



Technical Bulletin

36G, 44G & 52G Cylinder Rod Service Kits and Cylinder Assembly Service Kits

The G-Series Clamp cylinders have been updated with a larger rod end retainment area. Replacement Cylinder Rod Service Kits and Cylinder Assembly Service Kits are available. Two service kits are required per clamp.

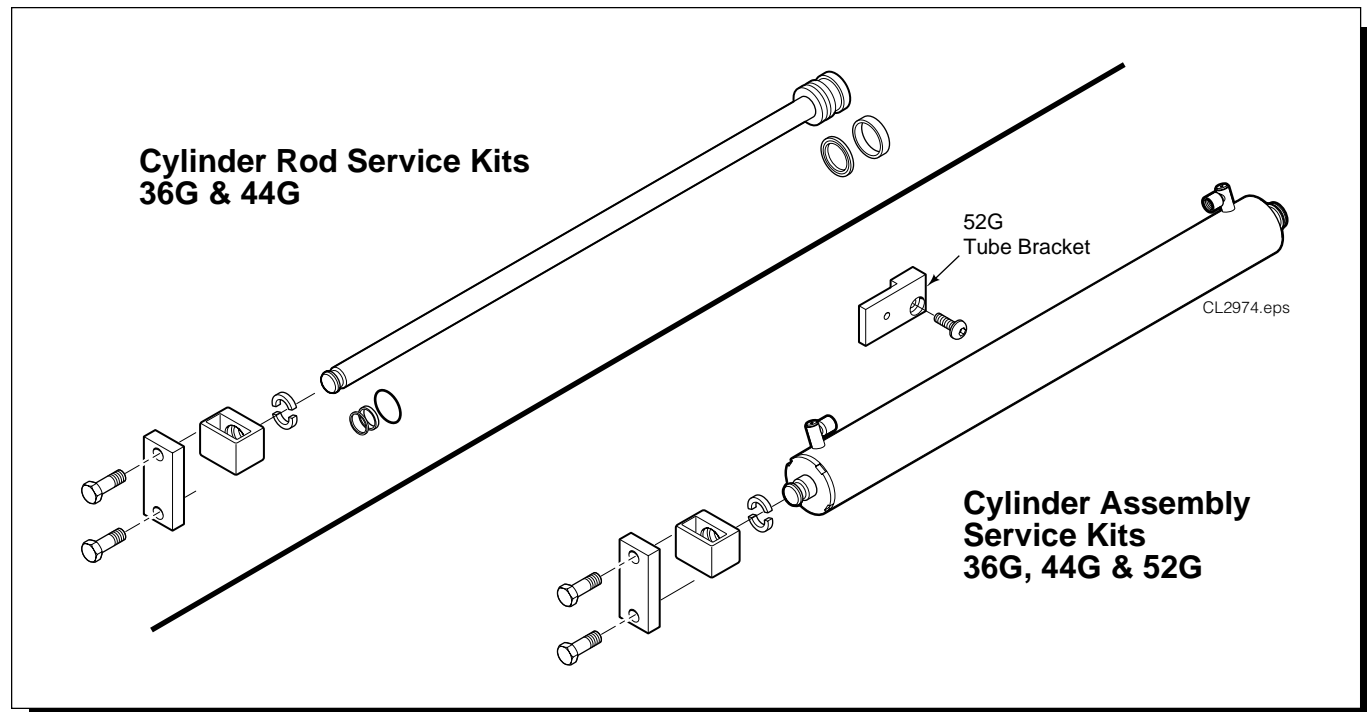
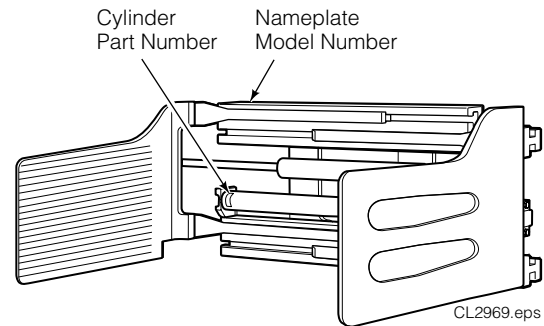
When contacting Cascade to order Service Kits, you will need the **Attachment Model Number** stamped on the nameplate and the **Cylinder Part Number** stamped at the base end of the cylinder shell.

