SPECIFICATIONS

		BR740		BR750		BR770	BR780	
		Std	Silage	Std	Silage	Std	540 PTO	1000 PTO
		4 x 5	4 x 5	4 x 6	4 x 6	5 x 5	5 x 6	5 x 6
OVERALL DIMENSION								
Length (From hitch to end of bale ramp)	mm	4470	4470	4775	4775	4470	4775	4775
	Inch	176	176	188	188	176	188	188
Baler widths based on following configs*								

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OVERHAUL

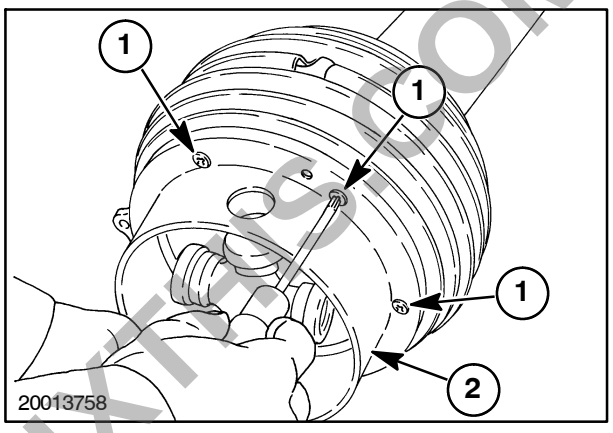
Op. 31 201

FRONT PTO AND CV U-JOINT

Disassembly

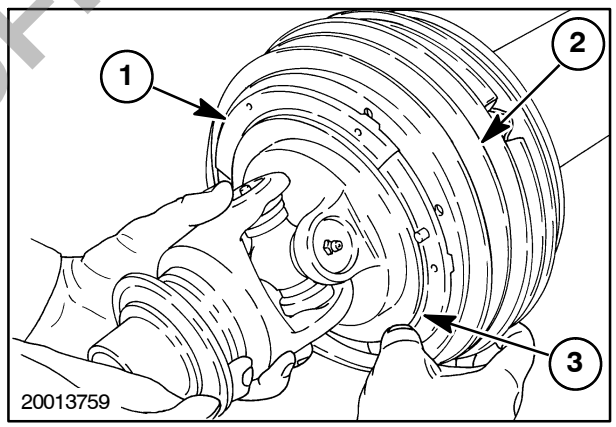
The front of the PTO assembly includes an 80° constant velocity joint.

Remove the Philips head screws, 1, and the rigid shield, 2.



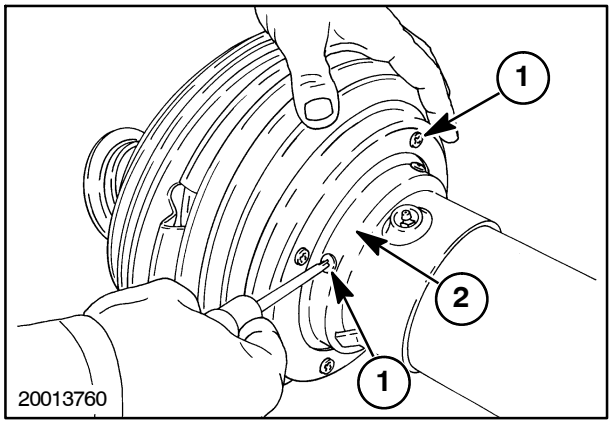
6

Extract the bearing ring, 1, from the CV shield, 2. The two notches, 3, in the CV shield facilitate removal of the ring. Remove the bearing ring from the CV body.



7

Remove the Philips head screws, 1, from the base cone, 2.



8

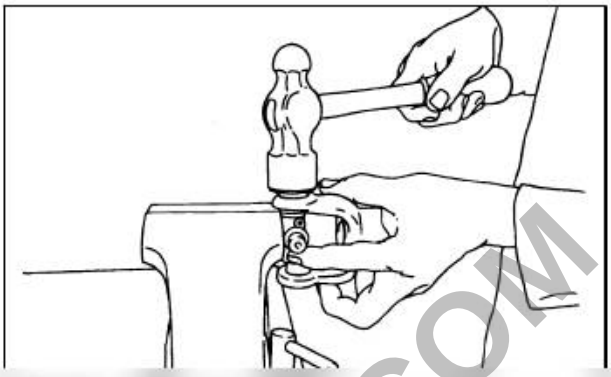
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Assembly

Place the cross in the yoke.

Push the cross into the yoke hole as far as possible and drive the first bearing cap into the yoke. Be sure to keep the cross into the cap as far as possible to prevent the needle bearings from moving in the cap. Follow the same procedure for the opposite bearing cap.



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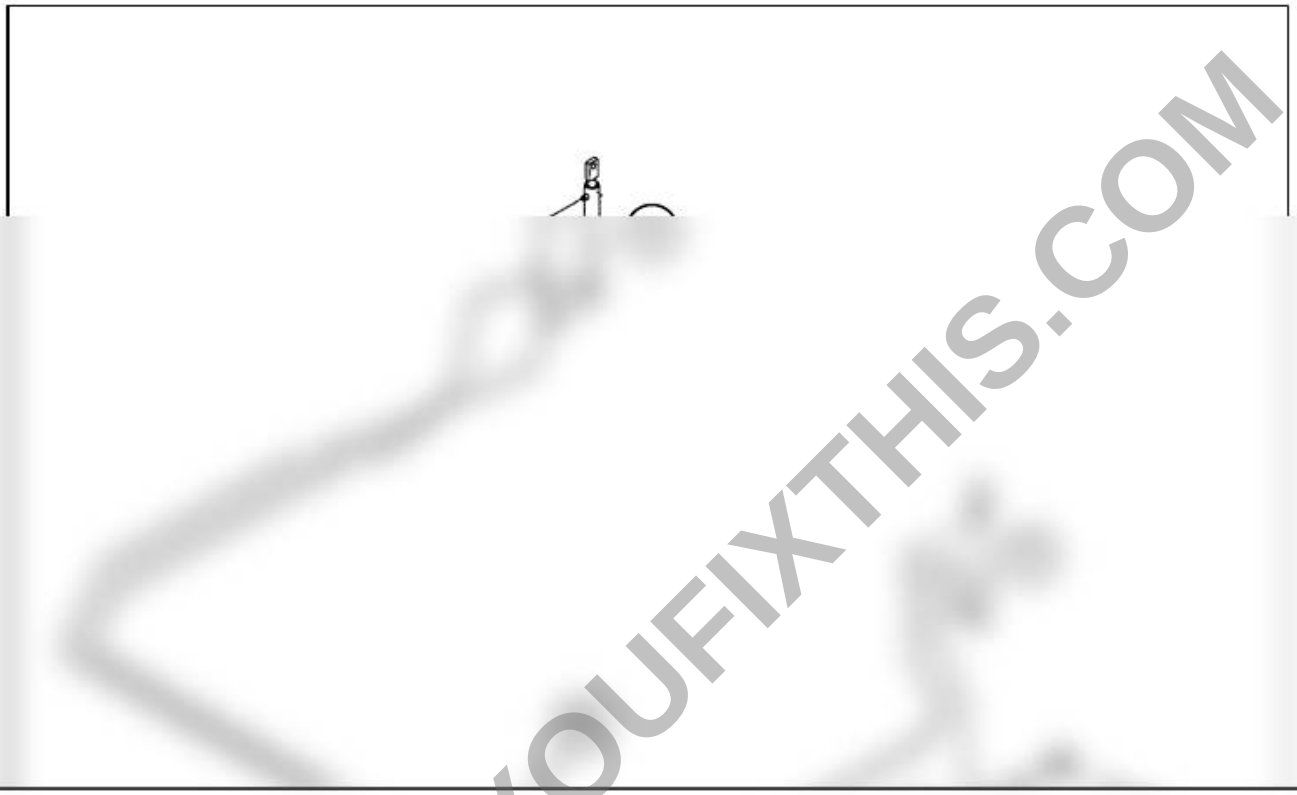
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DESCRIPTION OF OPERATION

Op. 35 550

TAILGATE LIFT SYSTEM



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TROUBLESHOOTING

ERROR CODES

ERROR MESSAGE AT START-UP AND/OR WHILE OPERATING

NOTE: *When checking continuity between connector pins further apart than the 12 volt/ohmmeter leads will reach, use a jumper wire to common ground at the one pin and connect the 12 volt/ohmmeter leads to common ground and the other pin. Be sure to use the same common ground.*

The operator's panel will provide a visual and/or audible warning if the controller detects a problem. The malfunction can be either a problem with the operating sequence of the baling cycle or a circuit fault where the wire harness or component has failed. An "ERROR" message will be displayed. The pointer(s) on the display will flash when a problem is detected. When the "ERROR" message is displayed, the operator's panel will beep. The flashing pointer will indicate which circuit is experiencing a problem.

