

AUTOMATIC DOOR COAL HOPPER CARS

Check the following information for problems and remedies for proper operation of the air drive door system using Lexair valves.

If doors fail to open during electrical operation (pick up shoe) –

First, determine if valve is manually functional by operating the manual override buttons on either end of the valve to open and close the doors. (NOTE: BUTTONS MUST BE FULLY DEPRESSED. MINIMUM AIR PRESSURE REQUIRED IS 50 PSI). If the doors operate properly manually, proceed to the electrical check out as follows. If proper manual operation is not obtained, proceed with the manual checkout as follows.

Electrical Check Out

First, check the two diodes in the junction box, either with an Ohmmeter or by substituting new diodes. When diodes are removed and replaced, care must be taken to insert the diode in the correct position in the holder. A red color band on one end of the diode is to be matched to the red band on the diode holder. If diodes are good, look for a loose ground wire (black) or a shorted hot wire to the pick up shoes.

Manual Check Out

If the doors will not operate with the manual buttons, first check to see if one of the buttons is stuck in the “IN” position. Spray with WD-40 and work in and out to release the button.

When the valve is working properly, air should exhaust out of the two holes in the acorn nut, when the manual button on that side is released after being pressed all the way in. If no exhaust is felt, check to see if holes in the acorn nut are plugged. Use a wire or small pin to check for obstruction. If the holes are open remove the acorn nut. To remove the acorn nut, first tighten ¼ turn to break the seal, then turn to loosen and remove. Check hole in end of threaded stem where nut was removed. If hole is plugged, clean out with small diameter wire or pin.

If valve still does not operate with manual buttons, it is possible air flow is not getting to the valve. Bleed off air in system and check element in air filter. If plugged replace. Also in very cold weather (below freezing) it is possible that the air filter element or in-line check valve is frozen thereby stopping air flow to the valve.

After all the above procedures have been tried and checked out and the valve will still not operate properly, it should be removed from the car for further testing and/or overhaul.

When removing the valve from the car –

MAKE SURE ALL AIR IS BLED FROM THE SUPPLY AND CYLINDER PIPES.

DO NOT CUT THE SOLENOID WIRES.

Disconnect the hot wire by opening the junction box, taking the diode holders apart and sliding the line end of the holders out through the junction box connection. Next, disconnect the black ground wire. Remove the five socket head cap screws holding the valve body to the sub-base. BE CAREFUL to keep the spring loaded sliding shoe with the valve body.

When installing a new valve –

CAUTION!!!!

When mounting the new valve to the sub-base, be sure the valve piston is shifted over to and held in place by the magnet. This insures that when air pressure is applied to the car initially, the valve will be in the closed position (closing doors).

When putting on the new valve, be sure to wipe clean the surface of the sub-base, and then apply grease furnished with the new valve spreading it evenly over the working surface of the sub-base and on the rubber surface of the sliding shoe.

SERVICE BULLETIN**HOPPER GATE AIR CONTROL VALVE
SOLENOID OPERATED, 24 VOLT D.C.**

Part Numbers:

4115-622 (repair parts same for other valves; port orientation, conduit, and/or wiring may differ)

DESCRIPTION

The valve is rated for 150 psi compressed air operation. It is a piston actuated slide valve providing two position operation of the hopper gate cylinder. The valve has a ported sub base, which is piped to the hopper gate operating cylinder.

Changes in air flow through the valve occur when the piston is moved from one end of the valve to the other. A slide valve attached at the center of the piston, moves along the surface of the sub base and connects air flow to the cylinder and exhaust ports of the sub base.

The piston stops at full travel against the cap at each end of the body. The caps have ports through which shifting pressure from the solenoid operators is delivered to the piston. The cap end designated "M" contains a steel piston stop piece. When the piston magnet (located on the "M" end of the valve body) contacts this stop, a magnetic detent is established to hold the piston in the "closed gate" position when shift pressure is removed.

OVERHAUL

Valve overhaul must be performed in a clean work area. Disassemble the valve and arrange the parts in sequence as they are removed. **IMPORTANT.** Pay particular attention to the location with respect to the body of the magnetic piston end and the cap with the steel piston stop to insure proper reassembly. Remove old seals and parts supplied as replacement parts in the repair kit.

Disassemble the solenoid operator by removing the cap nut and lifting the coil housing, coil, wave washer and flux plate from the plunger post. A spanner wrench is required to remove the plunger post from the cap. If the plunger end seats are excessively worn, replace the solenoid operator. Remove the manual override but-tons and springs.

Thoroughly clean all metal parts including groove and air passage holes with a non flammable solvent (mineral spirits or equivalent). Clean the solenoid plunger and plunger post thoroughly with soap and water, and dry completely.

Inspect the internal sealing surface of the body bore. A scored surface will require replacement of the valve body to obtain proper sealing.

