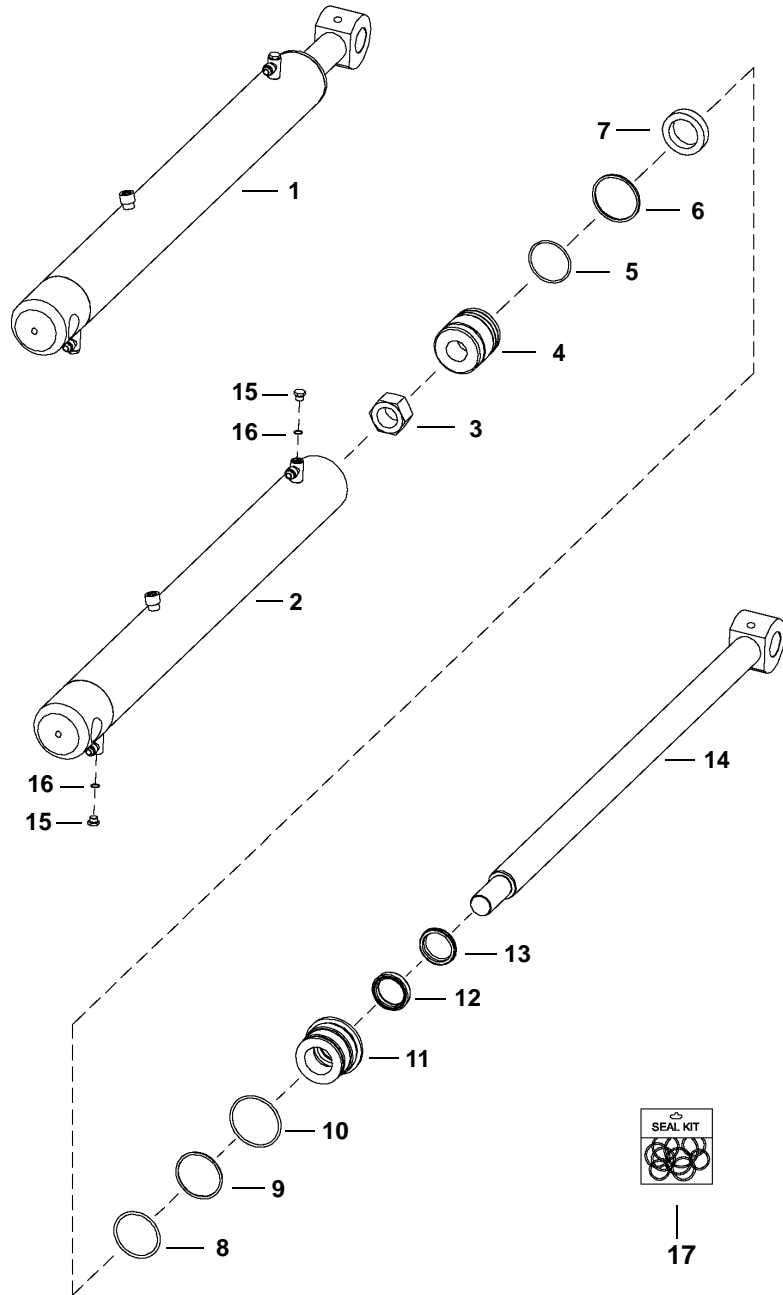


# CYLINDER (LIFT) (CONT'D)

## Parts Identification

- |             |              |
|-------------|--------------|
| 1. CYLINDER | 10. O-RING   |
| 2. CASE     | 11. HEAD     |
| 3. NUT      | 12. SEAL     |
| 4. PISTON   | 13. SEAL     |
| 5. O-RING   | 14. SHAFT    |
| 6. SEAL     | 15. PLUG     |
| 7. SPACER   | 16. O-RING   |
| 8. O-RING   | 17. SEAL KIT |
| 9. WASHER   |              |



PE3201S

## CYLINDER (LIFT) (CONT'D)

### Disassembly

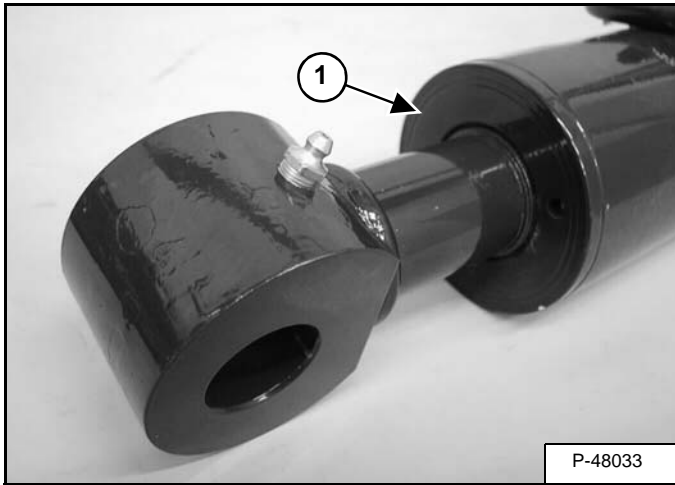
Use the following tools to disassemble the cylinder:

MEL1074 - O-ring Seal Hook  
Spanner Wrench

Hold the hydraulic cylinder over a drain pan and move the rod in and out slowly to remove the fluid from the cylinder.