1. "Error and flashing Full Bale pointer
   - Problem with the Bale Size potentiometer circuit.
2. "Error" and flashing TAILGATE pointer
   - Problem with Tailgate Sensor circuit.
3. "Error" and flashing LEFT BALE SHAPE bars
   - Problem with the Left Bale Shape potentiometer circuit.
4. "Error" and flashing RIGHT BALE SHAPE BARS
   - Problem with the Right Bale Shape potentiometer circuit.
5. "Error" and flashing WRAP BALE/ACTUATOR pointer
   - Problem with the Net Wrap potentiometer circuit.
   - Problem with the Net Counter wheel Sensor circuit.
   - Problem with the Net Wrap actuator circuit.
   - Problem with the Twine Wrap potentiometer circuit.
   - Problem with the Twine Wrap actuator circuit.
6. "Error" and flashing BALE SLICE pointer
   - Problem with the Bale Slice potentiometer circuit.
   - Problem with the Bale Slice actuator circuit.
7. Code Er 1
   - Net actuator stalled or lost power for longer than 5 seconds.
   - Twine actuator stalled or lost power for longer than 5 seconds
8. Code Er 3
   - Slice actuator stalled or lost power for longer than 5 seconds.

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BR740, BR750, BR770, BR780
REPAIR MANUAL
COMPLETE CONTENTS

SECTION 00 - GENERAL INFORMATION 2

SECTION 31 - IMPLEMENT DRIVELINE 3

SECTION 35 - HYDRAULICS 7

SECTION 39 - FRAME 11

SECTION 44 - AXLES AND WHEELS 12

SECTION 55 - ELECTRICAL SYSTEMS 13

SECTION 60 - PICKUPS 19

SECTION 62 - PRESSING 24

SECTION 68 - WRAPPING 31

SECTION 70 - EJECTION 35

SECTION 90 - SHIELDING 35

The following pages are the collation of the contents pages from each section and chapter of the BR740, BR750, BR770, and BR780 Repair manual. Complete Repair part # 87352298.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the BR740, BR750, BR770, and BR780 Round Balers.

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SECTION 31 - IMPLEMENT DRIVELINE

BOOK 1 - 87352299

Chapter 2 - Gearbox

CONTENTS

Section	Description	Page
	Specifications	2
	Special Tools	2
	Description of Operation	2
	Overhaul	3
31 220	Gearbox	3
	Removal	3
	Gearbox Coupler Seal	5
	Replacement	5
	Gearbox	6
	Sectional Views	6
	Disassembly	10
	Inspection	13
	Assembly	14
	Installation	21

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WEAR LIMITS ON ROLLER CHAINS

Strand Length In Pitches	Chain Length in Millimeters (Inches)							
	No. 40 Chain (08A)		No. 50 Chain (10A)		No. 60 Chain (12A)		No. 80 Chain (16A)	
	New	Old (Replace)	New	Old (Replace)	New	Old (Replace)	New	Old (Replace)
40P	508 (20)	523 (20 5/8)	635 (25)	654 (25 3/4)	762 (30)	787 (31)	1016 (40)	1047 (41 1/4)

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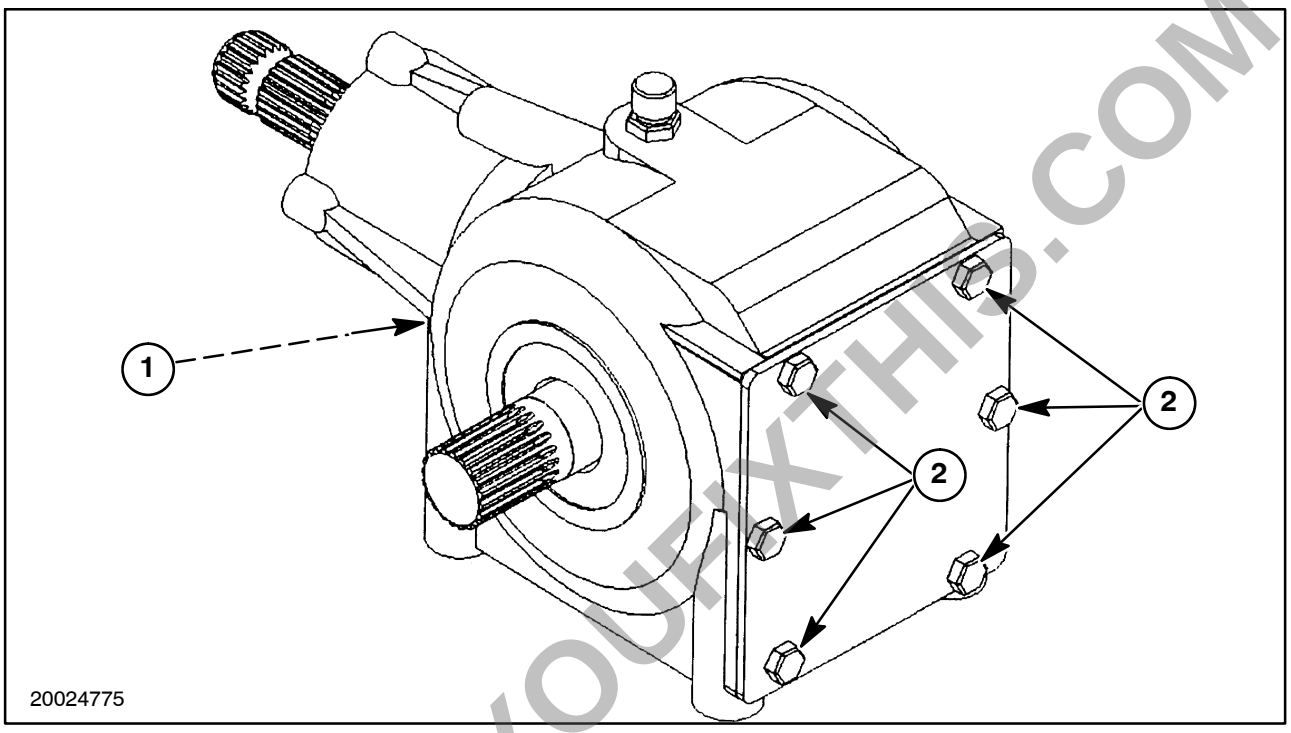
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Disassembly
Clean off the outside of the gearbox.

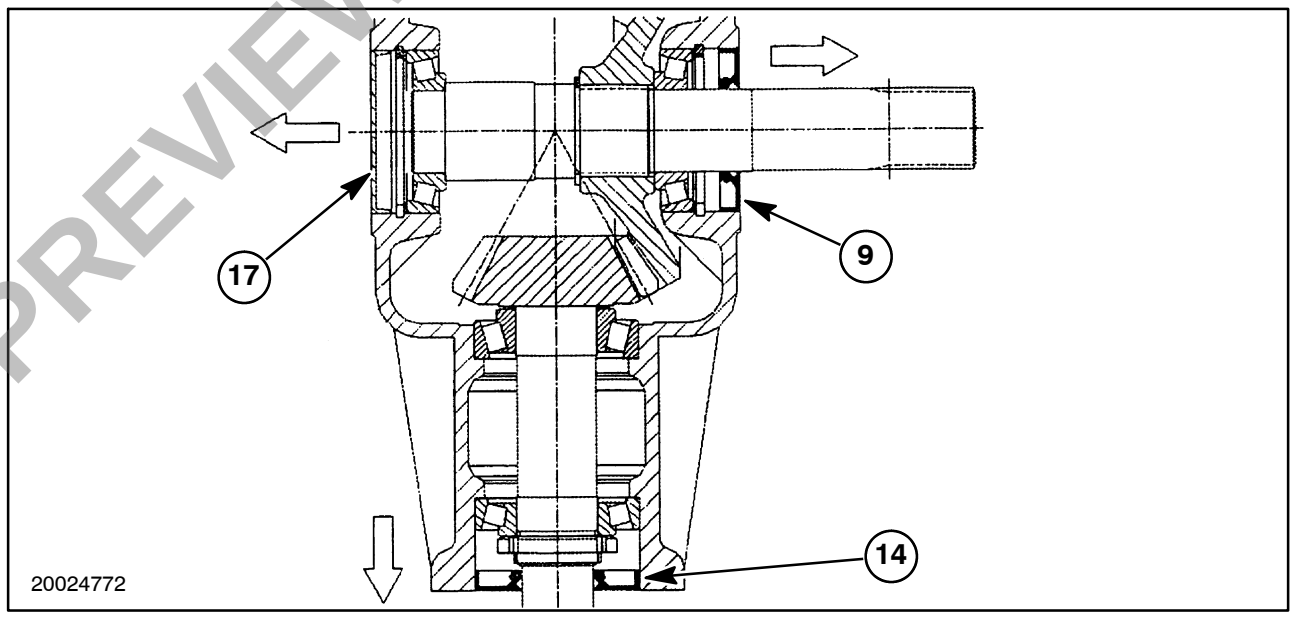
Drain the oil from the gearbox by removing the plug, 1.

