

NISSAN PULSAR NX

**SUPPLEMENTAL
RESTRAINT SYSTEM "AIR BAG"
MODEL N13 SERIES**

FOREWORD

This supplement contains information concerning necessary service procedures and relevant data for the 1989 NISSAN PULSAR NX SUPPLEMENTAL RESTRAINT SYSTEM "AIR BAG".

APPLIED FROM :
JN1CN34CXKW400001

*: Check digit (0 to 9 or X).

All information, illustrations and specifications contained in this supplement are based on the latest product information available at the time of publication. If your NISSAN model differs from the specifications contained in this supplement, consult your NISSAN dealer for information. The right is reserved to make changes in specifications and methods at any time without notice.

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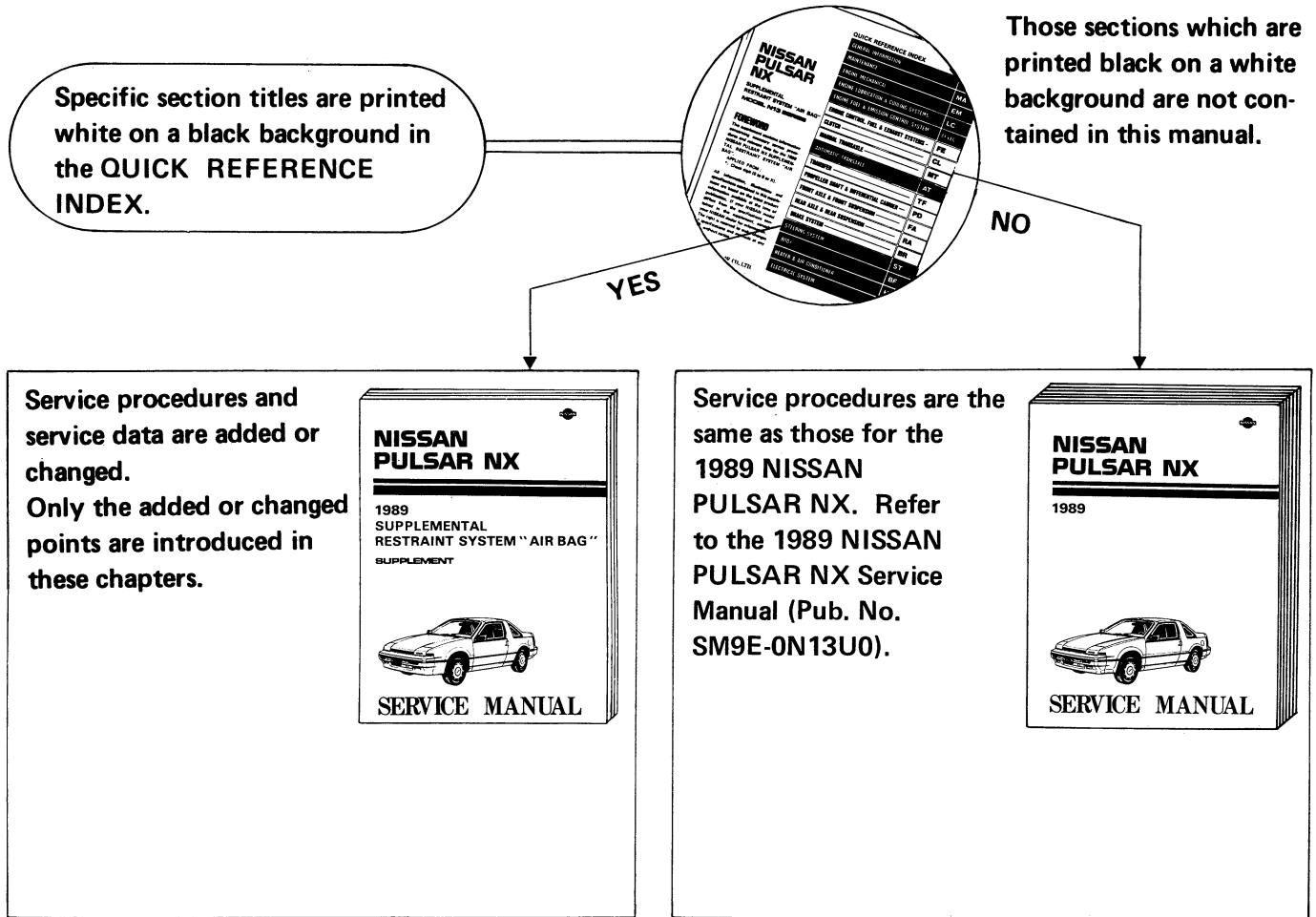
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HOW TO USE THIS MANUAL

- ▶ This Service Manual contains the new service procedures, service data and specifications for the 1989 NISSAN PULSAR NX "AIR BAG model" which has been in production since January, 1989.
- ▶ This Service Manual does not contain the service procedures, etc. which are the same as those for the 1989 NISSAN PULSAR NX models.
Please use this manual in conjunction with the 1989 PULSAR NX Service Manual (Pub. No. SM9E-0N13U0).



IMPORTANT SAFETY NOTICE

The proper performance of service is essential for both the safety of the mechanic and the efficient functioning of the vehicle.

The service methods in this Service Manual are described in such a manner that the service may be performed safely and accurately.

Service varies with the procedures used, the skills of the mechanic and the tools and parts available. Accordingly, anyone using service procedures, tools or parts which are not specifically recommended by NISSAN must first completely satisfy himself that neither his safety nor the vehicle's safety will be jeopardized by the service method selected.

GENERAL INFORMATION

GI

SECTION **GI**

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APPLIED FROM : JN1CN34CXKW400001

OUTLINE OF MODIFICATION :

The Supplemental Restraint System "AIR BAG" has been adopted on SE models for U.S.A.

PRECAUTIONS

Supplemental Restraint System "AIR BAG"



The Pulsar NX has, as an option, a Supplemental Restraint System "Air Bag", to help reduce the risk or severity of injury to the driver in a frontal collision. The Supplemental Restraint System consists of an air bag (located in the center of the steering wheel), five sensors, a control unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the BF section of this Service Manual Supplement and this should be used together with the original Service Manual.

WARNING:

- a. To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized NISSAN dealer.
- b. Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- c. All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation and related components are located in the steering column, center console, dash, upper radiator core support and front fenders. Do not use electrical test equipment on these circuits.

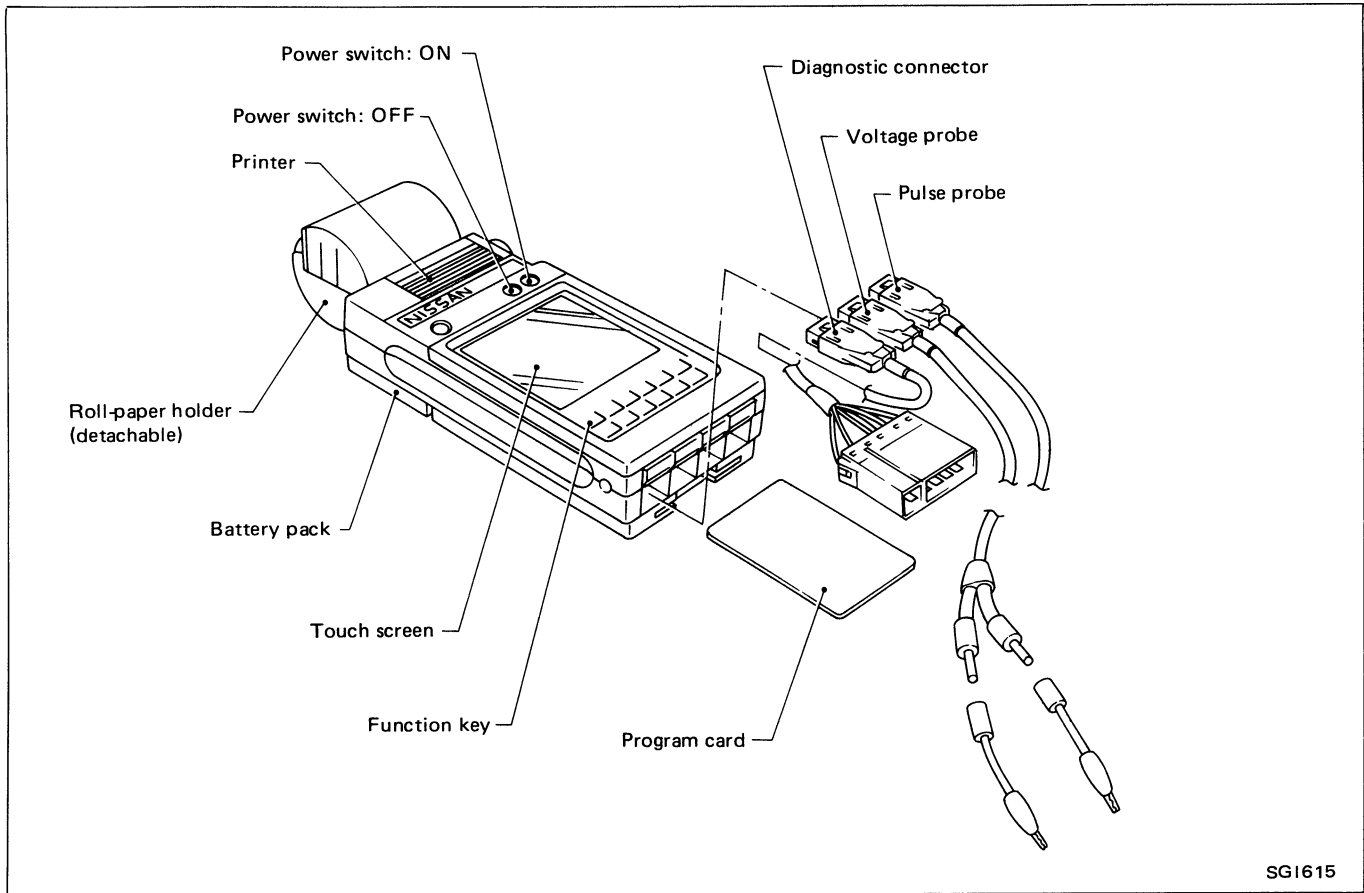
HOW TO FOLLOW FLOW CHART IN TROUBLE DIAGNOSES

Key to symbols signifying measurements or procedures

Symbol	Symbol explanation
	Procedure with CONSULT
	Procedure without CONSULT

CONSULT CHECKING SYSTEM

Outside View



System Application

	System	Airbag
Diagnostic mode		
Self-diagnostic results		X

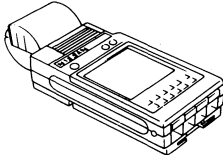
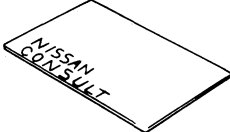

X: Applicable

Function

Diagnostic mode	Function
Self-diagnostic results	Self-diagnostic results can be read and erased quickly

CONSULT CHECKING SYSTEM

Checking Equipment

Tool name	Description
NISSAN CONSULT	 A handheld electronic diagnostic tool with a screen and various buttons.
Program card	 A small rectangular card with the text "NISSAN CONSULT" printed on it.
CONSULT operation manual	 An open book or manual with multiple pages.

When ordering the above equipment, contact your NISSAN distributor.

IDENTIFICATION INFORMATION

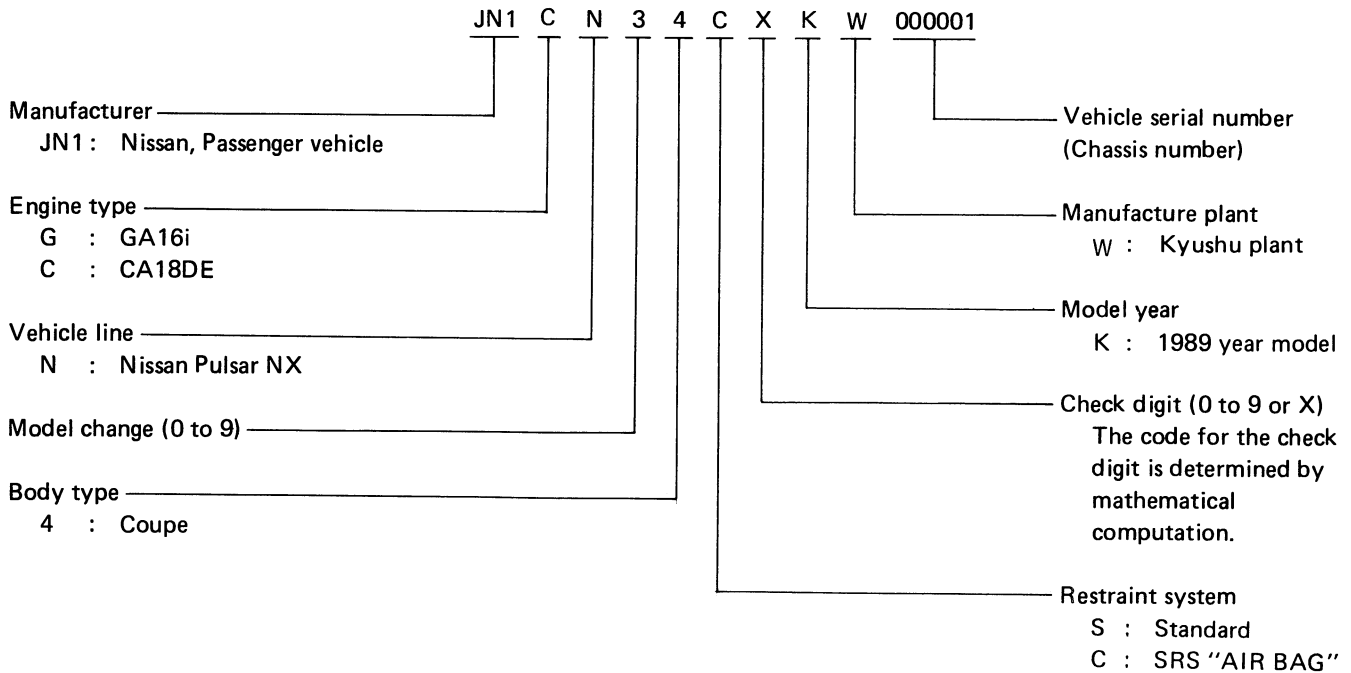
Model Variation

Destination	Body	Engine Transaxle Grade	GA16i		CA18DE	
			RS5F31A (M/T)	RL3F01A (A/T)	RS5F50A (M/T)	RL4F02A (A/T)
Non-California, U.S.A.	Coupe	XE	KGLN13FIU	KGLN13AIU	—	—
		SE	—	—	KCLN13GFEU*	KCLN13GAEU*
California, U.S.A.		XE	KGLN13FIV	KGLN13AIV	—	—
		SE	—	—	KCLN13GFEV*	KCLN13GAEV*
Canada		XE	KGLN13FIN	KGLN13AIN	—	—
		SE	—	—	KCLN13GFEN	KCLN13GAEN

*: SRS "AIR BAG" equipped optionally

Identification Number

VEHICLE IDENTIFICATION NUMBER ARRANGEMENT



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PERIODIC MAINTENANCE MA-2

PRECAUTIONS

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PERIODIC MAINTENANCE

The following chart shows the normal maintenance schedule. Under severe driving conditions, additional or more frequent maintenance will be required. Refer to "Maintenance under severe driving conditions" in the original Service Manual.

The periodic maintenance schedule is repeated beyond the last mileage and period shown by returning to the first 15,000 miles (24,000 km) or 12 months.

Chassis and body maintenance

MAINTENANCE OPERATION	Miles x 1,000 (km x 1,000) Months	MAINTENANCE INTERVAL				Reference page*1
		15	30	45	60	
		(24)	(48)	(72)	(96)	
Perform at number of miles, kilometers or months, whichever comes first.		12	24	36	48	
Brake lines & hoses		I	I	I	I	
Brake pads, discs, drums & linings		I	I	I	I	
Manual & automatic transaxle gear oil		I	I	I	I	
Steering gear & linkage, axle & suspension parts			I		I	
Front drive shaft boots		I	I	I	I	
Exhaust system		I	I	I	I	
Air bag system	See NOTE (1).					BF-12

NOTE: (1) Inspect the air bag system 10 years after the date of manufacture as noted on the certification label located on the left center pillar.

Abbreviations: I = Inspect. Correct or replace if necessary.

*1: Refer to the already published Service Manual if not specified.

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ENGINE LUBRICATION & COOLING SYSTEMS

SECTION **LC**

LC

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ENGINE FUEL & EMISSION CONTROL SYSTEM

SECTION **EF & EC**

EF & EC

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AUTOMATIC TRANSAXLE

SECTION **AT**

MODIFICATION NOTICE :

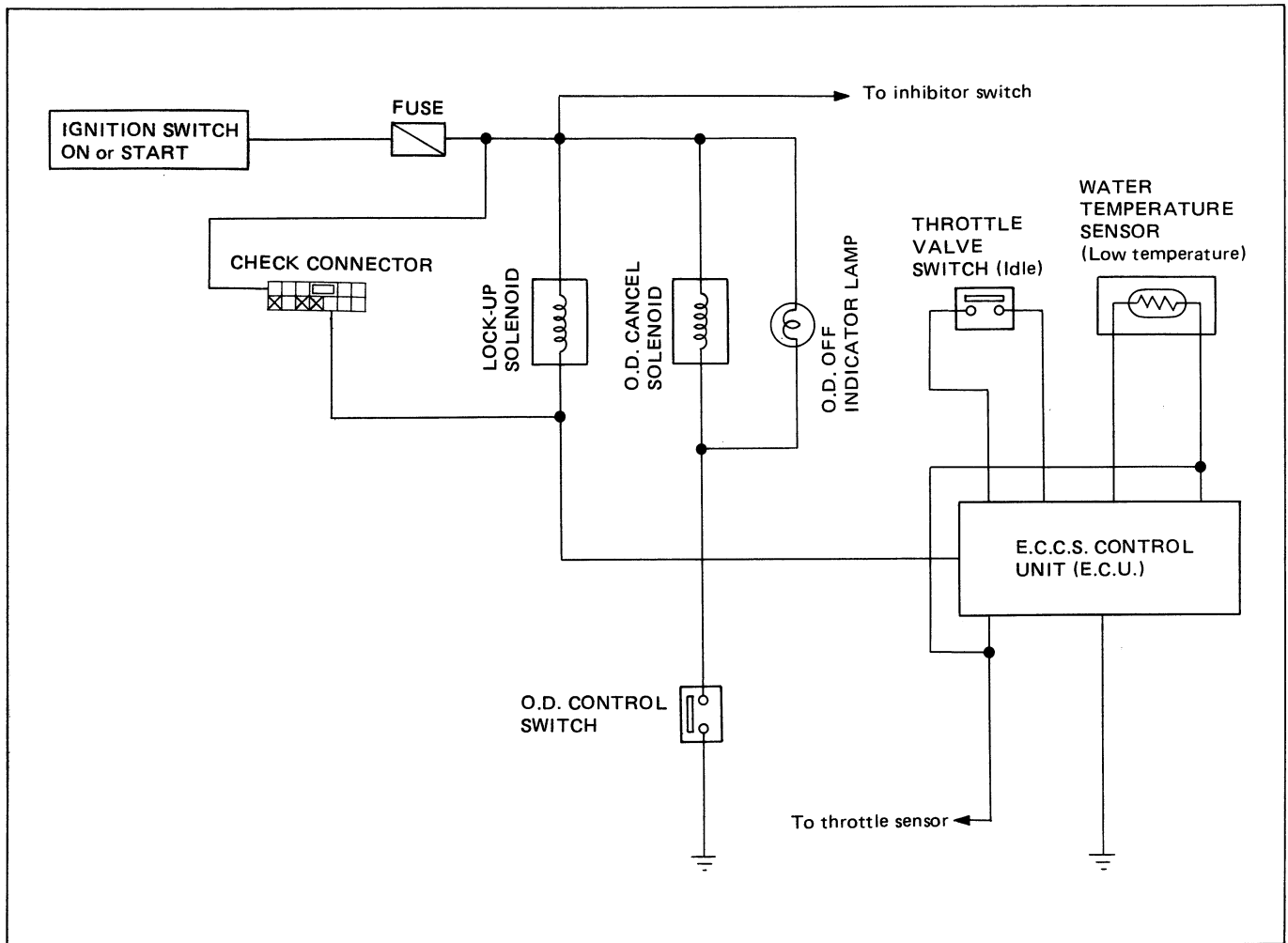
The O.D. OFF indicator lamp is now built into the O.D. control switch. It was previously located above the combination meter on the instrument panel.

