



I N F I N I T I

Q45

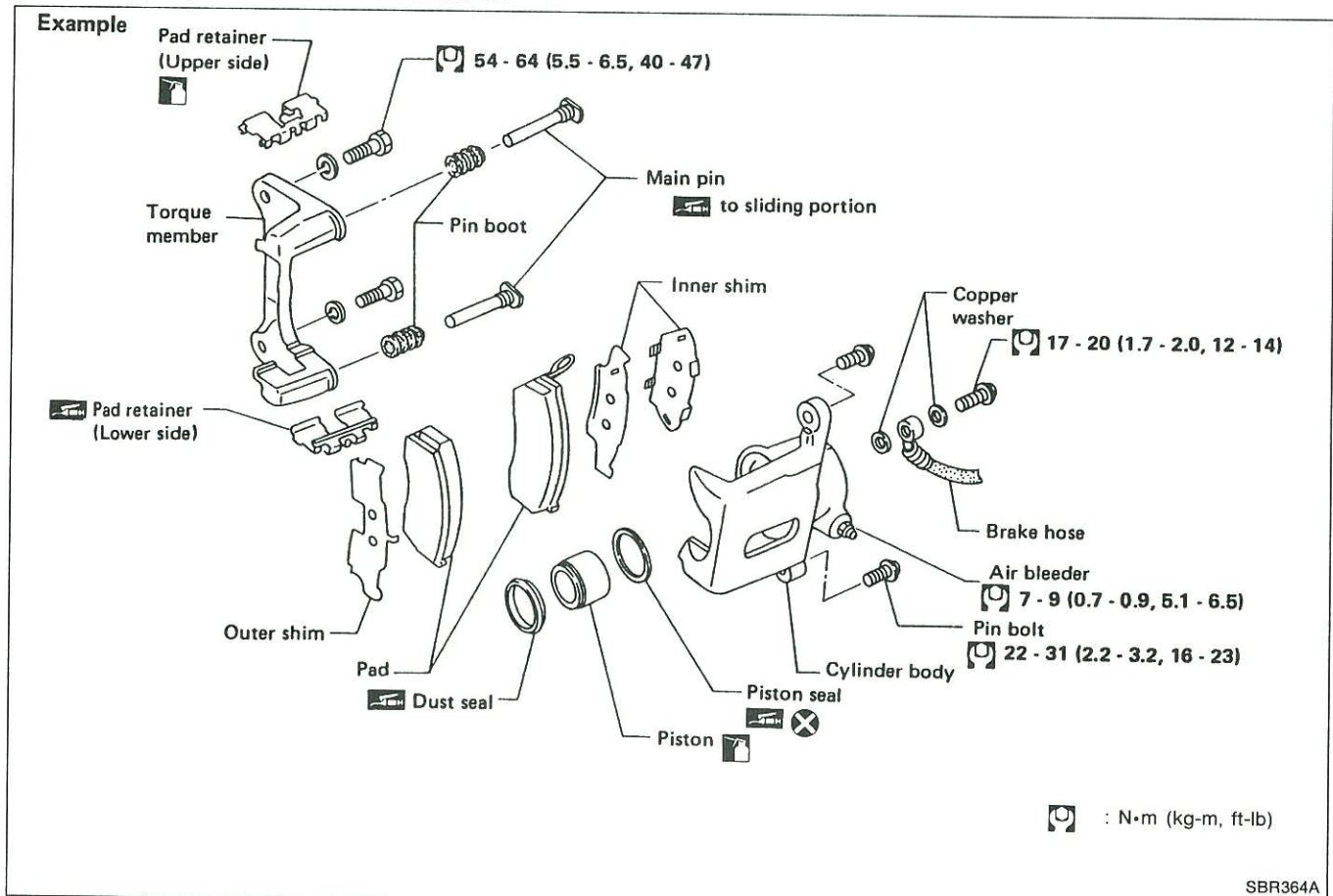
MODEL G50 SERIES

QUICK REFERENCE INDEX

GENERAL INFORMATION _____	GI
MAINTENANCE _____	MA
ENGINE MECHANICAL _____	EM
ENGINE LUBRICATION & COOLING SYSTEMS —	LC
ENGINE FUEL & EMISSION CONTROL SYSTEM —	EF&EC
ACCELERATOR CONTROL, FUEL & _____ EXHAUST SYSTEMS	FE
AUTOMATIC TRANSMISSION _____	AT
PROPELLER SHAFT & DIFFERENTIAL CARRIER —	PD
FRONT AXLE & FRONT SUSPENSION _____	FA
REAR AXLE & REAR SUSPENSION _____	RA
BRAKE SYSTEM _____	BR
STEERING SYSTEM _____	ST
BODY _____	BF
HEATER & AIR CONDITIONER _____	HA
ELECTRICAL SYSTEM _____	EL

HOW TO USE THIS MANUAL

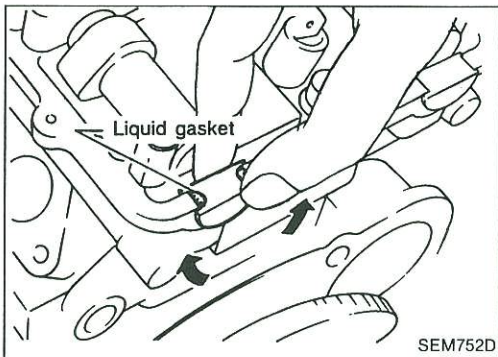
1. **A QUICK REFERENCE INDEX**, a black tab (e.g. **BR**) is provided on the first page. You can quickly find the first page of each section by mating it to the section's black tab.
2. **THE CONTENTS** are listed on the first page of each section.
3. **THE TITLE** is indicated on the upper portion of 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, knacks of work and hidden or tricky steps which are not shown in the previous large illustrations. Assembly, inspection and adjustment procedures for complicated units such as the automatic transaxle or transmission, etc. are presented in a step-by-step format where necessary.

TIMING CHAIN

Installation (Cont'd)



- (2) Install rubber plugs, then move them with your fingers to uniformly spread the gasket on cylinder head surface.
- Rubber plugs should be installed flush with the surface.
 - Do not start the engine for 30 minutes after installing rocker cover.
 - Install rocker cover within 5 minutes of installing rubber plugs.
24. Install rocker cover.

