

# Series D3W, C Style 32-Design Directional Control Valves

Service Bulletin

Bulletin HY14-2543-M10/US

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



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**SAFETY GUIDE**

For safety information, see Safety Guide SG HY14-1000 at [www.parker.com/safety](http://www.parker.com/safety) or call 1-800-CParker.

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**D**  
 Directional Control Valve

**3**  
 Basic Valve

NFPA D05,  
 CETOP 5  
 NG10

**W**  
 Actuator

Wet  
 armature  
 solenoid

**□**  
 Spool

**C**  
 Style

**□**  
 Seal

| Code | Description  |
|------|--------------|
| N    | Nitrile      |
| V    | Fluorocarbon |

**□**  
 Solenoid Voltage

| Code | Description         |
|------|---------------------|
| E    | 24/60 - 24/50 VAC   |
| Y    | 120/60 - 110/50 VAC |
| T    | 240/60 - 220/50 VAC |
| K    | 12 VDC              |
| J    | 24 VDC              |
| D#   | 120 VDC             |
| U#   | 98 VDC              |
| Z#   | 250 VDC             |

# High Watt Coil only.

**□**  
 Solenoid Connection

| Code | Description         |
|------|---------------------|
| C**  | Conduit Cavity      |
| K    | Conduit Box         |
| P    | Hirschmann w/Plug   |
| W*   | Hirschmann w/o Plug |
| E*   | Explosion Proof     |

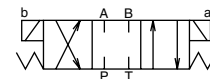
\* Lights not available.  
 \*\* No variations (See "K").

| Code | Symbol | Code | Symbol |
|------|--------|------|--------|
| 1    |        | 11   |        |
| 2    |        | 12   |        |
| 3    |        | 14   |        |
| 4    |        | 15   |        |
| 5    |        | 16   |        |
| 6    |        | 21†  |        |
| 7    |        | 22†  |        |
| 8*   |        | 81†  |        |
| 9**  |        | ††   |        |
|      |        | ***  |        |
| 10†  |        | 82†  |        |
|      |        | ††   |        |
|      |        | ***  |        |

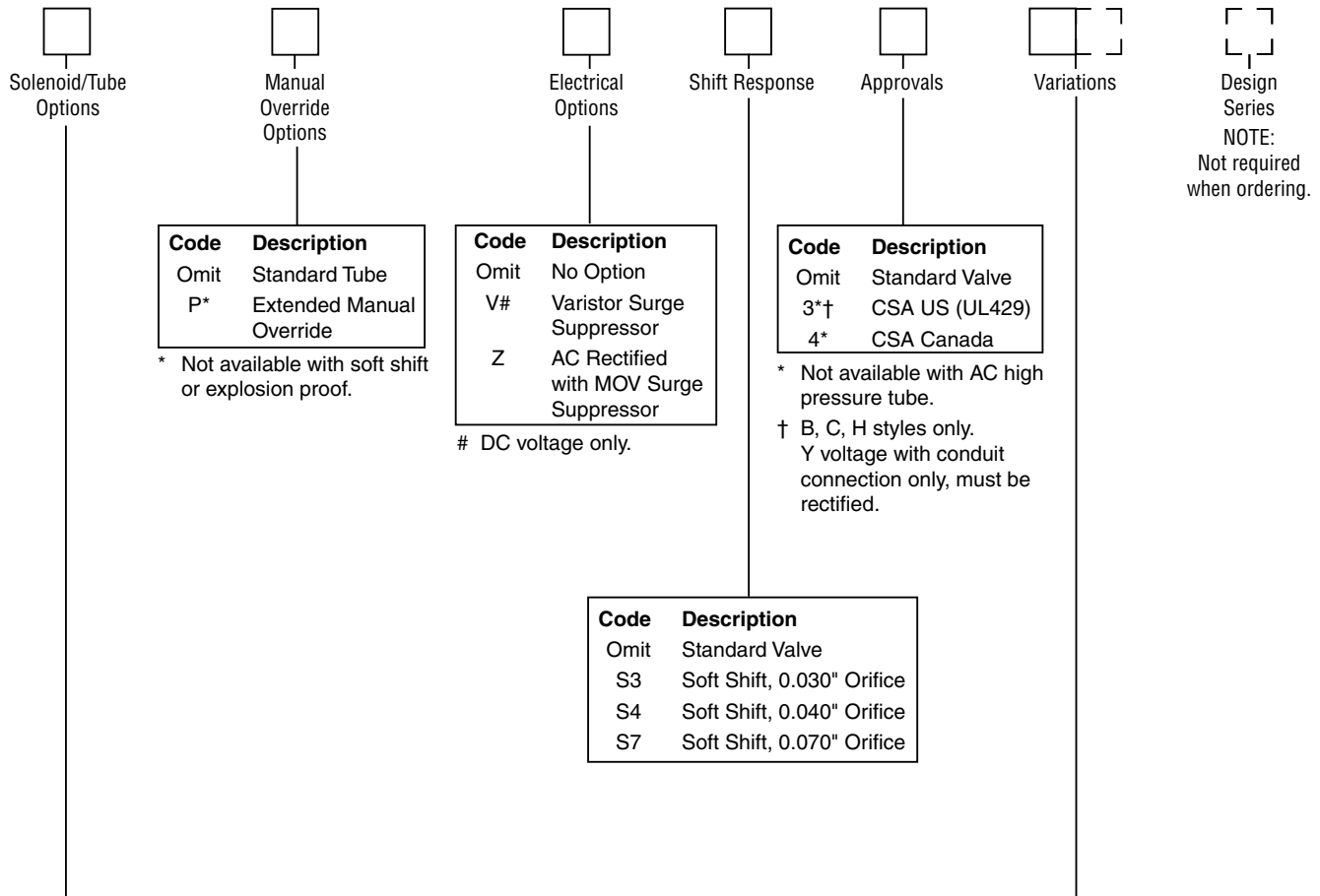
\* 8 spool has closed crossover.  
 \*\* 9 spool has open crossover.  
 † Available only with high-watt rectified AC coils or high-watt DC coils.  
 †† Spring centered.  
 \*\*\* 81 and 82 spools not available with explosion proof.

