



Hydraulic Angle

Power Rake TXL 2000 Tool Carrier

Model No. 22537

Installation Instructions

Installation

Loose Parts

Use the chart below to verify that all parts have been shipped.

Description	Qty.	Use
No parts required	—	Prepare the machine.
Manifold assembly	1	
Bolt (3/8 x 1 inch)	3	
Lock washer	3	
Flat washer	3	
Hose clamp	1	
Bolt (5/16 x 1-1/2 inches)	1	
Long hose	1	
Short hose	1	Install the hydraulic angle.
Hydraulic cylinder assembly	1	
Pivot pin	2	
Snap ring	4	
Large washer	4	
14-pin wire harness	1	
Y-adapter	1	
No parts required	—	Complete the installation.

Important: Install the Auxiliary Wire Harness Kit (Toro Part Number 139-1186; sold separately) before installing this kit.

Preparing the Machine

Note: Determine the left and right sides of the machine from the normal operating position.

1. Park the traction unit on a level surface.
2. Disengage the auxiliary hydraulics.
3. Lower any equipped attachments; refer to your *Operator's Manual*.
4. Engage the traction unit parking brake.
5. Shut off the traction unit engine and remove the key.
6. Wait for the traction unit to cool.
7. Disconnect the traction unit battery; refer to your *Operator's Manual*.



Installing the Hydraulic Angle

Important: You may discard all removed parts unless otherwise noted.

⚠ WARNING

Seek immediate medical attention if fluid is injected into skin. Injected fluid must be surgically removed within a few hours by a doctor.

- Ensure that all hydraulic-fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to the hydraulic system.
- Keep your body and hands away from pinhole leaks or nozzles that eject high-pressure hydraulic fluid.
- Use cardboard or paper to find hydraulic leaks.
- Safely relieve all pressure in the hydraulic system before performing any work on the hydraulic system.

1. Mark each of the hoses as left or right (from the operator's position).
2. Remove the nut and bolt securing the hose clamp to the hose mount (Figure 1).
3. Disconnect the power rake motor hoses from the attachment hoses at the angle fitting (Figure 1).

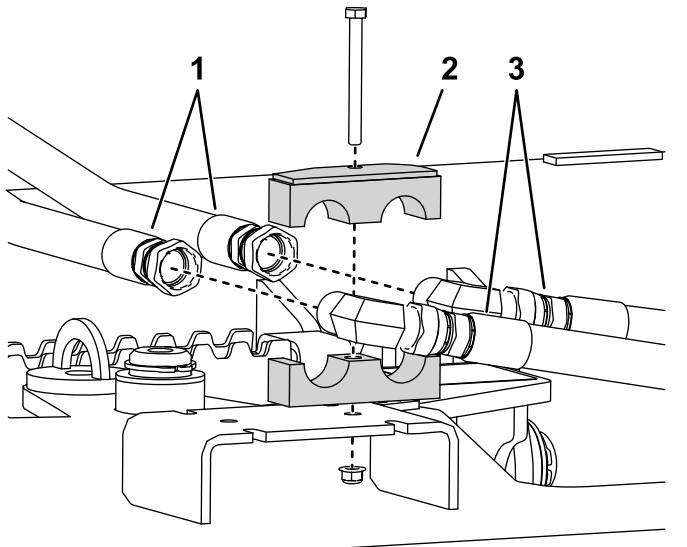


Figure 1

1. Attachment hoses
2. Hose clamp
3. Power rake motor hoses

4. Secure the manifold assembly to the hose mount with 3 bolts (3/8 x 1 inch), lock washers and flat washers (Figure 2).

Note: Secure the manifold with the angled fittings facing toward the front of the rake.

