

Seal Kits

312348 rev.A

To replace proportioning pump piston seal sets or cylinder seal sets used on Hydraulic Proportioners.



Important Safety Instructions

Read all warnings and instructions in proportioning pump manual 311391. Save these instructions.

Piston Seal Kits, see page 2

Cylinder Seal Kits for A-Side Pumps, see page 3


Cylinder Seal Kits for B-Side Pumps, see page 4


Seal Kit Installation, see page 5

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Piston Seal Kits for A-Side and B-Side Pumps

 Parts with a checkmark (✓) in the following table are included in the kits.



Before beginning, follow the **Pressure Relief Procedure** in proportioning pump manual 311391.

Pump A-Side	Pump B-Side	Proportioning Pump Size	Kit Part No.	A (Piston Seal Wiper Ring)	B (Wear Ring)	C (Piston Seal Support)	D (Piston Seal)	E (Piston Support Washer)	Fig.
		28	261756	✓	✓	✓	✓		1
	295044	40	261726	✓	✓	✓	✓	295647	2
		44	297845	✓	✓	✓	✓	297184	1
	295045	48	261729	✓	✓	✓	✓	295648	2
297675	296799	60	261732	✓	✓	✓	✓	295276	2
296807	296800	80	298013	✓	✓	✓	✓	296796	2
295155	296802	96	297848	✓	✓	✓	✓	295279	1
295156	295050	104	261753	✓	✓	✓	✓	295284	2
296749	296748	120	298011	✓	✓	✓	✓	296795	2

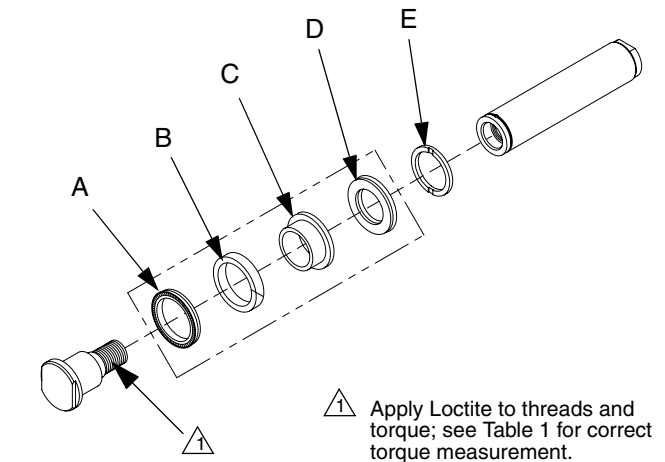


FIG. 1: Piston Seal Kit

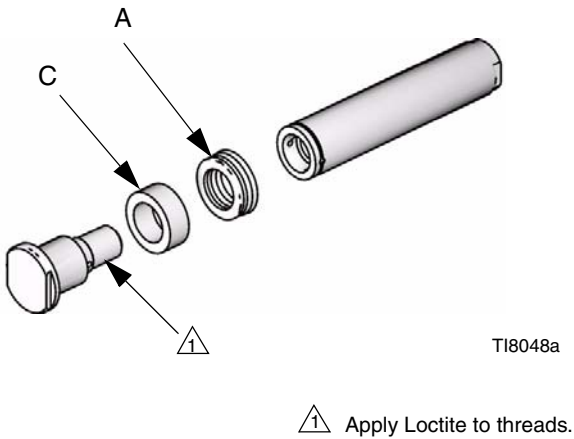




FIG. 2: Piston Seal Kit

Cylinder Seal Kits for A-Side Pumps

 Parts with a checkmark (✓) in the following table are included in the kits.



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Before beginning, follow the **Pressure Relief Procedure** in proportioning pump manual 311391.

Pump A-side	Proportioning Pump Size	Kit Part No.	A (Cylinder Seal)	C (Gasket)	D (Bearing)	* E (Outlet Flange)	* F (Retainer Flange)	* G (Adapter Ring)
295044	40	261724	✓	✓	✓	295064	295159	295243
297675	60	261730	✓	✓	✓	295066	295159	295244
296804	80	261733	✓	✓	✓	296803	295159	295245
295155	96	297871	✓	✓	✓	295069	295159	295247
295156	104	261754	✓	✓	✓	295070	295159	295248
296749	120	298010	✓	✓	✓	295072	295159	

* Not included in kit.

