

# HEATER & AIR CONDITIONER

<SUPPLEMENT-I>

## SECTION HA

### MODIFICATION NOTICE:

- Wiring diagrams have been changed.
- Cooler cycle for ZD30DDTi engine has been added.

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## PRECAUTIONS AND PREPARATION

### Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to NISSAN MODEL Y61 is as follows (The composition varies according to the destination and optional equipment.):

- For a frontal collision

The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, warning lamp, wiring harness and spiral cable.

- For a side collision

The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

Information necessary to service the system safely is included in the **RS section** of this Service Manual.

**WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance should 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. For removal of Spiral Cable and Air Bag Module, see the RS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.

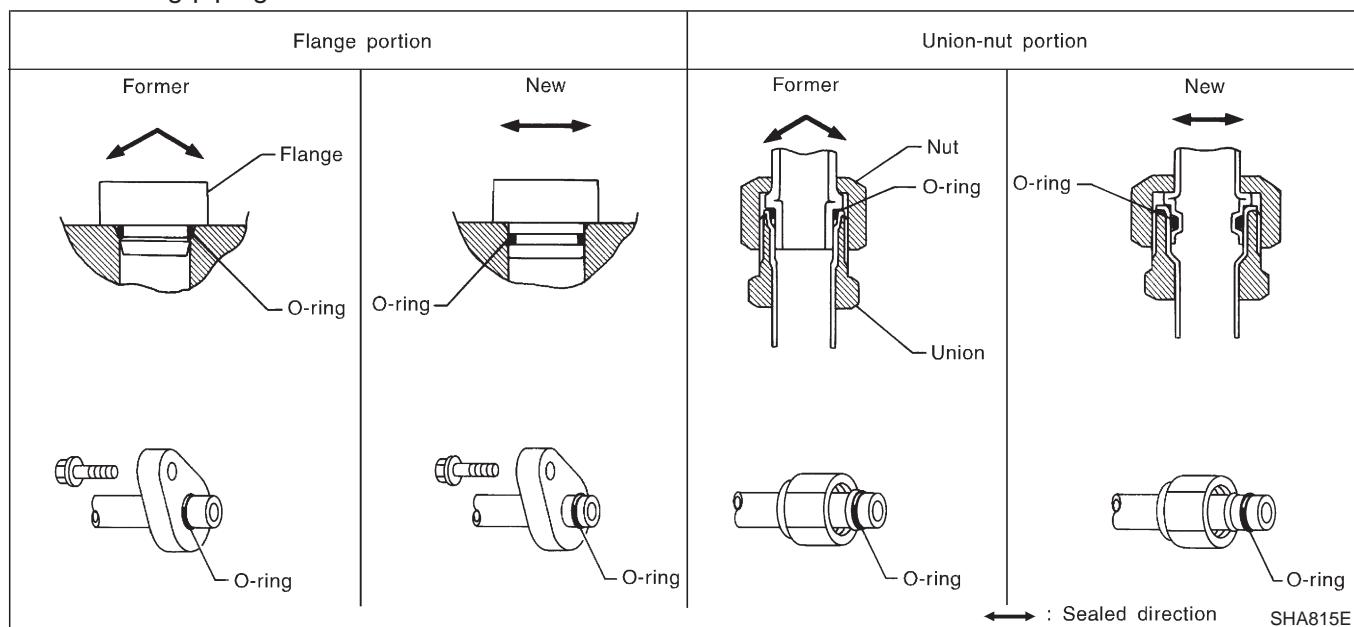
### Precautions for Refrigerant Connection

A new type refrigerant connection has been introduced to all refrigerant lines except the following location.

- Expansion valve to cooling unit

### FEATURES OF NEW TYPE REFRIGERANT CONNECTION

- The O-ring has been relocated. It has also been provided with a groove for proper installation. This eliminates the chance of the O-ring being caught in, or damaged by, the mating part. The sealing direction of the O-ring is now set vertically in relation to the contacting surface of the mating part to improve sealing characteristics.
- The reaction force of the O-ring will not occur in the direction that causes the joint to pull out, thereby facilitating piping connections.

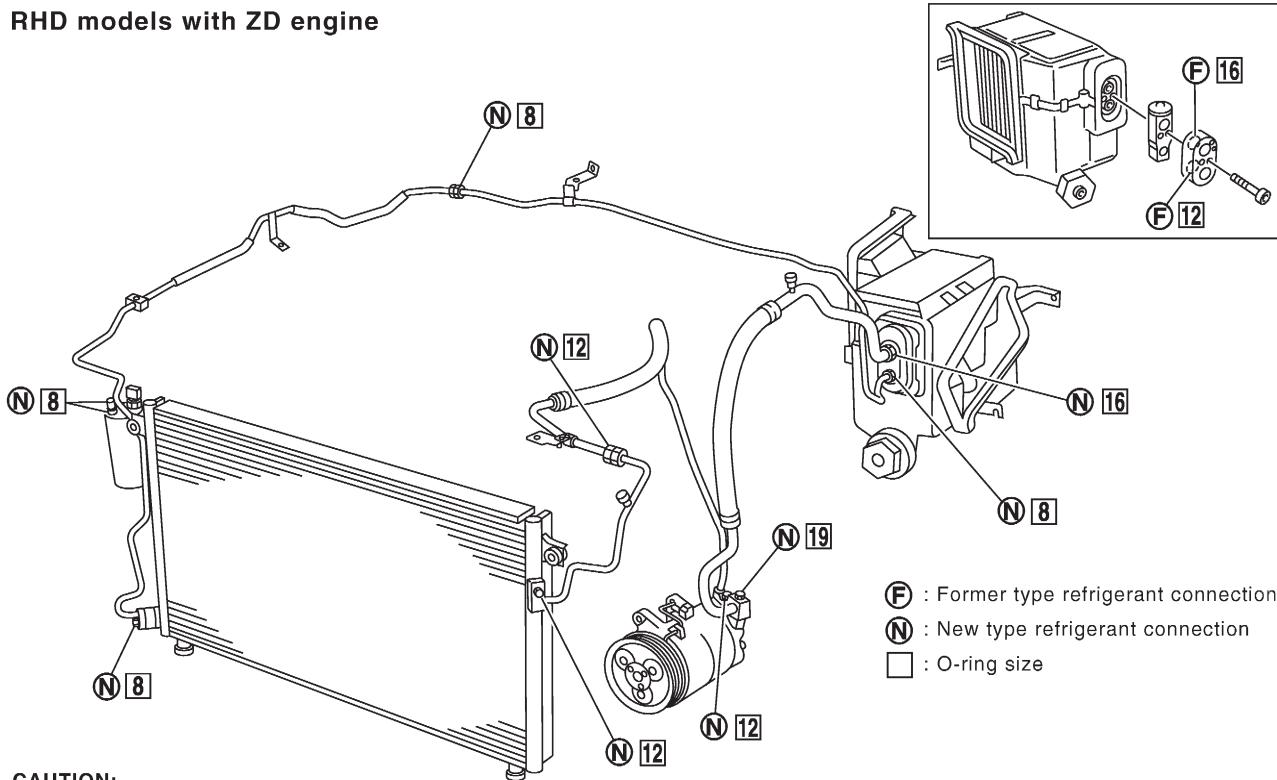


## PRECAUTIONS AND PREPARATION

### Precautions for Refrigerant Connection (Cont'd)

#### O-RING AND REFRIGERANT CONNECTION

RHD models with ZD engine

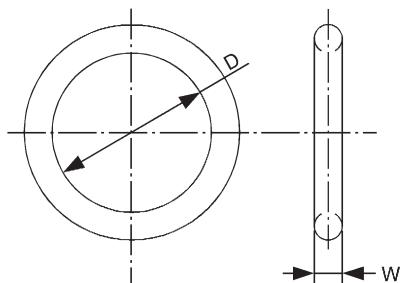


#### CAUTION:

The new and former refrigerant connections use different O-ring configurations. Do not confuse O-rings since they are not interchangeable. If a wrong O-ring is installed, refrigerant will leak at, or around, the connection.

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#### O-Ring Part Numbers and Specifications



SHA814E

Connection type	O-ring size	Part number	D mm (in)	W mm (in)
New	8	92471 N8210	6.8 (0.268)	1.85 (0.0728)
Former	8	92470 N8200	6.07 (0.2390)	1.78 (0.0701)
New	12	92472 N8210	10.9 (0.429)	2.43 (0.0957)
Former	12	92475 71L00	11.0 (0.433)	2.4 (0.094)
New	16	92473 N8210	13.6 (0.535)	2.43 (0.0957)
Former	16	92475 72L00	14.3 (0.563)	2.3 (0.0906)
New	19	92474 N8210	16.5 (0.650)	2.43 (0.0957)
Former	19	92477 N8200	17.12 (0.6740)	1.78 (0.0701)

#### WARNING:

Make sure all refrigerant is discharged into the recycling equipment and the pressure in the system is less than atmospheric pressure. Then gradually loosen the discharge side hose fitting and remove it.

#### CAUTION

When replacing or cleaning refrigerant cycle components, observe the following.

- When the compressor is removed, store it in the same position as it is when mounted on the car. Failure to do so will cause lubricant to enter the low pressure chamber.
- When connecting tubes, always use a torque wrench and a back-up wrench.
- After disconnecting tubes, immediately plug all openings to prevent entry of dirt and moisture.
- When installing an air conditioner in the vehicle, connect the pipes as the final stage of the operation. Do not remove the seal caps of pipes and other components until just before required for connection.

## PRECAUTIONS AND PREPARATION

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### Precautions for Refrigerant Connection (Cont'd)

