# SECTION 00 - GENERAL INFORMATION

**BOOK 1 - 87012155**

## Chapter 1 – General Information

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# PRECAUTIONARY STATEMENTS

## PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("**DANGER**", "**WARNING**", and "**CAUTION**") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

### ⚠ DANGER ⚠

**This word "DANGER" indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.**

### ⚠ WARNING ⚠

**This word "WARNING" indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.**

### ⚠ CAUTION ⚠

**This word "CAUTION" indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.**

**FAILURE TO FOLLOW THE "DANGER", "WARNING", AND "CAUTION" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.**

## MACHINE SAFETY

The precautionary statement ("**IMPORTANT**") is followed by specific instructions. This statement is intended for machine safety.

***IMPORTANT:*** *The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.*

## INFORMATION

***NOTE:*** *Instructions used to identify and present supplementary information.*

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# MINIMUM HARDWARE TIGHTENING TORQUES

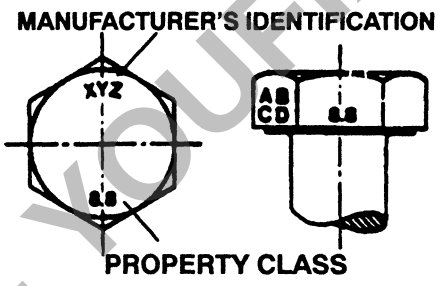
## IN NEWTON-METERS (FOOT POUNDS) FOR NORMAL ASSEMBLY APPLICATIONS

## METRIC HARDWARE AND LOCKNUTS

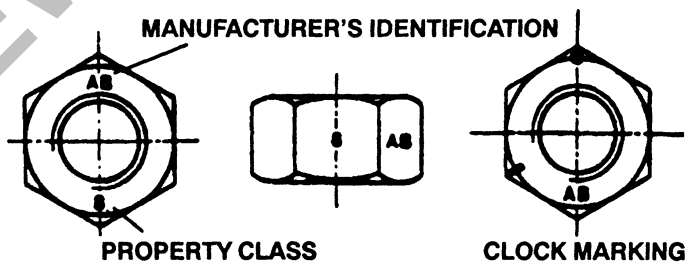
| | CLASS 5.8 | | CLASS 8.8 | | CLASS 10.9 | | LOCKNUT |
|---|---|---|---|---|---|---|---|
| NOMINAL SIZE | UNPLATED | PLATED W/ZnCr | UNPLATED | PLATED W/ZnCr | UNPLATED | PLATED W/ZnCr | CL.8 w/CL8.8 BOLT |
| M4 | 1.7 (15*) | 2.2 (19*) | 2.6 (23*) | 3.4 (30*) | 3.7 (33*) | 4.8 (42*) | 1.8 (16*) |
| 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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## LUBRICATION

Adequate lubrication and maintenance on a regular schedule is vital to maintaining your equipment. To ensure long service and efficient operation, follow the lubrication and maintenance schedules outlined in this manual. The use of proper fuels, oils, grease and filters, as well as keeping the systems clean, will also extend machine and component life.

***IMPORTANT:*** *Always use genuine* ***New Holland*** *replacement parts, oils and filters to ensure proper operation, filtration of engine and hydraulic systems. See your* ***New Holland*** *dealer for additional oil quantities.*

## RECOMMENDED LUBRICANTS AND COOLANTS

| Lubricant | Location Used | Type and Description | Part Number | Quart or Liter | Gallon or Tube |
|---|---|---|---|---|---|
| Oil | Engine and Pivot Points without Grease Fittings, Chains | SAE 30 API CF-2SJ | 9613286 | 1Qt. | |
| | | SAE 30 API CF-2SJ | 9613289 | | 2.5 Gal. |
| | | SAE 30 API CF-2SJ | 9613366* | 4 L | |
| | | 5W-30 API SG/CD | 9673589DS | 1 Qt. | |
| | | 5W-30 API SG/CD | 9624590* | 4 L | |
| | | 10W-30 API SG/CD | 9613313 | 1 Qt. | |
| | | 10W-30 API SG/CD | 9613314 | | 2.5 Gal. |
| | | 10W-30 API SG/CD | 9673508DS | | 5 Gal. |
| | | 10W-30 API SG/CD | 9613358* | 1 L | |
| | | 10W-30 API SG/CD | 9613359* | 4 L | |
| | | 15W-40 API CF-4 | 9613290 | 1 Qt. | |
| | | 15W-40 API CF-4 | 9673730DS | | 1 Gal. |
| | | 15W-40 API CF-4 | 9613303 | | 2.5 Gal. |
| | | 15W-40 API CF-4 | 9613292 | | 5 Gal. |
| | | 15W-40 API CF-4 | 9613350* | 1 L | |
| | | 15W-40 API CF-4 | 9613351* | 4 L | |
| Coolant | Engine | ESE-M97B18-D, Ethylene Glycol New Holland Spec. Coolant Concentrate | FGCC2701DS | | 1 Gal. |
| | | Propylene Glycol Concentrate | FGCC2711DS | | 1 Gal. |
| Hydraulic Oil | Hydraulic System, Hydrostatic System Front Axle Oil | 134D – ESN-M2C134-D New Holland Spec. Hydraulic oil | 9624450 | | 2.5 Gal. |
| | | 134D – ESN-M2C134-D | 9624451 | | 5 Gal. |
| | | 134D – ESN-M2C134-D | 9613367* | 4 L | |
| | | 134D – ESN-M2C134-D | 9624785* | 10 L | |
| Hydraulic Oil | Optional, Multi-Seasonal Use, Recommended for Low Temperatures | F200 | 86523625DS | 1 Qt. | |
| | | F200 | 86523626DS | | 5 Gal. |
| | | F200 | 86509446* | 20 L | |
| Gear Oil | Gearboxes | 80W90 EP Gear Oil API GL5 | 9613295 | 1 Qt. | |
| | | 80W90 EP Gear Oil API GL5 | 9613294 | | 2.5 Gal. |
| | | 80W90 EP Gear Oil API GL5 | 9613375* | 5 L | |
| | | 85W140 EP Gear Oil API GL5 | 9613297 | 1 Qt. | |
| | | 85W140 EP Gear Oil API GL5 | 9613296 | | 2.5 Gal. |
| | | 85W140 EP Gear Oil API GL5 | 9613376* | 4 L | |
| Grease | All Grease Fittings | Lithium base EP high temperature | 9861804DS | | Tube |
| | | Lithium base EP high temperature | 9861804CDS* | | Tube |
| Brake Fluid | | Mineral Based Oil | 1QM6C34A or 86541699DS | 1 Qt. | |

**** NOTE:*** *Canada Part Numbers ONLY.*

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## SPECIFICATIONS

## MODEL 565

### GENERAL

| | |
|---|---|
| Overall width | 2745 mm (108″) |
| Overall height (PTO) | 1463 mm (57.6″) |
| Overall length (Bale chute not included) | 5036 mm (198.3″) |
| Weight - PTO twine | 1432 kg (3137 lbs) |
| Wheel tread | 2731 mm (107.5″) |
| Wheel bearings | Tapered roller |
| Maximum road speed | 32 km/hr (20 MPH) |

### PTO

| | |
|---|---|
| Type | Category III - 3-joint - ASAE standard |
| Protection | Slip clutch plus overrunning clutch |

### TIRES

| | |
|---|---|
| Right | 25 x 7:50 - 15 6-ply - 207 kPa (30 PSI) |
| Left | 27 x 9.50 - 15 6-ply - 207 kPa (30 PSI) |
| Pickup | 3.00 x 12 semi-pneumatic |

### PICKUP

| | |
|---|---|
| Width (including flare) | 1788 mm (70.4″) |
| Pickup drive | V-belt to roller chain to lost motion reel drive |
| Protection | V-belt slippage and lost motion reel drive |
| Number of tooth bars | 4 |
| Tooth bar bearings | Sealed ball |
| Number of teeth | 88 |
| Wind guard | 8-finger |
| Tooth spacing | 67 mm (2 5/8″) |

