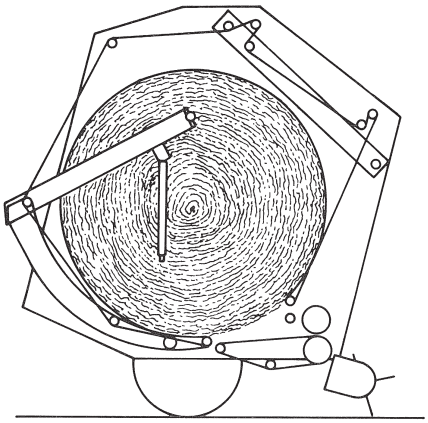
CAUTION! DON'T TAKE CHANCES!

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

Do not attempt to feed crop or twine into baler or unplug feed-roll area while baler is running.

Disengage PTO and shut off engine.

The starting of the bale is extremely important. The core must be carefully made to insure a satisfactory bale. To start the bale, set the tractor at 3/4 throttle and start the hay in the middle of the pickup.



E13416

When the bale is full size, the word "Stop" will appear at the indicator on the upper right-hand side of the baler. See page 15.

Failure to stop soon after the word "Stop" appears will result in the pickup disengaging. Slowly back the baler out of the windrow while allowing the PTO to continue running until the pickup engages. Wrap the bale immediately. See page 20 to adjust the pickup drive release if pickup disengages prematurely.

CAUTION! NEVER hand-feed twine in order to wrap a bale.

Wrapping the Bale

When the bale has reached the desired size it is ready to wrap.

IMPORTANT! The baler must be stopped and the bale wrapped immediately if the stripes appear on the indicator (see page 15). Damage may accur if idler rolls interfere with the top roller shaft.

Slowly continue baling and:

1. Pull the hydraulic lever rearward to actuate the twine tube to the left.

2. When the twine has been fed with the hay into the compression rolls, stop the forward travel of the tractor.

IMPORTANT! Twine can wrap around bottom roll and damage machine if hay is not fed with twine when beginning the bale wrapping cycle.

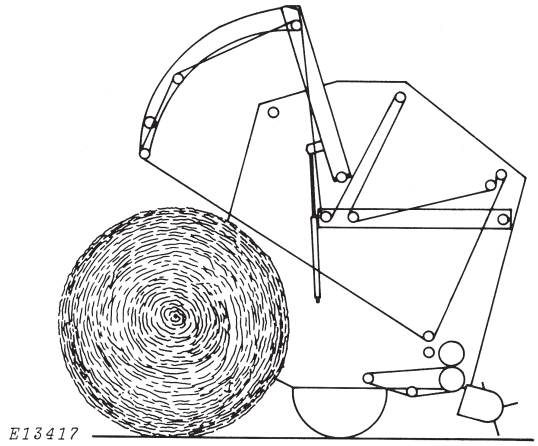
3. Continue to hold the hydraulic lever rearward until the twine tube has reached the extreme left-hand position. Hold there for a few seconds to allow at least one full turn of twine to go around the end of the bale.

NOTE: The number of wraps around the bale can be altered by the flow control valve. (See page 16).

4. Push the tractor hydraulic lever forward to move the twine tube to the right, allowing at least one full turn of twine to go around the end of the bale before the twine is automatically cut off by the knive.

5. STOP THE TRACTOR PTO and move tractor throttle to idle speed.

Unloading the Bale



CAUTION! To prevent injury from accidental operation of rear gate or from fall of gate in the event of hydraulic system failure:

a. Stay clear of gate while it is being raised and lowered.
b. Be sure that bystanders are clear before operating gate.
c. Engage hydraulic cylinder safety stop before working on or around gate in raised position.

1. Back up the baler approximately 2.5 to 3.0 m (8 to 10 ft.) to unload the bale.

CAUTION! To prevent injury or damage from a rolling bale, always unload baler on level ground.

2. Pull the tractor hydraulic lever rearward to raise the gate for bale ejection.
This will allow bale to drop to the ground. If the bale fails to drop out, engage the power takeoff for bale ejection.

CAUTION! Do not allow anyone to stand near the rear of the baler when a bale is being discharged.

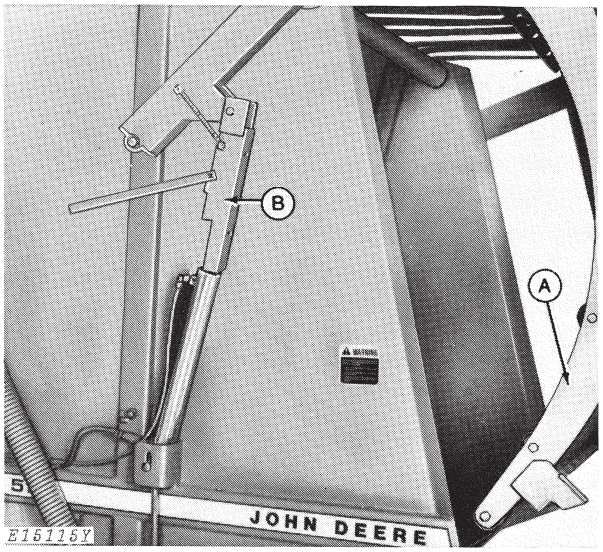
3. Move forward approximately 2.5 m (8 ft.) to avoid striking the bale with the gate, then hold the hydraulic lever forward until the gate has lowered. Return hydraulic lever to neutral after gate has been lowered.

IMPORTANT! Serious damage can result if the gate strikes the bale.

NOTE: If you are not sure that gate has latched, open and close again until distinct noise of gate closing in the home position is heard. The hydraulic lever must be held for 5 seconds after the gate has closed to allow gate to be completely latched. Gate latch indicator should be in the latched position.
NOTE: If excessive build up is observed on the gate after discharging bale, engage PTO while lowering the gate. This will aid in reducing plugging between the starter and scraper rolls.

To continue baling, place tractor at 3/4 throttle and proceed into the windrow.

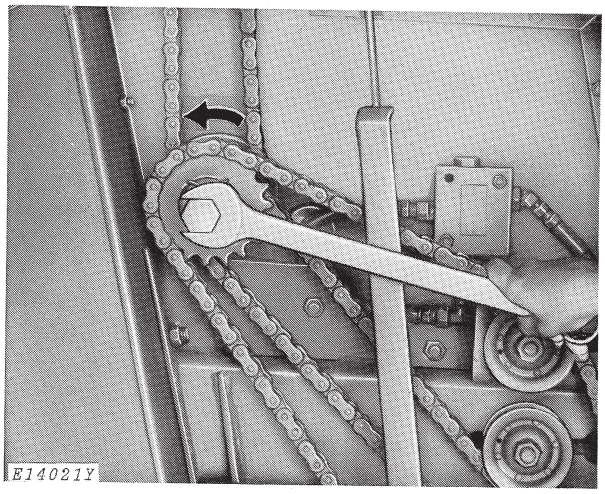
Gate Safety Stop



A Gate B Hydraulic Safety Stop

If it becomes necessary to open gate (A) for bale removal or unplugging the baler, raise gate to the extreme upper position, grasp lever and rotate hydraulic safety stop (B) into the down position.

Plugging



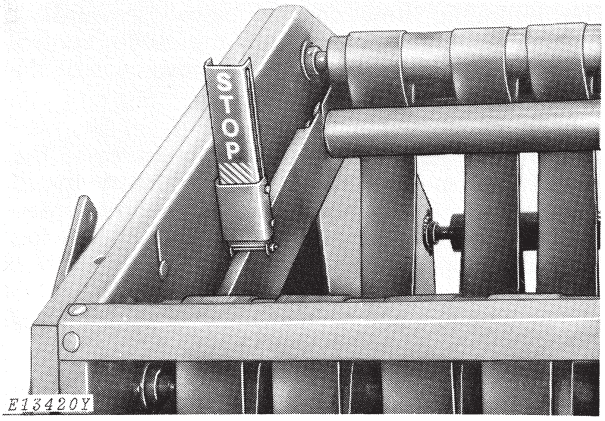
CAUTION! Use a wrench to turn the hex. gear case output shaft to aid in servicing or unclogging baler.

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

2. REMOVE wrench and CLOSE shield before operating baler.

A wrench can be placed on the gear case output shaft if the baler becomes plugged or it is necessary to be turned over by hand. Turn the wrench in a counterclockwise rotation until free.

Bale Size Indicator



The bale size indicator is located on the upper right-hand side of the machine. The operator does not have to wait until all the letters in the word "STOP" are visible. A bale can be stopped, wrapped, and ejected anytime after it has reached 0.75 m (2-1/2 ft.) in diameter.

When the belt idler arm has moved the bale indicator to the point that all letters in the word "STOP" are clearly visible, the bale is ready to wrap and eject.

IMPORTANT! Do not over-fill the baler. Failure to stop soon after the letter "P" is visible will result in the pickup drive release disengaging the pickup. See page 21.

General Preparations

Before starting the baler in the field, read the "operation" section of this manual carefully and check the proper function of each control and field adjustment. Review these instructions each year to learn what they can accomplish to meet the wide range of field conditions. This will allow you to obtain the highest satisfaction and best results possible with your baler. Check the following items before taking the baler to the field:

1. Tractor to be used meets requirements specified for use with the baler.

2. Hookup requirements conform to those noted on page 7 when baler is attached to tractor.

3. Hydraulic hoses are correctly connected and installed. (See page 10.)

4. Drive chains are tensioned properly and pickup drive belt inspected.

5. Upper belts are properly tracking on the rollers.

6. Baler is adjusted for the anticipated field conditions.

Daily Inspection

Careful inspection and maintenance of the baler before starting work each day will prevent needless delays and break-downs in the field. Make the following checks and adjustments:

1. See that twine box is loaded. (See page 7.)

2. Perform the lubrication service. (See pages 28 and 29.)

3. Inspect and adjust drive chains to proper tension and alignment.

4. Check and tighten loose bolts and connections.

5. Check bottom belt tension ajustment. (See page 21.)

6. Check tire inflation. Correct air pressure is 2 bar (28 psi).

7. Remove dirt, weeds, or vines from chains, shafts, and other working components.

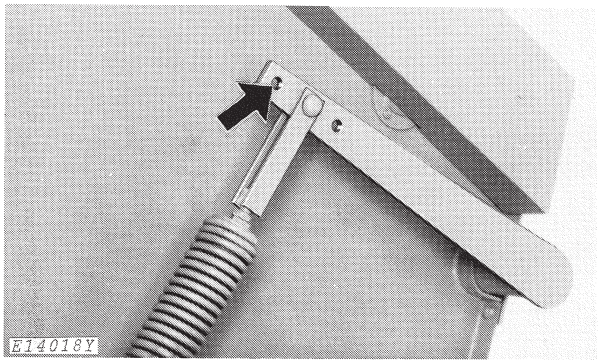
8. Inspect and service the tractor as recommended in your tractor operator's manual. Pay particular attention to the hydraulic system.

9. Operate the baler for several minutes; stop and check adjustments.

10. Remove any twine that might be wrapped around rolls or pick-up tooth bars.

OPERATING ADJUSTMENTS

Adjusting Lift Arms

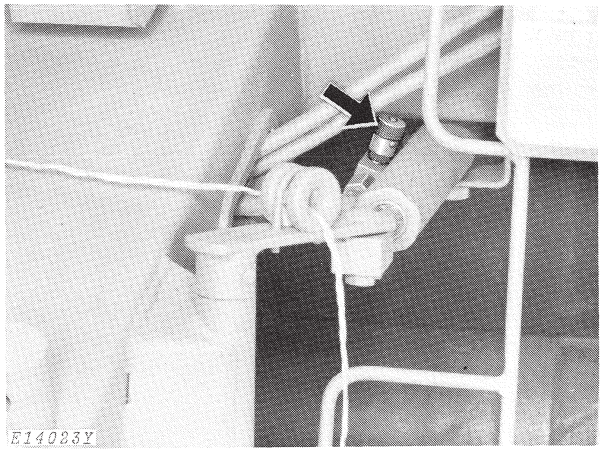


Three settings are provided in the lift arms to include most haying conditions. Bale density in light, dry hay will be increased if the tension springs are moved into the rear hole (arrowed).

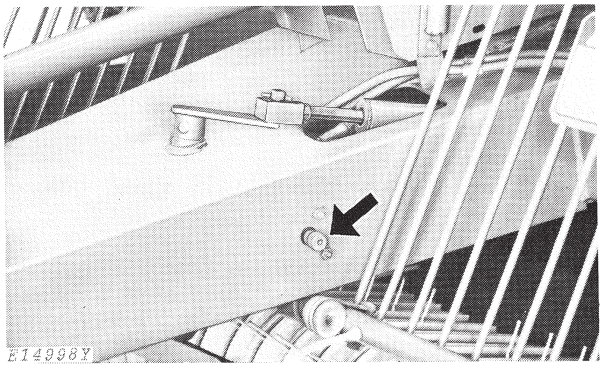
Bale density will be decreased when the lift springs are moved to the forward position.

CAUTION! Remove all tension from tension springs before changing settings.

Adjusting Flow Control Valve



Baler 410



Baler 510

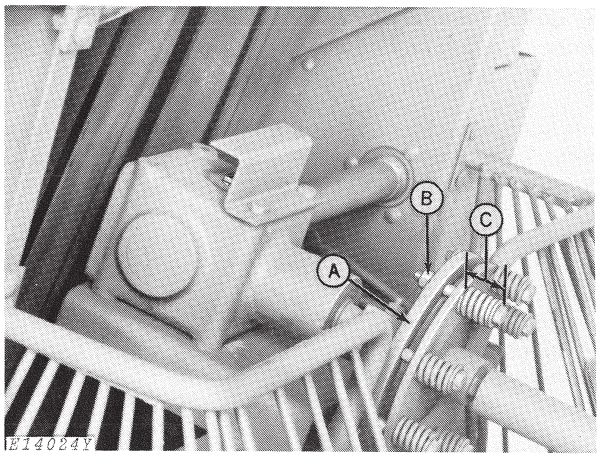
The hydraulic flow control valve (arrowed) is located on the right side of the twine control cylinder. This valve controls the movement of the twine tube to the right.

By turning the knob clockwise it decreases the twine tube speed and results in more wraps of twine around the bale. Turning the knob counter-clockwise moves the twine tube faster with less wraps of twine around the bale.

NOTE: The twine tube is controlled by the valve and not by the tractor engine speed.

