

HILCO® TRANSFER VALVE INSTALLATION, OPERATION AND SERVICE INSTRUCTIONS



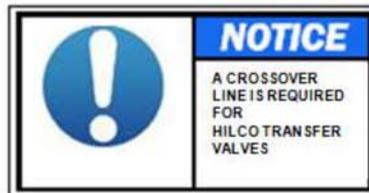
1.0 INSTALLATION:

1.1 Piping

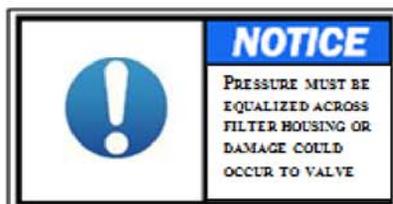
1.1.1 Make sure connecting piping and flanges are straight and properly aligned with valve connection before bolting or welding.

1.1.2 Do not use valve to support piping runs as this will overstress the nozzles and may damage them.

1.2 Crossover



1.2.1 A crossover (equalization) line must be installed in the system to equalize pressure across the valve when turning sealing mechanism.



1.2.2 When pressure is equalized the valve stem will turn easily

2.0 OPERATION:

2.1 Turning Sealing Mechanism

2.1.1 Open system crossover line to equalize pressure across valve

2.1.2 Pull up handle lock ring to disengage pin from recess in cover.

2.1.3 Turn handle to new position and allow locking pin to snap into cover.

2.1.4 Close crossover line.

2.2 Reversing Handle (If applicable)

2.2.1 Some valve models are furnished with a reversible handle.

2.2.2 The handle has two locations for the locking pin that allow it to be positioned for accessibility from either side of the valve.

2.2.3 To reverse handle, remove locking pin and drive out pin that fastens handle to stem.

2.2.4 Turn handle 180°, reassemble locking pin, and reinstall spring pin.

3.0 SERVICING:



3.1 Stem Seal

- 3.1.1 Remove valve handle and top cover bolts.
- 3.1.2 Use two cover bolts in cover jacking screw holes to remove cover.
- 3.1.3 Remove seal from groove in shaft stem and make sure groove is clean and burr free.
- 3.1.4 Lubricate new seal with “Parker Super O-Lube” and install in stem groove.
- 3.1.5 Check to make sure cover seal is in position.
- 3.1.6 Make sure seal is clean and lubricated.
- 3.1.7 Cover seal should be changed whenever the shaft stem seal is replaced. (See 3.2)



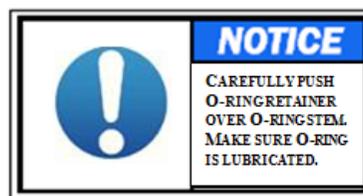
- 3.1.8 Install the cover over the valve shaft stem and carefully push it over the shaft steam seal until the cover seats in the valve body.



- 3.1.9 Replace the cover bolts and tighten snugly.
- 3.1.10 Cover has offset bolt holes and will fit only one way.
- 3.1.11 Re-install valve handle.

3.2 Top or Bottom Cover Seals

- 3.2.1 Repeat step 3.1.1
- 3.2.2 Repeat step 3.1.2
- 3.2.3 Remove old seal from groove in cover and make sure groove is clean and burr free.
- 3.2.4 Lubricate new seal with “Parker Super O-Lube” and install in cover groove.
- 3.2.5 Replace valve shaft stem seal when you replace the top cover seal. (See 3.1)



- 3.2.6 Replace cover and cover bolts.
- 3.2.7 Cover has offset bolt holes and will fit only one way.
- 3.2.8 Re-install valve handle.

3.3 Sealing Mechanism

3.3.1 See 3.1.1

3.3.2 See 3.1.2

3.3.3 Rotate mechanism slightly in one direction while lifting.

3.3.4 When sealing pads show at top of valve body during removal , hold pads against spring pressure and continue to remove mechanism until pads and springs can be removed.

