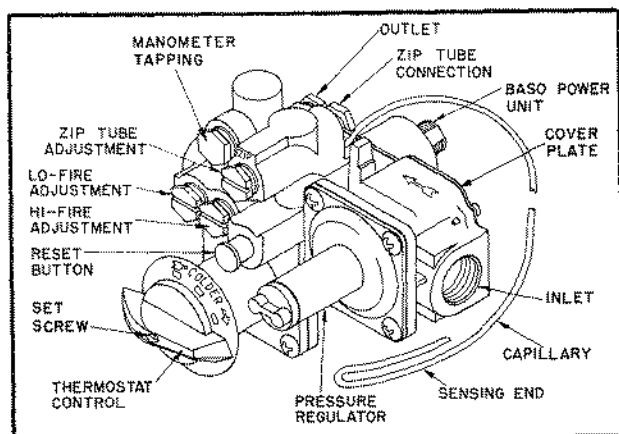


INSTRUCTIONS

INSTALLATION



THE ABOVE SERIES BASOTROL VALVES MAY BE MOUNTED IN ANY CONVENIENT POSITION. CHECK GAS TYPE AND PRESSURE TO BE SURE THAT CORRECT CONTROL IS BEING INSTALLED SEE TABLE III.

WHEN INSTALLING THE VALVE ON THE MANIFOLD, BE SURE THE GAS FLOW THROUGH THE BODY IS IN THE PROPER DIRECTION AS INDICATED ON THE BODY. DO NOT EXERT PRESSURE ON ANY PART OF THE VALVE EXCEPT ON WRENCH FLATS AT INLET AND OUTLET.

THE FIRST TWO OR THREE THREADS OF VALVE INLET AND CONNECTING NIPPLES SHALL BE DOPED WITH BASO NO. 342 ANTI-GALLING THREAD COMPOUND. ADDITIONAL COMPOUND MAY BE ADDED TO MATING THREADS. TAKE CARE TO SEE THAT EXCESS COMPOUND DOES NOT WORK INTO VALVE AND GET ONTO VALVE SEATS. THREADS OF PIPE AND NIPPLES MUST BE SMOOTH AND FREE OF TEARS AND BURRS.

ATTACH ZIP LIGHTER TUBE AS SHOWN WHEN THE CONNECTION IS PROVIDED. ATTACH THERMOCOUPLE TO BURNER FIRMLY AND SCREW TERMINAL END TO TERMINAL ON VALVE. BE SURE THIS ELECTRICAL CONNECTION IS CLEAN AND TIGHT.

INSERT THE THREE-INCH LONG SENSING END OF THE CAPILLARY INTO THE DESIGNATED RECEPTACLE IN THE REFRIGERATOR.

AFTER INSTALLATION IS COMPLETED, TEST FOR LEAKS WITH SOAP SOLUTION.

OPERATION

1. CLOSE "A" VALVE, TURN THERMOSTAT TO THE COLDEST SETTING AND WAIT FIVE MINUTES OR MORE TO PERMIT UNBURNED GAS TO CLEAR APPLIANCE, THEN REOPEN "A" VALVE.
2. APPLY LIGHTED MATCH TO ZIP TUBE PORTS NEAREST CONTROL (OR TO MAIN BURNER IF NO ZIP TUBE IS USED). PUSH RED RESET BUTTON IN AND HOLD. FLAME WILL CARRY

TO MAIN BURNER WHICH SHOULD LIGHT IMMEDIATELY. CONTINUE TO HOLD BUTTON DOWN 30 SECONDS. BURNER SHOULD REMAIN LIGHTED WHEN BUTTON IS RELEASED.

3. TURN THERMOSTAT TO DEFROST POSITION. THE MAIN BURNER SHOULD NOW BE ON LOW FIRE. THIS SHOULD BE A STABLE BLUE FLAME WHICH TOUCHES THE THERMOCOUPLE.
4. TURN THERMOSTAT TO A POSITION DIRECTLY OPPOSITE DEFROST TO OBTAIN THE APPROXIMATE NORMAL OPERATING RANGE.
5. TO TURN SYSTEM OFF, CLOSE "A" VALVE AND SET THERMOSTAT TO COLDEST SETTING.

SERVICE SUGGESTIONS

PRESSURE REGULATOR:

THE INLET GAS PRESSURE TO THE 901-10000 THRU 901-19000 SERIES SHOULD BE A MINIMUM OF 11" WATER COLUMN. ITS PRESSURE REGULATOR HAS BEEN FACTORY SET TO DELIVER 11" PRESSURE WHEN THE INLET PRESSURE IS 13".

THE INLET GAS PRESSURE TO THE 901-20000 THRU 901-29000 SERIES SHOULD BE A MINIMUM OF 5". ITS PRESSURE REGULATOR HAS BEEN FACTORY SET TO DELIVER 3.6" WHEN THE INLET PRESSURE IS 7".

