1. Engine Trouble in General

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.		T	
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 	A
		Run-down battery	A
		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.	• Fuel injection system <ref. t<="" td=""><td colspan="2">• Fuel injection system <ref. 2-7="" [t100].="" to=""></ref.></td></ref.>	• Fuel injection system <ref. 2-7="" [t100].="" to=""></ref.>	
	Fuel line	 Defective fuel pump and relay 	A
		 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 Improper valve seating Defective valve stem Worn or broken valve spring Worn or stuck piston rings, cylinder and piston 	 Loosened cylinder head bolts or defective gasket 	С
		 Improper valve seating 	С
		Defective valve stem	С
		Worn or broken valve spring	В
		С	
		 Incorrect valve timing 	В
	 Improper engine oil (low viscosity) 	 Improper engine oil (low viscosity) 	В
3) Initial combustion occur.	• Fuel injection system <ref. t<="" td=""><td>o 2-7 [T100].></td><td>A</td></ref.>	o 2-7 [T100].>	A
	 Intake system 	 Defective starter switch Defective inhibitor switch or neutral switch Defective starter Poor terminal connection Run-down battery Defective charging system Seizure of crankshaft and connecting rod bearing Seized camshaft Seized or stuck piston and cylinder Defective starter f. to 2-7 [T100].> Defective fuel pump and relay Lack of or insufficient fuel Defective iming Incorrect valve clearance Loosened spark plugs or defective gasket Loosened cylinder head bolts or defective gasket Improper valve seating Defective valve stem Worn or broken valve spring Worn or stuck piston rings, cylinder and piston Incorrect valve timing Incorrect valve timing 	В
		 Defective throttle body gasket 	В
	Fuel line	 Defective fuel pump and relay 	С
		Clogged fuel line	С
		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

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
4) Engine stalls after initial	Fuel injection system <ref. td="" to<=""><td>2-7 [T100].></td><td>А</td></ref.>	2-7 [T100].>	А
combustion.	Intake system	Loosened or cracked intake duct	В
		Loosened or cracked PCV hose	С
	e stalls after initial ion. Fuel injection system <ref. 2-7="" [t100].="" to=""> • Intake system • Loosened or cracked intake duct • Loosened or cracked PCV hose • Loosened or cracked Vacuum hose • Defective intake manifold gasket • Defective intake manifold gasket • Defective throttle body gasket • Dirty air cleaner element • Fuel line • Clogged fuel line • Belt • Defective timing • Compression • Incorrect valve clearance • Loosened cylinder head bolts or defective gasket • Loosened cylinder head bolts or defective gasket • Improper valve seating • Defective valve stem • Worn or broken valve spring • Worn or stuck piston rings, cylinder and piston • Incorrect valve timing</ref.>	 Loosened or cracked vacuum hose 	С
		В	
		Loosened or cracked PCV hose Loosened or cracked vacuum hose Loosened or cracked vacuum hose Defective intake manifold gasket Defective throttle body gasket Dirty air cleaner element Clogged fuel line Lack of or insufficient fuel Lack of or insufficient fuel Defective Defective timing Defective timing Loosened spark plugs or defective gasket Loosened spark plugs or defective gasket Loosened cylinder head bolts or defective gasket Improper valve seating Defective valve stem Worn or broken valve stem Worn or stuck piston rings, cylinder and piston Incorrect valve timing Incorrect valve timing Incorrect valve timing Defective valve stem Worn or stuck piston rings, cylinder and piston Incorrect valve timing Incorrect valve timing Loosened or cracked ntake duct Loosened or cracked PCV hose Loosened or cracked vacuum hose Defective intake manifold gasket Defective throttle body gasket Defective PCV valve Loosened oil filter cap Dirty air cleaner element	В
		Dirty air cleaner element	С
	Fuel line	Clogged fuel line	С
		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
2. Rough idle and engine	Fuel injection system <ref. 2<="" td="" to=""><td>2-7 [T100].></td><td>А</td></ref.>	2-7 [T100].>	А
Intake system Loosened or cracked Loosened or cracked Loosened or cracked Loosened or cracked			А
		Loosened or cracked PCV hose	Α
	Loosened or cracked vacuum hose	А	
		Defective intake manifold gasket	В
		Defective intake manifold gasket Defective throttle body gasket	В
			С
	 Loosened oil filter cap 	В	
			С
	Fuel line		С
			С
			B
	Belt	Loosened or cracked intake duct Loosened or cracked PCV hose 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 Lack of or insufficient fuel Defective timing Incorrect valve clearance Loosened spark plugs or defective gasket Loosened or cracked intake duct Loosened or cracked intake duct Loosened or cracked intake duct Loosened or cracked PCV hose Loosened or cracked PCV hose Loosened or cracked PCV hose Loosened or cracked Vacuum hose Defective throttle body gasket Defective PCV valve Loosened oil filter cap Dirty air cleaner element Defective fuel pump and relay Clogged fuel line Lack of or insufficient fuel Defective timing Incorrect valve clearance Loosened spark plugs or defective gasket Defective timing Incorrect valve clearance Loosened or cracked PCV hose Loosened oil filter cap Dirty air cleaner element Defective PCV valve Loosened oil filter cap Dirty air cleaner element Defective fuel pump and relay Clogged fuel line Lack of or insufficient fuel Defective timing Incorrect valve clearance Loosened cylinder head bolts or defective gasket Loosened cylinder head bolts or defective gasket Loosened cylinder head bolts or defective gasket Improper valve seating Defective valve seating Defective trouse pring Worn or broken valve spring Worn or broken valve spring Worn or broken valve spring Worn or stuck piston rings, cylinder and piston Incorrect valve timing Incorrect	C
			B
			В
			B
			B
			С
			B
		· · ·	B
			A
			B
	Lubrication system		B
			C
	Cooling system	-	C
	Others		A
	• Otners	· · · · ·	B
			C

