



# Wet Armature Soft Shift Directional Valves

DG4S4\*W-01\*A/B/C-(U)-\*\*\*-60-S491

COIL	VOLTAGE 60 HZ 50 HZ	COIL CODE	DIN COIL
523604	105 DC	BB	02-301925
525340	210 DC	BD	02-301926
02-155237	12V DC Non-rectified	G	02-155868
02-155238	24V DC Non-rectified	H	02-155867

ORIFICE (1 req'd per core tube)	
635138	Blank (Std 047)
524588	062
524589	078

SPRING	SPOOL TYPE	COLOR CODE
691417	A	RED
691416	2B/C	BLUE
568617	0/6/B/C	BLACK
02-155885	8B/C	WHITE

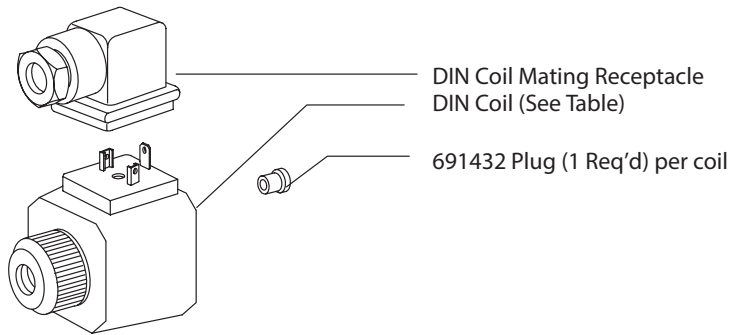
#### Type 'A' Spool Assembly Notes

Assemble type 'A' spools with narrow shank towards actuator

#### Type 'B' & 'C' Spool Assembly Notes

For type 8 spools, solenoid designations are reversed.

SPOOL TYPE	PART
0A	522858
2A	522857
9A	522859
0B	522856
2B	522855
6B	691402
8B	854991 S/A
0C	522856
2C	522855
6C	691402
8C	854991 S/A

