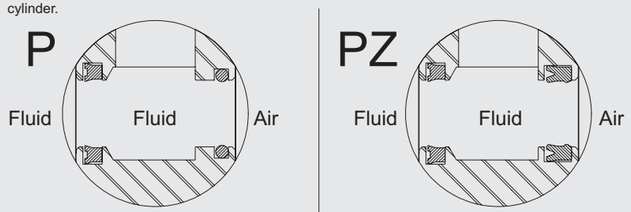
centerline
(WINDSOR) LIMITED

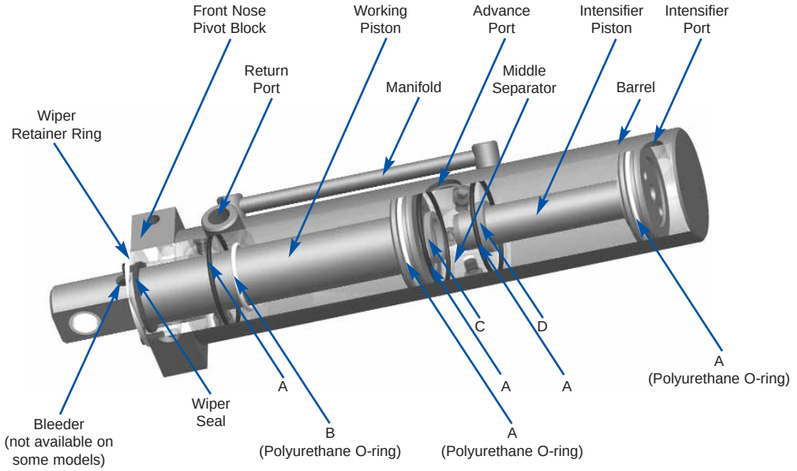
OHMA® Weld Cylinder
DISASSEMBLY

Tool List
1/4-20 dowel puller
Flathead screwdriver
Allen wrenches
Small dull instrument
O-ring pick
O-ring kit

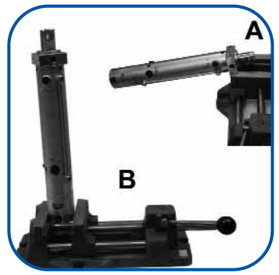
If the **Middle Separator** has a "**PZ**" stamped on it, please replace Seal "D" with the **#605 U-cup Seal** that can be found in the seal kit. The lips on the seal must be facing the fluid side of the cylinder.



Old Style Middle Separator | **New Z1 Style Middle Separator**



Step 1
Drain all fluid from the cylinder. Clamp front block (A) or bottom of cylinder barrel (B) in a soft jawed vice.



Step 2
Remove the six alignment screws that secure the nose guide or mounting block and middle separator to the barrel. Be especially careful to not throw away any of the cylinder set screws since they are specially ground for the cylinder.

Step 3
Continue by carefully pulling the working piston out of the cylinder so that the barrel does not become scored. The front block will slide out with the piston.

Step 4
Look inside the barrel, you'll notice that the internal intensifier piston rod has been threaded to accept a 1/4-20 dowel puller.

Step 5
This threaded hole can be used to secure a threaded rod to the piston in order to pull both the middle separator and the intensifier piston out of the cylinder barrel.

Step 6
Carefully pull the middle separator and intensifier piston out of the cylinder barrel using the threaded rod.

Step 7
Remove all seals and o-rings. Use an o-ring pick if necessary, be careful not to scratch the barrel.

Step 8
Once the cylinder is fully disassembled, clean all cylinder parts including the inside of the barrel with a non-abrasive cleaning solvent. If the barrel appears to be scored, it should be returned to CenterLine's Automation Components Division for proper repair or replacement.

Seal Kits

Seal Kit	Qty.	Seal	Label	Dimensions	Seal Kit	Qty.	Seal	Label	Dimensions	Seal Kit	Qty.	Seal	Label	Dimensions
#8616-SK:	1†	SLORAS568-11270	D	- 1/2 ID x 3/32 Section O-Ring	#8713-SK:	1†	SLORAS568-11670	D	- 3/4 ID x 3/32 Section O-Ring	#8719-SK:	1†‡	SLORAS568-11470	D	- 5/8 ID x 3/32 Section O-Ring
SKW806016Z00	1	SLUR4576100	D	- 1/2 ID x 3/4 OD x 3/16 U-Ring	SKW807013Z00	1	SLUR4571000	D	- 3/4 ID x 1 OD x 3/16 Section U-Ring	SKW807019Z00	1	SLUR4493700	D	- 5/8 ID x 7/8 OD x 3/16 Section U-Ring
	2	SLORAS568-21870	A	- 1-1/4 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring
	3	SLORAS568-12570	A	- 1-5/16 ID x 3/32 Section O-Ring		5	SLORAS568-22270	A	- 1-1/2 ID x 1/8 Section O-Ring		5	SLORAS568-22270	A	- 1-1/2 ID x 1/8 Section O-Ring
	1	SLORAS568-11770	B	- 13/16 ID x 3/32 Section O-Ring		1	SLUN4410000	C	- 3/4 ID x 1 OD x 1/8 Section Uni-Seal		1	SLUN4399500	C	- 5/8 ID x 7/8 OD x 1/8 Section Uni-Seal
	1	SLUN4418100	C	- 1/2 ID x 3/4 OD x 1/8 Section Uni-Seal		1	WSSLS0832		- bleeder screw c/w #008 O-Ring		1	WSSLS0832		- bleeder screw c/w #008 O-Ring

