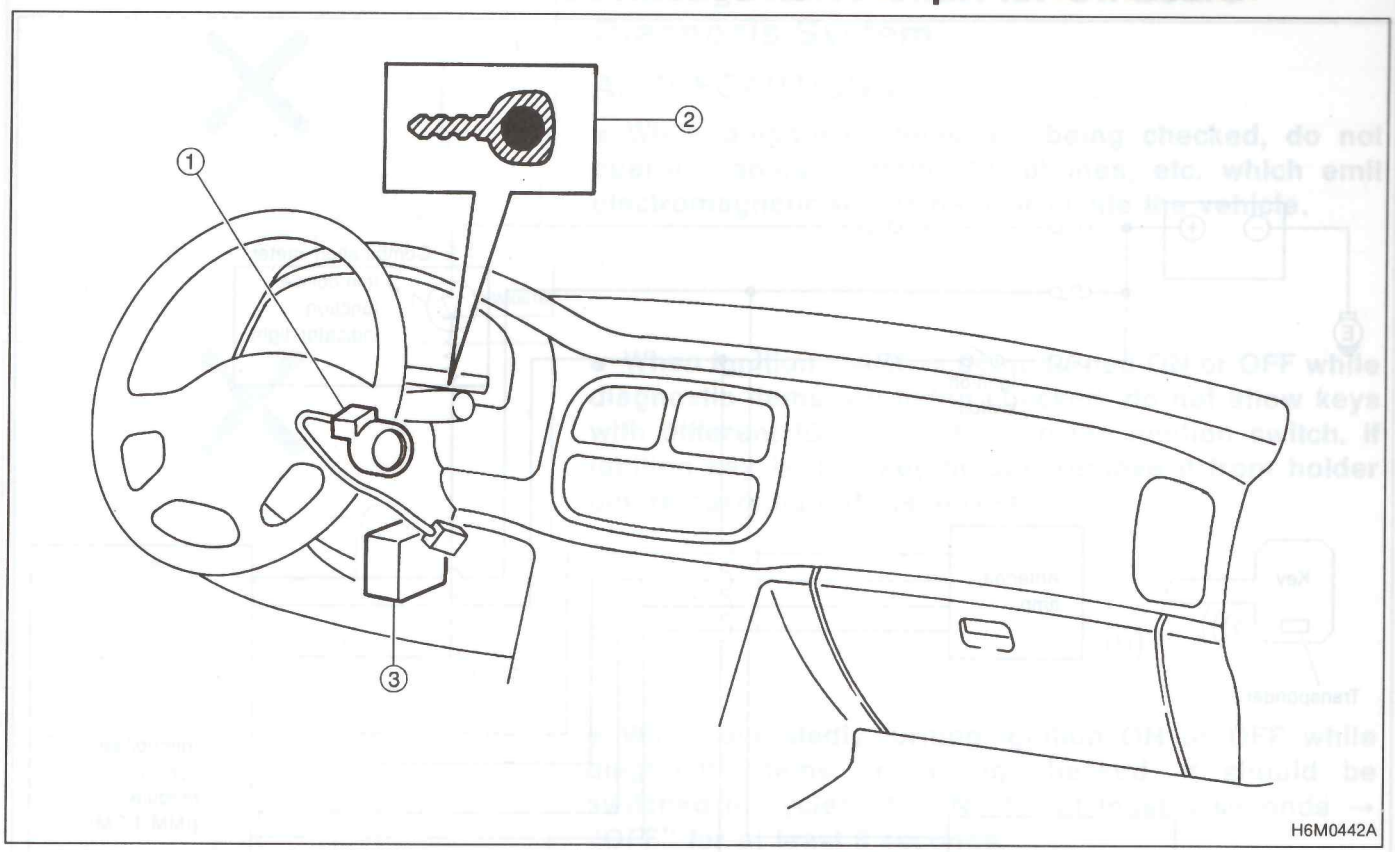
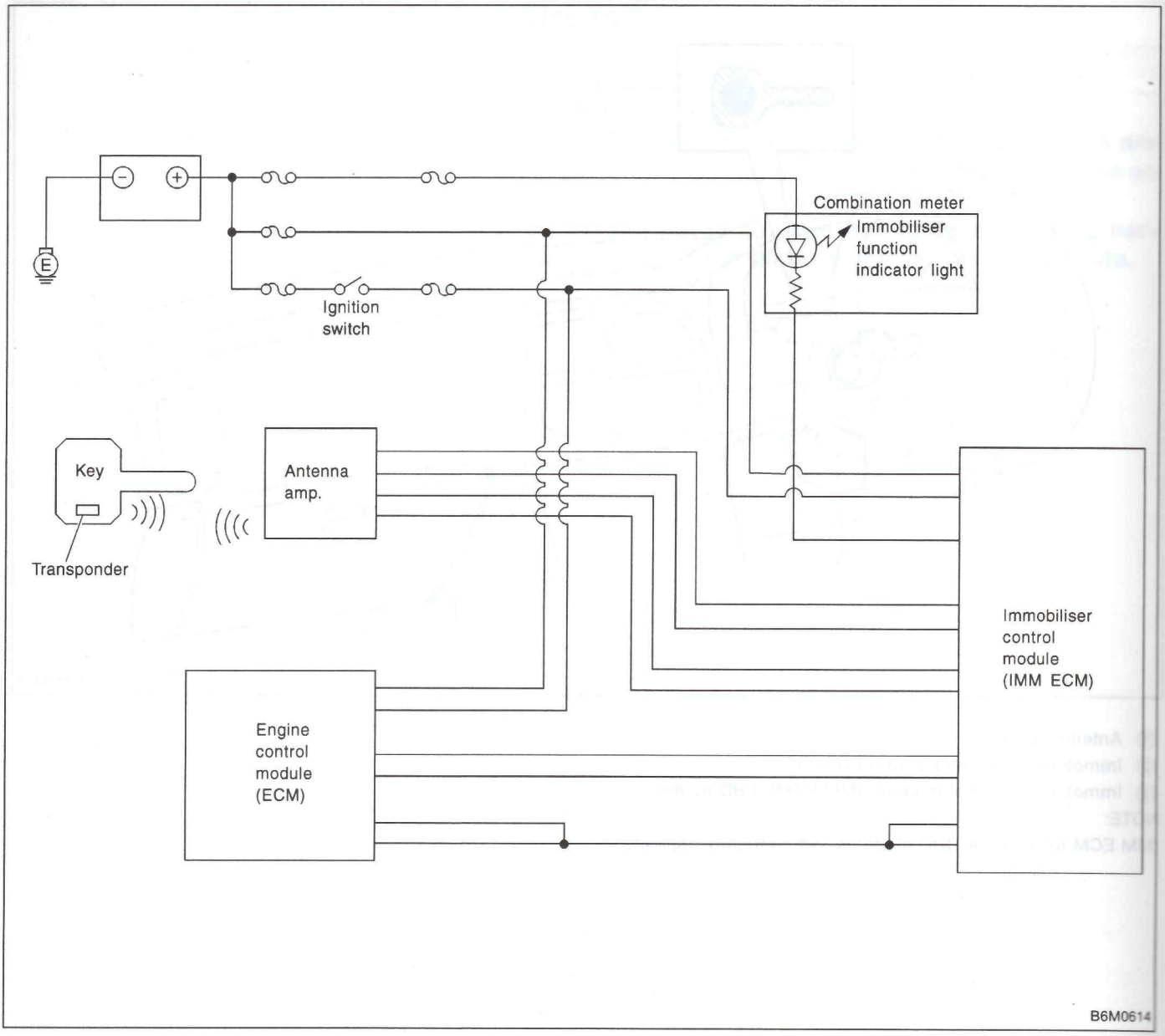
2. Electrical Components Location