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
3. Low output, hesitation	• Fuel injection system <ref. 1<="" td=""><td>to 2-7 [T100].></td><td>А</td></ref.>	to 2-7 [T100].>	А
and poor acceleration	 Intake system 	Loosened or cracked intake duct	А
		Loosened or cracked PCV hose	А
		Loosened or cracked vacuum hose	В
		Defective intake manifold gasket	В
		Defective throttle body gasket	В
		Defective PCV valve	В
		Loosened oil filter cap	В
		Dirty air cleaner element	А
	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	 B
		Loosened cylinder head bolts or defective gasket	 B
		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)	B
	Lubrication system	Incorrect oil pressure	B
	Cooling system	Overheating	C
		Over cooling	<u>с</u>
	Others	Malfunction of evaporative emission control system	A
1 Suraina	Fuel injection system <ref. 1<="" td=""><td></td><td>A</td></ref.>		A
. Surging		Loosened or cracked intake duct	A
	 Intake system 	Loosened or cracked PCV hose	A
		Loosened or cracked vacuum hose Defective intelve manifold realist	<u>A</u>
		Defective intake manifold gasket	B
		Defective throttle body gasket	B
		Defective PCV valve	B
		Loosened oil filter cap	B
		Dirty air cleaner element	B
	Fuel line	Defective fuel pump and relay	B
		Clogged fuel line	B
		Lack of or insufficient fuel	С
	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 	С
		Defective valve stem	С
		 Worn or broken valve spring 	С
		 Worn or stuck piston rings, cylinder and piston 	С
		Incorrect valve timing	А
		Improper engine oil (low viscosity)	В
	Cooling system	Overheating	В
	Others	Malfunction of evaporative emission control system	С

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
5. Engine does not return to	Fuel injection system <ref. 2<="" td="" to=""><td>2-7 [T100].></td><td>А</td></ref.>	2-7 [T100].>	А
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)	• Fuel injection system <ref. 2-7="" [t100].="" to=""></ref.>		А
	Cooling system	Euel injection system <ref. td="" to<=""> 2-7 [T100].> 4 Cooling system • Overheating 1 Dthers • Malfunction of evaporative emission control system 1 Fuel injection system <ref. td="" to<=""> 2-7 [T100].> 4 ntake system • Loosened or cracked intake duct 6 • Loosened or cracked PCV hose 6 • Loosened or cracked Vacuum hose 1 • Defective PCV valve 1 • Loosened oil filler cap 6 Belt • Defective timing 1 Compression • Incorrect valve clearance 1 • Loosened cylinder head bolts or defective gasket 6 • Loosened cylinder head bolts or defective gasket 6 • Improper valve seating 1 • Defective valve stem 6 • Worn or broken valve spring 6 • Uorrect oil pressure 6 • Cooling system • Incorrect oil pressure • Cooling system • Over cooling • Uhrication system <ref. td="" to<=""> 2-7 [T100].> • Malfunction of evaporative emission control system 6 • Loosened oil filter cap 1</ref.></ref.></ref.>	В
	Others	Malfunction of evaporative emission control system	В
7. After burning in exhaust	• Fuel injection system <ref. td="" to<=""><td>2-7 [T100].></td><td>А</td></ref.>	2-7 [T100].>	А
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
		Loosened spark plugs or defective gasket	С
		Loosened cylinder head bolts or defective gasket	С
			В
		Defective valve stem	С
		Worn or broken valve spring	С
		· · ·	С
		· · · · · · · · · · · · · · · · · · ·	А
	Lubrication system	Incorrect oil pressure	С
		Over cooling	С
	Others	Malfunction of evaporative emission control system	С
8. Knocking			Α
-			В
	Belt	Defective timing	В
	Compression		С
	• Belt • Defective timing • Compression • Incorrect valve clearance • Loosened spark plugs or defective gasket • Loosened cylinder head bolts or defective gasket • Improper valve seating • Defective valve stem • Worn or broken valve spring • Worn or stuck piston rings, cylinder and piston • Incorrect valve timing • Lubrication system • Over cooling • Others • Fuel injection system • Fuel injection system • Defective timing • Cooling system • Costing system • Cooling system • Over heating • Cooling system • Overheating • Loosened or cracked PCV hose </td <td>В</td>	В	
	Cooling system	-	Α
9. Excessive engine oil con-		Loosened or cracked PCV hose	А
sumption		Defective PCV valve	В
		Loosened oil filter cap	С
	Compression	Defective valve stem	А
		Worn or stuck piston rings, cylinder and piston	А
	Lubrication system	Loosened oil pump attaching bolts and defective gasket	В
		Defective oil filter 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

TROUBLE	PROBLEM PARTS, ETC.	POSSIBLE CAUSE	RANK
10. Excessive fuel consump-	• Fuel injection system <ref. 2-7="" [t100].="" to=""></ref.>		A
tion	 Intake system 	Dirty air cleaner element	A
	• Belt	Defective timing	В
	Compression	Incorrect valve clearance	В
		 Loosened spark plugs or defective gasket 	C
		Loosened cylinder head bolts or defective gasket	C
		 Improper valve seating 	В
		Defective valve stem	C
		 Worn or broken valve spring 	С
		 Worn or stuck piston rings, cylinder and piston 	В
		Incorrect valve timing	В
	Lubrication system	Incorrect oil pressure	C
	Cooling system	Over cooling	C
	• Others	 Accelerator cable out of adjustment 	В