GI

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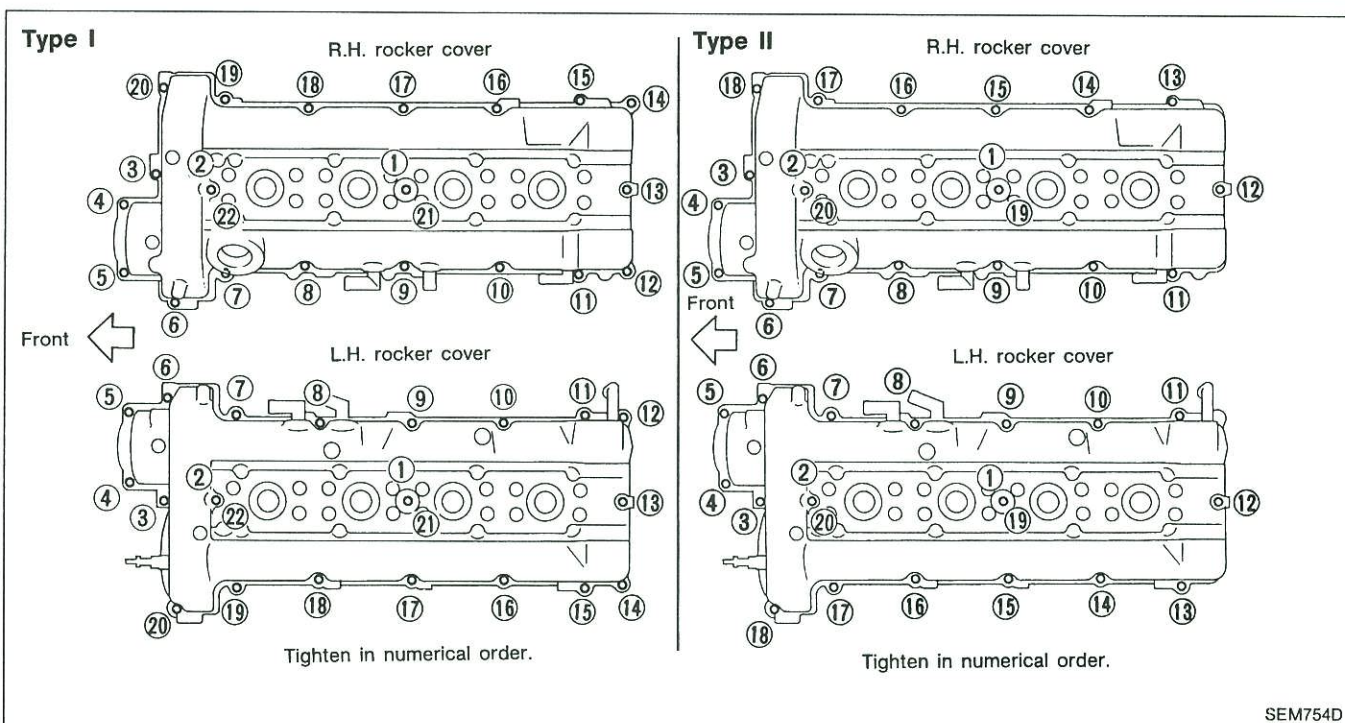
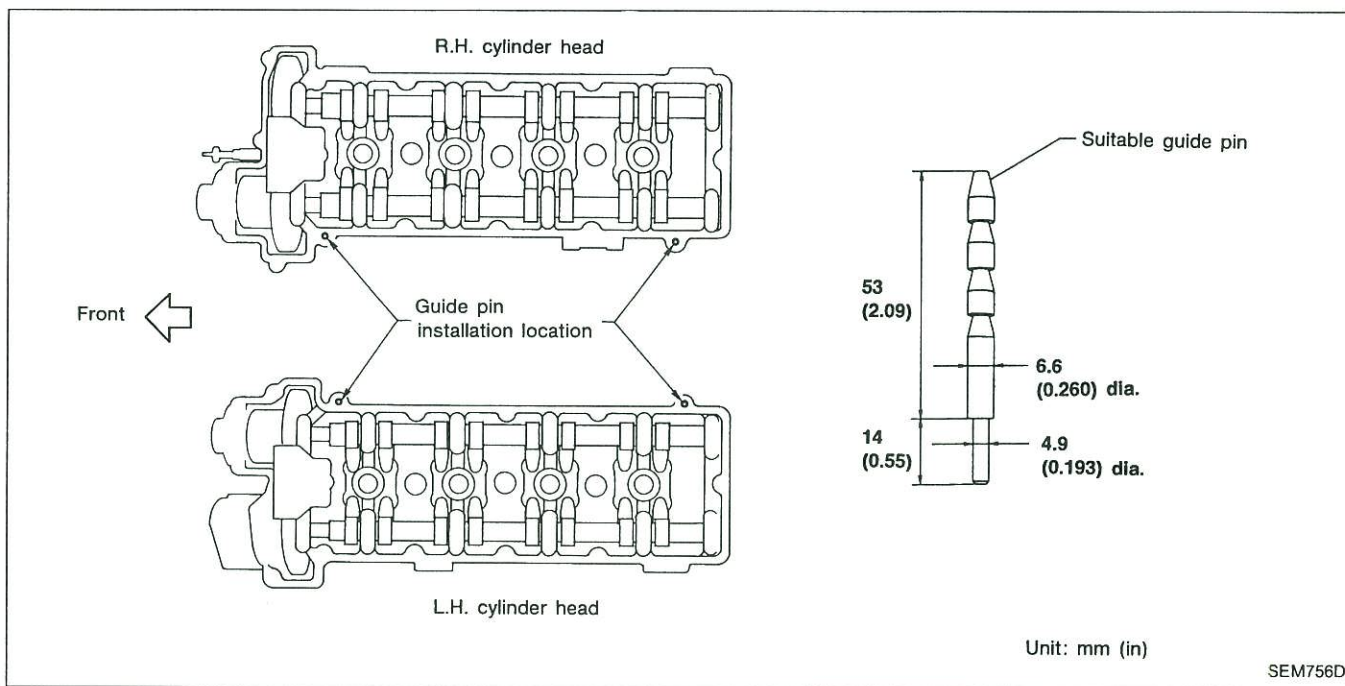
BR

ST

BF

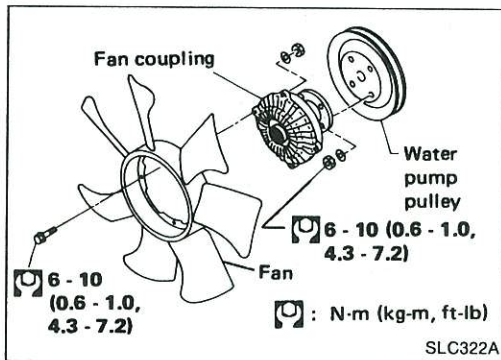
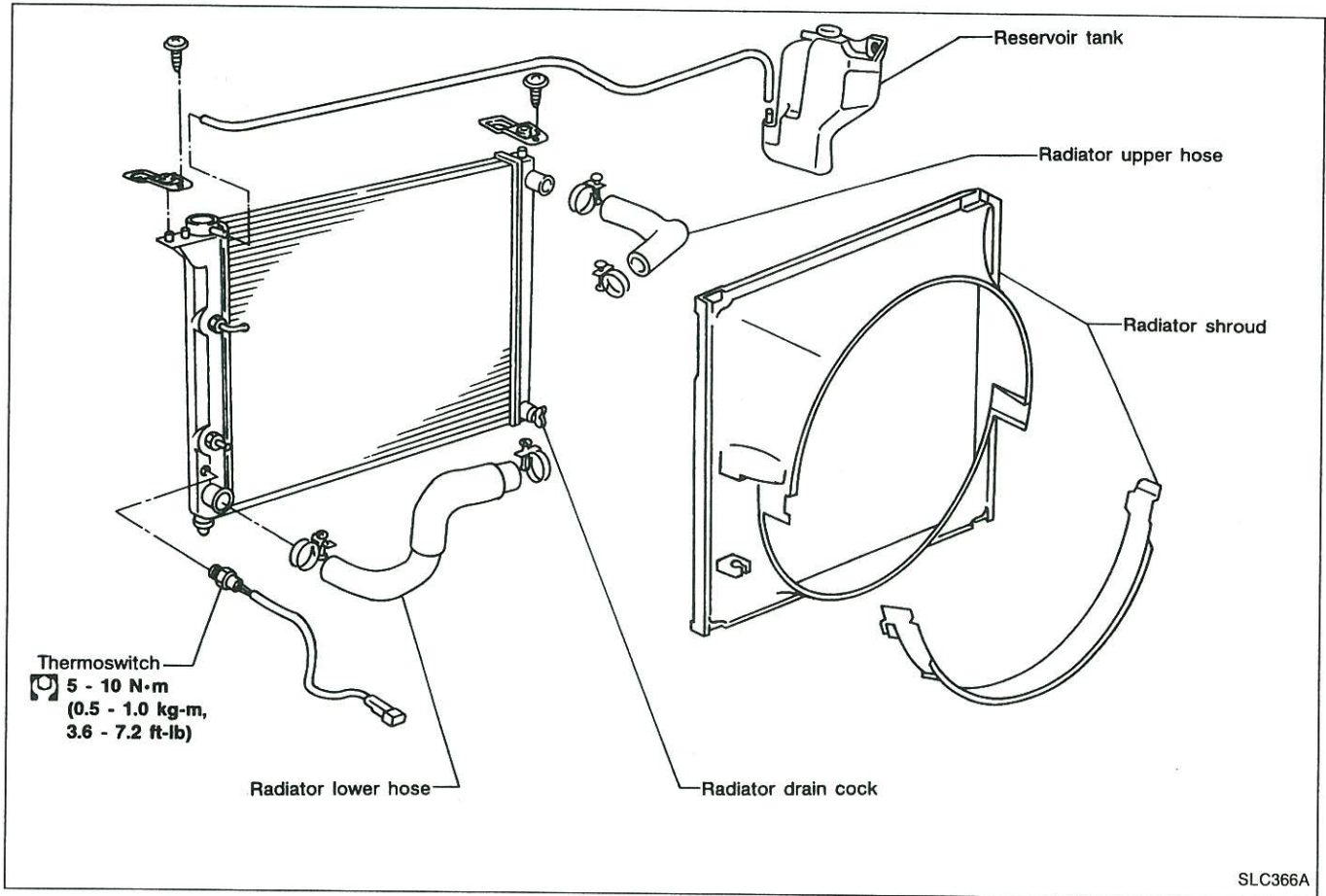
HA