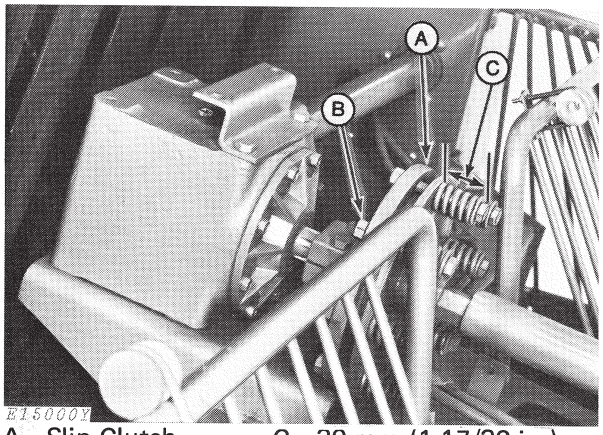
Adjust the valve to give the desired number of wraps at normal engine operating speed. From that point on, an increase in engine speed will give more wraps of twine due to the faster rotation of the bale, or lower engine speed will give fewer wraps of twine. After making the adjustment, tighten the set screw located on the side of the valve.

Adjusting Drive Slip Clutch



A Slip Clutch
B Adjusting Bolt
C 41 mm (1-5/8 in.)

Baler 410



A Slip Clutch
B Adjusting Bolt
C 39 mm (1-17/32 in.)

Baler 510

The slip clutch (A) will require adjustment if excessive slipping occurs during operation or if it has been disassembled.

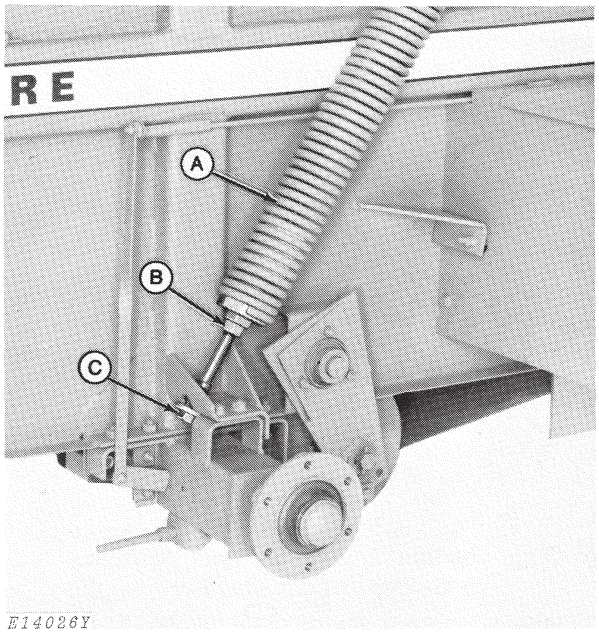
A clutch consisting of new parts is properly adjusted when dimension (C) is 41 mm (1-5/8 in.) (baler 410) or 39 mm (1-17/32 in.) (baler 510) long.

If, after wear, the dimension (C) is more than 39 mm (1-17/32 in.) (510) or 41 mm (1-5/8 in.) (410), retighten the adjusting bolts (B) to again obtain the specified dimension (C).

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

To adjust the slip clutch (A), turn the spring adjusting bolt (B) until the proper spring dimension is attained. Retighten nut (B).

Adjusting Belt Tension Springs



A Belt Tension Spring
B Nut
C Adjusting Bolt

Wheel Removed for Illustration Purposes Only

Two belt tension springs (A), located on each side of the baler, are used to maintain even tension of the upper belts.

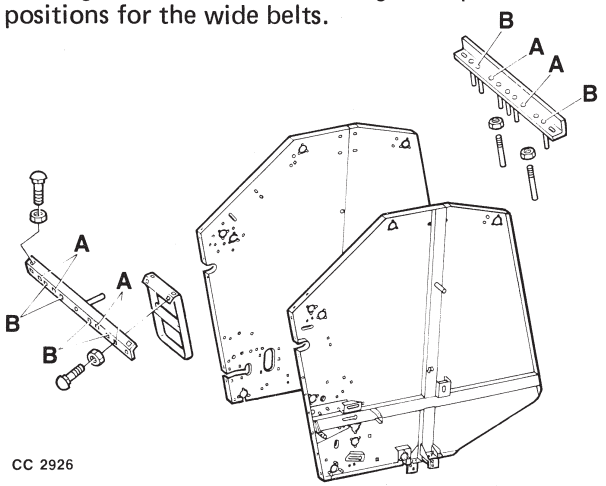
The belt tension springs for the 410 are properly adjusted when springs are 1.07 to 1.22 m (42 to 48 in.) from end of coil to end of coil. The two belts tension springs installed on the 410 baler, starting with serial number 501229, permit an increase in bale density when baling straw. When baling hay, it is necessary to reduce spring tension by attaching them in the first front holes of the tension arms and by loosening the bolts (C) to obtain the 1.07 m (42 in.) diemnsion.

The belt tension springs for the 510 are properly adjusted when the adjusting bolts (C) are tightened as far as possible. Springs can be loosened if the bale density is high, but should never be less than 1.07 m (42 in.) from end of coil to end of coil.

To adjust the springs, loosen nuts (B) and turn the adjusting bolts (C) until the proper spring dimension is obtained. Retighten the nuts (B). Repeat procedure on opposite side.

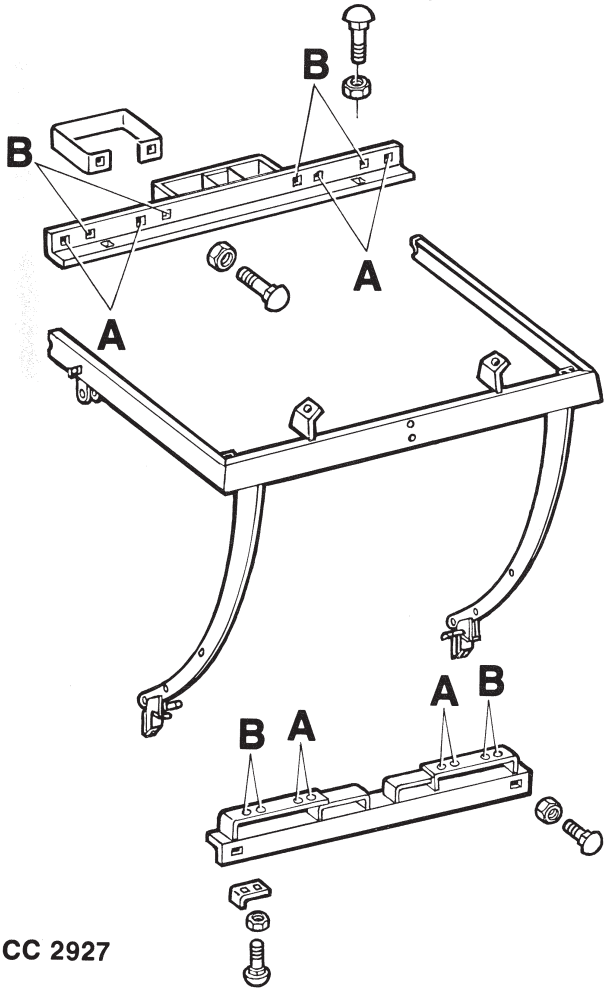
Adjusting wide outer belts

The wide outer belts are designed to help reduce starting difficulties. The belt guides provide two positions for the wide belts.



A Outer position B Inner position

Guides on bale chamber



A Outer position B Inner position

Guides on gate

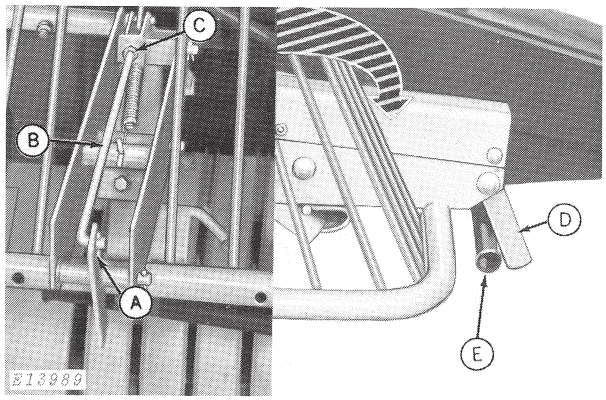
IMPORTANT! If, when changing the position of the guides, one guide is omitted, there is a risk of severe damage to the wide belt and tearing of hooks.

It is recommended to use the **outer position** (A) (wide belts closer to side sheets) to start in all crops : grass, hay and straw.

If severe buildup is encountered at front of baler between the outside belt and the side sheet, reduce PTO speed. If builddup is still a problem, move wide belts to inner position (B). Changing to the inner position might be necessary when baling tough crops such as maize stalks.

Adjusting Twine Cutter

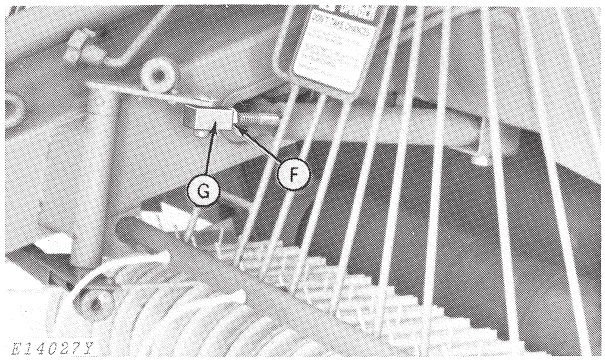
IMPORTANT! Always disconnect the anvil control rod before making the twine cutter adjustment. Severe damage to the cutting components could result.



A Cotter Pin
B Anvil Control Rod
C Locking Nut
D Control Arm
E Twine Tube

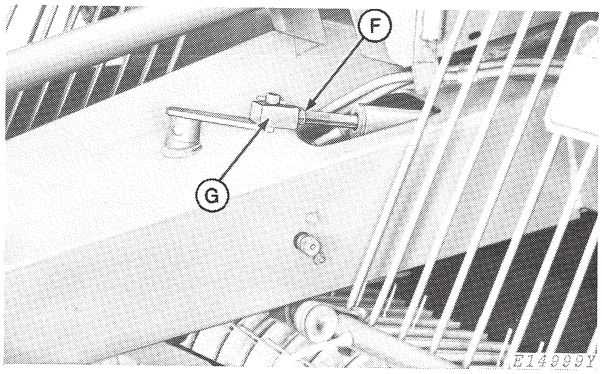
1. Disconnect anvil control rod (B) by removing cotter pin (A). Using hydraulic control lever, move twine tube (E) to extreme right-hand position.

NOTE: If twine tube is about parallel to compression rod frame proceed to step 2.



F Locking Nut G Cylinder Adjusting Block

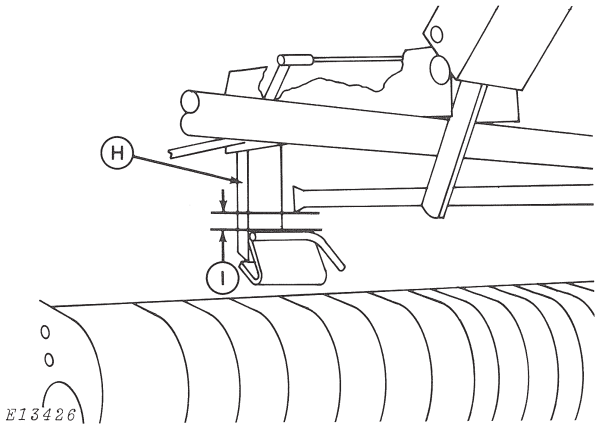
Baler 410



F Locking Nut G Cylinder Adjusting Block

Baler 510

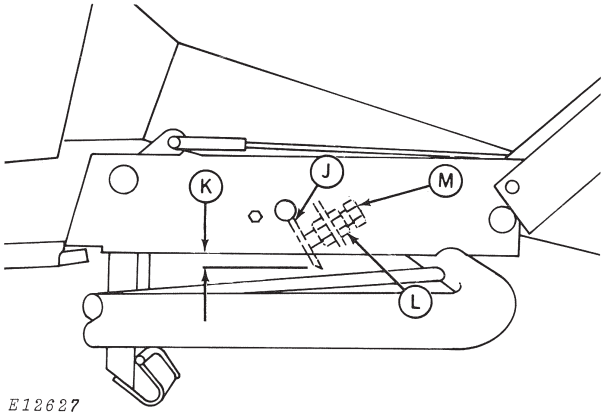
To adjust the twine tube (E) illustrated opposite, loosen the locking nut (F) and with wrench rotate threaded rod until twine tube is parallel to compression rod frame. Tighten locking nut (F) loosely at this time.



H Anvil Arm I 32 mm (1/8 in.)

2. Hydraulically move the twine tube (E) until it is at the closest point to the anvil arm (H).

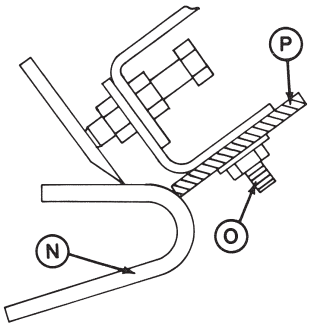
Set the twine tube (E) to clear the anvil arm (H) by 3.2 mm (1/8 in.) (I) at the closest point. Adjust by loosening locking nut (C) and rotate rod until clearance is obtained. Tighten locking nut (C) and attach anvil control rod (B).



E12627

J Twine Knife
K 3.2 mm (1/8 in.)
L Nut
M Stop Bolt

3. Adjust the twine knife (J) by loosening nut (L) and rotating stop bolt (M) until 3.2 mm (1/8 in.) dimension (K) is obtained.

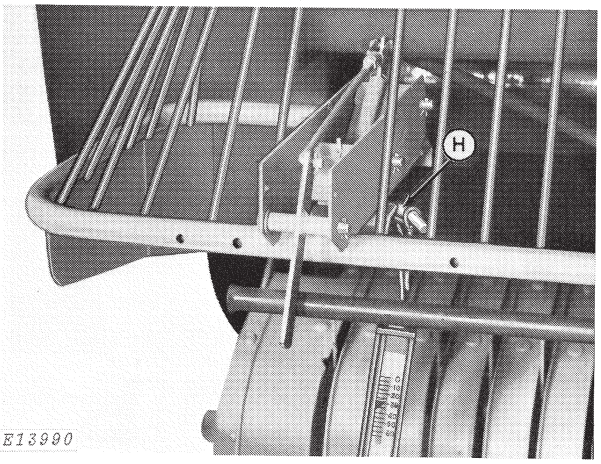


E15116

N Twine Arm
O Carriage Bolt
P Twine Holder

4. Return twine arm (N) to extreme right-hand position. Loosen carriage bolt (O) and adjust twine holder (P) until contact is made with twine arm (N). Tighten bolt securely.

NOTE: Alter position of twine holder (P) should the contact surface be damaged. Four positions are available.



E13990

H Anvil Arm

5. Proper tension is required for the anvil arm (H) to cut the twine.

Using the hydraulic control lever, move twine tube (E) to the extreme right-hand position. A downward pull on the anvil arm (H) of from 107 to 125 N (24 to 28 lb) is needed to cut the twine. If tension is more than 125 N (28 lb), loosen the locking nut (F) (loosened in Step 1) and rotate threaded rod out of the cylinder adjusting block (G). If tension is less than 107 N (24 lb), rotate threaded rod into the cylinder adjusting block (G). Tighten nut (F).