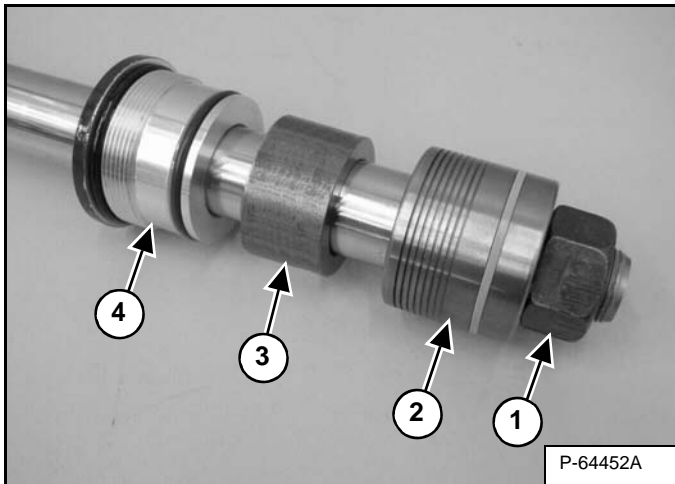
Put the base end of the cylinder in a vise.

**Figure 20-20-12**



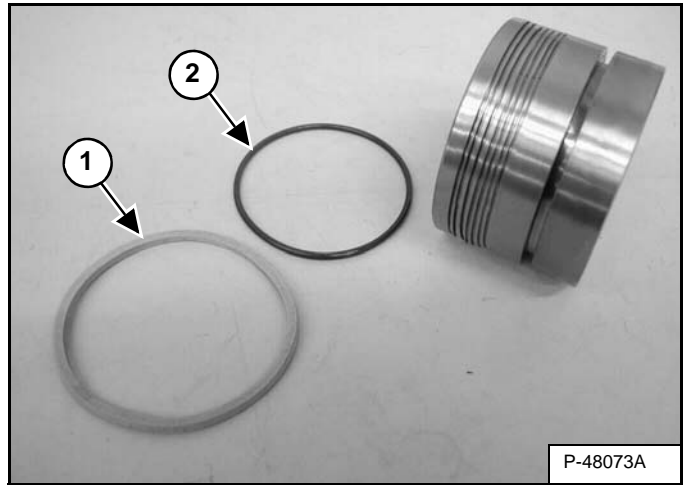
Use a spanner wrench to loosen the head (Item 1) [Figure 20-20-12] from the cylinder case.

**Figure 20-20-13**



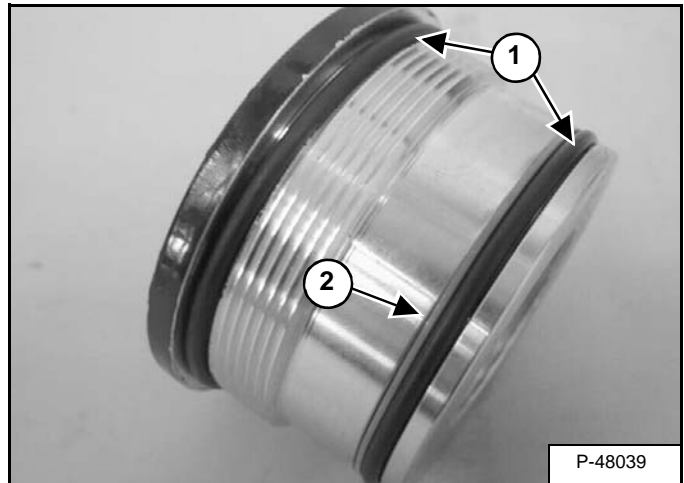
Remove the nut (Item 1), piston (Item 2), spacer (Item 3) and head (Item 4) [Figure 20-20-13].

**Figure 20-20-14**



Remove the seal (Item 1) and O-ring (Item 2) [Figure 20-20-14] from the piston.

**Figure 20-20-15**

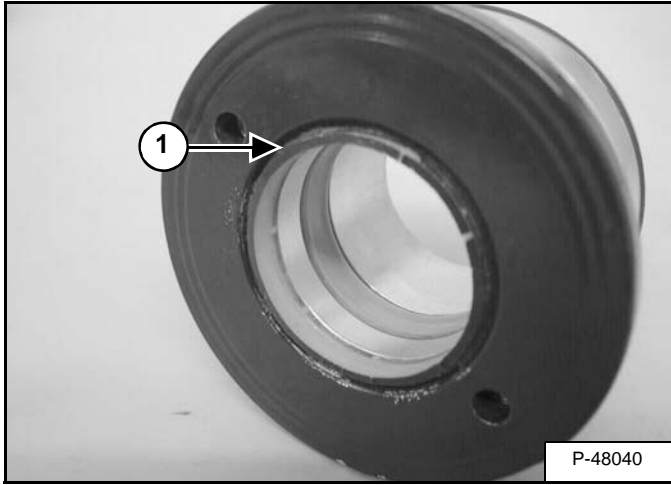


Remove the two O-rings (Item 1) and the back-up washer (Item 2) [Figure 20-20-15] from the cylinder head.