### FEEDING SYSTEM

| | |
|---|---|
| Type | Flow-Action® |
| Drive | Chain |
| Protection | Shear bolt |
| Tines | Four aluminum and two steel tilting |
| Feed opening | 1826 $cm^2$ (283 sq. in.) |
| Bearings | Sealed ball |

### BALE CHAMBER

| | |
|---|---|
| Size | 356 x 457 mm (14 x 18″) |
| Bale length | 305 - 1321 mm (12 - 52″) |

### KNOTTER

| | |
|---|---|
| Protection | Shear bolt |
| Tying | Plastic or natural fiber twine |

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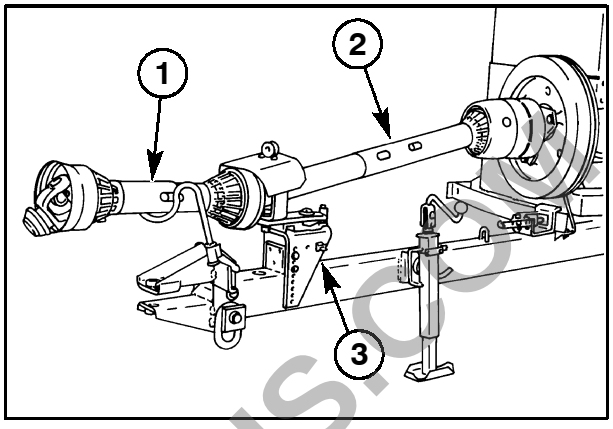
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## UNIVERSAL JOINT AND POWER PIVOT

### DESCRIPTION AND OPERATION

The Models 565, 570, 575 and 580 use a three joint drive shaft assembly with an intermediate Power Pivot support. The front telescoping PTO assembly, 1, attaches to the tractor. The rear telescoping shaft assembly, 2, attaches to the flywheel overrunning and slip clutches. The two telescoping assemblies connect above the Power Pivot support, 3.

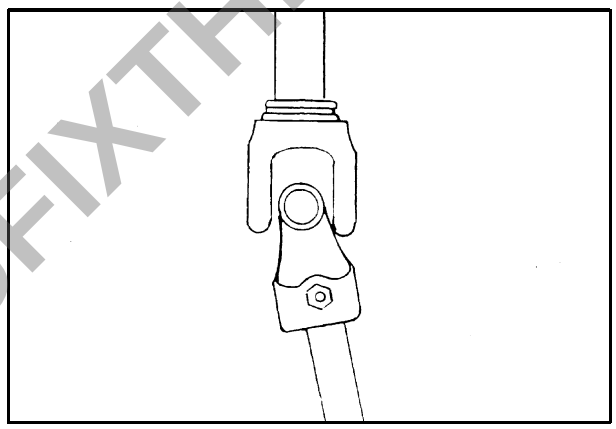
Before 1997 the Model 565 was also available with a 2 joint PTO that does not use an intermediate support.




1

**Universal Joint Operation**

A universal joint assembly consists of 2 yokes connected by a cross and bearing assembly. The bearings allow the yokes to pivot and operate when the shafts connected to the yokes are out of alignment.



2

If only one joint is used the connecting shafts must be on the same center line for uniform power flow. When the connecting shafts do not align, the driven yoke will alternate between leading and lagging behind the driving yoke. Depending on the starting position of the yokes, the first 45° of rotation of the driving yoke will result in the driven yoke being accelerated so it leads the driving yoke. The greater the misalignment, the greater the difference in yoke rotation. At 20° the lead will be approximately 2°, at 40° the lead will be 8°. Between 45° and 90° of rotation the driven yoke will slow down so that when the driving yoke has rotated 90° the driven yoke has also have rotated 90°. Between 90° and 135° the driven yoke will lag behind the driving yoke. From 135° to 180° the driven yoke will speed up until at 180° the yokes again are at the same speed. The speed up and slow down cycle will repeat when the drive yoke rotates from 180° to 360°. At a speed of 540 rpm the driven yoke will oscillate at a speed of 18 cycles per second.

If a single joint connects the tractor PTO to the baler flywheel, the joint would be destroyed if operated at an angle over 20°. The mass of the flywheel would not allow it to change speeds to match the yoke.

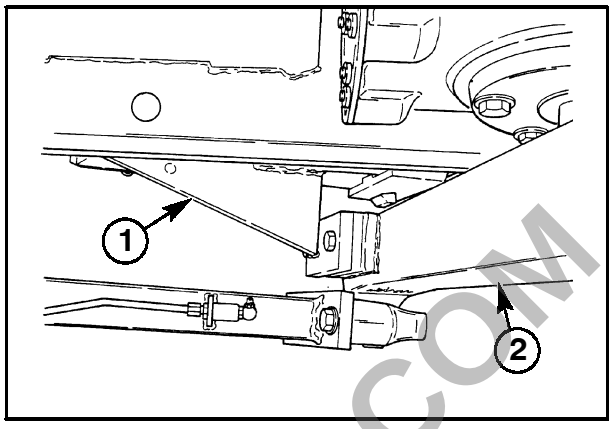
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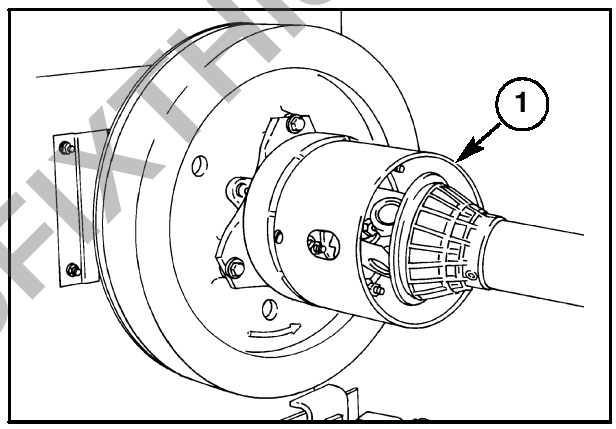
**Block the Flywheel**
Block the flywheel and crank as follows:

- Trip the knotter and turn the flywheel to start a tying cycle.
- Continue to turn the flywheel until the needle safety stop, 1, moves completely inside the frame. The stop will be to the front of the crank arm, 2.
- Turn the flywheel in the opposite direction until the crank moves to the front of the stop. As the crank moves past, it will push the stop out of the way. The stop will “snap” back into position.
- Turn the flywheel forward again until the crank contacts the stop as shown.



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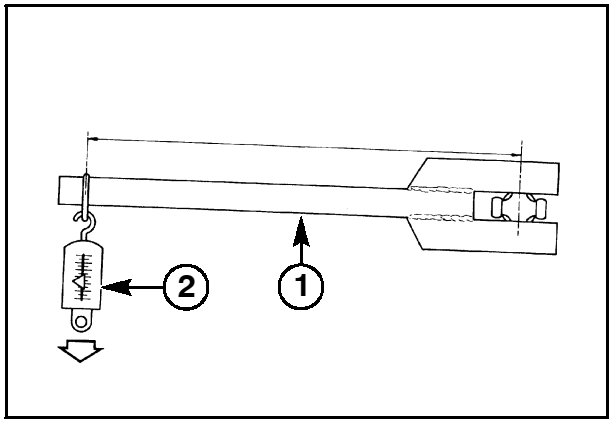
**Remove the Clutch Shield**
Remove the mounting screws for the PTO clutch shield, 1, and slide the shield forward on the PTO.



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A tool, 1, similar to the one shown and a spring scale, 2, can be used to check the clutch.

The tool jaws should be wide enough to slip over the ears of a PTO yoke. The handle should be at least 60″ long. Using a longer handle will require less pull at the end to slip the clutch.