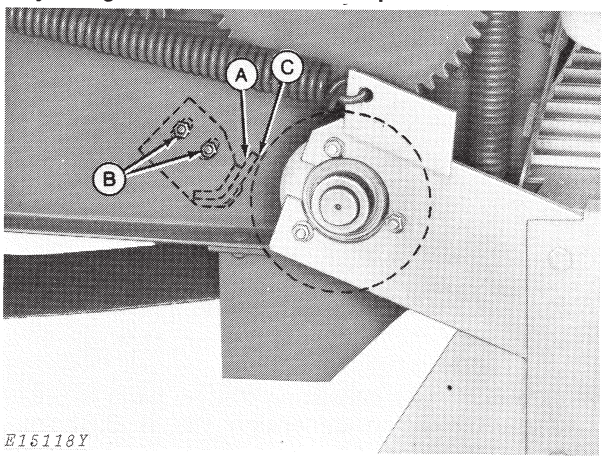
After all adjustments have been made, operate the twine tube hydraulically through one complete cycle. The twine tube (E) should:

1. Miss the anvil arm (H) by approximately 3.2 mm (1/8 in.).

2. Continue to the left-hand side of the baler and hydraulically return to the right-hand side.

3. End in the extreme right-hand position with the twine tube (E) resting against control arm (D) with the twine knife (J) contacting the anvil arm (H).

Adjusting Lower Feed Roll Scraper



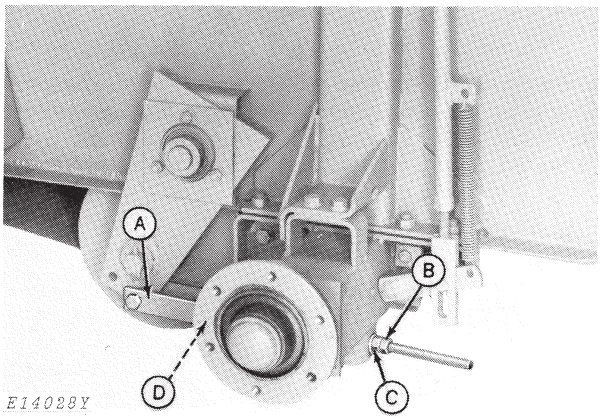
A Lower Feed Roll Scraper
B Adjusting Nuts
C 1.5 to 2.5 mm) (0.060 to 0.090 in.)

The lower feed roll scraper (A) keeps mud, snow or hay from building up on the lower feed roll.

Adjust the scraper (A) by loosening nuts (B) on both sides, and setting scraper (A) to clear the lower feed roll by 1.5 to 2.5 mm (0.060 to 0.090-in.) (C) on both sides of machine. Retighten nuts (B).

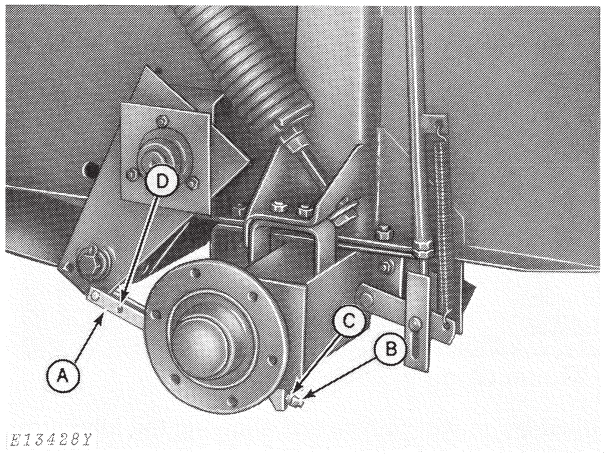
Adjusting Lower Belt Idler Springs

IMPORTANT! Lower belt shrinkage can be expected. This requires daily inspection and possible adjustment of the lower belt idler springs. Failure to adjust these springs will create high loads resulting in roll and bearing failure.



A Belt Tension Spring
B Lock Nut
C Adjusting Nut
D Sight Hole

Wheel Removed For Illustration Purposes Only
Baler 410



A Belt Tension Spring
B Lock Nut
C Adjusting Nut
D Sight Hole

Wheel Removed For Illustration Purposes Only
Baler 510

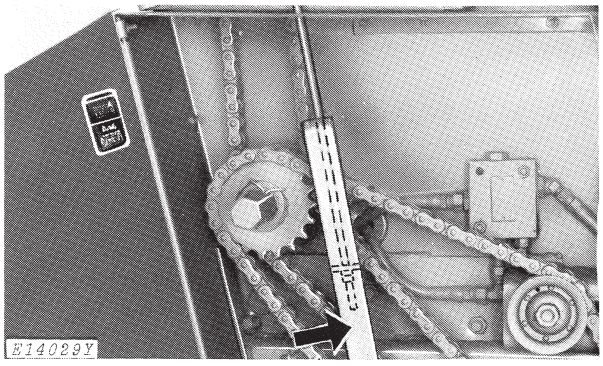
Adjust belt tension by loosening lock nut (B) and tightening or loosening adjusting nut (C) until washer is centered in sight hole (D) of idler spring mounting assembly. Failure to maintain the washer centered in the sight hole (D) will cause the spring to compress solid and place excessive pressure on the lower belt idler roll. Hand pressure on the bottom belts must produce movement in the spring assembly. Tighten lock nut (B) securely.

Repeat procedure on opposite side.

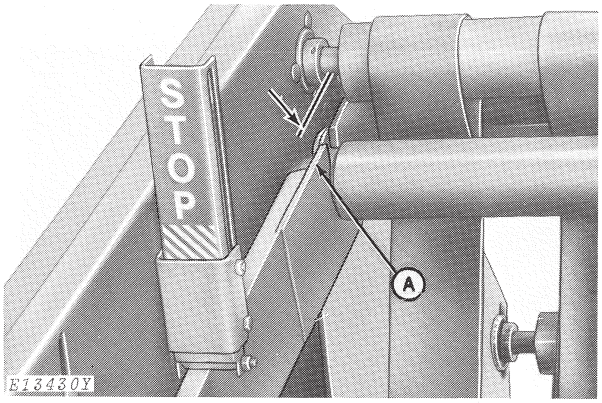
IMPORTANT! To avoid bottom roll damage, check lower belt idler spring adjustment daily.

Washer must be centered in sight hole of each idler spring mounting assembly.

Adjusting Pickup Drive Release

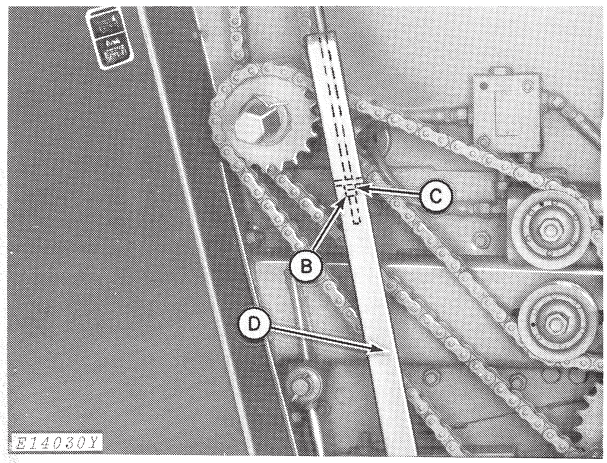


The pickup drive release (arrowed) is a safety device that helps to protect the baler from the idler arms striking the upper rolls.



A 51 mm (2 in.)

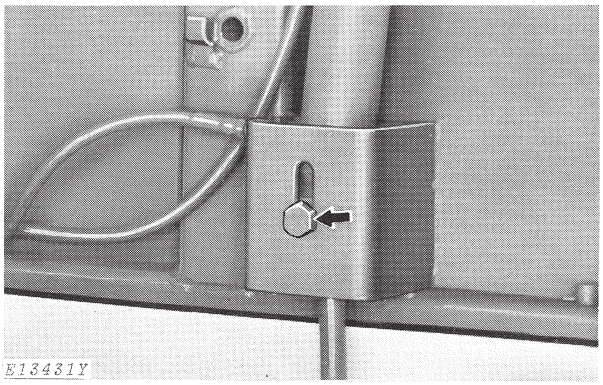
Adjust by making a bale and allowing the idler arm to move within 51 mm (2 in.) (A) from upper roll.



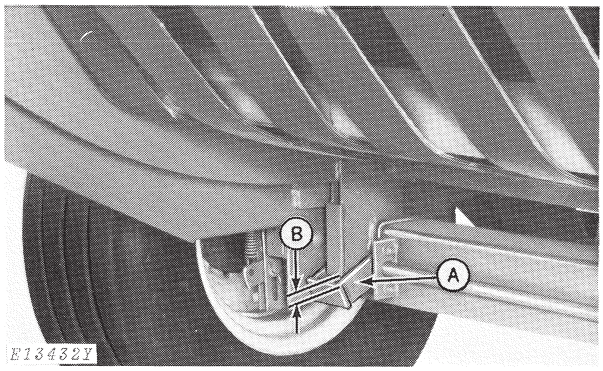
B Lock Nut
C Adjusting Nut
D Pickup Release Lever

Loosen lock nut (B) and turn adjusting nut (C) until pickup release lever (D) removes tension from pickup V-belt and pickup will not operate when PTO is engaged. Tighten lock nut (B) securely.

Adjusting Gate Latch

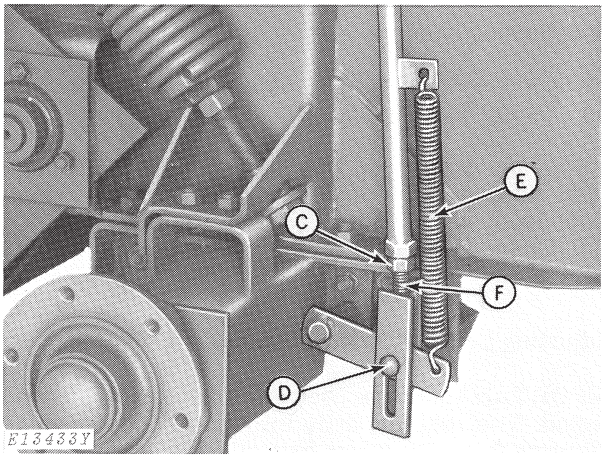


To adjust gate latch, raise gate and then close until lower cylinder pin (arrowed) is at bottom of slot.



A Gate Latch
B 6.5 mm (1/4 in)

The gate latch (A) consisting of new parts is properly adjusted when dimension (B) is 6.5 mm (1/4 in.) wide.

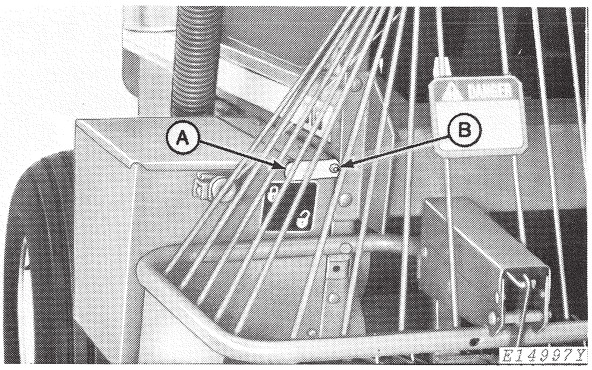


C Lock Nut
D Pin
E Spring
F Adjusting Rod

Wheel Removed For Illustration Purposes Only

To adjust, loosen lock nut (C) and remove pin (D). Remove spring (E), pivot adjusting rod (F) outward and rotate for adjustment. Temporarily assemble and adjust until 6.5 mm (1/4 in.) adjustment (B) is obtained. Tighten lock nut (C) securely.

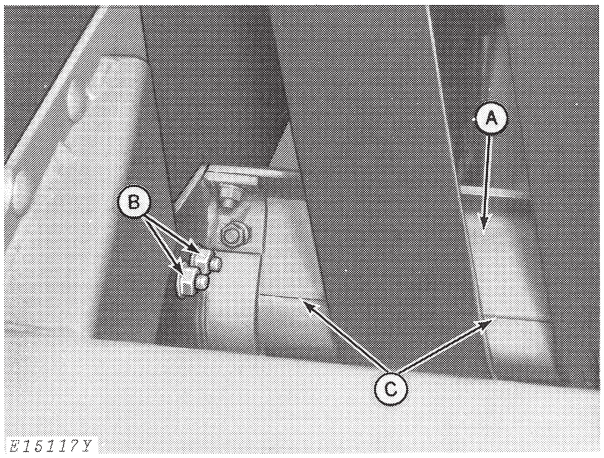
Adjusting Gate Latch Indicator



A Gate Latch Indicator Arm B Hex. Nut

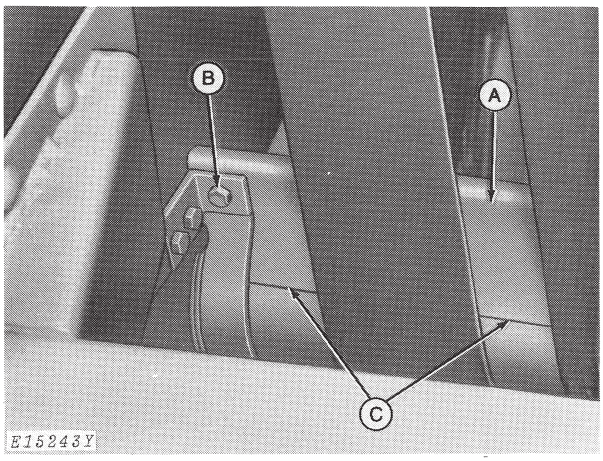
Close gate securely. Rotate gate latch indicator arm (A) by loosening hex. nut (B) and rotating arm until parallel with top of twine box. Retighten hex. nut.

Adjusting Smooth Roll Scraper



A Smooth Roll Scraper C 1.5 to 2.5 mm
B Adjusting Nuts (0.060 to 0.090 in.)

Baler 510



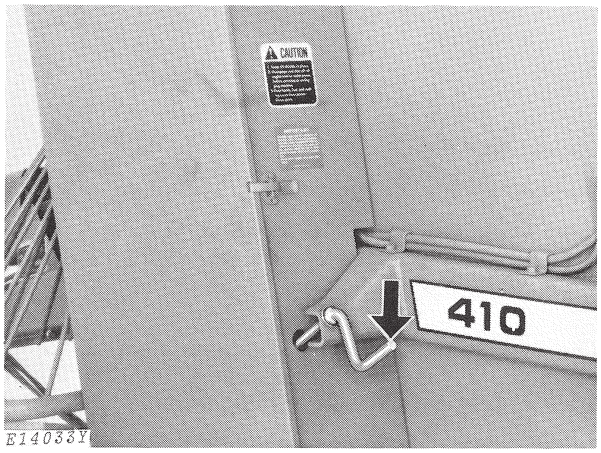
A Smooth Roll Scraper C 1.5 to 2.5 mm
B Adjusting Nuts (0.060 to 0.090 in.)