## CYLINDER (LIFT) (CONT'D)

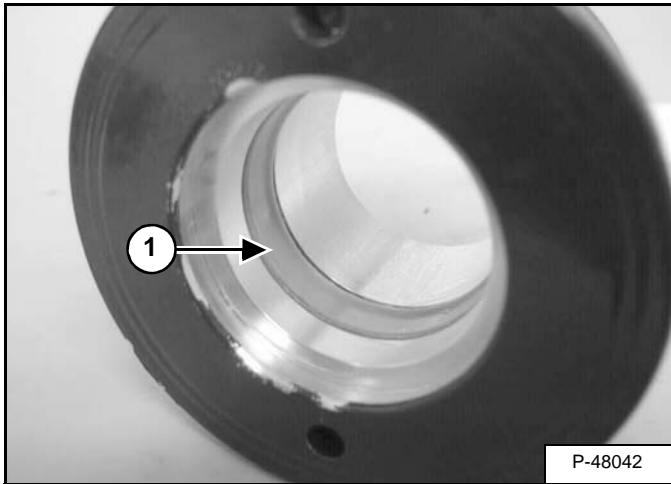
### Disassembly (Cont'd)

Figure 20-20-16



Remove the wiper seal (Item 1) [Figure 20-20-16] from the cylinder head.

Figure 20-20-17



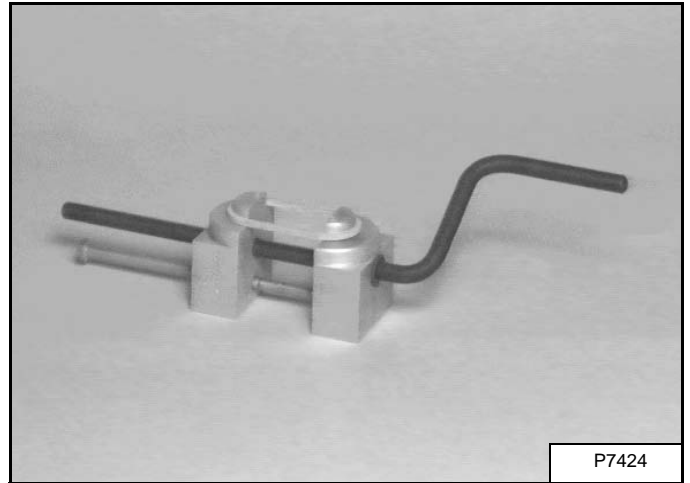
Remove the rod seal (Item 1) [Figure 20-20-17] from the cylinder head.

### Assembly

Use the following tools to assemble the cylinder:

MEL1396 - Seal Installation Tool  
MEL1033 - Rod Seal Installation Tool  
Piston Ring Compressor  
Spanner Wrench

Figure 20-20-18



Wash the cylinder parts in solvent and air dry them.

Inspect the cylinder parts for nicks, scratches or other damage. Replace any damaged parts.

Always install new O-rings and seals during assembly.

Lubricate all O-rings and seals with hydraulic oil during installation.

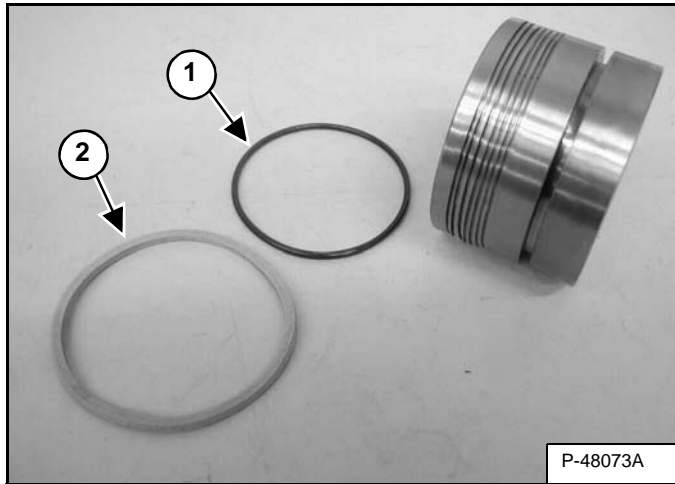
Install the new seal on the tool and slowly stretch it until it fits the piston [Figure 20-20-18].

Allow the seal to stretch for 30 seconds before installing it on the piston.

## CYLINDER (LIFT) (CONT'D)

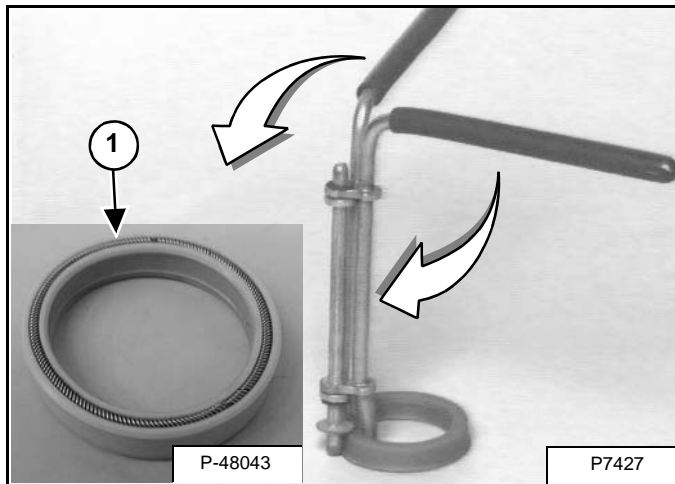
### Assembly (Cont'd)

Figure 20-20-19



Install the O-ring (Item 1) and seal (Item 2) [Figure 20-20-19] on the cylinder piston.

