<SUPPLEMENT-III>

HEATER & AIR CONDITIONER

SECTION HA

MODIFICATION NOTICE:

- Wiring Diagrams have been changed.
- Thermo switch has been abolished.
- A/C cycle for YD engine has been added.

CONTENTS

Precautions for Refrigerant Connection

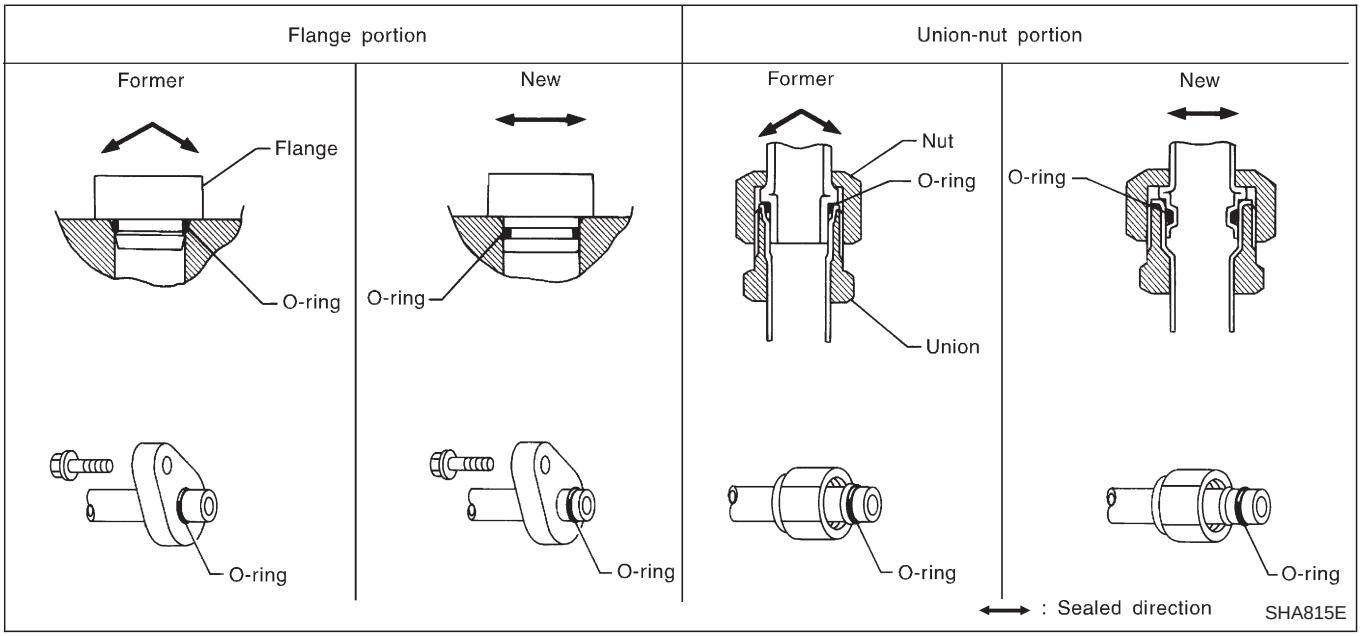
A new type refrigerant connection has been introduced to all refrigerant lines except the following location.

- Expansion valve to cooling unit

FEATURES OF NEW TYPE REFRIGERANT CONNECTION

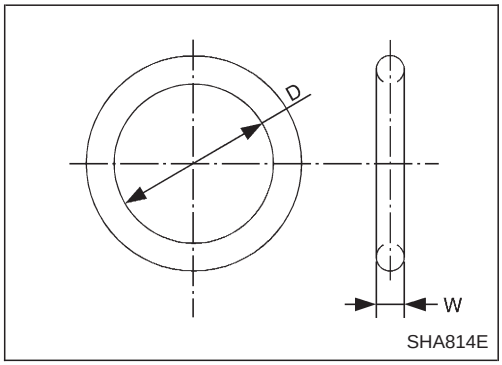
●The O-ring has been relocated. It has also been provided with a groove for proper installation. This eliminates the chance of the O-ring being caught in, or damaged by, the mating part. The sealing direction of the O-ring is now set vertically in relation to the contacting surface of the mating part 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.



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.



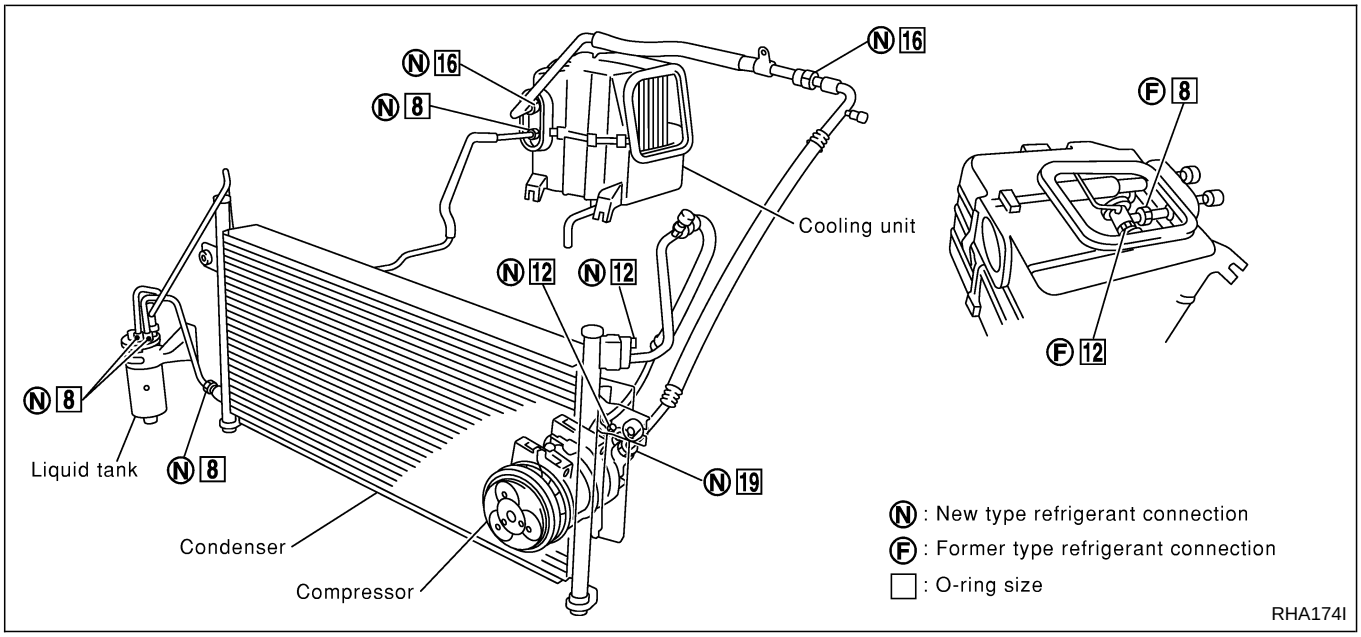
O-ring part numbers and specifications

Connection type	O-ring size	Part number	D mm (in)	W mm (in)
New	8	92471 N8210	6.8 (0.268)	1.87 (0.0736)
Former		92470 N8200	6.07 (0.2390)	1.78 (0.0701)
New	12	92472 N8210	10.9 (0.429)	2.43 (0.0957)
Former		92475 71L00	11.0 (0.433)	2.4 (0.094)
New	16	92473 N8210	13.6 (0.535)	2.43 (0.0957)
Former		92475 72L00	14.3 (0.563)	2.3 (0.091)
New	19	92474 N8210	16.5 (0.650)	2.43 (0.0957)
Former		92477 N8200	17.12 (0.6740)	1.78 (0.0701)

Precautions for Refrigerant Connection (Cont'd)

O-RING AND REFRIGERANT CONNECTION

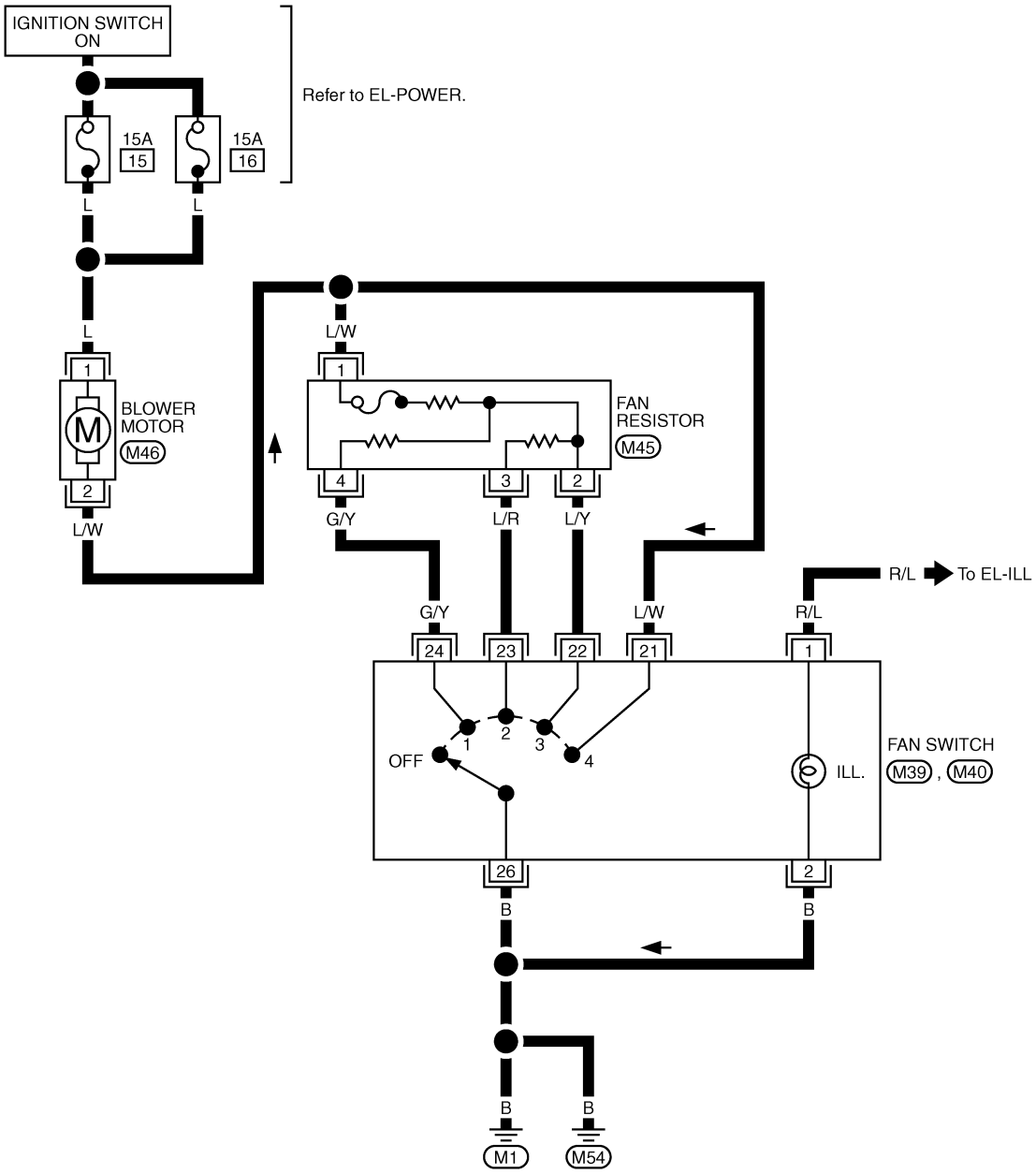
YD engine

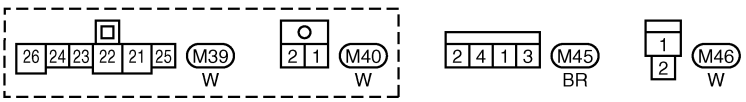


NOTE:
This illustration is for LHD models. For RHD models, cooling unit location and routing of A/C piping are different.

