

MIXTURE RATIO FEEDBACK SYSTEM INSPECTION

START

Make sure that the following are normal

- Engine operating temperature
- Idle speed
- Ignition timing



SEF651B

Verify that diagnosis mode selector is turned fully counterclockwise



Red Green
SEF705K

Run engine at about 2,000 rpm for about 2 minutes under no-load

Make sure that inspection lamp (Green) on control unit goes on and off more than 5 times during 10 seconds (2,000 rpm)

OK

NG

Disconnect throttle valve switch harness connector

Race engine two or three times under no-load, then run engine at idle speed

Do not blink

Check inspection lamp blinks
Inspection lamps should blink

Blink

END

Connect throttle valve switch harness connector



Harness color:
White

SEF705B

Check exhaust gas sensor harness

- 1) Turn off engine and disconnect battery ground cable
- 2) Disconnect 16-pin connector from control unit
- 3) Disconnect exhaust gas sensor harness connector and connect terminal for exhaust gas sensor to ground with a jumper wire.
- 4) Check for continuity between terminal ② of 16-pin connector and ground metal on vehicle body

Continuity exists OK

Continuity does not exist NG

OK

NG

③

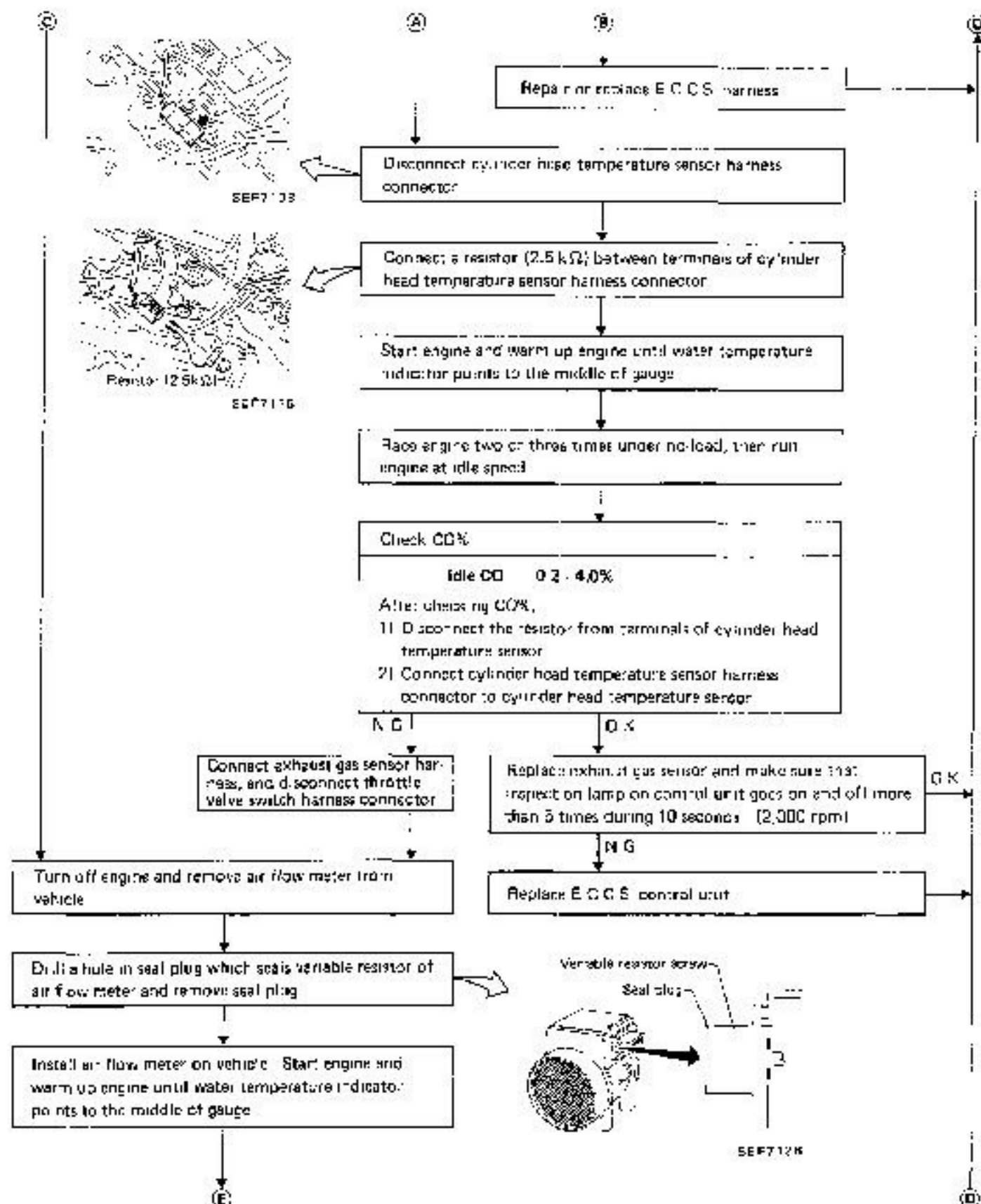
①

②

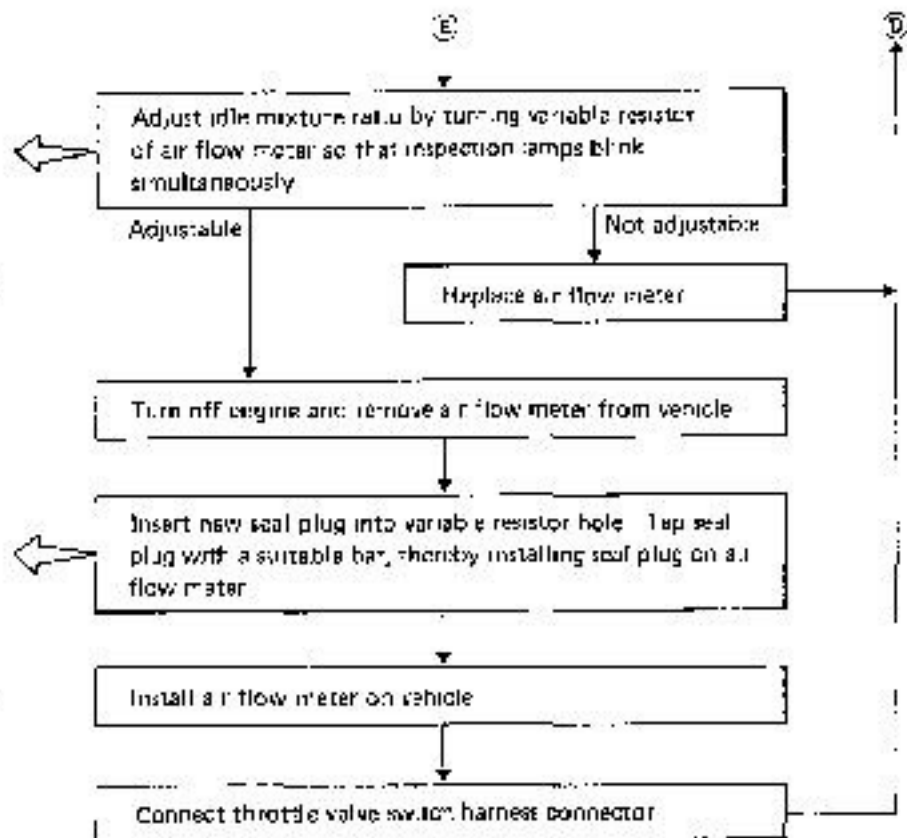
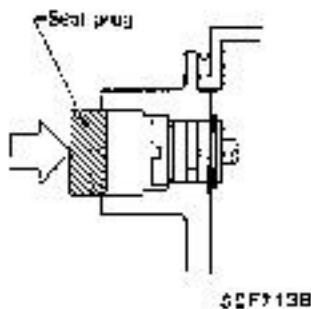
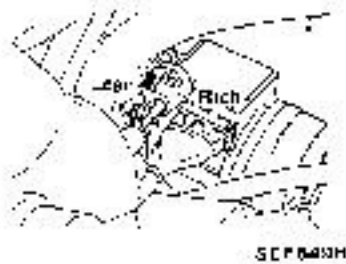
④

