

TROUBLESHOOTING

TROUBLESHOOTING HINTS

1. Engine troubles are usually not caused by the EFI system.

When troubleshooting, always first check the condition of the other systems.

- (a) Electronic source

- Battery
- Fusible links
- Fuses

- (b) Body ground

- (e) Fuel supply

- Fuel leakage
- Fuel filter
- Fuel pump

- (d) Ignition system

- Spark plugs
- High-tension cords
- Distributor
- Ignition coil
- Igniter

- (e) Air induction system

- Vacuum leaks

- (f) Emission control system

- PCV system
- EGR system

- (g) Others

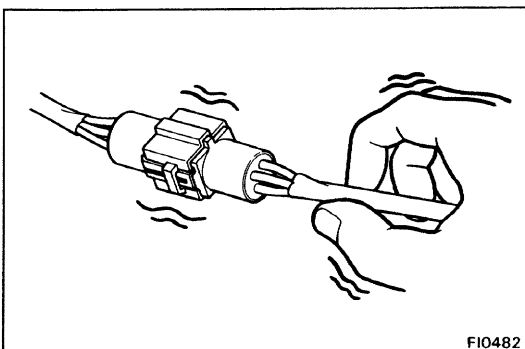
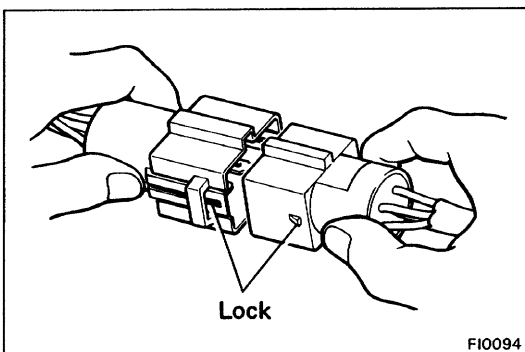
- Ignition timing (ESA system)
- Idle speed (ISC system)
- etc.

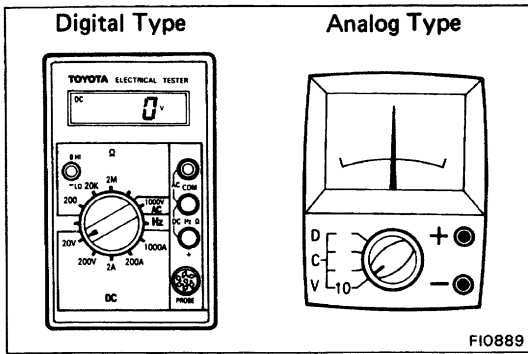
2. The most frequent cause of problems is simply a bad contact in wiring connectors. Always check that connections are secure.

When inspecting the connector, pay particular attention to the following points:

- (a) Check to see that the terminals are not bent.
- (b) Check to see that the connector is pushed in completely and locked.
- (c) Check to see that there is no signal change when the connector is slightly tapped or wiggled.

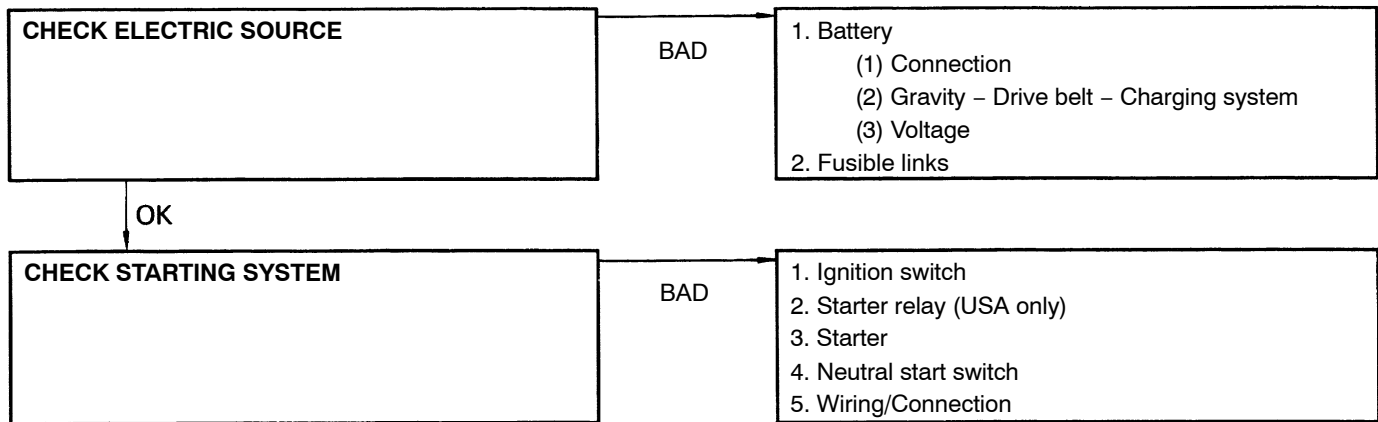
3. Troubleshoot sufficiently for other causes before replacing the ECU, as the ECU is of high quality and it is expensive.



