



Technical Talk
with Dick Lusk



Checking the Alternator. What's Right?

Dear Tech. Director:

The other day I saw a mechanic disconnect the battery lead on his Model A engine while running it at a fast idling speed. The engine was equipped with an alternator in place of a generator. When I asked the mechanic why he was doing it that way he explained:

"If the engine is running while the battery is disconnected, the alternator is producing the current for the ignition circuit and is therefore working properly". Is this an accurate way to test an alternator?

Bill DeWitt, Yankton, IA

Dear Bill:

No, that procedure does not prove that the alternator is in perfect shape. Most alternator stators have three sets of windings and three sets of rectifier diodes. If one of the windings or diodes has gone bad, the alternator would still produce enough current for the ignition circuit, but won't produce enough current to keep the battery fully charged. The most accurate way to test an alternator is with an ammeter, voltmeter and ohmmeter.

There is more to this. Suppose the alternator is in good condition. Disconnecting the battery lead may damage it. Allowing an alternator to operate without a battery lead can cause a rise in voltage that can cause stress on the alternator windings. Also when the battery lead is disconnected a high voltage spike is induced in the electrical system. This spike, which can reach 150 volts, may damage the diodes as well as the regulator. When the battery lead is reconnected, another spike is produced. Therefore, disconnecting the battery lead with the engine running is not a good idea.

Good Luck and Happy Motoring!
Your Technical Director,
Richard Lusk

