

Op. 10 000

**INTRODUCTION**

Engine repair is not covered in this manual. The Deutz F4L912 engine must be brought to an authorized Deutz dealer. Maintenance of the engine is covered in the baler operator's manual and the engine operator's manual. Both manuals are shipped with the baler. The engine removal procedure is to be used, if the engine must be sent out for repair or if it is to be replaced.

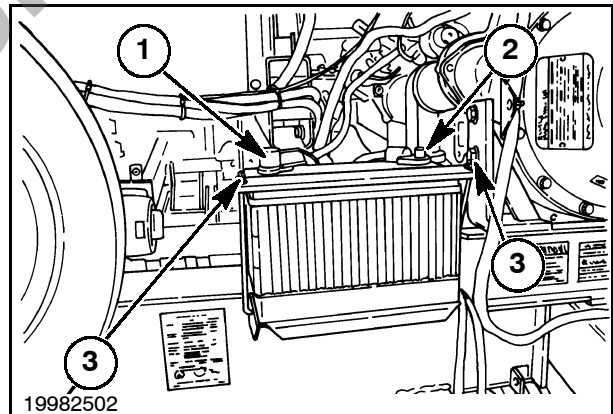
Op. 10 001

**ENGINE REMOVAL**

**NOTE:** This operation will encounter both metric and English hardware. Metric hardware is used on the engine. It is recommended that all the hardware that is removed be loosely installed in one of the holes where it belongs. This is particularly important for the metric bolts that screw into the engine block.

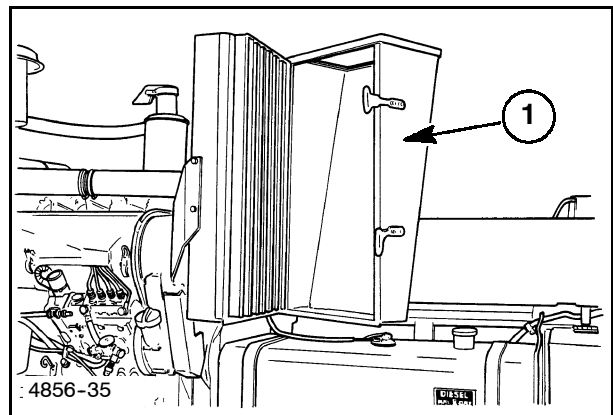
**Removal**

12. Make sure the hydraulic pressure is at zero.
13. Remove the (+), 1 and (-), 2 cables from the battery.
14. Remove the battery by first removing the J-bolts, 3, on either side.