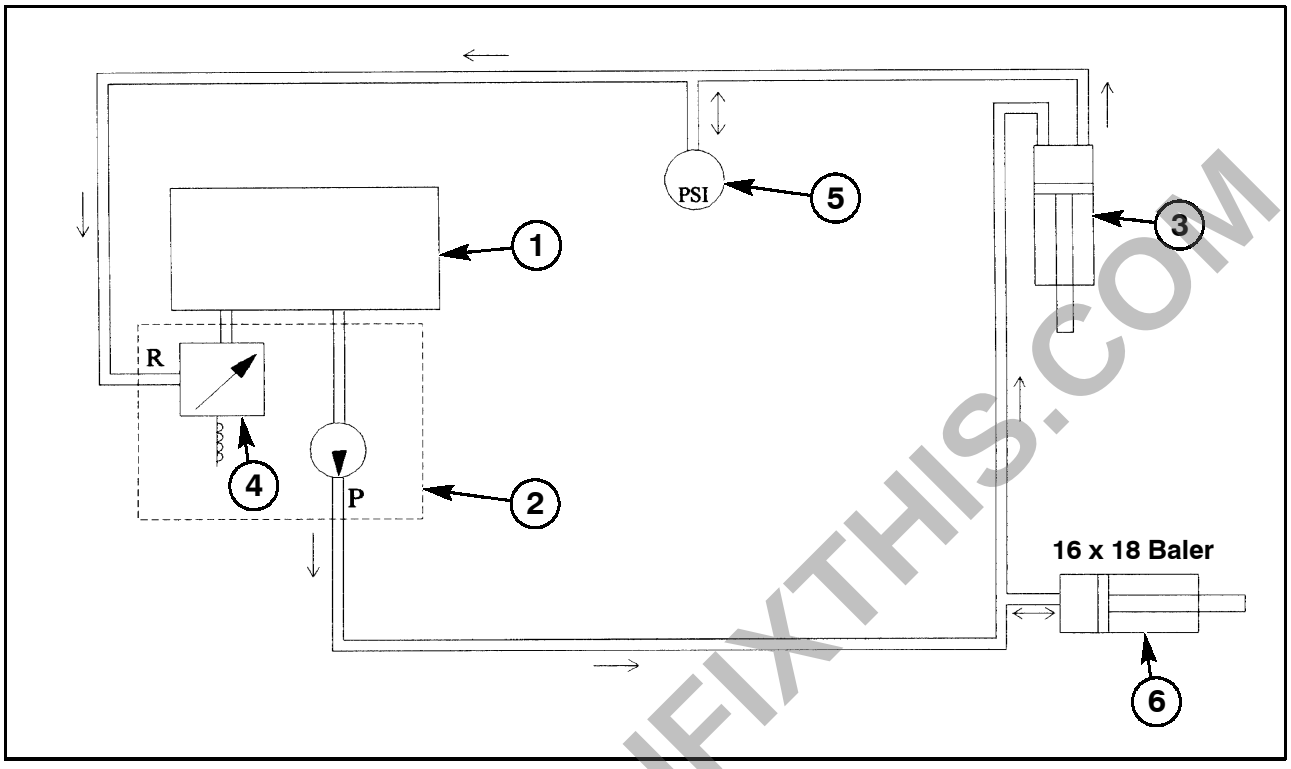


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## HYDRAULIC DIAGRAM




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The reservoir, 1, is mounted on top of the pump assembly, 2. Oil from the reservoir moves into the pump and is then sent to top of the cylinder, 3. The return line from the cylinder goes to the adjustable relief valve, 4, in the pump and reservoir assembly. The setting of this relief valve determines the pressure in the system by restricting the return flow. The pressure in the system is displayed on a gauge. 5. The 16 x 18 baler uses a second cylinder, 6, to apply pressure to the side doors.

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## TROUBLESHOOTING

In troubleshooting knotter malfunctions, it is necessary to identify the characteristics of the knot mis-tie, then match the characteristic of the mis-tie to the concern column and to identify the possible cause and remedy. Operate the baler through the tying cycle manually or using the tractor engine at idle RPM. Thereby the items listed under “Possible Cause” can be observed to determine the concern. Refer to the knotter maintenance section for additional information and correct adjustment and procedure.

| PROBLEM | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| **GENERAL** | | |
| Irregular bale length. | Metering wheel out of adjustment. | Adjust to obtain 3 mm (1/8″), clearance between trip arm and friction disc. |
| | Trip arm does not pivot freely. | Check for deformed bushing or over tightened locknut. |
| | Worn trip arm. | Replace. |
| | Trip arm slips on drive disc. | Be sure spring is installed correctly. |
| | Worn friction disc. | Replace. |
| | Knotter stop misadjusted. | Adjust so it releases after trip arm “jumps” forward. |
| | Uneven feeding due to uneven windrows. | Vary ground speed according to windrows. |
| | Overfeeding due to pickup drive belt frozen or too tight. | Check and adjust pickup drive belt. |
| | Ground speed too fast. | Slow down. |
| | Knotter brake loose. | Adjust knotter brake to specifications. |
| | Incorrect density adjustment procedure. | To increase density, adjust in the following sequence:<br>1. Hydraulic Tension System or spring pressure to at least mid-range.<br>2. Side doors, if equipped.<br>3. Hay wedges, starting at the rearmost position. |

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# SECTION 31 – IMPLEMENT DRIVELINE

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## Chapter 2 – Gearbox and Flywheel

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# SECTION 35 – HYDRAULIC SYSTEM

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## Chapter 1 – Hydraulic and Hydraulic Tension Systems

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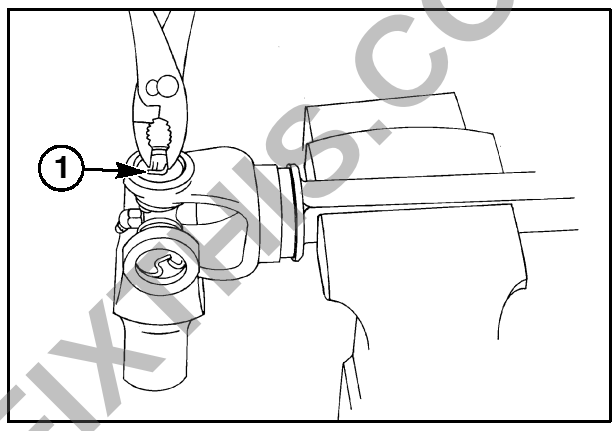
## JOINT REPLACEMENT

### ALL MODELS

**Removal**
Remove the joint and shaft assembly from the baler.

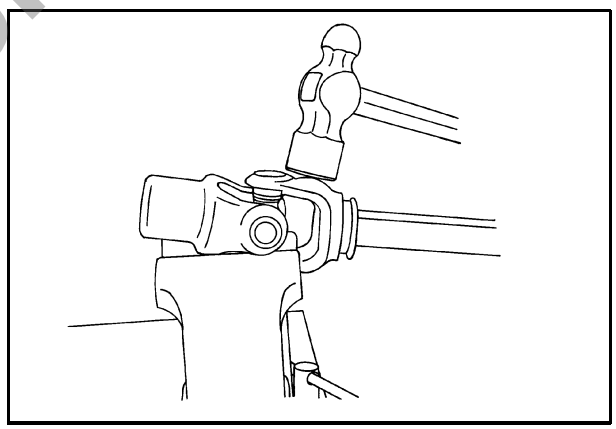
Remove the shield from the shaft.

**Disassembly Method I**
Remove the snap rings, 1, from the yokes. It may be necessary to use a punch and hammer to tap the bearing cap toward the center to take pressure off the snap ring.



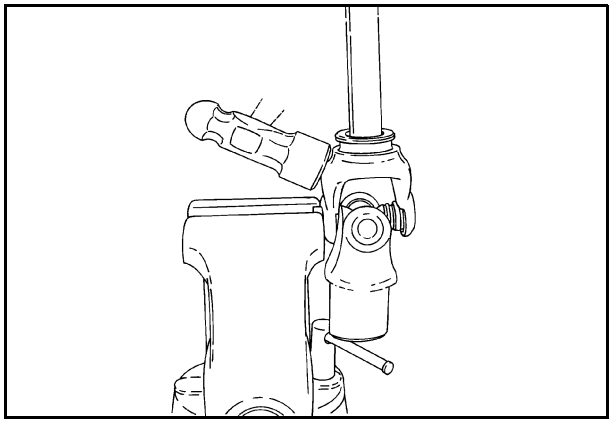

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Place the joint in a vise so the ears of a yoke rest on the jaws. Tap the other yoke down to drive the bearing cap out of the yoke. Turn the yoke over and repeat for the other bearing cap. Remove the yoke from the spider.



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If the cap does not move completely out of the yoke, clamp the cap in the vise and tap on the yoke.