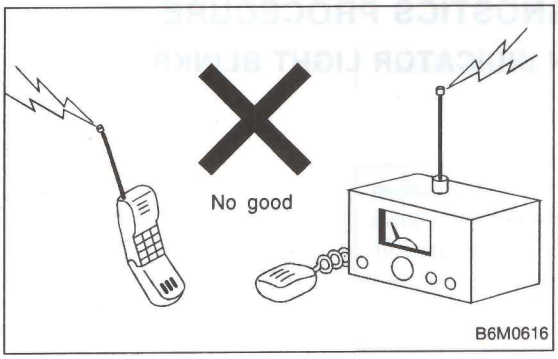


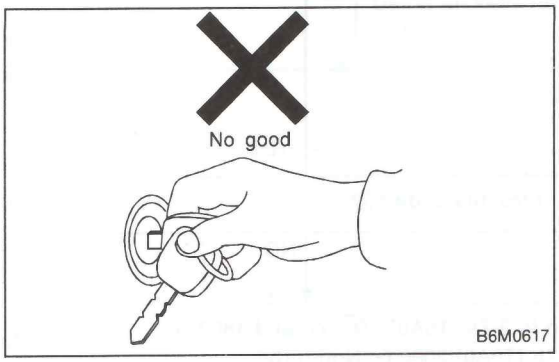
① Antenna amp.
② Immobiliser indicator light (LED bulb)
③ Immobiliser control module (IMM ECM): LHD model

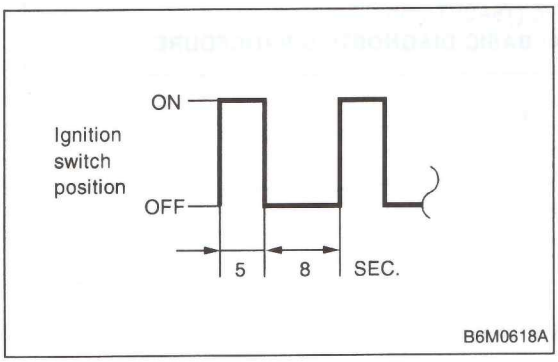
NOTE:
IMM ECM location for RHD model is symmetrically opposite.

3. Schematic


Combination meter
Immobiliser function indicator light
Ignition switch
Key
Transponder
Antenna amp.
Immobiliser control module (IMM ECM)
Engine control module (ECM)
B6M0614







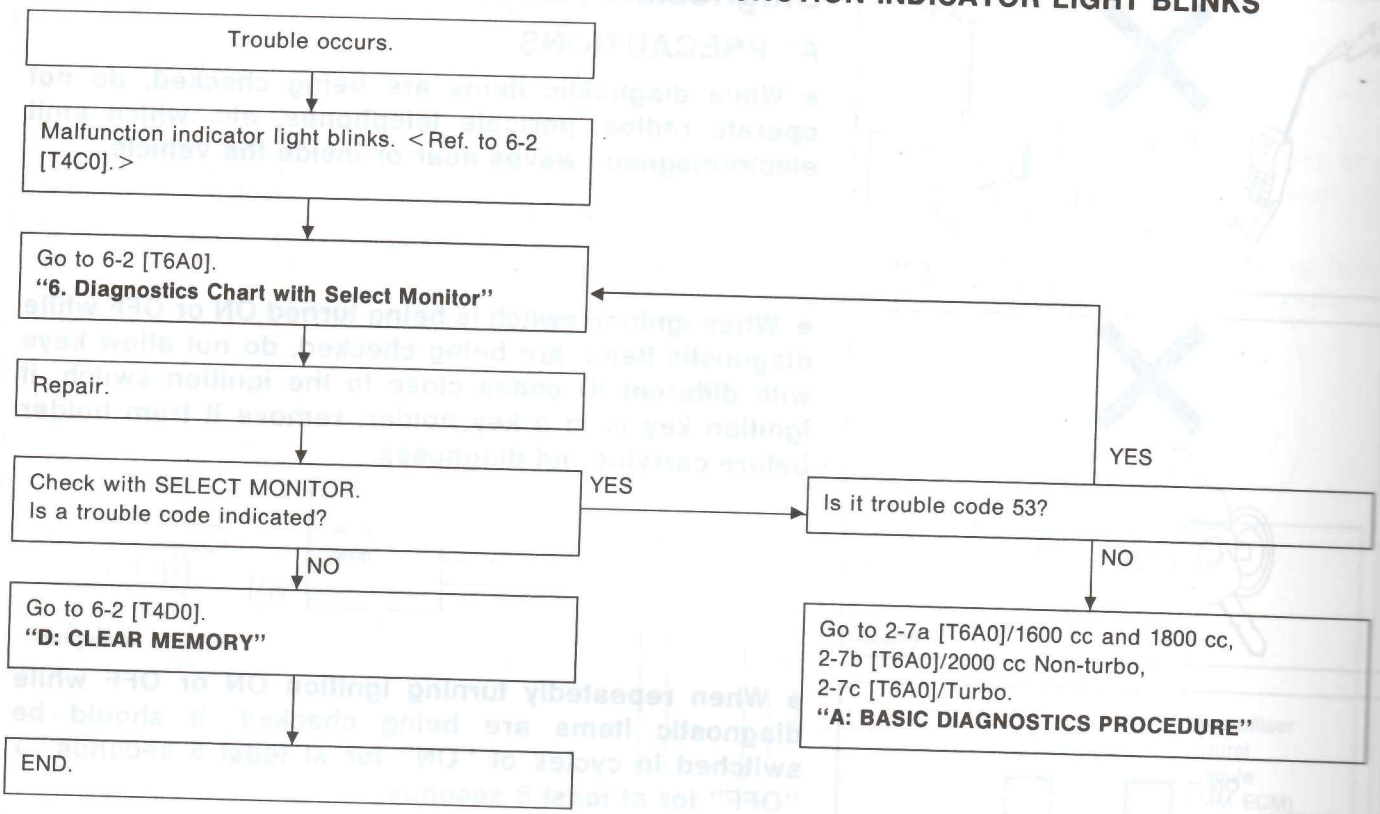
4. Diagnostics Chart for On-board Diagnosis System

