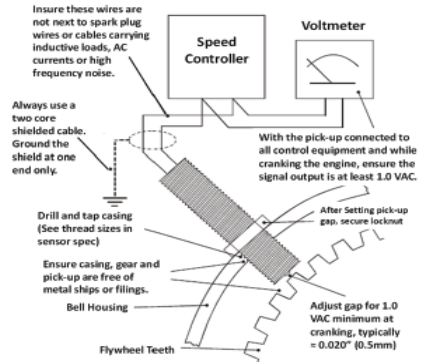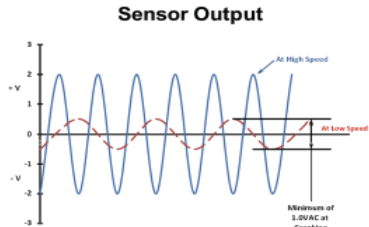1. If no mounting location is available, drill and tap a hole in the flywheel housing. The threaded hole should centered over the flywheel ring teeth, and perpendicular to the center line of the crankshaft.

2. Insert the magnetic speed pickup into the hole and turn it until the magnetic speed pickup makes contact with the face of the gear.

3. Back out the magnetic pickup by turning it counter clockwise, about 3/4 turn. The gap between the pickup and the gear should be between 0.020"-0.035" [0.50 mm - 0.89 mm]. Digital speed controllers may require less gap (1/4 turn) to provide an optimal signal similar to the Sensor Output shown here.

4. Wire leads should be twisted for their entire length from the magnetic speed sensor to the control unit. Shielding is required if external interference is present or the leads are longer than 10 ft [3 m].

Sensor Output

At High Speed

At Low Speed

Minimum of 1.0VAC at Cranking

Insure these wires are not next to spark plug wires or cables carrying inductive loads, AC currents or high frequency noise.

Speed Controller

Voltmeter

Always use a two core shielded cable. Ground the shield at one end only.

With the pick-up connected to all control equipment and while cranking the engine, ensure the signal output is at least 1.0 VAC.

After Setting pick-up gap, secure locknut

Drill and tap casing (See thread sizes in sensor spec)

Ensure casing, gear and pick-up are free of metal ships or filings.

Bell Housing

Adjust gap for 1.0 VAC minimum at cranking, typically = 0.020" (0.5mm)

Flywheel Teeth

Formulas to convert RPM to Frequency or Frequency to RPM:

$$\text{Hertz}_{mag\ pickup} = \frac{(\text{RPM} \times \#\ of\ Teeth)}{60_{sec}}$$

$$\text{RPM} = \frac{(\text{Hertz}_{mag\ pickup} \times 60_{sec})}{\#\ of\ Teeth}$$