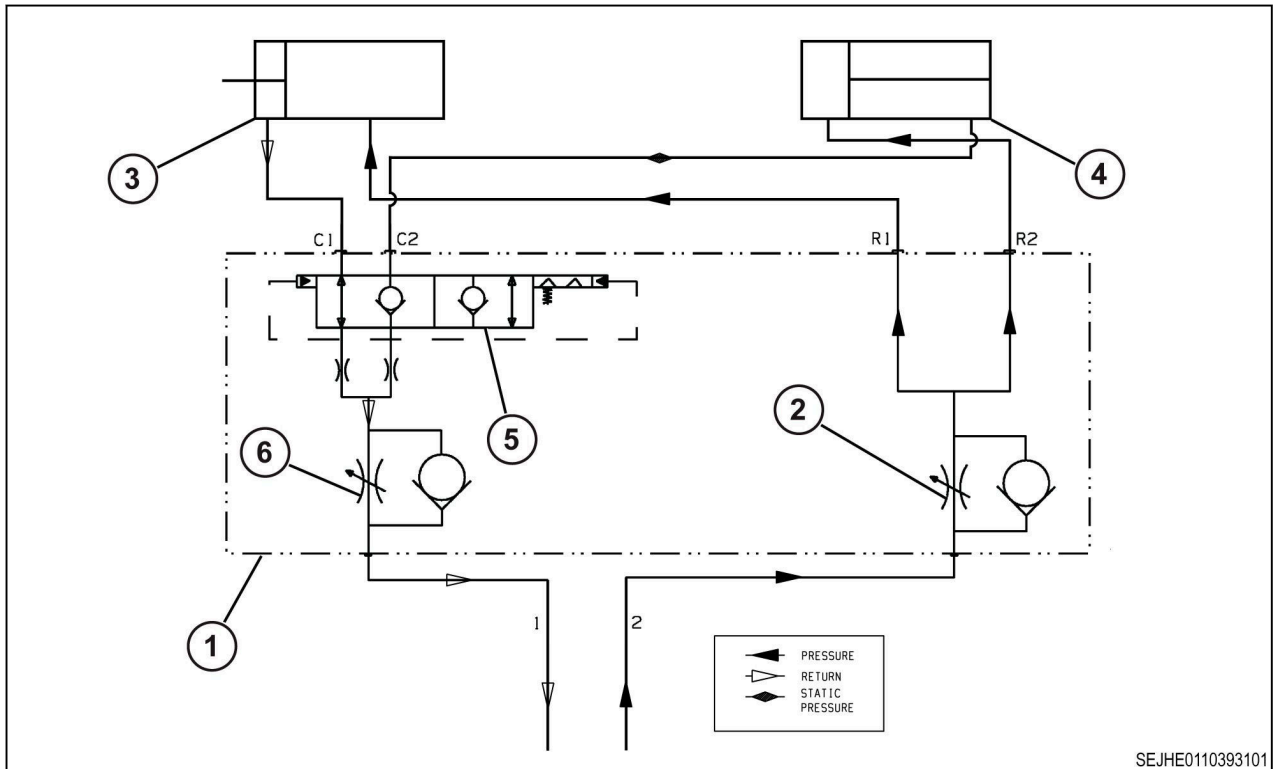


The oil goes out of the tractor remote and enters port 1 of the marker sequence valve (1). The oil goes through the adjustable flow control needle (2) and is divided through two orifices and goes through the spool (3). The oil goes out of the ports C1 and C2 and enters the rod ends of the marker cylinders (4), this will cause the rods to retract and lift the marker arms.

The oil goes out of the base ports of the marker cylinders (4) and enters ports R1 and R2 of the marker sequence valve (1). The oil goes through the adjustable flow control needle (5) and goes out of port 2 and goes back to the tractor.



SEJHE0110393101

Fig. 8

Oil goes out of the tractor and enters port 2 of the marker sequence valve (1). The oil goes through the adjustable flow control needle (2) and is divided. The oil goes out of ports R1 and R2 and enters the base port of the marker cylinders (3), (4). The oil flow enters port C2 and is blocked by the check valve in the spool (5), so the marker cylinder (4) stays retracted and the marker arm lifted. The oil flow from the marker cylinder (3), goes out of the rod port this lets the rod extend and lowers the marker arm.

