

SAE J1930 TERMINOLOGY LIST

SAE J1930 Terminology List

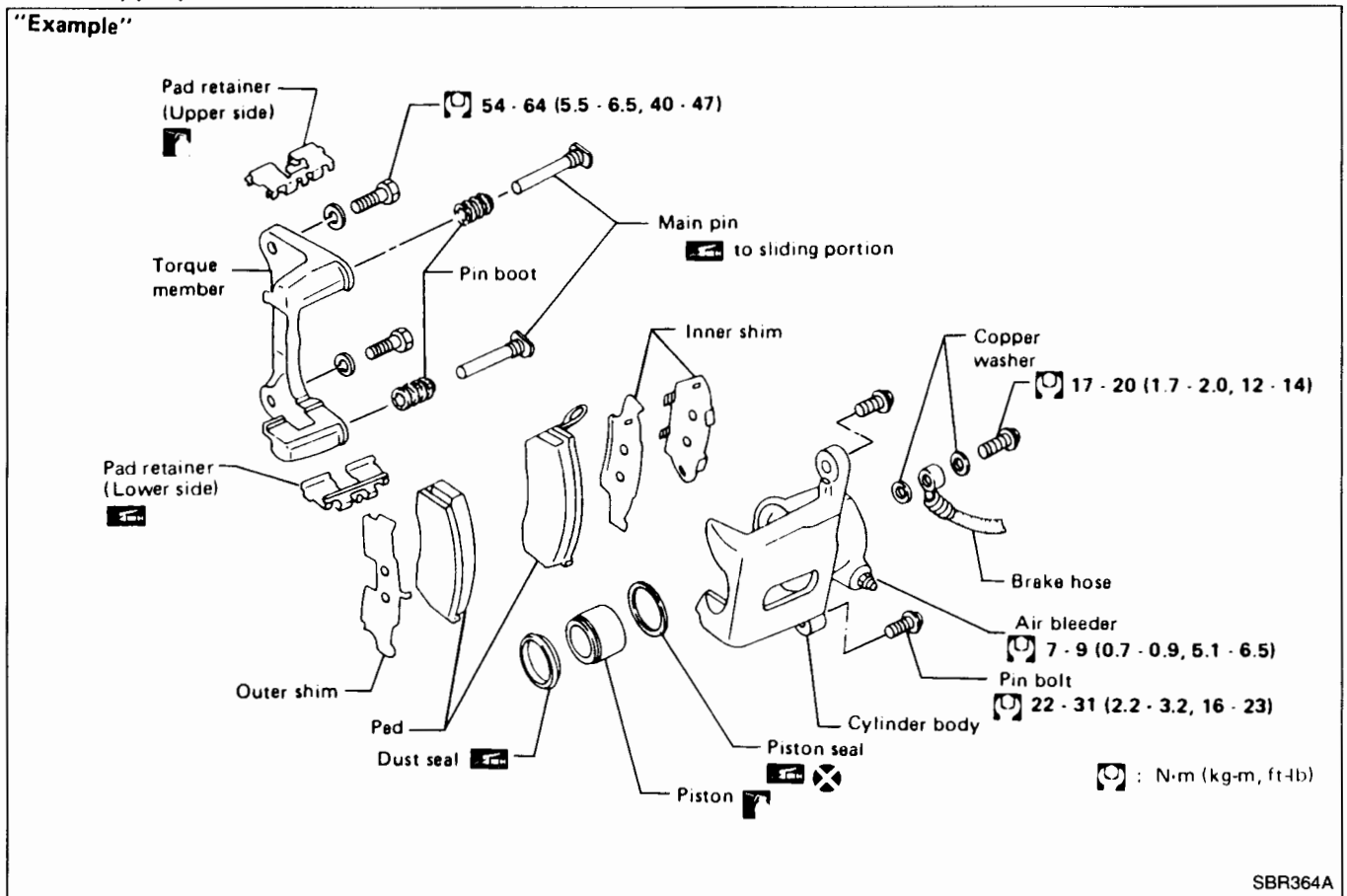
All emission related terms used in this publication in accordance with SAE J1930 are listed. Accordingly, new terms, new acronyms/abbreviations and old terms are listed in the following chart.

***: Not applicable

NEW TERM	NEW ACRONYM/ ABBREVIATION	OLD TERM
Air cleaner	ACL	Air cleaner
Barometric pressure	BARO	
Barometric pressure sensor-BCDD	BAROS-BCDD	BCDD
Camshaft position	CMP	***
Camshaft position sensor	CMPS	Crank angle sensor
Carburetor	CARB	Carburetor
Charge air cooler	CAC	Intercooler
Closed loop	CL	Closed loop
Closed throttle position switch	CTP switch	Idle switch
Clutch pedal position switch	CPP switch	Clutch switch
Continuous fuel injection system	CFI system	***
Continuous trap oxidizer system	CTOX system	***
Crankshaft position	CKP	***
Crankshaft position sensor	CKPS	***
Data link connector	DLC	***
Data link connector for CONSULT	DLC for CONSULT	Diagnostic connector for CONSULT
Diagnostic test mode	DTM	Diagnostic mode
Diagnostic test mode selector	DTM selector	Diagnostic mode selector
Diagnostic test mode I	DTM I	Mode I
Diagnostic test mode II	DTM II	Mode II
Diagnostic trouble code	DTC	Malfunction code
Direct fuel injection system	DFI system	***
Distributor ignition system	DI system	Ignition timing control
Early fuel evaporation-mixture heater	EFE-mixture heater	Mixture heater
Early fuel evaporation system	EFE system	Mixture heater control
Electrically erasable programmable read only memory	EEPROM	***
Electronic ignition system	EI system	Ignition timing control
Engine control module	ECM	ECCS control unit
Engine coolant temperature	ECT	Engine temperature
Engine coolant temperature sensor	ECTS	Engine temperature sensor
Engine modification	EM	***
Engine speed	RPM	Engine speed
Erasable programmable read only memory	EPROM	***
Evaporative emission system	EVAP system	Evaporative emission control system
Exhaust gas recirculation valve	EGR valve	EGR valve
Exhaust gas recirculation control -BPT valve	EGRC-BPT valve	BPT valve
Exhaust gas recirculation control - solenoid valve	EGRC-solenoid valve	EGR control solenoid valve

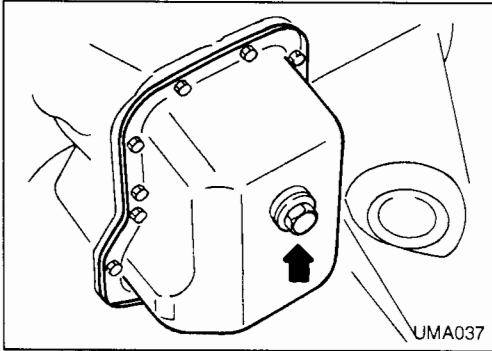
HOW TO USE THIS MANUAL

1. **A QUICK REFERENCE INDEX**, a black tab (e.g. **BR**) is provided on the first page. You can quickly find the first page of each section by mating it to the section's black tab.
2. **THE CONTENTS** are listed on the first page of each section.
3. **THE TITLE** is indicated on the upper portion of each page and shows the part or system.
4. **THE PAGE NUMBER** of each section consists of two letters which designate the particular section and a number (e.g. "BR-5").
5. **THE LARGE ILLUSTRATIONS** are exploded views (See below.) and contain tightening torques, lubrication points and other information necessary to perform repairs. The illustrations should be used in reference to service matters only. When ordering parts, refer to the appropriate **PARTS CATALOG**.