Remove the six cover bolts, 2, and take off the cover.



12

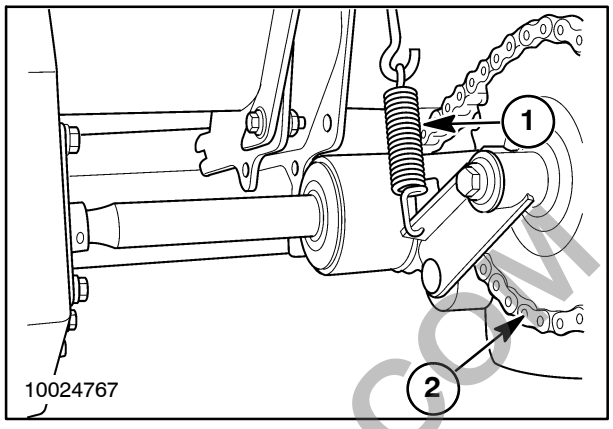
Use a screw driver and remove the cap, 17, and seals, 9, and, 14. Be careful not to damage the shafts or housing. The cap and seals will be damaged and must be replaced with new parts.



13

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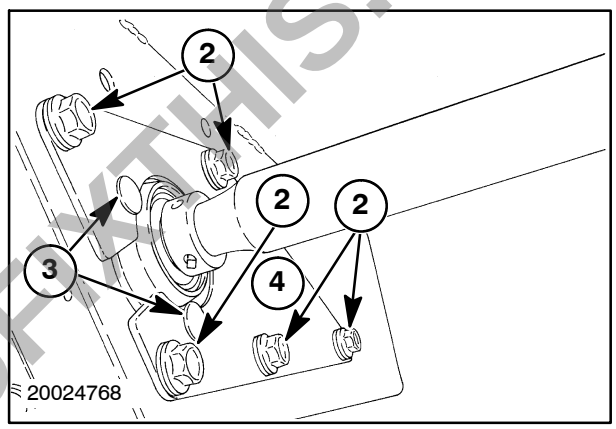
Take off the idler spring, 1, and the chain, 2.



97

Remove the mounting plate bolts, 2, and the flangette bolts. 3.

Slide the mounting plate, 4, off the shaft.

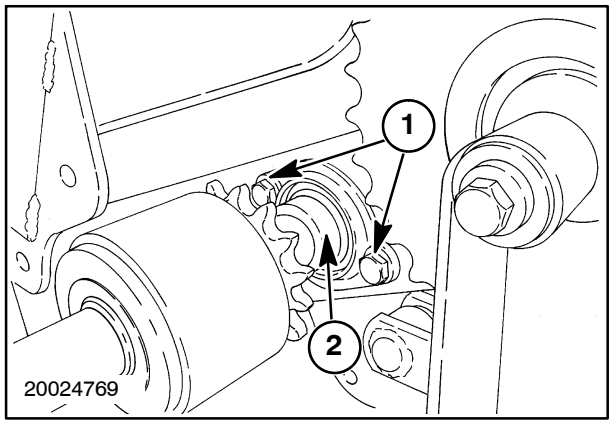


98

On the other end of the shaft, remove the two flangette bolts, 1.

Take the whole shaft assembly out the end of the left pickup.

Loosen the locking collar, 2. Take the bearing, two hole flangettes and locking collar off the short end of the shaft.

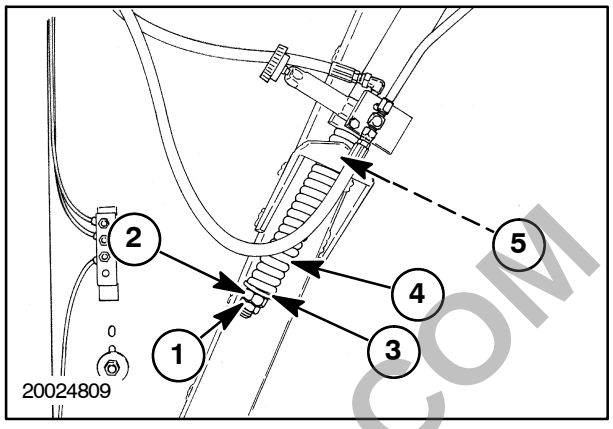


99

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Remove the jam nut, 1, nut, 2, washer, 3, spring, 4, and spring pivot, 5, from the rod attached to the base of the right cylinder.

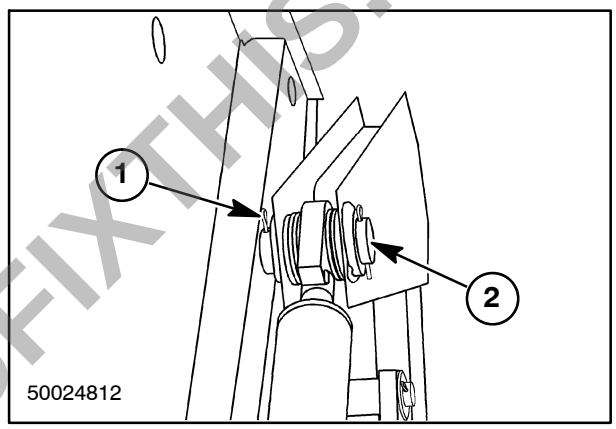


14

On any cylinder remove the inner cotter pin, 1, at the take-up arm pin, 2.

Remove the cylinder rod pivot pin, 1, from the take-up arm. Be careful not to lose the washers on either side of the cylinder rod. Note the quantity and location of the washers.

Remove the cylinder from the lower mount. On the right side there is a washer.

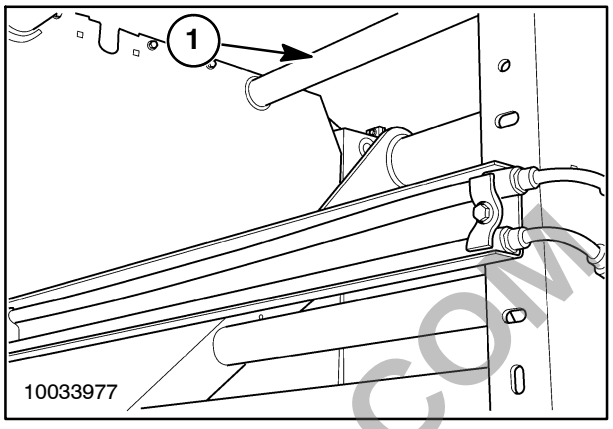


15

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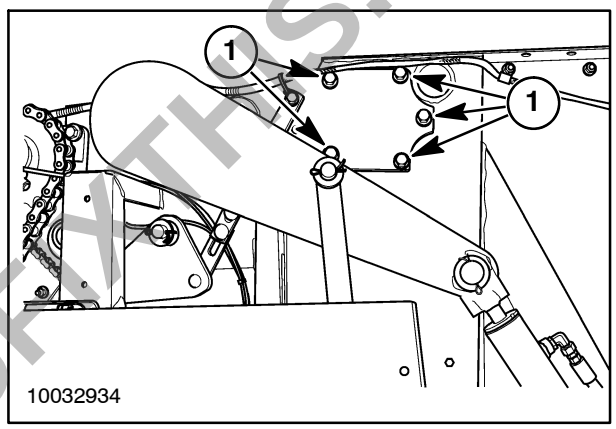
Support the tailgate with a hoist by placing a pipe through the pipe, 1, in the tailgate frame and attaching to the ends of the inserted pipe.



