# SPECIFICATIONS

| | | BR740A | | BR750A | | BR770A | BR780A | |
|---|---|---|---|---|---|---|---|---|
| | | 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

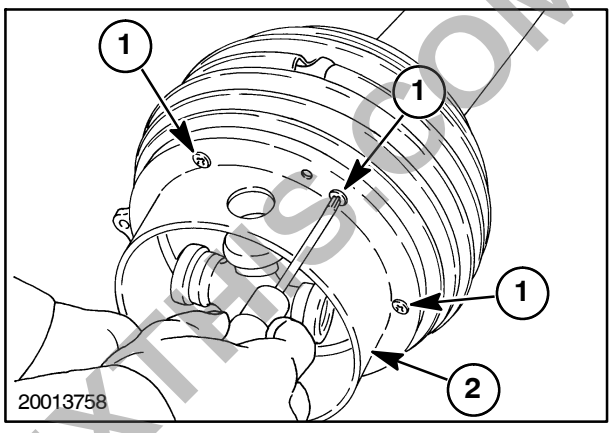
**Op. 31 201**

### FRONT PTO AND CV U-JOINT

**Disassembly**

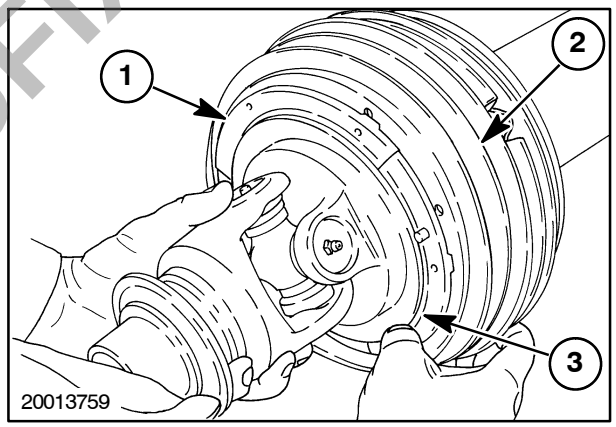
The front of the PTO assembly includes an 80° constant velocity joint.

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



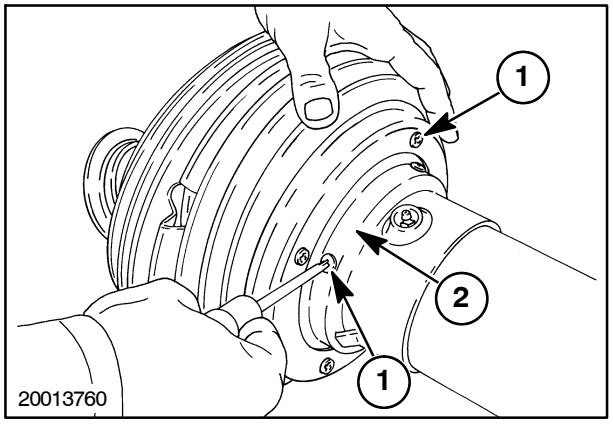

6

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.



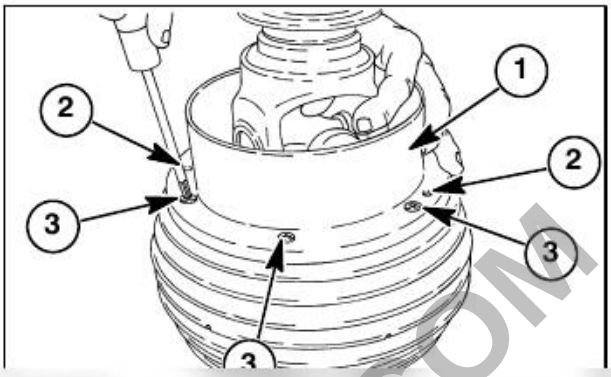

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Install the rigid shield, 1. Align the holes with the reference pins, 2, on the bearing ring. Insert and tighten the Philips head screws, 3.




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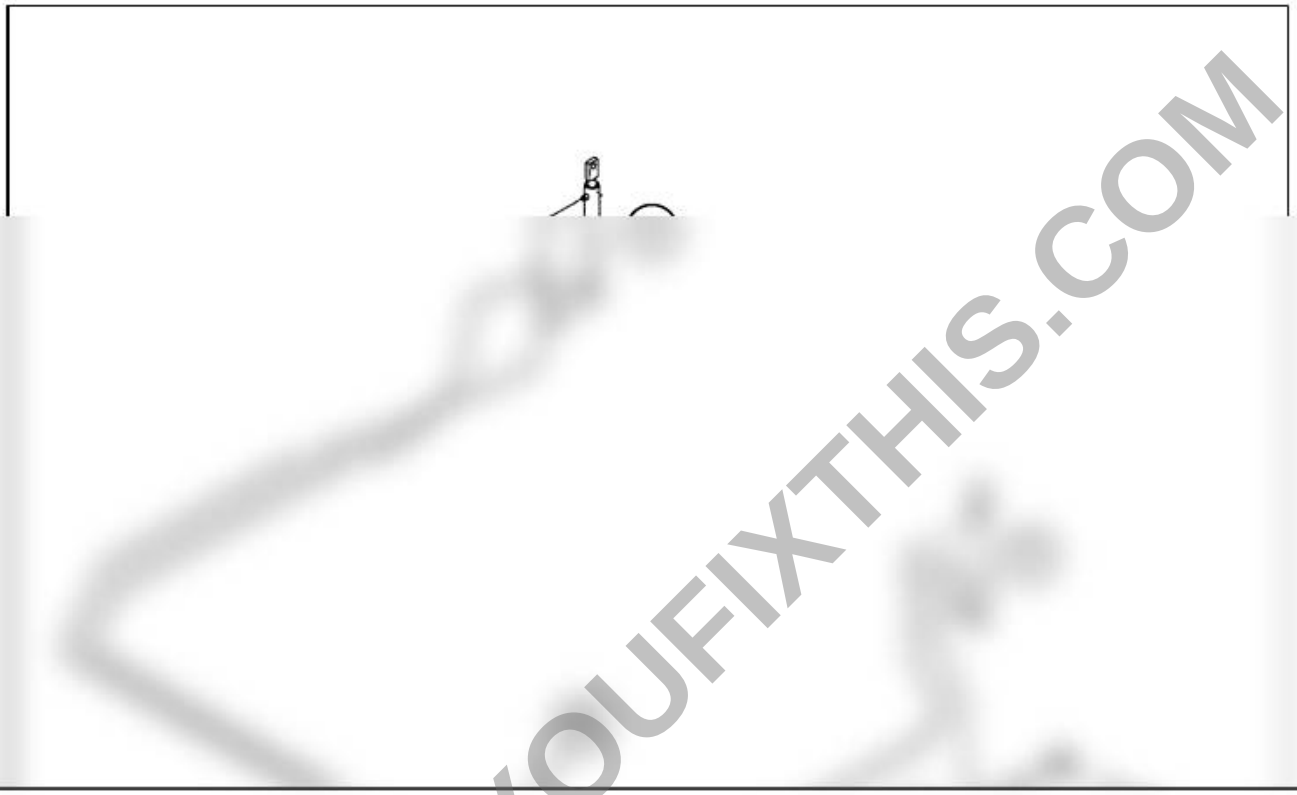
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## DESCRIPTION OF OPERATION