CONTENTS

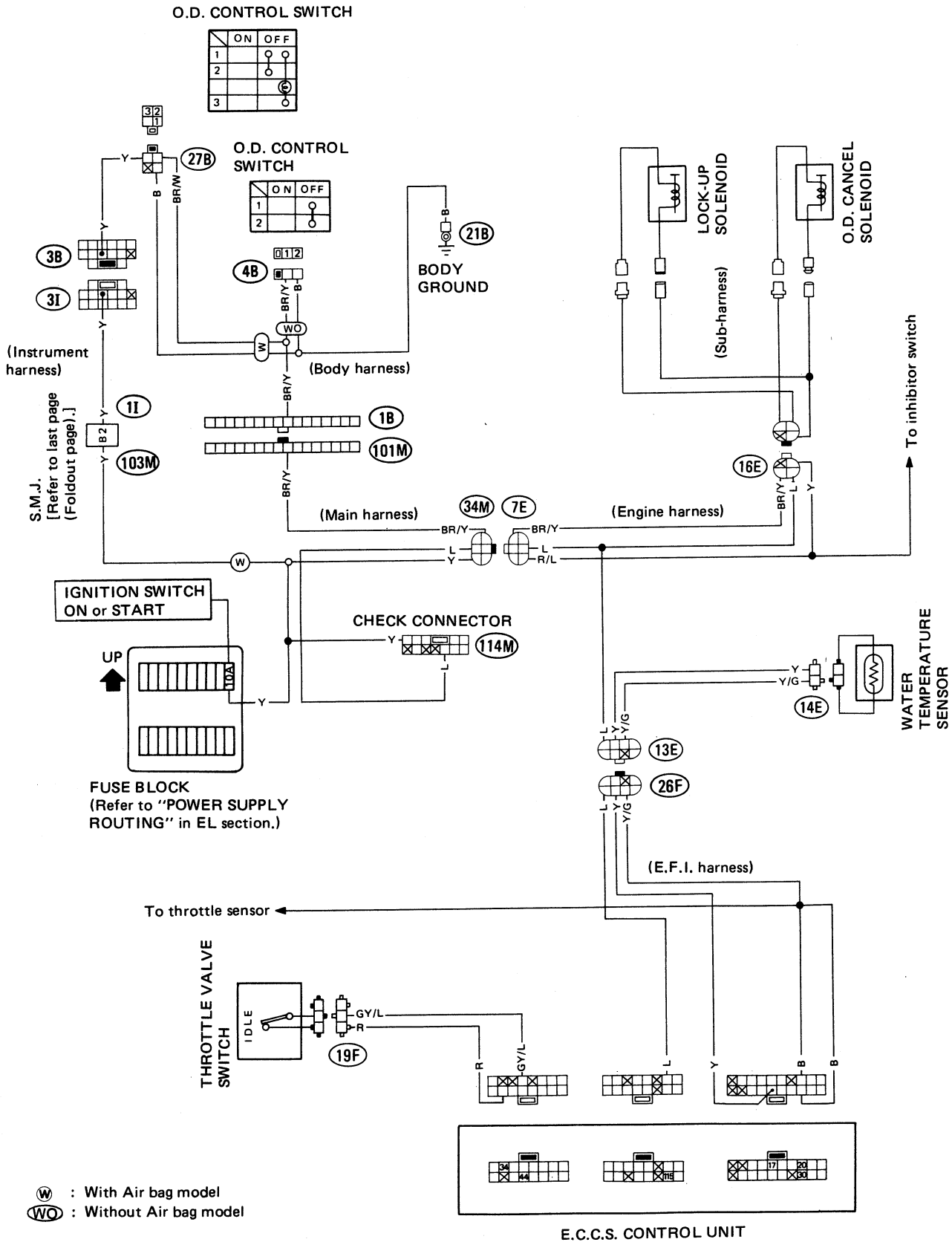
TROUBLE-SHOOTING AND DIAGNOSES (RL4F02A)	AT-2
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Electrical System/Schematic



Electrical System/Wiring Diagram



STEERING SYSTEM

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PRECAUTIONS

Supplemental Restraint System "AIR BAG"

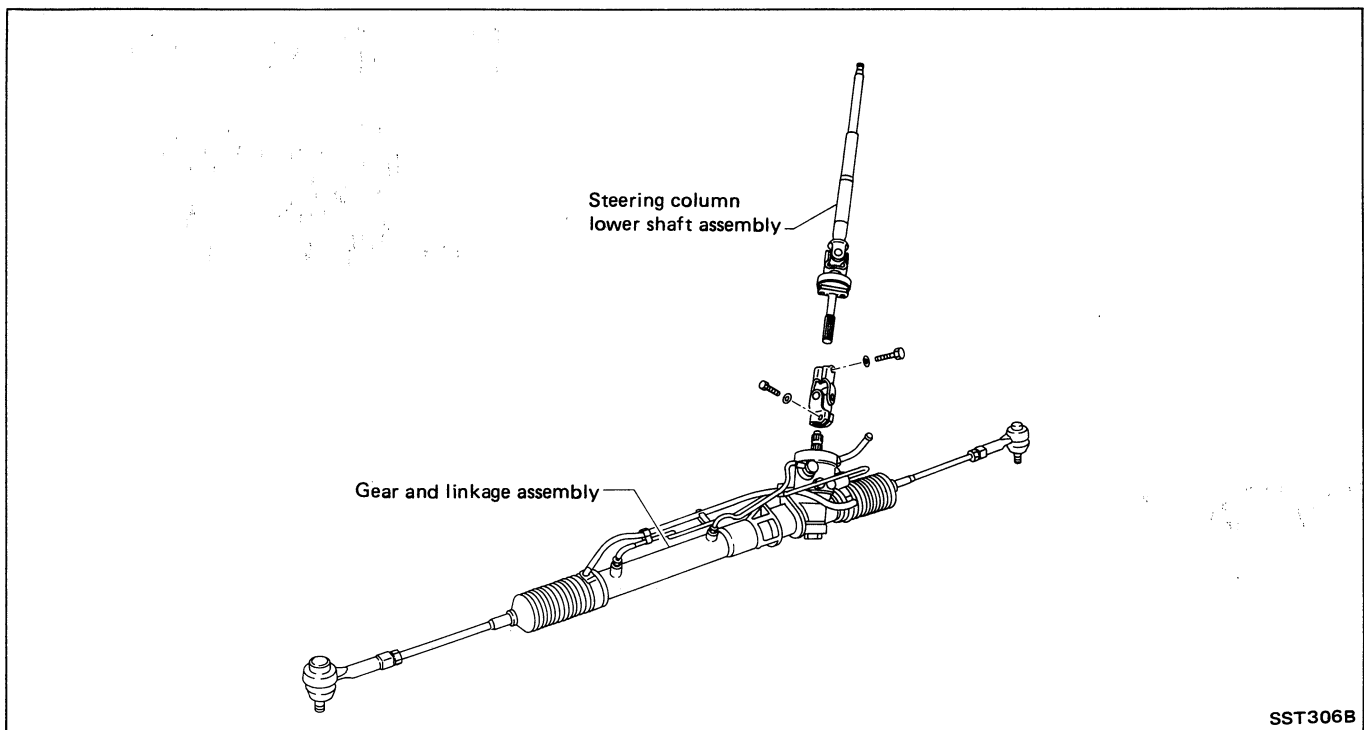
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ST

STEERING GEAR



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.

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PRECAUTIONS

Supplemental Restraint System "AIR BAG"

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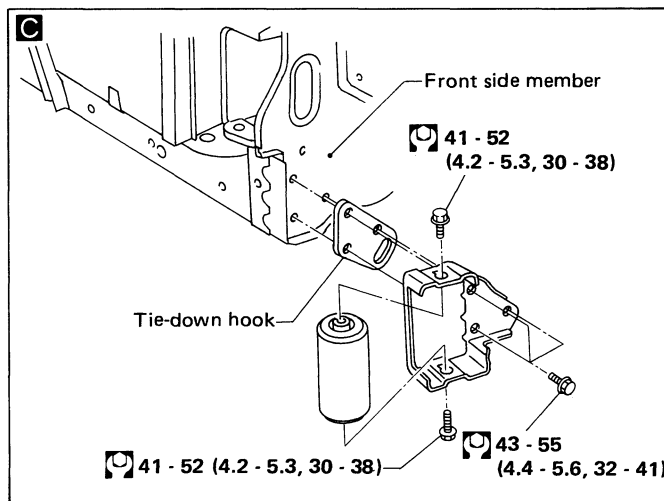
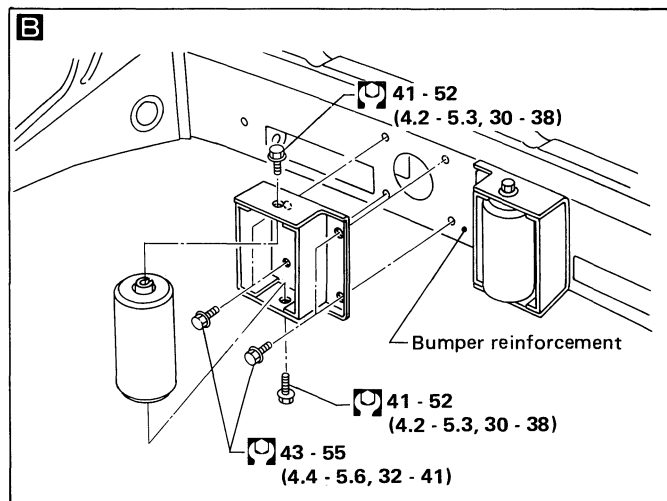
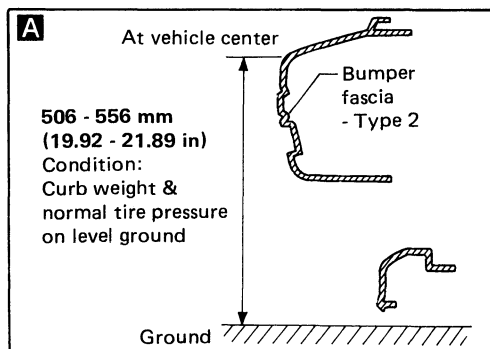
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BODY END

Body Front End

- Hood adjustment: Adjust at hinge portion.
- Hood lock adjustment: After adjusting, check hood lock control operation. Apply a coat of grease to hood lock engaging mechanism.
- Hood lock control cable: Do not attempt to bend cable forcibly. Doing so increases effort required to unlock hood.
- Bumper fascia: It is made of plastic, so do not use excessive force and take care to keep oil away from it.
- Front grille: It is made of plastic, so do not use excessive force and take care to keep oil away from it.



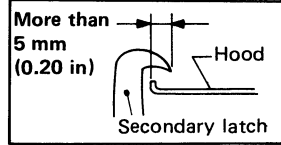
BODY END

Body Front End (Cont'd)

Hood lock adjustment

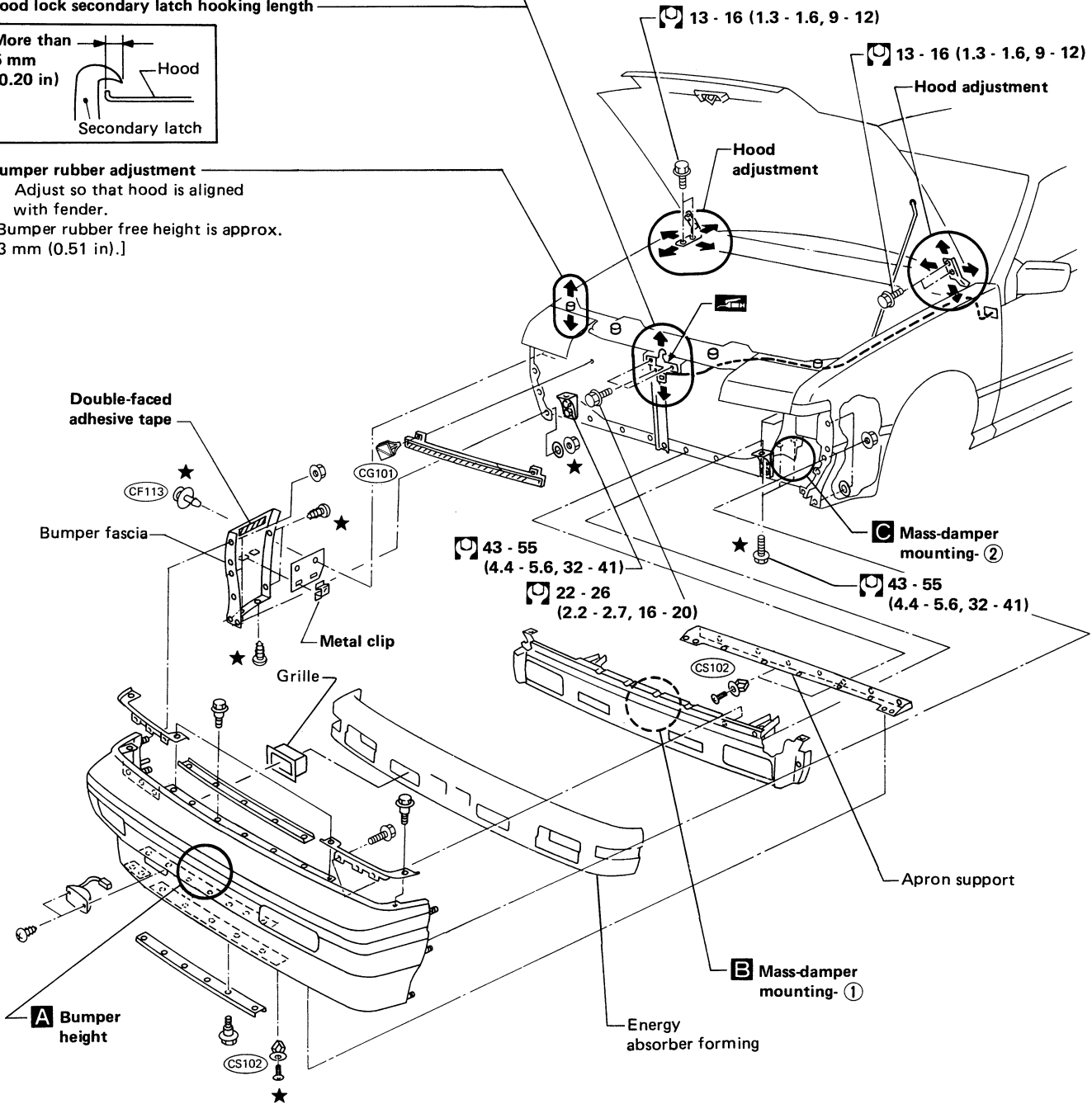
- Adjust lock so that hood primary lock meshes at a position where hood is 1 to 1.5 mm (0.039 to 0.059 in) lower than fender.
- After hood lock adjustment, adjust bumper rubber.
- When securing hood lock, ensure it does not tilt. Striker must be positioned at the center of hood primary lock.
- After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

Hood lock secondary latch hooking length



Bumper rubber adjustment

- Adjust so that hood is aligned with fender.
- [Bumper rubber free height is approx. 13 mm (0.51 in).]

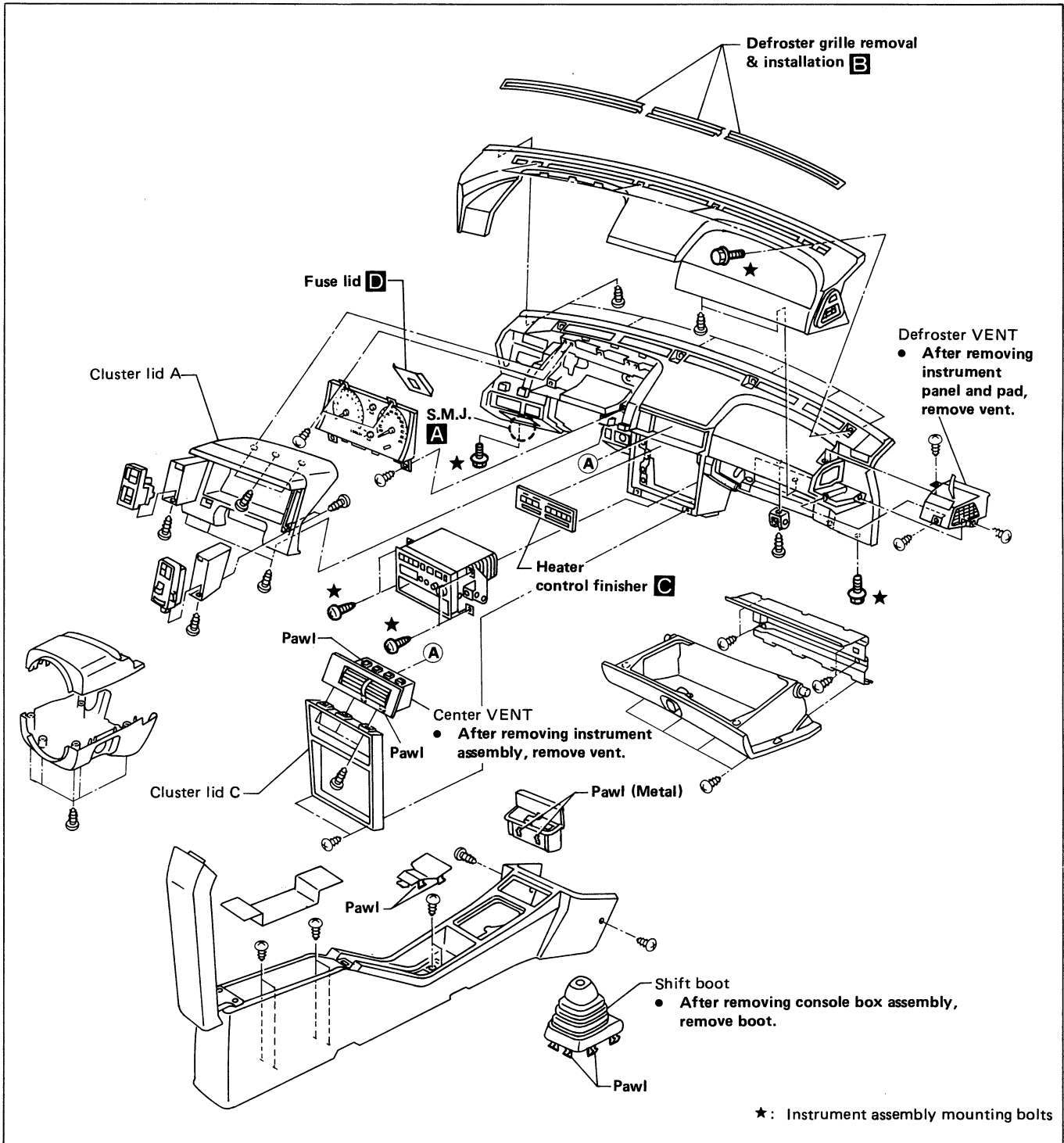


★ : Bumper assembly mounting bolts, nuts, and clips

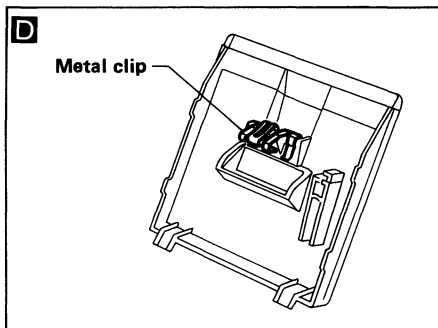
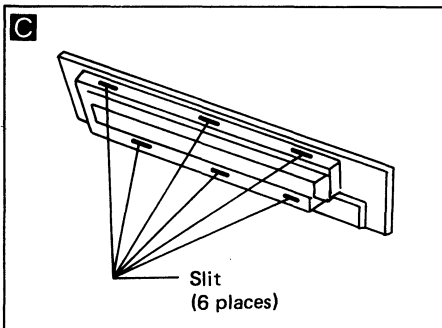
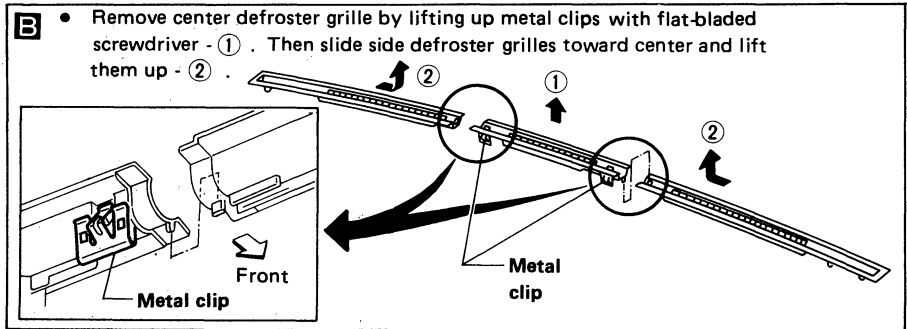
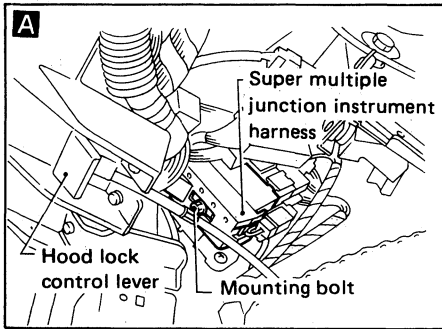
☞ : N-m (kg-m, ft-lb)

INSTRUMENT

- These parts are made of plastic, so do not use excessive force and be careful not to damage them.
- When you remove instrument assembly, you should remove Front defroster grille, Cluster lid A, Combination meter, Cluster lid C, Heater control finisher, Heater control, Radio, S.M.J. and Hood lock control lever first.



INSTRUMENT

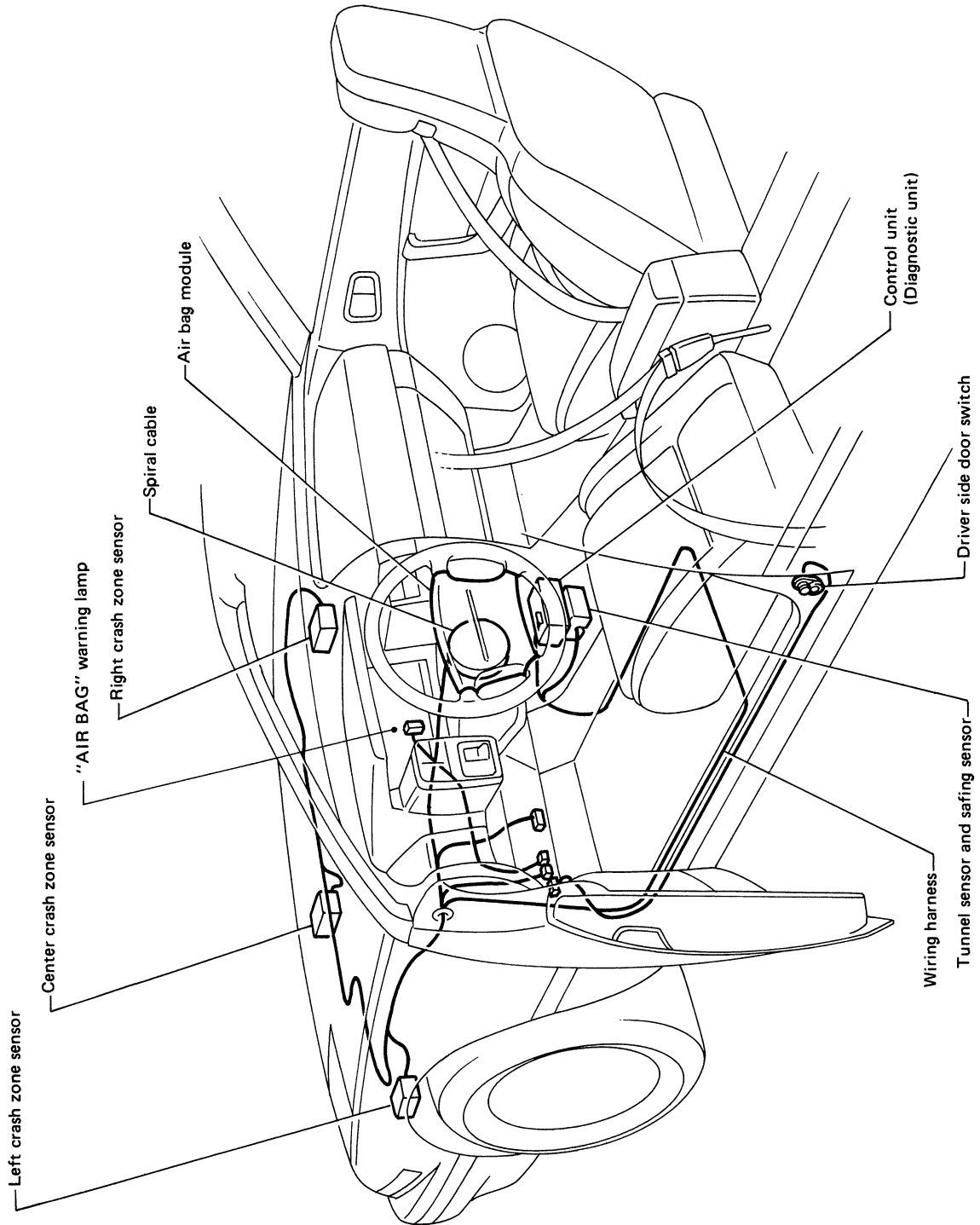


Precautions for SRS “Air Bag” Service

- Do not use a circuit tester to check SRS circuits.
- Before servicing the SRS, turn ignition switch “OFF”, disconnect battery ground cable and wait for at least 10 minutes. For approximately ten minutes after the cables are removed, it is still possible for the air bag to inflate. Therefore, do not work on any air bag system connectors or wires until at least ten minutes have passed.
- SRS sensors must always be installed with their arrow marks “ ← ” facing the front of the vehicle for proper operation. Also check sensors for cracks, deformities or rust before installation and replace as required.
- The spiral cable must be aligned with the neutral position since its rotations are limited. Do not attempt to turn steering wheel or column after removal of steering gear.
- Handle air bag module carefully. Always place it with the pad side facing upward.
- After removing any SRS parts, discard old bolts and replace with new ones. Conduct self-diagnosis to check entire SRS for proper function.
- If front of vehicle is damaged in a collision, always check the three crash zone sensors and the wiring harness.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

SRS Component Parts Location

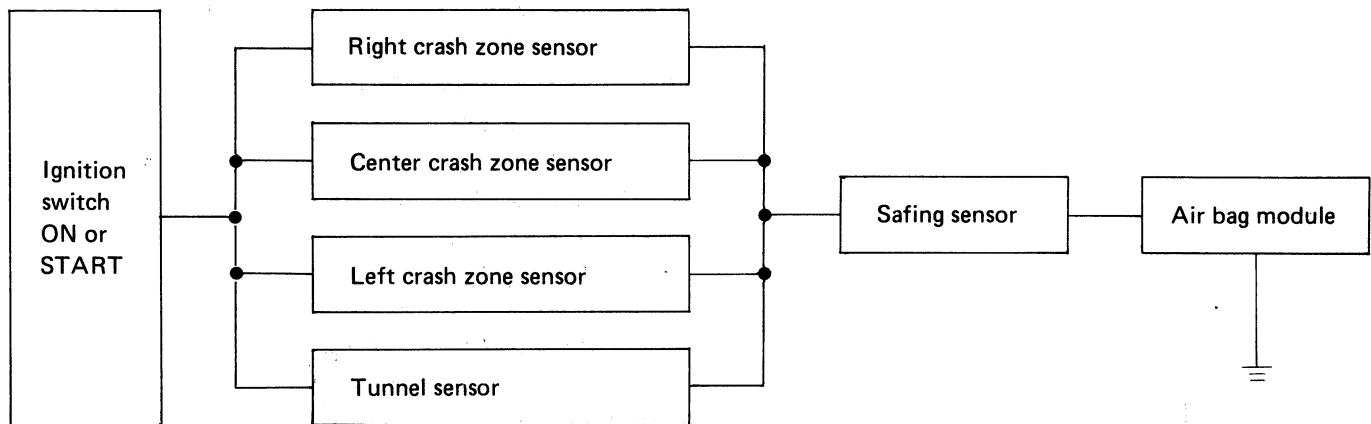


SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Description

The air bag deploys when any of the four sensors (right crash zone sensor, center crash zone sensor, left crash zone sensor or tunnel sensor) and the safing sensor simultaneously activate while the ignition switch is "ON".