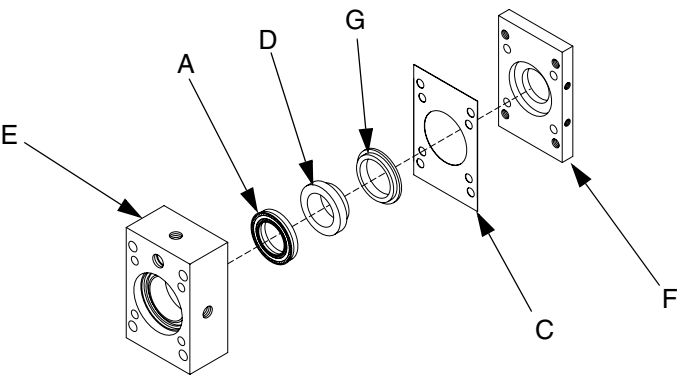




FIG. 3: Cylinder Seal Kit for A-Side Pumps

Cylinder Seal Kits for B-Side Pumps

 Parts with a checkmark (✓) in the following table are included in the kits.



Before beginning, follow the **Pressure Relief Procedure** in proportioning pump manual 311391.

Pump B-side	Proportioning Pump Size	Kit Part No.	A (Cylinder Seal)	B (Grease Bushing)	C (Gasket)	* E (Outlet Flange)	* F (Retainer Flange)
	28	261757	✓	✓	✓	295142	295074
295044	40	261725	✓	✓	✓	295064	295076
295045	48	261728	✓	✓	✓	295065	295078
296799	60	261731	✓	✓	✓	295066	295079
296800	80	261734	✓	✓	✓	296803	295080
295050	104	261755	✓	✓	✓	295070	295083
296748	120	261735	✓	✓	✓	295072	295085

* Not included in kit.

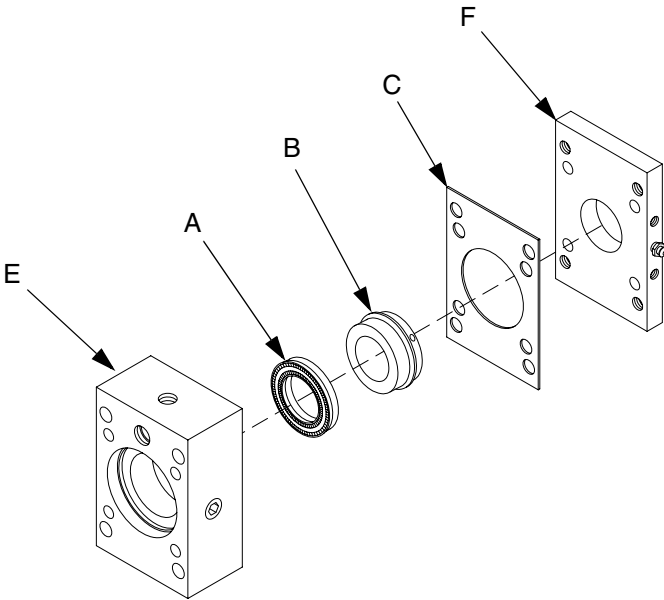


FIG. 4: Cylinder Seal Kit for B-Side Pumps

Piston Kit Installation

- 1. Install piston rod seal; ensure u-cup faces piston rod as shown in FIG. 5.



FIG. 5: U-Cup Orientation

- 2. Assemble piston head to piston rod. Apply Loctite to threads and torque piston head according to Table 1.

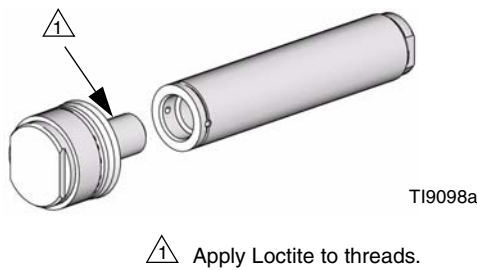


FIG. 6: Piston Head and Rod

Pump	Torque (ft-lbs)
28	10
40	22
44	22
48	22
60	38
80	38
96	38
104	38
120	55

Table 1: Torque Specification

- 3. Press throat seal into block using back plate and supplied screws. Ensure u-cup faces cylinder. Assemble back plate with the small bore facing the seal.

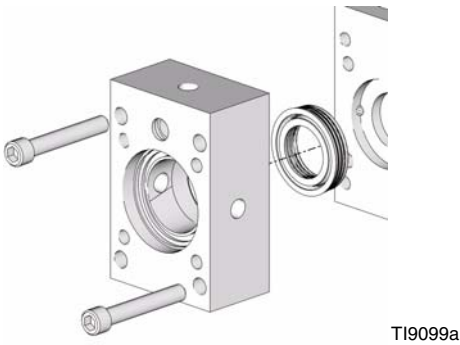


FIG. 7: Seal Orientation

- 4. Ensure plate is parallel with block. Carefully tighten screws until plate is flush with block. Be sure to press seal straight into bore.