Apply the grease provided in the repair kit on all seals, seal grooves, piston bores, slide and sub base surface. Install seals and reassemble the valve using the parts provided in the repair kit. *NOTE: Take care when sliding the piston into the body bore to prevent cutting the O ring seals.* Apply Loctite #222 to the first thread of the solenoid cap nut on reassembly. Be sure the nut vent holes are fully open.

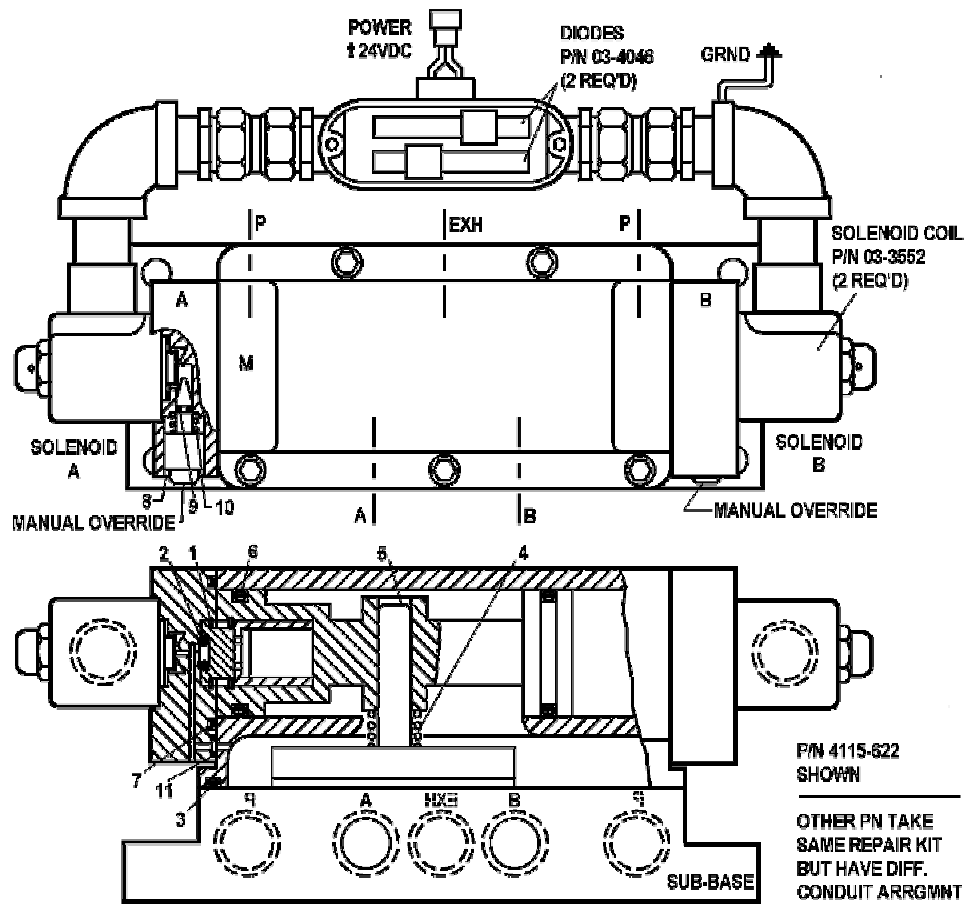
Make sure the "M" end* cap and the piston magnetic detent end are assembled on the "M" body end. Install the new spring and slide valve into the center hole of the piston.

Mount the valve on a sub base and test it for proper function. Check the solenoid operation by connecting 24volt D.C. supply between the common input wire of the diodes and the ground wire. An audible click when power is applied indicates proper operation of the solenoid plunger. Check the Port Condition tables for proper pressure delivery. Using a liquid soap film, check for leakage at all face seals and at the sub base ports for slide valve leakage.

If the valve will not be installed immediately, provision should be made to protect the slide and exposed body area against dirt and damage.

CAUTION: When welding on the car, disconnect the valve positive wire from the car to avoid damaging the diodes.

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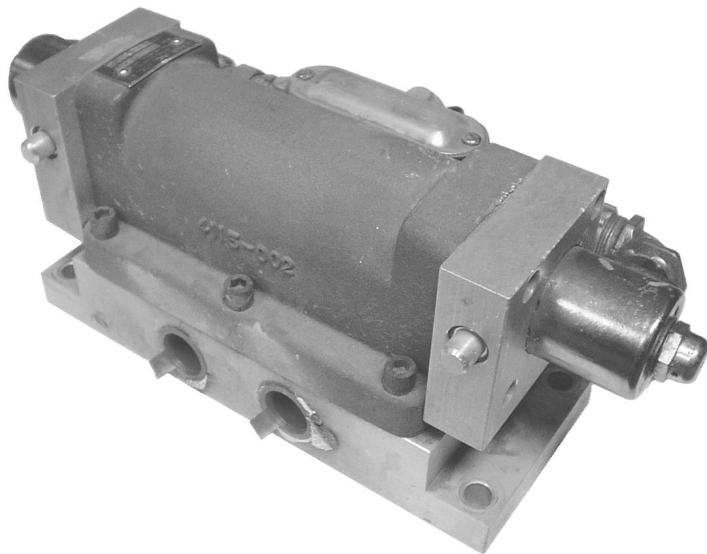
24 Volt DC Power	Part Number 4115-622			Hopper Gate Operation
	Solenoid Energized	Port Condition		
		A	B	
+	A	PRESS	EXH	Open
-	B	EXH	PRESS	Close

