



HOVEY
INDUSTRIES LTD.

2793 Fenton Rd. Tel: (613) 822-1765
Gloucester, Ontario Fax: (613) 822-1556
K1T 3T9 Home Page: WWW.HOVEY.CA

December 10/98

FIELD AMENDMENT NOTICE
MARK 6 SERIES RAILWAY SWITCH HEATERS
1) GAS VALVE

Distribution:

All Switch Heater Customers

Over the course of the 97/98 winter a problem with the MARK 6 Small enclosure railway switch heater's solenoid operated gas valve has been identified, causing the heater to NOT start-up.

The required retrofit action for this problem is described on the following field retrofit instructions.

Thank you,

Chris Phippen, P.Eng.,
HOVEY INDUSTRIES LTD.

Valve Retrofit Instructions

1. Ensure that the gas to the unit is shut off and that residual pressure is purged from the system.

- ! Close the main gas valve located outside the enclosure, to the right of the door.
- ! Attempt to manually start the heater utilizing the manual override switch on the left side of the control cabinet inside the enclosure.
- ! Allow the heater to cycle through a full attempted start up and then turn the manual override switch back to the off position.

The heater should fail to ignite because you have shut off the gas supply, however all residual gas in the internal plumbing will be purged by this operation.

2. Switch off all electrical power, at the circuit breakers located in the box above the gas valve on the outside of the enclosure.

3. Identify the solenoid operated gas valve to be serviced. It will be clearly embossed with the ASCO name and will be topped with a green colored solenoid complete with small red cap.

4. Remove the existing solenoid from the unit;

- ! Place a slot screwdriver blade under the edge of the red cap at the location marked "LIFT" and pry the red cap up to remove it. (Be careful not to lose this cap)
- ! Firmly grasp the green solenoid body and lift it free of the valve
- ! Cut any cable ties that may be securing the shielded wiring
- ! Open Junction Box "A", the electrical junction box to the left of the control cabinet, and identify the three (3) wires entering the box from the old solenoid. (2-red, 1-Green) Remove these three (3) wires from the corresponding terminals.
- ! Disconnect the 90 degree elbow from the bottom of the junction box.
- ! Free the old solenoid complete with shielded wiring and end fittings from the enclosure and place it aside, to be returned to Hovey Industries.

5. Remove the top cover from the valve to be serviced;

- ! Remove the six cap screws securing the top to the body with a 1/2" wrench. Loosen these screws evenly and in a diagonal pattern.
- ! Lift the cover free of the body (the diaphragm may lift off with the cover.)
- ! If the diaphragm remains with the valve body, carefully remove it complete with the actuating rod and spring by gently lifting on the diaphragm square tabs.
- ! Set the cover and diaphragm assembly aside, to be returned to Hovey Industries..

6. Remove the solenoid from the new valve unit;

- ! Place a slot screwdriver blade under the edge of the red cap at the location marked "LIFT" and pry the red cap up to remove it. (Be careful not to lose this cap)
- ! Firmly grasp the green solenoid body and lift it free of the valve
- ! Set this solenoid aside to be later assembled into the heater unit.

7. Remove the top cover from the new valve supplied;

- ! Remove the six cap screws securing the top to the body with a 1/2" wrench.
- ! Lift the cover complete with attached solenoid free of the body (the diaphragm may lift off with the cover).
- ! If the diaphragm remains with the valve body, carefully remove it complete with the actuating rod and spring by gently lifting on the diaphragm square tabs.

8. Transfer the new diaphragm to the valve to be serviced;

- ! Ensure that the O-ring remains correctly seated in the groove in the valve body.
- ! Place the new diaphragm (complete with actuating rod and spring) in place on the valve body to be serviced.
- ! The square tabs on the diaphragm should line up directly over the inlet and outlet ports of the valve. It is **very important** to ensure that the small "bleed hole" in the diaphragm is oriented near (approx. 30 degrees offset) the inlet port. This will be toward the door of the enclosure. The diaphragm assembly may have to be rotated 180 degrees to accomplish this.

9. Transfer the new valve cover to the valve to be serviced;

- ! Carefully fit the new cover down over the actuating rod and spring on the valve to be serviced.
- ! Replace and tighten the six cap screws in a diagonal pattern evenly to a torque of 100 in/lbs +- 10 in/lbs.

10. Connect the new solenoid wiring to the junction box;

- ! Slip the new wire ends into the junction box, and secure the 90 degree elbow to the bottom of the box.
- ! Connect each of the red wire ends to the appropriate locations on the terminal bar.
- ! Connect the green wire to the junction box ground terminal.
- ! Replace the junction box cover.

Wiring should be a simple reverse of step 4, connecting the new solenoid at the same locations as the old one was removed from.

11. Assemble the new solenoid to the repaired valve.

- ! Feed the shielded wiring back along the original path to the repaired valve.
- ! Slip the solenoid body down over the valve shaft as a reverse of removal.
- ! A spring washer is located under the solenoid top cover to provide tension in assembly. Check that this washer is in place around the valve shaft before continuing.
- ! While applying slight pressure to the top cover of the solenoid (to compress the spring washer), slip the locking ring of the red cap over the top of the post and locate it in the mating groove on the valve shaft. Then close the cap cover down over this ring to hold it in place.

A clicking sound should indicate that the solenoid has been properly anchored. To confirm this attempt to lift the solenoid body free from the shaft.

12. Assemble the old solenoid, valve cover and diaphragm to the new valve body, replacing the six cap screws finger tight. Replace this assembly complete with all wiring, shielding and end fittings, in the shipping box and return to Hovey Industries.

13. Open the main gas valve, located outside the enclosure to the right of the door, and inspect the new installation for any possible leaks.

14. Turn on all of the electrical breakers in the box located above the gas valve.

15. Test fire the heater as in step 1 to ensure that it is operating correctly.

16. Return the manual override switch to the **Off** or **Remote** position as it was before beginning this procedure.