# 22.Engine Trouble in General A: INSPECTION

NOTE:

"RANK" shown in the chart refer to the possibility of reason for the trouble in order ("Very often" to "Rarely") A — Very often

- B Sometimes
- C Rarely

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
1. Engine will not start.			
1) Starter does not turn.	Starter	Defective battery-to-starter harness	В
		Defective starter switch	С
		Defective inhibitor switch or neutral switch	С
		Defective starter	В
	Battery	Poor terminal connection	Α
		Run-down battery	Α
		Defective charging system	В
	Friction	Seizure of crankshaft and connecting rod bearing	С
		Seized camshaft	С
		Seized or stuck piston and cylinder	С
2) Initial combustion does	Starter	Defective starter	С
not occur.	• Engine control system <ref. t<="" td=""><td>o EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>А</td></ref.>	o EN(H4SO)-2, Basic Diagnostic Procedure.>	А
	Fuel line	Defective fuel pump and relay	А
		Lack of or insufficient fuel	В
	• Belt	Defective	В
		Defective timing	В
	Compression	Incorrect valve clearance	С
		Loosened spark plugs or defective gasket	С
		Loosened cylinder head bolts or defective gasket	С
		Improper valve seating	С
		Defective valve stem	С
		Worn or broken valve spring	В
		Worn or stuck piston rings, cylinder and piston	С
		Incorrect valve timing	В
		Improper engine oil (low viscosity)	В
3) Initial combustion occur.	Engine control system <ref. t<="" td=""><td>o EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>А</td></ref.>	o EN(H4SO)-2, Basic Diagnostic Procedure.>	А
,	Intake system	Defective intake manifold gasket	В
		Defective throttle body gasket	В
	• Fuel line	Defective fuel pump and relay	С
		Clogged fuel line	C
		Lack of or insufficient fuel	B
	• Belt	Defective	В
		Defective timing	В
	Compression	Incorrect valve clearance	С
		Loosened spark plugs or defective gasket	C
		Loosened cylinder head bolts or defective gasket	C
		Improper valve seating	C
		Defective valve stem	C
		Worn or broken valve spring	B
		Worn or stuck piston rings, cylinder and piston	C
		Incorrect valve timing	B
		Improper engine oil (low viscosity)	B

## **ME(H4SO)-87**

#### MECHANICAL

#### **ENGINE TROUBLE IN GENERAL**

o EN(H4SO)-2, Basic Diagnostic Procedure.>      Loosened or cracked intake duct      Loosened or cracked PCV hose      Loosened or cracked vacuum hose      Defective intake manifold gasket      Defective throttle body gasket      Dirty air cleaner element      Clogged fuel line	A B C
Loosened or cracked PCV hose     Loosened or cracked vacuum hose     Defective intake manifold gasket     Defective throttle body gasket     Dirty air cleaner element	С
Loosened or cracked vacuum hose     Defective intake manifold gasket     Defective throttle body gasket     Dirty air cleaner element	
<ul> <li>Defective intake manifold gasket</li> <li>Defective throttle body gasket</li> <li>Dirty air cleaner element</li> </ul>	-
Defective throttle body gasket     Dirty air cleaner element	С
Dirty air cleaner element	В
	В
Clogged fuel line	С
	С
Lack of or insufficient fuel	В
Defective	В
Defective timing	В
Incorrect valve clearance	С
Loosened spark plugs or defective gasket	С
Loosened cylinder head bolts or defective gasket	С
Improper valve seating	С
Defective valve stem	С
Worn or broken valve spring	В
Worn or stuck piston rings, cylinder and piston	С
Incorrect valve timing	В
Improper engine oil (low viscosity)	В
o EN(H4SO)-2, Basic Diagnostic Procedure.>	Α
Loosened or cracked intake duct	А
Loosened or cracked PCV hose	А
Loosened or cracked vacuum hose	А
Defective intake manifold gasket	В
Defective throttle body gasket	В
Defective PCV valve	С
Loosened oil filler cap	В
Dirty air cleaner element	С
Defective fuel pump and relay	С
Clogged fuel line	С
Lack of or insufficient fuel	B
Defective timing	C
Incorrect valve clearance	B
Loosened spark plugs or defective gasket	B
Loosened cylinder head bolts or defective gasket	В
Improper valve seating	B
Defective valve stem	C
Worn or broken valve spring	B
Worn or stuck piston rings, cylinder and piston	B
Incorrect valve timing	A
Improper engine oil (low viscosity)	B
	B
	C
	C
-	A
manufiction of evaporative emission control system	B
Stuck or damaged throttle value	C
	Incorrect oil pressure     Defective rocker cover gasket     Overheating     Malfunction of evaporative emission control system     Stuck or damaged throttle valve     Accelerator cable out of adjustment