Baler 410

The smooth roll scraper (A) keeps material from wrapping or building up on the lower drive roll.

Adjust the scraper (A) by loosening nut(s) (B) on both sides, and setting scraper (A) to clear the drive roll by 1.5 to 2.5 mm (0.060 to 0.090 in.) (C) for the entire length of the scraper (A). Retighten nuts (B).

Adjusting Height of Pickup Teeth

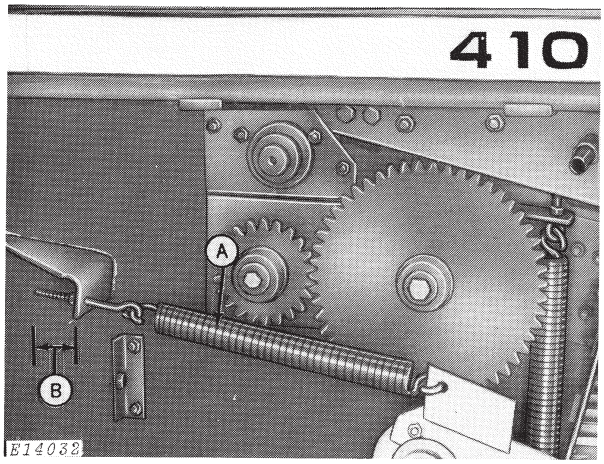


Set the pickup teeth as high as possible, but low enough to pick up all the crop. Adjustment is maintained by a crank located on the left side of the machine.

Adjust the pickup height by rotating pickup crank (arrowed) until desired height is obtained.

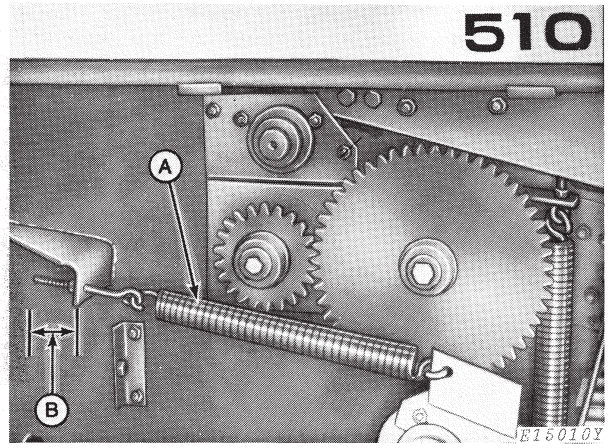
The absence of pickup teeth hinders pickup feeding. Replace all missing or bent pickup teeth. Adjusting the pickup as high as possible for the crop condition will provide the best feeding.

Adjusting Pickup Float Spring



A Pickup Float Spring B 51 mm (2 in.)

Baler 410



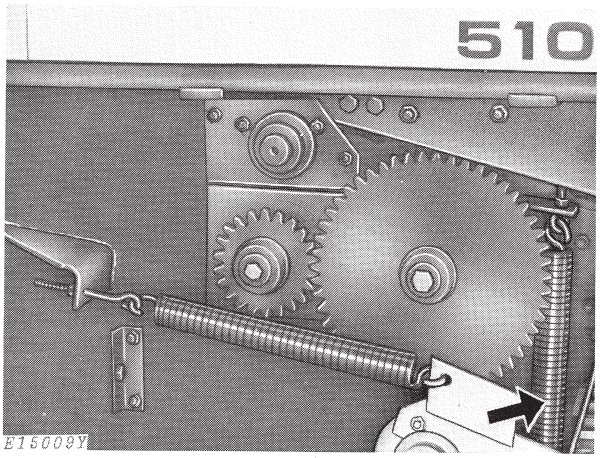
A Pickup Float Spring B 58 mm (2-19/64 in.)

Baler 510

The pickup float spring (A) acts as a shock absorber to the pickup and creates a floating effect when operating in rough or hilly terrain.

Adjustment is made by tightening the eyebolt nut until 51 mm (2 in.) (baler 410) or 58 mm (2-19/64 in.) (baler 510) (B) dimension is obtained.

Adjusting Compression Roll Spring



The compression roll springs provide the tension needed to flatten the hay as it is being fed into the baler.

Adjustment is made by tightening the eyebolt nut on the threads as far as possible.

NOTE: The twine box must be removed to make the adjustment on the right-hand side.

Advancing the pickup cam 15^{o} aids in feeding the material between the compression rolls. See dealer for information on rotating the cam.

Handling Round Bales

To avoid hazards and possible injures while handling round bales, observe the following rules:

1. Read the safety rules on pages 2 and 3, and understand the hazards and implications of handling round bales with a front-end loader.

2. Do not handle bales with a Front Loader without the specially designed round bale clamp. Improper use of front-end loader attachments to handle round bales can result in injury to the tractor operator from the bale rolling back down the loader boom into the operator's station.

3. Even when using proper equipment, handling of round bales can be hazardous. A tractor rollover accident can be caused by instability when the bale is not carried low. Exercise extreme caution.

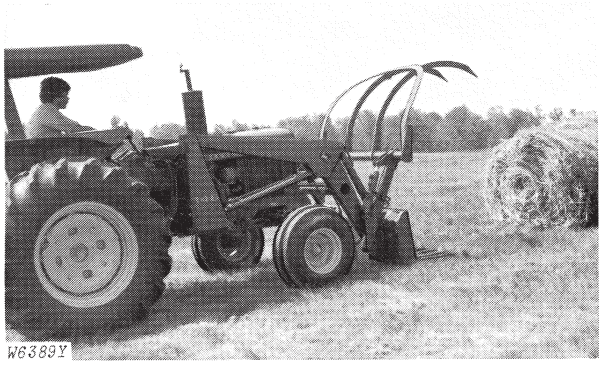
4. To avoid handling and stability problems, do not exceed a round bale weight recommended by the loader manufacturer.

5. Jerky operation causes tractor-loader instability. Operate the loader controls smoothly.

6. Avoid steep slopes and rough terrain.

CAUTION! Maximum bale weight must not exceed the manufacturer's rated capacity of the front-end loader.

Open the clamp and lower the fork or bucket to the ground. Keep the fork or bucket level with the ground to avoid damaging the round bale. Drive ahead until the bale is on the fork or bucket. Close the clamp to grasp the bale, roll the fork or bucket back, and raise the loader boom to provide adequate visibility and ground clearance for transport.



When handling round bales on a slope, approach the bale with the tractor facing uphill. Open the clamp and lower the fork or bucket to the ground. Keep the fork or bucket level with the ground to avoid damaging the round bale. Drive ahead until the bale is on the fork or bucket. Close the clamp to grasp the bale, roll the fork or bucket back, and raise the loader boom 0.15 m (6 in.) to provide ground clearance for transport on the slope. Proceed slowly with extreme caution.

When back on level ground, position the loader boom just high enough to maintain adequate visibility and ground clearance at all times.

CAUTION! Never use the tractor-loader to stop a rolling bale.

CAUTION! Carry the round bale low at all times.

Reduce the tractor ground speed when moving on a slope or turning.

Drive slowly through narrow gates and doors.


W6391Y

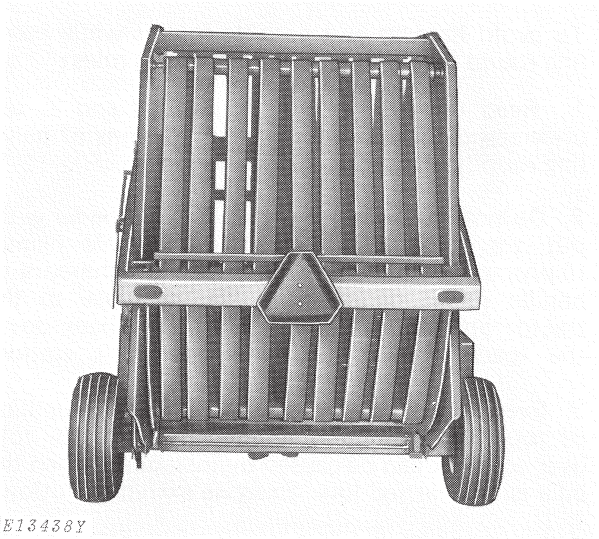
CAUTION! Do not handle round bales without the specially designed John Deere round bale clamp when using a farm loader.

Take extra precautions in areas where rear wheel tread or lift clearance is limited.

At the storage location, raise the bale to the required height. As the loader boom rises, keep the fork or bucket level to the ground by rolling it slightly forward. At the required height, dump the fork or bucket 2 to 10 degrees. Open the clamp and deposit the bale. Back the tractor away, close the clamp, roll back the fork or bucket, and lower the loader for transport.

When lowering a round bale, stop the loader gradually to avoid possible tractor or loader damage.

TRANSPORTING


E13438Y

When transporting the baler, raise the pickup to prevent damage and lower the gate.

IMPORTANT! Do not make sharp turns when transporting the baler. Damage could result if the tongue strikes the tractor tire.

CAUTION! When transporting the baler on a road or highway at night or during the day, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard check local governmental regulations. Various safety lights and devices are available from your John Deere dealer. Clean the reflectors to provide proper light reflection before transporting baler.

Storage

Take your baler to an authorized John Deere dealer for a complete service check at the end of each season to assure the best of performance at the beginning of the next season.

Storage At The End of Each Season

1. Shelter the baler in a dry place.

2. Clean the baler thoroughly inside and out. Trash and dirt will draw moisture and cause rust.

3. Clean out the twine cutter and apply a coating of oil.

4. Thoroughly lubricate the machine according to "Lubrication" on pages 28 and 29.

5. Apply a thin layer of grease to threads of all adjustment bolts.

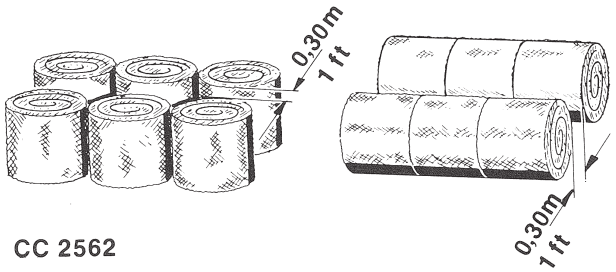
6. Paint all parts from which the paint has been worn.

7. Clean all chains by washing them with diesel fuel. Dry well and coat with a heavy oil.

8. Lower gate to maintain belt tension.

9. Block up baler, taking load off tires. DO NOT DEFLATE TIRES. If exposed, cover tires to protect them from light, grease, and oil.

10. List the replacement parts that will be needed and order them early. Your John Deere dealer at this time can expedite delivery of parts and install them during slack periods—avoiding delays next baling season.



CC 2562

Preparation at the Beginning of Each Season

1. Remove oil from the twine cutter.

2. Remove the heavy oil from the chains and lubricate with SAE 30W or heavier oil.

3. Lubricate complete machine (pages 28 and 29). This will force any collected moisture out of the bearings.

4. Check air pressure in tires. See page 6.

5. Check and fill gear case to check plug level with SAE 85-140 API-GL5 Gear Lubricant. See page 29.

6. Tighten all bolts, nuts, and set screws. See torque chart on page 36.

7. Check adjustment of the baler as described on pages 16 to 24.

8. If any major moving parts have been replaced, they should be run in.

NOTE: Open gate so that upper and lower belts do not contact before run-in.

9. Loosen clutch spring bolts making sure clutch plates are free and have not become frozen. See page 17 for clutch adjustment.

10. Review your operator's manual.

Bale Storage

It is not advisable to store the bales outside, except in some areas enjoying a very dry and hot climate. In other regions, the bales must be stored in a barn or a shed.

If bales are stored outside, they must be stacked a minimum of 30 cm (1 ft) apart. Whenever air cannot circulate between the bales, spoilage will result due to trapped moisture. The bales may be stocked end to end and pushed tightly together or placed on end and pushed tightly together (see opposite illustration).

Lubrication

The economical and efficient operation of any machine is dependent upon regular and proper lubrication of all moving parts with a quality lubricant.

IMPORTANT! The period recommended is based on normal conditions; severe or unusual conditions may require more frequent lubrication or oil changes.

Clean grease fittings before using grease gun. Replace any lost or broken fittings immediately.

CAUTION! Do not clean, lubricate, or adjust your baler while it is in motion.

SYMBOLS

Lubricate with John Deere Multi-Purpose Lubricant or an equivalent SAE multi-purpose-type grease at hourly intervals indicated on the symbols.

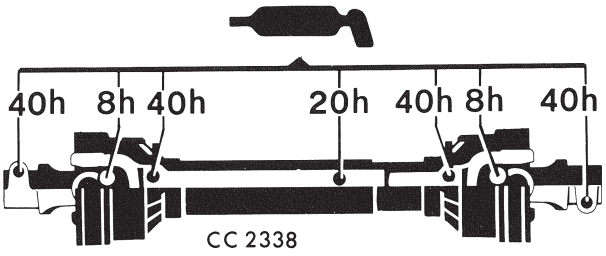
Lubricate with SAE 30 oil at hourly intervals indicated on the symbols.

AS REQUIRED

Belt Tension Arms, Belt Rollers and Gate Latch, Clevises, Linkages, Twine Shaft, Stop Indicator, and Moving Parts

When lubricating the baler, make a practice of putting a few drops of SAE 30 oil on the belt tension arms, belt rollers and gate latch, clevises, linkages, twine shaft, stop indicator and moving parts. This will make the parts work easier and prolong their life.

Powerline



CC 2338

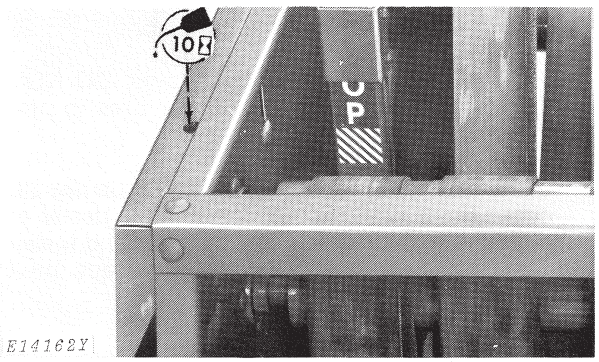
EVERY 10 HOURS

Chains

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 insure effective oil penetration, resulting in longer chain life.