A: PRECAUTIONS

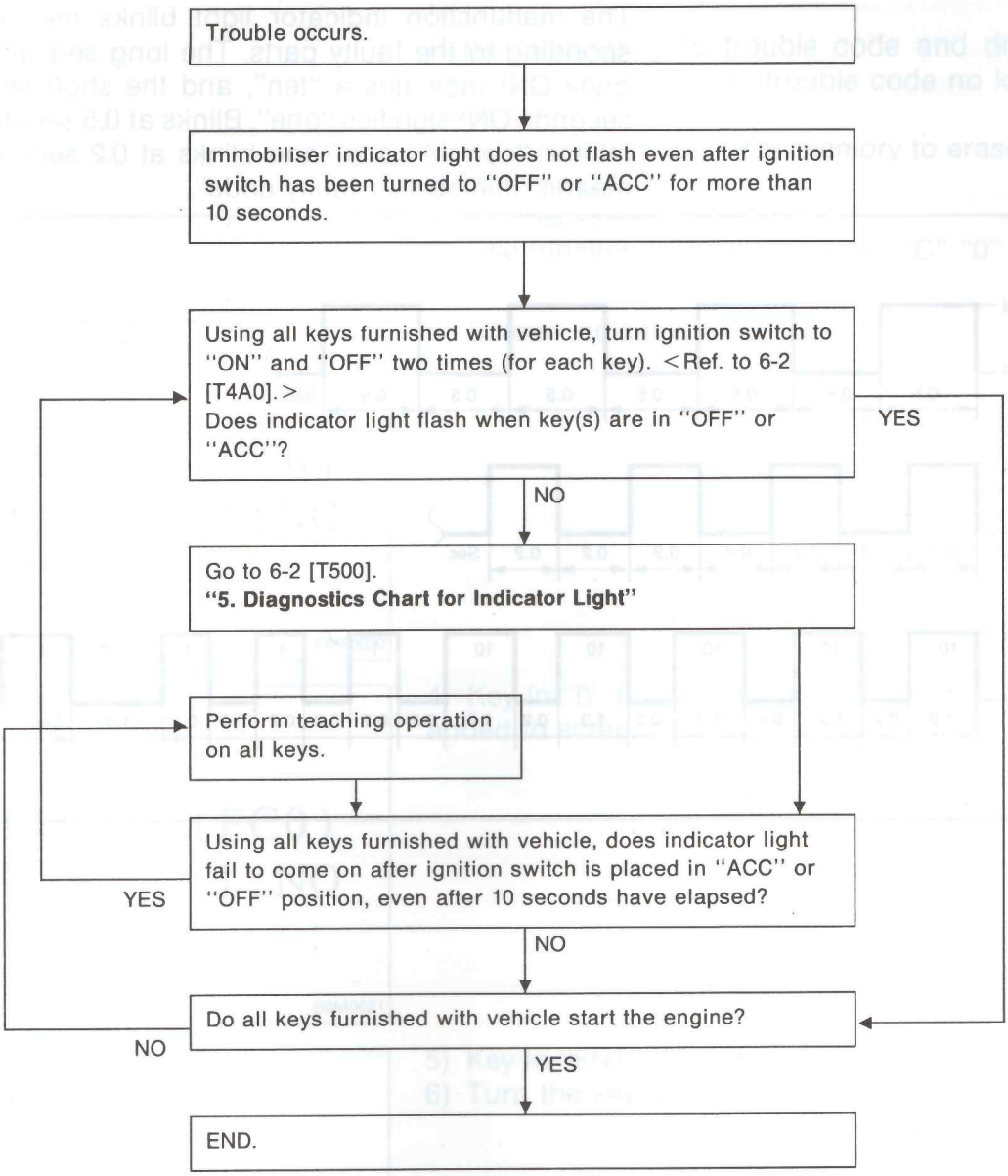
- **While diagnostic items are being checked, do not operate radios, portable telephones, etc. which emit electromagnetic waves near or inside the vehicle.**
- **When ignition switch is being turned ON or OFF while diagnostic items are being checked, do not allow keys with different ID codes close to the ignition switch. If ignition key is in a key holder, remove it from holder before carrying out diagnoses.**
- **When repeatedly turning ignition ON or OFF while diagnostic items are being checked, it should be switched in cycles of "ON" for at least 5 seconds → "OFF" for at least 8 seconds.**
- **If engine fails to start with a registered ignition key, turn the key to "ACC" or "OFF" and wait for approximately 5 seconds until immobiliser indicator light begins to flash. Start engine again.**
- **Before checking diagnostic items, obtain all keys for vehicle to be checked possessed by owner.**

B: BASIC DIAGNOSTICS PROCEDURE

1. MALFUNCTION INDICATOR LIGHT BLINKS

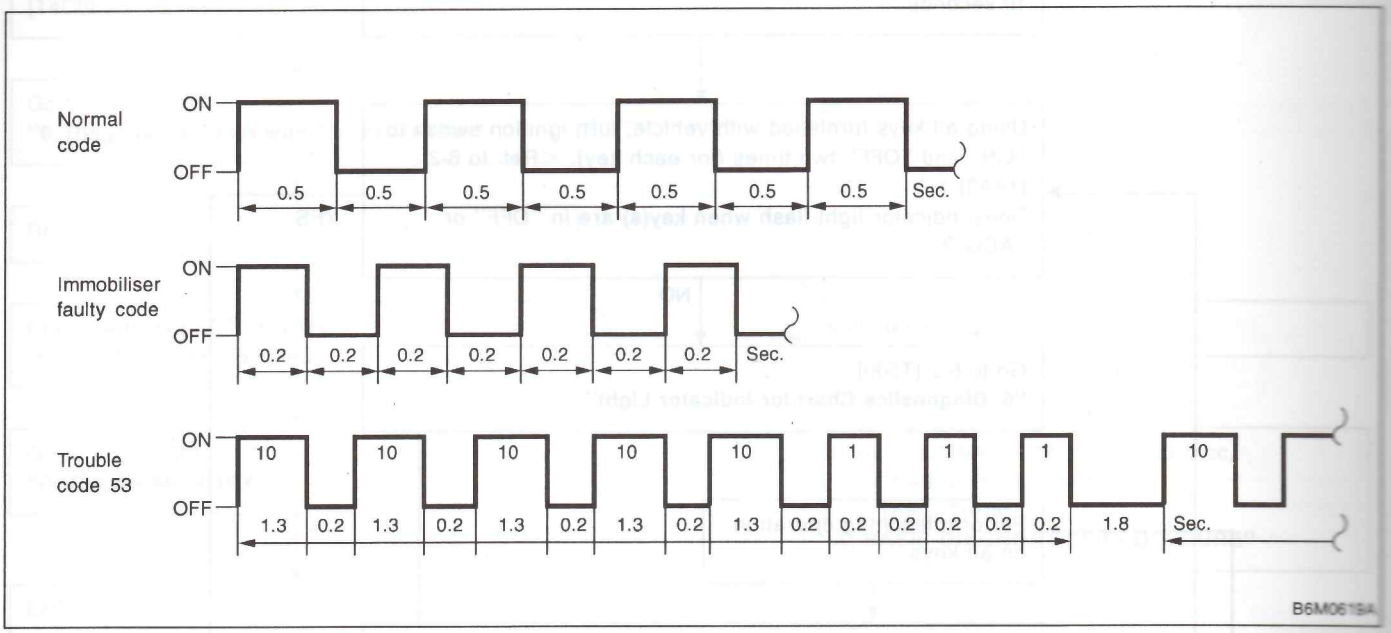


2. IMMOBILISER INDICATOR LIGHT REMAINS OFF



C: HOW TO READ TROUBLE CODE

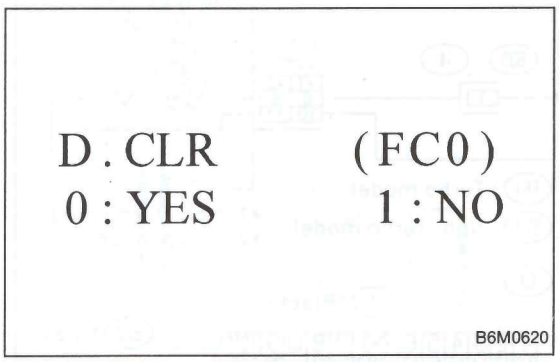
The malfunction indicator light blinks the code corresponding to the faulty parts. The long segment (1.3 seconds ON) indicates a "ten", and the short segment (0.2 seconds ON) signifies "one". Blinks at 0.5 second intervals means "normal code" and blinks at 0.2 second intervals means "Immobiliser faulty code".



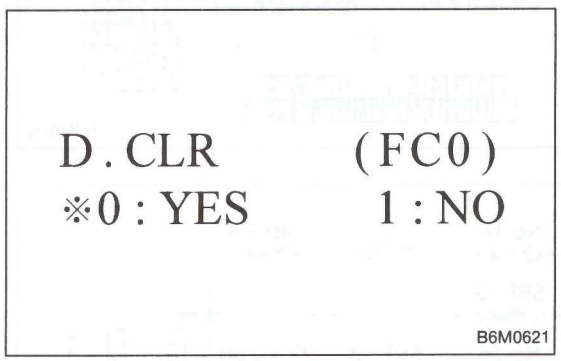
D: CLEAR MEMORY

NOTE:
Repair according to trouble code and diagnostic item. After repairs, make sure trouble code no longer appears on screen.
Using select monitor, clear memory to erase trouble code stored in ECM.