HIGH AND LOW FIRE ADJUSTMENT:

THE HIGH AND LOW FIRE PRESSURES MAY BE ADJUSTED IF THE INLET PRESSURE AND THE PRESSURE REGULATOR ARE PROPERLY SET. THE PRESSURE VALUES ARE SPECIFIED BY THE MANUFACTURER OF THE REFRIGERATOR. KNOWING THESE, TURN OFF THE "A" VALVE, CONNECT A MANOMETER TO THE MANOMETER TAPPING AND PROCEED AS OUTLINED UNDER "OPERATION" ITEMS 1 THROUGH 3.

CHECK THE MANOMETER READING WHICH SHOULD AGREE WITH THE REFRIGERATOR LOW FIRE SPECIFICATION. IF IT DOES, TURN THE THERMOSTAT TO THE COLDEST SETTING AND CHECK THE HIGH FIRE PRESSURE. IF IT IS ALSO CORRECT, THE VALVE IS FUNCTIONING PROPERLY.

IF ADJUSTMENT MUST BE MADE, TURN THE "A" VALVE OFF. REMOVE THE TWO SLOTTED PIPE PLUGS COVERING THE HIGH AND LOW ADJUSTMENT SCREWS. CHECK TO SEE THAT THE SCREWS ARE IN PLACE. REPLACE THE PIPE PLUGS FINGER TIGHT. RELIGHT AS DIRECTED UNDER "OPERATION" ITEMS 1 THROUGH 3. REMOVE LOW FIRE PIPE PLUG AND ADJUST THE SCREW TO THE PROPER PRESSURE. REPLACE PLUG AND TURN THERMOSTAT TO THE COLDEST SETTING. REMOVE HIGH FIRE PIPE PLUG AND ADJUST IT TO THE PROPER PRESSURE. REPLACE PLUG, RECHECK PRESSURES. CLOSE "A" VALVE, REMOVE MANOMETER AND REPLACE ALL PIPE PLUGS.

THERMOSTAT CALIBRATION:

THE THERMOSTAT IS FACTORY CALIBRATED AND SHOULD NOT REQUIRE RECALIBRATION. HOWEVER, IF THE THERMOSTAT KNOB IS INADVERTANTLY REMOVED, APPROXIMATE CALIBRATION CAN BE OBTAINED PROVIDED THE CONTROL IS OTHERWISE PROPERLY FUNCTIONING. PROCEED AS FOLLOWS:

REMOVE THE CAPILLARY AND SENSING END FROM THE REFRIGERATOR AND PERMIT THE COMPLETE CAPILLARY TO COME TO ROOM TEMPERATURE.

THE CONTROL SHOULD BE OPERATING AND THE BURNER LIT.

ADJUST THE THERMOSTAT CONTROL SHAFT USING THE KNOB FOR TURNING CLOCKWISE IF THE BURNER FLAME IS LOW OR COUNTERCLOCKWISE IF IT IS ON HIGH UNTIL A MID-SIZE FLAME IS OBTAINED. REMOVE THE KNOB AND, WITHOUT TURNING THE SHAFT, REPLACE IT POINTING TO THE FIRST INDEX MARK CLOCKWISE FROM DEFROST AS SHOWN UNDER "INSTALLATION". REPLACE SET SCREW IN KNOB. THE FLAME SHOULD GO FROM LOW TO HIGH FIRE AS THE KNOB IS ROTATED FROM DEFROST TO A COLD SETTING.

FIELD SERVICING OF THIS CONTROL IS LIMITED TO REPLACEMENT OF BASO POWER UNIT AND FILTER.

TO INSTALL A NEW POWER UNIT OR FILTER: TURN OFF "A" VALVE. DISCONNECT THERMOCOUPLE LEAD AT POWER UNIT AND REMOVE COVER PLATE BEING CAREFUL NOT TO HARM GASKET OR LET DIRT FALL INTO VALVE BODY. IF REPLACING POWER UNIT, REMOVE NUT HOLDING POWER UNIT TO COVER AND REPLACE WITH NEW POWER UNIT AND NEW GASKET. WHEN REPLACING FILTER, DO NOT PUSH NEW FILTER DOWN MORE THAN 5/32 INCH BELOW THE GASKET SURFACE. BE EXTRA CAREFUL TO KEEP DIRT OUT OF THE VALVE DURING THIS REPLACEMENT. REPLACE COVER BEING SURE SCREWS ARE PULLED DOWN EVENLY AND TIGHTLY.

ZIP TUBE ADJUSTMENT:

VALVES, WHICH HAVE A ZIP TUBE CONNECTION MUST HAVE A ZIP TUBE ADDED BEFORE ANY TESTS ARE PERFORMED.

BE ESPECIALLY CAUTIOUS DURING THE FIRST TEST OF IGNITION IN THE EVENT THE ZIP ADJUSTMENT IS WIDE OPEN. IT IS SIMILAR TO THE HI/LOW ADJUSTMENTS.

THE PROPER ZIP FLAME SHOULD BE ABOUT 3/8 INCH MAXIMUM HEIGHT AND ON IGNITION WITH A MATCH, CARRY EASILY TO THE MAIN BURNER. A FLAME SHOULD BURN FROM ALL PORTS.