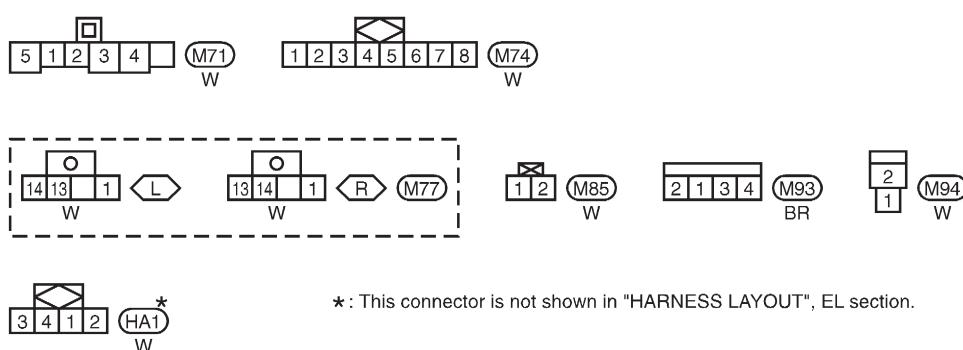
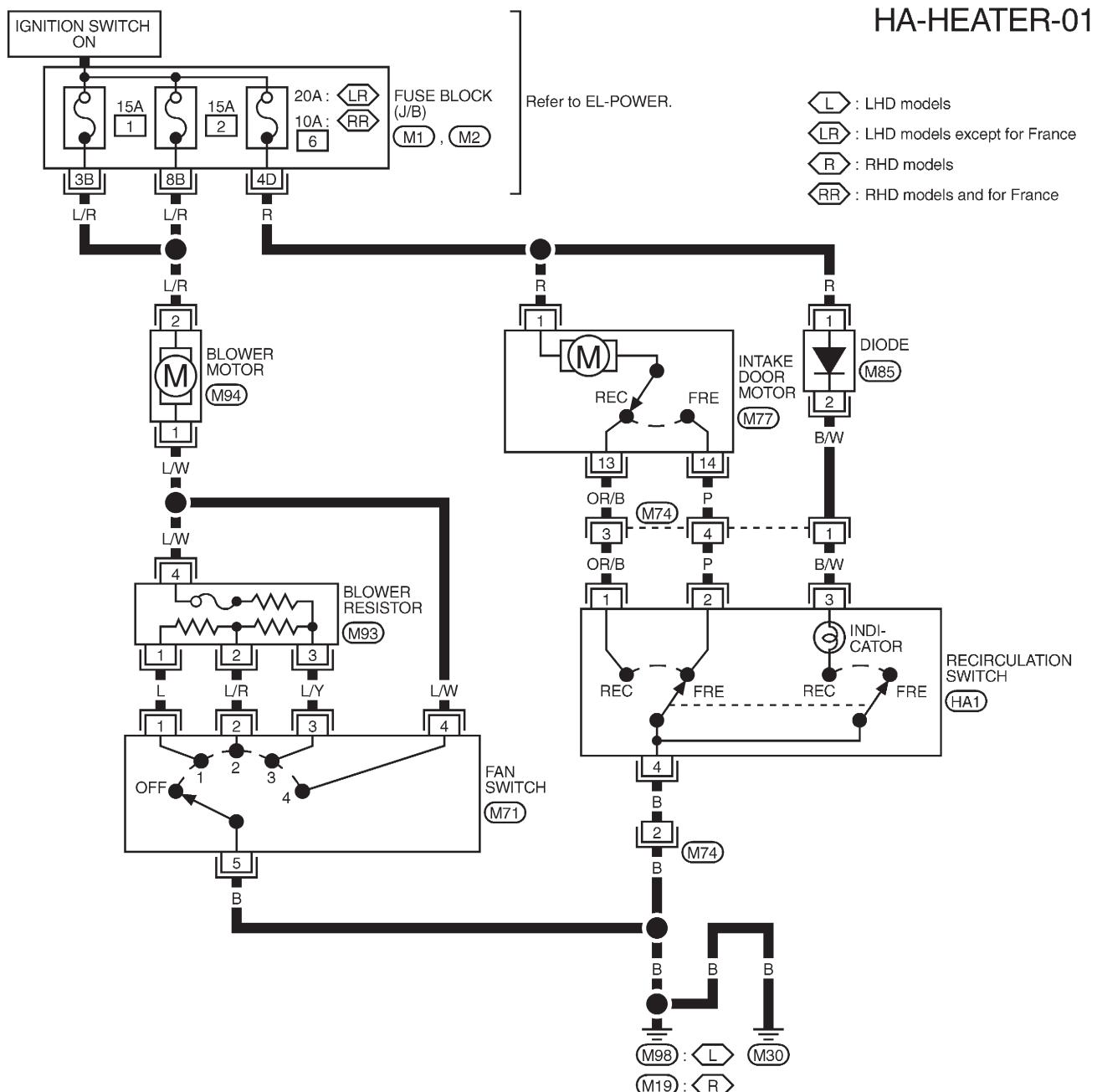
- Allow components stored in cool areas to warm to working area temperature before removing seal caps. This prevents condensation from forming inside A/C components.
- Thoroughly remove moisture from the refrigeration system before charging the refrigerant.
- Always replace used O-rings.
- When connecting tube, apply lubricant to circle of the O-rings shown in illustration. Be careful not to apply lubricant to threaded portion.

Lubricant name: Nissan A/C System Oil Type S

Part number: KLH00-PAGS0

- O-ring must be closely attached to dented portion of tube.
- When replacing the O-ring, be careful not to damage O-ring and tube.
- Connect tube until you hear it click, then tighten the nut or bolt by hand until snug. Make sure that the O-ring is installed to tube correctly.
- After connecting line, conduct leak test and make sure that there is no leakage from connections. When the gas leaking point is found, disconnect that line and replace the O-ring. Then tighten connections of seal seat to the specified torque.

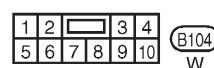
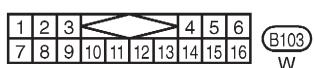
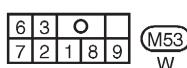
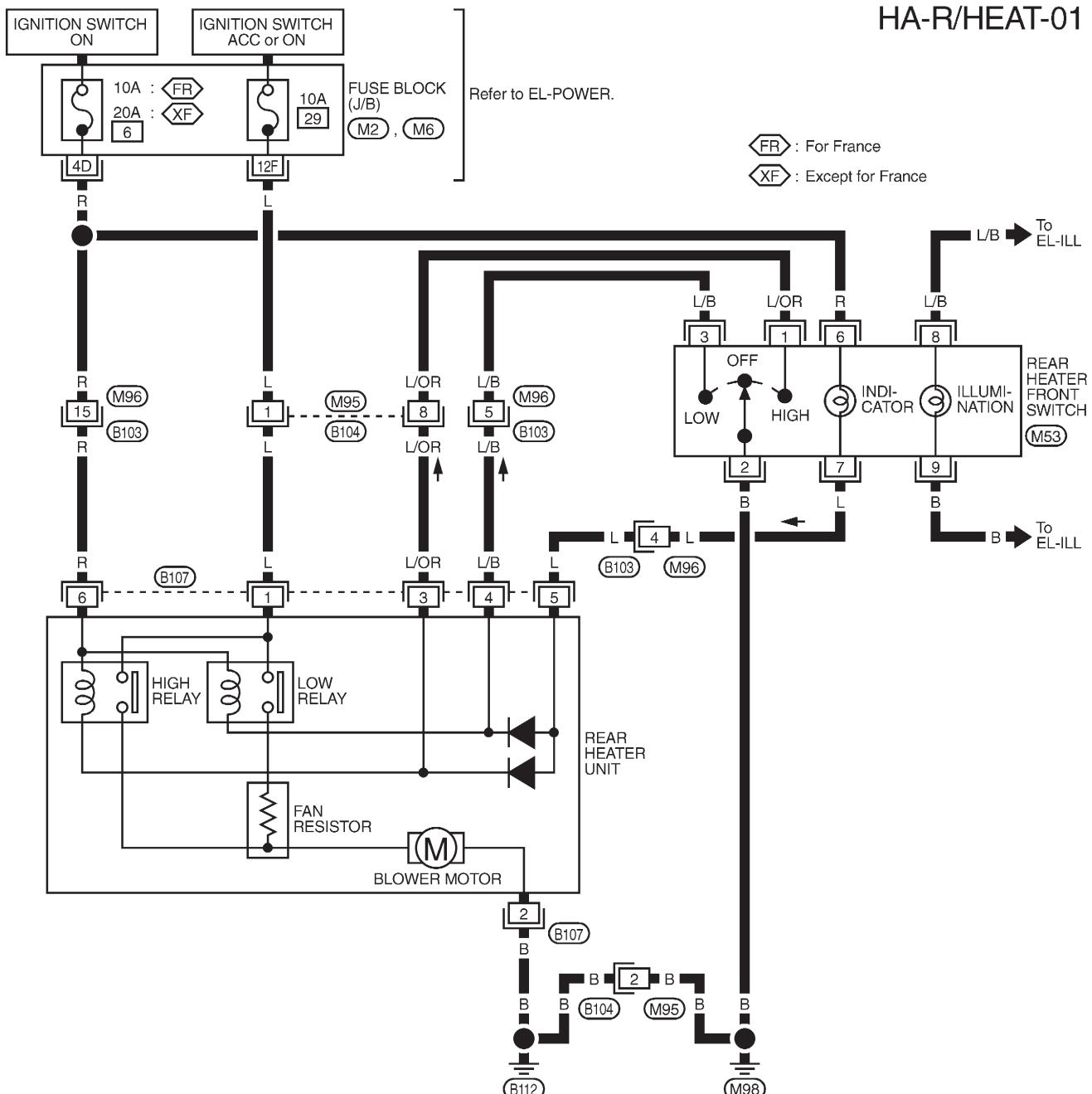
## Wiring Diagram — HEATER —



\* : This connector is not shown in "HABNESS LAYOUT". EL section.

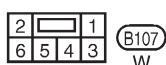
## Wiring Diagram — R/HEAT —/LHD Models

HA-R/HEAT-01



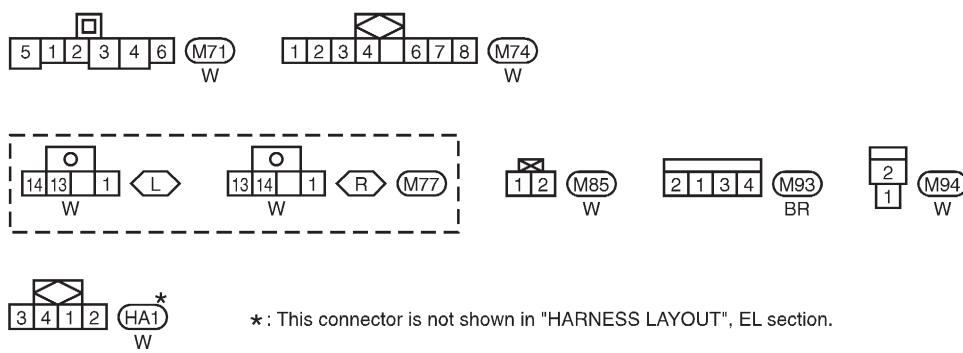
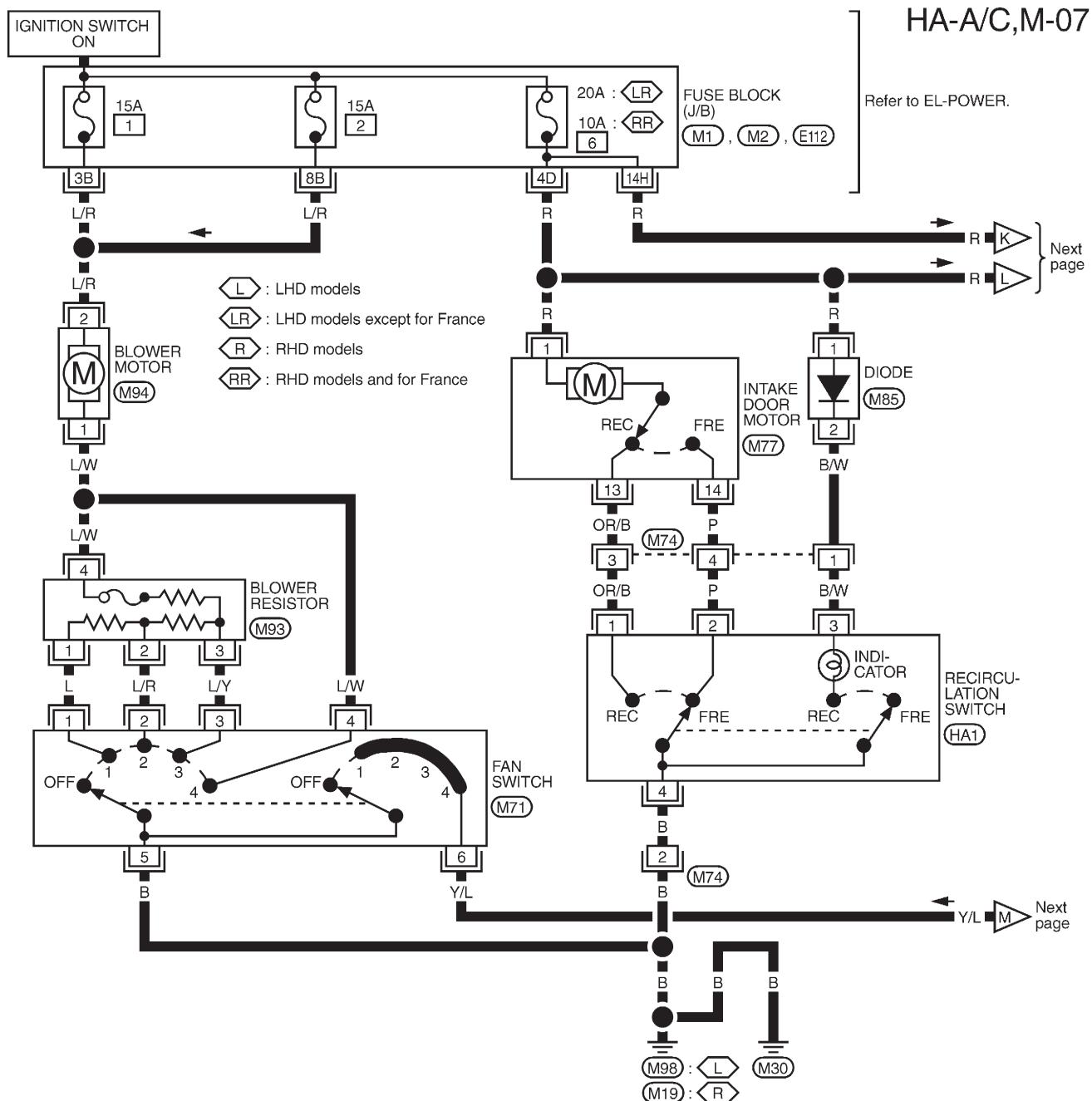
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M2  
M6