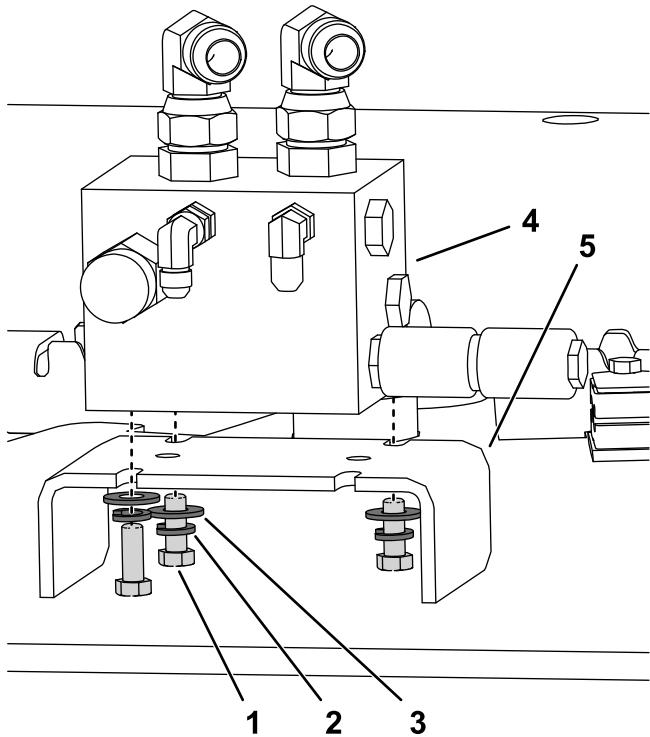


Figure 2

Some parts not shown for clarity

1. Bolt (3/8 x 1 inch)	4. Manifold assembly
2. Lock washer	5. Hose mount
3. Flat washer	

5. Torque the bolts securing the manifold to 37 to 45 N·m (27 to 33 ft-lb).
6. Install the attachment hoses directly to the straight fittings in the rear of the manifold assembly (Figure 3).

Important: Install the hose connections so that they are secure, but do not tighten any of these connections until [Completing the Installation \(page 5\)](#).

7. Remove the angle fittings from the power rake hoses and install the hose ends to the angled fittings on top of the manifold assembly (Figure 3).

Important: Do not twist or cross the hoses. Retain the orientation of the hoses on the valve as they were in the clamp.

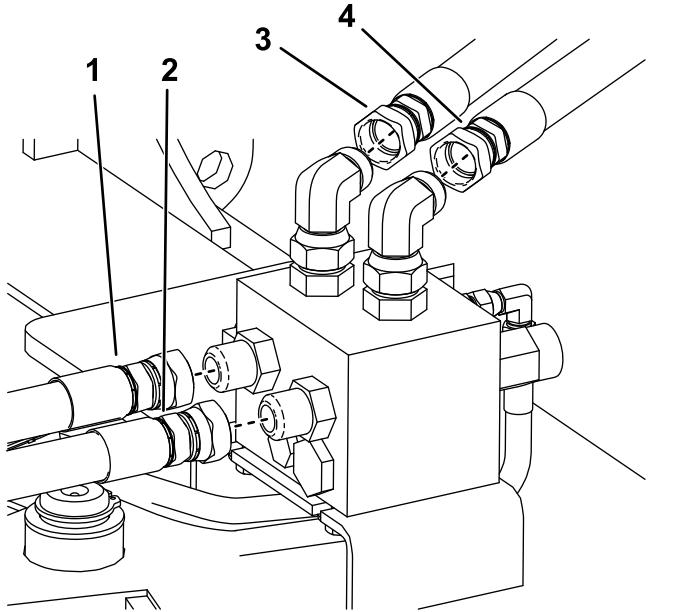


Figure 3

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1. Left attachment hose (in REV port)	3. Left power rake motor hose (in M2 port)
2. Right attachment hose (in FWD port)	4. Right power rake motor hose (in M1 port)

8. Install the long and short hoses to the manifold, then route the hoses under the manifold and install the hose clamp as shown in Figure 4 and Figure 6.

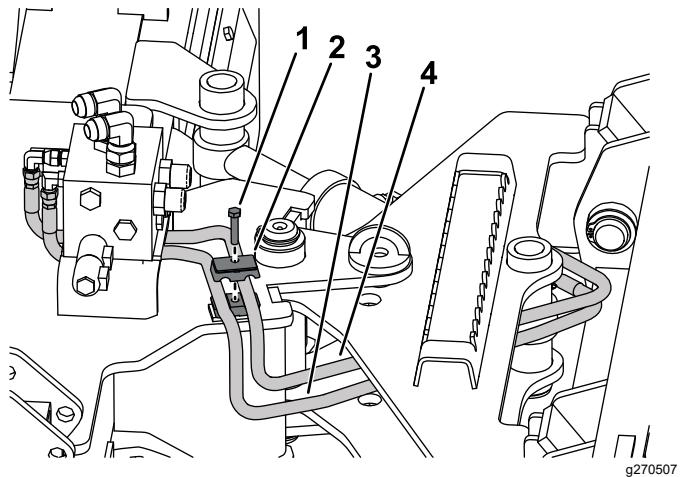


Figure 4

Some parts not shown for clarity

1. Bolt (5/16 x 1-1/2 inches)	3. Short hose (in lower manifold fitting)
2. Hose clamp	4. Long hose (in upper manifold fitting)

