

residential technical bulletin

NOVEMBER 4TH, 2010

Master

MODULATING GAS FURNACES ELECTRONIC GAS VALVE TEST (PWM)

On modulating gas furnaces YP9C/CP9C/LP9C with communication capability ("C" at the end of the model number), a new electronic gas valve is installed. This gas valve can communicate in real time to and from the board and later, will communicate with a specific thermostat which will be available as soon as testing as been completed.

For troubleshooting purposes, in order to detect the modulating valve opening, Johnson Controls gave us the communication reading procedure. This language is called PWM (Pulse Width Modulation) and a **specific meter** (MA-12812) is used for readings.

Reading can be taken on board and two options are possible: at the **D77** or **PWM Valve** with the red meter lead and the **flame voltage (-)** with the black meter lead (see pictures).

The meter should be set to Hz% function (Hertz duty) and the values read will be random.

0 = waiting

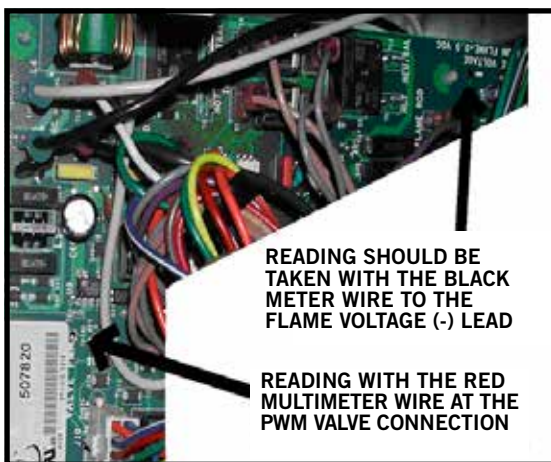
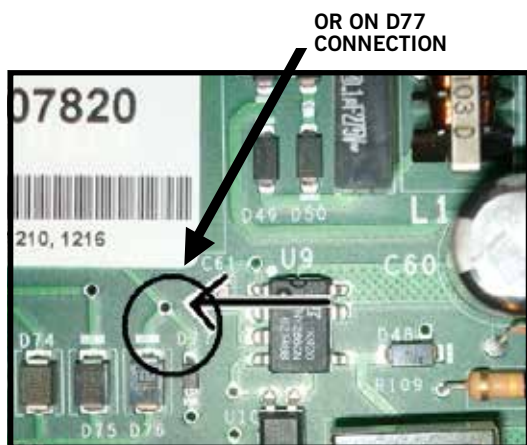
5 = board to valve, calibrating

8 = board to valve: asks if valve is propane or natural

15 = board to valve: asks valve's position

25 = valve to board: answers about valve's position

30 and up = valve position



EXAMPLE

READING	OPENING
30	35 %
40	45 %
45	50 %
50	55 %
55	60 %
60	65 %
65	70 %
70	75 %
75	80 %
80	85 %
85	90 %
90	95 %
95	100 %