

## 28. Engine Noise

### A: INSPECTION

| 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 (large end)</li> </ul>  |
|   | Oil pressure is normal.  | <ul style="list-style-type: none"> <li>Damaged engine mounting</li> <li>Loosened flywheel mounting bolt</li> </ul>   |
| High-pitched clank (Spark knock)  | Sound is noticeable when accelerating with an overload condition.                  | <ul style="list-style-type: none"> <li>Ignition timing advanced</li> <li>Accumulation of carbon inside combustion chamber</li> <li>Wrong heat range of spark plug</li> <li>Improper octane value gasoline</li> </ul> |
| Clank when engine speed is 1,000 to 2,000 rpm                                 | Sound is reduced when fuel injector connector of noisy cylinder is disconnected. * | <ul style="list-style-type: none"> <li>Worn crankshaft main bearing</li> <li>Worn connecting rod bearing (large end)</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. * | <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. *    | <ul style="list-style-type: none"> <li>Worn cam sprocket</li> <li>Worn camshaft journal bore in cylinder head</li> </ul>   |
| Squeaky sound   | —  | Insufficient generator lubrication   |
| Rubbing sound   | —  | Poor contact of generator brush and rotor  |
| 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 V-belt</li> <li>Defective water pump shaft</li> </ul>   |
| Hissing sound   | —  | <ul style="list-style-type: none"> <li>Insufficient compression</li> <li>Air leakage in air intake system, hose, connection or manifold</li> </ul>   |
| Timing belt noise   | —  | <ul style="list-style-type: none"> <li>Loose timing belt</li> <li>Timing belt contacting with adjacent part</li> </ul>   |
| Valve noise   | —  | Incorrect valve clearance  |

\* When disconnecting the fuel injector connector, the malfunction indicator light illuminates and DTC is stored in ECM memory. Therefore, perform the Clear Memory Mode <Ref. to EN(H4SO)(diag)-53, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO)(diag)-41, PROCEDURE, Inspection Mode.> after connecting the fuel injector connector.