



# Two-Bearing Conversion Kit

## DFS Bagger for 100 and 200 Series Z Master®

Part No. 107-7651

Part No. 107-7652

Form No. 3350-856

### Installation Instructions

## Loose Parts

**Note:** Use the chart below to verify all parts have been shipped.

Step	Description	Qty.	Use
<b>1</b>	No parts needed	–	Remove the bagger from the frame
<b>2</b>	No parts needed	–	Removing the fan and bearings
<b>3</b>	Template	1	Drilling holes for the lower bearing
<b>4</b>	Shaft Fan Snap ring Key (1/4 x 2 inch) Set screw Thread locker adhesive	1 1 1 1 2 1	Assembling the fan
<b>5</b>	Pillow block bearing Locknut, 1/2 inch Washer, 1/2 inch Bolt, 1/2 x 1-3/4 inch (100 Series only) Bolt, 1/2 x 2-1/2 inch (200 Series only) Shim Rectangular spacer (200 Series only)	1 1 4 2 2 3 1	Installing the lower bearing
<b>6</b>	Scroll top assembly Bolt, 1/4 x 7/8 inch Washer, 1/4 inch Locknut, 1/4 inch Jam nut, 3/4 inch Washer, 3/4 inch	1 9 18 9 1 1	Install the fan and scroll top
<b>7</b>	Jam nut, 3/4 inch Washer, 3/4 inch Pulley Key (1/4 x 1 inch)	1 1 1 1	Install the bottom pulley and jam nut
<b>8</b>	No parts needed	–	Adjust the bagger belt for a 200 Series Bagger
<b>9</b>	No parts needed	–	Adjust the bagger belt for a 100 Series Bagger

Step

1

## Removing the Bagger

No parts needed for this step.

### Procedure

1. Disengage the PTO, set the parking brake, and chock or block the drive wheels.
2. Turn off the engine, remove the key, and wait for all moving parts to stop before leaving the operating position.
3. Remove the discharge tubes.
4. Remove hairpin cotters and clevis pins from the bagger and bagger bracket.
5. Remove the skid plate or pulley guard.
6. Remove the bagger belt and bagger tensioner pulley.
7. Remove the bagger from the bagger mounting bracket.

Step

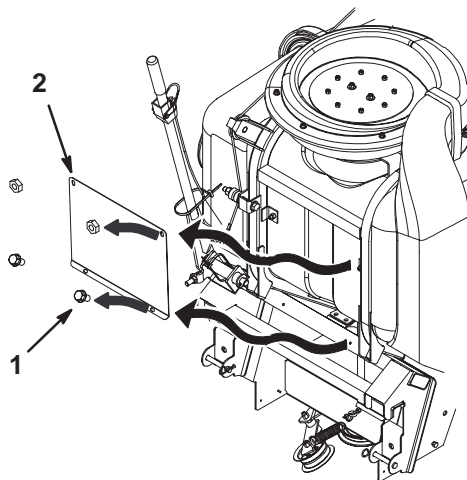
2

## Removing the Fan and Bearings

No parts needed for this step.

### Procedure

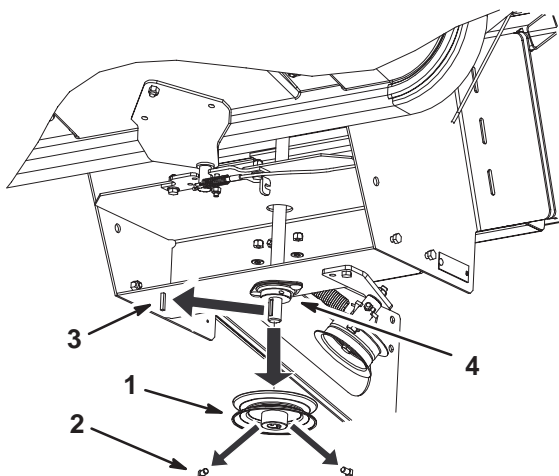
1. If a heat shield is installed on your 200 Series bagger, remove the heat shield from the bagger (Fig. 1).



m-7335

Figure 1

1. Bolts
  2. Heat shield
- 
2. Remove the bottom pulley, set screws and key at the bottom of the shaft (Fig. 2).
  3. Loosen the locking collar for the bottom bearing (Fig. 2).



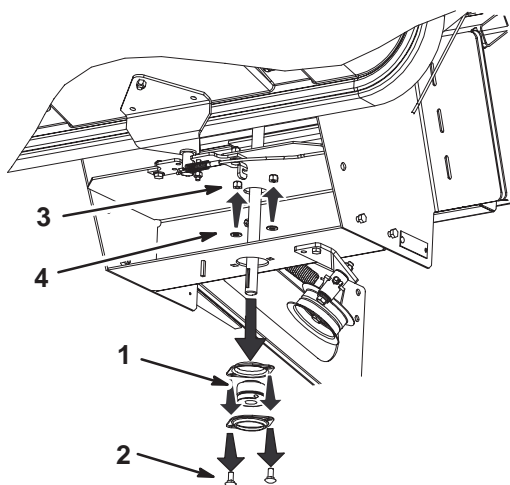
m-7332

**Figure 2**

- |                  |                   |
|------------------|-------------------|
| 1. Bottom pulley | 3. Key            |
| 2. Set screw     | 4. Locking collar |

4. Take the bottom bearing off the bagger (Fig. 3).

**Note:** To make it easier to remove the fan and shaft, you may have to cut the shaft at the bottom and top to remove the shaft (Fig. 7).