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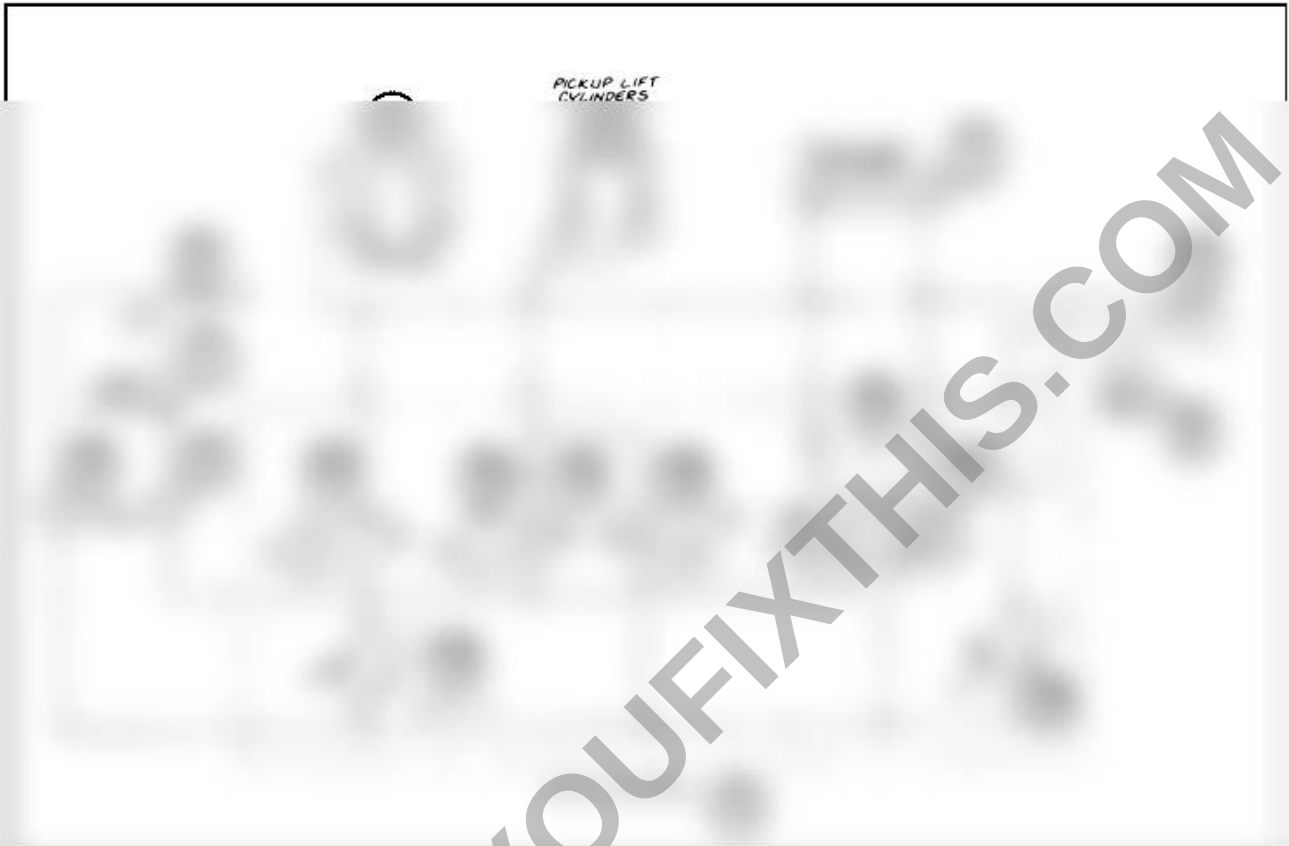
15. Take off the door, 1, for the cooling air intake. Open the door and lift it off the hinges.



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**System Diagrams**

The hydraulic system contains the following basic parts.



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### MAIN DRIVE CHAIN IDLER REPAIR

#### Removal

The main drive chain idler assembly, 1, pivots on a shaft, 2, welded to the frame. The idler is spring



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**MINIMUM HARDWARE TIGHTENING TORQUES**  
**IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS**

**METRIC HARDWARE AND LOCKNUTS**



Table with 2 columns: Hardware Description, Tightening Torque (N-m) / (ft-lb)

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# BB900 REPAIR MANUAL

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The following pages are the collation of the contents pages from each section and chapter of the BB900 Repair manual.

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 BB900 Baler.

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## SECTION 00 - GENERAL INFORMATION