**Op. 35 550**

**TAILGATE LIFT SYSTEM**



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# MINIMUM HARDWARE TIGHTENING TORQUES

## IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

## METRIC NON-FLANGED HARDWARE AND LOCKNUTS

| NOMINAL SIZE | CLASS 5.8 | | CLASS 8.8 | | CLASS 10.9 | | LOCKNUT CL.8 W/CL8.8 BOLT |
|---|---|---|---|---|---|---|---|
| | UNPLATED | PLATED W/ZnCr | UNPLATED | PLATED W/ZnCr | UNPLATED | PLATED W/ZnCr | |

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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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# SECTION 00 - GENERAL INFORMATION

**BOOK 1 - 87606300**

## Chapter 1 - General Information

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# SECTION 31 - IMPLEMENT DRIVELINE

**BOOK 1 - 87606300**

## Chapter 2 - Gearbox

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| | Multiply by: | To get: | Multiply by: | To get: |
|---|---|---|---|---|
| **ACCELERATION** (Standard gravity = 9.807 $m/s^2$) | | | | |
| $feet/sec^2$ | X 0.3048 | = $meters/sec^2$ ($m/s^2$) | X 3.281 | = $feet/sec^2$ |
| $inches/sec^2$ | X 0.0254 | = $meters/sec^2$ ($m/s^2$) | X 39.37 | = $inches/sec^2$ |
| **ENERGY OR WORK** (watt-second = joule = newton-meter) | | | | |
| foot-pounds | X 1.3558 | = joules (J) | X 0.7376 | = foot-pounds |
| calories (heat) | X 4.187 | = joules (J) | X 0.2388 | = calories (Int'l) |
| Btu (Int'l) | X 1055 | = joules (J) | X 0.000948 | = Btu (Int'l) |
| watt-hours | X 3600 | = joules (J) | X 0.0002778 | = watt-hours |
| kilowatt-hrs | X 3.600 | = megajoules (MJ) | X 0.2778 | = kilowatt-hrs |
| **FUEL ECONOMY AND FUEL CONSUMPTION** | | | | |
| miles/gal | X 0.42514 | = kilometers/liter(km/L) | X 2.3522 | = miles/gal |
| Note: 235.2 (mi/gai) = L/100 km and 235.2/(L/100 km) = mi/gal | | | | |
| **LIGHT** | | | | |
| footcandles | X 10.76 | = lumens/$meter^2$($lm/m^2$) | X 0.0929 | = footcandles |
| **PRESSURE OR STRESS** (newton/sq meter=pascal) | | | | |
| inches Hg(60°F) | X 3.377 | = kilopascal (kPa) | X 0.2961 | = inches Hg |
| pounds/sq in | X 6.895 | = kilopascal (kPa) | X 0.145 | = pounds/sq in. |
| inches $H_2O$ (60°F) | X 0.2488 | = kilopascal (kPa) | X 4.0193 | = inches $H^2O$ |
| bars | X 100 | = kilopascal (kPa) | X 0.01 | = bars |
| pounds/sq ft | X 47.88 | = pascals (Pa) | X 0.02088 | = pounds/sq ft |
| $kgf/cm^2$ | X 98.07 | = kilopascals (kPa) | X 0.010197 | = $kgf/cm^2$ |
| **POWER** | | | | |
| horsepower | X 0.746 | = kilowatts (KW) | X 1.34 | = horsepower |
| ft-lbf/min | X 0.0226 | = watts (W) | X 44.25 | =ft-lbf/min |
| **TORQUE** | | | | |
| pound-inches | X 0.11298 | = newton meters (N·m) | X 8.851 | = pound-inches |
| pound-feet | X 1.3558 | = newton meters (N·m) | X 0.7376 | = pound-feet |
| kgf-cm | X 0.09807 | = newton meters (N·m) | X 10.197 | = kgf-cm |
| kgf-m | X 9.807 | = newton meters (N·m) | X 0.10197 | = kgf-m |
| **VELOCITY** | | | | |
| miles/hour | X 1.6093 | = kilometers/hour (km/h) | X 0.6214 | = miles/hour |
| feet/second | X 0.3048 | = meters/sec (m/s) | X 3.281 | = feet/sec |
| kilometers/hr | X 0.27778 | = meters/sec (m/s) | X 3.600 | = kilometers/hr |
| miles/hour | X 0.4470 | = meters/sec (m/s) | X 2.237 | = miles/hour |

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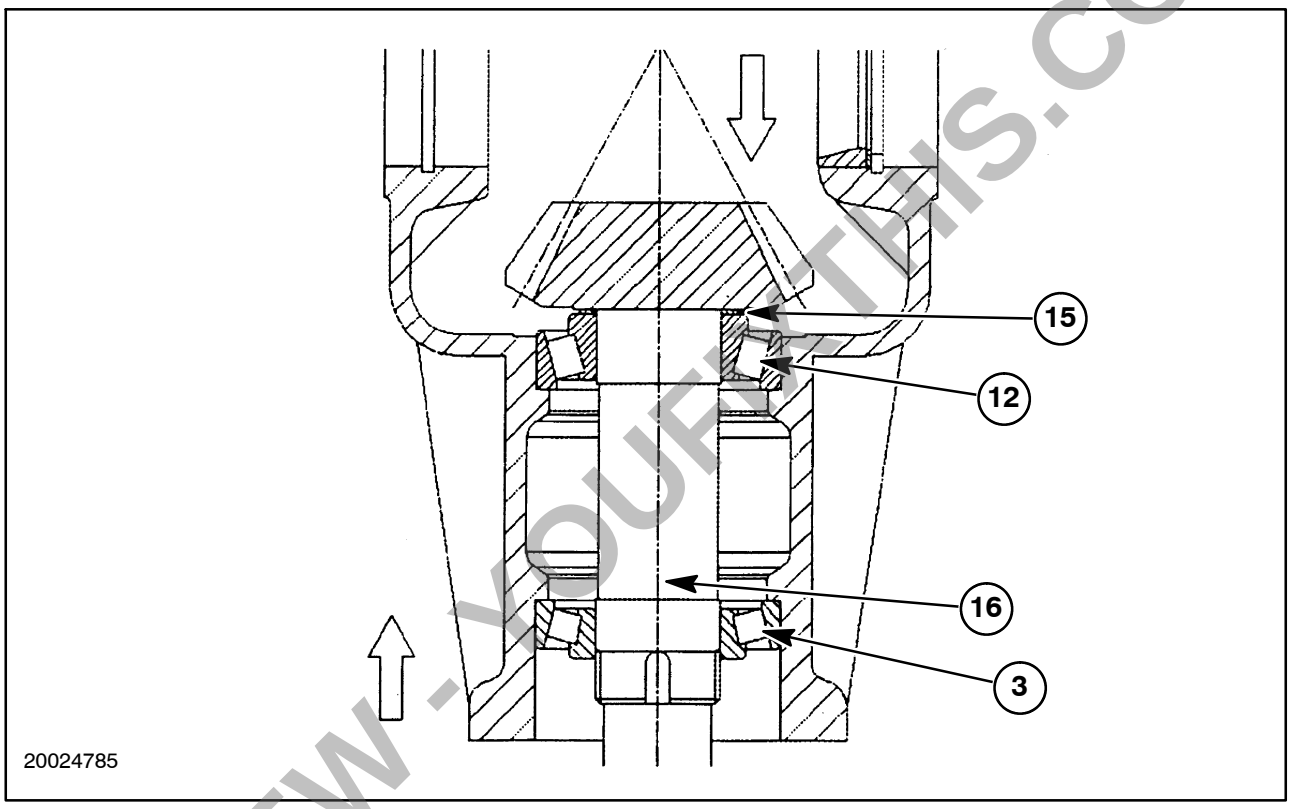
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Install the outer rings of the bearings, 3, and, 12, inside the housing.

