RBX441, RBX451, RBX461, RBX561 ROUND BALER REPAIR MANUAL COMPLETE CONTENTS

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The following pages are the collation of the contents pages from each section and chapter of the RBX441, RBX451, RBX461, and RBX561 Repair manual.

The sections used through out all Case IH 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 RBX441, RBX451, RBX461, and RBX561 Round Balers.

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SAFETY

PRECAUTIONARY STATEMENTS

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read the following precautions before operating this equipment. Equipment should be operated only by those who are responsible and instructed to do so.

Carefully review the procedures given in this manual with all operators. It is important that all operators be familiar with and follow safety precautions.

The Round Baler

1. Keep safety decals free of dirt and grime.
2. Replace all damaged, missing or illegible safety decals.
3. Install all shields before operating the round baler.
4. Keep the round baler free of dust, chaff and hay. Always have a fire extinguisher handy.
5. Never operate the round baler without the PTO shield in place. Make sure the PTO shield rotates freely.

Towing the Round Baler

1. Do not exceed 32 kph (20 mph) when towing the round baler.
2. Make sure the SMV, reflective tape and lights are clean and clearly visible.
3. Refer to local, state or provincial laws and regulations for restrictions on public roads.
4. Make sure the taillights are operating properly.

Operating the Round Baler

1. Read the operator's manual before operating the round baler.
2. Only allow properly trained persons to operate the round baler.
3. Allow only one operator on the tractor.
4. Do not permit anyone to ride on the round baler.
5. Do not engage the PTO before you are sure everyone is clear of the round baler.
6. Do not work around the round baler in loose clothing that might catch in moving parts.
7. Do not attempt to pull crop from the round baler without turning off the PTO.
8. Keep hands away from the twine knife. Be sure all persons are clear of the baler before operating the twine tubes.
9. If the twine does not start, stop the round baler before correcting the problem.
10. Do not operate above the rated PTO speed.
11. Do not back over windrows, the hay may wedge between the floor roll and pickup.
12. Do not make overweight bales. The round baler may be damaged.
13. Do not exceed the full bale size. An oversize bale will put excessive stress on the round baler components.
14. Be sure all persons are clear of the round baler before starting the round baler, activating the wrapper or opening the tailgate.
15. Do not adjust the pickup lower than necessary.
16. When operating on slopes, the bale must be ejected on the side of the slope to prevent the bale from rolling into the baler or down the hill.

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MINIMUM HARDWARE TIGHTENING TORQUES

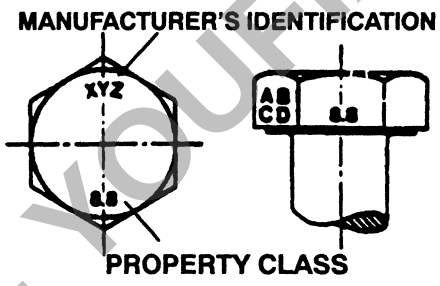
IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

METRIC HARDWARE AND LOCKNUTS

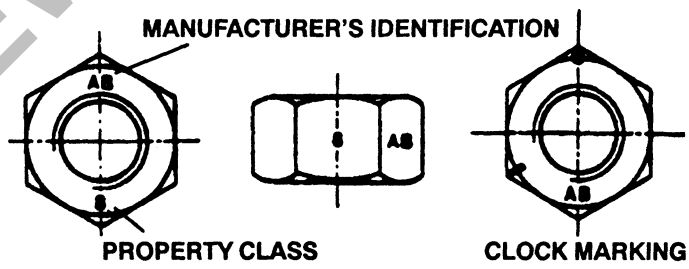
	CLASS 5.8		CLASS 8.8		CLASS 10.9		LOCKNUT
NOMINAL SIZE	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	UNPLATED	PLATED W/ZnCr	CL.8 w/CL8.8 BOLT
M4	1.7 (15*)	2.2 (19*)	2.6 (23*)	3.4 (30*)	3.7 (33*)	4.8 (42*)	1.8 (16*)
M6	5.8 (51*)	7.6 (67*)	8.9 (79*)	12 (102*)	13 (115*)	17 (150*)	6.3 (56*)
M8	14 (124*)	18 (159*)	22 (195*)	28 (248*)	31 (274*)	40 (354*)	15 (133*)
M10	28 (21)	36 (27)	43 (32)	56 (41)	61 (45)	79 (58)	30 (22)
M12	49 (36)	63 (46)	75 (55)	97 (72)	107 (79)	138 (102)	53 (39)
M16	121 (89)	158 (117)	186 (137)	240 (177)	266 (196)	344 (254)	131 (97)
M20	237 (175)	307 (226)	375 (277)	485 (358)	519 (383)	671 (495)	265 (195)
M24	411 (303)	531 (392)	648 (478)	839 (619)	897 (662)	1160 (855)	458 (338)

NOTE: Torque values shown with * are inch pounds.