9. Remove the angle pin and the lynch pin that are securing the power rake from angling (Figure 5).

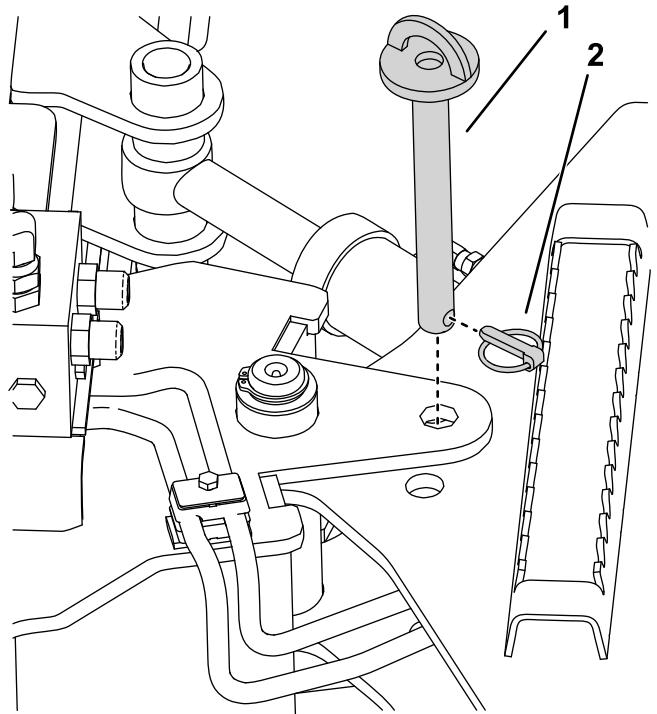


Figure 5

Some parts not shown for clarity

1. Angle pin	2. Lynch pin
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10. Align the hydraulic cylinder assembly as shown in Figure 6.

Note: You may need to angle the power rake manually to match the cylinder length.

11. Install a pivot pin at each end of the cylinder with 2 large washers and snap rings at each end of the pivot pins (Figure 6).

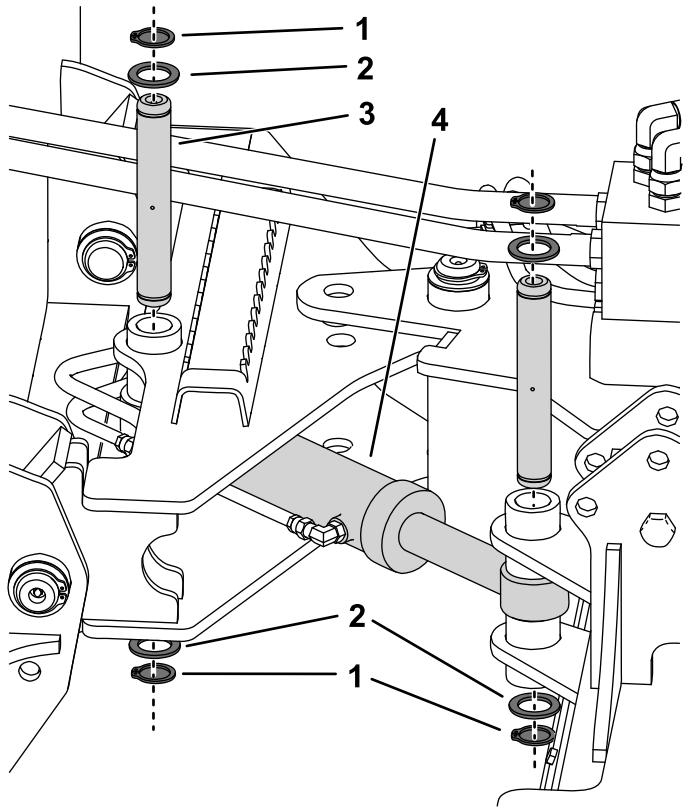


Figure 6

1. Snap ring	3. Pivot pin
2. Large washer	4. Hydraulic cylinder

12. Use the auxiliary hydraulic controls to adjust the angle of the power rake.
13. Install the 14-pin wire harness (short wire harness) to the auxiliary wire harness (sold separately) at the coupler mount (Figure 7).

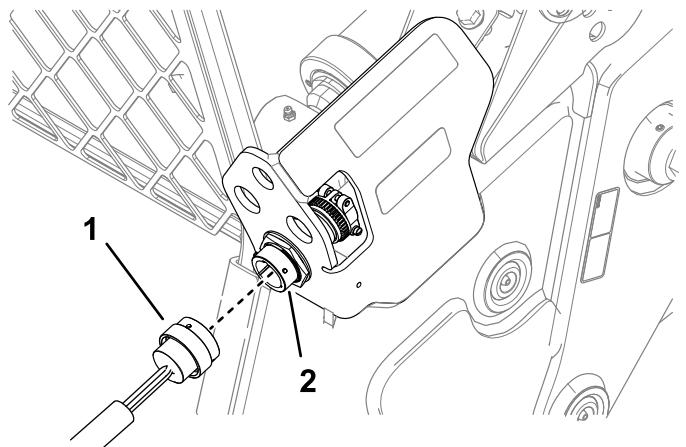


Figure 7

1. 14-pin wire harness	2. Auxiliary wire harness connector
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14. Install the open connector of the Y-adapter (long wire harness) to the 14-pin wire harness.
15. Route the 2 free connectors on the Y-adapter to the open connectors left side of the manifold and connect them (Figure 8).