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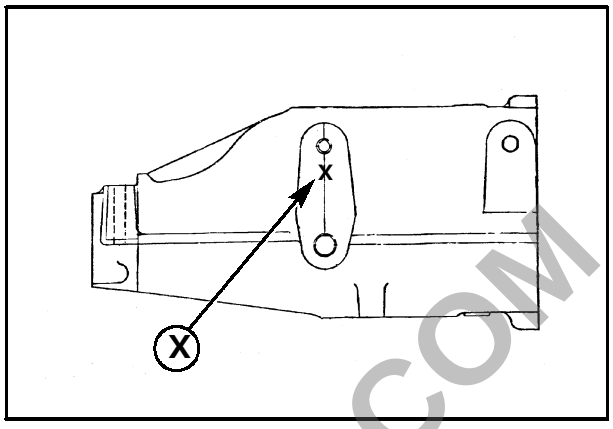
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A number, usually between 5 and 15, is stamped on the machined surface of the top of the gearbox at "X".

The bearing is packed with an important note indicating the shim factor of that particular bearing. This shim factor is indicated by a number written on the enclosed paper slip. This number will usually be within a range of 0 - 8. To determine the correct thickness of shims to be installed at 23, add these two figures - the one on the gearbox, and the one marked on the bearing tag.

For example, if the number or shim factor written on the enclosed slip with the bearing is 5 and the number stamped on the gearbox is 8. Add 5 and 8 for a total is 13. Therefore, install 0.013″ thickness of shims at 23, Figure 32, under the inner pinion bearing race.

***NOTE:*** *If there is no shim factor paper slip in the box with the bearing, assume the shim factor is 4. Some bearings now are supplied as "half tolerance" bearings. The variation in thickness of these bearings is controlled closer than other bearings. They are made to the middle of the tolerance range which would require a shim factor of 4.*



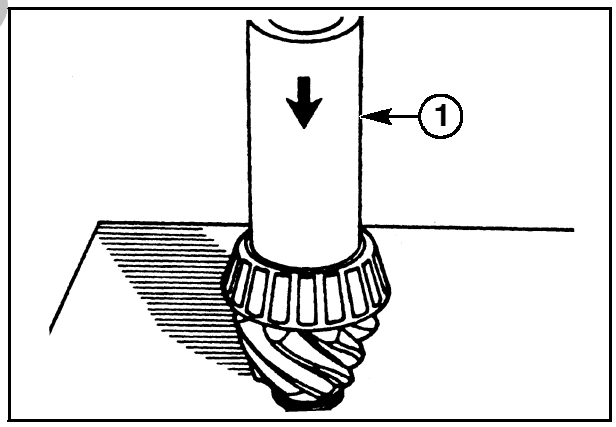

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**Bearing Installation**

The bearing cups and cones can be installed by either of two methods as follows:

1. Use appropriate sized spacers, 1, and a press or hammer to seat the bearing halves. Spacers used to install the cones should be slightly larger than the shaft diameter and also contact only the inner race of the cone. Spacers used to install the cups should be slightly smaller than the bore in the housing and contact only the edge of the cup.
2. Use a brass punch to drive the cups and cones into position. Be sure to drive against only the edge of the cups or the inner race of the cones.

***NOTE:*** *The cups for the crankshaft bearings will be seated when checking the backlash and preload. They do not have to be driven into position.*




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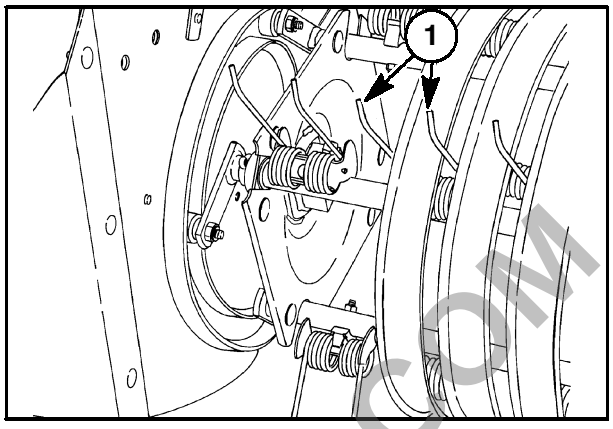


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## TOOTH PIPE OR BAR

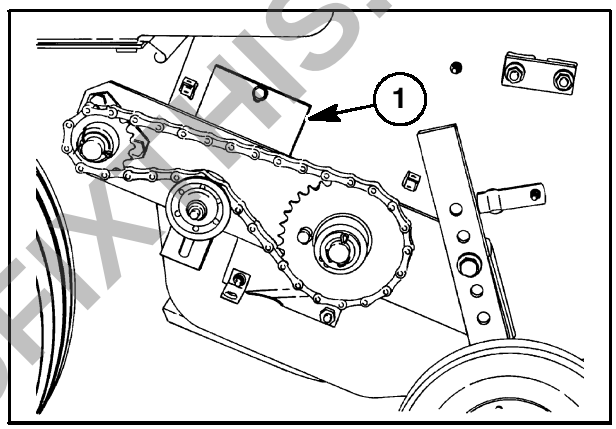
### Round Bar Style Pickup

1. Remove only the guards required to allow access to remove all the fingers and the cam follower from the bar.
2. Remove all fingers, 1, from the bar.
3. Remove the cotter pin from the bearing at each end of the bar.
4. Remove the cam follower from the bar.




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5. Remove the cover, 1, at the end of the pickup.
6. Pivot the tine bar to align the cam follower support arm with the hole in the end sheet and slide the bar out of the pickup.
7. Follow the above procedure in reverse sequence to reinstall the bar.



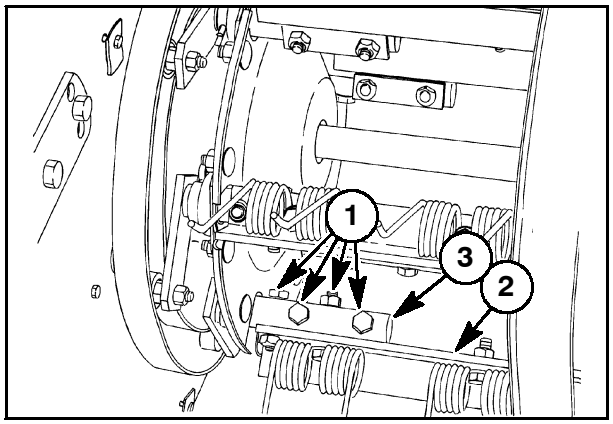

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### Angle Bar Style Pickup

1. Remove the guards required to allow access to remove the cotter pin from the left bearing.
2. Remove the guards from the right half of the pickup to allow access to remove the bar from the right pivot shaft and provide clearance to remove the bar assembly.

***NOTE:*** *If all the fingers are removed, the bar can be removed without removing as many guards.*

3. Remove the cotter pin from the bearing at the left end of the bar.
4. Remove the four cap screws, 1, attaching the angle bar, 2, and finger to the pivot shaft, 3.
5. Remove the bar by pivoting the fingers inside the guards and sliding the bar to the right and out of the left bearing.
6. Follow the above procedure in reverse sequence to reinstall the bar.



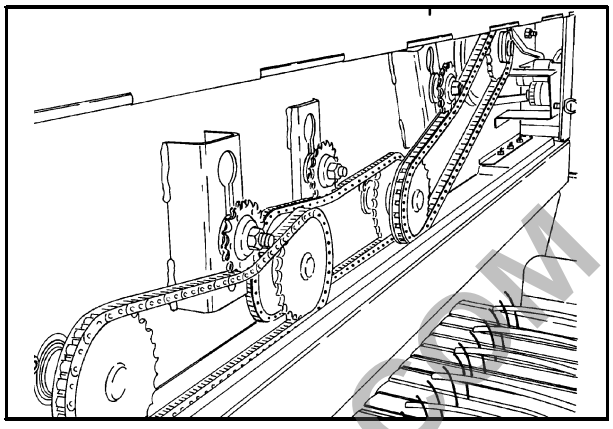

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6. Reposition the chains on the sprockets between rotors.
7. Rotate the flywheel by hand to operate the feeder through a complete cycle and recheck the timing.