IDENTIFICATION
HEX CAP SCREW AND CARRIAGE BOLTS
CLASSES 5.6 AND UP



HEX NUTS AND LOCKNUTS
CLASSES 05 AND UP



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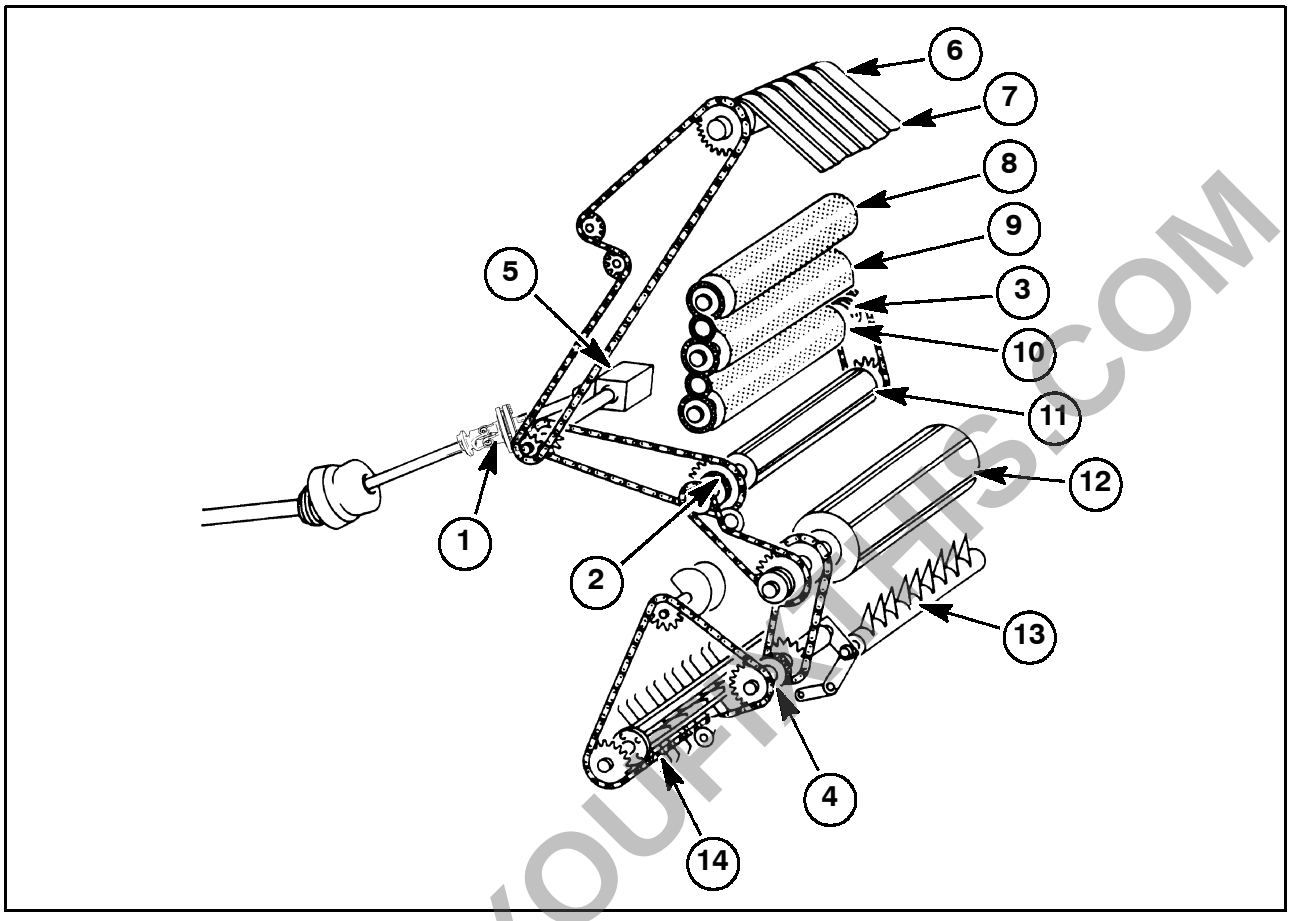
DRIVELINE COMPONENTS



3

1. PTO slip clutch (disc-type)

NOTE: *The standard RBX451 uses a shear bolt*

2. Floor roll slip clutch (jaw-type)
3. Sledge roll slip clutch (disc-type)
4. Pickup slip clutch
(disc-type - RBX561)
(jaw-type - RBX451 and RBX461)
5. Gearbox (540 RPM or 1000 RPM)
6. Belt drive roll
7. Belts
8. Stripper roll
9. Middle roll
10. Pivot roll
11. Starter roll
12. Floor roll
13. Stuffer (RBX451 and RBX461 only)
14. Pickup (RBX451 or RBX461 shown)

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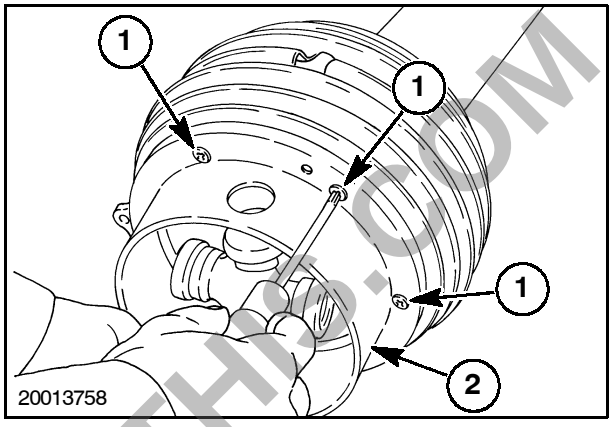
FRONT PTO AND CV U-JOINT

Disassembly

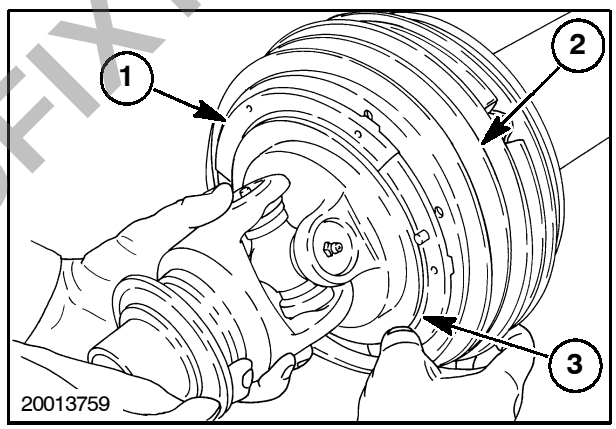
The front of the PTO assembly includes an 80° constant velocity joint.

