



Customer Service Bulletin Commercial Business Group

Groundsmaster 3500-D, 4500-D and 4700-D.

Date: April 12, 2003

<u>Model/Serial Range:</u>	<u>Model Number:</u>	<u>Serial Numbers:</u>
	30821	200000101-230000999
	30856	220000101-230000999
	30868	220000101-230000999

Subject: Deck Roller Servicing Recommendations.

The front and rear rollers used on the Groundsmaster 3500-D, 4500-D and 4700-D rotary decks provide high durability with a minimum amount of maintenance using a non-greasable design. Continued evaluation of the design reveals the need for a maintenance interval to service the rollers annually to avoid unexpected failures.

The operating environment of these rollers is severe (e.g. sand, fertilizer, water, impact, etc.) and the rollers are not "MAINTENANCE FREE" parts.

Roller Service Recommendations:

All deck rollers should be disassembled and wear parts inspected every 800 hours or annually (whichever comes first). Rear roller seals should be replaced each time the rollers are disassembled and inspected. Roller bearings should be inspected and replaced as necessary.

Complete roller servicing procedures are provided in the rotary deck Operators Manual as well as the appropriate tractor service manual.

For additional information on this subject or to order parts, contact your local authorized Toro Commercial Products Distributor.



Roller Servicing Requirements

Groundsmaster® 3500D, 4500D & 4700D Cutting Units

Form No. 3329-624

Operator Manual Addendum

ATTENTION! Service Rollers Every 800 Hours or Annually

(This information supercedes information in Operator's Manual. Keep this sheet with Operator's Manual)

Servicing the Cutting Unit Rollers

After every 800 hours or annually, the cutting unit roller assemblies must be dis-assembled, inspected and re-assembled. Roller seals should be replaced and bearings should be inspected and replaced if necessary.

Rear Roller

Disassembly

1. Remove mounting screws and nuts securing the scraper to roller mounts (Fig. 1). Remove scraper and plates.
2. Remove mounting screws securing roller mounts to rear of deck frame (Fig. 1). Remove roller mounts.
3. Remove the lower screws securing each end of roller to roller mounts (Fig. 1).

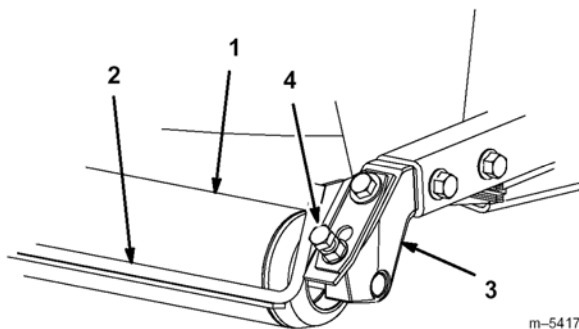


Figure 1

- | | |
|----------------|-----------------|
| 1. Rear roller | 3. Roller mount |
| 2. Scraper | 4. Lower screw |

Seal Removal

Using a 1/4 in. thick, 3 in. x 3 in. square piece of steel and the following specifications, make a seal removal tool (Fig. 2).

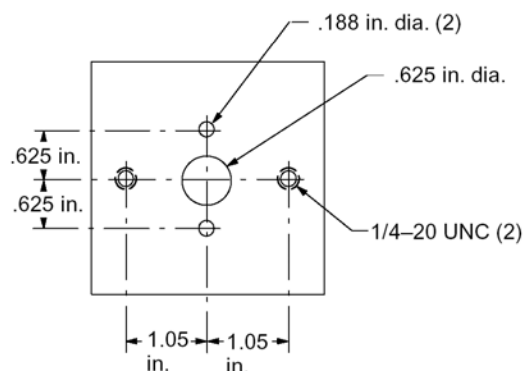


Figure 2

1. Slide seal tool over roller shaft.
2. Using the tool as a template, locate, mark, and drill 2 holes (7/64 in. [.109 in.] diameter) in outer face of seal.
3. Screw 2 self-tapping screws (No. 8 [.164 in.] x 3/4 in.) into outer face of seal.
4. Install 2 capscrews (1/4 x 1 in.) into seal tool.