SEF704J

MIXTURE RATIO FEEDBACK SYSTEM INSPECTION



MIXTURE RATIO FEEDBACK SYSTEM INSPECTION



MIXTURE RATIO FEEDBACK SYSTEM INSPECTION

PREPARATION

1. Make sure that the following parts are in good order.

- Battery
- Ignition system
- Engine oil and coolant levels
- Fuses
- E.C.U. harness connectors
- Vacuum hoses
- Air intake system (oil filler cap, oil level gauge, etc.)
- Fuel pressure
- A.I.V. hose
- Engine compression
- E.G.R. valve operation
- Throttle valve

2. On air conditioner equipped models, checks should be carried out while the air conditioner is "OFF".

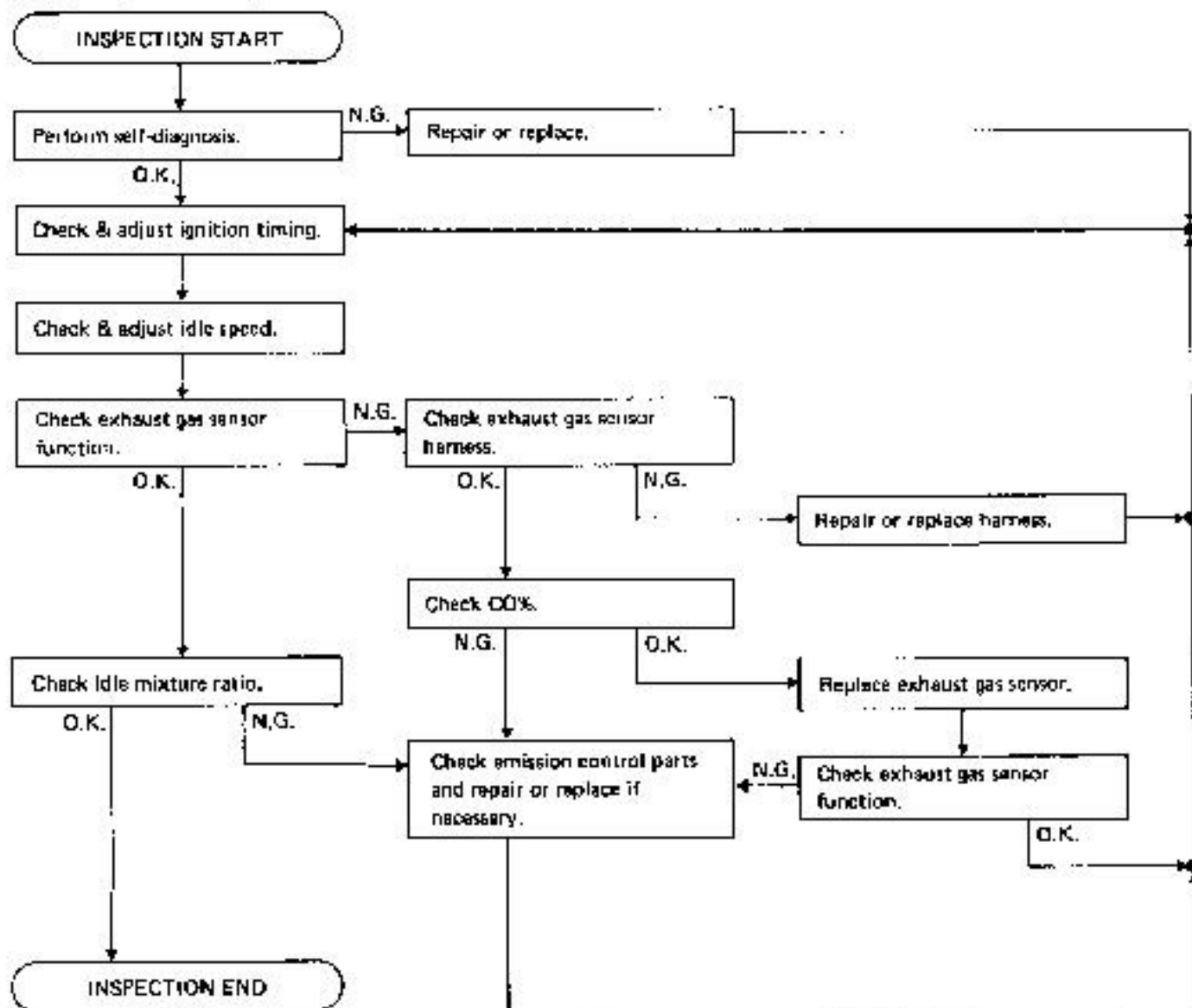
3. On automatic transmission equipped models, when checking idle rpm, ignition timing and mixture ratio, checks should be carried out while shift lever is in "D" position.

