

PROBLEM SYMPTOMS TABLE

When no malfunction code can be confirmed in the DTC check and the problem still can not be confirmed in the basic inspection, either, then proceed to this step and perform a troubleshooting according to the numbered order given in the table below.

Symptom	Suspect Area	See page
Engine does not crank (Difficult to start)	1. Starter and starter relay	★
No initial combustion (Difficult to start)	1. ECU power source circuit 2. Pre-heating system 3. Compression 4. Engine ECU 5. Injection pump	DI-69 DI-73 ★ ED-22 FU-1
Cold engine (Difficult to start)	1. Pre-heating system 2. STA signal circuit 3. Water temperature sensor 4. Injection nozzle 5. Fuel filter 6. Diesel throttle body 7. Engine ECU 8. Injection pump	★ DI-84 ED-10 ★ – ED-3 ED-22 FU-1
Hot engine (Difficult to start)	1. STA signal circuit 2. Injection nozzle 3. Fuel filter 4. Diesel throttle body 5. Engine ECU 6. Injection pump	DI-84 ★ – ED-3 ED-22 FU-1
Soon after starting (Engine stall)	1. Fuel filter 2. Diesel throttle body 3. Engine ECU 4. Injection pump	– ED-3 ED-22 FU-1
Others (Engine stall)	1. ECU power source circuit 2. Diesel throttle body 3. Engine ECU 4. Injection pump	DI-69 ED-3 ED-22 FU-1
Incorrect first idle (Poor idling)	1. Water temperature sensor 2. Fuel filter 3. Engine ECU 4. Injection pump	ED-10 – ED-22 FU-1
High engine idle speed (Poor idling)	1. A/C signal circuit 2. Water temperature sensor 3. Engine ECU 4. Injection pump	DI-87 ED-10 ED-22 FU-1
Lower engine idle speed (Poor idling)	1. A/C signal circuit 2. Injection nozzle 3. EGR system 4. Water temperature sensor 5. Diesel throttle body 6. Compression 7. Valve clearance 8. Fuel line (Air bleed) 9. Engine ECU 10. Injection pump	DI-87 ★ DI-79 ED-10 ED-3 ★ ★ – ED-22 FU-1

DIAGNOSTICS – ENGINE

Symptom	Suspect Area	See page
Rough idling (Poor idling)	1. Injection nozzle 2. Fuel line (Air bleed) 3. Pre-heating system 4. EGR system 5. Diesel throttle body 6. Compression 7. Valve clearance 8. Engine ECU 9. Injection pump	★ – DI-73 DI-79 ED-3 ★ ★ ED-22 FU-1
Hunting at hot engine (Poor idling)	1. Injection nozzle 2. ECU power source circuit 3. Compression 4. Fuel line (Air bleed) 5. Valve clearance 6. Engine ECU 7. Injection pump	★ DI-69 ★ – ★ ED-22 FU-1
Hunting at cold engine (Poor idling)	1. Pre-heating system 2. Injection nozzle 3. ECU power source circuit 4. Water temperature sensor 5. Compression 6. Fuel line (Air bleed) 7. Valve clearance 8. Engine ECU 9. Injection pump	DI-73 ★ DI-69 ED-10 ★ – ★ ED-22 FU-1
Hesitation / Poor acceleration (Poor driveability)	1. Injection nozzle 2. Fuel filter 3. EGR system 4. Compression 5. Engine ECU 6. Injection pump	★ – DI-79 ★ ED-22 FU-1
Knocking (Poor driveability)	1. Injection nozzle 2. EGR system 3. Water temperature sensor 4. Engine ECU	★ DI-79 ED-10 ED-22
Black smoke (Poor driveability)	1. Injection nozzle 2. EGR system 3. Diesel throttle body 4. Intake air temperature sensor 5. Engine ECU 6. Injection pump	★ DI-79 ED-3 ED-10 ED-22 FU-1
White smoke (Poor driveability)	1. EGR system 2. Pre-heating system 3. Injection nozzle 4. Fuel filter 5. Diesel throttle body 6. Water temperature sensor 7. Intake air temperature sensor 8. Engine ECU 9. Injection pump	DI-79 DI-73 ★ – ED-3 ED-10 ED-10 ED-22 FU-1
Surging / Hunting (Poor driveability)	1. Injection nozzle 2. Engine ECU 3. Injection pump	★ ED-22 FU-1

★ See Pub. No. RM520E