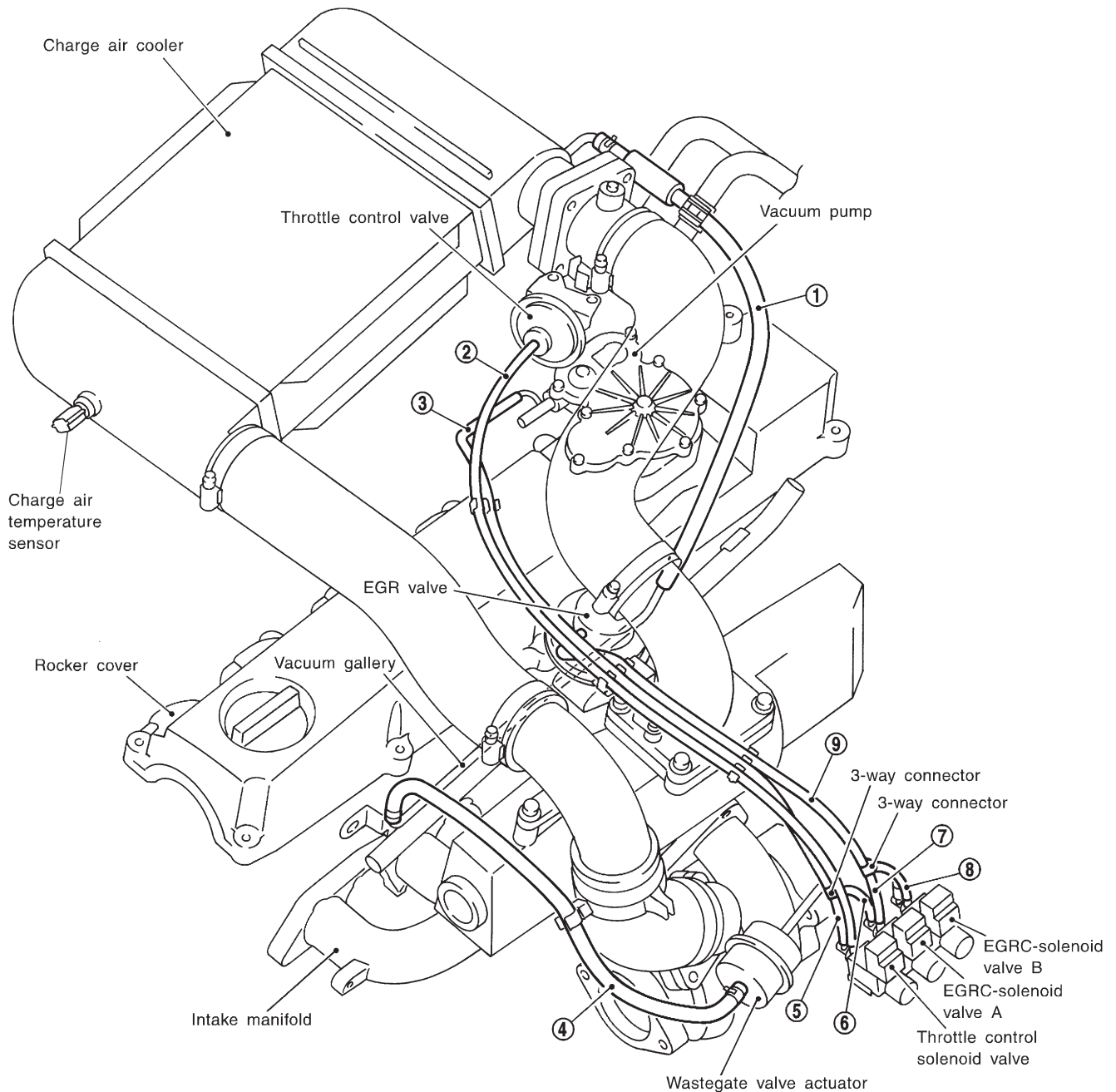


# ENGINE AND EMISSION CONTROL OVERALL SYSTEM

## Vacuum Hose Drawing

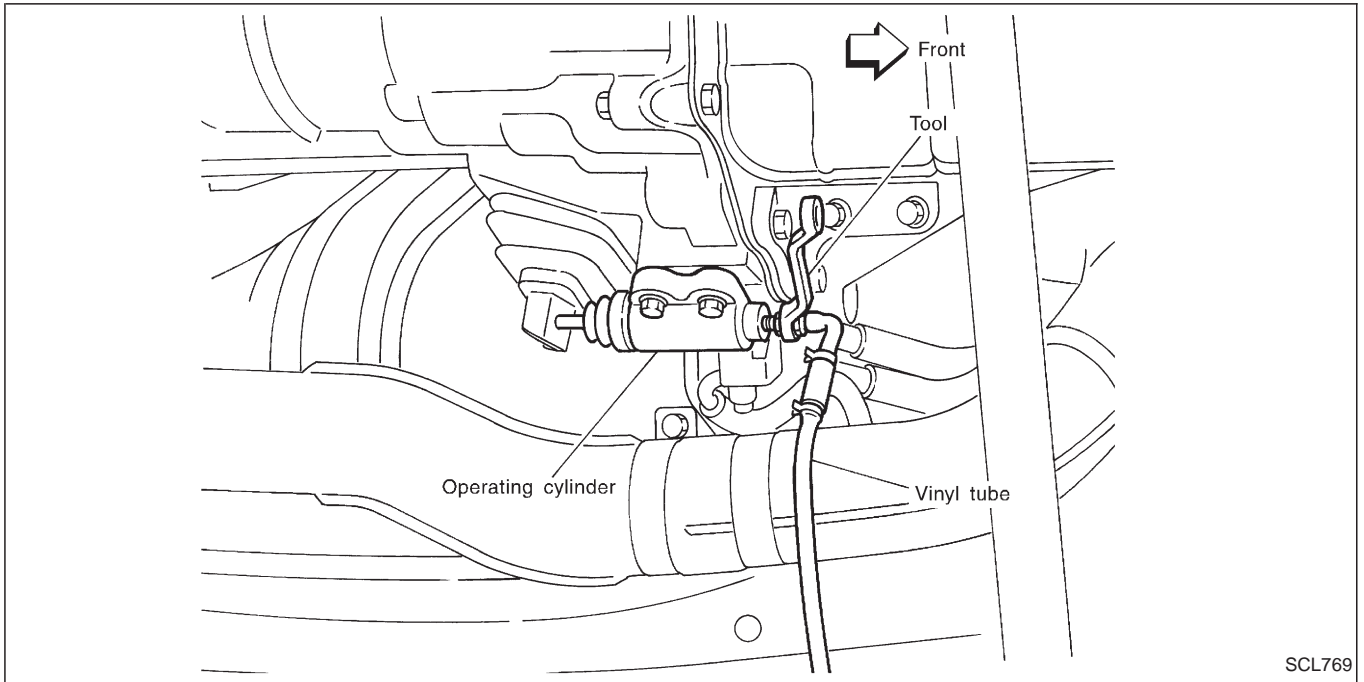


- ① Charge air cooler to vacuum gallery
- ② Throttle control valve to throttle control solenoid valve
- ③ Vacuum pump to 3-way connector
- ④ Vacuum gallery to wastegate valve actuator

- ⑤ 3-way connector to throttle control solenoid valve
- ⑥ 3-way connector to EGRC-solenoid valve A
- ⑦ 3-way connector to EGRC-solenoid valve A

- ⑧ 3-way connector to EGRC-solenoid valve B
- ⑨ EGR valve and 3-way connector

Refer to “System Diagram”, EC-12 for vacuum control system.



