

# GAS SPILLAGE SENSING KIT

**Model: GSK-160A**  
**(with automatic reset)**



Installation of a spillage SAFETY Switch is recommended for LP and Natural gas fired systems with gas barometric draft controls. **This device is intended for installation on a double-acting barometric draft control (such as the Field Controls model MG-1) that is installed in the venting system of an 80+ efficiency rated, fan-assisted gas-fired appliance.** It is designed to detect flue gas spillage caused by a blocked flue system and/or inadequate draft. This device **MUST** be installed by a qualified installer in accordance with the manufacturer's installation instructions. Wiring **MUST** be in accordance with the National Electrical Code and applicable local codes.

Before and after adding this safety control on existing appliances, an installation inspection in accordance with the National Fuel Gas Code 54, Z223.1 Appendix H should be performed and a combustion analysis is recommended to determine the operating condition of the appliance.

**CAUTION:** *Disconnect Electrical Power When Wiring Spillage Switch*



**FIELD CONTROLS**

**The Venting Solutions Company™**

2630 Airport Road · Kinston, NC 28504  
Phone: 252-522-3031 · Fax: 252-522-0214  
[www.fieldcontrols.com](http://www.fieldcontrols.com)

## **OPERATION:**

The GSK-160A is a normally closed single-pole, single throw (SPST) thermally-activated switch that is intended to be wired in series with the burner control safety circuit of an 80+ efficiency-rated, fan-assisted, gas-fired appliance. When subjected to temperatures above approximately 160°F, the switch will open, interrupting the safety circuit, thereby preventing the burner from firing. When allowed to cool, the switch will automatically reset, allowing the burner to fire. Activation of the GSK switch may cause burner lockout on some appliances.

## **INSTALLATION ON DRAFT CONTROLS:**

**NOTE:** GSK style switches are designed for mounting on draft control models 4" MG1 through 9" MG1. Larger size draft controls required the FTS series switches.

### **UNIT WITH MG1 DRAFT CONTROL SUPPLIED WITH GSK IN A KIT:**

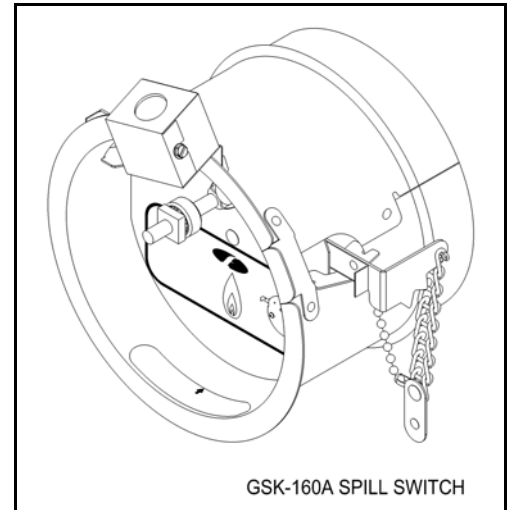
1. Mount the switch onto the threaded stud on the top front of the MG1, using the supplied 8-32 locking nut.
2. Swing the gate in and out to verify smooth operation through the range of operation.

### **UNIT WITH DRAFT CONTROL SUPPLIED SEPARATELY:**

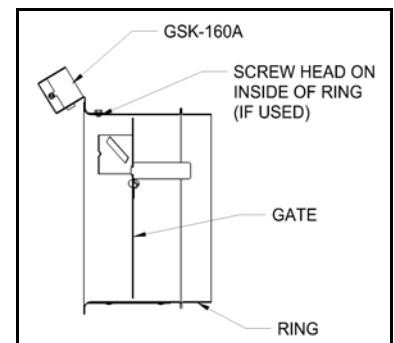
1. Mount the switch with the supplied #5-40 machine screw and nut on the top front of the MG1. (Note, the head of the screw is to be on the inside of the ring. (See Figure 2))
2. Swing the gate in and out to verify smooth operation through the range of operation.

## **INSTALLATION LOCATION:**

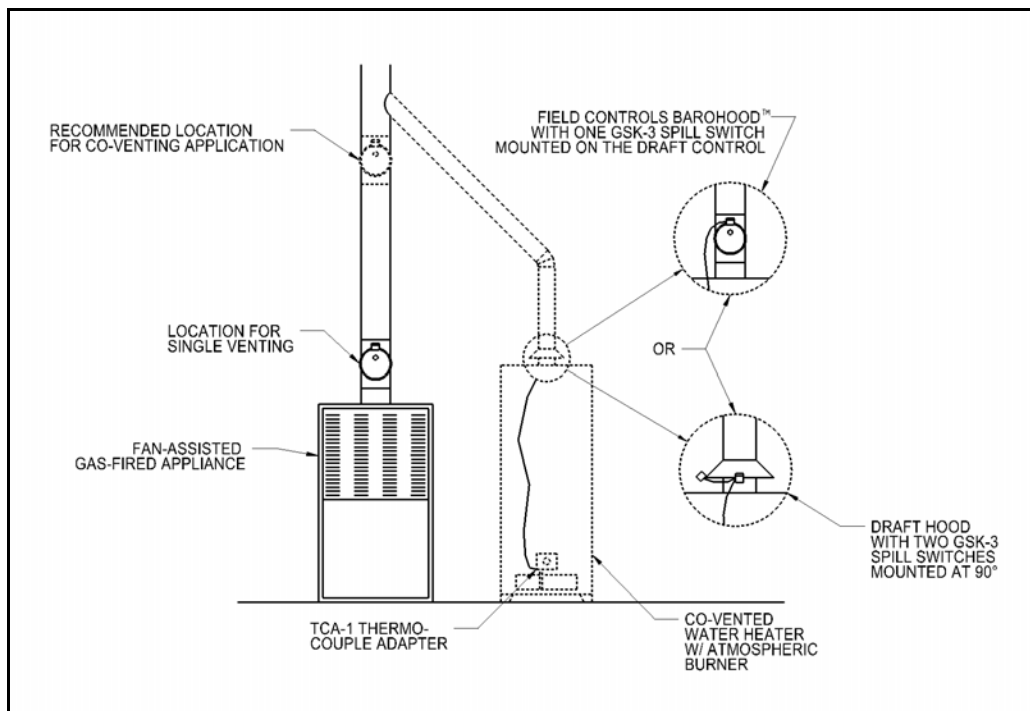
For single-appliance venting applications, install the draft control with GSK-160A directly above the appliance as shown in Figure 3, unless otherwise instructed by the appliance manufacturer. For co-venting applications with an atmospheric-burner-equipped appliance (such as a water heater), install the draft control with GSK-160A immediately below the tee or wye fitting, as shown by the dashed lines in the figure, to help prevent spillage at the water heater. A Field Controls Barohood™ with one GSK-3 mounted (recommended) or two GSK-3 spill switches mounted on the draft hood (available in kit SSK-1), wired into the thermocouple circuit (use one TCA-1 for either method) is recommended for additional safety.



