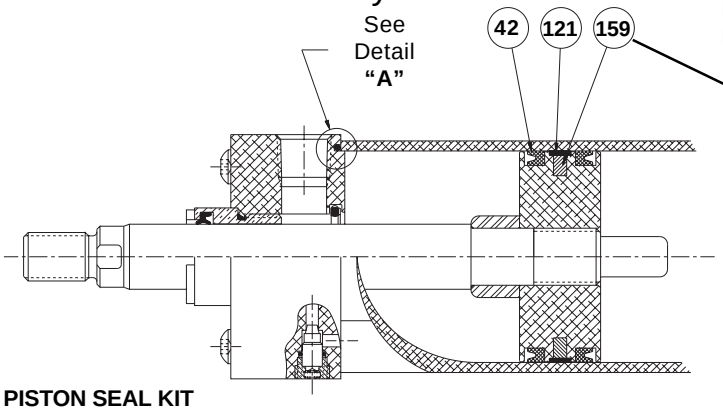
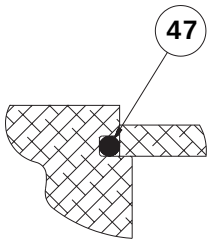
Piston Seal Kits

(Piston & Cylinder Body Seals)
For Series "2MA" Air Cylinders





Detail "A"

Service kits of expendable parts for fluid power 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 distributor or office.

PISTON SEAL KIT
(PK) Kit contains 2 each of the following:
symbol #**42**, Lipseal, piston.
symbol #**47**, O-Ring, cylinder body to head & cap,
1 each - symbol #**121**, Wear Strip - For all sizes - except - 1 1/2" bore Piston Seal Kit contains :
1 each - Flat Wear Strip (5/16" wide) for 1 1/2" bore size cylinders manufactured prior to Feb.1994.
and 1 each - Molded Wear Strip (3/8" wide) for current 1 1/2" bore cylinder piston design.
(See "Servicing the Piston Seals" on opposite side)

CYLINDER BODY END SEAL KIT
(CB) Kit contains 2 each of the following:
symbol #**47**, O-Ring, cylinder body to head & cap.

Service kits of expendable parts for fluid power cylinders are available for either Class 1, or Class 5 fluid service.

Standard Seals - Class 1 Service are standard, and contain Nitrile seals for standard fluid service. These seals are suitable for use when air is the operating medium.

The recommended operating temperature range for Class 1 seals is: –10° F. (–23° C.) to +165° F. (+74° C.)

Viton* Seals - Class 5 Service kits contain Viton seals and are especially suited for elevated temperature service.

The recommended temperature range for Class 5 seals in the series 2MA cylinder is: –10° F. (–23° C.) to +250° F. (+121° C).

Warning⚠The piston rod to piston threaded connections are secured with an anaerobic adhesive which is temperature sensitive. Cylinders specified with Viton seals are assembled with an anaerobic adhesive having a maximum operating temperature rating of +250° F. (+121° C.). Cylinders specified with other seal compounds are assembled with an anaerobic adhesive having a maximum operating temperature of +165° F. (+74° C.). These temperature limitations are necessary to prevent the possible loosening of the threaded connections. Cylinders originally manufactured with Class 1 seals that will be exposed to ambient temperatures above +165° F. (+74° C.) must be modified for higher temperature service. Contact the factory immediately and arrange for the piston to rod connection to be properly reassembled to withstand the higher temperature service.

*Registered tradename of E.I.duPont de Nemours & Co., Inc.

Bore Size	PK Piston Seal Kit NOTE: Order Magnetic Ring symbol # 159 separately if required.		SYMBOL #159 Magnetic Ring (If required)	CB Cylinder Body End Seal Kit Consisting of: 2 each symbol # 47.		Fastener Bolt/Tie Rod Torque Units	
	NITRILE Seals	VITON Seals	(NITRILE ONLY)	NITRILE Seals	VITON Seals		
	Part No.	Part No.	Part No.	Part No.	Part No.	U.S.A.	Metric
1-1/2"	PK1502MA01	PK1502MA05	0865130151**	CB1502MA01	CB1502MA05	32 + 4 in. lbs.	3.6 + 0.5 N.m
2"	PK2002MA01	PK1502MA05	0865130200	CB2002MA01	CB2002MA05	72 + 10 in. lbs.	8 + 1 N.m
2-1/2"	PK2502MA01	PK1502MA05	0865130250	CB2502MA01	CB2502MA05	72 + 10 in. lbs.	8 + 1 N.m
3-1/4"	PK3202MA01	PK1502MA05	0865130325	CB3202MA01	CB3202MA05	216 + 12 in. lbs.	24 + 1.3 N.m
4"	PK4002MA01	PK1502MA05	0865130400	CB4002MA01	CB4002MA05	216 + 12 in. lbs.	24 + 1.3 N.m
5"	PK5002MA01	PK1502MA05	0865130500	CB5002MA01	CB5002MA05	30 + 1 ft. lbs.	41 + 1 N.m
6"	PK6002MA01	PK1502MA05	0865130600	CB6002MA01	CB6002MA05	35 + 1 ft. lbs.	48 + 1 N.m
8"	PK8002MA01	PK1502MA05	0865130800	CB8002MA01	CB8002MA05	80 + 1 ft. lbs.	109 + 6 N.m

For additional information – call your local Parker Cylinder Distributor.

Parker Cylinder

Parker Lube-A-Cyl...

