

# INSTALLATION & MAINTENANCE INSTRUCTIONS

## 3-WAY PLASTIC BODY SOLENOID VALVES NORMALLY OPEN, NORMALLY CLOSED AND UNIVERSAL OPERATION

**ASCO**  
BULLETIN  
8360

Form No. V5677R2

### DESCRIPTION

Bulletin 8360 valves are 3-way solenoid valves, having a molded plastic body, designed for both food handling and non-food handling service. Standard valves have a TYPE 1 General Purpose Solenoid Enclosure.

### OPERATION

Normally Closed

Solenoid De-energized: Flow is from Cylinder Port (1) to Exhaust (3). Pressure (2) is closed.

Solenoid Energized: Flow is from Pressure (2) to Cylinder (1). Exhaust (3) is closed.

Normally Open

Solenoid De-energized: Flow is from Pressure (3) to Cylinder (1). Exhaust connection (2) is closed.

Solenoid Energized: Flow is from Cylinder (1) to Exhaust (2). Pressure (3) is closed.

Universal

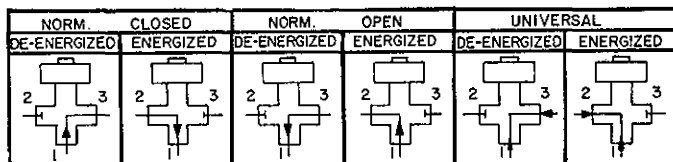
Universal valves can be used as normally open or normally closed; see operation description above.

### CHANGING OPERATION FORMS

Universal valves may be used for either operation form without internal changes. However, normally closed and normally open valves cannot be used for a different operation form unless internal parts (upper and lower springs) are changed. Consult ASCO for new internal parts and nameplate for proper valve identification. Refer to "NEW SPRING INSTALLATION" Section when changing operation forms.

**IMPORTANT:** No minimum operating pressure is required.

### FLOW DIAGRAM



### INSTALLATION

Check nameplate for correct catalog number, pressure, voltage and service.

### TEMPERATURE LIMITATIONS

Maximum valve ambient temperature is 77°F. Maximum valve fluid temperature is 130°F for continuous exposure and 180°F for intermittent exposure.

### POSITIONING

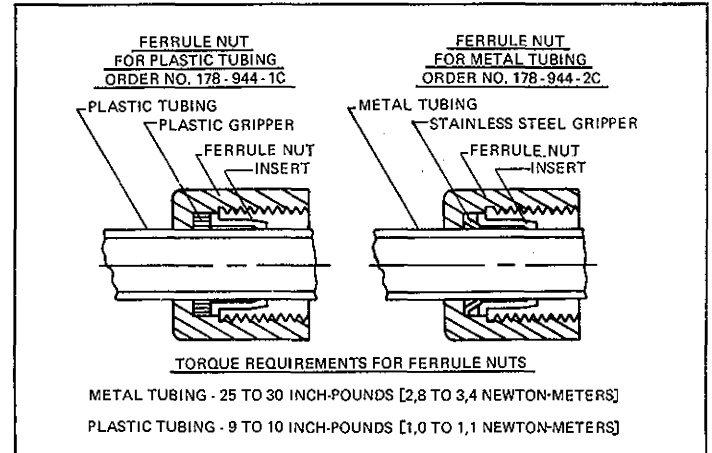
This valve is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertically and upright to reduce the possibility of foreign matter accumulating in the plugnut/core tube sub-assembly area.

### MOUNTING

For valve body mounting dimensions, refer to Figure 1.

### TUBING OR HOSE CONNECTION

Connect tubing or hose to valve according to markings on valve body. Avoid tubing strain on valve body by properly supporting and aligning tubing. When tightening fittings, do not use valve body or solenoid as a lever. For valves with bib type connections, 1/4-inch O.D. hose or 1/4-inch SAE male flare ends, maximum torque for tubing connection is 25 inch-pounds (2,8 newton-meters). Valves that require compression fittings for 1/4-inch O.D. plastic or metal tubing may be provided with ferrule nuts, an optional feature. There are two different types of ferrule nuts, one for plastic tubing and one for metal tubing. Refer to diagram.



