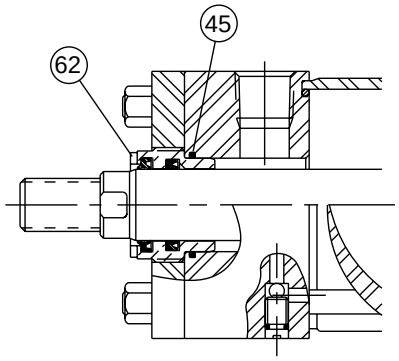
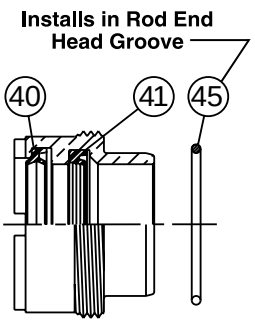
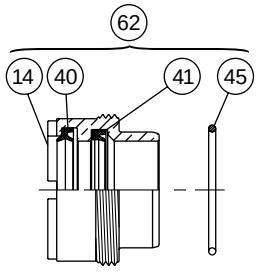
TS-2000 Gland Seal Kits for Hydraulic Cylinders

(Gland Cartridges & Rod Seals, including TS-2000 Rod Seals) For Series H, 2H, 7" & 8" Bore 3H, VH, L, 2L & 3L Hydraulic Cylinders







Gland Cartridge Kit

RG kit (symbol 62) contains 1 each of the following:
- symbol 14, gland, threaded cartridge type
- symbol 40, rod Wiperseal
- symbol 41, rod Lipseal
- symbol 45, O-ring gland to head seal

Rod Seal Kit

RK kit contains 1 each of the following:
- symbol 40, rod Wiperseal
- symbol 41, rod Lipseal
- symbol 45, O-ring gland to head seal

Service kits of expendable parts for hydraulic cylinders are stocked in principal industrial locations across the U.S.A. and other countries. For prompt delivery and complete information, contact your nearest Parker Hannifin distributor or office.

Standard Seals – Class 1 Service Kits are standard, and contain polyurethane and Buna-N seals for standard hydraulic service. These seals are suitable for use when hydraulic (mineral-type) oil is the operating medium. The recommended operating temperature range for Class 1 seals is -10½F (-23½C) to +165½F (+74½C).

The seals contained in these kits are supplied as standard on all Series 2H,* VH, 3L and 7" and 8" bore 3H cylinders manufactured after Sept. 30, 1990 for Class 1 hydraulic (mineral) oil service.

The seals contained in these kits are interchangeable for hydraulic (mineral) oil service on all Series H,* 2H,* VH, L, 2L and 3L cylinders manufactured prior to Sept. 30, 1990.

Class 1 Hydraulic Service Only*

Rod. Dia.	Gland Cartridge Kits (Sym. #62) Class 1 (Std.) Buna-N (Nitrile) & Polyurethane	Rod Seal Kits Class 1 (Std.) Buna-N (Nitrile) & Polyurethane
1/2"	RG2HLTS051	RK2HLTS051
5/8"	RG2HLTS061	RK2HLTS061
1"	RG2HLTS101	RK2HLTS101
1 3/8"	RG2HLTS131	RK2HLTS131
1 3/4"	RG2HLTS171	RK2HLTS171
2"	RG2HLTS201	RK2HLTS201
2 1/2"	RG2HLTS251	RK2HLTS251
3"	RG2HLTS301	RK2HLTS301
3 1/2"	RG2HLTS351	RK2HLTS351
4"	RG2HLTS401	RK2HLTS401
4 1/2"	RG2HLTS451	RK2HLTS451
5"	RG2HLTS501	RK2HLTS501
5 1/2"	RG2HLTS551	RK2HLTS551

*The kits listed above do not fit 10" & 12" bore Series H & 2H Hydraulic Cylinders. See Bulletin #0995-M4.

For additional information – call your local Parker Cylinder Distributor.

How To Replace Cylinder Gland Packing

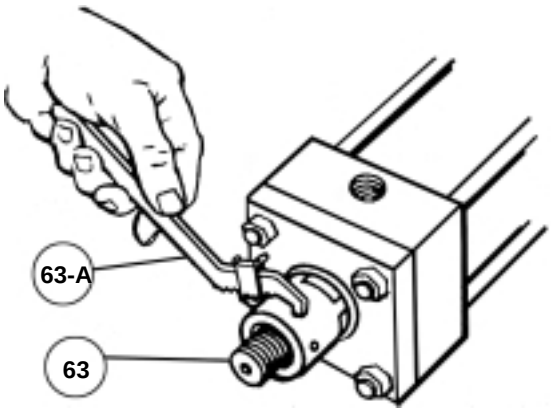
Fluid leakage around piston rod at the gland area will normally indicate a need to replace gland seals. First, remove cylinder from machine to which it is mounted or, if this is not feasible, disconnect the piston rod from rod clevis, knuckle or machine member to which it is fastened.