Repair Kit P/N 10305-227 (4115-018 or 4115-039)				
ITEM	PART NUMBER	DESCRIPTION	QUANTITY	
1	01-2054	Ring, Retaining, N5008-62	2	
2	04-01-202	O-Ring, Buna	1	
3	04-01-252	O-Ring, Buna	1	
4	20-0082	Spring, Slide	1	
5	4115-010	Slide Assembly	1	
6	4115-023	O-Ring, Buna	2	
7	04-01-227	O-Ring, Buna	2	
8	01-2055	Ring, Retaining, N5008-100	2	
9	04-01-005	O-Ring, Buna	2	
10	4019-001	Spring, Override Button	2	
11	04-01-105	O-Ring, Buna	2	
	01-2060	Tube, Grease	2	

Air Control Valve

For Rail Car Gate Automation

Part # 4115 622



SPECIFICATIONS

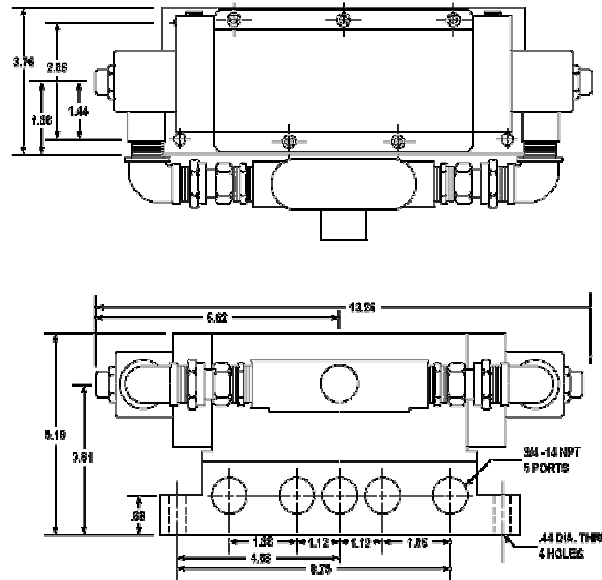
- Rated 150 PSI Operating
- 3/4 NPT Ports
- Operating Temp 40°F to 200°F
- 24-28 V.D.C. solenoid operated with blocking diodes (P/N 4115-607)
- Sub Plate Mounted
- All Aluminum Construction
- Manual Overrides

This valve was designed specifically for use on automatic gate (manual or electrical operation) hopper cars. All of the operating characteristics needed for trouble free operation have been incorporated into the design of this valve. It's simplicity insures a long maintenance free service life, thereby reducing overall costs for the life of the car. This valve has over three years of proven performance on operating railcar gate automation.

The 2 position, 4 way directional control valve incorporates a balanced reciprocating piston coupled to a molded elastomer faced slide valve. The piston because of its balanced design remains in position until it is shifted by a momentary signal from the D.C. solenoid operator applied to either end of the valve.

To further insure that the balanced piston does not move due to any external shock or vibration that may be applied to the valve, a magnetic detent is employed in one end of the piston as a SAFETY measure to keep "B" port (connected to rod end of cylinder) open to pressure and thereby keep the cylinder retracted or closed.

DIMENSIONS



4115-622

OPERATING INSTRUCTIONS

- Valve should be mounted up right or on its side (NOT UP SIDE DOWN) and transverse to the centerline of the car.
- Port "B" should be connected to the rod end of the cylinder being operated. Port "A" should be connected to the blind (back) end.
- Dual pressure ports "P" One port must be plugged or can be used as an auxiliary pres-sure port if check valve is used in the line.

■ Do not restrict exhaust port.

RECOMMENDED:

Use an air line filter. Also valve should be positioned so that it is lower than the cylinder ports

REPAIR KIT:

P/N 10305-227 (4115-018)



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DESIGN FEATURES

Design improvements in the Super Spool Valve mean faster response, increased reliability, simplified maintenance, and more flexibility.

- Free floating piston cylinder arrangement for solenoid and air pilot operators allows use of valve with exhaust restrictors and mufflers, and use of valve as 5 way.
- Extra large surface area on the piston allows for faster response at lower pressure.
- Simplified, one piece, air pilot cartridge in solenoid operators extends trouble free operation. Eases maintenance when necessary.

- Manual override standard on solenoid operated models.
- Option of normally open or normally closed function in one valve, depending on piping, using external pilot 3 way models.
- Exhaust restrictors for speed control of cylinders (all sizes available from WABCO Ref. Cat. A6 109.00.)
- Stacked manifolds and aluminum blocks for space saving elimination of piping (Ref. Cat. A4 78.00.)