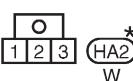
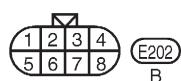
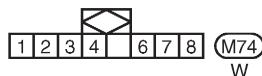
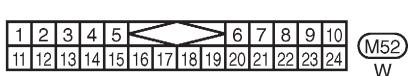
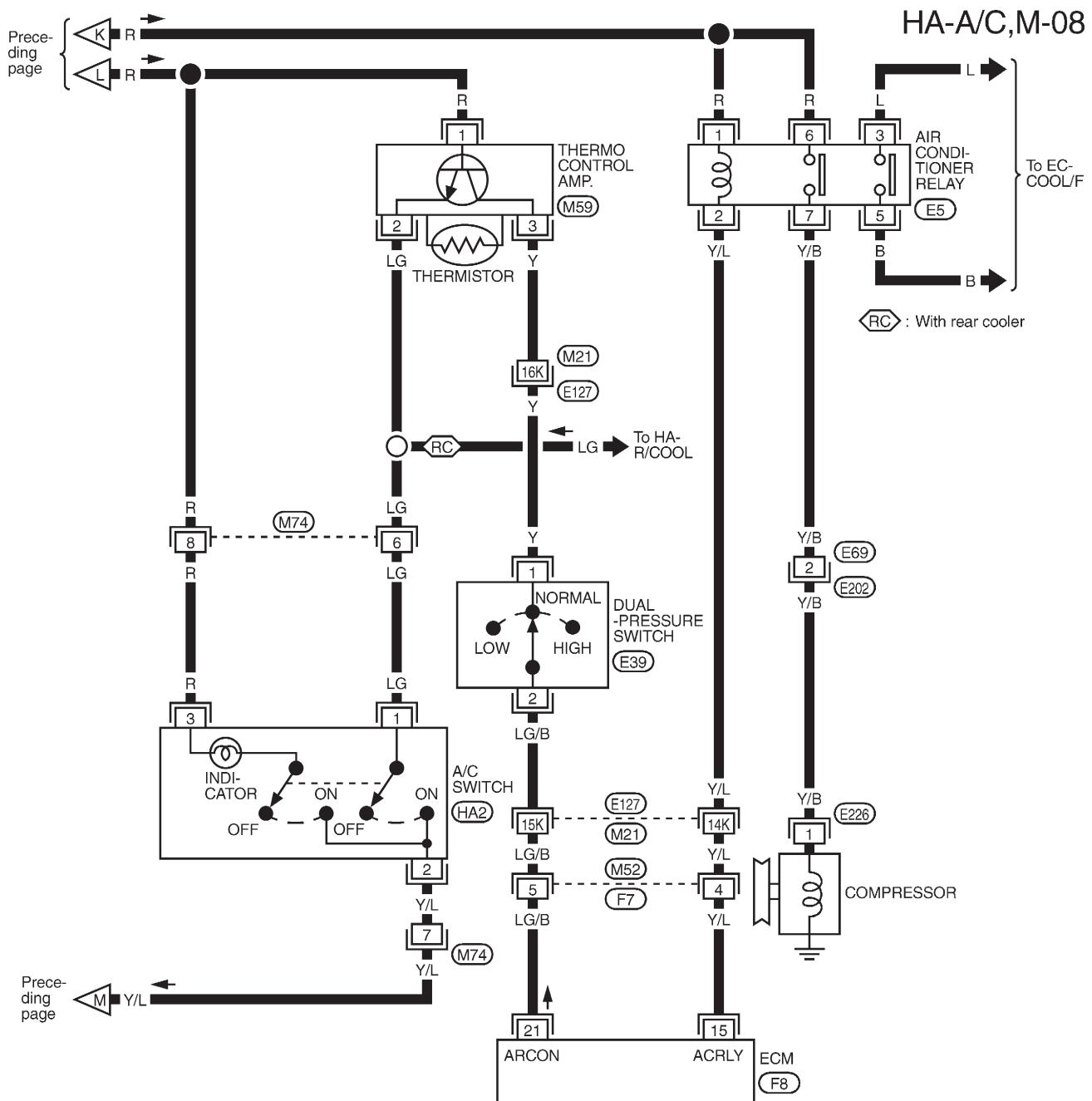


HA-1006

## Wiring Diagram — A/C, M —/ZD Engine



\* : This connector is not shown in "HARNESS LAYOUT", EL section.

Wiring Diagram — A/C, M —/ZD Engine  
(Cont'd)

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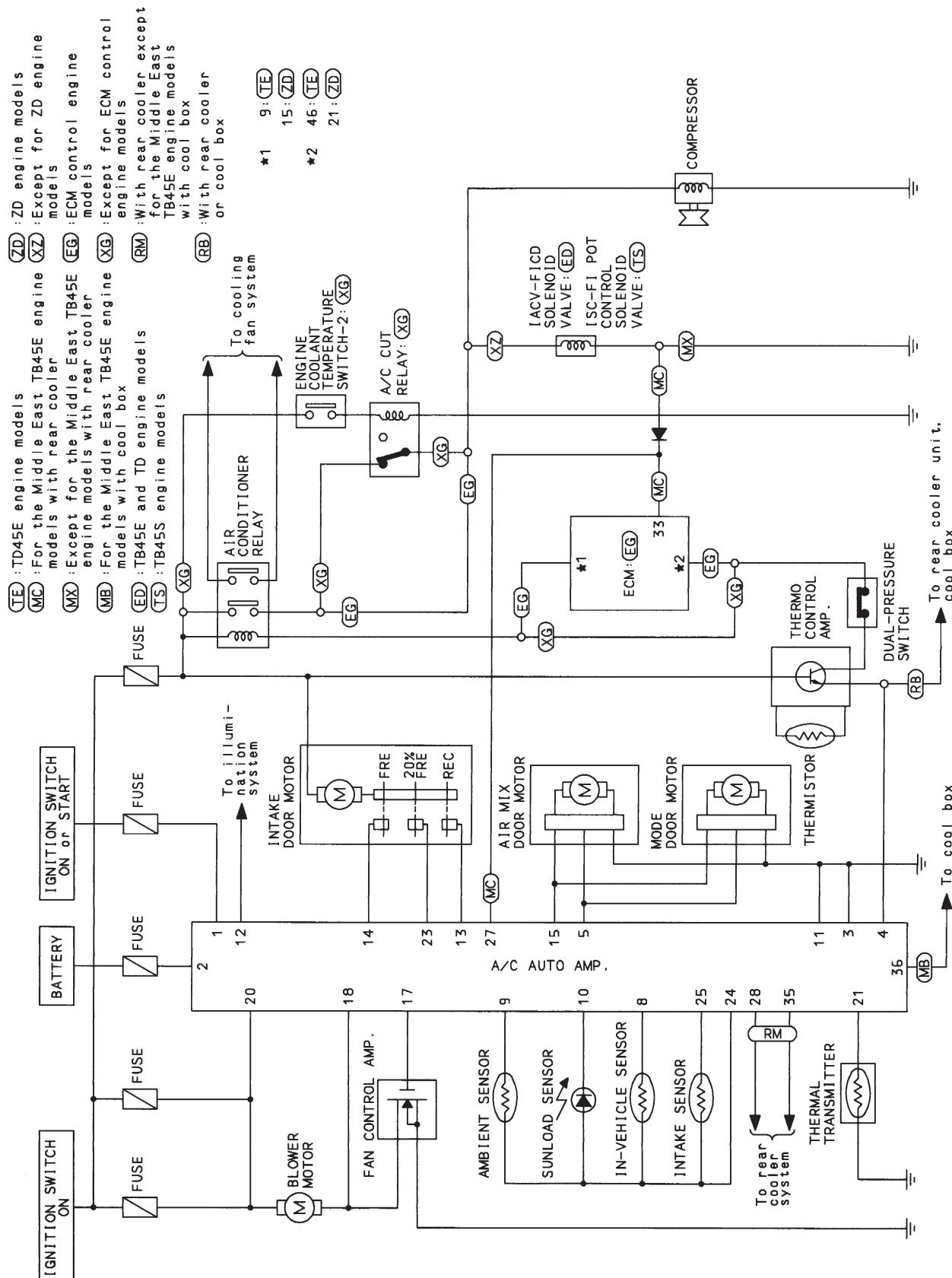
M21, E127

F8

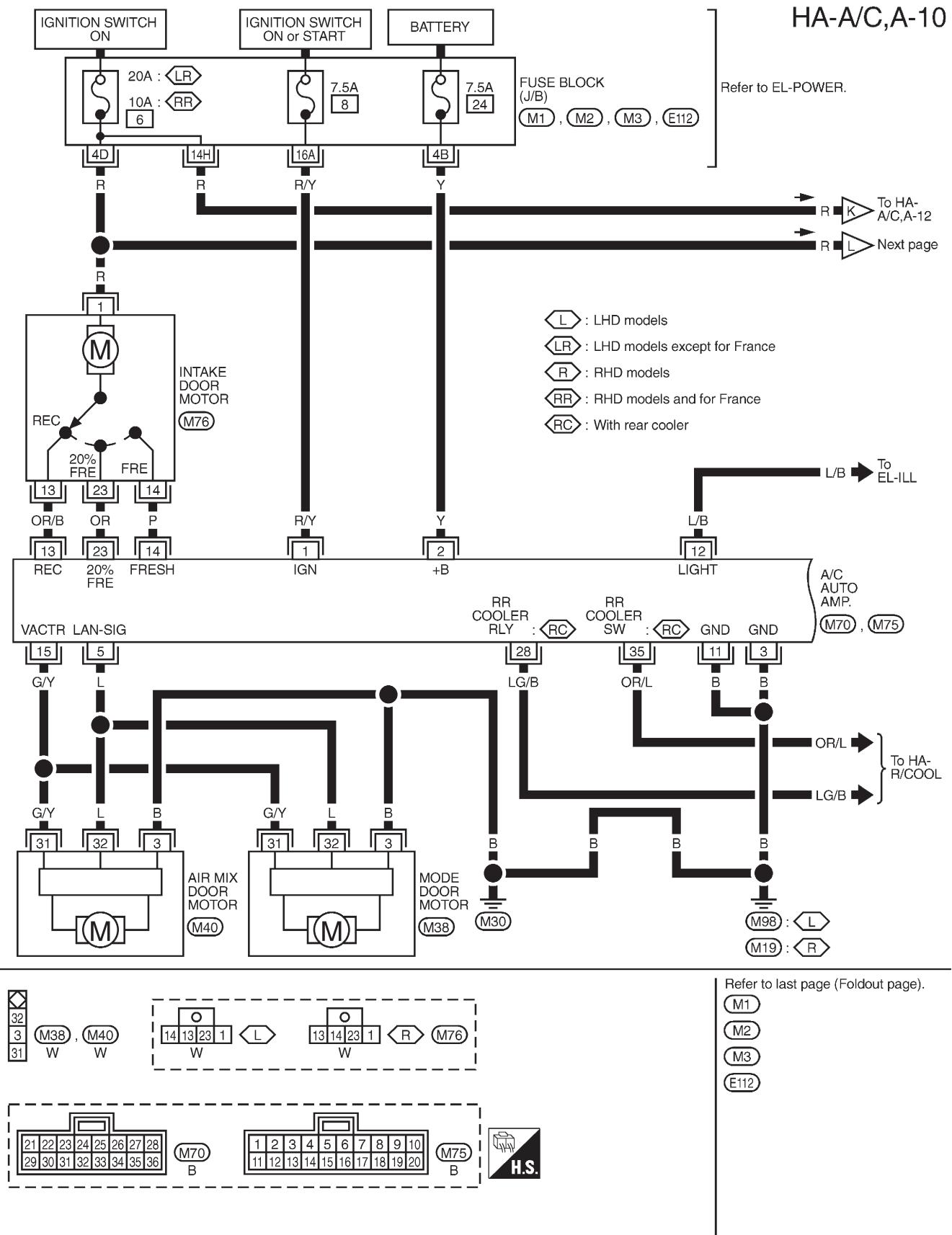
\*: This connector is not shown in "HARNESS LAYOUT", EL section.

