

# TORO®

PART NO. 99-4100

## INSTALLATION INSTRUCTIONS

### INTERNATIONAL SUSPENSION KIT GREENSMMASTER 3200

#### Disassembly

1. Park the machine on a level surface, lower the cutting units, stop engine and set parking brake.



#### CAUTION

Operate all hydraulic controls to relieve system pressure and avoid injury from pressurized hydraulic oil. Controls must be operated with the ignition switch in RUN and the engine OFF. Return ignition switch to OFF when pressure has been relieved. Remove the key from the ignition switch.

2. Remove baskets from cutting unit carrier frames.
3. Disconnect drive motors from cutting units.
4. Disconnect pull frame from carrier frame (Fig. 1).

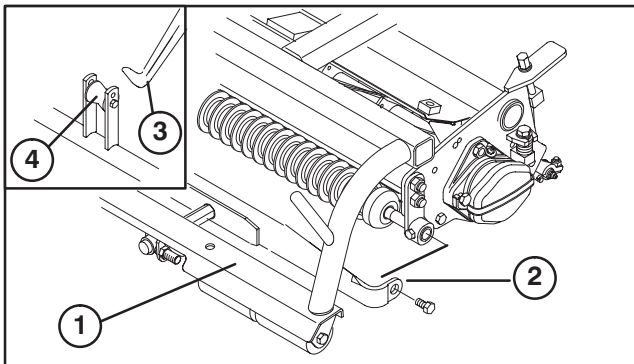


Figure 1

- |                  |                |
|------------------|----------------|
| 1. Carrier frame | 3. Lift roller |
| 2. Pull frame    | 4. Lift arm    |

5. Unhook cutting unit lift rollers from lift arms and slide cutting units out from under carrier frames (Fig. 1).

6. Remove fasteners securing pull frames to cutting units (Fig. 1).

7. To ease installation of kit, it is recommended that right and left wheel shields (Fig. 2) be removed from traction unit.

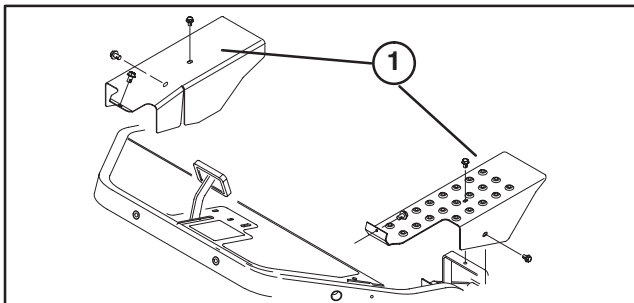


Figure 2

1. Wheel shields

8. Remove cotter pins and clevis pins securing hydraulic lift cylinders to lift arms. Retain cotter pins and clevis pins (Fig. 3).

9. Remove capscrews, pivot pins and spacers securing front lift arms and carrier frames to traction unit frame (Fig. 3). Discard lift arms and carrier frames but retain capscrews, pivot pins and spacers.

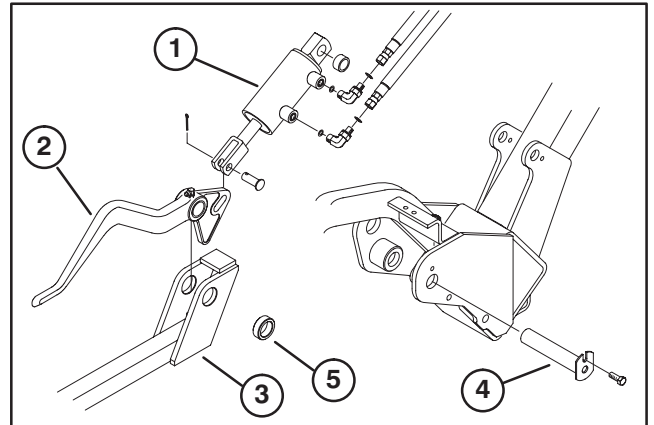


Figure 3

- |                       |                                       |
|-----------------------|---------------------------------------|
| 1. Hydraulic cylinder | 4. Pivot pin (carrier frame/lift arm) |
| 2. Lift arm           | 5. Spacer (carrier frame/lift arm)    |
| 3. Carrier frame      |                                       |

10. Remove capscrew, flat washer, spacer, thrust washer and nut securing rear lift arm and carrier frame to traction unit frame (Fig. 4). Discard lift arm, carrier frame, capscrew, spacer and nut.