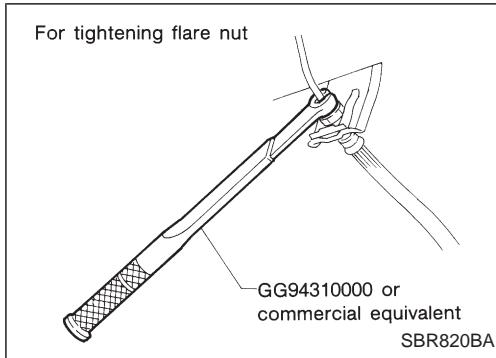
### Air Bleeding Procedure

1. Bleed air from clutch operating cylinder according to the following procedure.

**Carefully monitor fluid level at master cylinder during bleeding operation.**

- a. Top up reservoir with recommended brake fluid.
  - b. Connect a transparent vinyl tube to air bleeder valve.
  - c. Slowly depress clutch pedal to its full stroke and release it completely. Repeat this operation several times at 2 to 3 second intervals.
  - d. Hold clutch pedal depressed, open bleeder valve to release air.
  - e. Close bleeder valve.
  - f. Release clutch pedal and wait at least 5 seconds.
  - g. Repeat steps c through e above until brake fluid flows from air bleeder valve without air bubbles.
2. Repeat the above bleeding procedure 1 several times.

## PRECAUTIONS AND PREPARATION



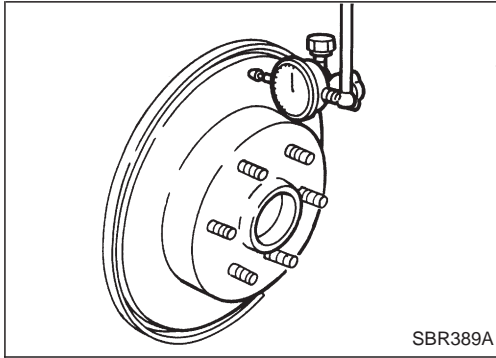
### Precautions

- When installing rubber parts, final tightening must be carried out under unladen condition\* with tires on ground.
- \* Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.
- Use flare nut wrench when removing and installing brake tubes.
- After installing removed suspension parts, check wheel alignment and adjust if necessary.
- Always torque brake lines when installing.

### Special Service Tools

Tool number Tool name	Description
ST29020001 Gear arm puller	<p>NT551</p> <p>Removing tie-rod and drag link</p> <p>a: 34 mm (1.34 in) b: 6.5 mm (0.256 in) c: 61.5 mm (2.421 in)</p>
KV401021S0 Bearing race drift	<p>NT153</p> <p>Installing wheel bearing outer race</p>
KV40105400 Wheel bearing lock nut wrench	<p>NT154</p> <p>Removing and installing wheel bearing lock nut</p>
GG94310000 Flare nut torque wrench	<p>NT406</p> <p>Removing and installing brake piping</p> <p>a: 10 mm (0.39 in)</p>

## REAR DISC BRAKE



### Inspection — Rotor

#### RUNOUT

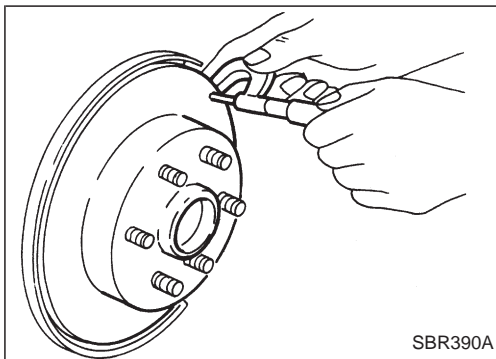
1. Secure rotor to wheel hub with at least two nuts (M12 × 1.25).
2. Check runout using a dial indicator.

**Make sure that wheel bearing axial end play is within the specifications before measuring. Refer to “Rear Wheel Bearing” in RA section.**

**Maximum runout:**

**0.1 mm (0.004 in)**

3. If the runout is out of specification, find minimum runout position as follows:
  - a. Remove nuts and rotor from wheel hub.
  - b. Shift the rotor one hole and secure rotor to wheel hub with nuts.
  - c. Measure runout.
  - d. Repeat steps a. to c. so that minimum runout position can be found.
4. If the runout is still out of specification, turn rotor with on-car brake lathe (“MAD, DL-8700”, “AMMCO 700 and 705” or equivalent).



#### THICKNESS

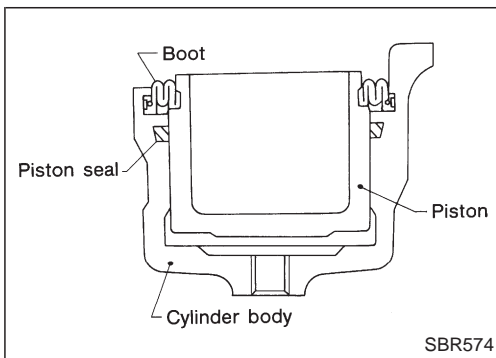
**Thickness variation (At least 8 positions):**

**Maximum 0.015 mm (0.0006 in)**

If thickness variation exceeds the specification, turn rotor with on-car brake lathe.

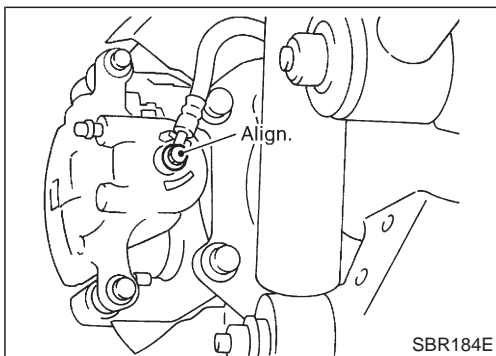
**Rotor repair limit:**

**16.0 mm (0.630 in)**



### Assembly

1. Insert piston seal into groove on cylinder body.
2. With piston boot fitted to piston, insert piston boot into groove on cylinder body and install piston.
3. Properly secure piston boot