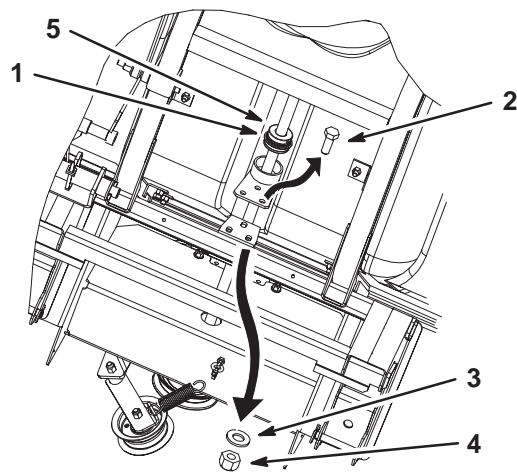
m-7333

**Figure 3**

- |            |            |
|------------|------------|
| 1. Bearing | 3. Nuts    |
| 2. Bolts   | 4. Washers |

5. Loosen the locking collar for the middle bearing (Fig. 4).

6. Remove the three bolts from the middle bearing bracket (Fig. 4).

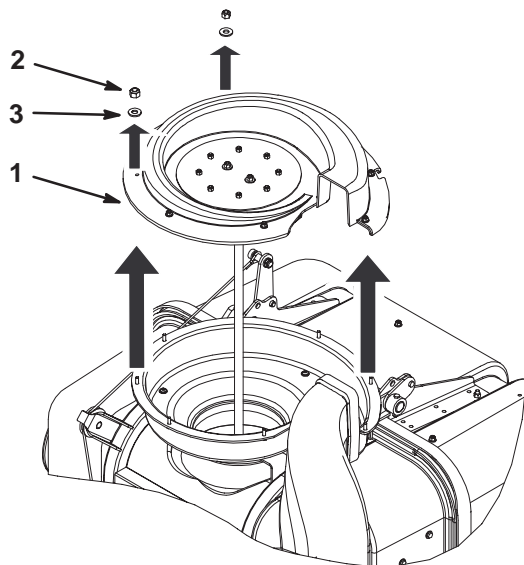


m-7337

**Figure 4**

- |                   |                   |
|-------------------|-------------------|
| 1. Middle bearing | 4. Nut            |
| 2. Bolt           | 5. Locking collar |
| 3. Washer         |                   |

7. Remove the outside bolts, nuts and washers from the scroll top (Fig. 5).

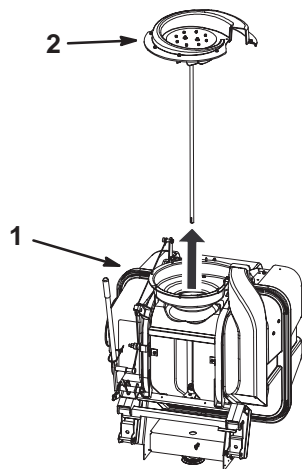


m-7331

**Figure 5**

- |                       |           |
|-----------------------|-----------|
| 1. Scroll top and fan | 3. Washer |
| 2. Nut                |           |

8. Pull the whole fan, shaft and scroll top up and out of the hopper (Fig. 6).

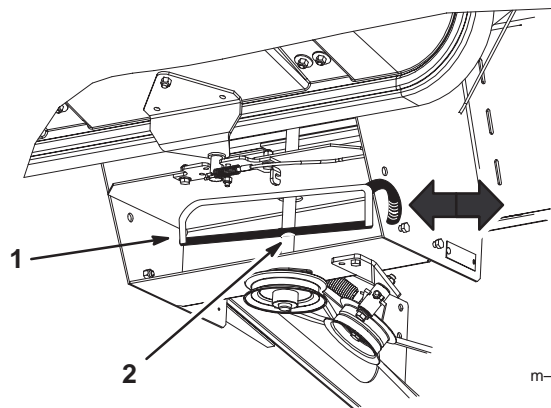


m-7351

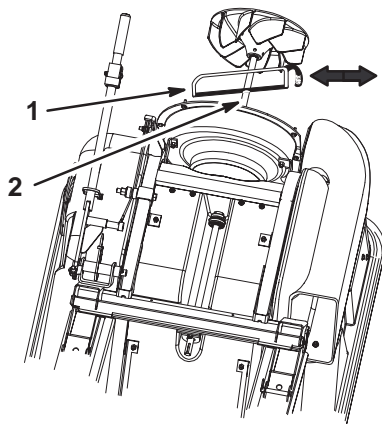
Figure 6

1. Hopper                      2. Fan, shaft and scroll top

**Note:** To make it easier to remove the fan and shaft, you may have to cut the shaft at the bottom and top to remove the shaft (Fig. 7).