Figure 20-20-20

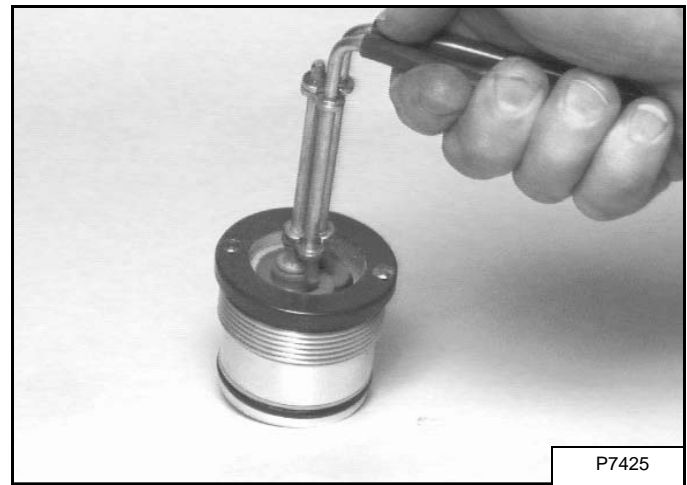


Install the rod seal on the rod seal tool [Figure 20-20-20].

**NOTE:** During installation the spring side of the seal (Item 1) [Figure 20-20-20] must be installed toward the inside of the cylinder.

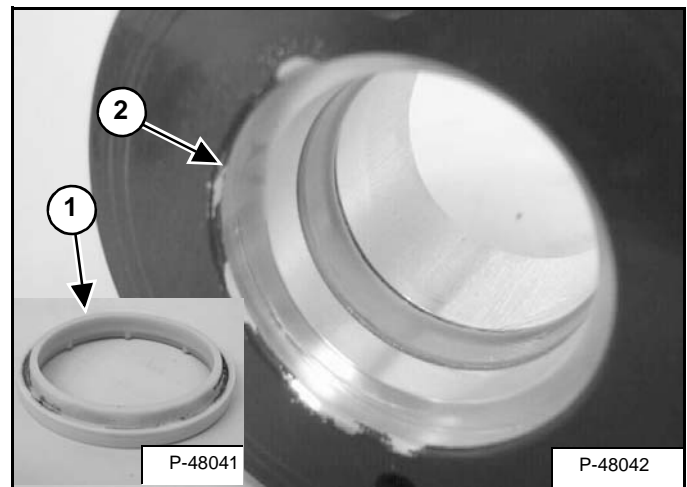
Rotate the handles to collapse the rod seal [Figure 20-20-20].

Figure 20-20-21



Install the rod seal in the head [Figure 20-20-21].

Figure 20-20-22

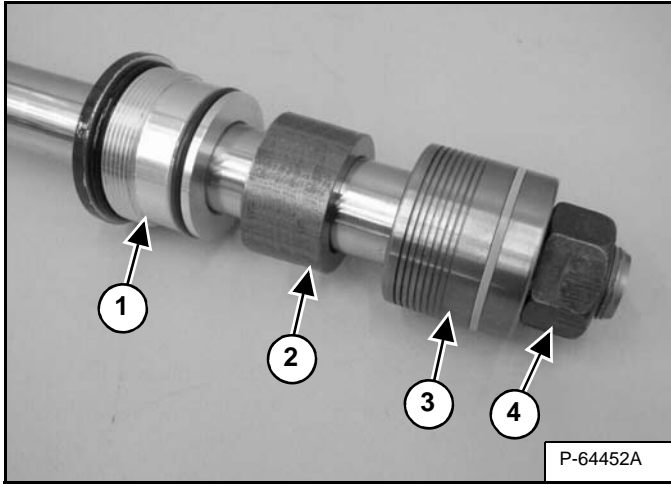


Install the wiper seal, with the wiper side of the seal (Item 1) toward the outside of the head (Item 2) [Figure 20-20-22].

## CYLINDER (LIFT) (CONT'D)

### Assembly (Cont'd)

Figure 20-20-23

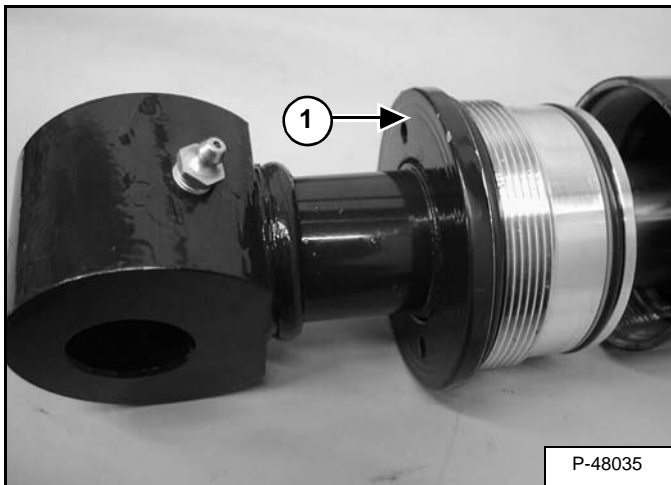


**NOTE:** Clean and dry the threads before installing the nut. Install the new nut from the kit.

Install the head (Item 1), spacer (Item 2) piston (Item 3), and nut (Item 4) [Figure 20-20-23].

