Engine Does Not Crank

The ALLDATA Tech-Assist Team

The customer says, “My car won’t start”. If the service writer is on the ball, their first question will be, “Do you mean the engine does not crank over when you turn the key to the Start position (or push start button if equipped) or do you mean the engine cranks over but does not start?” For the purposes of this article, the engine does not crank over.

Depending on how the vehicle’s starting system is configured, the items you need to check will differ. However, there are some basic items you should check regardless of how it’s configured.

1) Check the battery voltage while cranking. It should be at least 9.6 volts. If it’s below that, it could be that the battery is undercharged or cannot hold an adequate charge. It could also be the starter is drawing too much current. You’ll need to perform starter/battery/charging system tests to determine if those systems are in good working order.

2) If the battery voltage is correct, inspect the cables and connections to be sure they are tight and in good condition. It doesn’t take much extra resistance to significantly drop the amount of current to the starter.

3) Are the main power fuses or fuse links good? Check the fuses with a volt meter. If a fuse is open or the voltage is low, the fuse contacts may be corroded or loose. If the fuse links are the insulated wire type, hold each end and lightly pull to see if the inner strands are burnt or broken. If broken inside, the insulation will almost pull like taffy.

4) Check to see if any aftermarket equipment has been installed or if there is something plugged into the data link connector. If so, it’s best to remove or disable that equipment until the problem is diagnosed. Even if the equipment was installed a while ago, problems can arise with age. You may even find it is the cause.

5) Turn the key ON. Is the security light ON or flashing? If it’s ON, there’s likely a security system issue, such as the vehicle is not recognizing the key. If it’s flashing, there’s likely a fault and diagnostic trouble codes (DTCs) are stored. Connect a scan tool and pull DTCs to get an idea of where to start your diagnosis.

6) In case where there is vehicle network communication DTCs, use your scan tool to check each individual module for trouble codes. Remember, some modules do not report when performing a “system-wide scan” and you may miss an important DTC.

7) Check the following parameter identification data (PID) values:
    - The transmission range sensor should report that the vehicle is on Park or Neutral. If it’s a manual transmission, check the clutch switch PID indicates the clutch is engaged.
    - Check to see if the ignition switch crank request signal is present. Does the security system report that the vehicle is start enabled?

With the results of these preliminary tests you should be able to diagnose and fix most “No Crank” problems. If you get stuck, note down all the test results from your preliminary tests and give ALLDATA Tech-Assist a call. We’ll be happy to help you get that No Crank problem fixed!