Install the same number of shims, 15, on the pinion, 16, that were removed. Press the inner race of bearing, 12, on the pinion. If the quantity of shims is unknown start with 1 mm (0.039″).

From inside the gearbox, slide the pinion into position.

Press the inner ring, 3, on the pinion.



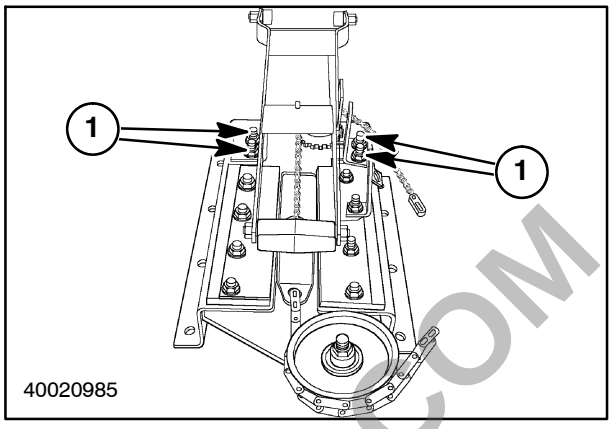

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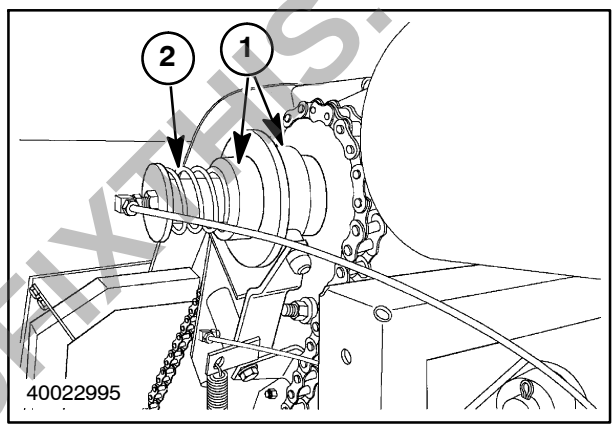
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Loosen the bolts, 1, on the fork mounting brackets. Insert or remove shims from under the brackets as required.



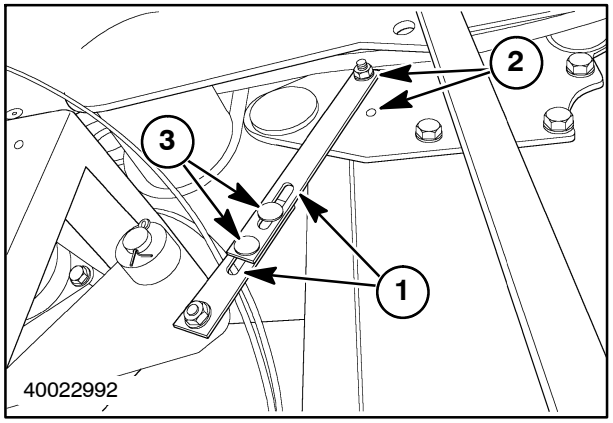

125

Continue to open the tailgate until the clutch is at the maximum open position. The clutch halves, 1, must be fully opened without the compression spring, 2, bottoming out. Adjust the shims under the fork mounting brackets as required.




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In some crops, it is important how far open the tailgate is when the belts stop. The belts may scuff up the bale as it is being ejected or may wedge loose material. The clutch is adjusted by changing the length of the link, 1, or changing the top pivot position, 2. Loosen the two bolts, 3, to change the length. The shorter the link, the sooner the belt will be declutched. As a starting point, adjust the links to stop the belts when the tailgate is open 36″.




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# SECTION 35 - HYDRAULICS

## Chapter 3 - Feeding – Pickup Lift Cylinder/Rotor Knives and Reverse Cylinders

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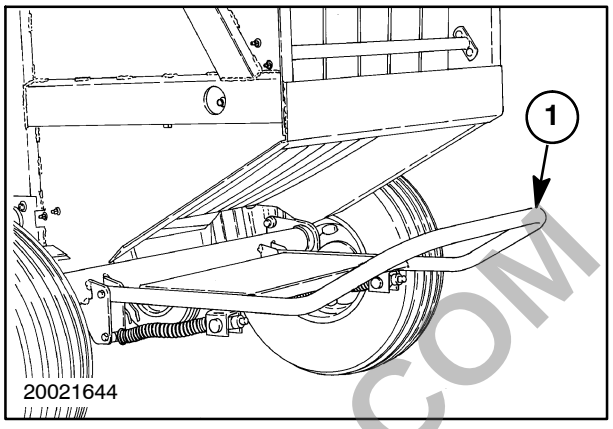

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**Removal**

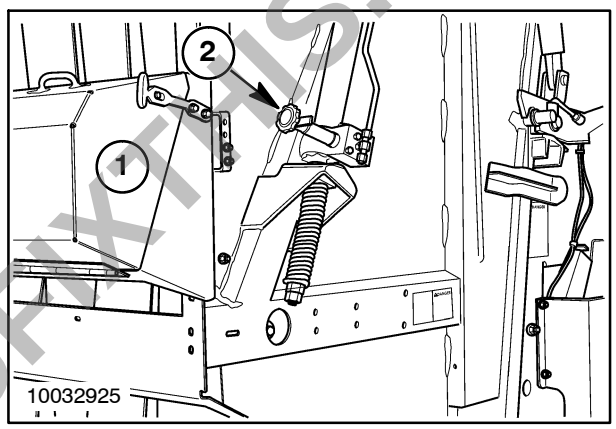
The bale ramp, 1, may be removed to get it out of the way. To remove the bale ramp, follow the directions in Section 70.