Ignition	Crash zone sensor			Tunnel sensor	Safing sensor	Air bag signal
	Right	Center	Left			
ON	ON				ON	ON
ON		ON			ON	ON
ON			ON		ON	ON
ON				ON	ON	ON



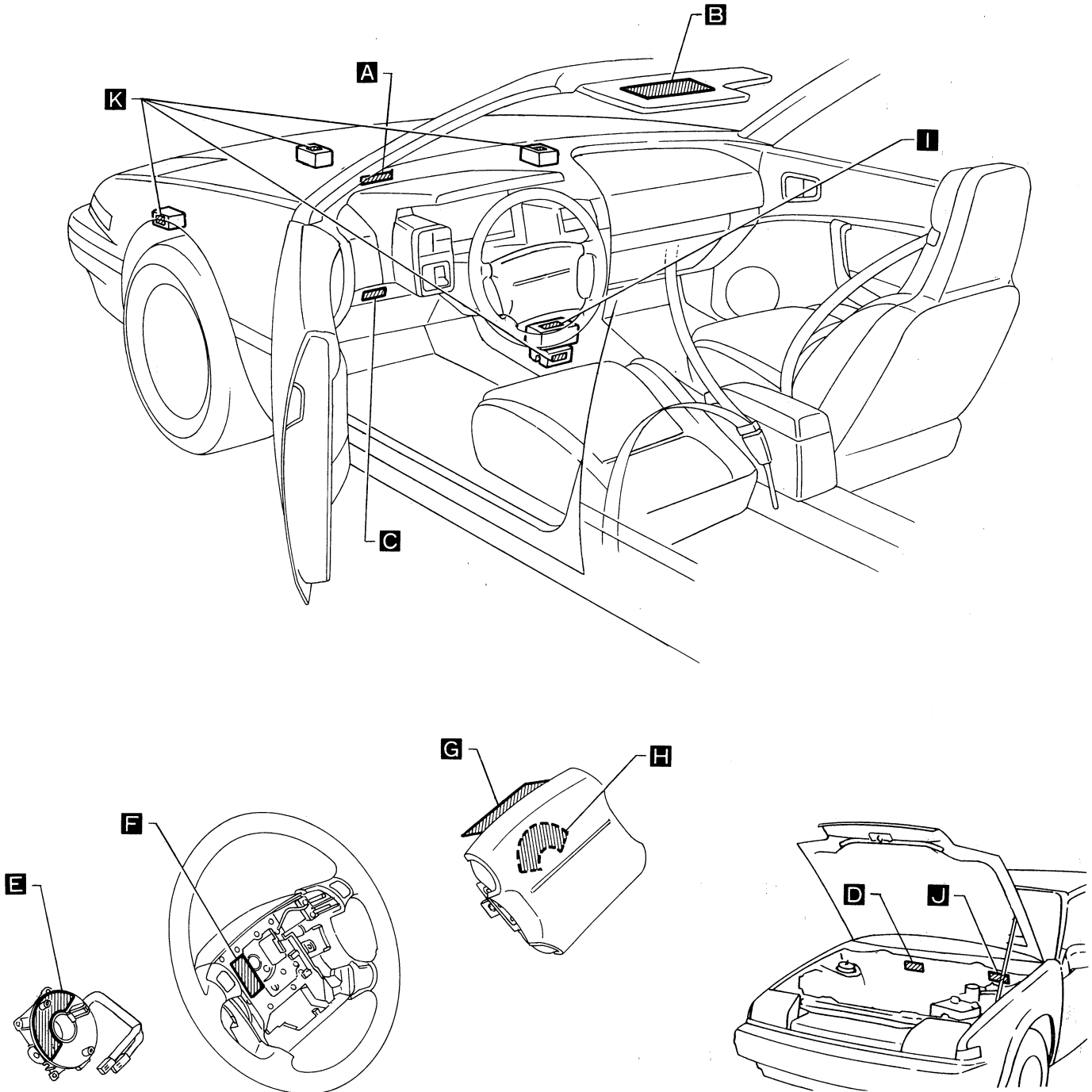
Self-diagnosis

The control unit (diagnostic unit) diagnoses the SRS circuit. When the ignition key is in the "ON" or "START" position, the "AIR BAG" warning lamp will illuminate for about 7 seconds and then turn off. This means that the system is operational.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Caution Labels

The CAUTION LABELS are important when servicing air bags in the field. If they are dirty or damaged, replace them with new ones.



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Caution Labels (Cont'd)

A

DRIVER-AIRBAG

B

INFORMATION SRS AIRBAG

- THIS CAR IS EQUIPPED WITH A DRIVER AIR BAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.) TO REDUCE INJURY TO THE DRIVER IN A FRONTAL COLLISION.
- THE SYSTEM IS DESIGNED TO SUPPLEMENT THE ACCIDENT PROTECTION PROVIDED BY THE DRIVER'S SEAT BELT. BUT IT IS NOT A SUBSTITUTE FOR THE BELT SYSTEM.
- ALWAYS WEAR YOUR SEAT BELT WHEN THE CAR IS IN USE.
- THE SYSTEM MUST BE INSPECTED 10 YEARS AFTER DATE OF MANUFACTURE, AS NOTED ON THE CERTIFICATION LABEL LOCATED ON THE LEFT FRONT DOOR.
- THE "AIRBAG" LAMP WILL LIGHT MOMENTARILY WHEN THE IGNITION KEY IS TURNED TO THE "ON" OR "START" POSITION. THIS MEANS THE SYSTEM IS OPERATIONAL.
- HOWEVER, IF ANY OF THE FOLLOWING CONDITIONS OCCUR, THE SYSTEM MUST BE SERVICED:
 1. THE "AIR BAG" LAMP DOES NOT GO ON AS DESCRIBED ABOVE.
 2. THE "AIRBAG" LAMP FLASHES INTERMITTENTLY OR REMAINS ON.
 3. ANY PORTION OF THE FRONT END OF THE CAR IS DAMAGED.
 4. THE AIR BAG HAS DEPLOYED.
- SEE YOUR OWNER'S MANUAL FOR DETAILS ABOUT THE FUNCTIONING, SERVICE, AND DISPOSAL PROCEDURES FOR THE SYSTEM.

C

NOTICE SRS AIRBAG

- THIS CAR IS EQUIPPED WITH A DRIVER AIR BAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.)
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- ALWAYS WEAR YOUR SEAT BELT.

D

WARNING SRS AIRBAG

- THIS CAR IS EQUIPPED WITH A DRIVER AIR BAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.)
- ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
- DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.
- TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING AND CONNECTORS COULD RESULT IN ACCIDENTAL DEPLOYMENT OF THE AIR BAG OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

E

CAUTION SRS AIRBAG

- BEFORE ASSEMBLY;
 - LINE UP THE FRONT WHEELS STRAIGHT AHEAD.
 - ALIGN THE ARROW WITH THE YELLOW MARK ON THE SIDE GEAR.
 - READ SERVICE MANUAL.
- NO SERVICEABLE PARTS INSIDE.
- DO NOT DISASSEMBLE OR TAMPER.

F

WARNING SRS AIRBAG

- BEFORE MOUNTING STEERING WHEEL;
- MAKE SURE THAT THE FRONT WHEELS ARE IN STRAIGHT-AHEAD POSITION.
 - ALIGN THE ARROW WITH THE YELLOW MARK ON THE SIDE GEAR. (SPIRAL CABLE)
 - READ SERVICE MANUAL.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Caution Labels (Cont'd)

G

WARNING

SRS AIRBAG

- THIS AIRBAG MODULE CANNOT BE REPAIRED.
- USE DIAGNOSTIC INSTRUCTIONS TO DETERMINE IF THE UNIT IS OPERATIONAL.
- IF NOT OPERATIONAL, REPLACE AND DISPOSE OF THE ENTIRE UNIT AS DIRECTED IN THE INSTRUCTIONS.
- UNDER NO CIRCUMSTANCES SHOULD A DIAGNOSIS BE PERFORMED USING ELECTRICALLY POWERED TEST EQUIPMENT OR PROBING DEVICES.
- TAMPERING OR MISHANDLING CAN RESULT IN PERSONAL INJURY.
- STORE THE REMOVED AIRBAG MODULE WITH THE PAD SURFACE UP.
- FOR SPECIAL HANDLING OR STORAGE REFER TO SERVICE MANUAL.

I

CAUTION SRS AIRBAG

- NO SERVICEABLE PARTS INSIDE.
- DO NOT DISASSEMBLE OR TAMPER.
- DO NOT DROP; KEEP DRY.
- WHILE REMOVED, STORE IN A CLEAN AND DRY AREA.

J

CAUTION SRS AIRBAG

- TO AVOID DAMAGING THE S.R.S. SPIRAL CABLE, WHICH COULD MAKE THE SYSTEM INOPERATIVE, REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING LOWER JOINT.

H

DANGER POISON

- KEEP OUT OF THE REACH OF CHILDREN.
- CONTAINS SODIUM AZIDE AND POTASSIUM NITRATE.
- CONTENTS ARE POISONOUS AND EXTREMELY FLAMMABLE.
- CONTACT WITH ACID, WATER OR HEAVY METALS MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS.
- DO NOT DISMANTLE, INCINERATE, OR BRING INTO CONTACT WITH ELECTRICITY OR STORE AT TEMPERATURES EXCEEDING 200°F.
- FIRST AID: IF CONTENTS ARE SWALLOWED, INDUCE VOMITING;
 - FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES
 - IF GASES FROM ACID OR WATER CONTACT ARE INHALED, SEEK FRESH AIR
 - IN EVERY CASE, GET PROMPT MEDICAL ATTENTION
- FOR ADDITIONAL INFORMATION, SEE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT.

K

WARNING

SRS AIRBAG

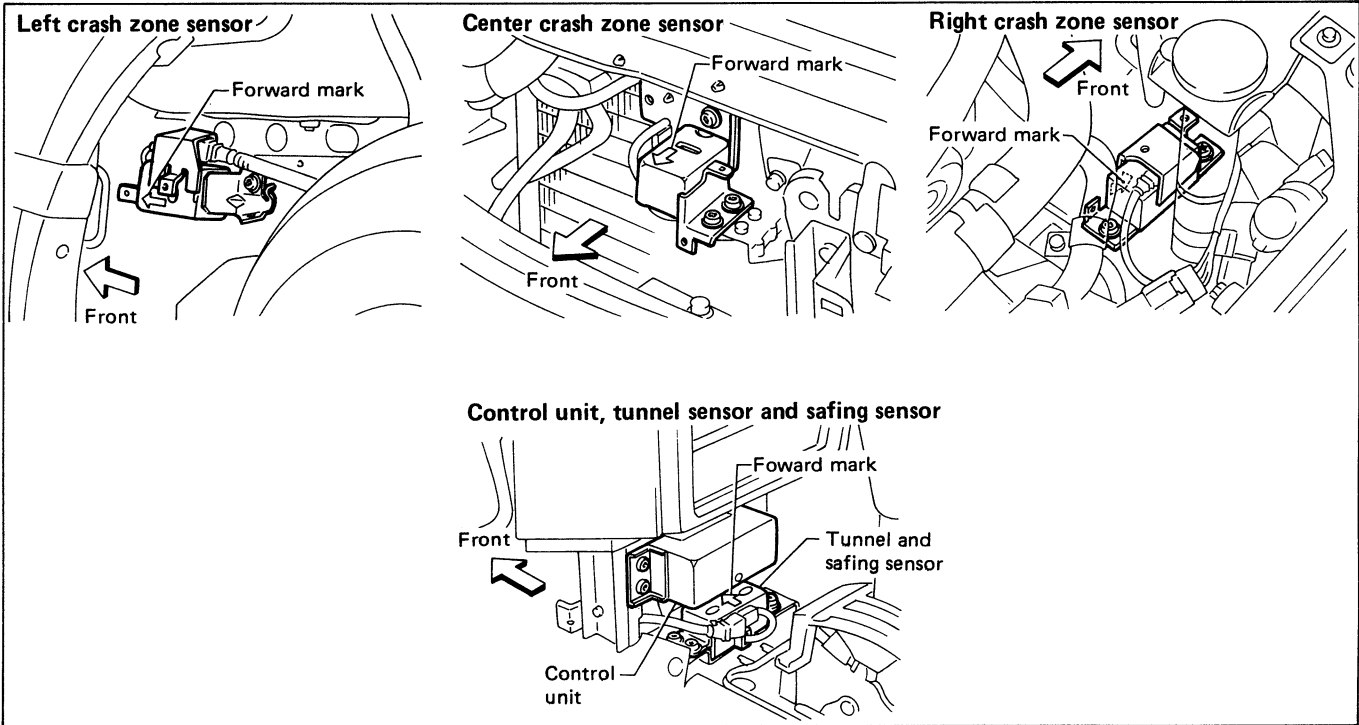
- DO NOT DISASSEMBLE OR TAMPER.
- DISMANTLING AND INSTALLATION SHOULD ONLY BE PERFORMED BY TRAINED PERSONNEL.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)



Maintenance Items

1. Check "AIR BAG" warning lamp
When the ignition key is in the "ON" or "START" position, the "AIR BAG" warning lamp will illuminate for about 7 seconds and then turn off. This means that the system is operational.



2. Visually check SRS components
 - (1) Sensors
 - Check sensors to ensure the arrow marks face the front of the vehicle.
 - Check body and sensor brackets for deformities or rust.
 - Check sensor case for dents, cracks, deformities or rust.
 - Check sensor harness for binds, connector for damage, and terminals for deformities.
 - (2) Control unit — Airbag
 - Check case and bracket for dents, cracks or deformities.
 - Check connectors for damage, and terminals for deformities.
 - (3) Main harness and instrument harness
 - Check connectors for poor connections.
 - Check harnesses for binds, connectors for damage, and terminals deformities.
 - (4) Spiral cable
 - Visually check lock (engagement) pins and combination switch for damage.
 - Check connectors, flat cable and protective tape for damage.
 - Check steering wheel for noise, binds or difficult operation.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Maintenance Items (Cont'd)

(5) Steering wheel

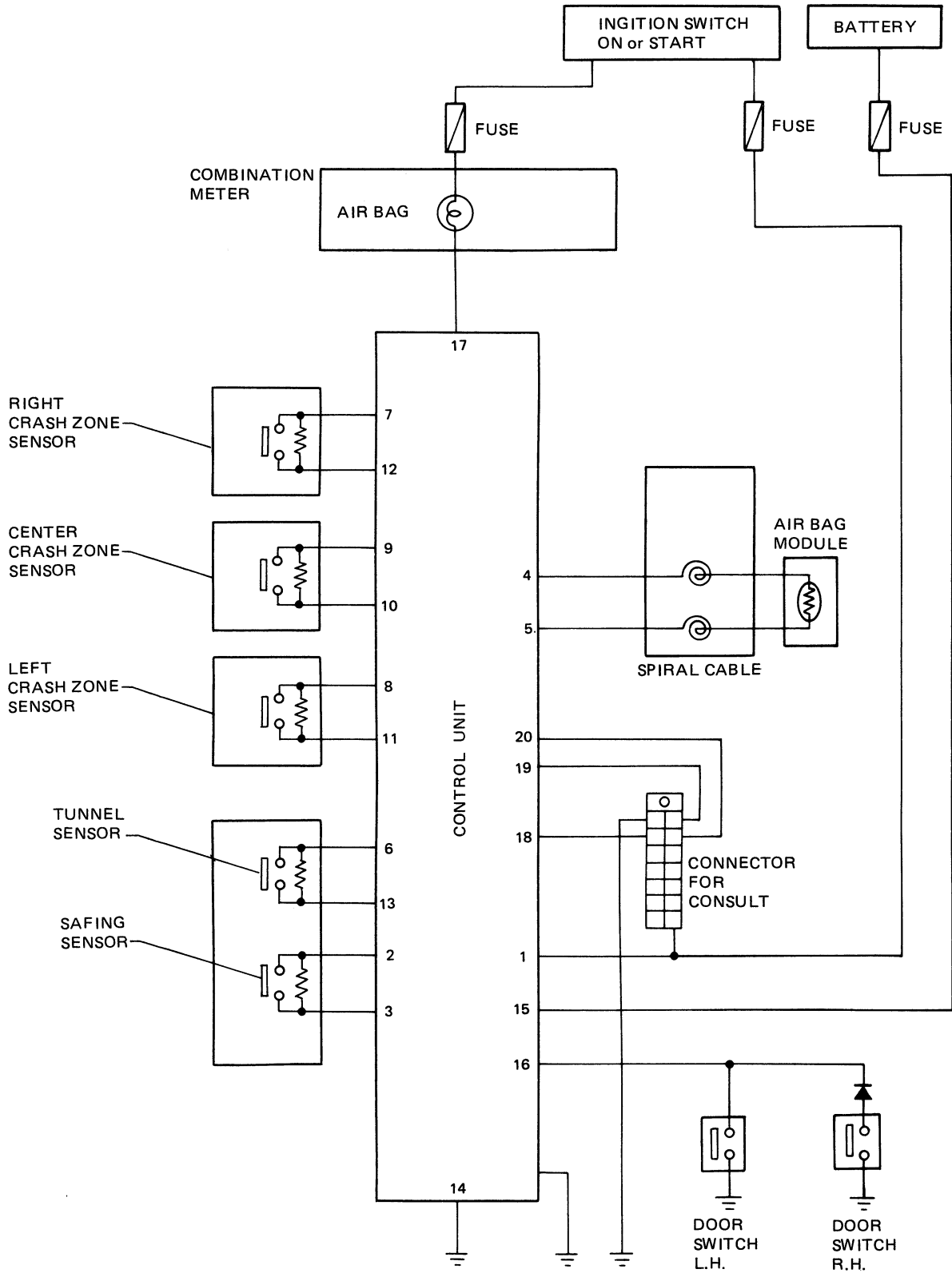
- Check harness (built into steering wheel) and connectors for damage, and terminals for deformities.
- Install air bag module to check fit or alignment with steering wheel.
- Check steering wheel for excessive free play.