35

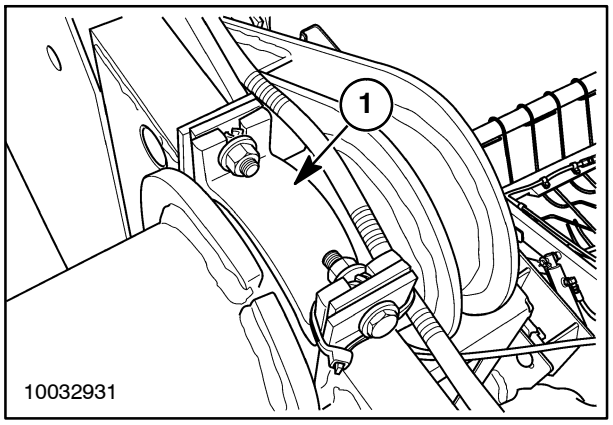
Remove the five bolts, 1, at the left and right tailgate pivot.

Remove the tailgate from the pivot plates. The pivot plates will remain in the main frame. Set the tailgate on the floor.



36

Remove the cover brackets, 1, at the take-up arm pivots.



37

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OVERHAUL

Op. 44 101

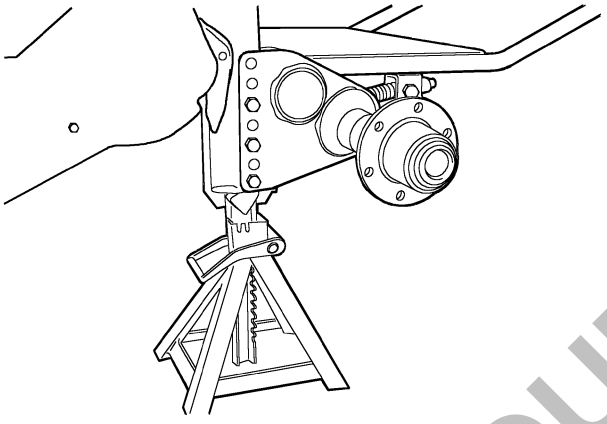
AXLE

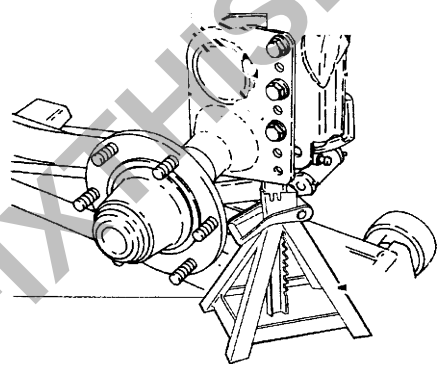
Adjustment

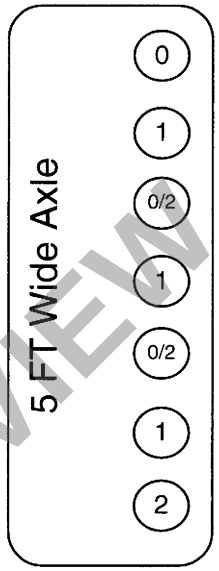
The axle height has been set at the factory for the combination of tire size, pickup and baler model. The chart below shows the factory axle setting based on width and size of baler, tire size, pickup and feeder type. There are three bolt holes in the baler frame. There are seven bolt holes in the axle flanges. The three axle bolts can be adjusted in positions 0, 1, 2, 3, and 4. Adjustment should not be necessary. If the axle position is to be changed extreme care must be taken to do it safely.

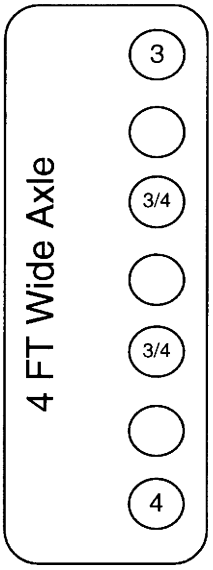
To adjust the axle height.

1. Make the adjustment on a flat, paved surface, such as a concrete floor. Leave the baler attached to a tractor. Apply the tractor brakes.
2. Open the tailgate and lock it.









Size	Tire	Pickup	Feeder	Axle position
5x6	31-13.5x15, 8-ply	STD	None	1
5x6	19/45x17, 10 ply	2.07	Stuff	2
5x6	14L-16.1, 8-ply	STD	None	0
5x6	14L-16.1, 8-ply	2.07	Stuff	0
5x5	31-13.5x15, 8-ply	STD	None	1
5x5	14L-16.1, 8-ply	STD	None	0

Size	Tire	Pickup	Feeder	Axle position
4x5	11L-14, 6-ply	Std	None	3
4x5	31-13.5x15, 6-ply	1.5 m	Stuff	3
4x5	19/45x17, 10 ply	1.8 m	Stuff	3
4x5	31-13.5x15, 8-ply	1.8 m	Stuff	3
4x5	19/45x17, 10 ply	2.07 m	Rotor	4
4x6	31-13.5x15, 6-ply	1.5 m	Stuff	3
4x6	19/45x17, 10 ply	1.8 m	Stuff	3
4x6	31-13.5x15, 8-ply	1.8 m	Stuff	3
4x6	19/45x17, 10 ply	2.07 m	Rotor	4

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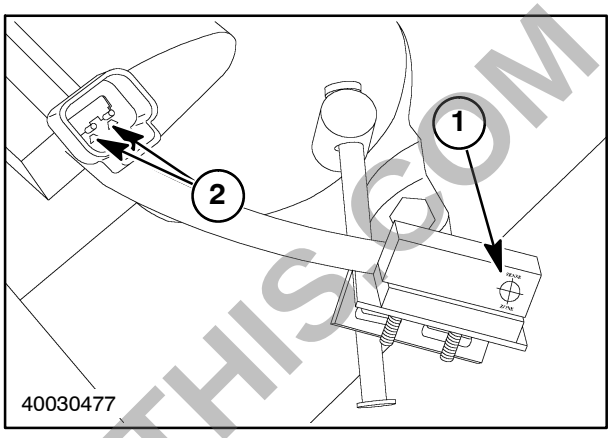
Testing (Ferrous Proximity Sensor)

To test a ferrous proximity sensor, remove it from the circuit.

Use an ohmmeter to verify non-energized conditions.

IMPORTANT: *Until instructed to do so, DO NOT have any ferrous metal near the sense zone, 1.*

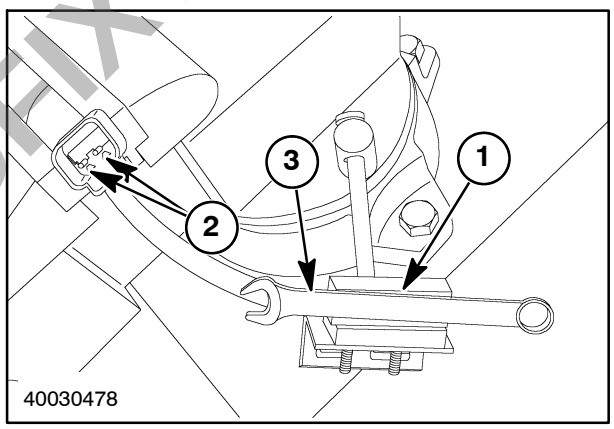
1. When there is no ferrous metal near the sense zone, connect the ohmmeter leads to each of the pins, 2, of the sensor connector.
   - There will be no continuity between the pins if the sensor is good.



23

2. Place a small wrench, 3, onto the sense zone, 1, and connect the ohmmeter leads to each of the pins, 2, of the sensor connector.
   - There will be continuity between the pins if the sensor is good.

If continuity reading do not match those stated in the above test procedure, replace the sensor.



24

ROTARY POTENTIOMETER

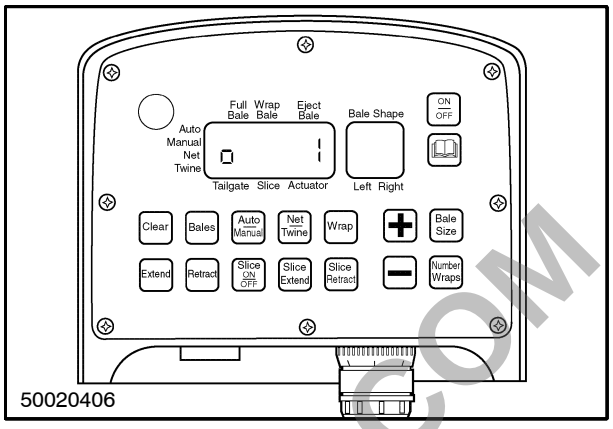
As the rotary potentiometer rotates through it's arc, it changes the level of it's return signal back to the Electronic Control Unit.