6. **THE SMALL ILLUSTRATIONS** show the important steps such as inspection, use of special tools, work procedures and hidden or tricky steps which are not shown in the previous large illustrations. Assembly, inspection and adjustment procedures for the complicated units such as the automatic transaxle or transmission, etc. are presented in a step-by-step format where necessary.

CHASSIS AND BODY MAINTENANCE



Changing CVT Fluid

1. Warm up CVT fluid by driving the vehicle for 10 minutes.
2. Drain CVT fluid from radiator cooler hose (return side) and refill with new CVT fluid at charging pipe when engine running at idle speed.
3. Refill until new CVT fluid comes out from radiator cooler hose (return side).

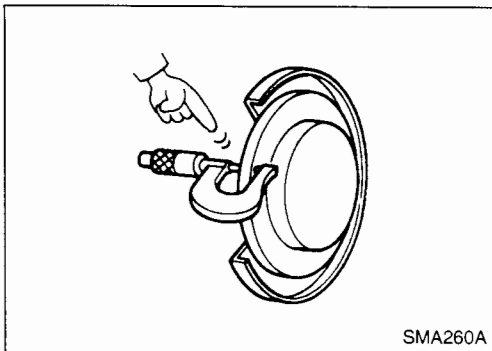
About 30 to 50% extra fluid will be required for this procedure.

Fluid capacity

Hyper CVT: Approx. 5.0l

CAUTION:

- Use genuine NISSAN CVT fluid (NS-1) or exact equivalent.



Checking Disc Brake

Check condition of disc brake components.

ROTOR

Check condition and thickness.

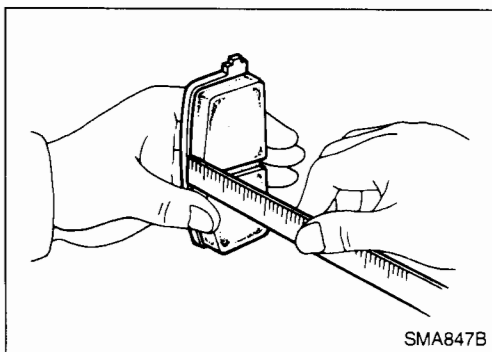
CL18VG:

Standard thickness

18 mm (0.789 in)

Minimum thickness

16 mm (0.630 in)



PAD

Check wear or damage.

CL18VG:

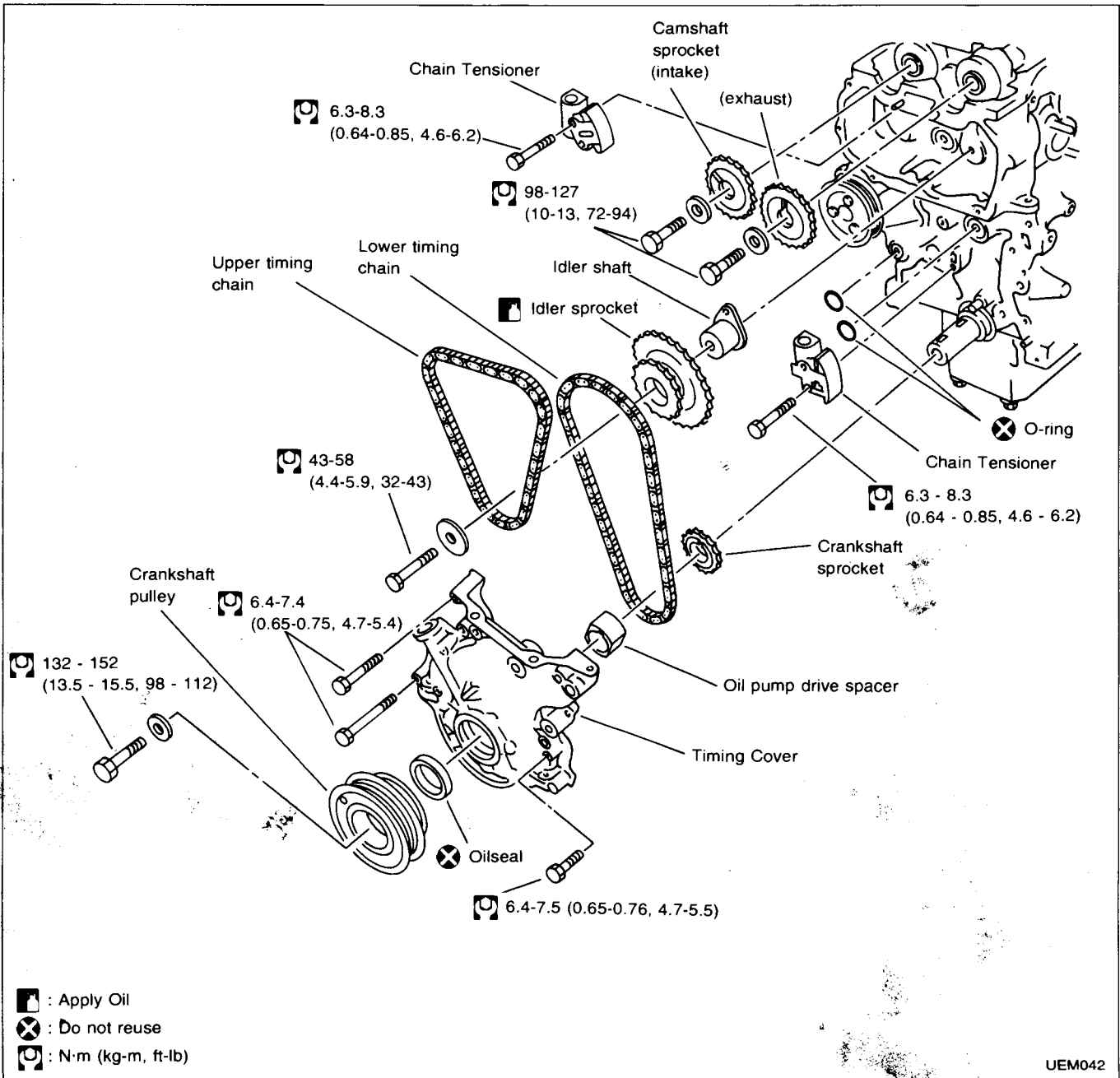
Standard thickness

9.5 mm (0.37 in)