4. When measuring "CO" percentage, insert probe more than 40 cm (15.7 in) into tail pipe.

WARNING:

- a. When selector lever is shifted to "D" position, apply parking brake and block both front and rear wheels with chocks.
- b. Depress brake pedal while racing the engine to prevent forward surge of vehicle.
- c. After the adjustment has been made, shift the lever to the "N" or "P" position and remove wheel chocks.

Overall inspection sequence



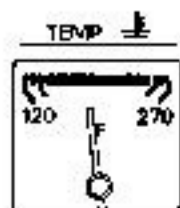
MIXTURE RATIO FEEDBACK SYSTEM INSPECTION

Idle Check and Set Procedure

INSPECTION START

Visually check the following:

- Air cleaner clogging
- Hoses and ducts for leaks
- E.G.R. valve operation
- Electrical connectors
- Gaskets
- Idle switch operation
- A.I.V. hose



SEF245F

Start engine and warm up until water temperature indicator points to the middle of gauge.



SEF247F

Run engine at about 2,000 rpm for about 2 minutes under no-load.

Perform E.C.C.S. self-diagnosis.

O.K.

N.G.

Repair or replace components as necessary.

Does engine run smoothly?

Yes

No

Clean injectors.

VG30E only

Stop engine and disconnect idle-up solenoid valve harness connector. Start engine.



SEF844B

Race engine two or three times under no-load and run engine for about one minute at idle speed.



SEF248F

Check ignition timing.

VG30E: $20^{\circ} \pm 2^{\circ}$ B.T.D.C.

VG30ET: $15^{\circ} \pm 2^{\circ}$ B.T.D.C.

O.K.