(6) Air bag module

- Remove air bag module from steering wheel.
Check harness cover and connectors for damage, terminals for deformities, and harness for binds.
- Install air bag module to steering wheel to check fit or alignment with the wheel.
- Replace previously used screws with new ones.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Schematic



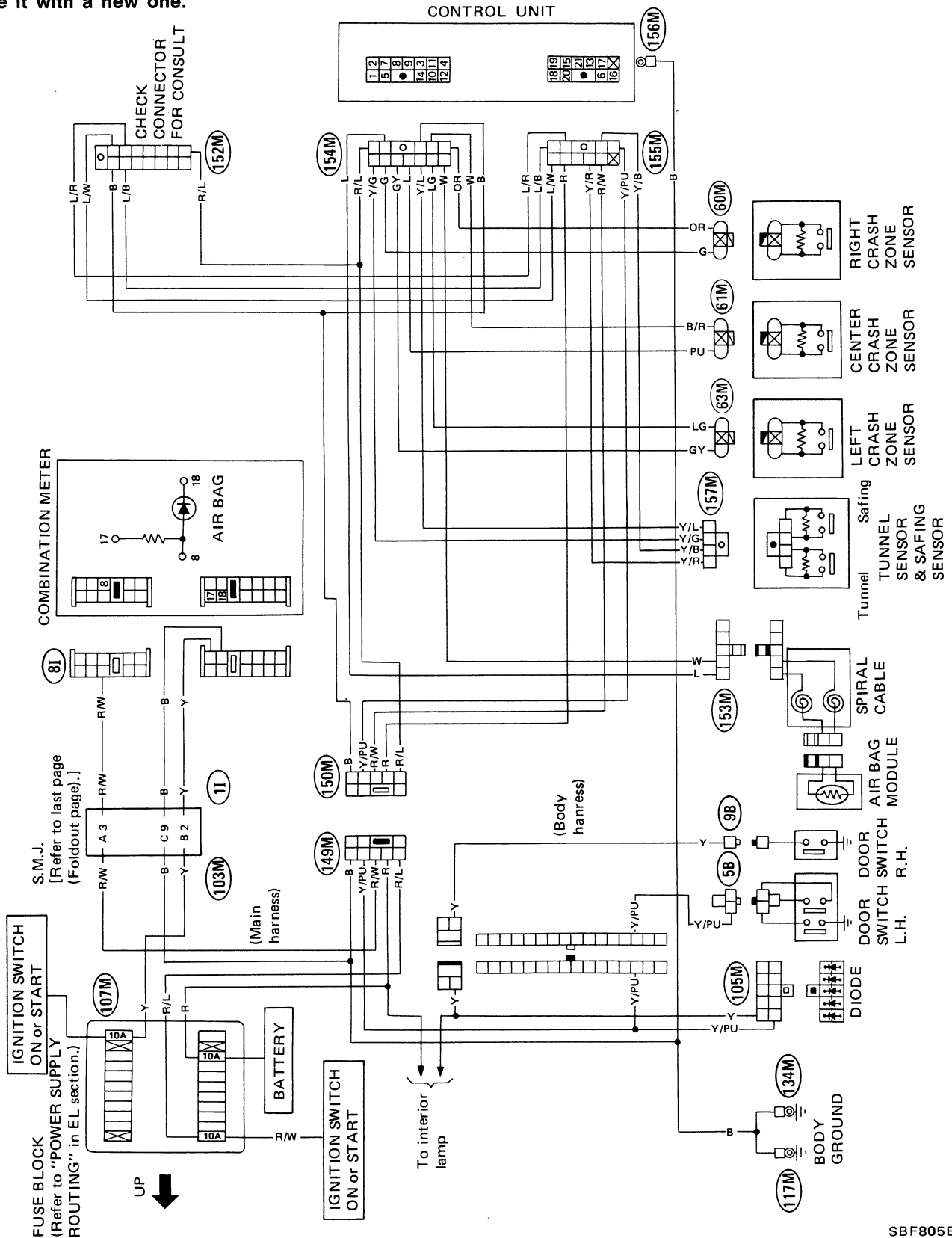
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Wiring Diagram

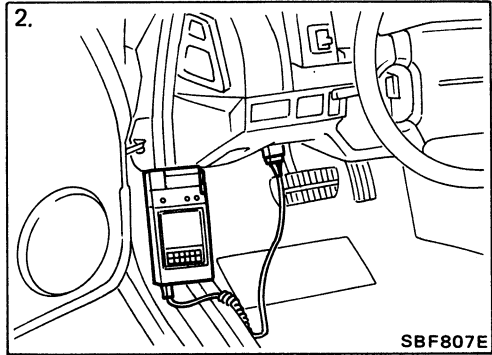
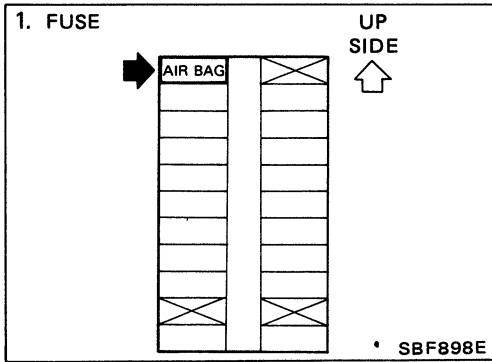
CAUTION:

Do not use a circuit tester to check SRS "Air Bag" harness connectors. The wiring harness and connectors have yellow outer insulation for easy identification.

Do not attempt to repair, splice or modify the SRS "Air Bag" wiring harness. If the harness is damaged, replace it with a new one.



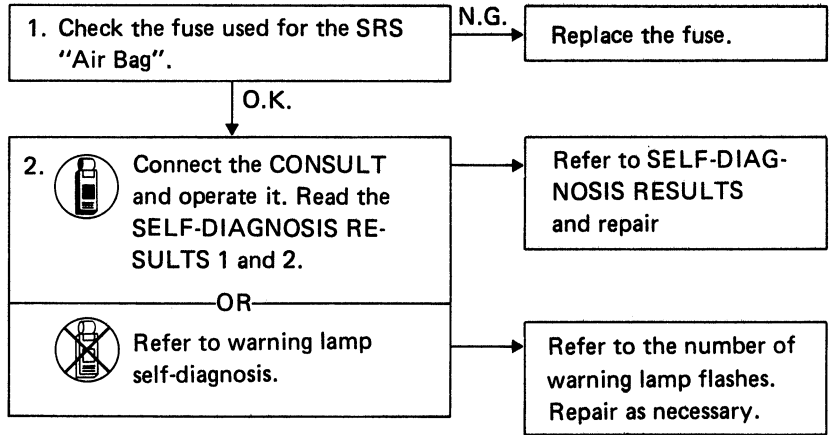
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)



Trouble-shooting

DIAGNOSTIC PROCEDURE 1

SYMPTOM: Warning lamp flashes.

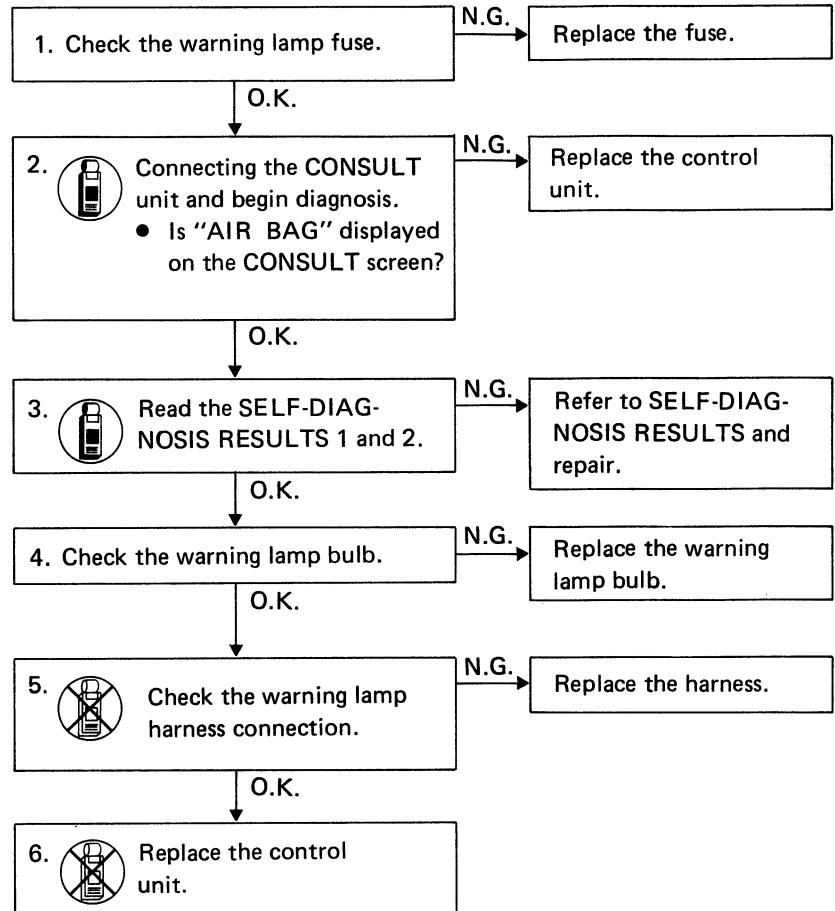
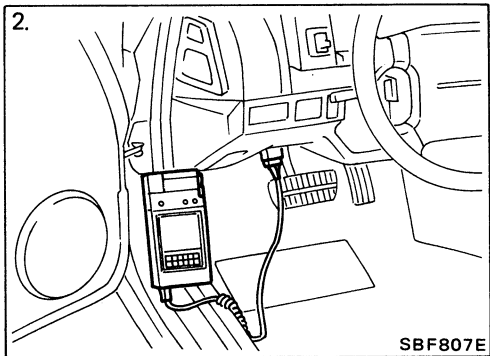
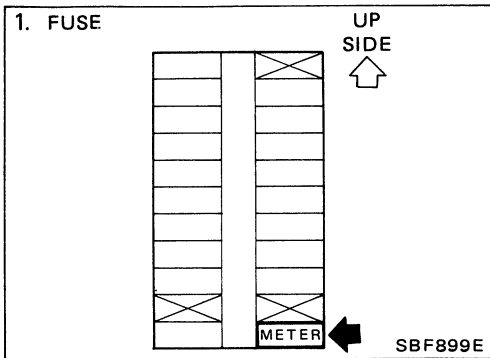


SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

DIAGNOSTIC PROCEDURE 2

SYMPTOM: Warning lamp does not come on.

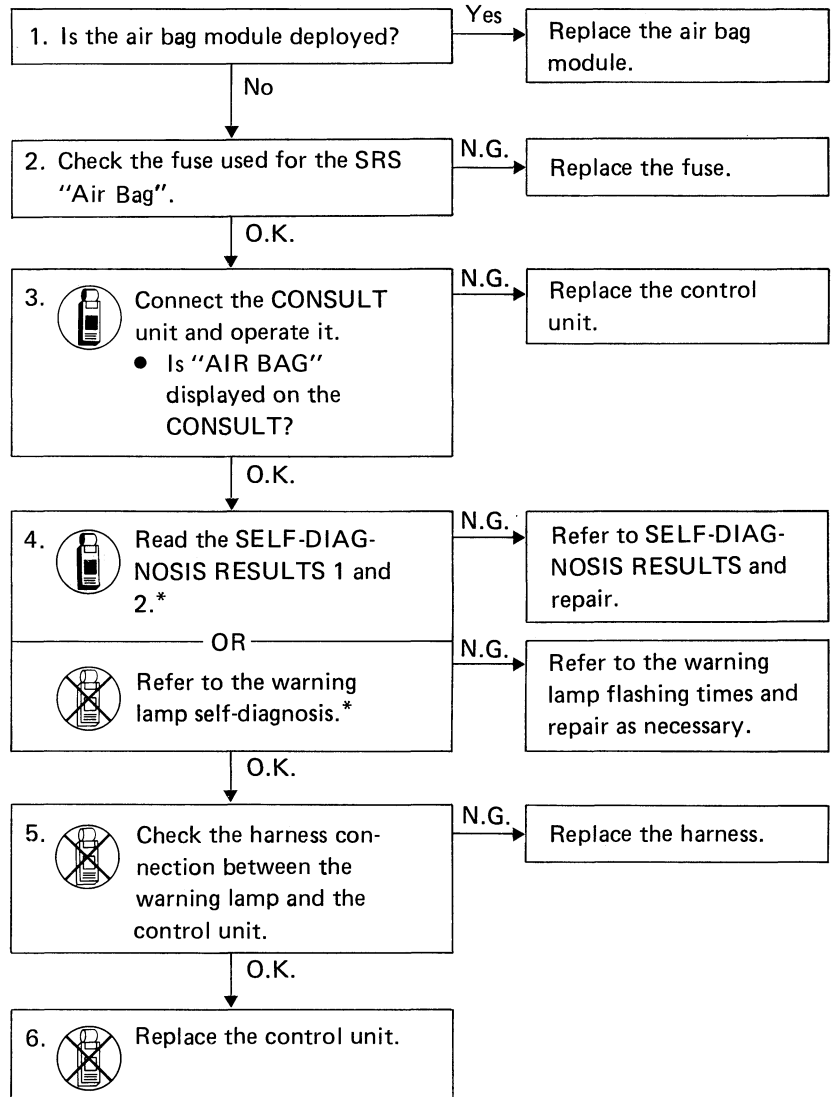
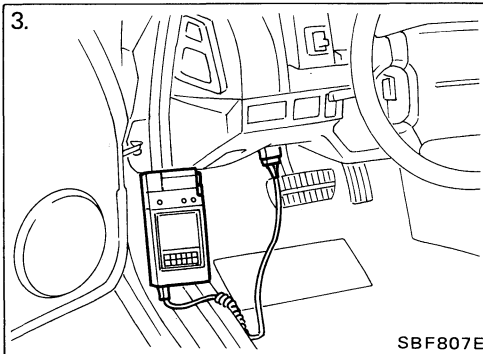
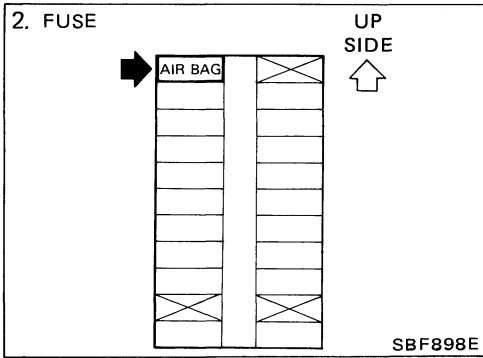


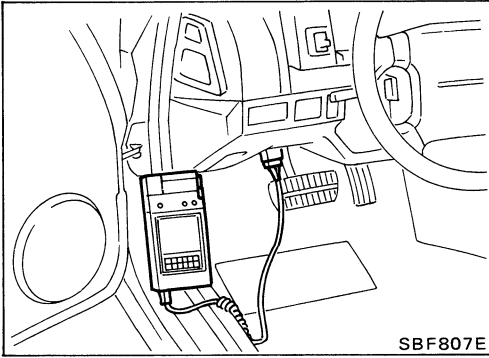
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

DIAGNOSTIC PROCEDURE 3

SYMPTOM: Warning lamp does not go off.





Trouble-shooting (Cont'd)

USING CONSULT

The self-diagnosis results can be read by CONSULT, as follows:

1. Connect "CONSULT" to vehicle harness connector.



2. Turn ignition switch to "ON". (When CONSULT is connected, the "AIR BAG" warning lamp will be turned to present diagnosis mode.)



3. Touch "START" to operate "CONSULT".



4. Touch "AIR BAG" to choose air bag system.



5. Touch "SELF DIAG RESULTS" to read self-diagnosis results.



6. Problem codes are displayed on "SELF DIAG RESULT 1" (first page — present mode). The problem code last indicated is displayed on "SELF DIAG RESULT 2" (second page — initial mode).



7. When "PRINT" is pressed, information displayed on "SELF DIAG RESULTS 1 and 2" is printed out.



8. After repairing malfunctioning parts, press "ERASE" to clear self-diagnosis results.
 - **After repairing malfunctioning parts, attempt to clear self-diagnosis results from memory.**
 - **If malfunctioning parts are not completely repaired, self-diagnosis results remain stored in memory.**

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

SELF-DIAGNOSIS RESULTS

Failure parts group [Present] and [Initial]	Explanation	Repair order *Recheck SRS at each replacement.
**** NO FAILURE ****	Normal. The SRS "Air Bag" is in good order.	—
SAFING SENSOR [OPEN/LWR-GND-SHORT]	The circuit for the safing sensor is open or the wire from the safing sensor to the control unit (terminal No. 3) is shorted.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the safing sensor. (safing sensor and tunnel sensor unit) 3. Replace the control unit. 4. Replace the main harness.
SAFING SENSOR [OPEN/LWR-GND-SHORT]	Both of the wires for the safing sensor are shorted or the wire from the safing sensor to the control unit (terminal No. 3) is shorted to some power supply circuit.	
AIRBAG MODULE [OPEN]	The circuit for the air bag module is open. (including the spiral cable)	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the spiral cable. 3. Replace the air bag module. (Before disposing of it, it must be deployed.) 4. Replace the control unit. 5. Replace the main harness.
AIRBAG MODULE [VB-SHORT]	The circuit for the air bag module is shorted to some power supply circuit. (including the spiral cable)	
AIRBAG MODULE [GND-SHORT]	The circuit for the air bag module is shorted. (including the spiral cable)	
AIR BAG MODULE [SHORT]	The circuits for the air bag module are shorted to each other.	
TUNNEL SENSOR [OPEN/UPR-VB-SHORT]	The circuit for the tunnel sensor is open or the wire from the control unit (terminal No. 6) to the tunnel sensor is shorted to some power supply circuit.	
TUNNEL SENSOR [SHORT]	The circuits for the tunnel sensor are shorted to each other.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the tunnel sensor. (safing sensor and tunnel sensor unit) 3. Replace the control unit. 4. Replace the main harness.
CRASH ZONE SEN-RH [OPEN/UPR-VB-SHORT]	The circuit for the right crash zone sensor is open or the wire from the control unit (terminal No. 7) to the right crash zone sensor is shorted to some power supply circuit.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the right crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
CRASH ZONE SEN-RH [SHORT]	The circuits for the right crash zone sensor are shorted to each other.	
CRASH ZONE SEN-LH [OPEN/UPR-VB-SHORT]	The circuit for the left crash zone sensor is open or the wire from the control unit (terminal No. 8) to the left crash zone sensor is shorted to some power supply circuit.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the left crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
CRASH ZONE SEN-LH [SHORT]	The circuits for the left crash zone sensor are shorted to each other.	

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

Failure parts group [Present] and [Initial]	Explanation	Repair order *Recheck SRS at each replacement.
CRASH ZONE SEN-CTR [OPEN/UPR-VB-SHORT]	The circuit for the center crash zone sensor is open or the wire from the control unit (terminal No. 9) to the center crash zone sensor is shorted to some power supply circuit.	1. Visually check the wiring harness connections. 2. Replace the center crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
CRASH ZONE SEN-CTR [SHORT]	The circuits for the center crash zone sensor are shorted to each other.	
CONTROL UNIT	The control unit (diagnostic unit) is out of order.	1. Visually check the wiring harness connections. 2. Replace the control unit. 3. Replace the main harness.
INDEFINITE FAILURES	A problem which cannot be specified occurs because more than two parts are out of order.	1. See the SELF-DIAGNOSIS RESULT 2 failure parts group [initial], then repair as necessary. 2. Visually check the wiring harness connections. 3. Replace the control unit. 4. Replace all sensors, the spiral cable and air bag module. 5. Replace the main harness.

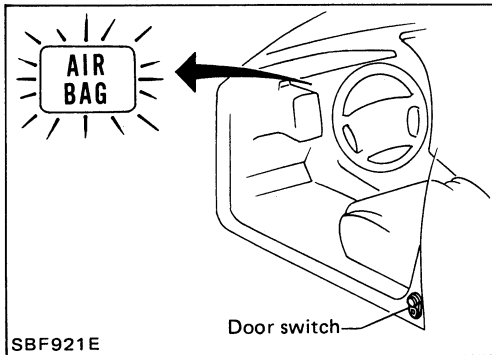
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

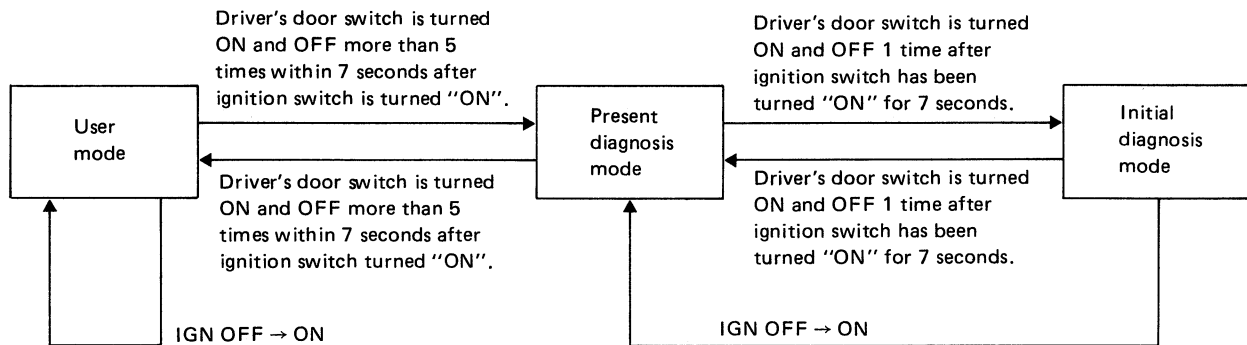
USING THE WARNING LAMP

Self-diagnosis results can be also read by using the "AIR BAG" warning lamp.

The "Air bag" warning lamp operates as shown below:



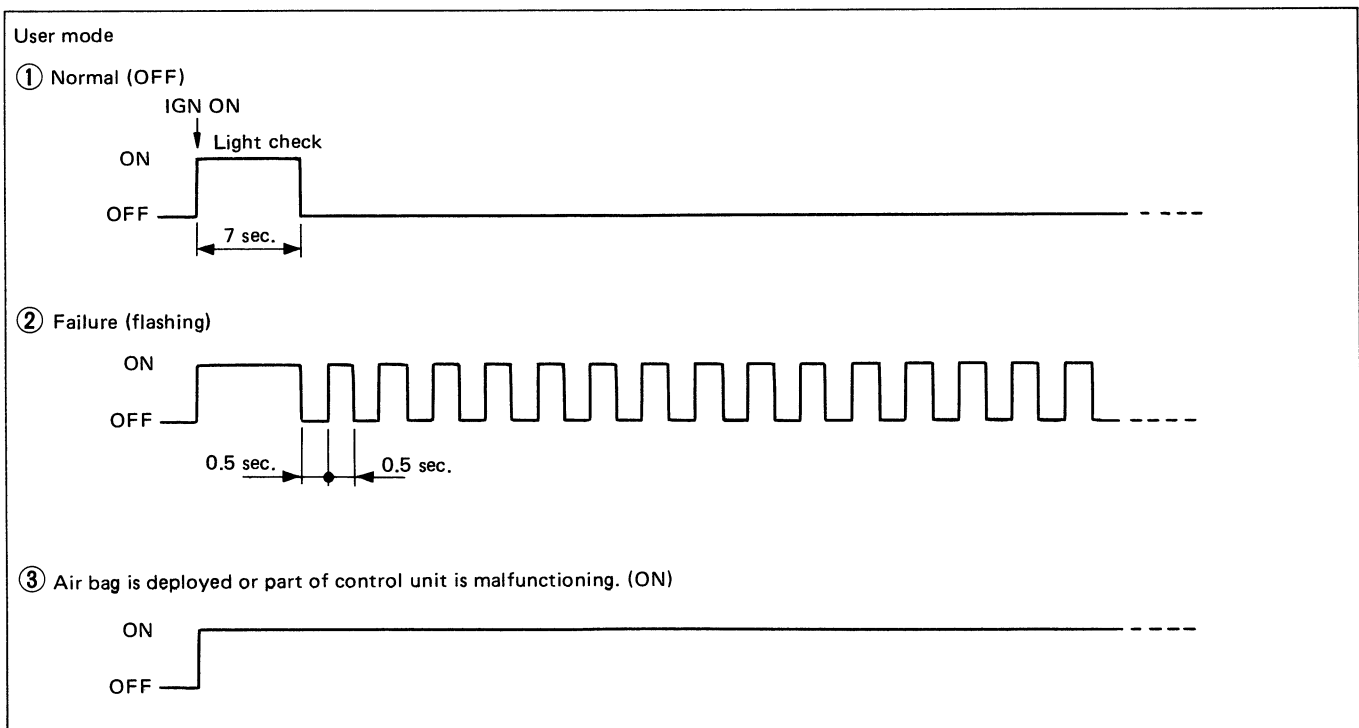
HOW TO ALTERNATE SELF-DIAGNOSIS



Problem codes are displayed in present diagnosis mode (self-diagnosis result 1). The problem code last indicated is displayed in initial diagnosis mode (self-diagnosis result 2).