Wiring Diagram — HEATER —

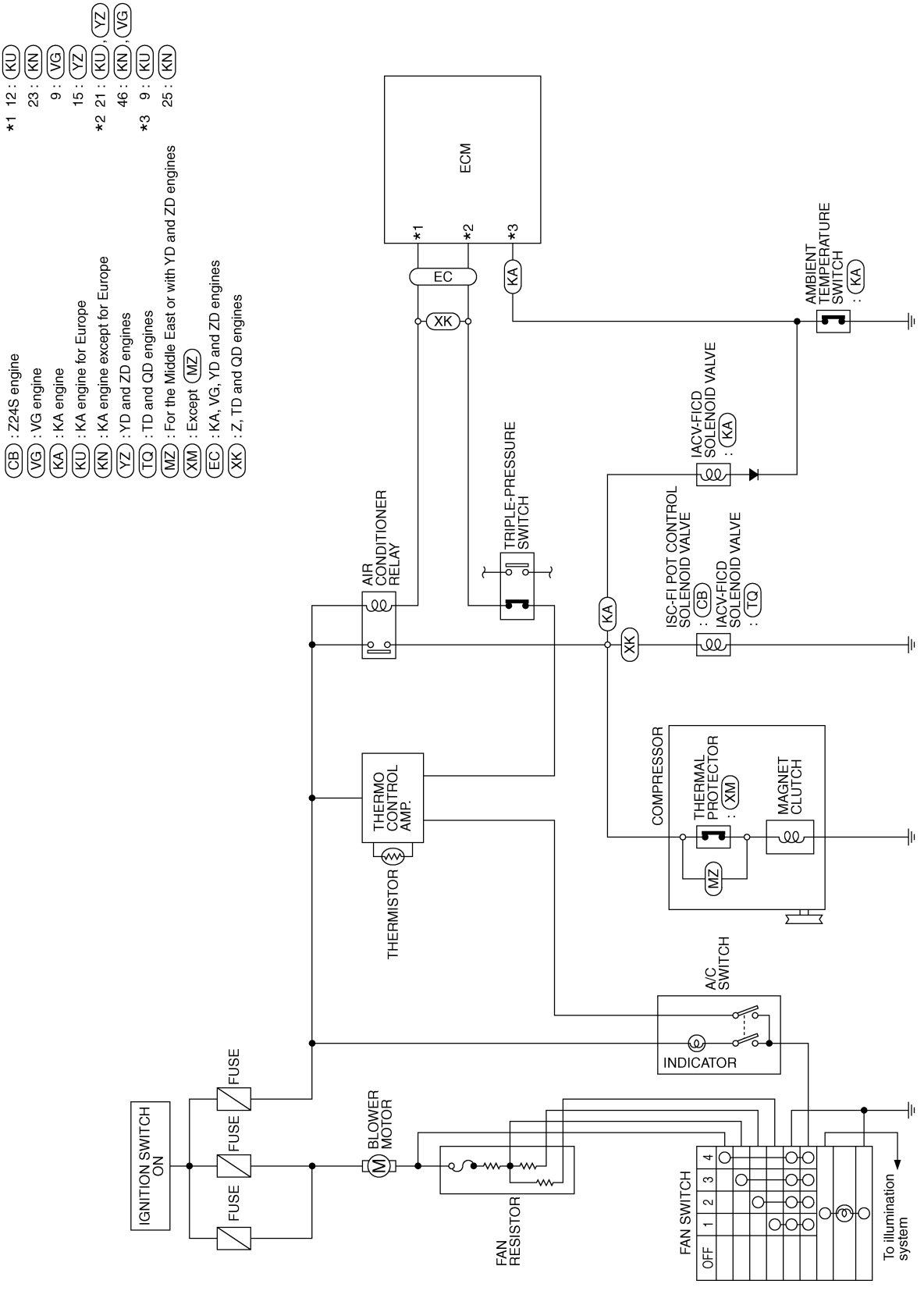
HA-HEATER-01





GHA018A

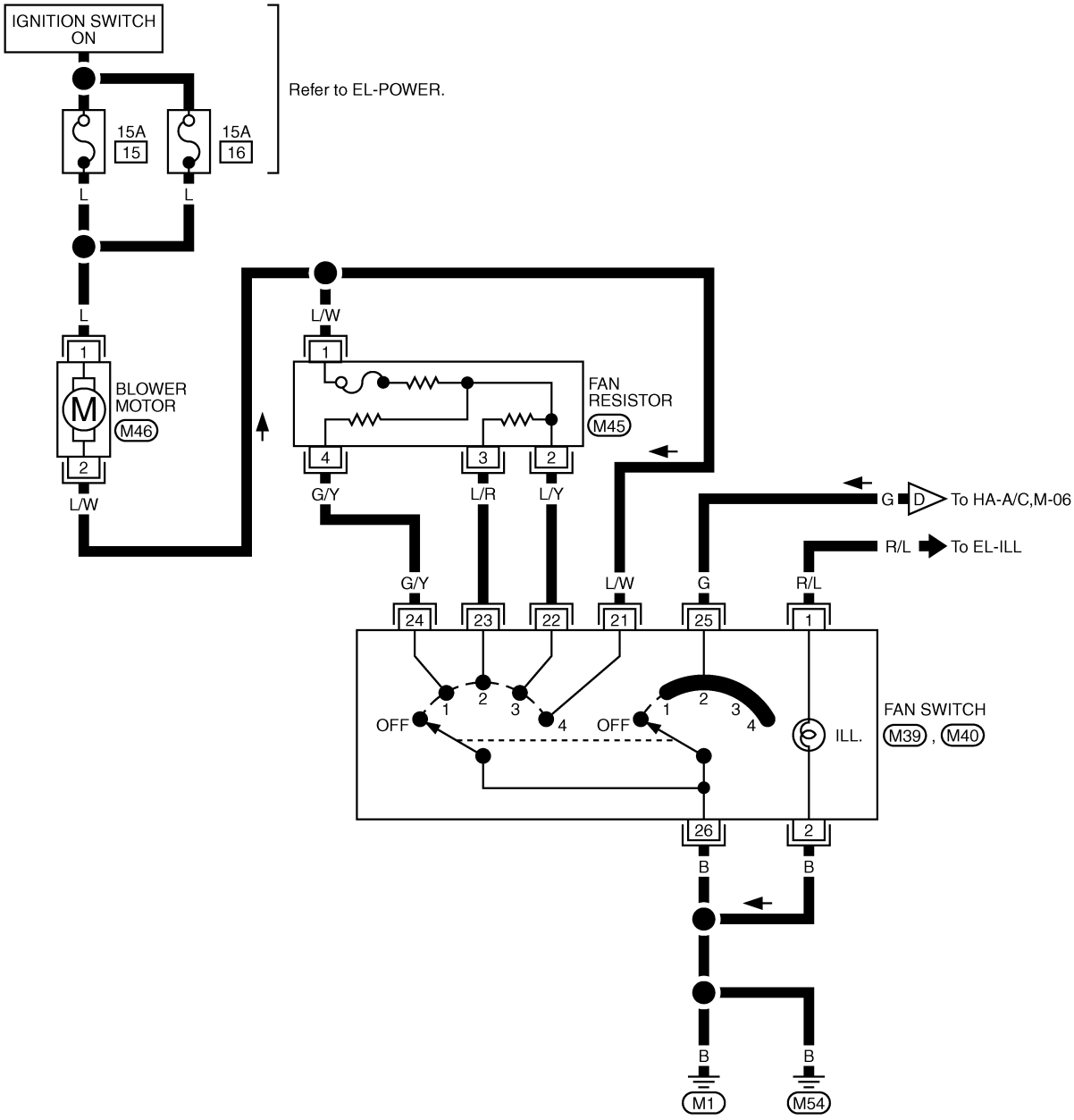
Circuit Diagram — A/C, M —

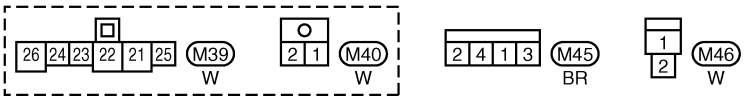


GHA038A

Wiring Diagram — A/C, M —/LHD Models with KA, YD Engine

HA-A/C,M-04

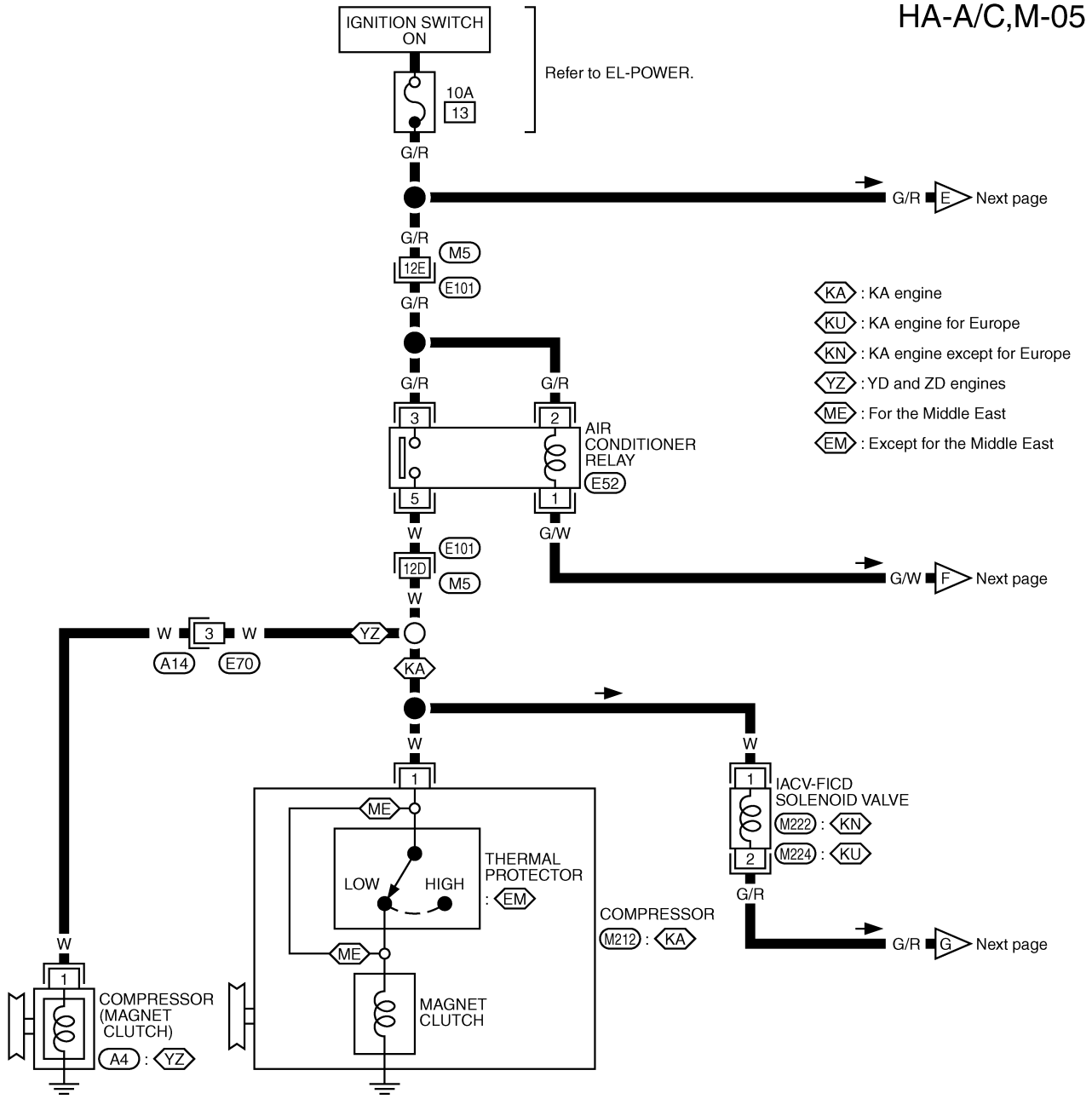




GHA023A

Wiring Diagram — A/C, M —/LHD Models with KA, YD Engine (Cont'd)

HA-A/C,M-05



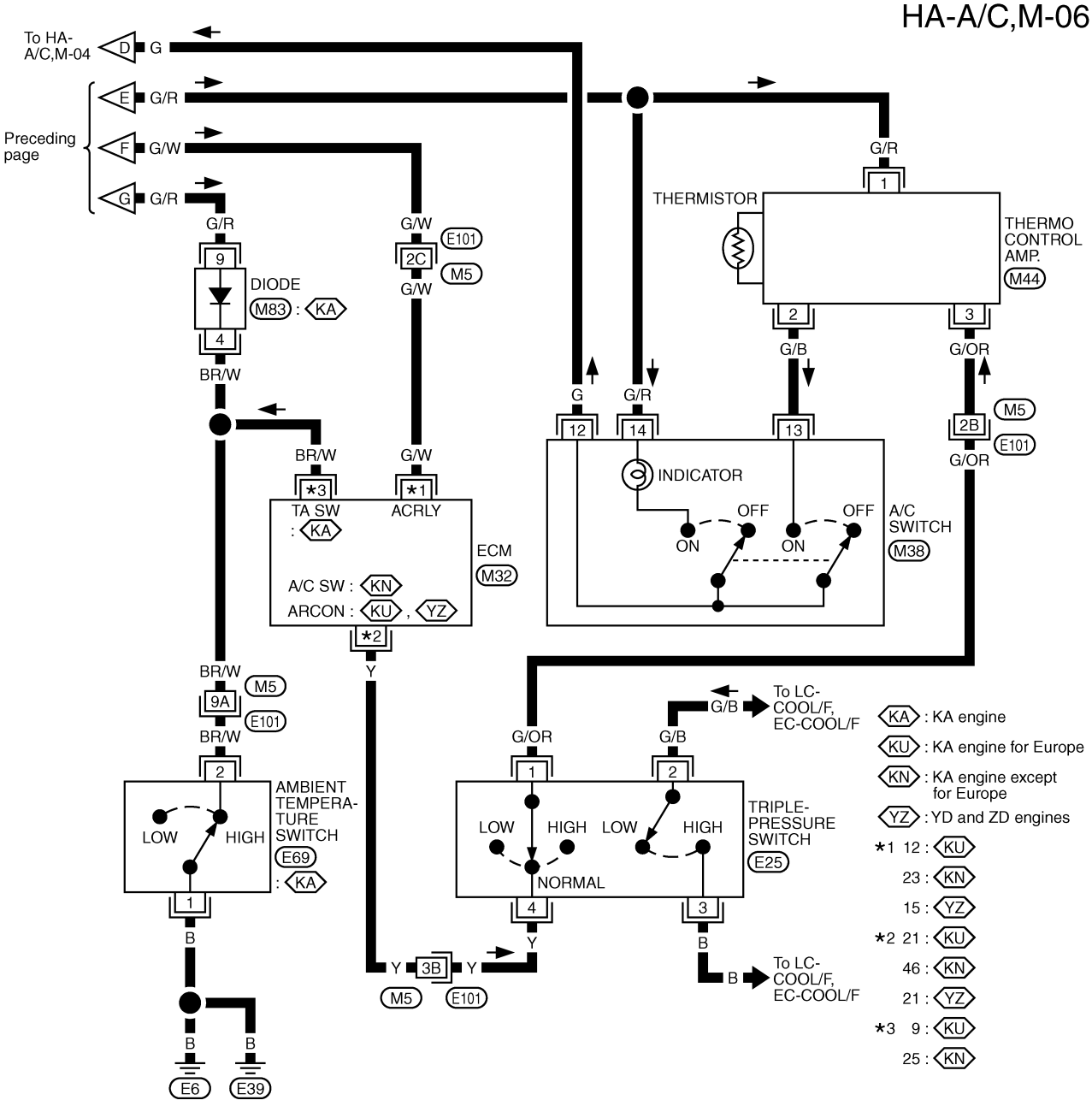
1 M212, A4 B B
1 2 M222 B
1 2 M224 PU
3 5 1 2 E52 L
1 2 3 A14 BR

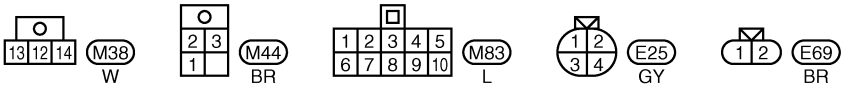
Refer to last page (Foldout page).
M5, E101

GHA040A

Wiring Diagram — A/C, M —/LHD Models with KA, YD Engine (Cont'd)

HA-A/C,M-06





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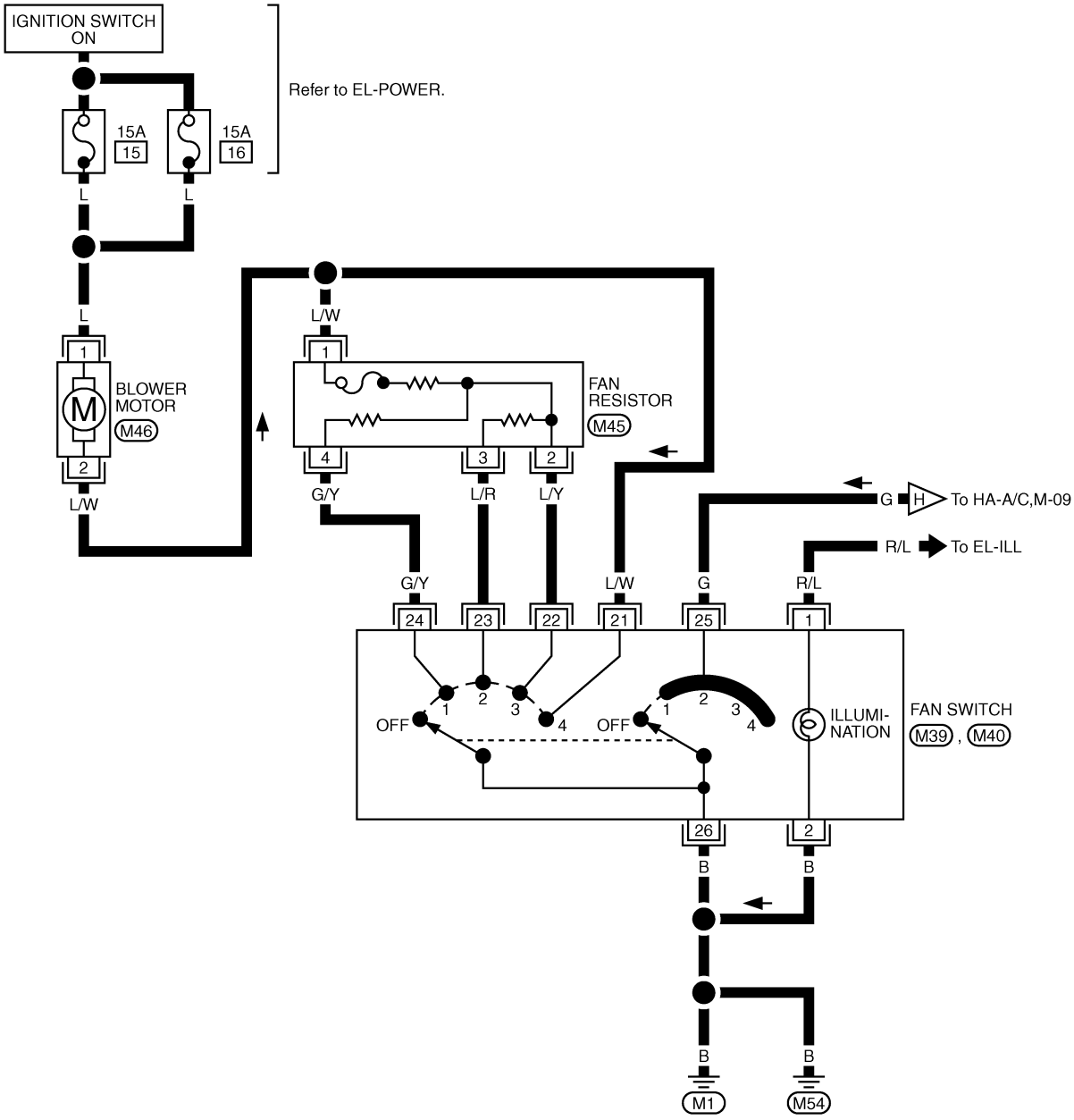
M5 , E101