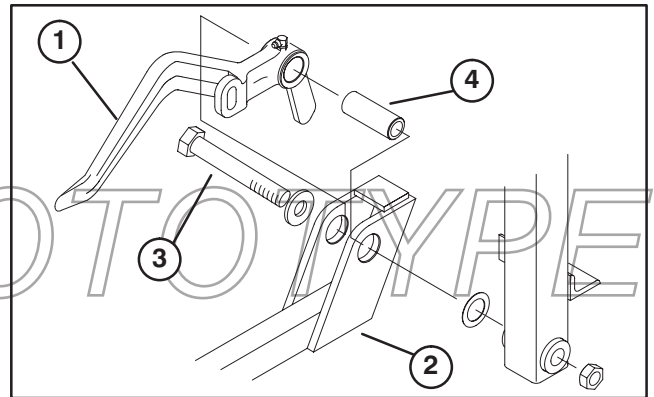
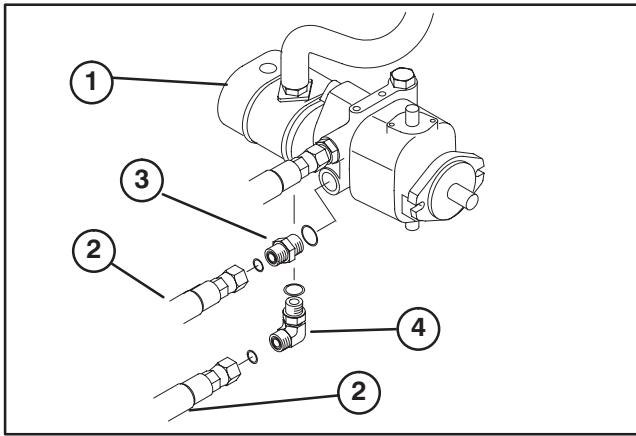


Figure 4

- |                  |             |
|------------------|-------------|
| 1. Lift arm      | 3. Capscrew |
| 2. Carrier frame | 4. Spacer   |

**IMPORTANT:** Before modifying any hydraulics on the traction unit, clean all grease, dirt or grass clippings from areas to keep from contaminating the hydraulic system. If pressure washing the machine, be sure to allow all water to dry before continuing.

11. Disconnect and remove hydraulic hose secured to 90° fitting on bottom of hydrostat/gear pump and to fitting on valve block. It is not necessary to remove fittings (Fig. 5).



**Figure 5**

- |                   |                     |
|-------------------|---------------------|
| 1. Hydrostat      | 3. Straight fitting |
| 2. Hydraulic hose | 4. 90° fitting      |

12. Disconnect and remove hydraulic hose secured to lower straight fitting on front of hydrostat/gear pump and fitting on traction circuit tube (Fig. 5).

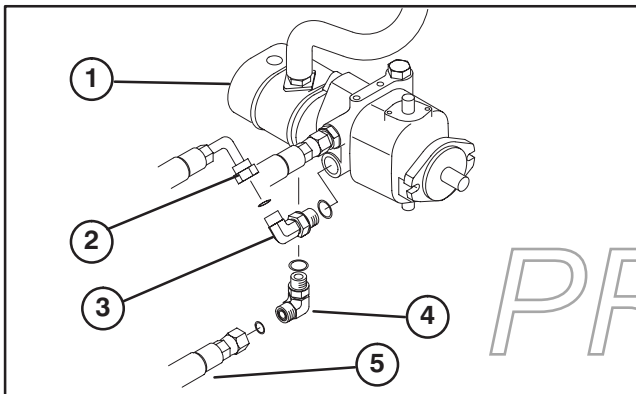
13. Remove straight fitting from hydrostat/gear pump (Fig. 5).

### Assembly

**IMPORTANT:** Before installing any hydraulic fittings, make sure O-rings are lubricated with hydraulic oil and positioned correctly. Use a backup wrench to tighten fittings.