SERVICING THE VALVE

A complete Super Spool Valve will include a valve portion and spool, a subplate portion, an operator kit on either or both ends, and an end cover or detent kit when a single operator is used.

SERVICE INFORMATION

INSTALLATION

Before installing the Super Spool Valve, all air lines in the system should be blown clean to remove any moisture or loose material. To further ensure long, trouble free service, an efficient air line filter should be installed on the supply side of the valve. Although the valve is lubricated at the factory, an air line lubricator is also recommended for high cyclic applications. For applications at 18 C.P.M. and lower, an air line lubricator is not recommended. See Catalog A6 115.00 for complete air line conditioner units.

Install the valve in any convenient position but, if installed with the spool axis vertical, a spring returned model provides more positive operation. The preferred mounting for all models is horizontal. In this position the solenoid air pilot exhaust hole in the air pilot section of the operator is on the bottom to allow for free drainage.

Port numbers or designations are marked on the bottom of the valve body or the subplate.

Solenoid and air pilot operated models have an external pilot port in the operator that is tapped 1/4 18 inch NPTF. This port is plugged on solenoid operators when the valve is internally piloted.

Prior to connecting power supply, be sure that the coils match the power supply. Voltage characteristics for solenoid operators are indicated by the suffix of the piece number on the nameplate of the valve. Voltage of a solenoid coil is indicated on the coil nameplate and further identified by the color of the coil wrapping.

For outline dimensions or further mounting information on any Super Spool Valve, see Catalog A4 78.00.

OPERATION

Temperature Range 20° F to +160° F.

Pressures

Valve inlet and air pilot maximum air pressure: 150 psi. Minimum air pilot pressure: 15 psi without return springs

Voltage characteristics for solenoid operators are indicated by the suffix of the piece number on the nameplate of the valve. Voltage tolerance is: DC coils plus or minus 10%. The voltage of a solenoid coil is indicated on the coil nameplate and further identified by the color of the coil cover, and also indicated directly on the bobbin itself.

To operate a Super Spool Valve a manual, mechanical, pneumatic, or electrical force is required. This force positions the valve's spool in either two or three separate positions. Internal passages in the valve are opened and closed, permitting directional control of air flow in and out the valve's main ports. Diagrams of these valve functions are shown in Catalog A4 78.00.

Manually operated valves have a lever, pedal, treadle, or button operator. Remotely operated valves have air pilot and solenoid operators. Solenoid operators require electrical control of the air pilot pressure.

Manually or mechanically operated valves usually require only a single operator, normally assembled on the "A" end of the valve. Remotely operated valves usually have a single operator, also on the "A" end, or an operator on both ends of the valves.

Valves with single operators must have an end cover kit or detent kit on the "B" end of the valve. End cover kits may or may not have a return spring. A return spring is contained in the end cover kit for all valves that require self returning operators, except for the lever operator, which contains its own return spring. Two position and three position detent kits are available with valves that must be manually operated in both directions.

Any Super Spool Valve can be provided to obtain either two or three positions of operation, except for pedal models.

While a manual or mechanical operator moves the valve spool by direct connection, a remote operator uses air pilot pressure acting on a piston.

The air pilot signal is controlled on solenoid operators by energizing and de energizing the solenoid coil to open and close a 3 way valve in the operator. When electrical power is not present, the valve may be operated by depressing the manual override button located on the end of the operator. Although the solenoid coil may be energized for extended periods of time, it is better practice for the coil to be de-energized for the extended period, and energized for the shorter period.

ADJUSTMENTS

No adjustments are required on the Super Spool Valve.

MAINTENANCE

Subplate mounted models, the complete valve portion can be removed from the sub- plate for servicing without disconnecting piping; however, air pressure must be shut off and vented.

If a solenoid operated valve fails to operate, depressing the manual override button on the end of the operator should quickly indicate whether the trouble is electrical or mechanical. If required, the solenoid coil can be easily replaced by removing only the cover from the operator. Care should be exercised in reassembly of the solenoid cover to prevent cutting the coil leads.

Super Spool Valves are lubricated at the factory for long, trouble free service. An efficient air line lubricator will further extend the service life of the valve, but is not recommended on valves operating at 18 C.P.M. or less. When no additional lubrication is provided, *the valve should be disassembled every one million cycles for lubrication, cleaning, and inspection.*

Clean all metal parts with a nonflammable solvent, and wash all rubber parts with soap and water Rinse thoroughly and blow dry with