Note: Secure the wire harness using cable ties as needed.

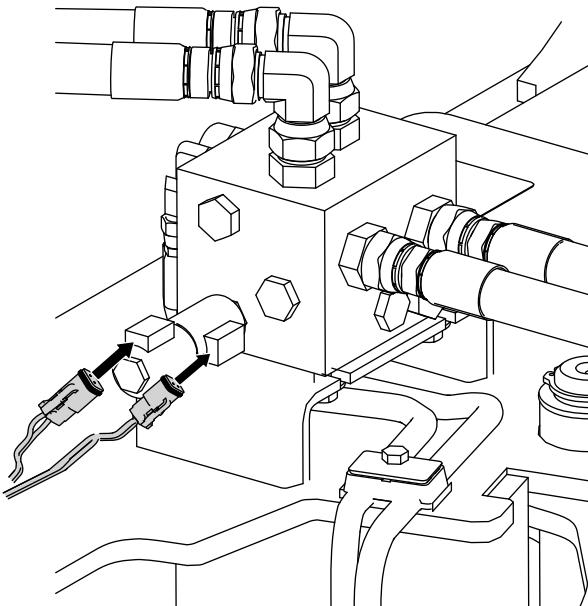


Figure 8

Completing the Installation

1. Tighten the larger hose connections at the top and rear of the manifold to 115 to 127 N·m (85 to 94 ft-lb).
2. Tighten the smaller hose connections at the front of the manifold to 24 to 27 N·m (18 to 20 ft-lb).
3. Lubricate the cylinder grease fittings; refer to [Lubricating the Hydraulic Angle \(page 5\)](#).
4. Connect the traction unit battery; refer to your traction unit *Operator's Manual*.
5. Turn on the traction unit and test the hydraulic angle operation.

Important: To operate the cylinder, flow must be running to the attachment. While flow is running, operate the cylinder using the secondary attachment function on the joystick.

Note: If the hydraulic angle is not operating correctly, ensure that the hoses are connected to the correct ports.

6. If any hydraulic fluid was spilled, ensure that the traction unit hydraulic fluid is at the correct level; refer to your *Operator's Manual*.
7. Use the auxiliary hydraulic controls to adjust the angle of the power rake.

Maintenance

Lubricating the Hydraulic Angle

Service Interval: Before each use or daily—and immediately after every washing)

Grease Type: General-purpose grease.

1. Park the traction unit on a level surface, engage the parking brake, and lower the loader arms.
2. Shut off the traction unit engine and remove the key.
3. Clean the grease fittings with a rag.
4. Connect a grease gun to the hydraulic angle hinge pin grease fittings ([Figure 9](#)).

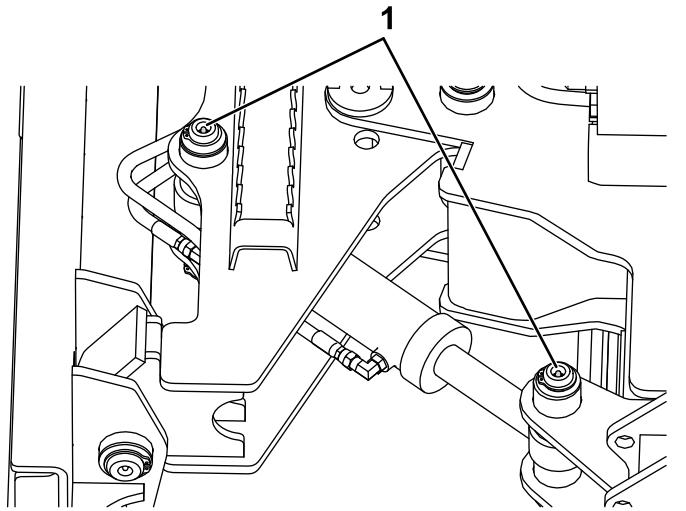


Figure 9

1. Grease fittings
5. Pump grease into the fittings until grease begins to ooze out of the bearings.
6. Wipe up any excess grease.

Notes:

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Count on it.