## Circuit Diagram

### LHD MODELS



## Wiring Diagram — A/C, A —/ZD Engine

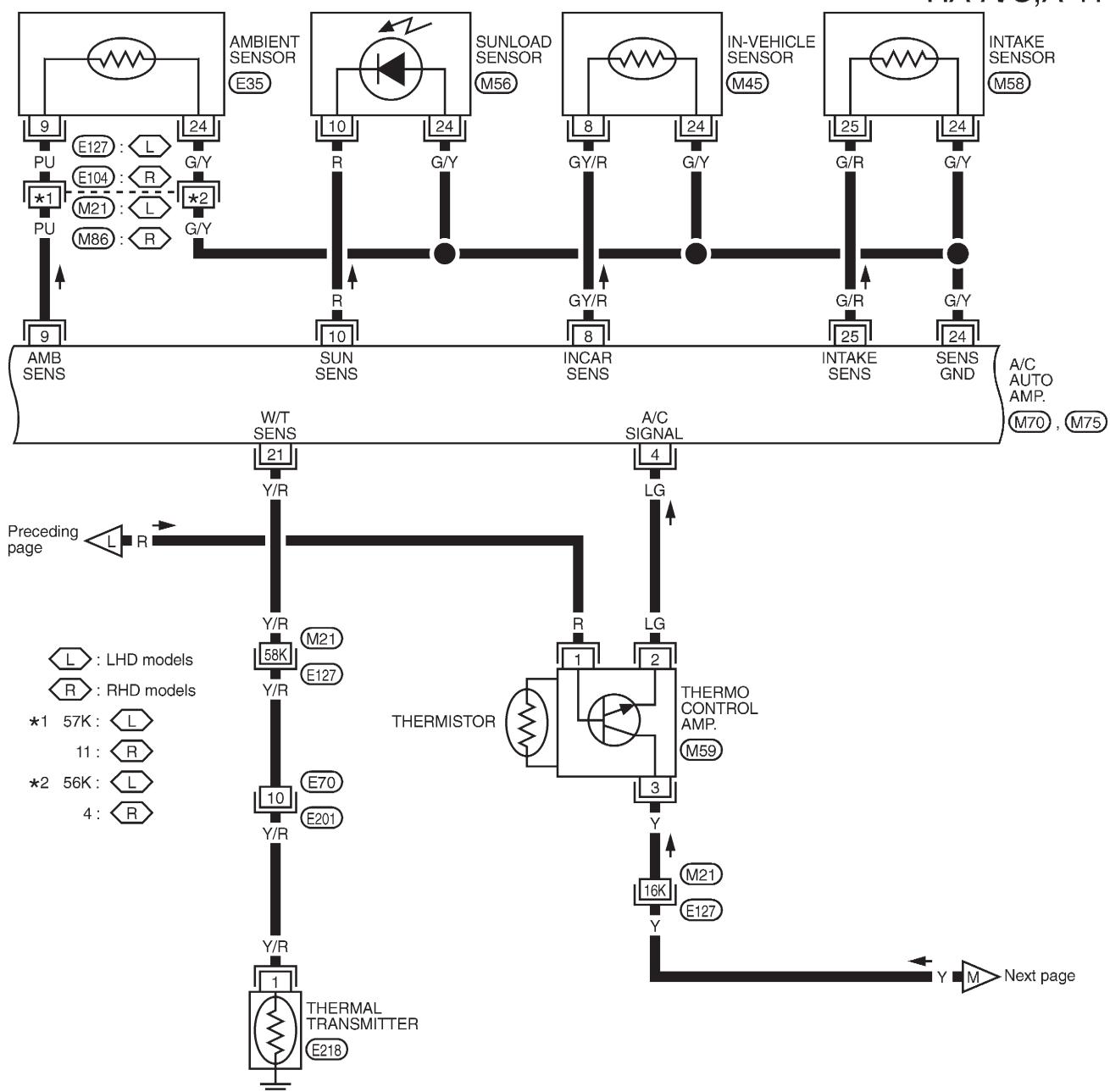


# TROUBLE DIAGNOSES

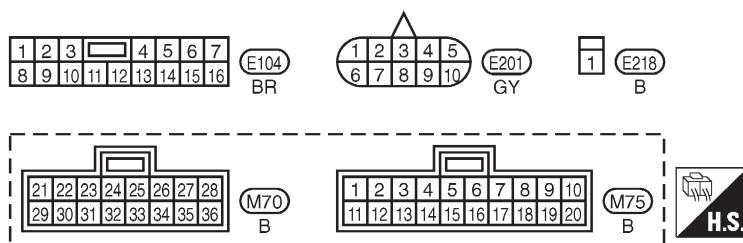
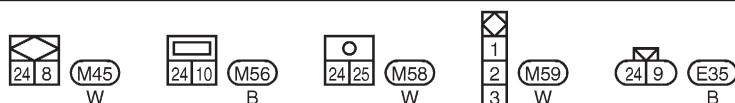
AUTO

## Wiring Diagram — A/C, A —/ZD Engine (Cont'd)

HA-A/C,A-11



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(M21, E127)



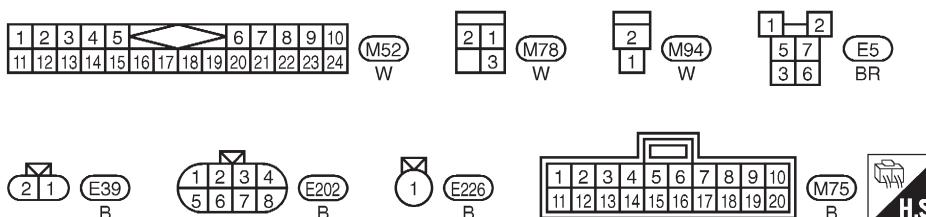
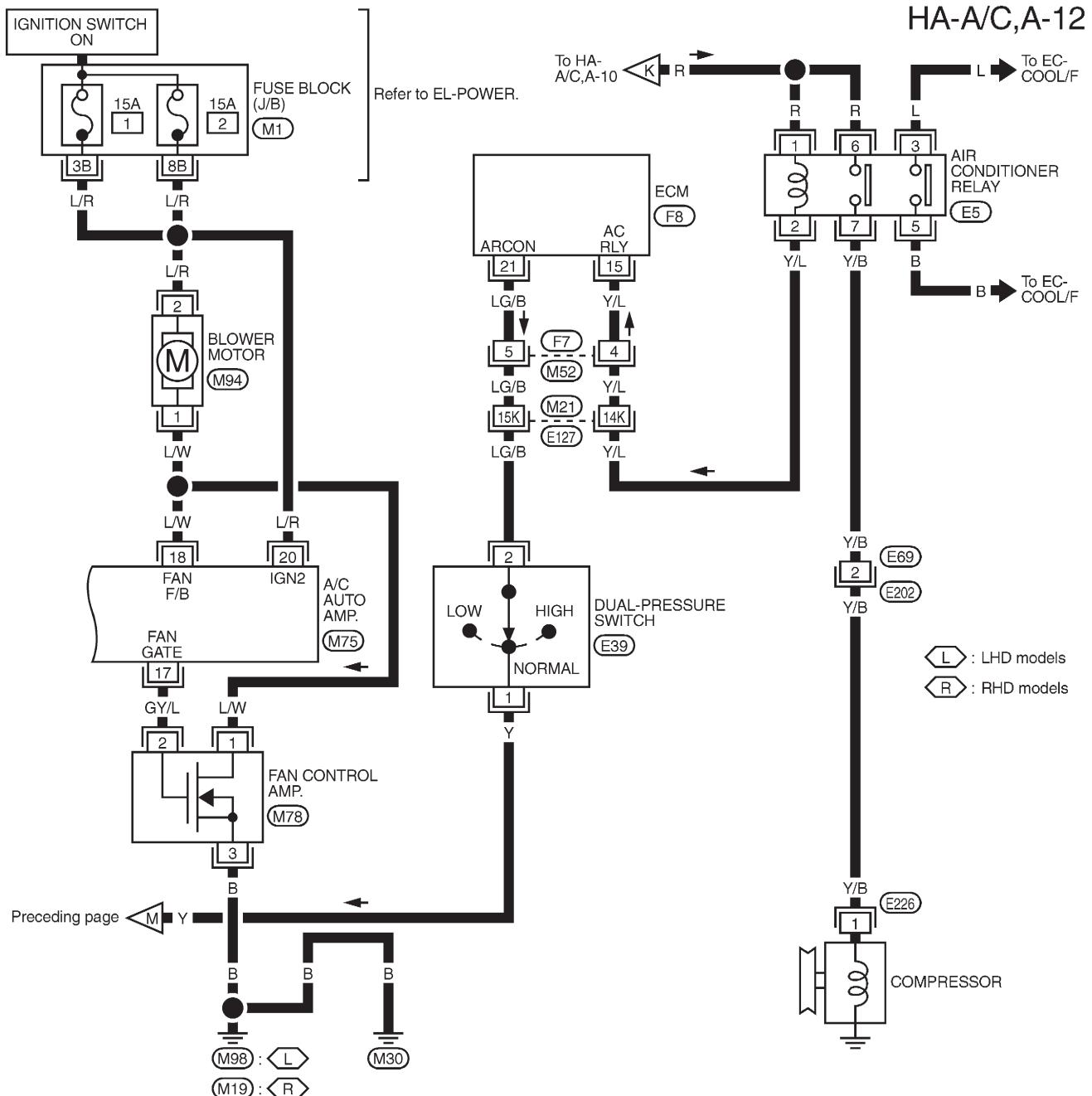
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## TROUBLE DIAGNOSES