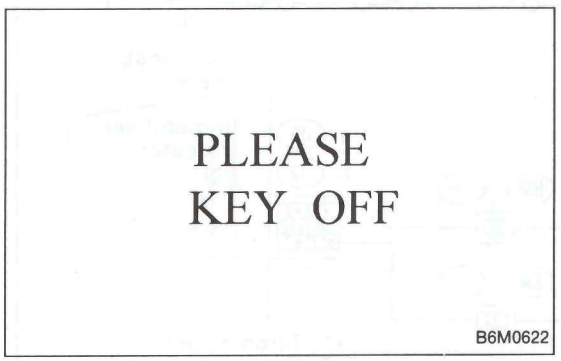
1) Connect select monitor.
2) Use function keys to key in "F" "C" "0" "ENT".
3) Screen indicates as shown.



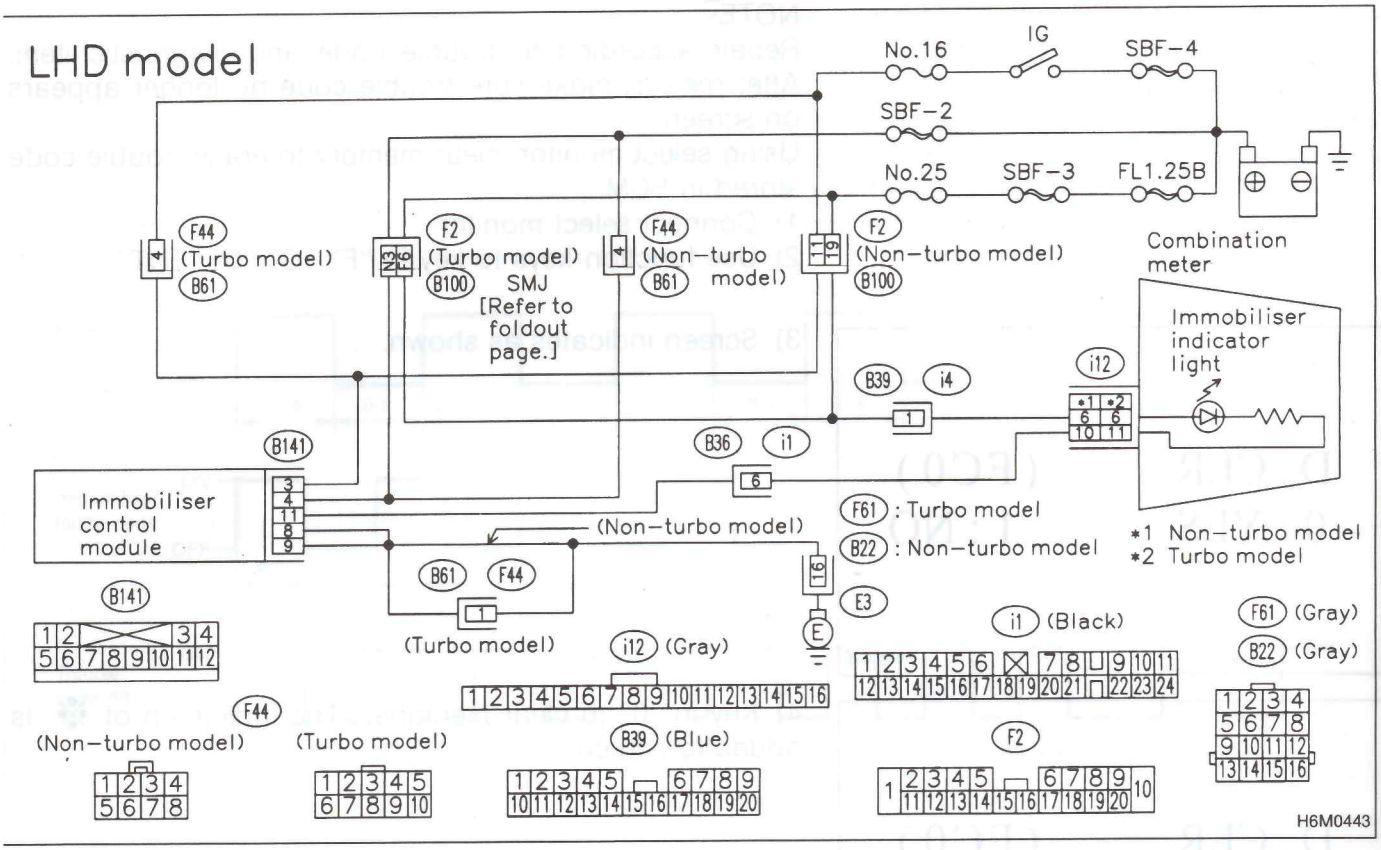
4) Key in "0" to clear memories. The indication of ※ is added to screen.