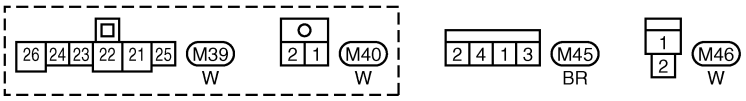
M32

GHA041A

Wiring Diagram — A/C, M —/RHD Models with KA, YD Engine

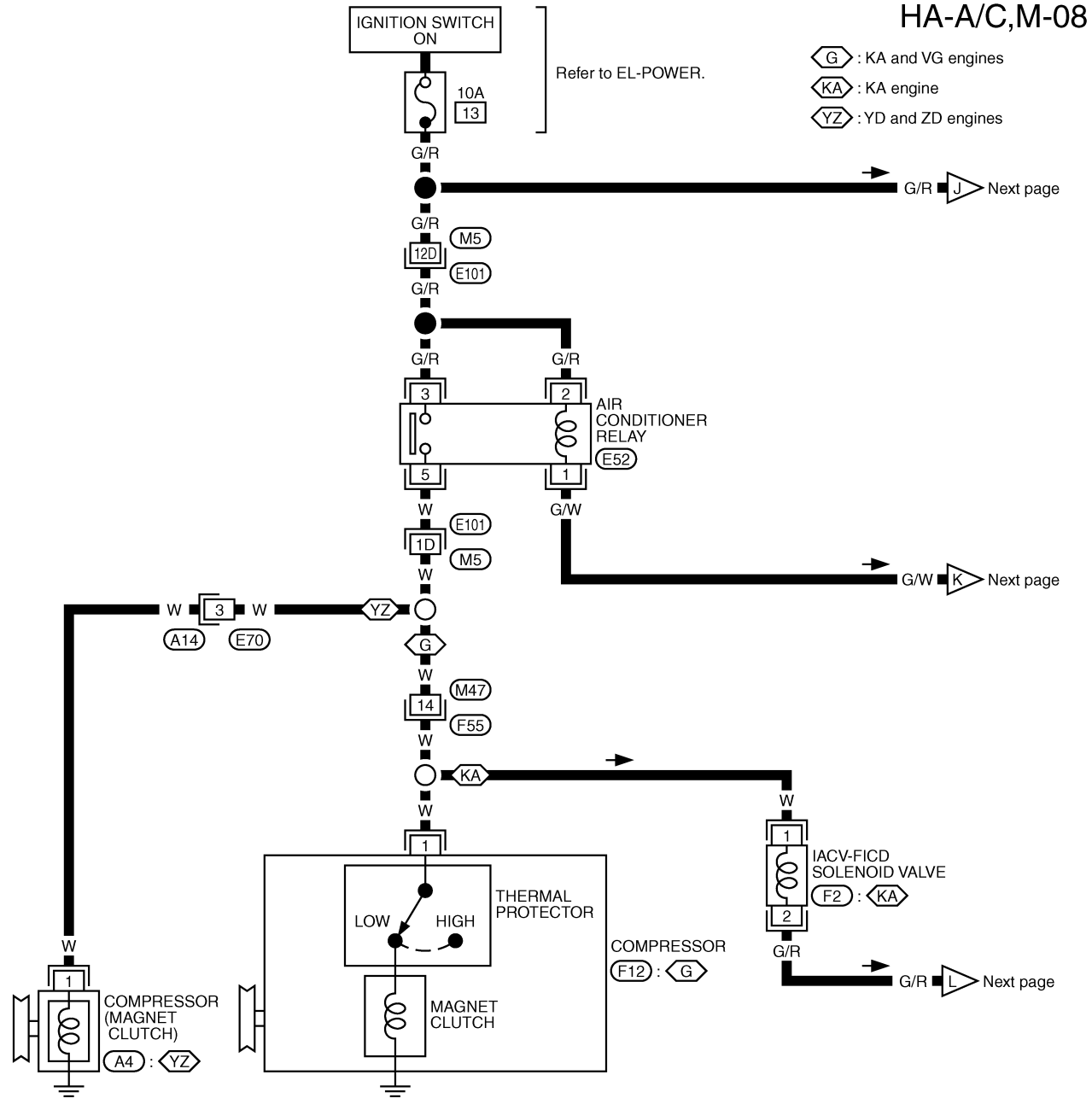
HA-A/C,M-07

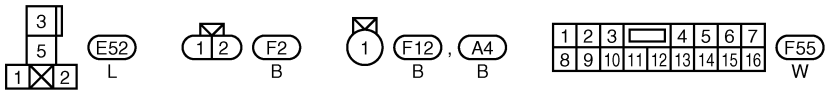


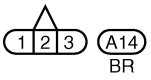


GHA042A

Wiring Diagram — A/C, M —/RHD Models with KA, YD Engine (Cont'd)





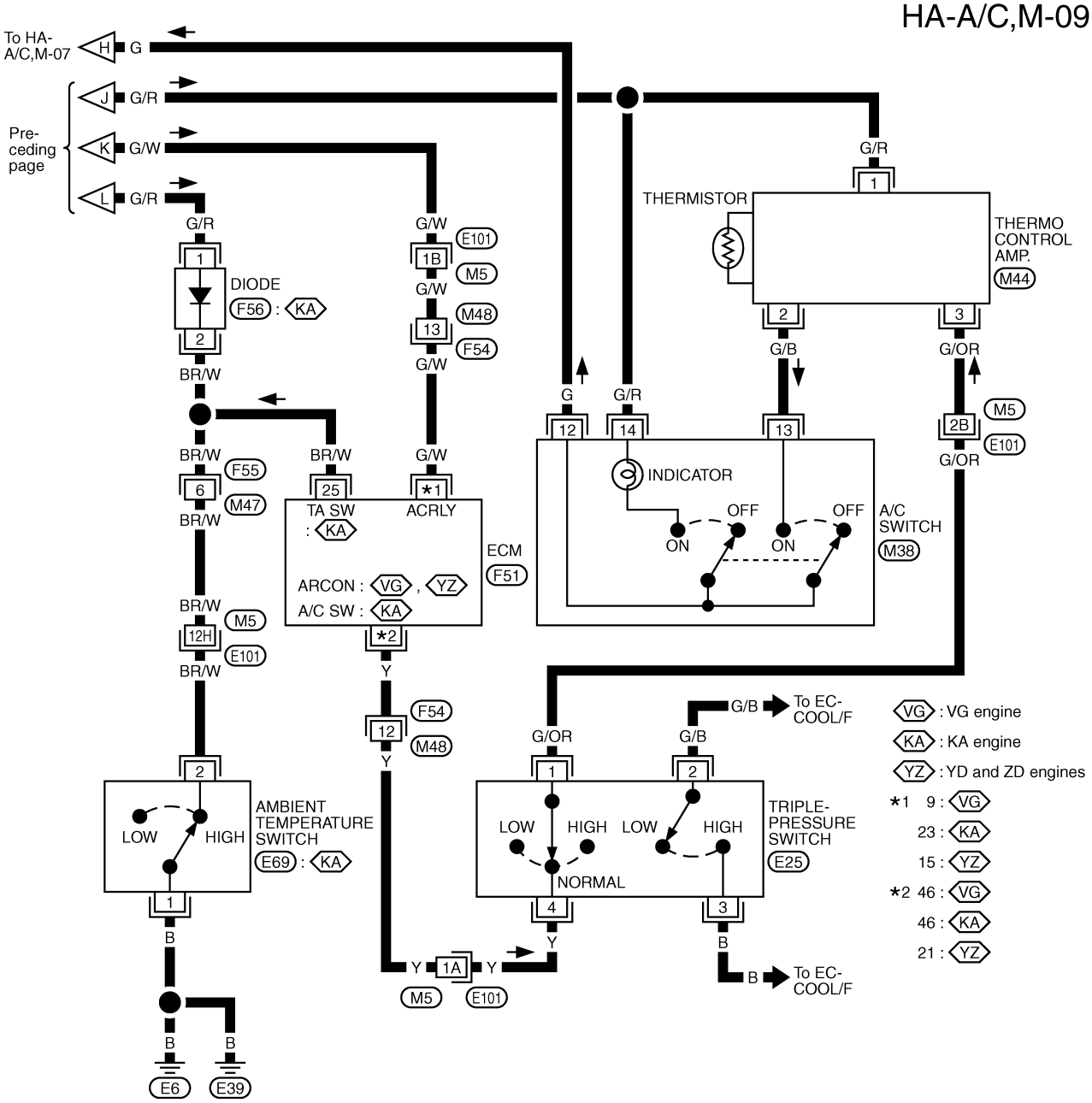


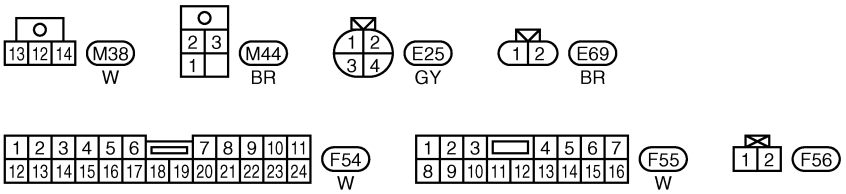
Refer to last page (Foldout page).
M5 , E101

GHA043A

Wiring Diagram — A/C, M —/RHD Models with KA, YD Engine (Cont'd)

HA-A/C,M-09





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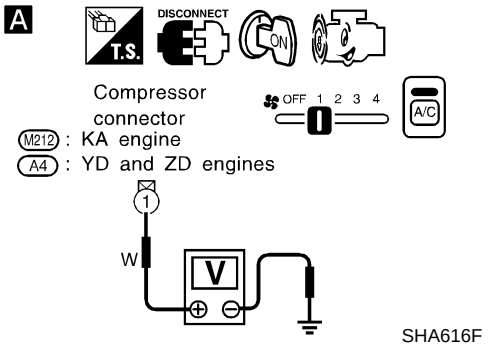
M5 , E101

F51

GHA044A

A



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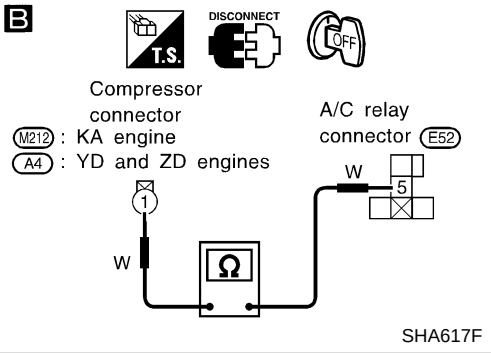

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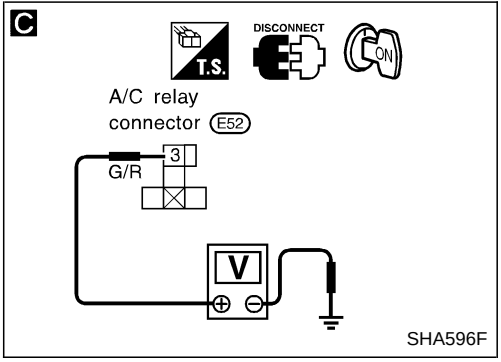

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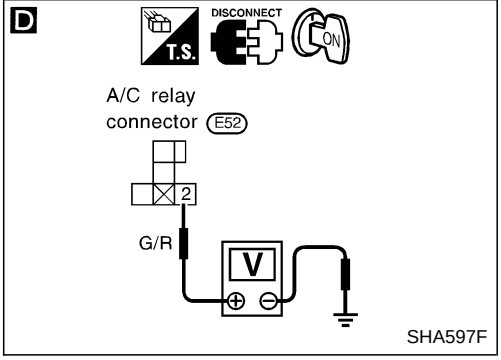


Magnet Clutch

LHD models with KA, YD engine

SYMPTOM: Magnet clutch does not engage when A/C switch and fan switch are ON.

A

CHECK POWER SUPPLY FOR COMPRESSOR.
Disconnect compressor harness connector.
Do approx. 12 volts exist between compressor harness terminal No. ① and body ground?

Yes → Check the following.
- Magnet clutch coil
- Thermal protector (KA engine except for the Middle East)
  Refer to HA-3019.

NG → Replace magnet clutch. Refer to HA-69 in D22 Service Manual, Publication No. SM7E-0D22G1.

No ↓

B

Note

Check circuit continuity between A/C relay harness terminal No. ⑤ and compressor harness terminal No. ①.
Continuity should exist.
If OK, check harness for short.

OK ↓

C

CHECK POWER SUPPLY FOR A/C RELAY.
Do approx. 12 volts exist between A/C relay harness terminal No. ③ and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block). (Refer to “POWER SUPPLY ROUTING” in EL section and Wiring Diagram.)

Yes ↓

D

CHECK POWER SUPPLY FOR A/C RELAY.
Do approx. 12 volts exist between A/C relay harness terminal No. ② and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block). (Refer to “POWER SUPPLY ROUTING” in EL section and Wiring Diagram.)

Yes ↓

CHECK A/C RELAY AFTER DISCONNECTING IT.
Refer to HA-3019 .

NG → Replace A/C relay.

OK ↓

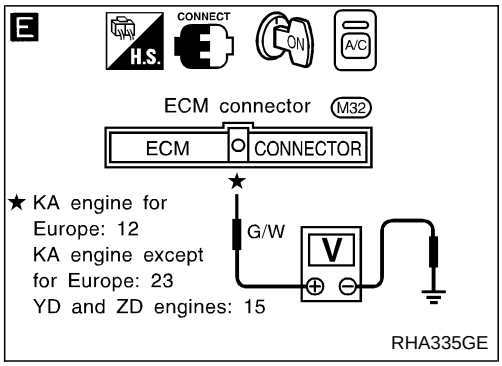
Reconnect A/C relay.