The oil enters port C1 of the marker sequence valve (1) and goes through the spool (5). As the pressure becomes unbalanced the spool moves and causes the alternative marker arm to lower during the next cycle. The oil then goes through the adjustable flow control needle (6) and goes out of port 1 of the marker sequence valve (1). The oil then goes back to the tractor.

### 3.2.6 9792 / 9776 marker and law circuit

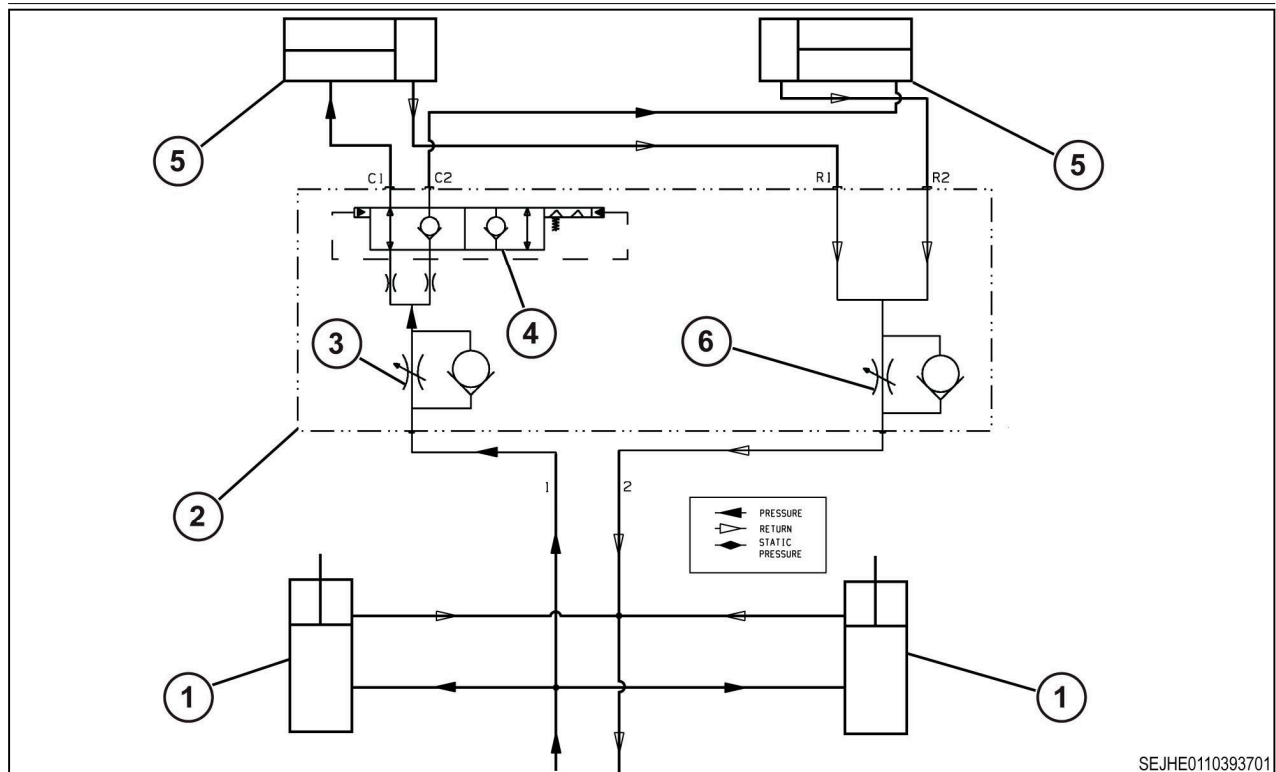


Fig. 9

The oil goes out of the tractor remote and is divided into three directions. The oil first enters the base end of the LAW (lift assist wheels) cylinders (1) and then the marker sequence valve (2). The cylinder rod extends, this will lower the lift assist wheels and lift the machine. The oil goes out the rod ports and goes back to the tractor with the oil comes back from the marker sequence valve (2).

The oil from the tractor remote enters port 1 of the marker sequence valve (2). The oil goes through the adjustable flow control needle (3) and is divided through two orifices and goes through the spool (4). The oil goes out of ports C1 and C2 and enters the rod ends of the marker cylinders (5), this will cause the rods to retract and lift the marker arms.

The oil goes out of the base ports of the marker cylinders (5) and enters ports R1 and R2 of the marker sequence valve (2). The oil goes through the adjustable flow control needle (6) and goes out of port 2. The oil goes back to the tractor along with the oil from the LAW cylinders (1).