90

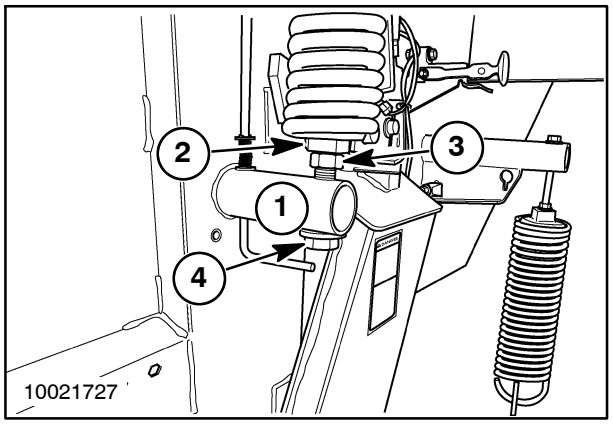
Remove the net storage box, 1, if the baler is equipped with one. If not remove the SMV sign.

Note the number of turns to rotate the valve adjustment, 2, all the way counterclockwise. This will remove the pressure.




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Note the distance between the pipe, 1, and the cast spring nut, 2, at the bottom of the spring. Loosen the jam nut, 3. Remove the bolt, 4, from the bottom of the belt tension spring. Remove the second spring on a BR770A baler.



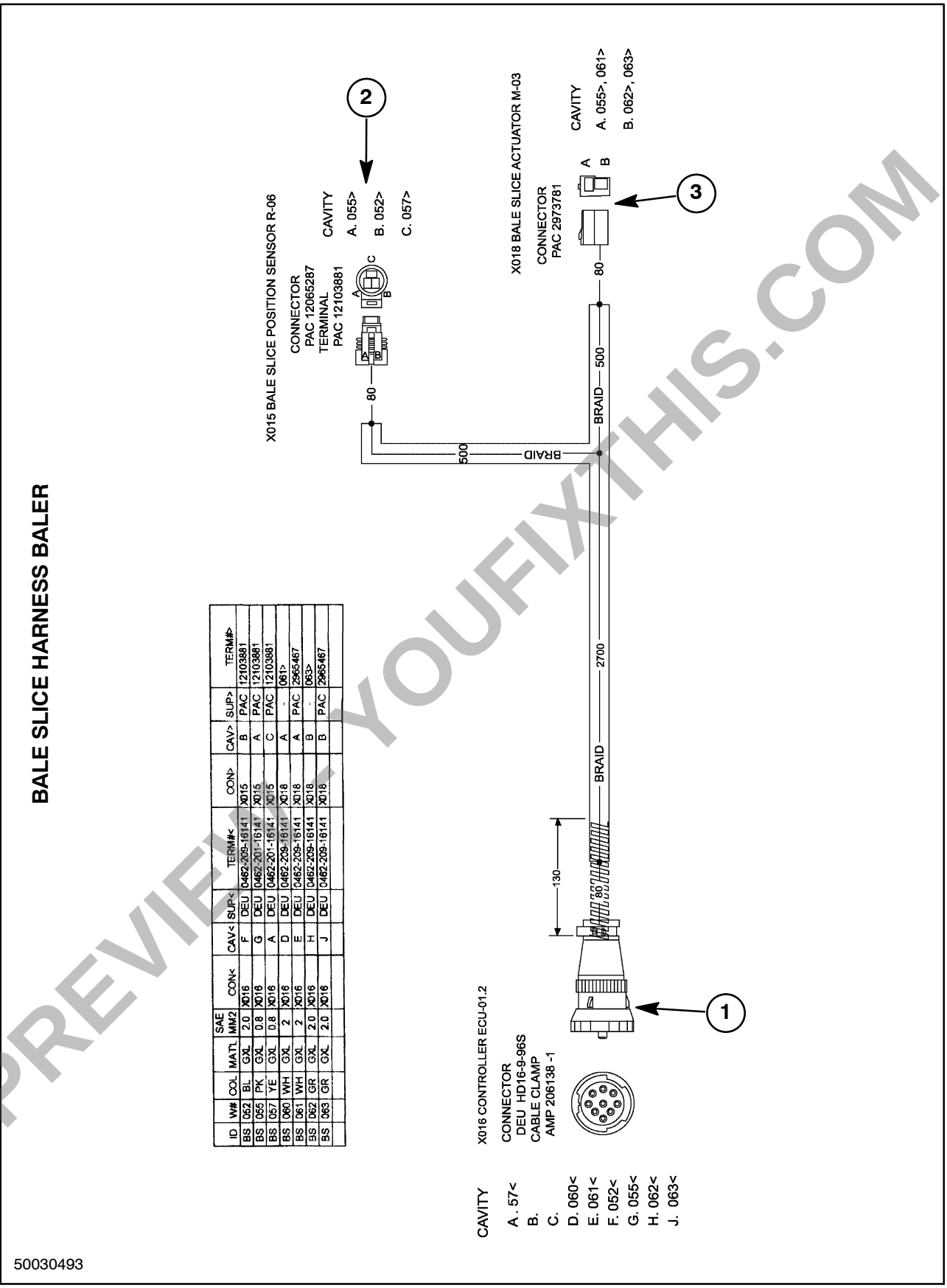

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## BALE SLICE HARNESS BALER




| ID | W# | COL | MATL | SAE MM/2 | CON< | CAV< | SLIP< | TERM#< | CON> | CAV> | SUP> | TERM#> |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BS | 052 | BL | GXL | 2.0 | X016 | F | DEU | 0462-209-16141 | X015 | B | PAC | 12103881 |
| BS | 055 | PK | GXL | 0.8 | X016 | G | DEU | 0462-201-16141 | X015 | A | PAC | 12103881 |
| BS | 057 | YE | GXL | 0.8 | X016 | A | DEU | 0462-201-16141 | X015 | C | PAC | 12103881 |
| BS | 060 | WH | GXL | 2 | X016 | D | DEU | 0462-209-16141 | X018 | A | - | 061> |
| BS | 061 | WH | GXL | 2 | X016 | E | DEU | 0462-209-16141 | X018 | A | PAC | 2965467 |
| BS | 062 | GR | GXL | 2.0 | X016 | H | DEU | 0462-209-16141 | X018 | B | - | 063> |
| BS | 063 | GR | GXL | 2.0 | X016 | J | DEU | 0462-209-16141 | X018 | B | PAC | 2965467 |

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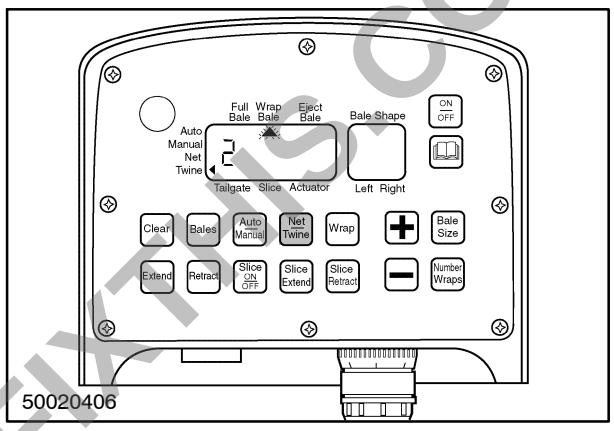


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**Wrapper Configuration Selection (Europe only)**
Enter the setup/diagnostic mode by pressing and holding the OPEN BOOK key for two seconds. The display should indicate “1” and the full bale size.