Tighten the nut (Item 4) [Figure 20-20-23] to 1152 N•m (850 ft-lb) torque.

Figure 20-20-24



Put the base end of the hydraulic cylinder in a vise.

Using a spanner wrench, tighten the head (Item 1) [Figure 20-20-24] until the head is flush with the end of the cylinder tube assembly.



**Bobcat®**

## CYLINDER (TILT)

### Testing

Remove the attachment. Roll the Bob-Tach fully back. Stop the engine.

# WARNING

### AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

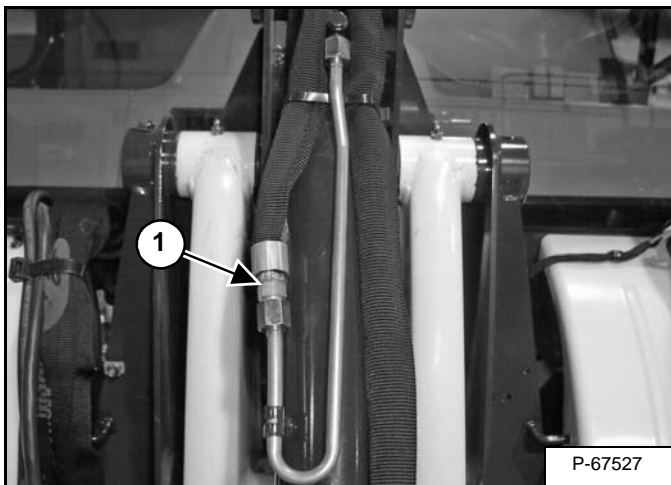
# WARNING

### AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

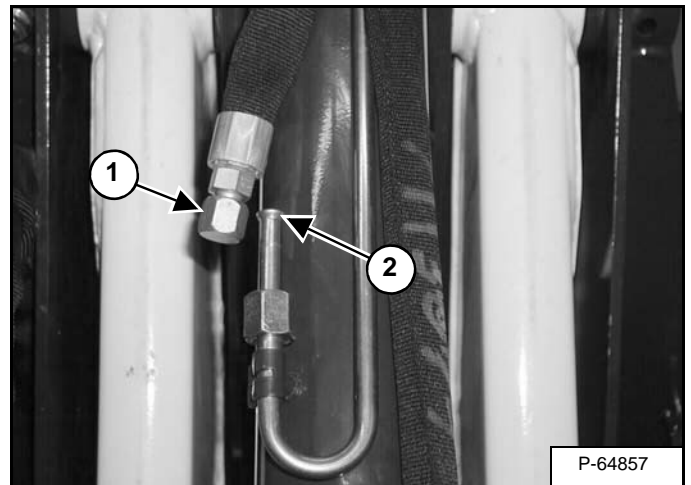
W-2072-0807

Figure 20-21-1



Disconnect the hose from the tilt cylinder base end fitting (Item 1) [Figure 20-21-1].

Figure 20-21-2



Install a cap on the hose (Item 1) [Figure 20-21-2] and tighten.

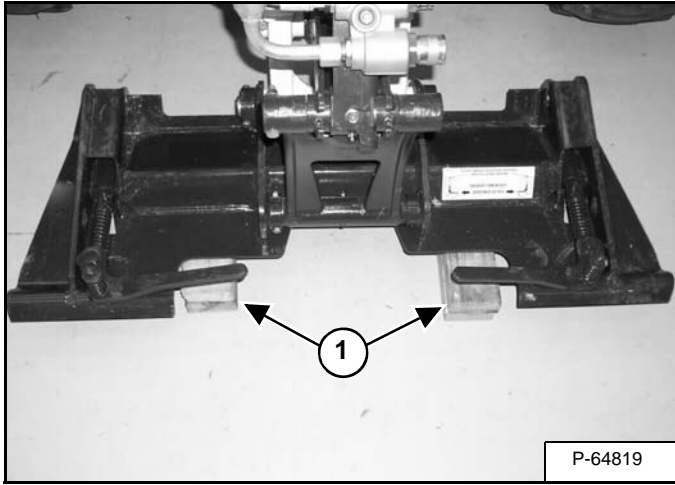
Lower the arm rest. Start the engine. Move the joystick to roll back the tilt arm.

If there is any leakage from the base end cylinder port (Item 2) [Figure 20-21-2], remove the tilt cylinder for repair.

## CYLINDER (TILT) (CONT'D)

### Removal And Installation

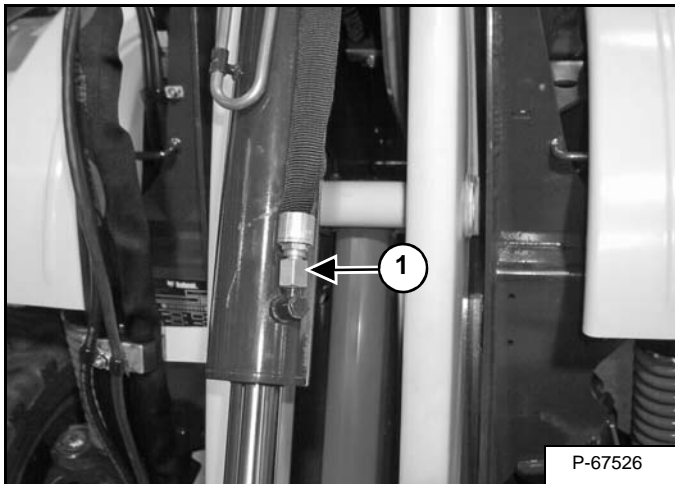
Figure 20-21-3



Tilt the Bob-Tach forward, so it is parallel to the floor. Put blocks (Item 1) [Figure 20-21-3] approximately 76,2 mm (3 in) thick under each side of the Bob-Tach.

