



The Series 5030A Pilot Light Safety Control is a direct acting temperature controller. Thus, pilot output pressure increases with increasing temperature of the element. If the flame goes out, the output pressure drops to zero.

For correct operation, only 1 to 3 inches of the probe end should be exposed to the pilot flame. The remainder of the probe should be positioned so as not to be heated directly by the main burner flame. Also, because pilot operation depends on heat loss from the unheated portion of the probe, this portion must not be closely confined or insulated.

In hooking up the control, a pressure gauge must be installed to show the output pressure; proper adjustment of the device is not possible without it.

Pilot supply pressure must not exceed 30 PSIG. Supply gas must be clean and free of foreign matter. After connecting pilot supply to the inlet, remove the cap (Item #1) and turn the adjusting screw (Item #3) until pressure shows on the output gauge (Item #11). Turning the screw to the right decreases output pressure and increases operating temperature. Turning it to the left increases output pressure and decreases operating temperature.

On the original start up of an installation of the Norriseal Pilot Safety, the operating setting of the screw must be determined by the heater in operation.

After the hook up has been completed and pilot supply connected to the control, turn the adjusting screw slowly until the output pressure is a few pounds below the pilot supply pressure; the setting is now on the control point. Light the pilot flame and the pressure on the output gauge will almost immediately rise to the input pilot pressure. Turn the adjusting screw slowly to the right until the output pressure drops a few pounds; the pressure will immediately start to rise again. By slowly turning the adjusting screw to the right, the element heats.

The output pressure may be "tracked" so as to keep the setting of the pilot exactly on the control or actuation point. As the probe approaches the operating temperature, the rate of climb of the output pressure will slow. Heating of the probe from atmospheric temperature will take a few minutes. In general, the longer the probe, the longer it will be required to establish the equilibrium temperature gradient.

After the probe has been heated to the point where there is not climb in output pressure for two or three minutes, mark the setting of the screw, open the main burner valve and let the heater operate under normal service conditions. Watch the output pressure closely; opening of the main burner valve may bring in a rush of secondary air so as to cause the pilot flame to flow on and off of the probe and thus lower the probe temperature.

As the heater goes through a period of normal firing, "track" the setting of the safety control by turning the screw to maintain the output pressure just below the pilot supply pressure. If, during the firing, it is necessary to turn the screw to the left beyond the mark originally made for pilot light operation, this means that the original mark is for an operating temperature that is too high. If it is left on the original setting, the main burner fuel would be blocked while the pilot light still burned. For a safe setting, the screw must be turned to the left slightly past the setting necessary to keep the output pressure on control at the coolest part of the overall firing cycle.