1. Install new hydraulic hose to 90° fitting on bottom of hydrostat/gear pump and to fitting on valve block (Fig. 6). End of hose with 45° hose end to be secured to valve block fitting. Make sure hose is oriented upward, so it clears cutting unit when in transport position.

2. Install new 90° fitting to front of hydrostat/gear pump. Fitting to be oriented upward 45°, as shown in figure 6.



**Figure 6**

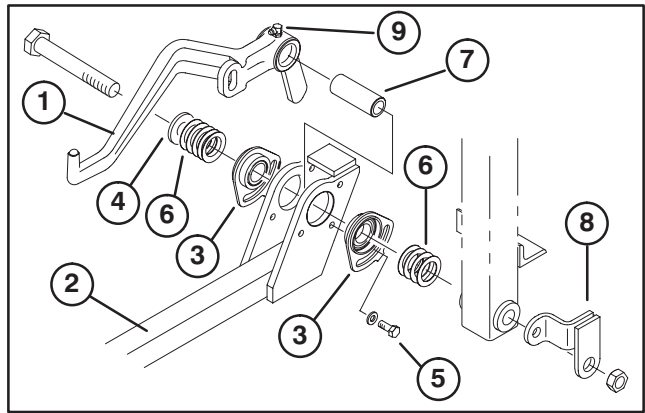
- |                                  |                   |
|----------------------------------|-------------------|
| 1. Hydrostat                     | 4. 90° fitting    |
| 2. Hydraulic hose w/ 90° fitting | 5. Hydraulic hose |
| 3. 90° fitting                   |                   |

**Note:** Flats must be aligned so fitting can be threaded into hydrostat/gear pump.

3. Install new hydraulic hose to 90° fitting on front of hydrostat/gear pump and to fitting on traction circuit tube (Fig. 6). End of hose with 90° hose end to be secured to fitting on hydrostat/gear pump.

4. Install a grease fitting into top of each lift arm (Fig. 7). Position fittings forward to ease lubrication.

5. Secure an eccentric bushing to each side of center carrier frame with a cap screw and flatwasher. Position bushings as shown in figure 7.



**Figure 7**

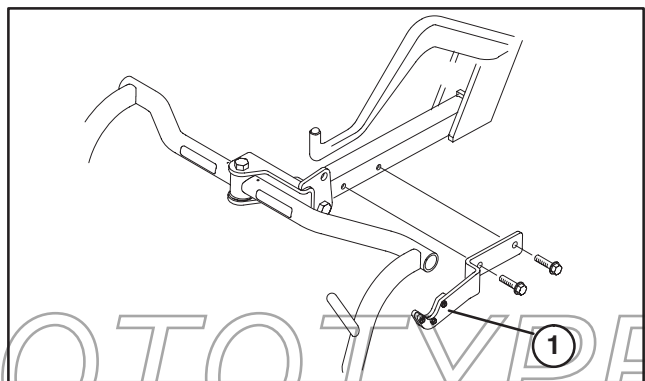
- |                       |                          |
|-----------------------|--------------------------|
| 1. Lift arm           | 6. Thrust washer         |
| 2. Carrier frame      | 7. Spacer                |
| 3. Eccentric bushing  | 8. Adjusting rod bracket |
| 4. Flatwasher         | 9. Grease fitting        |
| 5. Cap screw & washer |                          |

6. While positioning a flatwasher and (5) thrust washers on right side of carrier frame and (4) thrust washers on left side of carrier frame, secure center lift arm, carrier frame and adjusting rod bracket to traction unit frame with a 5/8–11 x 6–1/2" lg. cap screw, spacer and nut (Fig. 7).

7. Adjust eccentric assemblies and washers, as required, to level and center carrier frame in frame, in raised position, between front wheel mounts within ± .06".