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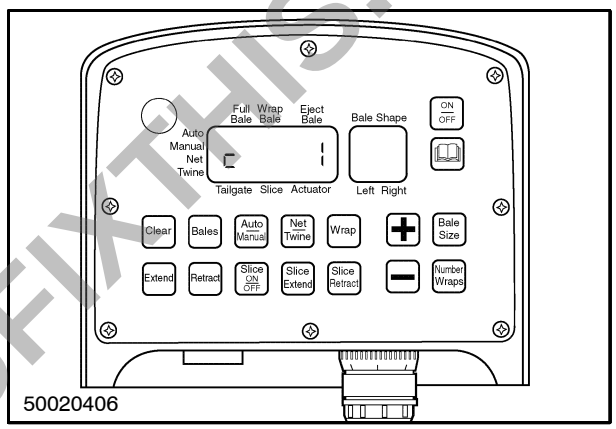
ITEM 20 - Software version

Item 20 is used to display the software version level used in the controller and operator's panel. The setup/diagnostic mode item number (20) is not displayed. An "o" at the left of the display indicates that the displayed version is for the operator's panel. The number to the right of the display indicates the version level of the software.



73

A "c" at the left of the display indicates that the displayed version is for the controller. The number to the right will change with each version.



74

To change the display:

Press the + (plus) or - (minus) key to change the display between the operator's panel and controller.

To advance to setup item 21 and automatically start the display test - Press and release the OPEN BOOK symbol key.

OR

To exit the setup/diagnostic mode, press and hold the OPEN BOOK symbol for two seconds. The alarm will sound to indicate that the controller has been taken out of the setup/diagnostic mode and returned to normal operation.

NOTE: *For more information on software, see "Software Download Instructions Using the EST".*

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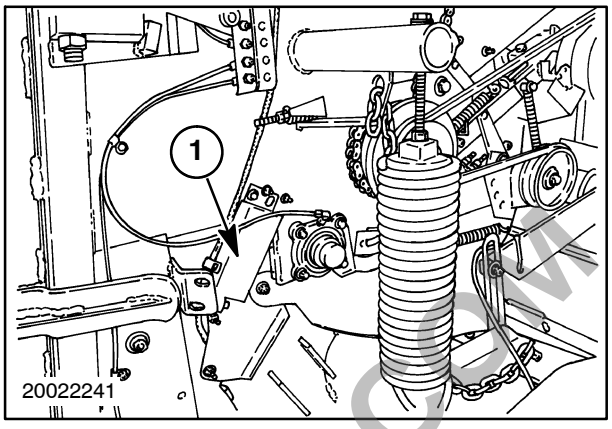
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Op. 55 435

BALE SHAPE SENSOR

Remove the shield, 1, from the sensor. Move the operator's monitor close to the sensor.

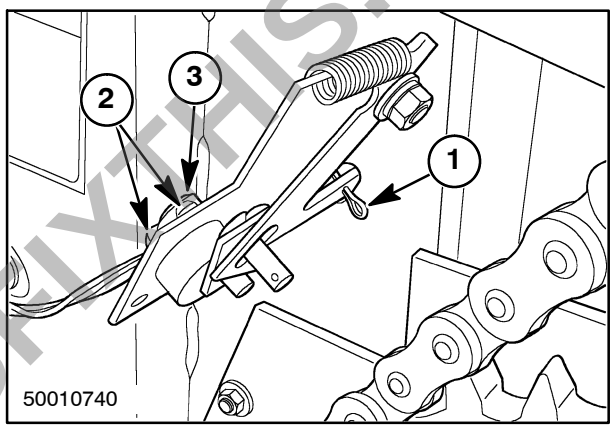
Before adjusting the bale shape sensors make sure all the linkage moves freely.



31

Move the sensor to the full bale position and install a 1/8″ cotter pin, 1, in the hole in the arm. Allow the cotter pin to rest against the outside of the bale chamber.

Adjust the sensor full position by loosening the sensor mounting screws, 2, and rotating the sensor, 3. Rotate the sensor until the number eighth segment just turns on and stays on. Tighten the sensor screws.



32

The eighth segment is the very top of the bar graph, hidden under the panel. Hold the panel at an angle to see it. There is a gap between the seventh and eighth segments.

Verify that all the segments of the bar graph are displayed.

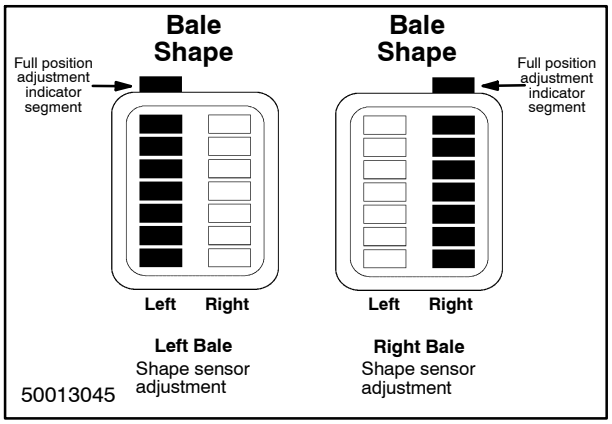
Remove the cotter pin from the sensor arm and let the arm rest against the outside of the bale chamber.

Verify that all the segments of the bar graph are turned off. If not, repeat the sensor adjustment procedure.

Move the sensor arm in and out of the bale chamber. As the arm is moved to the full position, the number of segments in the bar graph should increase steadily. As the arm is moved to the empty position from the full position the number of segments in the bar graph should decrease steadily.

Install the shield over the sensor.

Repeat the process for the other side of the baler.



33

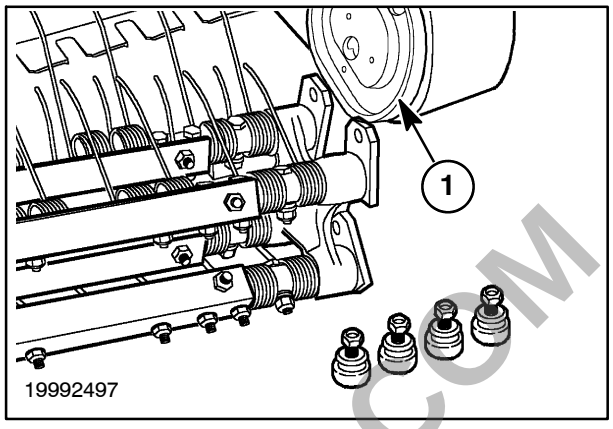
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Before driving the reel shaft through the reel discs and bearings, remove any excessive paint from the shaft. Add some oil.

Use a dead blow sledge hammer or other protective means and drive the shaft until it clears the cam track, 1.

Remove the three bolts securing the bearing flangettes and the cam track.



30

Inspection

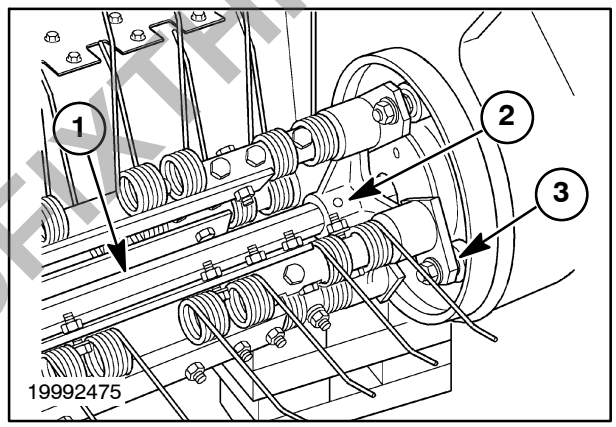
Check the cam follower bearings and reel shaft bearings. Replace any parts with failed seals or rough rotation. Check for excessive wear between the discs and cam shafts.

Installation

Bolt the new cam, bearing and flangettes in place with three M10x25 bolts and nuts.

Drive the reel shaft, 1, back through the bearing.

If the pickup has a second cam that requires replacement, continue to drive the reel shaft until it clears the second cam track. Replace the cam track as described above.