After the malfunctioning parts have been repaired and the system is returned to the user mode, the present diagnosis mode information, displayed as self-diagnosis results, is automatically cleared from memory.

- After repairing malfunctioning part, attempt to clear self-diagnosis results from memory.
- If a malfunctioning part is not completely repaired, information stored in memory will not be cleared.

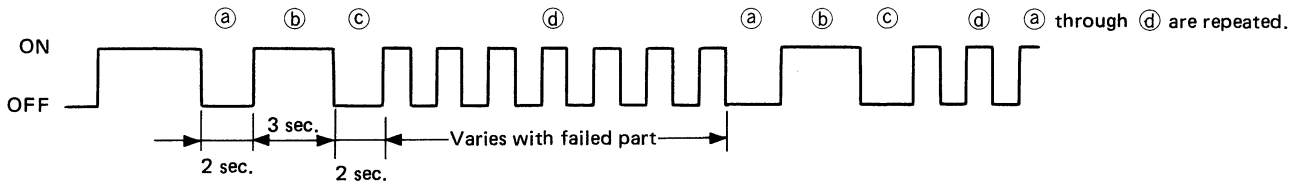


SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

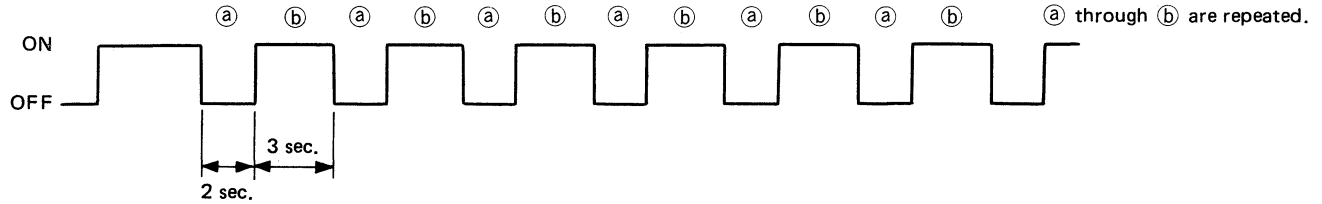
Trouble-shooting (Cont'd)

Present diagnosis mode (self-diagnosis result 1)

(b) Start signal; Start signal identifies display modes.

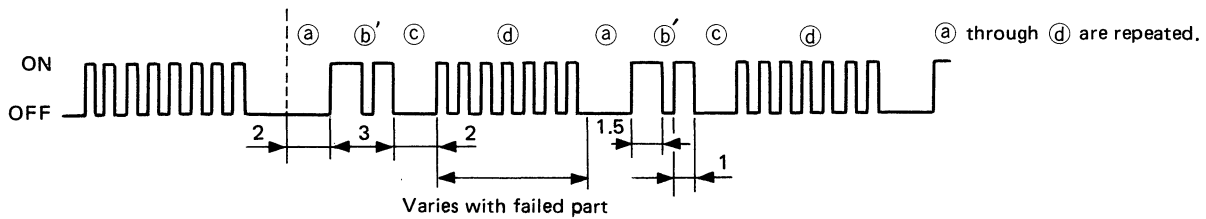


- No failure (or intermittent failure/repair completion)



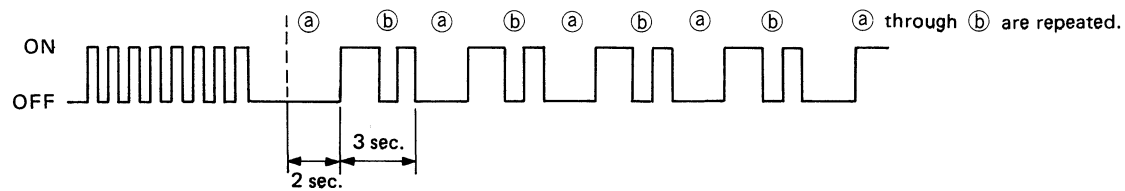
Initial diagnosis mode (self-diagnosis result 2)

(b) Start signal; Start signal identifies display modes.



Unit: sec.

- No failure



Self-diagnosis results in present- and initial-diagnosis modes can be identified by number of flashes (d). Refer to Table on next page for failed parts.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

Warning lamp flashing times and repair

Flash code [ⓓ] (# of flashes)	Explanation	Repair order * Recheck SRS at each replacement.
0	Normal. The SRS "Air Bag" is in good order.	—
1	The circuit for the safing sensor is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the safing sensor. (safing sensor and tunnel sensor unit) 3. Replace the control unit. 4. Replace the main harness.
2	The circuit for the air bag module is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the spiral cable. 3. Replace the air bag module. (Before disposing of it, it must be deployed.) 4. Replace the control unit. 5. Replace the main harness.
3	The circuit for the tunnel sensor is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the tunnel sensor. (safing sensor and tunnel sensor unit) 3. Replace the control unit. 4. Replace the main harness.
4	The circuit for the right crash zone sensor is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the right crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
5	The circuit for the left crash zone sensor is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the left crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
6	The circuit for the center crash zone sensor is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the center crash zone sensor. 3. Replace the control unit. 4. Replace the main harness.
7	The control unit (diagnostic unit) is out of order.	<ol style="list-style-type: none"> 1. Visually check the wiring harness connections. 2. Replace the control unit. 3. Replace the main harness.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Trouble-shooting (Cont'd)

Flash code (# of flashes)	Explanation	Repair order * Recheck SRS at each replacement.
8	More than two parts groups are out of order.	<ol style="list-style-type: none">1. See the SELF-DIAGNOSIS RESULT 2 failure parts group [Initial], then repair it.2. Visually check the wiring harness connections.3. Replace the control unit.4. Replace all sensors, spiral cable and air bag module.5. Replace the main harness.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Collision Diagnosis

To repair the SRS "AIR BAG", perform the following steps.

- ① Check the control unit (diagnostic unit).
 - Connect CONSULT and then erase the memory. (However, the memory is not cleared.)

OR

- Check "AIR BAG" warning lamp and perform the following twice: turn driver's door switch ON and OFF 5 times within 7 seconds after ignition switch turned "ON".

↓
If "AIR BAG" warning lamp comes on continuously.

Replace the control unit.

- ② Remove the deployed air bag module.
- ③ Check the SRS components using the table shown below:
 - If the SRS components are showing any visible damage such as dents, cracks, or deformation, replace them with new ones.
- ④ Conduct self-diagnosis using CONSULT or "AIR BAG" warning lamp to ensure entire SRS operates properly except open circuit of air bag module.
- ⑤ Install new air bag module.

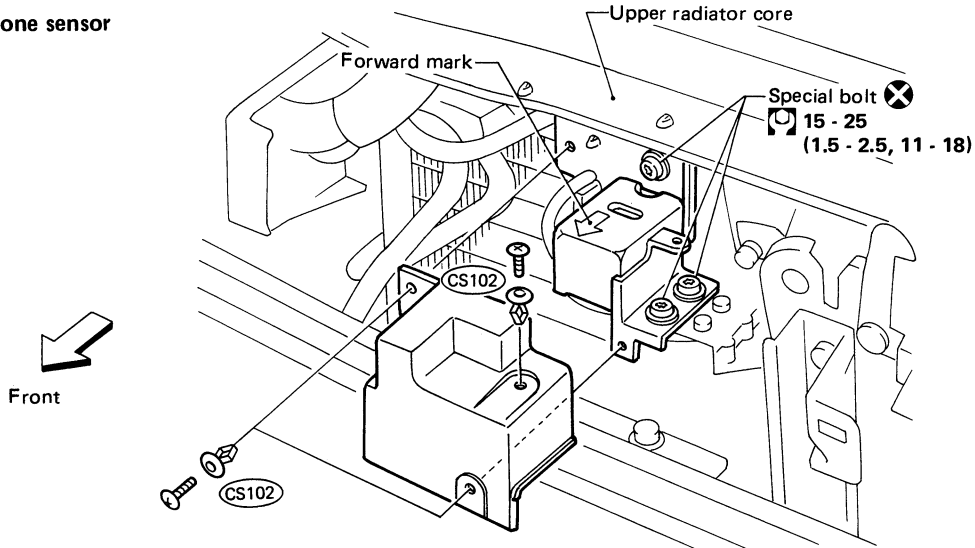
	Inspection (when air bag deploys in collision)	Inspection (when air bag does not deploy in low-speed collision)
Steering wheel	(1) Check harness (built into steering wheel) and connectors for damage, and terminals for deformities. (2) Install air bag module to check fit or alignment with steering wheel. (3) Check steering wheel for excessive free play.	
In-compartment sensor	(1) Check body and sensor brackets for deformities or rust. (2) Check sensor case for dents, cracks, deformities or rust. (3) Check sensor harness for binds, connector for damage, and terminals for deformities.	
All sensors (except those affected by collision)		
Air bag module	Replace air bag module.	(1) Remove air bag module from steering wheel. Check harness cover and connectors for damage, terminals for deformities, and harness for binds. (2) Install air bag module to steering wheel to check fit or alignment with the wheel. (3) Replace screws with new ones.
Harness connector (Main and Instrument harness)	(1) Check connectors for poor connections. (2) Check harness for binding, connectors for damage, and terminals for deformities.	
Spiral cable	(1) Visually check lock (engagement) pins and combination switch for damage. (2) Check connectors, flat cable and protective tape for damage. (3) Check steering wheel for noise, binds or heavy operation.	
Control unit	Replace control unit (diagnostic unit).	(1) Check case and bracket for dents, cracks or deformities. (2) Check connectors for damage, and terminals for deformities.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

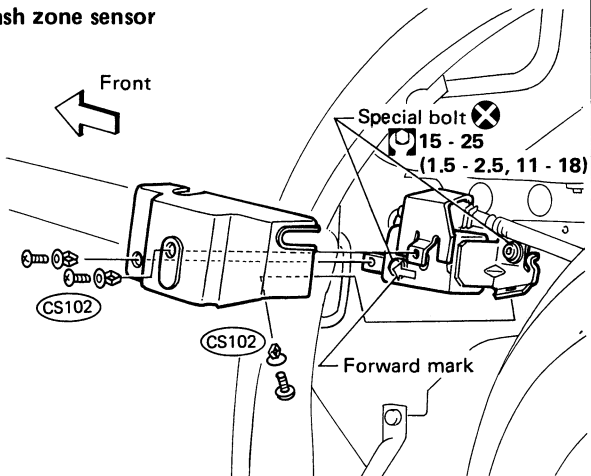
Removal and Installation — Control Unit and Sensors

- Check all sensors for proper installation.
- Check all sensors to ensure they are free of deformities, dents, cracks or rust. If they show any visible signs of damage, replace them with new ones.
- Check sensor brackets to ensure they are free of deformities or rust.

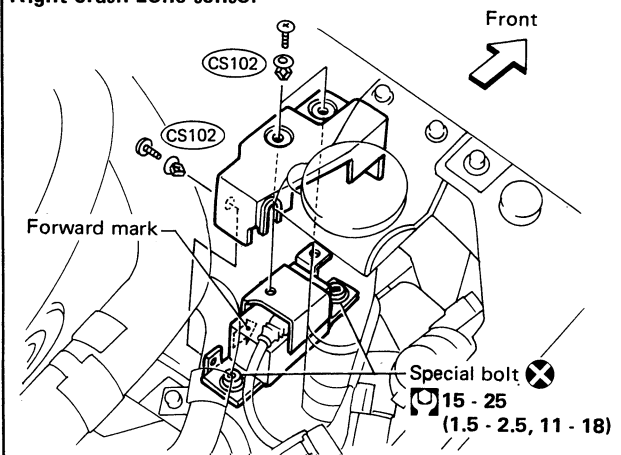
Center crash zone sensor



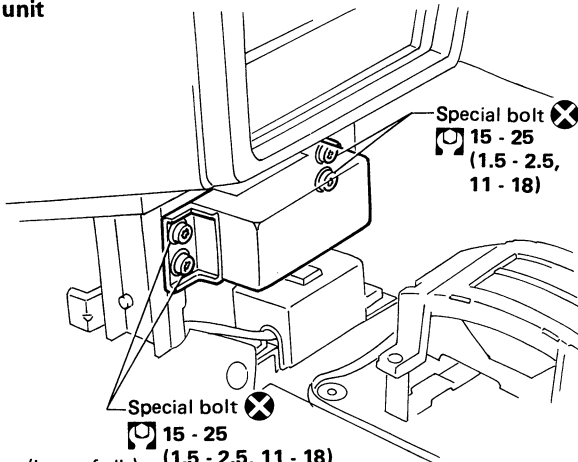
Left crash zone sensor



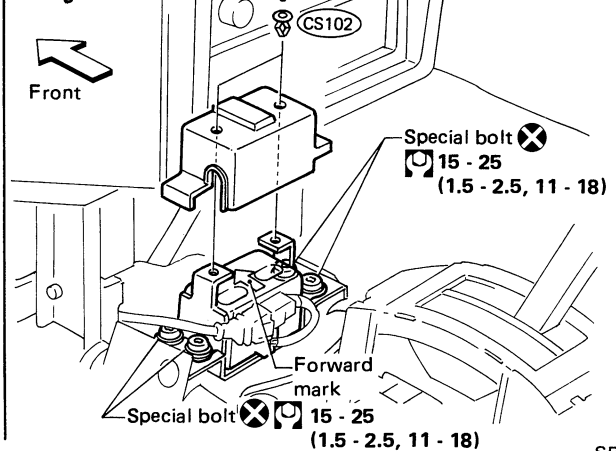
Right crash zone sensor



Control unit



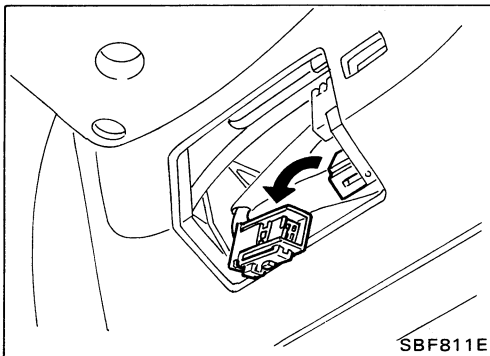
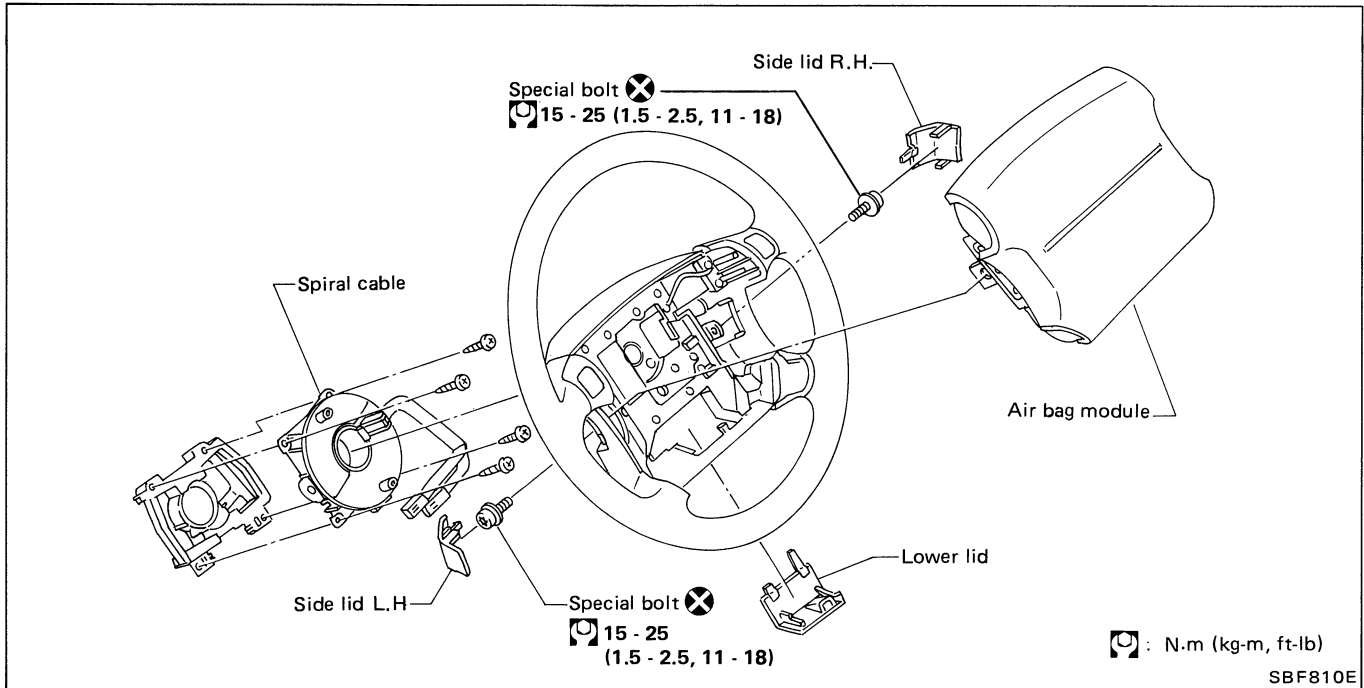
Tunnel sensor and safing sensor



⊗ : N·m (kg·m, ft·lb) (1.5 - 2.5, 11 - 18)

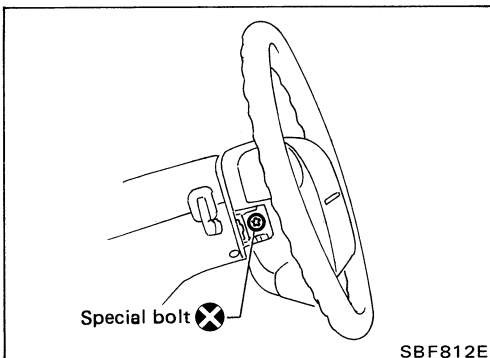
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Removal — Air Bag Module and Spiral Cable

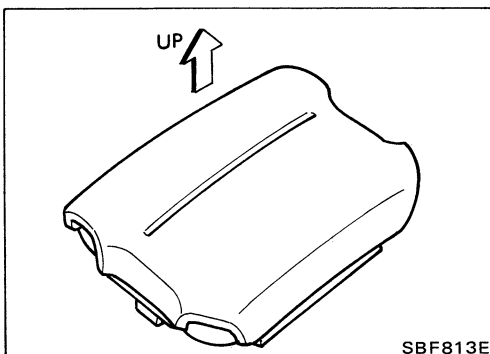


Before servicing SRS, turn the ignition switch off, disconnect battery ground cable and wait for at least 10 minutes.

1. Remove lower lid from steering wheel, and disconnect air bag module connector.



2. Remove side lid. Using SST, remove left and right special bolts. Air bag module can then be removed.

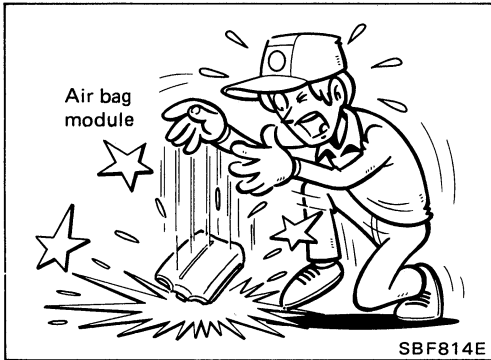


CAUTION:

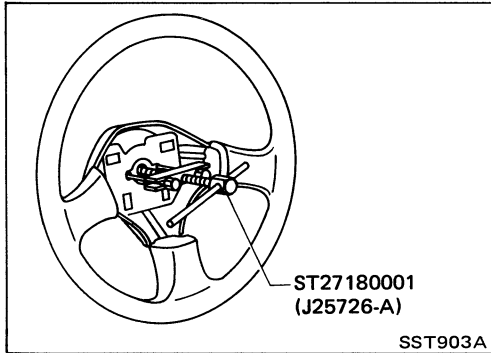
- Always place air bag module with pad side facing upward.
- Do not attempt to disassemble air bag module.
- The special bolts are coated with bonding agent. Discard old ones after removal; replace with new ones.

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

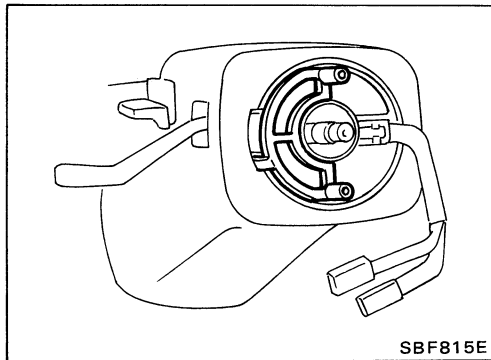
Removal — Air Bag Module and Spiral Cable (Cont'd)



- Do not drop or impact air bag module. If any portion is deformed or cracked, replace the module.
- Do not expose the air bag module to temperatures exceeding 100°C (212°F).
- Do not allow oil, grease or water to come in contact with the air bag module.



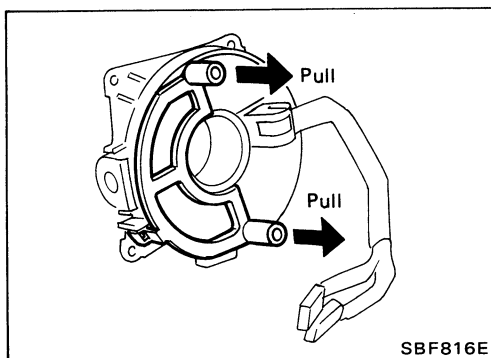
3. Set steering wheel in the neutral position.
4. Disconnect horn connector and remove nuts.
5. Using steering wheel puller, remove steering wheel. Be careful not to over-tighten puller bolt on steering wheel.



6. Attach spiral cable to stopper.
7. Remove steering column cover.
8. Disconnect connector and remove the four screws. The spiral cable can then be removed.