BOOK 1 - 86900145

### Chapter 1 - General Information

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## SECTION 10 - ENGINE

BOOK 1 - 86900145

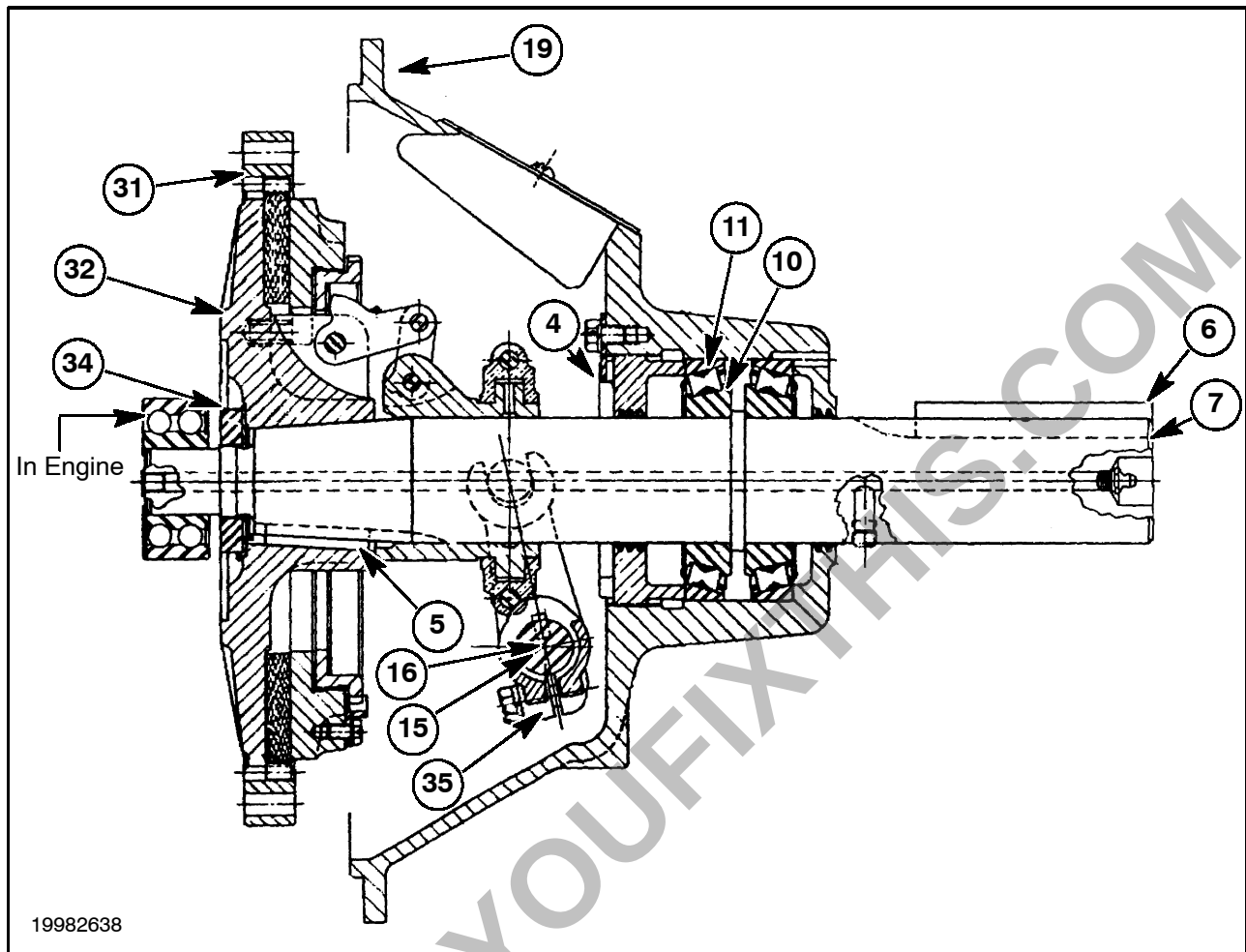
### Chapter 1 - Engine

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| 10 400  | Air Screen Housing Replacement ..... | 17   |

**Hydraulic System**

|                               |              |                                                                    |
|-------------------------------|--------------|--------------------------------------------------------------------|
| Type                          |              | Self-contained open center with<br>electro-hydraulic control valve |
| Functions                     |              | Tongue shift<br>Pickup lift<br>Bale density                        |
| Nominal system pressure       | bar<br>(PSI) | 138<br>(2000)                                                      |
| Bale density pressure         | bar<br>(PSI) | 83 maximum<br>(1200)                                               |
| Pump                          |              |                                                                    |
| Type                          |              | Gear                                                               |
| Maximum flow                  | lpm<br>(gpm) | 7.6<br>(2)                                                         |
| Relief pressure               | bar<br>(PSI) | 138<br>(2000)                                                      |
| Cylinders (Diameter x Stroke) |              |                                                                    |
| Tongue swing                  | mm<br>(in.)  | 76 x 292<br>(3.0 x 11.5)<br>Double acting                          |
| Pickup lift                   | mm<br>(in.)  | 38 x 203<br>(1.5 x 8.0)<br>Dual single acting                      |
| Density                       | mm<br>(in.)  | 102 x 201<br>(4 x 7.9)<br>Dual single acting                       |
| Filters                       |              | In-line serviceable (Supply)<br>Spin-on cartridge (Return)         |



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34. Support the shaft assembly under the hoist with the shaft resting on a hard, wooden block.
35. Position the release bearing so the grease tube is close to the access hole in the housing.
36. Align the keyway in the clutch with the keyway in the shaft. Carefully lower the clutch onto the shaft. As the release bearing approaches the yoke, rotate the yoke upwards to engage the bearing carrier trunnions.

