

## 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 cam clearance</li> <li>Worn camshaft</li> <li>Broken valve spring</li> <li>Defective valve shim</li> </ul>
Heavy and dull clank	Oil pressure is low.	<ul style="list-style-type: none"> <li>Worn crankshaft bearing</li> <li>Worn connecting rod bearing</li> </ul>
	Oil pressure is normal.	<ul style="list-style-type: none"> <li>Loosened flywheel mounting bolt</li> <li>Damaged engine mounting</li> </ul>
High-pitched clank	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 between 1,000 and 2,000 rpms.	Sound is reduced when the fuel injector connector of the noisy cylinder is disconnected.*	<ul style="list-style-type: none"> <li>Worn crankshaft bearing</li> <li>Worn connecting rod bearing</li> </ul>
Knocking sound when engine is operating under idling speed and engine is warm	Sound is reduced when the fuel injector connector of the 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 piston pin hole of piston</li> </ul>
	Sound is not reduced if each fuel injector connector is disconnected in turn.*	<ul style="list-style-type: none"> <li>Unusually worn valve rocker</li> <li>Unusually worn valve shim</li> <li>Worn cam sprocket</li> <li>Worn journal of cam carrier and camshaft cap</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>Poor contact of generator brush and rotor</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>Defective automatic belt tensioner adjuster assembly (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 chain noise	—	<ul style="list-style-type: none"> <li>Loose timing chain</li> <li>Timing chain contacting with adjacent part</li> </ul>
Valve noise	—	<ul style="list-style-type: none"> <li>Incorrect cam clearance</li> </ul>

\* 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(H4DO)(diag)-59, OPERATION, Clear Memory Mode.> and Inspection Mode <Ref. to EN(H4DO)(diag)-46, PROCEDURE, Inspection Mode.> after connecting the fuel injector connector.

EXHAUST

EX(H4DO)

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	Page
1. General Description .....	2
2. Front Exhaust Pipe .....	6
3. Center Exhaust Pipe .....	13
4. Rear Exhaust Pipe .....	14
5. Muffler .....	17