m-7334



m-7349

Figure 7

1. Saw                      2. Cut here if needed to remove the shaft

# Step 3

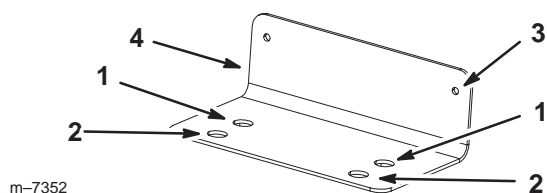
## Drilling the Holes for the Lower Bearing

### Parts needed for this step:

- 1 Template

### Procedure

**Note:** Make sure to use the correct holes to line up the template. See Figure 8 for the correct holes to use for a 100 or 200 Series bagger.



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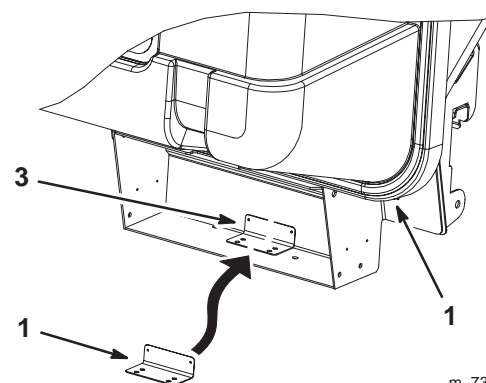
**Figure 8**

- |                     |                   |
|---------------------|-------------------|
| 1. 100 Series holes | 3. Holes to drill |
| 2. 200 Series holes | 4. Template       |

1. Position the template inside the frame where the existing bearing was removed.

**Note:** Make sure the template is tight against the bagger frame (Fig. 9).

2. Align the correct holes in the template with the holes from the previously removed bearing (Fig. 9).

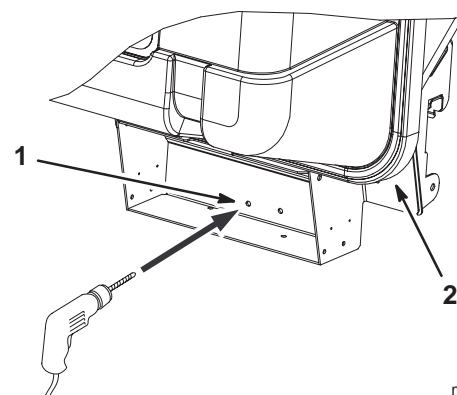


m-7345

**Figure 9**

- |             |                              |
|-------------|------------------------------|
| 1. Bagger   | 3. Correct template position |
| 2. Template |                              |

3. Using the template, mark and center punch the holes.
4. Drill two 1/8 inch pilot holes into the frame (Fig. 10).
5. Remove the template and discard it.
6. Drill 2 holes, 1/2 inch diameter, into the 1/8 inch pilot holes (Fig. 10).



m-7346

**Figure 10**

- |                   |           |
|-------------------|-----------|
| 1. Holes to drill | 2. Bagger |
|-------------------|-----------|

## Step

# 4

## Assembling the Fan

### Parts needed for this step:

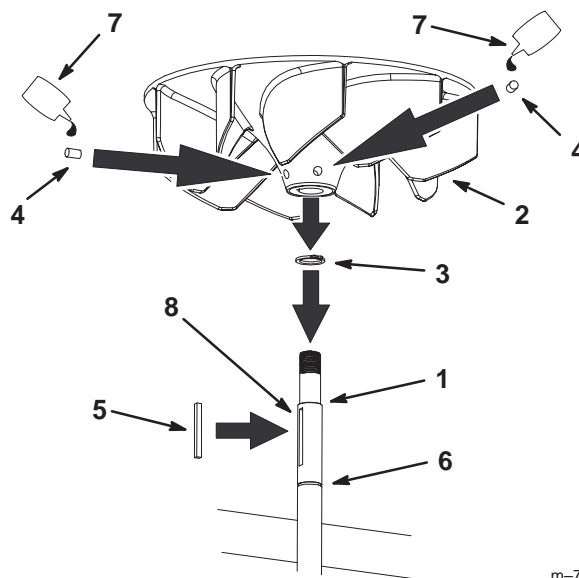
- 1 Shaft
- 1 Fan
- 1 Snap ring
- 1 Key, 1/4 x 2 inch
- 2 Set screws
- 1 Thread locker adhesive

### Procedure

1. Install the snap ring onto the top of the new shaft and into the groove (Fig. 11).
2. Install the key (1/4 x 2 inch) onto the shaft and install the fan onto the shaft until it contacts the snap ring (Fig. 11).