Minimum thickness

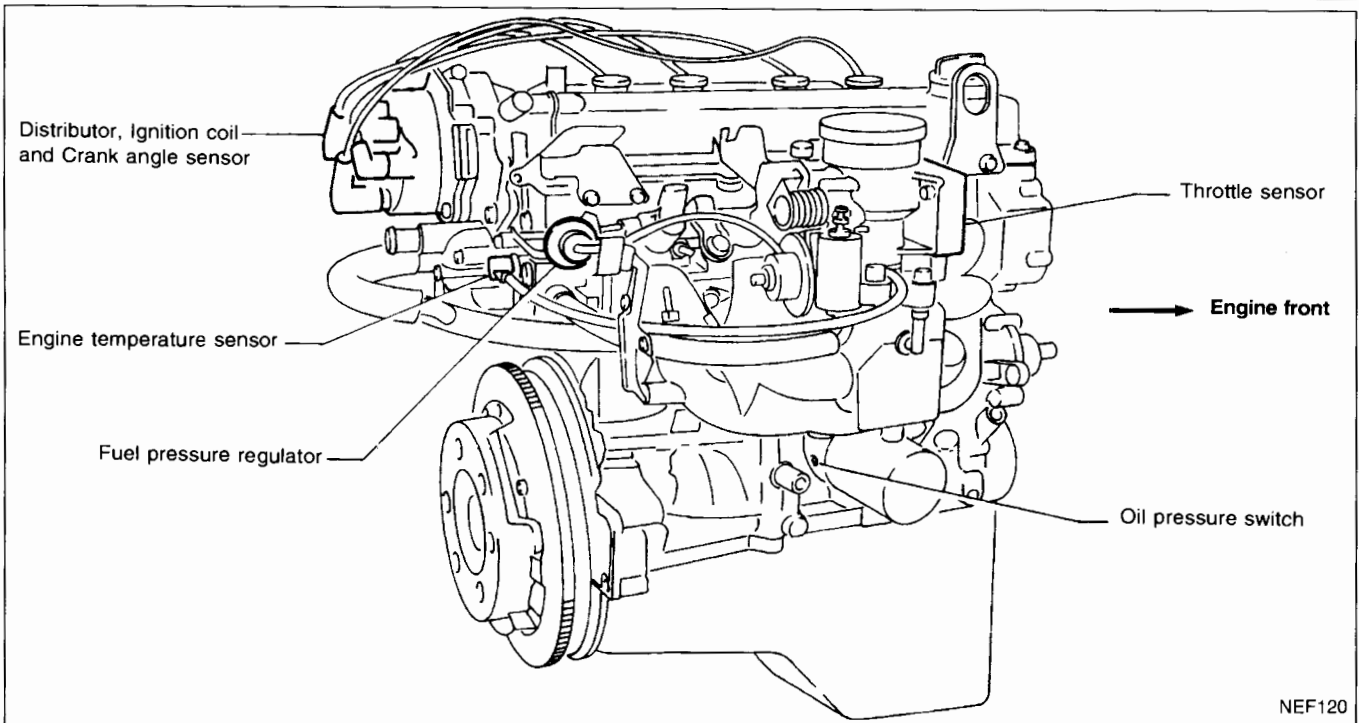
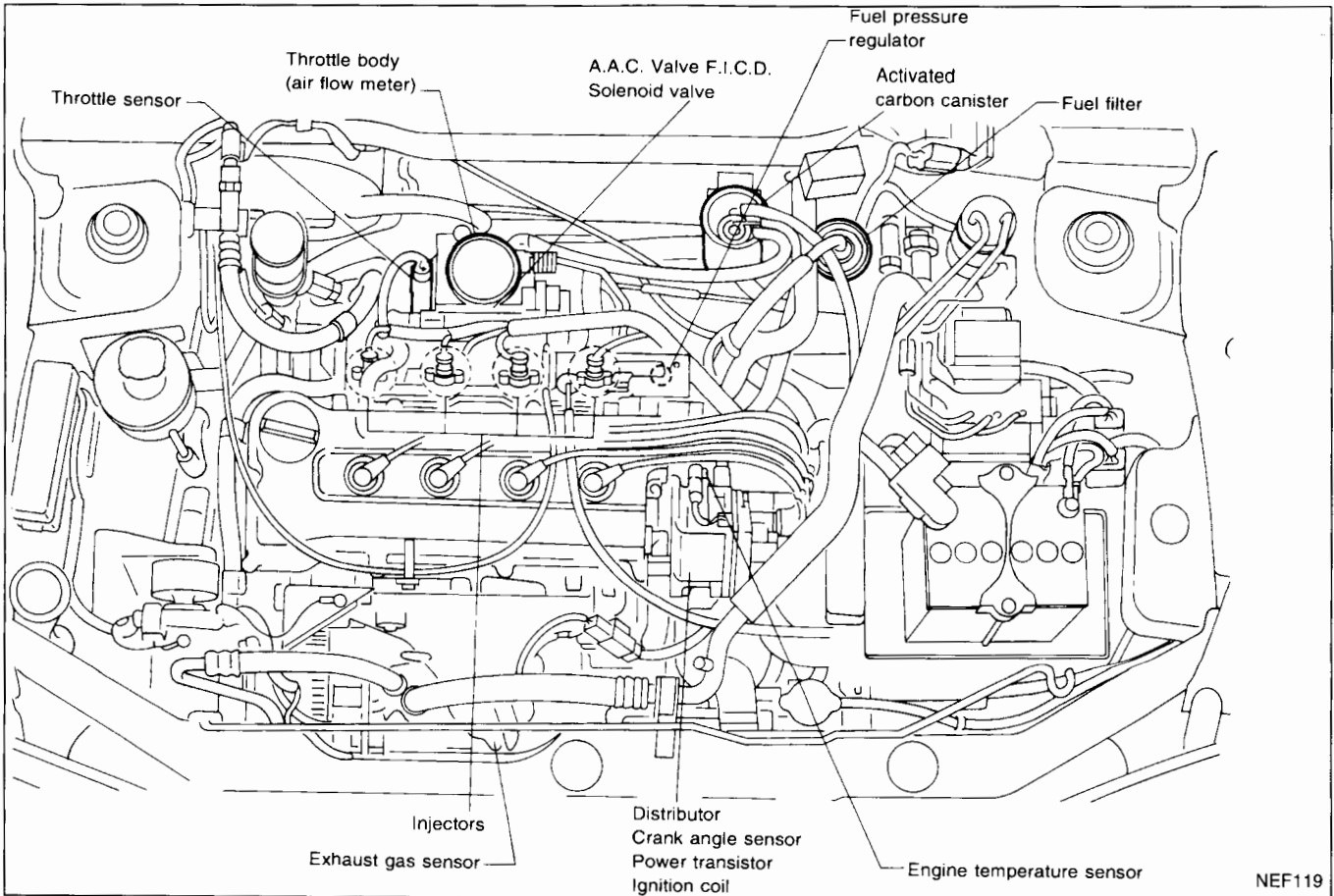
2.0 mm (0.079 in)

TIMING CHAIN



ENGINE AND EMISSION CONTROL OVERALL SYSTEM

E.C.C.S. Component Parts Location

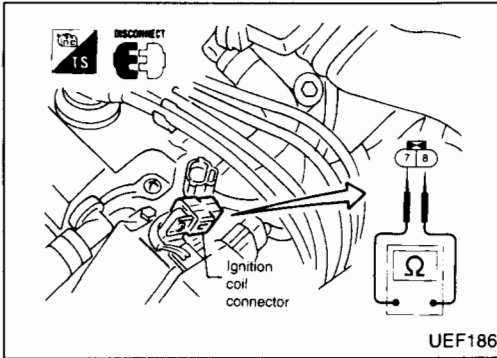


TROUBLE DIAGNOSES

Electrical Components Inspection (Cont'd)

IGNITION COIL

1. Disconnect ignition coil harness connector.
2. Check resistance as shown in the figure.

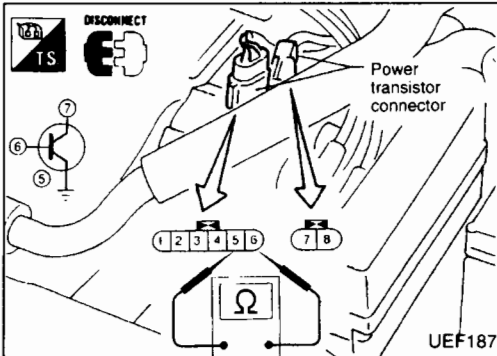


Coil	Resistance
Primary coil	Approx. 0.8Ω
Secondary coil	Approx. 1 kΩ

For checking primary coil, measure between terminals 7 and 8. For checking secondary coil, remove distributor cap and measure resistance between coil tower metal tip and terminal 8. If N.G., replace distributor.