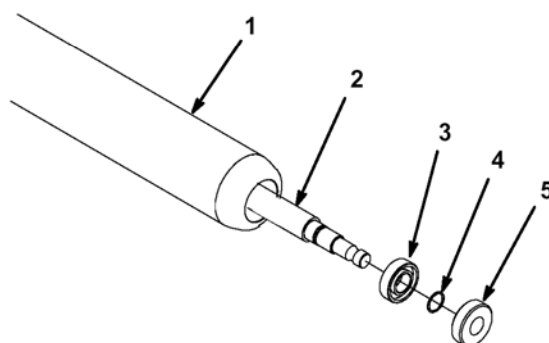


Figure 3

- | | |
|-----------------|-------------------|
| 1. Roller | 4. Retaining ring |
| 2. Roller shaft | 5. Oil seal |
| 3. Ball bearing | |

5. Alternate tightening sequence of 1/4 in. capscrews to pull seal out of housing.

Note: Seal will be destroyed when servicing the rear roller. Do not attempt to re-use these seals.

Bearing Removal

Reference: The bearings are pressed on to the shaft (.0003–.0016 in. interference) and loose fit to housing (.0020–.0035 in. clearance).

1. Remove retaining ring (Fig. 3). Repeat on other end.
2. Loosely secure roller assembly in bench vise and lightly tap one end of roller shaft until free from housing.
3. Remove second bearing from shaft. Support bearing on inner race and tap on roller shaft.
4. Inspect bearings, shaft, and retaining ring for damage. Replace damaged components. Re-assemble roller.

Assembly

1. Press bearing onto one end of shaft. Apply pressure to inner race only.
2. Install spiral retaining ring on same end as assembled bearing.
3. Install shaft with single bearing into tube assembly.
4. Install second bearing into roller assembly. Press only on inner race. The inner race will contact shoulder of shaft before outer race contacts shoulder of housing.
5. Install second spiral retaining ring.
6. Partially fill cavity between bearing and seal with grease, prior to installation of new seals, to prevent contamination.
7. Press new seal flush to .030 in. recessed into housing. Repeat for other side.

Front Roller

Inspect front roller for wear, excess wobble or binding. Service or replace roller or components if any of these conditions exist.

Disassembly

1. Remove roller mounting bolt (Fig. 4).
2. Insert punch through end of roller housing and drive opposite bearing out by alternating taps to opposite side of inner bearing race. There should be a 1/16 in. (.060 in.) lip of inner race exposed.

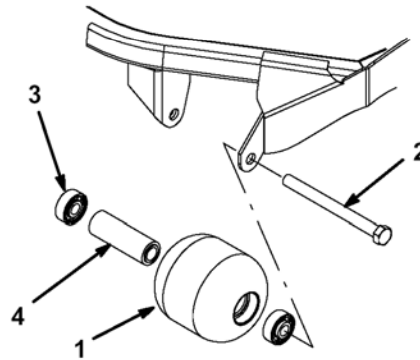


Figure 4

- | | |
|------------------|-------------------|
| 1. Front roller | 3. Bearing |
| 2. Mounting bolt | 4. Bearing spacer |

3. Push second bearing out in press.
4. Inspect roller housing, bearings, and bearing spacer for damage (Fig. 4). Replace damaged components and re-assemble.

Assembly

1. Press first bearing into roller housing (Fig. 4). Press on outer race only or equally on inner and outer race.
2. Insert spacer (Fig. 4).
3. Press second bearing into roller housing (Fig. 4) pressing equally on inner and outer race until the inner race comes in contact with spacer.
4. Install roller assembly into deck frame.

Important Securing roller assembly with a gap larger than .060 in. creates a side load on bearing and can lead to premature bearing failure.

5. Verify that there is no more than a .060 in. gap between roller assembly and the roller mount brackets of the deck frame. If there is a gap over .060 in., install enough 5/8 in. diameter washers to take up the slop.
6. Secure mounting bolt to 80 ft.-lb. (108 N-m).