

## Series RDH Heavy Duty Hydraulic Roundline Cylinders

### Maintenance Instructions, Part Identification & Cylinder Disassembly

#### Clean the Cylinder Exterior

1. Remove all external contaminants (dirt, grease, paint, etc.) from the piston rod and the where the **head** (3) meets the cylinder body.

#### Cylinder Disassembly

1. Remove any accessory, tool or fixture attached to the **rod** (13).
2. Clamp the cylinder to a rigid base. Be sure to avoid excessive clamping of the cylinder body. Excessive clamping of the cylinder body may permanently damage the roundness of the inner diameter.
3. Use an appropriately sized spanner wrench (or Cylinder Service Tool in catalog) to untorque the head from the cylinder body.
4. Carefully slide the head out of the body and then slide it over the end of the rod. Avoid damage to the rod wiper (1) and seal (2). **Note: If the rod end has a welded accessory, please Consult Factory for the procedure to remove the piston from the rod.**
5. Slide the piston rod assembly out from the cylinder body.
6. Using non-marring brass or plastic tools, carefully remove the rod wiper, rod seal and rod wear ring from the head. Then remove the piston seal, piston seal energizer and piston wear ring from the piston.

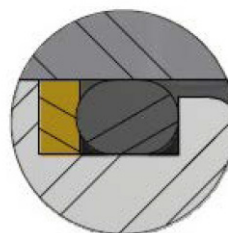
#### Piston Seal and Wear Ring Assembly

7. Install the **piston wear ring** (11) in the wide and shallow piston groove.
8. Install the **piston seal energizer** (8) in the narrow and deep piston groove.
9. Install the **piston seal** (7) on top of the piston seal energizer in the same groove.

#### Head Seals and Wear Ring Assembly

1. Install the **rod wear ring** (4) into the wide groove on the inner diameter of the head (3) from the back side.
2. Install the **rod seal** (2) into the second groove from the front side of the head.
3. Install the **rod wiper** (1) into the first groove from the front side of the head.
4. Install the **end seal backup ring** (5) in the groove on the outside diameter of the head. The backup ring should be placed toward the front side of the groove with the curved face towards the back side of the head.
5. Install the **end seal** (o-ring) (6) into the same groove as the backup ring. See Figure 1.

Figure 1 – Head end seal and backup ring



#### Final Assembly

1. Make sure that the bore of the cylinder body is clean and free of any contaminants.
2. Lubricate the piston and seals with hydraulic fluid and slide the piston rod assembly into the cylinder body.
3. Lubricate the internal and external seals on the head with hydraulic fluid and slide head assembly over the end of rod.
4. Thread the head assembly into cylinder body and torque to the appropriate value displayed in Table 1.

Table 1 – Head Torque

Bore Size	Torque Values in ft.-lb.		
	Minimum Torque	Nominal Torque	Maximum Torque
1.50"	52	55	58
2.00"	67	70	74
2.50"	95	100	105
3.25"	143	150	158
4.00"	166	175	184
5.00"	214	225	236
6.00"	475	500	525
7.00"	475	500	525
8.00"	475	500	525

### Cylinder Construction – 1½" to 5" Bores

Parts List - 1½" to 5" Bore	
Symbol	Description
1	Rod Wiper
2	Rod Seal
3	Head
4	Rod Wear Ring
5	Backup Ring for End Seal
6	End Seal
7	Piston Seal
8	Piston Seal Energizer
9	Piston Joint O-Ring
10	Piston
11	Piston Wear Ring
12	Self Locking Nut
13	Rod
14	Retaining Ring (some mounts)
15	Pivot Pin (some mounts)

### Cylinder Construction – 6" to 8" Bores

Parts List - 6" to 8" Bore	
Symbol	Description
1	Rod Wiper
2	Rod Seal
3	Head
4	Rod Wear Ring
5	Backup Ring for End Seal
6	End Seal
7	Piston Seal
8	Piston Seal Energizer
9	Piston Joint O-Ring
10	Piston
11	Piston Wear Ring
12	Rod
13	Retaining Ring (some mounts)
14	Pivot Pin (some mounts)