

## 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.<br>(NOTE*) | <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.<br>(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>• 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   |

(NOTE\*)

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)-56, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4SO)(diag)-44, PROCEDURE, Inspection Mode.> after connecting the fuel injector connector.

# **Engine Noise**

MECHANICAL

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# EXHAUST

# *EX(H4SO)*

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