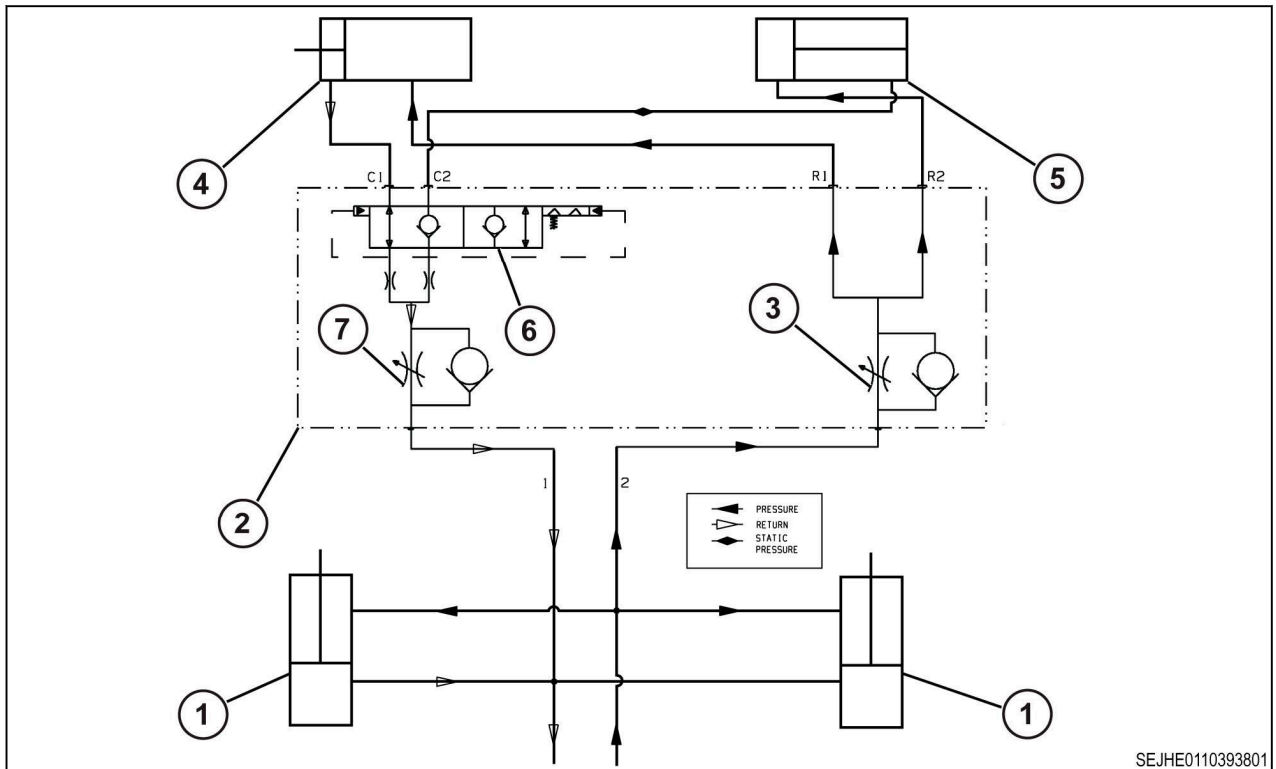


Fig. 10

The oil goes out of the tractor remote and is divided into three directions. The oil first enters the rod end of the LAW cylinders (1) and then the marker sequence valve (2). The cylinder rod retracts, lifts the lift assist wheels and lowers the machine. The oil goes out of the base ports and goes back to the tractor with the oil from the marker sequence valve (2).

The oil from the tractor remote enters port 2 of the marker sequence valve (2). The oil goes through the adjustable flow control needle (3) and is divided. The oil goes out of ports R1 and R2 and enters the base port of the marker cylinders (4), (5). The oil flow enters port C2 and is blocked by the check valve in the spool (6), so the marker cylinder (5) stays retracted and the marker arm lifted. The oil flow from the marker cylinder (4), goes out of the rod port, this will let the rod extend and lower the marker arm.

The oil enters port C1 of the marker sequence valve (2) and goes through the spool (6). As the pressure becomes unbalanced the spool shifts and causes the alternative marker arm to lower during the next cycle. The oil then goes through the adjustable flow control needle (7) and goes out of port 1 of the marker sequence valve (2). The oil then goes to the tractor along with the oil from the LAW cylinders (1).