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



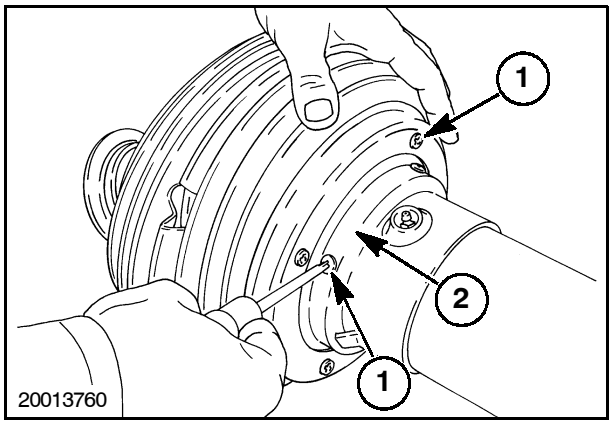
1

2. 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.



2

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



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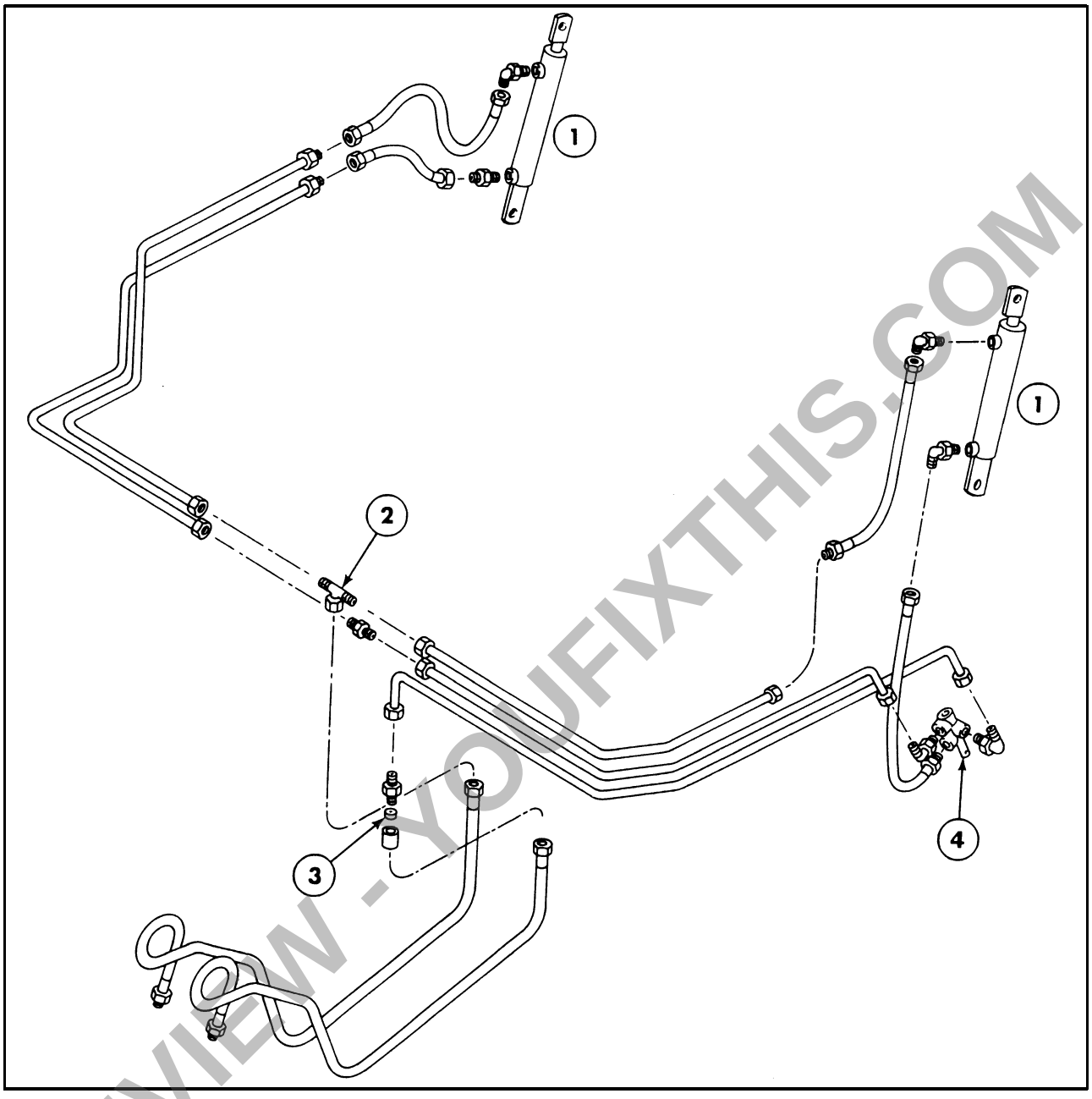

2

RBX451, RBX461, and RBX561

The tailgate lift system on these models consists of two cylinders, 1, a lockout valve, 4, and the steel lines and hoses to connect them to the tractor. There is a 2.6 mm (0.104″) orifice, 3, in the line between the tractor and the lockout valve to regulate the speed of the tailgate. The slot in the orifice should be facing away from the tractor. The lockout valve is connected to the bottom of each cylinder. The lines from the top of each cylinder are connected at a tee, 2, to the other hose to the tractor. When the lockout valve is placed in the lock position, oil is trapped in the base of both cylinders to keep them from moving. If one line should fail, the other cylinder will support the tailgate as the two lines are not connected on the cylinder side of the valve.

