

SECTION

HA

HEATER & AIR CONDITIONER

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HA

## SERVICE INFORMATION

### MODIFICATION NOTICE

#### Major Modification Item

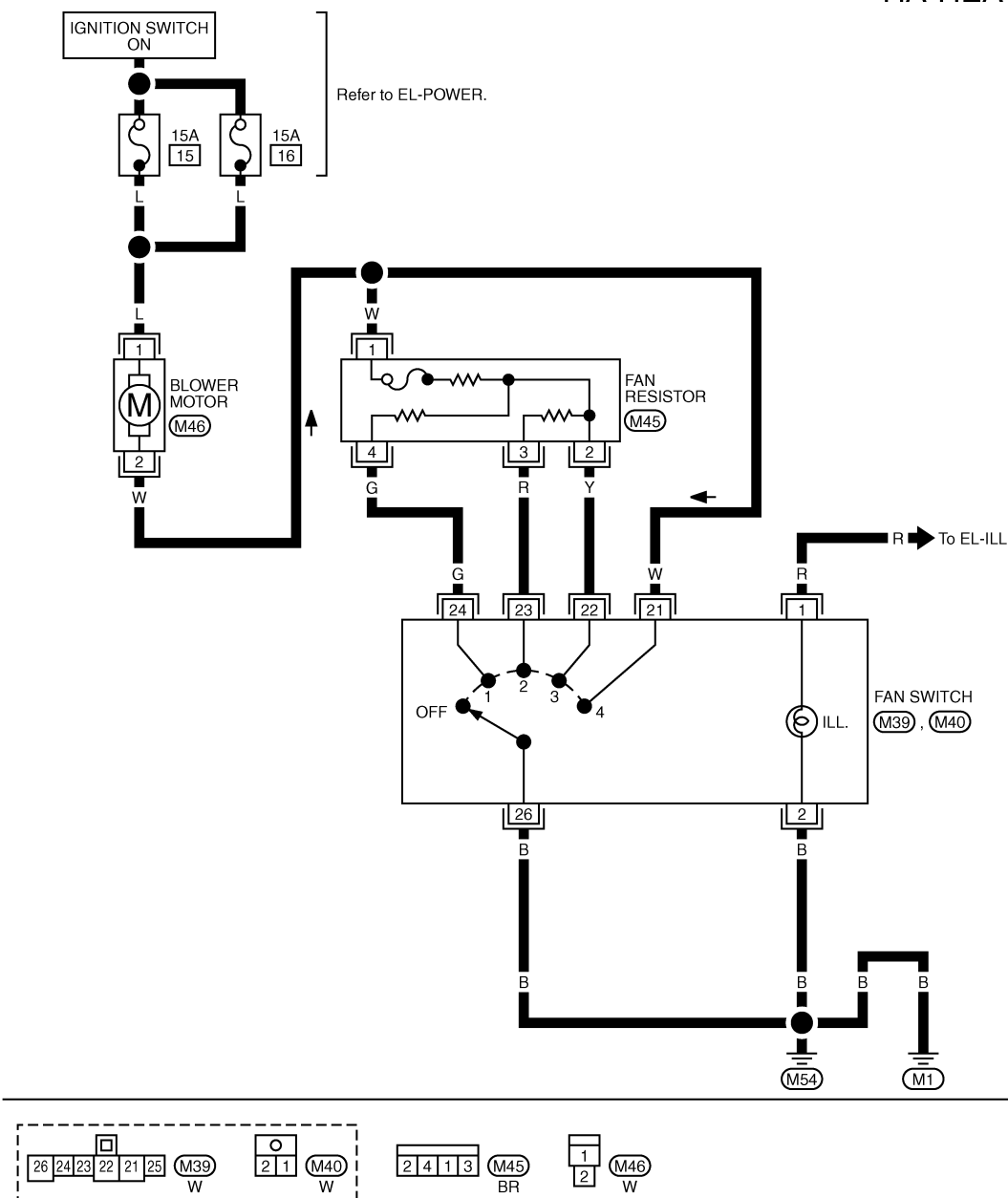
INFOID:000000003801837

- Wiring diagram has been changed.
- CAN communication system has been adopted. (YD25DDTi models)
- Combination meter has been changed.