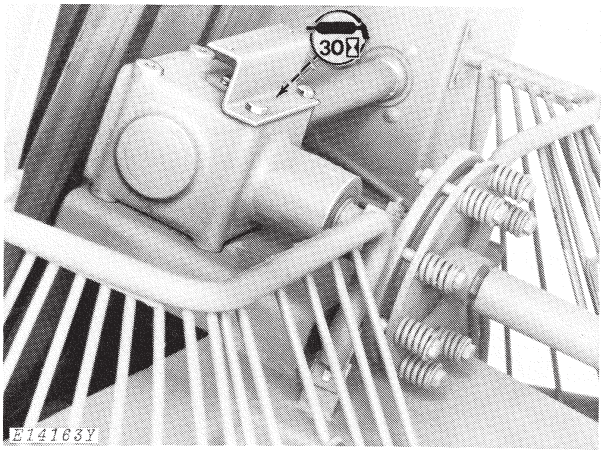
Upper Drive Chain



E14162Y

EVERY 30 HOURS

Gear Case Output Shaft (Baler 410 Only)

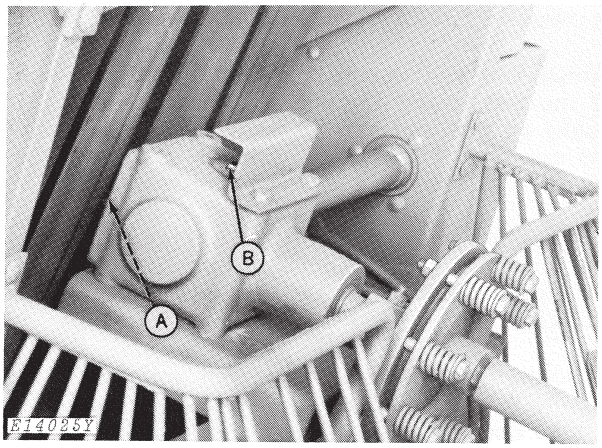


ONCE EACH SEASON

Wheel Bearings (410 and 510)

Remove the wheels; then clean, re-pack and adjust the bearings. Use John Deere Multipurpose-Type Lubricant, or an equivalent SAE multipurpose-type grease, or wheel bearing grease.

Gear Case (Baler 410 Only)



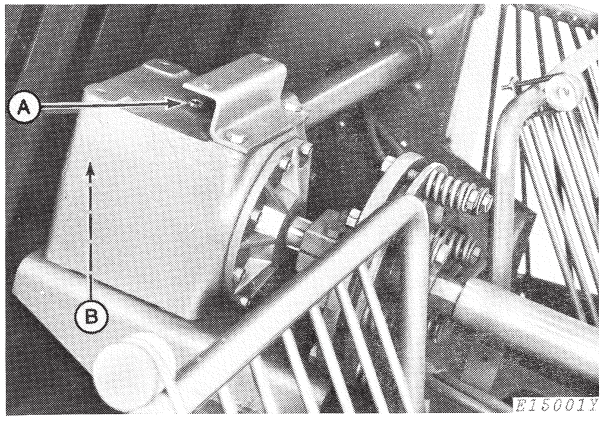
A Check Plug B Vented Plug

Check and fill gear case to check plug (A) level with SAE 85-140 API-GL5 Gear Lubricant. Capacity is 1.2 l (2-1/2 US pts.).

IMPORTANT! Do not overfill gear case. Overfilling will result in overheating, oil leakage, and possible damage to gear case components.

TWICE EACH SEASON

Gear Case (Baler 510 Only)



A Vented Plug B Check Plug

Check and fill gear case to check plug (B) level with SAE 85-140 API-GL5 Gear Lubricant. Capacity is 1.9 l (2 US qts.).

IMPORTANT! Do not overfill gear case. Overfilling will result in overheating, oil leakage, and possible damage to gear case components.

Service

REPAIRING UPPER BELTS

The upper belts can be repaired with the use of the belt lacing tool. (See page 42.)

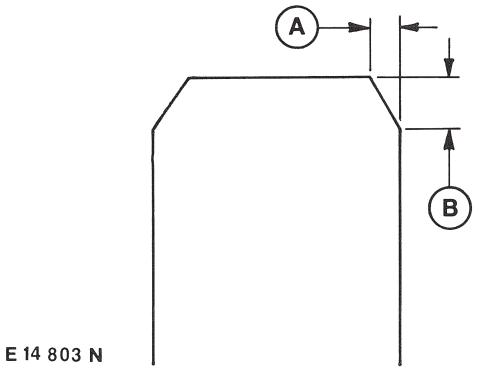
There exist repair belts portions (length: 1.80 m; 71 in.) for both wide and narrow belts (See the parts catalog).

NOTE: Belts may fray or warp, making it appear that repair is needed. Trim the frayed cords as they appear.

Note that belts tend to shrink.

Remove tension from tension springs (See page 17). Raise gate and lock. (See page 31).

Repair by first removing the broken belt. Using a square, draw a straight line which will remove the damaged area; Cut the belt squarely on this line.



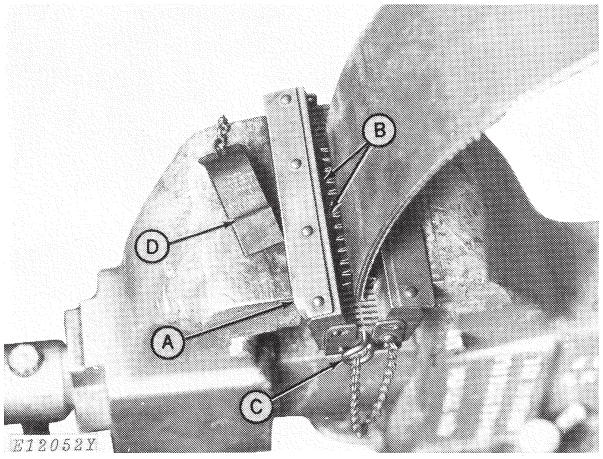
A 10 mm (3/8 in.) B 16 mm (5/8 in.)

Notch belt as shown in illustration. Repeat procedure on opposite end of belt if needed.

IMPORTANT! If a narrow belt is damaged beyond repair, the new belt must be 76 mm (3 in) longer than average length of belts already on the machine as this new belt will shrink.

Place new narrow belt in the middle of baler if possible (for a 510 only).

If, after replacing, new belt "wanders", shorten approximately 25 mm (1 in).



A Belt Lacing Die C Pin
B Hooks D Shim

Place the belt lacing die (A) in a vice, setting the determined amount of hooks (B) in center of die, and inserting long pin (C) to hold the hooks (B) in place.

IMPORTANT! If repair is needed on only one end of the belt, count the hooks. There should be 21 hooks on one end and 22 on the opposite end in the case of a narrow belt. For the wide belts the quantites of hooks are 76 and 77 respectively.

Visually line belt so hooks (B) are centered in belt. Tighten vice forcing hooks through belt. See replacing the upper belts on page 31 for proper installation.

If hooks have not been squeezed uniformly, use shim (D), placing between hooks and die. Retighten vice.

There exist two types of bolt lacing dies : one measuring 102 mm (4 in.) and the other 152 mm (6 in.). These two types of belt lacing dies can splice a narrow belt in one step. However, if a wide belt must be spliced : two steps will be necessary if the large lacing die is used (recommended in this case), otherwise three steps will be necessary with the small lacing die.

IMPORTANT! The difference in length between narrow belts on the machine over a certain period of usage must not exceed 51 mm (2 in.). This also applies to the difference in length between the two wide belts on the machine.

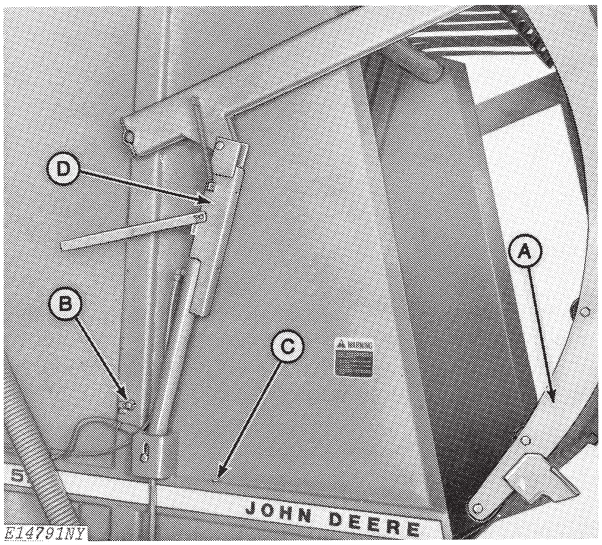
Whenever a narrow belt is shortened, note the location and the amount shortened on page 43.
If more than 51 mm (2 in) must be removed on a narrow belt, cut the damaged portion, measure the new length of the belt, then cut the other belt (s) to the same length as the damaged belt.

The new wide belts will probably shrink at a faster rate than the narrow ones. When the narrow belts show considerable sag and the wide belts are tight, shorten the narrow belts at the splice to obtain a 51 mm (2 in.) difference in length between wide and narrow belts.

The wide or narrow upper belts can be shortend several times and still bale properly.

An indication the belts have been shortened too much is when the bale does not become full size. For each 450 mm (18 in.) the belt has shrunk or shortened, the maximum bale diameter will be reduced 150 mm (6 in.). If the operator finds this objectionable, a short piece of belt may be added to each belt to restore them to the original specified length.

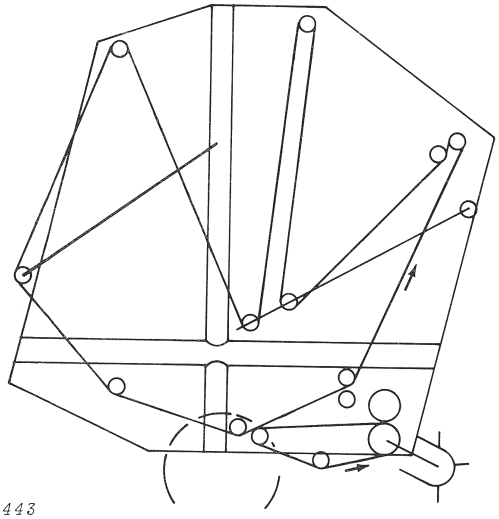
REPLACING UPPER BELTS



A Gate
B Lockout Pin
C Storage Hole for Lockout Pin
D Hydraulic Safety Stop

To replace a top belt or relieve belt tension, raise gate (A) until the tension arms are a few cm (approx. 1 in.) above the lockout pin (B) holes. Grasp lever and rotate hydraulic safety stop (D) down into the middle position as shown above. Insert both lockout pins (B) and lower gate on pins.

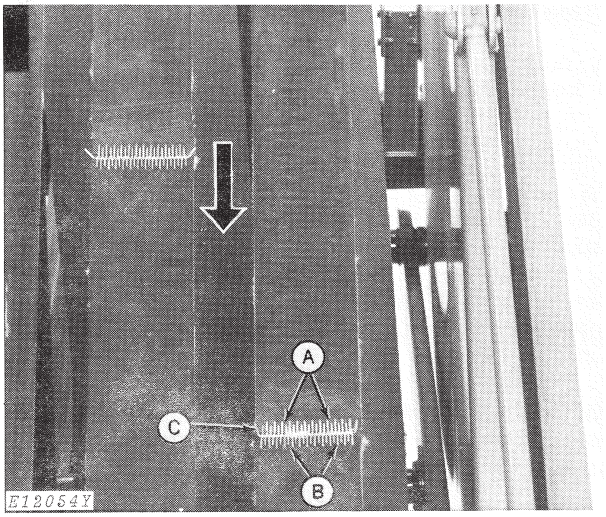
IMPORTANT! Remove lockout pins (B) and place in the storage position (C) before operating baler.



E13443

Attach belts with the rubber portion of the belt to the outside and the fabric portion to the inside of the baler. Thread as shown in illustration, passing through the individual guides.

IMPORTANT! Stagger splices for added strength to belts when baling.

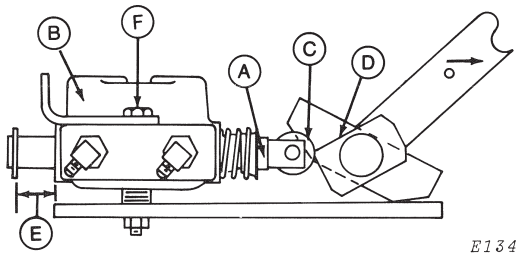


A 21 or 76 Hooks B 22 or 77 Hooks C Pin

Belt Splice Viewed from Rear of Baler

Begin threading of the belt so that upon completion there will be 21 hooks of the splice (A) on top and 22 hooks on the bottom (B). Insert pin and bend ends to 60-90 degree angle pointing in an upward direction (C) against the direction of travel (arrow).

ADJUSTING SELECTOR CONTROL



A Roller Shaft D Cam
B Valve Assembly E 13 mm (1/2 in.)
C Roller F Cap Screws

If twine arm is actuated and the rear gate begins to raise also, adjust as follows:

1. Shut-off tractor engine. Push control handle forward (not in direction of arrow) and check that roller shaft (A) is pushed completely into valve assembly (B) while roller (C) is resting on lobe of cam (D).

2. The selector control is properly adjusted when dimension (E) is 13 mm (1/2 in.).

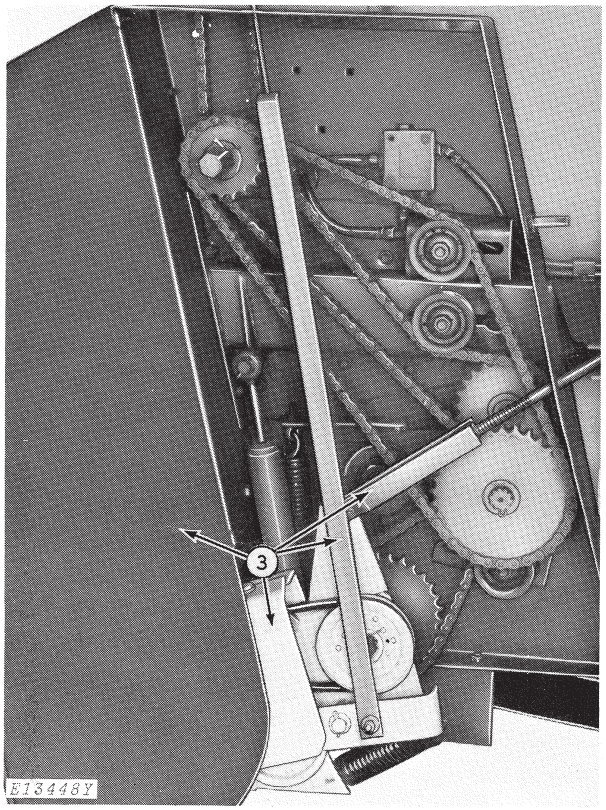
3. To adjust, loosen adjusting cap screws (F) and slide valve until 13 mm (1/2 in.) dimension (E) is obtained. Tighten cap screws.

IMPORTANT! If valve assembly (B) is not parallel to cam (D), roller will be off-centered on cam resulting in excessive wear.