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TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSES	CORRECTION
Internal leakage.	Worn or damaged seals.	Replace.
	Piston nut not tight.	Torque to specification.
External leakage.	Worn or damaged seals.	Replace.
	Internal leakage in a single- acting cylinder.	See internal leakage.
Tailgate opens slowly.	Restriction in line.	Remove restriction.
	Lockout valve incorrectly adjusted.	Readjust so spool has full travel.
	Orifice installed wrong.	Install with slot facing away from tractor.
	Incorrect orifice.	Install 0.104″ orifice.
	Low flow or pressure.	Repair tractor hydraulic system.
Tailgate closes fast.	No orifice in line.	Install orifice.
	Orifice installed wrong.	Install with slot facing away from tractor.
Tailgate drifts open.	Internal leak in cylinder.	See internal leakage.
	Tractor remote not sealing.	Repair tractor.
	Tailgate not latched.	Check latch is locked before baling.
Density pressure drop (some drop is normal when not adding crop).	Internal leakage.	See internal leakage.
	Air in the system.	Bleed the system.
	Dirt in the relief valve.	Clean valve.
Pressure not at 0 when ready to start baling.	Change in temperature.	Cycle the tailgate open arm closed several times.
Pressure does not return to 0 when bale is ejected.	System over filled.	Bleed system.
	Interference between take-up arm and side.	Remove interference.
	Defective gauge.	Replace gauge.
Cannot get maximum pressure.	Knob not adjusted on valve stem - single cylinder.	Adjust valve stem and knob.
	Internal leakage.	See internal leakage.
	Dirt in relief valve.	Clean valve.
Pickup rises too fast .	Orifice missing or reversed.	Install with slot facing away from cylinder.

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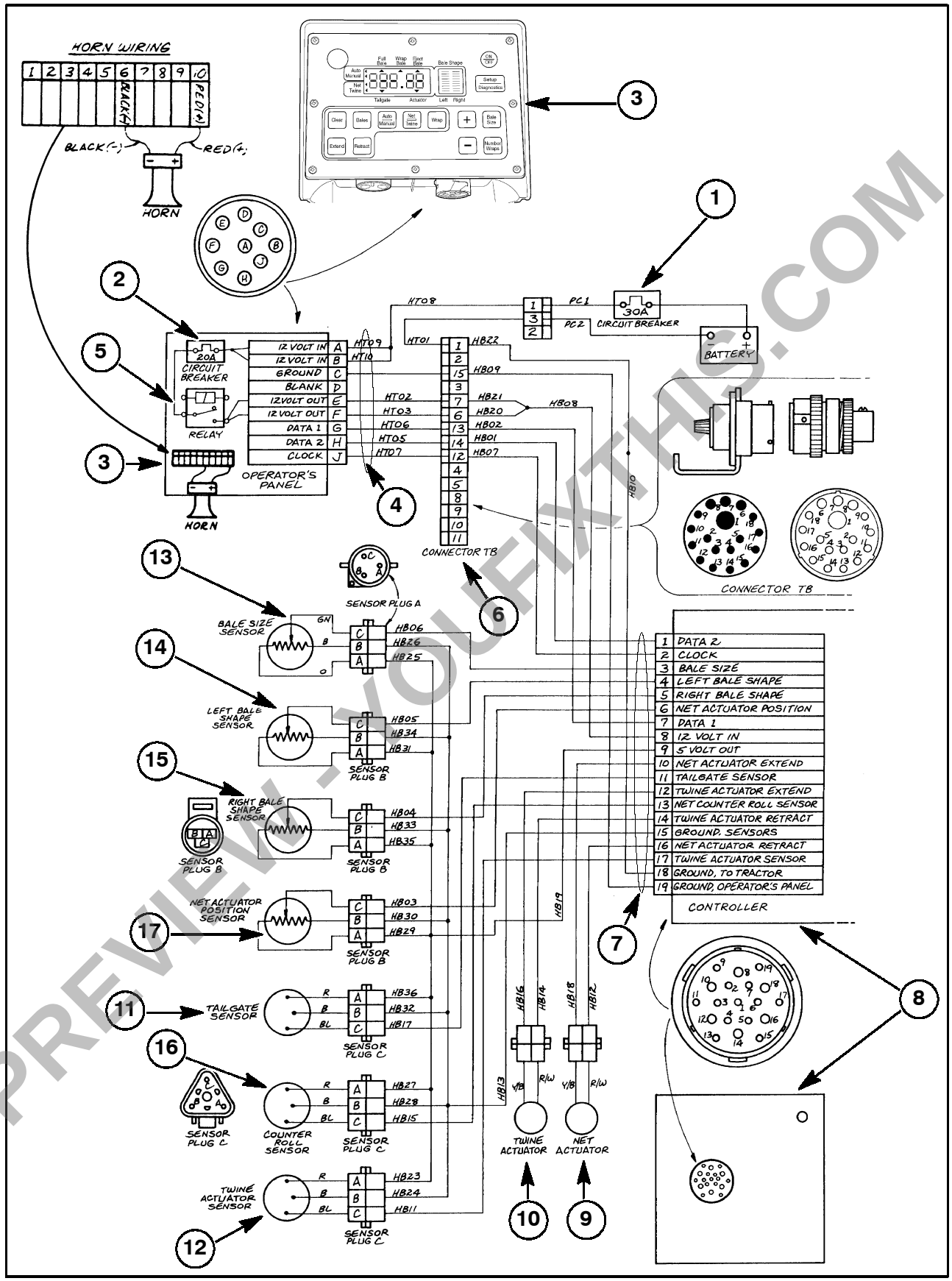

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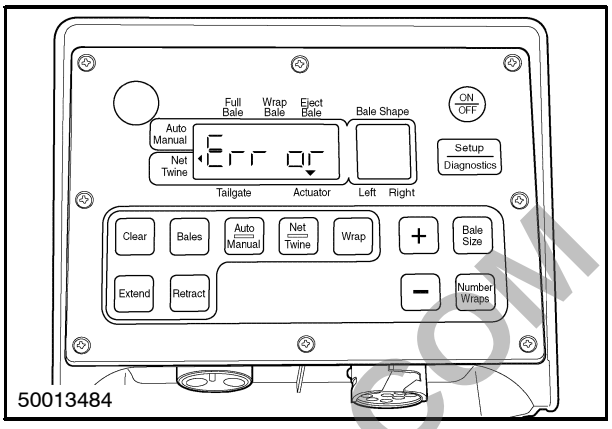
Error and ACTUATOR pointer is flashing - Net or twine actuator circuit.