Installation — Air Bag Module and Spiral Cable

1. Connect spiral cable connector and tighten with screws. Install steering column cover.



2. Remove stopper by pulling two pin guides.

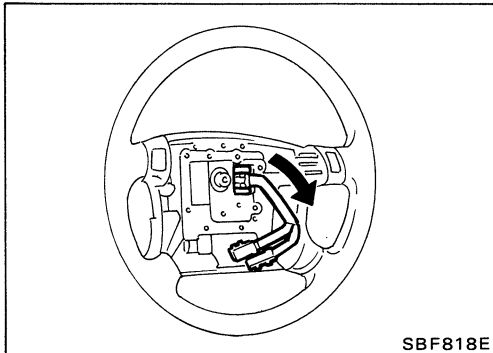
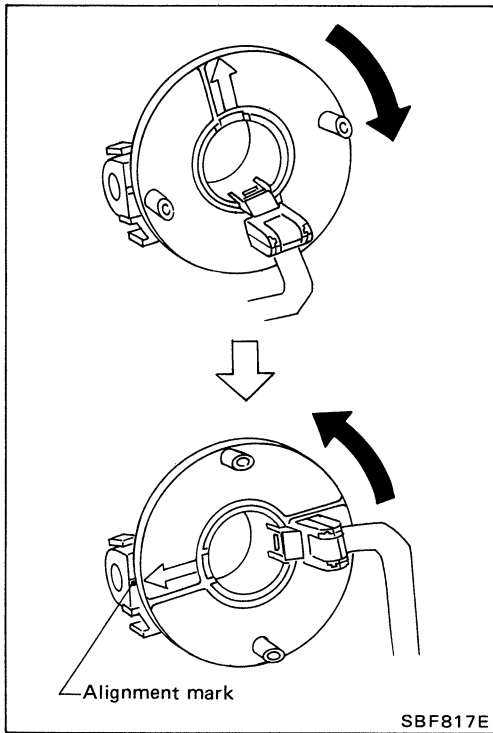
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Installation — Air Bag Module and Spiral Cable (Cont'd)

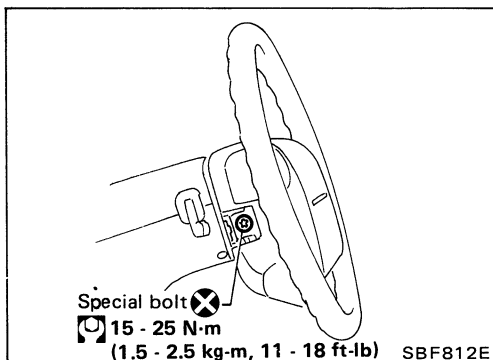
- Alignment of spiral cable with neutral position

If stopper is not used, align spiral cable with neutral position as follows:

Turn spiral cable clockwise until it catches stopper. Then, back spiral cable off approximately two turns until yellow alignment mark appears on left gear. Align arrow mark "←" of spiral cable with this yellow mark.



3. Install steering wheel setting spiral cable pin guides, and pull spiral cable through.
4. Connect horn connector and engage spiral cable with pawls in steering wheel.
5. Tighten nuts.



6. Position air bag module and tighten with new special bolts.
7. Connect air bag module connector.
8. Install all lids.

9. Conduct self-diagnosis to ensure entire SRS operates properly. (Use CONSULT or warning lamp check.)

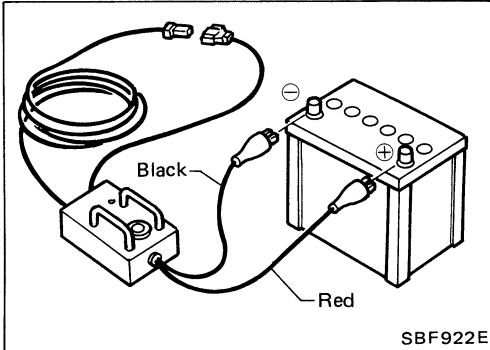
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Scrapping the Air Bag

Before scrapping an air bag module or a vehicle equipped with an SRS air bag, be sure to deploy air bag.

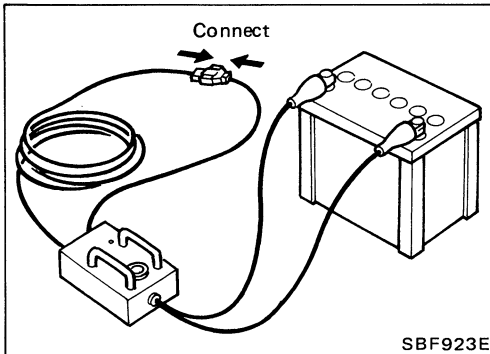
CONNECTING TO BATTERY

Prepare a 12-volt battery. Locate it approximately 5 m (16 ft) away from vehicle and connect deployment tool's battery cable. Ensure red light illuminates. If it does not, replace the battery with a new one.

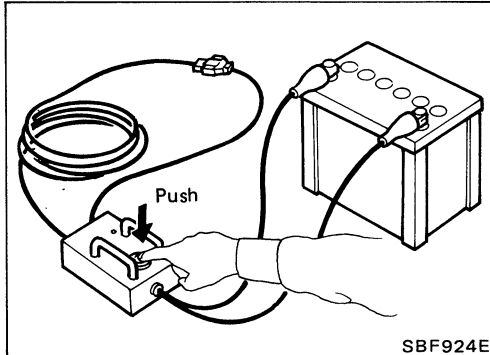


DEPLOYMENT TOOL CHECK

Connect check connector.

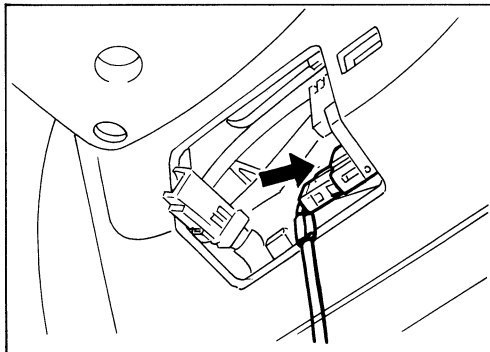


Push deployment tool switch to "ON" to ensure green light illuminates. If it does not, replace the deployment tool.



CONNECTING TO AIR BAG

1. Disconnect the prepared battery cable.
2. Also disconnect the vehicle battery ground cable and wait 10 minutes.
3. Remove lower lid from steering wheel and disconnect air bag module connector.
4. Connect deployment tool connector.
5. Reconnect the battery cable to the prepared battery. Ensure red light illuminates.



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

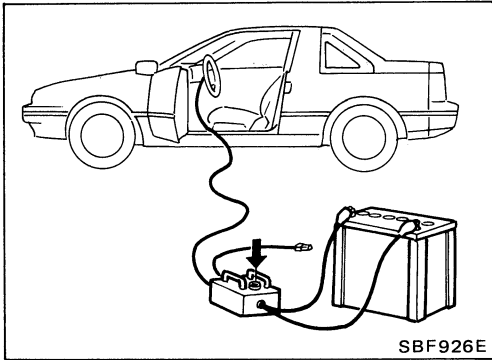
Scrapping the Air Bag (Cont'd)

DEPLOYMENT

Press deployment tool switch. Green light will illuminate and air bag will deploy.

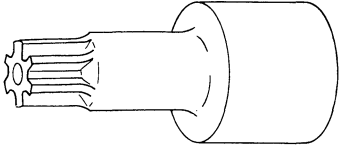
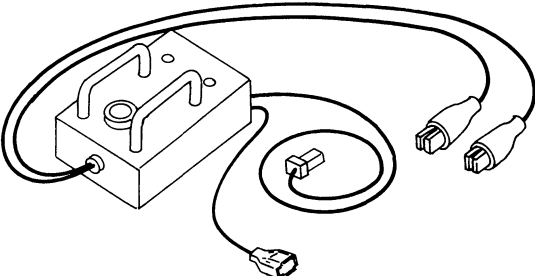
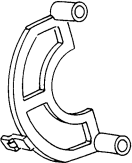
CAUTION:

- When deploying air bag, ensure vehicle is empty.
- No poisonous gas is produced upon air bag deployment. However, be careful not to inhale gas since it irritates throat and can cause choking.
- Due to heat, leave air bag module unattended for more than 30 minutes after air bag deployment.
- Do not attempt to disassemble air bag module.
- Air bag module can not be re-used.



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Special Service Tools

Tool number (Kent-Moore No.) Tool name	Description
(J38348) Special torx bit	 <p>Use for special bolts</p>
(J38381) Deployment tool	 <p>Disposing of air bag module</p>
(J38378) Spiral cable stopper	 <p>Avoiding unexpected spiral cable rotation.</p>

HEATER & AIR CONDITIONER

SECTION **HA**

PRECAUTIONS

Supplemental Restraint System "AIR BAG"

The Pulsar NX has, as an option, a Supplemental Restraint System "Air Bag", to help reduce the risk or severity of injury to the driver in a frontal collision. The Supplemental Restraint System consists of an air bag (located in the center of the steering wheel), five sensors, a control unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the BF section of this Service Manual Supplement and this should be used together with the original Service Manual.

WARNING:

- a. To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized NISSAN dealer.
- b. Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- c. All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation and related components are located in the steering column, center console, dash, upper radiator core support and front fenders. Do not use electrical test equipment on these circuits.

HA

ELECTRICAL SYSTEM

SECTION **EL**

CONTENTS

POWER SUPPLY ROUTING	EL- 2
EXTERIOR LAMP	EL- 3
METER AND GAUGES	EL- 4
WARNING LAMPS AND CHIME	EL- 5
HORN, CIGARETTE LIGHTER AND CLOCK	EL- 7
REAR WINDOW DEFOGGER	EL- 8
HARNESS LAYOUT	EL-10
SUPER MULTIPLE JUNCTION (S.M.J.)	EL-15

WIRING DIAGRAM REFERENCE CHART

O.D. CONTROL	AT SECTION
SRS "AIR BAG"	BF SECTION

PRECAUTIONS

Supplemental Restraint System "AIR BAG"

The Pulsar NX has, as an option, a Supplemental Restraint System "Air Bag", to help reduce the risk or severity of injury to the driver in a frontal collision. The Supplemental Restraint System consists of an air bag (located in the center of the steering wheel), five sensors, a control unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the BF section of this Service Manual Supplement and this should be used together with the original Service Manual.

WARNING:

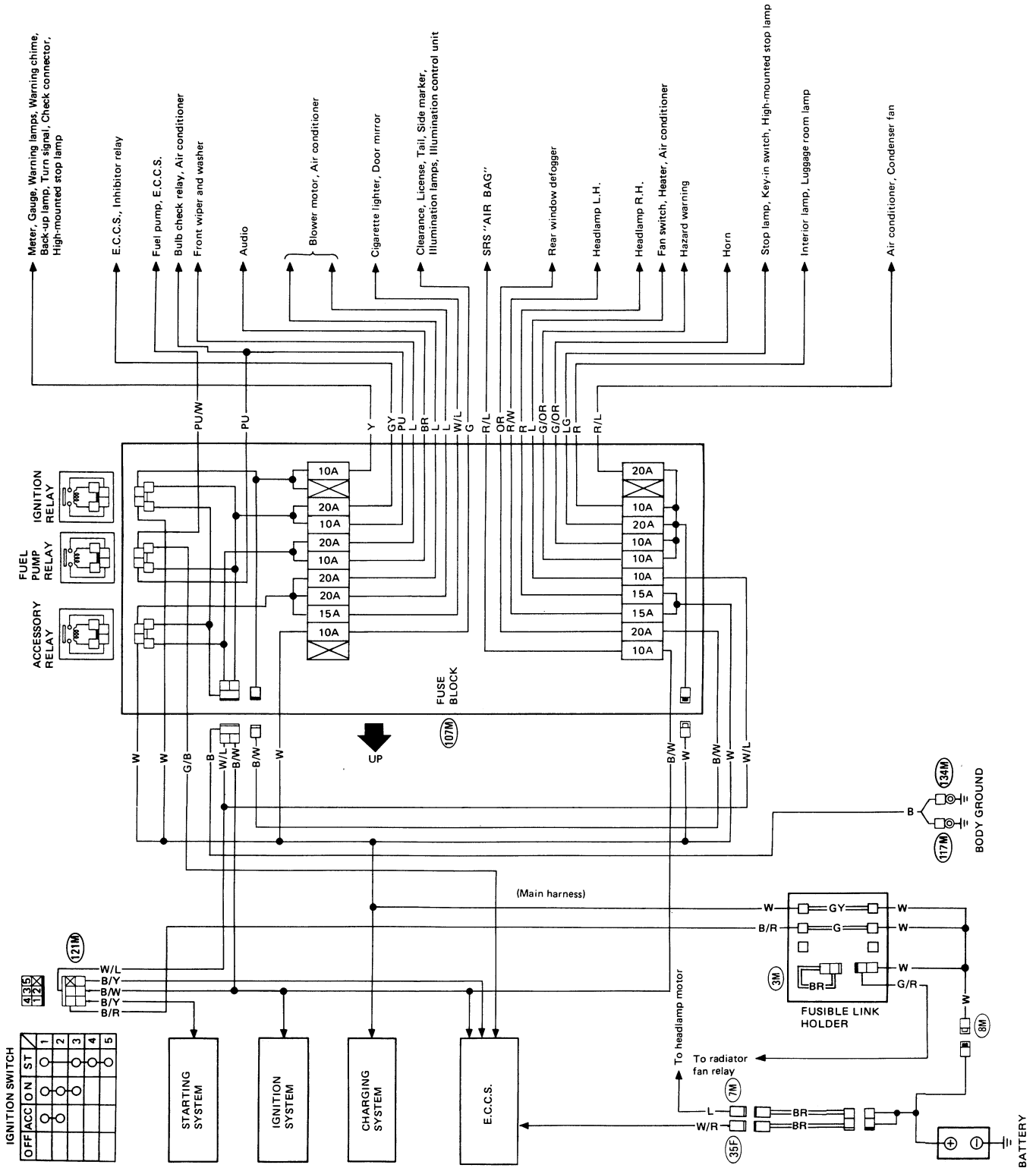
- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all maintenance must be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- All SRS electrical wiring harnesses and connectors are covered with yellow outer insulation and related components are located in the steering column, center console, dash, upper radiator core support and front fenders. Do not use electrical test equipment on these circuits.



POWER SUPPLY ROUTING

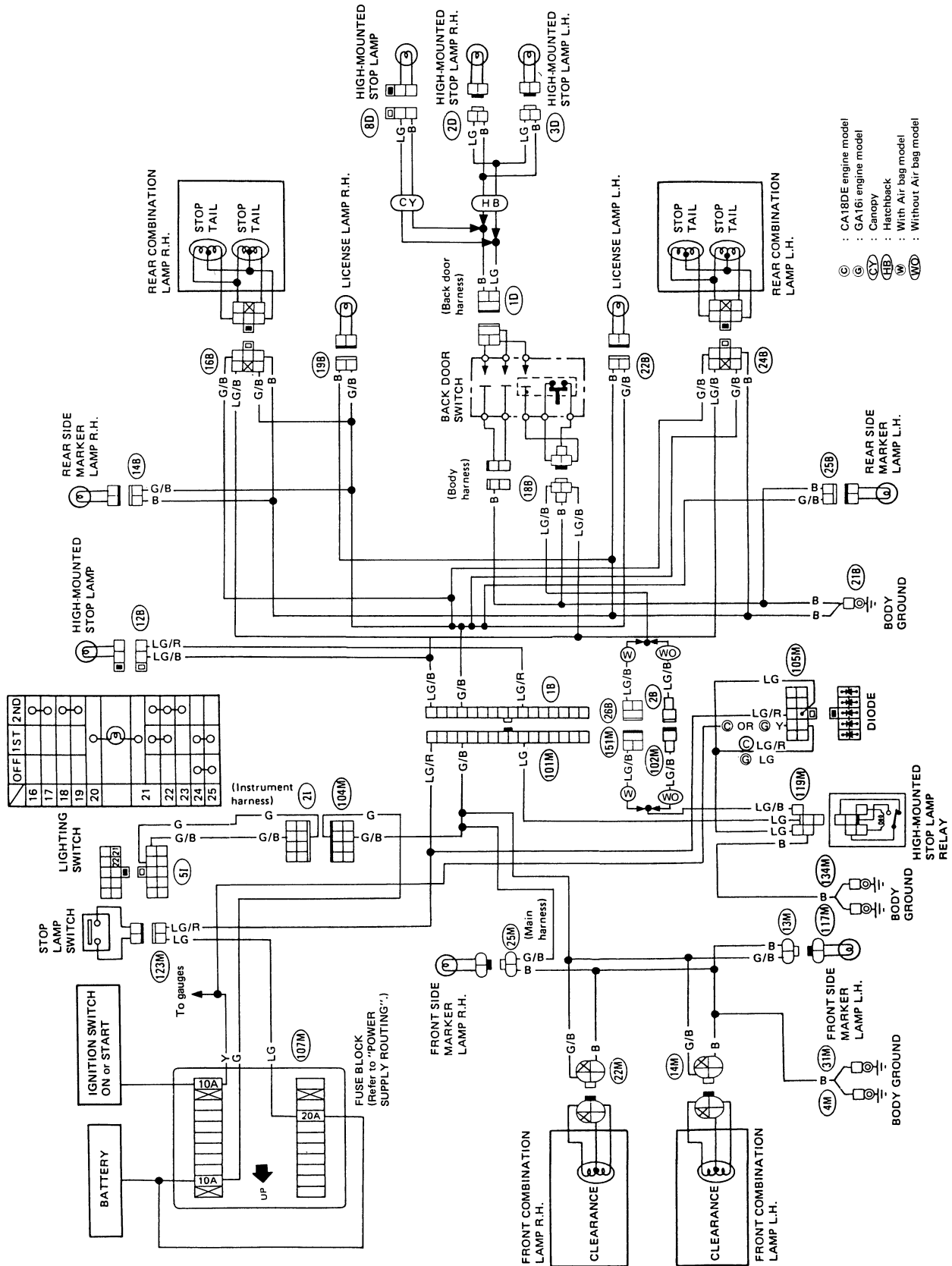
Wiring Diagram

CA18DE ENGINE MODEL



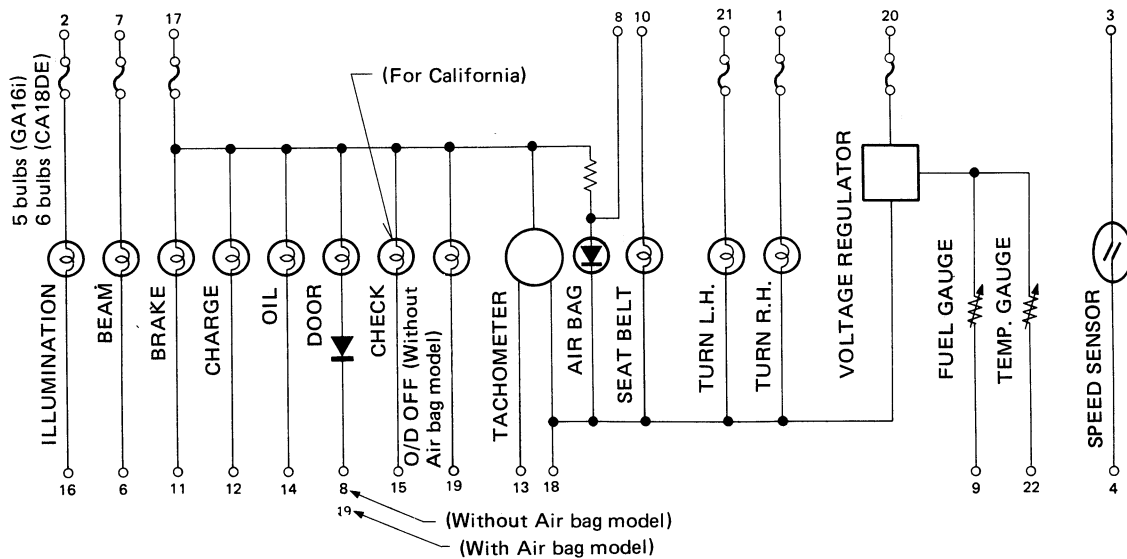
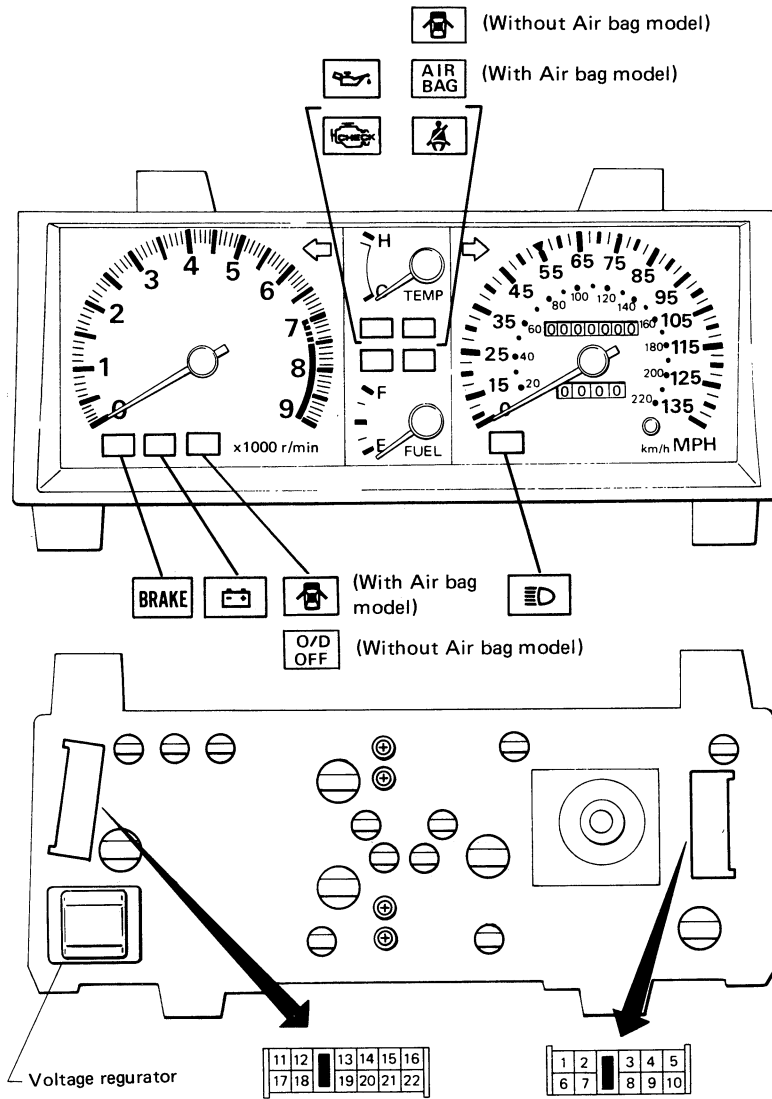
EXTERIOR LAMP