EL



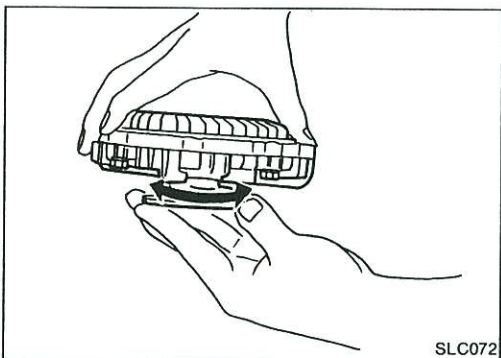
ENGINE COOLING SYSTEM

Radiator



Cooling Fan

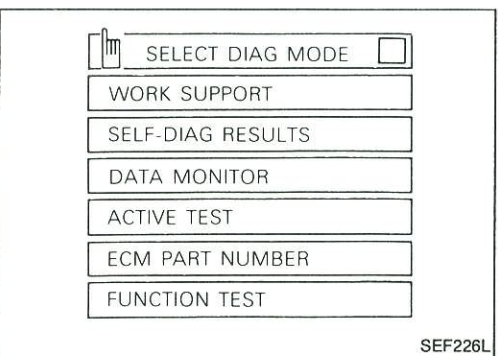
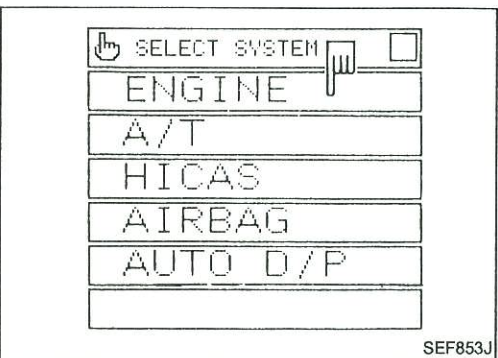
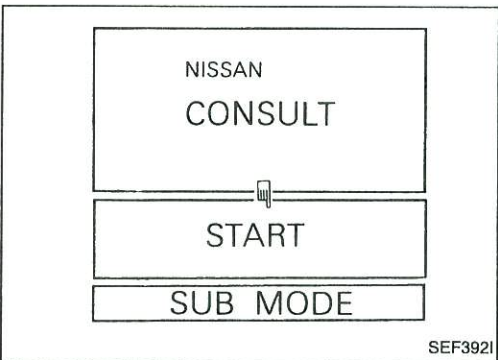
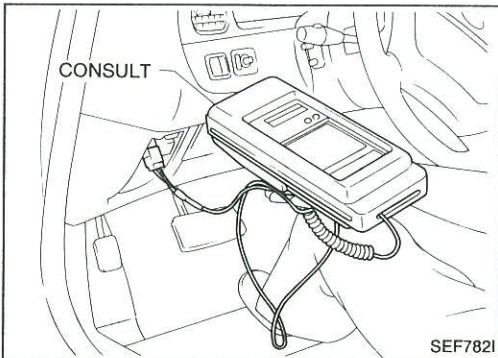
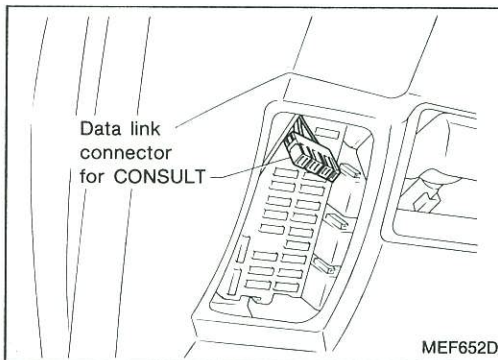
DISASSEMBLY AND ASSEMBLY



INSPECTION

Check fan coupling for rough operation, oil leakage or bent bimetal.

TROUBLE DIAGNOSES



Consult

CONSULT INSPECTION PROCEDURE

1. Turn off ignition switch.
2. Connect "CONSULT" to data link connector for CONSULT. (Data link connector for CONSULT is located in left dash side panel.)

3. Turn on ignition switch.
4. Touch "START".

5. Touch "ENGINE".

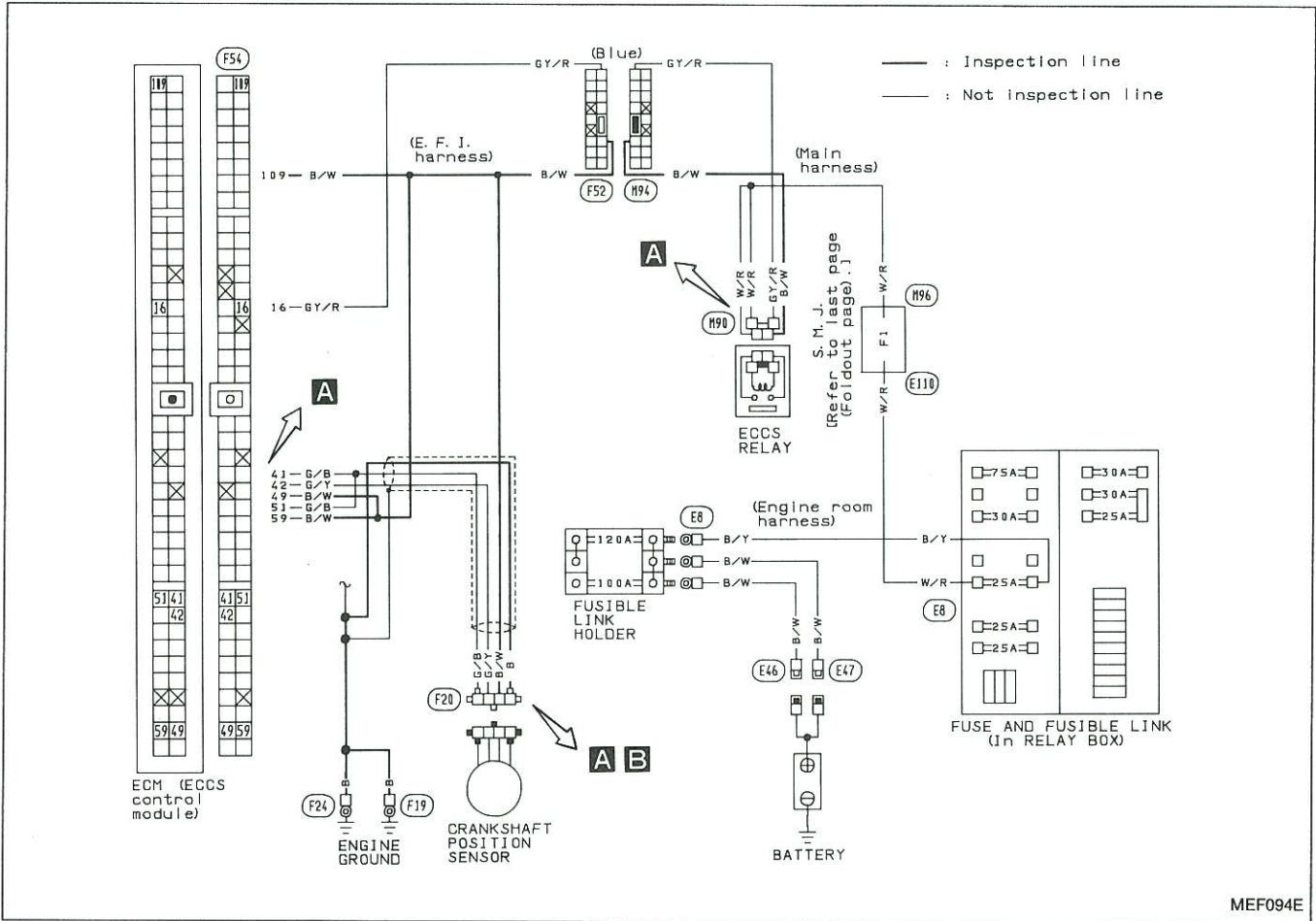
6. Perform each diagnostic test mode according to the inspection sheet as follows:

For further information, read the CONSULT Operation Manual.