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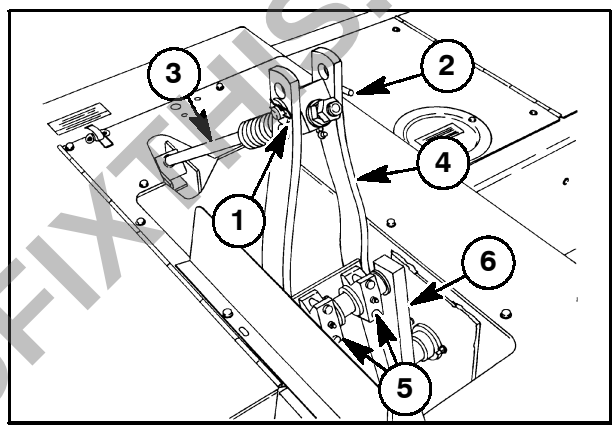
## PACKER FORK REPLACEMENT

1. Remove the hairpin cotter, 1, and pin ,2, attaching the spring-loaded rod, 3, to the top of the packer fork, 4.
2. Remove the four cap screws attaching the packer fork and bearings, 5, to the crankshaft, 6, and remove the packer fork.
3. Attach the new packer fork, 4, to the crankshaft, 6, and bearings, 5, using four M8 x 80 cap screws, lock washers, and nuts. Use the shim washers trapped on the crankshaft to position the bearings so the packer fork is centered in the slots in the bale chamber.

***NOTE:*** *The packer fork bearings are "split" castings and do not require shims between the bearing halves. The halves must be matched exactly when the bearings are installed. DO NOT MIX BEARING HALVES. The bearings also have one smooth side and one "as cast" side. The smooth side should be toward the center of the crankshaft.*

4. Install the top pin, 2, in the center hole in the packer fork to connect the spring-loaded rod, 3, and install the hairpin cotter, 1. The hole in the block on the rod should be above the rod.
5. Check the packer fork to left feeder rotor clearance and adjust the rotors if required. The rotors should be as close as possible to the packer fork without making contact.

***NOTE:*** *If the left rotors are moved, check and adjust the other rotors.*




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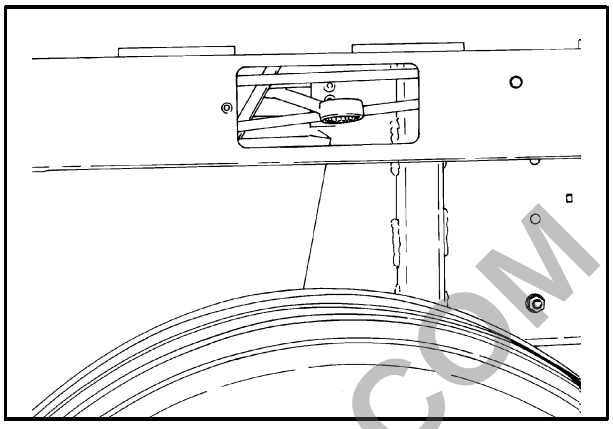


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8. Adjust the Horizontal Bearing(s).

   Adjust the upper left horizontal bearing by removing access covers in the side of the bale case and shield support.

   Use a bar or screwdriver to push the plunger to the right so the lower right horizontal bearing contacts the rail.

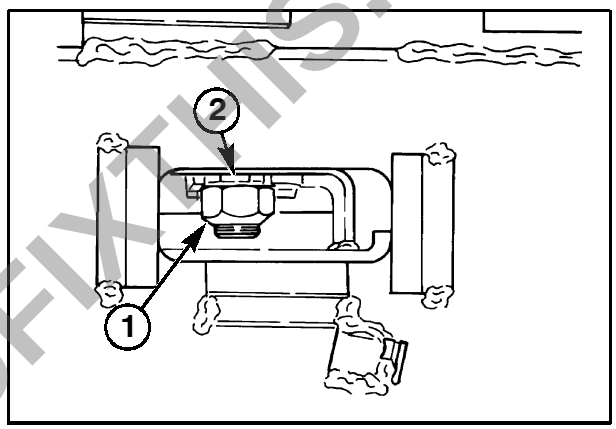


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   Move the left horizontal bearing out so it just contacts the rail, and tighten the bearing nut, 1. Use the cam, 2, under the bearing to move the bearing. Turning the cam toward the rear of the baler moves the bearing to the left.

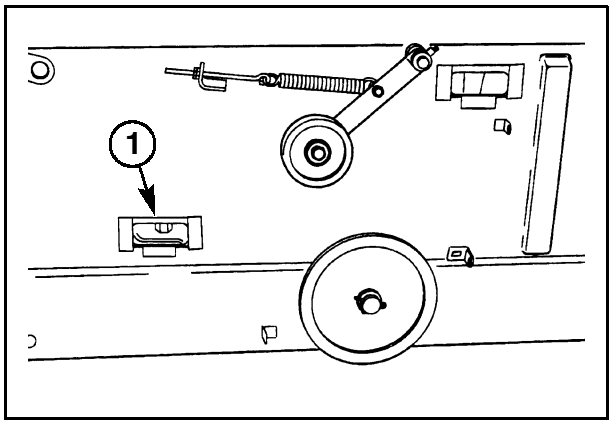
**⚠ CAUTION ⚠**

**Do not force the bearing to the left, it can tilt the plunger, lifting the lower vertical bearing off its rail.**




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   The 16 x 18 plunger models have two adjustable horizontal bearings. Adjust the lower bearing by removing the cover at 1. Use the same procedure as used for the top bearing.




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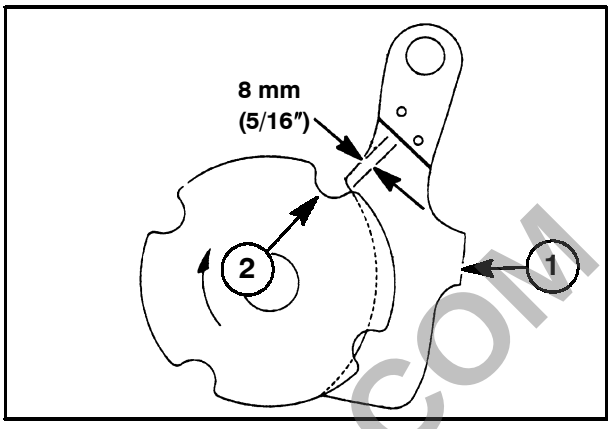


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## TWINE DISC AND HOLDER

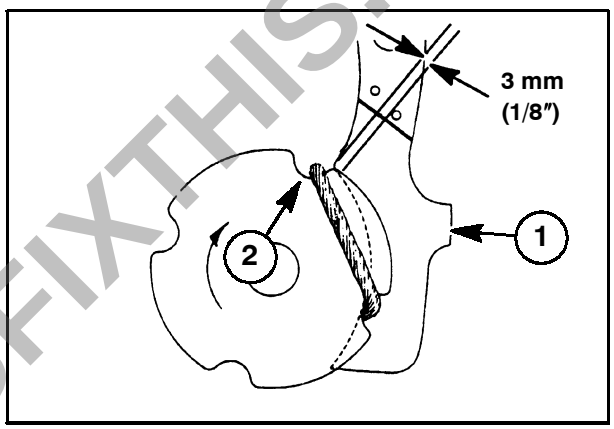
### Twine Disc Timing

The twine disc must be timed correctly so the billhook can capture both twines. If the timing is not correct, the knotter may miss a twine, only partially tie one or both twines, or produce bow knots. When there is no twine in the knotter, the left edge of the twine holder, 1, should extend 8 mm (5/16″) into the notch in the twine disc, 2.



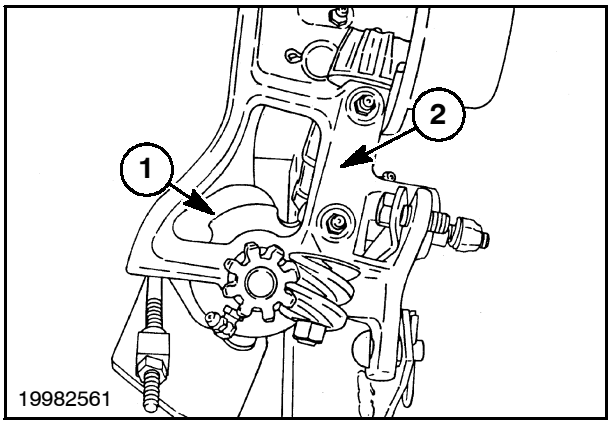

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When there is twine in the knotter, the left edge of the twine holder, 1, should extend 3 mm (1/8″) into the notch in the twine disc, 2.