Valve schematic symbols are per NFPA/ANSI standards, providing flow P to A when energizing solenoid A. Note operators reverse sides for #8 and #9 spools. See installation information for details.

| Code | Description                                   |
|------|-----------------------------------------------|
| C    | Double solenoid, 3 position, spring centered. |



This condition varies with spool code



| Code | Description              |
|------|--------------------------|
| Omit | Standard Tube            |
| P*   | Extended Manual Override |

\* Not available with soft shift or explosion proof.

| Code | Description                            |
|------|----------------------------------------|
| Omit | No Option                              |
| V#   | Varistor Surge Suppressor              |
| Z    | AC Rectified with MOV Surge Suppressor |

# DC voltage only.

| Code | Description    |
|------|----------------|
| Omit | Standard Valve |
| 3*†  | CSA US (UL429) |
| 4*   | CSA Canada     |

\* Not available with AC high pressure tube.

† B, C, H styles only. Y voltage with conduit connection only, must be rectified.

| Code | Description                |
|------|----------------------------|
| Omit | Standard Valve             |
| S3   | Soft Shift, 0.030" Orifice |
| S4   | Soft Shift, 0.040" Orifice |
| S7   | Soft Shift, 0.070" Orifice |

| Options | Coil                      | Tube Rating          |                    |
|---------|---------------------------|----------------------|--------------------|
|         |                           | AC                   | DC/AC Rectified    |
| Omit    | High Watt                 | 103.5 Bar (1500 PSI) | 207 Bar (3000 PSI) |
| F*#     | Low Watt                  | n/a                  | 207 Bar (3000 PSI) |
| H       | High Watt                 | 207 Bar (3000 PSI)   | n/a                |
| D†      | Explosion Proof EEXD ATEX |                      |                    |
| U†      | Explosion Proof, UL/CSA   |                      |                    |

\* Available only with J, K and Y (Rectified), T (Rectified) voltages.  
 # Not available with soft shift valves.  
 † Explosion proof coils are 60 Hz at standard voltage; dual rating not available.