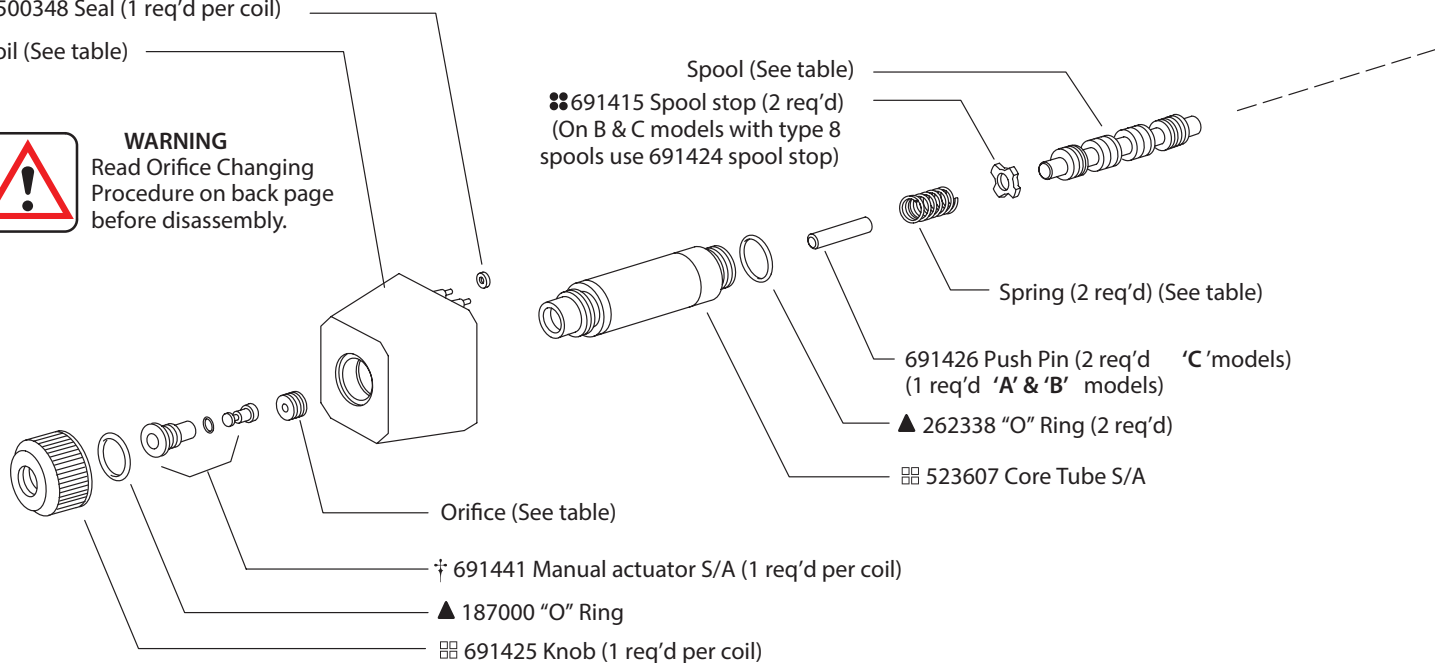


▲ 500348 Seal (1 req'd per coil)

Coil (See table)



**WARNING**  
Read Orifice Changing Procedure on back page before disassembly.



**Note**

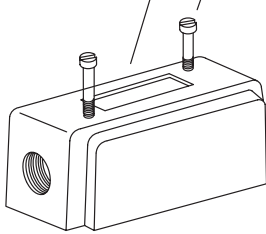
Left hand assembly shown for A & B models. For right hand assembly all parts are reversed except body.

	System Pressure		
	1000 psi	2000 psi	3000+ psi
Valves	20/18/15	20/18/15	19/17/14

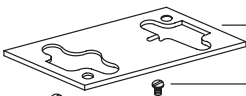
**Note**

For satisfactory service life of these components in industrial applications, use full flow filtration to provide fluid which meets ISO cleanliness code.

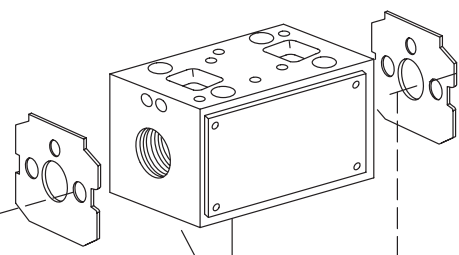
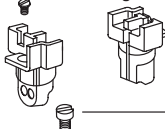
- ⊗ † 691299 Screw (2 req 'd)
- ⊗ 691418 Junction box



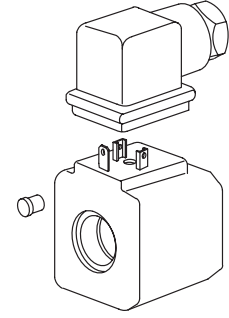
523603 Rectifier board (rectifier board used only with BB & BD coils (non-DIN type))



- ▲ ⊗ 691419 Gasket
- ⊗ 696440 Gasket for type '8' models
- ▲ ⊗ 501212 Screw (2 req 'd per terminal block)
- ⊗ 500366 Terminal blocks/A (1 req 'd per coil)
- ⊗ 501663 Screw



- ▲ 262334 "O" Ring (5 req 'd)
- Body S/A (Not available for sale)
- ▲ 691421 Gasket (1 req 'd per coil)



**DG4S4 -01C**

**NOTE**  
Refer to other end of valve for common parts.

**DG4S4-01A/B**

- 691432 Plug (1 req 'd)
- ⊗ 691468 Plug
- ▲ 262338 "O" Ring
- Spring (See table)
- Spool stop (See other end of valve)

**DIN Receptacles with rectifier for coil codes BB & BD:**

02-141356 (w/o lights)	Coil B
02-141357 (w/o lights)	Coil A
02-141360 (w/ lights)	Coil A or B Code BB 105 VDC
02-141361 (w/ lights)	Coil A or B Code BD 210 VDC

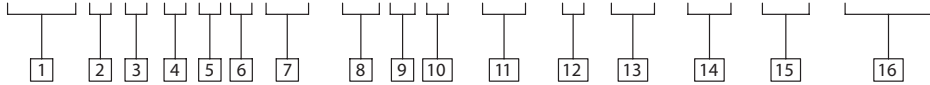
**DIN receptacles without rectifier for coil codes G & H:**

710776 (w/o lights)	Coil A
710775 (w/o lights)	Coil B
977467 (w/ lights)	Coil A
977466 (w/ lights)	Coil B

- ▲ Included in seal kit 934628
- ⊗ Assemble 691424 spool stop with sharp edge towards body.
- ⊗ Omit when using DIN coils
- ⊗ Torque 24 -29 N.m (18 -22 lbf. ft.)
- ⊗ Torque 2.3 -2.8 N.m (20 -25 lbf. in.)
- † Torque 6.2 -7.3 N.m (55 -65 lbf. in.)