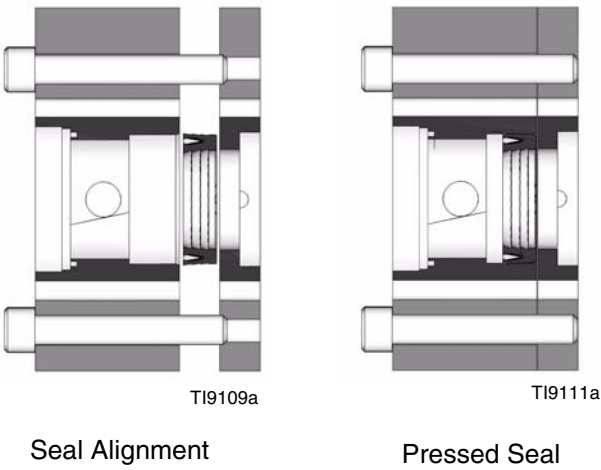


FIG. 8: Seal Alignment

5. Softly tap seal into bore until it bottoms out.



FIG. 9: Tap Seal

6. Insert bushing into bore; make sure larger outside diameter faces seal and smaller outside diameter faces plate.



FIG. 10: Insert Bushing

7. Assemble gasket and back plate to block using supplied screws.

For A-side pumps that are 80 or smaller, a plate adapter is required.

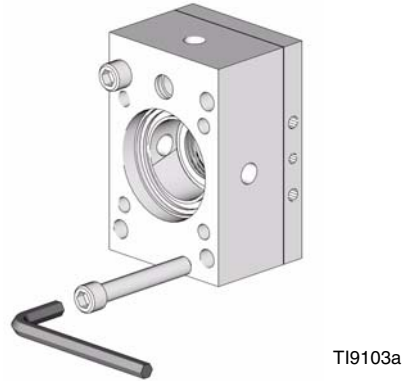


FIG. 11: Assemble Gasket and Back Plate

8. Assemble throat seal installation tool on to end of piston rod.

Clevis end of piston rod may need to be removed to perform this step.

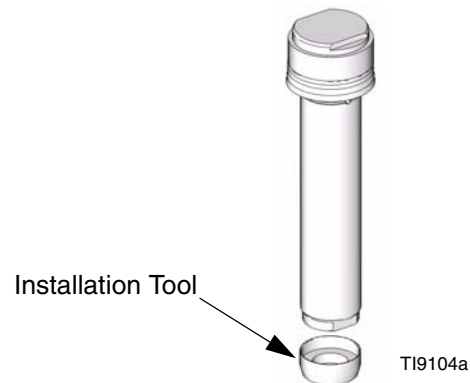


FIG. 12: Throat Seal Installation Tool

9. Insert piston rod and seal tool through throat seal on front of block.

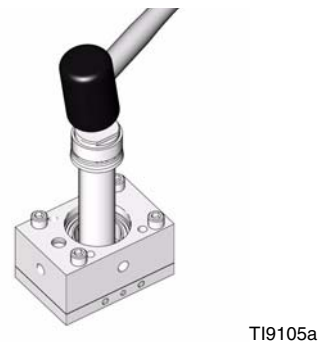
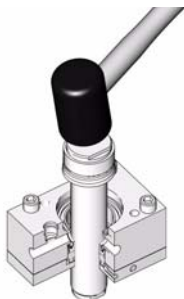


FIG. 13: Insert Rod through Throat Seal

10. Place assembly on a spacer, such as a two inch wide roll of tape, and tap piston rod through throat seal and bearing.

CAUTION

Keep rod straight to prevent damage to throat seal.



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FIG. 14: Tap Piston Rod

11. Tap cylinder onto piston rod as shown in FIG. 15. Be careful to not score piston seal. Continue tapping cylinder until it seats in bore of block.



Use grease to aid in insertion of piston rod into cylinder.



Cylinder Assembly

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Seat Cylinder in Bore

TI9108a

FIG. 15: Tap Cylinder onto Piston Rod

12. Once cylinder is seated in bore, remove two socket head set screws from block and plate assembly.
13. Assemble cylinder and block assembly to remaining pump components. See Proportioning Pumps manual 311391 for instructions.

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