POWER TRANSISTOR

1. Disconnect power transistor harness connector.
2. Check power transistor resistance between terminals with a digital tester as shown in the figure. Alternate (+) and (-) test probes.

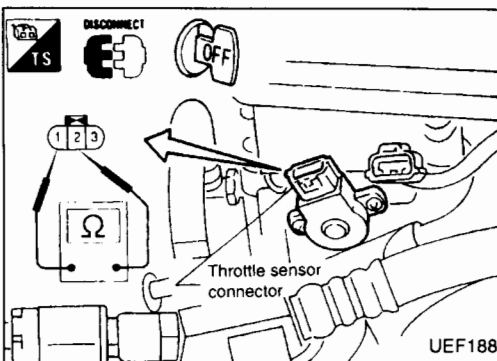


Terminal	Resistance
6 (+) and 5 (-)	Approximately 100Ω
6 (-) and 5 (+)	Approximately 100Ω
7 (+) and 6 (-)	Approximately 50Ω
7 (-) and 6 (+)	Infinite
5 (+) and 7 (-)	Infinite
5 (-) and 7 (+)	Approximately 20Ω

If N.G., replace distributor.

THROTTLE SENSOR

1. Disconnect throttle sensor harness connector.
2. Make sure that resistance between terminals ① and ② changes when opening throttle valve manually.

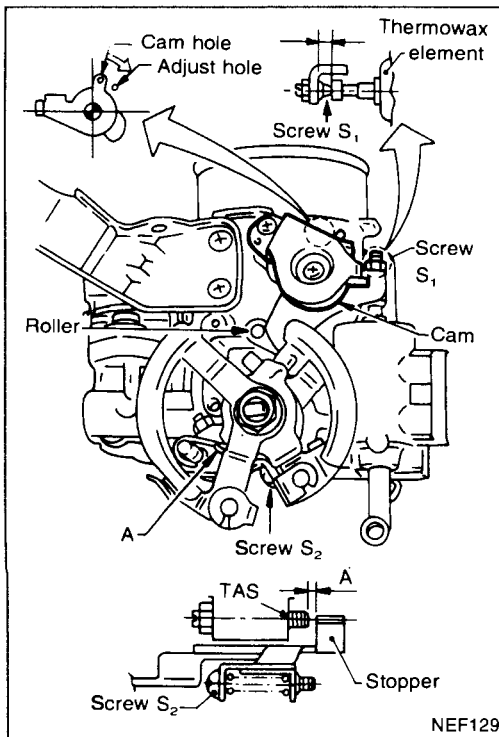
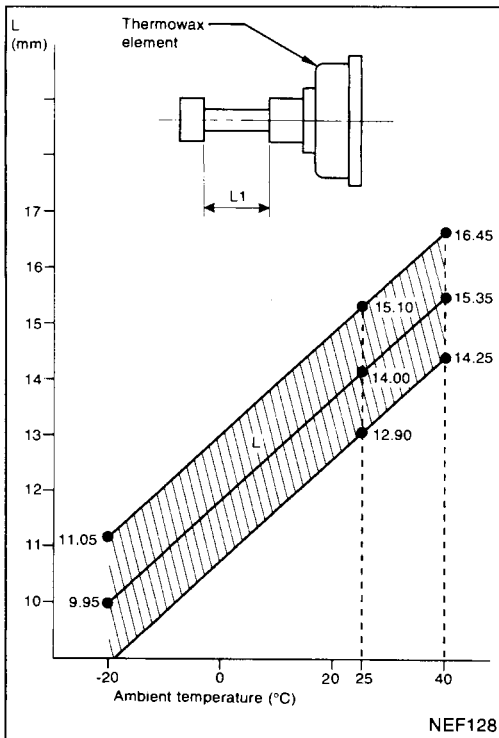


Accelerator pedal conditions	Resistance kΩ
Completely released	Approximately 0.5
Partially released	0.5 - 4
Completely depressed	Approximately 4

If N.G., replace throttle sensor.

For throttle sensor adjustment, refer to Diagnostic Procedure 27 in this section.

TROUBLE DIAGNOSES



Fast Idle Cam (F.I.C.) Inspection and Adjustment

1. Make sure the engine has cooled down and remove the throttle body.
To prevent coolant to escape from the hose, fit a blind plug. Extract the coolant from the throttle body.
2. Leave the throttle body for more than 3 hours so the temperature of the thermowax levels with the ambient temperature. Avoid direct rays of the sun or any other heat source (heater, air conditioner, etc.).
3. Check dimension L_1 as shown in the illustration. Measure ambient temperature with a thermometer. Check if the measured dimension L_1 and the measured ambient temperature make a point in the graph that lays in the hatched area.
If this point is in the hatched area, the thermowax element is within specification. If the point is outside the hatched area, the thermowax element must be replaced.

N.B.: After having fitted a new thermowax element, start from 1. again.

4. Match the position of the cam hole, using screw S1 and fix its position with a suitable pin.
5. Adjust the clearance A between the stopper and the Throttle Adjust Screw (TAS) using screw S2.

Specification of dimension "A":

CG10DE engine: 0.39 - 1.08 mm (0.0154 - 0.0425 in)

CG13DE engine: 0.68 - 1.23 mm (0.0268 - 0.0484 in)

N.B.: Do not adjust Throttle Adjust Screw (TAS).

6. After having adjusted clearance A, remove the pin from the cam hole.
7. Set B, the length of screw S1, to 4.3 mm (0.169 in).
8. Rotate screw S1 "N" times. N can be obtained by the following formula:

$$N = \frac{L_1 \text{ (actual dimension)} - L \text{ (from graph)}}{0.50}$$

When $N = +$, turn screw S1 anti-clockwise

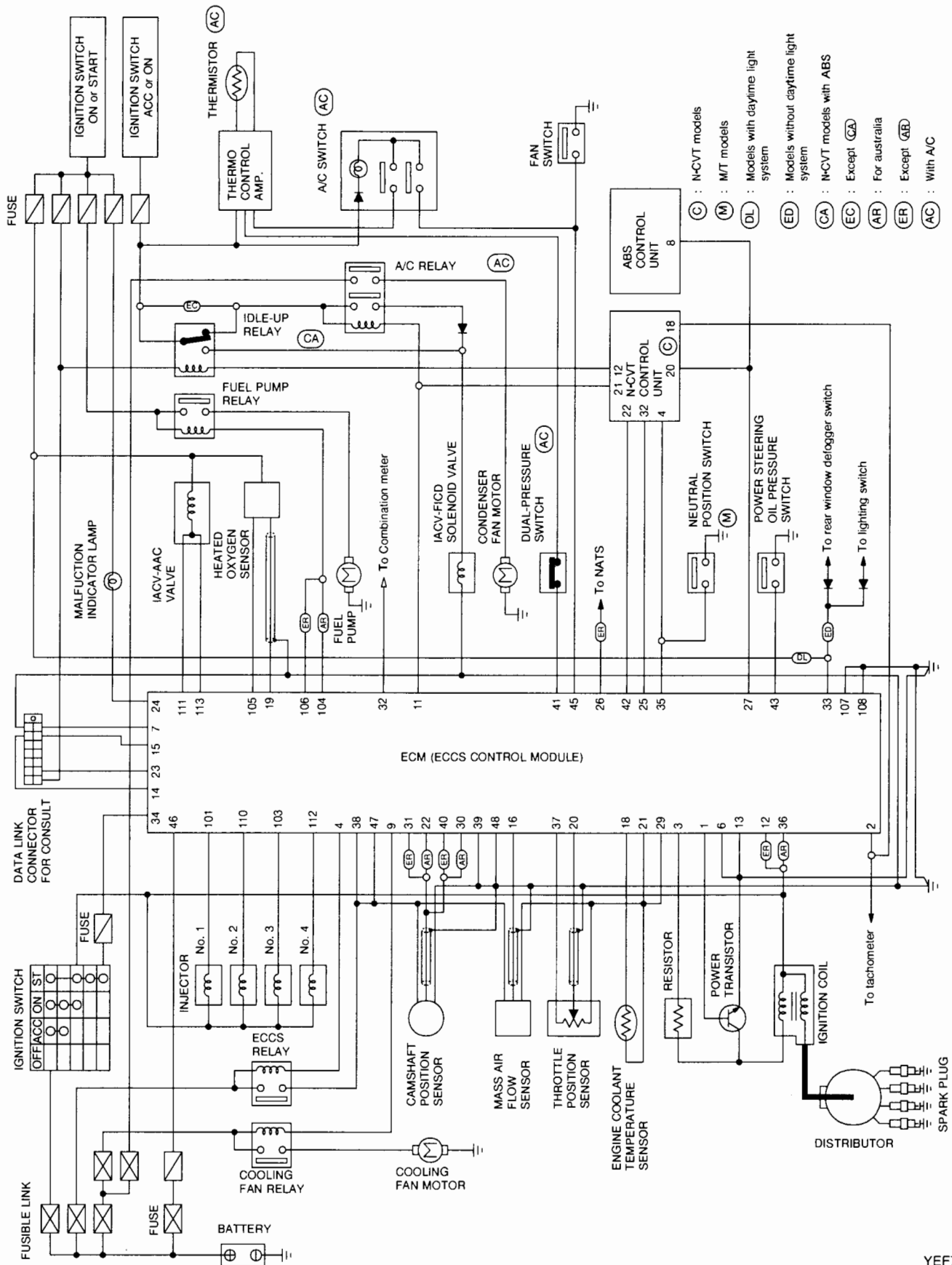
When $N = -$, turn screw S1 clockwise.

Be sure to tighten the lock-nut of screw S1 after adjusting.

9. Install the throttle body. Make sure to use new gasket. Refer to section EM, OUTER COMPONENT PARTS, Intake Manifold & Fuel System, page EM-7.
10. Confirm there is clearance between cam and roller after warming the engine.

ENGINE AND EMISSION CONTROL OVERALL SYSTEM

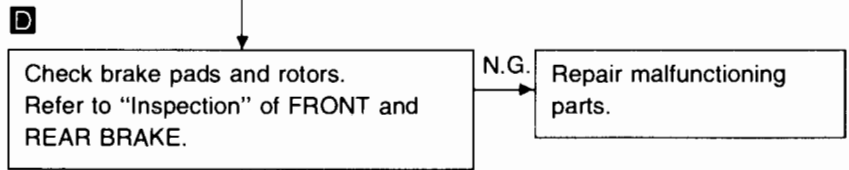
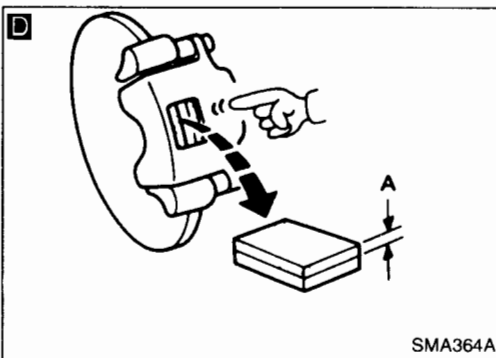
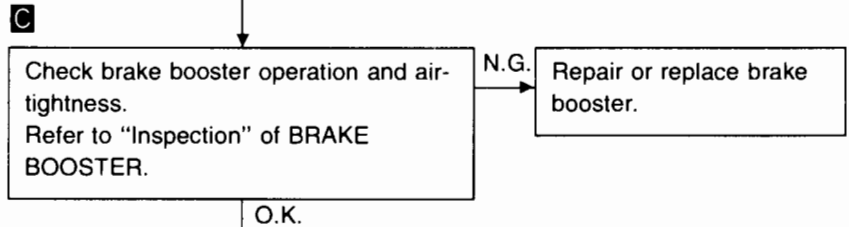
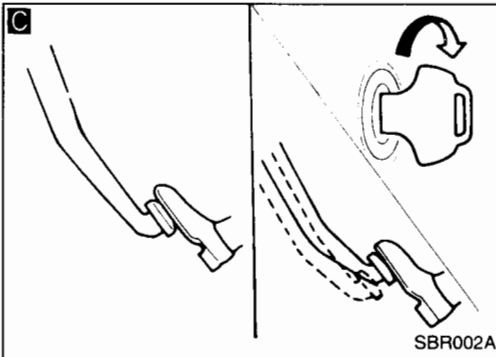
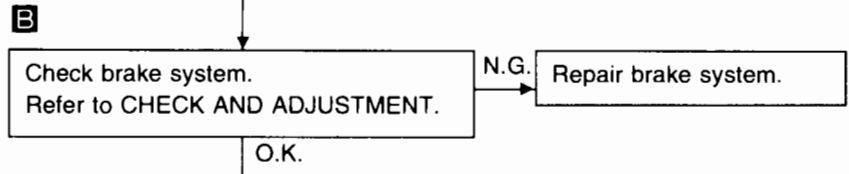
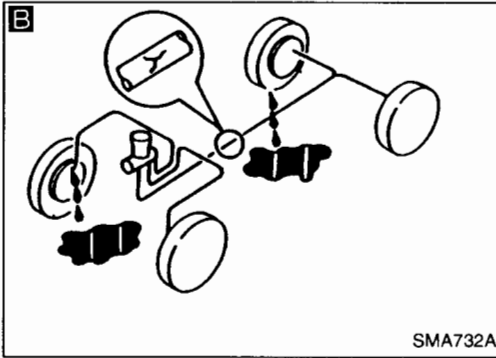
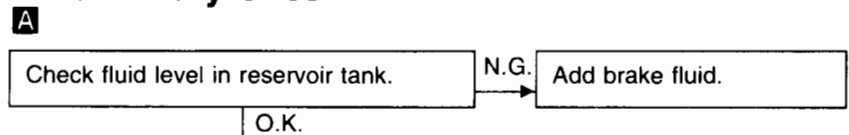
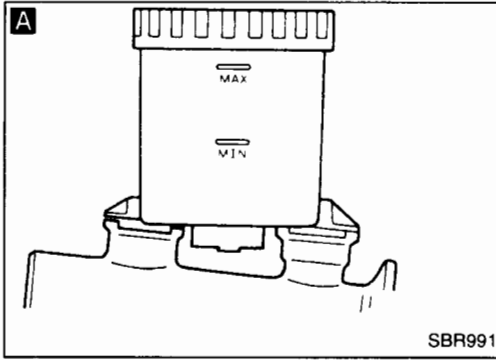
Circuit Diagram