TROUBLE DIAGNOSES

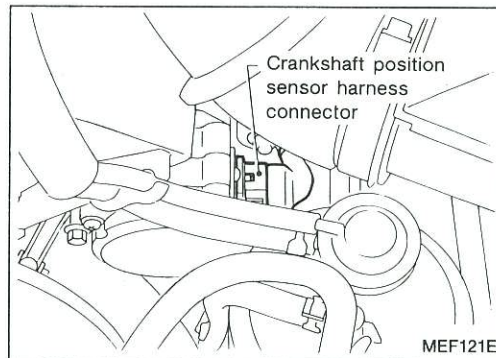
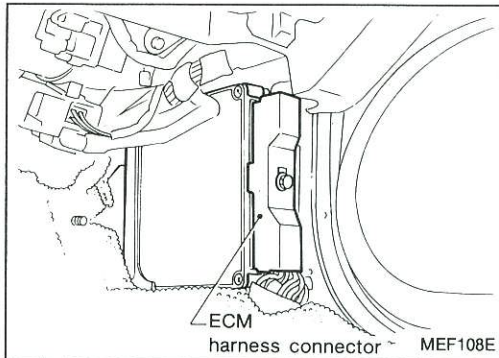
Diagnostic Procedure 18

CRANKSHAFT POSITION SENSOR (Not self-diagnostic item)



MEF094E

Harness layout



TROUBLE DIAGNOSES


Diagnostic Procedure 47 — Symptom — Engine Stalls when the Electrical Load is Heavy (Cont'd)

5

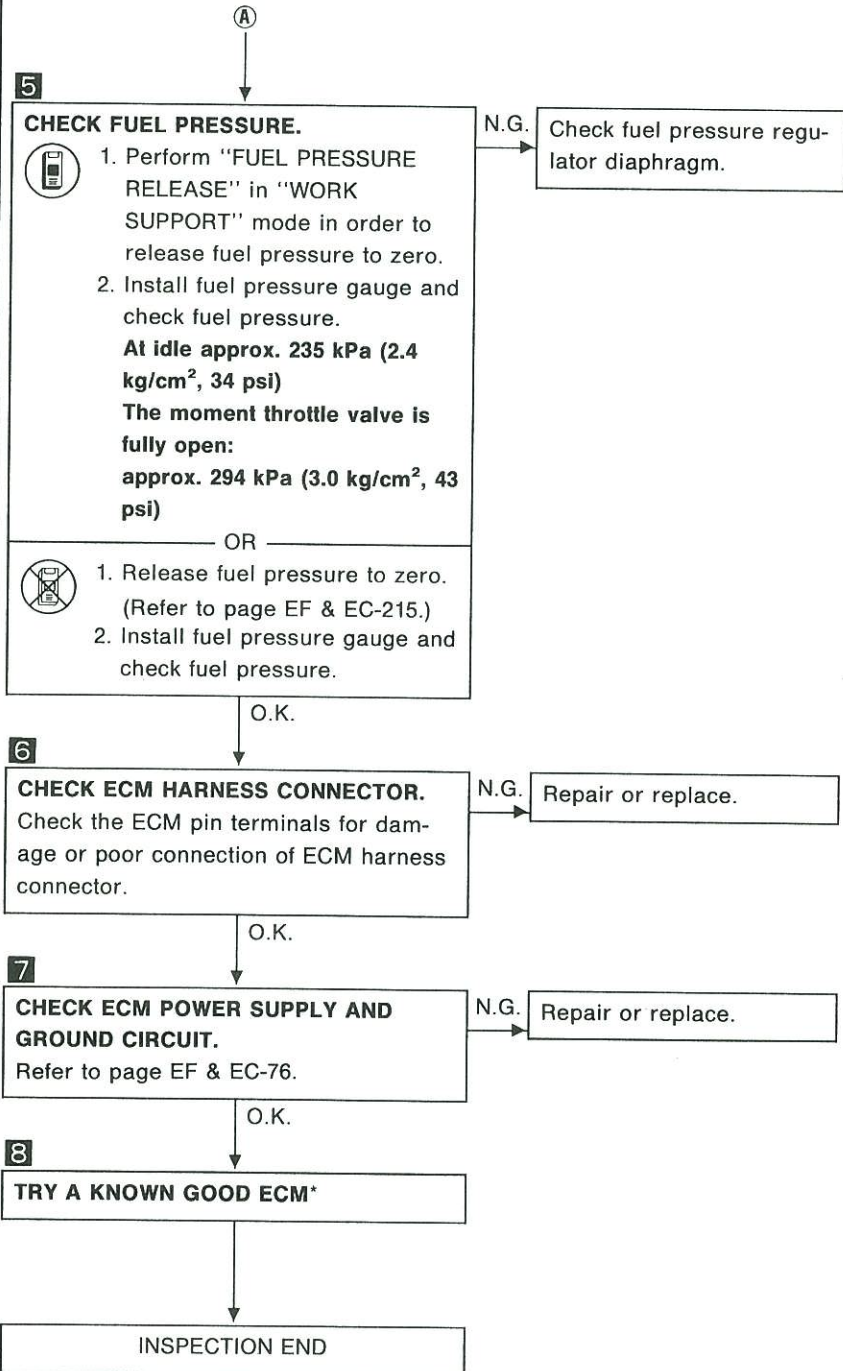
■ FUEL PRES RELEASE ■

FUEL PUMP WILL STOP BY TOUCHING START DURING IDLE. CRANK A FEW TIMES AFTER ENGINE STALL.

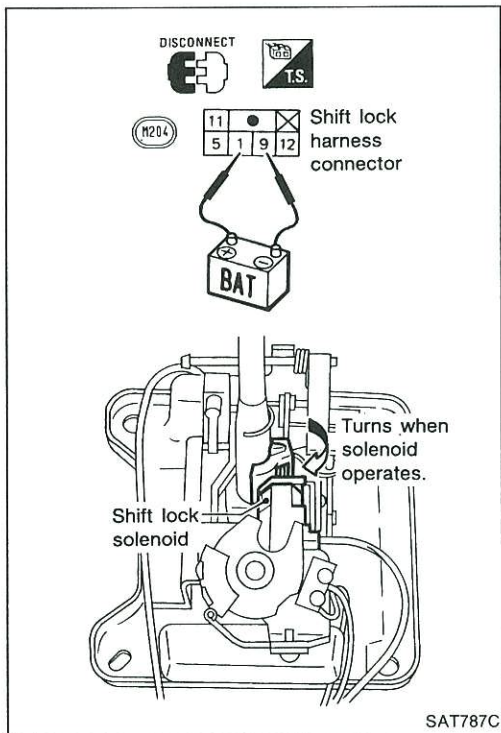
START



MEF699D



*: ECM may be the cause of a problem, but this is rarely the case.