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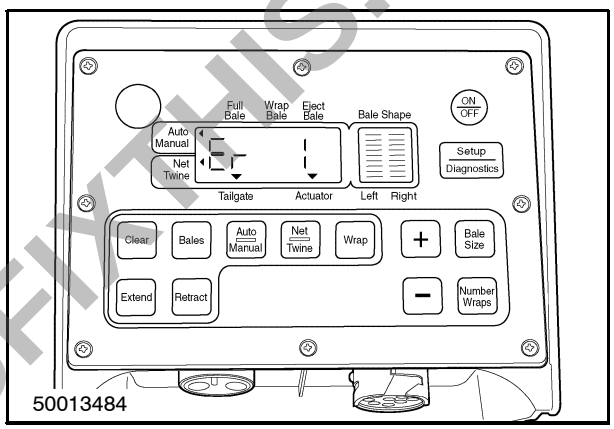
Er 1

An Er 1 indicates that the net or twine actuator stalled or lost power and did not move to the end of its stroke within 5 seconds.



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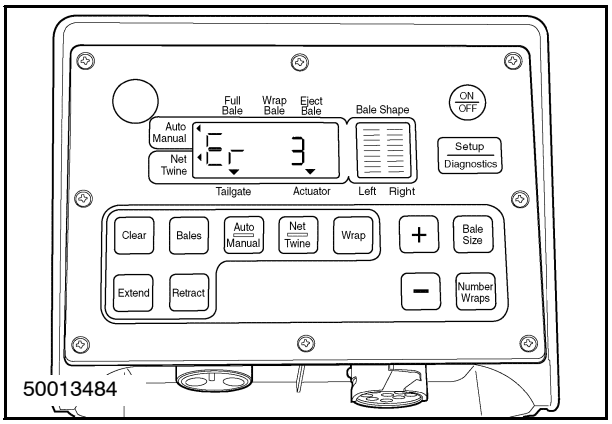
Er 3

An Error 3 indicates that the slicing knife actuator stalled or lost power and did not move to the end of its stroke within 5 seconds.

When in the setup/diagnostic mode, the item number corresponding to the test will be flashing at the left of the main display.



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SPECIFICATIONS

	RBX451	RBX461	RBX561
WEIGHT			
BASE UNIT ELECTRIC WRAP	2105 kg 4640 lbs.	2336 kg 5150 lbs.	2524 kg 5565 lbs.
BASE UNIT TWINE & NET WRAP		2493 kg 5495 lbs.	2699 kg 5950 lbs.
OVERALL DIMENSIONS			
WIDTH	238 cm 93.8″	243 cm 95.5″	277 cm 109.1″
LENGTH:			
Twine	410 cm 161″	425 cm 167.5″	396 cm 156″
Net		452 cm 178″	422 cm 166″
HEIGHT:			
High Wheel Position	255 cm 100.5″	277 cm 109″	284 cm 112″
Low Wheel Position	264 cm 104″	283 cm 111.5″	NA
TRACTOR REQUIREMENTS			
POWER* PTO HP	45 kw 60 HP min.	52 kw 70 HP min.	60 kw 80 HP min.
HYDRAULICS	--- ONE DOUBLE-ACTING OUTLET REQUIRED --- --------- 12,360 kPa (MIN. 1800 PSI) --------- --------- 21,000 kPa (MAX. 3100 PSI) ---------		
DRIVELINE			
PTO	540	540	540/1000
PROTECTION	SLIP CLUTCH	SLIP CLUTCH	SLIP CLUTCH

*Tractor PTO horsepower requirements may vary depending on crop conditions, bale density, bale size, and terrain. Be sure the tractor is of sufficient size and weight to ensure proper operation under your specific conditions.

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SECTION 31 – IMPLEMENT DRIVELINE

BOOK 1 - 87010778

Chapter 3 – Slip Clutches

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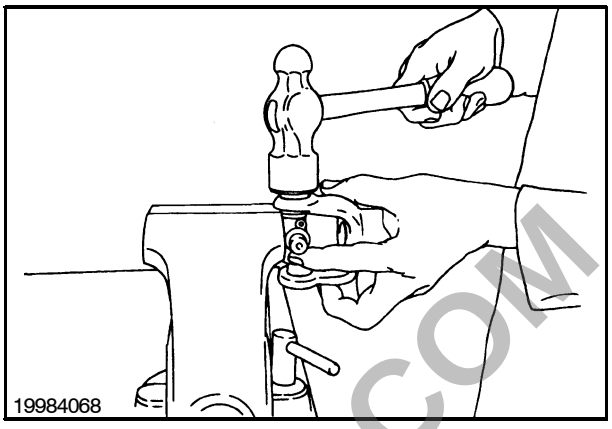
Assembly