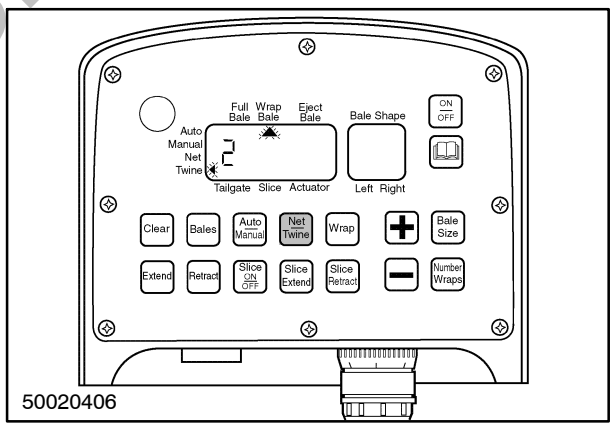
Press the OPEN BOOK key again to advance to item 2. Press and hold the NET/TWINE key for two seconds to enter or change the wrapper configuration. The alarm will sound for one second when a selection is changed. Three configurations are available, Net/Twine, Net only and Twine only.

**In the Net/Twine configuration**, when in normal operation, the operator is able to switch between Net and Twine wrapping simply by pressing the NET/TWINE key. This configuration is shown by a “2” flashing at the left of the display, the Twine pointer is solid and the Wrap Bale pointer is flashing.




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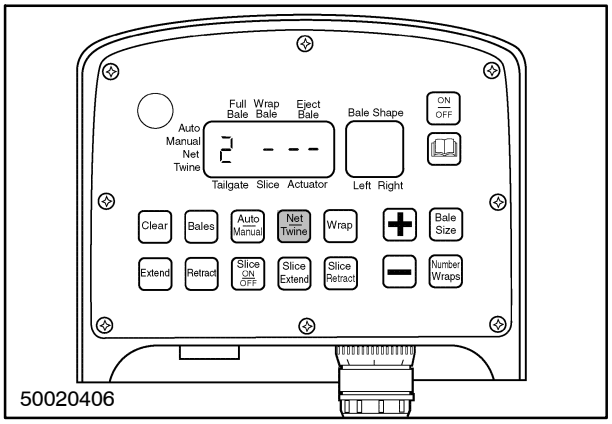
**In the Twine only configuration**, the baler will perform Twine only wrapping. This will prevent the operator from inadvertently switching from Twine wrap to Net wrap, when in normal operation. This configuration is shown by a “2” flashing at the left of the display, the Twine and Wrap Bale pointers are flashing.




22

**In the Net only configuration**, the baler will perform Net only wrapping. This will prevent the operator from inadvertently switching from Net wrap to Twine wrap, when in normal operation. This configuration is shown by a “2” flashing at the left of the display with three dashes to the right.

The controller is usually configured at the factory to match the base unit wrapper configuration. A new controller from Service Parts is always preset in the Net/Twine wrapper configuration.




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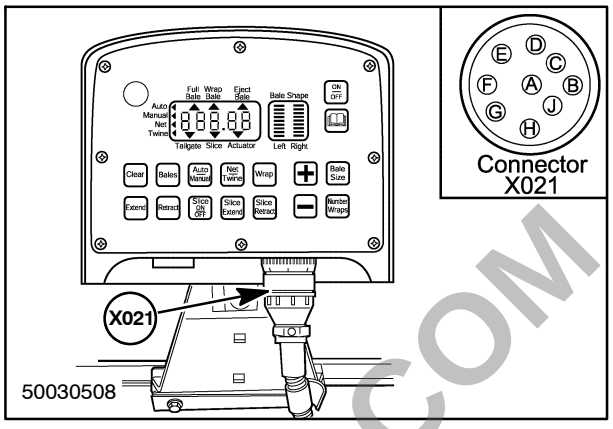


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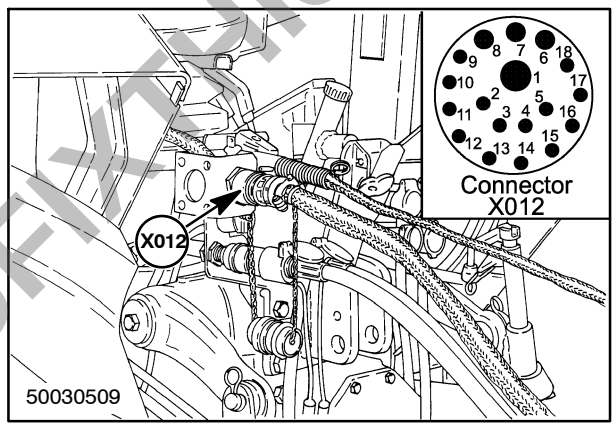
Disconnect connector, XO21, from the bottom of the operator's panel and keep the connector X012 disconnected.

5. On the tractor side of the connector, XO12, check for continuity between pin 15, XO12 and pin C, XO21.
6. Repeat this test for pin 14, XO12, and pin H, XO21.
7. Repeat this test for pin 13, XO12 and pin G, XO21.
8. Repeat this test for pin 12, XO12 and pin J, XO21.

There will be continuity between the pins if the wires are good.




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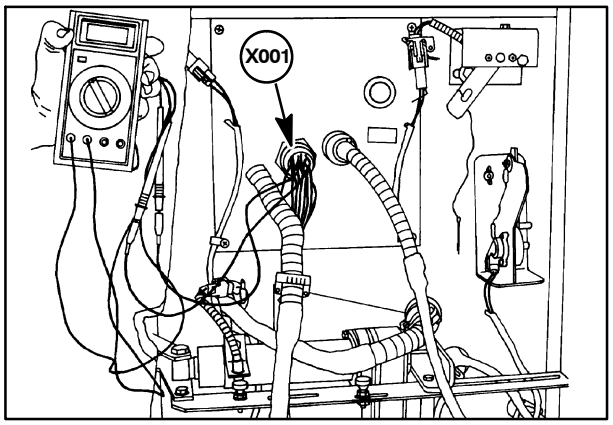

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Reconnect all the connectors and press the power ON\OFF button to turn on the operator's panel. Use the special leads to check the connector, XOO1.

Use a 12 volt/ohmmeter to verify energized conditions.

9. Connect the 12 volt meter special leads between pin 8 and pin 18.

There should be at least 11 volts between the pins. If there is not, check the wires to the operator's panel and the tractor wires. If all test are good, replace the Electronic Control Unit.




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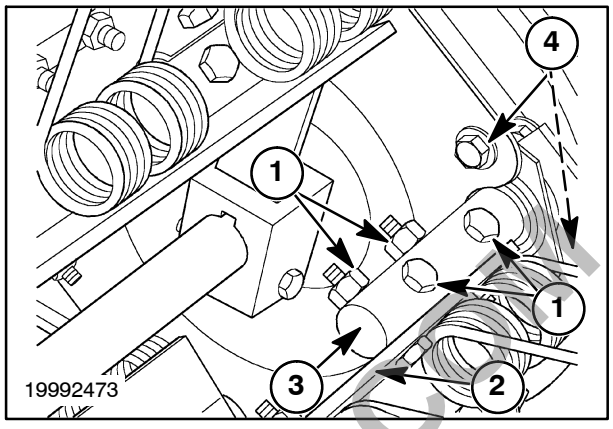
BR740A

Remove the four bolts, 1, between the tine angle, 2, and the shaft, 3, on the left end of the tine angle.