Component Check

SHIFT LOCK SOLENOID

- Check operation by applying battery voltage to shift lock harness connector.

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MA

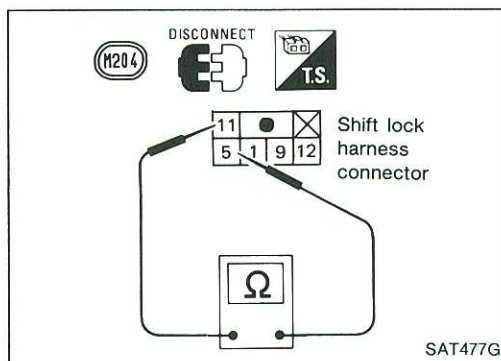
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DETENTION SWITCH

- Check continuity between terminals ⑤ and ⑪ of shift lock harness connector.

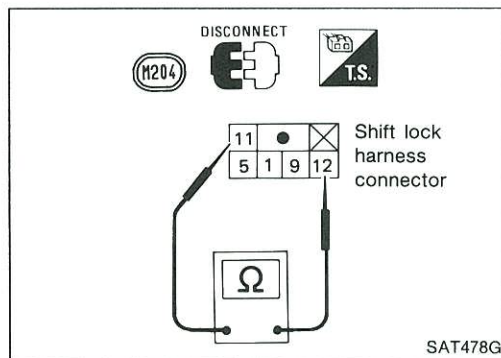
PD

Condition	Continuity
When selector lever is set in "P" position with selector lever button pushed or selector lever is set in any position except "P".	Yes
Except the above	No

FA

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BR



- Check continuity between terminals ⑪ and ⑫ of shift lock harness connector.

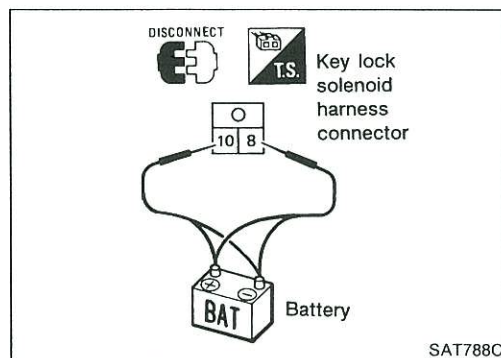
ST

Condition	Continuity
When selector lever is set in "P" position with selector lever button pushed or selector lever is set in any position except "P".	Yes
Except the above	No

BF

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KEY LOCK SOLENOID

- Check operation by applying battery voltage to key lock solenoid harness connector.

Operating sound must be emitted.

FULL-ACTIVE SUSPENSION

Repair of Component Parts (Cont'd)

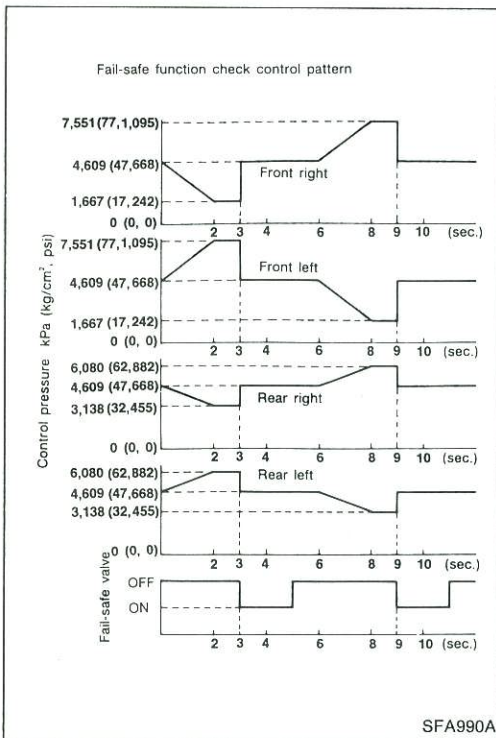
- Touch "START" on CONSULT display. Control pattern shown in figure at left will then appear, and each wheel and fail-safe valve is controlled.

Flow control valve is held "open" during fail-safe function checks.

- Make sure vehicle rolls to right or left and quickly returns to level position after fail-safe valve is closed.

A sound is heard when fail-safe valve is opened or closed. This is normal.

- After completing fail-safe function checks, touch "END" on CONSULT display.



VEHICLE HEIGHT ADJUSTMENT

Front wheel height adjustment

- Set CONSULT to work support mode. Touch "VEHICLE HEIGHT ADJ." so that "1. FRONT WHL HEIGHT ADJ." appears on CONSULT display.

Make sure engine is idling, selector lever is set to "P", parking brake is "OFF", foot brake is "OFF", and vehicle is on a level surface.

- Touch "START" on CONSULT display and wait until CONSULT is ready for front wheel height adjustment.
- Set height control switch (located on center console) from "N" (Normal) to "H" (High) and then return to "N".
- Move vehicle 2 to 3 meters (7 to 10 ft) back and forth so that it settles down.

Make sure engine is idling, selector lever is set to "P", parking brake is "OFF", and foot brake is "OFF".

- Measure distance "A" between center of one front wheel and lower end of fender molding. Similarly measure distance for the other front wheel. Determine distance difference between both measured values.

During front height adjustment, front wheels are controlled in response to output sent from vehicle height sensors and rear wheels are held at a neutral pressure of 4,609 kPa (47 kg/cm², 668 psi).

- Compare measured distances "A" with specifications indicated below. If either distance is outside specifications, loosen bolts on affected vehicle height sensor, and rotate height sensor to adjust vehicle height.

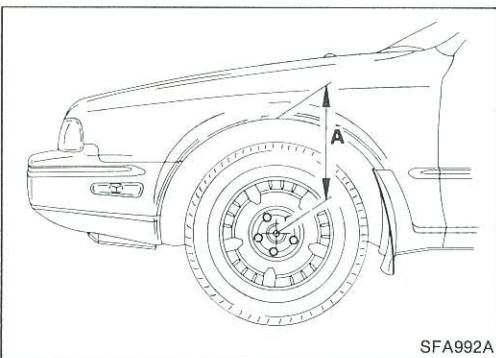
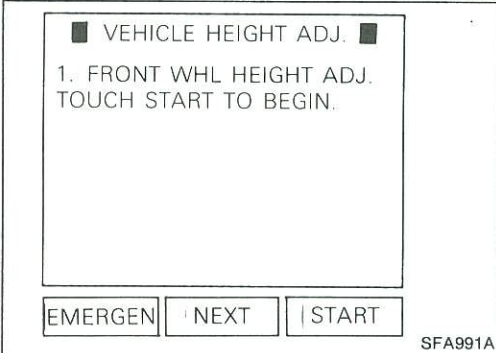
Specifications:

Distance "A"

375 - 395 mm (14.76 - 15.55 in)