### Installation

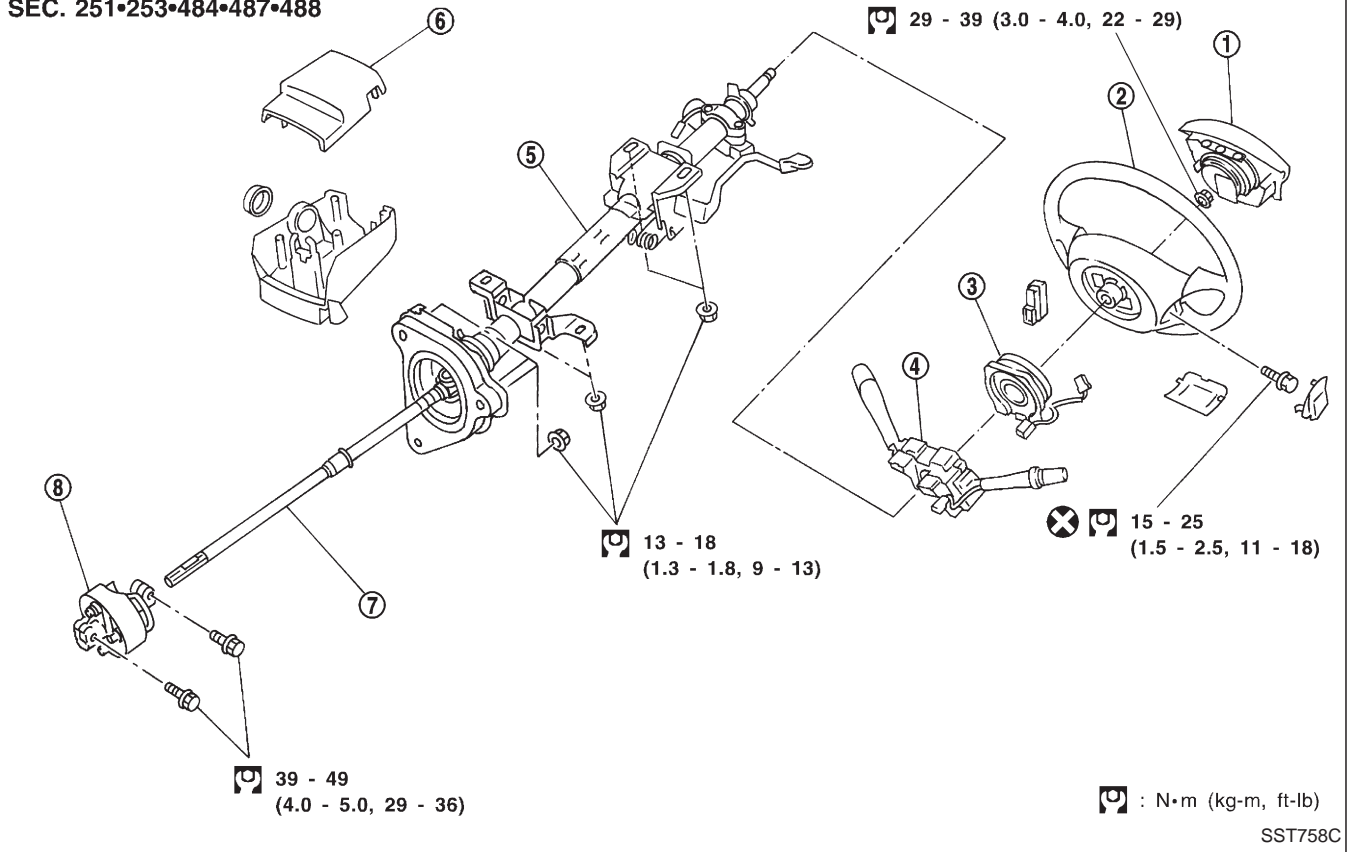
#### CAUTION:

- Refill with new brake fluid “DOT 3”.
  - Never reuse drained brake fluid.
1. Install caliper assembly.
  2. Install brake hose to caliper securely.
  3. Install all parts and secure all bolts.
  4. Bleed air. Refer to “Bleeding Brake System”, BR-4.

# STEERING WHEEL AND STEERING COLUMN

## Removal and Installation

SEC. 251•253•484•487•488



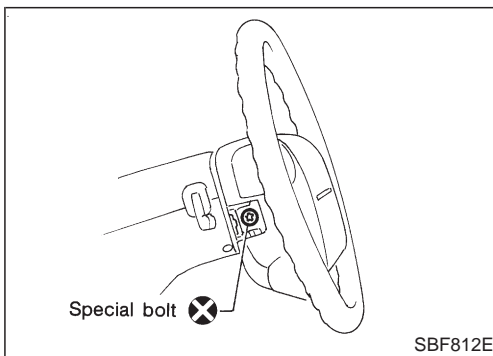
- |                  |                            |               |
|------------------|----------------------------|---------------|
| ① Air bag module | ④ Combination switch       | ⑦ Lower shaft |
| ② Steering wheel | ⑤ Steering column assembly | ⑧ Coupling    |
| ③ Spiral cable   | ⑥ Column cover             |               |

### CAUTION:

- The rotation of the spiral cable (SRS “Air bag” 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.
- Remove the steering wheel before removing the steering lower joint to avoid damaging the SRS spiral cable.

### STEERING WHEEL

- Remove air bag module and spiral cable. Refer to RS section (“Removal — Air Bag Module and Spiral Cable”, “SUPPLEMENTAL RESTRAINT SYSTEM”).