1. Place the cross in the yoke.
2. 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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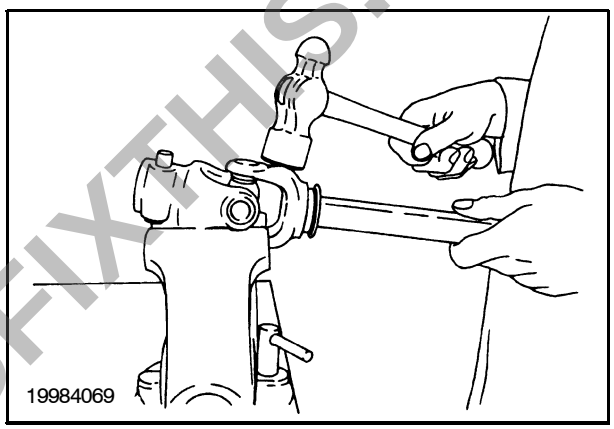
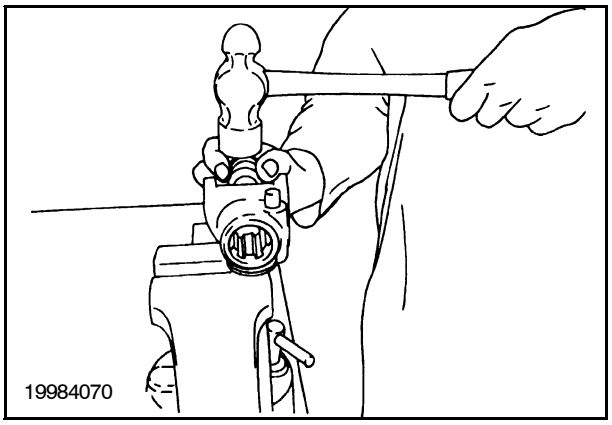
3. Use a short shaft slightly smaller than the end cap and drive one of the end caps in far enough to install the retaining ring. Do the same to the other bearing cap.



35

4. Start both of the next set of bearing caps the same except that the opposite yoke can be set across the vise. Finish driving the end caps home by supporting the yoke ear the cap is being driven into. This will prevent the yoke from being sprung during installation. Install the two retaining rings.



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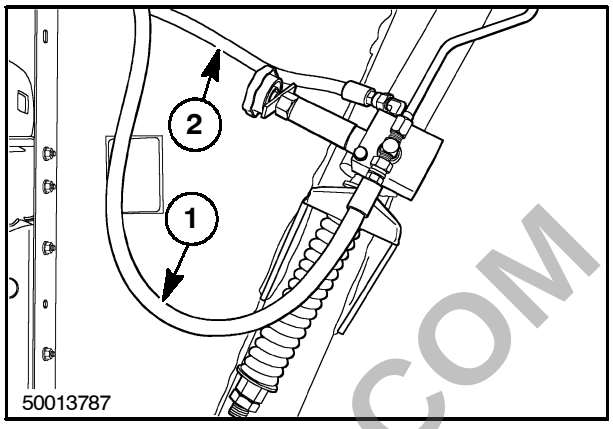
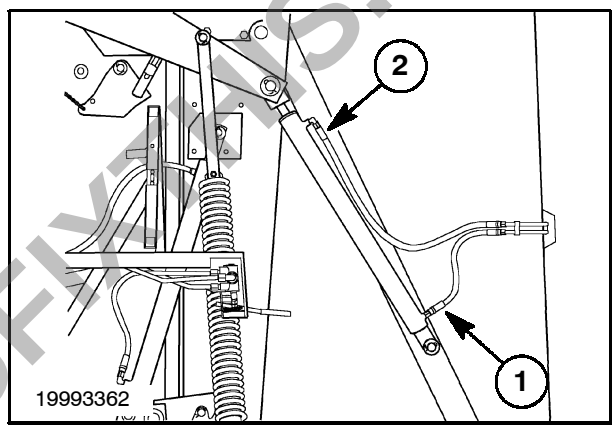
7. On the RBX561, remove the hoses, 1 and 2.



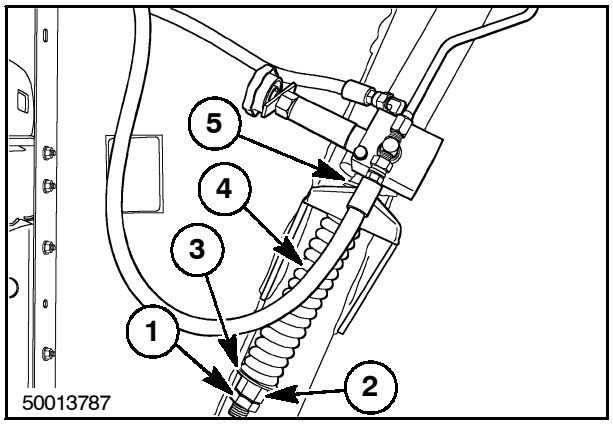
18

8. On the RBX561, to remove the left cylinder, disconnect the hoses, 1 and 2.



19

9. 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.



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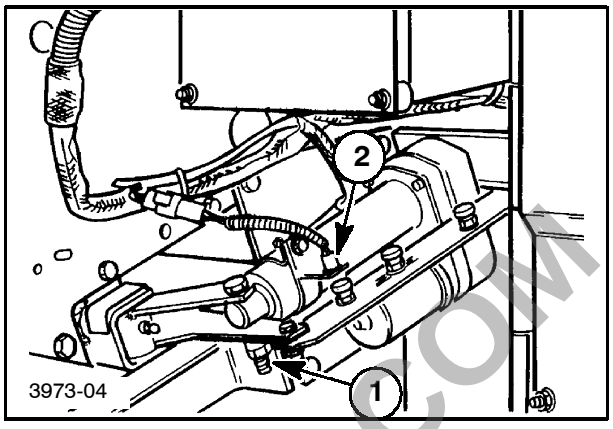
ACTUATOR, TWINE

Removal

1. Disconnect the actuator wire harness from the main harness.
2. Remove the cap screw, spacer and locknut at 1, connecting the actuator shaft to the twine wrapper pivot link.
3. Loosen the clamp bolt and slide the sensor, 2, and clamp off the actuator.
4. Remove the cotter pin from the mounting pin at the base of the actuator and remove the actuator.