## Wiring Diagram - HEATER -

INFOID:0000000003802902

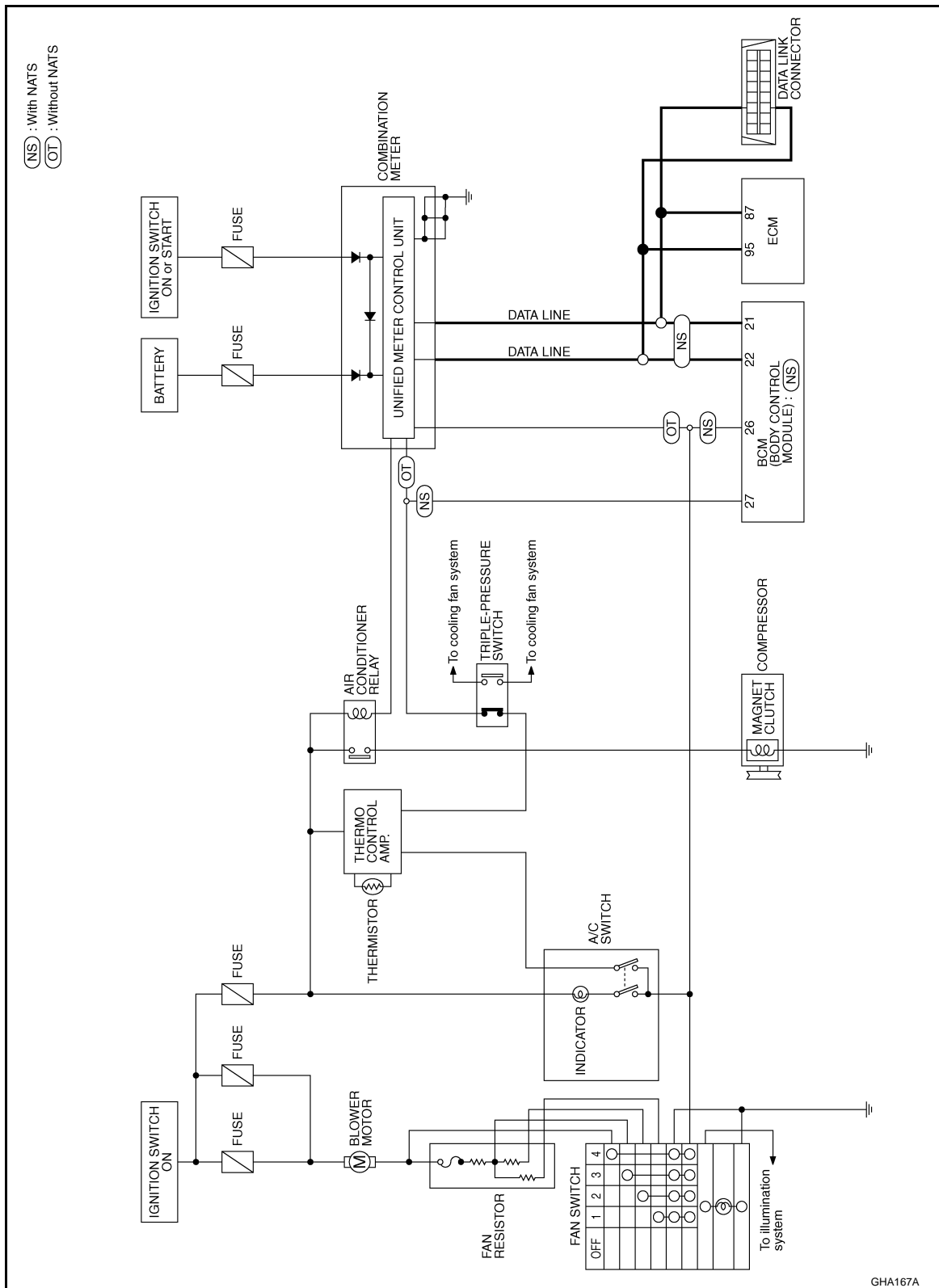
HA-HEATER-01



**[MANUAL AIR CONDITIONER]**

## Schematic - MANUAL A/C -

NS : With NATS  
OT : Without NATS



GHA167A

# TROUBLE DIAGNOSIS

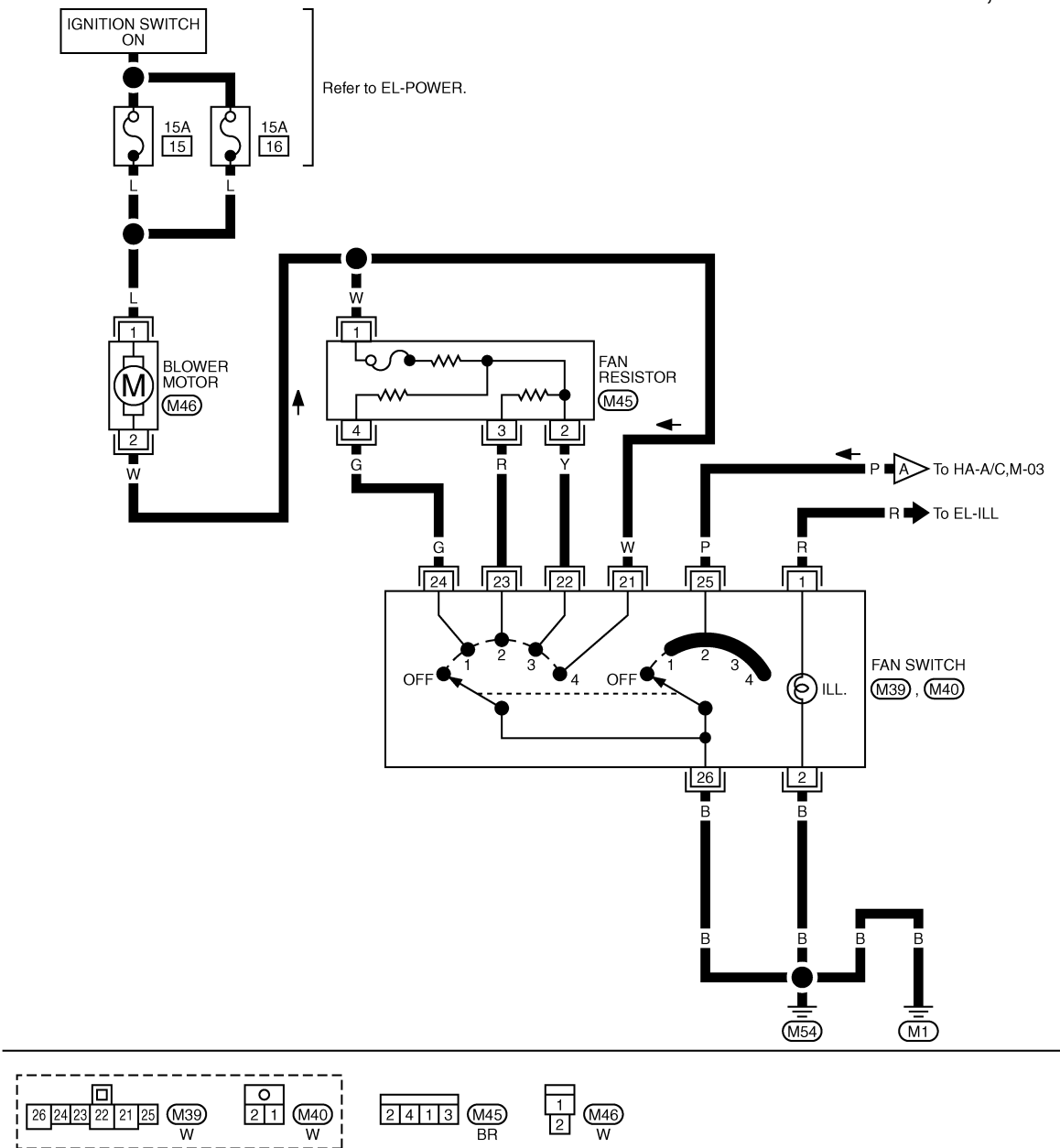
< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

## Wiring Diagram - MANUAL A/C -

INFOID:000000003802901

HA-A/C,M-01



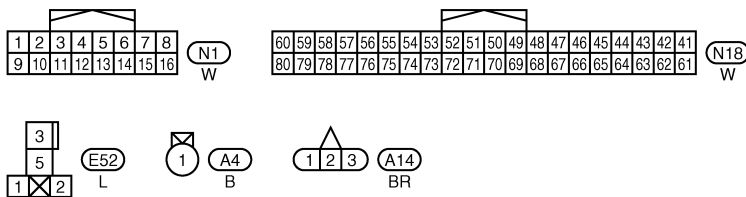
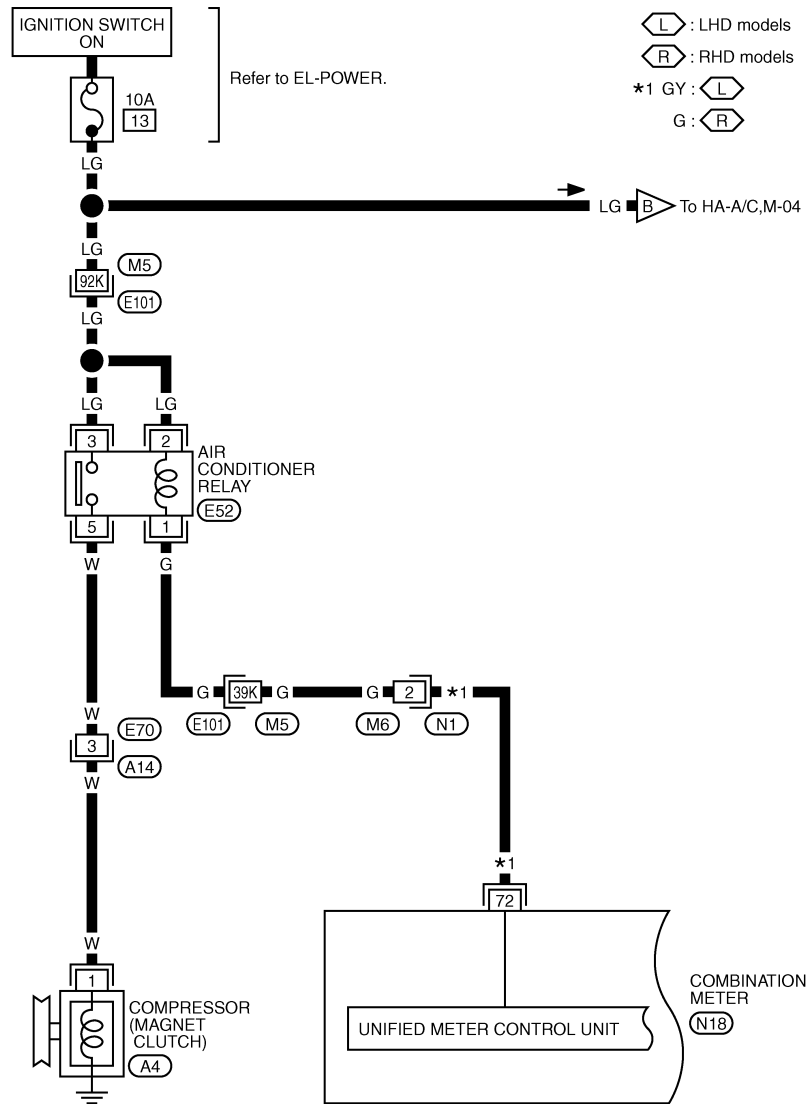
GHA168A

# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

HA-A/C,M-02



Refer to last page (Foldout page).