#8812-SK:	1†	SLORAS568-11470	D	- 5/8 ID x 3/32 Section O-Ring	#8818-SK:	1†	SLORAS568-11470	D	- 5/8 ID x 3/32 Section O-Ring	#8822-SK:	1†	SLORAS568-11670	D	- 3/4 ID x 3/32 Section O-Ring
SKW808012Z00	1	SLUR4493700	D	- 5/8 ID x 7/8 OD x 3/16 Section U-Ring	SKW808018Z00	1	SLUR4493700	D	- 5/8 ID x 7/8 OD x 3/16 Section U-Ring	SKW808022Z00	1	SLUR4571000	D	- 3/4 ID x 1 OD x 3/16 Section U-Ring
	1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring
	6	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring		6	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring		5	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring
	1	SLORAS568-21470	§	- 1 ID x 1/8 Section O-Ring		1	SLORAS568-21870	§	- 1-1/4 ID x 1/8 Section O-Ring		1	SLUN4410000	C	- 3/4 ID x 1 OD x 1/8 Section Uni-seal
	1	SLUN4399500	C	- 5/8 ID x 7/8 OD x 1/8 Section Uni-seal		1	SLUN4399500	C	- 5/8 ID x 7/8 OD x 1/8 Section Uni-seal		1	WSSLS0832		- bleeder screw c/w #008 O-Ring
	1	WSSLS0832		- bleeder screw c/w #008 O-Ring		1	WSSLS0832		- bleeder screw c/w #008 O-Ring					

#8832-SK:	1†‡	SLORAS568-11470	D	- 5/8 ID x 3/32 Section O-Ring	#8840-SK:	1†	SLORAS568-11370	D	- 9/16 ID x 3/32 Section O-Ring	#8850-SK:	1†	SLORAS568-11270	D	- 1/2 ID x 3/32 Section O-Ring
SKW808032Z00	1	SLUR4493700	D	- 5/8 ID x 7/8 OD x 3/16 Section U-Ring	SKW808040Z00	1	SLUR4576200	D	- 9/16 ID x 13/16 OD x 3/16 Section U-Ring	SKW808050Z00	1	SLUR4576100	D	- 1/2 ID x 3/4 OD x 3/16 Section U-Ring
	1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring		1	SLORAS568-21670	B	- 1-1/8 ID x 1/8 Section O-Ring
	5	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring		5	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring		5	SLORAS568-22470	A	- 1-3/4 ID x 1/8 Section O-Ring
	1	SLUN4399500	C	- 5/8 ID x 7/8 OD x 1/8 Section Uni-Seal		1	SLUN4466600	C	- 9/16 ID x 13/16 OD x 1/8 Section Uni-Seal		1	SLUN4418100	C	- 1/2 ID x 3/4 OD x 1/8 Section Uni-Seal
	1	WSSLS0832		- bleeder screw c/w #008 O-Ring		1	WSSLS0832		- bleeder screw c/w #008 O-Ring		1	WSSLS0832		- bleeder screw c/w #008 O-Ring

#8105-37-SK:	1†	SLORAS568-12070	D	- 1 ID x 3/32 Section O-Ring	#8105-49-SK:	1†	SLORAS568-11870	D	- 7/8 ID x 3/32 Section O-Ring	#8105-56-SK:	1†	SLORAS568-11770	D	- 13/16 ID x 3/32 Section O-Ring
SKW810537Z00	1	SLUR4442600	D	- 1 ID x 1-1/4 OD x 3/16 Section U-Ring	SKW810549Z00	1	SLUR4576400	D	- 7/8 ID x 1-1/8 OD x 3/16 Section U-Ring	SKW810556Z00	1	SLUR4576300	D	- 13/16 ID x 1-1/16 OD x 3/16 Section U-Ring
	1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring		1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring		1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring
	1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring		1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring		1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring
	5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring		5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring		5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring
	1	SLUN4457300	C	- 1 ID x 1-1/4 OD x 1/8 Section Uni-Seal		1	SLUN4416700	C	- 7/8 ID x 1-1/8 OD x 1/8 Section Uni-Seal		1	SLUN4521200	C	- 13/16 ID x 1-1/16 OD x 1/8 Section Uni-Seal