**AUTO**

## Wiring Diagram — A/C, A —/ZD Engine (Cont'd)



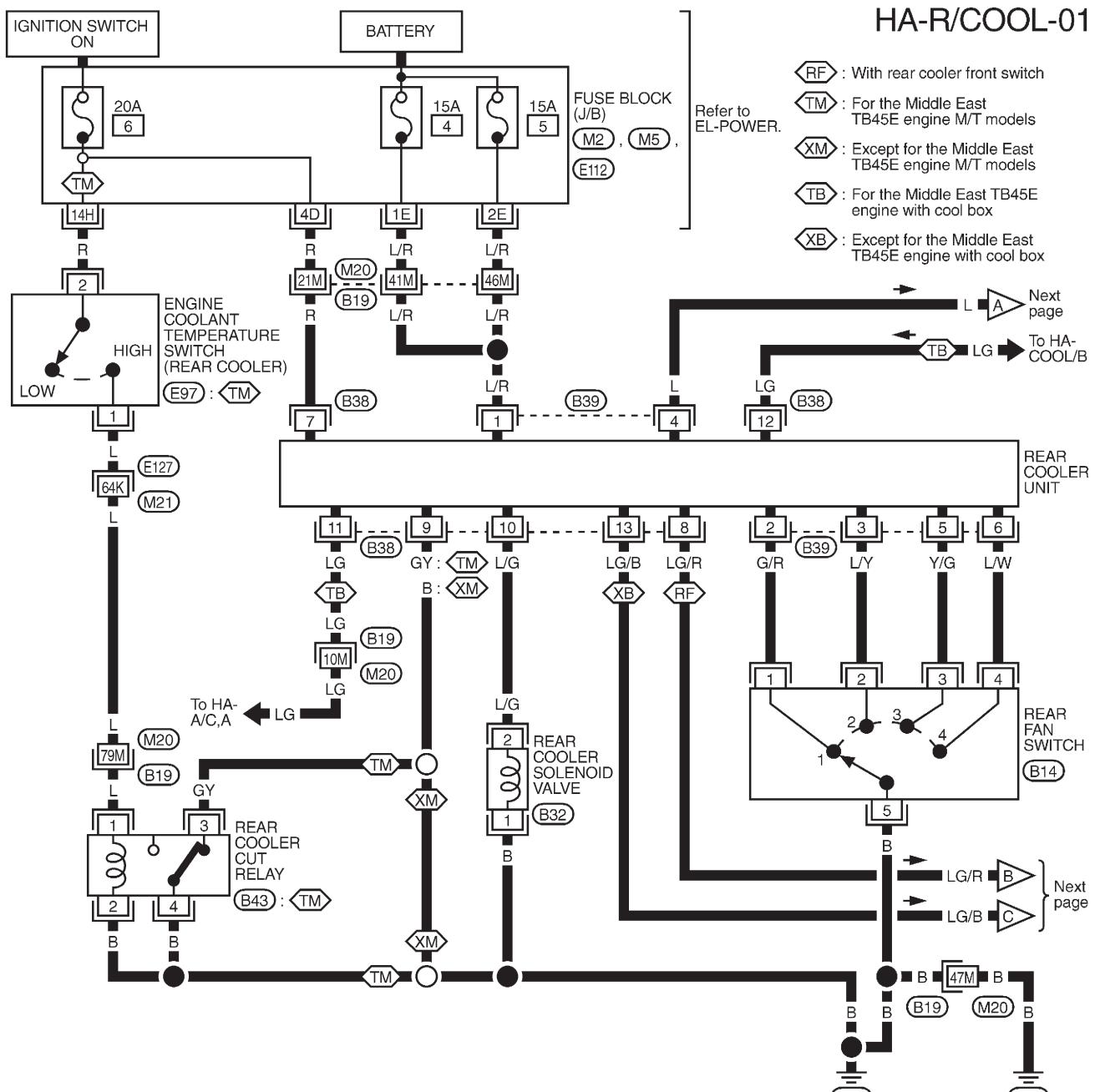
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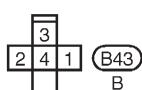
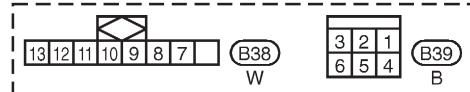
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M1

## **Wiring Diagram — R/COOL —/LHD Models with Front Auto A/C**



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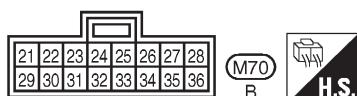
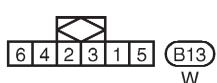
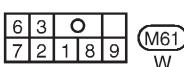
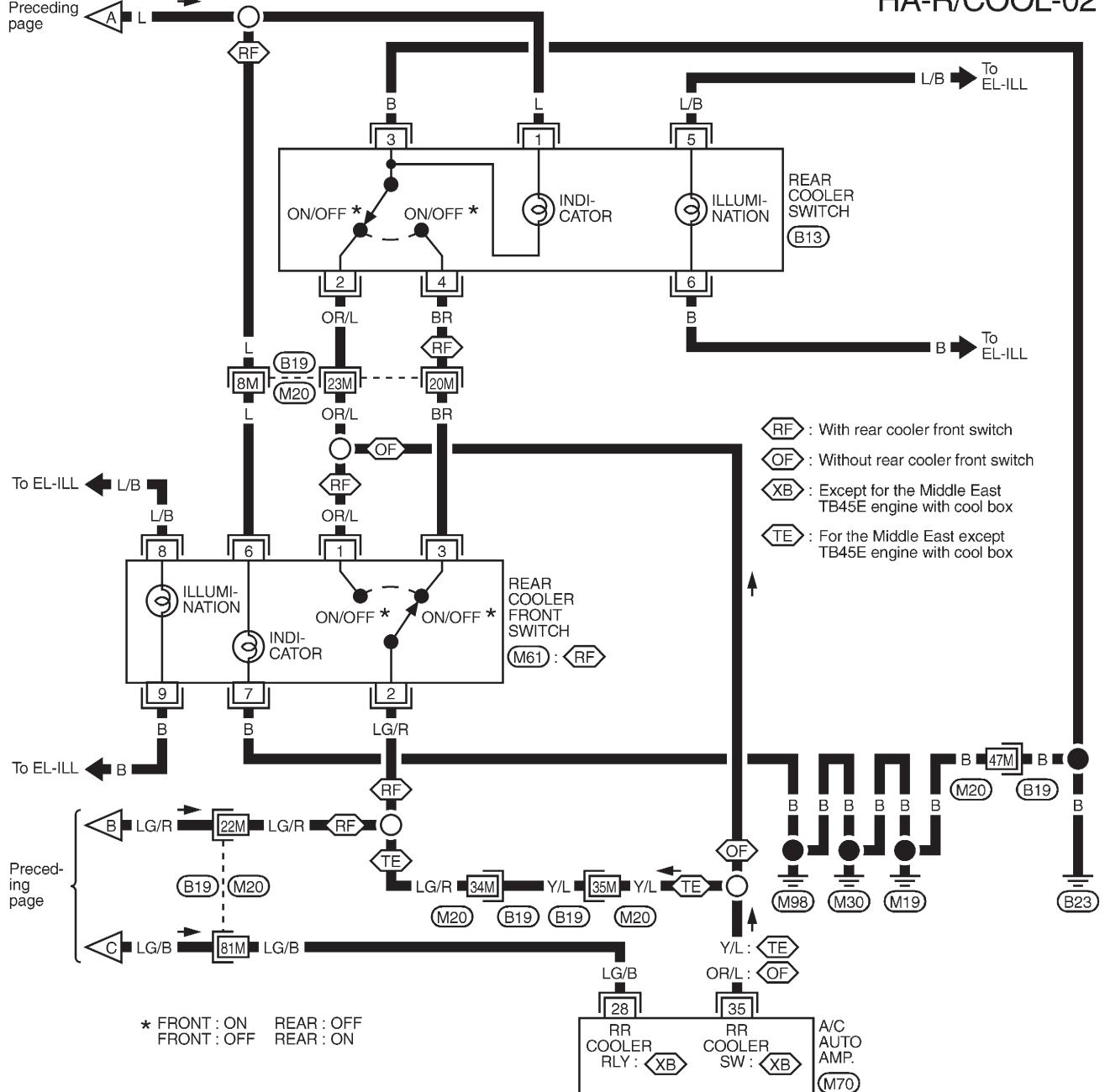
## TROUBLE DIAGNOSES

## REAR COOLER

## **Wiring Diagram — R/COOL —/LHD Models with Front Auto A/C (Cont'd)**

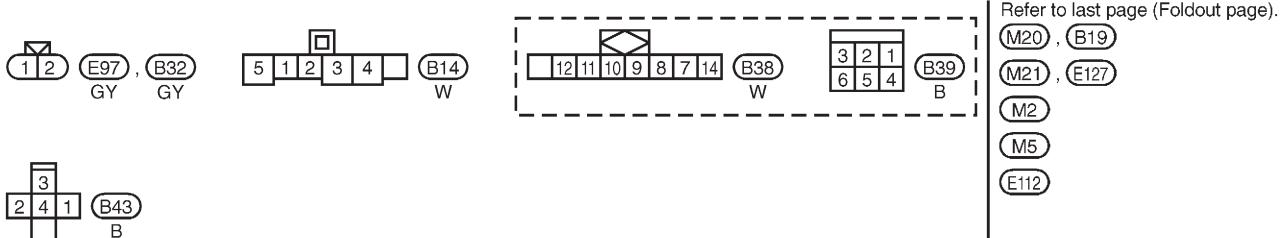
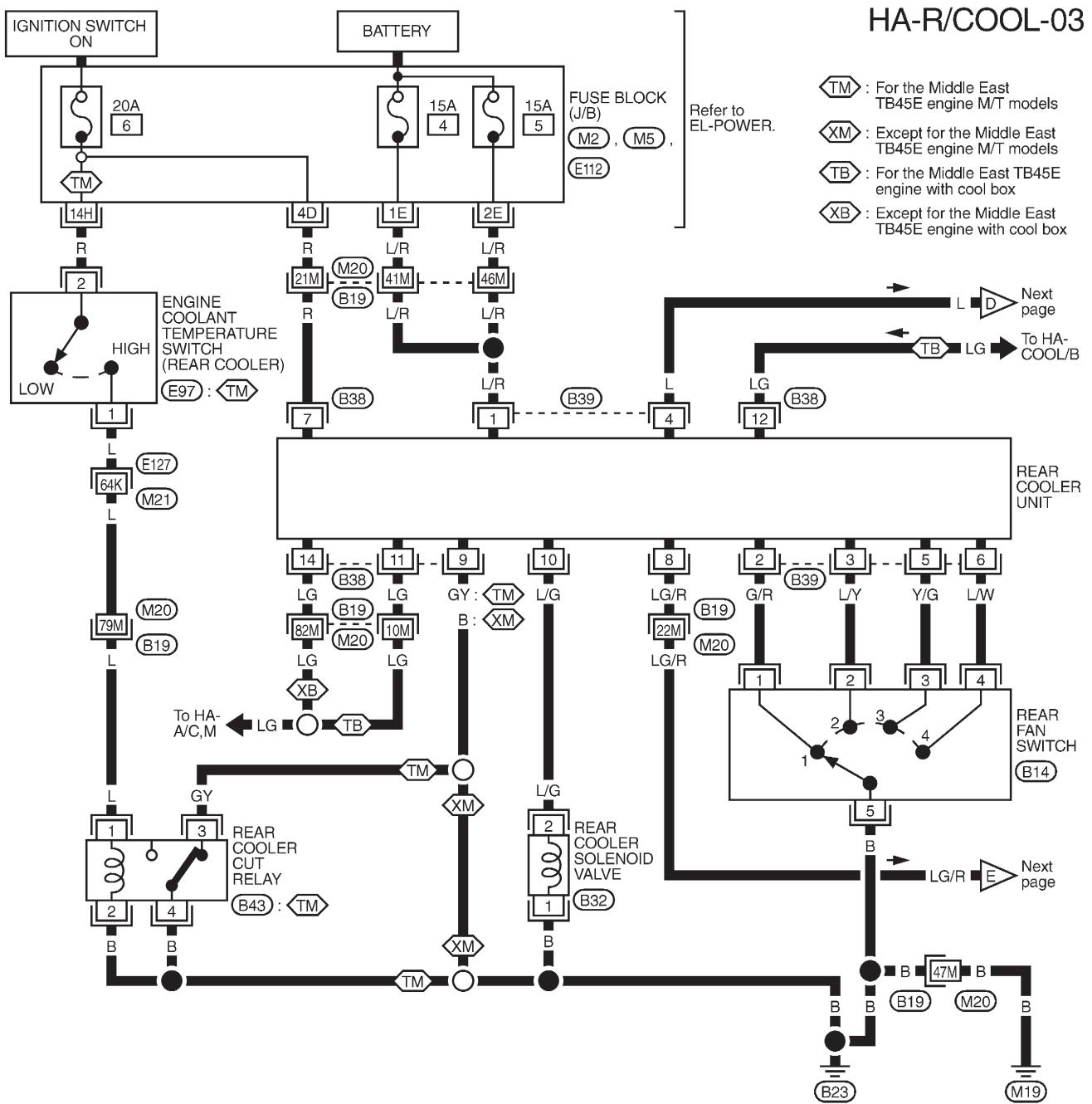
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HA-R/COOL-02



