



Dealer Service Information Bulletin

GMC TRUCK & COACH DIVISION GENERAL MOTORS CORPORATION

IMPORTANT—All Service Personnel Should Read and Initial

NUMBER: 75-IM-13

GROUP: 24-Misc-6

DATE: April, 1975

SUBJECT: SOL-AIRE FURNACE

MODELS: ALL 1975 MOTOR HOMES

This bulletin is intended to provide information for servicing the Sol-Aire furnace used in 1975 Motor Homes. Contained in this bulletin are trouble diagnosis charts, diagram of the furnace labeling all the major components, and a very brief description of the proper method for removing the furnace from the vehicle.

Removal Procedure

1. Shut off gas valve at LPG tank.
2. Remove the bottom half of the front davo.
3. Disconnect the furnace from the LPG line and the electrical connections.
4. Remove the screws attaching the furnace to the side mounting bracket.
5. Remove the four screws attaching the bottom mounting bracket to the floor.
6. Disconnect all ducts from the furnace.
7. Slide the furnace slightly toward the center of the motor home to disengage it from the exterior vent tubes.
8. Pull the furnace forward out from under the galley.

IMPORTANT NOTE: Before any diagnosis is attempted on the furnace, there are two necessary and sufficient external conditions that must be met.

1. With the thermostat calling for heat, there must be 12V (absolute minimum of 10.5V) present at the furnace.
2. With the thermostat calling for heat, there must be a gas pressure of 11" of water present to the furnace measured at the cooking range.

BURNER WILL NOT LIGHT

Check	Results	Go To	Problem
1. a. Turn off gas.			
b. Make sure ignition wire is secure in the ignition pack.	Spark Present	#2	
c. Remove locking nut from the igniter.			
d. Turn on thermostat.	No Spark	#3	
e. Hold igniter approx. 1/2" from the burner and check for sparking.			
2. a. Replace the igniter. (Turn the locking nut on finger tight.)	Gas Present		Primary air adjustment too lean.
b. Turn on L.P.G.			
c. Turn on the thermostat.	No Gas Present	#7	
d. Sniff for L.P. fumes at the right hand exterior furnace vent.			
3. a. Check to make sure the ignition pack ground is connected to ground at the burner housing and at the ignition pack.	Ground wire not connected.		Loose ground to the ignition pack.
	Ground wire securely connected.	#4	
4. a. Check for correct polarity at the ignition pack, ground (black wire) on right; hot (red wire) on left.	Polarity not correct.		Polarity wrong, switch wires.
	Polarity is correct.	#5	
5. a. Check the voltage at the hot wire (red wire) at the ignition pack with the thermostat on.	12 volts		Defective ignition pack.
	0 volts	#6	

Check	Results	Go To	Problem
6. a. Remove the furnace from the Motor Home.	0 volts		Defective control box.
b. Connect the furnace to a 12V power supply.			
c. Short across the thermostat wires.	12 volts		Broken wire between the control and the ignition pack.
d. Check voltage at the #12 terminal of the control box.			
7. a. With the furnace on, check the voltage at the gas valve.	12 volts	#8	Defective gas valve.
	0 volts		
8. a. Remove the furnace from the vehicle.	12 volts		Defective centrifugal switch.
b. Connect the furnace to a 12V power supply.	0 volts		Defective control box.
c. Short across the thermostat wires.			
d. Check the voltage at the #11 terminal on the control box.			

**FURNACE LIGHTS BUT RESET
POPS IN LESS THAN ONE MINUTE**

	Results	Go To	Problem
1. a. Allow heat relay to completely cool, 3-5 minutes.	Less than 35 seconds.		Defective heat relay in control box. Replace control box.
b. Press the reset button.			
c. Turn the thermostat on.	35 - 45 Seconds	#2	
d. Check the length of time before the furnace shuts off.			