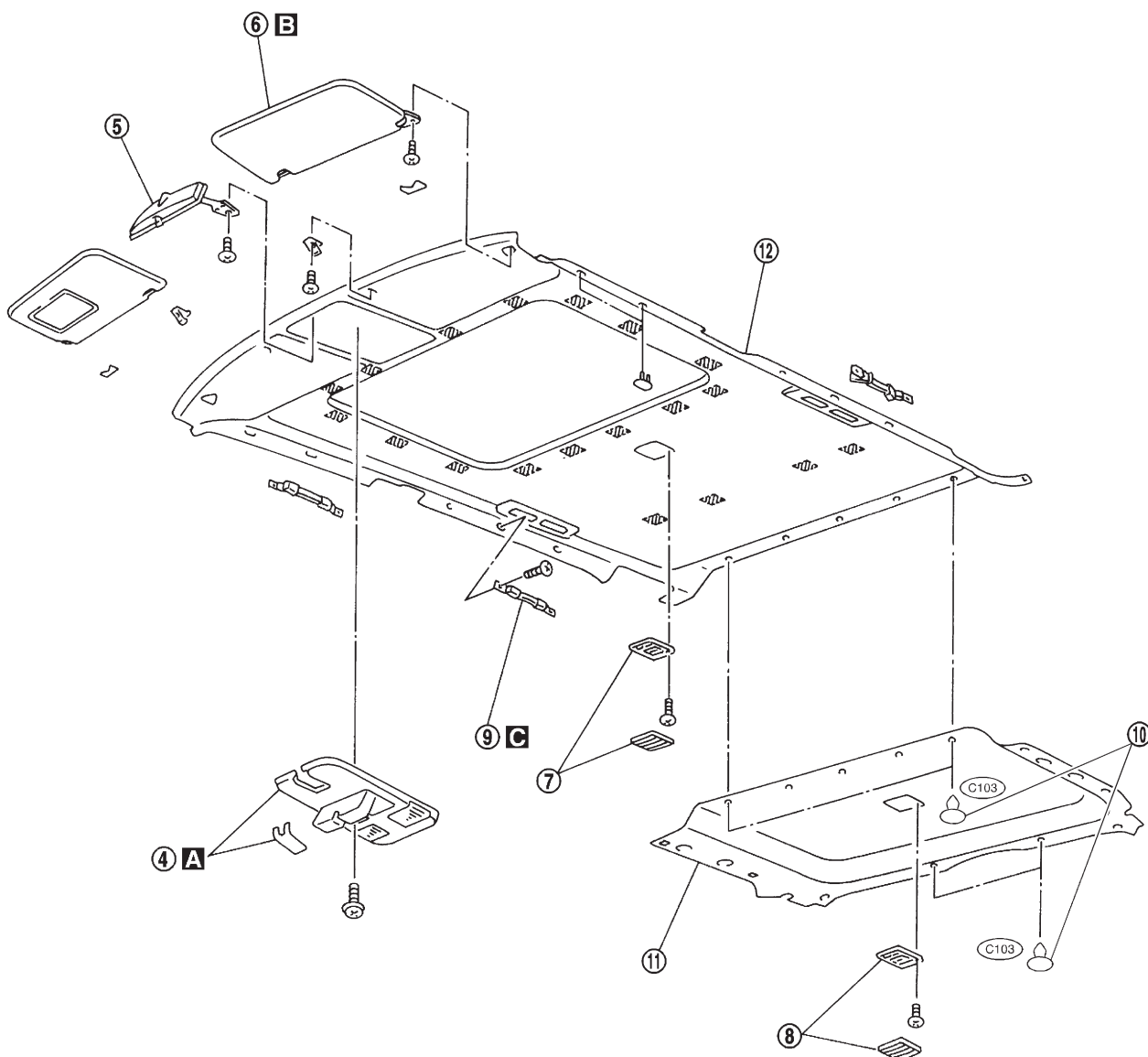
## INTERIOR TRIM


### Roof Trim

#### REMOVAL — Headlining (WAGON)

- ① Remove front, rear and 3rd seats. Refer to “SEAT” for details, BT-32.
- ② Remove front, rear and 3rd seat belts. Refer to “SEAT BELTS” in RS section for details.
- ③ Remove body side trim. Refer to “Side and Floor Trim” for details, BT-14.
- ④ Remove roof console assembly, then disconnect connectors. **A**
- ⑤ Remove inside mirror assembly.
- ⑥ Remove sun visors. **B**
- ⑦ Remove interior lamp assembly.
- ⑧ Remove luggage room lamp assembly.
- ⑨ Remove assist grips. **C**
- ⑩ Remove clips securing headlining.
- ⑪ Remove rear headlining from vehicle through either back door.
- ⑫ Remove front headlining from vehicle through either back door.

SEC. 264•738•963•964•970



 : Velcro

SBT531

Operational Check

The purpose of the operational check is to confirm that the system operates properly.

CONDITIONS

Engine running at normal operating temperature.

PROCEDURE

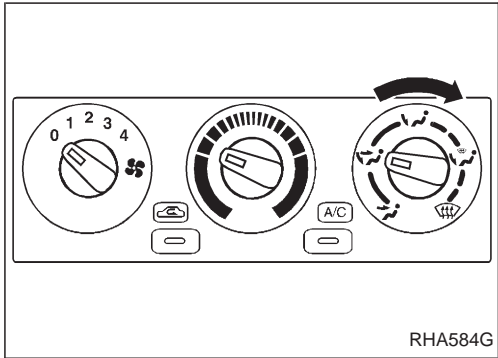
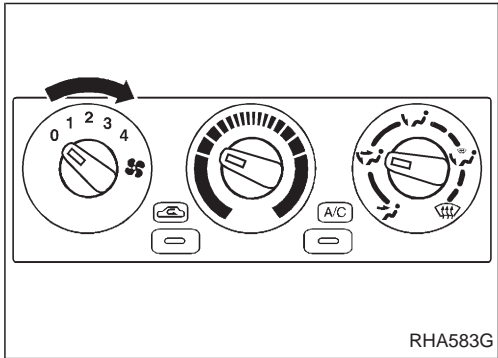
1. Check blower

- Turn fan control knob to 1-speed.  
Blower should operate on 1-speed.
- Then turn fan control knob to 2-speed.
- Continue checking blower speed until all four speeds are checked.
- Leave blower on 4-speed.

2. Check discharge air

- Turn mode control knob.

- Confirm that discharge air comes out according to the air distribution table at left.  
Refer to “Discharge Air Flow” in “DESCRIPTION” (HA-13).



Discharge air flow			
Mode control knob	Air outlet/distribution		
	Face	Foot	Defroster
	100%	—	—
	60%	40%	—
	—	80%	20%
	—	60%	40%
	—	—	100%

RHA654F

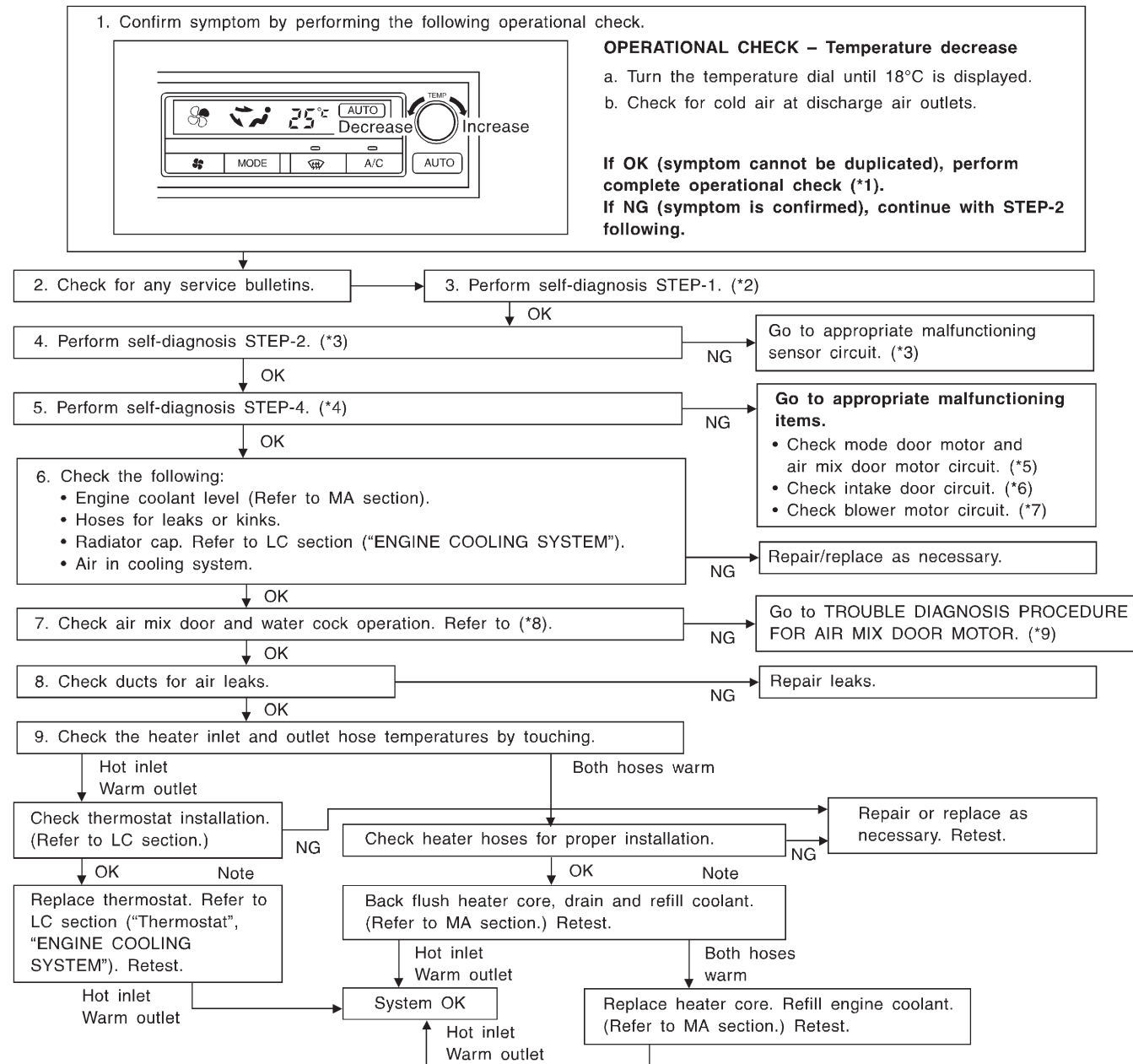
## Insufficient Heating

## TROUBLE DIAGNOSIS PROCEDURE FOR INSUFFICIENT HEATING

## SYMPTOM:

- Insufficient heating.