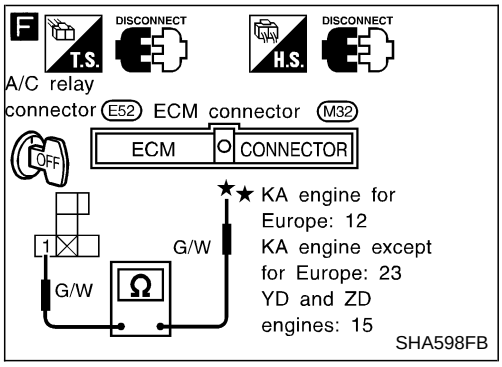
Ⓐ

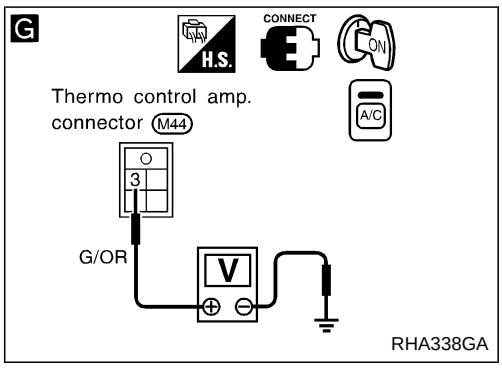
(Go to next page.)

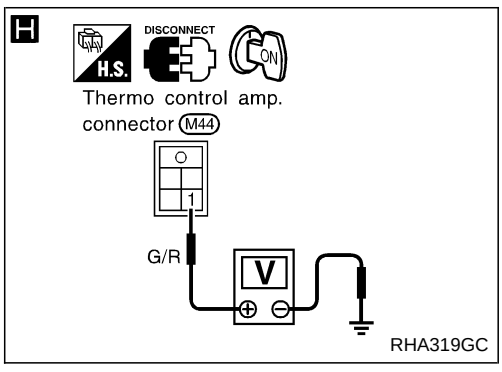
Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

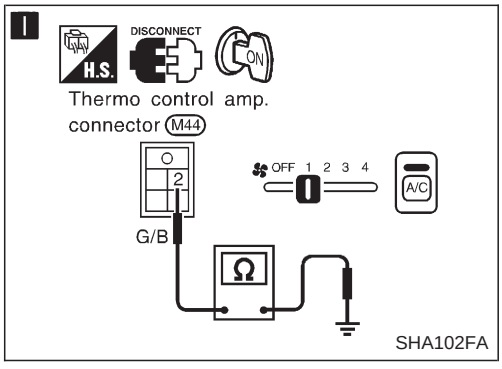
Magnet Clutch (Cont'd)











Ⓐ

E Note

CHECK COIL SIDE CIRCUIT OF A/C RELAY.
Do approx. 12 volts exist between ECM harness terminal No. ⑪, ⑮ or ㉓ and body ground?

No → **F** Note

Check circuit continuity between A/C relay harness terminal No. ① and ECM harness terminal No. ⑪, ⑮ or ㉓.
Continuity should exist.
If OK, check harness for short.

Yes

G Note

CHECK VOLTAGE FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ③ and body ground?

No → Ⓒ (Go to HA-21.)

Yes

H Note

CHECK POWER SUPPLY FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ① and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block.) (Refer to "POWER SUPPLY ROUTING" in EL section and Wiring Diagram.)

Yes

I Note

Check circuit continuity between thermo control amp. harness terminal No. ② and body ground.
Continuity should exist.
If OK, check harness for short.

OK → Replace thermo control amp.

NG

J Note

Check circuit continuity between thermo control amp. harness terminal No. ② and A/C switch harness terminal No. ⑬.
Continuity should exist.
If OK, check harness for short.

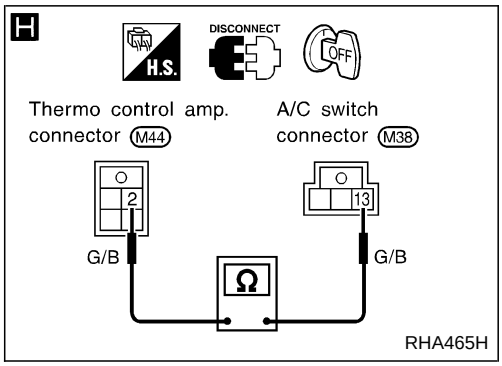
OK

Ⓑ
(Go to next page.)

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

Magnet Clutch (Cont'd)

H



RHA465H

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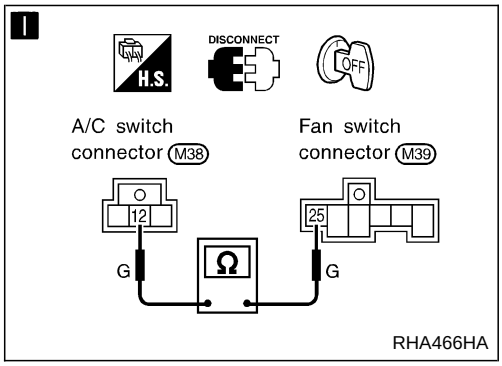

RHA466HA

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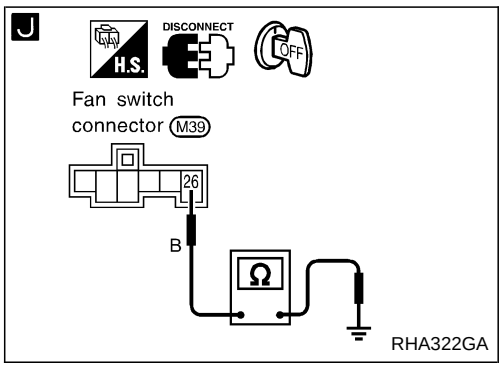


RHA322GA

Ⓑ

CHECK A/C SWITCH.
Refer to HA-21 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace A/C switch.

OK

K

Note

Check circuit continuity between A/C switch harness terminal No. ⑫ and fan switch harness terminal No. ㉕.
Continuity should exist.
If OK, check harness for short.

OK

CHECK FAN SWITCH
Refer to HA-21 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace fan switch.

OK

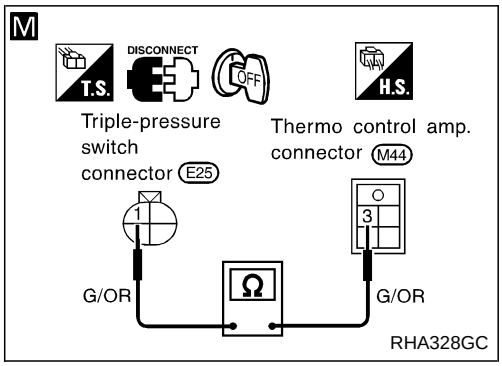
L

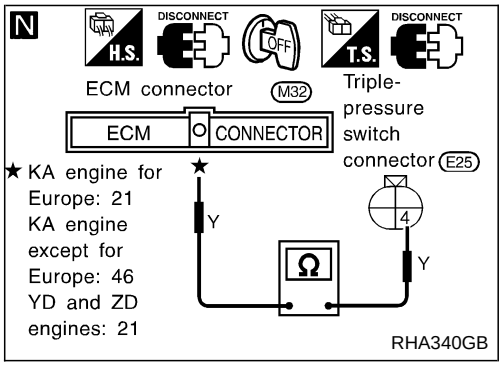
Note

Check circuit continuity between fan switch harness terminal No. ㉖ and body ground.
Continuity should exist.
If OK, check harness for short.

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

Magnet Clutch (Cont'd)





Ⓒ

M — Note

Check circuit continuity between thermo control amp. harness terminal No. ③ and triple-pressure switch harness terminal No. ①.
Continuity should exist.
If OK, check harness for short.

OK ↓

CHECK TRIPLE-PRESSURE SWITCH. Refer to HA-22 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace triple-pressure switch.

OK ↓

N — Note

Check circuit continuity between triple-pressure switch harness terminal No. ④ and ECM harness terminal No. ㉑ or ㊻.
Continuity should exist.
If OK, check harness for short.

OK ↓

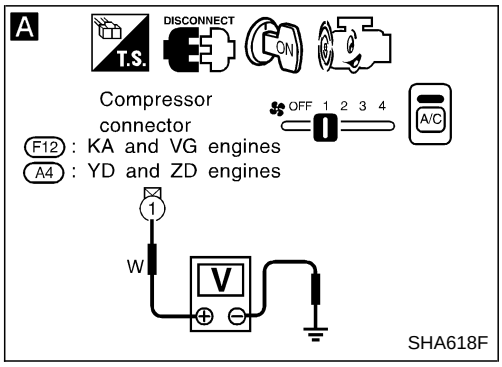
Replace ECM.

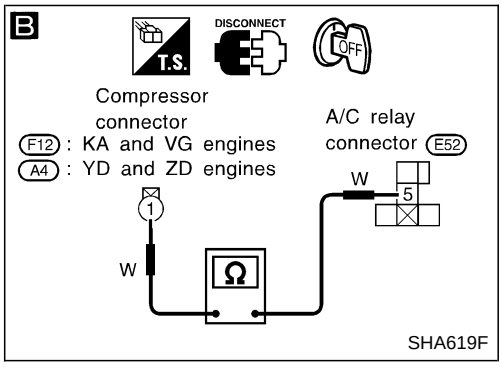
Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

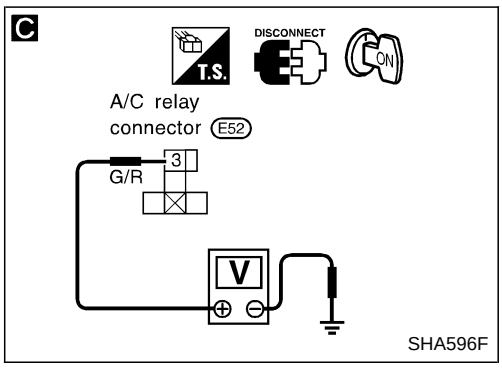
Magnet Clutch (Cont'd)

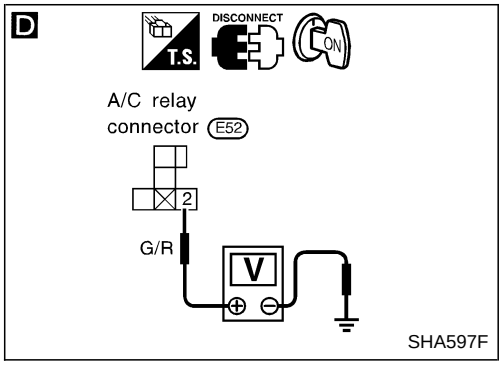
RHD models with KA, YD engine

SYMPTOM: Magnet clutch does not engage when A/C switch and fan switch are ON.









A

CHECK POWER SUPPLY FOR COMPRESSOR.
Disconnect compressor harness connector.
Do approx. 12 volts exist between compressor harness terminal No. ① and body ground?

Yes → Check the following.
- Magnet clutch coil
- Thermal protector (KA and VG engines)
  Refer to HA-21 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace magnet clutch. Refer to HA-69 in D22 Service Manual, Publication No. SM7E-0D22G1.

No ↓

B

Note

Check circuit continuity between A/C relay harness terminal No. ⑤ and compressor harness terminal No. ①.
Continuity should exist.
If OK, check harness for short.

OK ↓

C

CHECK POWER SUPPLY FOR A/C RELAY.
Do approx. 12 volts exist between A/C relay harness terminal No. ③ and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block). (Refer to "POWER SUPPLY ROUTING" in EL section and Wiring Diagram.)

Yes ↓

D

CHECK POWER SUPPLY FOR A/C RELAY.
Do approx. 12 volts exist between A/C relay harness terminal No. ② and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block). (Refer to "POWER SUPPLY ROUTING" in EL section and Wiring Diagram.)

Yes ↓

CHECK A/C RELAY AFTER DISCONNECTING IT.
Refer to HA-3019.

NG → Replace A/C relay.

OK ↓

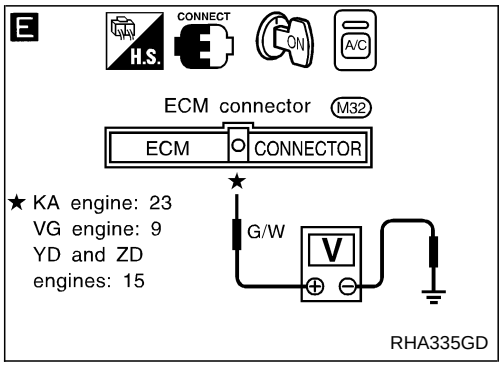
Reconnect A/C relay.

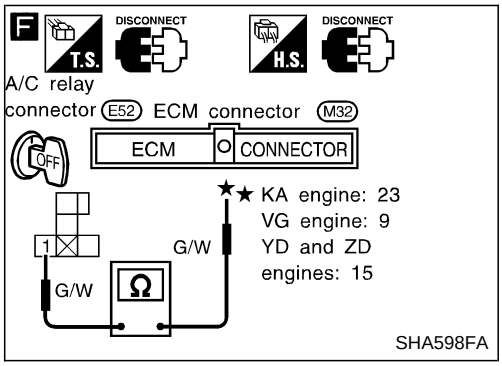
Ⓐ

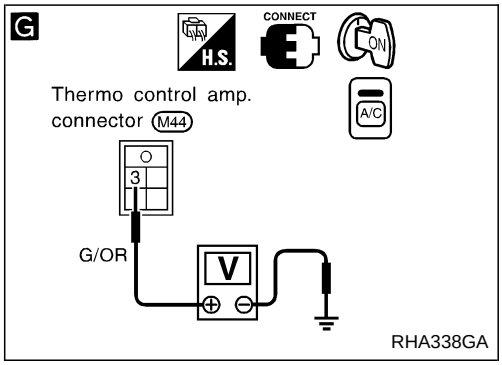
(Go to next page.)

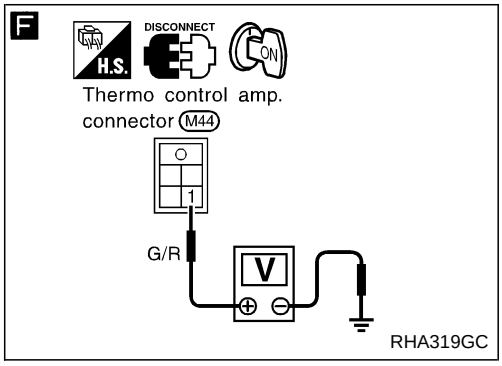
Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

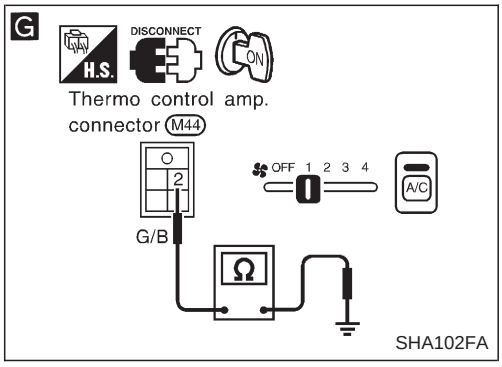
Magnet Clutch (Cont'd)











Ⓐ

E Note

CHECK COIL SIDE CIRCUIT OF A/C RELAY.
Do approx. 12 volts exist between ECM harness terminal No. ⑨, ⑮ or ㉓ and body ground?