**Note:** Make sure the key is completely set in the key way (Fig. 11).

3. Apply thread locker adhesive to the set screws and install the set screws into the fan hub (Fig. 11).
4. Torque the set screws to 90 in-lb (10 N•m) (Fig. 11).



m-7353

**Figure 11**

- |              |                           |
|--------------|---------------------------|
| 1. Shaft     | 5. Key, 1/4 x 2 inch      |
| 2. Fan       | 6. Snap ring groove       |
| 3. Snap ring | 7. Thread locker adhesive |
| 4. Set screw | 8. Key way                |

## Step

# 5

## Installing the Lower Bearing

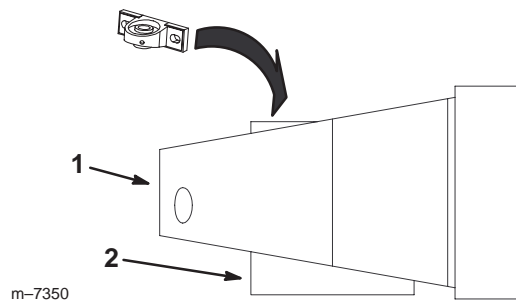
- 1 Pillow block bearing
- 2 Locknuts, 1/2 inch
- 4 Washers, 1/2 inch
- 3 Shims
- 2 Bolts, 1/2 x 2-1/2 inch (200 Series only)
- 2 Bolts, 1/2 x 1-3/4 inch (100 Series only)
- 1 Rectangular spacer (200 Series only)

### Procedure

**Note:** Do not tighten the lower pillow block bearing to the frame of the bagger at this time. It needs to be tightened after the fan and shaft are assembled to the bagger.

**Important** The bearings are pre-greased and do not require grease on installation.

**Note:** Make sure the bearing hub faces down when installing the lower pillow block bearing. Refer to the side view in Figure 12.



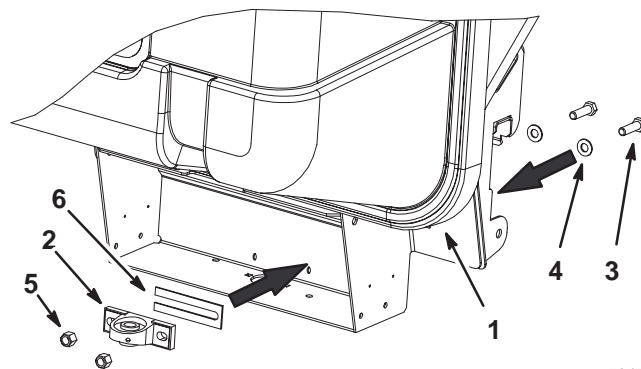
**Figure 12**

Side View

1. Pillow block bearing, side view
2. Bearing hub down

1. The set screws installed in the bearings are not needed. Remove the set screws before installing the bearing.
2. For 100 Series baggers, loosely install the lower pillow block bearing to the bagger with 2 bolts (1/2 x 1-3/4 inch), 4 washers (1/2 inch) and 2 locknuts (1/2 inch) (Fig. 13).

**Note:** The shim for the 100 Series baggers may not be needed. When the belt is installed check the tension and add it if needed.

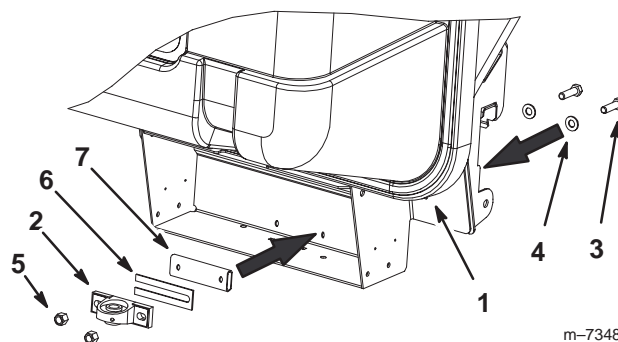


m-7347

**Figure 13**

1. Bagger
2. Pillow block bearing
3. Bolt, 1/2 x 1-3/4 inch
4. Washer, 3/4 inch
5. Nut, 3/4 inch
6. Shim (May not be needed)

3. For 200 Series baggers, loosely install the lower pillow block bearing to the bagger with 2 bolts (1/2 x 1-3/4 inch), 4 washers (1/2 inch), shims as/if needed, rectangular spacer and 2 locknuts (1/2 inch) (Fig. 14).



m-7348

**Figure 14**

1. Bagger
2. Pillow block bearing
3. Bolt, 1/2 x 1-3/4 inch
4. Washer, 3/4 inch
5. Nut, 3/4 inch
6. Shim
7. Rectangular spacer

Step

6

## Installing the Fan and Scroll Top

- 1 Scroll Assembly
- 9 Bolt, 1/4 x 7/8 inch
- 18 Washer, 1/4 inch
- 9 Lock nut, 1/4 inch
- 1 Jam nut, 3/4 inch
- 1 Washer, 3/4 inch

### Procedure

1. Install the scroll top to the fan with a jam nut (3/4 inch) and a washer (3/4 inch). Torque the jam nut to 115 ft-lb (155 N•m) (Fig. 15).