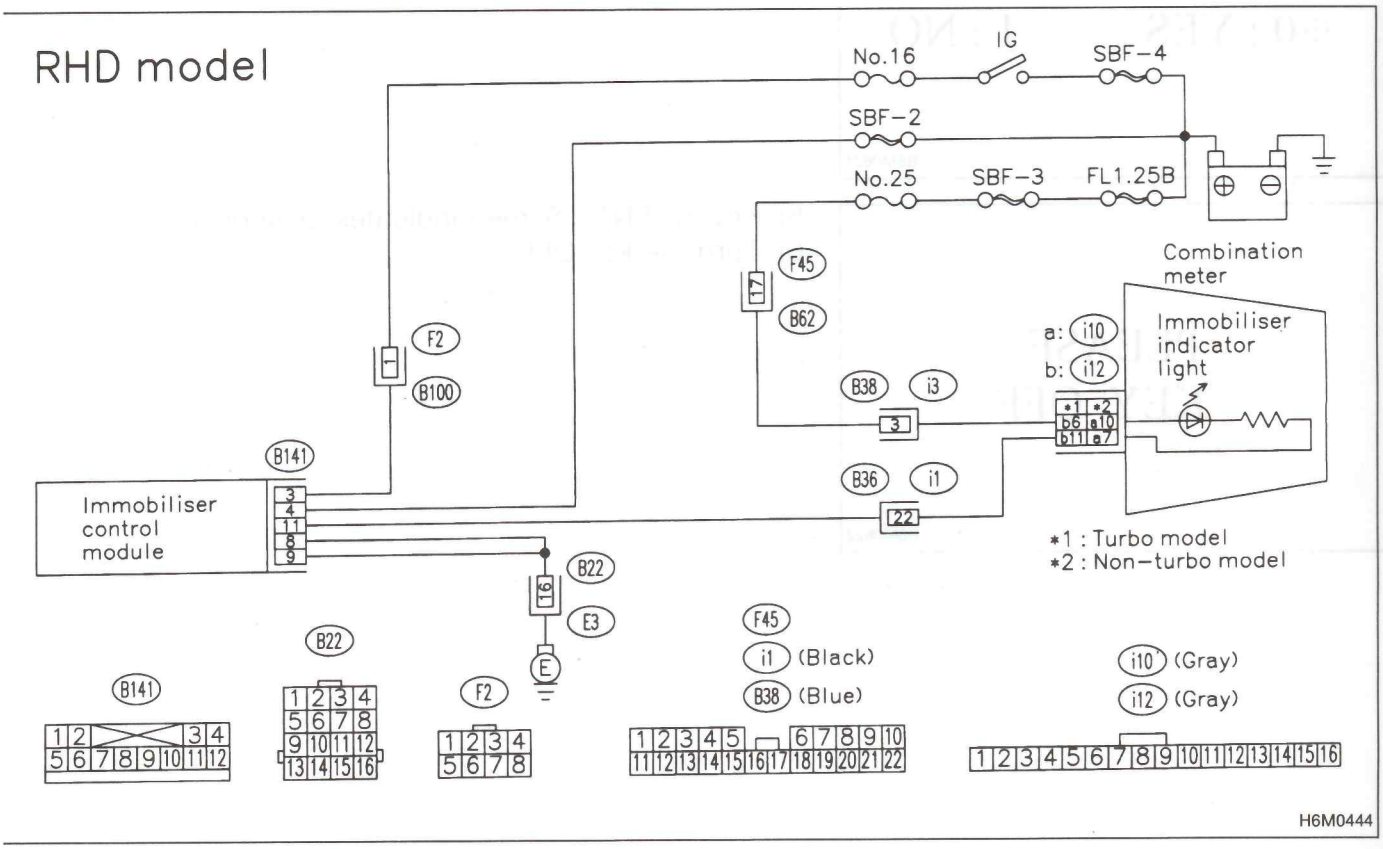


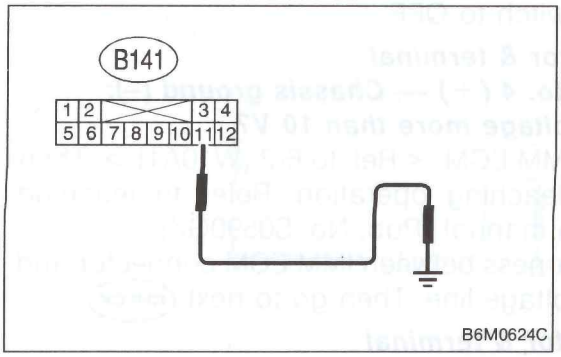
5) Key in "ENT". Screen indicates as shown.
6) Turn the key OFF.



5. Diagnostics Chart for Indicator Light



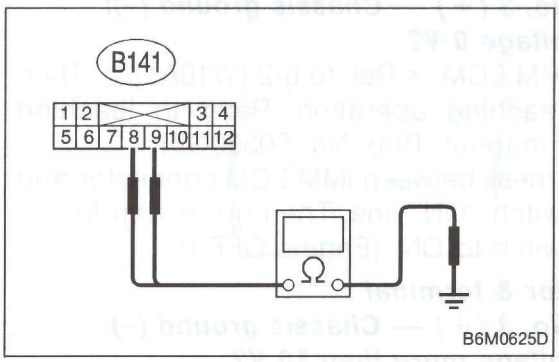




1	CHECK IMMOBILISER INDICATOR LIGHT COMES ON.

1) Turn ignition switch to OFF.
2) Disconnect connector from IMM ECM.
3) Connect between IMM ECM connector (B141) No. 11 and chassis ground.

CHECK : ***Does indicator light comes on?***
YES : Go to step **2**.
NO : Go to step **3**.

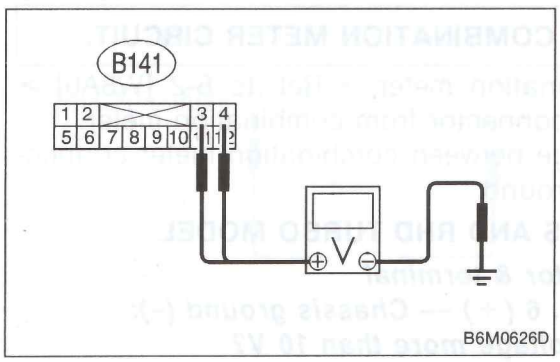


2	CHECK IMM ECM CIRCUIT.

1) Measure resistance between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 8 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).
NO : Repair open circuit of IMM ECM ground circuit. Then go to next CHECK .

CHECK : ***Connector & terminal (B141) No. 9 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).
NO : Repair open circuit of IMM ECM ground circuit. Then go to step 2).



2) Turn ignition switch to ON. (Engine OFF.)
3) Measure voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 3 (+) — Chassis ground (–): Is the voltage more than 10 V?***
YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).
NO : Repair harness between IMM ECM connector and battery voltage line. Then go to step 4).

4) Turn ignition switch to OFF.

CHECK : ***Connector & terminal (B141) No. 4 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

NO : Repair harness between IMM ECM connector and battery voltage line. Then go to next CHECK .

CHECK : ***Connector & terminal (B141) No. 3 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

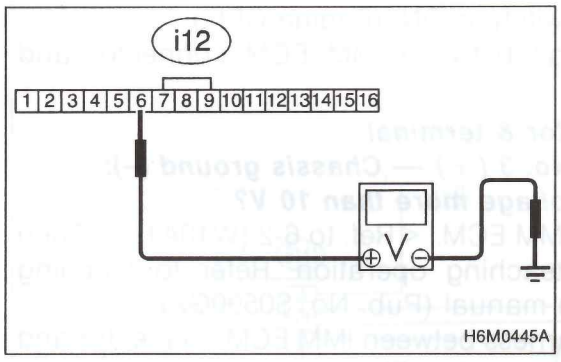
NO : Repair harness between IMM ECM connector and ignition switch "ON" line. Then go to step 5).

5) Turn ignition switch to ON. (Engine OFF.)

CHECK : ***Connector & terminal (B141) No. 3 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

NO : Repair harness between IMM ECM connector and ignition switch "ON" line.



3	CHECK COMBINATION METER CIRCUIT.

1) Remove combination meter. <Ref. to 6-2 [W8A0].> Then disconnect connector from combination meter.

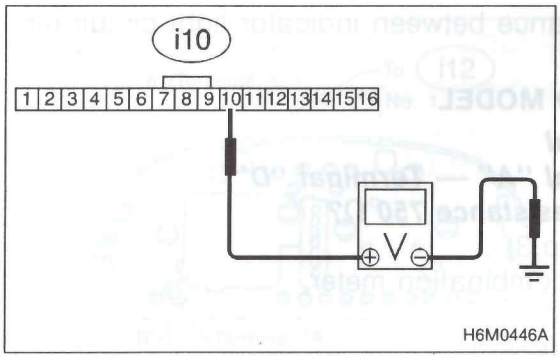
2) Measure voltage between combination meter connector and chassis ground.

ALL LHD MODELS AND RHD TURBO MODEL

CHECK : ***Connector & terminal (i12) No. 6 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Go to step 3).

NO : Repair harness or connector.

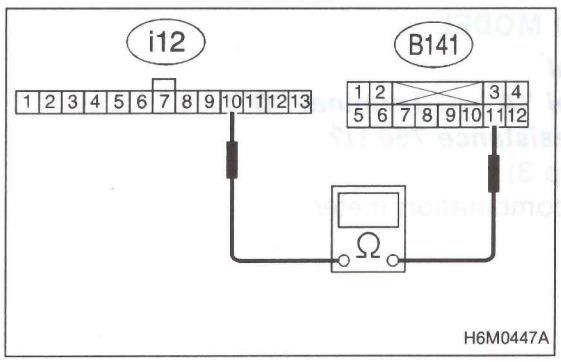


RHD NON-TURBO MODEL

CHECK : ***Connector & terminal (i10) No. 10 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Go to step 3).

NO : Repair harness or connector.



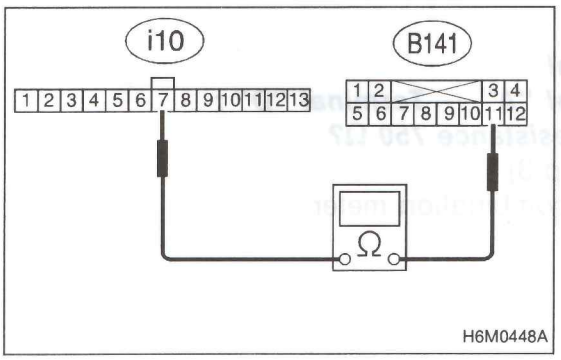
3) Measure resistance between IMM ECM connector and combination meter connector.

