



Replacement Seal Kit

8 and 11 Blade DPA Cutting Units

Part No. 106-6937

Form No. 3329-904

Installation Instructions

Removing the Cutting Unit

1. Park the machine on a level surface, lower the cutting units, stop the engine and set the parking brake.
2. Remove the basket from the cutting unit carrier frame.
3. Disconnect the drive motor from the cutting unit.
4. Disconnect the cutting unit from the pull link.
5. Unhook the cutting unit from the lift arm and slide the cutting unit out from under the carrier frame.

Removing the Side Plates

1. Loosen the lock nut on each spring adjuster assembly (Fig. 1).
2. Loosen the flange nut on each bedbar pivot bolt (Fig. 1).
3. Remove the bedbar pivot bolt and the 2 washers from the outside of each side plate (Fig. 1).
4. Remove the bedbar and the 2 washers from the inside of each side plate (Fig. 1).
5. Inspect the nylon flange bushings (Fig. 1) and remove if necessary.
6. Inspect the rubber bushings (Fig. 1) and remove if necessary.

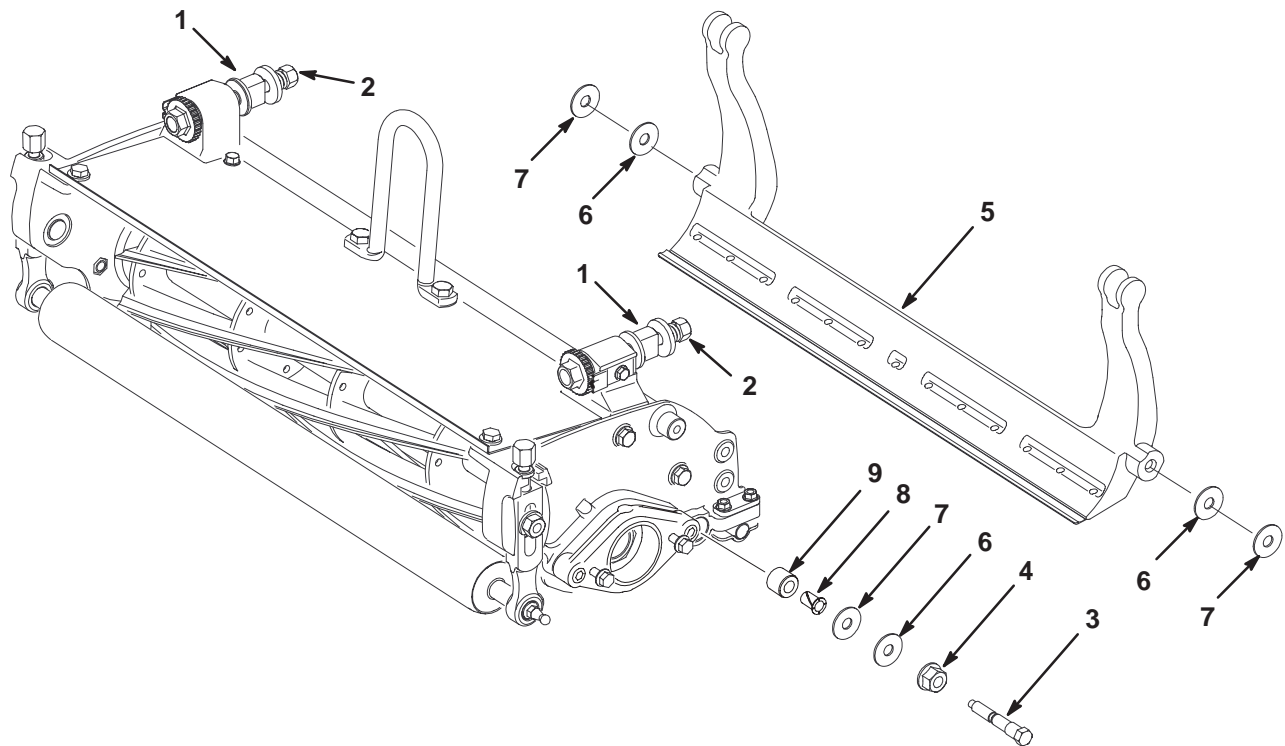


Figure 1

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|----------------------|---------------|---------------------|-------------------|
| 1. Spring adjuster | 4. Flange nut | 6. Washer (metal) | 8. Flange bushing |
| 2. Lock nut | 5. Bedbar | 7. Washer (plastic) | 9. Rubber bushing |
| 3. Bedbar pivot bolt | | | |

- Remove the 2 capscrews securing the counter weight to the side plate (Fig. 2). Remove the weight.