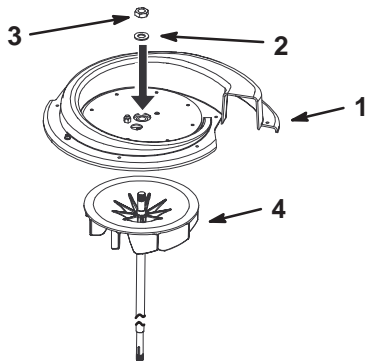


Figure 15

- |                      |                     |
|----------------------|---------------------|
| 1. Scroll top        | 3. Washer, 3/4 inch |
| 2. Jam nut, 3/4 inch | 4. Fan              |

2. Install the shaft, fan assembly and scroll top into the plastic hopper and the lower pillow block bearing (Fig. 16).

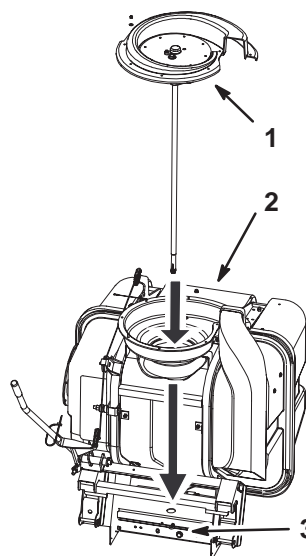


Figure 16

- |                           |                  |
|---------------------------|------------------|
| 1. Shaft and fan assembly | 3. Lower bearing |
| 2. Hopper                 |                  |

m-7342

3. Assemble the scroll top to the lower scroll with 9 bolts (1/4 x 7/8 inch), 18 washers (1/4 inch) and 9 locknuts (1/4 inch) (Fig. 17).

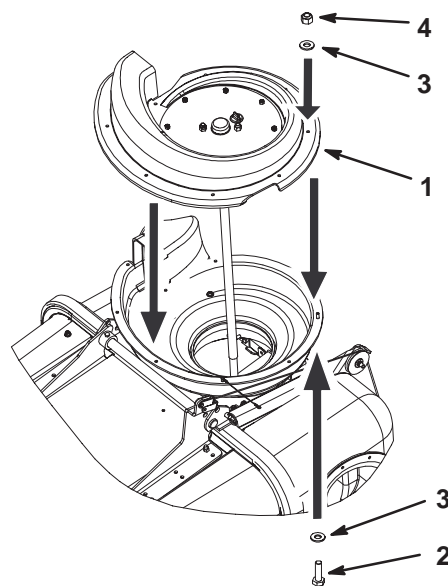


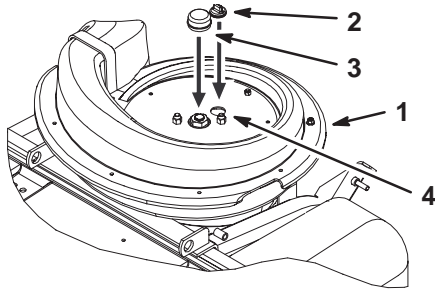
Figure 17

- |                         |                     |
|-------------------------|---------------------|
| 1. Scroll               | 3. Washer, 1/4 inch |
| 2. Bolt, 1/4 x 7/8 inch | 4. Nut, 1/4 inch    |

m-7341



4. Install the metal cap over the jam nut and the rubber cap over the grease zerk (Fig. 18).



**Figure 18**

- |               |                |
|---------------|----------------|
| 1. Scroll     | 3. Metal cap   |
| 2. Rubber cap | 4. Grease zerk |

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## Step **7**

## Installing the Bottom Pulley and Jam Nut

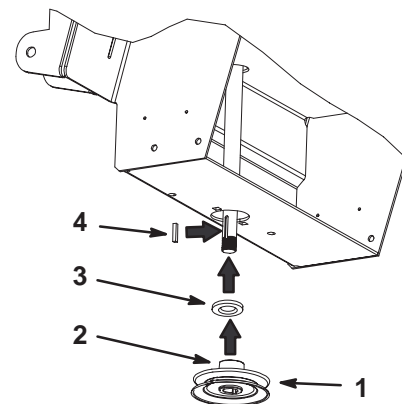
### Parts needed for this step:

- 1 Pulley
- 1 Key, 1/4 x 1 inch
- 1 Spacer (100 Series only)
- 1 Washer, 3/4 inch
- 1 Jam nut, 3/4 inch

### Procedure

1. For the 100 Series baggers, install a spacer onto the shaft before the short key and the pulley (Fig. 19).
2. Install the short key and pulley onto the shaft (Fig. 19).

