Installation & Maintenance Instructions

GENERAL PURPOSE SOLENOIDS WITH JUNCTION BOX FOR K3A4, K3A5 "V" AND S261 "H" SERIES VALVE

SERIES 8003

NOTICE: See separate valve installation and maintenance instructions for information on: Operation, Positioning, Mounting, Cleaning, Preventive Maintenance, Causes of Improper Operation, Disassembly and Reassembly of basic valve.

DESCRIPTION

Series 8003 solenoids are 2-way pull type, packless solenoids equipped with a General Purpose, NEMA Type 1 Junction Box Solenoid Enclosure. When installed just as a solenoid and not attached to an ASCO valve, the core has a 1/4 - 28 UNF-2B tapped hole with 5/8 minimum full thread for AC Construction.

OPERATION

When the solenoid is energized, core is drawn into the solenoid base sub-assembly.

IMPORTANT: When the solenoid is de-energized, the initial return force for the core, whether developed by spring, pressure or weight, must exert a minimum force to overcome residual magnetism created by solenoid. Minimum return force is 1 pound 5 ounces for AC Construction (alternating current).

INSTALLATION

The valve information is listed in Nameplate, which includes Catalog number, Pipe size, Media, Coil Watts, Voltage/Hertz and Serial No. Check nameplates for correct information before installing valve.

Positioning

This solenoid is designed to perform properly when mounted in the following position: for K3A Series: in any position; for S261: above horizontal. However, for optimum life and performance, the solenoid should be mounted vertical and upright so as to reduce the possibility of foreign matter accumulating in the core tube area.

IMPORTANT: For the protection of the solenoid valve or operator, install a strainer or filter suitable for the service involved in the inlet side as close to valve or operator as possible. Periodic cleaning is required depending on service conditions. See Series 8600 and 8601 for strainers.

Wiring (Refer to Figure 1)

Wiring must comply with Local and National Electrical Codes. A ground screw (No. 8 thread cutting screw) is provided as a loose piece inside solenoid enclosure. Two holes are provided in the yoke for grounding; use either hole. Solenoid housings are provided with two 7/8 diameter knockouts or with one 7/8 diameter hole to accommodate 1/2 inch conduit. Solenoid housings may also be provided with an optional 1/2 inch threaded conduit hub. For extra support, leave solenoid enclosure assembled when driving out 7/8 diameter knockout. If desirable to move the 7/8 diameter hole or the optional 1/2 inch threaded conduit hub from right to left or vice versa, this may be accomplished by completely disassembling the solenoid enclosure and turning the housing upside-down. Refer to "Coil Replacement" for disassembly and reassembly instructions. Solenoid enclosure may be rotated 360° to facilitate wiring. Remove cover by spreading cover and disengaging nibs (lift up and pull down simultaneously). Use win: rated 90 °C or greater for splice connections.

Temperature Limitations for K3A & S261 series rated at 10.5 and 16.7 Watts.		
Watt rating see Nameplate	Max. Fluid Temp. °F (°C)	Max. Ambient Temp. °F (°C)
10.5	140 (60)	167 (75)
16.7	140 (60)	140 (60)

⚠ CAUTION: Fluid and ambient temperatures shown above only indicate maximum application temperatures for field wiring rated at 90 °C. For higher fluid and/or ambient temperatures, consult factory.

⚠ ATTENTION: Les températures du fluide et de l'air ambiant indiquées ci-dessus indiquent uniquement les températures d'application maximales pour un câblage in situ évalué à 90 ° C. Pour des températures de fluide et / ou ambiantes plus élevées, consulter l'usine.

Solenoid Assembly

Series 8003 solenoids may be assembled as a complete unit. Tightening is accomplished by means of a hex flange at the base of the solenoid enclosure.

Solenoid Temperature

Standard solenoids are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid enclosure becomes hot and can be touched with the 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

⚠ WARNING: Turn off electrical power supply and depressurize unit before making repairs on solenoid.

⚠ AVERTISSEMENT: Coupez l'alimentation électrique et dépressurisez le produit avant de réparer la bobine

Cleaning

A periodic cleaning of all solenoid valves and operators is desirable. The time between cleaning will vary depending on medium and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive leakage or noise will indicate that cleaning is required. Clean strainer or filter when cleaning solenoid valve.

Preventive Maintenance

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

Causes of Improper Operation

- **Faulty Control Circuits:** Check the electrical systems 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-out fuses, open–circuited or grounded coil, broken lead wires or splice connections.
- **Burned–Out Coil:** Check for open–circuit coil. Replace coil as necessary.
- **Low Voltage:** Check voltage across the coil leads. Voltage must be at least 85% of nameplate rating.

Coil Replacement (Refer to Figure 1)

Turn off electrical power supply and disconnect coil lead wires. If rigid conduit is used, it may be necessary to disconnect the conduit from the solenoid housing. Proceed in the following manner:

1. Remove solenoid cover by spreading cover and disengaging nibs. Lift up and pull down simultaneously.
2. Remove retaining cap or clip.