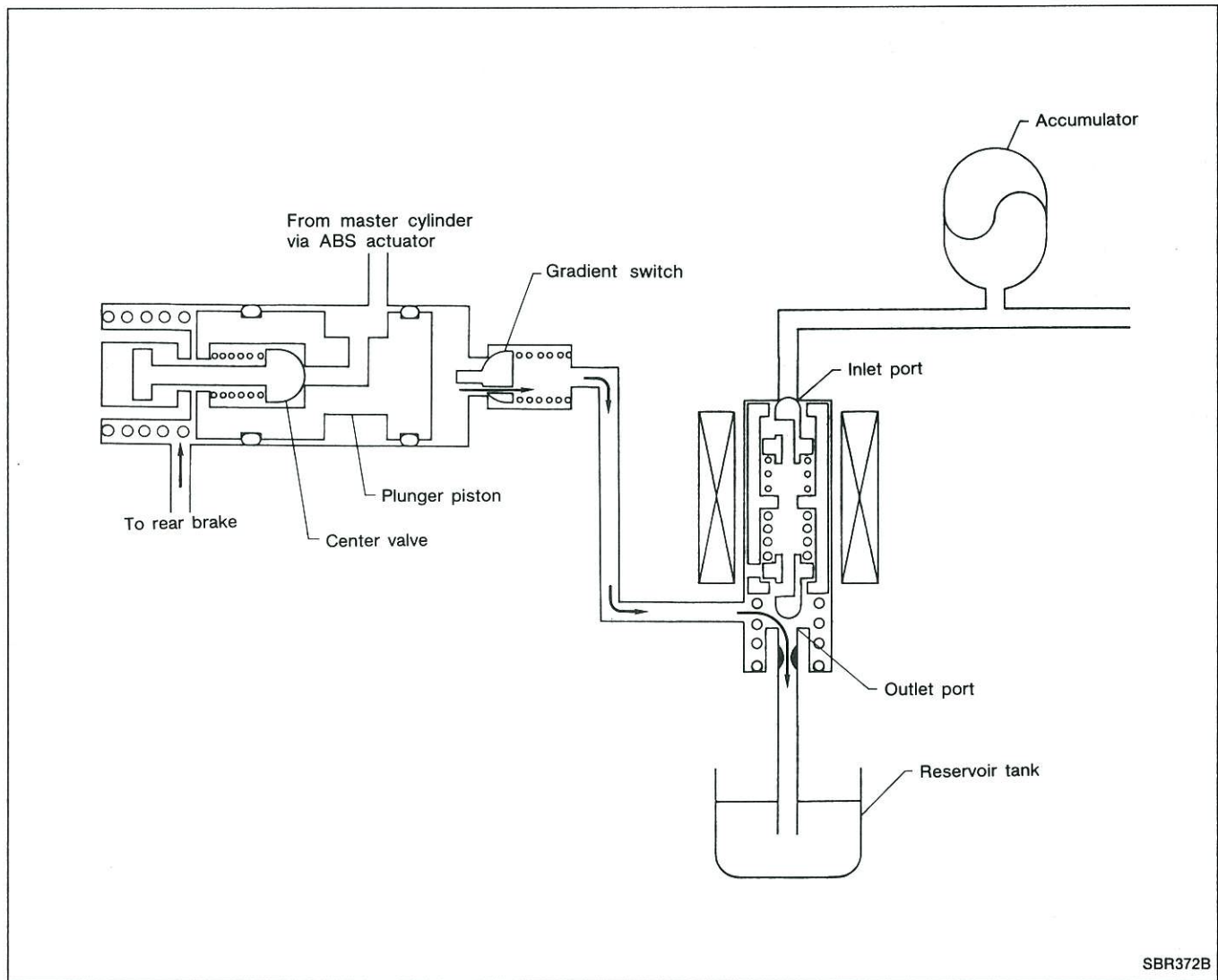
Distance difference between left and right front wheels

10 mm (0.39 in) or less



Components for TCS Brake System (Cont'd)

Operation during pressure "Decrease"



SBR372B

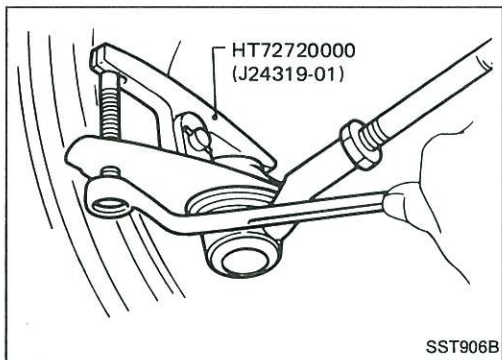
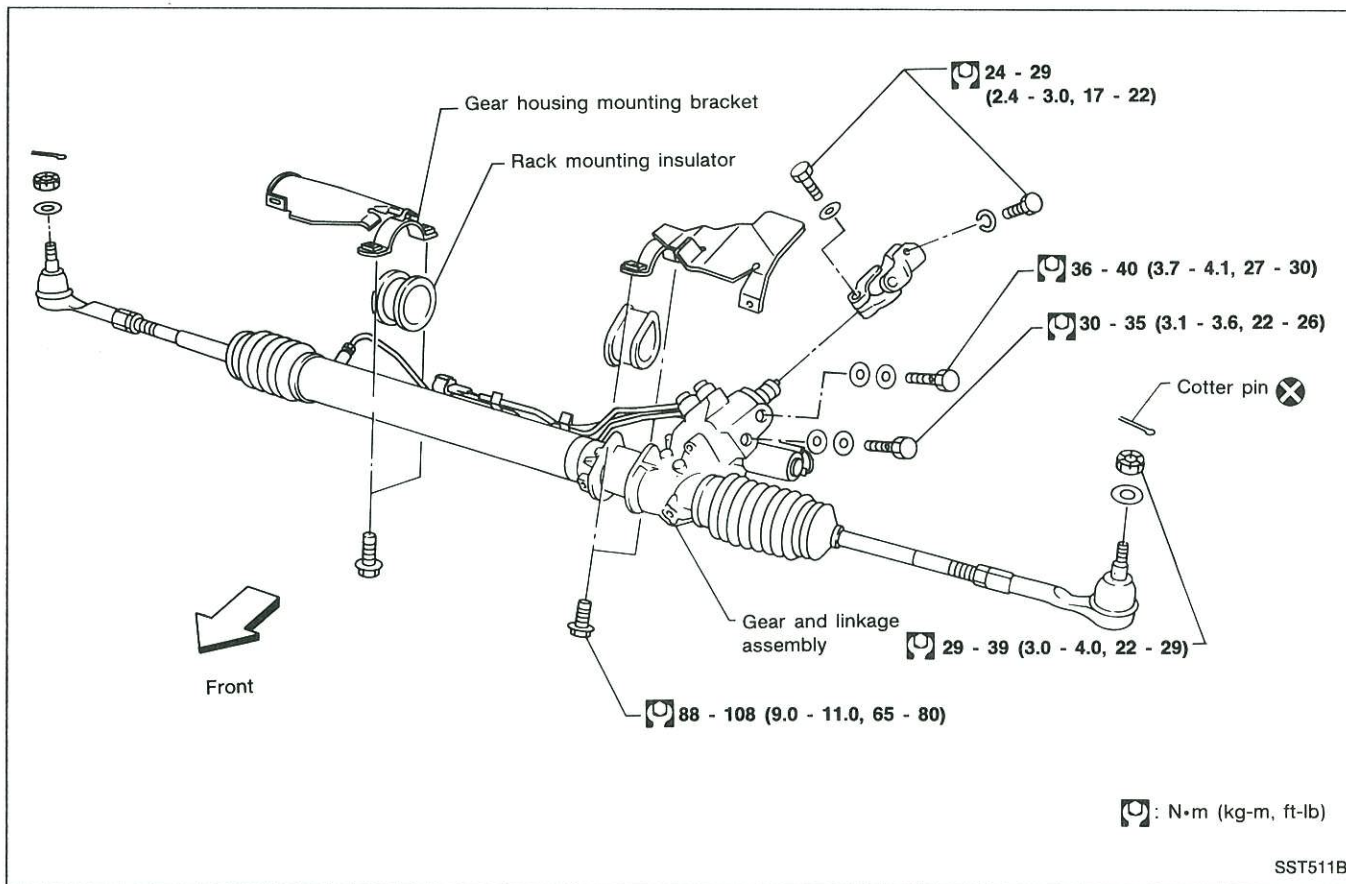
● **Description**

Electric current to the pressure solenoid valve 0 [A]

1. Magnetic force is eliminated at the pressure solenoid valve so the anchor is moved, closing the inlet port and opening the outlet port.
2. TCS-operating oil pressure which was applied to the plunger piston is released to the reservoir tank through the outlet port.
3. The plunger piston is returned so that brake-operating fluid pressure is released.