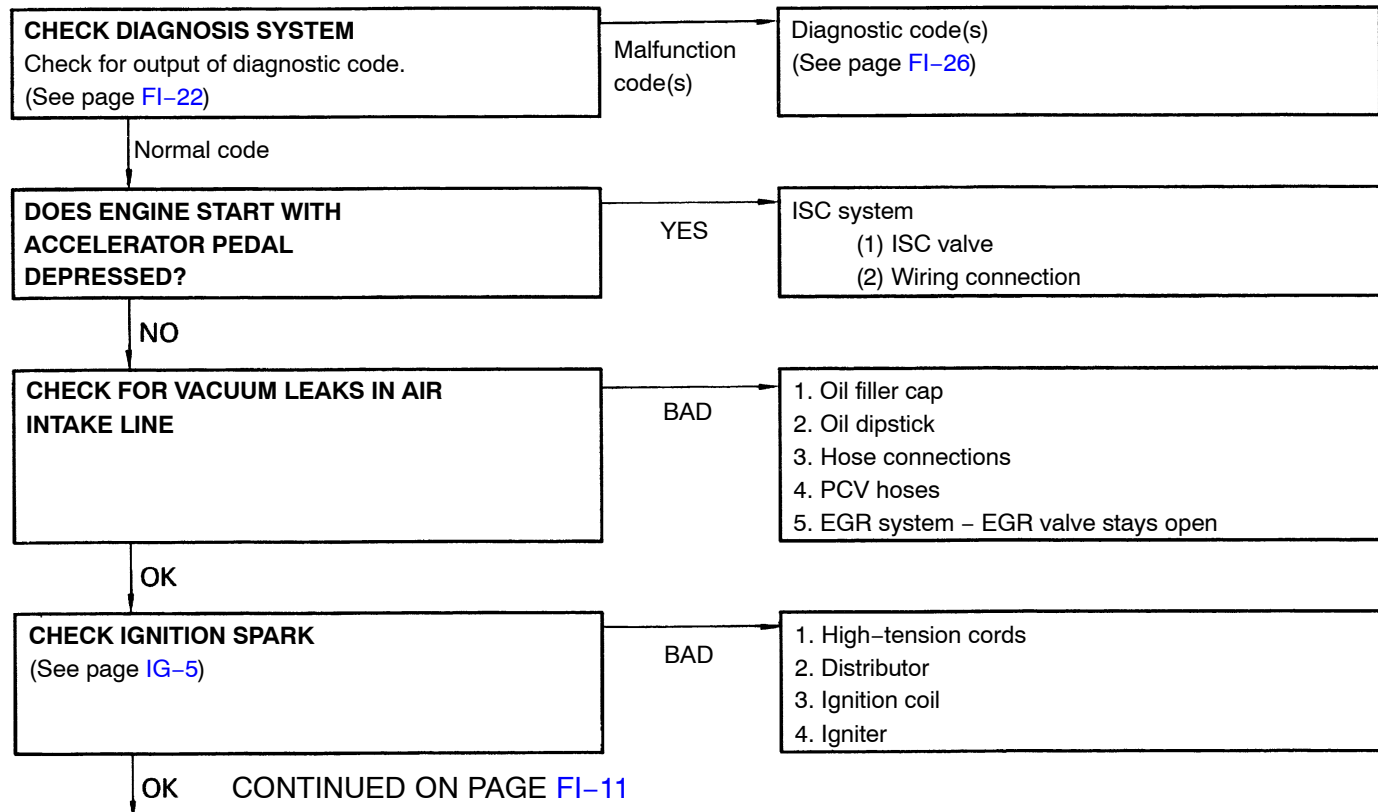


4. Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting of the electrical circuit. (See page FI-29)

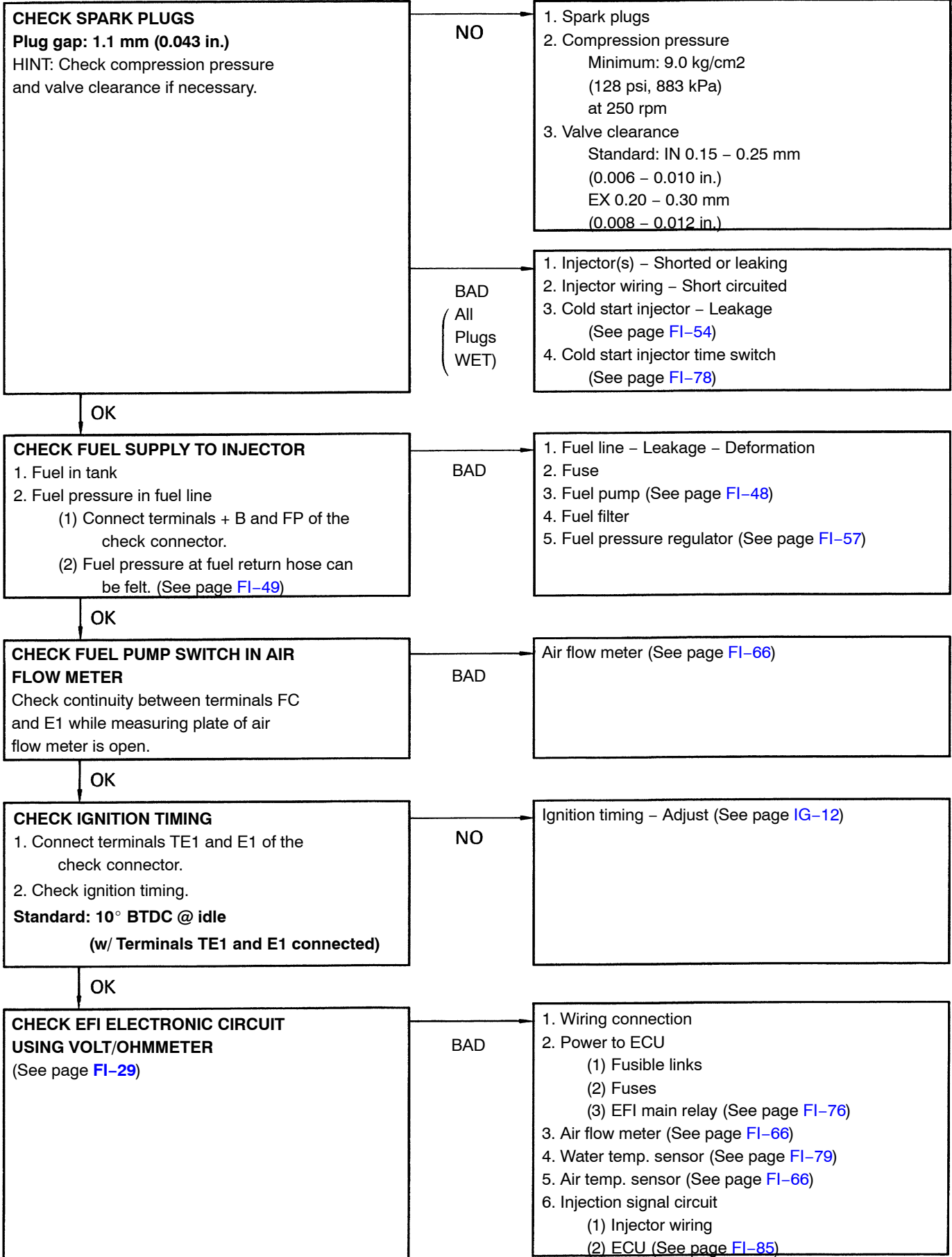
TROUBLESHOOTING PROCEDURES SYMPTOM - DIFFICULT TO START OR NO START (ENGINE WILL NOT CRANK OR CRANKS SLOWLY)



SYMPTOM - DIFFICULT TO START OR NO START (CRANKS OK)



↓ OK CONTINUED FROM PAGE FI-10



CHECK SPARK PLUGS
Plug gap: 1.1 mm (0.043 in.)
 HINT: Check compression pressure and valve clearance if necessary.

