28.Engine Noise

A: INSPECTION

Type of sound	Condition	Possible cause
Regular clicking sound	Sound increases as engine speed increases.	• Valve mechanism is defective • Incorrect cam clearance • Worn camshaft • Broken valve spring • Defective valve shim
Heavy and dull clank	Oil pressure is low.	• Worn crankshaft bearing • Worn connecting rod bearing
	Oil pressure is normal.	• Loosened flywheel mounting bolt • Damaged engine mounting
High-pitched clank	Sound is noticeable when accelerating with an overload condition.	• Ignition timing advanced • Accumulation of carbon inside combustion chamber • Wrong heat range of spark plug • Improper octane value gasoline
Clank when engine speed is between 1,000 and 2,000 rpm	Sound is reduced when the fuel injector of the noisy cylinder is stopped.*	• Worn crankshaft bearing • Worn connecting rod bearing
Knocking sound when engine is operating under idling speed and engine is warm	Sound is reduced when the fuel injector of the noisy cylinder is stopped.*	• Worn cylinder liner and piston ring • Broken or stuck piston ring • Worn piston pin and piton pin hole of piston
	Sound is not reduced if each fuel injector is stopped in turn.*	• Unusually worn valve rocker • Unusually worn valve shim • Worn cam sprocket • Worn journal of cam carrier and camshaft cap
Squeaky sound	—	• Insufficient generator lubrication
Rubbing sound	—	• Poor contact of generator brush and rotor
Gear scream when starting engine	—	• Defective ignition starter switch • Worn gear and starter pinion
Sound like polishing glass with a dry cloth	—	• Defective V-belt tensioner assembly (loose V-belt) • Defective water pump shaft
Hissing sound	—	• Insufficient compression • Air leakage in air intake system, hose, connection or manifold
Timing chain noise	—	• Loose timing chain • Timing chain contacting with adjacent part
Valve noise	—	• Incorrect cam clearance

*Fuel injector can be stopped using the Subaru Select Monitor. <Ref. to EN(w/o STI)(diag)-62, OPERATION, System Operation Check Mode.>

EXHAUST

EX(w/o STI)