

# ENGINE NOISE

Mechanical

## 20. Engine Noise S143096

### A: INSPECTION S143096A10

| 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(H6)-48 Clear Memory Mode.> and INSPECTION MODE <Ref. to EN(H6)-45 Inspection Mode.> after connecting fuel injector connector.