### 3.3 Gull wing cylinders

#### 3.3.1 Gull wing cylinder components

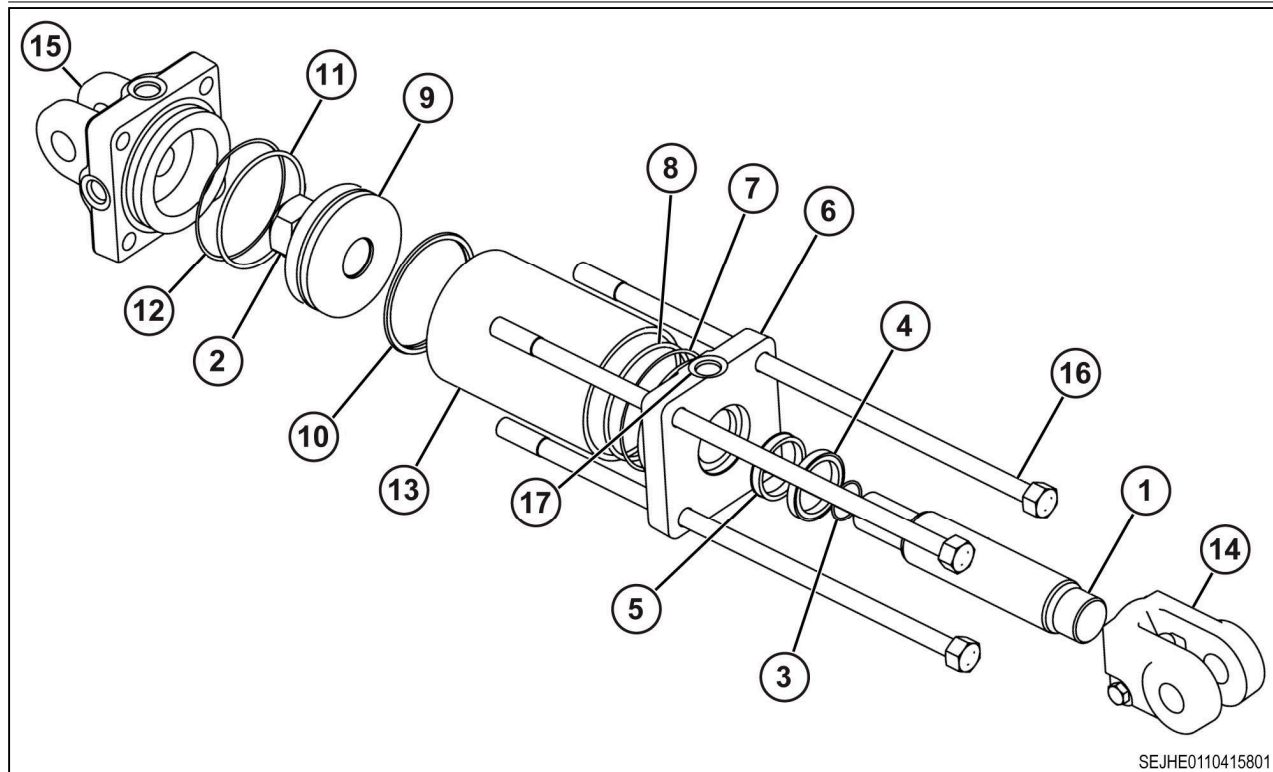


Fig. 11

- |                  |                      |
|------------------|----------------------|
| (1) Cylinder rod | (10) Seal            |
| (2) Lock nut     | (11) O-ring          |
| (3) O-ring       | (12) Seal            |
| (4) Seal         | (13) Cylinder barrel |
| (5) Seal         | (14) Clevis          |
| (6) Head         | (15) Base            |
| (7) Seal         | (16) Tie rod         |
| (8) O-ring       | (17) Hose port       |
| (9) Piston       |                      |

#### 3.3.2 Gull wing cylinder specifications

	9772	9792-36	9792-38	9792-40	9776
Bore		7.6 cm (3.0 inch)			
Stroke		25.4 cm (10.0 inch)			
Retracted		51.4 cm (20.25 inch)			
Rated continuous work pressure		207 bar (3000 psi)			

#### 3.3.3 Remove the cylinder

##### Procedure

1. Park the machine on a solid, level surface.
2. Lower the machine.

3. Put the transmission in neutral and apply the parking brake.
4. Turn off the tractor engine.
5. Block the wheels.

**CAUTION:**

**With tractor engine off, release the inner system hydraulic pressure before you disconnect hydraulic lines or components.**