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With or without twine in the knotter, the right edge of the notch in the twine disc, 1, should align with the left edge of the knotter frame, 2. Remove the tension from the twine holder spring and pivot the holder to the right to check the alignment.




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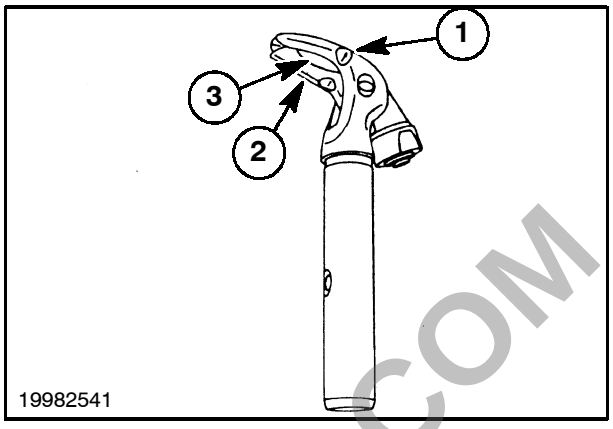


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**Inspection**
Inspect the billhook assembly. Replace the billhook if any of the following are found:

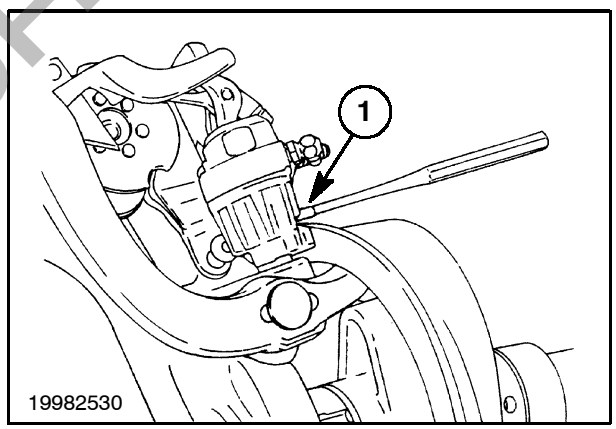
- A deep groove, 1, worn in the head of the billhook.
- A worn or damaged shaft.
- Damage to the groove for the tongue in the billhook.
- The tongue can move side to side and contacts the top of the groove instead of moving into the groove.
- Inspect the tongue, 2, and roller, 3. Replace the tongue assembly if any of the following are found:
- A deep groove worn in the tongue.
- The tip of the tongue is bent or broken.
- A damaged or worn roller.

***NOTE:*** *If the roller is worn or damaged, inspect the roller cam on the knotter frame.*



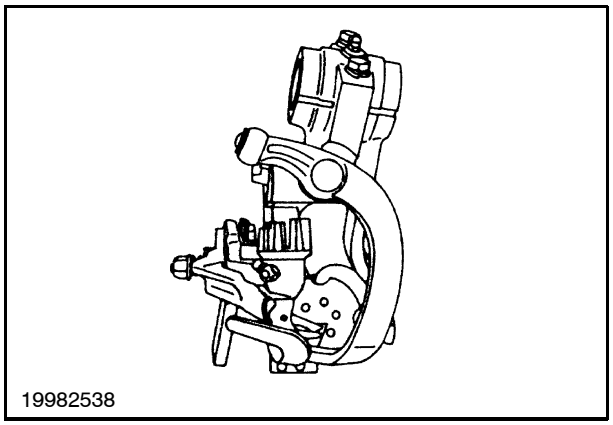
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**Installation**
Hold the pinion gear in position against the cam gear. Place the billhook through the frame and into the pinion gear. Turn the billhook so the roller is under the cam. Align the holes in the pinion gear with the hole in the billhook. Start a 3/16″ x 7/8″ groove pin, 1, into the pinion and shaft. Check the end play of the billhook. If the billhook can move over 0.5 mm (0.020″), remove the groove pin and install a shim washer between the pinion and frame. Drive the groove pin into the pinion. Drive the pin completely into the pinion to prevent damage to the cam gear teeth.



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***NOTE:*** *If the frame is not on the knotter stack, be sure the billhook tongue roller and the flat area of the pinion gear are facing the same direction before installing the groove pin.*

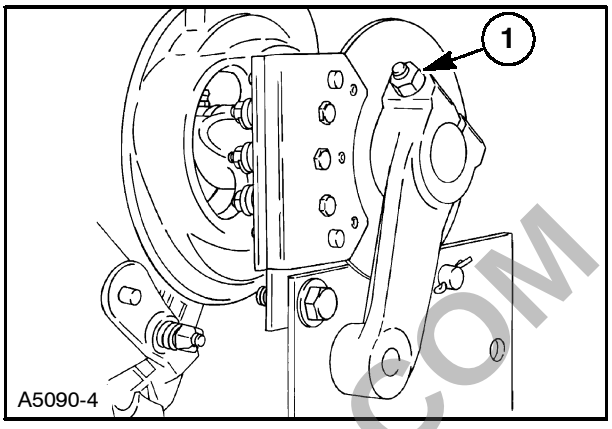


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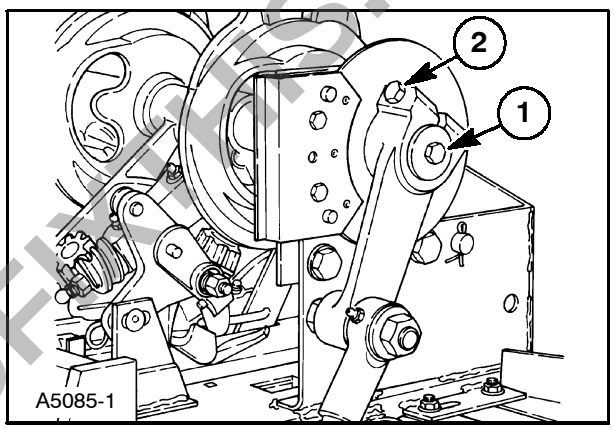
**Heavy Duty Knotter**
Tighten the arm clamp bolt, 1.




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**Standard Knotter**
Install the cap screw, 1, and washers at the end of the knotter shaft. Adjust the knotter stack end play. Refer to the “Adjusting the Stack End Play” section.

Tighten the arm clamp bolt, 2.




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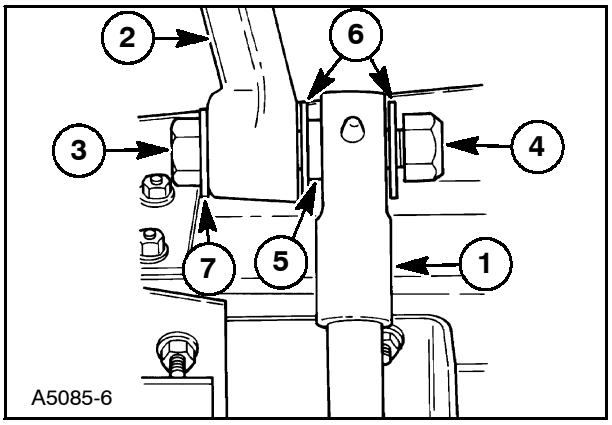
Attach the needle drive rod, 1, to the arm, 2, using a 5/8″ or M16 cap screw, 3, and lock nut, 4. Be sure the bushing, 5, is in the end of the rod. Use washers, 6, on each side of the rod and a washer, 7, between the arm and head of the cap screw.

Install the shield.

Adjust the stack end play so that it requires a force of 2.2 - 3.1 kg (5 - 7 lbs) to move the frame from the home position to the position where the knife arm roller engages the lobe on the cam gear.

Check the adjustment by raising a knotter frame and releasing it. The frame should move down slowly under its own weight when released. It may be necessary to tap the frame slightly to start it moving. If the frame drops freely it is too loose. If the frame must be forced all the way down it is too tight.