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M20 B19

### Wiring Diagram — R/COOL —/LHD Models with Front Manual A/C



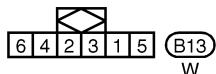
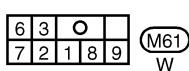
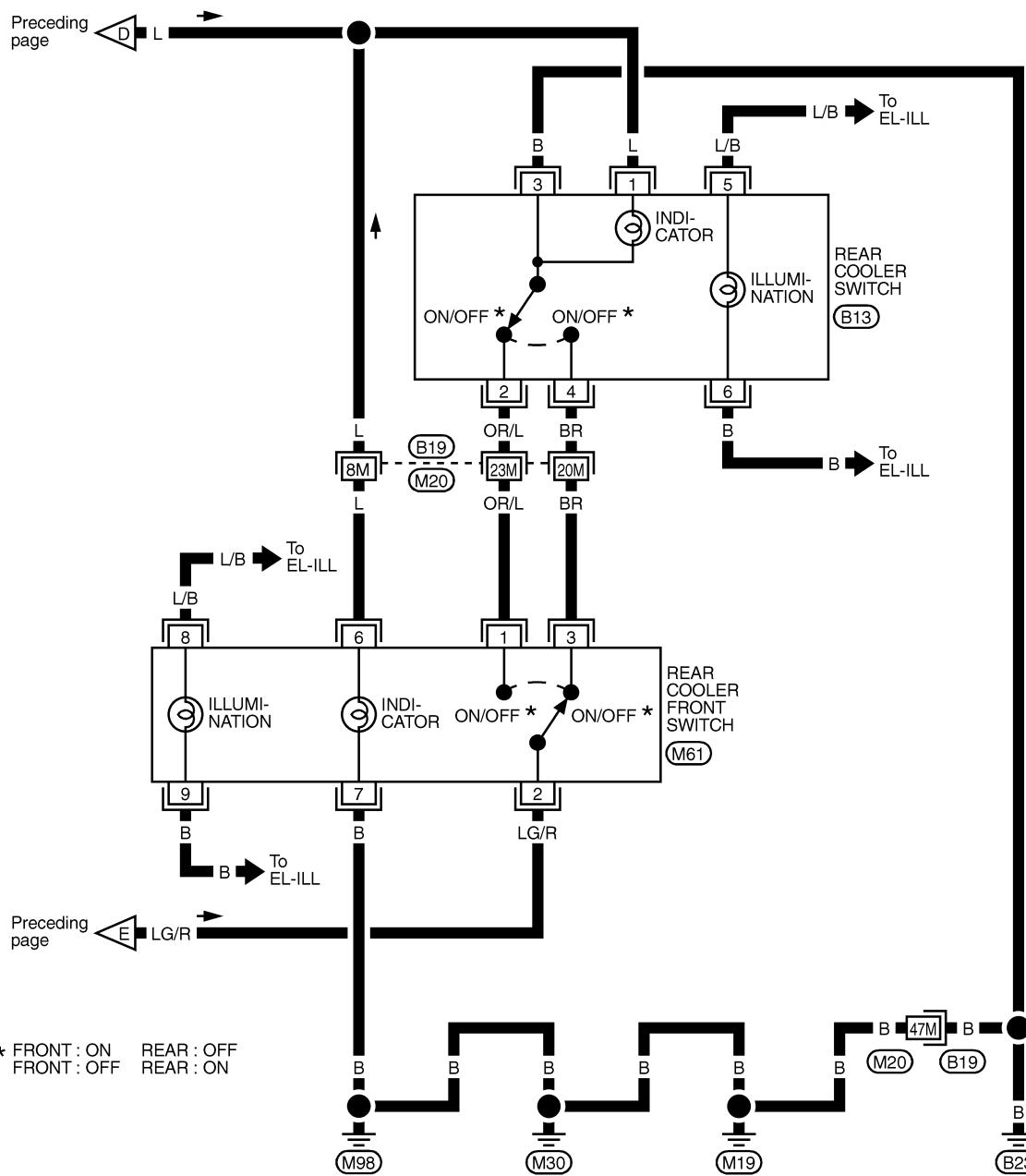
# TROUBLE DIAGNOSES

REAR COOLER

## Wiring Diagram — R/COOL —/LHD Models with Front Manual A/C (Cont'd)

HA-R/COOL-04

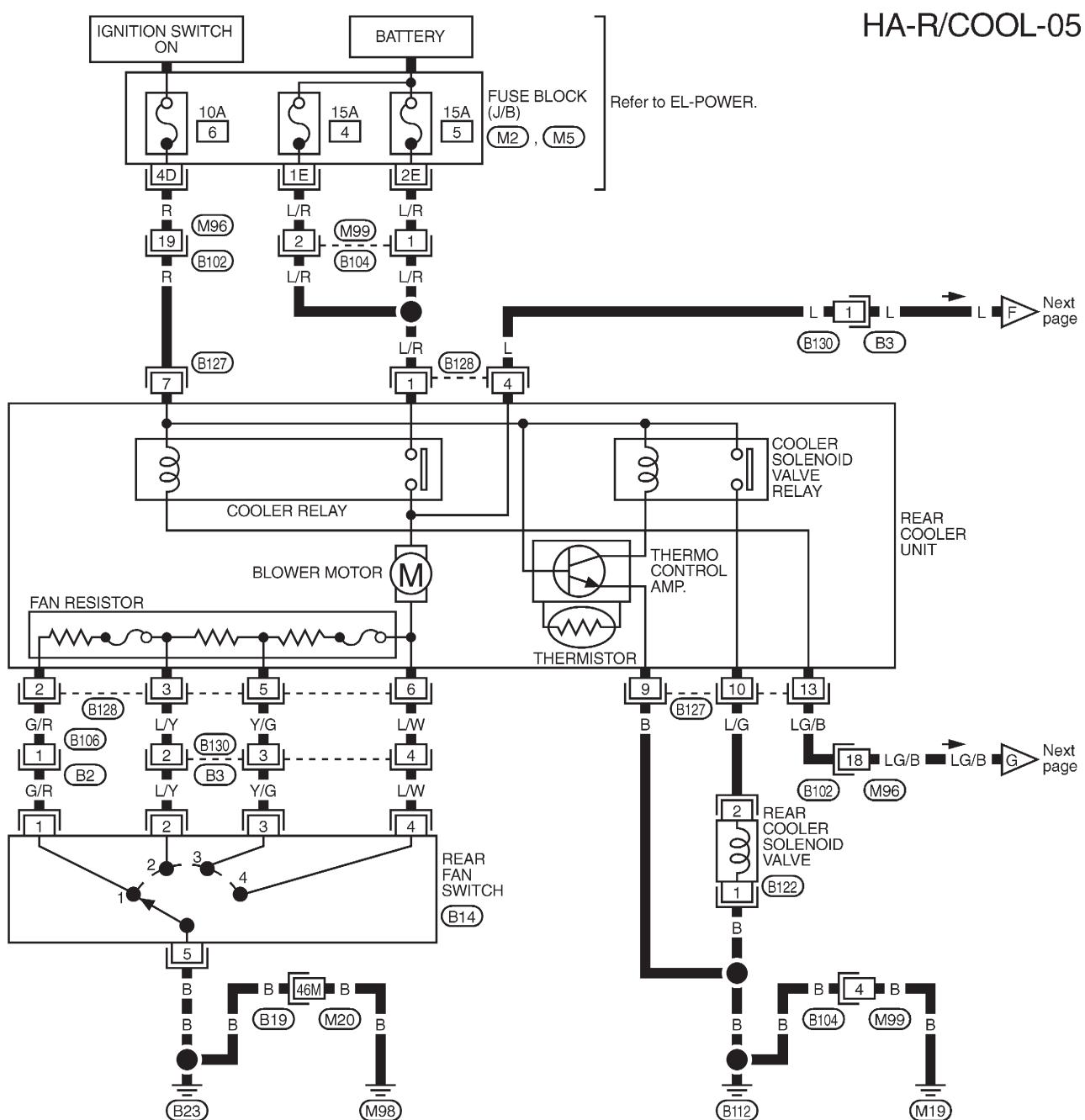
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(M20), (B19)

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Wiring Diagram — R/COOL —/RHD Models  
with Front Auto A/C

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(M20, B19)