No → **F** Note

Check circuit continuity between A/C relay harness terminal No. ① and ECM harness terminal No. ⑨, ⑮ or ㉓.
Continuity should exist.
If OK, check harness for short.

Yes

G Note

CHECK VOLTAGE FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ③ and body ground?

No → Ⓒ (Go to HA-25.)

Yes

H

CHECK POWER SUPPLY FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ① and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block.) (Refer to "POWER SUPPLY ROUTING" in EL section and Wiring Diagram.)

Yes

I Note

Check circuit continuity between thermo control amp. harness terminal No. ② and body ground.
Continuity should exist.
If OK, check harness for short.

OK → Replace thermo control amp.

NG

J Note

Check circuit continuity between thermo control amp. harness terminal No. ② and A/C switch harness terminal No. ⑬.
Continuity should exist.
If OK, check harness for short.

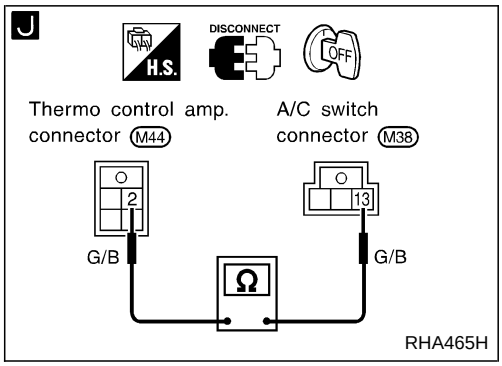
OK

Ⓑ
(Go to next page.)

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

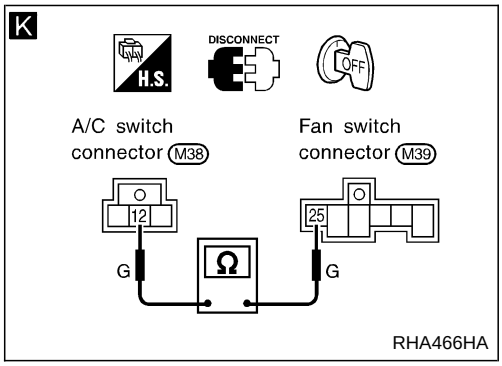
Magnet Clutch (Cont'd)

J



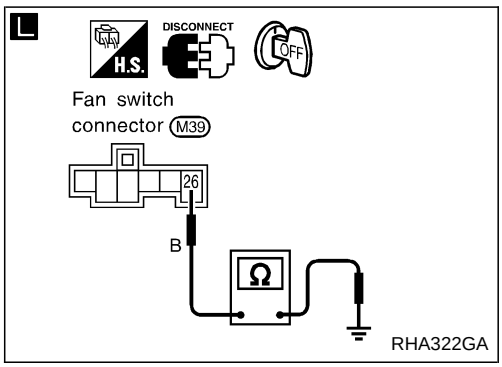
RHA465H

K



RHA466HA

L



RHA322GA

Ⓑ

CHECK A/C SWITCH.
Refer to HA-21 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace A/C switch.

OK

K Note

Check circuit continuity between A/C switch harness terminal No. ⑫ and fan switch harness terminal No. ㉕.
Continuity should exist.
If OK, check harness for short.

OK

CHECK FAN SWITCH
Refer to HA-21 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace fan switch.

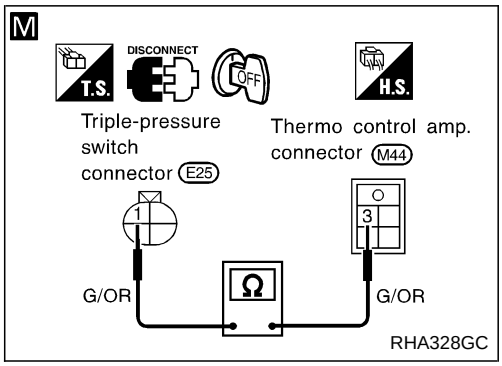
OK

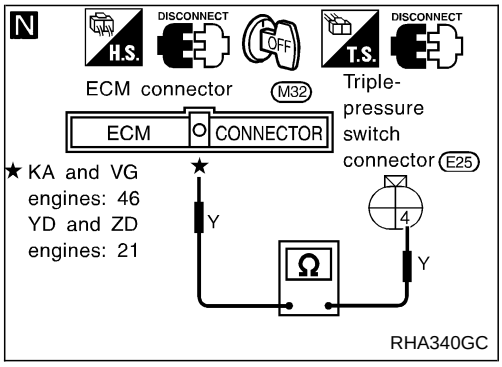
L Note

Check circuit continuity between fan switch harness terminal No. ㉖ and body ground.
Continuity should exist.
If OK, check harness for short.

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

Magnet Clutch (Cont'd)





Ⓒ

M — Note

Check circuit continuity between thermo control amp. harness terminal No. ③ and triple-pressure switch harness terminal No. ①.
Continuity should exist.
If OK, check harness for short.

OK ↓

CHECK TRIPLE-PRESSURE SWITCH. Refer to HA-22 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0. — NG → Replace triple-pressure switch.

OK ↓

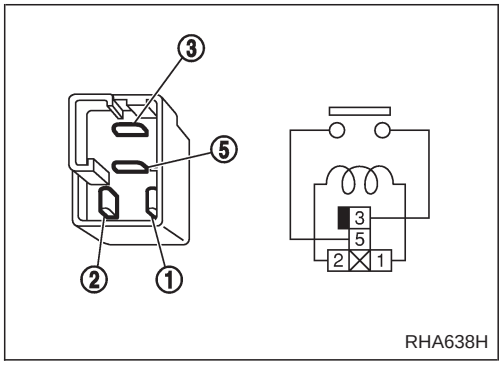
N — Note

Check circuit continuity between triple-pressure switch harness terminal No. ④ and ECM harness terminal No. ㉑ or ㊻.
Continuity should exist.
If OK, check harness for short.

OK ↓

Replace ECM.

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.



ELECTRICAL COMPONENT INSPECTION

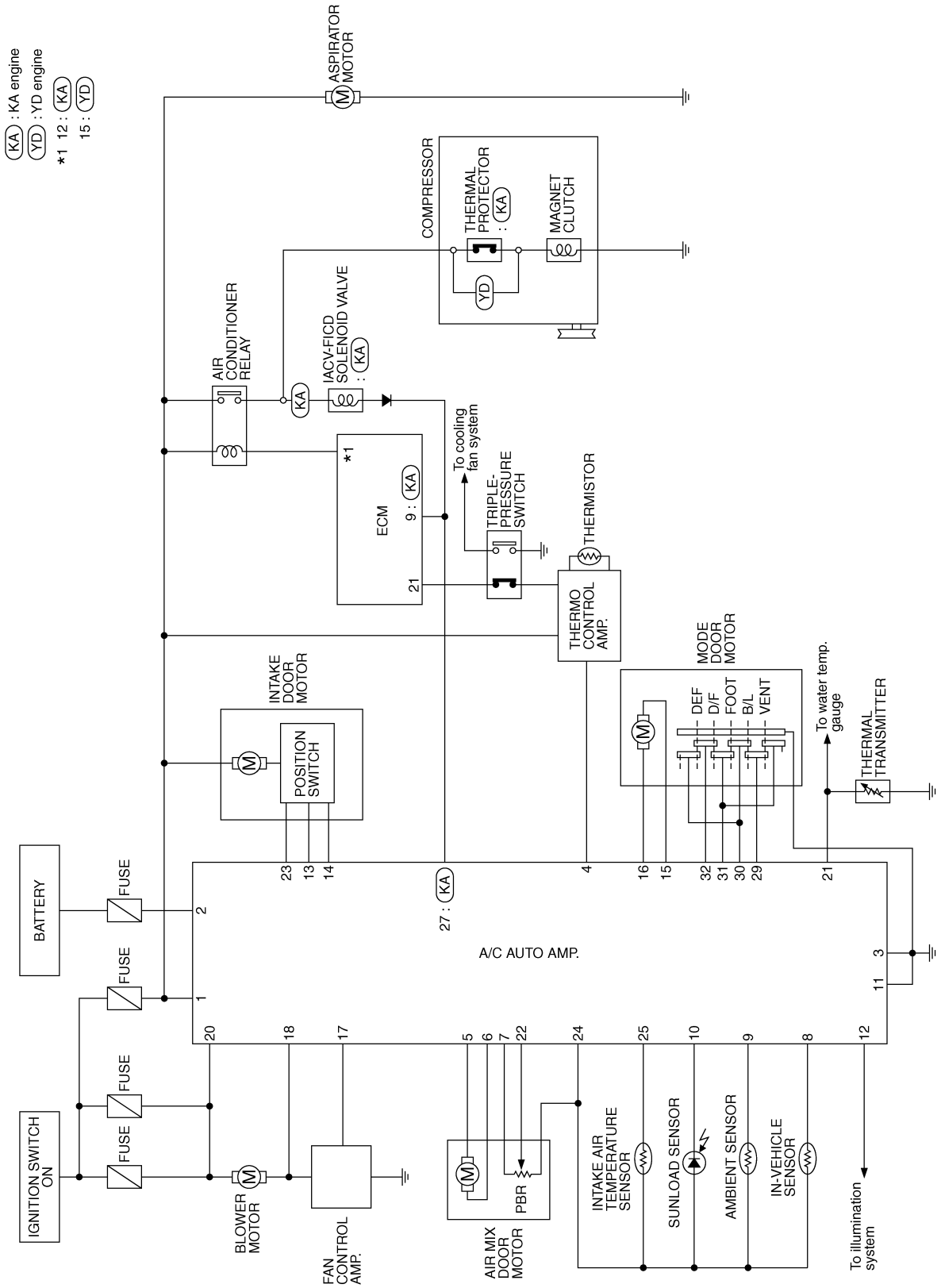
A/C Relay

Check continuity between terminal Nos. 3 and 5.

Conditions	Continuity
12V direct current supply between terminal Nos. 1 and 2	Yes
No current supply	No

If NG, replace relay.