Cylinder Rod Service Kits – 36G & 44G

These kits include a new cylinder rod, seal kit and cylinder rod end anchor hardware.

Cylinder Assembly Service Kits – 36G, 44G & 52G

These kits include a new cylinder and cylinder rod end anchor hardware. 52G kits include a tube bracket and capscrew for the lower cylinder tubes.



NOTE: This information should not be interpreted as the basis for warranty claims unless so designated.

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For Technical Support . . .

Call: 1-800-227-2233 Fax: 1-888-329-8207
Internet: www.cascorp.com
Write: Cascade Corporation, PO Box 20187, Portland, OR 97294


To Order Parts . . .

Call: 1-888-227-2233 Fax: 1-888-329-0234
Internet: www.cascorp.com
Write: Cascade Corporation, 2501 Sheridan Ave., Springfield, OH 45505

Cylinder Removal and Installation

NOTE: The following procedures can be performed with the attachment mounted on the truck.

- 1 Extend the arms outside the width of the frame.
- 2 Remove the bumper capscrews and bumper (if equipped).
- 3 Disconnect the cylinder rod end anchor bars.
- 4 Move the cylinder rod outward to expose the split ring keepers. Remove the keepers and slide the rod end off the cylinder rod.

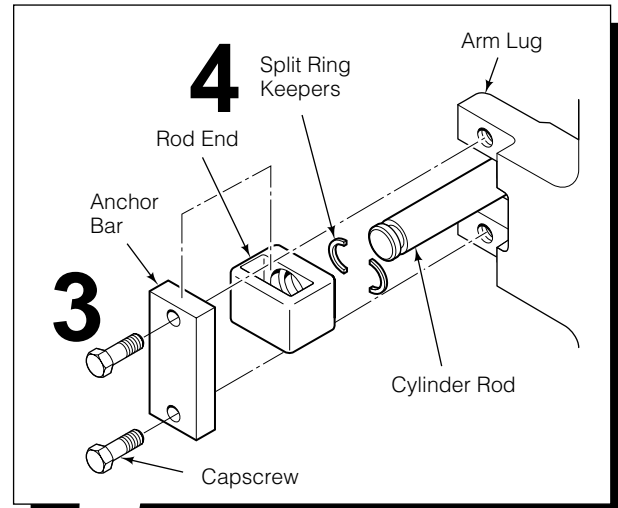


WARNING: Before disconnecting hydraulic lines, relieve pressure in the Attachment hydraulic system. Turn the truck off and move the auxiliary control levers several times in both directions.

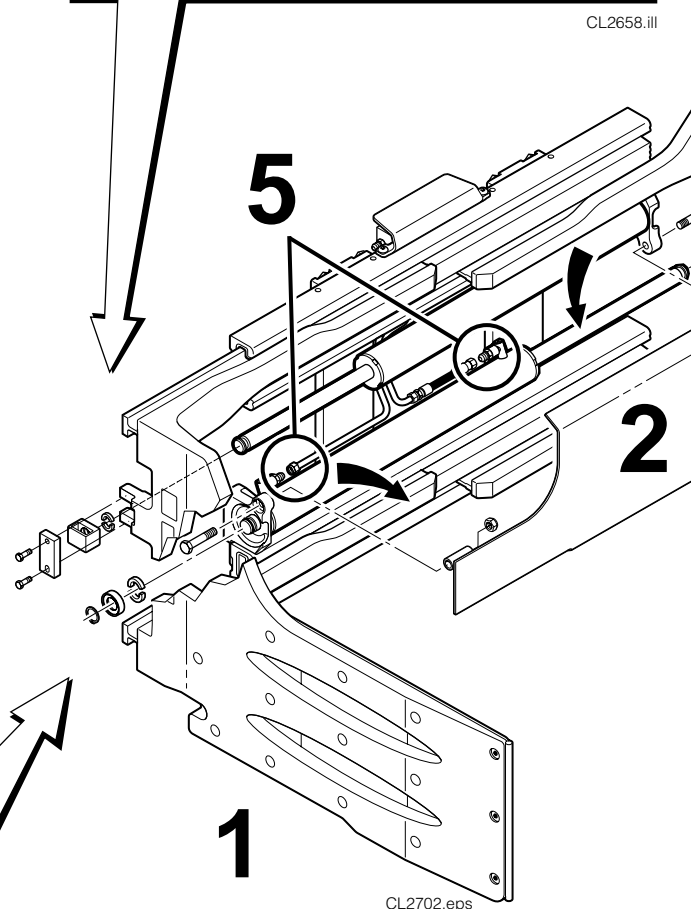
- 5 Loosen the tube brackets and disconnect the hydraulic tubes from the cylinder ports. Keep tubing bends to a minimum. Plug the tubes and cap the cylinder ports. Tag tubes for reassembly.
- 6 Disconnect the cylinder base end by removing the snap ring, sliding the collar outward and removing the keepers. Remove the cylinder from the frame.
- 7 For reassembly, reverse the above procedures with the following exceptions:

- Install new keepers when reinstalling cylinders.
- Tighten the anchor bar capscrews as follows:

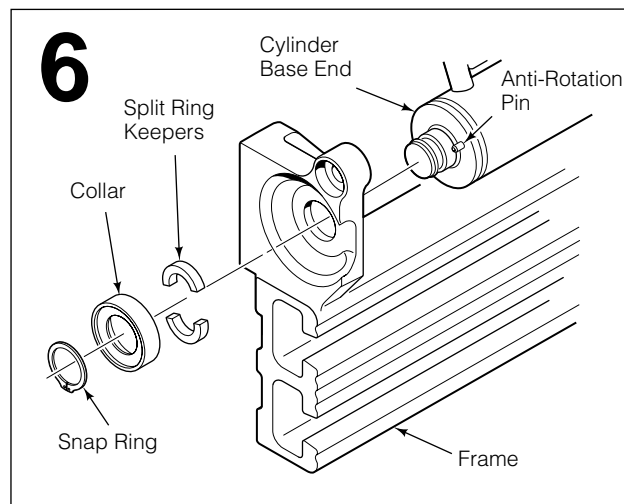
20G	90 Nm (65 ft.-lbs.)
28G, 36G	90 Nm (65 ft.-lbs.)
44G, 52G	225 Nm (165 ft.-lbs.)
- Assure the anti-rotation pin is installed in cylinder base end.
- Cycle the clamp through 5 complete cycles to remove trapped air from cylinders.




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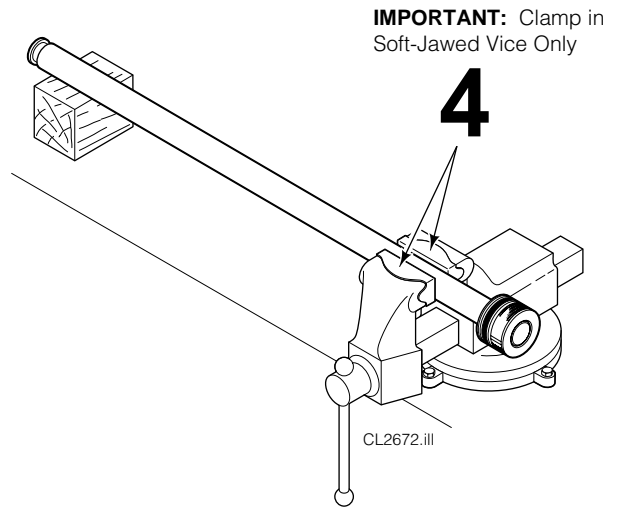
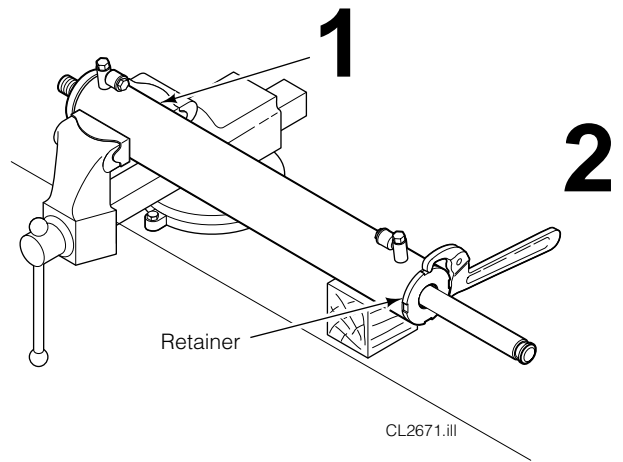
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WARNING: After completing this service procedure, test the clamp through five complete cycles. First test empty, then test with a load to make sure the clamp operates correctly before returning it to the job.