LHD NON-TURBO MODEL

CHECK : ***Connector & terminal (B141) No. 11 — (i12) No. 10: Is the resistance less than 10 Ω?***

YES : Go to step **4**.

NO : Repair harness or connector.

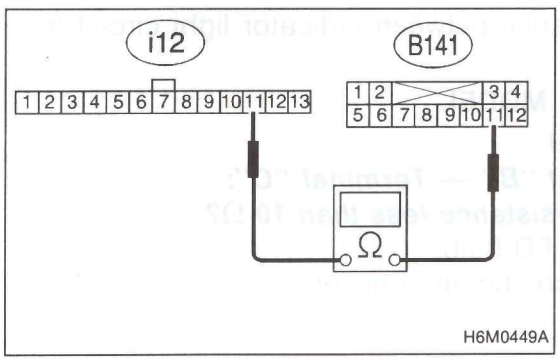


RHD NON-TURBO MODEL

CHECK : ***Connector & terminal (B141) No. 11 — (i10) No. 7: Is the resistance less than 10 Ω?***

YES : Go to step **4**.

NO : Repair harness or connector.

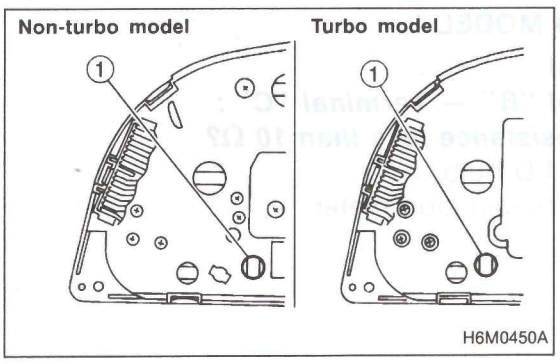


TURBO MODEL

CHECK : ***Connector & terminal (B141) No. 11 — (i12) No. 11: Is the resistance less than 10 Ω?***

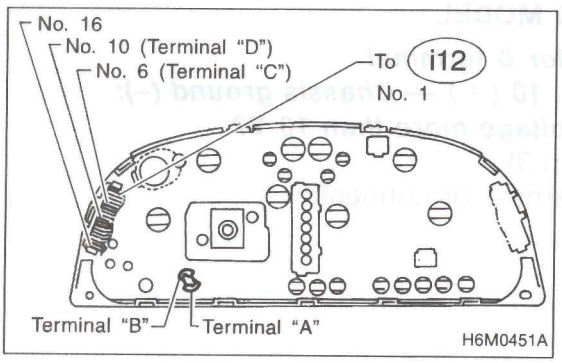
YES : Go to step **4**.

NO : Repair harness or connector.



4	CHECK IMMOBILISER INDICATOR LIGHT CIRCUIT IN COMBINATION METER.

1) Remove LED bulb ① from combination meter.

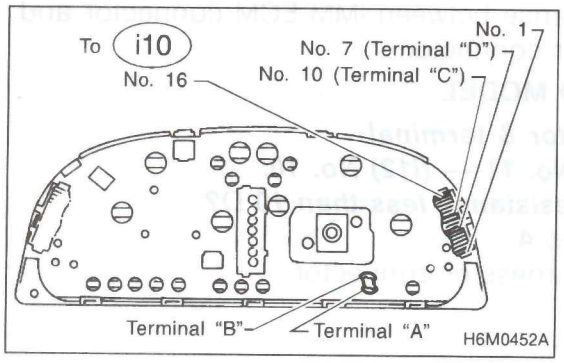


2) Measure resistance between indicator light circuit t
minal.

LHD NON-TURBO MODEL

CHECK : ***Terminal***
Terminal "A" — Terminal "D":
Is the resistance 750 Ω?

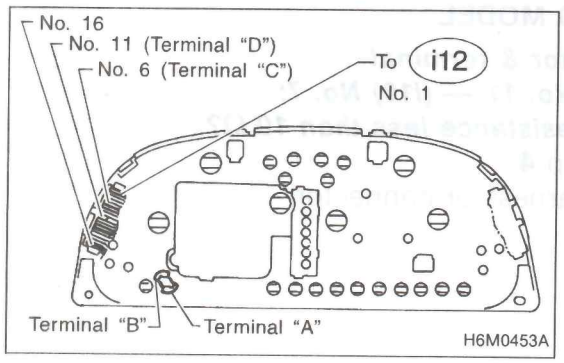
YES : Go to step 3).
NO : Replace combination meter.



RHD NON-TURBO MODEL

CHECK : ***Terminal***
Terminal "A" — Terminal "D":
Is the resistance 750 Ω?

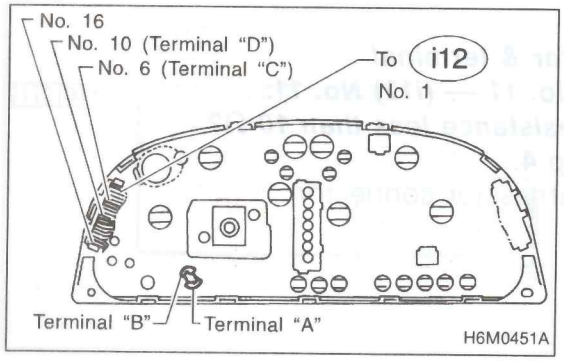
YES : Go to step 3).
NO : Replace combination meter.



TURBO MODEL

CHECK : ***Terminal***
Terminal "A" — Terminal "D" :
Is the resistance 750 Ω?

YES : Go to step 3).
NO : Replace combination meter.

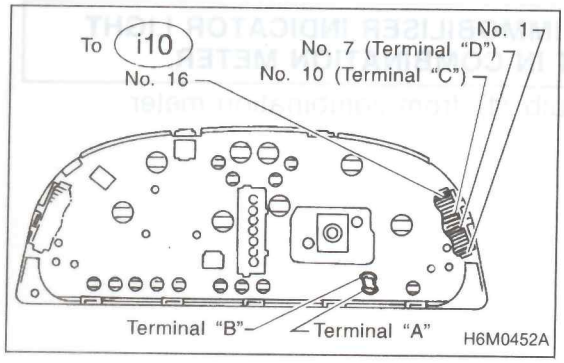


3) Measure resistance between indicator light circuit te
minal.

LHD NON-TURBO MODEL

CHECK : ***Terminal***
Terminal "B" — Terminal "C":
Is the resistance less than 10 Ω?

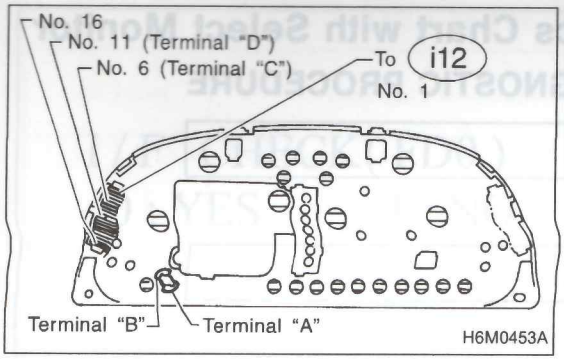
YES : Replace LED bulb.
NO : Replace combination meter.



RHD NON-TURBO MODEL

CHECK : ***Terminal***
Terminal "B" — Terminal "C" :
Is the resistance less than 10 Ω?

YES : Replace LED bulb.
NO : Replace combination meter.



TURBO MODEL

CHECK : ***Terminal***
Terminal "B" — Terminal "C" :
Is the resistance less than 10 Ω?

