OPERATION
The ASHCROFT® differential pressure control is a precision device which features a snap action switch. Fixed deadband is available with single or dual SPDT independently adjustable switches with various electrical ratings. Adjustable deadband is available with a SPDT switch with various electrical ratings. Several wetted material constructions for compatibility with pressure media may be obtained.

Series GD-S switches have a fixed deadband which will be within the limits noted on the nameplate.

Series GD-D switches may be set to operate simultaneously or up to 85 percent of the range apart. The deadband of each switch will be within the limits noted on the nameplate.

Series GD-A switches may be set to operate with any deadband within the limits shown on the nameplate.

MOUNTING
The "G" Series ASHCROFT® snap action differential pressure switch has a NEMA-4X enclosure made of 316 stainless steel.

Two holes in the bracket supplied are used to surface mount the control. Location of these holes is shown on the general dimension drawings. An optional pipe mounting bracket is also available. Mount on a vibration free surface or pipe in any orientation.

PRESSURE CONNECTIONS
For operation as a pressure control, connect the pressure source to the lower port marked “H.” If venting is required, connect vent line to side port marked “L.” If no venting is required, port “L” must be left open.

For operation as a differential control – connect the high pressure to the lower port marked “H” and the low pressure to the side port marked “L.”

When tightening control to pressure lines, always use the wrench flats or hex on the pressure connection. NEVER TIGHTEN BY TWISTING THE CASE.

CONDUIT CONNECTIONS
One 3/4 NPSM conduit adapter of 316 stainless steel is provided. It is recommended that Teflon tape or other sealant be used on conduit bushing or plug threads to ensure integrity of the enclosure.

ELECTRICAL CONNECTION
Remove cover, held in place by four screws.

On all units except one with terminal blocks – wire directly to the switch according to circuit requirements. Units with terminal blocks – wire directly to terminal blocks as required. Terminals are marked common (C), normally open (NO) and normally closed (NC).
Setpoints are changed by means of the setpoint adjusters. The GD-S single switch has one adjuster and the GD-A adjustable deadband and GD-D dual switch each have two adjusters. On switches with two adjusters, the one on the left is referred to as “A” and the right one is referred to as “B” see illustration. Setpoints can be adjusted from 20 to 100 percent of full range on increasing pressure.

**Note:** Due to the sensitivity of this control it is imperative that the Low pressure side volume be large so that there is no increase in Low pressure when shut off and High side pressure is applied. If this is not possible, approximate setpoint under operating conditions can be obtained by setting operating point with Low side open to atmosphere. Then make final setpoint adjustments after installation.

**SERIES GD-D DUAL SWITCH**

Remove cover. For setpoint adjustment to within *± 1%* of nominal range, mount the switch on a calibration stand and use a suitable reference such as an ASHCROFT® Duragauge or test gauge. Monitor switch with a light or meter. Apply Low pressure. Then apply High pressure to the higher of the two required setpoints. Turn adjuster “B” until the switch operates or resets as required. See discussion of increasing or decreasing differential pressure setpoints and deadband verification under Series GD-S Single Switch. When the setpoint has been achieved, raise and lower the High pressure. Then reduce the High pressure to the lower setpoint differential pressure and turn adjuster “A” until the switch operates or resets as required. Verify this setpoint by raising and lowering the High pressure. Now increase the High pressure to the higher setpoint and make final adjustment on “B.”

**SERIES GD-A ADJUSTABLE DEADBAND SWITCH**

Remove cover. Adjuster “B” controls the operating point of the switch on increasing pressure. Adjuster “A” controls the resetpoint of the switch on decreasing pressure.

For accurate setpoint adjustment, mount the switch on a calibration stand and use a suitable reference such as an ASHCROFT® Duragauge or test gauge. Monitor switch with a light or meter. Apply Low pressure. Then apply High pressure to the required setpoint pressure.

Turn adjuster “B” until switch operates. Then lower differential pressure to the resetpoint and turn adjuster “A” until the switch resets. Now increase pressure to the operating point and make final adjustment on “B.” Raise and lower pressure to ensure that the setpoint and resetpoint are correct.

**Some Precautions To Observe**

Do not loosen the screws holding the precision switch element(s) or mounting bracket in place.

Nameplate PROOF pressure should not be exceeded. Intermittent operation up to proof pressure is permissible, however, some change of setpoint may be noted. Operation and correct setpoint actuation should be routinely tested.