YEF790

TROUBLE DIAGNOSIS

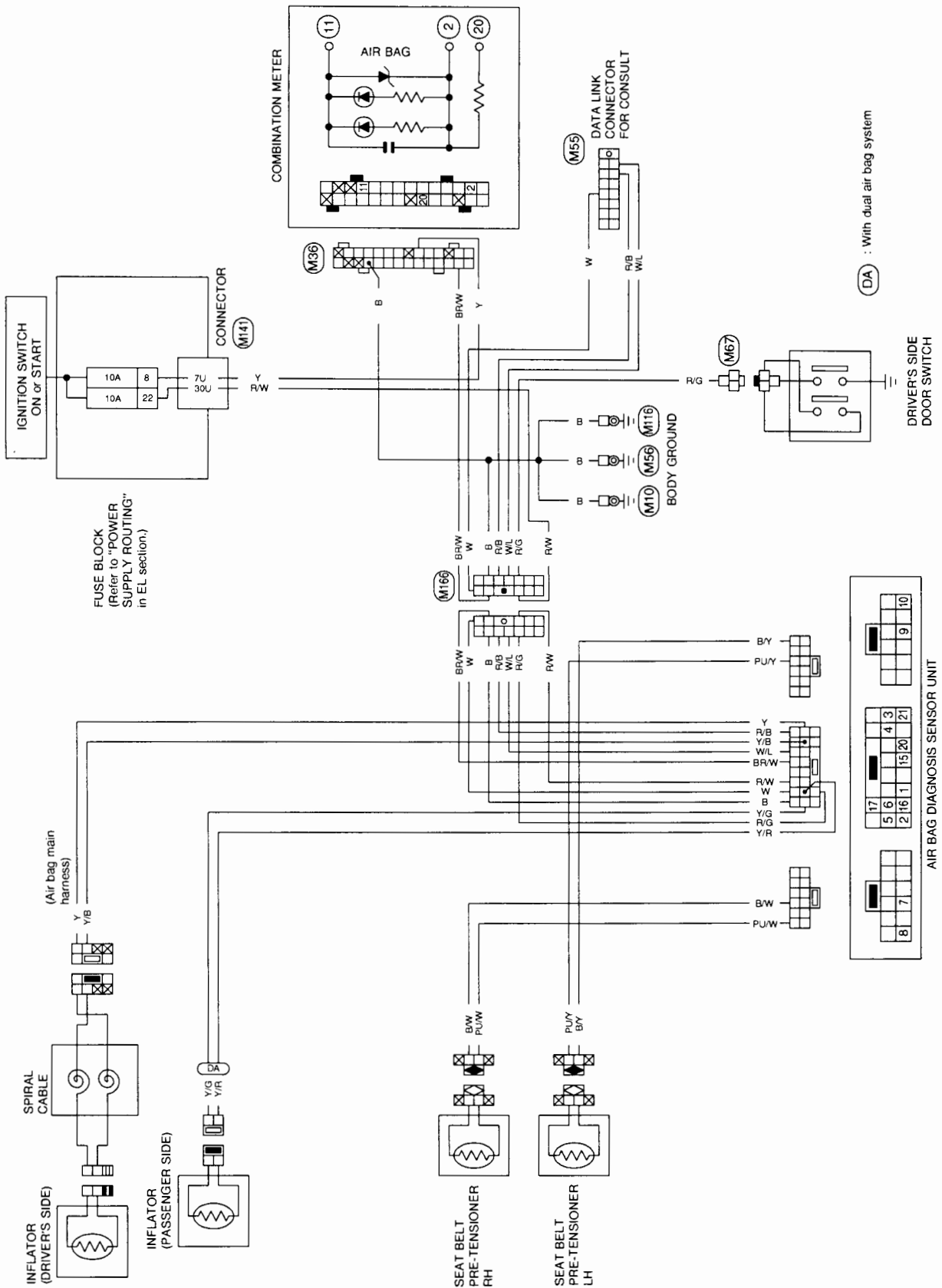
Preliminary Check 1



TROUBLE DIAGNOSES — Supplemental Restraint System (SRS)

Wiring Diagram — SRS — (Cont'd)

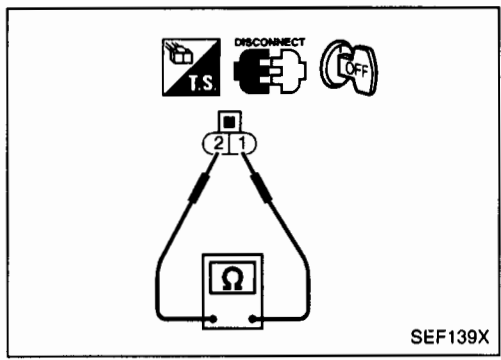
WITHOUT SIDE AIR BAG



DTC P0201 — P0204 INJECTOR CIRCUIT (CYL 1 — CYL 4) CG10, CGA3

Diagnostic Procedure (Cont'd)

2	DETECT MALFUNCTIONING PART	Check the following; <ul style="list-style-type: none"> ● Harness connectors F38, M184 ● Harness connectors M191, E88 ● Fuse block connectors E36, M136, M140 ● 10A fuse ● Harness for open and short between injector and fuse
	▶	Repair open circuit or short to ground or short to power in harness or connectors.
3	CHECK OUTPUT SIGNAL CIRCUIT	1. Turn ignition switch "OFF". 2. Disconnect ECM harness connector. 3. Check harness continuity between injector harness connector terminal 1 and ECM terminals 3, 4, 31, 32. Refer to wiring diagram. Continuity should exist. 4. Also check harness for short to ground and short to power.
		OK or NG
OK	▶	GO TO 5.
NG	▶	GO TO 4.
4	DETECT MALFUNCTIONING PART	Check the harness for open or short between ECM and injector.
	▶	Repair open circuit or short to ground or short to power in harness or connectors.
5	CHECK INJECTOR	Refer to "Component Inspection", below.
		OK or NG
OK	▶	GO TO 5.
NG	▶	Replace injector.
6	CHECK INTERMITTENT INCIDENT	Perform "TROUBLE DIAGNOSIS FOR INTERMITTENT INCIDENT", EC-7070.
	▶	INSPECTION END



Component Inspection INJECTOR

NKEC0439
NKEC0439S01

1. Disconnect injector harness connector.
2. Check resistance between terminals as shown in the figure.
Resistance: 13.5 - 17.5Ω [at 25°C (77°F)]
 If NG, replace injector.

