

## Starter Solenoid Does Not Click

### Symptom Related Diagnostic Procedures

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle?	Go to Step 2	Go to <a href="#">Diagnostic System Check - Vehicle</a>
2	Turn the ignition to the START position. Does the starter solenoid click?	Go to Diagnostic Aids for Circuit Testing and Wiring Repair Procedures	Go to Step 3
3	1. Install a scan tool. 2. With a scan tool, observe the Starter Relay Command parameter in the ECM/PCM data list. 3. Turn the ignition switch to the Crank position. Does the scan tool display ON?	Go to Step 4	Go to Step 5
4	Turn the ignition back and forth from the ON to Crank position a few times. Does the Starter Relay click each time the ignition is turned to the Crank position?	Go to Step 15	Go to Step 9
5	1. Turn ON the ignition, with the engine OFF. 2. With a scan tool, observe the Crank Request parameter in the engine control module (ECM) or powertrain control module (PCM) data list. 3. Turn the ignition switch to the START position. Does the scan tool display Yes?	Go to Step 6	Go to Step 8
6	1. Turn ON the ignition, with the engine OFF. 2. With a scan tool, observe the Start Disabled parameter in the VTD data list. Does the scan tool display Yes?	Go to <a href="#">Diagnostic System Check - Vehicle</a>	Go to Step 7
7	1. Turn ON the ignition, with the engine OFF. 2. Verify that the transmission is in Park or Neutral. 3. With a scan tool, observe the IMS Range parameter in the Transmission data list. Does the scan tool display Park or Neutral?	Go to Step 24	Go to <a href="#">Diagnostic System Check - Vehicle</a>
8	1. Turn OFF the ignition. 2. Disconnect the ECM/PCM. 3. Connect a test lamp between the Start Command circuit of the ECM/PCM and a good ground. 4. Turn the ignition to the Start position. Does the test lamp illuminate?	Go to Step 24	Go to Step 17
9	1. Turn OFF the ignition. 2. Disconnect the Run/Crank Relay. 3. Connect a test lamp between the battery positive voltage circuit of the Run/Crank Relay coil circuit and a good ground. 4. Turn On the ignition, with the engine OFF. Does the test lamp illuminate?	Go to Step 10	Go to Step 25
10	1. Turn OFF the ignition. 2. Connect a test lamp between the ignition 1 voltage circuit of the Run/Crank Relay coil and the ground circuit of the Run/Crank Relay coil. 3. Turn On the ignition, with the engine OFF. Does the test lamp illuminate?	Go to Step 11	Go to Step 26

### Steps 1 - 10

Step	Action	Yes	No
11	1. Connect a 10-amp fused jumper between the battery positive voltage circuit of the Run/Crank Relay switch and the Starter Relay Ignition 1 circuit of the Run Crank Relay switch. 2. Turn the ignition switch to the START position. Does the starter solenoid click?	Go to Step 20	Go to Step 12
12	1. <b>Important</b> <b>Leave the fused jumper in place.</b> Disconnect the Starter Relay. 2. Connect a test lamp between the ignition 1 voltage circuit of the Starter Relay coil and a good ground. Does the test lamp illuminate?	Go to Step 13	Go to Step 27
13	1. Connect a test lamp between the ignition 1 voltage circuit of the Starter Relay coil and the control circuit of the Starter Relay coil. 2. Turn the ignition to the Start position. Does the test lamp illuminate?	Go to Step 21	Go to Step 14
14	1. Turn OFF the ignition. 2. Disconnect the ECM/PCM. 3. Install the Starter Relay. 4. Connect a test lamp between the control circuit of the Starter Relay and a good ground. Does the test lamp illuminate?	Go to Step 24	Go to Step 28
15	<b>Important</b> <b>The engine may crank when the fused jumper is put into place.</b> Connect a 30-amp fused jumper between the battery positive voltage circuit of the Starter relay switch circuit and the supply voltage circuit of the starter solenoid. Does the engine crank?	Go to Step 21	Go to Step 16
16	Does the fuse in the jumper open?	Go to Step 18	Go to Step 19
17	Test the Start Command circuit of the ECM/PCM for a high resistance or open. Did you find and correct the condition?	Go to Step 34	Go to Step 23
18	Test the supply voltage circuit of the starter solenoid for a short to ground. Did you find and correct the condition?	Go to Step 34	Go to Step 22
19	Test the supply voltage circuit of the starter solenoid for a high resistance or open. Did you find and correct the condition?	Go to Step 34	Go to Step 22
20	Inspect for poor connection at the Run/Crank Relay. Did you find and correct the condition?	Go to Step 34	Go to Step 29
21	Inspect for poor connection at the Starter Relay. Did you find and correct the condition?	Go to Step 34	Go to Step 30

#### Steps 11 - 21

Step	Action	Yes	No
22	Inspect for poor connection at the starter solenoid.		
	Did you find and correct the condition?	Go to Step 34	Go to Step 31
23	Inspect for poor connection at the ignition switch.		
	Did you find and correct the condition?	Go to Step 34	Go to Step 32
24	Inspect for poor connection at the ECM/PCM.		
	Did you find and correct the condition?	Go to Step 34	Go to Step 33
25	Repair the high resistance or open in the ignition 1 voltage circuit of the Run/Crank Relay coil.		
	Did you complete the repair?	Go to Step 34	—
26	Repair the high resistance or open in the ground circuit of the Run/Crank Relay coil.		
	Did you complete the repair?	Go to Step 34	—
27	Repair the high resistance or open in the ignition 1 voltage circuit of the Starter relay coil.		
	Did you complete the repair?	Go to Step 34	—
28	Repair the high resistance or open in the control circuit of the Starter relay.		
	Did you complete the repair?	Go to Step 34	—
29	Replace the Run/Crank relay.		
	Did you complete the replacement?	Go to Step 34	—
30	Replace the Starter relay.		
	Did you complete the replacement?	Go to Step 34	—
31	Replace the starter.		
	Did you complete the replacement?	Go to Step 34	—
32	Replace the ignition switch.		
	Did you complete the replacement?	Go to Step 34	—
33	Replace the ECM/PCM.		
	Did you complete the replacement?	Go to Step 34	—
34	Operate the system for which the symptom occurred.		
	Did you correct the condition?	System OK	Go to Step 2

#### Steps 22 - 34