23.Engine Noise

A: INSPECTION

Type of sound	Condition	Possible cause
Regular clicking sound	Sound increases as engine speed increases.	• Valve mechanism is defective • Incorrect valve clearance • Worn valve rocker • Worn camshaft • Broken valve spring
Heavy and dull clank	Oil pressure is low.	• Worn crankshaft main bearing • Worn connecting rod bearing (big end)
	Oil pressure is normal.	• Loose flywheel mounting bolts • Damaged engine mounting
High-pitched clank (knocking)	Sound is noticeable when accelerating with an overload.	• Ignition timing advanced • Accumulation of carbon inside combustion chamber • Wrong spark plug • Improper fuel
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*)	• Worn crankshaft main bearing • Worn bearing at crankshaft end of connecting rod
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*)	• Worn cylinder liner and piston ring • Broken or stuck piston ring • Worn piston pin and hole at piston end of connecting rod
	Sound is not reduced if each fuel injector connector is disconnected in turn. (NOTE*)	• Unusually worn valve lifter • Worn cam gear • Worn camshaft journal bore in crankcase
Squeaky sound	–	• Insufficient generator lubrication
Rubbing sound	–	• Defective generator brush and rotor contact
Gear scream when starting engine	–	• Defective ignition starter switch • Worn gear and starter pinion
Sound like polishing glass with a dry cloth	–	• Loose drive belt • Defective water pump shaft
Hissing sound	–	• Loss of compression • Air leakage in air intake system, hoses, connections or manifolds
Timing belt noise	–	• Loose timing belt • Belt contacting case/adjacent part
Valve tappet noise	–	• Incorrect valve clearance

NOTE*)
When disconnecting fuel injector connector, CHECK ENGINE malfunction indicator light illuminates and a diagnostic trouble code is stored in the ECM memory.
Therefore, carry out the CLEAR MEMORY MODE <Ref. to EN(H4SO)-46, OPERATION, Clear Memory Mode.> and INSPECTION MODE <Ref. to EN(H4SO)-39, OPERATION, Inspection Mode.> after connecting the fuel injector connector.