## Inspection flow



Note: To avoid unnecessary service of heating system,  
 first perform TEMPERATURE SETTING TRIMMING.  
 Refer to "AUXILIARY MECHANISM", "Self-diagnosis". (\*10)

SHA024F

\*1: HA-70  
 \*2: HA-64  
 \*3: HA-65  
 \*4: HA-67

\*5: HA-75  
 \*6: HA-85  
 \*7: HA-89

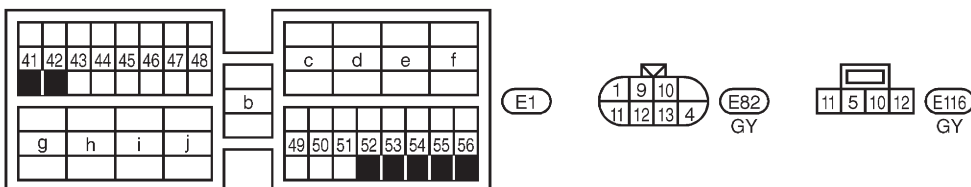
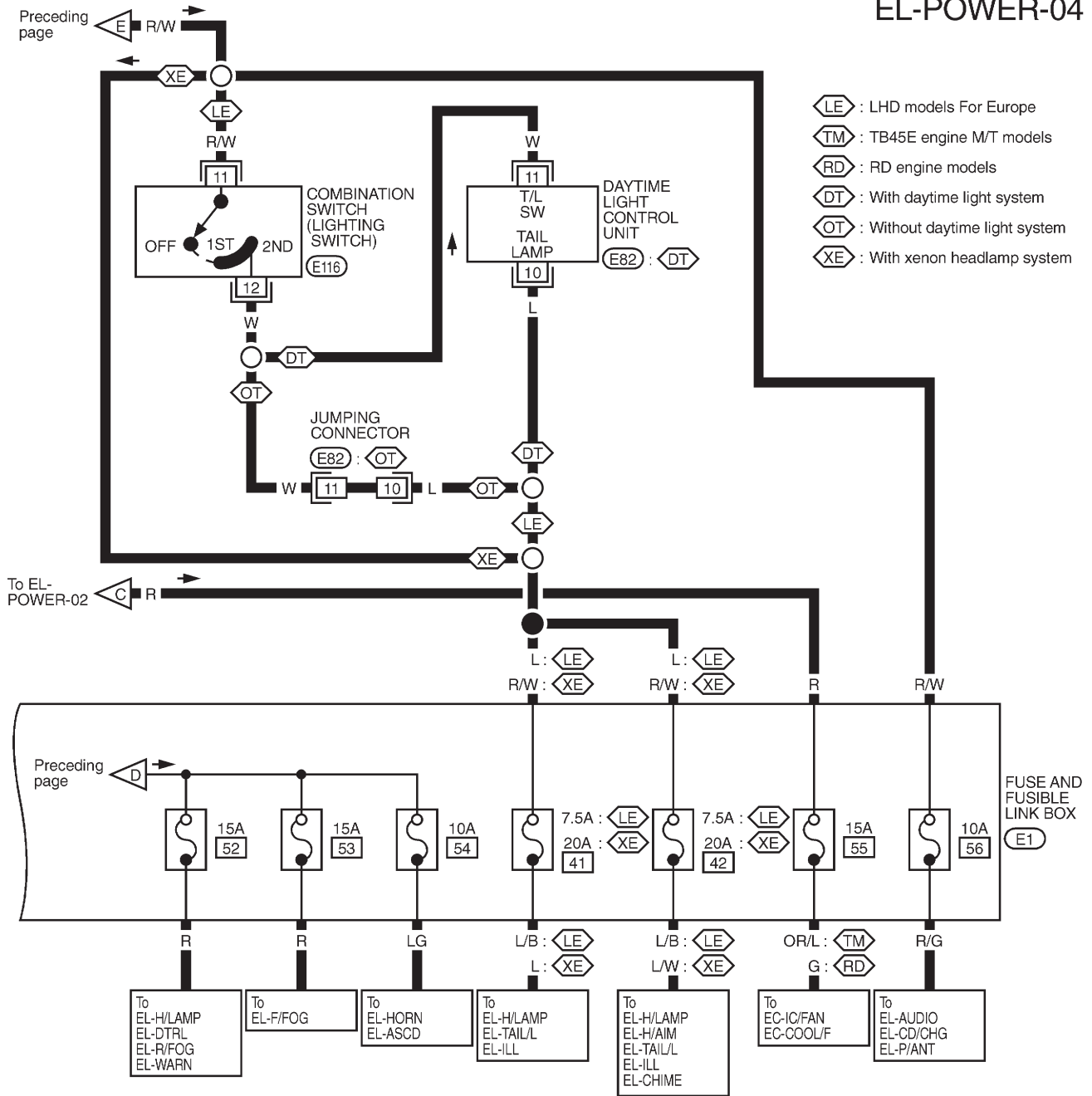
\*8: HA-94  
 \*9: HA-79  
 \*10: HA-68



# POWER SUPPLY ROUTING

## Wiring Diagram — POWER — (Cont'd)

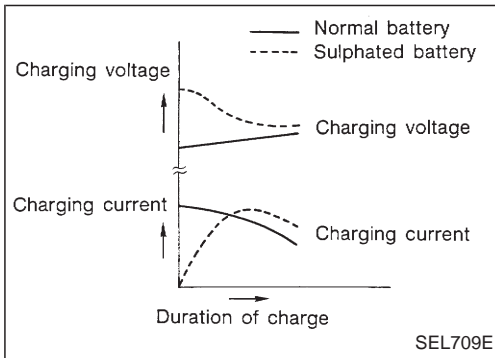
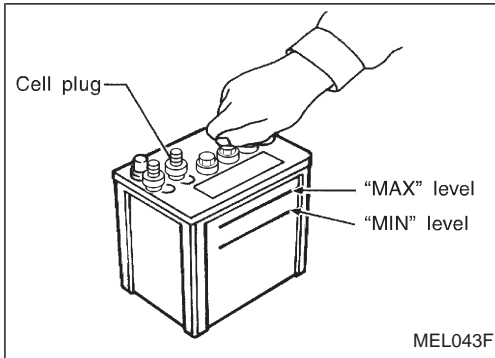
EL-POWER-04



## BATTERY

### How to Handle Battery (Cont'd)

- Remove the cell plug using a suitable tool.
- Add distilled water up to the MAX level.