Clearance, License, Tail and Stop Lamps/Wiring Diagram



METER AND GAUGES

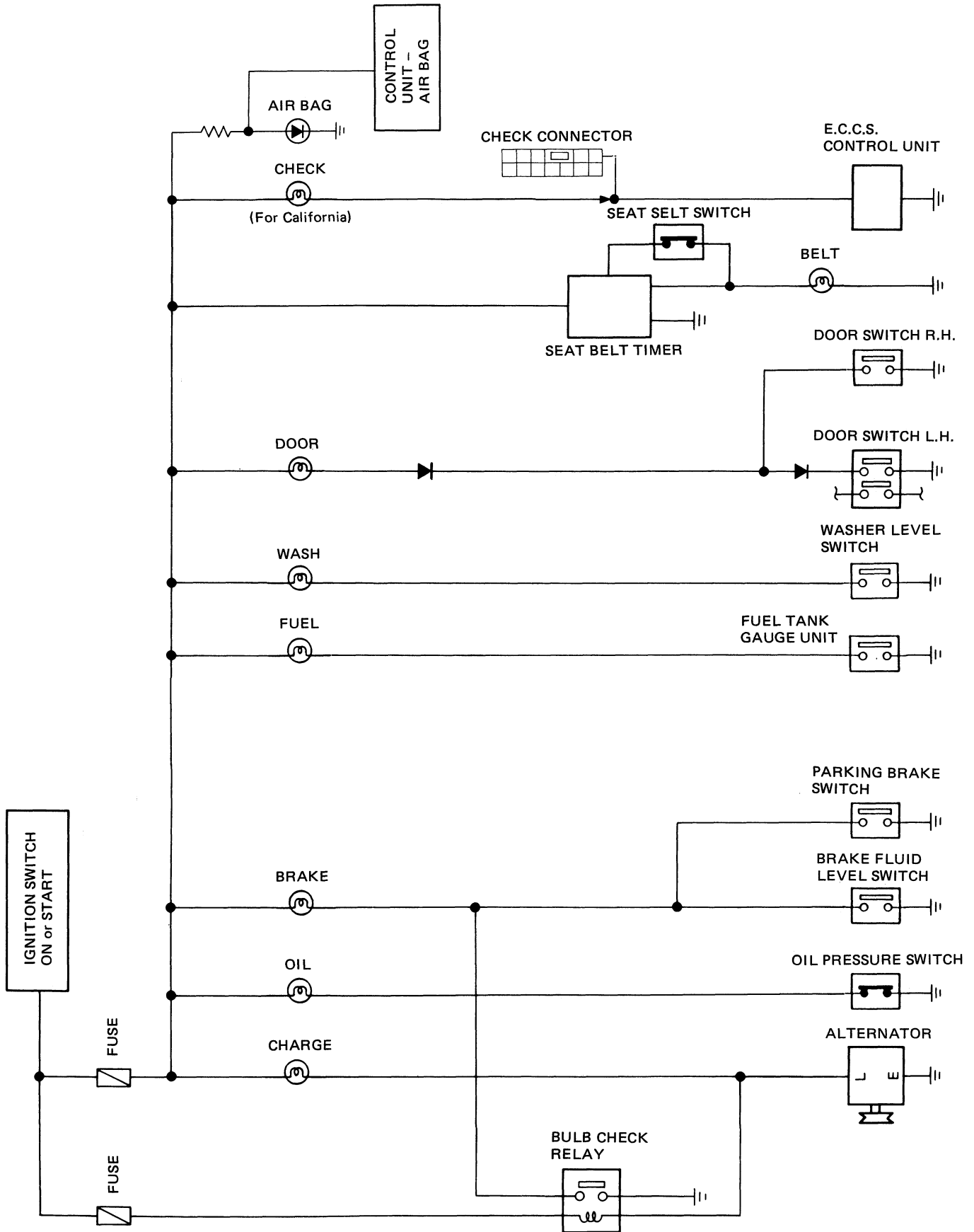
Combination Meter



SEL847M

WARNING LAMPS AND CHIME

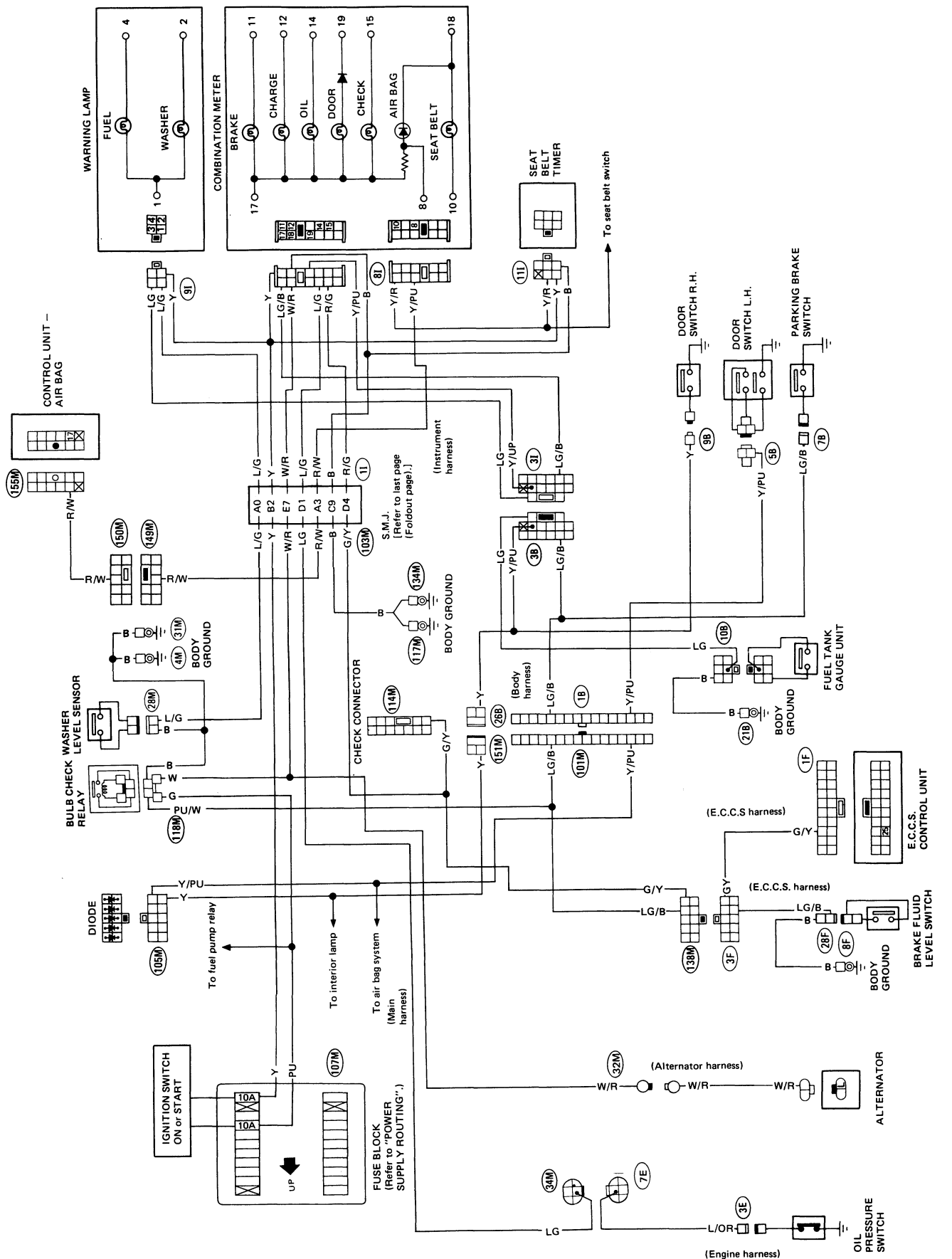
Warning Lamps/Schematic



SEL848M

WARNING LAMPS AND CHIME

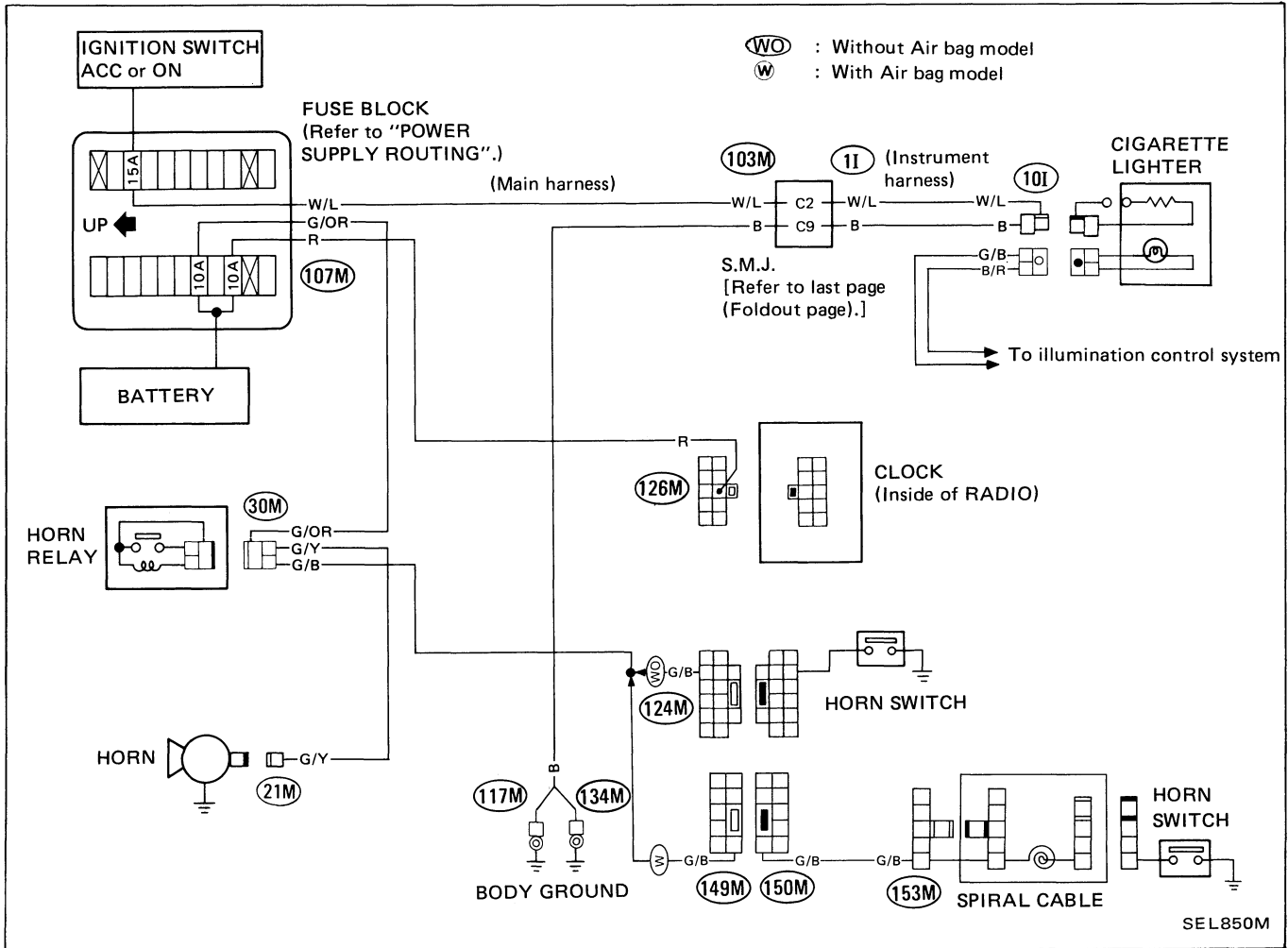
Warning Lamps/Wiring Diagram



SEL849M

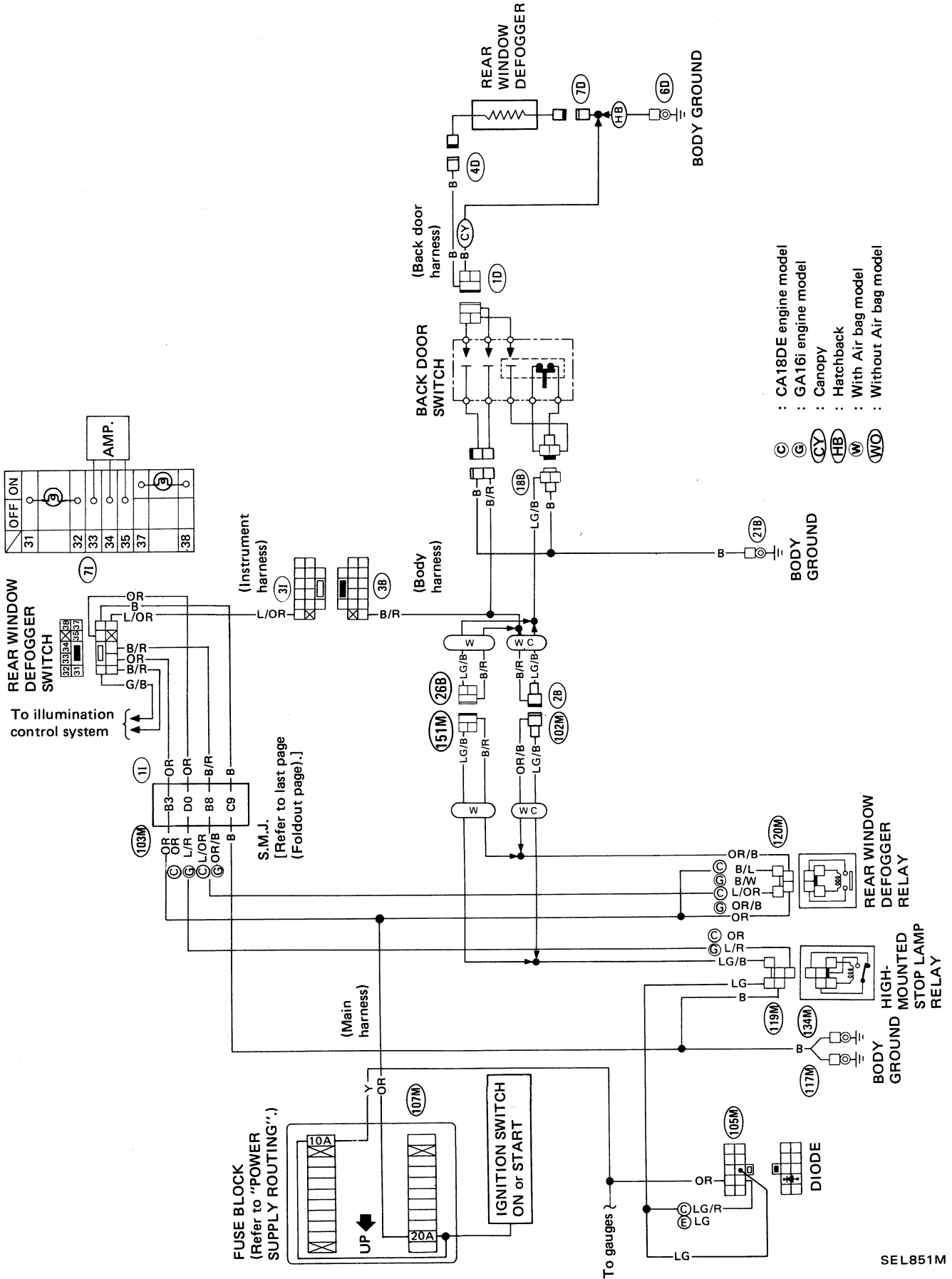
HORN, CIGARETTE LIGHTER AND CLOCK

Wiring Diagram



REAR WINDOW DEFOGGER

Wiring Diagram



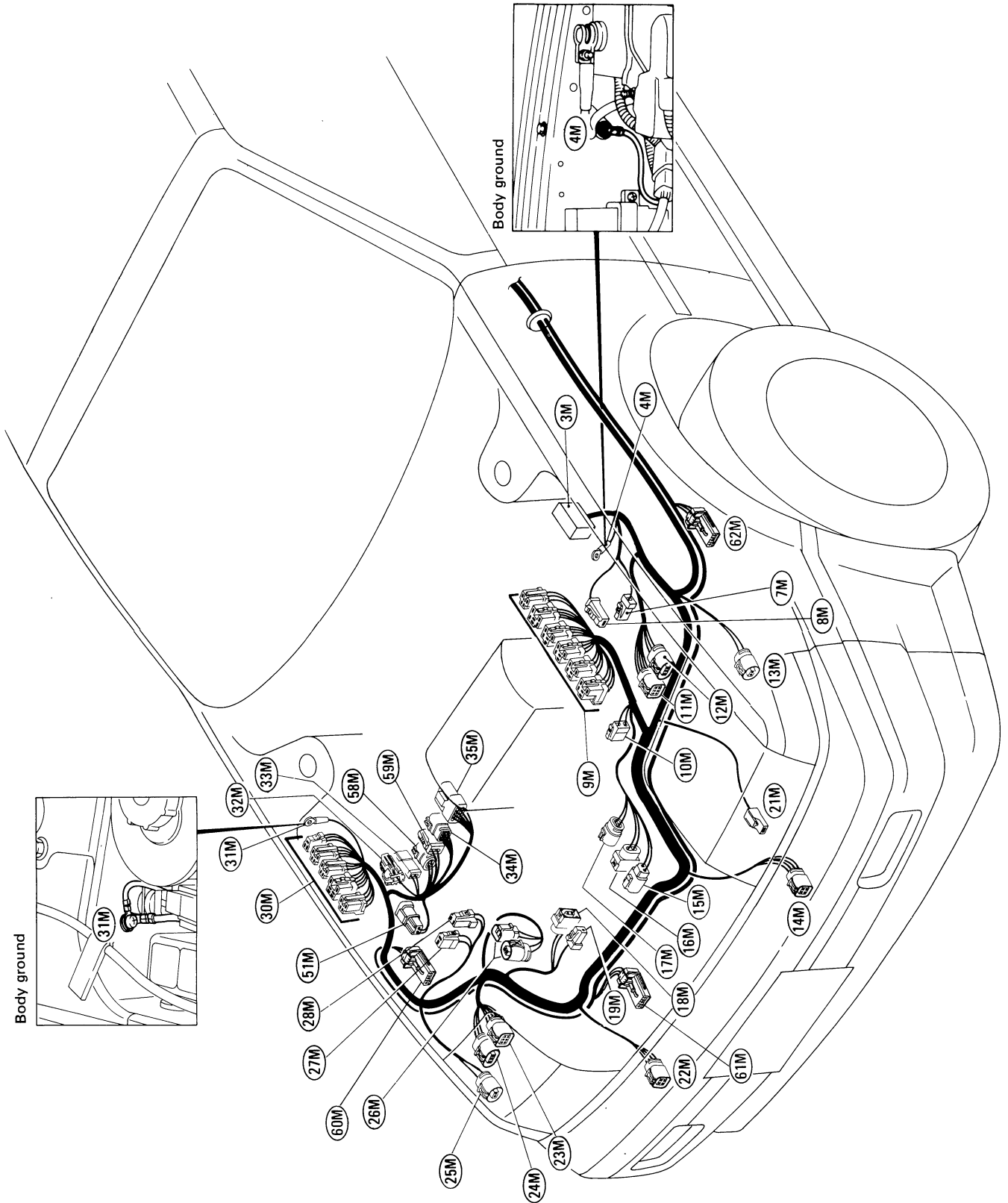
REAR WINDOW DEFOGGER

NOTE

HARNESS LAYOUT

Main Harness

ENGINE COMPARTMENT



HARNES LAYOUT

Main Harness (Cont'd)

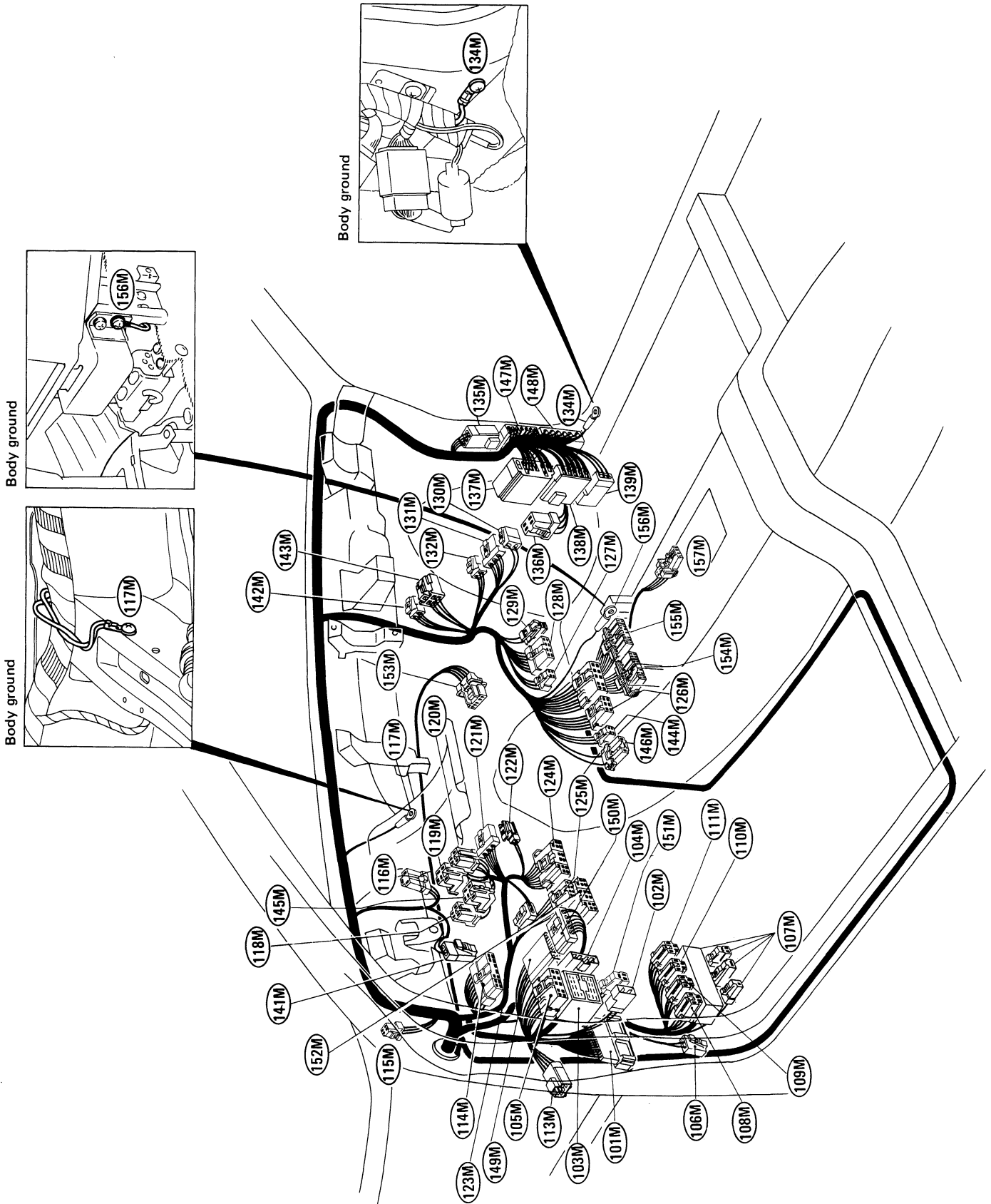
- ③M : Fusible link holder
- ④M : Body ground
- ⑦M : Fusible link
- ⑧M : Battery
- ⑨M : Relays on bracket (Refer to LOCATION OF ELECTRICAL UNITS.)
- ⑩M : Dual-pressure switch
- ⑪M : Headlamp motor L.H.
- ⑫M : Headlamp L.H.
- ⑬M : Front side marker lamp L.H.
- ⑭M : Front combination lamp L.H.
- ⑮M : Radiator fan motor (CA18DE engine model)
- ⑯M : Radiator fan motor (GA16i engine model)
- ⑰M : Thermostat (CA18DE engine model)
- ⑱M : Condenser fan motor
- ⑲M : Thermal protector
- ⑳M : Horn
- ㉑M : Front combination lamp R.H.
- ㉒M : Headlamp motor R.H.