NO

- Spark plugs
- Compression pressure
Minimum: 9.0 kg/cm2 (128 psi, 883 kPa) at 250 rpm
- Valve clearance
Standard: IN 0.15 - 0.25 mm (0.006 - 0.010 in.)
EX 0.20 - 0.30 mm (0.008 - 0.012 in.)

BAD
 (All Plugs WET)

- Injector(s) - Shorted or leaking
- Injector wiring - Short circuited
- Cold start injector - Leakage (See page FI-54)
- Cold start injector time switch (See page FI-78)

CHECK FUEL SUPPLY TO INJECTOR
 1. Fuel in tank
 2. Fuel pressure in fuel line
 (1) Connect terminals + B and FP of the check connector.
 (2) Fuel pressure at fuel return hose can be felt. (See page FI-49)

BAD

- Fuel line - Leakage - Deformation
- Fuse
- Fuel pump (See page FI-48)
- Fuel filter
- Fuel pressure regulator (See page FI-57)

CHECK FUEL PUMP SWITCH IN AIR FLOW METER
 Check continuity between terminals FC and E1 while measuring plate of air flow meter is open.

BAD

Air flow meter (See page FI-66)

CHECK IGNITION TIMING
 1. Connect terminals TE1 and E1 of the check connector.
 2. Check ignition timing.
Standard: 10° BTDC @ idle
 (w/ Terminals TE1 and E1 connected)

NO

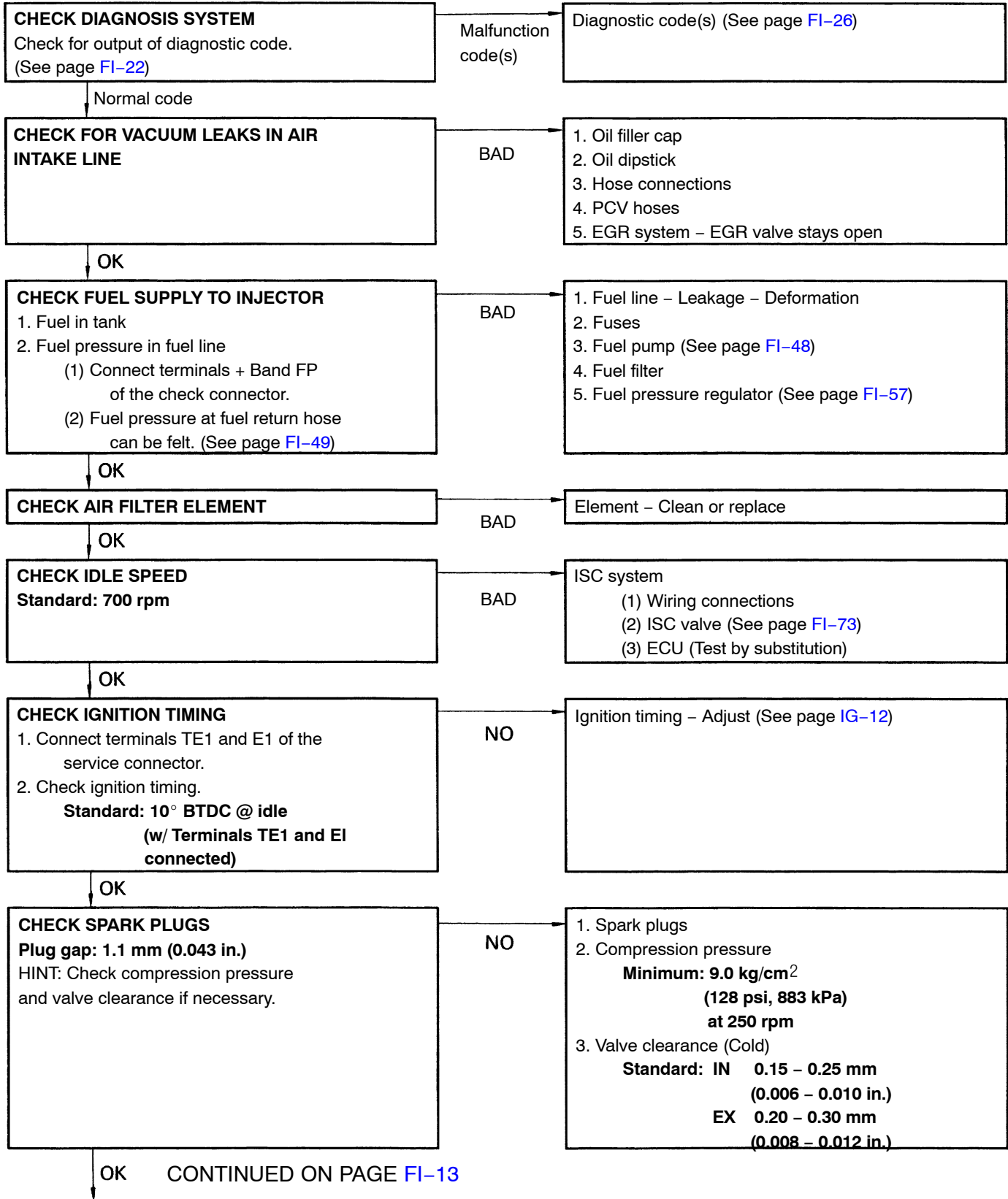
Ignition timing - Adjust (See page IG-12)

