

Testing the E-277, E-277B

The E-277 is a speed switch.

Below a set frequency, the output wire (green wire) has +12v applied to it.
Above the set frequency, the output (green wire) does not have +12 v applied to it.

The set speed is configured with the 8 position switch.
There is a small amount of engine speed between on and off. This is configured with the 4 position switch.

The E-277 (non B) also has optional input frequency filtering and this is configured with the 2 position DIP switch. This switch is not present on the E-277B.

Refer to the DIP switch setting sheets for the controllers for the proper settings:

<http://www.precisiongovernors.com/products/legacy/details/index.cfm?type=controller&product=61>

If the engine is not running, the output should have +12v applied to it.
If the engine is running but is below the set speed and / or cannot achieve set speed, the output will have +12v applied to it.

The controller measures engine speed through the white wire. The controller needs at least 4 VAC on this wire to measure engine speed. This measurement should be measured from the black to white wires.

The controller measures the frequency on this wire. Many voltmeters have a Hz or Frequency setting. This can be used to measure the frequency. Note, some meters will not properly read ignition signals. Most have no problem with AC signals (alternator or mag pickup.)

In the DIP switch setting sheet, there is a column that contains the set frequencies and RPM (B version only).

If the controller will not turn the output OFF (allow feed), and the speed signal is acceptable, a lower frequency could be selected (for test purposes). If the engine will no longer achieve the set speed or the controller has drifted, this may allow the controller to function. If a lower setting still results in no deactivation of the green wire, , the controller is likely defective.