6. Disconnect the hose (1) from the hose port on the cylinder.

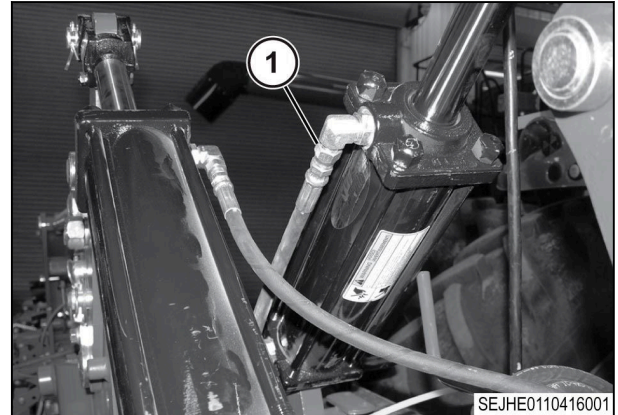


Fig. 12

7. Put a cap the hose end and the cylinder port.

**NOTE:**

*Before removing the components, fasten identification tags on the components for correct assembly.*

8. Pull out the small pins (1) from the cotter pins.

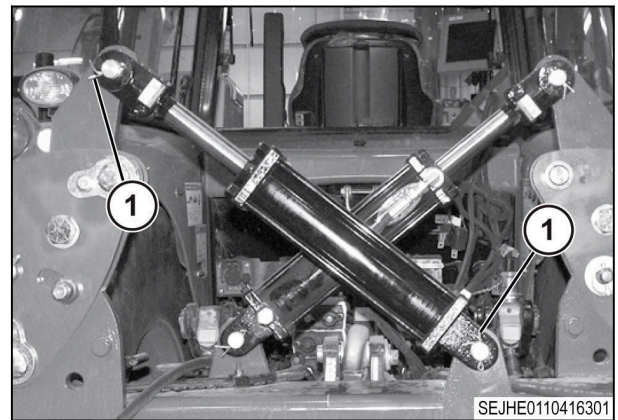


Fig. 13

9. Remove the cotter pins (1).

10. Remove the cylinder (2).

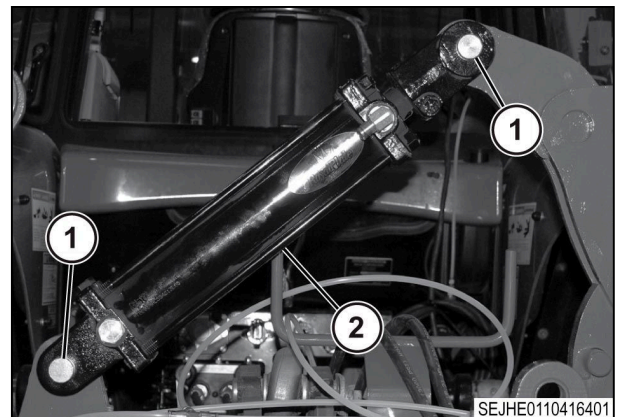


Fig. 14

### 3.3.4 Install the cylinder

#### Procedure

1. Attach cylinder (1) to tongue and hitch.
2. Put the cotter pins (2) into the clevis of the cylinder and frame.

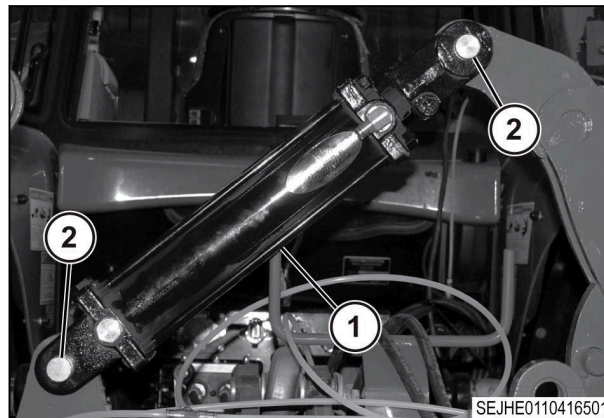


Fig. 15

3. Put the pins (1) into the cotter pins.

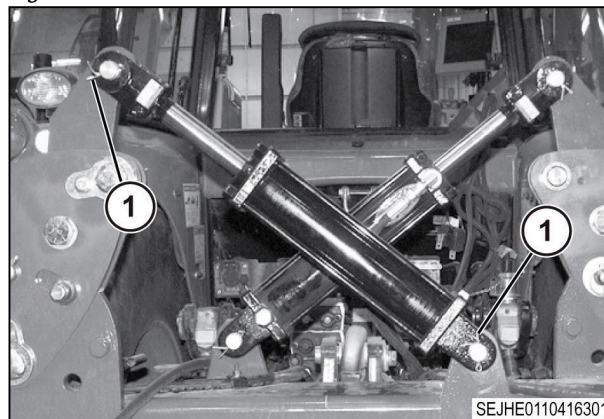


Fig. 16

4. Attach hydraulic hose to fitting (1).
5. Extend and retract the rod to bleed air from cylinder.

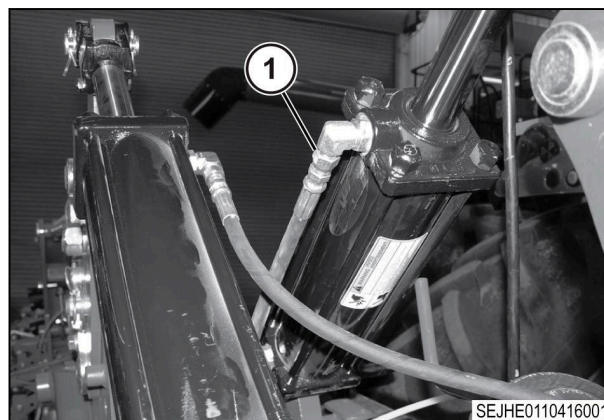


Fig. 17

### 3.3.5 Disassemble the cylinder

#### Procedure

1. Clean the outer area of the cylinder assembly.
2. Put the cylinder barrel in a bench vice with the hose port pointed down.

#### NOTE:

*Do not tighten the vice too much and bend the cylinder barrel*

3. Remove the 90 degree elbow fitting from the port of the cylinder.
4. Put a drain pan below the hose port.
5. Retract and extend the cylinder rod by hand to drain the oil from the cylinder barrel.
