

## Diagnosing the Ignition System of the 251/252 Peirspeed Kart.

1. The Ignition switch is responsible for providing a ground for the CDI unit.

**Test:** Check continuity between blue wire from switch at CDI to ground with the key in the run position.

2. The Exciter Coil provides power for the CDI through the gray wire. The gray wire is connected to the red wire of the exciter harness.



**Test:** Exciter Coil for proper resistance between gray wire at CDI and ground. See chart on next page.

**Test:** Output voltage of Exciter at gray wire at CDI to ground while disconnected should have around .5 volts while cranking.

**Test:** Output voltage of Exciter at gray wire at CDI to ground while connected should have 20-30 volts while cranking.

3. The Pulse Generator provides the signal to the CDI through the green wire. The blue wire is connected to a black wire that is a ground.



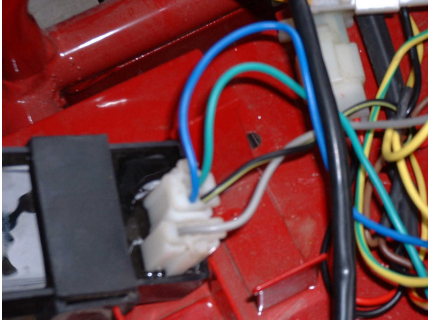
**Test:** Pulse Generator for proper resistance between green and blue wires of the connector shown above. See chart on next page.

**Test:** Green and blue wires for short to ground.

**Test:** Output of PG for AC voltage signal of .1 volts at the blue and green wire while cranking.

**Test:** For proper ground of the black wire connected to the blue of the PG.

#### 4. The CDI unit.



**Test:** Disconnect Black and Yellow wire at the ignition coil and check for power while cranking. Should have 20-30 volts. If the results are normal the CDI and all the components are working properly.

#### 5. The Ignition coil.

**Test:** Check for proper resistance values. See chart on next page.

**Test:** Check for proper ground of the black wire connected to the coil.

#### Areas to look at:

>>>>> Make the harness to the Exciter Coil and Pulse Generator is not rubbed through or broken anywhere.

>>>>> Make sure the ground splices have good connections.

ITEM		STANDARD	
Ignition coil	Primary	0.1–0.2 $\Omega$	
	Secondary	With plug cap	3.6–4.6 k $\Omega$
		Without plug cap	7.3–11 k $\Omega$
Pulse generator at 20°C (68°F)		50–170 $\Omega$	
Exciter coil at 20°C (68°F)		50–350 $\Omega$	

## TROUBLESHOOTING

### No spark at plug

- Poorly connected, broken or shorted wire
  - Between pulse generator and CDI unit
  - Between CDI unit and ignition coil
  - Between CDI unit and ignition switch
  - Between ignition coil and spark plug
- Faulty:
  - Ignition switch
  - Ignition coil
  - CDI unit
  - Pulse generator
  - Spark plug

### Engine starts but runs poorly

- Ignition primary circuit
  - Faulty ignition coil
  - Loose or bare wire
  - Poor connection at ignition switch
- Ignition secondary circuit
  - Faulty ignition coil
  - Faulty spark plug
  - Faulty spark plug wire
  - Poorly insulated plug cap
- Improper ignition timing
  - Faulty pulse generator
  - Stator not installed properly
  - Faulty CDI unit