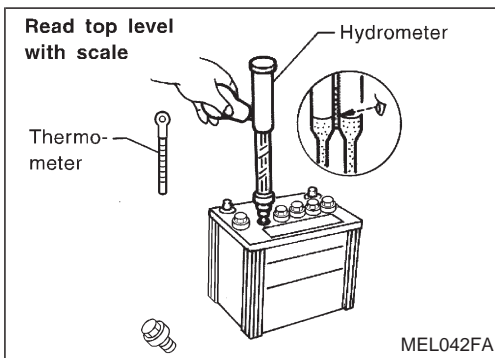


### SULPHATION

A battery will be completely discharged if it is left unattended for a long time and the specific gravity will become less than 1.100. This may result in sulphation on the cell plates.

To determine if a battery has been "sulphated", note its voltage and current when charging it. As shown in the figure, less current and higher voltage are observed in the initial stage of charging sulphated batteries.

A sulphated battery may sometimes be brought back into service by means of a long, slow charge, 12 hours or more, followed by a battery capacity test.

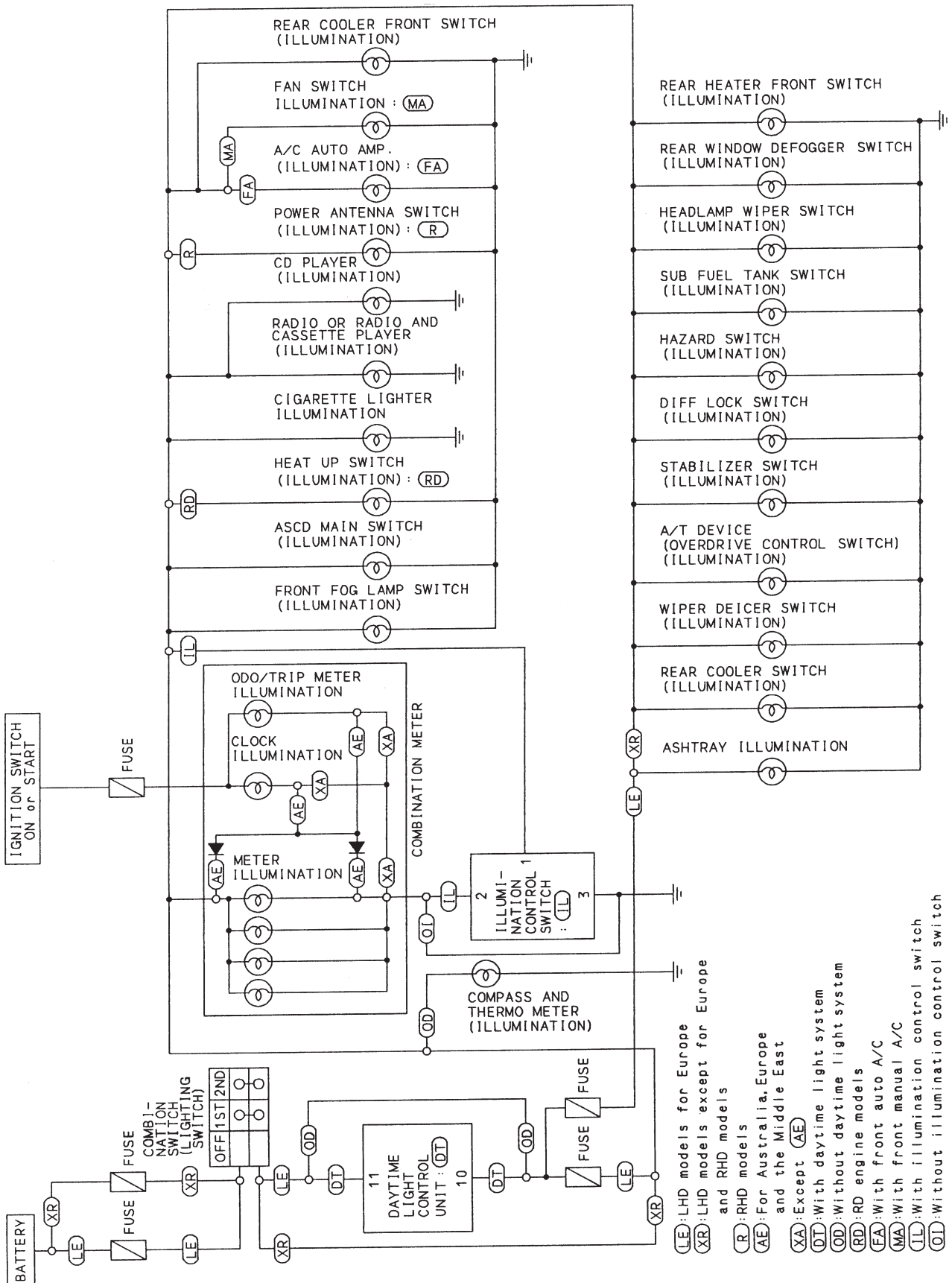


### SPECIFIC GRAVITY CHECK

1. Read hydrometer and thermometer indications at eye level.

# ILLUMINATION

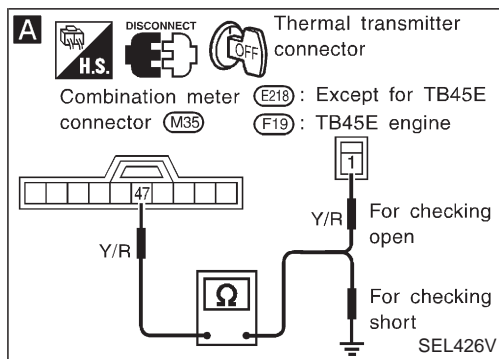
## Schematic



## METER AND GAUGES

### Trouble Diagnoses (Cont'd)

#### INSPECTION/THERMAL TRANSMITTER



CHECK THERMAL TRANSMITTER. Refer to "THERMAL TRANSMITTER CHECK" (EL-115).

NG

Repair or replace.

OK

**A**

#### CHECK HARNESS FOR OPEN OR SHORT.

1. Disconnect combination connector and thermal transmitter connector.
2. Check continuity between combination meter terminal ④⑦ and thermal transmitter terminal ①.

**Continuity should exist.**

3. Check continuity between combination meter terminal ④⑦ and ground.

**Continuity should not exist.**

NG

Repair harness or connector.

OK

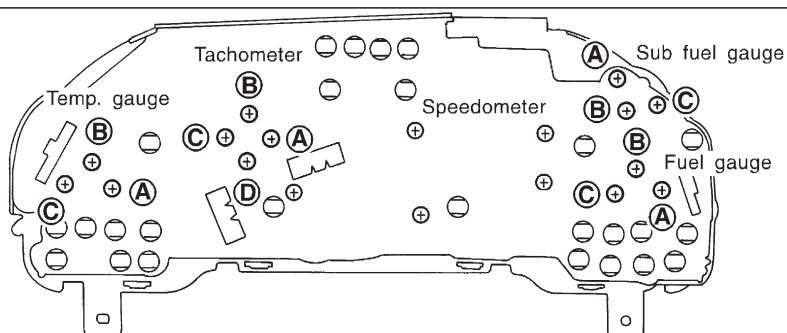
Thermal transmitter is OK.