**Note:** Make sure the long pulley hub is installed upward (Fig. 19).

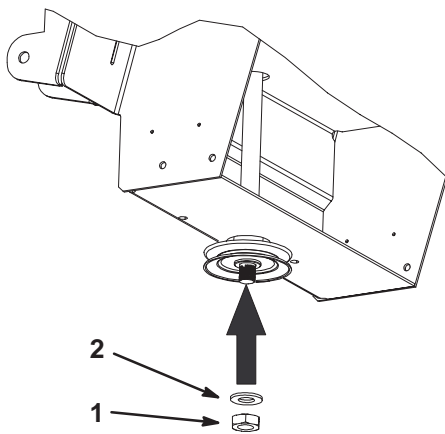


m-7343

**Figure 19**

- |                    |                            |
|--------------------|----------------------------|
| 1. Pulley          | 3. Key, 1/4 x 1 inch       |
| 2. Long pulley hub | 4. Spacer, 100 Series only |

3. Install the washer (3/4 inch) and jam nut (3/4 inch) onto the shaft (Fig 20).
4. Torque the jam nut to 115 ft-lb (155 N•m) (Fig 20).

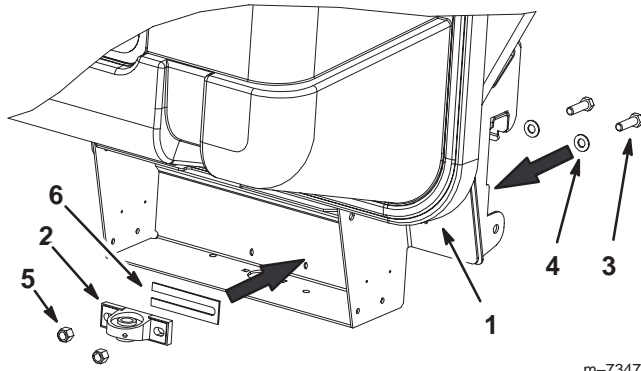


m-7344

**Figure 20**

1. Jam nut, 3/4 inch
2. Washer, 3/4 inch

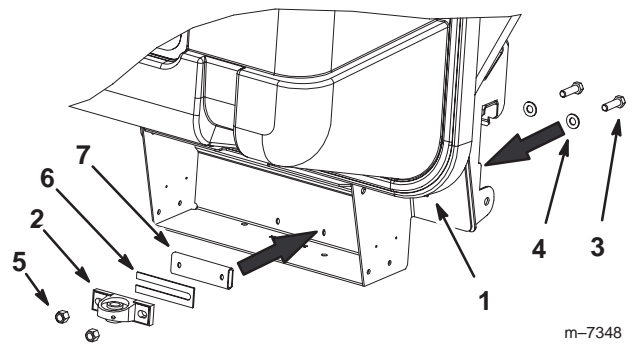
5. Tighten the lower pillow block bearing to the frame. See Figures 21 or 22.



m-7347

**Figure 21**

1. Bagger
2. Pillow block bearing
3. Bolt, 1/2 x 1-3/4 inch
4. Washer, 3/4 inch
5. Nut, 3/4 inch
6. Shim (May not be needed)

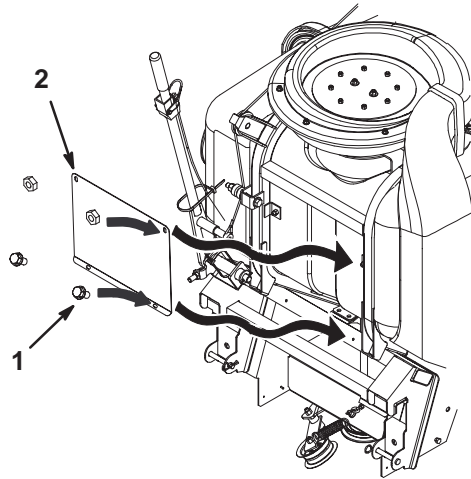


m-7348

**Figure 22**

1. Bagger
2. Pillow block bearing
3. Bolt, 1/2 x 1-3/4 inch
4. Washer, 3/4 inch
5. Nut, 3/4 inch
6. Shim
7. Rectangular spacer

6. If a heat shield was removed earlier for your 200 Series bagger, install the heat shield to the bagger (Fig. 23).



m-7336

**Figure 23**

1. Bolts
2. Heat shield

7. Install the bagger belt onto the bagger and the machine. Refer to the bagger *Operators Manual* for the correct procedure.
8. Check the belt tension.
9. Install the skid plate or pulley guard previously removed.

## Step

# 8

## Adjusting the Bagger Belt for a 200 Series Bagger

No parts needed for this step.

### Procedure

1. Check the belt tension (Fig. 24).
2. Measure the gap, at the bagger tensioner pulley, between the tight and slack side of the belt when the bagger tensioner pulley and spring are installed (Fig. 24).