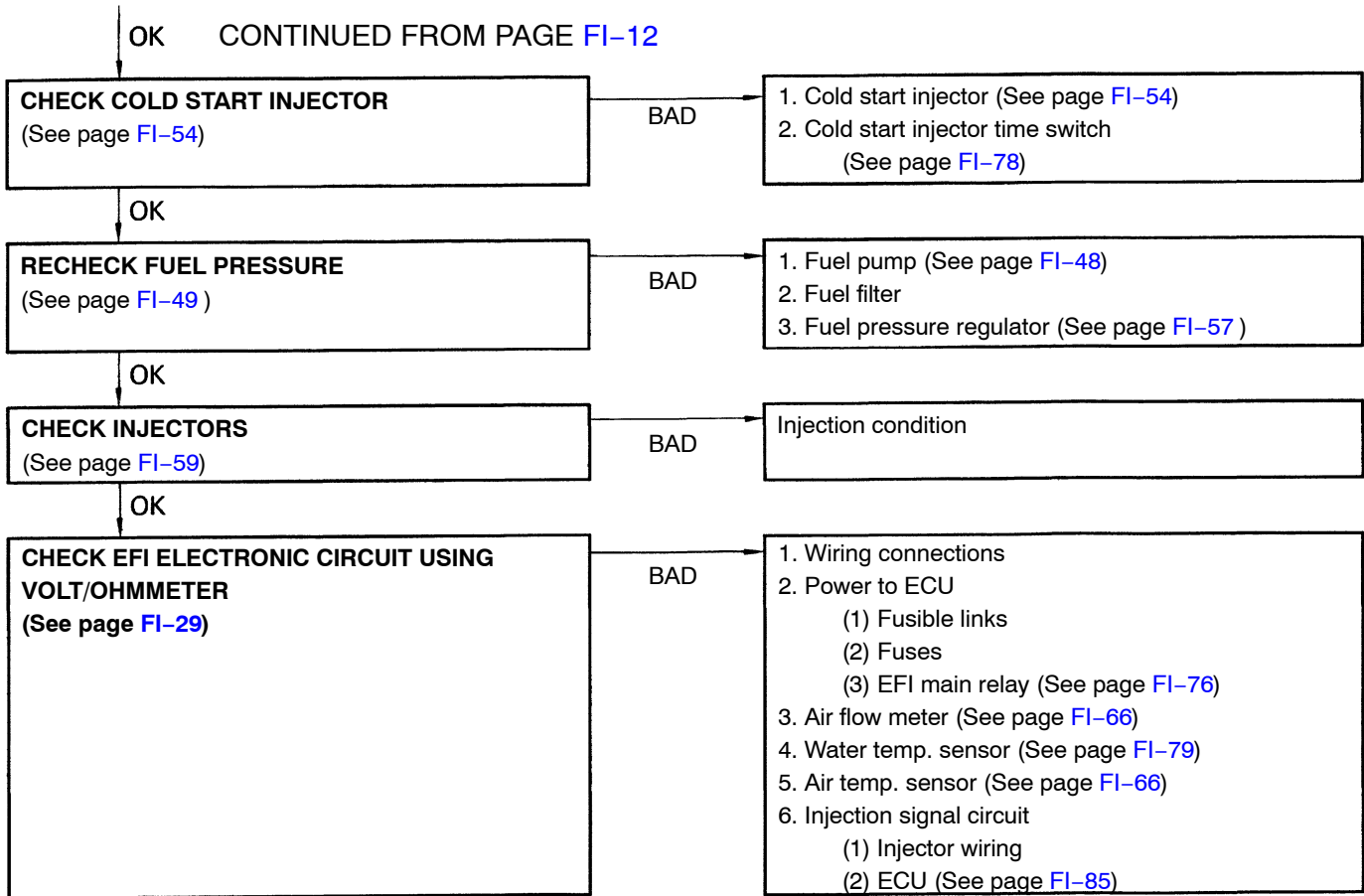
CHECK EFI ELECTRONIC CIRCUIT USING VOLT/OHMMETER
 (See page FI-29)

BAD

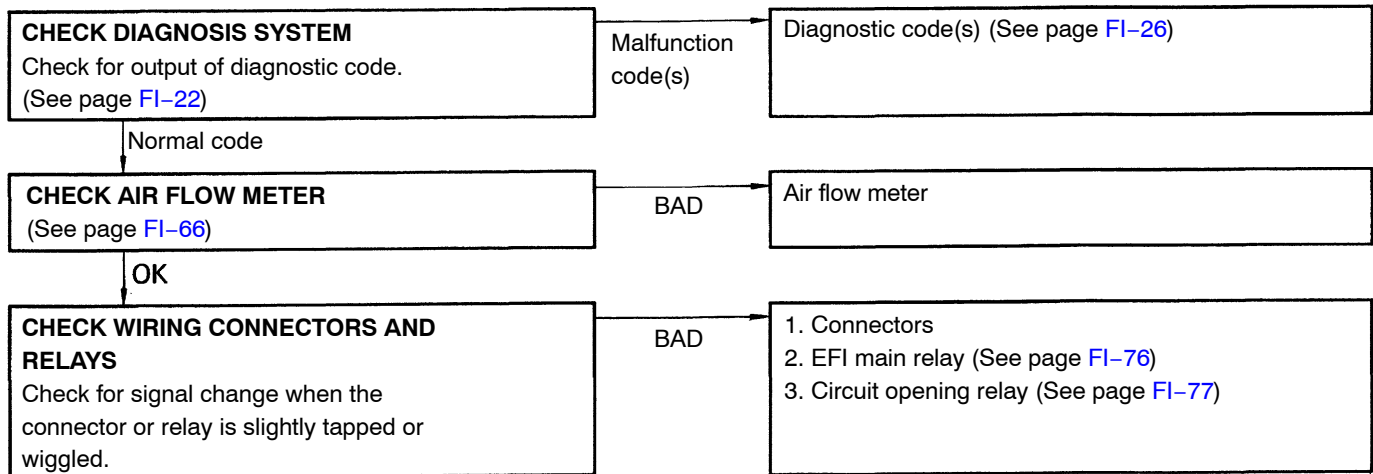
- Wiring connection
- Power to ECU
(1) Fusible links
(2) Fuses
(3) EFI main relay (See page FI-76)
- Air flow meter (See page FI-66)
- Water temp. sensor (See page FI-79)
- Air temp. sensor (See page FI-66)
- Injection signal circuit
(1) Injector wiring
(2) ECU (See page FI-85)