31

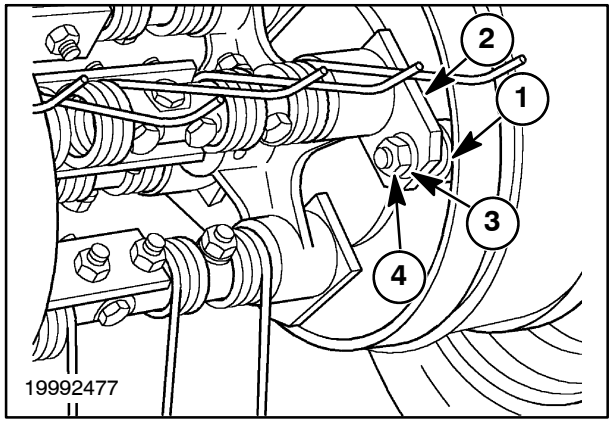
Align the holes in the shaft and the holes in the reel discs. Insert the 8x45 mm groove pin, 2, in each reel disc.

Install the cam follower bearings, 3. Make sure the bearings will be following the tine bars as the pickup rotates.

Place the 1/16″ thick by 1-1/4″ diameter washer, 1, on the cam follower bearing and install it through the hole in the frame and cam.

The bearing stud goes through the cam follower arm, 2. Add a 1/8″ thick by 1″ diameter washer, 3, and tighten the locknut, 4, to 61 N·m (45 ft.-lbs.).

Install the guards. Make sure the guards are centered between the tines. Tighten the self tapping screws to 12 N·m (102 in.-lbs.).

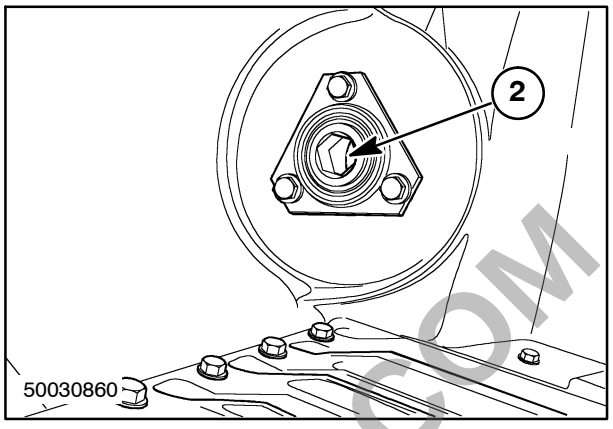


32

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The inner bearing, 2, must be removed from inside the pickup.



86

Installation

NOTE: *There are distinct left and right augers. If both augers have been removed do not mix the left with the right. Check the direction of rotation of both the drive and auger flighting to be sure the augers move material to center of the pickup.*

Install the inner and outer bearing and flangettes.

Replace two shim washers on the auger shaft.

Drive the auger shaft through both bearings.

The cone on the auger shaft must clear the pickup frame by, 1 to 3 mm (1/32 to 1/8″). If it does not, remove the auger and add or remove the shim washers.

Install the auger sprocket and align with shim washers.

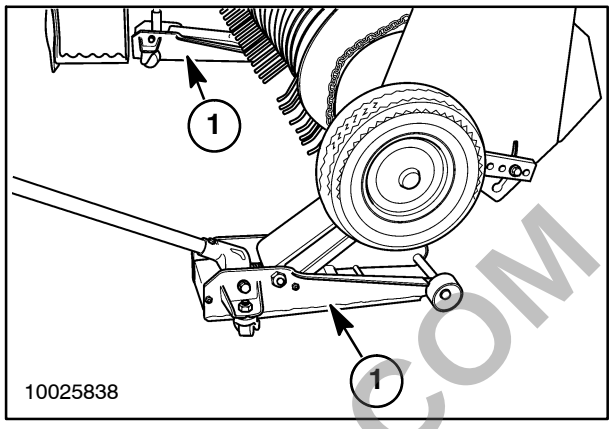
Install washers on the end of the auger shaft up to the hole near the end.

Install the hardened cotter pin.

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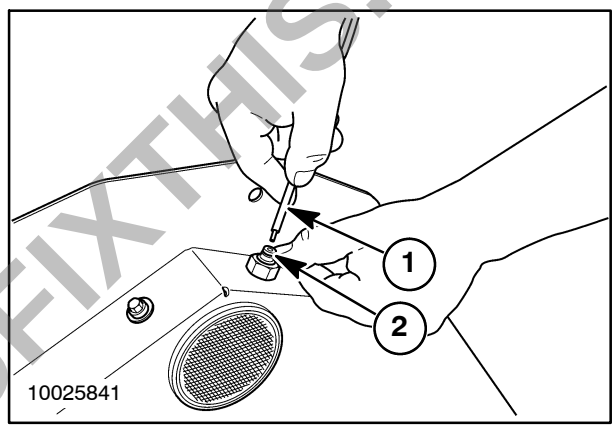
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Remove the floor jacks, 1.



22

If the baler is equipped with an oiler, install the oiler tubes, 1. Insert the end of the tube in the fitting, 2. Pull the tube to lock it in the fitting.



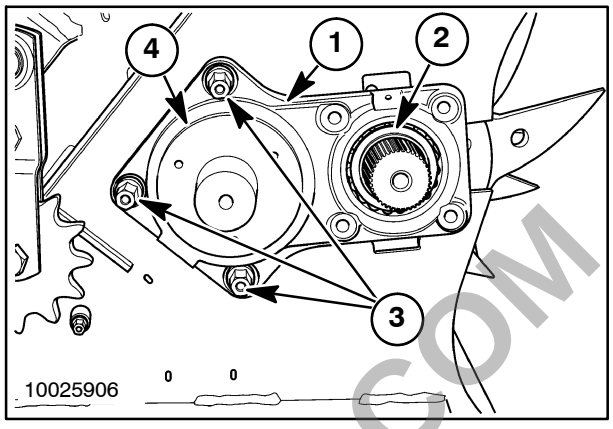
23

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Install the right bearing housing, 1, and bearing, 2, assembly on the splined shaft. Align the casting shoulder to center the rotor shaft in the frame cutout. Drive the casting in to be flush with the side sheet. Install the three M10x25 carriage bolts, 3, from the inside. Add a beveled lockwasher and install the nut finger tight.

Add grease to the lip, 4, for the pickup rotation.

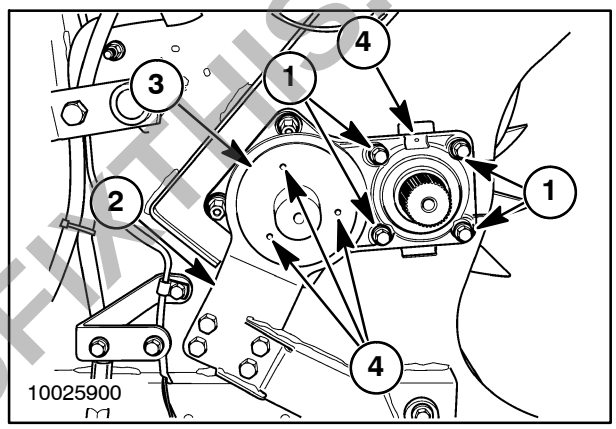


181

Rotate the anti-wrap ring to align the weld nuts with the holes in the side sheet and the bearing housing. Install four M10x30 flange head bolts, 1, with bevel lockwashers. Tighten all the hardware.

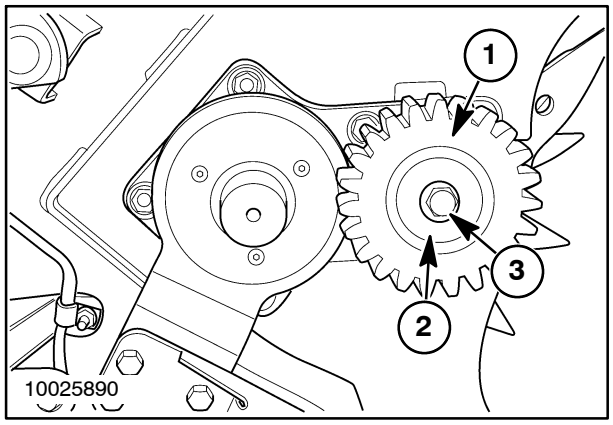
Install the pickup support, 2, orientated as shown. Add the plate, 3, on top and fasten with three recessed hex screws, 4. The screws require Loctite 242.

Be sure the metal bearing seal, 4, is installed.



182

Place the same shim washers that were remove on the splined shaft. Add anti-seize to the spline. Install the gear, 1, with the recessed side out. Add shim washers as required, the surface of the stack must be just outside the recessed surface of the gear. Install the large washer, 2, bolt, 3, and bevel lockwasher. Hand tighten.

