

409 Littlefield Ave.
South San Francisco, CA

Subject / Vehicles:

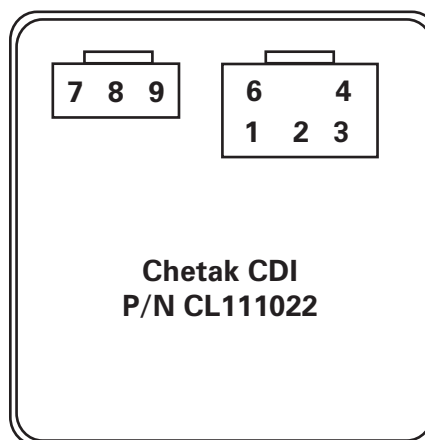
Chetak CDI Test and Block Function Diagram P/N CL111022

CDI stands for Capacitance Discharge Ignition.

The resistance values shown in the chart below were obtained using an analog multi-meter. Due to variations in internal components (diodes, resistors, capacitors) and multi-meters, these values are presented only as approximate. These values will serve to accomplish a preliminary function check, but are not sufficient for a complete diagnosis. Check for the 0 ohms and OPEN values first, this will be your primary test for failures within the CDI.

Note:

Do not use this CDI to replace Legend CDI. There are differences on the circuit board that will affect performance.



Meter Range X 10 Ohm	Meter Negative (-ve) connection								
		1	2	3	4	6	7	8	9
Meter Positive lead (+ve) connection	1		>20K	>20K	160	1.8K	OPEN	7K	0
	2		320	60	2K	5K	10K	10K	330
	3		150	20K	750	4K	OPEN	10K	160
	4		OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
	6		1.6K	20K	OPEN	3.5K	OPEN	10K	1.6K
	7		10K	20K	20K	20K	10K	20K	10K
	8		OPEN	OPEN	OPEN	OPEN	OPEN	OPEN	OPEN
	9		0	10K	OPEN	160	1.8K	OPEN	7K

How it works: (refer to the diagram on page 2)

The voltage output from the Charging Coil in the Magneto Assembly charges the Capacitor inside the CDI. The Capacitor is charged to a voltage of 150 to 300 volts, depending on engine rpm.

The Pulser Coil output, in the Magneto Assembly, is used to trigger a SCR (Silicone Controlled Rectifier) The Pulse Shaping Circuit and Gate Control Circuit adjusts this signal to determine the instant that the SCR receives the triggering pulse; controlling the Ignition Advance characteristics. When the SCR is triggered, the 150 to 300 volts stored in the Capacitor is released to the primary side of the Ignition Coil creating an output around 20,000 to 30,000 volts to the spark plug.

The Throttle Sensor is used to vary the Ignition Timing. Voltage to the Throttle Sensor is supplied by the CDI. With throttle positions of less than 1/2 open, the voltage output of the Throttle Sensor is 1.5 volts DC, which allows the CDI to vary the ignition advance from 16 to 30 degrees before Top Dead Center depending on engine rpm.

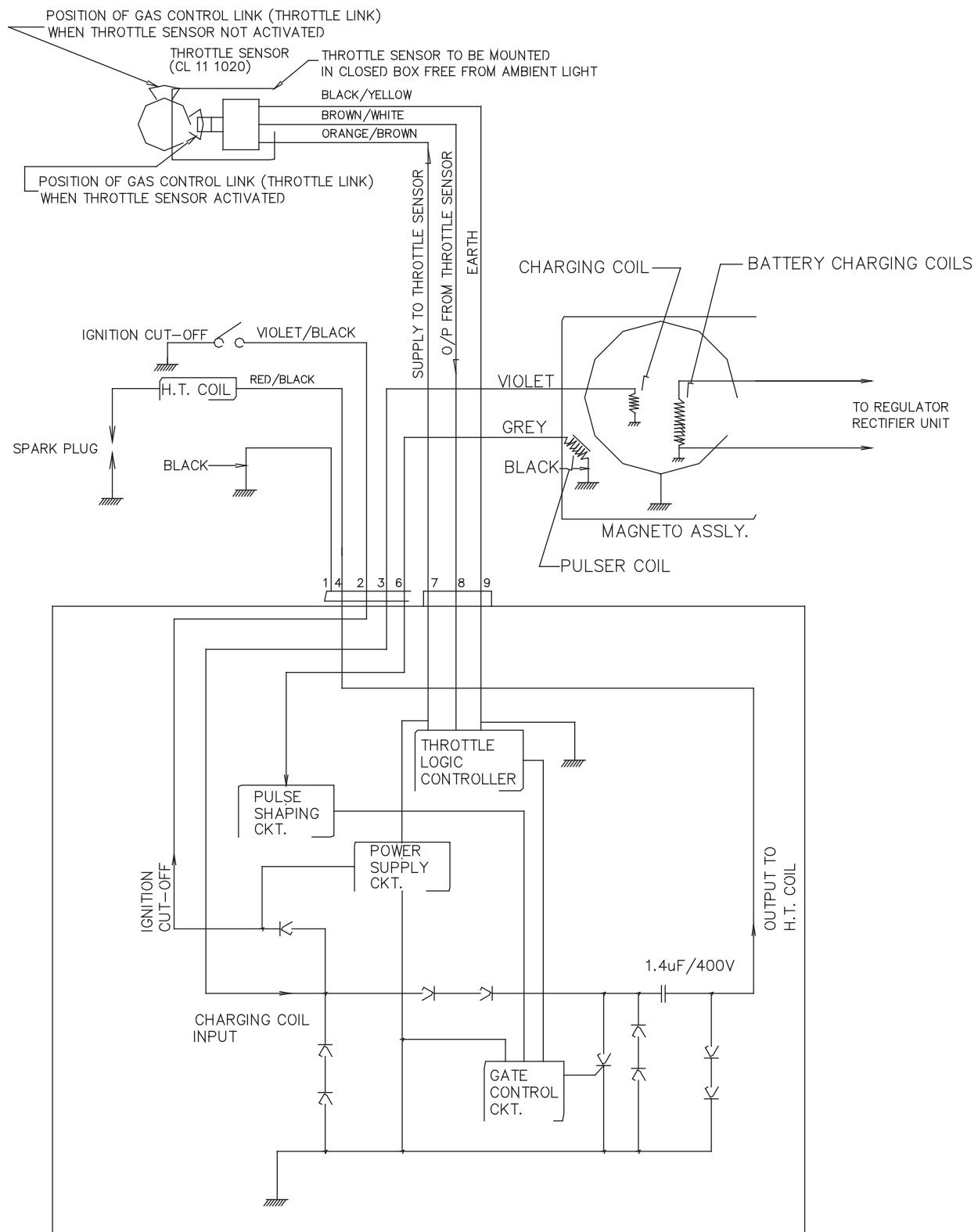
Output of the Throttle Sensor from 1/2 to full throttle is 300millivolts DC, which, regardless of engine speed, sets the ignition advance to 16 degrees Before Top Dead Center.

With this automatic adjusting ignition advance, optimum fuel economy is realized, and destructive preignition, common with fixed advance systems, is eliminated.

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Functional Block Diagram for Chetak CDI Part No. CL 11 1022