SYMPTOM - ENGINE OFTEN STALLS

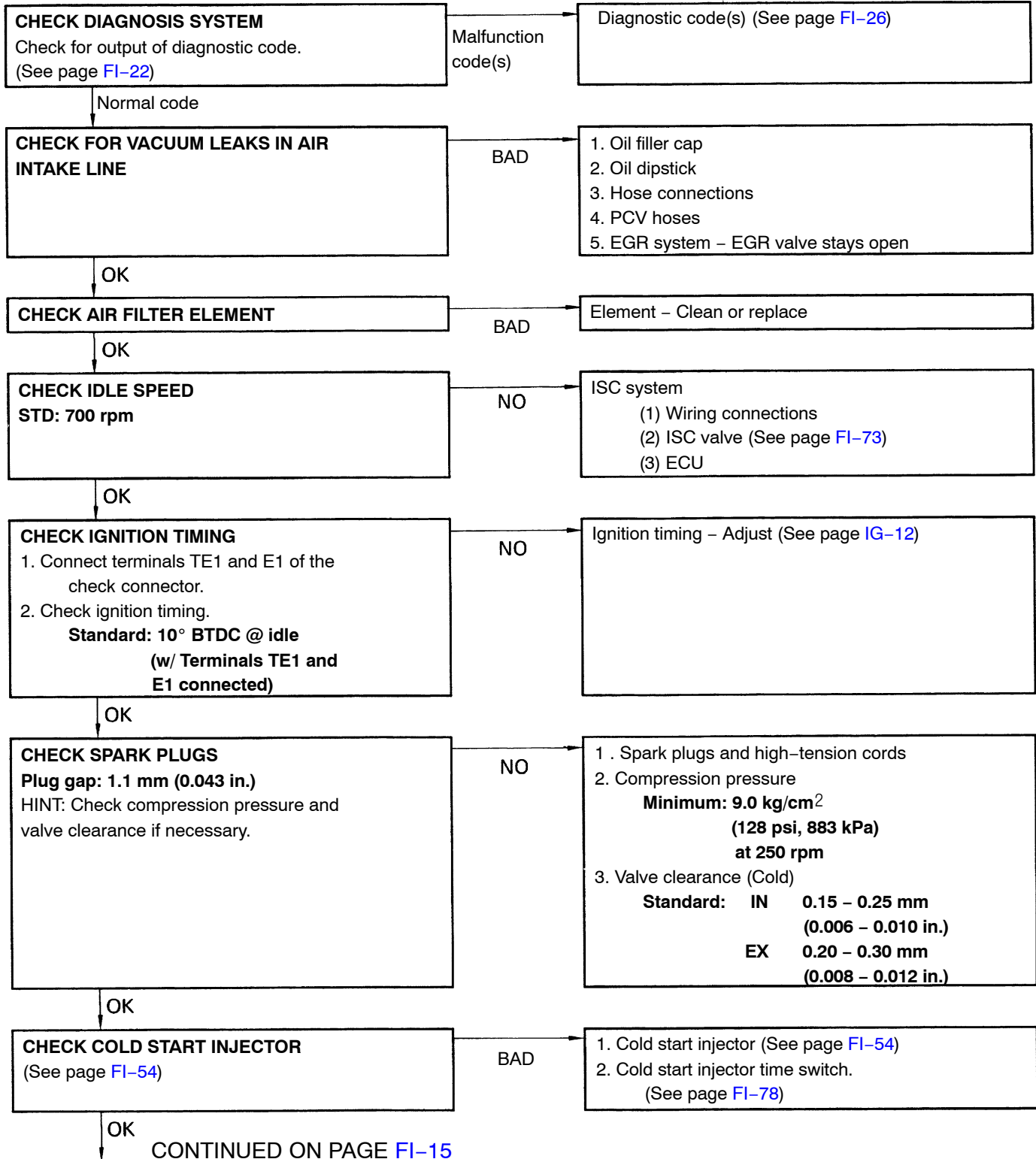


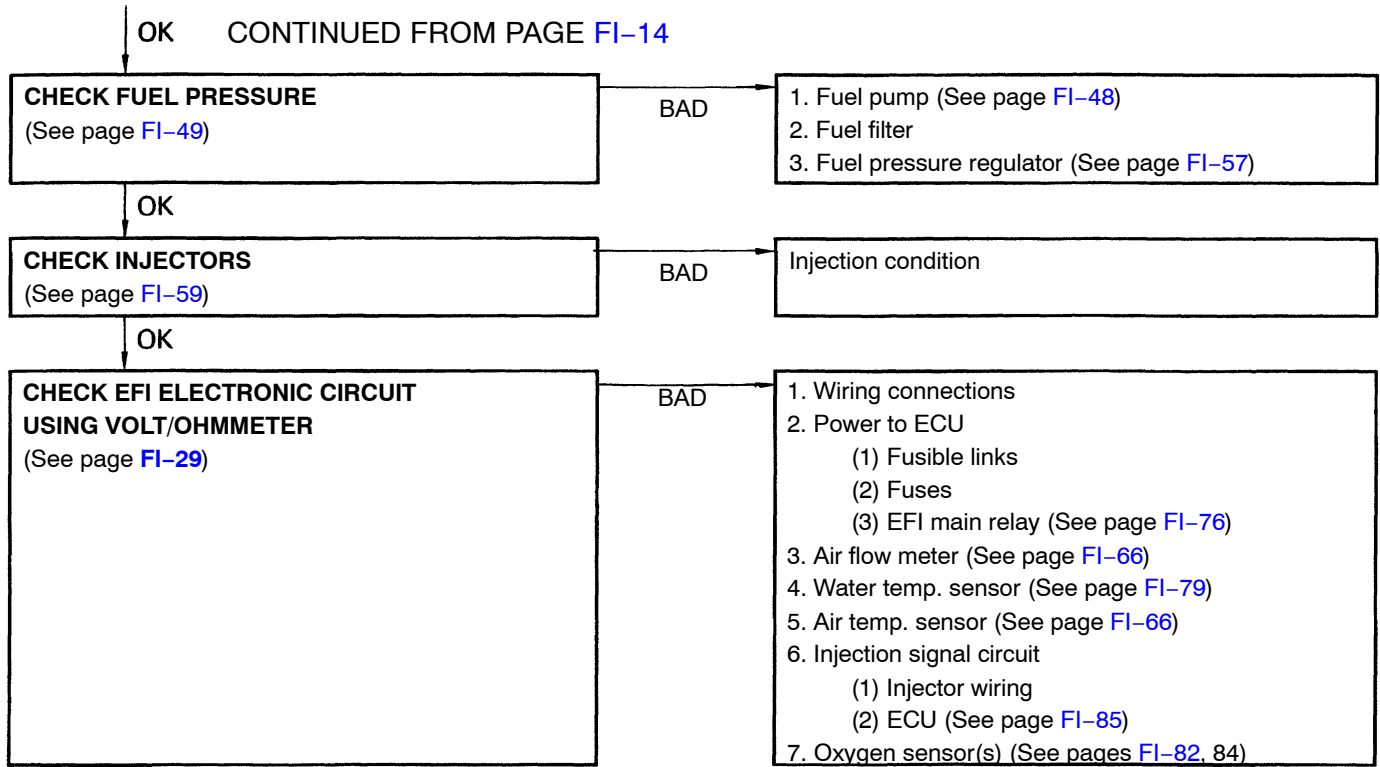