Refer to the “Adjusting the Stack End Play” section.



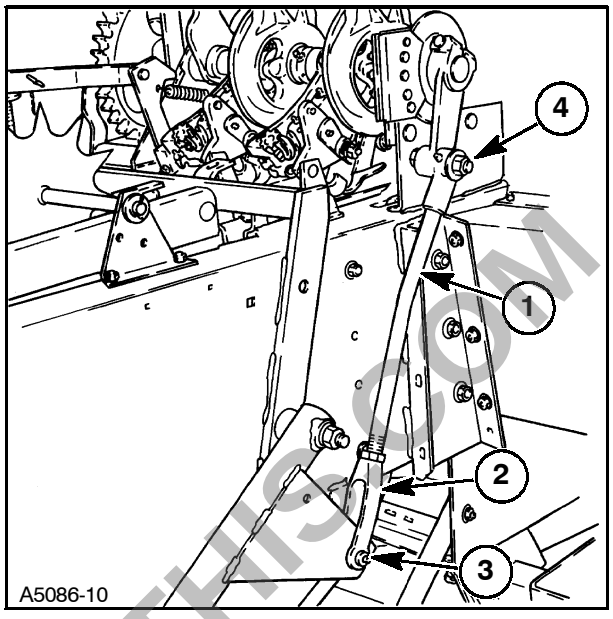

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## NEEDLE YOKE DRIVE ROD

The needle yoke drive rod, 1, connects the knotter shaft to the needle yoke. As the knotter cycles the needles will pass through the bale chamber and deliver the twines to the knotter. A clevis, 2, attached to the rod adjusts the penetration of the needles.




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### Removal

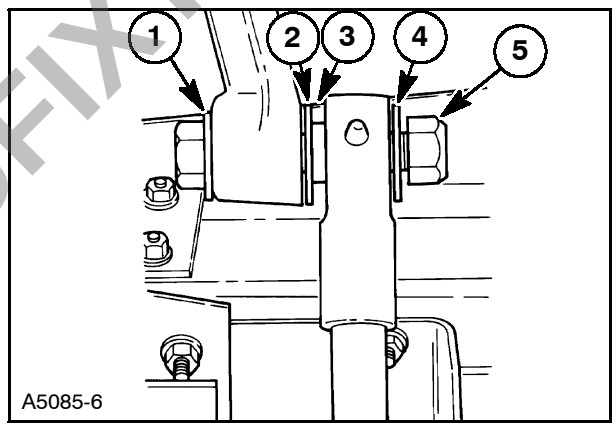
Remove the cotter pin and pivot pin, 3, connecting the clevis to the yoke.

Loosen the jam nut and remove the clevis from the rod.

Remove the cap screw, 4, washers and spacer attaching the rod to the needle drive arm.

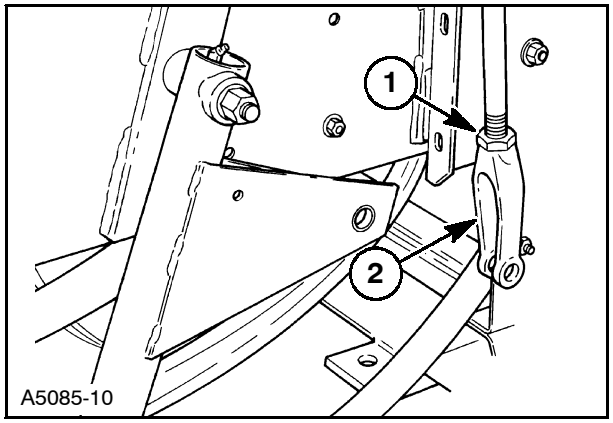
### Installing the Rod

Place a 33 mm (1 5/16″) OD washer, 1, on the cap screw. Start the cap screw through the needle drive arm. Place a 38 mm (1 1/2″) OD hardened washer, 2, on the cap screw. Place the spacer, 3, in the end of the rod. Install the rod and spacer on the cap screw. Install another 38 mm (1 1/2″) OD hardened washer, 4, and lock nut, 5, on the cap screw.




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Install a jam nut, 1, and clevis, 2, on the rod.