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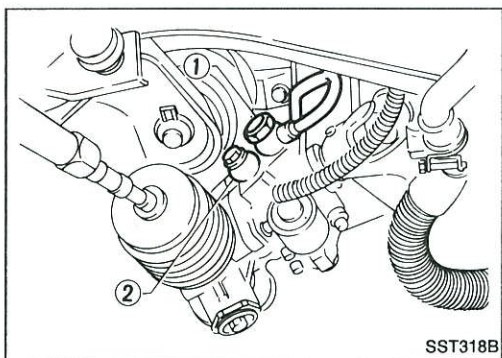
Removal and Installation



CAUTION:

The rotation of the spiral cable (SRS “Airbag” component part) is limited. If the steering gear must be removed, set the front wheels in the straight-ahead direction. Do not rotate the steering column while the steering gear is removed.

- Detach tie-rod outer sockets from knuckle arms with Tool.



- Install pipe connector.
 - ① Low-pressure side
 τ : 36 - 40 N·m (3.7 - 4.1 kg-m, 27 - 30 ft-lb)
 - ② High-pressure side
 τ : 30 - 35 N·m (3.1 - 3.6 kg-m, 22 - 26 ft-lb)
- Observe specified tightening torque when tightening high-pressure and low-pressure pipe connectors. Excessive tightening can damage connector threads or O-ring.
- The O-ring in low-pressure pipe connector is larger than that in high-pressure connector. Take care to install the proper O-ring.

BODY END

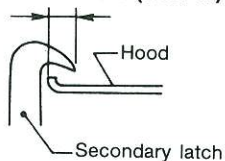
Body Front End (Cont'd)

Hood lock adjustment

- Adjust hood so that hood primary lock meshes at a position 1 to 1.5 mm (0.039 to 0.059 in) lower than fender.
- After hood lock adjustment, adjust bumper rubber.
- When securing hood lock, ensure it does not tilt. Striker must be positioned at the center of hood primary lock.
- After adjustment, ensure that hood primary and secondary lock operate properly.

Hood lock secondary latch hooking length

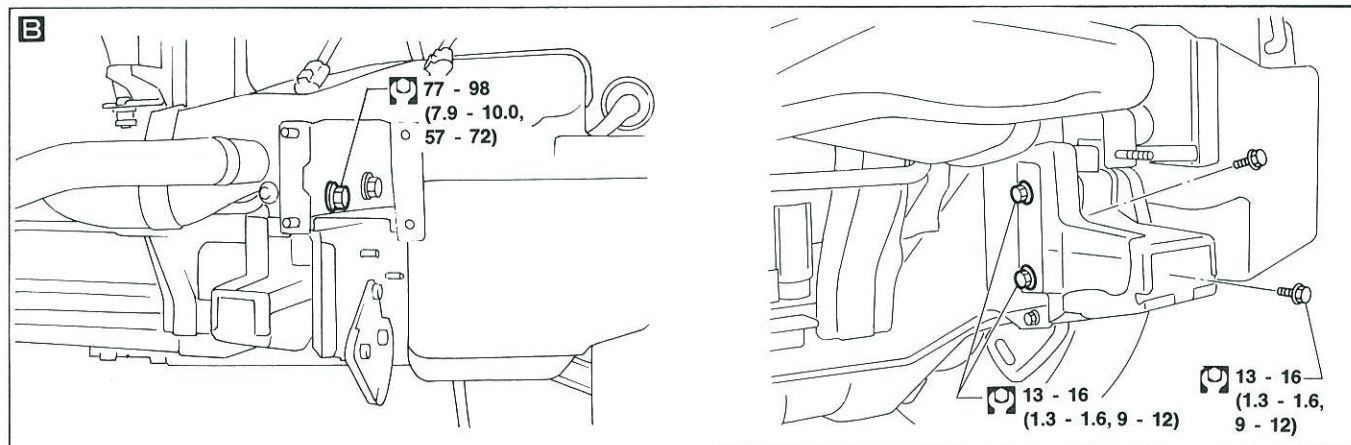
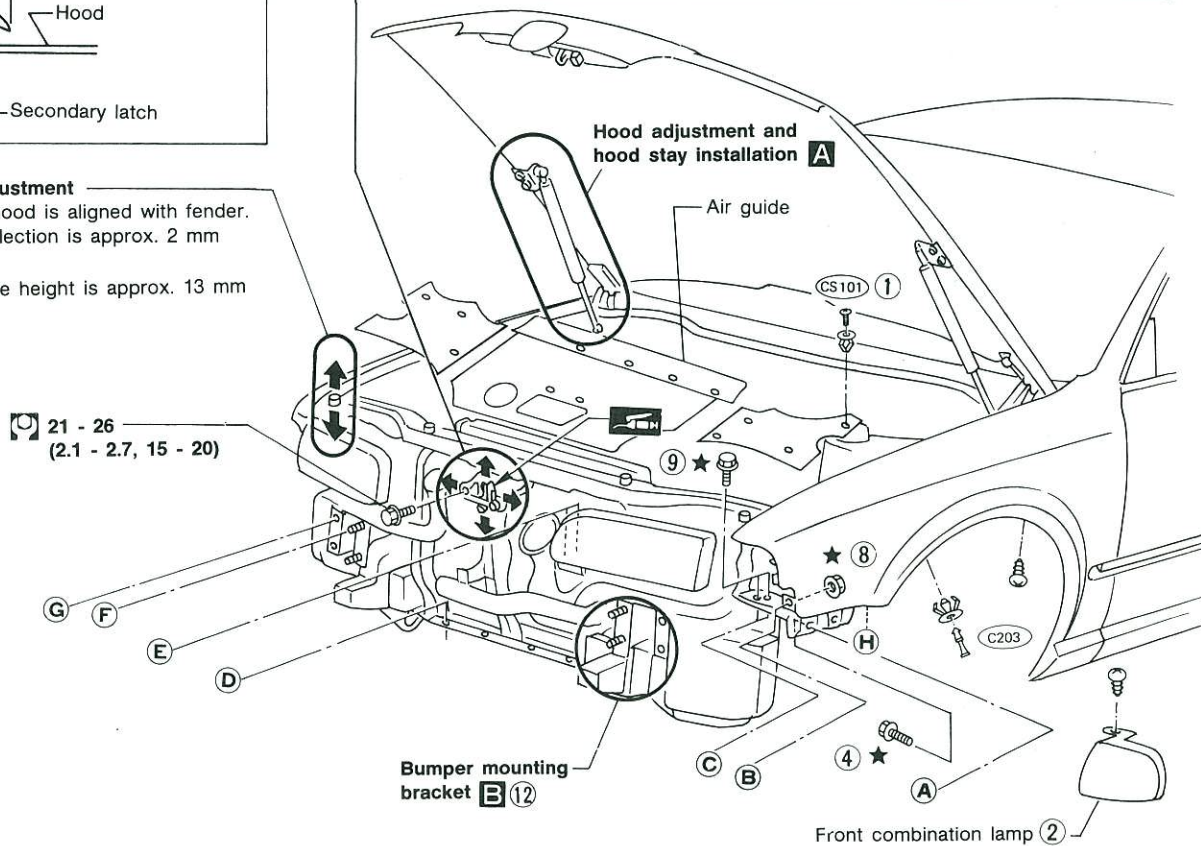
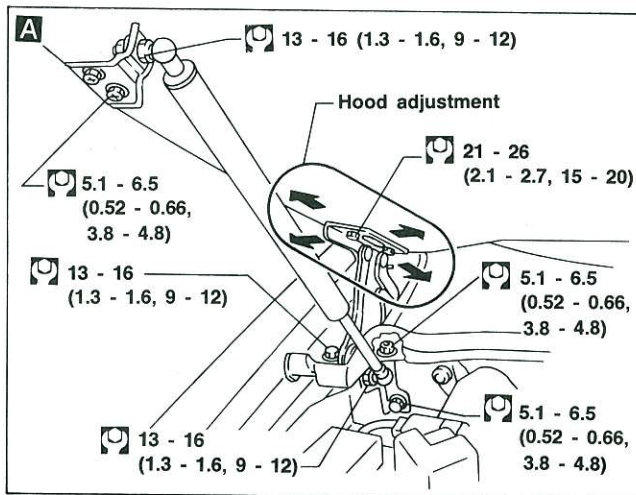
More than 5.0 mm (0.197 in)



Bumper rubber adjustment

- Adjust so that hood is aligned with fender. At that time deflection is approx. 2 mm (0.08 in).