SYMPTOM ENGINE SOMETIMES STALLS

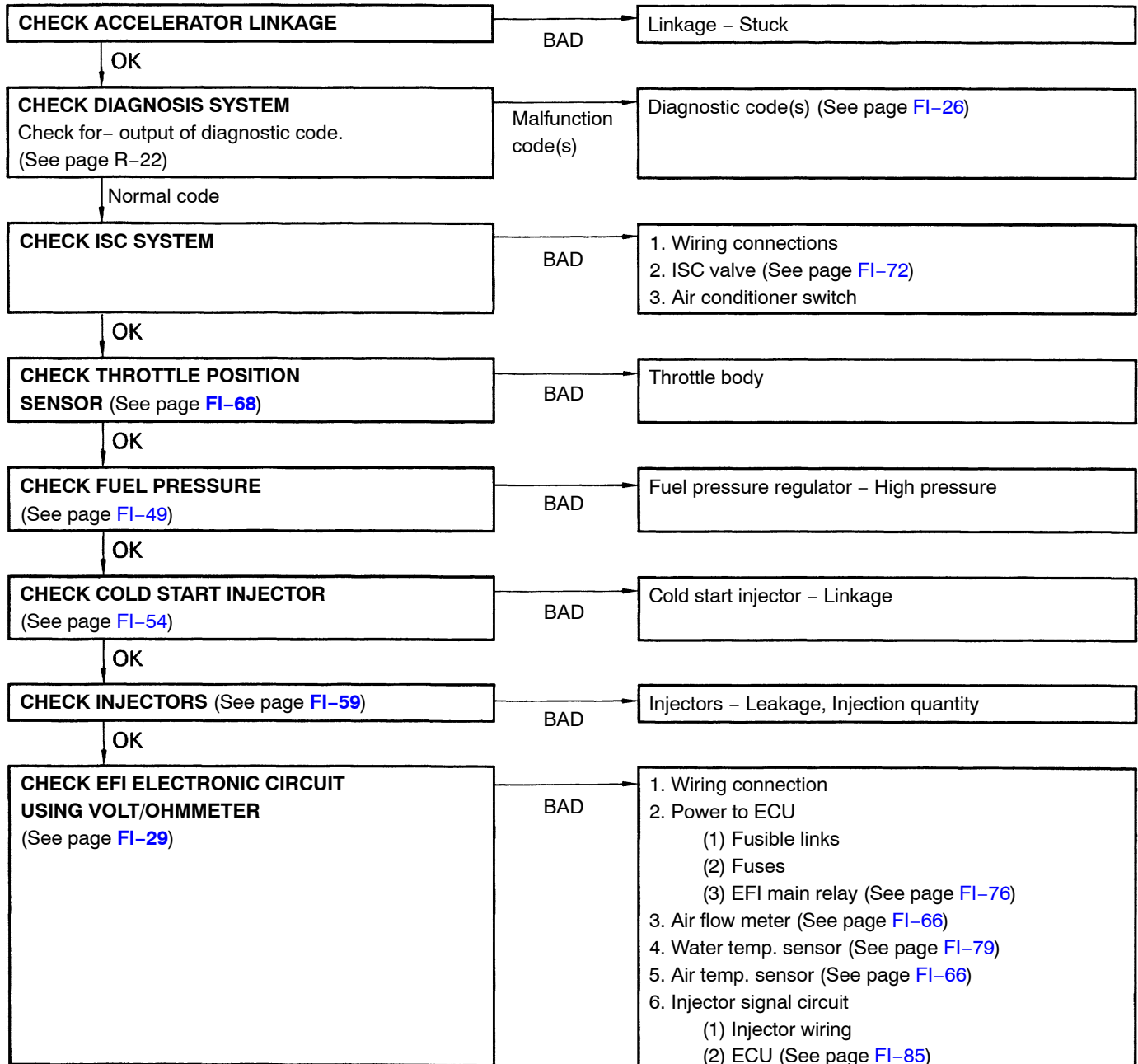


SYMPTOM - ROUGH IDLING AND/OR MISSING