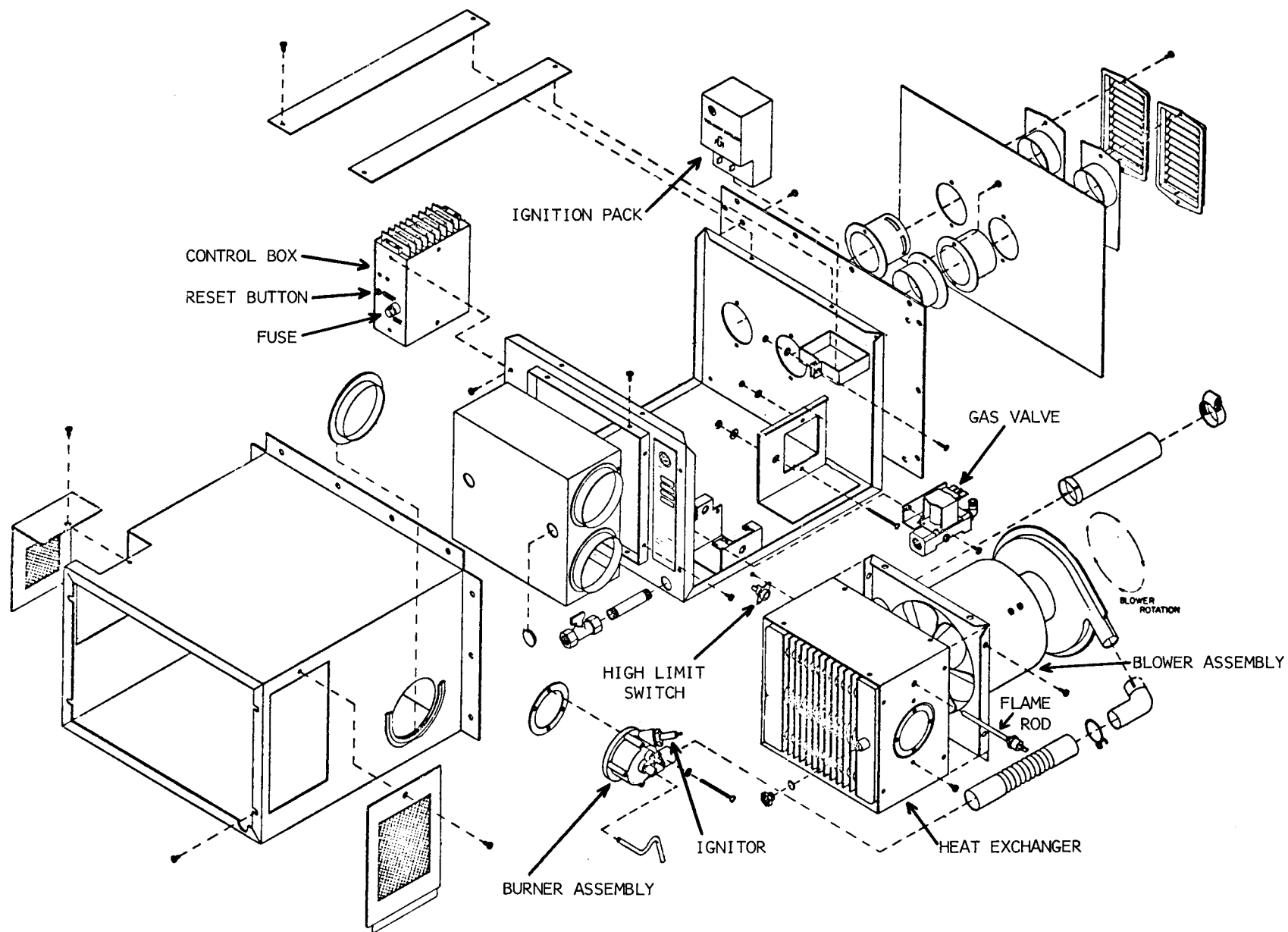
Check	Results	Go To	Problem
2. a. Disconnect both wires from the flame rod.	Resistance does not drop to 0 ohms.		Defective flame rod.
b. Connect an ohm meter across the terminals on the flame rod.			
c. Allow the heat relay to cool for 3-5 minutes.	Resistance does drop to 0 ohms.		Defective control box.
d. Push the reset.			
e. Turn on the thermostat.			
f. Check to see if the resistance of the flame rod goes to approx. 0 ohms before the furnace shuts off.			

