

## 2. Engine Noise

Valve lash adjusters may make clicking noise once engine starts. It is normal if clicking noise ceases after a few minutes.

If clicking noise continues after a few minutes, check engine oil level and add oil if necessary.

Then, do as follows to cease clicking noise.

- 1) Warm-up engine for five minutes.
  - 2) Turn ignition switch OFF.
  - 3) Connect test mode connector.
  - 4) Start the engine and run it at approximately 2,000 rpm for twenty minutes.
  - 5) Turn ignition switch OFF.
  - 6) Disconnect test mode connector.
  - 7) Start the engine and check that clicking noise is ceased.
- If noise still exists, conduct troubleshooting procedures in accordance with the following table.

### CAUTION:

**Do not disconnect spark plug cord while engine is running.**

Type of sound	Condition	Possible cause
Regular clicking sound	Sound increases as engine speed increases.	Valve mechanism is defective. <ul style="list-style-type: none"> <li>● Broken lash adjuster</li> <li>● Worn valve rocker</li> <li>● Worn camshaft</li> <li>● Broken valve spring</li> <li>● Worn valve lifter hole</li> </ul>
Heavy and dull clank	Oil pressure is low.	<ul style="list-style-type: none"> <li>● Worn crankshaft main bearing</li> <li>● Worn connecting rod bearing (big end)</li> </ul>
	Oil pressure is normal.	<ul style="list-style-type: none"> <li>● Loose flywheel mounting bolts</li> <li>● Damaged engine mounting</li> </ul>
High-pitched clank (Spark knock)	Sound is noticeable when accelerating with an overload.	<ul style="list-style-type: none"> <li>● Ignition timing advanced</li> <li>● Accumulation of carbon inside combustion chamber</li> <li>● Wrong spark plug</li> <li>● Improper gasoline</li> </ul>
Clank when engine speed is medium (1,000 to 2,000 rpm).	Sound is reduced when fuel injector connector of noisy cylinder is disconnected. (NOTE*)	<ul style="list-style-type: none"> <li>● Worn crankshaft main bearing</li> <li>● Worn bearing at crankshaft end of connecting rod</li> </ul>
Knocking sound when engine is operating under idling speed and engine is warm.	Sound is reduced when fuel injector connector of noisy cylinder is disconnected. (NOTE*)	<ul style="list-style-type: none"> <li>● Worn cylinder liner and piston ring</li> <li>● Broken or stuck piston ring</li> <li>● Worn piston pin and hole at piston end of connecting rod</li> </ul>
	Sound is not reduced if each fuel injector connector is disconnected in turn. (NOTE*)	<ul style="list-style-type: none"> <li>● Unusually worn valve lifter</li> <li>● Worn cam gear</li> <li>● Worn camshaft journal bore in crankcase</li> </ul>
Squeaky sound	—	<ul style="list-style-type: none"> <li>● Insufficient generator lubrication</li> </ul>
Rubbing sound	—	<ul style="list-style-type: none"> <li>● Defective generator brush and rotor contact</li> </ul>
Gear scream when starting engine	—	<ul style="list-style-type: none"> <li>● Defective ignition starter switch</li> <li>● Worn gear and starter pinion</li> </ul>
Sound like polishing glass with a dry cloth	—	<ul style="list-style-type: none"> <li>● Loose drive belt</li> <li>● Defective engine coolant pump shaft</li> </ul>

Type of sound	Condition	Possible cause
Hissing sound	—	<ul style="list-style-type: none"><li>● Loss of compression</li><li>● Air leakage in air intake system, hoses, connections or manifolds</li></ul>
Timing belt noise	—	<ul style="list-style-type: none"><li>● Loose timing belt</li><li>● Belt contacting case/adjacent part</li></ul>

**NOTE\*:**

When disconnecting fuel injector connector, Malfunction Indicator Light (CHECK ENGINE light) illuminates and trouble code is stored in ECM memory.

Therefore, carry out the CLEAR MEMORY MODE and INSPECTION MODE after connecting fuel injector connector. (Ref. to 2-7 On-Board Diagnostics II System.)