M5, E101

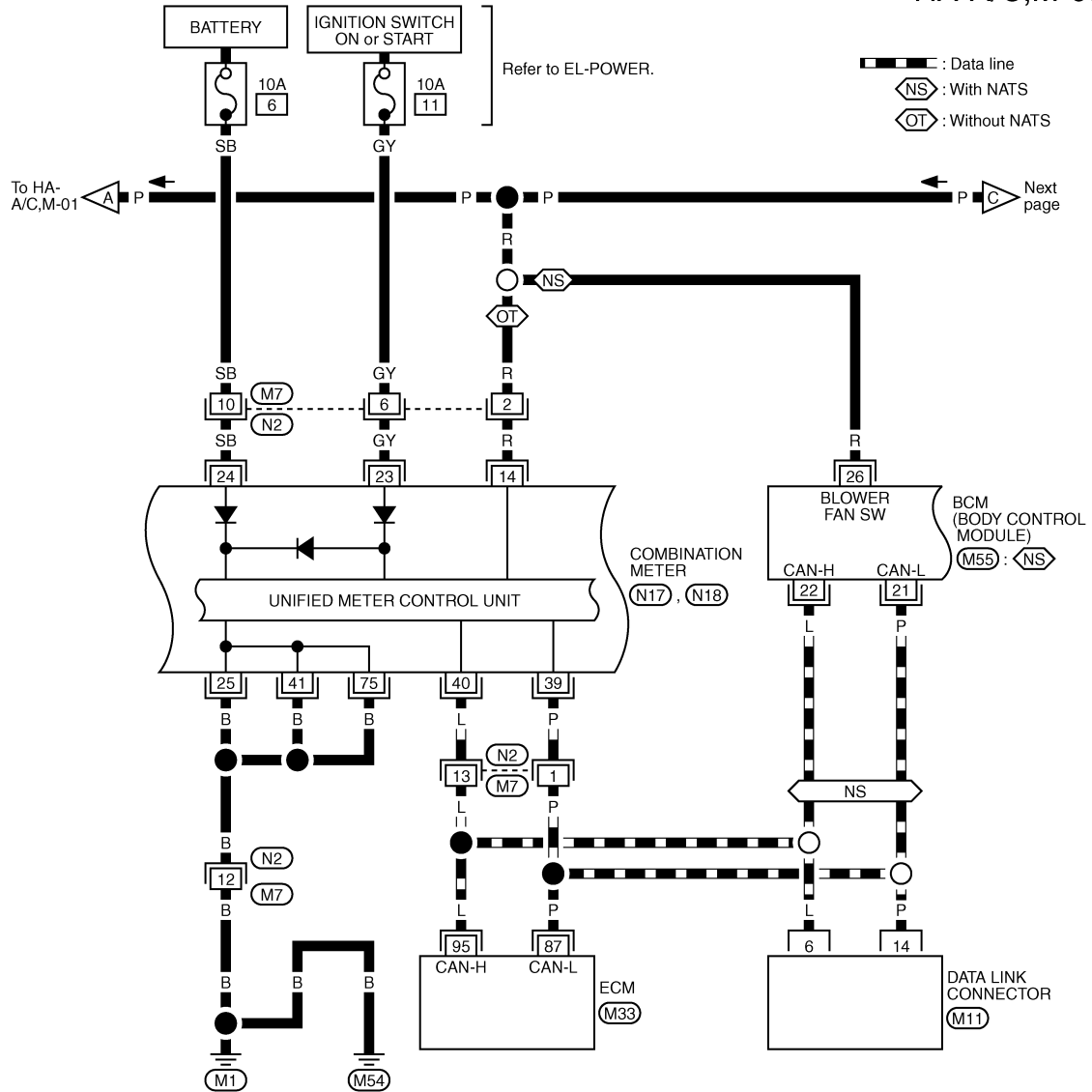
GHA169A

# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

HA-A/C,M-03



16	15	14	13	12	11	10	9
8	7	6	5	4	3	2	1

M11  
W

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

N2  
W

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

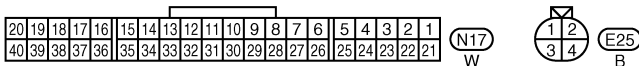
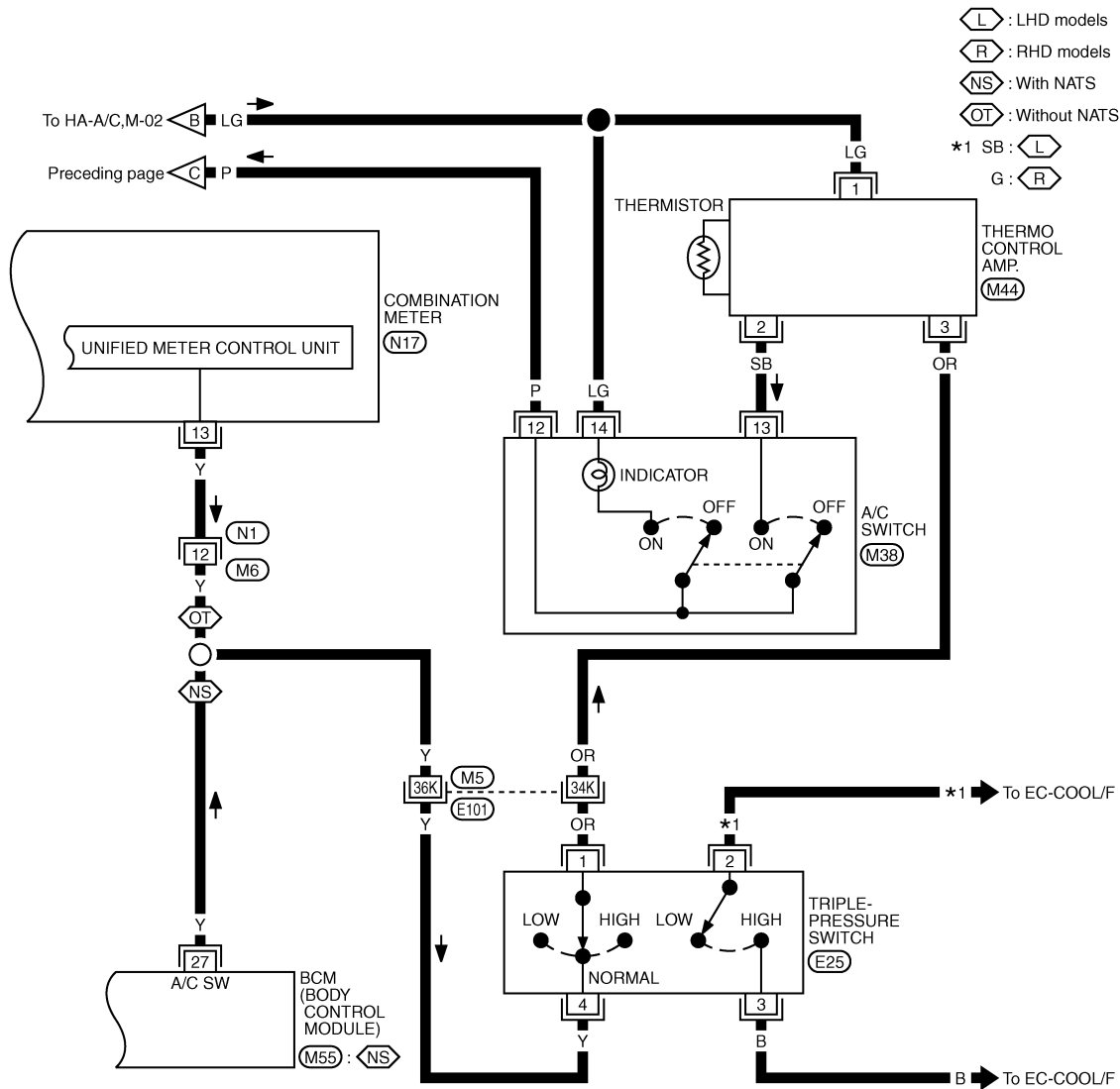
N17  
W

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

N18  
W

GHA170A

## HA-A/C,M-04



Refer to last page (Foldout page).

 (M5) (E101)  
 (M55)

GHA171A

INFOID:000000003812419

## Magnet Clutch Circuit (WITHOUT NATS)

SYMPTOM: Magnet clutch does not engage.

## DIAGNOSIS PROCEDURE FOR MAGNET CLUTCH

## 1. CHECK POWER SUPPLY FOR COMPRESSOR

1. Turn ignition switch OFF.



# TROUBLE DIAGNOSIS

[MANUAL AIR CONDITIONER]

## < SERVICE INFORMATION >

- Disconnect compressor connector.
- Start the engine.
- Set fan control knob to 1st speed.
- Press A/C switch.
- Check voltage between compressor harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
Compressor		—		
Connector	Terminal			
A4	1	Ground	A/C switch: ON (Blower motor operates.)	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK MAGNET CLUTCH

- Turn ignition switch OFF.
- Check for operation sound when applying battery voltage direct current to terminal.