# ME(H4SO)-88

#### **ENGINE TROUBLE IN GENERAL**

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
3. Low output, hesitation and	• Engine control system <ref. td="" to<=""><td>EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>А</td></ref.>	EN(H4SO)-2, Basic Diagnostic Procedure.>	А
poor acceleration	Intake system	Loosened or cracked intake duct	Α
		Loosened or cracked PCV hose	Α
		Loosened or cracked vacuum hose	В
		Defective intake manifold gasket	В
		Defective throttle body gasket	В
		Defective PCV valve	В
		Loosened oil filler cap	В
		Dirty air cleaner element	Α
	Fuel line	Defective fuel pump and relay	В
		Clogged fuel line	В
		Lack of or insufficient fuel	С
	• Belt	Defective timing	В
	Compression	Incorrect valve clearance	В
		Loosened spark plugs or defective gasket	В
		Loosened cylinder head bolts or defective gasket	В
		Improper valve seating	B
		Defective valve stem	C
		Worn or broken valve spring	B
		Worn or stuck piston rings, cylinder and piston	C
		Incorrect valve timing	A
		Improper engine oil (low viscosity)	В
	Lubrication system	Incorrect oil pressure	B
	Cooling system	Overheating	C
	- Cooling System	Over cooling	C
	Others	Malfunction of evaporative emission control system	A
4. Surging		EN(H4SO)-2, Basic Diagnostic Procedure.>	A
4. Surging	Intake system	Loosened or cracked intake duct	A
		Loosened or cracked PCV hose	A
		Loosened or cracked vacuum hose	A
			B
		Defective intake manifold gasket	
		Defective throttle body gasket     Defective PCV valve	B
		Loosened oil filler cap	B
	- Evel line	Dirty air cleaner element	B
	Fuel line	Defective fuel pump and relay	B
		Clogged fuel line	B
	D-lt	Lack of or insufficient fuel	C
	• Belt	Defective timing	B
	Compression	Incorrect valve clearance	B
		Loosened spark plugs or defective gasket	C
		Loosened cylinder head bolts or defective gasket	C
		Improper valve seating	C
		Defective valve stem	C
		Worn or broken valve spring	C
		Worn or stuck piston rings, cylinder and piston	С
		Incorrect valve timing	A
		Improper engine oil (low viscosity)	В
	Cooling system	Overheating	В
	Others	<ul> <li>Malfunction of evaporative emission control system</li> </ul>	С

# ME(H4SO)-89

#### MECHANICAL

#### **ENGINE TROUBLE IN GENERAL**

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
5. Engine does not return to	• Engine control system <ref. td="" to<=""><td>EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>Α</td></ref.>	EN(H4SO)-2, Basic Diagnostic Procedure.>	Α
idle.	Intake system	Loosened or cracked vacuum hose	А
	Others	Stuck or damaged throttle valve	А
		Accelerator cable out of adjustment	В
6. Dieseling (Run-on)	• Engine control system <ref. td="" to<=""><td>EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>Α</td></ref.>	EN(H4SO)-2, Basic Diagnostic Procedure.>	Α
	Cooling system	Overheating	В
	Others	Malfunction of evaporative emission control system	В
7. After burning in exhaust	• Engine control system <ref. td="" to<=""><td>EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>Α</td></ref.>	EN(H4SO)-2, Basic Diagnostic Procedure.>	Α
system	Intake system	Loosened or cracked intake duct	С
		Loosened or cracked PCV hose	С
		Loosened or cracked vacuum hose	В
		Defective PCV valve	В
		Loosened oil filler cap	С
	• Belt	Defective timing	В
	Compression	Incorrect valve clearance	В
		<ul> <li>Loosened spark plugs or defective gasket</li> </ul>	С
		Loosened cylinder head bolts or defective gasket	С
		Improper valve seating	В
		Defective valve stem	С
		Worn or broken valve spring	С
		Worn or stuck piston rings, cylinder and piston	С
		Incorrect valve timing	Α
	Lubrication system	Incorrect oil pressure	С
	Cooling system	Over cooling	С
	Others	Malfunction of evaporative emission control system	С
8. Knocking	• Engine control system <ref. td="" to<=""><td>EN(H4SO)-2, Basic Diagnostic Procedure.&gt;</td><td>Α</td></ref.>	EN(H4SO)-2, Basic Diagnostic Procedure.>	Α
	<ul> <li>Intake system</li> </ul>	Loosened oil filler cap	В
	• Belt	Defective timing	В
	Compression	Incorrect valve clearance	С
		Incorrect valve timing	В
	Cooling system	Overheating	Α
9. Excessive engine oil con-	Intake system	<ul> <li>Loosened or cracked PCV hose</li> </ul>	Α
sumption		Defective PCV valve	В
		Loosened oil filler cap	С
	Compression	Defective valve stem	Α
		Worn or stuck piston rings, cylinder and piston	Α
	Lubrication system	<ul> <li>Loosened oil pump attaching bolts and defective gasket</li> </ul>	В
		Defective oil filler seal	В
		Defective crankshaft oil seal	В
		Defective rocker cover gasket	В
		Loosened oil drain plug or defective gasket	В
		Loosened oil pan fitting bolts or defective oil pan	В

## **ENGINE TROUBLE IN GENERAL**

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
10. Excessive fuel consump-	• Engine control system <ref. basic="" diagnostic="" en(h4so)-2,="" procedure.="" to=""></ref.>		Α
tion	Intake system	Dirty air cleaner element	Α
	• Belt	Defective timing	В
	Compression	Incorrect valve clearance	В
		Loosened spark plugs or defective gasket	С
		Loosened cylinder head bolts or defective gasket	С
		Improper valve seating	В
		Defective valve stem	С
		Worn or broken valve spring	С
		Worn or stuck piston rings, cylinder and piston	В
		Incorrect valve timing	В
	Lubrication system	Incorrect oil pressure	С
	Cooling system	Over cooling	С
	Others	Accelerator cable out of adjustment	В