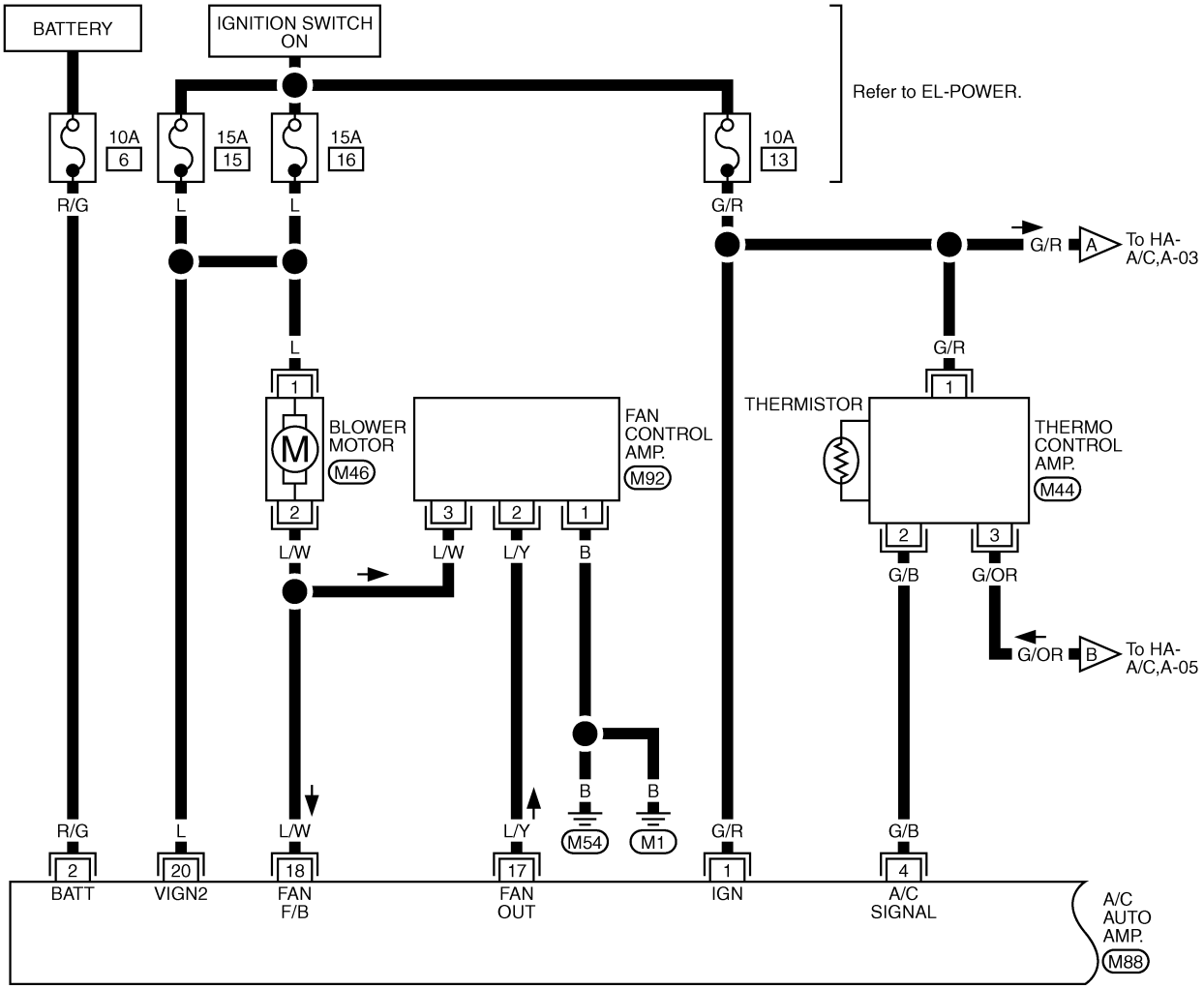
Circuit Diagram — A/C, A —

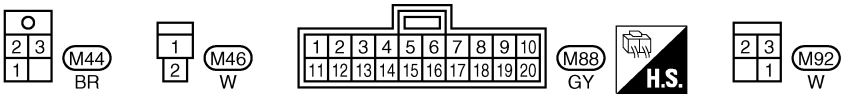


GHA045A

Wiring Diagram — A/C, A —

HA-A/C,A-01

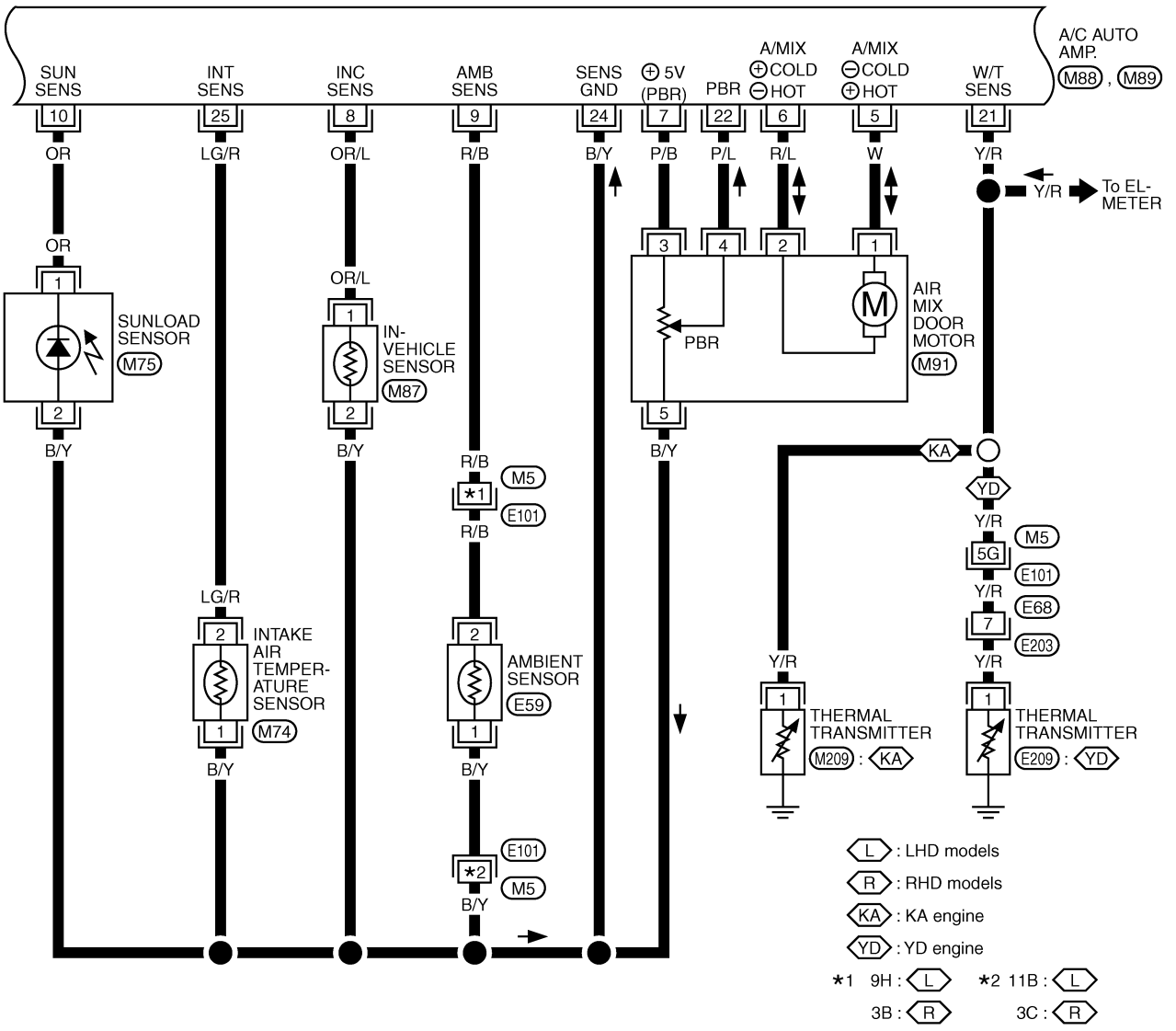


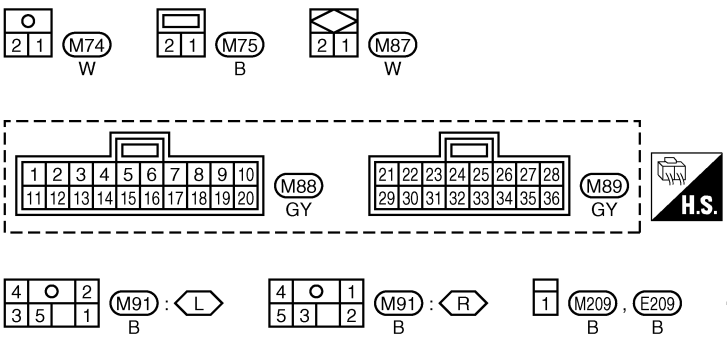


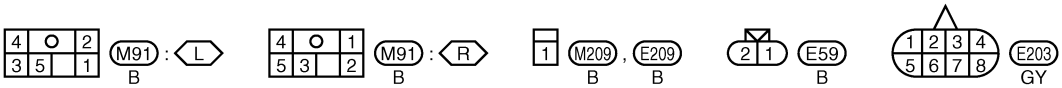
GHA046A

Wiring Diagram — A/C, A — (Cont'd)

HA-A/C,A-02





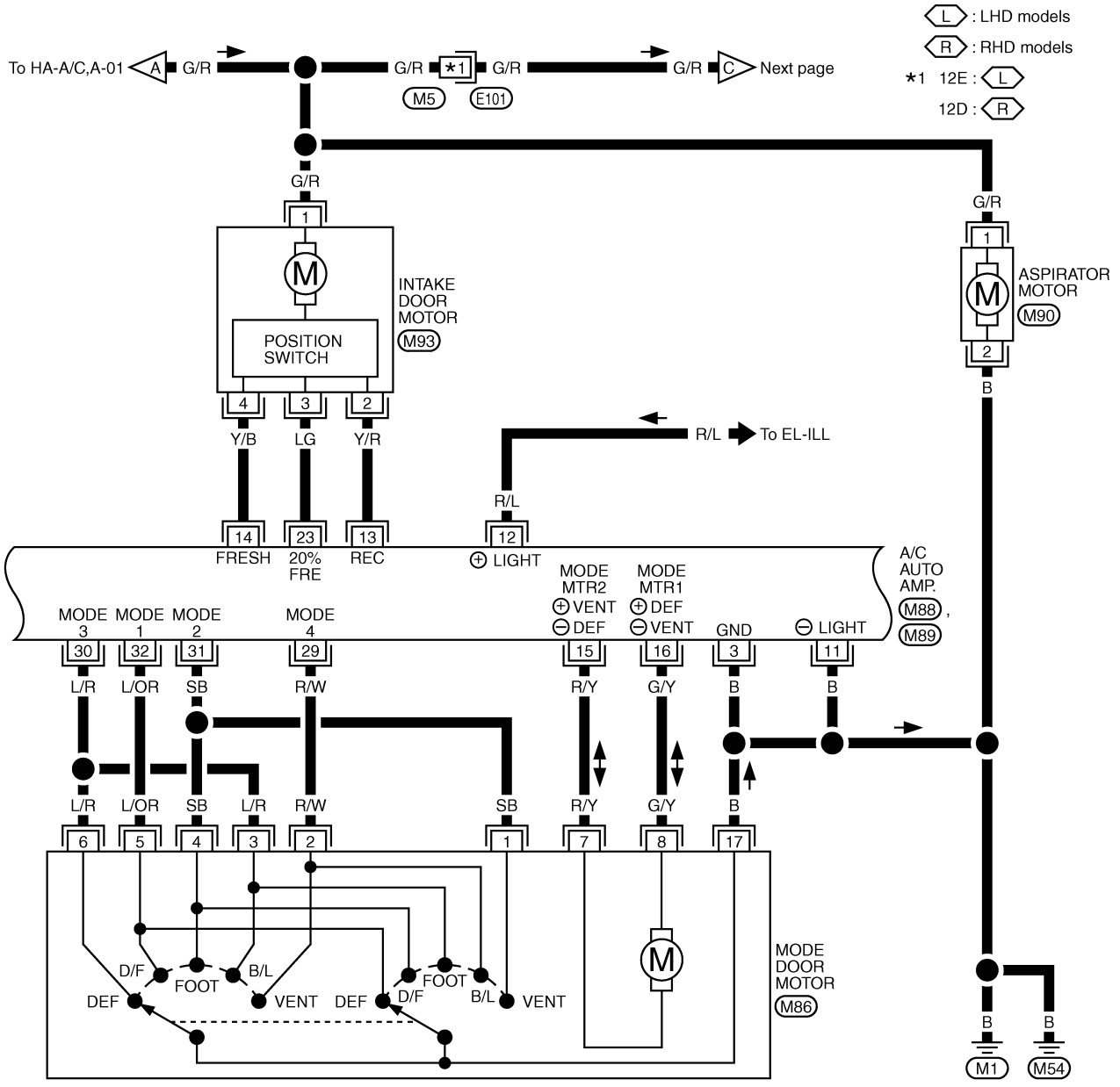


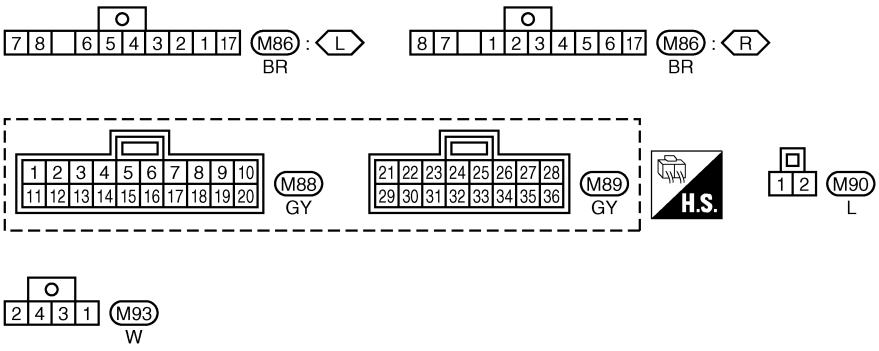
Refer to last page (Foldout page).
M5 , E101

GHA047A

Wiring Diagram — A/C, A — (Cont'd)

HA-A/C,A-03



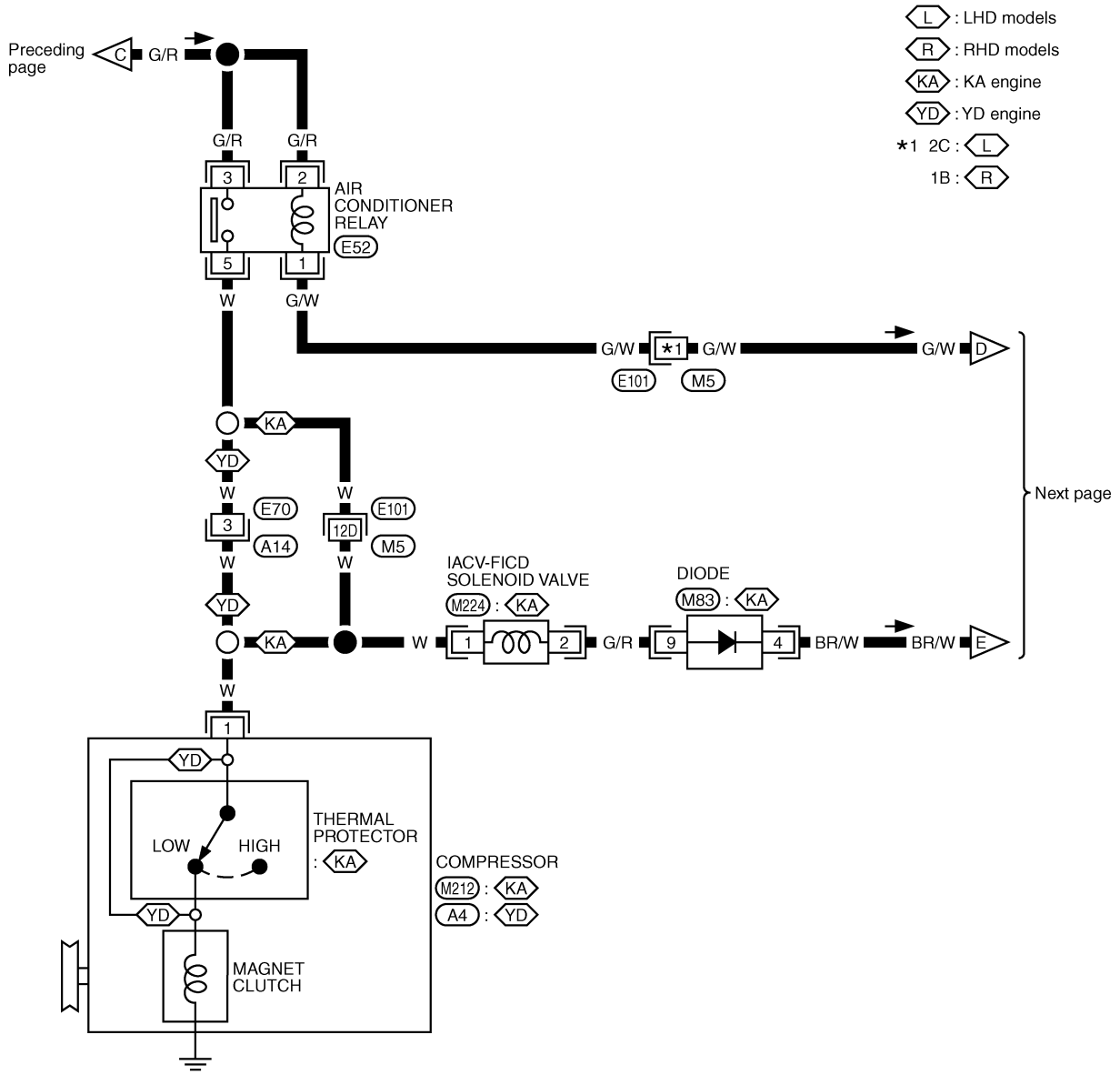


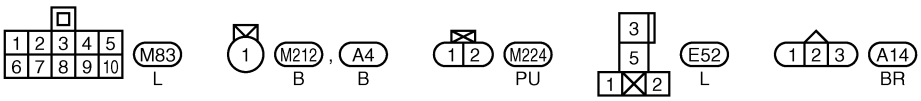
Refer to last page (Foldout page).
M5 , E101

GHA048A

Wiring Diagram — A/C, A — (Cont'd)

HA-A/C,A-04



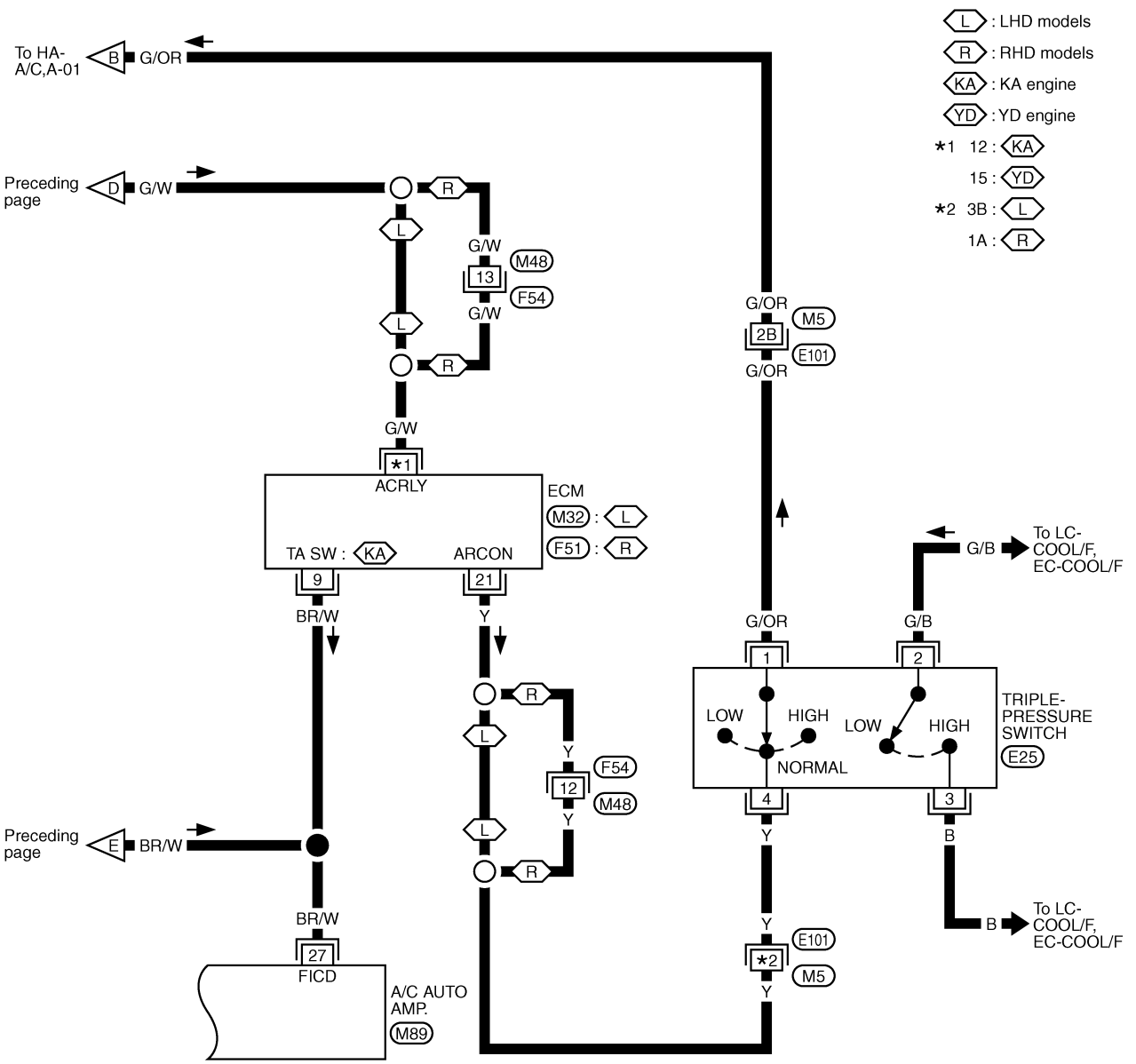


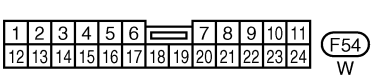
Refer to last page (Foldout page).
M5 , E101

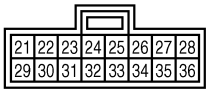
GHA049A

Wiring Diagram — A/C, A — (Cont'd)

HA-A/C,A-05







Refer to last page (Foldout page).