Does the magnet clutch operate?

YES >> Repair harness or connector.

NO >> Replace magnet clutch. Refer to HA-63 in D22 Service Manual, Publication No. SM8E-0D22E0E.

## 3.CHECK CIRCUIT CONTINUITY BETWEEN COMPRESSOR AND A/C RELAY

- Turn ignition switch OFF.
- Disconnect A/C relay connector.
- Check continuity between compressor harness connector and A/C relay harness connector.

Compressor		A/C relay		Continuity
Connector	Terminal	Connector	Terminal	
A4	1	E52	5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK POWER SUPPLY FOR A/C RELAY

- Turn ignition switch ON.
- Check voltage between A/C relay connector and ground.

(+)		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 5.CHECK POWER SUPPLY FOR A/C RELAY

Check voltage between A/C relay connector and ground.

## TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

(+) (−)		Voltage (Approx.)
A/C relay		
Connector	Terminal	—
E52	2	Ground
		Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

### 6.CHECK A/C RELAY

Check A/C relay. Refer to HA-3019 in D22 Service Manual, Publication No. SM1E-D22CE0E.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace A/C relay.

### 7.CHECK VOLTAGE FOR COMBINATION METER

1. Turn ignition switch OFF.
2. Reconnect A/C relay and compressor connector.
3. Disconnect combination meter harness connector.
4. Turn ignition switch ON.
5. Check voltage between combination meter harness connector and ground.

(+) (−)		Voltage (Approx.)
Combination meter		
Connector	Terminal	—
N18	72	Ground
		Battery voltage

Is the inspection result normal?

YES >> GO TO 8.

NO >> Check harness or connector between A/C relay and combination meter. Repair or replace if necessary.

### 8.CHECK POWER SUPPLY FOR THERMO CONTROL AMP.

1. Turn ignition switch OFF.
2. Disconnect thermo control amp. harness connector.
3. Reconnect combination meter harness connector.
4. Turn ignition switch ON.
5. Check voltage thermo control amp. harness connector and ground.

(+) (−)		Voltage (Approx.)
Thermo control amp.		
Connector	Terminal	—
M44	1	Ground
		Battery voltage

Is the inspection result normal?

YES >> GO TO 9.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

### 9.CHECK VOLTAGE FOR THERMO CONTROL AMP.

Check voltage thermo control amp. harness connector and ground.

# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

(+)		(-)	Voltage (Approx.)
Thermo control amp.		—	
Connector	Terminal		
M44	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 12.

NO >> GO TO 10.

## 10.CHECK VOLTAGE FOR TRIPLE PRESSURE SWITCH

1. Turn ignition switch OFF.
2. Disconnect triple pressure switch harness connector.
3. Turn ignition switch ON.
4. Check voltage triple pressure switch harness connector and ground.

(+)		(-)	Voltage (Approx.)
Triple pressure switch		—	
Connector	Terminal		
E25	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 11.

NO >> GO TO 16.

## 11.CHECK TRIPLE PRESSURE SWITCH

Check triple pressure switch. Refer to HA-2022 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

YES >> Check harness or connector between triple pressure switch and thermo control amp. Repair or replace if necessary.

NO >> Replace triple pressure switch.

## 12.CHECK VOLTAGE FOR FAN SWITCH

1. Turn ignition switch OFF.
2. Reconnect thermo control amp. harness connector.
3. Disconnect fan switch harness connector.
4. Turn ignition switch ON.
5. Check voltage fan switch harness connector and ground.

(+)		(-)	Voltage (Approx.)
Fan switch		—	
Connector	Terminal		
M39	25	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 15.

NO >> GO TO 13.

## 13.CHECK VOLTAGE FOR A/C SWITCH

1. Turn ignition switch OFF.
2. Disconnect A/C switch harness connector.
3. Turn ignition switch ON.
4. Check voltage A/C harness connector and ground.

## TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[MANUAL AIR CONDITIONER]

(+) A/C switch		(-)	Voltage (Approx.)
Connector	Terminal	—	
M39	25	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 14.

NO >> Check harness or connector between A/C switch and thermo control amp. Repair or replace if necessary.

### 14.CHECK A/C SWITCH

1. Disconnect A/C switch harness connector.
2. Check A/C switch. Refer to HA-2021 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

YES >> Check harness or connector between A/C switch and fan switch. Repair or replace if necessary.

NO >> Replace A/C switch.

### 15.CHECK FAN SWITCH CIRCUIT

1. Turn fan control dial to OFF position.
2. Check fan switch. Refer to HA-2021 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

YES >> Check harness or connector between fan switch and ground. Repair or replace if necessary.

NO >> Replace fan switch.

### 16.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND COMBINATION METER

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Check continuity between triple pressure switch harness connector and combination meter harness connector.

Triple pressure switch		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
E25	4	N17	13	Existed

Is the inspection result normal?

YES >> GO TO 17.

NO >> Repair harness or connector.

### 17.CHECK CAN COMMUNICATION

Check CAN communication. Refer to [EL-111. "CAN Communication Signal Chart"](#).

- ECM – combination meter

Is the inspection result normal?

YES >> Replace ECM.

NO >> Repair or replace malfunctioning part(s).

## Magnet Clutch Circuit (WITH NATS)

INFOID:0000000003812420

SYMPTOM: Magnet clutch does not engage.

### DIAGNOSIS PROCEDURE FOR MAGNET CLUTCH

#### 1.CHECK POWER SUPPLY FOR COMPRESSOR

1. Turn ignition switch OFF.
2. Disconnect compressor connector.
3. Start the engine.
4. Set fan control knob to 1st speed.
5. Press A/C switch.

# TROUBLE DIAGNOSIS

## < SERVICE INFORMATION >

## [MANUAL AIR CONDITIONER]

6. Check voltage between compressor harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
Compressor		—		
Connector	Terminal			
A4	1	Ground	A/C switch: ON (Blower motor operates.)	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK MAGNET CLUTCH

1. Turn ignition switch OFF.

2. Check for operation sound when applying battery voltage direct current to terminal.

Does the magnet clutch operate?

YES >> Repair harness or connector.

NO >> Replace magnet clutch. Refer to HA-63 in D22 Service Manual, Publication No. SM8E-0D22E0E.

## 3.CHECK CIRCUIT CONTINUITY BETWEEN COMPRESSOR AND A/C RELAY

1. Turn ignition switch OFF.

2. Disconnect A/C relay connector.

3. Check continuity between compressor harness connector and A/C relay harness connector.

Compressor		A/C relay		Continuity
Connector	Terminal	Connector	Terminal	
A4	1	E52	5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK POWER SUPPLY FOR A/C RELAY

1. Turn ignition switch ON.

2. Check voltage between A/C relay connector and ground.

(+)		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.

- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 5.CHECK POWER SUPPLY FOR A/C RELAY

Check voltage between A/C relay connector and ground.

(+)		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	2	Ground	Battery voltage

Is the inspection result normal?

# TROUBLE DIAGNOSIS

[MANUAL AIR CONDITIONER]

## < SERVICE INFORMATION >

- YES >> GO TO 6.  
NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).
  - If fuse is OK, check harness for open circuit. Repair or replace if necessary.
  - If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 6.CHECK A/C RELAY

Check A/C relay. Refer to HA-3019 in D22 Service Manual, Publication No. SM1E-D22CE0E.

Is the inspection result normal?

- YES >> GO TO 7.  
NO >> Replace A/C relay.

## 7.CHECK VOLTAGE FOR COMBINATION METER

1. Turn ignition switch OFF.
2. Reconnect A/C relay and compressor connector.
3. Disconnect combination meter harness connector.
4. Turn ignition switch ON.
5. Check voltage between combination meter harness connector and ground.

(+) (Combination meter)		(-) (Ground)	Voltage (Approx.)
Connector	Terminal		
N18	72	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 8.  
NO >> Check harness or connector between A/C relay and combination meter. Repair or replace if necessary.