WIPERS AND WASHERS

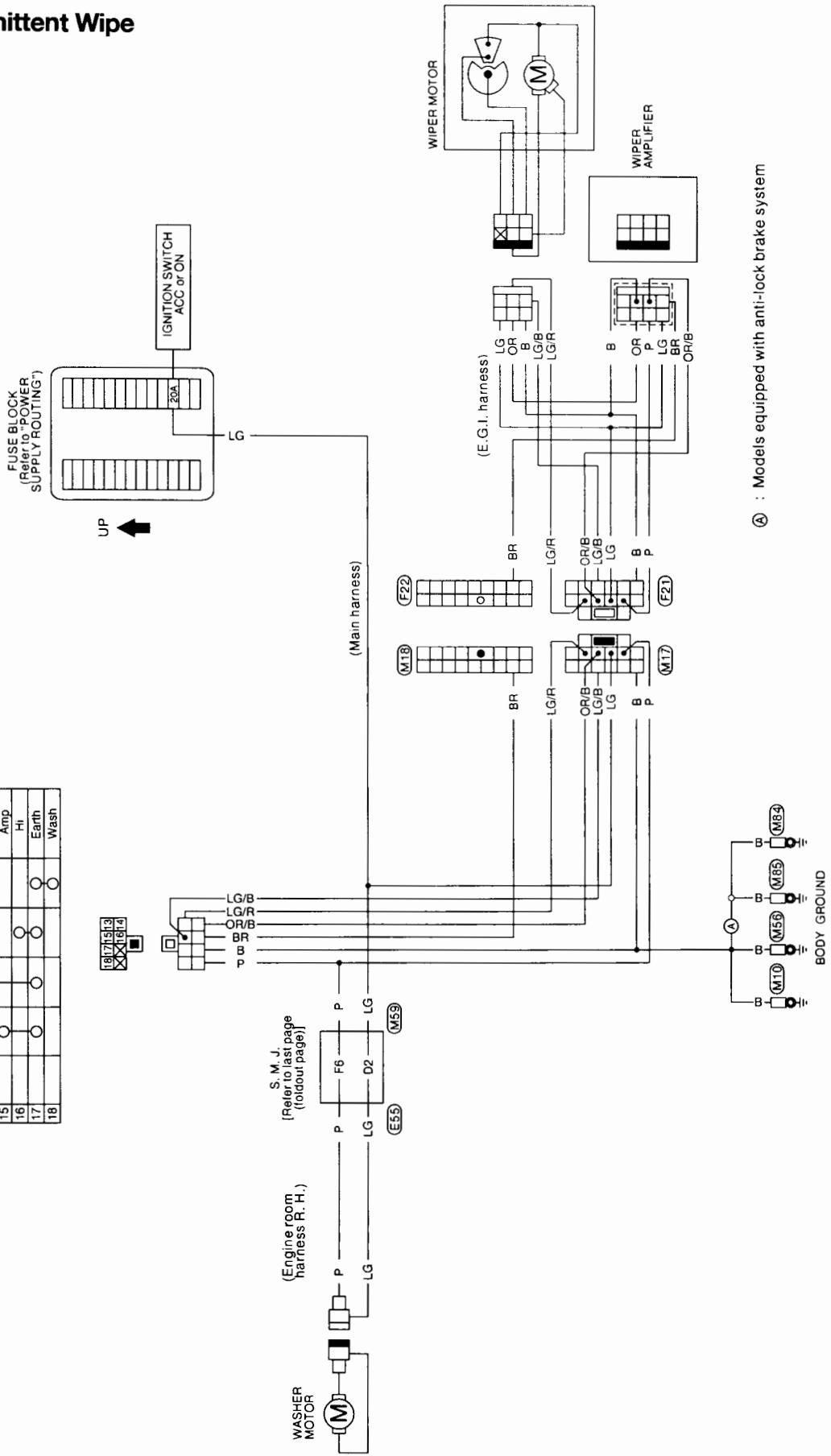
Front Wiper and Washer/Wiring Diagram (Cont'd)

R.H.D. MODEL

With Intermittent Wipe

WIPER/WASHER SWITCH
(With intermittent wiper)

	OFF	INT	LOW	HIGH	WASH
13	○	○	○	○	○
14	○	○	○	○	○
15	○	○	○	○	○
16	○	○	○	○	○
17	○	○	○	○	○
18	○	○	○	○	○



Ⓐ : Models equipped with anti-lock brake system

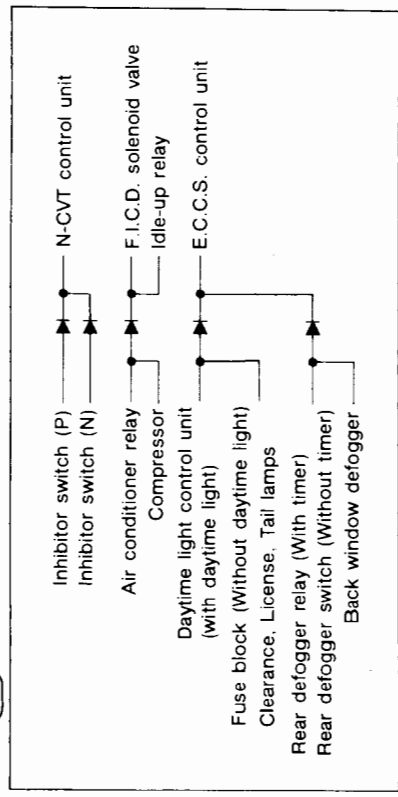
HARNES LAYOUT

Main Harness (Cont'd)

- (M1) : To (E1)
- (M2) : To (E2)
- (M3) : To (E1)
- (M4) : Resistor
- (M5) : Blower motor
- (M6) : Power steering oil pressure switch
- (M7) : Wiper motor
- (M8) : Wiper amp.
- (M9) : Front sensor R.H. (For anti-lock braking system)
- (M10) : Body ground
- (M11) : To (D9)
- (M12) : To (D10)
- (M13) : To (R1)
- (M14) : Thermo control amp.
- (M15) : Diode
- (M16) : Accel switch
- (M17) : To (F21)
- (M18) : To (F22) (Black)
- (M19) : To (F23) (Brown)
- (M20) : N-CVT indicator illumination (N-CVT model)
- (M21) : Radio
- (M22) : Radio
- (M23) : Rear fog lamp switch
- (M24) : Hazard switch
- (M25) : Headlamp wiper switch
- (M26) : Rear defogger switch
- (M27) : Heater control illumination
- (M28) : Fan switch
- (M29) : Air conditioner switch
- (M30) : Cigarette lighter
- (M31) : Heating seat switch R.H.
- (M32) : Heating seat switch L.H.
- (M33) : Headlamp aiming switch
- (M34) : Front fog lamp switch
- (M35) : Illumination control switch
- (M36) : Combination meter
- (M37) : Combination meter

- (M38) : Combination meter
- (M39) : Ignition relay-3
- (M40) : Circuit breaker
- (M41) : Daytime light control unit
- (M42) : Daytime light control unit
- (M43) : Combination flasher unit
- (M44) : Door lock timer
- (M45) : Warning buzzer (N-CVT model)
- (M46) : Warning buzzer (M/T model)
- (M47) : Stop lamp switch
- (M48) : Ignition switch
- (M49) : Lighting switch
- (M50) : Lighting switch
- (M51) : Horn switch
- (M52) : Rear wiper switch
- (M53) : Front wiper switch
- (M54) : Fuse block
- (M55) : Diagnostic connector for CONSULT
- (M56) : Body ground
- (M57) : To (D1)
- (M58) : To (D2)
- (M59) : To (E55) (S.M.J.)
- (M60) : Fuel pump relay
- (M79) : Cigarette lighter illumination