3.3.5 Protect pad surface while out of valve body.

3.3.6 Follow the same procedure for lower set of pads.

3.3.7 Carefully remove seal from center groove on sealing mechanism.

3.3.8 Check sealing mechanism and groove for cleanliness and burrs.

3.3.9 Clean as needed and carefully stone any burrs.

3.3.10 Check inside of body for cleanliness and burrs after cleaning.

3.3.11 Clean as needed and carefully stone any burrs.

3.3.12 Apply a light coat of new oil, 100-200 SSU, to the body bore, shaft and sealing pads using a lint free cloth or brush.

3.3.13 Lubricate the new seal with “Parker Super O-Lube” and install it in the valve shaft groove.



3.3.14 Carefully insert lower end of valve shaft into valve body.

3.3.15 Insert sealing pad springs into spring pockets.

3.3.16 Place sealing pads over spring and press into sealing pad guides.

- 3.3.17 Carefully push valve shaft and sealing pads into valve body while holding shoes in against spring pressure.
- 3.3.18 If necessary turn valve shaft slowly in one direction.
- 3.3.19 When valve shaft seal enters valve body, install upper sealing pad, springs, and sealing pads.
- 3.3.20 Push valve assembly slowly to prevent cutting the shaft assembly into valve body while turning slowly in one direction.
- 3.3.21 Insert mechanism assembly slowly to prevent cutting the shaft seal on the port openings of the valve body.
- 3.3.22 Once mechanism is in valve body, align prick punch mark on stem with center valve inlet to port.
- 3.3.23 When replacing sealing mechanism it is recommended that both the steam seal and cover seal be replaced at the same time. (See 3.1 & 3.2)
- 3.3.24 Cover has offset bolt holes and will fit only one way.
- 3.3.25 Replace top cover and cover bolts.
- *Note: Please refer to torque table on page 7 of this IOM***
- 3.3.26 Re-install valve handle and check to make sure the valve turns smoothly without binding.



4.0 BY-PASS LEAKAGE:

- 4.1 There should be no by-pass leakage from the inlet to the outlet port of the valve.
- 4.2 If leakage exists, replace the damaged seal.
 - 4.2.1 “B” style transfer valve: These valves have metal to metal seats and are designed for oil service.
 - Leakage up to 75 ml/min is acceptable.
 - 4.2.2 “E” style transfer valve: These valves have pads with elastomeric quad seals and are designed for oil or water service.
 - Leakage up to 1 ml/min for water or 100 SSU oil is acceptable.

*Parker O-Lube is a register trademark of Parker seal Lexington, KY.

Bolt Size (Diameter)	Torque Specification
5/16”	6-8 lb.ft.
3/8”	10-12 lb.ft.
1/2”	25-30 lb.ft.
5/8”	50-60 lb.ft.
3/4”	90-100 lb.ft.

ANSI Z535 Safety Index Please Refer to ANSI Z535 Documents for more in-depth description.



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

A1.2 Signal words

The meaning of the different signal words as defined in this standard may be explained in collateral materials. The following artwork may be used for this purpose.



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury



CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury



NOTICE is used to address practices not related to physical injury



Safety instruction (or equivalent) signs indicate specific safety-related instructions or procedures



A



B



C

(A) for use with **DANGER** signal word (white triangle, safety red exclamation mark, and safety red background)
 (B) for use with **WARNING** signal word (black triangle, safety orange exclamation mark)
 (C) for use with **CAUTION** signal word (black triangle, safety yellow exclamation mark)



D



E

(D) and (E) for use with **DANGER**, **WARNING**, or **CAUTION** signal words or no signal word ((D) has a safety yellow background, black border, and black exclamation mark; (E) has a safety yellow border around a black band.)

NOTE—D and E are provided to allow for consistency with certain ISO standards, such as ISO 3864-1 and ISO 3864-2.



F



G

(F) and (G) for use with **DANGER**, **WARNING**, or **CAUTION** signal words or no signal word