⚠ CAUTION: When metal retaining clip disengages, it will spring upward.

⚠ ATTENTION: Lorsque le clip de maintien en métal se désengage, Il va être projeté vers le haut.

3. Break splice connections and disconnect coil ground wire.
4. Slip the entire solenoid enclosure off the solenoid base sub-assembly.
5. Spreading the housing slightly, remove yoke containing coil, spring washer.
6. Reassemble in reverse order of disassembly paying careful attention to exploded view provided for identification and placement of parts.

⚠CAUTION: Solenoid must be fully reassembled as the housing and internal parts are part of and complete the magnetic circuit. Place an insulating washer at each end of coil, if required.

⚠ATTENTION: La tête magnétique doit être entièrement remontée car le boîtier et les pièces internes font partie de et complètent le circuit magnétique. Veiller à placer des rondelles isolantes à chaque extrémité de la bobine, si nécessaire.

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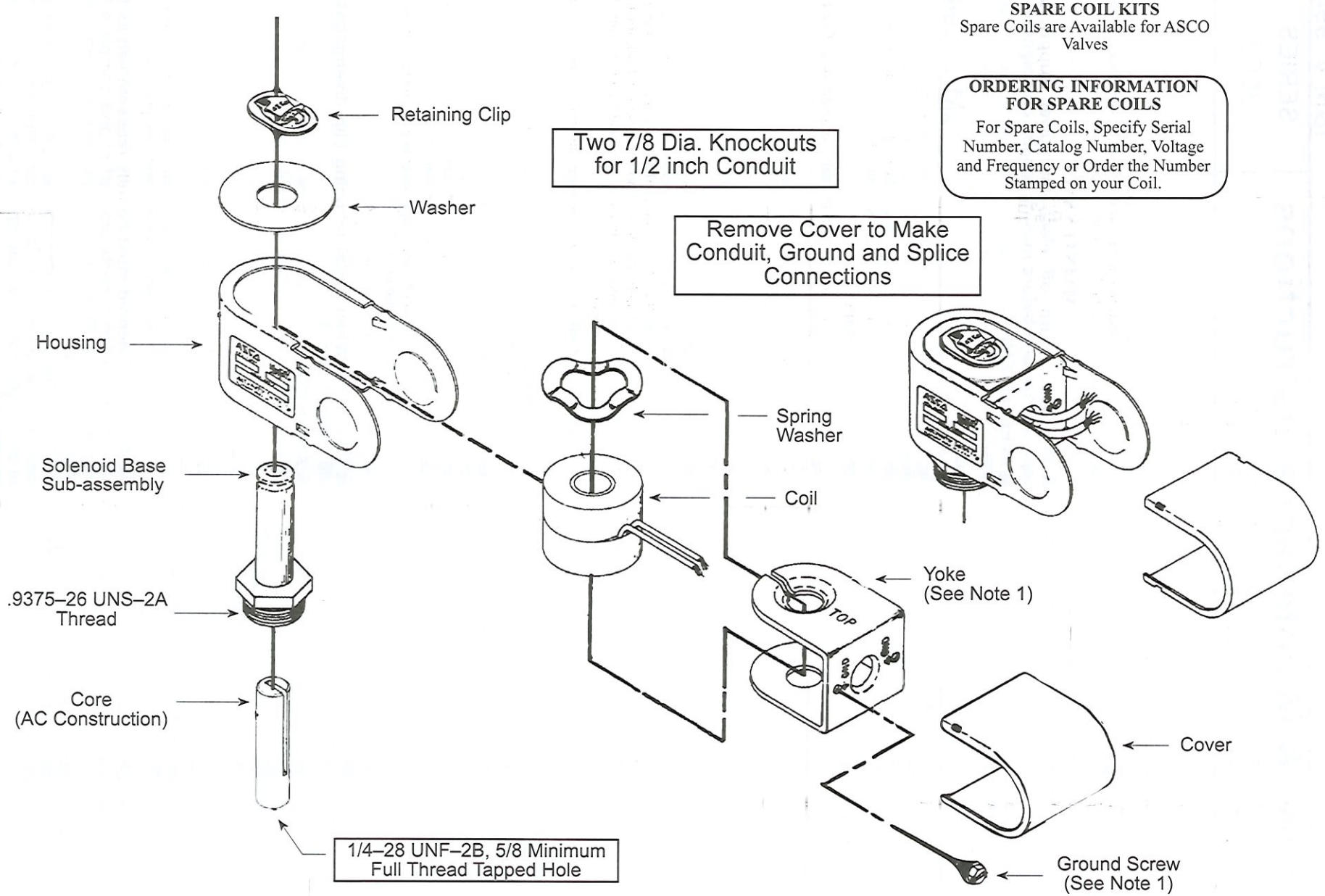

Series 8003
Figure 1. General Purpose Junction Box Solenoid Enclosure