#8105-66-SK:	1†	SLORAS568-11670	D	- 3/4 ID x 3/32 Section O-Ring	#8105-79-SK:	1†	SLORAS568-11570	D	- 11/16 ID x 3/32 Section O-Ring	#8105-95-SK:	1†	SLORAS568-11470	D	- 5/8 ID x 3/32 Section O-Ring
SKW810566Z00	1	SLUR4571000	D	- 3/4 ID x 1 OD x 3/16 Section U-Ring	SKW810579Z00	1	SLUR4572000	D	- 11/16 ID x 15/16 OD x 3/16 Section U-Ring	SKW810595Z00	1	SLUR4493700	D	- 5/8 ID x 7/8 OD x 3/16 Section U-Ring
	1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring		1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring		1	SLPP12501375	B	- 1-3/8 x 1-5/8 x 1/8 Loaded U-Ring
	1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring		1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring		1	SLORAS568-22070	B	- 1-3/8 ID x 1/8 Section O-Ring
	5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring		5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring		5	SLORAS568-22970	A	- 2-3/8 ID x 1/8 Section O-Ring
	1	SLUN4410000	C	- 3/4 ID x 1 OD x 1/8 Section Uni-Seal		1	SLUN4410100	C	- 11/16 ID x 15/16 OD x 1/8 Section Uni-Seal		1	SLUN4399500	C	- 5/8 ID x 7/8 OD x 1/8 Section Uni-Seal

Note: Seals marked with " † " are not required in cylinders using Z1 seal standard.
Note: Seals labeled with " § " are intensifier piston flange seals.
Cylinders manufactured prior to 1988 marked with " ‡ " require two of these seals. An extra seal is available free of charge upon request when ordering a seal kit.

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(WINDSOR) LIMITED

OHMA® Weld Cylinder

RE-ASSEMBLY

Front Nose Pivot (FNP) Style Cylinder

A. Front Block
B. Working Piston
C. Middle Separator
D. Seals
E. Alignment Screws
F. Intensifier Piston
G. Working Barrel

Step 1

Install all the seals. With the exception of the two high pressure seals, the OHMA cylinder makes use of standard seals; therefore replacing these seals is a straightforward process. Be sure to lubricate all seals and components with the lubricant provided with the replacement seal kit.

Step 2

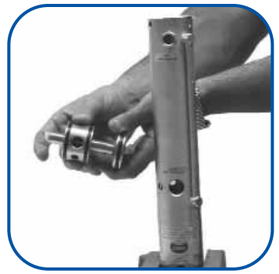
On the side of the middle separator stamped with a "PZ", install the high pressure seal into the groove. With lips toward the working piston, squeeze the seal on the sides to form a saddle shape. Insert one end into the groove. Gently work seal into the groove and run your finger along the seal to ensure proper installation. If this cannot be done by hand, use a small dull instrument to properly seat the seal. Be careful not to damage the seal.

Step 3

Next, invert the middle separator and install the high pressure seal into the groove. The lips of the high pressure seal must face the same direction as the high pressure seal side of the middle separator. Apply lubricant to both seals. If this cannot be done by hand, use a small dull instrument to properly seat the seal. Be careful not to damage the seal.

Step 4

Place the intensifier piston into the middle separator by inserting the piston rod into the side NOT stamped with a "PZ".



Step 5

Carefully push intensifier piston and middle separator assembly into the working barrel using evenly distributed pressure.

Step 6

Line up the screw holes and the fluid port on the middle separator with the screw holes on the barrel.

Step 7

Carefully push the middle separator and intensifier piston into place and tighten the alignment screws. Remember, the separator has a high pressure seal (the side stamped with the "PZ") this should face toward the working piston. Do not force the components back into the barrel since this may cut the seals. Once in position, install the middle separator screws. Lubricate barrel again.

Step 8

Install working piston into front block, apply lubricant to assembly.

Step 9

Line up the screw holes in the front block with the screw holes in the barrel then push the nose guide and working piston into place.

Step 10

While securing the screws, slide the working rod up and down to ensure that the alignment screws aren't too tight, this will prevent binding.

Step 11

Install bleeder screw and o-ring in working rod.

Testing the Cylinder

Put low pressure air into return port, located in the front end of the barrel (A). This will return both pistons (B).

Remove the connection from the return port and attach air line to the advance port (C). This will cause the working piston to stroke forward (D).

Remove the connection from the advance port and attach air line to the intensifier port. This will cause the intensifier piston to stroke forward. This can be witnessed when looking through the fluid port.

Check the open ports for air leakage. If no leaks can be located, the cylinder should be functioning properly. Other problems in the circuit may be causing apparent cylinder malfunction.

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