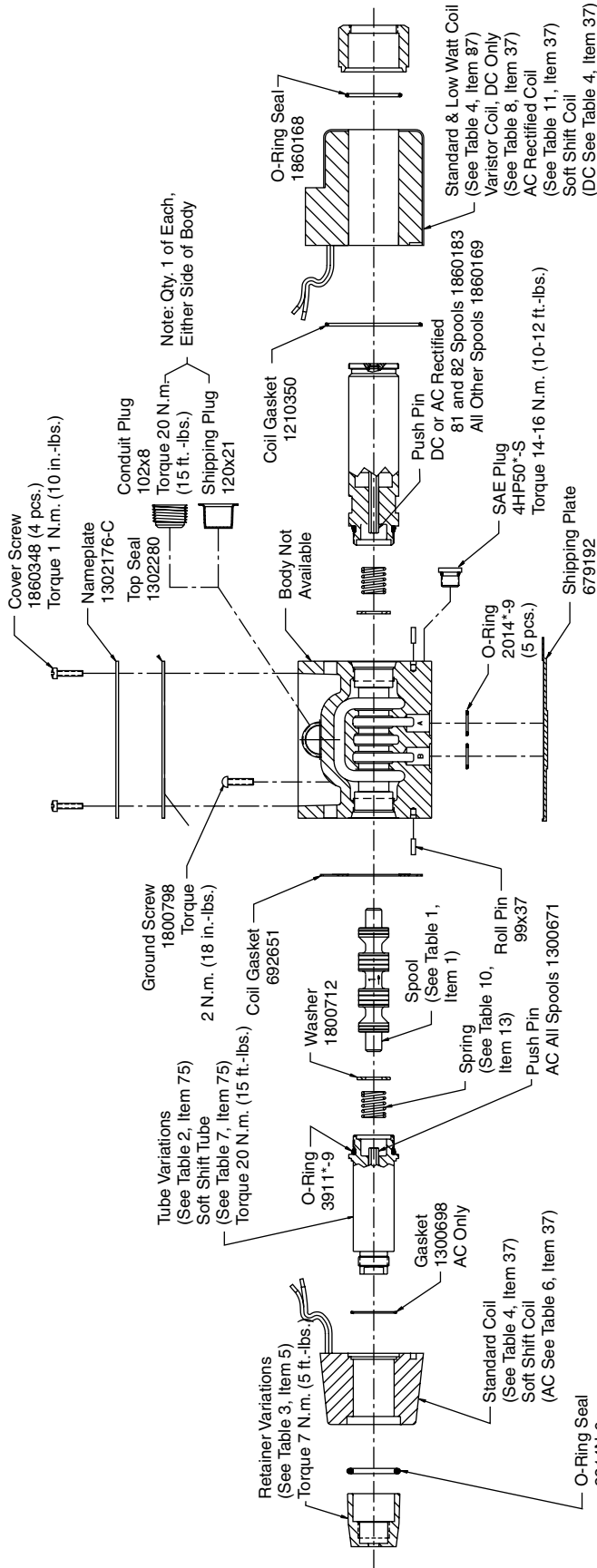
| Code | Description                                         |
|------|-----------------------------------------------------|
| Omit | Standard Valve                                      |
| 5    | Signal Lights                                       |
| 6    | Manaplug, Brad Harrison Mini                        |
| 7    | Manaplug, Brad Harrison Micro (M12x1)               |
| 56   | Manaplug (Mini) with Lights                         |
| 57   | Manaplug (Micro) with Lights (M12x1)                |
| 1A   | Manaplug (Mini) Single Sol. 5-Pin                   |
| 1B   | Manaplug (Micro) Single Sol. 5-Pin (M12x1)          |
| 1C   | Manaplug (Mini) Single Sol. 5-Pin w/Lights          |
| 1D   | Manaplug (Micro) Single Sol. 5-Pin w/Lights (M12x1) |
| 1M   | Manaplug Opposite Normal                            |