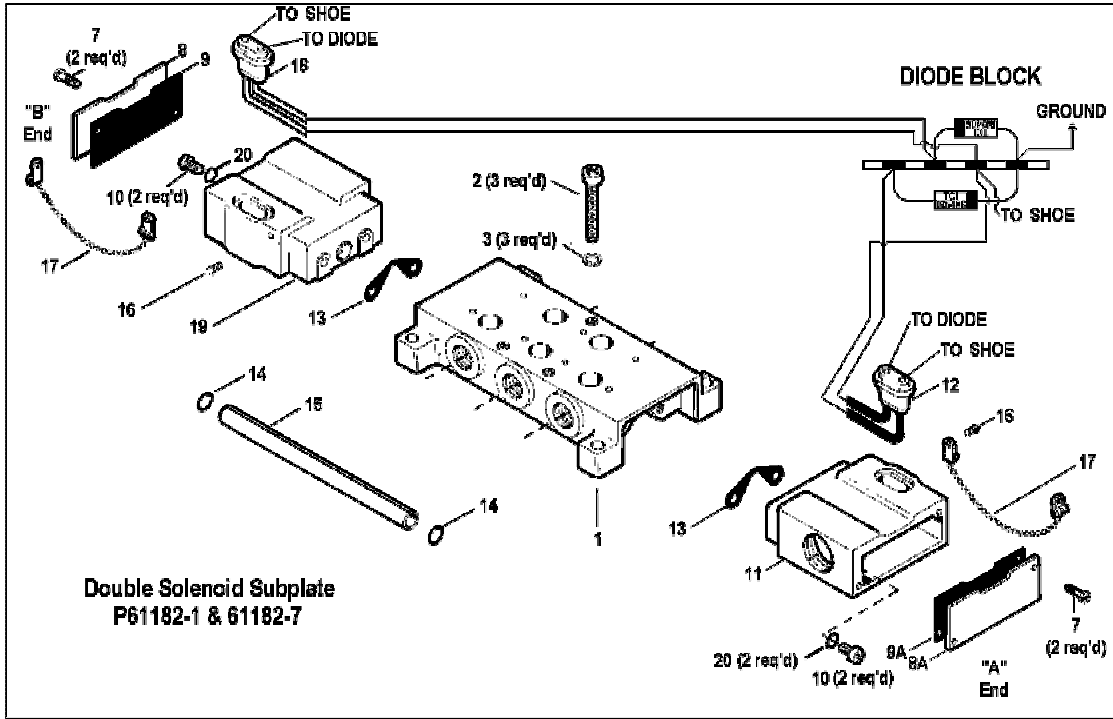
a low pressure air jet. When applicable, check the internal pilot ports in the valve body to make sure the passages are open.

Replace any parts that are damaged or worn, giving particular attention to the seal rings, in the valve portion. Repair parts for valve portions, solenoid operators, and air pilot operators are available in convenient repair kit form.

Reassemble the valve, using the exploded views and cut-away view as reference. No special tools are required. When reassembling the valve portion, one new spacer should be installed in the stack of

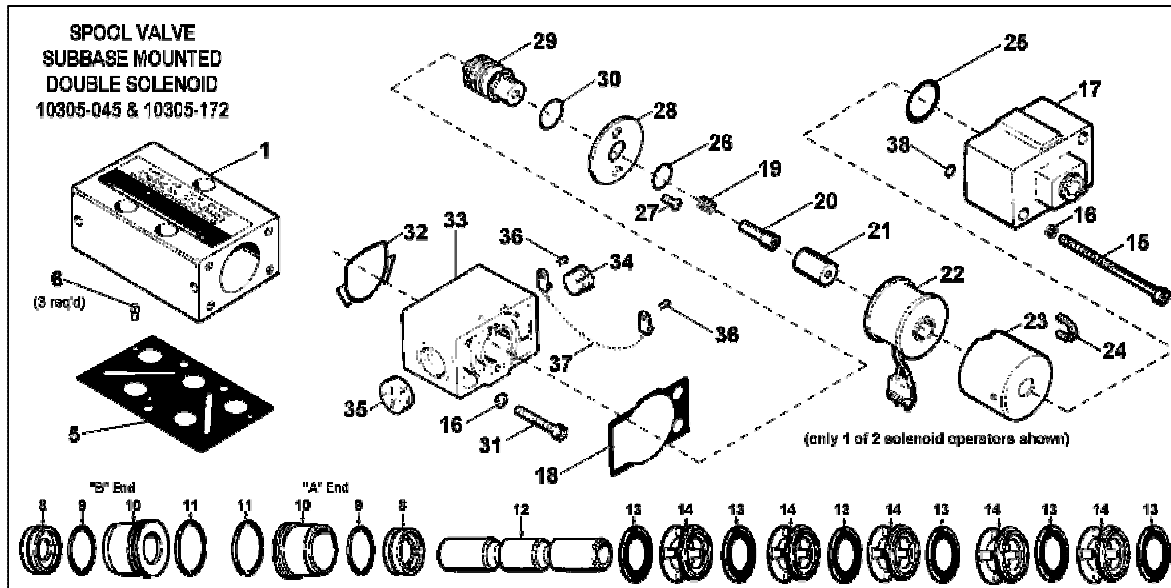
spacers and sealing rings to make the necessary compression in the post sockets and assure a tight seal stack. Place the new spacer in the center of the valve body, with sealing rings and spacers added on each side as assembly of the stack proceeds. Lubricate each seal with Shell Alvania EP RO Grease. Tilt the sealing rings as they are inserted into the valve body to avoid cutting or damage from sliding over port openings.