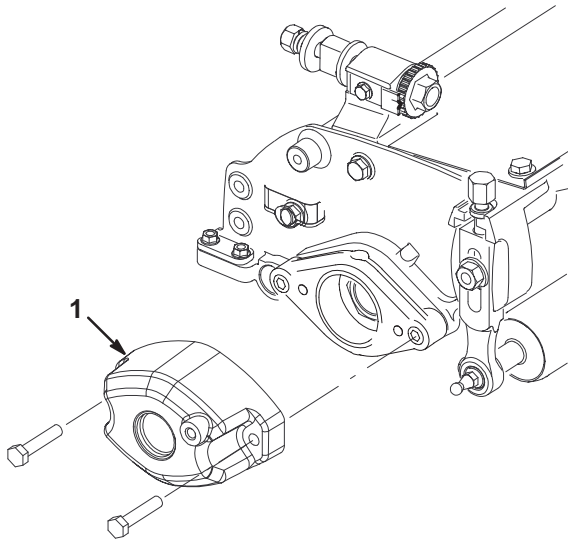


Figure 2

- Counter weight

- Remove the reel bearing lock nut from each end of the reel shaft (Fig. 3).
- Loosen the setscrews securing the front roller to the height of cut arms (Fig. 3). Do not remove the set screws.
- Loosen the saddle strap screws and flange nuts securing the rear roller to the side plates (Fig. 3). Do not remove the screws and nuts.

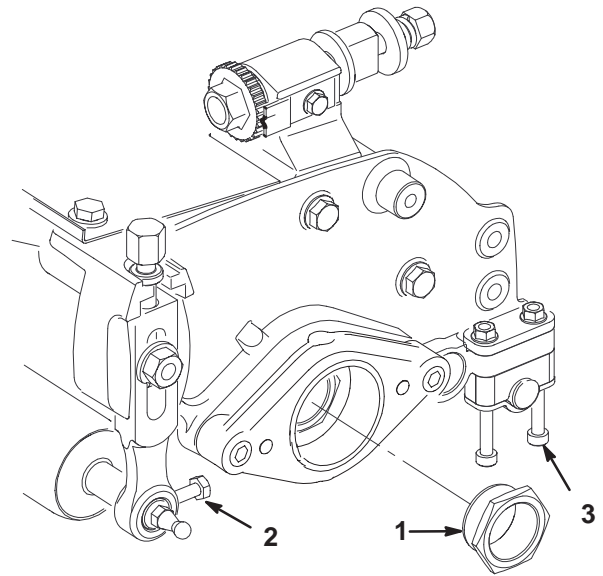


Figure 3

- Reel bearing lock nut
- Front roller-set screw
- Rear roller- saddle strap screws

- Remove the capscrew, washer and lock nut securing each end of the grass shield to the side plates (Fig. 4). These are the only capscrews that must be removed. The grass shield and the lift hook do not need to be removed.
- Remove the 2 shoulder bolts securing the right hand side plate to the cutting unit frame (Fig. 4). Remove the side plate from the reel shaft and roller shafts.
- Remove the 2 shoulder bolts securing the left hand side plate to the cutting unit frame (Fig. 4). Remove the side plate from the reel shaft and the roller shafts.