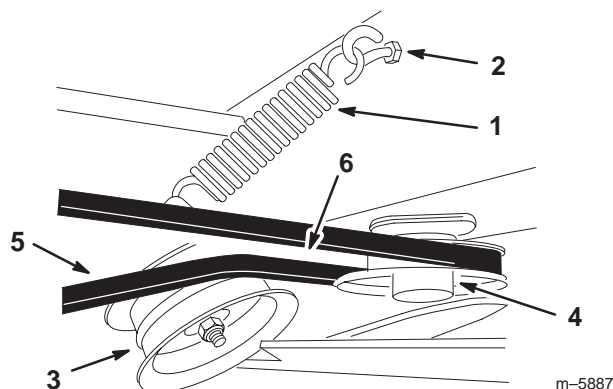


Figure 24

- |                            |   |
|----------------------------|---|
| 1. Tensioner spring        | 5. Belt   |
| 2. Eye bolt                | 6. Shortest space between belt strands, 1 inch $\pm$ 1/8 inch |
| 3. Bagger tensioner pulley |   |
| 4. Bagger pulley           |   |

3. There must be a gap of 1 inch  $\pm$  1/8 inch (26mm  $\pm$  3 mm) between the belt strands (Fig. 24).
4. If the gap is not correct, remove the tensioner spring from the eyebolt and remove the tension on the mower spring loaded idler (Fig. 24).
5. If the gap measurement is too large:
  - A. Loosen the 4 mounting bolts holding the drive pulley assembly (Fig. 25).
  - B. Pull the pulley assembly rearward slightly [1/8–3/16 inch (3–5 mm)] from the original set-up position (Fig. 25).

- C. Tighten the 4 mounting bolts holding the drive pulley assembly to the machine frame (Fig. 25).

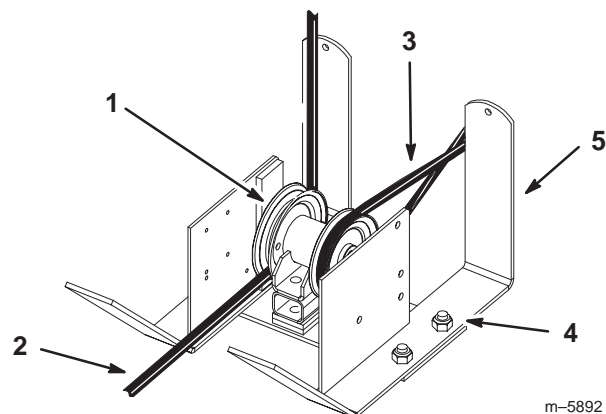


Figure 25

- |                          |                    |
|--------------------------|--------------------|
| 1. Drive pulley assembly | 4. Mounting bolts  |
| 2. Mower belt            | 5. Back of machine |
| 3. Bagger belt           |                    |

6. If the gap measurement is too small:
  - A. Loosen the 2 nuts on the lower fan shaft pillow block bearing (Fig. 26).
  - B. Insert a shim behind the pillow block bearing (Fig. 26).
  - C. Tighten the nuts.
  - D. Check the belt gap and repeat procedure as required.

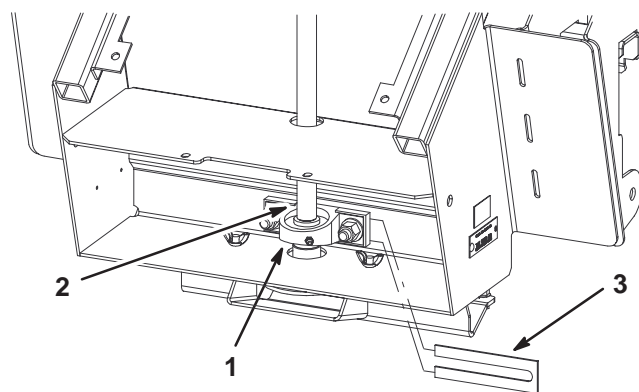


Figure 26

- |                         |         |
|-------------------------|---------|
| 1. Pillow block bearing | 3. Shim |
| 2. Fan shaft            |         |

7. Install the tensioner spring to the eyebolt and apply the tension on the mower spring loaded idler.
8. Measure the bagger belt tension. There must be a gap of 1 inch  $\pm$  1/8 inch (26mm  $\pm$  3 mm) between the belt strands (Fig. 24).
9. Repeat this procedure if a gap of 1 inch  $\pm$  1/8 inch (26mm  $\pm$  3 mm) was not achieved (Fig. 24).

## Step

# 9

## Adjusting the Bagger Belt for a 100 Series Bagger

No parts needed for this step.

### Procedure

If the bagger belt is too loose, proceed to the following steps. When a new belt is installed or when the belt is tight do not use any shims.