Lubricate all metal to metal surfaces with Number 107 Lubriplate and all rubber parts with Shell Alvania EP-RO Grease.



PARTS LIST

REF.	QTY PER ASSEM	DESCRIPTION	SUBBASE ASSEM. #	PART	FCA PN
	1	SUBBASE ASSEMBLY	P61182-1	P61182-0001	
	1	SUBBASE ASSEMBLY	P61182-7	P61182-0007	
1	1	SUBPLATE	P61182-1 & -7	P57690-0002	
2	3	SCREW, Valve Mounting	P61182-1 & -7	P49835-0031	10305-173
3	3	WASHER	P61182-1 & -7	P49696-0004	10305-174
7	4	SCREW, Pan Head	P61182-1 & -7	P49637	
8	1	COVER, Junction Box	P61182-1 & -7	P57703	
8A	1	COVER, Junction Box w/ diode holder	P61182-1 & -7		
9	1	GASKET, Junction Box Cover	P61182-1 & -7	P57717	
9A	1	GASKET, Junction Box Cover w/ diode holder	P61182-1 & -7		
10	4	SCREW	P61182-1 & -7	P49835-0036	
11	1	BOX, Junction	P61182-1 & -7	P57693-0001	
12	1	PLUG, Electric	P61182-1 & -7	P57675	
13	2	GASKET, Junction Box	P61182-1 & -7	P57716	
14	2	RING, 7/16" OD "O"	P61182-1 & -7	P49708-0011	
15	1	TUBE, Lead	P61182-1 & -7	P57644-0001	
16	2	SCREW	P61182-1 & -7	P49987-0011	
17	2	CHAIN, Safety	P61182-1 & -7	P49636-0001	
18	1	PLUG, Electric	P61182-1 & -7	P57675-0001	
19	1	BOX, Junction	P61182-1 & -7	P57693-0002	
20	4	WASHER	P61182-1 & -7	P49866-0007	
	1	DIODE BLOCK	P61182-1 & -7		