## 8.CHECK POWER SUPPLY FOR THERMO CONTROL AMP.

1. Turn ignition switch OFF.
2. Disconnect thermo control amp. harness connector.
3. Reconnect combination meter harness connector.
4. Turn ignition switch ON.
5. Check voltage thermo control amp. harness connector and ground.

(+) (Thermo control amp.)		(-) (Ground)	Voltage (Approx.)
Connector	Terminal		
M44	1	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 9.  
NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).
  - If fuse is OK, check harness for open circuit. Repair or replace if necessary.
  - If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 9.CHECK VOLTAGE FOR THERMO CONTROL AMP.

Check voltage thermo control amp. harness connector and ground.

(+) (Thermo control amp.)		(-) (Ground)	Voltage (Approx.)
Connector	Terminal		
M44	3	Ground	Battery voltage

Is the inspection result normal?

# TROUBLE DIAGNOSIS

## < SERVICE INFORMATION >

## [MANUAL AIR CONDITIONER]

- YES >> GO TO 12.  
NO >> GO TO 10.

### 10.CHECK VOLTAGE FOR TRIPLE PRESSURE SWITCH

1. Turn ignition switch OFF.
2. Disconnect triple pressure switch harness connector.
3. Turn ignition switch ON.
4. Check voltage triple pressure switch harness connector and ground.

(+)		(-)	Voltage (Approx.)
Triple pressure switch		—	
Connector	Terminal		
E25	4	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 11.  
NO >> GO TO 16.

### 11.CHECK TRIPLE PRESSURE SWITCH

Check triple pressure switch. Refer to HA-2022 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

- YES >> Check harness or connector between triple pressure switch and thermo control amp. Repair or replace if necessary.  
NO >> Replace triple pressure switch.

### 12.CHECK VOLTAGE FOR FAN SWITCH

1. Turn ignition switch OFF.
2. Reconnect thermo control amp. harness connector.
3. Disconnect fan switch harness connector.
4. Turn ignition switch ON.
5. Check voltage fan switch harness connector and ground.

(+) (−)		Voltage (Approx.)
Fan switch		
Connector	Terminal	
M39	25	Ground Battery voltage

Is the inspection result normal?

- YES >> GO TO 15.  
NO >> GO TO 13.

### 13.CHECK VOLTAGE FOR A/C SWITCH

1. Turn ignition switch OFF.
2. Disconnect A/C switch harness connector.
3. Turn ignition switch ON.
4. Check voltage A/C harness connector and ground.

(+) (−)		Voltage (Approx.)
A/C switch		
Connector	Terminal	
M39	25	Ground Battery voltage

Is the inspection result normal?

- YES >> GO TO 14.  
NO >> Check harness or connector between A/C switch and thermo control amp. Repair or replace if necessary.

**14.CHECK A/C SWITCH**

1. Disconnect A/C switch harness connector.
2. Check A/C switch. Refer to HA-2021 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

- YES >> Check harness or connector between A/C switch and fan switch. Repair or replace if necessary.  
 NO >> Replace A/C switch.

**15.CHECK FAN SWITCH CIRCUIT**

1. Turn fan control dial to OFF position.
2. Check fan switch. Refer to HA-2021 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

- YES >> Check harness or connector between fan switch and ground. Repair or replace if necessary.  
 NO >> Replace fan switch.

**16.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND BCM**

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between triple pressure switch harness connector and BCM harness connector.

Triple pressure switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E25	4	M55	27	Existed

Is the inspection result normal?

- YES >> GO TO 17.  
 NO >> Repair harness or connector.

**17.CHECK CAN COMMUNICATION**

Check CAN communication. Refer to [EL-111. "CAN Communication Signal Chart"](#).

- ECM – combination meter
- ECM – BCM

Is the inspection result normal?

- YES >> Replace ECM.  
 NO >> Repair or replace malfunctioning part(s).



SERVICE INFORMATION

MODIFICATION NOTICE

Major Modification Item

INFOID:0000000003803057

- Wiring diagram has been changed.
- CAN communication system has been adopted. (YD25DDTi models)
- Combination meter has been changed.

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# TROUBLE DIAGNOSIS

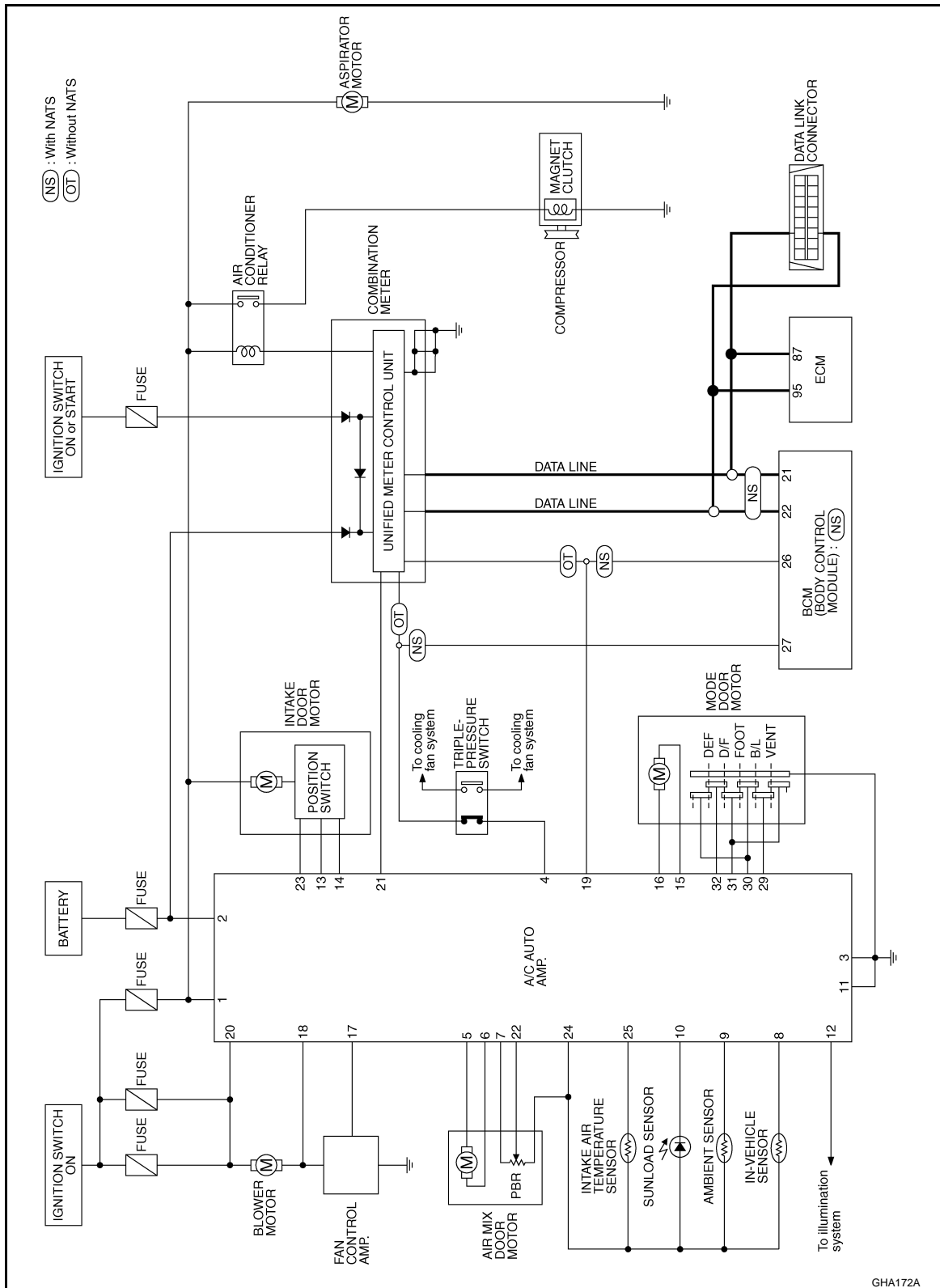
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[AUTOMATIC AIR CONDITIONER]