37. Just before the clutch is seated on the shaft taper, install the key half way into the clutch.

**NOTE:** Do not install the key completely as it will not allow the clutch to seat properly on the taper.

38. Seat the clutch on the shaft. Drive the key the rest of the way into the keyways.

**Gearbox Figures 83 and 84**

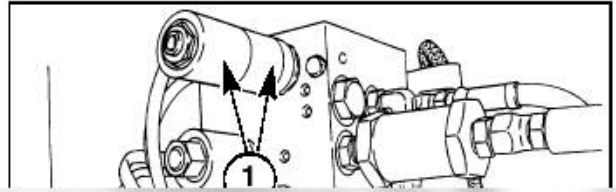
| Ref No. | No. Used | Description |
|---------|----------|-------------|
| 1       | 1        | Rear cover  |

| Ref No. | No. Used | Description |
|---------|----------|-------------|
| 14      | 1        | Crankshaft  |

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**Tongue Swing Valve**

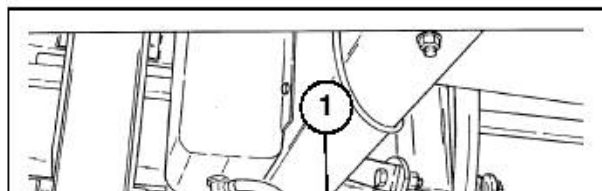
A single solenoid operated, 4-way, 3-position, direct-acting, spool-type, motor spool, screw-in hydraulic cartridge valve with two coils is used. It is the top valve, 1, on the manifold. The cartridge is rated for infinite life at 207 bar (3000 PSI) and 11.4 l/min. (3 gpm)



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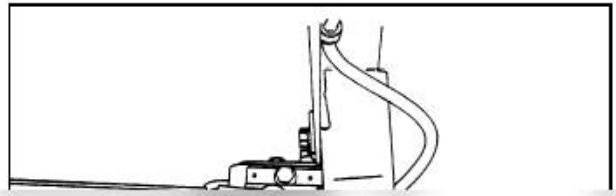
### Oiler Filters

There are two filters in the oiler system. One filter, 1, is located in the line between the reservoir and the pump. Its function is to keep large particles that may get into the reservoir from reaching the pump.



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FAN SHIELD SWITCH is located near the knot-  
ters, 1.



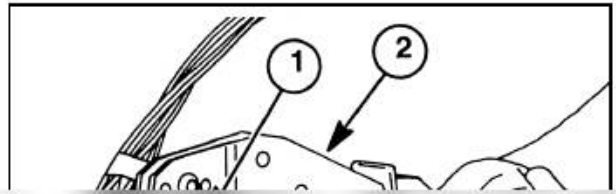
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9. Crimp new terminal, 1, on the wire using the correct crimping tool, 2.

**NOTE:** The use of other crimping tools may deform the terminal.



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5. Take off the cover, 1, on both ends of the gauge box. The screws, 2, on the sides only have to be loosened. Take the bottom screw, 3, out. With a screwdriver pry the end out. Leave the left end dangling on the switch wires.



