2. PROBLEM - SHORT CIRCUIT

If fuses are blown either in the furnace or vehicle a short is indicated and should be checked.

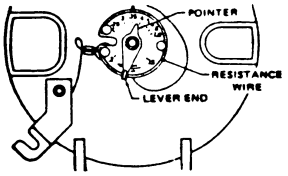
a. Turn off all appliances including furnace.

b. Install an ammeter on the positive (+) lead of the battery. Amperage reading should be 0. If an amperage reading is noted, a short exists in the vehicle electrical system.

c. Disconnect the red (+) DC lead at the furnace. If the amperage continues, the short is exterior to the furnace. If the amperage reading ceases, the furnace electrical system is shorted and should be checked.

THERMOSTAT ADJUSTMENT

This unit is equipped with an adjustable thermostat. Improper setting of the heat anticipator can cause either abnormally short or long heating cycles resulting in discomfort.



For correct heating anticipator adjustment , proceed as follow:

Cycle system to determine if cycling rate is satisfactory. If ad justment is necessary, move pointer to a higher setting for lon er "ON" cycle and to a lower setting for shorter "ON" cycle

Suggested normal settings: 65900 Series (Direct Spark Ignition) .4

HIGH ALTITUDE OPERATION

When the unit is operated at altitudes higher than 4000 f above sea level, the gas input to the burners should be r duced 4% for each 1000 ft. above sea level.

Failure to derate properly will cause inefficient operatio of the burner, and could create carbon monoxide fumes. Re-entry of these fumes into the vehicle (due to improp installation, or through another opening in the coach could endanger the life of anyone exposed to these fume for a period of time.

AUTOMATIC DIRECT SPARK IGNITION

1. PRINCIPLE OF OPERATION

To ignite the burner, it is necessary only to set the thermostat. The thermostat powers the ignitor to simultaneously open the main burner valve and provide the ignition spark. As soon as the flame is established, the spark ceases. Should the flame not be established within a period of 5 to 8 seconds the system provides safety shut-down.

Electronic flame sensing circuitry in the ignitor detects the presence or absence of main burner flame. If the flame is not established during the Flame Establishing Period, the system closes the gas valve and locks out. If the flame is extinguished during the duty cycle, the ignitor will provide one retry for ignition, before going into lock-out. To reactivate, or retry for ignition, turn thermostat to "OFF" position, wait 5 seconds, then re-set thermostat to "ON" position.

2. DESCRIPTION

The direck spark ignition system consists of a solid state printed circuit control module, an electrode assembly and connecting high and low voltage wires.

3. REPAIRS

The solid state control module is not field repairable. Any modifications or repairs will invalidate the warranty and agency certifications.

WARNING: DO NOT APPLY POWER TO CONTROL MODULE UNLESS WIRING CONNECTIONS ARE COMPLETE AND ELECTRODE IS PROPERLY GROUNDED.

CAUTION: HIGH VOLTAGE

4. SYSTEM CHECKS

a. Input polarity - If a spark is present and the gas valve opens but the system shuts down after the trial period, check input voltage for proper polarity.

b. Grounding - It is essential to proper operation that the system be properly grounded. If a spark is present and the gas valve opens but the system shuts down after the trial for ignition period, check for proper ground. The following items should be checked:

1. Green wire to bottom of electrical box must be secure.

2. The burners and mounting brackets must be secure.

c. Wiring - Check all wiring for proper and secure connections. Be sure the wire connector is fully engaged in the control board. Check the high voltage wire for proper connection at both ends. Clean any corrosion that may interfere with good electrical contact.

d. High Voltage Malfunction - If during the trial for ignition, the spark is intermittent and the valve may or may not open, the following should be checked:

1. Electrode spark gap - should be 1/8" $\pm$ 1/32"
2. Ceramic housing check for cracks.
3. Electrode lead wires - check for cracks or breaks.

e. Valve Malfunction - If there is power to the control module and a spark during the trial for ignition, but the valve will not open, check the valve for an open coil or other malfunction.

f. Erratic operation - If the system operates properly for a period of time, but randomly shuts down during the duty cycle, or will not operate during cold starts, check the flame proving circuit (sensor wire) with a DC Microamp meter. The current should be 5 - 15 microamps. A low or marginal flame current may cause nuisance tripping. If this condition is experienced, the electrode location should be checked to make sure the sensor electrode is in the flame.