### Electrical Components Inspection

#### METER/GAUGE RESISTANCE CHECK

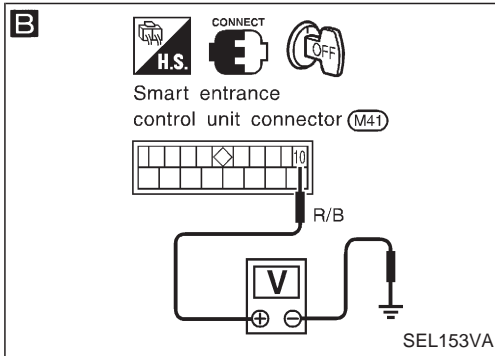
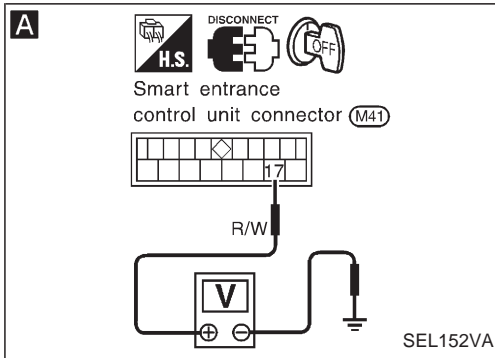
1. Disconnect FPC connector. Refer to "Flexible Print Circuit (FPC)" (EL-109).
2. Check resistance between installation screws of meter/gauge.

Screws			Resistance Ω
Tachometer	Fuel/Temp. gauge	Sub fuel gauge	
A - C	A - C	—	Approx. 104 (±5)
B - D	B - C	—	Approx. 134 (±5)
—	—	A - C	Approx. 174 (±5)
—	—	B - C	Approx. 100 (±5)



CEL736

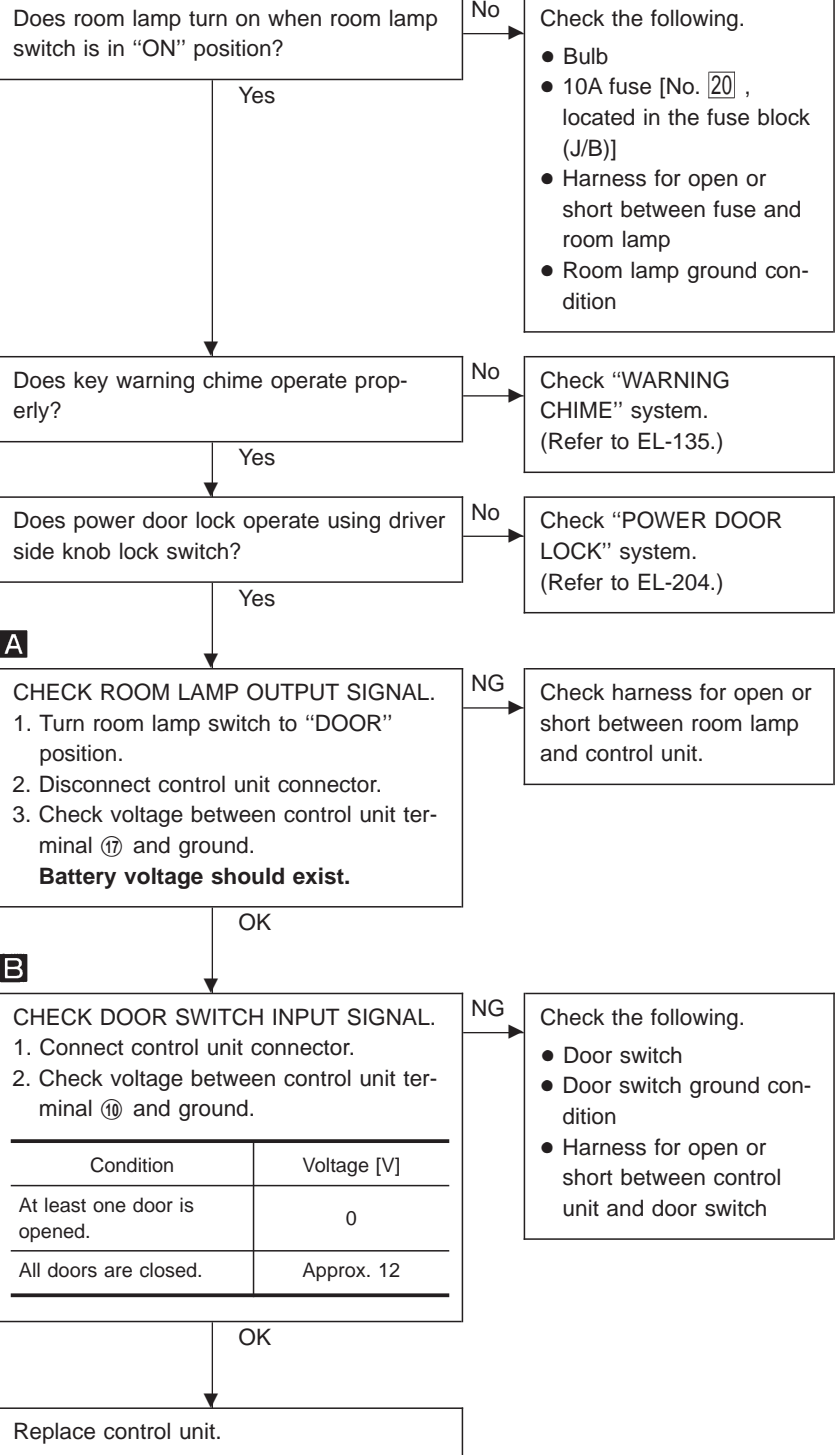
# INTERIOR ROOM LAMP — With Timer —



## Trouble Diagnoses

### DIAGNOSTIC PROCEDURE

**SYMPTOM: Front interior room lamp does not turn on when any door is opened, or timer does not operate properly.**



# HEADLAMP WIPER AND WASHER

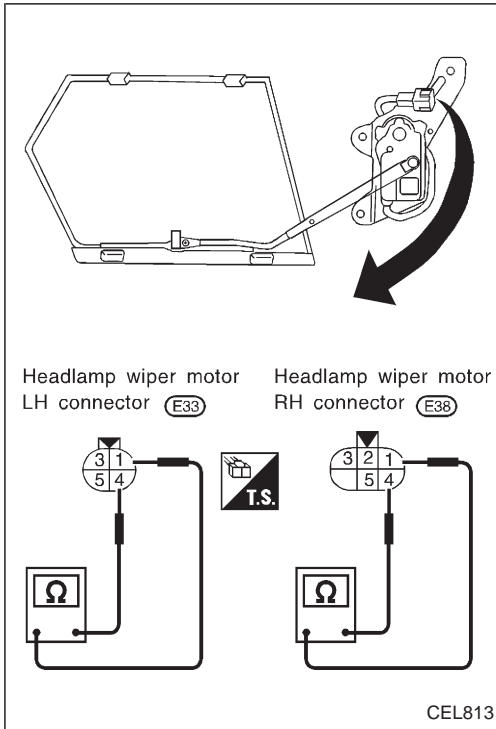
## Electrical Components Inspection

### HEADLAMP WIPER MOTOR CHECK

When wiper motor is locked, a protective circuit built into wiper motor activates to stop wiper motor. If wiper motor will not restart even after cause of problems has been eliminated, turn ignition switch OFF and leave it off for approx. 1 to 3 minutes.