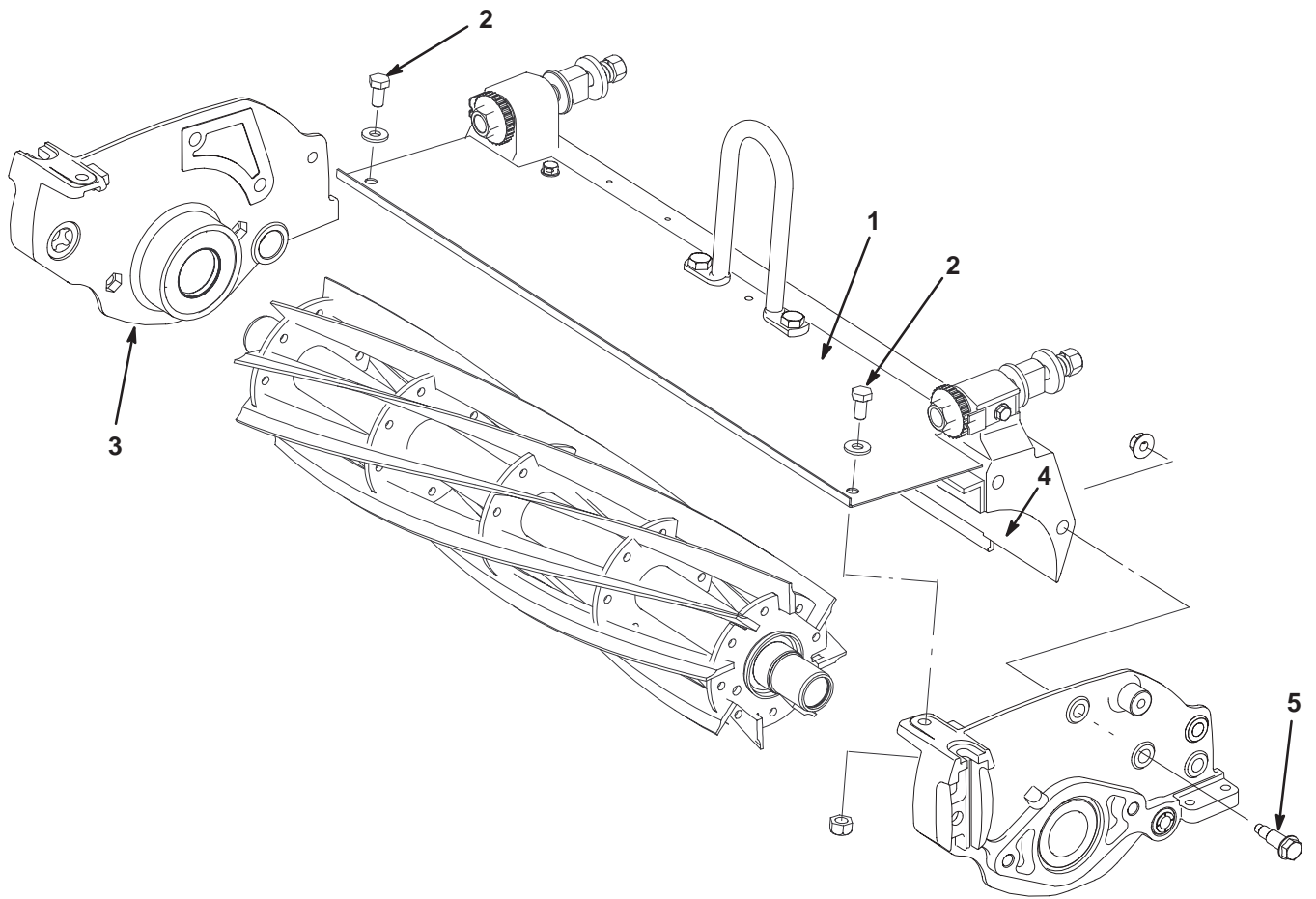


Figure 4

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|-------------------------------|---------------------|--------------------|------------------|
| 1. Grass shield | 3. Right side plate | 4. Left side plate | 5. Shoulder bolt |
| 2. Capscrew, washer & locknut | | | |

Servicing the Left Hand Side Plate

1. Remove the inner and outer grease seals from the side plate (Fig. 5).

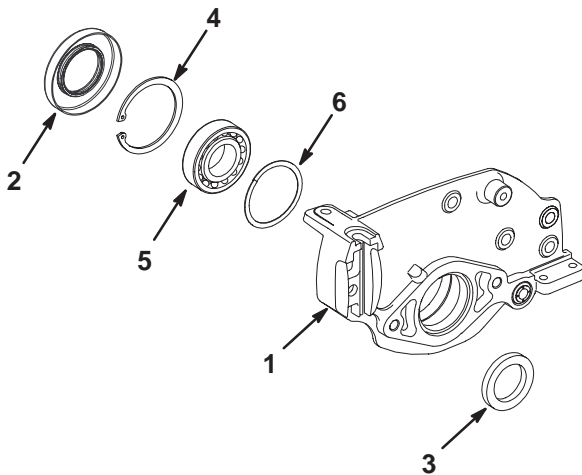


Figure 5

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|----------------------|----------------|
| 1. Left side plate | 4. Snap ring |
| 2. Inner grease seal | 5. Bearing |
| 3. Outer grease seal | 6. Wave washer |