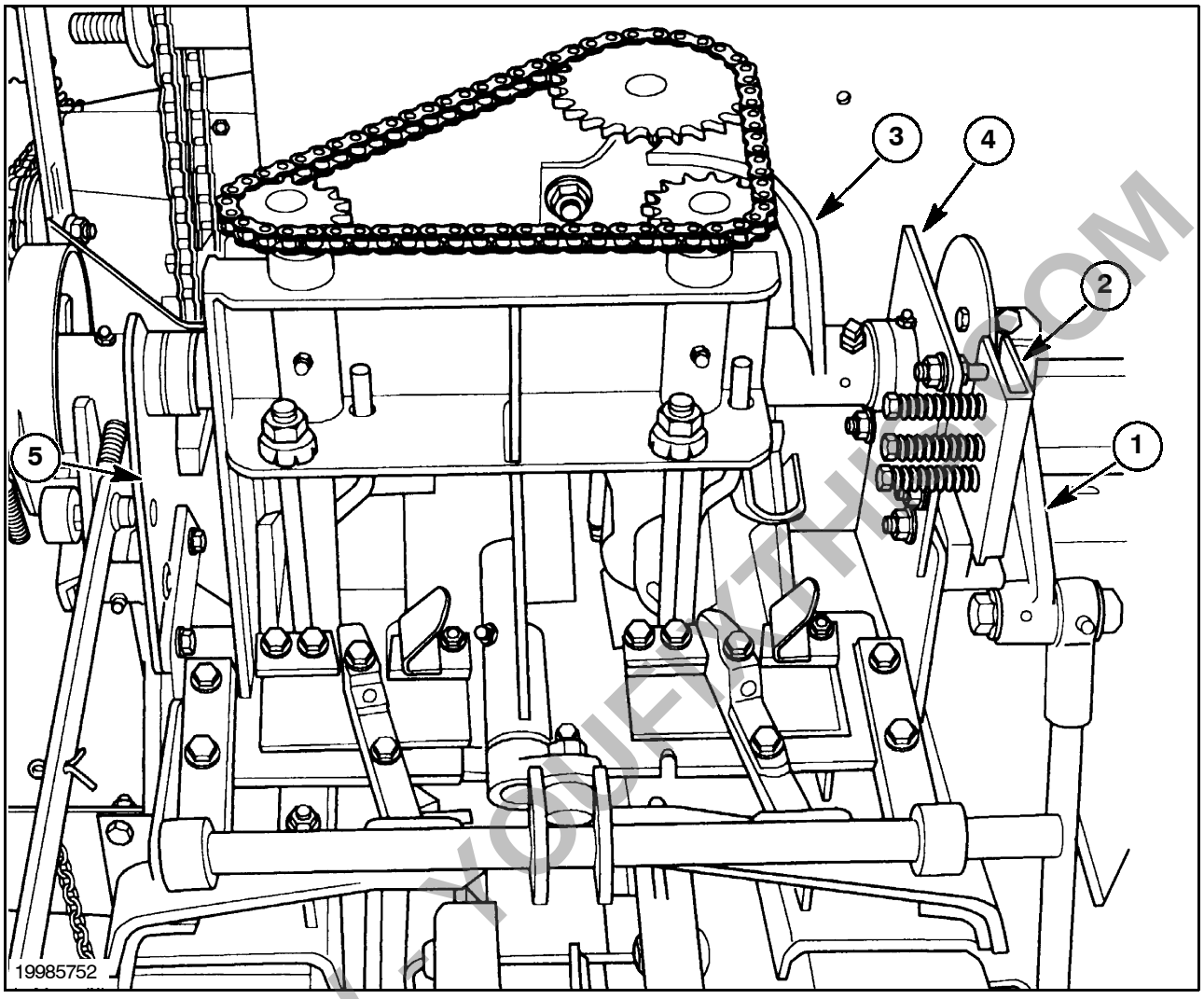



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4

**Twister Shaft Assembly Parts**

1. Needle drive arm
2. Brake
3. Pinion gear support
4. Right bearing mounting
5. Left bearing mounting

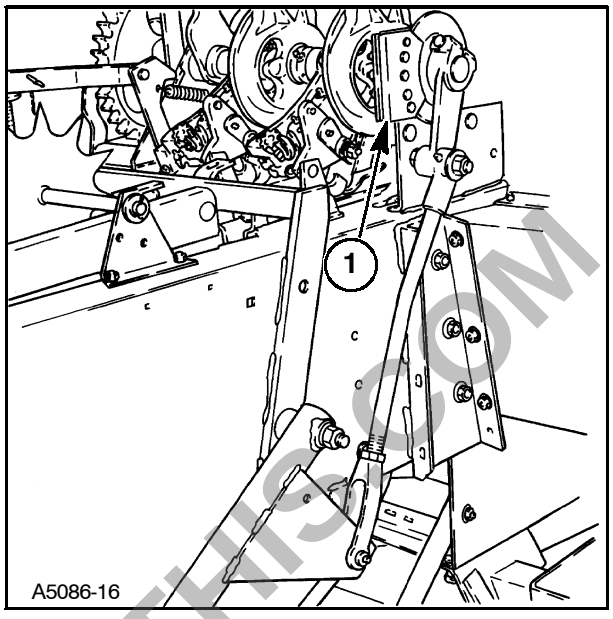
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## TWISTER BRAKE

The twister brake pads, 1, hold the needle yoke in the home position except during a twist cycle. The brake keeps the needles from drifting out of the home position during transport. The brake also keeps the twister assembly from overrunning the twister drive clutch during the twist cycle and allowing the clutch to disengage.




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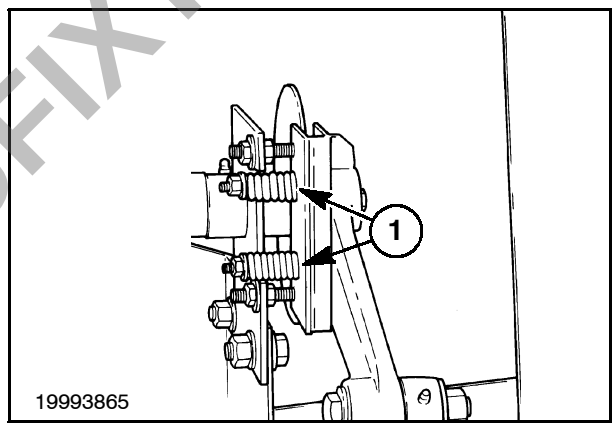
Springs, 1, apply pressure to the brake pads. There are two springs on the Models 565 and 570. There are three springs on the Models 575 and 580.

Tighten the springs down until collapsed. Loosen each locknut one full turn.

If the springs are too loose the needles may drift into the bale chamber causing the needle safety latch to contact the crank and shear a flywheel shear bolt.

If the springs are too tight, excessive twister shear bolt failures will occur.

***IMPORTANT:*** *Never grease or lubricate the lining.*




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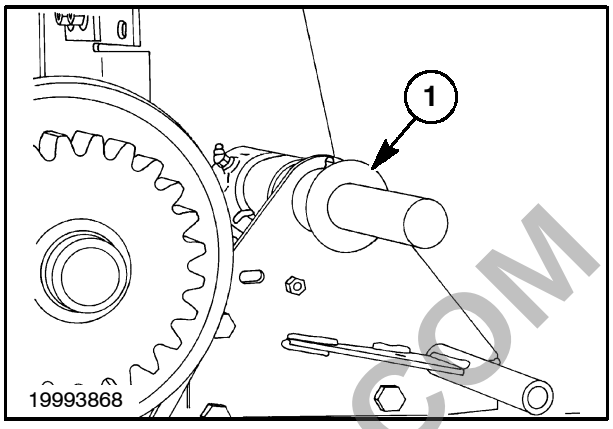


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Remove the washers, 1, from the shaft.

Remove the support hardware and slide the support off the shaft.

Drive the bushings out of the hub.



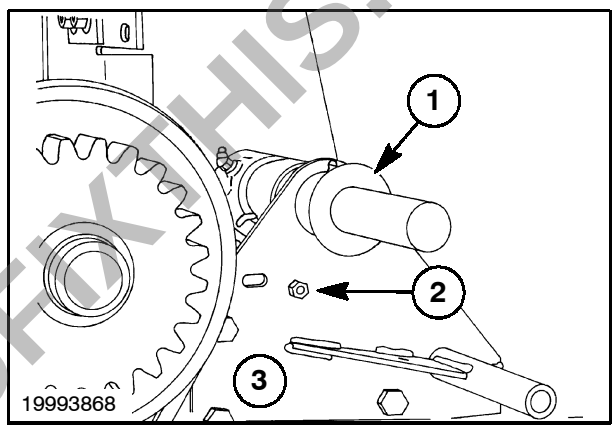

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**Installation**
Install the new bushings in the hub.

Coat the bore of the new bushings with grease and slide over the twister shaft. Attach the support, 3, to the bale case.

Transfer the trip lever return spring mounting cap screw, 2, to the support.

Place at least one shim washer and the large 67 mm (2-5/8″) OD washer, 1, on the twister shaft.



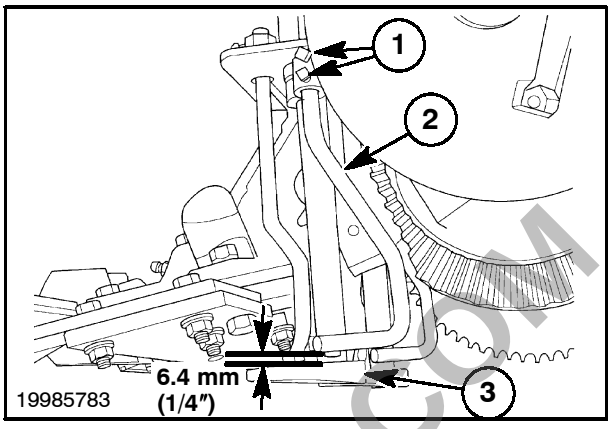

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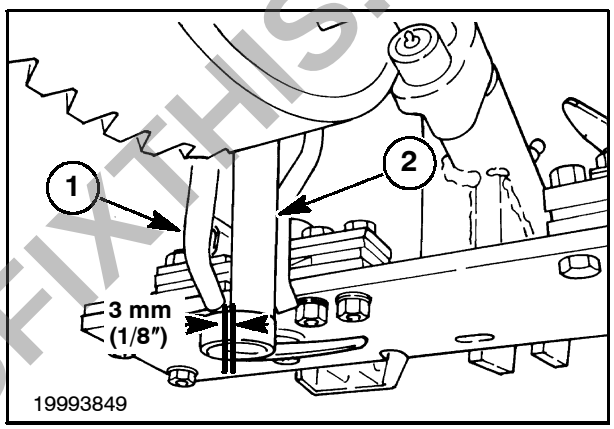
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Replace the wire guide, 2. Install the third setscrew and jam nut at, 1. The guide must be 6.4 mm (1/4″) above the twister hook, 3.




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There must be 3 mm (1/8″) clearance to the twister hook shaft, 1. The wire guide may be bent with a pry bar to obtain the proper clearances.

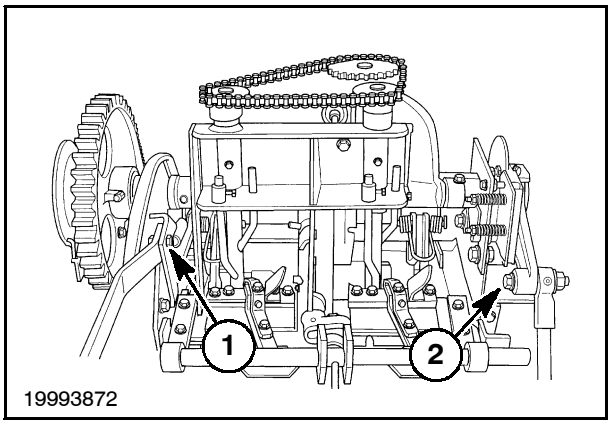



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Install the bolt, 1, at the trip link.

Install the bolt, 2, at the connection to the needle drive rod.

Install the shields around the knotter.




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