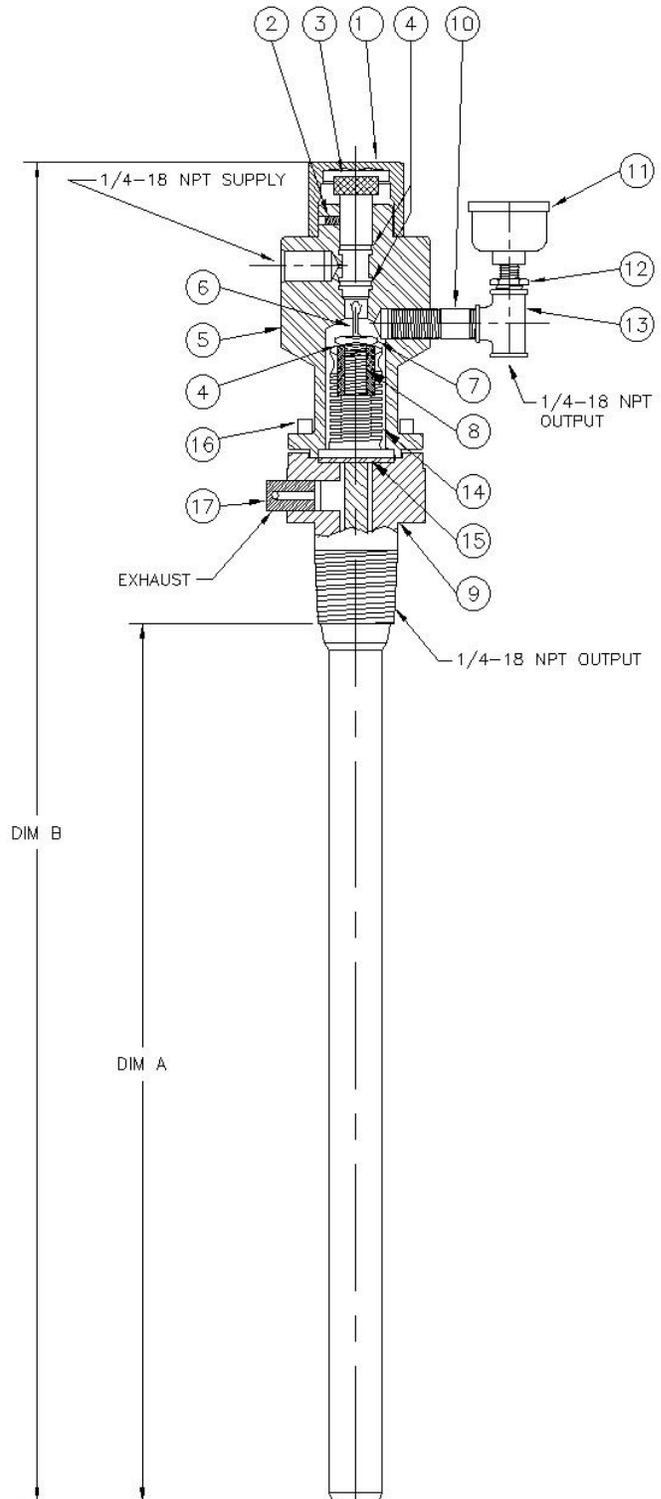
To insure the shortest possible time lag between a pilot flame outage and blocking of main burner, the screw setting must be checked after the heater has been in operation for a few days. This is to correct for the higher temperature of the surroundings of the probe, as compared to initial start up. If the pilot control is reset by "tracking" when the heater is hot, the actuation point will be higher than when the initial adjustment was made. If the heater is then shut down long enough to completely cool, the adjusting screw will have to be reset again at start up, because the pilot flame will not supply enough heat to bring the control output pressure up to the operating range.

PARTS LIST

ITEM NO.	PARTS DESCRIPTION	PARTS MATERIAL	COMMODITY CODE	QTY REQ
1	CAP PILOT SAFETY	ALUMINUM	490503A112	1
2	SCREW SET 8-32 X 0.25	CSTL	450503A107	1
3	SCREW ADJUSTING	303 SST	490503A114	1
* 4	O-RING	+VITON	490222E212	3
5	HOUSING PILOT	A696	490503A113	1
6	PEANUT PILOT LIGHT SAFETY	303 SST	490503A115	1
7	SEAT BELLOWS	303 SST	490503A116	1
8	SPRING PILOT	316 SST	490503A122	1
9	PROBE ASSEMBLY	CSTL/SST	CHART	1
10	NIPPLE PIPE 0.25 NPT X 1.50	CSTL	490503A105	1
11	GAGE PRESSURE 0-30 PSI	BRONZE	490500A106	1
12	BUSHING PIPE 0.25 X 0.125	316 SST	490101A198	1
13	TEE PIPE 0.25	MALL IRON	490503A106	1
14	STEM BELLOWS	303/316	490503A121	1
*15	GASKET	ASB/SBR	490503A123	1
16	SCREW CAP 10-32 X 0.625	CSTL	490503A124	4
17	PLUG BREATHER 0.25 NPT	A105 CSTL	490222A120	1

* RECOMMENDED SPARE PARTS
+ REGISTERED U.S. PATENT OFFICE FOR DUPONT'S FLOUROELASTOMERS

ITEM NO.	PROBE ASSEMBLY PROBE NOMINAL LENGTH	PARTS MATERIAL	DIM A	DIM B	COMMODITY CODE
9	8.00	CSTL/SST	8.00	14.62	490503A111
	12.00		12.00	18.62	490503A119
	18.00		18.00	24.62	490503A120
	24.00		24.00	30.62	490503A125



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