2. Remove the snap ring securing the bearing in the side plate (Fig. 5). Remove the bearing. Inspect the bearing to insure that it spins freely and has minimal axial play. The bearing balls must be free of deformation and scoring. Replace the bearing if necessary.
3. Remove the wave washer (Fig. 5).
4. Remove all grease from the side plate bore.
5. Insert the wave washer into the side plate (Fig. 5).
6. Pack the bearing with Mobil High Temperature HP or equivalent grease (Fig. 5). Insert the bearing into the side plate against the wave washer.
7. Press the snap ring into the groove, slightly compressing the wave washer (Fig. 5).
8. Pack the inner seal cavity with Mobil High Temperature HP or equivalent grease.
9. Using the installation washer (Fig. 6) included with the kit, press the inner seal into the side plate until the washer is flush with the outer edge of the side plate bore. Remove the washer. When properly installed, the seal should be positioned .104 inch below the edge of the side plate bore.

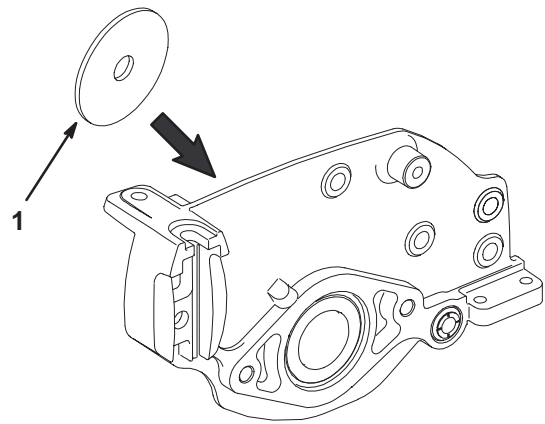


Figure 6

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| 1. Installation washer | 2. |
|------------------------|----|

10. Press the outer seal into the side plate until it is flush with the mating surface (Fig. 5).

Important The seal is to be installed so the lip is facing out to keep contamination from entering and allowing grease to vent or purge out, if necessary (Fig. 11).

11. Fill remaining voids, behind both sides of seal lips, with Mobil High Temperature HP or equivalent grease.

Servicing the Right Hand Side Plate

1. Remove the inner and outer grease seals from the side plate (Fig. 7).

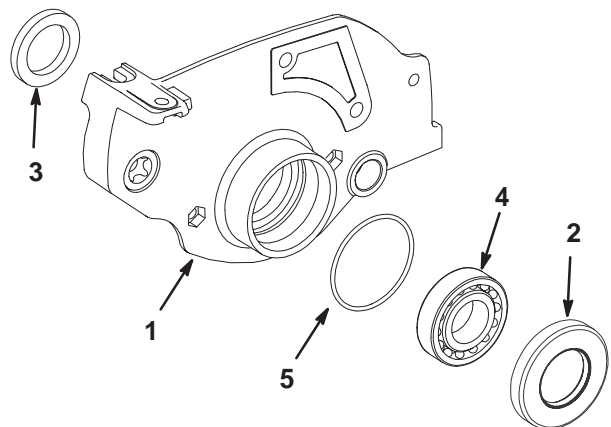


Figure 7

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|----------------------|------------|
| 1. Right side plate | 4. Bearing |
| 2. Inner grease seal | 5. O-ring |
| 3. Outer grease seal | |

2. Remove the bearing from the side plate (Fig. 7). Inspect the bearing to insure that it spins freely and has minimal axial play. The bearing balls must be free of deformation and scoring. Replace the bearing if necessary.
3. Remove the O-ring from the groove in the side plate bore (Fig. 7).
4. Remove all grease from the side plate bore.
5. Insert the O-ring into the groove in the side plate (Fig. 7). Apply a light coating of grease onto the O-ring, after it is installed.
6. Pack the bearing with Mobil High Temperature HP or equivalent grease. Insert the bearing into the side plate until it is against the bottom of the bore.
7. Pack the seal cavity with Mobil High Temperature HP or equivalent grease.
8. Using the installation washer (Fig. 8) included with the kit, press the inner seal into the side plate until the washer is flush with the outer edge of the side plate bore. Remove the washer. When properly installed, the seal should be positioned .104 inch below the edge of the side plate bore.