[Bumper rubber free height is approx. 13 mm (0.51 in).]



TROUBLE DIAGNOSES — Front Driver's Power Seat except for Automatic Drive Positioner

Electrical Components Inspection (Cont'd)

Check front lifting limit switch.

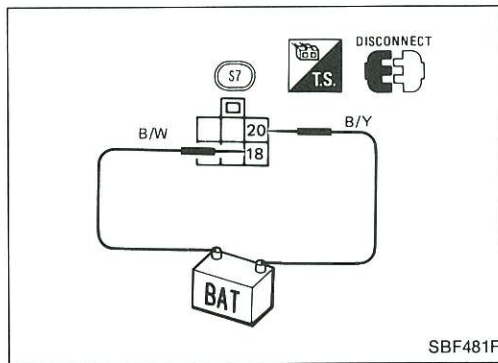
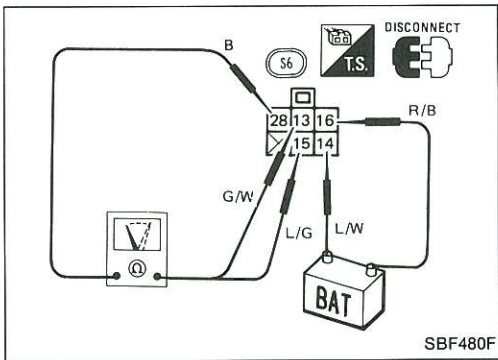
3. Check continuity between terminals ⑳ and ⑬, ⑮ with battery voltage supplied to terminals ⑭ and ⑯.

+	-	Ohmmeter	
⑭	⑯	⑮	⑳
⑯	⑭	⑬	

The needle of the ohmmeter should swing.

4. If any one of the results of 2 and 3 above is N.G., replace front lifting motor.

When installing front lifting motor, refer to "POWER SEAT MOTOR INSTALLATION" described in "Front Seat" in "SEAT" section.



REAR LIFTING MOTOR

Check motor.

1. Disconnect rear lifting motor connector ⑳.
2. Check rear lifting device operation with battery voltage supplied to terminals.

+	-	Front lifting device operation	
⑱	⑳	Upward	
⑳	⑱	Downward	

Check rear lifting limit switch.

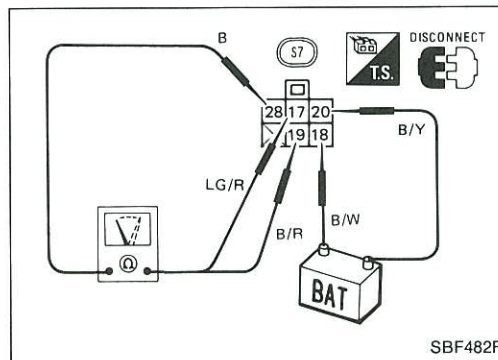
3. Check continuity between terminals ⑳ and ⑰, ⑲ with battery voltage supplied to terminals ⑱ and ⑳.

+	-	Ohmmeter	
⑱	⑳	⑲	㉑
⑳	⑱	⑰	

The needle of the ohmmeter should swing.

4. If any one of the results of 2 and 3 above is N.G., replace rear lifting motor.

When installing rear lifting motor, refer to "POWER SEAT MOTOR INSTALLATION" described in "Front Seat" in "SEAT" section.



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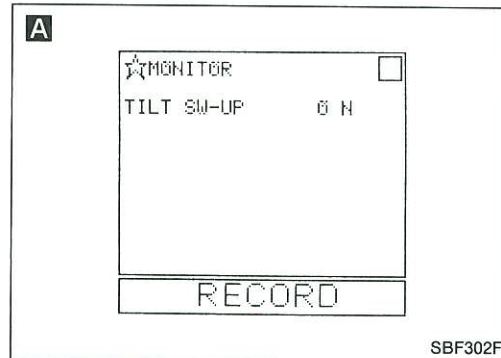
TROUBLE DIAGNOSES — Automatic Drive Positioner

Diagnostic Procedure 5 (Cont'd)



Diagnostic Procedure 5-3: Procedure with CONSULT when one of the manual operations (tilt or telescopic) is malfunctioning.

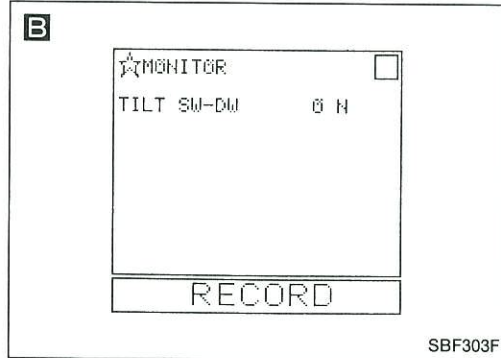
Connect CONSULT to vehicle.



A
CHECK TILT UP SWITCH.
See "TILT SW-UP" in DATA MONITOR mode.
"TILT SW-UP" should change from "OFF" to "ON" when tilt up switch is turned ON.

N.G. → Go to **Diagnostic Procedure 5-1.**

O.K. ↓



B
CHECK TILT DOWN SWITCH.
See "TILT SW-DW" in DATA MONITOR mode.
"TILT SW-DW" should change from "OFF" to "ON" when tilt down switch is turned ON.

N.G. → Go to **Diagnostic Procedure 5-1.**

O.K. ↓



C
CHECK TELESCOPIC FRONT SWITCH.
See "TELESCO SW-FR" in DATA MONITOR mode.
"TELESCO SW-FR" should change from "OFF" to "ON" when telescopic front switch is turned ON.

N.G. → Go to **Diagnostic Procedure 5-2.**

O.K. ↓



D
CHECK TELESCOPIC REAR SWITCH.
See "TELESCO SW-RR" in DATA MONITOR mode.
"TELESCO SW-RR" should change from "OFF" to "ON" when telescopic rear switch is turned ON.

N.G. → Go to **Diagnostic Procedure 5-2.**

O.K. ↓

INSPECTION END

V-5 Variable Displacement Compressor

GENERAL INFORMATION

1. The V-5 variable compressor differs from previous units in that the vent temperatures do not drop too far below 5°C (41°F) at an evaporator intake air temperature of less than 20°C (68°F) while the engine is running at speeds less than 1,500 rpm. This is because the V-5 compressor provides a means of "capacity" control.
2. The V-5 variable compressor provides refrigerant control under varying conditions. During the winter season when ambient temperatures are low, it sometimes does not produce high refrigerant pressure discharge (compared to previous units) when used with automobile air conditioning systems. Vapor bubbles in the sight glass also may not disappear. However, these are not symptoms of a problem. When charging the refrigerant, always use an accurate refrigerant measuring device. Extreme care should be taken not to charge the refrigerant excessively. Do not charge the system by the sight glass.
3. A "clanking" sound may occasionally be heard during refrigerant charge. The sound indicates that the tilt angle of the swash plate has changed and is not a problem.
4. In air conditioning systems which are equipped with the V-5 compressor, the clutch remains engaged unless the system main switch, fan switch or ignition switch is turned OFF. When ambient (outside) temperatures are low or when the amount of refrigerant is insufficient, the clutch is disengaged to protect the compressor.
5. A constant range of suction pressure is maintained when engine speed is greater than a certain value. It normally ranges from 147 to 177 kPa (1.5 to 1.8 kg/cm², 21 to 26 psi) under varying conditions. In previous compressors, however, suction pressure was reduced with increases in engine speed.

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DESCRIPTION

General

The variable compressor is basically a swash plate type that changes piston stroke in response to the required cooling capacity. The tilt of the swash plate allows the piston's stroke to change so that refrigerant discharge can be continuously changed from 3 to 146 cm³ (0.18 to 8.91 cu in).

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