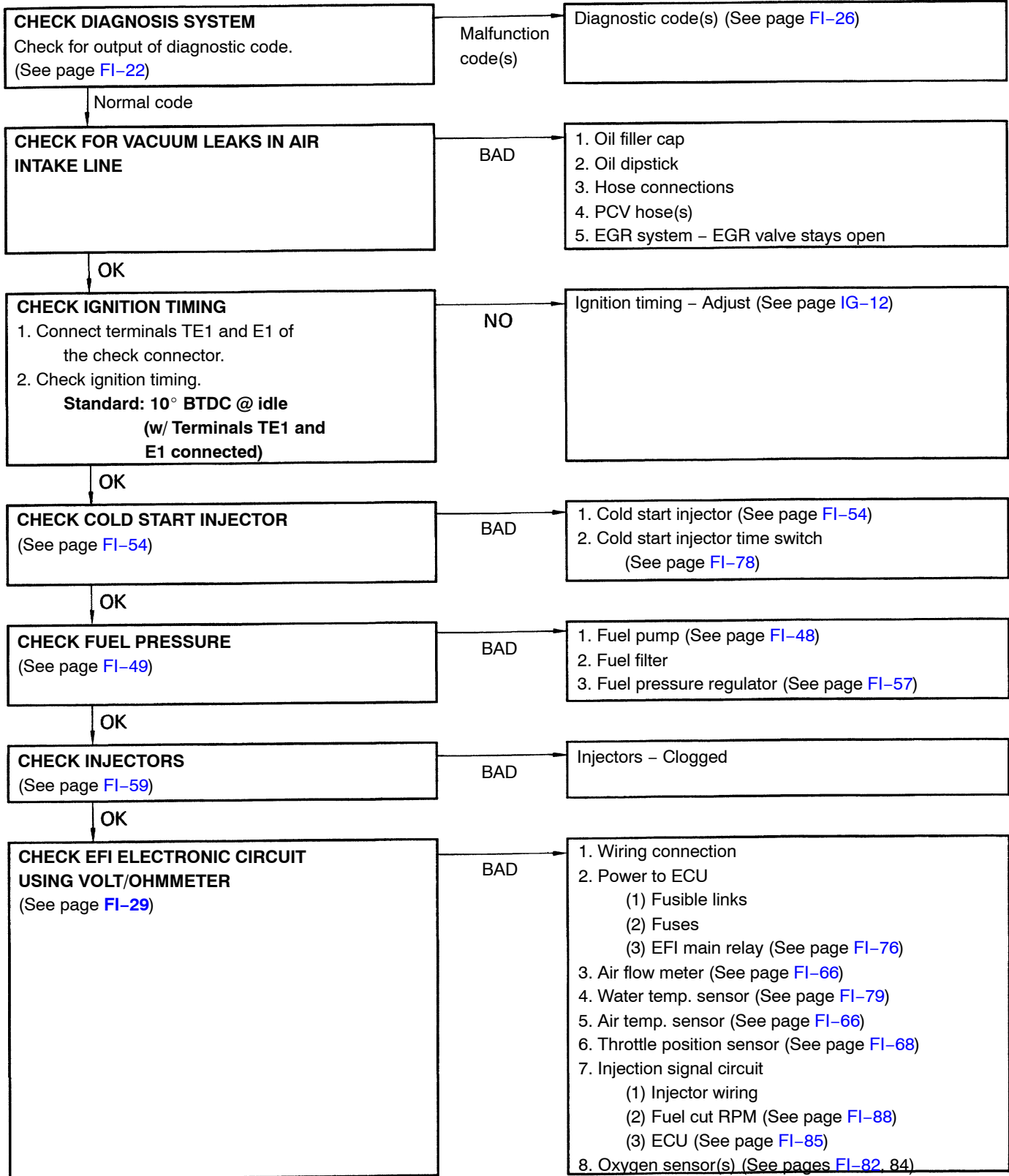




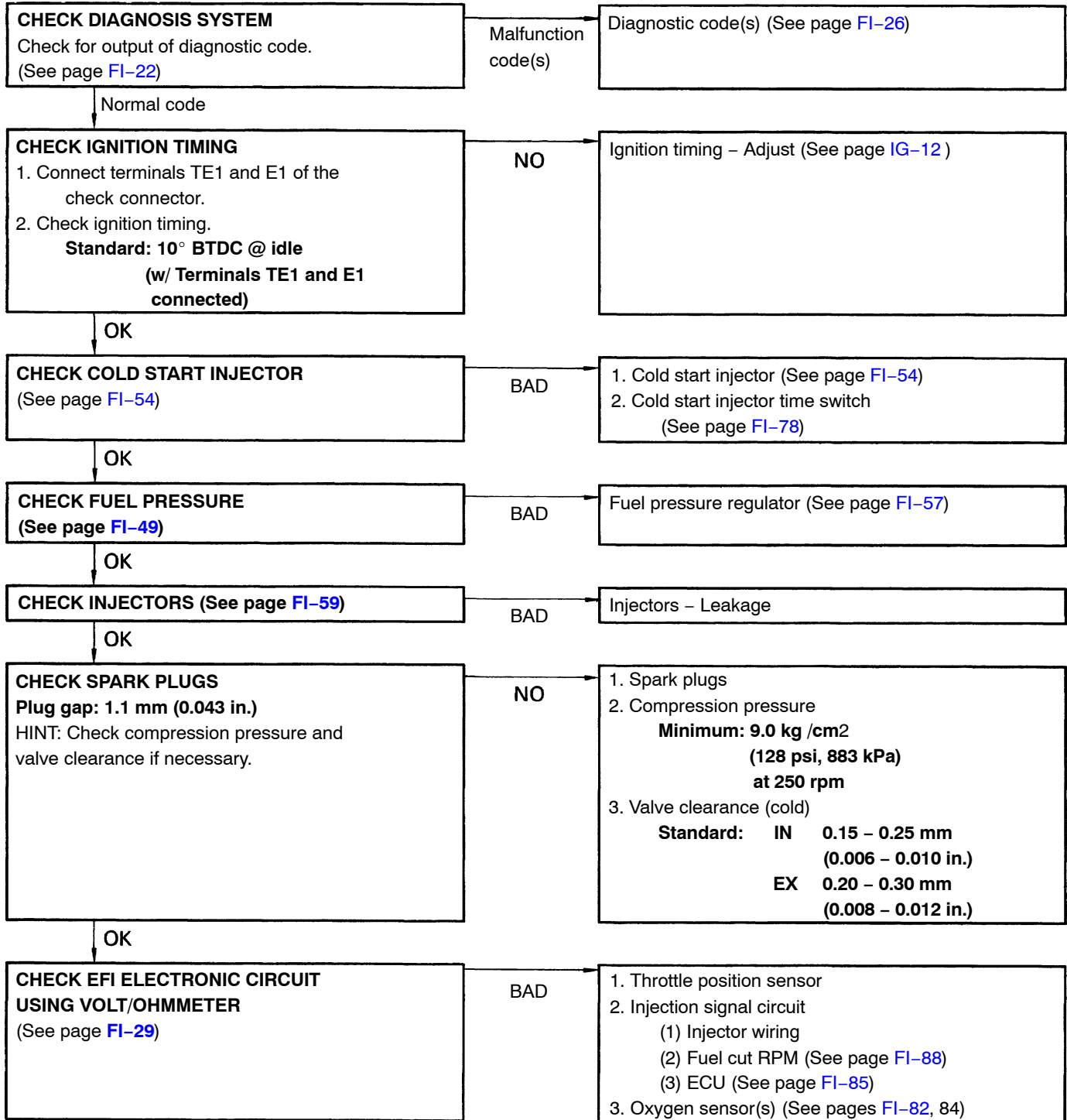
SYMPTOM - HIGH ENGINE IDLE SPEED (NO DROP)