**IMPORTANT:** To protect the solenoid valve, install a strainer or filter, suitable for service involved, in the inlet side as close to the valve as possible. Clean periodically depending on service conditions. See Bulletins 8600, 8601 and 8602 for strainers.

### WIRING

Wiring must comply with local codes and the National Electrical Code. The solenoid housing has a 7/8-inch diameter hole to accommodate 1/2-inch conduit. On some constructions, a green ground wire is provided. To facilitate wiring, the solenoid enclosure may be rotated 360° by removing the retaining cap. Rotate enclosure to desired position. Replace retaining cap before operating.

### SOLENOID TEMPERATURE

Coils for Bulletin 8360 valves are designed for continuous duty service. When the solenoid is energized for a long period, the solenoid enclosure becomes hot and can be touched by hand only for an instant. This is a safe operating temperature. Any excessive heating will be indicated by the smoke and odor of burning coil insulation.

### MAINTENANCE

**NOTE:** It is not necessary to remove the valve from the pipeline for repairs.  
**WARNING:** Turn off electrical power supply and depressurize valve before making repairs.

### CLEANING

All solenoid valves should be cleaned periodically. The time between cleanings will vary depending on medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. Clean strainer or filter when cleaning the valve.

### IN-PLACE CLEANING INSTRUCTIONS FOR DISPENSING/VENDING USAGE

1. Wash valve for two (2) minutes with a detergent solution of one (1) ounce of OAKITE® LIQUI-DET® 2 (or equivalent) to two (2) gallons of water at 120 to 140°F.
2. Rinse valve for two (2) minutes with cold water.
3. Sanitize valve for two (2) minutes with a 50 part-per-million solution of chlorine sanitizing agent.

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Automatic Switch Co. 50-60 Hanover Road, Florham Park, New Jersey 07932

**ASCO Valves**

**ASCO**

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## PREVENTIVE MAINTENANCE

1. Keep the medium flowing through the valve as free from dirt and foreign material as possible.
2. While the valve is in service, operate it at least once a month to insure proper opening and closing.
3. Periodic inspection (depending on medium and service conditions) of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. Replace any parts that are worn or damaged.

## CAUSES OF IMPROPER OPERATION

1. **Faulty Control Circuit:** Check the electrical system by energizing the solenoid. A metallic "click" signifies that the solenoid is operating. Absence of the "click" indicates loss of power supply. Check for loose or blown fuses, open circuited or grounded coil, broken lead wires or splice connections.
2. **Burned-Out Coil:** Check for open-circuited coil. Replace coil if necessary. Check supply voltage; it must be the same as specified on nameplate.
3. **Low Voltage:** Check voltage across the coil leads. Voltage must be at least 85% of nameplate rating.
4. **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
5. **Excessive Leakage:** Disassemble valve (see MAINTENANCE) and clean all parts. Replace worn or damaged parts. However, for best results, replace all parts as supplied with an ASCO Rebuild Kit.

## COIL REPLACEMENT (Refer to Figure 2.)

**WARNING:** Turn off electrical power supply. Then proceed as follows:

1. Disconnect coil lead wires and green ground wire if present.
2. Remove retaining cap, nameplate and cover.
3. Pull yoke containing coil, sleeves, ground wire terminal (if present) and insulating washers off the plugnut/core tube sub-assembly. Insulating washers are omitted when a molded coil is used.
4. Pull coil, sleeves, ground wire terminal (if present) and insulating washers from yoke.
5. Reassemble in reverse order of disassembly. Use exploded view provided for identification and placement of parts.

**CAUTION:** Solenoid must be fully reassembled because the housing and internal parts complete the magnetic circuit. Place insulating washers (except for molded coils) on each end of coil.

## VALVE DISASSEMBLY AND REASSEMBLY (Refer to Figure 2.)

Depressurize valve and turn off electrical power supply.