**Valve Weight:**  
 Double Solenoid:  
 AC 5.0 kg (11.0 lbs)  
 DC 7.3 kg (16.0 lbs)

**Standard Bolt Kit:**  
 BK98

**Seal Kit:**  
 Nitrile SKD3W  
 Fluorocarbon SKD3WV



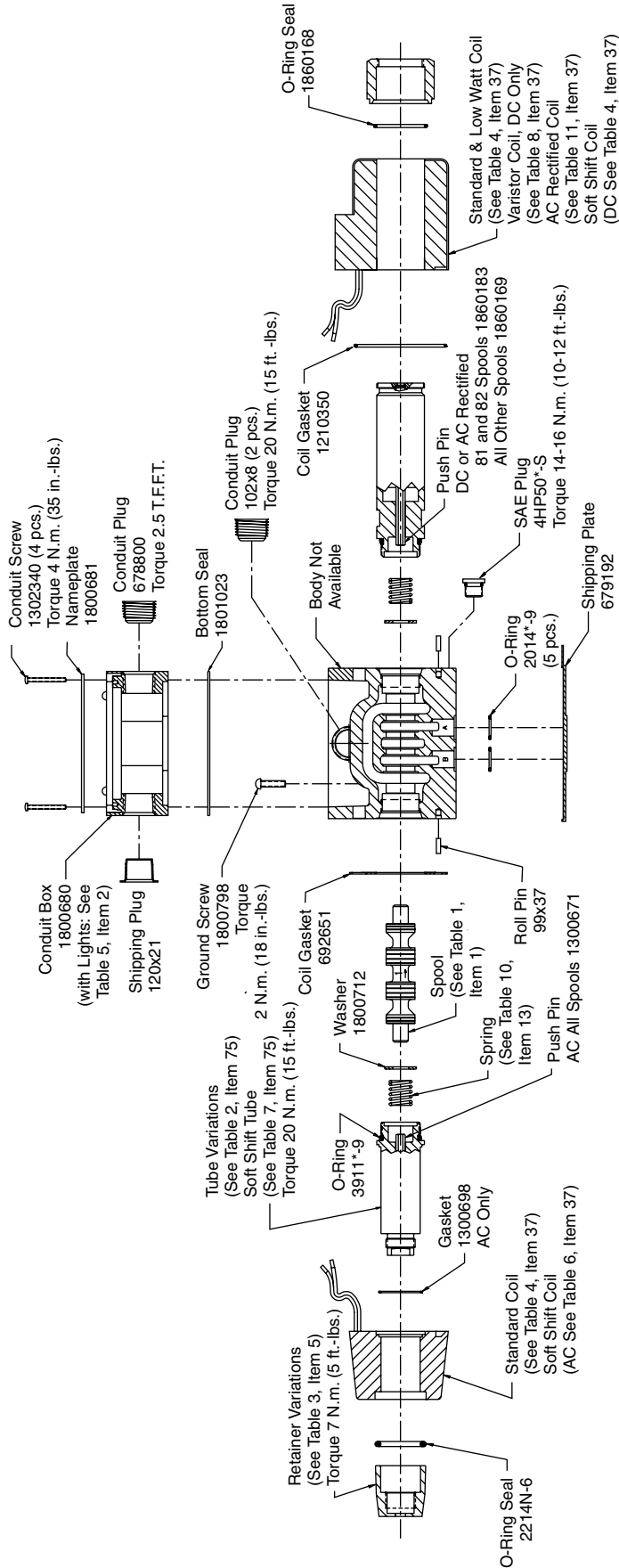


**DC or AC Rectified Solenoid**

**D3W Double AC Solenoid Model**  
**D3W Double DC Solenoid Model**

**AC Solenoid**

- NOTES:**
- \* Indicates Seal Compound: N-Nitrile, V-Fluorocarbon.
  - AC Solenoid Components Shown on Left Side, DC Components Shown on Right Side.