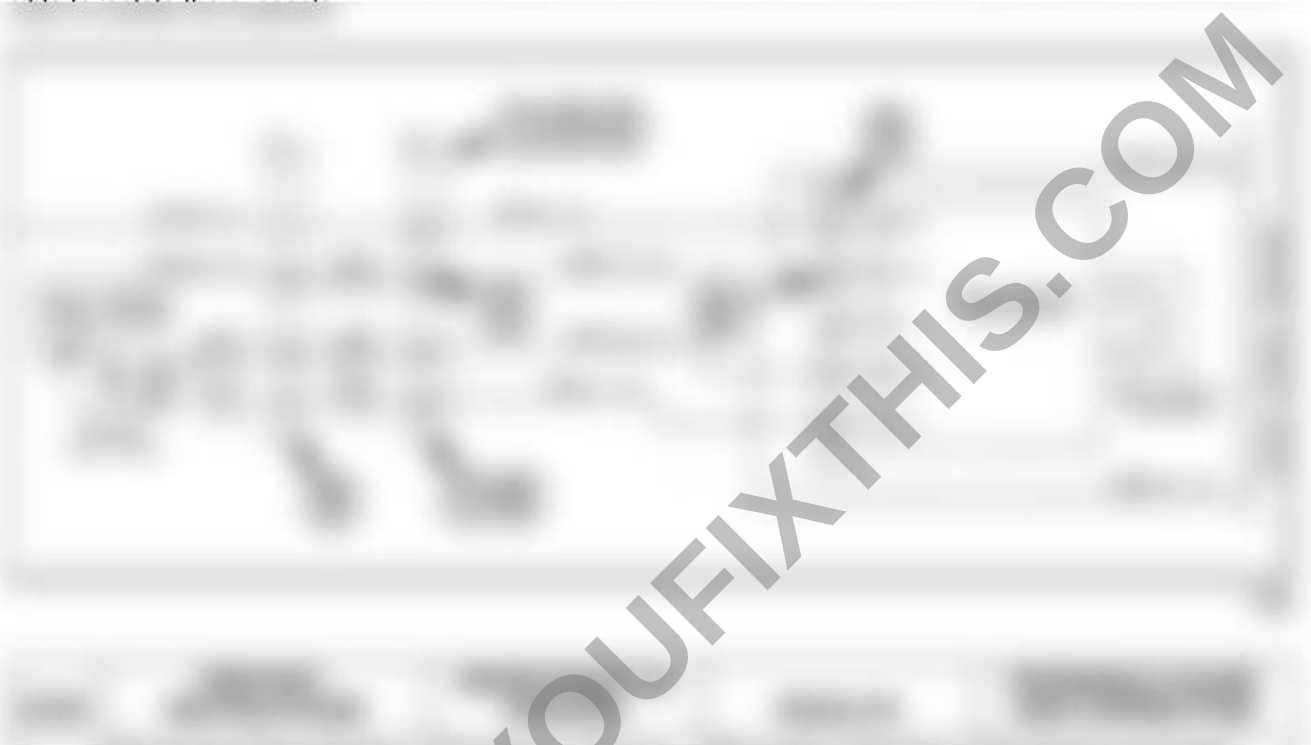
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### CONTROLLER CIRCUIT TROUBLESHOOTING

Disconnect the battery ground cable and turn off the key switch for all the resistance tests. As wires are disconnected, do not re-connect them until the tests are complete. The more isolated a wire or component under test is, the more accurate the results. Once the area of a short is determined, make as many disconnections as pos-



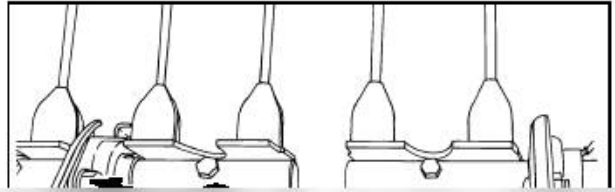
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**PICKUP TOOTH BAR AND TOOTH BAR  
BEARING REPLACEMENT**

**Removal**



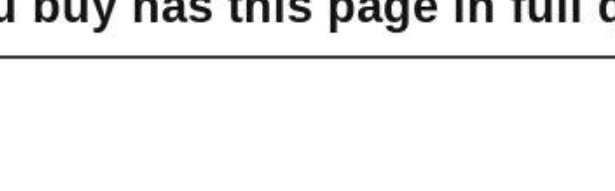
1. Remove the pickup tooth bar and tooth bar bearing from the machine.

2. Remove the pickup tooth bar and tooth bar bearing from the machine.



3. Remove the pickup tooth bar and tooth bar bearing from the machine.

4. Remove the pickup tooth bar and tooth bar bearing from the machine.



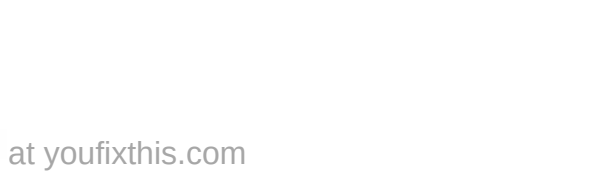
5. Remove the pickup tooth bar and tooth bar bearing from the machine.



6. Remove the pickup tooth bar and tooth bar bearing from the machine.



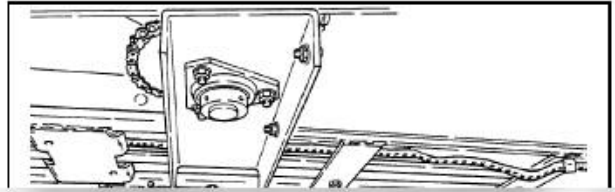
7. Remove the pickup tooth bar and tooth bar bearing from the machine.