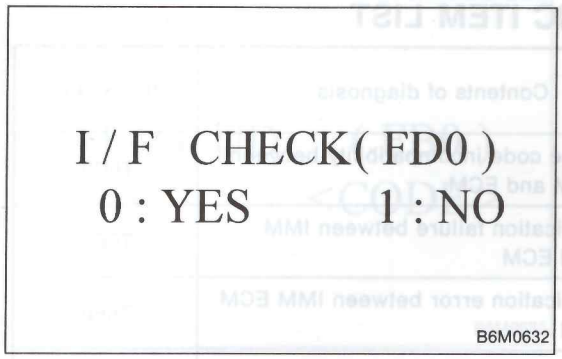
YES : Replace LED bulb.

NO : Replace combination meter.

6. Diagnostics Chart with Select Monitor

A: BASIC DIAGNOSTIC PROCEDURE

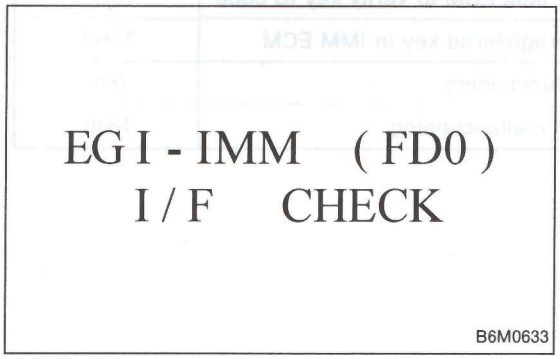
1. Trouble occurs.
2. Malfunction indicator light blinks.
3. Ignition switch turned OFF. Connect select monitor.
4. Ignition switch turned ON. (Engine OFF.)
5. Select monitor switch turned ON. Enter FB0 or FB1 using function switch.
6. Locate diagnostic item. <Ref. to 6-2 [T6C0].>
7. Repair.
8. Clear memory. <Ref. to 6-2 [T4D0].>
9. END



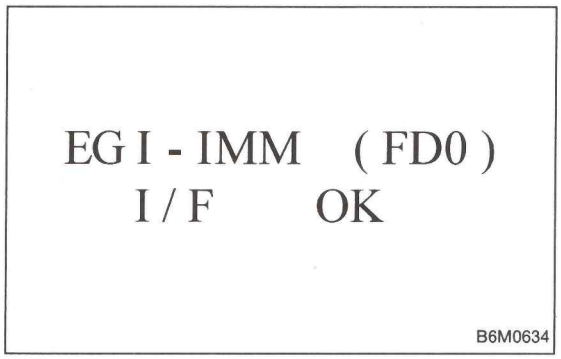
B: INTERFACE CHECK PROCEDURE

NOTE:
Communication line between ECM and IMM, ECM can be checked in function mode FD0. This is referred to as "interface check."

1) Connect select monitor.
2) Use function keys to key in "F" "D" "0" "ENT".
3) Screen indicates as shown.



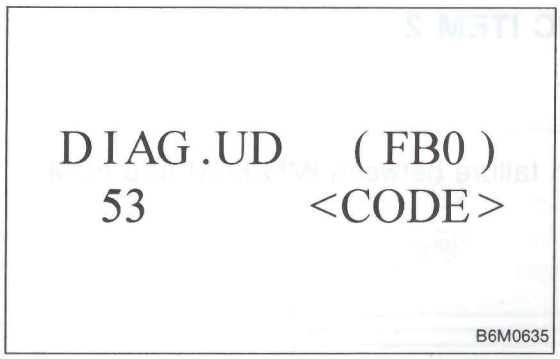
4) Key in "0" to start interface check.



5) Start interface check.
(CHECK) ***: Does "I/F OK" appear on screen?***
(YES) : Go to step 6).
(NO) : Go to step 7).
6) After diagnostic results, diagnostic items are determined to be no problem. This completes interface check.
7) If a problem is detected, repair. <Ref. to 6-2 [T6E5].>

C: DIAGNOSTIC ITEM LIST

Item appearing on select monitor screen			Diagnostic item No.	Contents of diagnosis	Index No.
Function mode	Trouble code	Abbreviation			
FB0 FB1	53	CODE	1	Reference code incompatibility between IMM ECM and ECM	T6D0
		EGI-IMM	2	Communication failure between IMM ECM and ECM	T6E0
		TIME OVR	3	Communication error between IMM ECM and ECM	T6F0
		KEY-IMM	4	Failure of IMM ECM to verify key ID code	T6G0
		KEY	5	Use of unregistered key in IMM ECM	T6H0
		EGI ROM	6	ECM malfunctioning	T6I0
		IMM ROM	7	IMM ECM malfunctioning	T6J0



D: DIAGNOSTIC ITEM 1

— CODE —

DIAGNOSIS:

- Reference code incompatibility between IMM ECM and ECM

1	**PERFORM TEACHING OPERATION ON IGNITION KEY.**

Perform teaching operation on all keys with vehicle. Refer to teaching operation manual (Pub. No. S0590GZ).