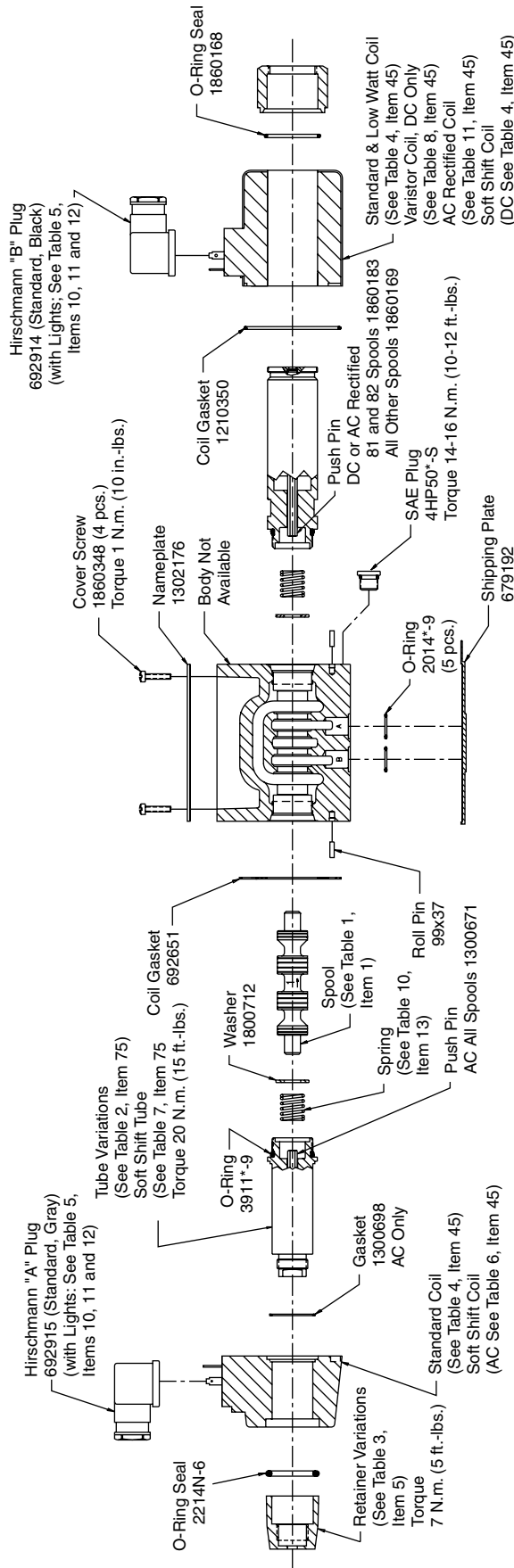


**DC or AC Rectified Solenoid**

**AC Solenoid**

**D3W Double AC Solenoid Model**  
**D3W Double DC Solenoid Model**

NOTES:  
 1) \* Indicates Seal Compound: N-Nitrile, V-Fluorocarbon.  
 2) AC Solenoid Components Shown on Left Side, DC Components Shown on Right Side.



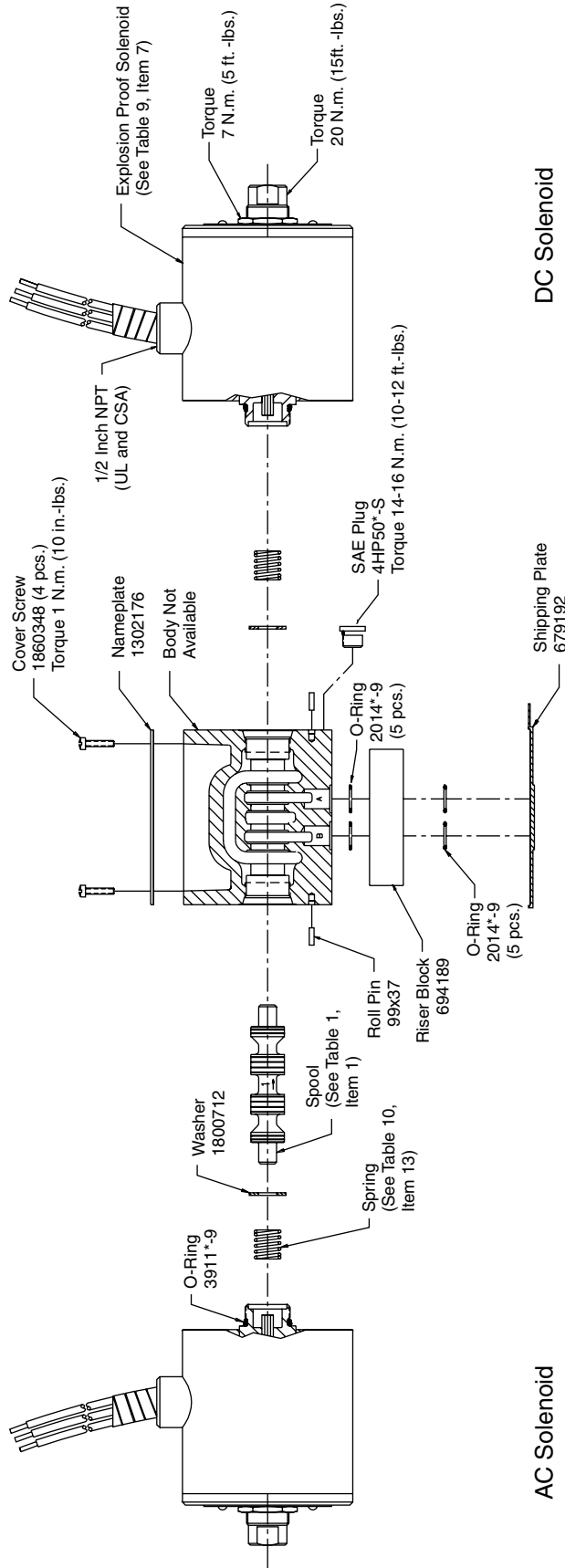
**DC or AC Rectified Solenoid**

**D3W Double AC Solenoid Model**  
**D3W Double DC Solenoid Model**

**AC Solenoid**

- NOTES:**
- 1) \* Indicates Seal Compound: N-Nitrile, V-Fluorocarbon.
  - 2) AC Solenoid Components Shown on Left Side, DC Components Shown on Right Side.