**Figure 1**



**Figure 2**



**Figure 3**

## **WIRING:**

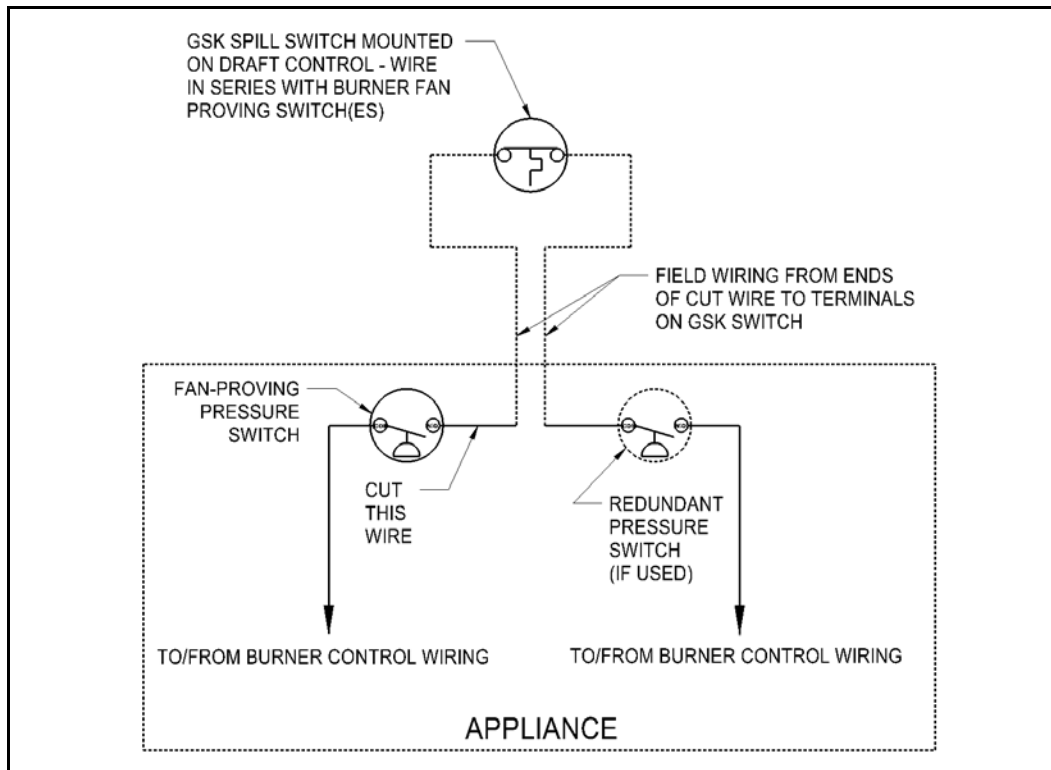
**CAUTION:** When wiring the spillage switch into the burner control circuit route the wiring and secure away from any hot surface. Shut off all electrical power and gas supply to the appliance before working with any electrical connections.

**CAUTION:** Never wire to the 24V GND terminal.

Wire the spill switch in series with the burner fan-proving air pressure switch(es) as shown in Figure 4.



**WARNING:** All field wiring must be in accordance with appliance manufacturer's recommendations and all applicable local and national electrical codes.



**Figure 4**

## SYSTEM CHECK-OUT PROCEDURE FOR GAS SPILLAGE SWITCH CONTROL

1. Disconnect electrical power to the appliance.
2. Shut off gas supply to appliance(s).
3. Block the flue pipe above the draft control, draft hood or draft diverter.
4. Re-establish gas supply to appliance and re-light pilot (if required).
5. Adjust thermostat to call for heat.
6. Flue gases should be spilling from draft control hood. Allow approximately 2 minutes for the system to back up and the GSK to trip, shutting the burner off.
7. Disconnect electrical power, shut off the gas supply, and remove the blockage from the vent pipe after allowing the vent to cool.
8. The GSK switch should reset a few minutes after tripping, and allow normal operation of the appliance. If the burner control has locked out, reset for normal operation.

**CAUTION:** If for any reason the system has shut down during normal operation, the cause of the system failure should be investigated and corrected before resetting the safety switch and relighting the pilot.



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