Lower the Bob-Tach onto the blocks.

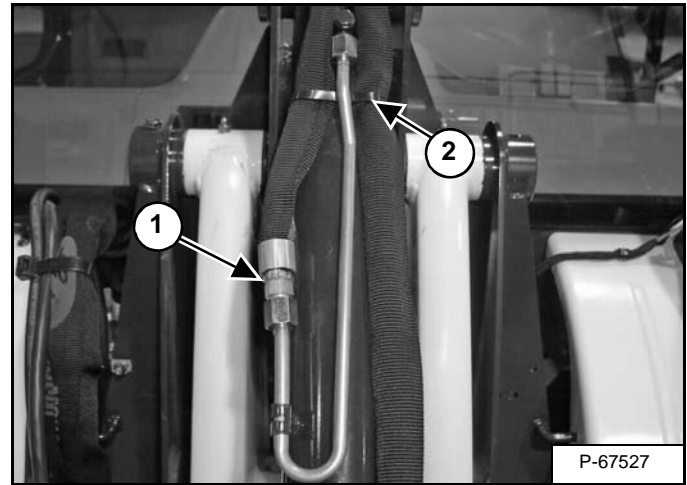
Figure 20-21-4



Disconnect the hose (Item 1) [Figure 20-21-4] from the tilt cylinder rod end fitting.

Install a plug in the hose and tighten.

Figure 20-21-5

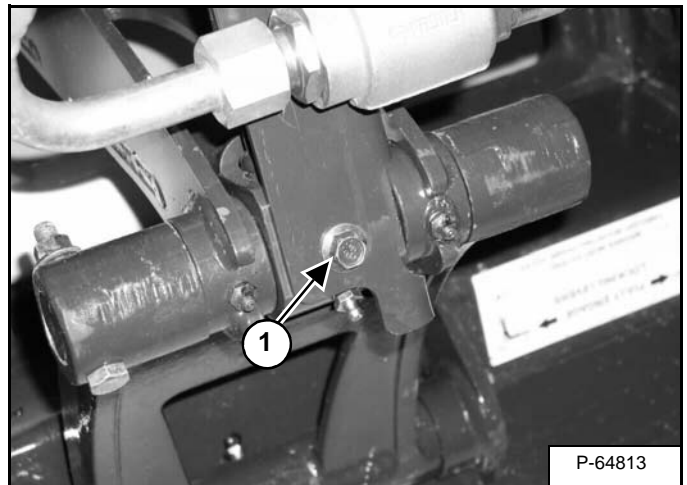


Disconnect the hose (Item 1) [Figure 20-21-5] from the tilt cylinder base end fitting.

Install a cap on the hose and tighten.

Remove the remove the tie-strap (Item 2) [Figure 20-21-5].

Figure 20-21-6



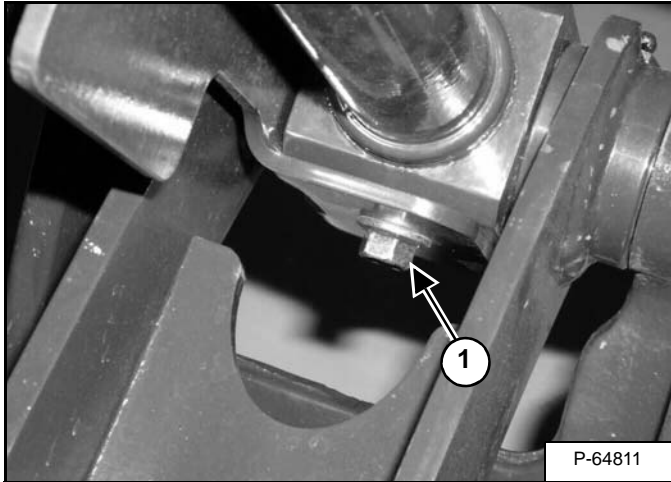
Remove the bolt (Item 1) [Figure 20-21-6] from the tilt cylinder.



## CYLINDER (TILT) (CONT'D)

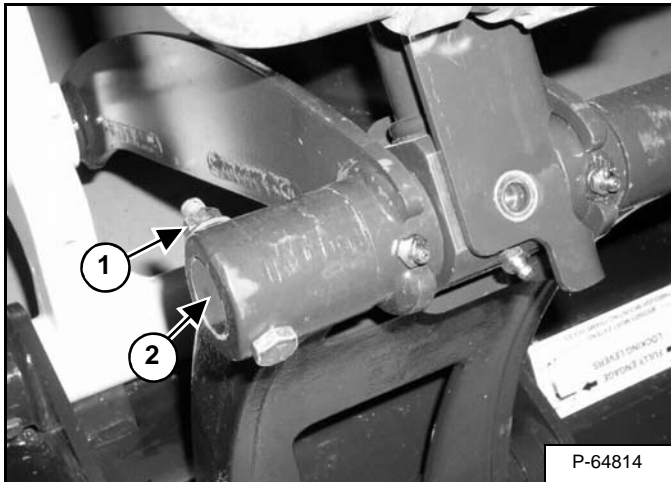
### Removal And Installation (Cont'd)

Figure 20-21-7



Remove the bolt (Item 1) [Figure 20-21-7] from the tilt cylinder.