Is recommended for use in air cylinders during normal operation, and particularly when servicing and reassembling cylinders. It is a multi-purpose lubricant in grease form that provides lubrication without deteriorating effects on synthetic seals. It produces a thin film which will not blow out with exhaust air. It provides piston, rod and seal lubrication, and has excellent resistance to water and mechanical breakdown with temperature range of –10° F. (–23° C.) to +350° F. (+177° C.). Lube-A-Cyl is packaged in 1.5 oz. tubes, a sufficient quantity for average size air cylinder. One application should last for a period of 6 to 18 months depending upon service. Order by part number 0761630000.

Servicing the Piston Seals

Disassemble the cylinder completely, remove the old seals and clean all the parts. The cylinder bore and piston should then be examined for evidence of scoring. (The light scratch marks usually present on both cylinder bore and piston will generally have no detrimental effects on the performance of the cylinder.)

Apply Parker “Lube-A-Cyl” to O.D. of piston and all grooves. Install one piston Lipseal (sym. # 42) in the groove nearest the rod. The two “lips” of this seal should face toward the rod end of the piston. If required, install the magnetic ring (sym. # 159) in the bottom of the middle groove. (See detail “1” below) Next, install the wear strip (sym. # 121) in the top of the middle groove - (See detail “2” below). **NOTE:** Due to a piston design change, the 1 1/2" bore cylinder Piston Seal Kit contains two piston bearings (sym. # 121). The old style 1 1/2" bore piston bearing (cylinders furnished prior to Feb. 1994) is a 5/16" wide flat wear strip and the new style wear strip is a 3/8" wide molded bearing. To determine which wear strip is correct for the 1 1/2" bore cylinder being serviced, it will be necessary to check the width of the bearing groove on the piston O.D. Coat the inside of the cylinder body with Parker “Lube-A-Cyl” and insert the piston - cap end first - into the cylinder body as shown in detail “3” below.

Next, turn the cylinder body on its side and push the piston and rod assembly through the barrel just far enough to expose the groove for the second Lipseal. (See detail “4” below.) Be careful not to move the piston too far so as to expose the wear strip (sym. # 121). If the piston should move too far, push the piston and rod assembly completely through the cylinder body and again start the piston from the original end. Now install the second Lipseal (sym. # 42) in the exposed groove with the two “lips” facing away from the rod and pull the piston into the cylinder body.

The piston and rod are securely locked together with anaerobic adhesive. This threaded connection should only be disassembled or reassembled by factory trained personnel.

NOTE: An extreme pressure lubricant (such as molybdlenum disulphate) should be used on the tie rod threads and bearing faces to reduce friction and tie rod twist.

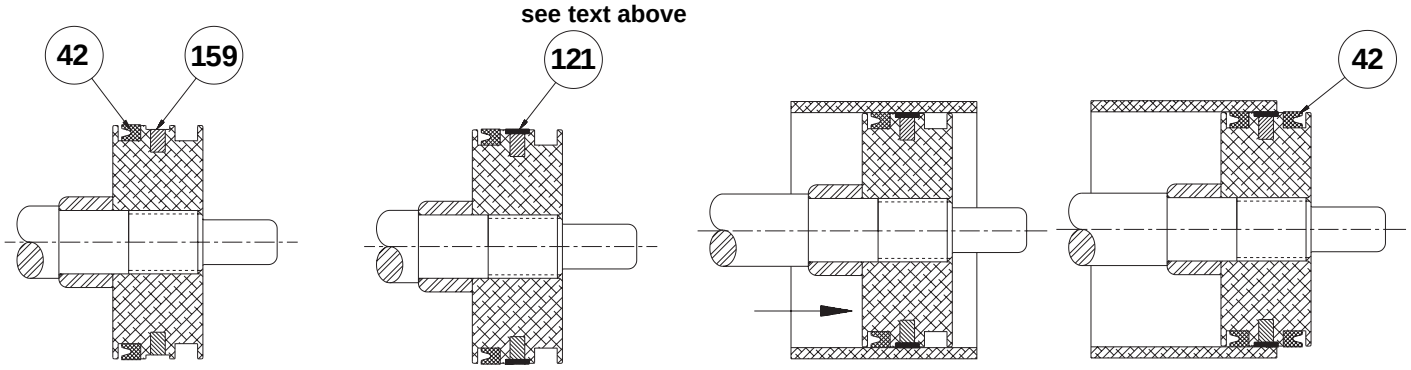
Assemble both cap and head, complete with cylinder body O-Rings (sym. # 47), to each end of the cylinder body. Install end cap fasteners and tighten to appropriate torque, using opposite corner to corner torquing sequence. (See table on side 1). After screws are torqued, firmly torque the rod gland against the head using a gland and spanner wrench. (See Service Bulletin #0995-M11)

In case of a “DD” - center trunnion - mounted cylinder, care must be taken to prevent binding the cylinder body when repositioning the trunnion collar. The proper method of assembling this type of cylinder is as follows:

After all the piston seals have been installed on the piston and the piston is in the cylinder body, fit the cap with its O-ring (sym. # 47) in position onto the cylinder body. Then "stud" into the trunnion collar the four tie rods that connect the cap to the trunnion collar. Hand tighten the four tie rod nuts at the cap. Distances from the inner face of the cap to the finished face of the trunnion collar should the be made equal at all four tie rods when all four tie rod nuts are in contact with the cap.

When the assembly is ready for final torquing, it may be necessary to adjust the tie rods at the cap when torquing the tie rods at the head in order to position the trunnion collar in its final position.

As a check, to be certain the trunnion mount will not interfere with cylinder operation, move the piston and rod assembly by hand to determine whether there is any tendency for the piston to bind at the spot where the trunnion collar is located. If any binding is noticeable, readjust the tie rods.



Detail “1” **Detail “2”** **Detail “3”** **Detail “4”**