8. Secure rear hydraulic lift cylinder to lift arm with a cotter pin and clevis pin previously removed.

9. Mount a transport plate to left side of rear lift arm with (2) 3/8–16 x 5/8" lg. thread forming screws (Fig. 8).

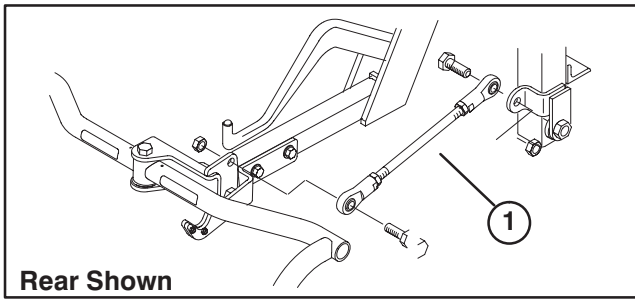


**Figure 8**

1. Transport plate

10. Secure front end of short adjusting rod to clevis bracket with a 1/2–13 x 1–1/2" lg. cap screw and locknut (Fig. 9).

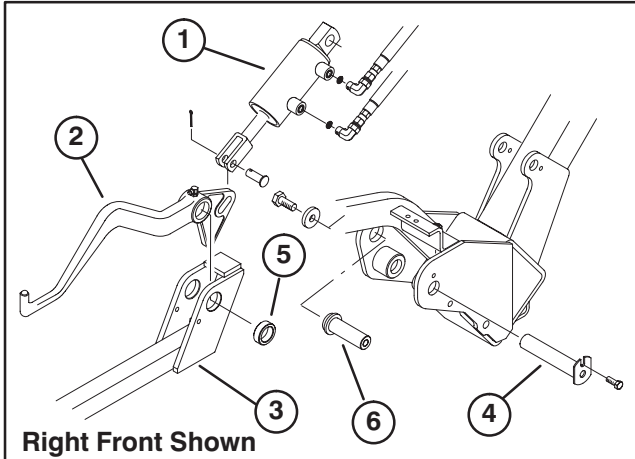
11. Secure rear end of short adjusting rod to rod bracket with a 1/2–13 x 1–1/2" lg. cap screw and locknut (Fig. 9).



**Figure 9**

1. Short adjusting rod

12. Secure each front lift arm and carrier frame to traction unit frame with a capscrew, pivot pin and spacer previously removed (Fig. 10).

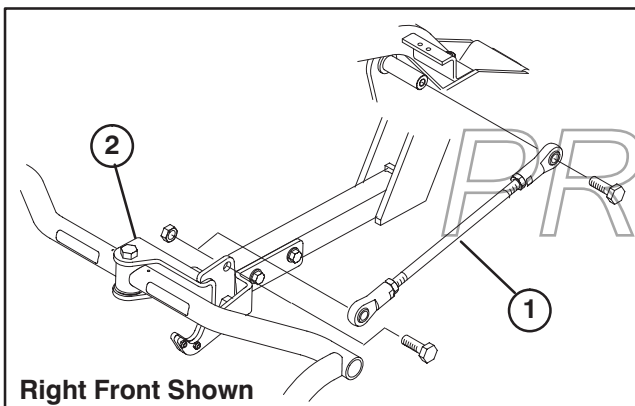


**Figure 10**

1. Hydraulic cylinder
2. Lift arm
3. Carrier frame
4. Pivot pin (carrier frame/lift arm)
5. Spacer (carrier frame/lift arm)
6. Extension stud