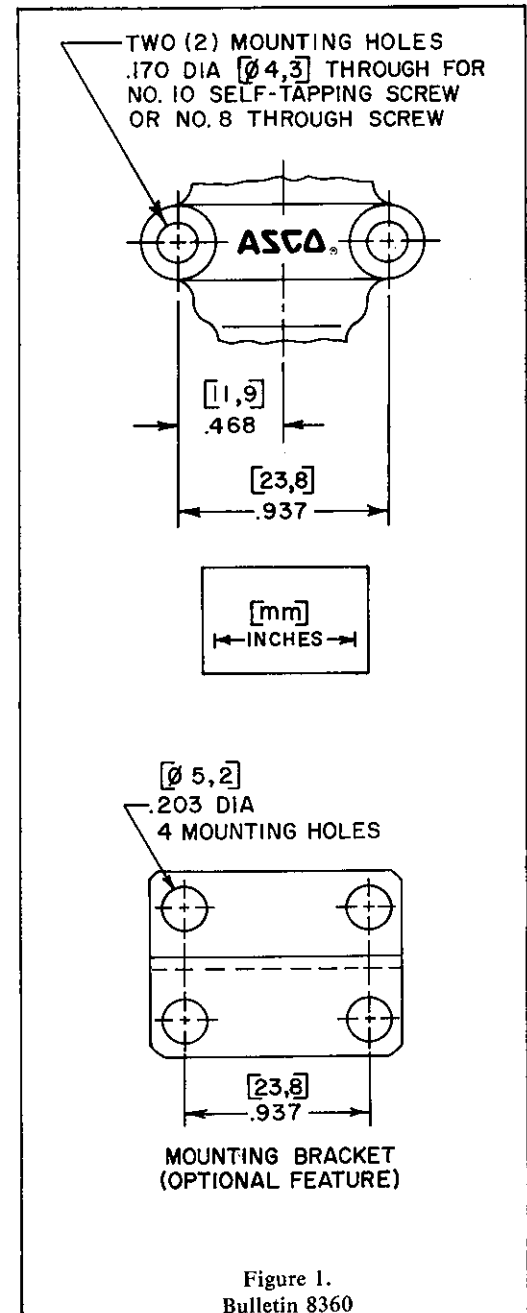
1. Remove retaining cap and pull entire solenoid enclosure off the plugnut/core tube sub-assembly. Remove bracket screws (2) and lower bracket.
2. Remove plugnut/core tube sub-assembly with upper bracket and core tube gasket attached.
3. Remove body gasket, core assembly and core spring.
4. A 4-40 machine screw (provided in Rebuild Kit) serves as a self-tapping screw to remove insert from body. Thread screw a few turns in one of the holes located in flat surface of insert (either of two holes where disc holder legs are not present may be used.) **CAUTION:** Do not damage center hole (pilot orifice) in raised surface of insert. Remove insert by using a pair of pliers on the head of the screw. Remove three gaskets, disc holder disc and disc spring. When replacing disc holder in insert, do not use the hole used by the machine screw for insert removal. Lubricate insert gaskets with clean water before assembling insert into body.
5. All parts are now accessible for cleaning or replacement. Replace worn or damaged parts. However, for best results, replace all parts as supplied with a complete ASCO Rebuild Kit.
6. Reassemble in reverse order of disassembly using exploded view provided for identification and placement of parts.
7. **IMPORTANT:** Tighten bracket screws (2) evenly to insure proper gasket compression. Torque screws to  $24 \pm 2$  inch-pounds [ $2,7 \pm 0,2$  newton-meters].
8. After maintenance, operate the valve a few times to be sure of proper operation.

## ASCO REBUILD KITS

Rebuild Kits and Coils are available for ASCO valves.  
Parts marked with an asterisk (\*) are supplied in Rebuild Kits.

### ORDERING INFORMATION FOR REBUILD KITS

When Ordering Rebuild Kits or Coils,  
Specify Valve Catalog Number,  
Serial Number, Voltage  
and Frequency.