1. Turn headlamp wiper switch OFF.
2. Connect ohmmeter and check continuity.

Headlamp wiper motor	Ohmmeter probe		Continuity
	(+)	(-)	
Stop position	①	④	Yes
	①	②	Yes
	①	③	Yes
	③	⑤	No



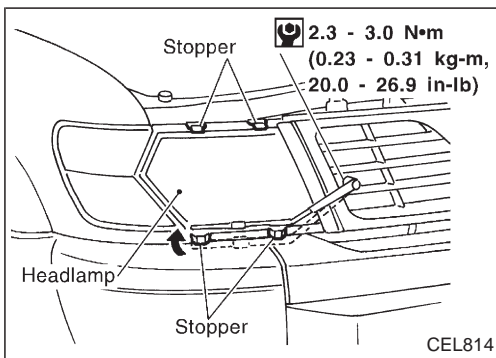
## Removal and Installation

### WIPER ARM

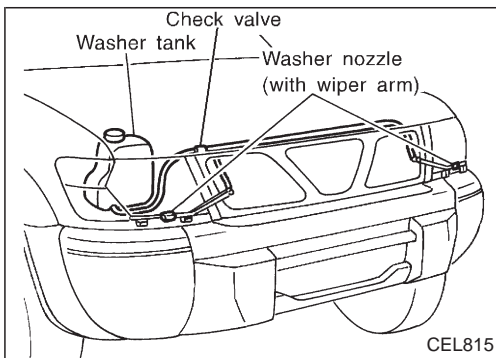
Tighten nut to secure wiper arm with wiper blade held below lower stopper.

After installing wiper arm, position wiper blade on stopper upper surface.

- Tighten headlamp wiper arm nut to the specified torque.  
 : 2.3 - 3.0 N·m (0.23 - 0.31 kg-m, 20.0 - 26.9 in-lb)

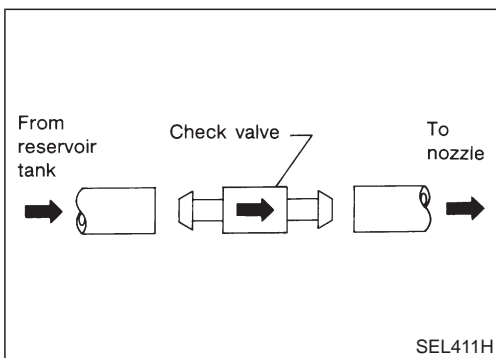


## Washer Tube Layout



### Check Valve

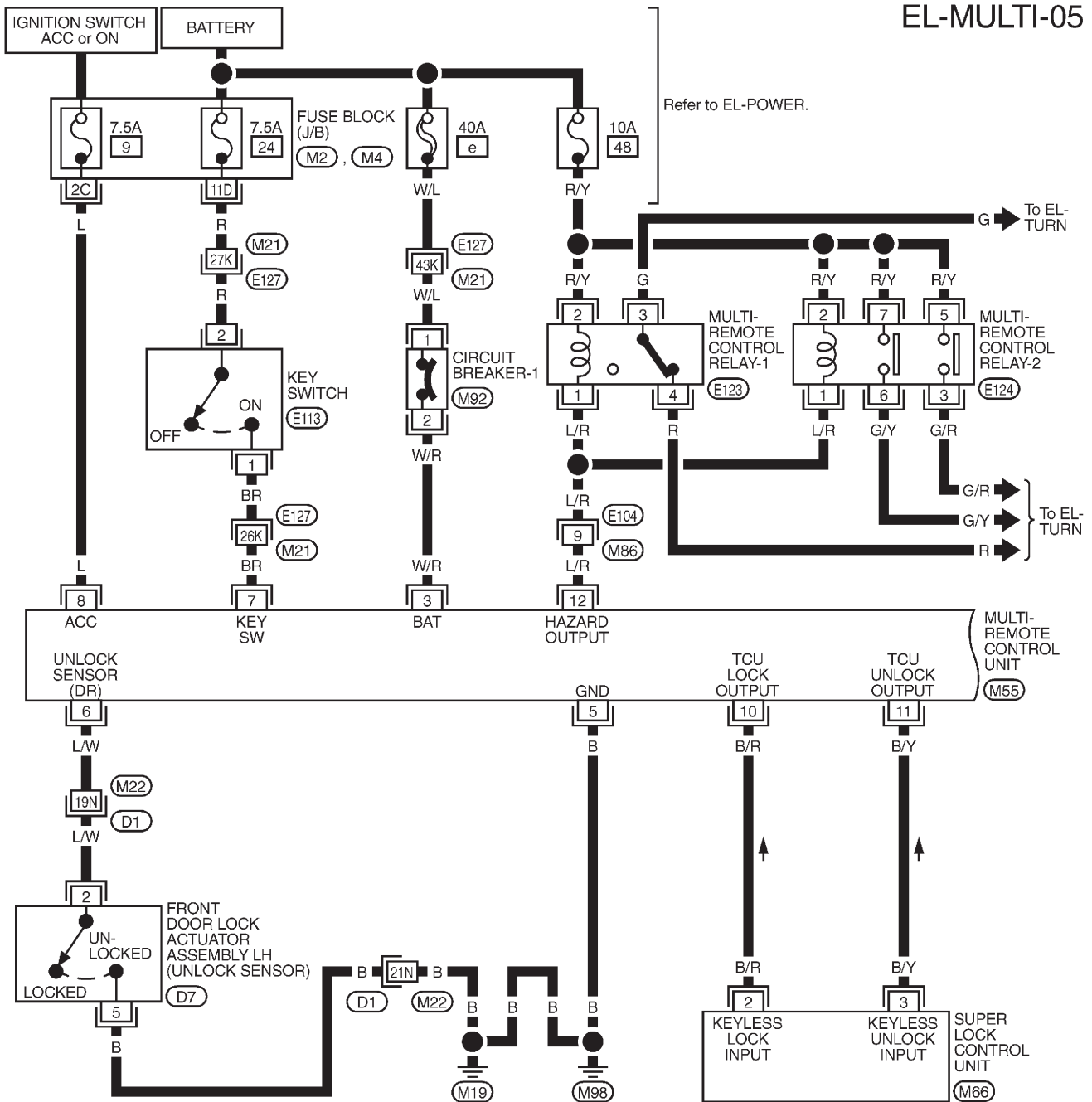
- A check valve is provided in the washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.



# MULTI-REMOTE CONTROL SYSTEM

## Wiring Diagram — MULTI —/LHD Models

EL-MULTI-05



5	4	3		2	1	
12	11	10		8	7	6

M55

W

(M55)  
W

9	8	7	6	5	4	3	2	1
18	16	15	14	13	11			

(M66)  
W

1
2

(M92)  
W

1	2	3		4	5	
6	7	8	9	10	11	12

(E104)  
W

1	2
---	---

(E113)  
W

	3	
2	4	1

E123

B

(E123)  
B

1	2
5	7
3	6

(E124)  
BR

1	2	3
4	5	6

(D7)  
B