REPLACEMENT of B18099-06, B18099-08 and B18099-10 HSI Module with an ICM280 Board

NOTE: DISCONNECT ALL ELECTRICAL POWER AND SHUT OFF GAS TO THE FURNACE BEFORE PROCEEDING

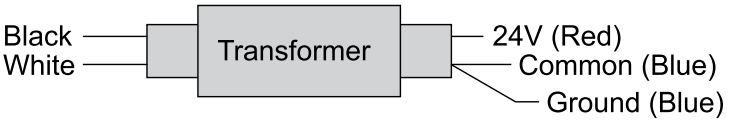
CAUTION! Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

- Remove both access panels.
- Cut the white jumper wire between pins 1 and 4 of the 9-pin connector for GMP and GMPV series units
- Do not cut the white jumper wire for GMPN and GMN series units.
- Remove the edgecard connector and other wires from the existing module and discard the thermostat wires removed from the board (R, W, and G).
- Remove existing HSI module. **Note:** *Do not damage the nylon standoffs.*
- Install the ICM280.
- Reconnect the edgecard connector ensuring good contact.
- Push the 9-pin connector into the ICM280. **Note:** *It can only go one way. Do not force it.*
- Reconnect the supplied thermostat wires.
- Remove the red wire from the 24-volt side of the transformer's secondary side. Discard it.
- Remove the blue ground wire from the transformer, but do not discard it.
- Remove the blue wire from the transformer. Discard it.
- Place the red wire from the 9-pin connector onto 24-volt (hot) of the secondary side of the transformer.
- Place the blue wire from the 9-pin connector onto common terminal of the secondary side of the transformer. This wire has a piggy back terminal.
- Place the blue ground wire, which was previously removed, onto the common terminal of the transformer.
- Replace both access panel.
- Restore gas and electrical power to the furnace.
- Verify the sequence of operation.

REPLACEMENT of B18099-13 HSI Module with an ICM280 Board

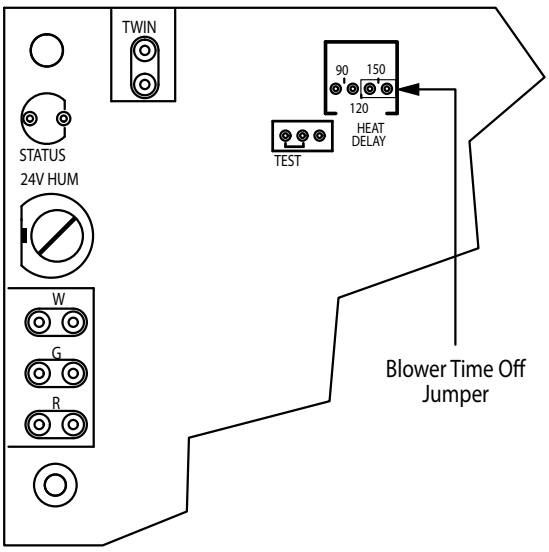
NOTE: For GMT, GDT, GMTH and GMNT units, disregard the 9-pin connector supplied with the ICM280.

- Remove both access panels.
- Locate the red, white and green thermostat wires (pigtails) where they pass through the side of the furnance cabinet. Remove and save the wire nuts and then disconnect the pigtails from the main thermostat wire assembly.
- Disconnect all wires from the HSI module
- Discard the thermostat wires (pigtails) removed from the board (terminals R, W, and G).
- Remove the existing HSI module from the control panel. Do not damage the nylon standoffs.
- Carefully remove the standoffs and insert them into the same locations on the ICM280.
- Install the ICM280.
- Reconnect the 9-pin connector into the ICM280. **Note:** *It can only go one way. Do not force it.*
- Route the red, white and green thermostat wires (pigtails) supplied with the ICM280 through the side of the cabinet and then, using the wire nuts saved earlier, reconnect them to the main thermostat wire.
- Reconnect all other wires to the controls module being careful to match the wire labels to the thermostat connections.



Selecting the Blower Off Delay

In the heating mode, the blower off delay can be used to obtain a 90, 120, or 150 second period by changing the position of the plastic jumper on the ignition control. See drawing below for location of this jumper



The control is factory set to give a 150 second blower off delay.

Timing Chart

	ON Delay	OFF Delay
Heat	30 Seconds	90 Seconds 120 Seconds 150 Seconds (Default)
Cool	7 Seconds	60 Seconds

