

26. Engine Trouble in General

A: INSPECTION

NOTE:

The "RANK" shown in the chart shows the possibilities of the cause of trouble in order from "Very often" to "Rarely".

A — Very often

B — Sometimes

C — Rarely

| Symptoms | Problem parts etc. | Possible cause | RANK |
|---------------------------------------|---|--|------|
| 1. Engine does not start. | | | |
| 1) Starter does not turn. | Starter | Defective battery-to-starter harness | B |
| | | Defective starter switch | C |
| | | Defective inhibitor switch | C |
| | | Defective starter | B |
| | Battery | Improper connection of terminal | A |
| | | Run-down battery | A |
| | | Defective charging system | B |
| | Friction | Seizure of crankshaft and connecting rod bearing | C |
| | | Seized camshaft | C |
| | | Seized or stuck piston and cylinder | C |
| 2) Initial combustion does not occur. | Starter | Defective starter | C |
| | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Fuel line | Defective fuel pump and relay | A |
| | | Clogged fuel line | C |
| | | Lack of fuel or insufficient fuel | B |
| | Timing chain | Trouble | B |
| | | Defective timing | B |
| | Compression | Incorrect valve clearance | C |
| | | Loosened spark plug or defective gasket | C |
| | | Loosened cylinder head bolt or defective gasket | C |
| | | Improper valve sealing | 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 |

Engine Trouble in General

MECHANICAL

| Symptoms | Problem parts etc. | Possible cause | RANK |
|--|---|---|------|
| 3) Initial combustion occurs. | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Defective intake manifold gasket | B |
| | | Defective throttle body gasket | B |
| | Fuel line | Defective fuel pump and relay | C |
| | | Clogged fuel line | C |
| | | Lack of fuel or insufficient fuel | B |
| | Timing chain | Trouble | B |
| | | Defective timing | B |
| | Compression | Incorrect valve clearance | C |
| | | Loosened spark plug or defective gasket | C |
| | | Loosened cylinder head bolt or defective gasket | C |
| | | Improper valve sealing | 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 |
| 4) Engine stalls after initial combustion. | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened or cracked intake duct | B |
| | | Loosened or cracked PCV hose | C |
| | | Loosened or cracked vacuum hose | C |
| | | Defective intake manifold gasket | B |
| | | Defective throttle body gasket | B |
| | | Dirty air cleaner element | C |
| | Fuel line | Clogged fuel line | C |
| | | Lack of fuel or insufficient fuel | B |
| | Timing chain | Trouble | B |
| | | Defective timing | B |
| | Compression | Incorrect valve clearance | C |
| | | Loosened spark plug or defective gasket | C |
| | | Loosened cylinder head bolt or defective gasket | C |
| | | Improper valve sealing | 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 |

Engine Trouble in General

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| Symptoms | Problem parts etc. | Possible cause | RANK |
|--------------------------------|---|---|------|
| 2. Rough idle and engine stall | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| Intake system | | Loosened or cracked intake duct | A |
| | | Loosened or cracked PCV hose | A |
| | | Loosened or cracked vacuum hose | A |
| | | Defective intake manifold gasket | B |
| | | Defective throttle body gasket | B |
| | | Defective PCV valve | C |
| | | Loosened oil filler cap | B |
| | | Dirty air cleaner element | C |
| Fuel line | | Defective fuel pump and relay | C |
| | | Clogged fuel line | C |
| | | Lack of fuel or insufficient fuel | B |
| Timing chain | Defective timing | | C |
| Compression | | Incorrect valve clearance | B |
| | | Loosened spark plug or defective gasket | B |
| | | Loosened cylinder head bolt or defective gasket | B |
| | | Improper valve sealing | B |
| | | Defective valve stem | C |
| | | Worn or broken valve spring | B |
| | | Worn or stuck piston rings, cylinder and piston | B |
| | | Incorrect valve timing | A |
| Lubrication system | | Improper engine oil (low viscosity) | B |
| | | Incorrect oil pressure | B |
| Cooling system | | Defective rocker cover gasket | C |
| | | Over-heating | C |
| Others | | Evaporative emission control system malfunction | A |
| | | Stuck or damaged throttle valve | B |