6. Remove the tie rod nuts.
7. Remove the tie rods (1) and base (2).
8. Move the cylinder rod (3) assembly out of the cylinder barrel (4).

**IMPORTANT:**

*Do not put a clamp on the chrome finish area of the cylinder rod in the vise.*

9. Remove the piston nut (5).
10. Remove the piston (6).
11. Remove the head (7).
12. Remove and discard the o-rings and seals from the cylinder rod, head, base and piston.
13. Clean the cylinder parts (for inspection purposes), use cleaning solvent.
14. Blow the cylinder parts dry with clean/dry compressed air.

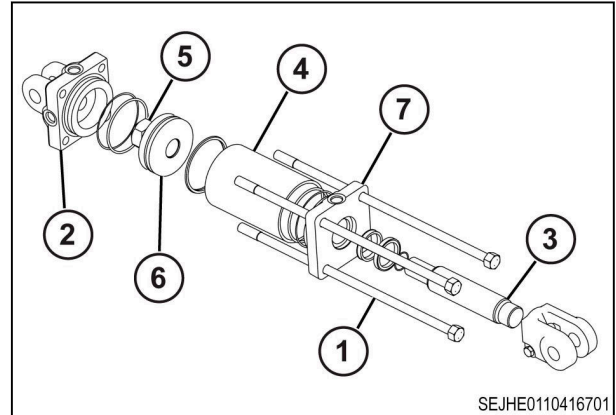


Fig. 18

SEJHE0110416701

### 3.3.6 Inspect the cylinder

**Procedure**

1. Examine the cylinder barrel for a sign of scuffing, scoring, and pitting.
2. Replace the cylinder barrel if necessary.
3. Examine the cylinder rod for a sign of scuffing, pitting, plating, deterioration, or scoring in the travel area of the rod that touch the guide and the o-rings.
4. Replace the cylinder rod if necessary.
5. Examine the bore of the guide for a sign of scuffing, scoring, and pitting.
6. Replace the cylinder guide if necessary.
7. Examine the piston for scuffing, scoring, and pitting on the piston lands.
8. Replace the piston if necessary.
9. Replace all the o-rings when a cylinder is disassembled.
10. Remove nicks or burrs on the cylinder components use a fine emery cloth then clean all parts for assembly.