13. Secure front hydraulic lift cylinders to lift arms with cotter pins and clevis pins previously removed (Fig. 10).

14. Secure rear end of adjusting rod to stud extension with a 1/2–13 x 1–1/4” lg. capscrew (Fig. 11).

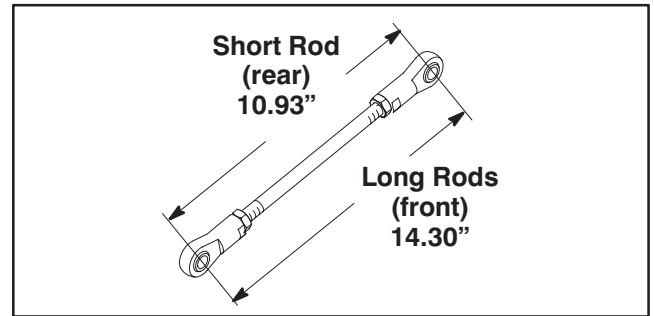


**Figure 11**

1. Long adjusting rod
2. Clevis bracket

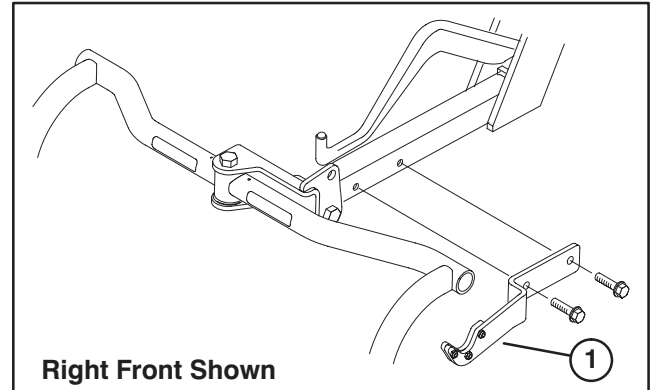
**Note:** Adjusting rods are pre-set at the factory. If rods ever need to be disassembled, re-assemble to the dimensions shown in figure 12.

15. Mount an extension stud to traction unit frame (above each front lift arm and carrier frame) with a 1/2–13 x 1” lg. capscrew and washer, as shown in figure 10.



**Figure 12**

16. Mount a transport plate to inside of each front lift arm with (2) 3/8–16 x 5/8” lg. thread forming screws (Fig. 13).



**Figure 13**

1. Transport plate

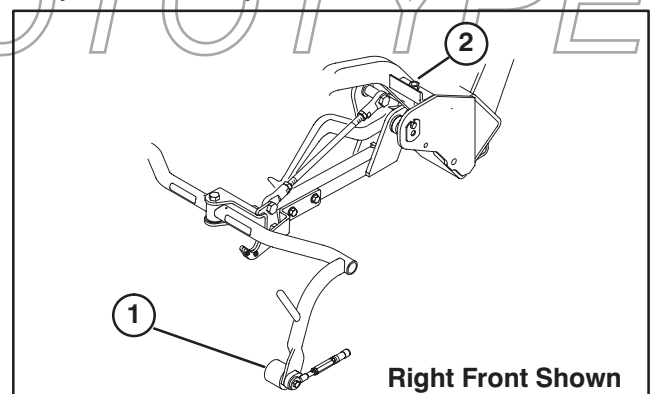
17. Secure front end of long adjusting rod to clevis bracket with a 1/2–13 x 1–1/2” lg. capscrew and locknut (Fig. 11).

**Note:** Install left front adjusting rod to the outward facing side of the clevis bracket.

18. Make sure all tires are inflated to 8–12 p.s.i.

19. Adjust carrier frame rollers (Fig. 14) as follows:

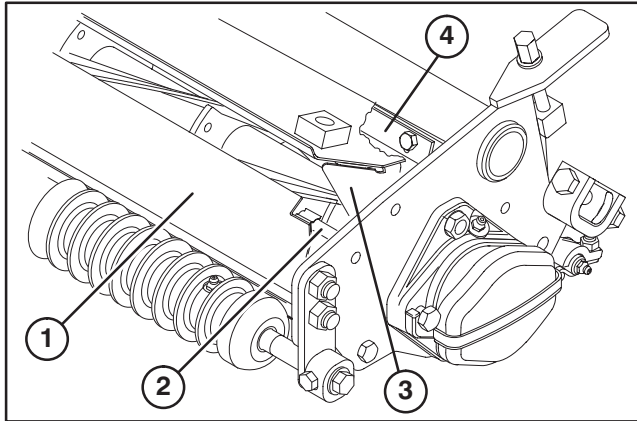
- Position traction unit on a level surface and lower cutting unit carrier frames to the floor.
- Verify that there is 1/2” clearance between carrier frame rollers and floor.
- If an adjustment is required, loosen jam nut on carrier frame stop screw (Fig. 14) and rotate screw up or down to raise or lower carrier frame. Tighten jam nut after adjustment is attained.



**Figure 14**

1. Carrier frame roller
2. Carrier frame stop screw

20. Modify cutting unit shields (Fig. 15) as follows:
- A. Remove and discard front shield assembly. Also, remove and discard shield mounting studs and fasteners secured to each cutting unit side plate.