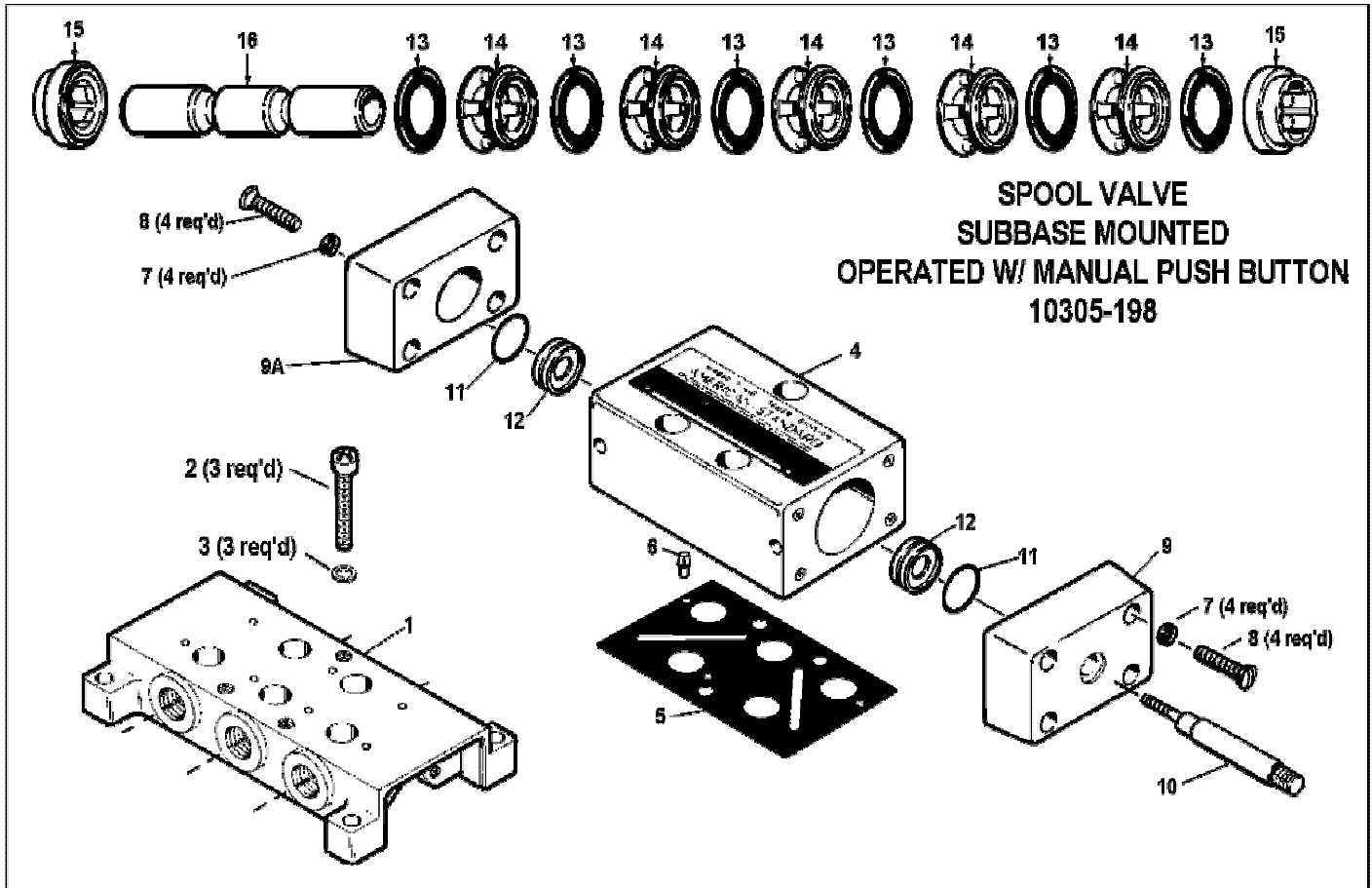


PARTS LIST

REF.	QTY PER ASSEM	DESCRIPTION	VALVE ASSEM. #	PART	FCA PN
	1	SPOOL VALVE ASSEMBLY	P61187	P61187	10305-172
	1	SPOOL VALVE ASSEMBLY	P61187-2	P61187-0002	
	1	SPOOL VALVE W/ SUBBASE, 6" wire leads	P61187+P61182-1	P29026	10305-045
	1	SPOOL VALVE W/ SUBBASE, 22" wire leads	P61187-2 +P61182-7	P29026-0002	10305-181
1	1	BODY, Valve	P61187 & P61187-2	P57665	
5	1	GASKET	P61187 & P61187-2	P58110	10305-169
6	3	PIN	P61187 & P61187-2	P49705-0003	
8*	2	PISTON	P61187 & P61187-2	P58518	
9*	2	RING, Piston "O"	P61187 & P61187-2	P49708-0025	
10	2	CYLINDER, Spacer	P61187 & P61187-2	P58499	
11*	2	RING, Cylinder "O"	P61187 & P61187-2	P49708-0028	
12	1	SPOOL	P61187 & P61187-2	P58539	
13†	6	RING, Spacer Sealing	P61187 & P61187-2	P5175-0003	
14†	5	SPACER	P61187 & P61187-2	P87707	
15	4	SCREW	P61187 & P61187-2	P49835-0072	
16	8	WASHER	P61187 & P61187-2	P49696-0004	
17	2	COVER	P61187 & P61187-2	P61190	
18*	2	GASKET	P61187 & P61187-2	P57699	
19*	2	SPRING, Exhaust Valve	P61187 & P61187-2	P57660	
20	2	SEAT, Exhaust Valve	P61187 & P61187-2	P57645	
21	2	PLUNGER	P61187 & P61187-2	P57647	
22	2	COIL, Solenoid	P61187 & P61187-2	P57679-0005	
23	2	SHELL	P61187 & P61187-2	P57614-0002	
24	2	BUSHING, Shell	P61187 & P61187-2	P57863	
25*	2	RING, "O"	P61187 & P61187-2	P49708-0212	
26*	2	RING, "O"	P61187 & P61187-2	P49783-0015	
27	4	SCREW	P61187 & P61187-2	P49609-0013	
28	2	PLATE	P61187 & P61187-2	P54825-0002	
29*	2	ASSEMBLY, Cartridge	P61187 & P61187-2	P59788	
30*	6	RING, "O"	P61187 & P61187-2	P49708-0017	
31	4	SCREW	P61187 & P61187-2	P49835-0049	
32*	2	GASKET	P61187 & P61187-2	P5174	
33	2	BODY	P61187 & P61187-2	P57419-0001	
34	2	PLUG, Pipe	P61187 & P61187-2	P49685-0002	
35	2	PLUG, Conduit	P61187 & P61187-2	P49431	
36	4	SCREW	P61187 & P61187-2	P49987-0011	
37	2	CHAIN, Safety	P61187 & P61187-2	P49636-0001	
38	4	RING, "O"	P61187 & P61187-2	P49708-008	
	2	SOLENOID OPERATOR KIT	P61187 & P61187-2	P58885	
	1	VALVE SPOOL KIT	P61187 & P61187-2	P58884	

* - available in repair kit

† - six spacer seal rings and one spacer available in spool repair kits, HI-NITRILE seals are also available