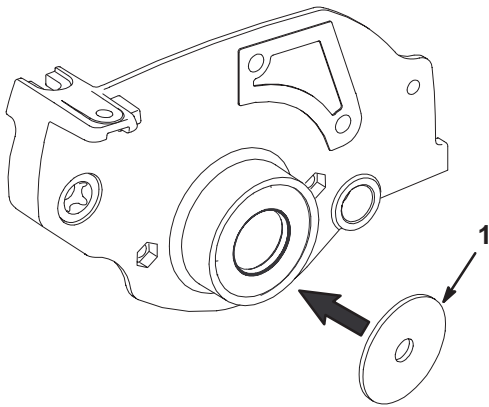


Figure 8

1. Installation washer

9. Press the outer seal into the side plate until it is flush with the mating surface (Fig. 7).

Important The seal is to be installed so the lip is facing out to keep contamination from entering and allowing grease to vent or purge out, if necessary (Fig. 11).

10. Fill remaining voids, behind both sides of seal lips, with Mobil High Temperature HP or equivalent grease.

Servicing the Reel

Note: Install the new reel components on the end of the reel shaft which will mate with the newly serviced side plate.

1. Remove the snap ring and the drive coupler from the end of the reel shaft.
2. Remove the V-ring from the reel shaft (Fig. 9).
3. Using a flat blade screw driver or similar tool, remove the speedi sleeve from the reel shaft (Fig. 9).

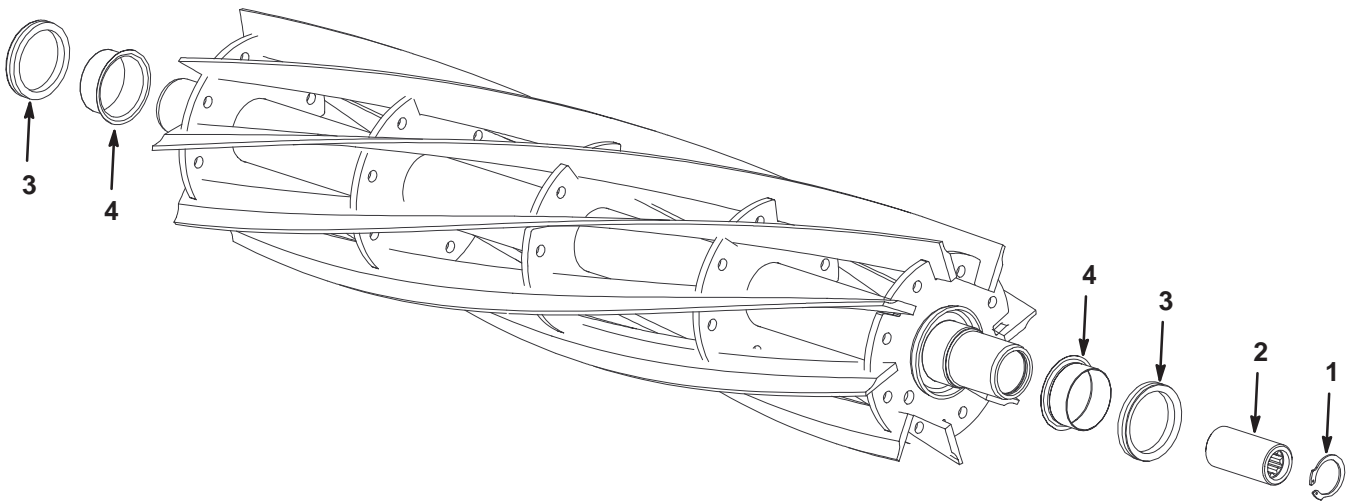


Figure 9

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|--------------|------------------|-----------|------------------|
| 1. Snap ring | 2. Drive coupler | 3. V-ring | 4. Speedi sleeve |
|--------------|------------------|-----------|------------------|

4. Inspect the reel shaft as follows:

- Check the reel shaft for bending and distortion by placing the shaft ends in V-blocks. Replace the reel if necessary.
- Check the reel blades for bending or cracking. Replace the reel if necessary.
- Check the drive adapter (Fig. 10) inside of the reel shaft. The adapter should be free of bending and distortion. Check the splines for excessive cracks or distortion. Replace the reel if necessary.