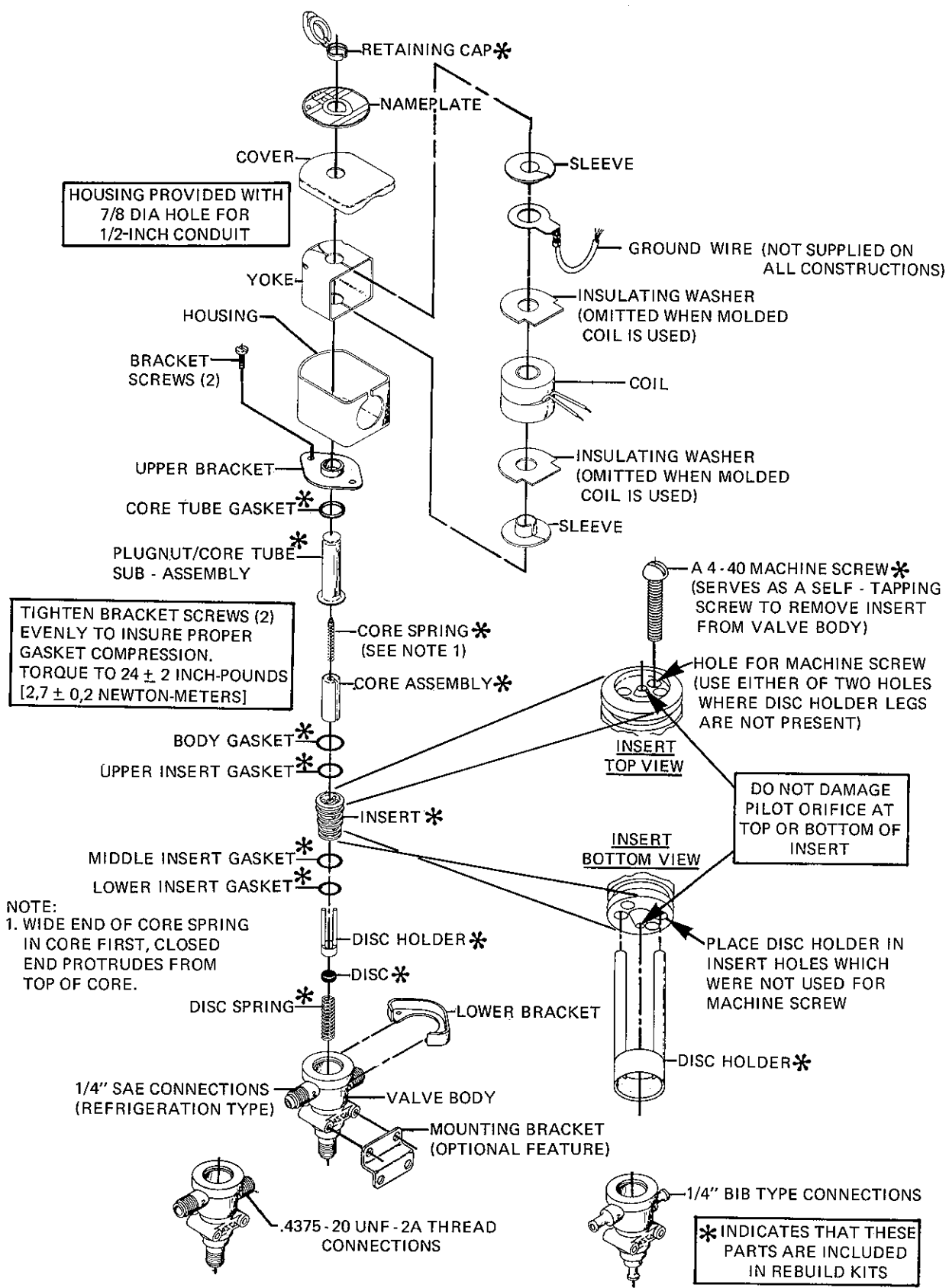


Figure 2.  
Bulletin 8360



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