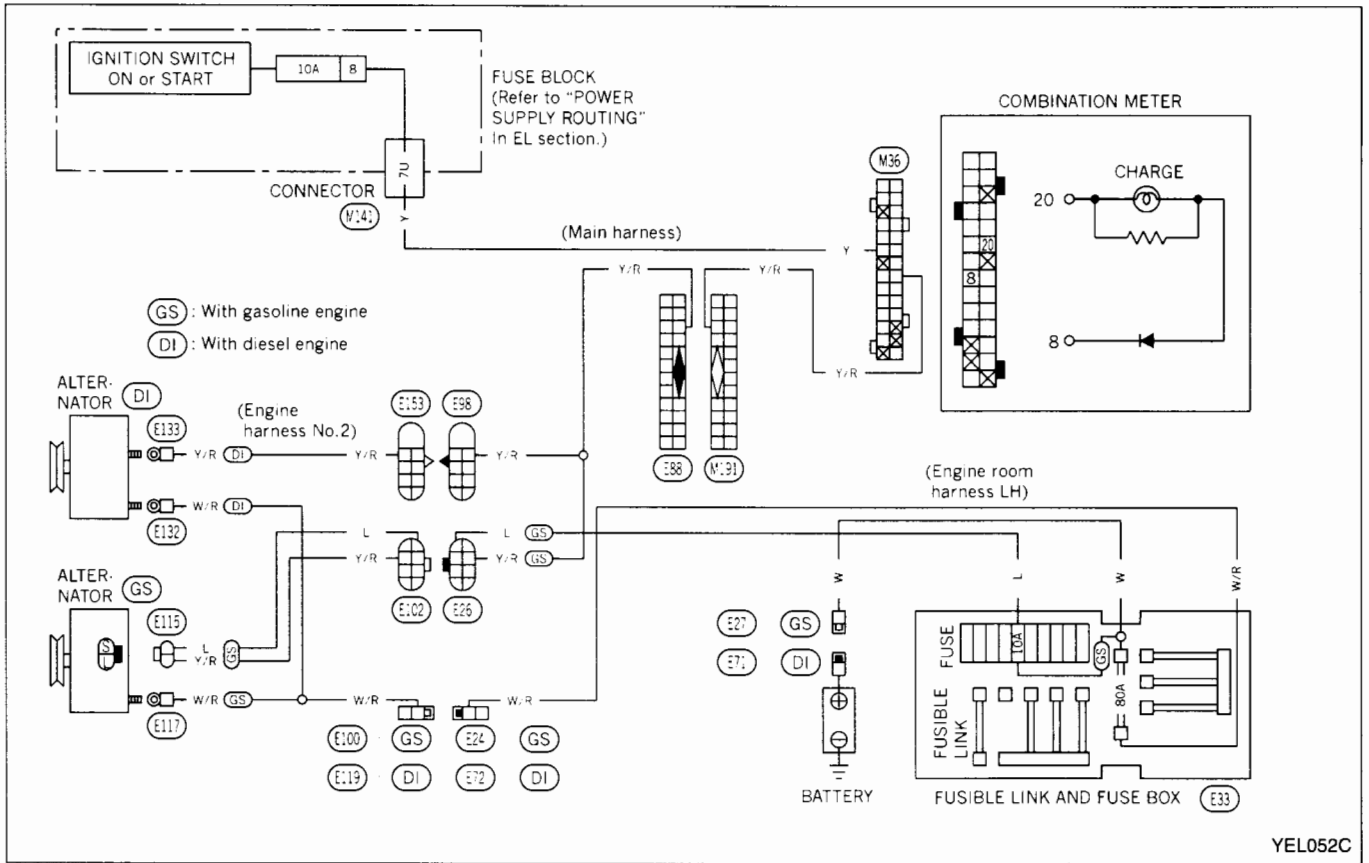
Diode (M15)



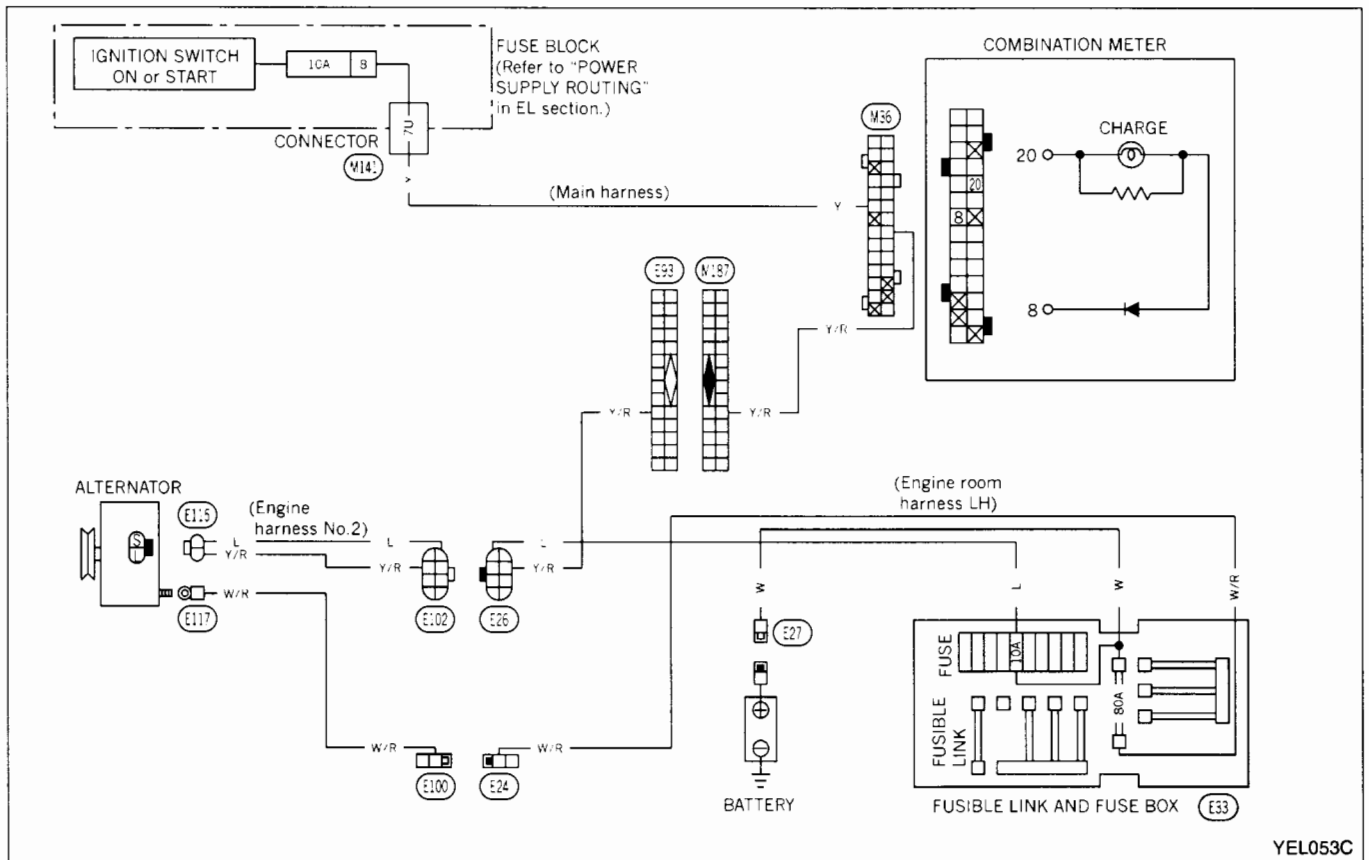
CHARGING SYSTEM

Wiring Diagram

LHD MODEL



RHD MODEL



METER AND GAUGES

Inspection — Fuel Gauge/Water Temperature Gauge