# Model Code

**(F3) D G 4 S 4 \*W - 01 \* C - (U) - \* - \*\*\* - 60 - LH - S491**



**1 Special Seals**

**Blank** - Standard seals  
**F3** - Special seals

**2 Directional Control Valve**

**3 Manifold or Subplate Mounted**

**4 Solenoid Operated**

**5 Sliding Spool**

**6 Flow Direction**

**4** - Four way

**7 Electrical Accessories**

**Blank** - For "U" type connectors  
**W** - Wiring housing  
**LW** - Wiring housing w/indicator lights

**8 Interface**

**01** - ISO-4401-AC-50-4-A  
 NFPA D05 ( 1/8 in. nominal size)

**9 Spool Types**

A models - 0, 2, 9  
 B models - 0, 2, 6, 8  
 C models - 0, 2, 6, 8

**10 Spool/Spring Arrangement**

**A** -Spring offset P to A  
**B** -Spring centered solenoid "A" removed  
**C** -Spring centered, three positon

**11 Wet Armature Solenoid**

(non-serviceable core tube)

**Blank** - Plug-in coils  
**U** - DIN 43650 coils w/o electrical plug (non-rectified)  
**U1** - Connector fitted  
**U6** - Connector fitted w/lights  
**U11** - Connector fitted w/rectifier & lights  
**U12** - Connector fitted w/rectifier

**12 Coil Identification**

**13 Soft Shift Orifice**

**Blank** - Standard (.047)  
**062** - (.062)  
**078** - (.078)

**14 Design**

**15 Left Hand Assembly**

(Omit for right hand assembly with solenoid "A" removed.)

**16 Special Soft Shift Solenoids**

## Orifice Changing Procedure



**WARNING**

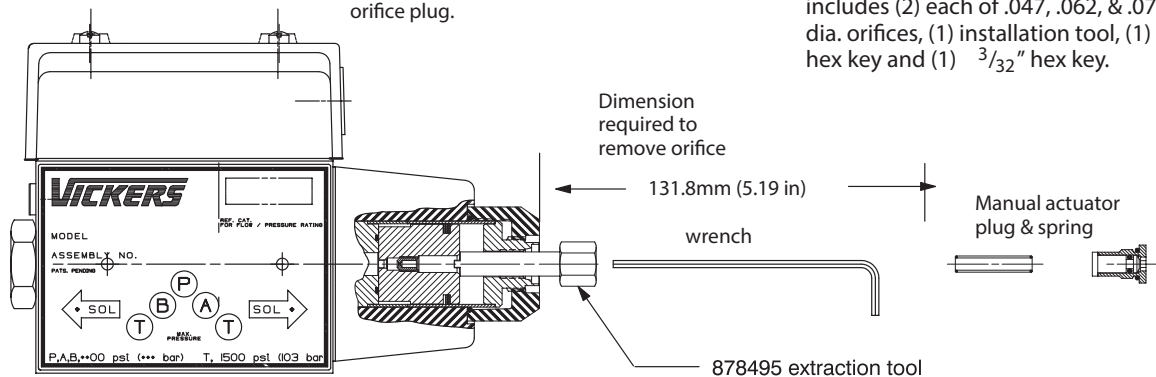
1. Before breaking a circuit connection make certain that power is off and system pressure has been released. Lower all vertical cylinders, discharge accumulators and block any load whose movement could generate pressure.Plug all removed units and cap all lines to prevent the entry of dirt into the system.

2. Using a 5/32" hex key, remove manual actuator plug and spring from the end of solenoid (Tightening torque 6.2 –7.3 N.m 55–65 lbf. in.)
3. Insert extraction tool (878495) into solenoid via the manual actuator opening. Rotate tool until aligned and push into slot in armature.
4. Using 1/2" wrench and tool to prevent the armature from rotating, insert 3/32" hex key down the center of tool and remove orifice plug.

5. Replace by the same method, tightening orifice snug to ensure bottoming of threads. Smaller orifices increase response times. Larger orifices decrease response times. The .047 in. dia. orifice is standard in the valve.

**Orifice & tool kit 02-119131**

For fine tuning shift performance, orifices must be ordered separately. The kit includes (2) each of .047, .062, & .078 in. dia. orifices, (1) installation tool, (1) 5/32" hex key and (1) 3/32" hex key.



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