M2

M5

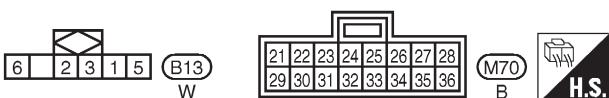
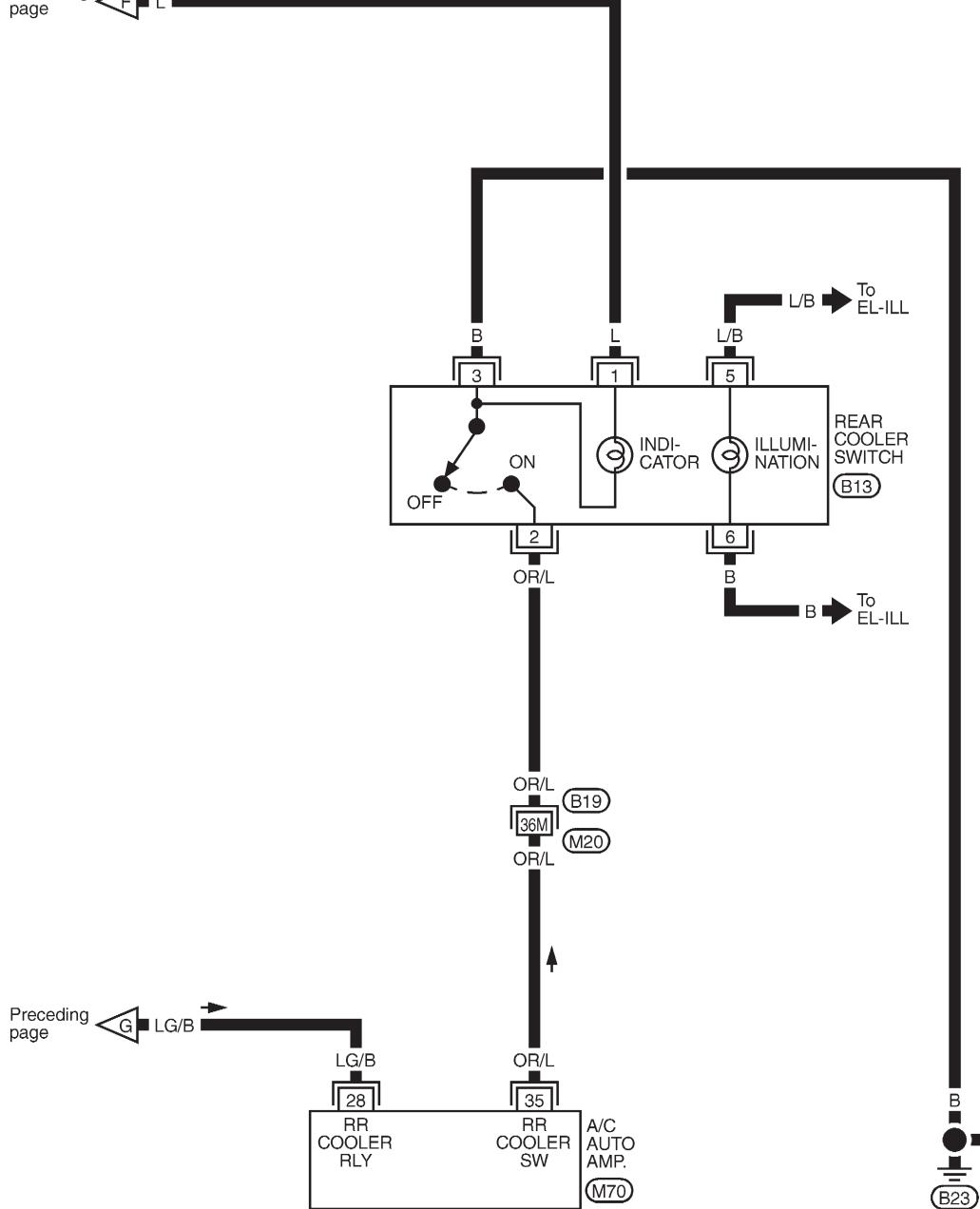
## TROUBLE DIAGNOSES

## REAR COOLER

## **Wiring Diagram — R/COOL —/RHD Models with Front Auto A/C (Cont'd)**

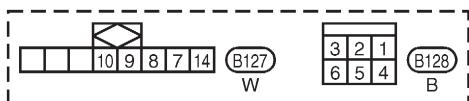
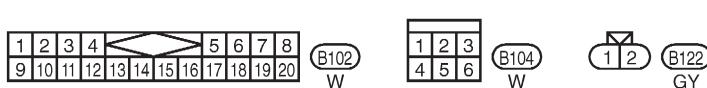
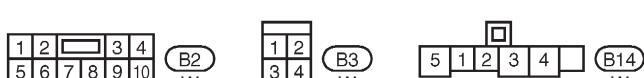
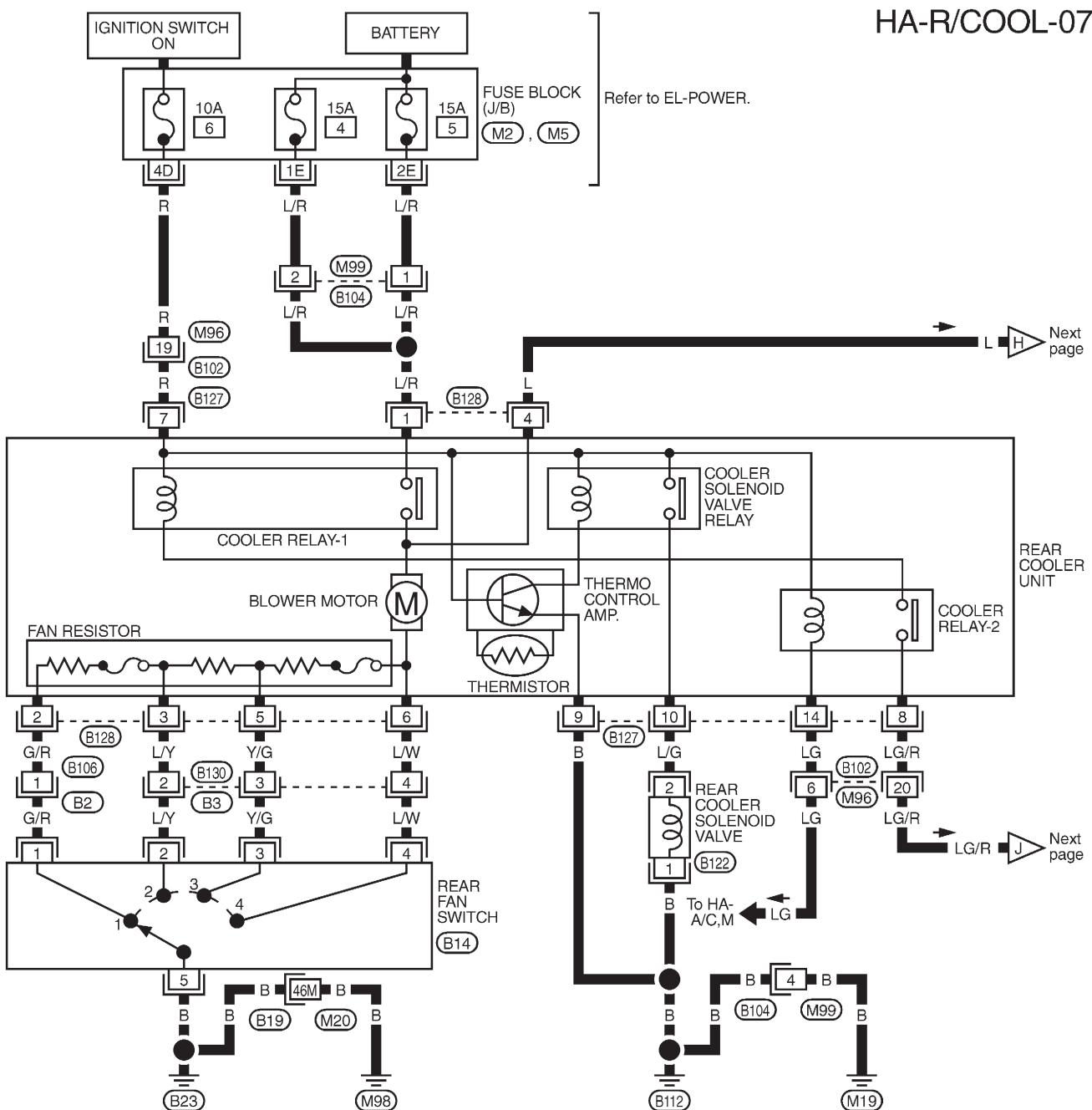
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HA-R/COOL-06



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**M20**, **B19**

## **Wiring Diagram — R/COOL —/RHD Models with Front Manual A/C**



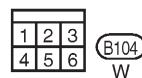
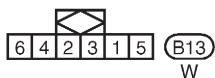
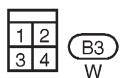
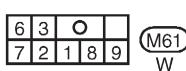
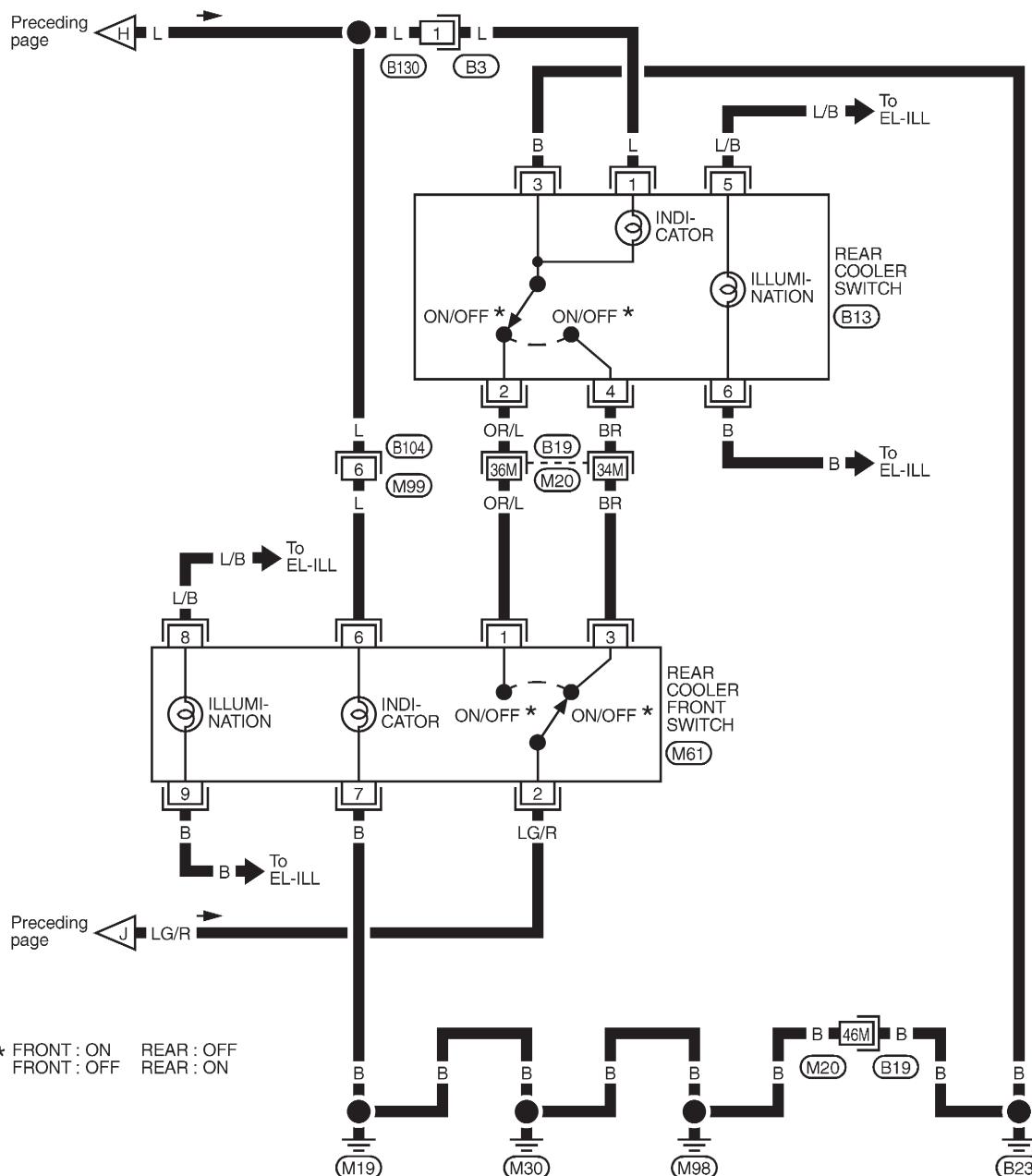
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**M20** , **B19**  
**M2**  
**M5**