**Figure 15**

1. Front shield assembly
2. Front shield mounting studs
3. Grass shield side deflectors
4. Cut-off bar

B. Bend grass shield side deflectors outward until flush with cutting unit side plates.

C. Adjust cut-off bar, mounted to inside of grass shield, so clearance between bar and reel is 0.060 inch. Assure bar and reel are equal distance apart across complete reel.

**Note:** If cutting unit is not equipped with a cut-off bar, obtain one from your local authorized Toro Distributor.

**Note:** Bar is adjustable to compensate for changes in turf conditions. Bar should be adjusted closer to reel when turf is extremely wet. By contrast, adjust bar further away from reel when turf conditions are dry. Bar should be adjusted whenever top shield height is changed.

21. Thread a ball stud into each end of cutting unit front roller (Fig. 16).

22. Slide the cutting unit under the pull frame while hooking the hoop onto lift arm.

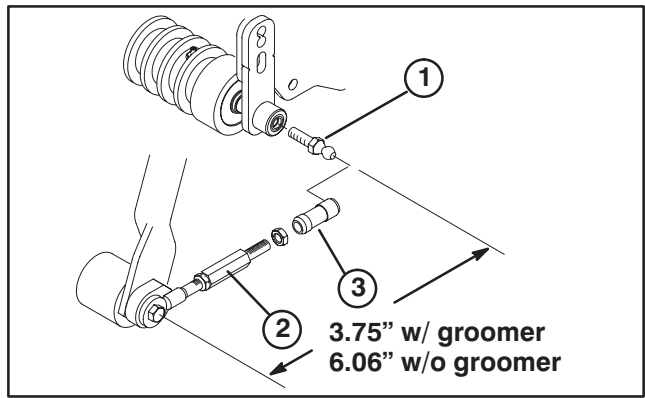
**Note:** If mounting cutting units equipped with groomer attachments, remove pull arm extension and rear jam nut from each pull link assembly.

23. Slide sleeve back on each ball joint receiver and hook onto cutting unit ball studs (Fig. 16).

**Note:** Pull link assemblies are pre-set at the factory. If they ever need to be disassembled, re-assemble to the dimensions shown in figure 16.

24. Mount basket onto carrier frame.

25. Adjust pull links until there is 1/4" to 3/8" clearance between the lip of the basket and the reel blades. Make sure the basket lips are equidistant from the reel blades all the way across the reel blades.

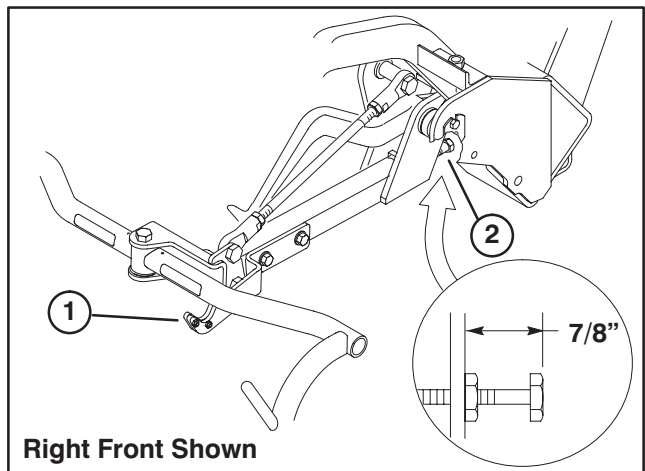


**Figure 16**

1. Ball stud
2. Pull arm extension
3. Ball joint receiver

26. Check transport plate (Fig. 17) operation and adjust, if required, as follows:

A. Verify that the distance from the top of the carrier frame adjusting screw (Fig. 17) and back of carrier frame is 7/8".



**Right Front Shown**

**Figure 17**

1. Transport plate
2. Adjusting screw

B. Raise cutting units to transport position.

C. Check to assure each carrier frame is resting in center of cradle on transport plate.

D. If carrier frame is not resting in center of cradle, on transport plate, loosen jam nut on carrier frame adjusting screw (Fig. 17) and rotate screw outward until carrier frame rests on transport plate when in transport position. Tighten jam nut after adjustment is attained.

27. Grease all new fittings (9) with general purpose lithium based grease.

28. Re-install right and left wheel shields (Fig. 2) if removed from traction unit.

29. Check traction unit hydraulic fluid level and replenish as required.