The Parker Hannifin "Jewel" gland is a unique cartridge design consisting of a bronze gland, primary lipseal and double lip wiperseal. It is threaded into the gland retainer plate, and all sizes are removable without disturbing the tie rod torque.

To remove the gland:

a) Inspect the piston rod to make sure it is free of burrs or other displaced metal which would prevent sliding the gland off of the rod.

b) For most cylinders, unscrew the gland (right hand thread) from gland retainer plate. On 7" and 8" bore series 3H, all JJ mounting styles and 8" bore low pressure hydraulic cylinders remove the socket head cap screws securing the round or square retainer plate. The gland protrudes from the face of the retainer and can be removed with vice grip pliers. Or use a Parker Hannifin gland and spanner wrench shown in the table below.



c) Slide the gland off of the piston rod and remove the seals. Thoroughly clean the gland and seal grooves. Inspect gland bore for wear. If bore is worn, replace – using gland cartridge (RG) kit complete with with seals.

d) If gland is not worn, replace seals only using rod seal (RK) kit. Lubricate gland seal grooves and all new seals. Install wiperseal, Sym. #40, in groove closest to end of gland. Install lipseal, Sym. #41, in seal groove. **Lips of seal should point toward the long bearing side of the gland.**

e) An O-ring, Sym. #45, is supplied with each gland cartridge kit. It serves as a seal between the gland and the head. This O-ring is a static seal and does not normally require replacement. The original O-ring may be left in place, unless it is known to be leaking (fluid flow around gland thread).

Retainer Bolt Torque* For Cylinders with Round or Small Square Gland Retainer

Screw Size	Torque*	
#10	15 in.-lbs.	17 cm-kg
1/4"	60 in.-lbs.	69 cm-kg
5/16"	10 ft.-lbs.	14 N.m
3/8"	20 ft.-lbs.	27 N.m
7/16"	35 ft.-lbs.	48 N.m

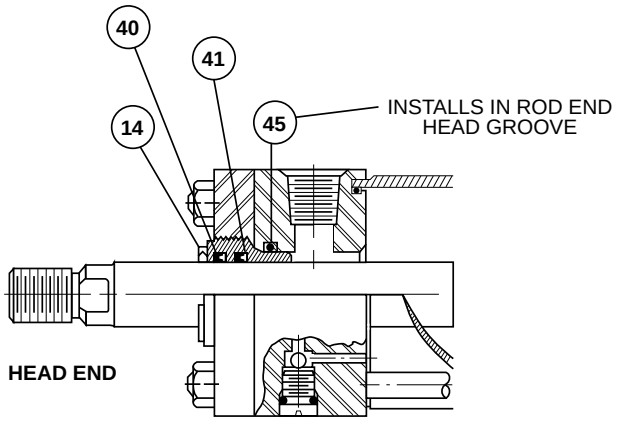
(*-0%, +5%) tolerance.

Installation

Before installing a new gland, inspect the surface of the piston rod for scratches, burrs, dents or other damage. A damaged piston rod surface will result in premature rod seal failure.

Lubricate the bore of the gland and the seals, and slide the gland over the end of the piston rod. Thread the gland into the retainer until it is sealed firmly against the head. The gland-to-head O-ring, Sym. #45, serves as a torque prevailing lock.

THE SEALS ARE PRESSURE ACTUATED, SO NO FURTHER ADJUSTMENTS ARE NECESSARY.



When replacing a gland on a rod which is threaded to the full diameter or so shaped that it could damage the seals, a slight rotary motion of the gland will help prevent damage. In addition, because full-diameter threads are usually supplied with the crest of the threads slightly truncated, a piece of shim stock or other thin, tough material can be wrapped around the threads to help protect the gland seals when they are being passed over the threads.

Tie Rod Torque*

Cylinder Bore Size	Cylinder Series L - 2L - 3L		Cylinder Series H - 2H -VH - 3H	
1"	35 in.-lbs.	41 cm-kg	–	–
1 1/2"	60 in.-lbs.	69 cm-kg	18 ft.-lbs.	24 N.m
2" & 2 1/2"	11 ft.-lbs.	15 N.m	45 ft.-lbs.	61 N.m
3 1/4"	25 ft.-lbs.	34 N.m	120 ft.-lbs.	163 N.m
4"	25 ft.-lbs.	34 N.m	131 ft.-lbs.	178 N.m
5"	60 ft.-lbs.	81 N.m	312 ft.-lbs.	423 N.m
6"	60 ft.-lbs.	81 N.m	528 ft.-lbs	716 N.m
6"	L, 2L = 244 ft.-lbs.	L, 2L = 281 N.m	–	–
7"	90 ft.-lbs.	122 N.m	800 ft.-lbs.	1085 N.m
8"	110 ft.-lbs.	149 N.m	1168 ft.-lbs.	1584 N.m
8"	L, 2L = 513 ft.-lbs.	L, 2L = 591 N.m	–	–

*(-0%, +5% tolerance)
When assembling the cylinder, be sure to torque the tie rods evenly.

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