## TROUBLE DIAGNOSIS

### Schematic - AUTO A/C -

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# TROUBLE DIAGNOSIS

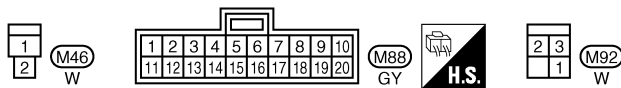
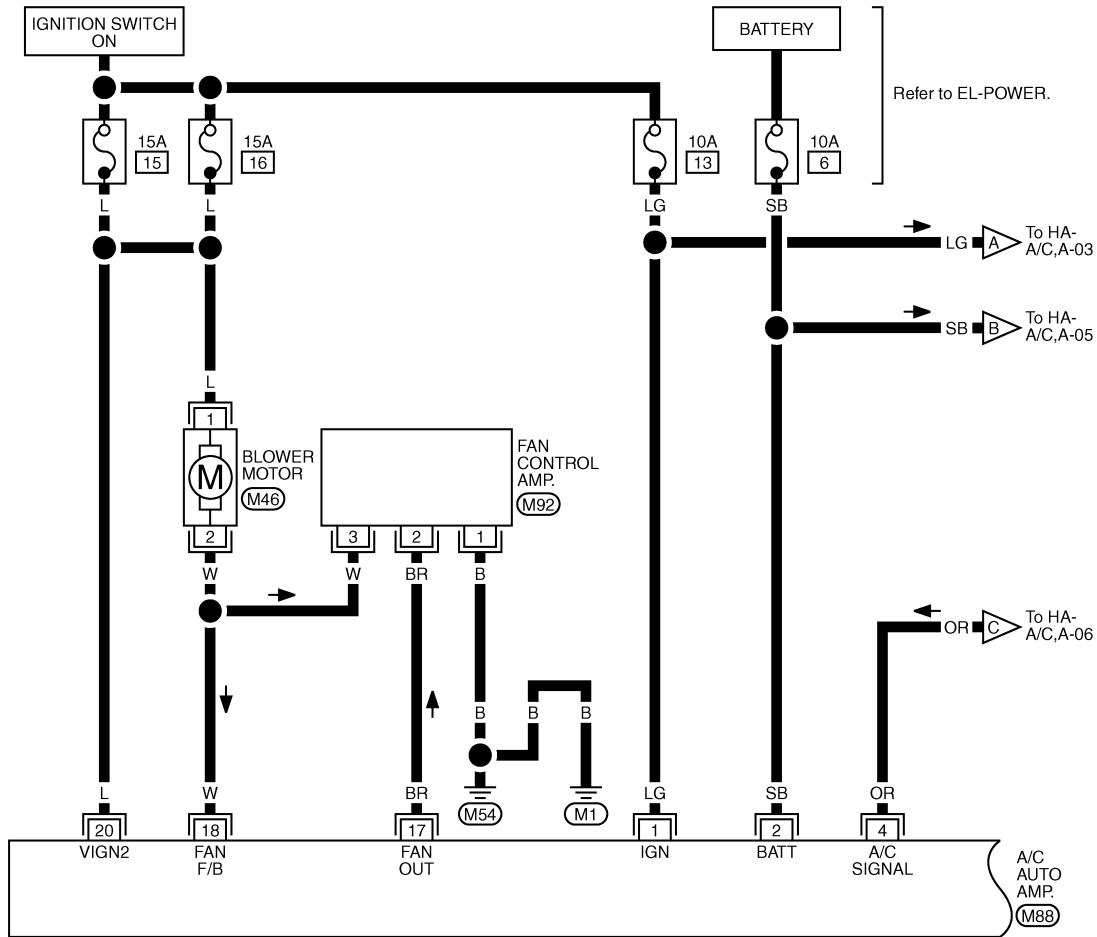
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[AUTOMATIC AIR CONDITIONER]

## Wiring Diagram - AUTO A/C -

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HA-A/C,A-01



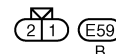
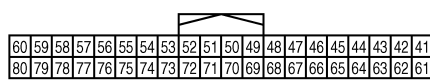
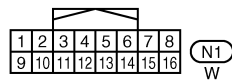
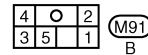
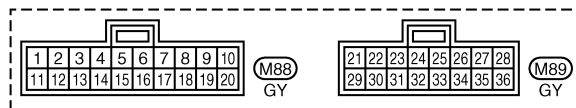
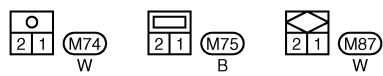
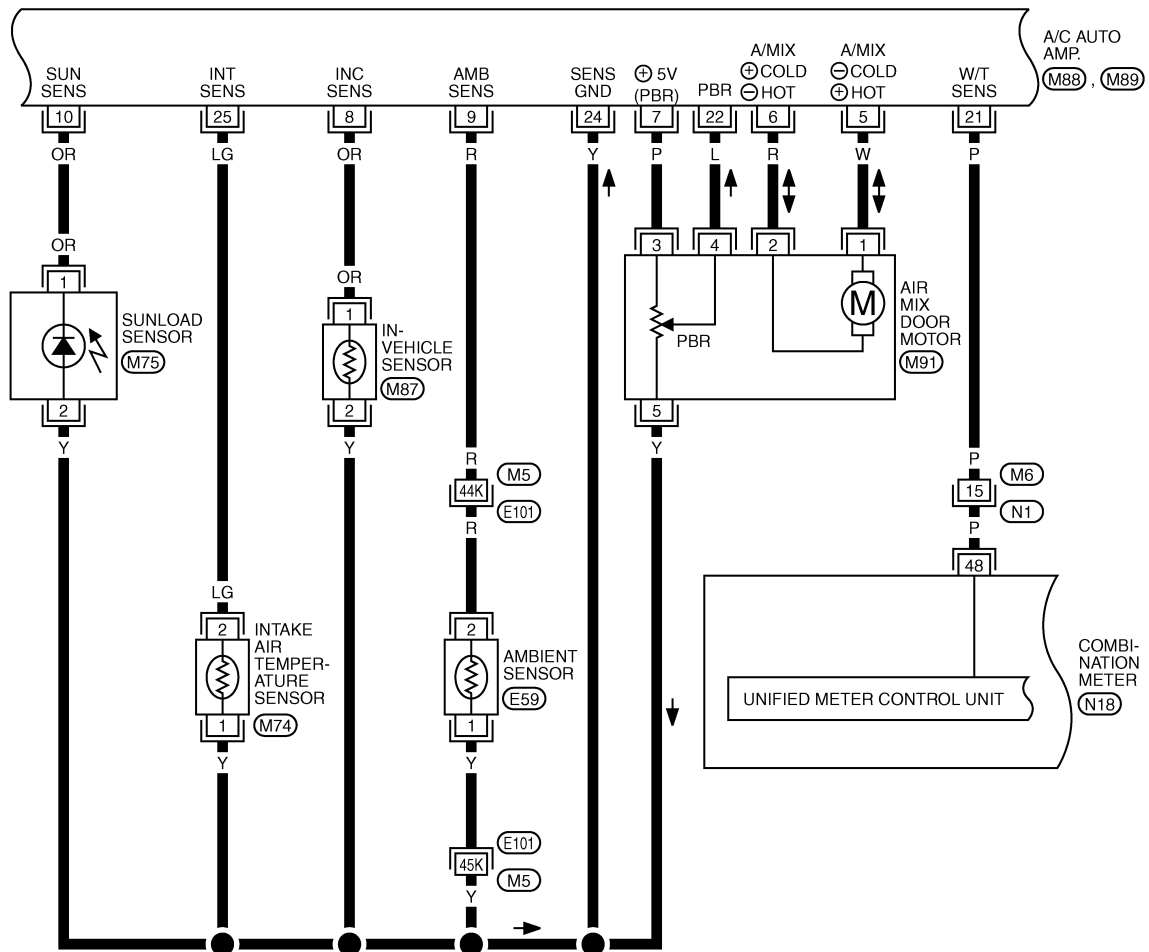
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# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[AUTOMATIC AIR CONDITIONER]

HA-A/C,A-02



Refer to last page (Foldout page).