M5 , E101

M32

F51

GHA050A

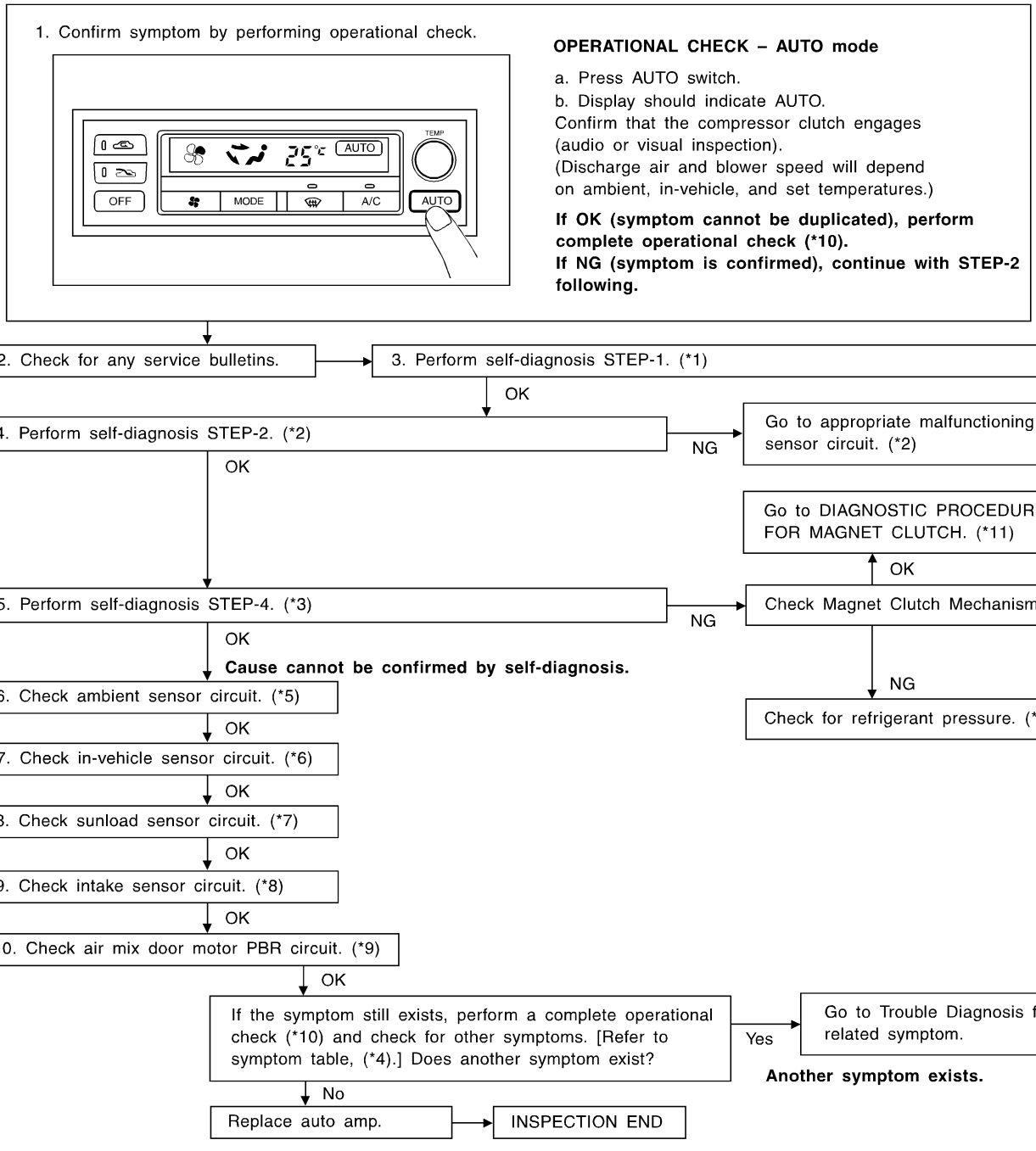
Magnet Clutch

TROUBLE DIAGNOSIS PROCEDURE FOR MAGNET CLUTCH

SYMPTOM:

- **Magnet clutch does not engage.**

Inspection flow



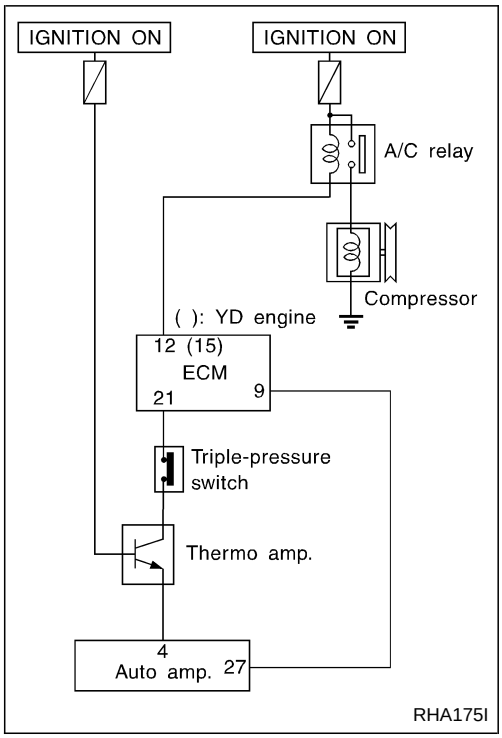
*1: HA-2035
*2: HA-2036
*3: HA-2038
*4: HA-2040
*5: HA-2080
*6: HA-2082
*7: HA-2084
*8: HA-2087
*9: HA-2052
*10: HA-2041
*11: HA-3027
*12: HA-27 in D22 Service Manual, Publication No. SM8E-0D22E0E

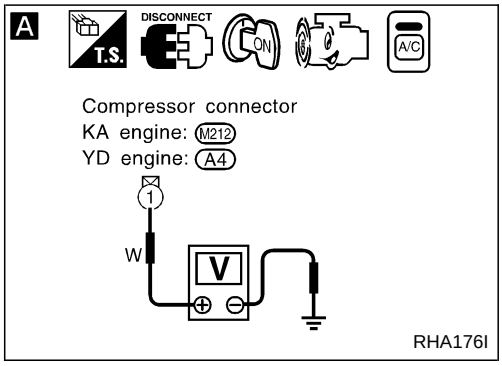
Note: *1 - *10: Refer to D22 SERVICE MANUAL, Publication No. SM9E-D22BE0E.

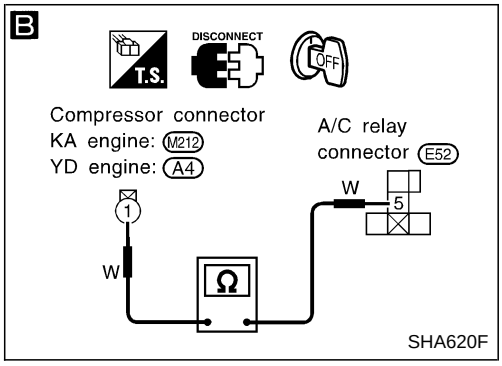
Magnet Clutch (Cont'd)

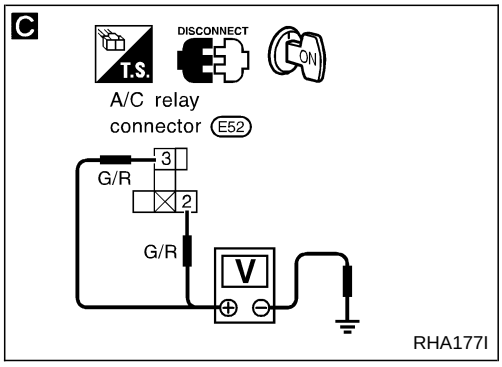
DIAGNOSTIC PROCEDURE

SYMPTOM: Magnet clutch does not engage when A/C switch and fan switch are ON.









A

CHECK POWER SUPPLY FOR COMPRESSOR.
Disconnect compressor harness connector.
Do approx. 12 volts exist between compressor harness terminal No. ① and body ground?

Yes → Check magnet clutch coil.
NG → Replace magnet clutch. Refer to HA-69 in D22 SERVICE MANUAL, Publication No. SM7E-0D22G1.

No → Disconnect A/C relay.

B

Note

CHECK CIRCUIT CONTINUITY BETWEEN A/C RELAY HARNESS TERMINAL NO. ⑤ AND COMPRESSOR HARNESS TERMINAL NO. ①.
Continuity should exist.
If OK, check harness for short.

OK →

C

CHECK POWER SUPPLY FOR A/C RELAY.
Disconnect A/C relay.
Do approx. 12 volts exist between A/C relay harness terminal Nos. ②, ③ and body ground?

No → CHECK POWER SUPPLY CIRCUIT AND 10A (No. 13) FUSE AT FUSE BLOCK. Refer to EL section ("Wiring Diagram", "POWER SUPPLY ROUTING").

Yes →

CHECK A/C RELAY AFTER DISCONNECTING IT.
Refer to HA-3029.

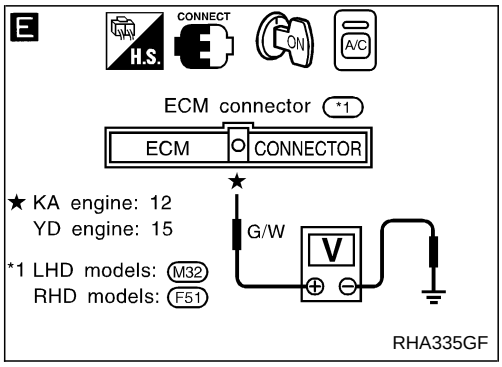
NG → Replace A/C relay.

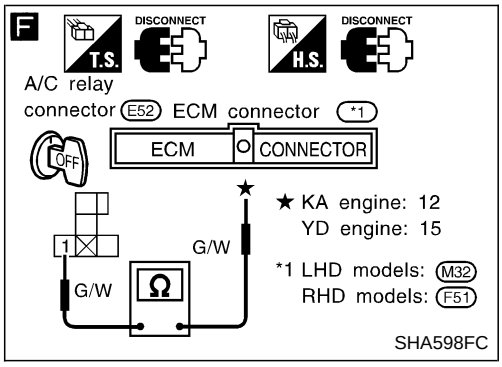
OK →

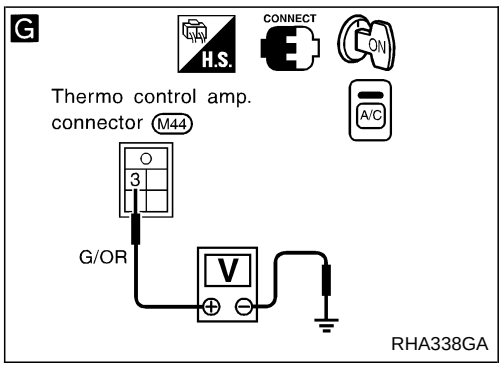
Ⓐ
(Go to next page.)

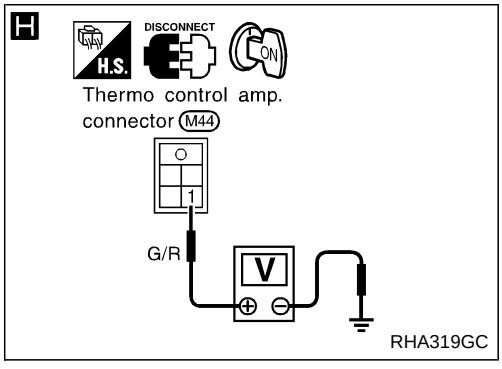
Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

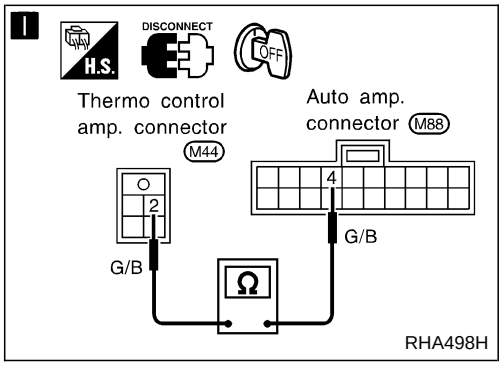
Magnet Clutch (Cont'd)











Ⓐ

E Note

CHECK COIL SIDE CIRCUIT OF A/C RELAY.
Do approx. 12 volts exist between ECM harness terminal No. ⑫ or ⑮ and body ground?

No → **F** Note

Check circuit continuity between A/C relay harness terminal No. ① and ECM harness terminal No. ⑫ or ⑮.
Continuity should exist.
If OK, check harness for short.

Yes

G Note

CHECK VOLTAGE FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ③ and body ground?

No → Ⓑ (Go to next page.)

Yes

H

CHECK POWER SUPPLY FOR THERMO CONTROL AMP.
Do approx. 12 volts exist between thermo control amp. harness terminal No. ① and body ground?

No → Check power supply circuit and 10A fuse (No. 13, located in the fuse block.) (Refer to "POWER SUPPLY ROUTING" in EL section and Wiring Diagram.)

Yes

Note

CHECK THERMO CONTROL AMP.
Refer to HA-51 in D22 SERVICE MANUAL, Publication No. SM7E-0D22G1.

