

## 23. Engine Noise S173096

### A: INSPECTION S173096A10

Type of sound	Condition	Possible cause
Regular clicking sound	Sound increases as engine speed increases.	<ul style="list-style-type: none"> <li>● Valve mechanism is defective.</li> <li>● Incorrect valve clearance</li> <li>● Worn valve rocker</li> <li>● Worn camshaft</li> <li>● Broken valve spring</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 water pump shaft</li> </ul>
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>
Valve tappet noise	—	<ul style="list-style-type: none"> <li>● Incorrect valve clearance</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 <Ref. to EN-55, Clear Memory Mode.> and INSPECTION MODE <Ref. to EN-48, Inspection Mode.> after connecting fuel injector connector.

# ENGINE NOISE

Mechanical

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**MEMO:**