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5. The nut on the LARGE gear, 1, must be seen in the SMALL timing hole, 2, in the left feeder side sheet.

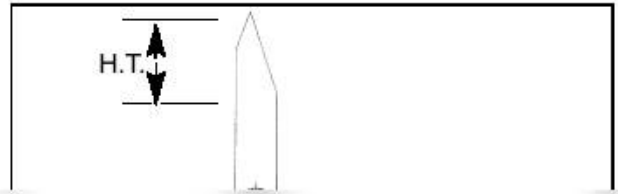


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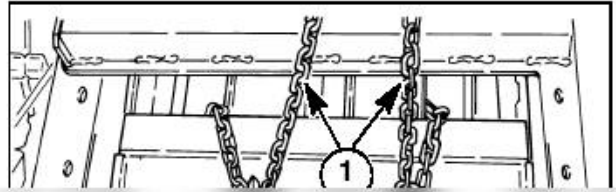
### Tine Bar Inspection

1. The tines are heat treated all along leading edge. This is the edge with the shorter trim. Make sure each tine is square to the shaft. Check the weld for cracks and weld any that are found.

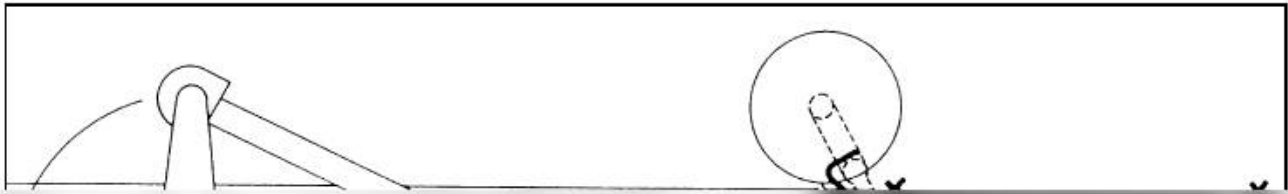


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22. The plunger is now free and can be removed out the top of the bale chamber. Attach chains, 1, or straps to the top of the plunger and hoist the unit out. The plunger will have to be moved rearward far enough to permit the front end of the plunger to be lifted first.

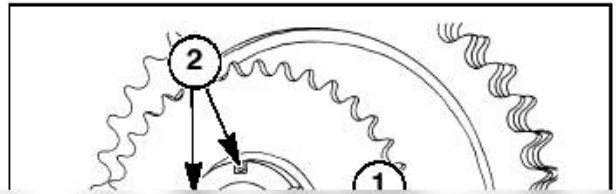


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4. Remove the two set screws, 2, from the main shaft adjusting nut, 1.
5. Remove the adjusting nut.



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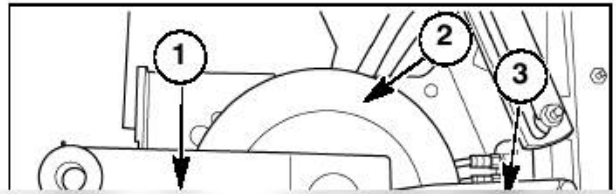
**NEEDLE SIDE PRESSURE ADJUSTMENT**

1. The needle, 1, must rub the knoter frame or bill hook pinion lightly as it moves upward. It should require a force of 0.4-2.8 Kg (1-6 lbs.) to move the



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13. Remove the arm, 1, and brake disc, 2. A chisel, 3, may be required to pull the arm off.
14. Remove the key and spacer.

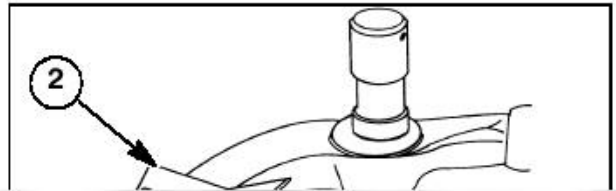


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### KNIFE REPLACEMENT

Keep the surgical steel knife, 1, sharp. If it becomes dull, the twine may be torn instead of being cut.



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