NOTES

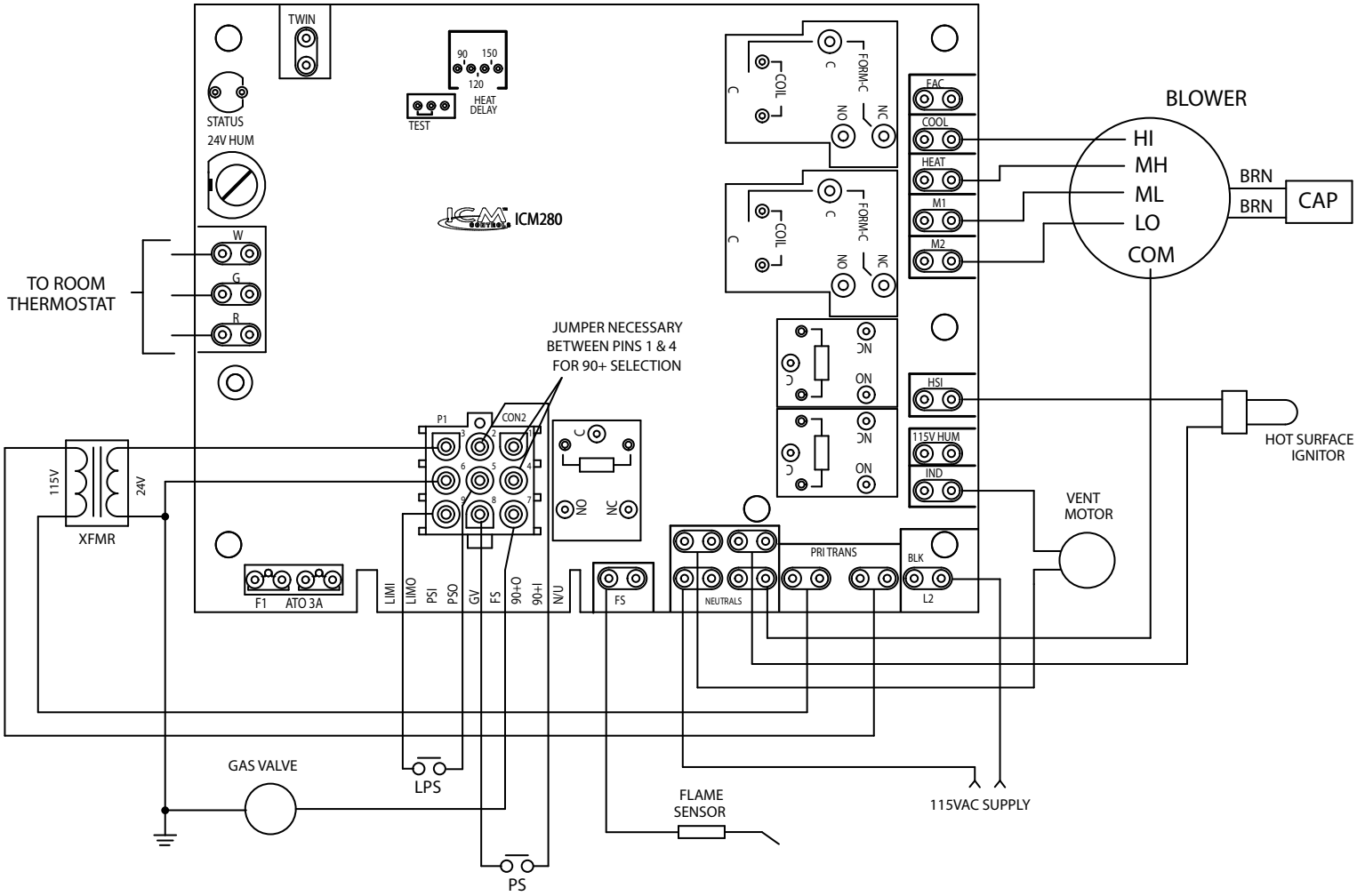
- If the jumper is removed, the control will default to a 150 second blower off delay in the heating mode
- **CAUTION** is to be exercised not to bend the metal pins when changing the time delay from the factory settings

Status LEDs

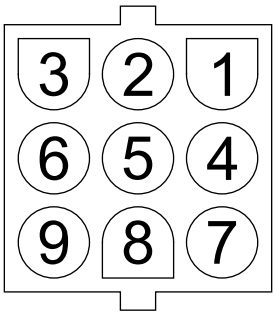
LED ON: No fault
OFF: Gas valve fault detected

# of LED Flashes	Represents
1	Ignition failure (after 3 tries and start of soft lockout)
2	Pressure switch stuck closed
3	Pressure switch failed to close
4	Limit switch failed open
5	Flame present with gas valve output off
6	Brownout voltage
7	Fault twinning
Rapid Flashing	Wrong polarity of 120 VAC and Neutral

Wiring Diagram



ICM280 Molex Plug Pin Out



1 = 90+ IN
2 = Pressure switch OUT
3 = 24V hot (R)
4 = 90+ OUT
5 = Limit switch IN
6 = 24V common (C)
7 = Gas valve
8 = Pressure switch IN
9 = Limit switch OUT

Trouble Shooting

Should be done by competent technician only.

Symptom	Remedy
Fault light is blinking	Check status led chart to determine problem
Blower fan runs constantly	Check for open limit
No flame	Check hot surface ignitor, verify voltage to hot surface ignitor is present
Furnace turns off when gas valve turns on	1. Verify pressure switch is not opening, test by placing temporary jumper across pressure switch when inducer fan turns on to simulate a good pressure switch. 2. Verify secondary of transformer is adequately grounded.
Furnace turns on and off rapidly	Verify thermostat is functioning correctly, test by removing thermostat wiring from ICM280 and placing temporary short between the R and W terminals
Flame not being sensed	Verify flame sense rod is clean, verify secondary of transformer is grounded
Furnace turns off when blower fan turns on	Verify thermostat is functioning correctly, test by removing the thermostat wiring from the ICM280 and place jumper from R to W. If furnace functions properly then replace defective thermostat. If furnace still functions incorrectly then check the wiring of the secondary of the transformer, swap connections at R and C at the ICM280.