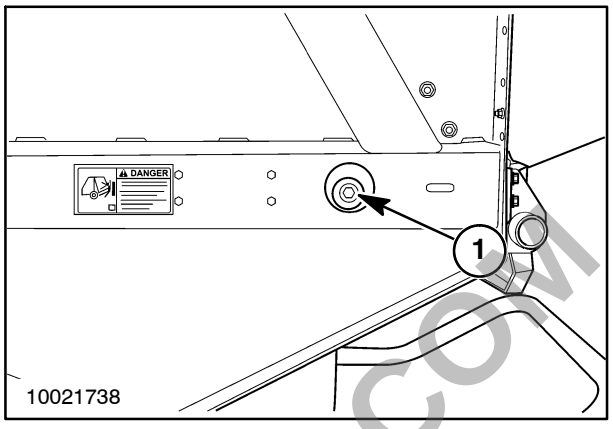


183

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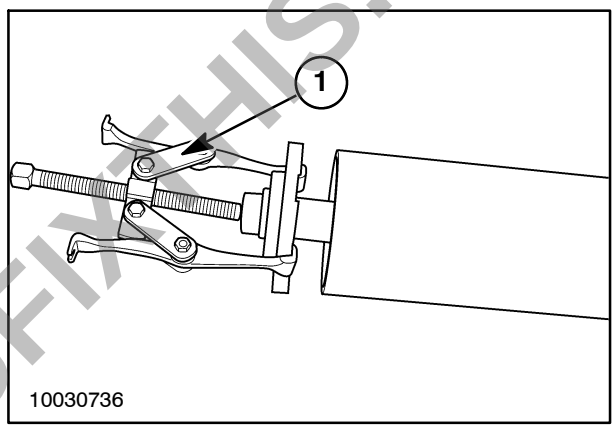
On a BR740 and BR770 the bolt, 1, goes inside the tailgate frame channel. Locate the roll in the center of the slot for now.



101

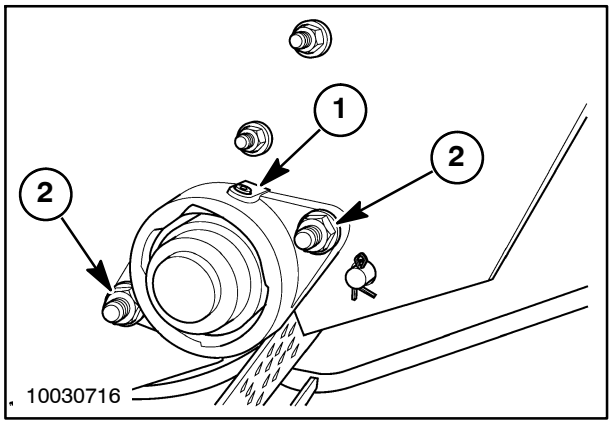
The BR750 and BR780 balers have a bottom tailgate roll.

Install this roll next. Pull one bearing out about 1/4″ with a puller, 1.



102

Install the roll with the grease fittings, 1, facing up. Leave the hardware, 2, loose.



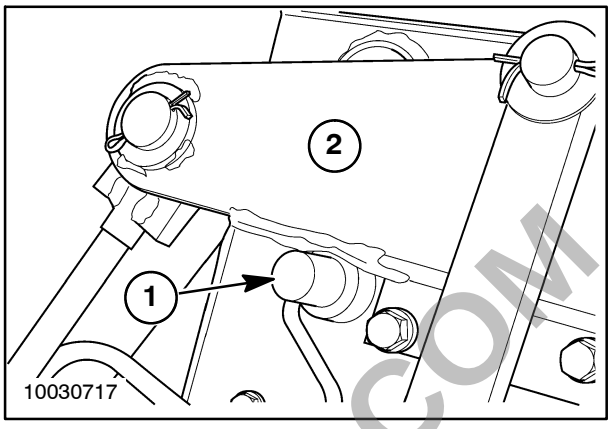
103

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ON ALL BALERS

Remove the tension from the belts. Open tailgate and engage the tension release pin, 1, under the tension arm, 2. Close the tailgate. Make sure the belts don't get pinched at the nose roll.

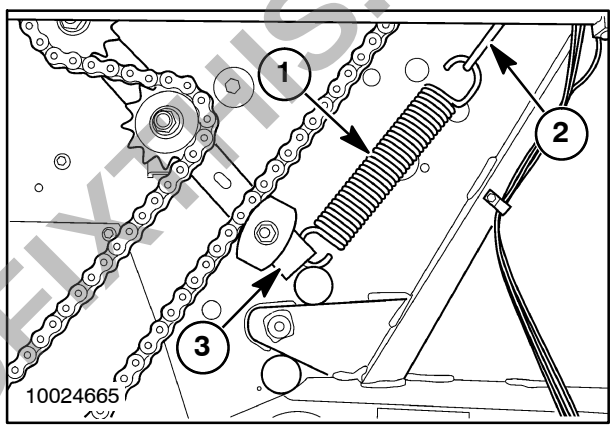


61

Remove the belt drive idler spring, 1. Take off the nut, 2, and let the spring hang from the idler arm, 3.

There are four possible configurations for the drive on the left end of the belt drive roll.

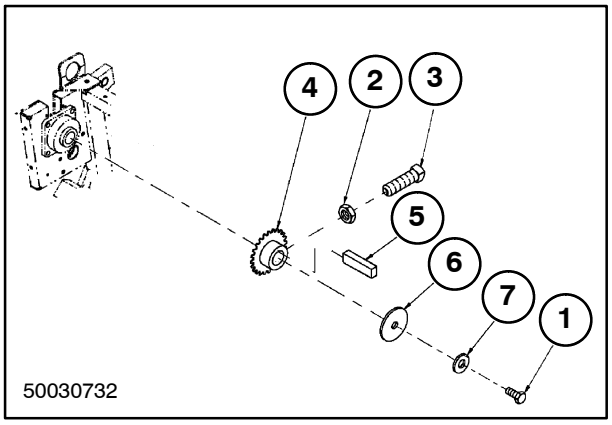
1. A drive sprocket keyed to the shaft. On BR740 balers.
2. A linear activated jaw clutch that operates when the tailgate opens. On all BR750 and BR780 balers.
3. An over-run jaw clutch. On BR770 balers from the factory.
4. A radial activated jaw clutch that operates when the tailgate opens. An option available for BR770 balers only.



62

BR740 BALER

Take out the bolt, 1, on the end of the belt drive shaft. Loosen the jam nuts, 2, remove the set screws, 3, in the sprocket hub. Take the chain off the sprocket and pull the sprocket, 4, off. Remove key, 5, from the shaft so it is not lost.



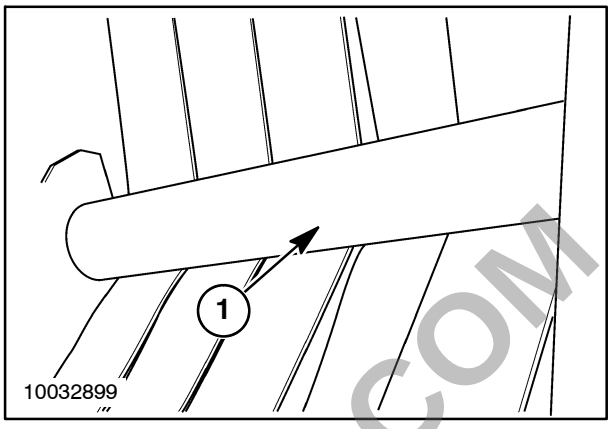
63

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Remove the Follower roll, 1, from the rear of the baler.