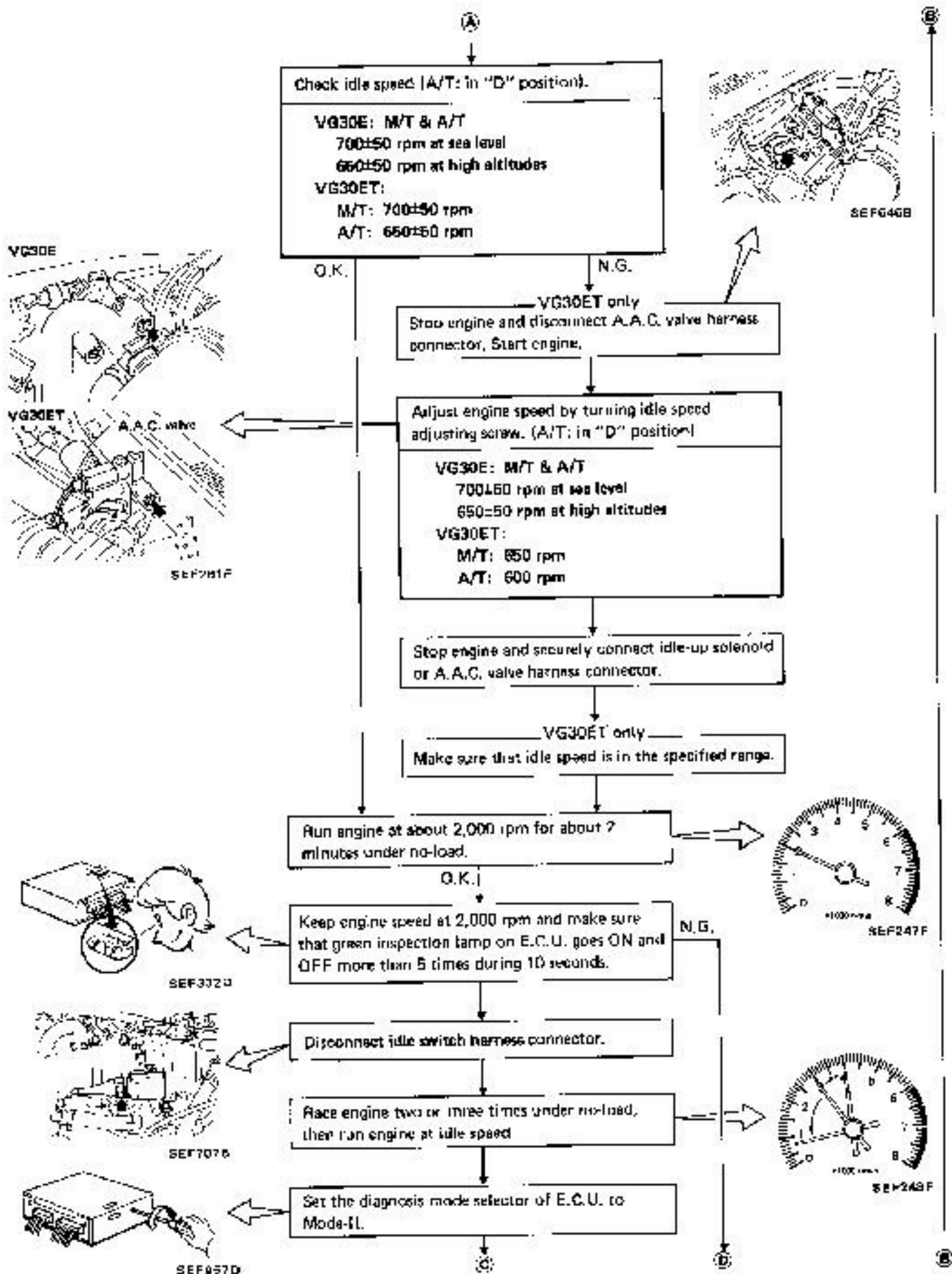
N.G.

Adjust ignition timing by turning distributor after loosening bolt which secures distributor.