The angle with the tines is now free to be removed. The right end of the tine angle has a welded stub that will slide out of the right spider bearing.

To remove the left end tine bar bearing, remove the bolts, 4.

Take out the cam follower arm and remove the bearing.




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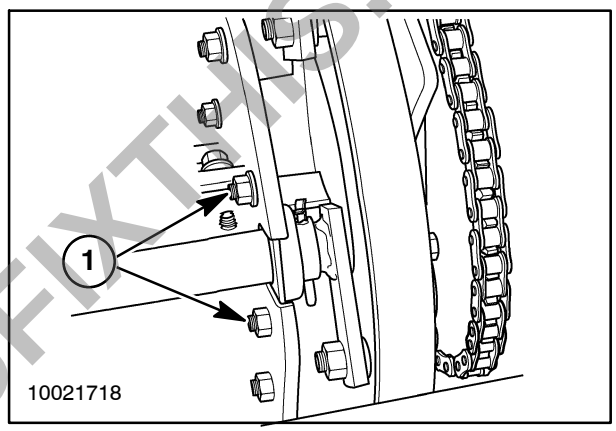
BR770A or BR780A

Remove the two bolts, 1, in the flangettes at each bearing. There are three bearings per tine pipe.

Remove the assembled tine pipe from the pickup

If several tine pipes must be replaced, it is best to do one at a time. Use the remaining tine pipes as a pattern. This will ensure the replaced parts are installed properly.

Move all the parts that will be used again from the failed tine pipe to the new part.




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**Inspection**
Check all the tine bar bearings and cam follower bearings while the pickup is disassembled.

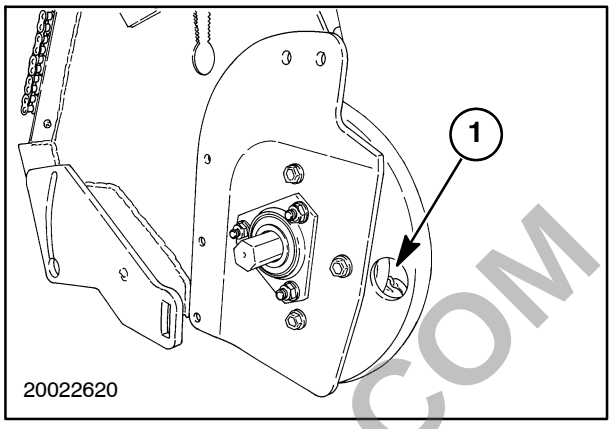
**Installation**
It is recommended to replace all lockouts with new ones.

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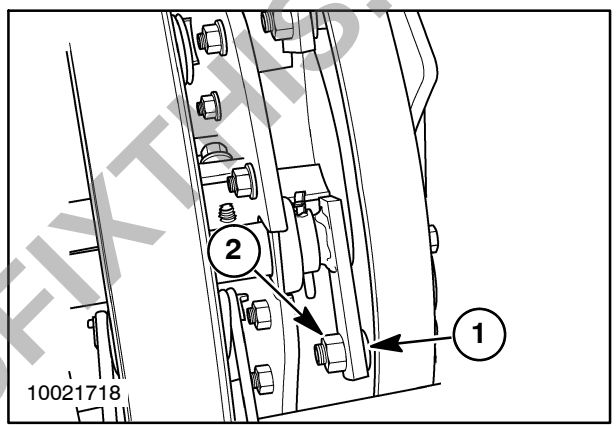
Rotate the pickup reel until the failed bearing aligns with the hole, 1, in the cams.




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A thin 5/8″ open end wrench may be required, at 1, to hold the bearing while removing the locknut, 2.

Remove the bearing through the hole in the frame.



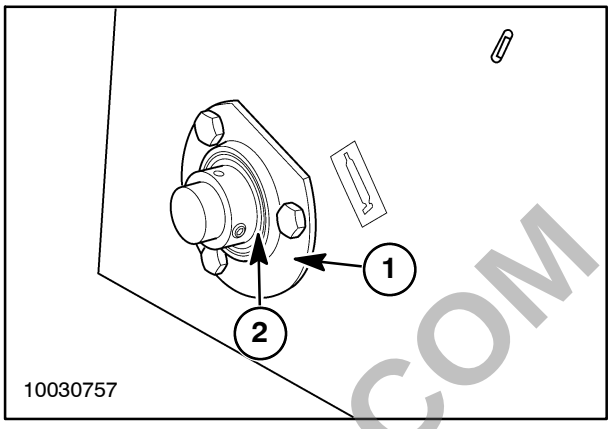

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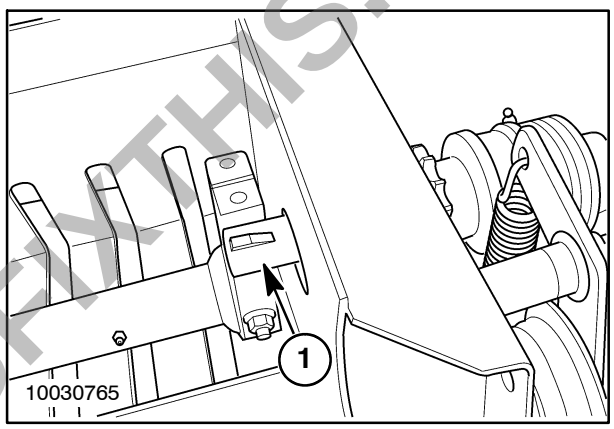
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Place the bearing, 1, and flangettes, 2, on the end of the right shaft. The extended inner race of the bearing faces the outside. Add Loctite to the flangette bolts. Leave the locking collar, 3, loose.




200

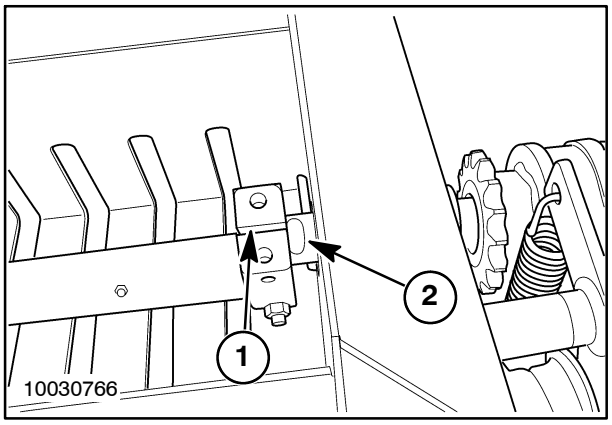
Install woodruff key, 1, in the jackshaft.




201

Rotate the clutch shaft 180°.

Drive a chisel into the slot, 1, in the clamp to spread it. Align the key and keyway. Push the shaft into the clamp until the notch, 2, in the jackshaft aligns with the bolt hole in the clamp.