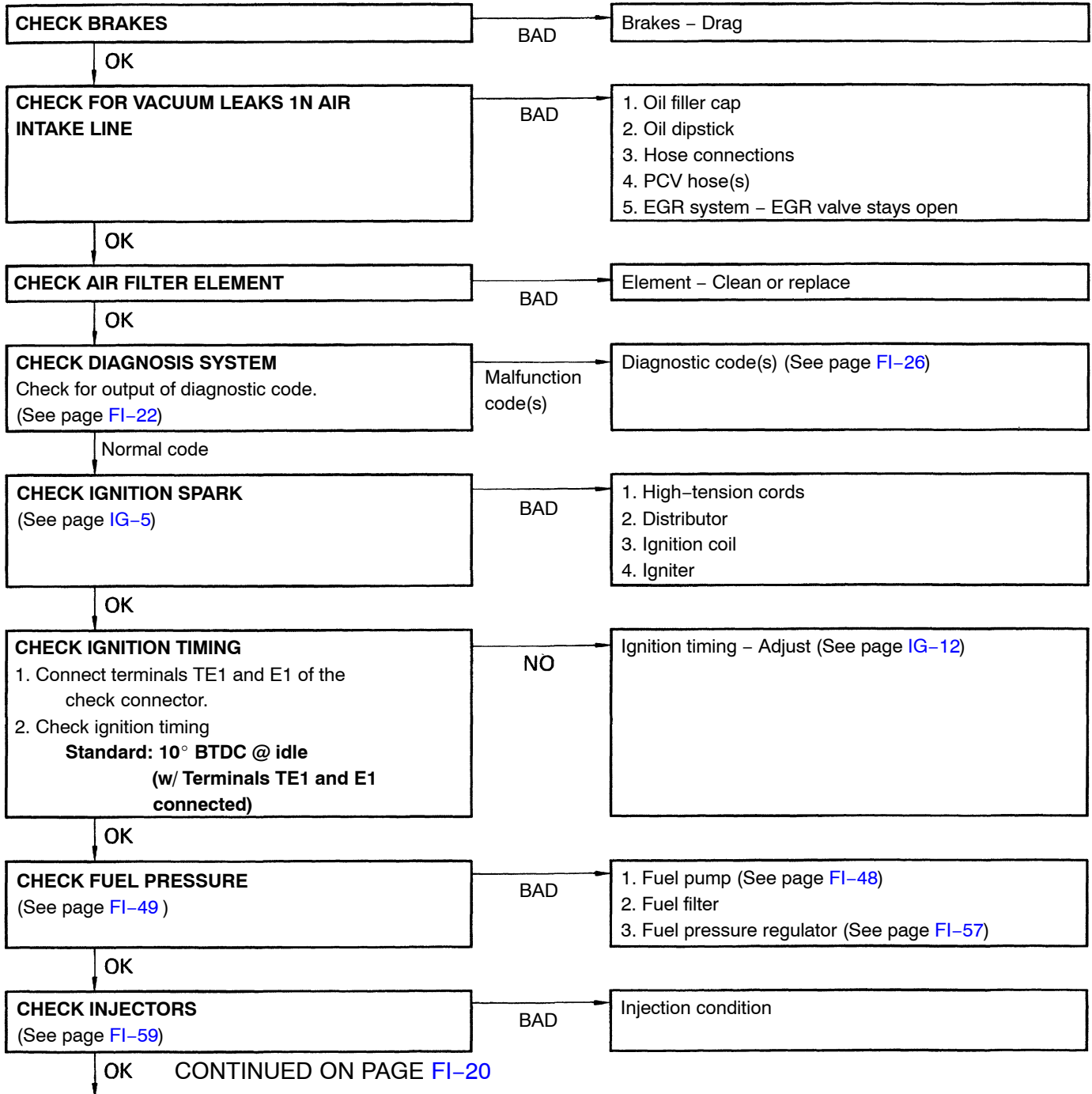
SYMPTOM - ENGINE BACKFIRES-Lean Fuel Mixture-Misfire



SYMPTOM - MUFFLER EXPLOSION (AFTER FIRE)-Rich Fuel Mixture-Misfire



SYMPTOM - ENGINE HESITATES AND/OR POOR ACCELERATION



OK CONTINUED FROM PAGE FI-19

CHECK SPARK PLUGS

Plug gap: 1.1 mm (0.043 in.)

HINT: Check compression pressure and valve clearance if necessary.

NO

1. Spark plugs
2. Compression pressure
Minimum: 9.0 kg /cm²
0 28 psi, 883 kPa f
at 250 rpm
3. Valve clearance (Cold)
Standard: IN 0.15 - 0.25 mm
(0.006 - 0.010 in.)
EX 0.20 - 0.30 mm
(0.008 - 0.012 in.)

OK

**CHECK EFI ELECTRONIC CIRCUIT
USING VOLT/OHMMETER**

(See page FI-29)

BAD

1. Wiring connections
2. Power to ECU
 - (1) Fusible links
 - (2) Fuses
 - (3) EFI main relay (See page FI-76)
3. Air flow meter (See page FI-66)
4. Water temp. sensor (See page FI-79)
5. Air temp. sensor (See page FI-66)
6. Throttle position sensor (See page FI-68)
7. Injection signal circuit
 - (1) Injector wiring
 - (2) ECU (See page FI-85)