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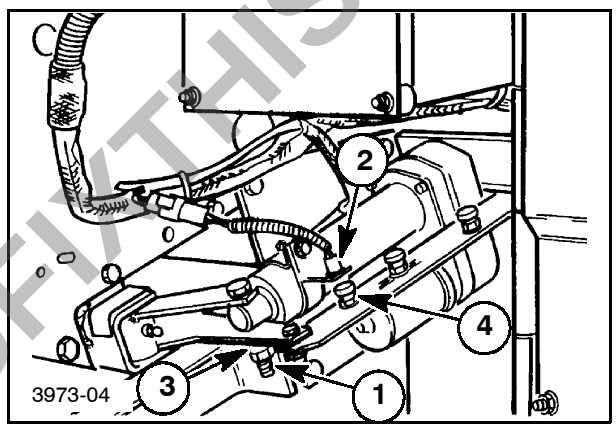
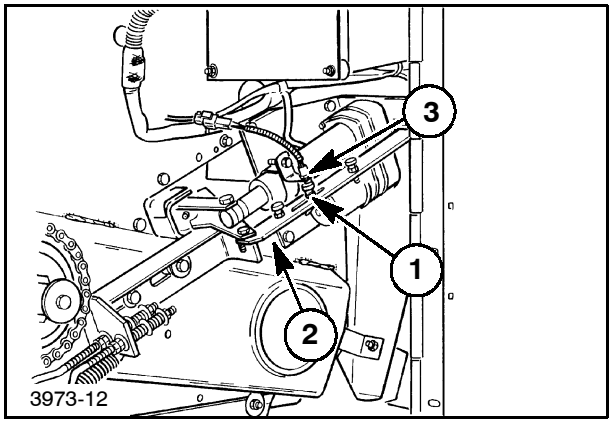
Installation

1. Place the base of the actuator over the pivot pin and install a 1/8″ x 3/4″ cotter pin.
2. Slide the clamp and sensor assembly, 2, over the actuator and position the sensor so it cannot contact the magnets.
3. Install an M12 x 80 cap screw, spacer, 3, and locknut at 1, to attach the actuator shaft to the twine wrapper pivot link. The spacer should be below the link so it can contact the knife operating plate.
4. Connect the actuator wire harness to the main harness.
5. Turn the system ON and use the RETract key to completely retract the actuator.
6. Adjust the clamp and sensor so that the sensor is centered above the home position magnet, 4, when the actuator is completely retracted and tighten the clamp bolt.
7. Adjust the gap between the sensor and magnet to 5 mm (3/16″).



26

8. Set the precut position magnet, 1, so it is 49 mm (1-15/16″) from the home position magnet, 2. Use the EXTend key to move the actuator so the sensor, 3, is centered over the precut magnet and adjust the magnet for a clearance of 5 mm (3/16″) between the sensor and magnet.



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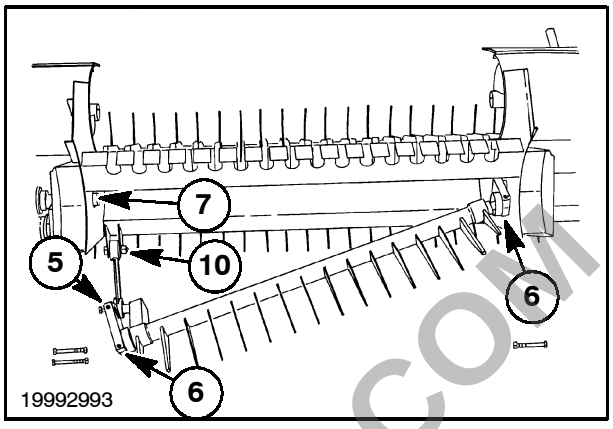
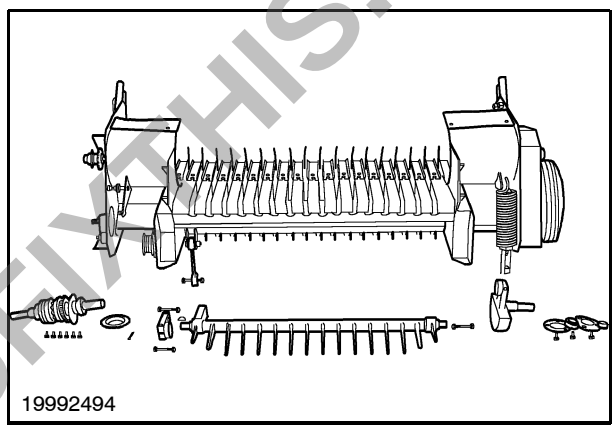
Using a punch and hammer, drive the clutch shaft, 7, out far enough to allow removal of the stuffer arm.



23

The figure shows the complete clutch assembly and stuffer components.



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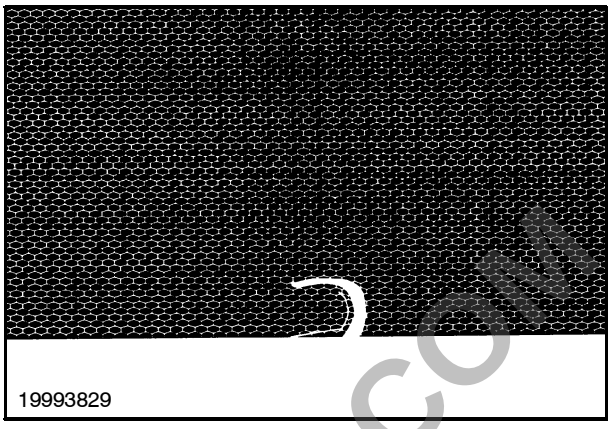
Repair of this belt is not required unless the tear extends.