# TROUBLE DIAGNOSES

REAR COOLER

## Wiring Diagram — R/COOL —/RHD Models with Front Manual A/C (Cont'd)

HA-R/COOL-08



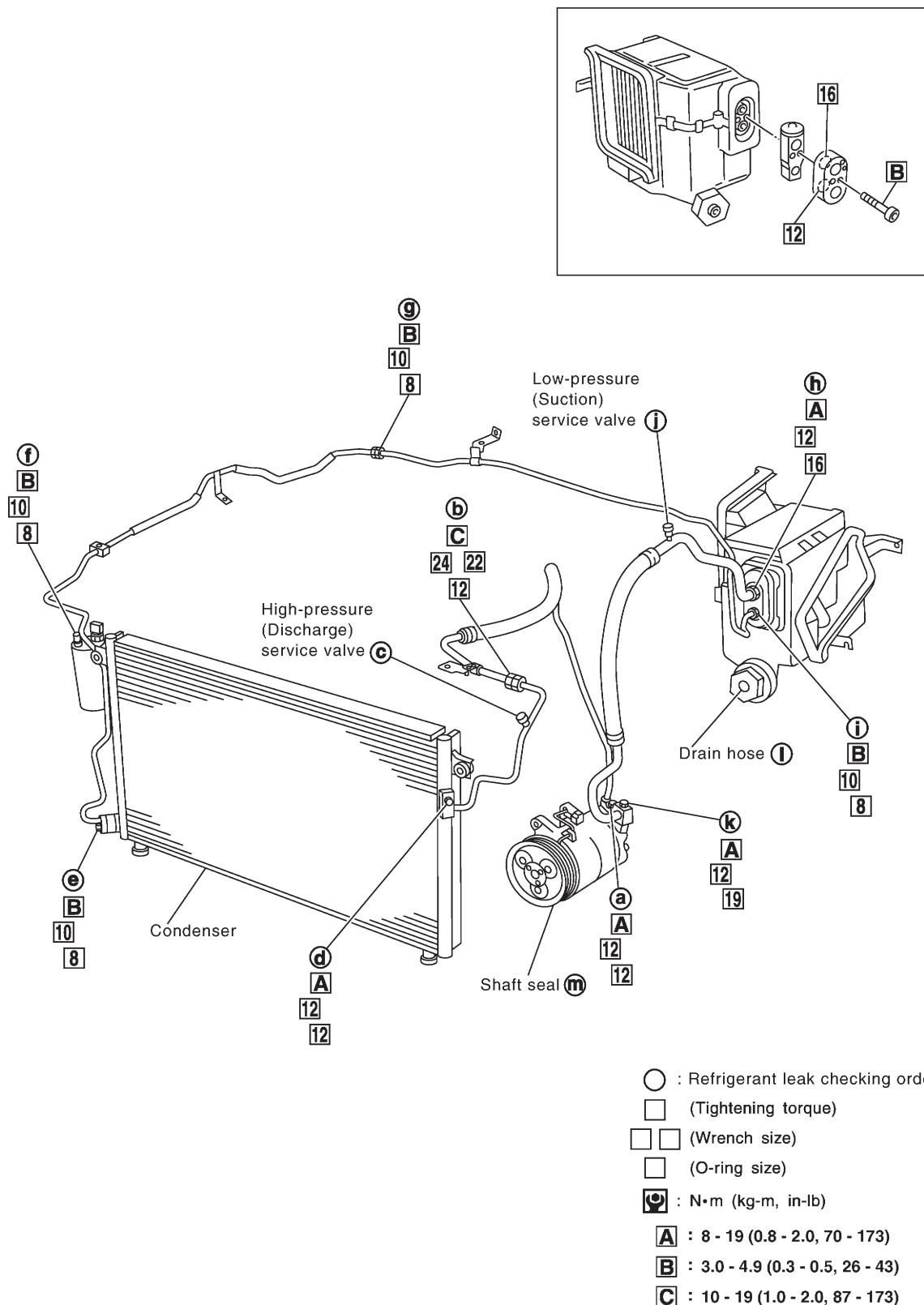
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(M20, B19)

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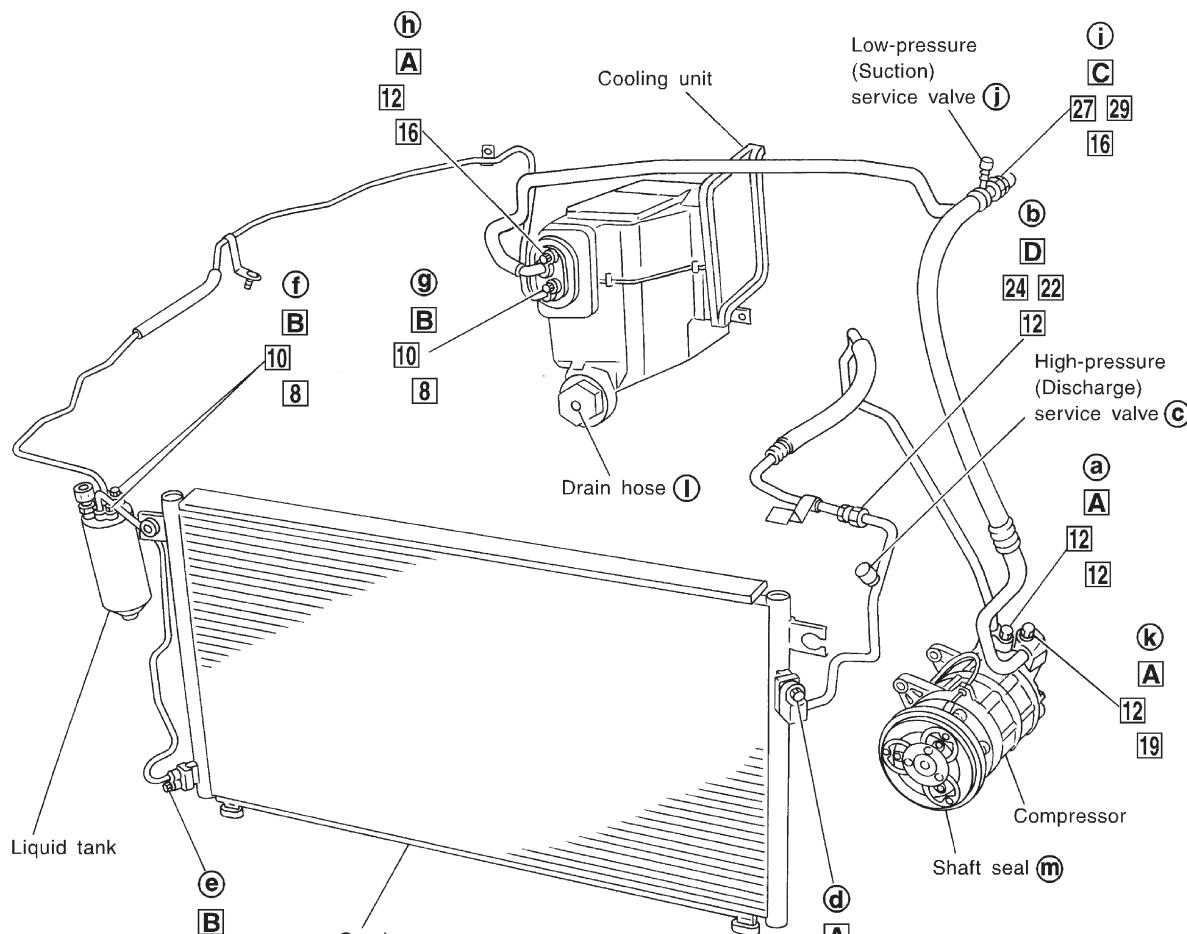
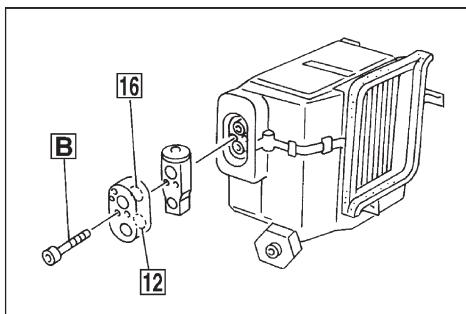
## Refrigerant Lines

## RHD MODELS WITH ZD ENGINE



## Refrigerant Lines (Cont'd)

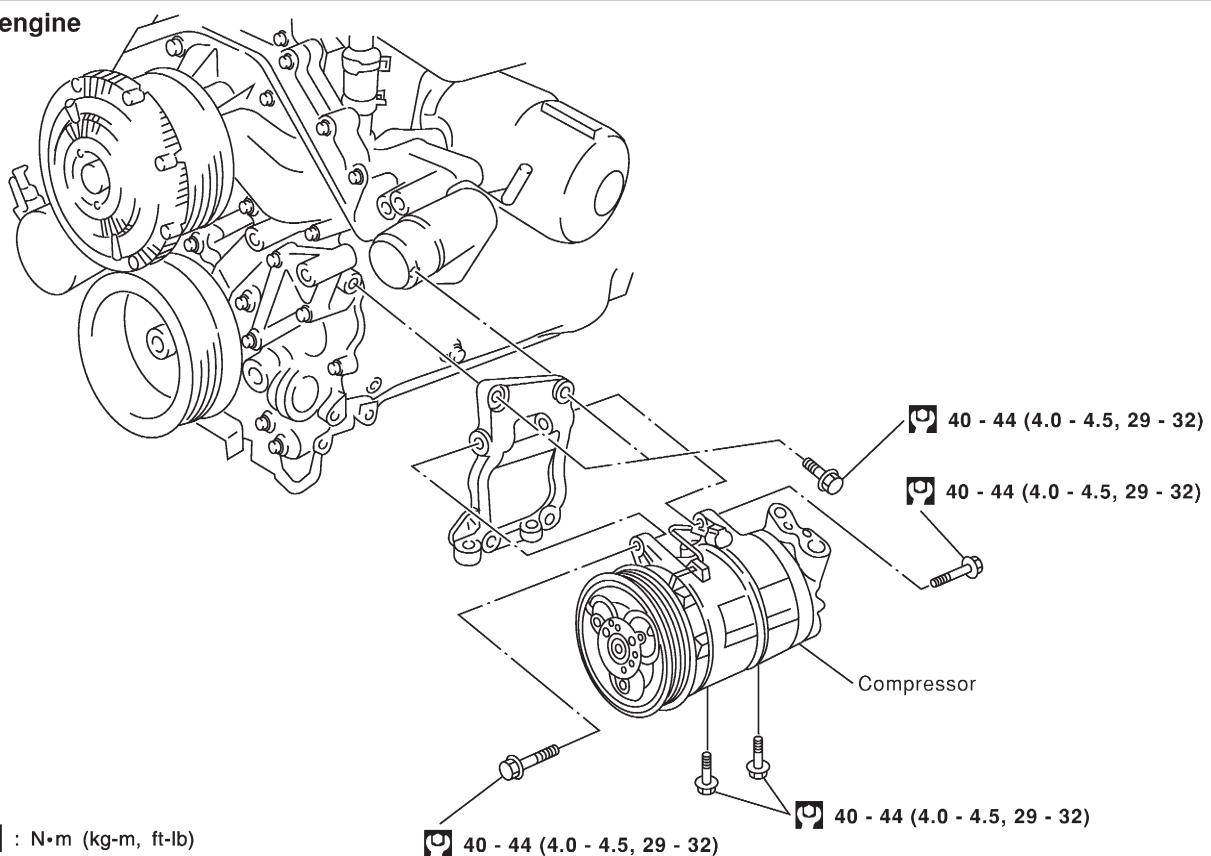
## LHD MODELS WITH ZD ENGINE



- : Refrigerant leak checking order
- : (Tightening torque)
- : (Wrench size)
- : (O-ring size)
- : N·m (kg-m, in-lb)
- : 8 - 20 (0.8 - 2.0, 69 - 174)
- : 3 - 5 (0.3 - 0.5, 26 - 43)
- : N·m (kg-m, ft-lb)
- : 20 - 29 (2 - 3, 14 - 22)
- : 10 - 20 (1.0 - 2.0, 7 - 14)

## Compressor Mounting

ZD engine



RHA893H