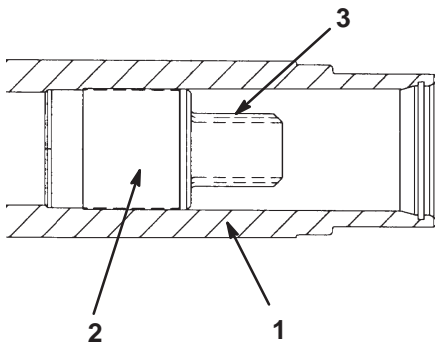


Figure 10

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| 1. Reel shaft | 3. Adapter spline |
| 2. Drive adapter | |

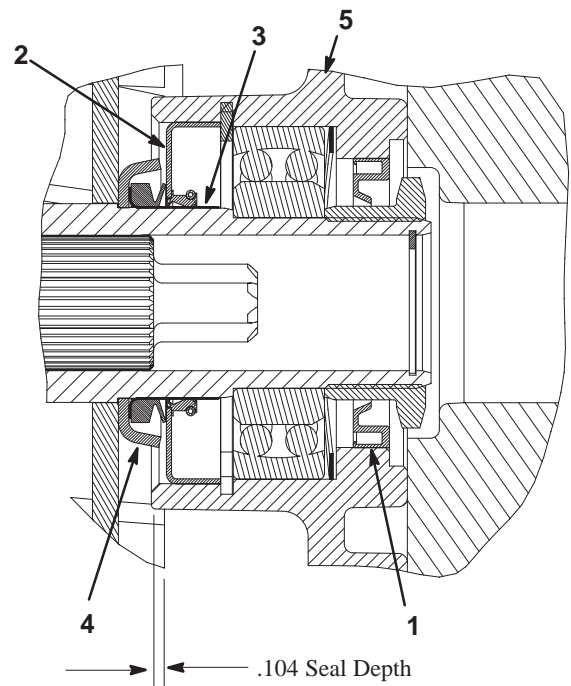


Figure 11

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|------------------|------------------------------|
| 1. Outer seal | 4. V-ring |
| 2. Inner seal | 5. Left hand sideplate shown |
| 3. Speedi sleeve | |

- Check the service limit of the reel diameter. Replace the reel if necessary.

5. Using an appropriate I.D. tube or sleeve, press the speedi sleeve onto the reel shaft until it bottoms out on the spider cup (Fig. 9 & 11).

Important Do not nick or scratch the seal surface as seal failure could result.

- Slide the V-ring onto the reel shaft (Fig. 9 & 11).
- Fill the drive coupler, 1/2 to 1/3 full, with Mobil High Temperature HP or equivalent grease. Also, coat the outside of the drive coupler with grease.
- Install the snap ring. Make sure it is seated into the groove.

Assembling the Cutting Unit

Important Wipe any excess grease from the side plate seals where the reel shaft V-rings make contact. The V-rings should run dry.

1. Slide the left hand side plate onto the reel shaft. Make sure the reel shaft threads do not damage the seals in the side plate.
2. Apply a film of grease to the reel shaft threads and install the reel bearing locknut.
3. Slide the right hand side plate onto the reel shaft. Make sure the reel shaft threads do not damage the seals in the side plate.
4. Apply a film of grease to the reel shaft threads and install the reel bearing locknut.
5. Mount the reel frame to the side plates with the 4 shoulder bolts previously removed. Torque the shoulder bolts to 17–20 ft–lbs.
6. Secure each end of the grass shield to the side plates with a capscrew, washer and lock nut previously removed.
7. Torque the reel bearing locknuts to 50–60 ft–lbs.
8. Install the bed bar (Fig. 1 & 12) as follows:
 - If a rubber bushing was removed from side plate, install a new bushing. The bushing should be installed flush with the inside of the side plate.