TABLE I. THERMOCOUPLE OUTPUT

THERMOCOUPLE LEAD TYPE	TURN DOWN	MV RANGE	
		NORMAL	NOT LESS THAN
80, 88D	4MV	20-25	15

TABLE II. DROPOUT RANGE

MODEL NO.	SET SWITCH AT	MA RANGE OF POWER UNIT ASS'Y.		THERMOCOUPLE LEAD LENGTHS
		LOW	HIGH	
SERIES 901 BASOTROL VALVES	300 MA	100	300	UP TO 48" INCL.

TABLE III. VALVE APPLICATION

MODEL NO.	FOR USE WITH
901-10000	2500 BTU/Cu. Ft. 1.53 SPECIFIC GRAVITY PROPANE OR 3175 BTU/Cu. Ft. 2.00 SPECIFIC GRAVITY BUTANE
901-20000	1000 BTU/Cu. Ft. 0.64 SPECIFIC GRAVITY NATURAL GAS

PROBLEM	PROBABLE CAUSE	REMEDY
NO BURNER FLAME OR FLAME DOES NOT STAY ON	THERMOCOUPLE OUT OF POSITION	REPOSITION THERMOCOUPLE PROPERLY
	THERMOCOUPLE LEAD CONNECTION DIRTY OR LOOSE	CLEAN & TIGHTEN THERMOCOUPLE LEAD CONNECTION
	DEFECTIVE THERMOCOUPLE	CHECK THERMOCOUPLE OUTPUT PER TABLE I
	DEFECTIVE BASO POWER UNIT	CHECK DROP OUT RANGE PER TABLE II
	LOW FLAME TOO SMALL	ADJUST LOW FLAME
	DEFECTIVE ORIFICE	CLEAN OR REPLACE ORIFICE
	CLOGGED FILTER	REPLACE FILTER
	PRESSURE REGULATOR IMPROPERLY SET	SEE SECTION ON PRESSURE REGULATOR
	UNUSUALLY STRONG DRAFTS	BAFFLE SECONDARY AIR OR SHIELD BURNER
ZIP LIGHTER IMPROPERLY ADJUSTED	SEE SECTION ON ZIP TUBE ADJUSTMENT	

PROBLEM	PROBABLE CAUSE	REMEDY
BURNER REMAINS ON LOW FIRE	HIGH FIRE ADJUSTMENT SET TOO LOW	SEE SECTION ON HI/LOW FIRE ADJUSTMENT
	DEFECTIVE THERMOSTAT	REPLACE ENTIRE CONTROL
	THERMOSTAT OUT OF CALIBRATION	RECALIBRATE
	MAIN GAS PRESSURE TOO LOW	CHECK GAS SUPPLY PRESSURE
	"A" VALVE PARTIALLY CLOSED	OPEN "A" VALVE ALL THE WAY
	FILTER CLOGGED	REPLACE FILTER
	PRESSURE REGULATOR IMPROPERLY SET	SEE SECTION ON PRESSURE REGULATOR
	DEFECTIVE ORIFICE	CLEAN OR REPLACE ORIFICE
BURNER REMAINS ON HIGH FLAME	VALVE GASWAYS CLOGGED	CLEAN VALVE GASWAYS
	DEFECTIVE THERMOSTAT	REPLACE ENTIRE CONTROL
	THERMOSTAT OUT OF CALIBRATION	RECALIBRATE
BURNER FLAME SOFT OR YELLOW	LOW FLAME ADJUSTMENT TOO HIGH	SEE SECTION ON HI/LOW FIRE ADJUSTMENT
	BURNER AIR PASSAGE CLOGGED	CLEAN AIR PASSAGE
	FLUE CLOGGED	CLEAN FLUE
	DEFECTIVE OR IMPROPER ORIFICE	CLEAN OR REPLACE ORIFICE
	REFRIGERATOR NOT LEVEL	LEVEL REFRIGERATOR
	BURNER NOT CENTERED UNDER FLUE	REPOSITION BURNER
BURNER FLAME HARD NOISY OR LIFTING	IMPROPER BURNER	REPLACE BURNER
	DEFECTIVE OR IMPROPER ORIFICE	CLEAN OR REPLACE ORIFICE
	BAFFLE MISSING IN REFRIGERATOR FLUE	REPLACE BAFFLE
	IMPROPER BURNER	REPLACE BURNER

REPLACEMENT PARTS

(MODELS WITH PRESSURE REGULATOR)

MODEL NUMBER	* BASO POWER UNIT ASSEMBLY	FILTER
901-10000	801-56	21184-1
901-11000	801-56	21184-1
901-20000	801-56	21184-1
901-10003	801-56	21184-1

(MODELS WITHOUT PRESSURE REGULATOR)

MODEL NUMBER	* BASO POWER UNIT ASSEMBLY	FILTER
901-31000	801-56	21184-1

* ANY ATTEMPT TO REPAIR THIS ASSEMBLY
VOIDS THE MANUFACTURER'S GUARANTEE.

BASO PRODUCTS DIVISION

PENN CONTROLS INC., MILWAUKEE, WISCONSIN 53215