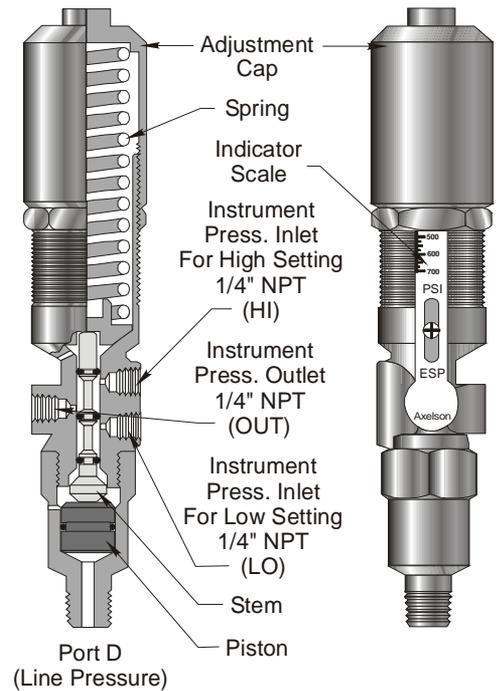


# Operation

## ESP Programmed as a LOW PSL Pilot

Instrument pressure is connected to the port stenciled “LO.” The port stenciled “OUT” is connected to downstream safety components. The port stenciled “HI” acts as an exhaust port. The spring applies a downward force against the stem holding the pilot in a block and bleed position. Line pressure at Port D acts against the lower piston to create an upward force. Once the upward force exceeds the downward force of the spring, the stem will move upward opening the LO Port to the OUT Port to actuate downstream safety components. The pilot will remain in an open position until pressure at Port D drops below the low pressure setting of the pilot.



**Figure 3**

## ESP Programmed as a HIGH PSH Pilot

Instrument pressure is connected to the port stenciled HI and the port stenciled OUT to downstream safety components with the LO Port acting as an exhaust. With flowline pressure below the high pressure set point of the pilot, the HI Port is open to the OUT Port, allowing instrument pressure to pass to downstream safety components. The spring will hold the pilot in an open position until flowline pressure activating the pilot piston exceeds the downward force of the spring. Once line pressure at Port D increases above the set point, the stem is forced upward, blocking instrument pressure at the HI Port and back bleeding instrument pressure through the OUT Port to the LO Port, causing the safety system to react. The pilot will remain in a block and bleed position until flowline pressure drops below high pressure set point.

# Installation

It is recommended that the pilot be installed in a vertical position when possible. However, orientation is not critical. When installing horizontally, turn exhaust, HI or LO Ports, downward or horizontal to prevent accumulation of foreign matter in exhaust ports, or install a vent protection plug (P/N 55400 or 70B45).

To program the pilot as a LOW PSL pilot, install instrument pressure inlet to the port stenciled “LO” and the port stenciled “OUT” to downstream safety component. Leave the HI Port open as it acts as an exhaust, or install vent (P/N 55400 or 70B45).

To program the pilot as a HIGH PSH pilot, connect instrument pressure to Port A stenciled “HI” and Port C stenciled “OUT” to downstream safety components. Leave Port B open to act as an exhaust or install vent (P/N 55400 or 70B45).

The ESP may be installed in the Halliburton Axelson<sup>®</sup> mounting block [P/N 28168 (carbon steel) or 28443 (316 SS)]. Test nipples are also available [P/N 40020 (M × F) and 40021 (M × M)]. Refer to [SM-6013](#).