Figure 20-21-8

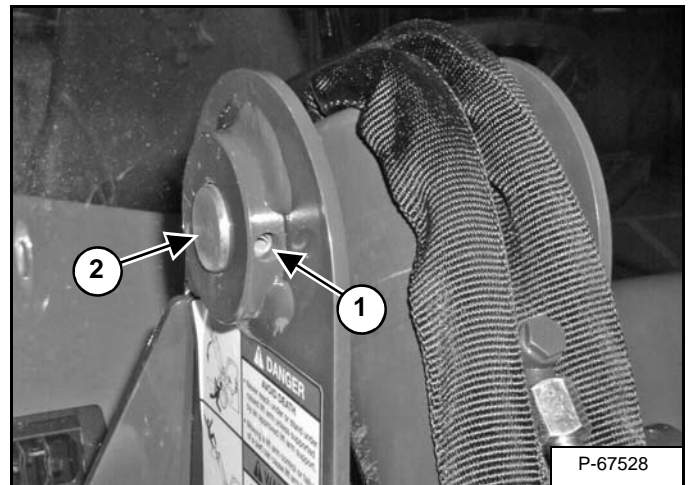


Remove the retainer bolt (Item 1) [Figure 20-21-8].

**Installation:** Tighten the bolt to 43 - 47 N•m (32 - 35 ft-lb) torque.

Remove the tilt cylinder pivot pin (Item 2) [Figure 20-21-8].

Figure 20-21-9



Remove the roll pin (Item 1) [Figure 20-21-9].

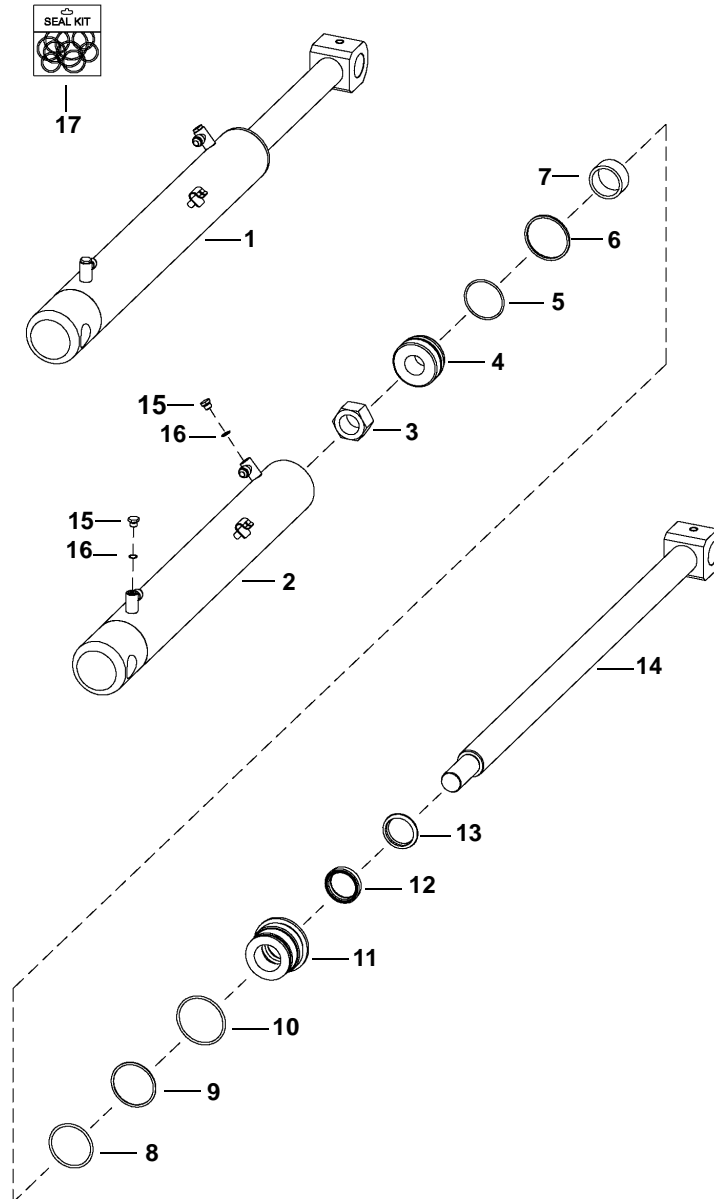
Remove the tilt cylinder pivot pin (Item 2) [Figure 20-21-9].

Remove the tilt cylinder.