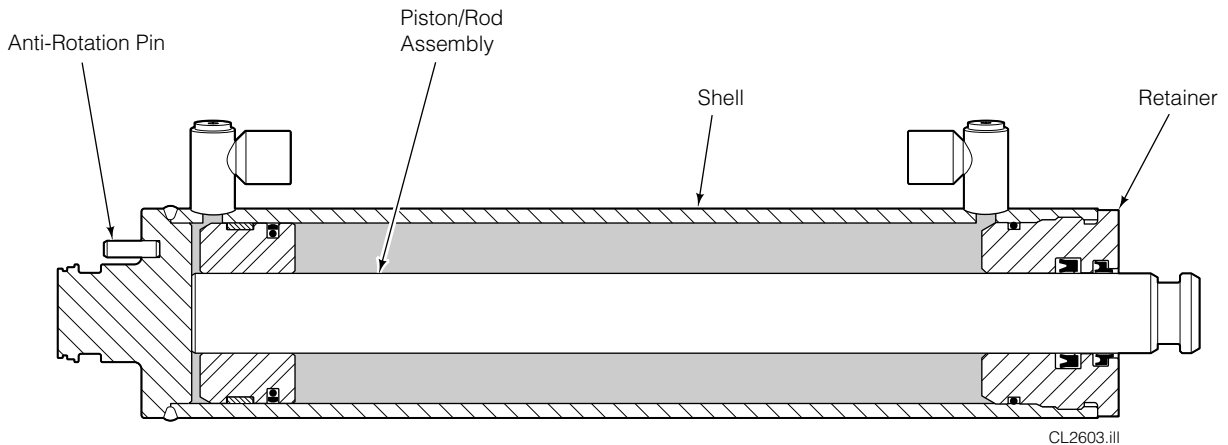
Cylinder Disassembly

- 1 Clamp the cylinder in a soft-jawed vise at the extreme head end only. Do not clamp on the shell.
- 2 Unscrew and remove the retainer using a claw-type spanner wrench as shown. (Cascade Part No. 678598)
- 3 Remove the piston/rod assembly from the cylinder.
- 4 Clamp the piston/rod or retainer in a soft-jawed vise and remove the seals. Piston is a shrink-fit on the rod and not removable. Pry the seals or O-rings up with a brass seal removal tool (Cascade Part No. 674424) and cut the seals to remove them. **CAUTION:** Do not scratch the seal grooves.



Cylinder Inspection

- Inspect the rod, piston and retainer for nicks or burrs. Minor nicks or burrs may be removed with 400-grit emery cloth. If they cannot be removed, replace the parts.
- Inspect the cylinder bore and remove any minor nicks or burrs with a butterfly hone. If they cannot be removed, replace the part.
- Inspect the outside of the shell for any deformities or cuts that could impair performance or cause leaks under pressure. If necessary, replace the part.
- Inspect the rod-end anchor parts for wear and replace as necessary.
- Inspect anti-rotation pin for wear or looseness and replace as necessary.



Cylinder Reassembly

- 1 Polish the piston and retainer chamfer angles with 400-grit emery cloth to ease seal installation.
 - 2 Lubricate all new seals and O-Rings with O-Ring lube or petroleum jelly.
 - 3 Install a new two-piece seal on the piston. Assure that the inner O-Ring (round or square-section) is installed in the bottom of the groove, and the composite outer ring is installed on top. Install seals from the rod end side of the piston by hooking one side into the groove and carefully working the seal over the piston as shown.
 - 4 Install the composite wear ring on the piston.
 - 5 Install a new seal and wiper in the retainer bore, and a new O-Ring on the retainer O.D. as shown.
- NOTE:** Internal seal installation tool (Cascade Part No. 599512) may be used to ease seal installation. If installing by hand, form the seal into a 'kidney' shape and position into the internal groove. Use finger pressure to smooth the seal into the groove.
- 6 **IMPORTANT:** Prior to loading the piston into the shell, assure that no sharp edges exist on the internal threads in the shell.
 - 7 Apply O-Ring lube or petroleum jelly to the piston and shell internal threads. Using a rubber mallet, tap the piston/rod assembly into the cylinder shell.
 - 8 Apply petroleum jelly to the retainer bore and slide it onto the rod. Screw the retainer into the shell. Tighten the retainer to a torque of 100–170 Nm (75–100 ft.-lbs.).
 - 9 Assure anti-rotation pin fits tightly in place. Replace if necessary (M6 x 20).