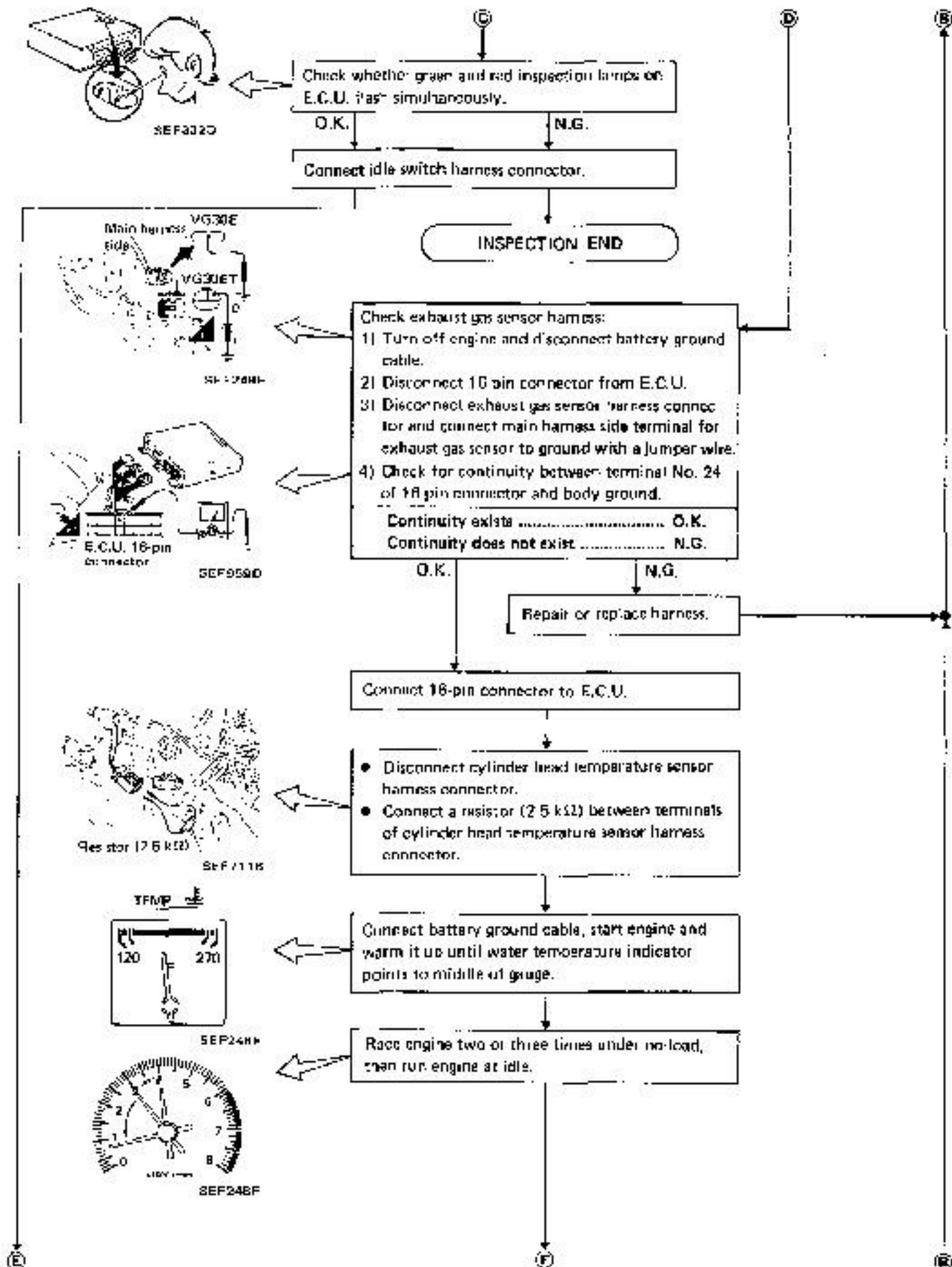
(A)

(B)

