

INSTRUCTIONS FOR INSTALLING AND ADJUSTING "DETROIT" CA-815 AND CA-816 COMBINATION BLOWER AND LIMIT CONTROLS

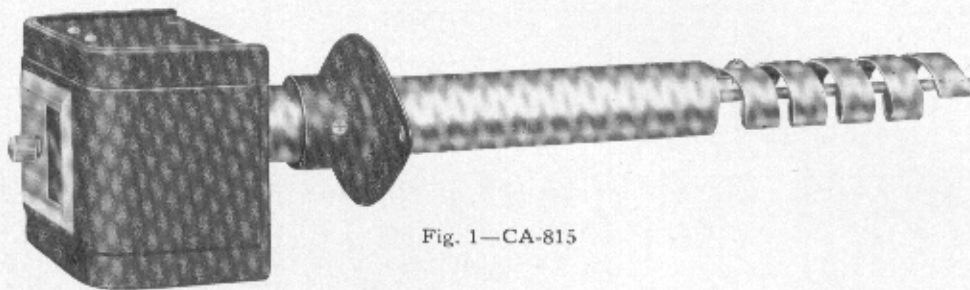


Fig. 1—CA-815

The CA-815 and CA-816 Combination Blower and Limit Controls each incorporate in one compact instrument a line voltage blower switch and a line or low voltage limit switch, and are identical except for insertion length and method of mounting.

The CA-815 is provided with a flat mounting flange and adjustable insertion of from $4\frac{7}{16}$ " to $10\frac{13}{16}$ ". The CA-816 mounts directly on the plenum or duct and has an insertion of $6\frac{7}{16}$ ".

The Blower Switch—terminals of which are shown at "G," Fig. 2—makes circuit on an increase in temperature and breaks circuit on a temperature decrease. It automatically controls the blower to prevent circulation of unheated air.

The Limit Switch—terminals of which are shown at "A," Fig. 2—breaks circuit on an increase in temperature and makes circuit on a decrease in temperature. It automatically stops the burner if the temperature in the plenum exceeds the limit setting of the instrument.

TEMPERATURE RANGES AND DIFFERENTIALS

Blower and Limit Ranges, and their Differentials, are adjustable.

Range	Differential	
	Minimum	Maximum
Blower 75° to 225°...	18°	100°
Limit 100° to 300°...	18°	75°

SETTING THE CONTROL

The CA-815 and CA-816 are set at the factory as follows:

	Circuit Opens	Circuit Closes
Blower.....	120°	145°
Limit.....	190°	160°

If it is necessary to change these settings, the indicators "F" may be moved with the fingers or a screw driver to the desired blower cut-in and cut-out settings as shown on the scale. The limit settings

may be changed in the same manner by moving indicators "B."

The construction of the Control is such that the maximum blower setting is 25° below the limit setting and can never be set higher than 225° under any condition.

Part "H" is a maximum stop for limit switch setting. It is set at the factory at 200°. This setting conforms with most local codes. If a higher limit switch setting is needed, and local codes permit, the maximum stop may be changed by loosening screw "E" and moving stop "H" to the desired point as indicated by arrow "I."

PLENUM TEMPERATURE INDICATOR

The pointer "C" indicates on the scale directly behind it the approximate temperature of the bi-metal coil.

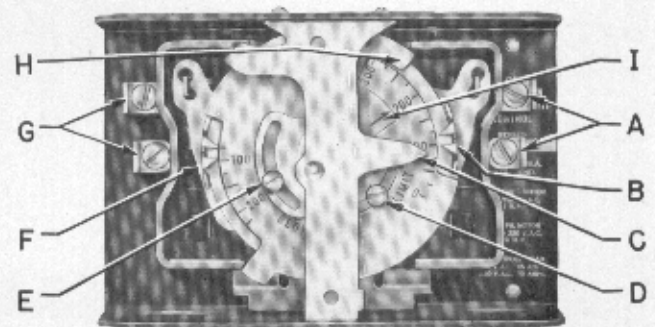


Fig. 2

- A. Limit Switch Terminals
- B. Limit Indicators
- C. Pointer
- D. Scale Plate Lock Screw
- E. Maximum Limit Stop Lock Screw
- F. Blower Indicators
- G. Blower Switch Terminals
- H. Maximum Limit Stop
- I. Maximum Limit Indicating Arrow

LOCATION

Select a location in the plenum or duct which will assure average temperatures and free circulation of air around the bi-metal coil, and cut a $1\frac{1}{4}$ " round hole.

To install the CA-815, attach the mounting flange, using the sheet metal screws furnished. Then place the shank of the Control through the opening, making sure the bi-metal coil does not meet any obstruction and is free to operate, and tighten the set screw in the flange to hold the instrument firmly in place at the proper position. It is not necessary that the Control be mounted exactly level or vertical.

To install the CA-816, remove the cover and after inserting the shank through the $1\frac{1}{4}$ " hole, secure the case directly to the plenum or duct by means of sheet metal screws through the slots provided in the back of the case.

ELECTRICAL RATING
1 H.P. 115-230 Volts A.C. only.

CALIBRATION

If, because of abuse or rough handling, it is desired to check the calibration of the Control, proceed as follows:

Remove the Control from the plenum and immerse the bi-metal coil in water of approximately 150° , as measured by a thermometer. The temperature indicated by pointer "C" should be approximately the same as the thermometer reading. If necessary, calibration may be made by removing the seal from head of screw "D," loosening screws "D" and "E" and rotating the calibrated scale plate until the pointer "C" indicates the same temperature as the thermometer. Then tighten screw "D" to hold the new setting. Adjust limit stop and tighten screw "E."

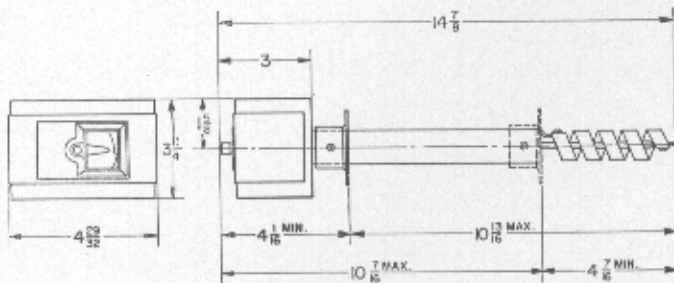


Fig. 3—CA-815

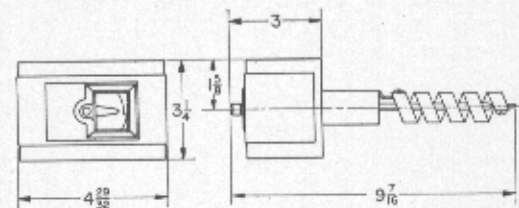


Fig. 4—CA-816

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ESTABLISHED 1877

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