

Ignition Systems

These systems use a capacitive discharge (CD) coil. With CDI fixed timing, ignition timing and spark remains constant regardless of engine speed. Timing of spark is controlled by location of flywheel magnet group as referenced to engine TDC. MDI adjustable timing uses a digital microprocessor which is located in ignition modules. Ignition timing varies depending upon engine speed with this system.

A typical ignition system consists of:

- 1 magnet assembly which is permanently affixed to flywheel.
- 2 electronic capacitive-discharge ignition modules which mount on engine crankcase.
- 1 kill switch (or key switch) which grounds modules to stop engine.
- 2 spark plugs.

A	Spark Plug(s)	B	Oil Pressure Switch	C	Oil Sentry™ (Green)	D	White Kill
E	Flywheel Stator Assembly	F	Ignition Module	G	Non-Smart Spark™ Ignition	H	Rectifier-Regulator Connector
I	Rectifier-Regulator	J	Oil Sentry™ Kill (Green)	K	Violet B+	L	Solenoid Shift Starter Assembly
M	Starter Solenoid Tang	N	Starter Solenoid Stud	O	Fuse	P	Blue
Q	Alternate Ignition Kill (-)	R	White	S	Accessory Terminal (+)	T	Yellow
U	Ignition Kill	V	Red	W	Carburetor	X	Carburetor Solenoid
Y	Black (Ground)	Z	Intake Manifold Screw	AA	Black	AB	Oil Sentry™ Panel Light/Remote Light
AC	Oil Sentry™ Light	AD	Connector	AE	Magneto	AF	Key Switch
AG	Accessory	AH	Battery	AI	Starter	AJ	Ground
AK	Key Switch Ground	AL	Rectifier	AM	Blue/Red	AN	Battery Positive
AO	Battery Negative						

Electronic Ignition Systems Tests

NOTE: Ignition tester must be used to test ignition on these engines. Use of any other tester can result in inaccurate findings. Battery on unit must be fully charged and properly connected before performing tests (a battery that is hooked up or charged backward will crank engine but it won't have spark). Be certain drive is in neutral and all external loads are disconnected.

Test Ignition Systems

NOTE: If engine starts or runs during testing, you may need to ground kill lead to shut it down. Because you have interrupted kill circuit, it may not stop using switch.

Isolate and verify trouble is within engine.

1. Locate connectors where wiring harnesses from engine and equipment are joined. Separate connectors and remove white kill lead from engine connector. Rejoin connectors and position or insulate kill lead terminal so it cannot touch ground. Try to start engine to verify whether reported problem is still present.

Condition	Possible Cause	Conclusion
Problem goes away.	Electrical System	Check key switch, wires, connections, safety interlocks, etc.
Problem persists.	Ignition or Electrical System	Leave kill lead isolated until all testing is completed. Identify white kill lead of engine wiring harness connector. Establish a connection to a known good ground location. Engine should kill completely. If not or only one cylinder is affected, check ignition modules and white kill lead connection for affected module.