1. With the bagger belt tensioned, measure the gap between the insides of the belt at the tensioner pulley (Fig. 27). The gap must be 1-1/2 to 1-3/4 inches. If the gap is not between 1-1/2 and 1-3/4 inches, proceed to the next step.

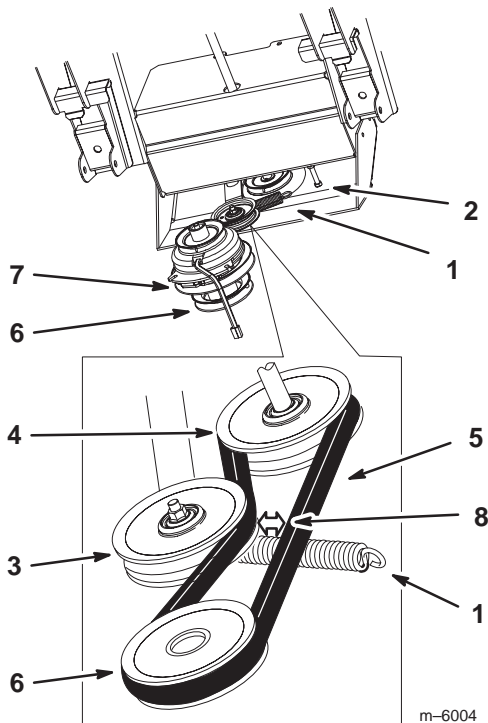


Figure 27

- |                            |                            |
|----------------------------|----------------------------|
| 1. Tensioner spring        | 5. Bagger belt             |
| 2. Bolt for spring         | 6. Clutch drive pulley     |
| 3. Bagger tensioner pulley | 7. Clutch                  |
| 4. Bagger pulley           | 8. 1-1/2 to 1-3/4 inch gap |

2. To adjust the belt tension:
  - A. Remove the tensioner spring (Fig. 27).
  - B. Loosen the 2 nuts on the lower fan shaft pillow block bearing (Fig. 28).
  - C. Insert a spacer between the pillow block and the frame (Fig. 28).
  - D. Tighten the nuts.
  - E. Install the tensioner spring (Fig. 27).
  - F. Check the belt gap and repeat procedure as required.

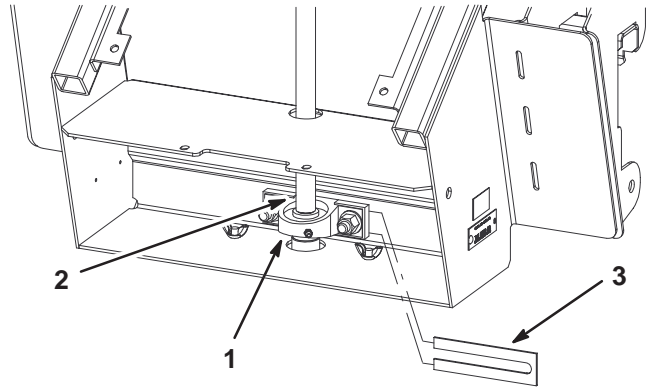


Figure 28

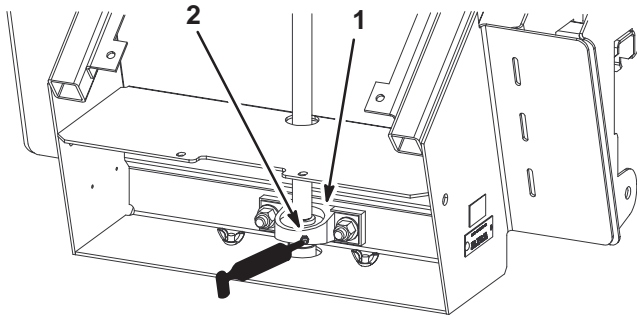
- |                 |           |
|-----------------|-----------|
| 1. Pillow block | 3. Spacer |
| 2. Fan shaft    |           |

# Maintenance

## Greasing the Fan Shaft Bearings

Grease the upper and lower bagger fan shaft bearings (Fig. 29 & 30) every 100 hours.

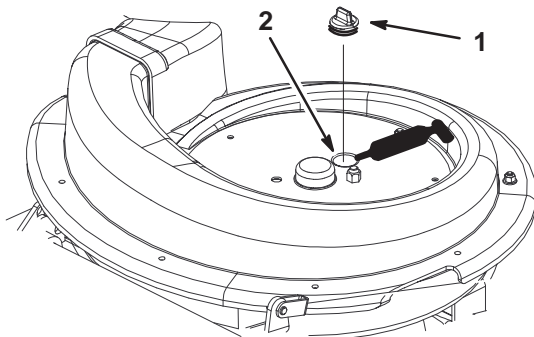
1. Grease the lower bearing (Fig. 29).



**Figure 29**

1. Lower bearing
  2. Grease zerk
- 

2. Remove the rubber plug to expose the grease fitting (Fig. 30).



**Figure 30**

1. Plug
  2. Grease zerk
-