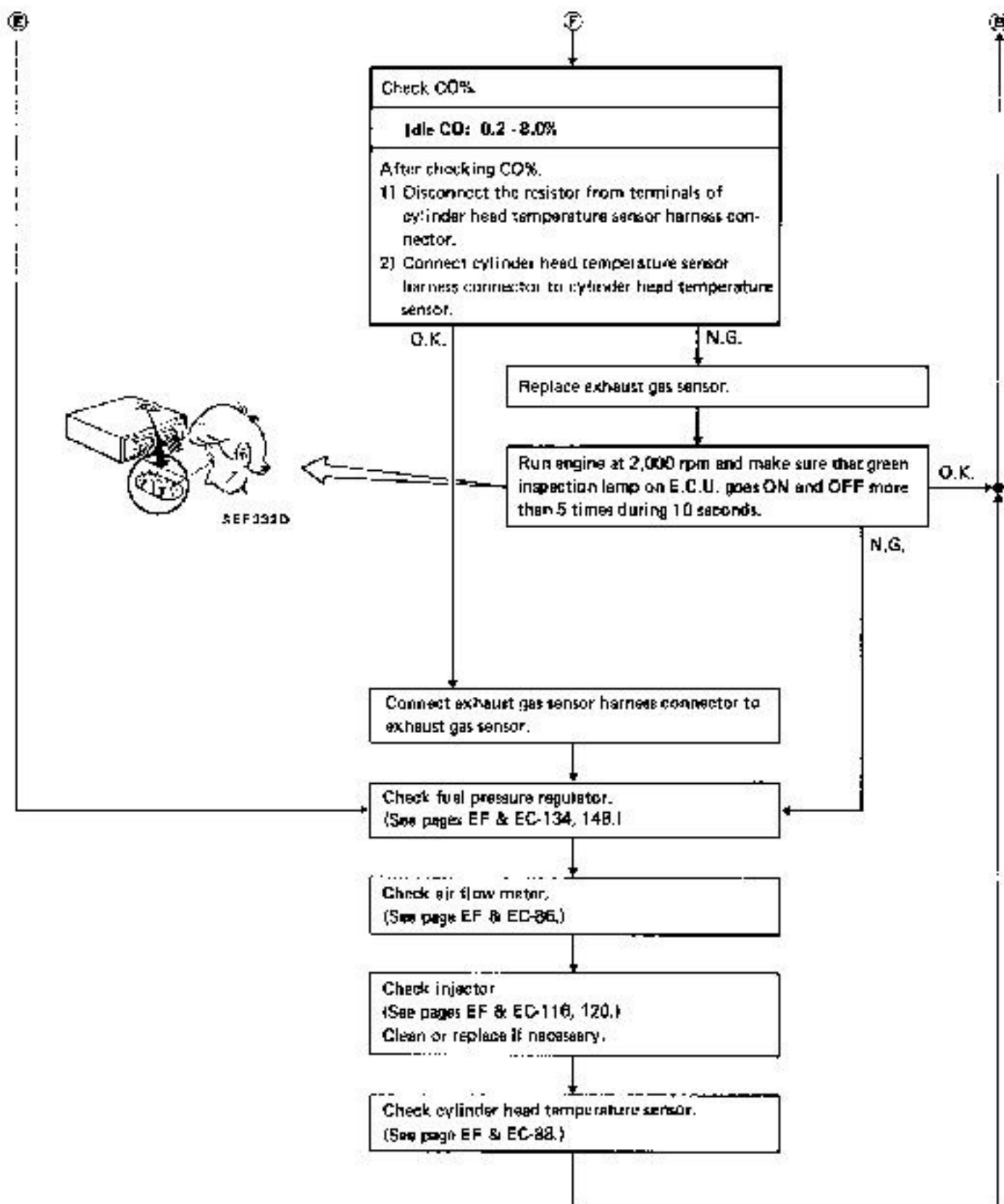
MIXTURE RATIO FEEDBACK SYSTEM INSPECTION



MIXTURE RATIO FEEDBACK SYSTEM INSPECTION



MIXTURE RATIO FEEDBACK SYSTEM INSPECTION



Fail-safe System

AIR FLOW METER

Description

When the output voltage of air flow meter is lower than the preprogrammed value, the E.C.U. judges it as a malfunctioning of air flow meter. The E.C.U. fixes the systems in the following condition.

Operation

System	Fixed condition
E.G.R. control system	OFF
Idle speed control system	A duty ratio is fixed at the preprogrammed value.
Fuel injection control system	Fuel is shut off above 2,000 rpm. (Engine speed does not exceed 2,000 rpm.)