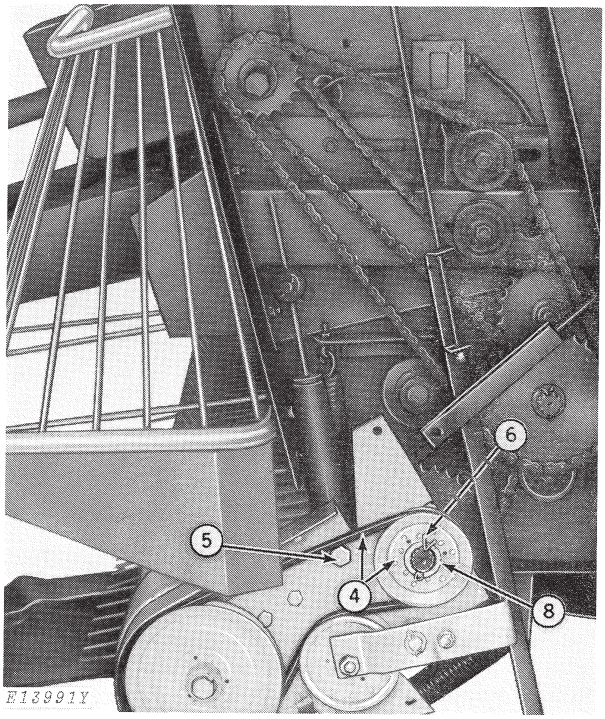
REPLACING LOWER BELT

1. Raise the rear gate and secure with lockout pins and hydraulic safety stop. See page 14.

2. Place jack with a block of wood under middle of pickup to relieve tension.



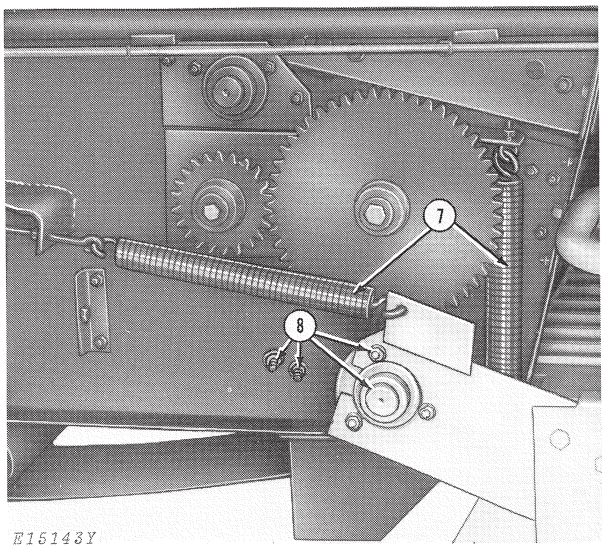
3. Remove pickup crank, release, shield, and door.



4. Remove cotter pin, washer, pulley, and V-belt.

5. Remove cap screw, washer, spacer and nut from shock absorber.

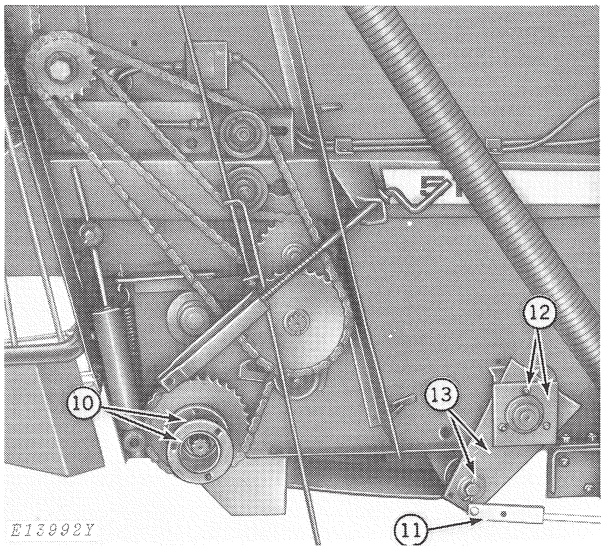
6. Remove three cap screws and lock nuts from flange and locking collar.



7. Remove twine box, pickup spring and compression roll spring on right-hand side.

8. Remove three cap screws, lock nuts and locking collar. Remove four cap screws, nuts and lower feed roll scraper.

9. (Not illustrated) Raise left-hand side of pickup an additional 76 mm (3 in.), block baler and remove pickup.

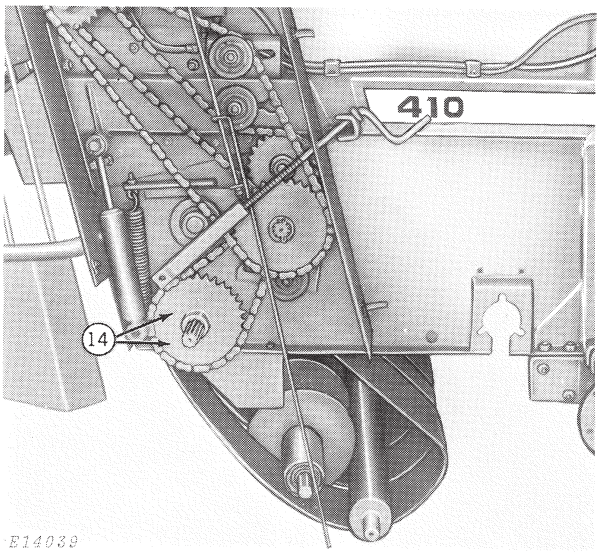


10. Remove flanges from both sides of machine.

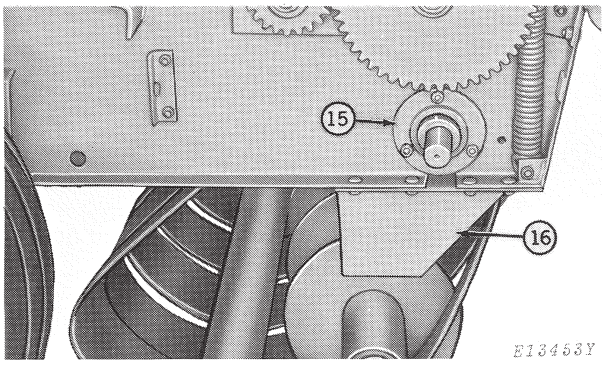
11. Release tension on lower belt idler and remove cap screws, spacers, and lock nut.

12. Remove locking collar, nuts, and plate from both sides of machine.

13. Remove cotter pin and idler plate from both sides of machine and lower both the idler and rear roll.



14. Remove drive chain, gear, locking collar, and flanges from left-hand side.



15. Remove lock nuts from flange locking collar and bearing from right-hand side.

16. Place jack under front roll to relieve tension and remove roll plate.

17. Repeat procedure on left-hand side and lower front roll to floor.

18. Replace damaged belt and inspect remaining belts for wear.

IMPORTANT! If all belts are broken except one, it is recommended to replace all belts at the same time.

19. To reinstall rolls, reverse disassembly procedures, but do not tighten locking collars until assembly is completed.

NOTE: Front roll must be evenly spaced between side sheets.

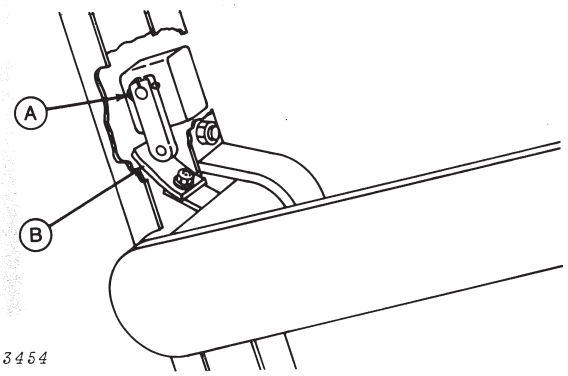
20. With front roll centered between side sheets, tighten locking collars.

21. Tighten remaining locking collars when reassembly has been completed.

22. Adjust pickup tension and compression roll spring. See page 24.

23. Adjust lower roll tension. See page 21.

ADJUSTING BALE COUNTER



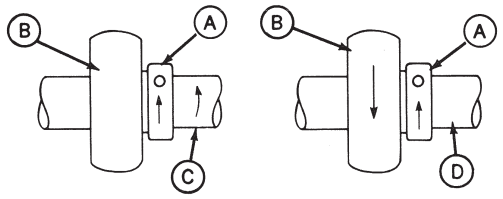
E13454

A Set Screw B Counter Tab

To adjust the bale counter, loosen set screw (A) located on the handle. Raise the rear gate until counter tab (B) has extended past counter handle. Adjust handle vertically and horizontally in order for counter tab (B) to strike handle as gate is closed. Adjust handle vertically and horizontally in order for counter tab (B) to strike handle as idler arm lowers when bale is discharged.

TIGHTENING BEARING LOCKING COLLARS

Locking collars (A) on bearings (B) must be kept tight.



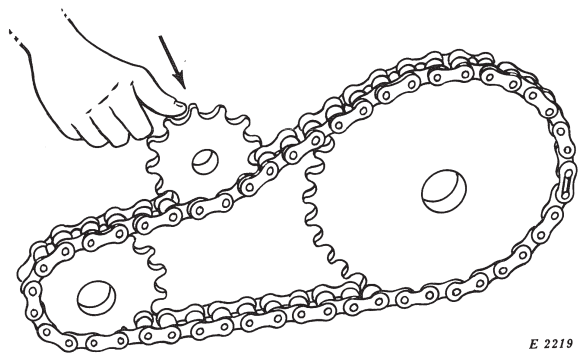
E12580

A Locking Collar C Running Shaft
B Bearing D Stationary Shaft

Tighten all locking collars (A) on running shafts (C) in the direction of the shaft rotation.

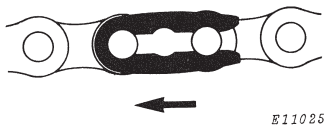
Tighten all locking collars (A) on stationary shafts (D) in the opposite direction from that of the bearing (B) rotation.

ADJUSTING CHAINS



Adjust the tension on all roller chains by loosening the idler mounting bolt and pressing the idler against the chain with thumb pressure. Tighten the idler mounting bolt.

Coupling the Chain

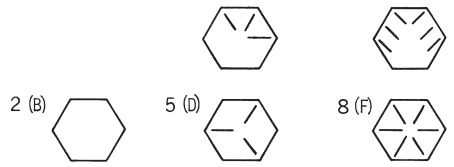


When securing a chain coupler link, be sure the closed end of spring lock faces in the direction the chain will run.

TORQUE CHART

The table below gives correct torque values for various bolts and cap screws. Most hardware used is high-strength (note dashes on hex. heads).

RECOMMENDED TORQUE IN Nm (FT-LB)
COARSE AND FINE THREADS



Bolt Diameter	Plain Head	Three Dashes	Six Dashes
1/4	Not used	14 (10)	19 (14)
5/16	Not used	27 (20)	41 (30)
3/8	Not used	47 (35)	68 (50)
7/16	47 (35)	75 (55)	108 (80)
1/2	75 (55)	115 (85)	163 (120)
9/16	102 (75)	176 (130)	237 (175)
5/8	142 (105)	230 (170)	325 (240)
3/4	251 (185)	407 (300)	576 (425)
7/8	217 (160)	603 (445)	929 (685)
1	339 (250)	908 (670)	1396 (1030)
1-1/8	447 (330)	1234 (910)	1979 (1460)
1-1/4	651 (480)	1695 (1250)	2793 (2060)

If bolts must be replaced, be certain to replace them with bolts of equal strength. Standard strength bolts have a plain head. High-strength bolts have three radial lines on the head (SAE 5). Extra high-strength bolts have six radial lines on the head (SAE 8).

Trouble Shooting

The majority of operating problems that occur with the round baler can be traced to improper adjustment or delayed service. The following chart is designed to help you when a problem develops by suggesting a problem cause and the recommended solution.

These suggested remedies should be applied with caution. Make certain that the source of the problem is not located someplace other than where the problem exists. A thorough understanding of the round baler is a must if operating problems are to be corrected satisfactorily.

Problem	Cause	Remedy	Page
Hay Wraps Around Rollers			
	Windrows light and/or short hay.	Make windrows larger and slow tractor speed to 1700 to 1800 rpm.	. . .
	Moisture content too high or wet "slugs" in bottom of windrows.	Moisture content of hay should be 20 percent.	11
	Scraper not adjusted properly on bottom drive roll.	Adjust scraper.	21
"Barrel" Shaped Bale			
	Windrow not of proper width.	See Crop Preparation.	11
	Weaving too often and baling more hay in the center of the bale.	See Starting and Driving.	12
"Cone" Shaped Bale			
	Not baling enough hay on small end of cone.	See Starting and Driving.	12
	Compression spring broken on one end.	Replace compression roll spring.	24
Ends of Bale Not Square			
	Not crowding hay into sides of pickup when baling.	See Starting and Driving.	12
Top Belts Not Turning			
	Rubber worn on upper drive roll.	See your John Deere dealer.	. . .
	PTO slip clutch slipping	Adjust drive slip clutch	17
	Material too wet	See moisture content	11
	Not weaving properly	See Starting and Driving	12
	Excessive bale density	Move tension spring to forward hole	16

Problem	Cause	Remedy	Page
Bottom Belts Not Turning			
	Lower belt tension springs not adjusted.	Adjust lower belt tension springs.	21
	Compression spring broken.	Replace spring.	24
Broken Top Belt			
	Material wet causing hay to build up on rollers.	See moisture content.	11
	Not weaving properly when starting to bale, causing the end belts to go under the bale.	See Starting and Driving.	12
	Lacing worn.	Repair belt.	30
	Slip clutch frozen or not adjusted properly.	Adjust drive slip clutch	17
	Plugging on either end between starting and scraper rolls with outside belts forced inward.	See remedy for problem of "Plugging Between Starter and Scraper Rolls...".	
Hay Passes Through Baler			
	Gate is not all the way down, adjusted properly, or latched.	Adjust gate latch. Make sure gate is latched when in "home" position.	22
	Relief valve pressure is too low.	See your John Deere dealer.	. . .
	Top or bottom belts not turning.	Belts not tensioned properly.	17, 21
Not Enough Twine on Bale			
	Flow control valve not adjusted properly.	Adjust flow control valve.	16
	Oil filter screen plugged.	See your John Deere dealer.	. . .
Automatic Twine Cutter Not Cutting			
	Anvil not parallel to knife.	Shape anvil arm.	
	Twine cutter out of adjustment.	Adjust twine cutter.	18
	Twine not cutting.	Sharpen knife.	. . .