# CYLINDER (TILT) (CONT'D)

## Parts Identification

- |             |              |
|-------------|--------------|
| 1. CYLINDER | 10. O-RING   |
| 2. CASE     | 11. HEAD     |
| 3. NUT      | 12. SEAL     |
| 4. PISTON   | 13. SEAL     |
| 5. O-RING   | 14. SHAFT    |
| 6. SEAL     | 15. PLUG     |
| 7. SPACER   | 16. O-RING   |
| 8. O-RING   | 17. SEAL KIT |
| 9. WASHER   |              |



PE2627S

## CYLINDER (TILT) (CONT'D)

### Disassembly

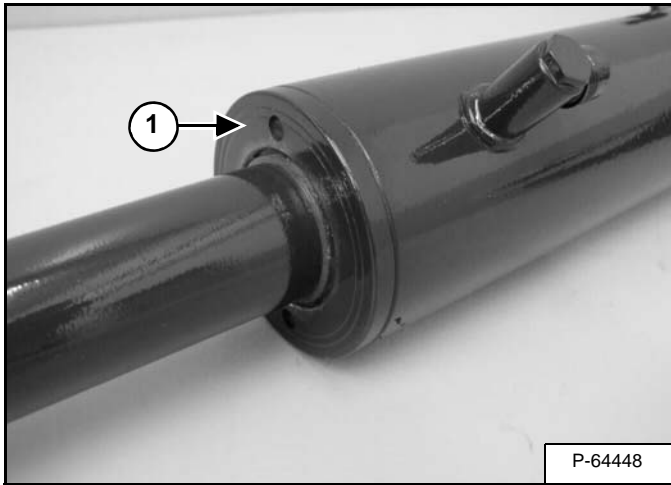
Use the following tools to disassemble the cylinder:

MEL1074 - O-ring Seal Hook  
Spanner Wrench

Hold the hydraulic cylinder over a drain pan and move the rod in and out slowly to remove the fluid from the cylinder.

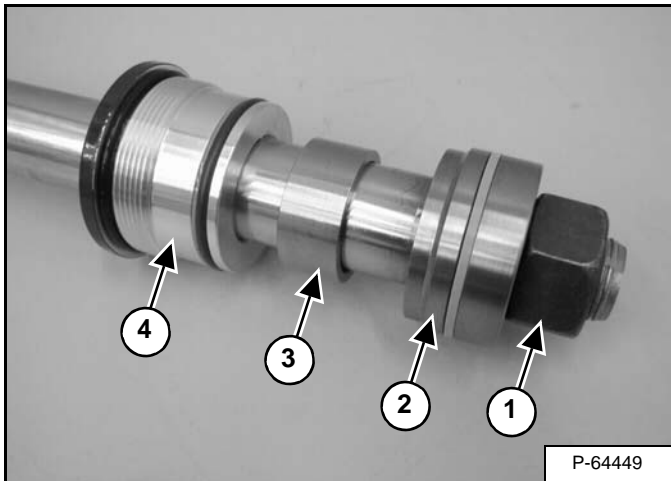
Put the base end of the cylinder in a vise.

**Figure 20-21-10**



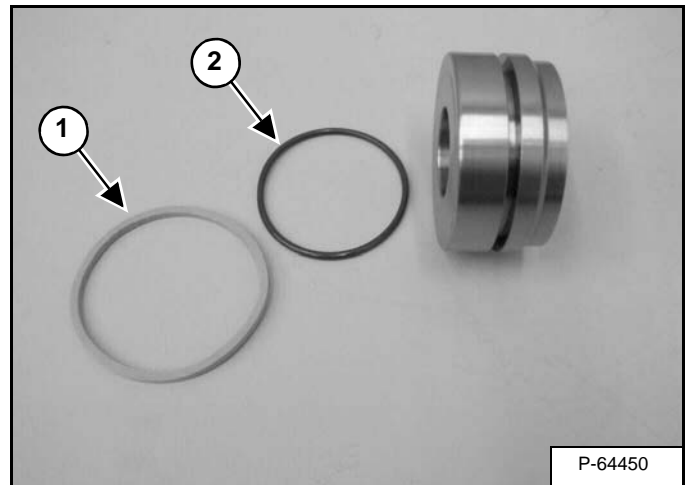
Use a spanner wrench to loosen the head (Item 1) [Figure 20-21-10] from the cylinder case.

**Figure 20-21-11**



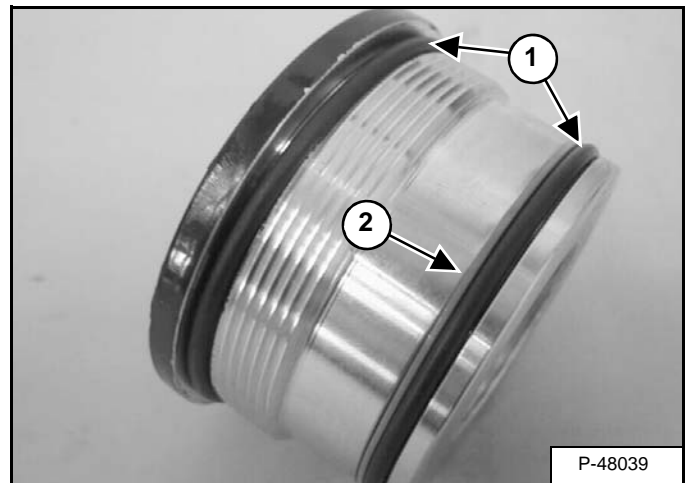
Remove the nut (Item 1), piston (Item 2), spacer (Item 3) and head (Item 4) [Figure 20-21-11].

**Figure 20-21-12**



Remove the seal (Item 1), and O-ring (Item 2) [Figure 20-21-12] from the piston.

**Figure 20-21-13**



Remove the two O-rings (Item 1) and the back-up washer (Item 2) [Figure 20-21-13] from the cylinder head.