CYLINDER HEAD TEMPERATURE SENSOR

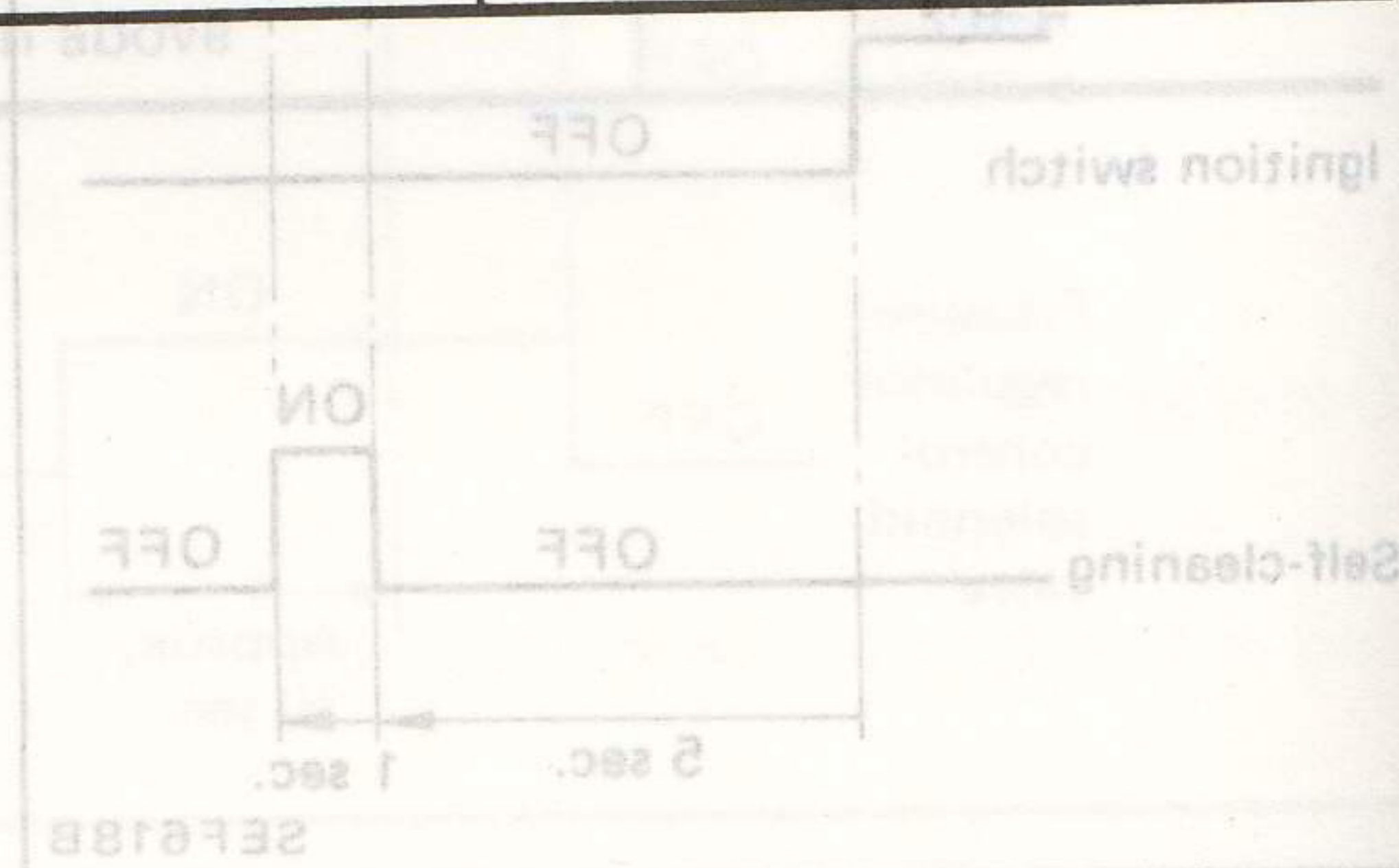
Description

When the output signal of cylinder head temperature sensor is abnormal the E.C.U. judges it as a malfunctioning of cylinder head temperature sensor.

The E.C.U. decides the cylinder head temperature according to the time from ignition switch ON.

Operation

Condition	Cylinder head temperature decided
Just as ignition switch is turned ON or Start	20°C (68°F)
More than 6 minutes after ignition ON or Start	80°C (176°F)
Except as shown above	20 - 80°C (68 - 176°F) (Depends on the time)



Condition	Operation
Engine speed has not exceeded 1,500 rpm before key off.	Does not operate
Vehicle speed has not exceeded 20 km/h (12 MPH) before key off.	
Cylinder head temperature is higher than 115°C (239°F) when key off.	
Engine stall with key in ON position.	
Except as shown above	Operates