(M5), (E101)

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**[AUTOMATIC AIR CONDITIONER]**

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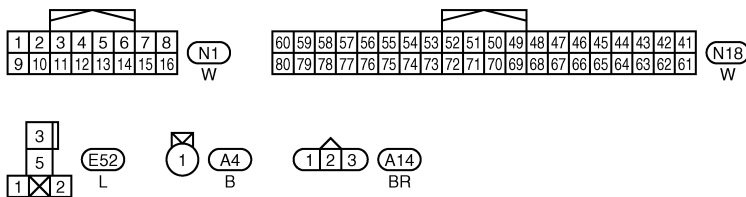
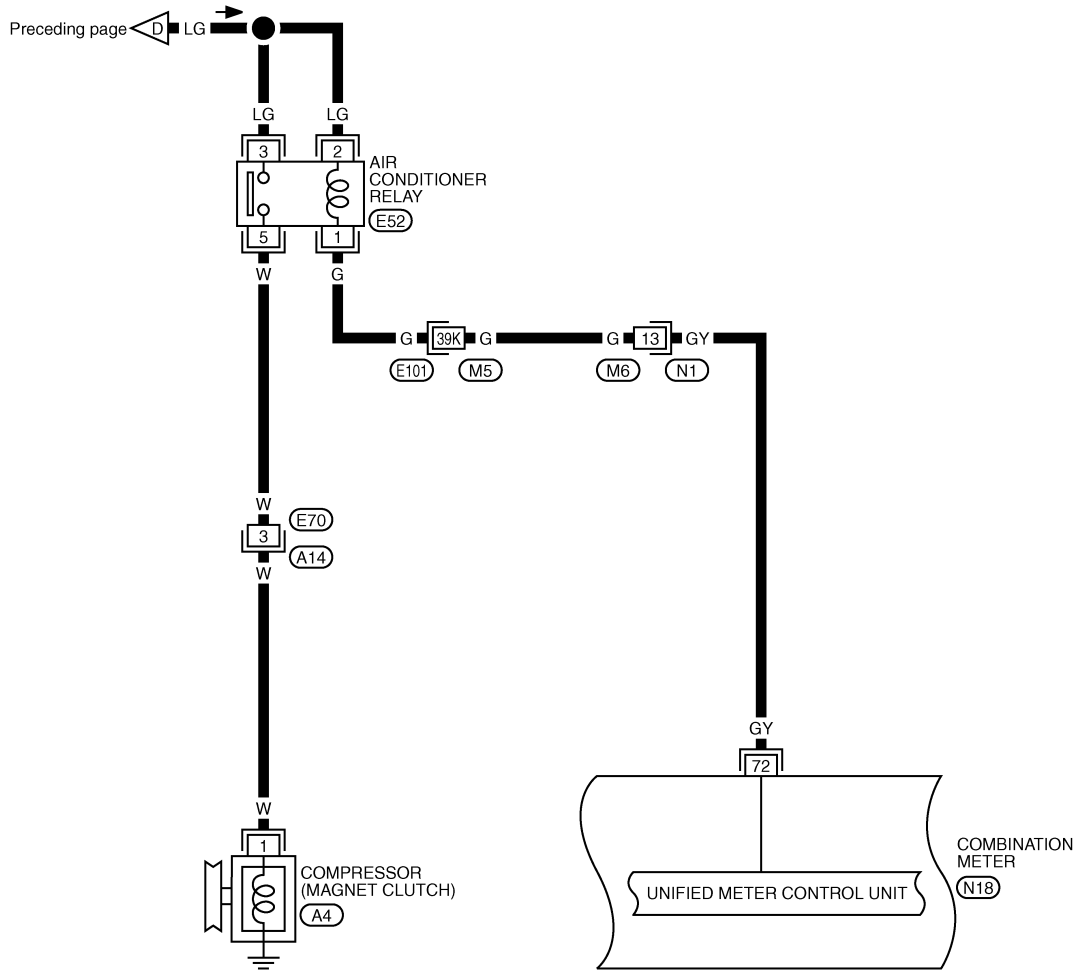


# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[AUTOMATIC AIR CONDITIONER]

HA-A/C,A-04



Refer to last page (Foldout page).

(M5) (E101)

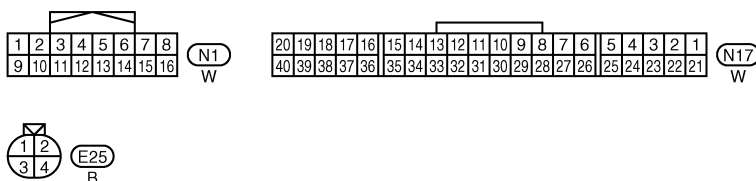
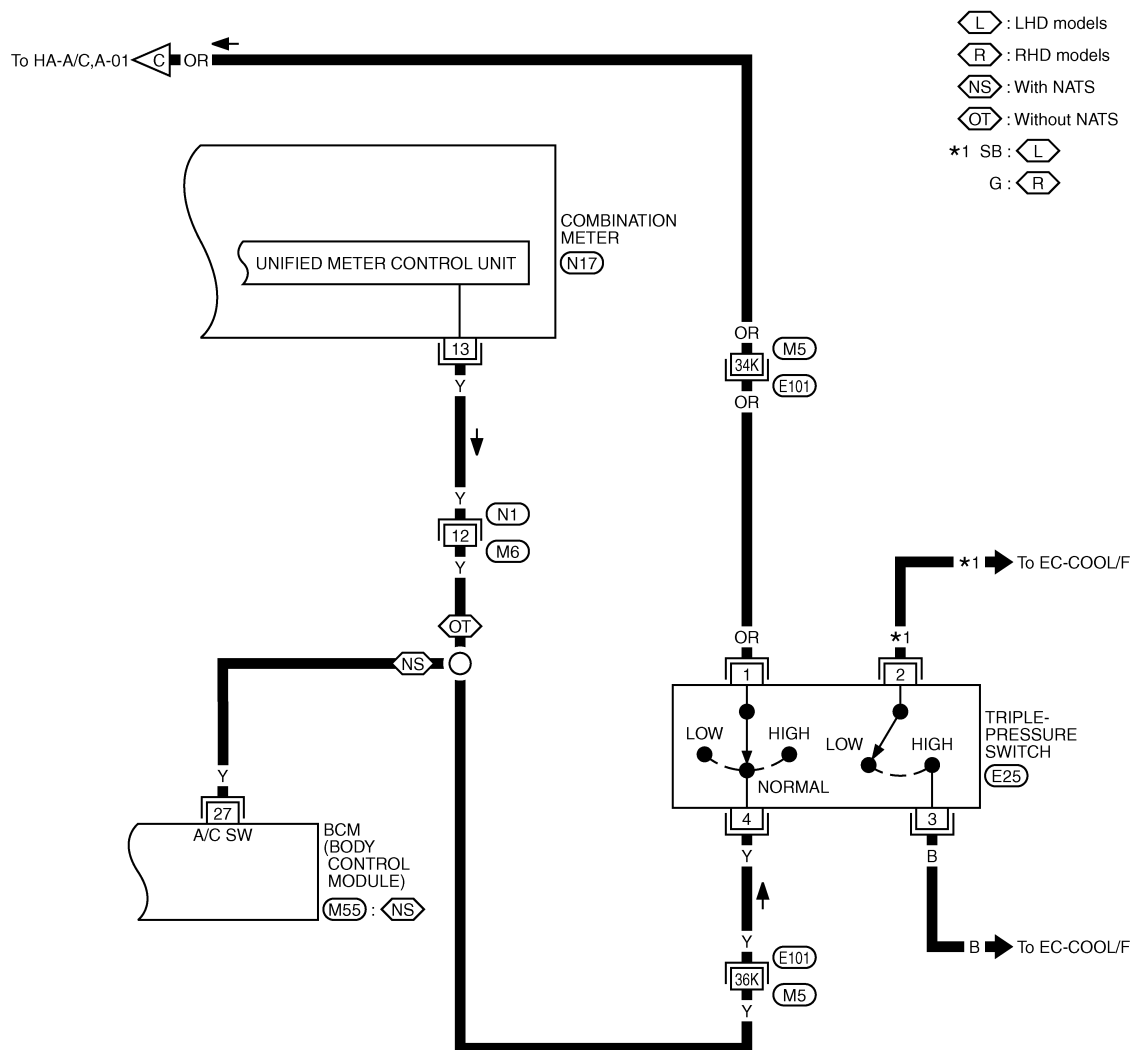
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**[AUTOMATIC AIR CONDITIONER]**

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**HA-23**

HA-A/C,A-06



Refer to last page (Foldout page).