NOTE: *If only the Follower roll is to be replaced, proceed to Inspection and Assembly in this chapter.*



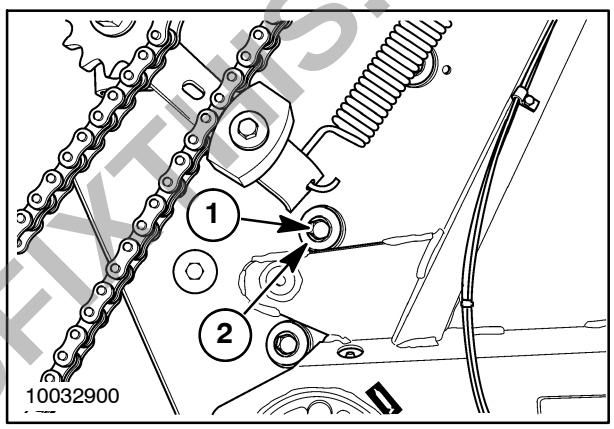
17

STRIPPER ROLL

Removal

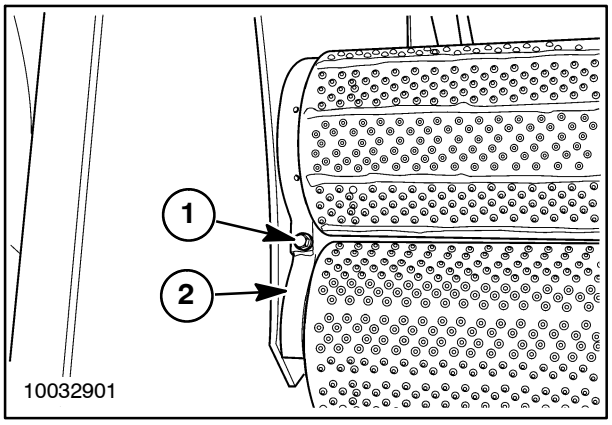
Remove bolts, 1, on both sides of the baler frame. On the right side, hold the inner hub bearing from turning by installing a punch in the hole, as done for the Follower roll. On the left side the bearing hub is held with a tab on the sledge frame. Remove hub, 2, to free bearing support.

NOTE: *Some earlier models may require the drilling of punch hole on the right side to hold inner bearing hub. If a hole is not present, an impact gun may be needed for initial removal. Once removed, use the hub as a template to drill the required hole.*



18

Remove bolts, 1, and guard, 2, from drive gears.



19

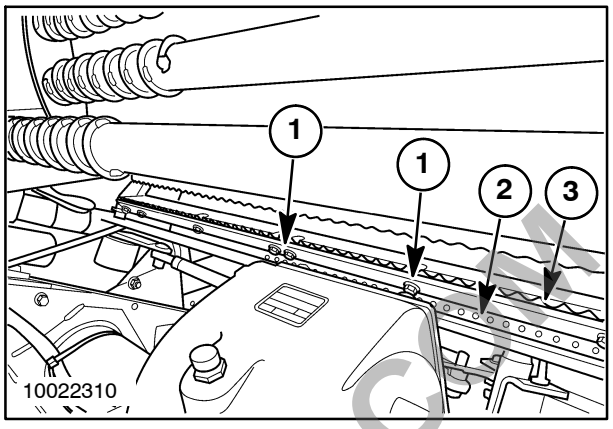
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KNIVES

The net knives will need regular sharpening. If the cut edge of the net starts to get ragged, sharpen the knives. Remove the bolts, 1, to remove the knives, 2, and comb, 3.

To install the knives, the comb goes on first with the sharp edge of the knife against it. A four foot wide baler has a single short knife in the center. A five foot wide baler has two short knives in the center.



15

OVERHAUL

Op. 68 170

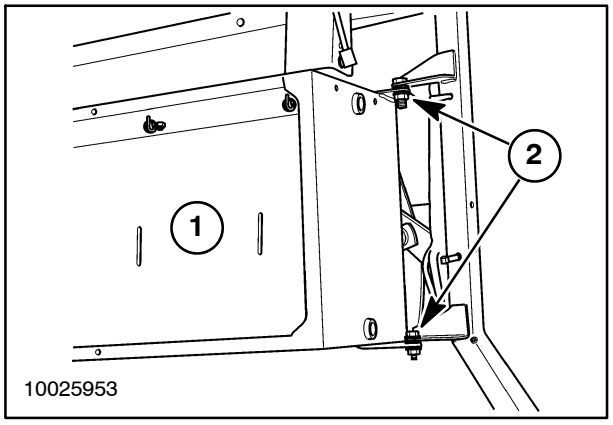
DUCKBILL

This procedure removes the duckbill from the baler for repair or replacement.

The twine part of the Bale Command Plus wrapper is covered in chapter 2.

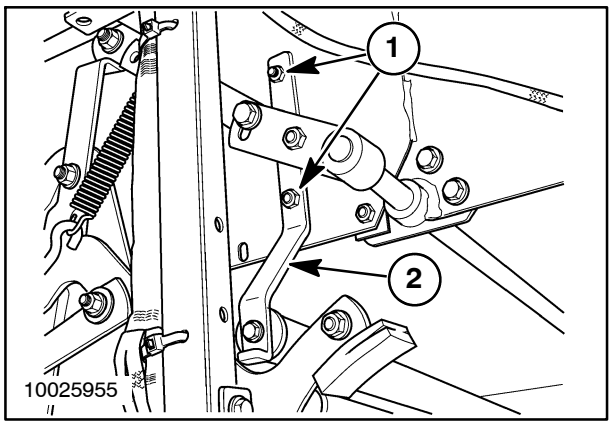
Removal

Remove the right twine box, 1, by removing the two bolts, 2. Note the stacking of the bevel lockwashers on the bolts. The lockwashers act as brakes to hold the twine box in position.



16

On the right side of the baler, remove the two bolts, 1, in the smooth net roll mounting bracket, 2.



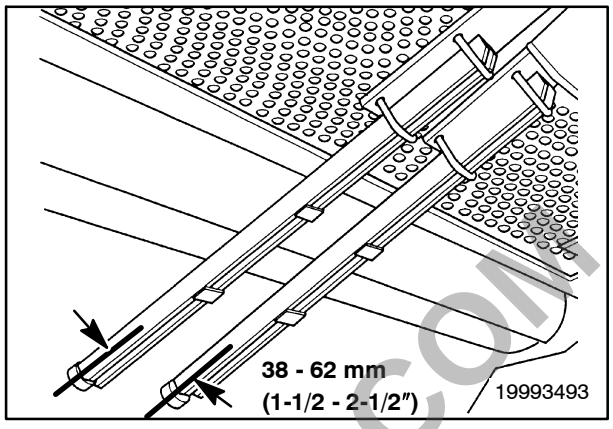
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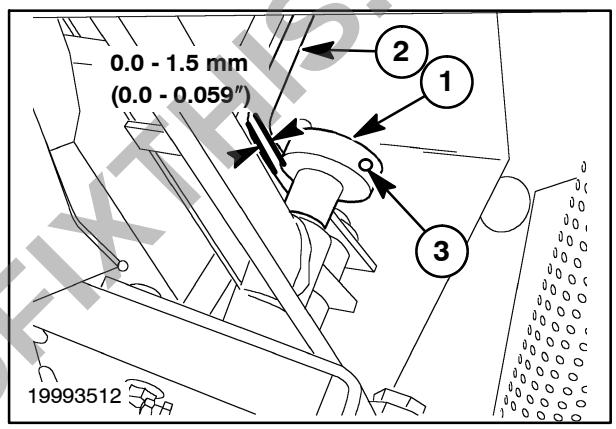
Adjust the length of the drag link to obtain a gap of 38 - 62 mm (1-1/2 - 2-1/2″) between the ends of the twine tubes.

Move the twine tubes to the home position. Check to be sure the twine tubes do not interfere with any part of the baler when retracted to the home position. Readjust the welded tube assembly as required.



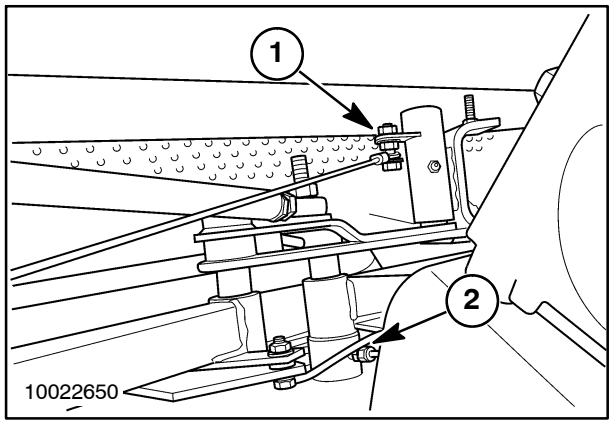
43

Install the eccentric, 1. With the twine tubes in the home position, rotate the eccentric to have a clearance of 0.0 to 1.5 mm (0 to 1/16″) to the breakaway arm, 2. Set the eccentric flush to 3 mm (1/8″) below the end of the shaft. Tighten the set screw, 3.



44

Attach one end of the position cable to the twine tube assembly using an M8 x 30 flanged cap screw and two M8 flanged nuts at 1.



45

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