**D3W Double AC Solenoid Model**  
**D3W Double DC Solenoid Model**

- ALIGNMENT INSTRUCTIONS**
1. Loosen or remove hex nut.
  2. Loosen the large end cap by turning it counter-clockwise as viewed from the end.
  3. Rotate the coil to align the conduit.
  4. Tighten the large end cap by hand. Use of any tools could damage the unit. A .002 inch feeler gage should not enter the joint between the coil and the end cap.
  5. Replace the hex nut and torque to 20 N.m. (15 ft.-lbs.) maximum.

- NOTES:**
- 1) \* Indicates Seal Compound: N-Nitrile, V-Fluorocarbon.
  - 2) AC Solenoid Components Shown on Left Side, DC Components Shown on Right Side.

| <b>Table 1 (Spools)</b> |      |      |             |     |                    |
|-------------------------|------|------|-------------|-----|--------------------|
|                         | Code | Item | Part Number | Qty | Description        |
| 1                       | 1    | 1    | 1300601     | 1   | #1 Spool           |
|                         | 2    | 1    | 1300602     | 1   | #2 Spool           |
|                         | 3    | 1    | 1300603     | 1   | #3 Spool           |
|                         | 4    | 1    | 1300604     | 1   | #4 Spool           |
|                         | 5    | 1    | 1300605     | 1   | #5 Spool           |
|                         | 6    | 1    | 1300606     | 1   | #6 Spool           |
|                         | 7    | 1    | 1300607     | 1   | #7 Spool           |
| 3                       | 8    | 1    | 1300608     | 1   | #8 Spool           |
|                         | 9    | 1    | 1300609     | 1   | #9 Spool           |
|                         | 10   | 1    | 1300610     | 1   | #10 Spool          |
|                         | 11   | 1    | 1300611     | 1   | #11 Spool          |
|                         | 12   | 1    | 1300664     | 1   | #12 Spool          |
|                         | 14   | 1    | 1300607     | 1   | #7 Spool Reversed  |
|                         | 15   | 1    | 1300603     | 1   | #3 Spool Reversed  |
|                         | 16   | 1    | 1300605     | 1   | #5 Spool Reversed  |
|                         | 21   | 1    | 1301701     | 1   | #21 Spool          |
|                         | 22   | 1    | 1301701     | 1   | #21 Spool Reversed |
| 2                       | 81   | 1    | 1210161     | 1   | #81 Spool          |
|                         | 82   | 1    | 1210162     | 1   | #82 Spool          |

- Notes:
- 1 Arrow points toward A port end of body for all spools except 14, 15, 16 and 22.
  - 2 81 and 82 spools are not available with explosion proof.
  - 3 10, 21, 22, 81 and 82 spools only available in high watt rectified AC or high watt DC coils only.

| <b>Table 2 (Tube Variations)</b> |      |             |     |                                                     |
|----------------------------------|------|-------------|-----|-----------------------------------------------------|
| Code                             | Item | Part Number | Qty | Description                                         |
| Omit or H                        | 75   | 1300666     | 1   | AC Tube 103.5 Bar (1500 PSI)                        |
|                                  |      | 1301710     |     | AC Tube 207 Bar (3000 PSI)                          |
|                                  |      | 1860213     |     | DC or AC Rectified Tube 207 Bar (3000 PSI)          |
| P or HP                          | 75   | 1860174     | 1   | Extended AC Tube 103.5 Bar (1500 PSI)               |
|                                  |      | 1860176     |     | Extended AC Tube 207 Bar (3000 PSI)                 |
|                                  |      | 1860165     |     | Extended DC or AC Rectified Tube 207 Bar (3000 PSI) |

| <b>Table 3 (Retainer Variations)</b> |      |             |     |                                               |
|--------------------------------------|------|-------------|-----|-----------------------------------------------|
| Code                                 | Item | Part Number | Qty | Description                                   |
| All except P, HP & T                 | 5    | 693568      | 1   | AC Standard Retainer                          |
|                                      |      | 1860167     |     | DC Standard or AC Rectified Retainer          |
| P or HP                              | 5    | 1300128     | 1   | AC Extended Override Retainer                 |
|                                      |      | 1860171     |     | DC or AC Rectified Extended Override Retainer |
|                                      |      | 697161      |     | Extended Override Boot                        |