NG → Replace thermo control amp.

OK

I Note

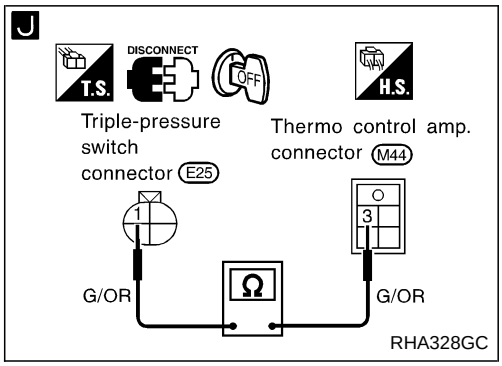
Check circuit continuity between thermo control amp. harness terminal No. ② and A/C auto amp. harness terminal No. ④.
Continuity should exist.
If OK, check harness for short.

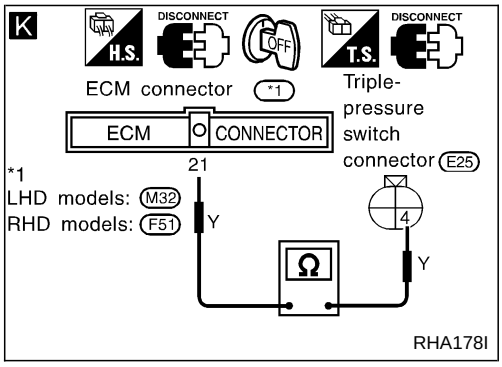
OK

Replace auto amp.

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.

Magnet Clutch (Cont'd)





Ⓑ

J

Note

Check circuit continuity between thermo control amp. harness terminal No. ③ and triple-pressure switch harness terminal No. ①.
Continuity should exist.
If OK, check harness for short.

OK

CHECK TRIPLE-PRESSURE SWITCH. Refer to HA-22 in D22 SERVICE MANUAL, Publication No. SM9E-D22BG0.

NG → Replace triple-pressure switch.

OK

K

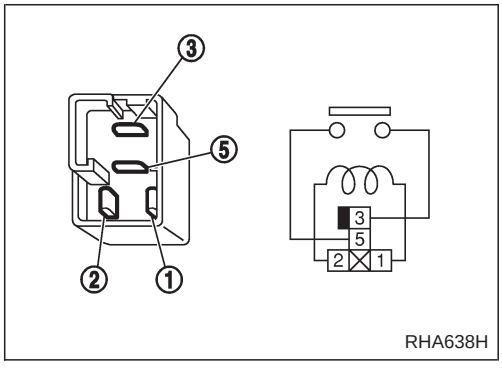
Note

Check circuit continuity between triple-pressure switch harness terminal No. ④ and ECM harness terminal No. ㉑.
Continuity should exist.
If OK, check harness for short.

OK

Replace ECM.

Note:
If the result is NG or No after checking circuit continuity, repair harness or connector.



ELECTRICAL COMPONENT INSPECTION

A/C Relay

Check continuity between terminal Nos. 3 and 5.

Conditions	Continuity
12V direct current supply between terminal Nos. 1 and 2	Yes
No current supply	No

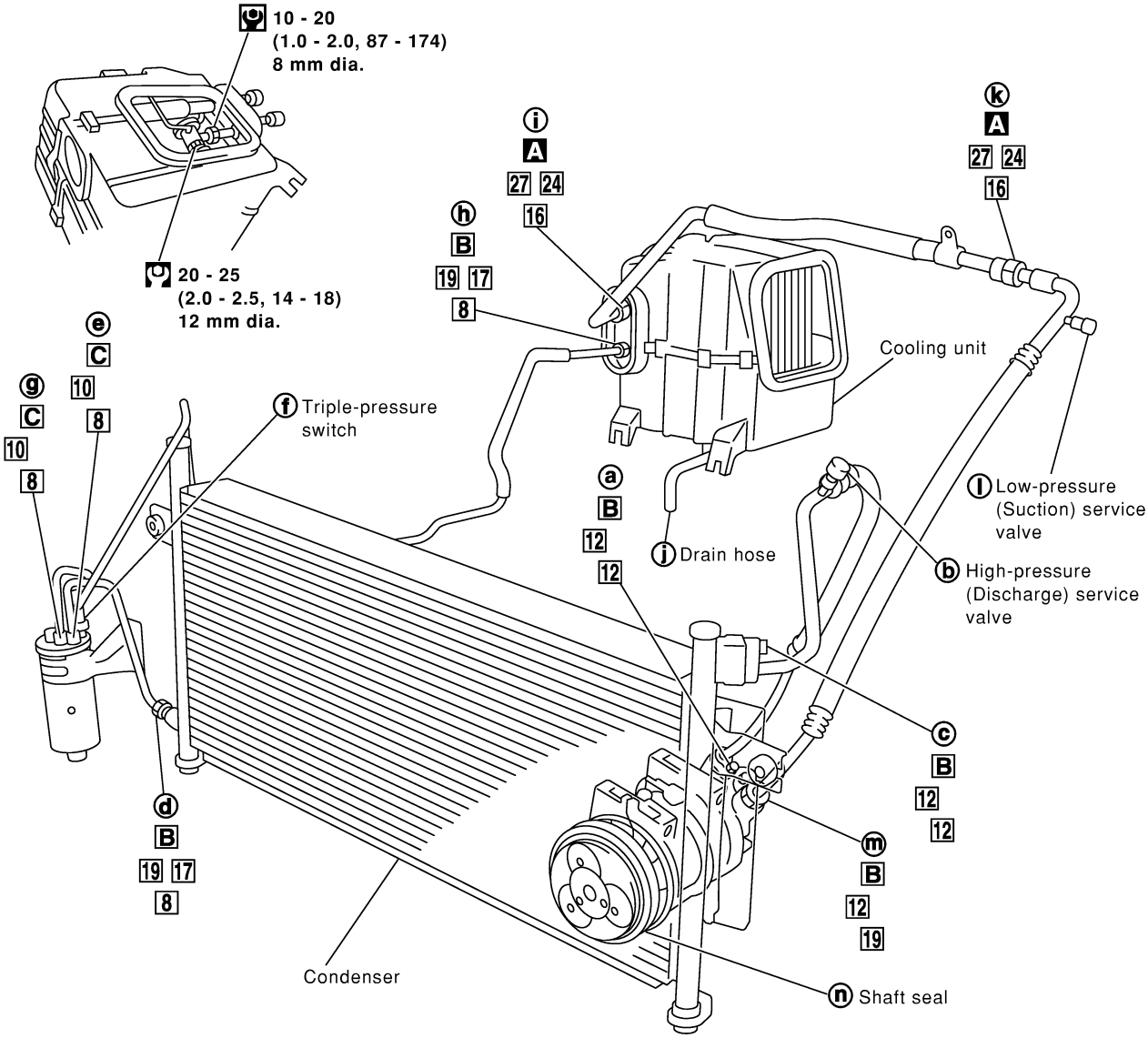
If NG, replace relay.

Refrigerant Lines

- Refer to page HA-3002 regarding “Precautions for Refrigerant Connection”.

YD ENGINE

LHD MODELS WITH DIESEL ENGINE



◯ : Refrigerant leak checking order
□ : (Tightening torque)
□□ : (Wrench size)
□ : (O-ring size)
: N•m (kg-m, ft-lb)
A : 20 - 29 (2.0 - 3.0, 14 - 22)
: N•m (kg-m, in-lb)
B : 10 - 20 (1.0 - 2.0, 87 - 174)
C : 3.42 - 5.88 (0.35 - 0.59, 31 - 52)

NOTE:
This illustration is for LHD models.
For RHD models, cooling unit location and routing of A/C piping are different.

RHA179I

Checking Refrigerant Leaks

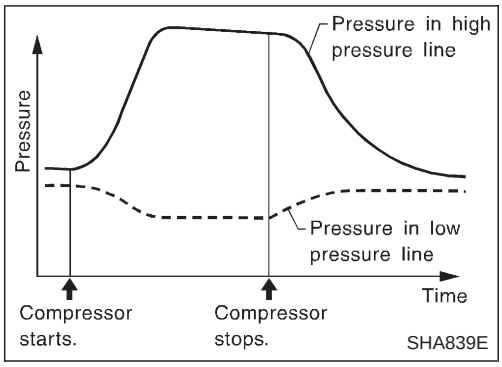
CHECKING PROCEDURE

To prevent inaccurate or false readings, make sure there is no refrigerant vapor or tobacco smoke in the vicinity of the vehicle. Perform the leak test in calm area (low air/wind movement) so that the leaking refrigerant is not dispersed.

1. Turn engine off.
2. Connect a suitable A/C manifold gauge set to the A/C service ports.
3. Check if the A/C refrigerant pressure is at least 345 kPa (3.452 bar, 3.52 kg/cm^2, 50 psi) above 16°C (61°F). If less than specification, evacuate and recharge the system with the specified amount of refrigerant.
   NOTE: At temperatures below 16°C (61°F), leaks may not be detected since the system may not reach 345 kPa (3.452 bar, 3.52 kg/cm^2, 50 psi).
4. Conduct the leak test from the high side to the low side at points ⓐ through ⓝ . Refer to HA-3030.
   Perform a leak check for the following areas carefully. Clean the component to be checked and move the leak detector probe completely around the connection/component.

- **Compressor**
  Check the fitting of high and low pressure hoses, relief valve and shaft seal.
- **Liquid tank**
  Check the pressure switch, tube fitting, weld seams and the fusible plug mounts.
- **Service valves**
  Check all around the service valves. Ensure service valve caps are secured on the service valves (to prevent leaks).
  NOTE: After removing A/C manifold gauge set from service valves, wipe any residue from valves to prevent any false readings by leak detector.
- **Cooling unit (Evaporator)**
  Turn blower fan on “High” for at least 15 seconds to dissipate any refrigerant trace in the cooling unit. Insert the leak detector probe into the drain hose immediately after stopping the engine. (Keep the probe inserted for at least ten seconds.)

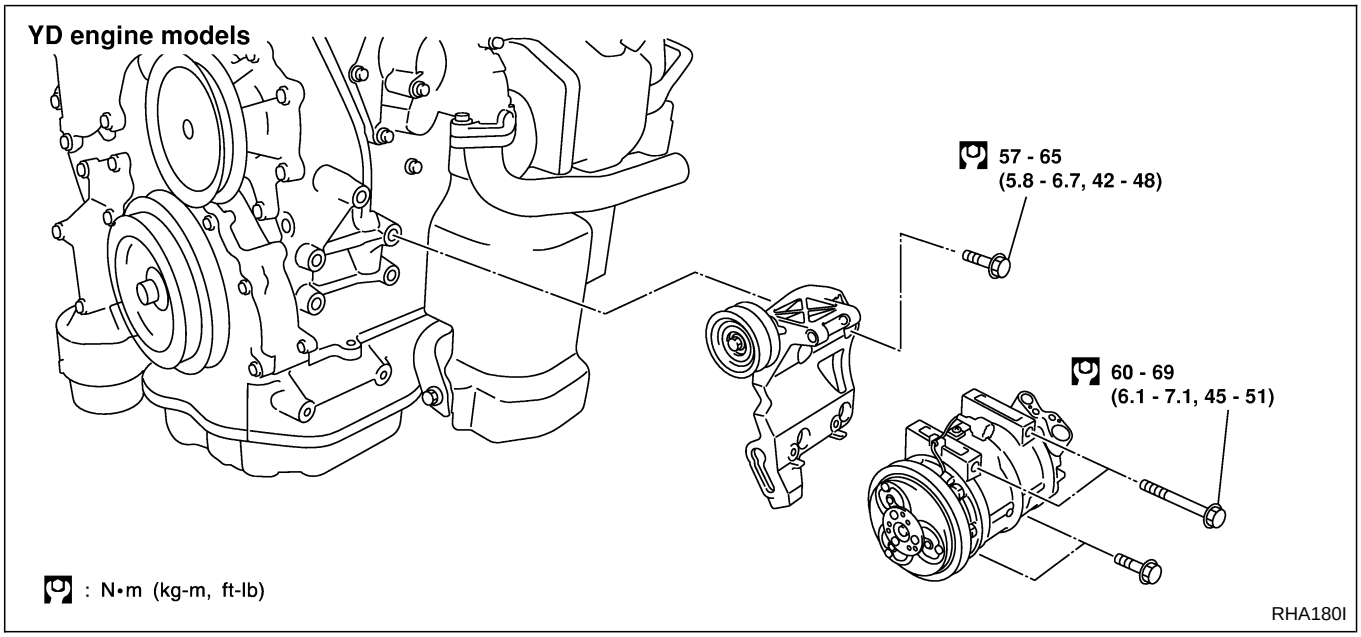
5. If a leak detector detects a leak, verify at least once by blowing compressed air into area of suspected leak, then repeat check.
6. Do not stop when one leak is found. Continue to check for additional leaks at all system components.
7. Start engine.
8. Set the heater A/C control as follows:
   a. A/C switch ON
   b. Face mode
   c. Recirculation switch ON
   d. Max cold temperature
   e. Fan speed high
9. Run engine at 1,500 rpm for at least 2 minutes.
10. Turn engine off and perform leak check again following steps 4 through 6 above.



Refrigerant leaks should be checked immediately after stopping the engine. Begin with the leak detector on the high pressure line. The pressure in the high pressure line will gradually drop after refrigerant circulation stops and pressure in the low pressure line will gradually rise, as shown in the graph. Leaks are more easily detected when pressure is high.

11. Discharge A/C system using approved refrigerant recovery equipment. Repair the leaking fitting or component as necessary.
12. Evacuate and recharge A/C system and perform the leak test to confirm no refrigerant leaks.
13. Conduct A/C performance test to ensure system works properly.

Compressor Mounting



General Specifications

COMPRESSOR

		YD engine model	Except for YD engine model
Model		ZEXEL VALEO CLIMATE CONTROL make DKS-17CH	ZEXEL VALEO CLIMATE CONTROL make DKV-14C
Type		Swash plate	Vane rotary
Displacement	cm^3 (cu in)	168 (10.25)	140 (8.54)
Cylinder bore x stroke	mm (in)	37.0 x 25.8 (1.457 x 1.016)	—
Direction of rotation		Clockwise (Viewed from drive belt)	
Drive belt		Type A	

LUBRICANT

		YD25 engine model	Except for YD25 engine model
Model		ZEXEL VALEO CLIMATE CONTROL make DKS-17CH	ZEXEL VALEO CLIMATE CONTROL make DKV-14C
Type		KLH00-PAGS0	KLH00-PAGR0
Capacity mℓ (lmp fl oz)	Total in system	Except ZD engine models: 200 (7.0) ZD engine models: 300 (10.6)	
	Compressor (Service parts) charging amount	Except ZD engine models: 200 (7.0) ZD engine models: 300 (10.6)	

Inspection and Adjustment

REFRIGERANT

		YD engine model	Except for YD25 engine model
Type		HFC-134a (R-134a)	
Capacity	kg (lb)	0.55 - 0.65 (1.21 - 1.43)	0.60 - 0.70 (1.32 - 1.54)

ENGINE IDLING SPEED (When A/C is ON)

- **Refer to EC section.**

BELT TENSION

- **Refer to MA section (“Checking Drive Belts”).**