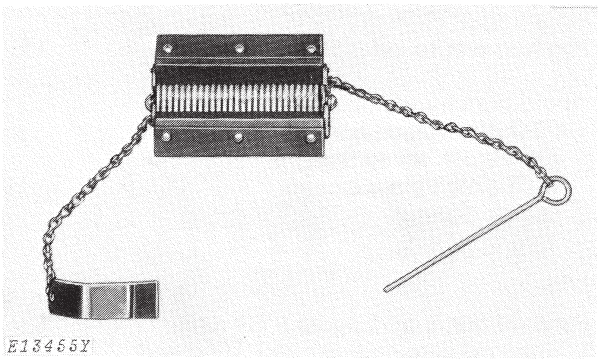
Problem	Cause	Remedy	Page
Top Belts Not Tracking Properly			
	Belts not equal length.	Remove and repair belts to within 51 mm (2 in.) of each other in length.	30
	Top rollers bent due to foreign objects or bale made too large.	See your John Deere dealer.	...
	Belt not cut squarely.	Remove and cut ends squarely.	30
Bottom Belt Not Tracking Properly			
	Baling or wrapping twine with gate unlatched.	Make sure gate is latched.	12
	Twine or hay wrapped around lower belt rollers.	Remove twine or hay. See Wrapping the Bale. Make certain roll scraper installed and adjusted properly.	13 23
	Gate raised to discharge bale with PTO engaged.	Disengage PTO before discharging bale.	14
	Lower belt idler springs not adjusted properly.	Adjust idler springs.	21
Pickup Not Running			
	Pickup belt broken.	See your John Deere dealer	...
	Cam followers worn or damaged, causing belt to slip.	See your John Deere dealer	...
	Windrows too large to feed into baler.	See crop preparation.	11
	Pickup set too low to the ground.	Adjust pickup.	23
	Pickup drive release engaged.	Adjust pickup drive release.	21
Twine Not Going Around Bale			
	Twine not threaded properly.	Check baler for proper threading.	8
	Twine not being fed in with hay.	Continue feeding hay until twine goes between compression rolls.	13
	Build-up on top compression roll.	Clean compression roll.	...
	Build-up on lower feed roll.	Remove build-up from lower feed roll. Continue baling whenever beginning tying cycle.	...

Problem	Cause	Remedy	Page
Bale Density Too Low			
	Compression roll springs broken.	See your John Deere dealer.	...
	Insufficient belt tension.	Move tension spring to rear hole.	16
	Excessive travel speed.	Reduce ground speed or windrow size.	12
Bale Partially Made and Stops Turning			
	Gate unlatched.	Discharge bale and latch gate.	12
	High moisture hay.	Moisture content should be 20 %.	11
	Slip clutch not properly adjusted.	Adjust slip clutch.	17
	Upper belt tension too high.	Move tension spring to the forward hole.	16
	High friction caused by newly painted side sheets.	Remove paint where bale contacts side sheets.	...
Hay Not Feeding Into Baler			
	Heavy windrows or adverse haying conditions.	Remove the compressor rods and/or reduce windrow size.	12
	Light, short, dry material.	Make windrows heavier, adjust compression rods, raise pickup.	11, 12, 23
Plugging Between Starter and Scraper Rolls Which Occurs Gradually			
	Loose material comes off end of bale and gradually builds up.	Reduce PTO speed. Reduce tractor engine speed to 1500 rpm or below. Use higher gear ratio if increased ground speed is desired.	
		See Unloading.	14
Plugging Between Starter and Scraper Rolls Which Occurs Quickly			
	Improper starting and driving.	See Starting and Driving.	12
	Hay flows between outside belt and side sheet forcing belts to center of baler.	See Starting and Driving.	12

Problem	Cause	Remedy	Page
Twine Wrappage Too Far From Left-Hand End of Bale			
	Twine arm not adjusted properly.	Adjust twine cutter.	18
	Twine tube bent.	Straighten or replace.	...
Hay Feeds Back Over Compression Roll			
	Wrappage around starter roll.	Hay too wet to bale.	11
	Upper (rubber) compression roll too aggressive.	Avoid bunchy windrows. With PTO disengaged and tractor engine off, spray the roll with a high gloss lacquer (quick drying).	...
Gate Will Not Latch			
	Hay buildup on axle prevents gate from closing completely.	Remove material. Engage PTO while lowering gate and reduce PTO speed to 1500 rpm or below while forming bale.	13
	Latch indicator rod may have gone over-center.	Rotate into correct position and adjust gate latch properly.	23

Special Equipment

BELT LACING KIT



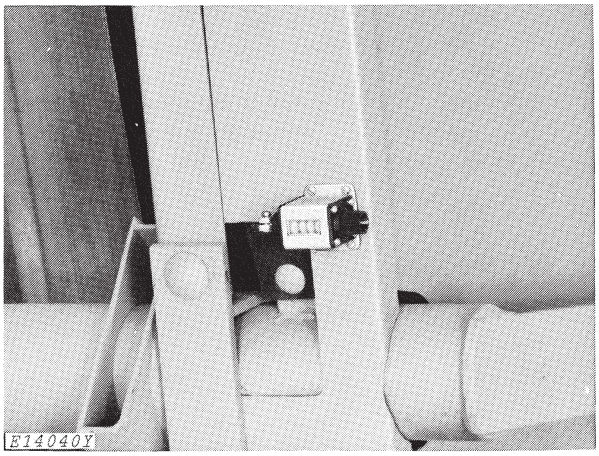
A belt lacing tool and hardware is available for repairing broken belts. These can be purchased separately from your John Deere dealer. Tight, even spacing of hooks can be obtained when repairing belts. See page 30 for proper installation.

BALL JOINT HITCH

To avoid difficulties such as strains, excessive wear or even breakage of hitch plates or hitch pin when baling on very rough ground, a ball-joint hitch can be used instead of conventional hitch plates.

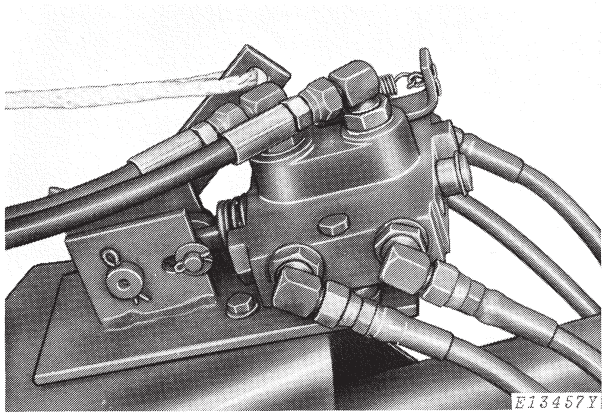
NOTE: This ball joint hitch must be hitched to the swinging drawbar of the tractor. The ball-joint hitch cannot be used when hitching at 700 mm (27-9/16 in.) (see page 9).

RESET BALE COUNTER



The bale counter keeps an exact record of the number of bales baled. See page 47 for proper installation.

SELECTOR CONTROL VALVE



Installing the selector control valve will allow total hydraulic compatibility with tractors having a single remote cylinder control outlet. See page 45 for proper installation.

FLOW REGULATOR FOR TRACTORS HAVING AN OPEN CENTER HYDRAULIC SYSTEM

When using a 410 or 510 round baler with a tractor having an open center hydraulic system, it is necessary to use a by-pass flow regulator which can be ordered as an attachment.

IMPORTANT! Several versions are possible:

1. The baler is equipped with the hydraulic selector control and the pump of the open center hydraulic system of the tractor has an oil flow not exceeding 45 liters/min. (12 4.5 gpm) : order the by-pass flow regulator only.

2. The baler is equipped with the hydraulic selector control and the pump of the open center hydraulic system of the tractor has an oil flow exceeding 45 liters/min. (12 4.5 gpm): order the by-pass flow regulator and the special hoses bundle.

3. The baler is not equipped with the hydraulic selector control and the tractor has an open center hydraulic system: order the by-pass flow regulator and special hoses bundle.

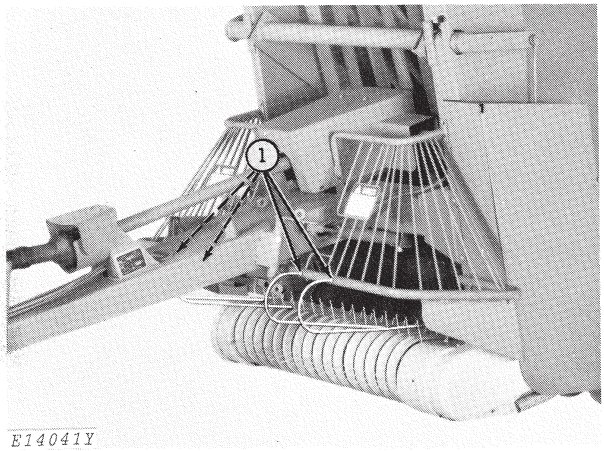
See pages 46 and 47 for installation.

Assembly

The terms "Right" and "Left", "Front" and "Rear" refer to the operator's "Right" and "Left", "Front" and "Rear" when facing in the direction in which the baler travels.

Before installing the pickup compressor rods, and gate roll (baler 510 only), remove the parts from the shipping bundle and locate the baler on a level, hard surface.

INSTALLING PICKUP COMPRESSOR RODS



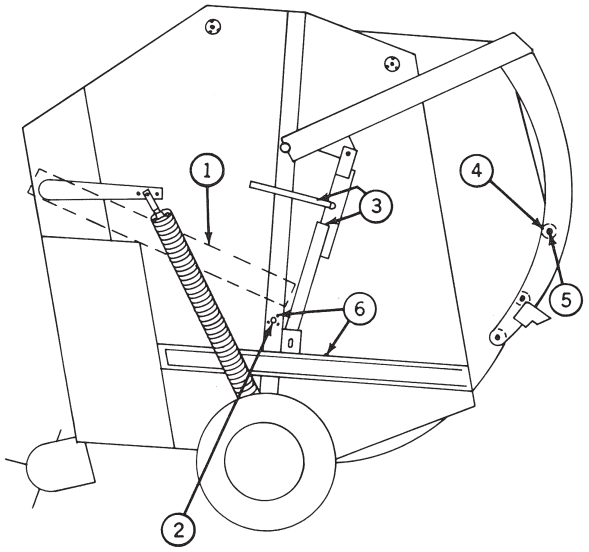
E14041Y

NOTE: The four compressor rods should be installed and used only under certain crop conditions. They are normally needed on windy days, when the hay is light or short, and when baling maize stalks. If these conditions do not exist, do not install.

1. Attach four compressors using 3/8 in. nuts.

INSTALLING THIRD GATE ROLL

NOTE: This paragraph concerns only the 510 Round Balers on which is has been necessary to remove the third gate roll for shipment purposes.



E15144

1. Raise gate until tension arms are a few cm (approx. 1 in.) above the lockout pin holes.

2. Insert lockout pins.

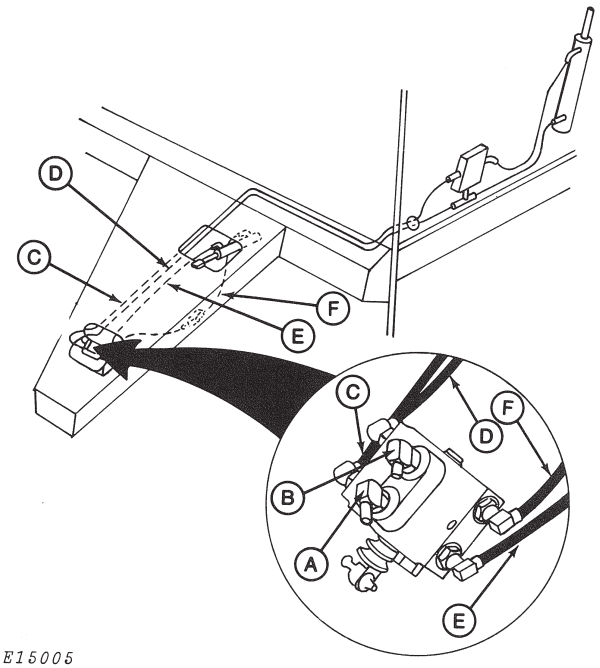
3. Rotate hydraulic safety stop into the down lock out middle position as shown.

4. Install roll using two spacers, 1-13/32 x 2 x 0.060 in. washers and 5/8 x 1-1/2 in. cap screws.

5. Torque cap screws to 251 Nm (185 ft-lb).

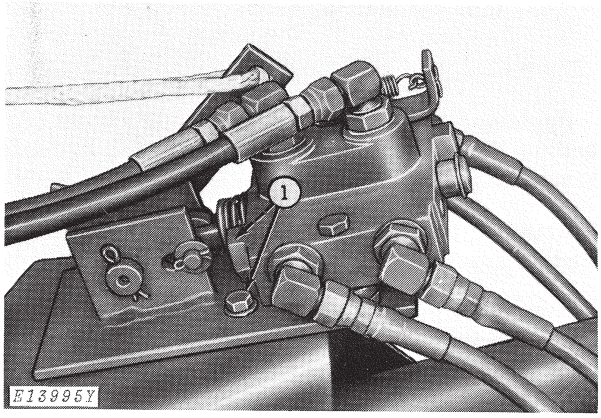
6. Remove lockout pins and place in the storage position before operating baler.

INSTALLING SELECTOR CONTROL



E15005

A Elbow
B Elbow
C Hydraulic Line (rod end)
D Hydraulic Line (port end)
E Hydraulic Line (rod end)
F Hydraulic line (port end)



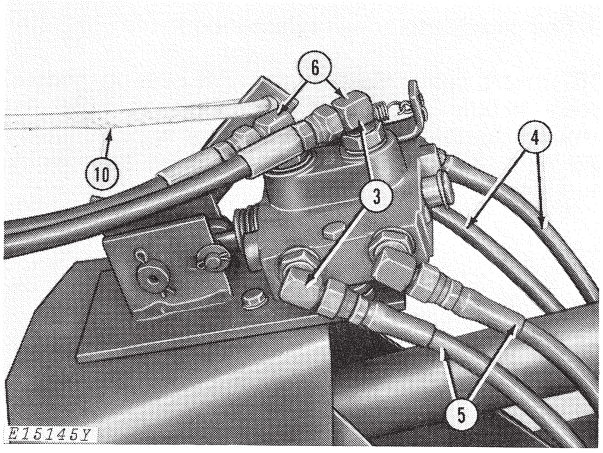
1. Remove two 5/16 x 3/4 in. self-tapping screws and place control valve assembly on PTO shield with handle facing front. Reinstall cap screws and tighten securely.

⚠ CAUTION! Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes and hoses are not damaged. Fluid escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands to search for suspected leaks.

If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment ist not administered immediately.

2. Remove hydraulic couplers from all four hydraulic lines (not shown). Pull lines rearward to slotted opening.

IMPORTANT! Excercise care in keeping foreign material from entering hydraulic system.



3. Place an O-ring on all six 90° elbows and attach to control valve assembly. Tighten securely.

4. Attach hydraulic line (C) (rod end), to right front hydraulic outlet (C). Attach line (D) (port end) to right rear outlet (D). Tighten securely.

NOTE: For ease in assembling, letters are stamped by each outlet.

5. Attach hydraulic line (E) (rod end), to left front hydraulic outlet (E). Attach line (F) (port end) to left rear outlet (F). Tighten securely. Push any excess hose into tongue.