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| Symptoms | Problem parts etc. | Possible cause | RANK |
|---|---|--|---|
| 3. Low output, hesitation and poor acceleration | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened or cracked intake duct Loosened or cracked PCV hose Loosened or cracked vacuum hose Defective intake manifold gasket Defective throttle body gasket Defective PCV valve Loosened oil filler cap Dirty air cleaner element | A A B B B B B A |
| | Fuel line | Defective fuel pump and relay Clogged fuel line Lack of fuel or insufficient fuel | B B C |
| | Timing chain | Defective timing | B |
| | Compression | Incorrect valve clearance Loosened spark plug or defective gasket Loosened cylinder head bolt or defective gasket Improper valve sealing Defective valve stem Worn or broken valve spring Worn or stuck piston rings, cylinder and piston Incorrect valve timing Improper engine oil (low viscosity) | B B B B C B C A B |
| | Lubrication system | Incorrect oil pressure Defective rocker cover gasket | B C |
| | Cooling system | Over-heating Over-cooling | C C |
| | Others | Evaporative emission control system malfunction | A |

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|------------------------------------|---|--|---|
| 4. Surging | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened or cracked intake duct Loosened or cracked PCV hose Loosened or cracked vacuum hose Defective intake manifold gasket Defective throttle body gasket Defective PCV valve Loosened oil filler cap Dirty air cleaner element | A A A B B B B B |
| | Fuel line | Defective fuel pump and relay Clogged fuel line Lack of fuel or insufficient fuel | B B C |
| | Timing chain | Defective timing | B |
| | Compression | Incorrect valve clearance Loosened spark plug or defective gasket Loosened cylinder head bolt or defective gasket Improper valve sealing Defective valve stem Worn or broken valve spring Worn or stuck piston rings, cylinder and piston Incorrect valve timing Improper engine oil (low viscosity) | B C C C C C C A B |
| | Cooling system | Over-heating | B |
| | Others | Evaporative emission control system malfunction | C |
| 5. Engine does not return to idle. | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened or cracked vacuum hose | A |
| | Others | Stuck or damaged throttle valve | A |
| 6. Dieseling (Run-on) | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Cooling system | Over-heating | B |
| | Others | Evaporative emission control system malfunction | B |
| 7. After burning in exhaust system | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened or cracked intake duct Loosened or cracked PCV hose Loosened or cracked vacuum hose Defective PCV valve Loosened oil filler cap | C C B B C |
| | Timing chain | Defective timing | B |
| | Compression | Incorrect valve clearance Loosened spark plug or defective gasket Loosened cylinder head bolt or defective gasket Improper valve sealing Defective valve stem Worn or broken valve spring Worn or stuck piston rings, cylinder and piston Incorrect valve timing | B C C B C C C A |
| | Lubrication system | Incorrect oil pressure | C |
| | Cooling system | Over-cooling | C |
| | Others | Evaporative emission control system malfunction | C |

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|-------------------------------------|---|--|------|
| 8. Knocking | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Loosened oil filler cap | B |
| | Timing chain | Defective timing | B |
| | Compression | Incorrect valve clearance | C |
| | | Incorrect valve timing | B |
| | Cooling system | Over-heating | A |
| 9. Excessive engine oil consumption | Intake system | Loosened or cracked PCV hose | A |
| | | Defective PCV valve | B |
| | | Loosened oil filler cap | C |
| | Compression | Defective valve stem | A |
| | | Worn or stuck piston rings, cylinder and piston | A |
| | Lubrication system | Loosened oil pump attaching bolts and defective gasket | B |
| | | Defective oil filter O-ring | B |
| | | Defective crankshaft oil seal | B |
| | | Defective rocker cover gasket | B |
| | | Loosened oil drain plug or defective gasket | B |
| | | Loosened oil pan fitting bolts or defective oil pan | B |
| 10. Excessive fuel consumption | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> | | A |
| | Intake system | Dirty air cleaner element | A |
| | Timing chain | Defective timing | B |
| | Compression | Incorrect valve clearance | B |
| | | Loosened spark plug or defective gasket | C |
| | | Loosened cylinder head bolt or defective gasket | C |
| | | Improper valve sealing | B |
| | | Defective valve stem | C |
| | | Worn or broken valve spring | C |
| | | Worn or stuck piston rings, cylinder and piston | B |
| | | Incorrect valve timing | B |
| | Lubrication system | Incorrect oil pressure | C |
| | Cooling system | Over-cooling | C |