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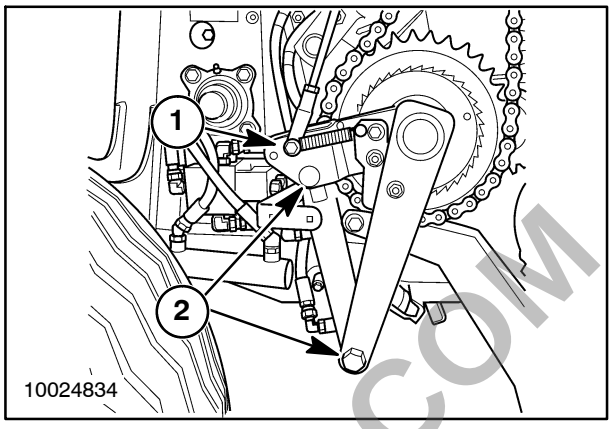
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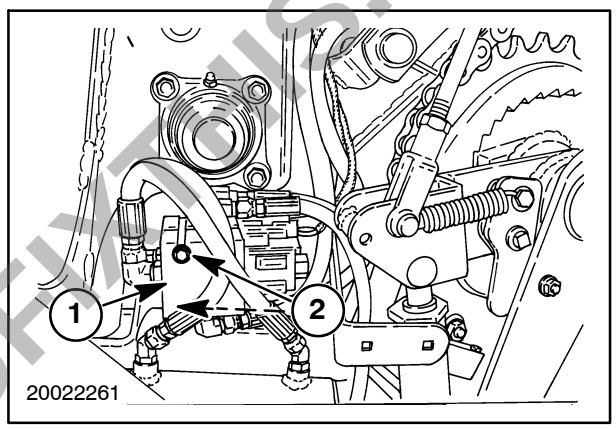
If the baler has a hydraulic rotor reverse, install the hardware at the bottom end of the tie rod, 1.

Fasten the reverse hydraulic cylinder, at 2, barrel end of the cylinder down and rod end up.




144

If the baler has a splitter valve, 1, for the hydraulic rotor reverser, install the bolts, at 2. There are weld nuts for the bolts.




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Refer to “ROTOR PICKUP REMOVAL” in this chapter for directions to install the pickup.

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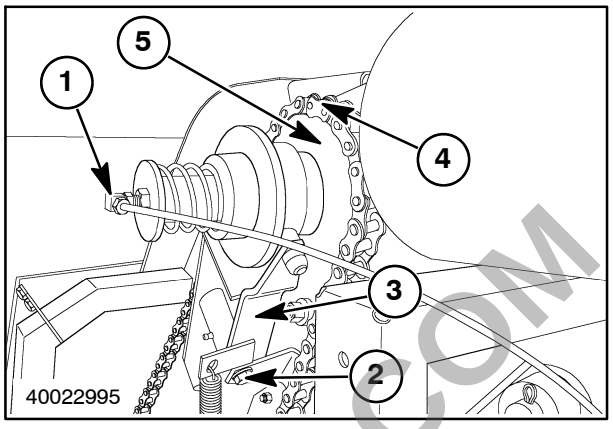
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***BR750A and BR780A Balers***

On these balers with a linear clutch, remove the grease line, 1, from the end of the belt drive roll.

Take out the bolt, 2, at the fork, 3, pivot. Save the shims. Hang the fork on the side of the baler, out of the way.

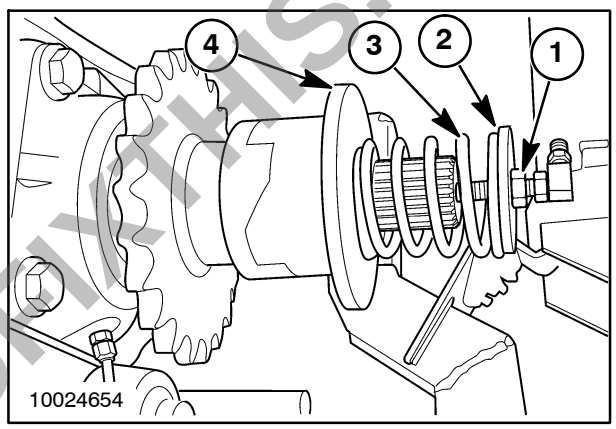
Take the chain, 4, off the driven sprocket, 5, and let it hang from the idlers.




55

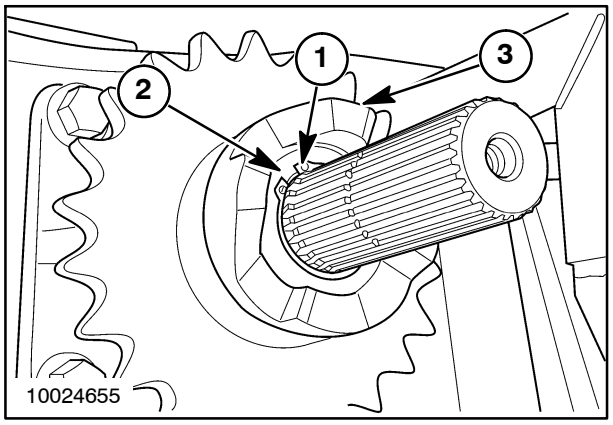
Remove the bolt, 1, on the end of the belt drive shaft. Remove the washer, 2, and spring, 3, as the bolt is removed.

Remove the outer clutch half, 4.




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Remove the retaining ring, 1, and shim washer, 2. Take off the sprocket, 3. Remove the shim washer behind the sprocket. Note the number of shim washers on either side of the sprocket for later assembly.




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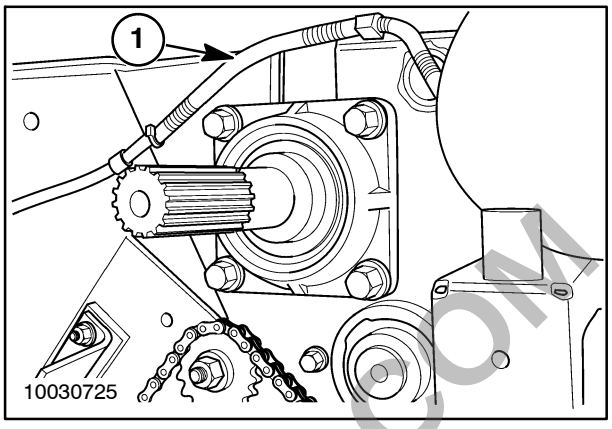
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On balers that have a wire harness, 1, above the belt drive shaft, fasten the clamps back in location.

Install the grease line in both bearings.