- ㉔M : Headlamp R.H.
- ㉕M : Front side marker lamp R.H.
- ㉖M : Interlock relay (M/T model for U.S.A.)
- ㉗M : Washer motor
- ㉘M : Washer level sensor
- ㉙M : Relays on bracket (Refer to LOCATION OF ELECTRICAL UNITS.)
- ㉚M : Body ground
- ㉛M : To alternator harness (CA18DE engine model)
- ㉜M : To alternator harness (CA18DE engine model)
- ㉝M : To ⑦E
- ㉞M : To ⑬F
- ㉟M : To ⑰E
- ㊱M : To alternator harness (GA16i engine model)
- ㊲M : To alternator harness (GA16i engine model)
- ㊳M : Right crash zone sensor (Air bag model)
- ㊴M : Center crash zone sensor (Air bag model)
- ㊵M : Left crash zone sensor (Air bag model)

HARNESS LAYOUT

Main Harness (Cont'd)

PASSENGER COMPARTMENT



HARNES LAYOUT

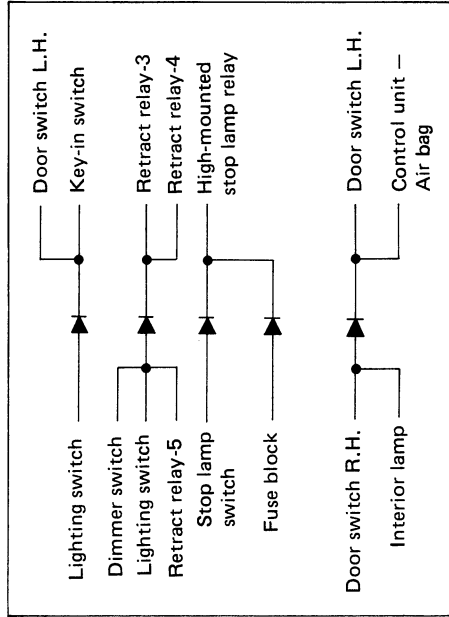
Main Harness (Cont'd)

- (151M) : To (26B) (Air bag model)
- (152M) : Air bag check connector for CONSULT (Air bag model)
- (153M) : Spiral cable (Air bag model)
- (154M) : Control unit - Air bag (Air bag model)
- (155M) : Control unit - Air bag (Air bag model)
- (156M) : Control unit - Air bag (Air bag model)
- (157M) : Tunnel sensor and safing sensor (Air bag model)

- (137M) : To (2F) (CA18DE engine model)
- (138M) : To (3F) (CA18DE engine model)
- (139M) : To (4F) (CA18DE engine model)
- (141M) : Clutch interlock switch (M/T model for U.S.A.)
- (142M) : Acceleration cut timer (GA16i engine model)
- (143M) : Acceleration cut relay (CA18DE engine model)
- (144M) : Cassette deck
- (146M) : Cassette deck illumination
- (147M) : To (35E) (GA16i engine model)
- (148M) : To (39F) (GA16i engine model)
- (149M) : To (50M) (Air bag model)
- (150M) : To (49M) (Air bag model)

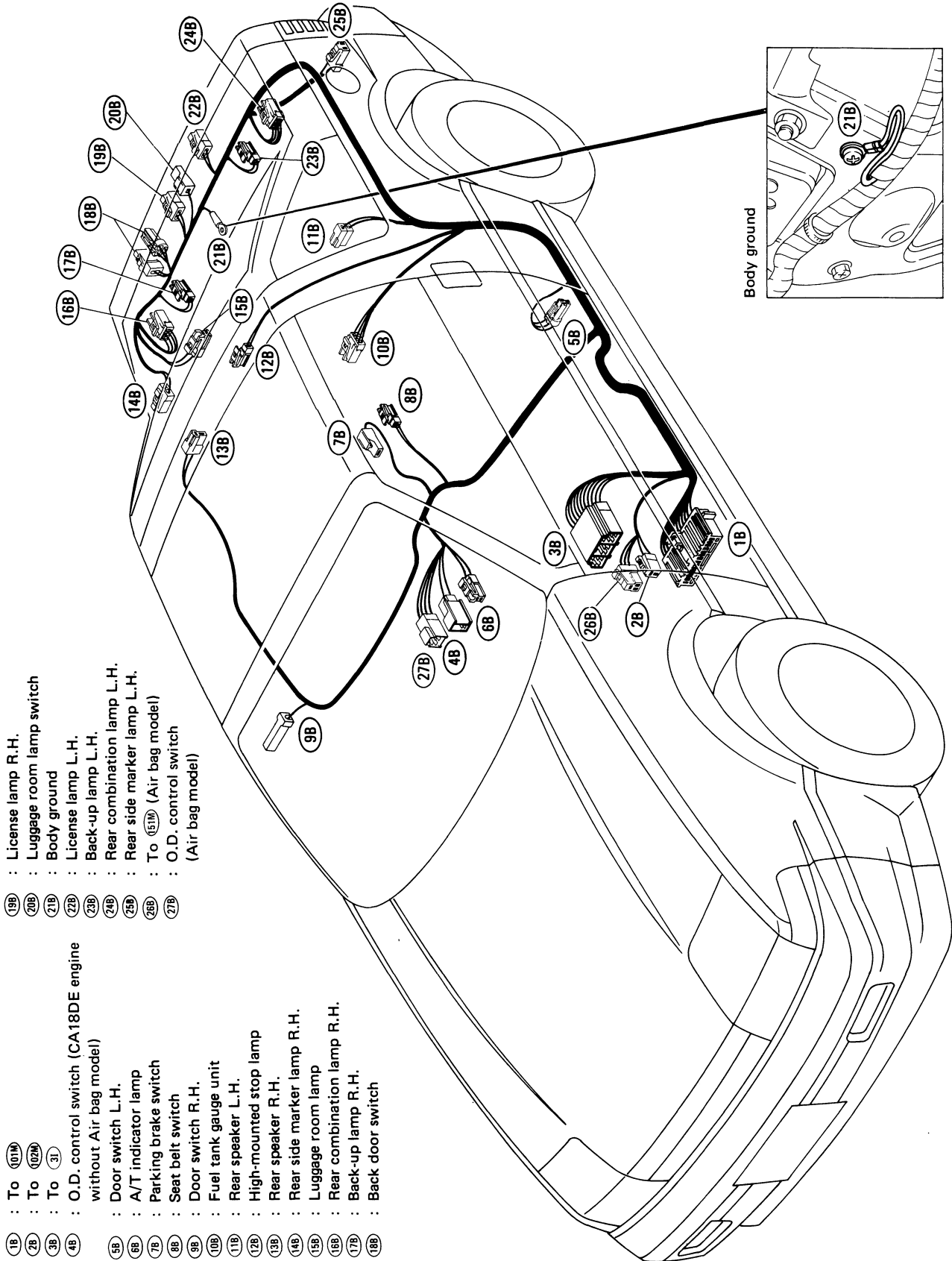
- (101M) : To (1B)
- (102M) : To (2B)
- (103M) : To (1)
- (104M) : To (2)
- (105M) : Diode
- (106M) : Clutch switch (GA16i engine M/T model)
- (107M) : Fuse block
- (108M) : E.C.S. relay
- (109M) : Accessory relay
- (110M) : Fuel pump relay
- (111M) : Ignition relay
- (112M) : To door harness L.H.
- (114M) : Check connector
- (115M) : To room lamp harness
- (116M) : Combination flasher unit
- (117M) : Body ground
- (118M) : Bulb check relay
- (119M) : High-mounted stop lamp relay
- (120M) : Rear window defogger relay
- (121M) : Ignition switch
- (122M) : Key-in switch
- (123M) : Stop lamp switch
- (124M) : Combination switch
- (125M) : To (16)
- (126M) : Radio
- (127M) : Air conditioner switch
- (128M) : Fan switch
- (129M) : Fan switch illumination
- (130M) : Blower motor
- (131M) : Heater resistor
- (132M) : Thermo control amplifier
- (134M) : Body ground
- (135M) : To door harness R.H.
- (136M) : Passing timer

Diode (105M)



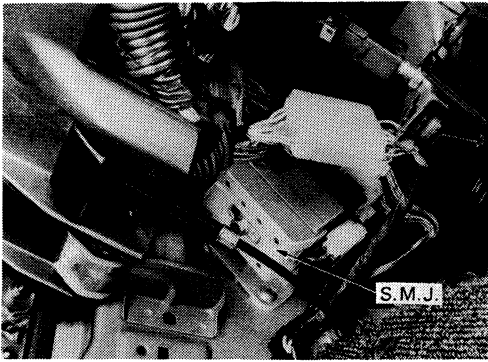
HARNESS LAYOUT

Body Harness




- 1B : To 61M
- 2B : To 62M
- 3B : To 31
- 4B : O.D. control switch (CA18DE engine without Air bag model)
- 5B : Door switch L.H.
- 6B : A/T indicator lamp
- 7B : Parking brake switch
- 8B : Seat belt switch
- 9B : Door switch R.H.
- 10B : Fuel tank gauge unit
- 11B : Rear speaker L.H.
- 12B : High-mounted stop lamp
- 13B : Rear speaker R.H.
- 14B : Rear side marker lamp R.H.
- 15B : Luggage room lamp
- 16B : Rear combination lamp R.H.
- 17B : Back-up lamp R.H.
- 18B : Back door switch
- 19B : License lamp R.H.
- 20B : Luggage room lamp switch
- 21B : Body ground
- 22B : License lamp L.H.
- 23B : Back-up lamp L.H.
- 24B : Rear combination lamp L.H.
- 25B : Rear side marker lamp L.H.
- 26B : To 61M (Air bag model)
- 27B : O.D. control switch (Air bag model)
- 28B : License lamp L.H.
- 29B : Back-up lamp L.H.
- 30B : Rear combination lamp L.H.
- 31B : To 61M (Air bag model)
- 32B : O.D. control switch (Air bag model)
- 33B : License lamp L.H.
- 34B : Back-up lamp L.H.
- 35B : Rear combination lamp L.H.
- 36B : Rear side marker lamp L.H.
- 37B : To 61M (Air bag model)
- 38B : O.D. control switch (Air bag model)
- 39B : License lamp L.H.
- 40B : Back-up lamp L.H.
- 41B : Rear combination lamp L.H.
- 42B : Rear side marker lamp L.H.
- 43B : To 61M (Air bag model)
- 44B : O.D. control switch (Air bag model)
- 45B : License lamp L.H.
- 46B : Back-up lamp L.H.
- 47B : Rear combination lamp L.H.
- 48B : Rear side marker lamp L.H.
- 49B : To 61M (Air bag model)
- 50B : O.D. control switch (Air bag model)
- 51B : License lamp L.H.
- 52B : Back-up lamp L.H.
- 53B : Rear combination lamp L.H.
- 54B : Rear side marker lamp L.H.
- 55B : To 61M (Air bag model)
- 56B : O.D. control switch (Air bag model)
- 57B : License lamp L.H.
- 58B : Back-up lamp L.H.
- 59B : Rear combination lamp L.H.
- 60B : Rear side marker lamp L.H.
- 61B : To 61M (Air bag model)
- 62B : O.D. control switch (Air bag model)
- 63B : License lamp L.H.
- 64B : Back-up lamp L.H.
- 65B : Rear combination lamp L.H.
- 66B : Rear side marker lamp L.H.
- 67B : To 61M (Air bag model)
- 68B : O.D. control switch (Air bag model)
- 69B : License lamp L.H.
- 70B : Back-up lamp L.H.
- 71B : Rear combination lamp L.H.
- 72B : Rear side marker lamp L.H.
- 73B : To 61M (Air bag model)
- 74B : O.D. control switch (Air bag model)
- 75B : License lamp L.H.
- 76B : Back-up lamp L.H.
- 77B : Rear combination lamp L.H.
- 78B : Rear side marker lamp L.H.
- 79B : To 61M (Air bag model)
- 80B : O.D. control switch (Air bag model)
- 81B : License lamp L.H.
- 82B : Back-up lamp L.H.
- 83B : Rear combination lamp L.H.
- 84B : Rear side marker lamp L.H.
- 85B : To 61M (Air bag model)
- 86B : O.D. control switch (Air bag model)
- 87B : License lamp L.H.
- 88B : Back-up lamp L.H.
- 89B : Rear combination lamp L.H.
- 90B : Rear side marker lamp L.H.
- 91B : To 61M (Air bag model)
- 92B : O.D. control switch (Air bag model)
- 93B : License lamp L.H.
- 94B : Back-up lamp L.H.
- 95B : Rear combination lamp L.H.
- 96B : Rear side marker lamp L.H.
- 97B : To 61M (Air bag model)
- 98B : O.D. control switch (Air bag model)
- 99B : License lamp L.H.
- 100B : Back-up lamp L.H.

SUPER MULTIPLE JUNCTION (S.M.J.)



INSTALLATION

To install S.M.J., tighten bolts until orange "fulltight" mark appears and then retighten to specified torque as required.

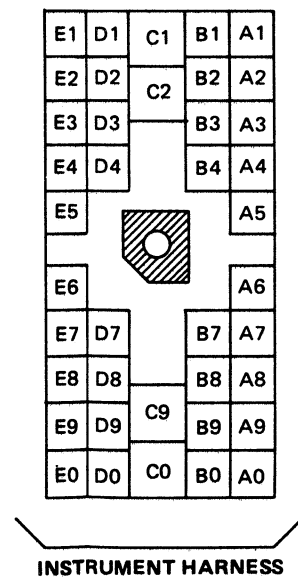
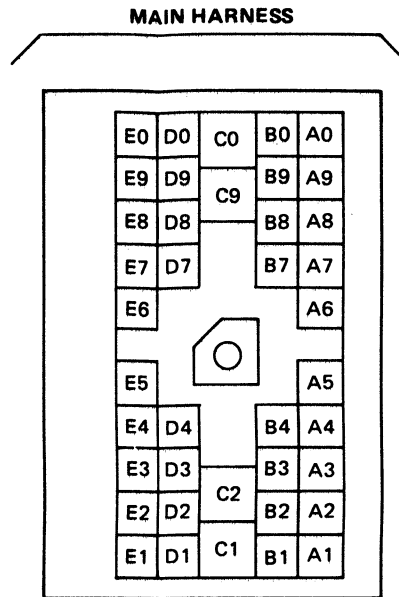
 : 3 - 5 N·m (0.3 - 0.5 kg·m, 2.2 - 3.6 ft·lb)

CAUTION:

Do not overtighten bolts, otherwise, they may be damaged.

SUPER MULTIPLE JUNCTION (S.M.J.)

Terminal Arrangement (Model N13 series)



INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	mm	inches	mm
.100	2.54	.610	15.49
.110	2.79	.620	15.75
.120	3.05	.630	16.00
.130	3.30	.640	16.26
.140	3.56	.650	16.51
.150	3.81	.660	16.76
.160	4.06	.670	17.02
.170	4.32	.680	17.27
.180	4.57	.690	17.53
.190	4.83	.700	17.78
.200	5.08	.710	18.03
.210	5.33	.720	18.29
.220	5.59	.730	18.54
.230	5.84	.740	18.80
.240	6.10	.750	19.05
.250	6.35	.760	19.30
.260	6.60	.770	19.56
.270	6.86	.780	19.81
.280	7.11	.790	20.07
.290	7.37	.800	20.32
.300	7.62	.810	20.57
.310	7.87	.820	20.83
.320	8.13	.830	21.08
.330	8.38	.840	21.34
.340	8.64	.850	21.59
.350	8.89	.860	21.84
.360	9.14	.870	22.10
.370	9.40	.880	22.35
.380	9.65	.890	22.61
.390	9.91	.900	22.86
.400	10.16	.910	23.11
.410	10.41	.920	23.37
.420	10.67	.930	23.62
.430	10.92	.940	23.88
.440	11.18	.950	24.11
.450	11.43	.960	24.38
.460	11.68	.970	24.64
.470	11.94	.980	24.89
.480	12.19	.990	25.15
.490	12.45	1.000	25.40
.500	12.70	2.000	50.80
.510	12.95	3.000	76.20
.520	13.21	4.000	101.60
.530	13.46	5.000	127.00
.540	13.72	6.000	152.40
.550	13.97	7.000	177.80
.560	14.22	8.000	203.20
.570	14.48	9.000	228.60
.580	14.73	10.000	254.00
.590	14.99	20.000	508.00
.600	15.24		

METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

mm	inches	mm	inches
1	.0394	51	2.008
2	.079	52	2.047
3	.118	53	2.087
4	.157	54	2.126
5	.197	55	2.165
6	.236	56	2.205
7	.276	57	2.244
8	.315	58	2.283
9	.354	59	2.323
10	.394	60	2.362
11	.433	61	2.402
12	.472	62	2.441
13	.512	63	2.480
14	.551	64	2.520
15	.591	65	2.559
16	.630	66	2.598
17	.669	67	2.638
18	.709	68	2.677
19	.748	69	2.717
20	.787	70	2.756
21	.827	71	2.795
22	.866	72	2.835
23	.906	73	2.874
24	.945	74	2.913
25	.984	75	2.953
26	1.024	76	2.992
27	1.063	77	3.031
28	1.102	78	3.071
29	1.142	79	3.110
30	1.181	80	3.150
31	1.220	81	3.189
32	1.260	82	3.228
33	1.299	83	3.268
34	1.339	84	3.307
35	1.378	85	3.346
36	1.417	86	3.386
37	1.457	87	3.425
38	1.496	88	3.465
39	1.535	89	3.504
40	1.575	90	3.543
41	1.614	91	3.583
42	1.654	92	3.622
43	1.693	93	3.661
44	1.732	94	3.701
45	1.772	95	3.740
46	1.811	96	3.780
47	1.850	97	3.819
48	1.890	98	3.858
49	1.929	99	3.898
50	1.969	100	3.937

QUICK REFERENCE CHART : PULSAR NX 1989

ENGINE TUNE-UP DATA GA16i & CA18DE

	CA18DE	
	M/T	A/T
Firing order	1-3-4-2	
Idle speed*1	rpm	
Check	800±50*2	700±50*2
Adjust	750±50*3	650±50*3
Ignition timing	15°±2° B.T.D.C.	
Check	15° B.T.D.C.	
Adjust	15° B.T.D.C.	
Idle CO	Idle mixture is preset and sealed at factory.	
Valve clearance (Hot)	mm (in)	
Intake	0 (0) (Automatic adjusting)	
Exhaust	0 (0) (Automatic adjusting)	
Engine compression pressure	kPa (kg/cm ² , psi)/rpm	
Standard	1,373 (14.0, 199)/350	
Minimum	1,177 (12.0, 171)/350	
Differential limit between cylinders	98 (1.0, 14)/350	
Spark plug		
Type		
Standard	PFR6A-11	
Hot	PFR5A-11	
Cold	PFR7A-11	
Gap	mm (in) Do not check and adjust plug gap.	
Drive belt deflection (Cold)	mm (in)	
	Used belt	
	Limit	Adjust deflection
Alternator	12 (0.47)*4	6 - 8 (0.24 - 0.31)
	10 (0.39)	5 - 7 (0.20 - 0.28)
Air conditioner compressor	6 (0.24)	3 - 4 (0.12 - 0.16)
Power steering pump	12.5 (0.492)	7 - 9 (0.28 - 0.35)
Applied pressed force	N (kg, lb) 98 (10, 22)	
Tightening torque	N-m (kg-m, ft-lb)	
Valve rocker adjusting nut	Automatic adjusting	
Oil pan drain plug	29 - 39 (3.0 - 4.0, 22 - 29)	
Spark plug	20 - 29 (2.0 - 3.0, 14 - 22)	

*1 A/T: in "D" range.

*2 Feedback controlled and need no adjustments.

*3 Adjust with A.A.C. valve harness disconnected.

*4 Without air conditioner model.

CLUTCH PEDAL

CA18DE engine model	Unit: mm (in)
Pedal free height	162 - 172 (6.38 - 6.77)
Pedal free play	1 - 3 (0.04 - 0.12)

REAR WHEEL BEARING

Tightening torque	N-m (kg-m, ft-lb)	186 - 255 (19 - 26, 137 - 188)
Axial end play	mm (in)	0.05 (0.0020) or less

WHEEL ALIGNMENT (Unladen*)

Item	Model	Front	Rear
		CA18DE	
Camber	degree	-1°15' to 0°15'	-2°00' to -0°30'
Caster	degree	1°10' - 2°40'	-
Toe-in	mm (in)	-1 to 1 (-0.04 to 0.04)	-1.5 to 2.5 (-0.059 to 0.098)
	(Total) degree	-6' to 6'	-9' to 15'
Front wheel turning angle			
Toe-out turns (Inside/Outside)	degree	22°24'/20°	-
Full turn			
Inside	degree	36° - 39°	-
Outside	degree	30°	-

* Tankful of fuel, radiator coolant and engine oil full.

Spare tire, jack, hand tools, mats in designated positions.

BRAKE

Unit: mm (in)

Front brake	CA18DE
Pad wear limit	2.0 (0.079)
Rotor repair limit	16.0 (0.630)
Rear brake	
Lining wear limit	1.5 (0.059)
Drum inner diameter repair limit	204.5 (8.05)
Pedal free height	
M/T model	160 - 168 (6.30 - 6.61)
A/T model	164 - 174 (6.46 - 6.85)
Pedal depressed height*1	
M/T model	80 (3.15) or more
A/T model	85 (3.35) or more
Parking brake	
Number of notches*2	7 - 11

*1 Under force of 490 N (50 kg, 110 lb) with engine running

*2 At pulling force 196 N (20 kg, 44 lb)

REFILL CAPACITIES

Unit	Liter	US measure
Engine model	CA18DE	CA18DE
Fuel tank	50	13-1/4 gal
Coolant	M/T	5.6
	A/T	
Engine	With oil filter	3.5
	Without oil filter	3.1
Transaxle	M/T	4.7
	A/T	6.8
Power steering system		0.9
Air conditioning system	Compressor oil	0.2
	Refrigerant	0.85 - 0.95 kg



NISSAN MOTOR CO., LTD.

Overseas Service Department

Tokyo, Japan

Edition: February 1989
 Printing: February 1989 (01)
 Publication No. SM9E-N13SU0

Printed in Japan