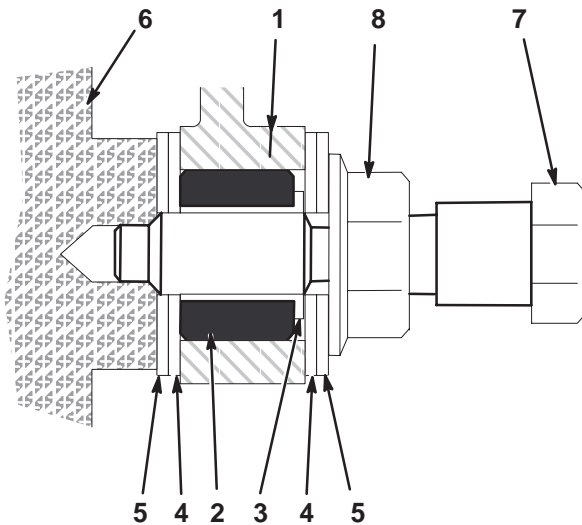


Figure 12

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|---------------------|----------------------|
| 1. Side plate | 5. Washer (metal) |
| 2. Rubber bushing | 6. Bedbar |
| 3. Flange bushing | 7. Bedbar pivot bolt |
| 4. Washer (plastic) | 8. Flange nut |

- Install the flange bushing with the flange facing outward.

- Thread the flange nut all the way up to the head of each bedbar pivot bolt and apply anti-seize lubricant to the threads of the bolts.
 - Slide a metal washer and a plastic washer onto each bedbar pivot bolt. The metal washer must contact the flange nut.
 - Position the bedbar into the cutting unit. Slide the top of the bedbar arms between the washers on each adjuster assembly.
 - Position a metal washer and a plastic washer between the bedbar and each side plate. The metal washer must contact the bedbar.
 - Install the bedbar pivot bolt assemblies. Tighten each bedbar pivot bolt to 190–240 in–lbs.
 - Tighten the flange nuts to remove the end play at the outer washers. Do not over tighten the flange nuts or bend the side plates.
 - Tighten the lock nut on each bedbar adjuster assembly until the adjuster spring is fully compressed, then loosen the lock nut 1/2 turn.
9. Install the rear roller (Fig. 13) as follows:
- On one of the saddle clamps, remove one of the screws and nuts securing it to the side plate.

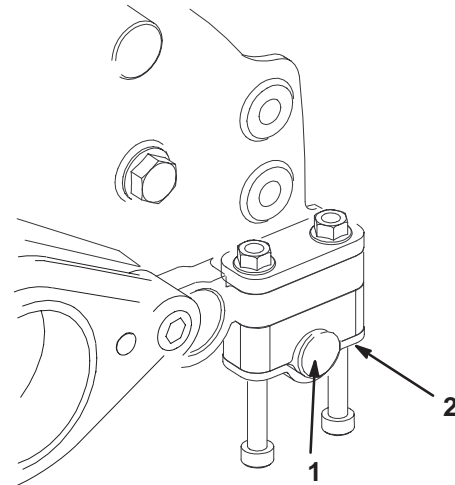


Figure 13

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| 1. Rear roller | 2. Saddle clamp |
|----------------|-----------------|

- Install rear roller into saddle clamps and loosely secure it with the screw and nut previously removed.
- Center the roller between side plates. Tighten the saddle clamp screws and nuts to secure the roller.

10. Install the front roller (Fig. 14) as follows:

- On one of the height of cut arms, loosen the plow bolt and nut securing it to the side plate.

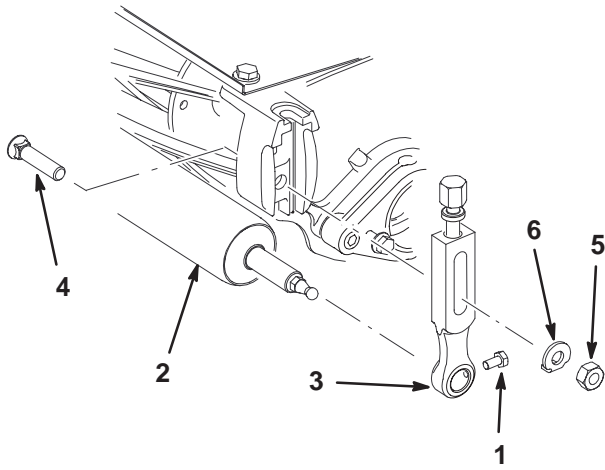


Figure 14

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|----------------------|---------------|
| 1. Capscrew | 4. Plow bolt |
| 2. Front roller | 5. Locknut |
| 3. Height of cut arm | 6. Tab washer |

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- Insert the front roller into the height of cut arms.
 - Tighten the plow bolt and nut securing the height of cut arm to the side plate.
 - Center the roller between the side plates. Tighten the capscrews to secure the roller.
- 11.** Adjust the cutting unit. Refer to the Cutting Unit Operator's Manual for the adjustment procedures.