 (M5), (E101)  
 (M55)

GHA178A

INFOID:000000003812424

## Magnet Clutch Circuit (WITHOUT NATS)

SYMPTOM: Magnet clutch does not engage.

## DIAGNOSIS PROCEDURE FOR MAGNET CLUTCH

## 1. CHECK POWER SUPPLY FOR COMPRESSOR

1. Turn ignition switch OFF.
2. Disconnect compressor connector.



# TROUBLE DIAGNOSIS

## < SERVICE INFORMATION >

## [AUTOMATIC AIR CONDITIONER]

3. Start the engine.
4. Set fan switch to 1st speed.
5. Press A/C switch.
6. Check voltage between compressor harness connector and ground.

(+)		(-)	Condition	Voltage (Approx.)
Compressor		—		
Connector	Terminal			
A4	1	Ground	A/C switch: ON (Blower motor operates.)	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK MAGNET CLUTCH

1. Turn ignition switch OFF.
2. Check for operation sound when applying battery voltage direct current to terminal.

Does the magnet clutch operate?

YES >> Repair harness or connector.

NO >> Replace magnet clutch. Refer to HA-63 in D22 Service Manual, Publication No. SM8E-0D22E0E.

## 3.CHECK CIRCUIT CONTINUITY BETWEEN COMPRESSOR AND A/C RELAY

1. Turn ignition switch OFF.
2. Disconnect A/C relay connector.
3. Check continuity between compressor harness connector and A/C relay harness connector.

Compressor		A/C relay		Continuity
Connector	Terminal	Connector	Terminal	
A4	1	E52	5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

## 4.CHECK POWER SUPPLY FOR A/C RELAY

1. Turn ignition switch ON.
2. Check voltage between A/C relay connector and ground.

(+)		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5, "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 5.CHECK POWER SUPPLY FOR A/C RELAY

Check voltage between A/C relay connector and ground.

# TROUBLE DIAGNOSIS

## < SERVICE INFORMATION >

## [AUTOMATIC AIR CONDITIONER]

(+)		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	2	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5. "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

## 6.CHECK A/C RELAY

Check A/C relay. Refer to HA-3019 in D22 Service Manual, Publication No. SM1E-D22CE0E.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace A/C relay.

## 7.CHECK VOLTAGE FOR COMBINATION METER

1. Turn ignition switch OFF.
2. Reconnect A/C relay and compressor connector.
3. Disconnect combination meter connector.
4. Turn ignition switch ON.
5. Check voltage between combination meter harness connector and ground.

(+)		(-)	Voltage (Approx.)
Combination meter		—	
Connector	Terminal		
N18	72	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 8.

NO >> Check harness or connector between A/C relay and combination meter. Repair or replace if necessary.

## 8.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND A/C AUTO AMP.

1. Turn ignition switch OFF.
2. Disconnect A/C auto amp. and triple pressure switch connector.
3. Check continuity between triple pressure switch harness connector and A/C auto amp. harness connector.

Triple pressure switch		A/C auto amp.		Continuity
Connector	Terminal	Connector	Terminal	
E25	1	M88	4	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair harness or connector.

## 9.CHECK TRIPLE PRESSURE SWITCH

Check triple pressure switch. Refer to HA-2073 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace triple pressure switch.

## 10.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND COMBINATION METER

# TROUBLE DIAGNOSIS

## < SERVICE INFORMATION >

## [AUTOMATIC AIR CONDITIONER]

1. Disconnect combination meter connector.
2. Check continuity between triple pressure switch harness connector and combination meter harness connector.

Triple pressure switch		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
E25	4	N17	13	Existed

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair harness or connector.

### 11.CHECK CAN COMMUNICATION

Check CAN communication. Refer to [EL-111, "CAN Communication Signal Chart"](#).

- ECM – combination meter

Is the inspection result normal?

YES >> Replace ECM.

NO >> Repair or replace malfunctioning part(s).

## Magnet Clutch Circuit (WITH NATS)

INFOID:000000003812476

SYMPTOM: Magnet clutch does not engage.

### DIAGNOSIS PROCEDURE FOR MAGNET CLUTCH

#### 1.CHECK POWER SUPPLY FOR COMPRESSOR

1. Turn ignition switch OFF.
2. Disconnect compressor connector.
3. Start the engine.
4. Set fan control knob to 1st speed.
5. Press A/C switch.
6. Check voltage between compressor harness connector and ground.

(+) —		(-)	Condition	Voltage (Approx.)
Compressor		—		
Connector	Terminal			
A4	1	Ground	A/C switch: ON (Blower motor operates.)	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

#### 2.CHECK MAGNET CLUTCH

1. Turn ignition switch OFF.
2. Check for operation sound when applying battery voltage direct current to terminal.

Does the magnet clutch operate?

YES >> Repair harness or connector.

NO >> Replace magnet clutch. Refer to HA-63 in D22 Service Manual, Publication No. SM8E-0D22E0E.

#### 3.CHECK CIRCUIT CONTINUITY BETWEEN COMPRESSOR AND A/C RELAY

1. Turn ignition switch OFF.
2. Disconnect A/C relay connector.
3. Check continuity between compressor harness connector and A/C relay harness connector.

## TROUBLE DIAGNOSIS

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[AUTOMATIC AIR CONDITIONER]

Compressor		A/C relay		Continuity
Connector	Terminal	Connector	Terminal	
A4	1	E52	5	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

### 4.CHECK POWER SUPPLY FOR A/C RELAY

1. Turn ignition switch ON.
2. Check voltage between A/C relay connector and ground.

(+) —		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5. "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

### 5.CHECK POWER SUPPLY FOR A/C RELAY

Check voltage between A/C relay connector and ground.

(+) —		(-)	Voltage (Approx.)
A/C relay		—	
Connector	Terminal		
E52	2	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6.

NO >> Check power supply circuit and 10A fuse (No. 13, located in the fuse block). Refer to [EL-5. "Wiring Diagram - POWER -"](#).

- If fuse is OK, check harness for open circuit. Repair or replace if necessary.
- If fuse is NG, replace fuse and check harness for short circuit. Repair or replace if necessary.

### 6.CHECK A/C RELAY

Check A/C relay. Refer to HA-3019 in D22 Service Manual, Publication No. SM1E-D22CE0E.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace A/C relay.

### 7.CHECK VOLTAGE FOR COMBINATION METER

1. Turn ignition switch OFF.
2. Reconnect A/C relay and compressor connector.
3. Disconnect combination meter connector.
4. Turn ignition switch ON.
5. Check voltage between combination meter harness connector and ground.

# TROUBLE DIAGNOSIS

< SERVICE INFORMATION >

[AUTOMATIC AIR CONDITIONER]

(+)		(-)	Voltage (Approx.)
Combination meter		—	
Connector	Terminal		
N18	72	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 8.

NO >> Check harness or connector between A/C relay and combination meter. Repair or replace if necessary.

## 8.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND A/C AUTO AMP.

1. Turn ignition switch OFF.
2. Disconnect A/C auto amp. and triple pressure switch connector.
3. Check continuity between triple pressure switch harness connector and A/C auto amp. harness connector.

Triple pressure switch		A/C auto amp.		Continuity
Connector	Terminal	Connector	Terminal	
E25	1	M88	4	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair harness or connector.

## 9.CHECK TRIPLE PRESSURE SWITCH

Check triple pressure switch. Refer to HA-2073 in D22 Service Manual, Publication No. SM9E-D22BE0E.

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace triple pressure switch.

## 10.CHECK CIRCUIT CONTINUITY BETWEEN TRIPLE PRESSURE SWITCH AND BCM

1. Disconnect BCM connector.
2. Check continuity between triple pressure switch harness connector and BCM harness connector.

Triple pressure switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E25	4	M55	27	Existed

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair harness or connector.

## 11.CHECK CAN COMMUNICATION

Check CAN communication. Refer to [EL-111, "CAN Communication Signal Chart"](#).

- ECM – combination meter
- ECM – BCM

Is the inspection result normal?

YES >> Replace ECM.

NO >> Repair or replace malfunctioning part(s).