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# SECTION 62 - PRESSING

## Chapter 7 - Sledge Assembly

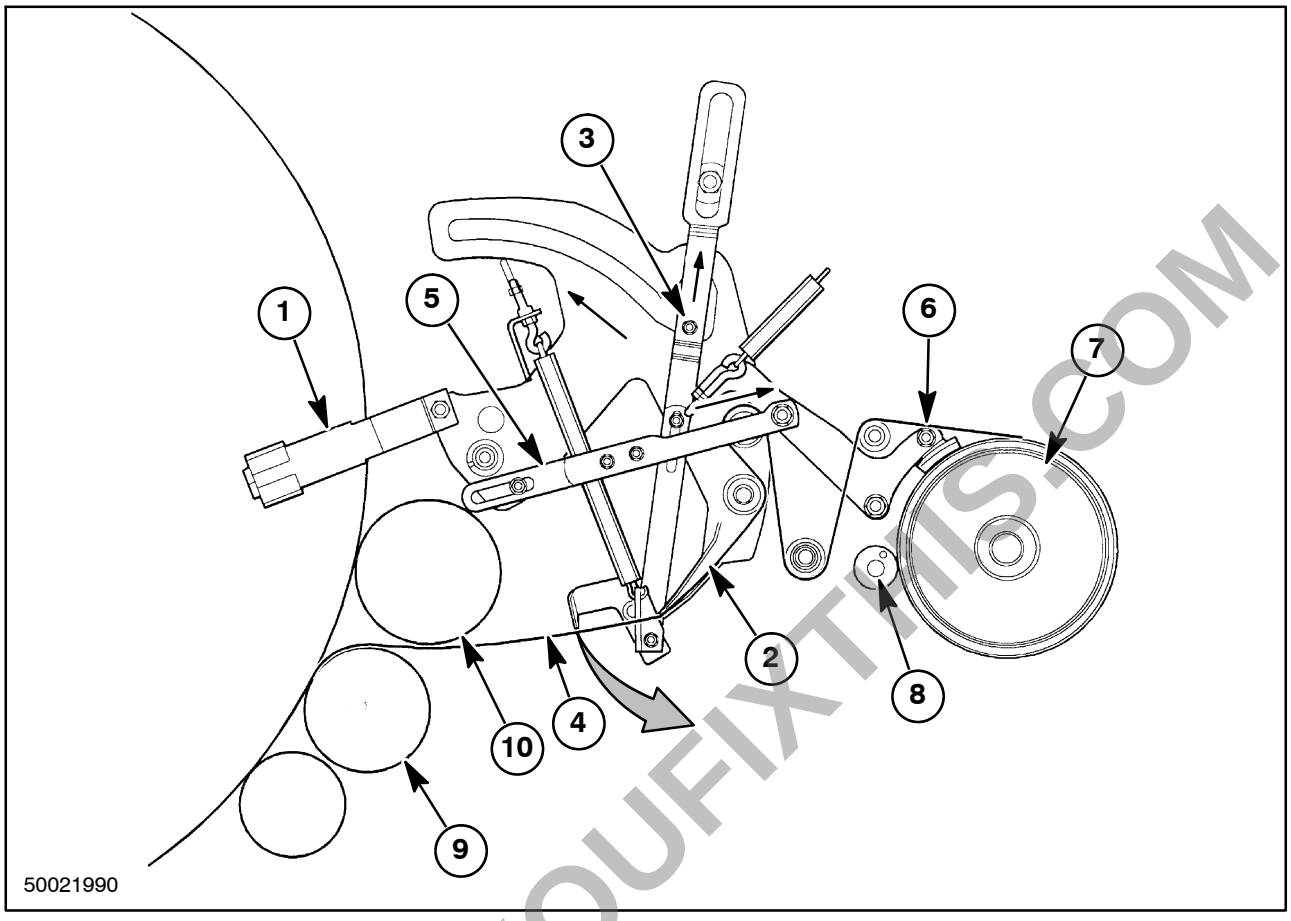
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**Cutting**

1. Actuator
2. Duckbill
3. Knife link and cam roller
4. Knife
5. Brake link
6. Brake
7. Net roll brake drum
8. counter wheel
9. Stationary roll
10. Sledge pivot roll

After the controller determines the programmed number of wraps have been applied to the bale, actuator, 1, fully retracts to the home position. Knife link cam roller, 3, will contact the flat spot in the cam slot lifting the knife link upward. The knife, 4, will snap over center quickly under spring tension cutting the net.

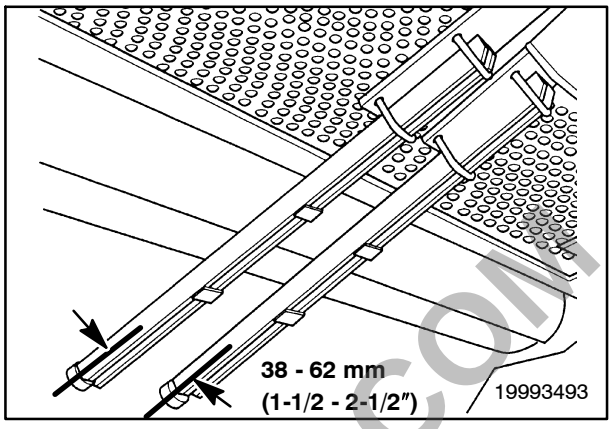
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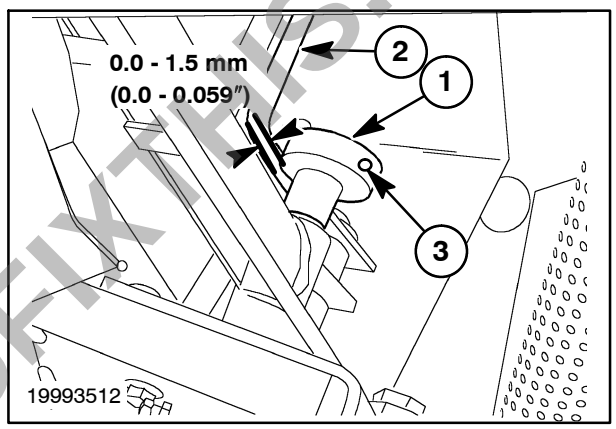
Adjust the length of the drag link to obtain a gap of 38 - 62 mm (1-1/2 - 2-1/2″) between the ends of the twine tubes.

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.



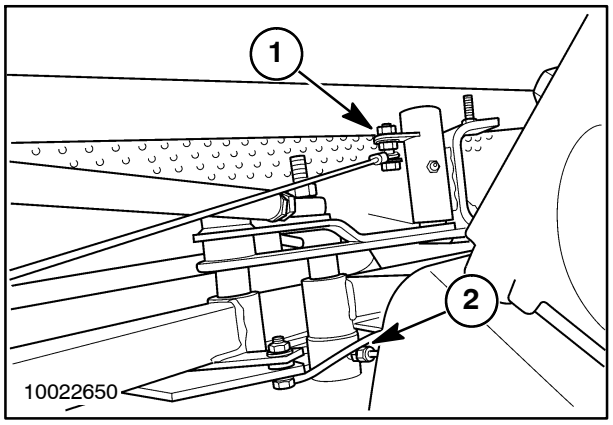

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Install the eccentric, 1. With the twine tubes in the home position, rotate the eccentric to have a clearance of 0.0 to 1.5 mm (0 to 1/16″) to the breakaway arm, 2. Set the eccentric flush to 3 mm (1/8″) below the end of the shaft. Tighten the set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




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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.




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