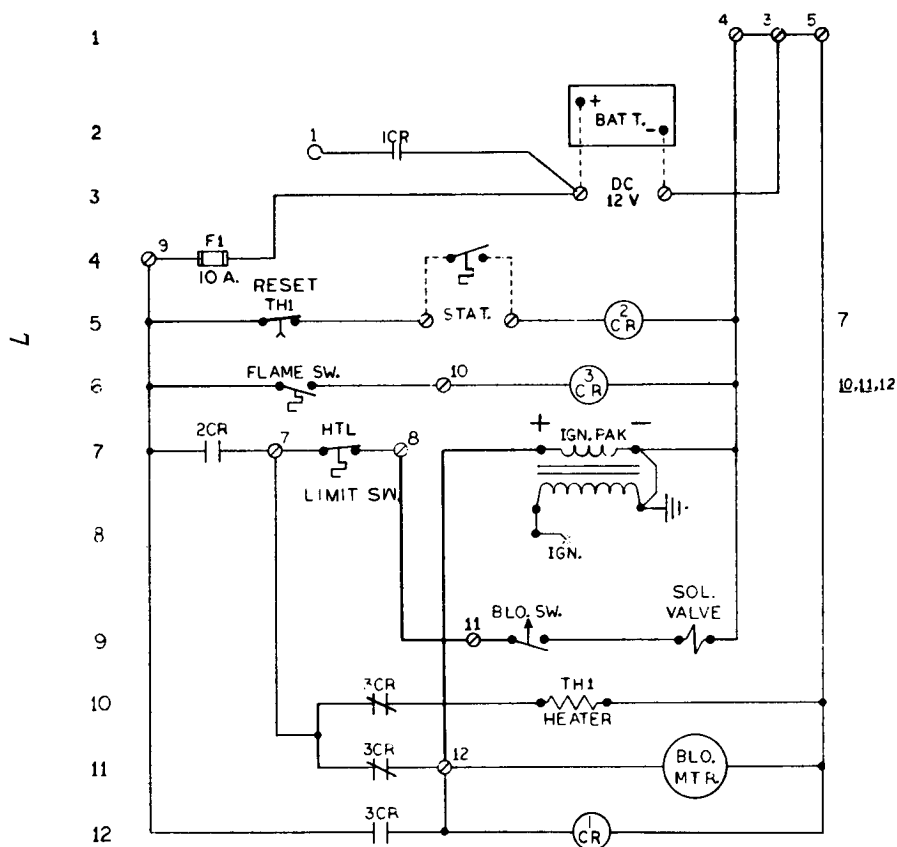
**BLOWER DOES NOT COME ON
WHEN THERMOSTAT IS CALLING FOR HEAT**

Check	Results	Go To	Problem
1. a. With thermostat calling for heat press in reset button.	Furnace turns on.		Reset was not set.
	Furnace does not turn on.	#2	
2. a. Check the 10 amp fuse in the furnace.	Fuse OK	#3	
	Fuse blown	#5	
3. a. Short across the two thermostat leads at the connection by the furnace.	Furnace starts		Defective thermostat or broken wire.
	Furnace does not start.	#4	
4. a. Remove furnace from vehicle. b. Connect a 12V source across the #11 and #5 terminals on the control box.	Blower runs.		Defective control circuit.
	Blower does not run.		Defective blower assembly.

Check	Results	Go To	Problem
5. a. Install a new fuse in the furnace. Turn the thermostat on.	Furnace starts and runs.		Surge current blew fuse, furnace OK.
	Fuse immediately blows again.	#6	
6. a. Remove furnace from vehicle. b. Disconnect the wires from terminals #11 and #12 on the control box. c. Install a new fuse in the furnace. d. Connect the furnace to a 12V source. e. Short across the thermostat wires.	Fuse blows immediately.		Defective control box.
	Fuse does not blow.	#7	
7. a. Reconnect the wire to the #12 terminal on the control box. b. Short across the thermostat leads with the furnace connected to a 12V source.	Fuse blows.		Defective ignition pack.
	Fuse does not blow.		Defective blower assembly.

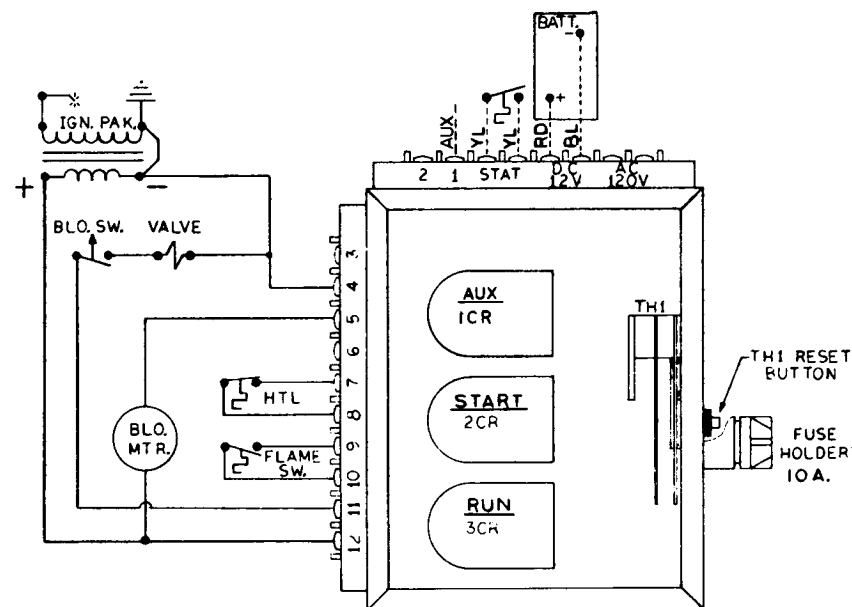
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NOTES

1. DASHED LINES DENOTE EXTERNAL CONNECTIONS TO FURNACE.
2. ALL WIRE TO BE U.L. AND C.S.A. LISTED, WITH 105°C, 600V INSULATION AND U.L. LISTED TERMINALS.



INTERCONNECTION DIAGRAM