6. Attach new hydraulic lines to elbows (A) and (B) located on top of valve and tighten securely.

IMPORTANT! If hydraulic lines (C,D,E, or F) are attached opposite to way shown, gate may open when operating twine arm or vice versa, causing damage to baler.

Failure to attach lines exactly as shown may result in excessive internal valve leakage which can adversely affect baler performance.

7. Attach hydraulic couplers, removed in step 2, to end of hoses.

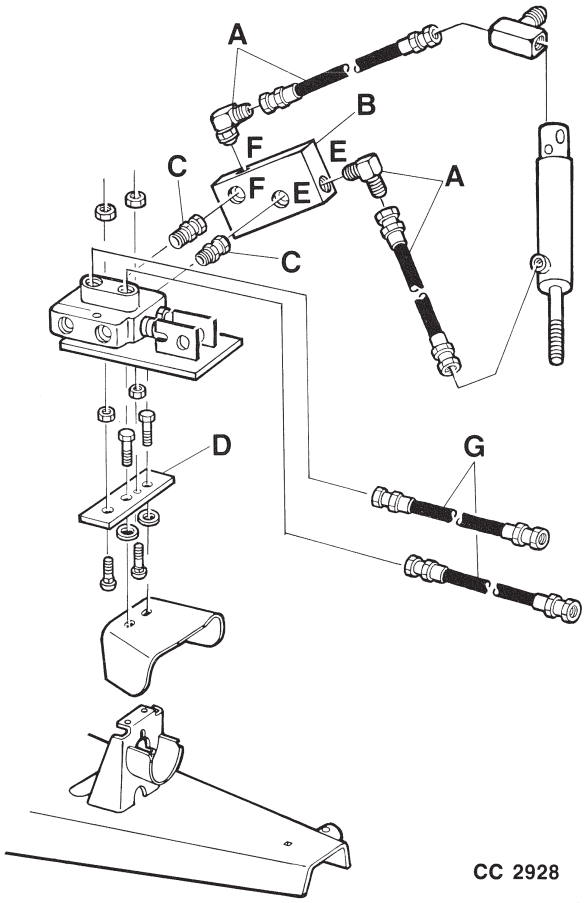
8. Make certain all hydraulic lines have been tightened securely.

9. See page 32 to adjust selector control.

10. Insert cable thimble through hole in control valve handle and insert rope through hole and around thimble. Measure down rope approximately 75 mm (3 in.), squeeze rope making an opening and insert end. Pull securely.

INSTALLATION OF THE BY-PASS FLOW REGULATOR

1. The baler is equipped with a hydraulic selector.



– Remove both elbows and hydraulic hoses (A) feeding the twine arm cylinder from the hydraulic selector.

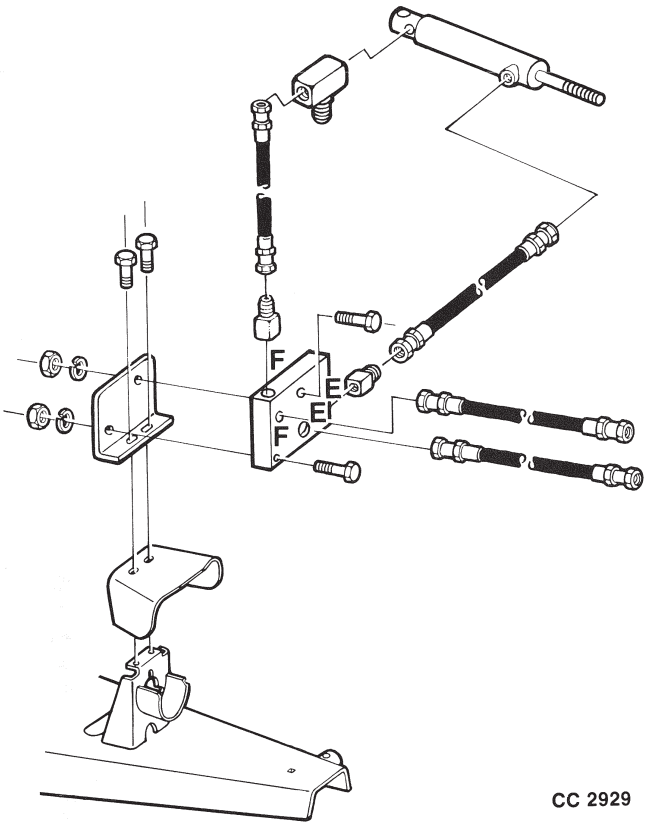
– Attach the by-pass flow regulator (B) to the hydraulic selector using the two union-fittings (C).

– Attach hydraulic line from port end of twine arm cylinder to outlet (F) and rod end of twine arm cylinder to outlet (E).

– Insert between hydraulic selector support and powerline shielding the support plate (D) to allow shifting the selector and by-pass flow regulator to the right, in order to avoid interference with tractor tire while making sharp turns.

– If the baler must be used with an open center tractor having a hydraulic pump flow over 45 liters/min (12 gpm), replace the existing hoses and fittings connecting the hydraulic selector to the tractor by the hoses (G) contained in the additional bundle specially ordered for this type of tractor.

II. The baler is not equipped with a hydraulic selector.



CC 2929

– Attach the support (A) to the powerline shielding.

– Attach the by-pass flow regulator (B) to its support.

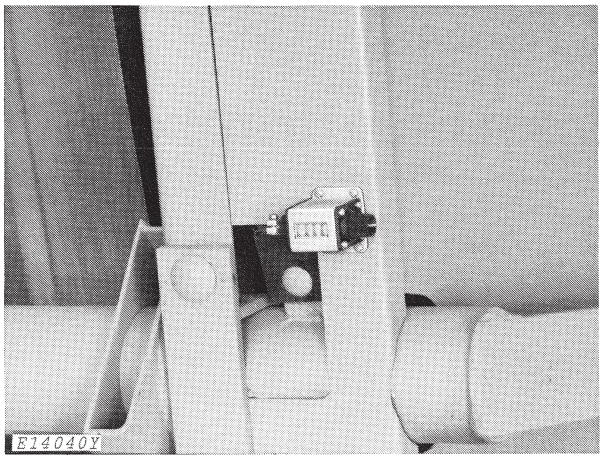
– Attach hydraulic line and fitting (C) from port end of twine arm cylinder to outlet (F) on the upper side of the by-pass flow regulator.

– Attach hydraulic line and fitting (D) from rod end of twine arm cylinder to outlet (E) on the L.H. side of the by-pass flow regulator.

– Attach hoses (G) contained in the additional bundle to outlets (E) and (F) on the front side of the by-pass flow regulator then to the tractor outlets.

IMPORTANT! Exercise care in keeping foreign material from entering hydraulic system.

INSTALLING BALE COUNTER



1. Install bale counter using four No. 5 x 5/8-inch machine screws. No. 5 lock washers and nuts. See page 35 to adjust.

Specifications-410 Baler

Bale:	
Diameter	1.50 m (5 ft.)
Width	1.20 m (4 ft.)
Weight (Hay, according to working conditions)	Approx. 385 kg (850 lb)
Pickup width	1.50 m (5 ft.)
Pickup cylinder diameter	0.25 m (10 in.)
Height (gate open)	2.90 m (9 ft. 9 in.)
Height (gate closed)	2.50 m (8 ft.4 in.)
Length (gate open)	4.50 m (14 ft. 8 in.)
Length (gate closed)	4 m (13 ft. 1 in.)
Width	2.10 m (6 ft. 10 in.)
Weight	1338 kg (2950 lb)
Size of tractor recommended	Minimum 30 kW (40 HP)
Drive protection	Slip clutch
Tires 9.5 L-14, 4 PR-pressure	2 bar (28 psi)
PTO shaft speed	SAE standard (540 rpm)
Transmission:	
Gears	90^{o} bevel gear drive; 1 : 1 gear ratio
Capacity	1.2 l (2-1/2 US pts) SAE 85-140 API-GL5

(Specifications and design subject to change without notice.)

SERIAL NUMBER

When ordering parts, always quote the model and serial number as given on the serial number plate. By doing so, you will assist your John Deere dealer in giving you prompt, efficient service. For your convenience, a space is provided at right for recording this number.

The serial number is located on the right-hand side of the baler above the twine box.

Baler Serial No. .....

Date of Purchase .....19....
(To be filled in by purchaser)

Specifications-510 Baler

Bale:
- Diameter ..... 1.83 m (6 ft.)
- Width ..... 1.60 m (5 ft. 3 in.)
- Weight (Hay, according to working conditions) ..... Approx. 771 kg (1700 lb)

Pickup width ..... 1.80 m (6 ft.)

Pickup cylinder diameter ..... 0.25 m (10 in.)

Height (gate open) ..... 3.30 m (10 ft. 10 in.)

Height (gate closed) ..... 2.77 m (9 ft. 1 in.)

Length (gate open) ..... 4.75 m (15 ft. 7 in.)

Length (gate closed) ..... 4.29 m (14 ft. 1 in.)

Width ..... 2.49 m (8 ft. 2 in.)

Weight ..... 1643 kg (3650 lb)

Size of tractor recommended ..... Minimum 52 kW (70 HP)

Drive Protection ..... Slip Clutch

Tires 11 L-14, 6 PR-pressure ..... 2 bar (28 psi)

PTO shaft speed ..... ASAE-SAE standard (540 rpm)

Transmission:
- Gears ..... 90^{o} bevel gear drive; 1:1.35 gear ratio
- Capacity ..... 1.9 l (2 US qts) SAE 85-140 API-GL5

(Specifications and design subject to change without notice.)

SERIAL NUMBER

When ordering parts, always quote the model and serial number as given on the serial number plate. By doing so, you will assist your John Deere dealer in giving you prompt, efficient service. For your convenience, a space is provided at right for recording this number.

The serial number is located on the right-hand side of the baler above the twine box.

Baler Serial No. .....

Date of Purchase .....19....
(To be filled in by purchaser)

Index

Page

A

Adjusting chains 36
Adjusting tractor drawbar 9
Adjustments:
- Bale counter 35
- Belt tension springs 17
- Compression roll spring 24
- Drive slip clutch 17
- Flow control valve 16
- Gate 22
- Gate latch indicator 23
- Height of pickup teeth 23
- Lower belt idler springs 21
- Pickup drive release 21
- Pickup float spring 24
- Selector control 32
- Smooth roll scraper 23
- Twine cutter 19

Assembly 44
Attaching hitch to drawbar 9
Attaching to tractor hydraulic system 10

B

Bale counter 35,42
Bale formation 13
Bale size indicator 15
Bale starting 12
Bale storage 27
Bale unloading 14
Bale wrapping 13
Baler operation 11
Baler preparation 6
Baler threading 8
Ball joint hitch 42
Bearing, locking collar 35
Bearings, wheel 29
Beginning of season service 27
Belt lacing tool 42
Belt etnsion springs, lower 21
Belt tension springs, upper 14, 17
Belts, repairing upper 30
Belts, replacing lower 32
Belts, replacing upper 31
Belts wide 18
By-pass flow regulator 43

C

Chain, coupling 36
Chains, adjusting 36
Chart, torque 36
Checking hydraulic system 10
Clutch, drive slip 17

Page

Compression rods 44
Compression roll spring 24
Connecting telescoping hookup 9
Content, moisture 11
Contents 1
Control valve, flow 16
Control valve, selector 42
Counter, bale 35,42,47
Crop preparation 11
Cutter, twine 19

D

Daily inspection 15
Direction of travel 11
Drawbar to hitch, attaching 9
Drive release, pickup 21
Drive slip clutch 17
Driving and starting 12

E

Ejecting bale 14
End of season storage 27
Extinguisher, fire 6

F

Fire extinguisher 6
Float spring, pickup 24
Flow control valve 16
Forming the bale 13

G

G

Gate, latch 12,22
Gate latch indicator, adjusting 23
Gate safety stop 14

H

Handling bales 25
Height of pickup teeth 23
Hydraulic system, checking 10
Hitch to drawbar, attaching 9

I

Identification views 4, 5
Idler springs, lower belt 21
Index 50
Indicator, bale size 15
Indicator, adjusting gate latch 23
Inflating tires 6

Page

Inspection, daily 15
Installing bale counter 47
Installing pickup compressor rods 44
Installing selector control 45
Installing third gate roll 44
Installing by-pass flow regulator 46

J

Jack stand 9

K

Knots:
Sheet bend 8
Square 7

L

Lacing tool, belt 42
Latch, gate 12,22
Latch, gate indicator 23
Loading the twine box 6
Locking collars, tightening bearing 35
Lower belt, replacing 32
Lower belt tension springs 21
Lubrication 28

M

Moisture content 11

O

Operating adjustments 16
Operating the jack stand 9
Operation 6
Operation, baler 11

P

Pickup compressor rods 44
Pickup drive release 21
Pickup float spring 24
Pickup teeth height 23
Plugging 15
Positioning tractor rear wheels 10
Preparing the baler 6
Preparing the tractor 9
Preparation at beginning of season 27
Preparation, crop 11

R

Release, pickup drive 21
Repairing, upper belts 30
Replacing lower belts 32
Replacing upper belts 31
Reset bale counter 35,42
Roll spring, compression 24

Page

S

Safety stop, gate 14
Safety rules 2
Selection, twine 6
Selector control valve 10,32,42,45
Serial numbers 48,49
Service 30
Sheet bend knot, tying 8
Slip clutch, drive 17
Smooth roll scraper 23
Special equipment 42
Specifications 48
Square knot, tying 7
Starting and driving 12
Storage 27
Storage, bale 27

T

Telescoping hookup 9
Tension springs, lower 21
Tension springs, upper 17
The operator 6
Third gate roll, installing 44
Threading the baler 8
Tightening bearing locking collars 35
Tire inflation 6
Tool, belt lacing 42
Torque chart 36
Tractor hydraulic system, attaching 10
Tractor preparation 9
Tractor rear wheel positioning 10
Transporting 26
Travel direction 11
Trouble shooting 37
Twine box, loading 6
Twine selection 6
Twine cutter 19
Twine holder 20

U

Understanding the working units 6
Unloading bale 14
Upper belt repair 30
Upper belt replacing 31
Upper belt tension spring 14, 17

V

Views, identification 4

W

Wheel bearings 29
Wrapping bale 13

Service to keep you on the job

We, at your John Deere dealer's, pride ourselves in having what it takes to help keep you on the job . . . where the profits are

John Deere Parts.
We help minimize downtime by putting the right 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.

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

Well-trained mechanics.
School is never out for John Deere servicemen. Training schools are held regularly to be sure our personnel know your equipment and how to maintain it. Result? Experience you can count on!

Prompt service.
Our goal is to provide prompt, efficient care when you want it and where you want it. We can make repairs at your place or at ours, depending on the circumstances. See us. Depend on us.

John Deere Service Superiority: We'll be around when you need us