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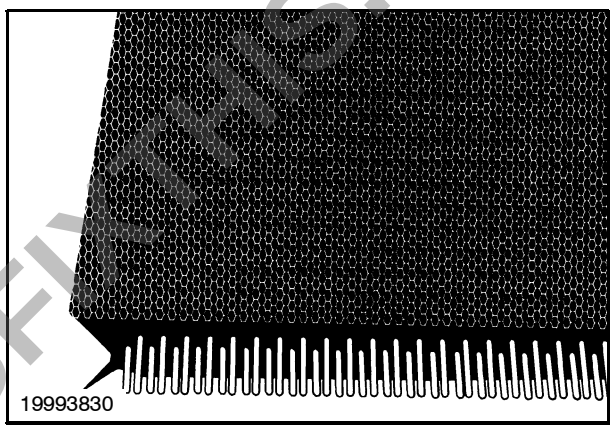
This belt has a corner missing at the lacing. This was caused by a foreign object or belt tracking. Repair is not required as the tear will not affect performance.



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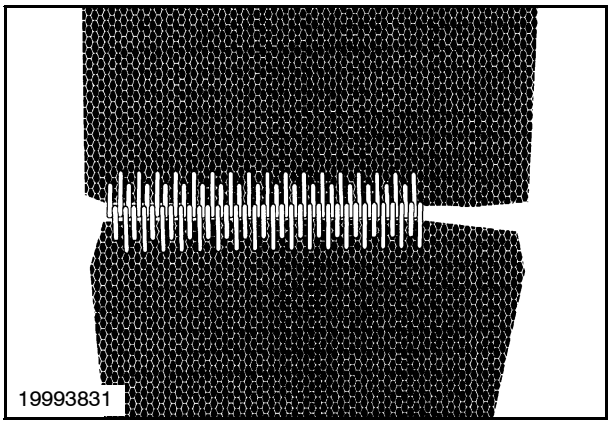
This belt has lost a few hooks on the ends of the lacing. The belt is not torn and can be repaired by adding hooks to each end of the belt and installing a new lacing cable.



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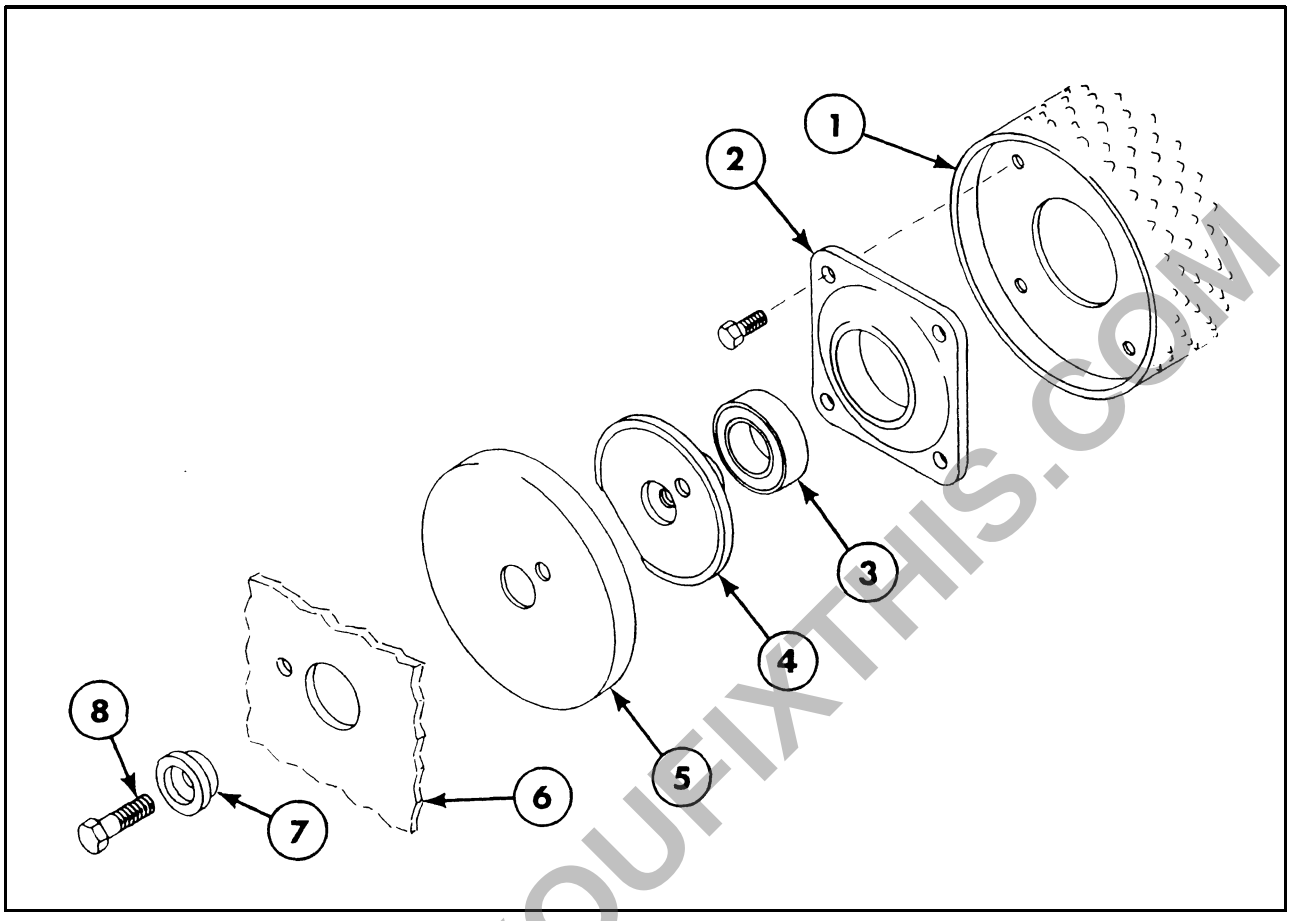

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Sledge Roll Assembly - Left-Hand Side

1. Stripper or middle roll
2. Bearing housing
3. Bearing
4. Bearing support hub
5. Dust shield
6. Sledge frame
7. Hub
8. Cap screw, M12 x 45

Inspection

Inspect the rolls and sledge frame and replace if required.

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