PARTS LIST

REF.	QTY PER ASSEM	DESCRIPTION	VALVE ASSEM. #	PART	FCA PN
	1	SPOOL VALVE ASSEMBLY	P30068-1	P30068-0001	
	1	SPOOL VALVE W/SUBBASE	P30068-1 + P57690	P30067-0001	10305-198
1	1	SUBPLATE		P57690	
2	3	SCREW, Valve Mounting		P49835-0031	10305-172
3	3	WASHER		P49696-0004	10305-174
4	1	BODY, Valve		P57665	
5	1	GASKET		P58110	10305-169
6	3	PIN		P49705-0003	
7	8	WASHER		P49696-004	
8	8	SCREW		P49835-0026	
9	1	COVER		P64078	
9A	1	COVER		P58491	
10	1	SHAFT			
11	2	RING, Piston "O"		P49708-0025	
12	2	PISTON		P58518	
13†	6	RING, Spacer Sealing		P5175-0003	
14†	5	SPACER		P57707	
15	2	GUIDE, End		P57706	
16	1	SPOOL		P58539	
	1	VALVE SPOOL KIT		P58884	

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PD2 PILOT AIR VALVE 10305-197 SERVICE INFORMATION

INSTALLATION

Mount the "D" PILOTAIR Valve on a solid flat surface by means of the mounting holes in the body. Do not support the valve by piping alone. It may be installed in any position. When installed vertically, protect the end of the valve if there is danger of dirt or moisture falling into it.

Identify passages through the valve and label ports before installation. To facilitate installation, each port, each end bracket and the operator can be rotated in 90° steps around the stem by removing the tie rods and turning the section. Do not make a modification unless it is absolutely necessary. All modifications should be made on a clean bench to insure that dirt does not enter the valve.

OPERATION

To operate a "D" PILOTAIR Valve a manual force is applied to its operator. This force moves the valve's stem which, in moving to another position, opens and/or closes internal passages in the valve.

Some stems have two positions –one at each end of its travel. Moving the stem to its other end position closes the passages that were open and then opens the passages that were closed.

The valve portion of a "D" PILOTAIR Valve in addition to its stem, has two end sections, a body segment for each tapped port, seals between sections and seal retainers. Four tie rods, which pass through each section, hold these parts together.

Two-way valves have two-tapped ports-supply and delivery.

Passages between sections are the openings in the sides of sections through which the stem passes. Lands on the stem close these openings. Grooves on the stem open them. Stem position determines whether a land or a groove is in an opening.

The seals in the valve portion prevent the escape of fluid through the joints between sections and past the lands of the stem. The seal retainers keep stem drag and unbalanced internal fluid pressures from forcing the seals into the path of the stem where they could be damaged.

Operators are attached to the ends of valve portions by tapped bolts, which screw onto the ends of the tie rods. They are connected to the valve stems by cotter pins or roll pins.

Lever, button and treadle operators can move a stem in both directions. These operations are made with full return spring. A full return spring moves a valve's stem to its position at the other end of its travel with the removal of an operating force that had moved it from this position.

"D" PILOTAIR Valves with either full return springs or centering springs have "normal" stem positions; positions to which the springs return the stems when operating forces acting on the valves are removed. In two and three-way valves with full return springs, these positions are either "normally open" or "normally closed" depending upon which end of the valve and full return spring is fastened.

The ends of the "D" PILOTAIR Valve are identified as "A" and "B". The "A" end of the valve is the one with the nameplate. A full return spring on this end of a two-way valve or a threeway valve with open exhaust makes it "normally closed". A "normally closed" valve has the passage between its supply and delivery ports closed when no operating force is acting on the valve. A "normally open" valve has this passage open unless an operating force closes it.

ADJUSTMENTS

The "D" PILOTAIR Valve requires noadjustment.

MAINTENANCE

Periodically dismantle the "D" PILOTAIR® Valve for inspection and cleaning. Wash all metal parts with a non-flammable solvent. Wash all seals with soap and water and examine them for cracks or signs of wear. Dry all parts with a low-pressure air jet. Replace worn or defective parts.

Reassemble the valve, using the exploded view as reference. The valve should be reassembled using new rubber parts. As the assembly proceeds, lubricate all rubber parts with Dow Corning 55 M Grease and all metal-to metal surfaces with Number 107 Lubriplate.

PARTS LIST

REF	QTY	DESCRIPTION	PART	FCA PN
	1	PD2 PILOTAIR VALVE	P66235	10305-197
1	1	STEM (SPOOL)	major kit only	
2	2	BODY SEGMENT	P030304-00000	
3	1	COVER (B end)	P050722-00000	
4	4	RETAINER	major & minor kit	
5	3	PACKING RING	major & minor kit	
6	1	COVER (A end)	P050719-00000	
7	4	TIE ROD	P049985-00007	
8	4	NUT	P049994-00003	
9	4	WASHER	P049804-00012	
11*	1	SPRING CAGE		
12*	1	ROLL PIN		
13*	1	SLEEVE		
15*	1	SPRING		
17*	4	MOUNTING ADAPTER NUT		
18*	1	STOP & SPRING RETAINER		
	1	SPRING RETURN KIT (*)	PD020000-00055	
	1	END COVER KIT (11 & 17 only)	PD020000-00098	
	1	MINOR REPAIR KIT	P068829-00000	
	1	MAJOR REPAIR KIT	P068823-00000	

