

## 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 “most likely” to “rarely”.

A — Most likely

B — Sometimes

C — Rarely

| Symptom                               | 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 or neutral 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 or insufficient fuel                     | B    |
|                                       | Timing chain  | Trouble  | B    |
|                                       |   | Defective timing                                 | B    |
|                                       | Compression   | Incorrect valve clearance                        | C    |
|                                       |   | Loose spark plug or defective gasket             | C    |
|                                       |   | Loose 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

| Symptom                                    | 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 or insufficient fuel                    | B    |
|  | Timing chain  | Trouble   | B    |
|  |   | Defective timing                                | B    |
|  | Compression   | Incorrect valve clearance                       | C    |
|  |   | Loose spark plug or defective gasket            | C    |
|  |   | Loose 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   | Loose or cracked intake duct                    | B    |
|  |   | Loose or cracked PCV hose                       | C    |
|  |   | Loose 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 or insufficient fuel                    | B    |
|  | Timing chain  | Trouble   | B    |
|  |   | Defective timing                                | B    |
|  | Compression   | Incorrect valve clearance                       | C    |
|  |   | Loose spark plug or defective gasket            | C    |
|  |   | Loose 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

| Symptom                        | 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   | Loose or cracked intake duct                    | A    |
|                                |   | Loose or cracked PCV hose                       | A    |
|                                |   | Loose or cracked vacuum hose                    | A    |
|                                |   | Defective intake manifold gasket                | B    |
|                                |   | Defective throttle body gasket                  | B    |
|                                |   | Defective PCV valve                             | C    |
|                                |   | Loose oil filler cap                            | B    |
|                                |   | Dirty air cleaner element                       | C    |
|                                | Fuel line   | Defective fuel pump and relay                   | C    |
|                                |   | Clogged fuel line                               | C    |
|                                |   | Lack of or insufficient fuel                    | B    |
|                                | Timing chain  | Defective timing                                | C    |
|                                | Compression   | Incorrect valve clearance                       | B    |
|                                |   | Loose spark plug or defective gasket            | B    |
|                                |   | Loose 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    |
|                                |   | Improper engine oil (low viscosity)             | B    |
|                                | Lubrication system  | Incorrect oil pressure                          | B    |
|                                |   | Defective rocker cover gasket                   | C    |
|                                | Cooling system  | Overheating                                     | C    |
|                                | Others  | Evaporative emission control system malfunction | A    |
|                                |   | Stuck or damaged throttle valve                 | B    |

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## MECHANICAL

| Symptom   | 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   | Loose or cracked intake duct                    | A    |
|   |   | Loose or cracked PCV hose                       | A    |
|   |   | Loose or cracked vacuum hose                    | B    |
|   |   | Defective intake manifold gasket                | B    |
|   |   | Defective throttle body gasket                  | B    |
|   |   | Defective PCV valve                             | B    |
|   |   | Loose oil filler cap                            | B    |
|   |   | Dirty air cleaner element                       | A    |
|   | Fuel line   | Defective fuel pump and relay                   | B    |
|   |   | Clogged fuel line                               | B    |
|   |   | Lack of or insufficient fuel                    | C    |
|   | Timing chain  | Defective timing                                | B    |
|   | Compression   | Incorrect valve clearance                       | B    |
|   |   | Loose spark plug or defective gasket            | B    |
|   |   | Loose 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 | C    |
|   |   | Incorrect valve timing                          | A    |
|   |   | Improper engine oil (low viscosity)             | B    |
|   | Lubrication system  | Incorrect oil pressure                          | B    |
|   | Cooling system  | Overheating                                     | C    |
|   |   | Over-cooling                                    | C    |
|   | Others  | Evaporative emission control system malfunction | A    |
| 4. Surging                                      | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> |   | A    |
|   | Intake system   | Loose or cracked intake duct                    | A    |
|   |   | Loose or cracked PCV hose                       | A    |
|   |   | Loose or cracked vacuum hose                    | A    |
|   |   | Defective intake manifold gasket                | B    |
|   |   | Defective throttle body gasket                  | B    |
|   |   | Defective PCV valve                             | B    |
|   |   | Loose oil filler cap                            | B    |
|   |   | Dirty air cleaner element                       | B    |
|   | Fuel line   | Defective fuel pump and relay                   | B    |
|   |   | Clogged fuel line                               | B    |
|   |   | Lack of or insufficient fuel                    | C    |
|   | Timing chain  | Defective timing                                | B    |
|   | Compression   | Incorrect valve clearance                       | B    |
|   |   | Loose spark plug or defective gasket            | C    |
|   |   | Loose cylinder head bolt or defective gasket    | C    |
|   |   | Improper valve sealing                          | C    |
|   |   | Defective valve stem                            | C    |
|   |   | Worn or broken valve spring                     | C    |
|   |   | Worn or stuck piston rings, cylinder and piston | C    |
|   |   | Incorrect valve timing                          | A    |
|   |   | Improper engine oil (low viscosity)             | B    |
|   | Cooling system  | Overheating                                     | B    |
|   | Others  | Evaporative emission control system malfunction | C    |

# Engine Trouble in General

MECHANICAL

| Symptom                             | Problem parts etc.  | Possible cause                                      | RANK |
|-------------------------------------|---|---|------|
| 5. Engine does not return to idle.  | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> |   | A    |
|                                     | Intake system   | Loose 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  | Overheating   | 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   | Loose or cracked intake duct                        | C    |
|                                     |   | Loose or cracked PCV hose                           | C    |
|                                     |   | Loose or cracked vacuum hose                        | B    |
|                                     |   | Defective PCV valve                                 | B    |
|                                     |   | Loose oil filler cap                                | C    |
|                                     | Timing chain  | Defective timing                                    | B    |
|                                     | Compression   | Incorrect valve clearance                           | B    |
|                                     |   | Loose spark plug or defective gasket                | C    |
|                                     |   | Loose 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     | C    |
|                                     |   | Incorrect valve timing                              | A    |
|                                     | Lubrication system  | Incorrect oil pressure                              | C    |
|                                     | Cooling system  | Over-cooling  | C    |
|                                     | Others  | Evaporative emission control system malfunction     | C    |
| 8. Knocking                         | Engine control system <Ref. to EN(H6DO)(diag)-2, Basic Diagnostic Procedure.> |   | A    |
|                                     | Intake system   | Loose oil filler cap                                | B    |
|                                     | Timing chain  | Defective timing                                    | B    |
|                                     | Compression   | Incorrect valve clearance                           | C    |
|                                     |   | Incorrect valve timing                              | B    |
|                                     | Cooling system  | Overheating   | A    |
| 9. Excessive engine oil consumption | Intake system   | Loose or cracked PCV hose                           | A    |
|                                     |   | Defective PCV valve                                 | B    |
|                                     |   | Loose oil filler cap                                | C    |
|                                     | Compression   | Defective valve stem                                | A    |
|                                     |   | Worn or stuck piston rings, cylinder and piston     | A    |
|                                     | Lubrication system  | Loose oil pump attaching bolts and defective gasket | B    |
|                                     |   | Defective oil filter O-ring                         | B    |
|                                     |   | Defective crankshaft oil seal                       | B    |
|                                     |   | Defective rocker cover gasket                       | B    |
|                                     |   | Loose oil drain plug or defective gasket            | B    |
|                                     |   | Loose oil pan fitting bolts or defective oil pan    | B    |

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## MECHANICAL

| Symptom                        | Problem parts etc.  | Possible cause                                  | RANK |
|--------------------------------|---|---|------|
| 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    |
|                                |   | Loose spark plug or defective gasket            | C    |
|                                |   | Loose 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    |