CHECK ***: Is teaching operation for all keys completed?***

YES : END

NO : Replace ECM. Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

DIAG.UD (FB0)
53 <EGI-IMM>

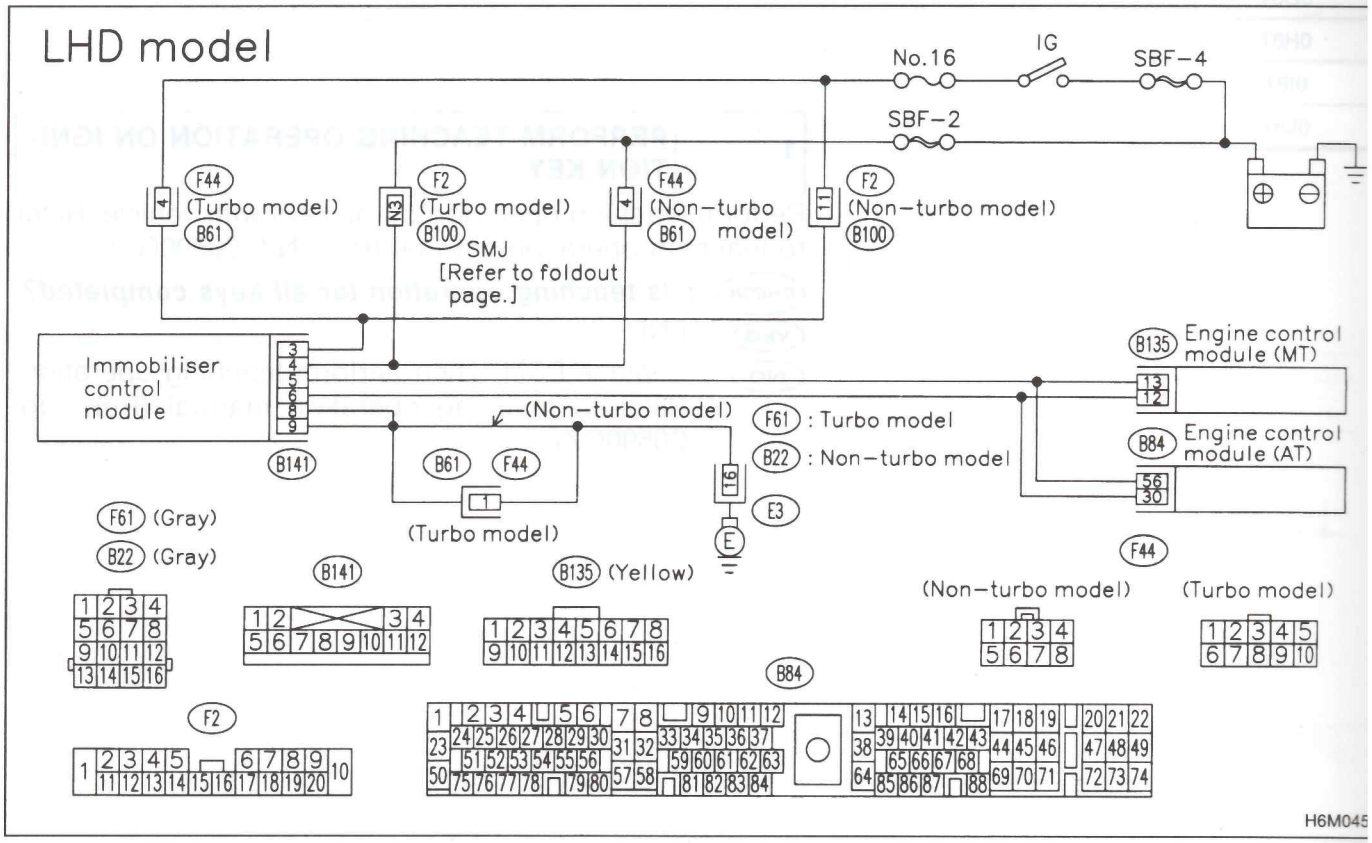
B6M0636

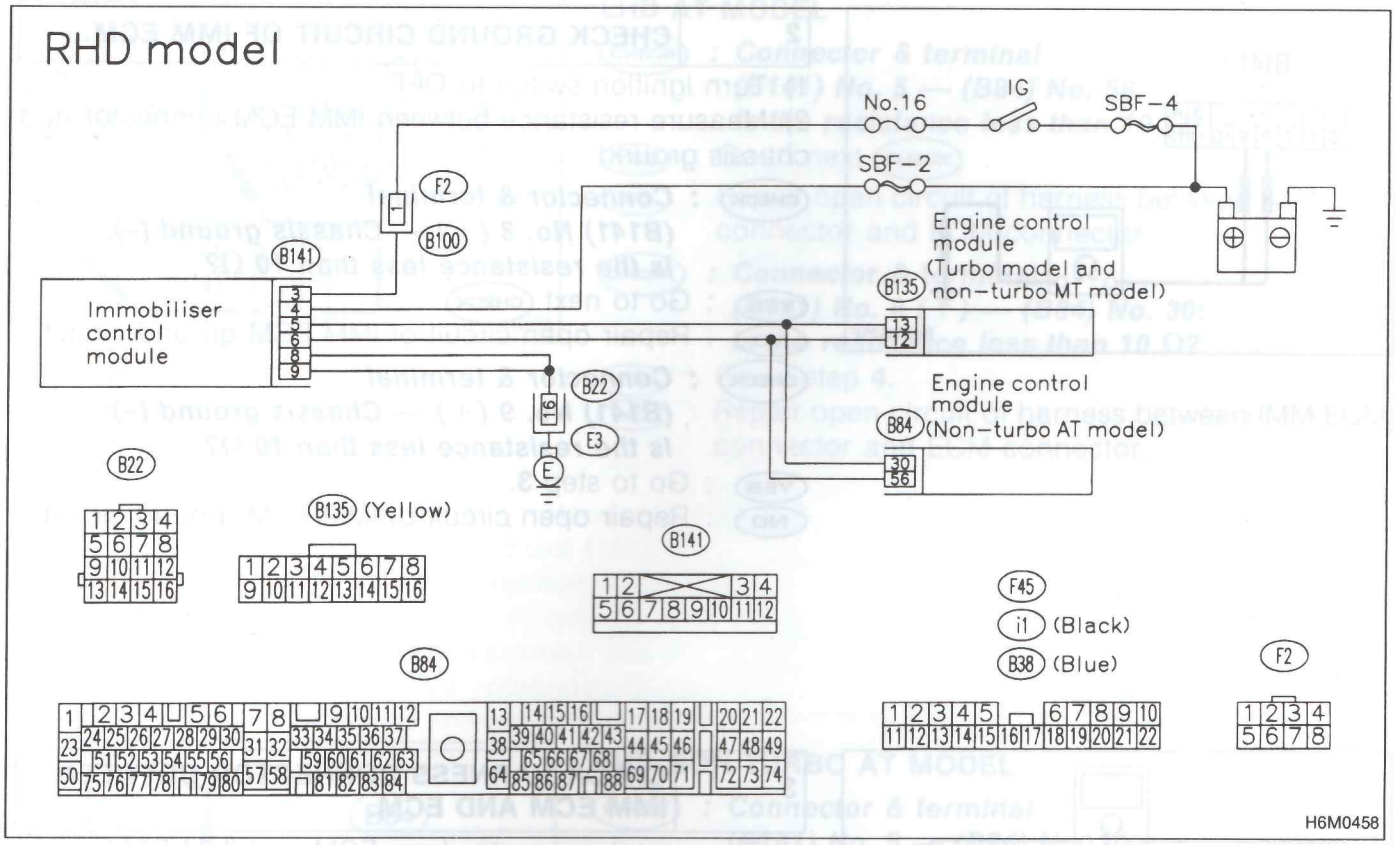
E: DIAGNOSTIC ITEM 2

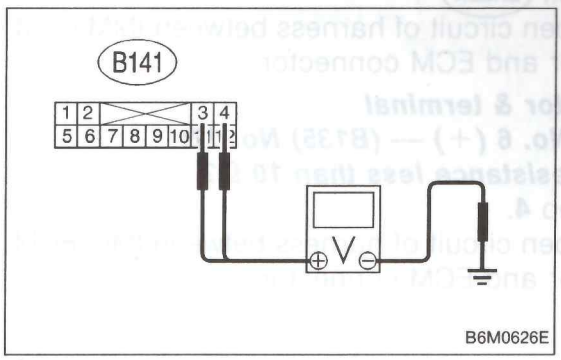
— EGI-IMM —

DIAGNOSIS:

- Communication failure between IMM ECM and ECM







1	CHECK POWER SUPPLY CIRCUIT OF IMM ECM.

1) Turn ignition switch to OFF.
2) Disconnect connector from IMM ECM.
3) Measure voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 4 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Go to step 4).

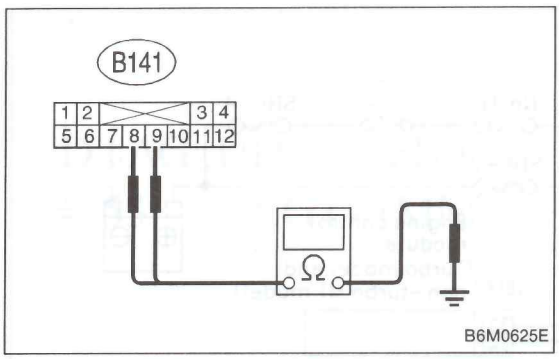
NO : Repair harness between IMM ECM connector and battery voltage line.

4) Turn ignition switch to ON. (Engine OFF.)

CHECK : ***Connector & terminal (B141) No. 3 (+) — Chassis ground (–): Is the voltage more than 10 V?***

YES : Go to step **2.**

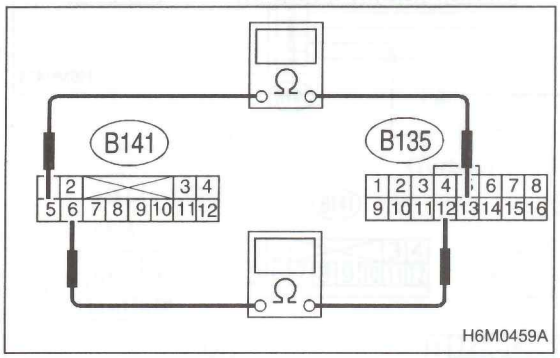
NO : Repair harness between IMM ECM connector and ignition switch "ON" line.



2	CHECK GROUND CIRCUIT OF IMM ECM.

1) Turn ignition switch to OFF.
2) Measure resistance between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 8 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Go to next CHECK .
NO : Repair open circuit of IMM ECM ground circuit.
CHECK : ***Connector & terminal (B141) No. 9 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Go to step **3**.
NO : Repair open circuit of IMM ECM ground circuit.

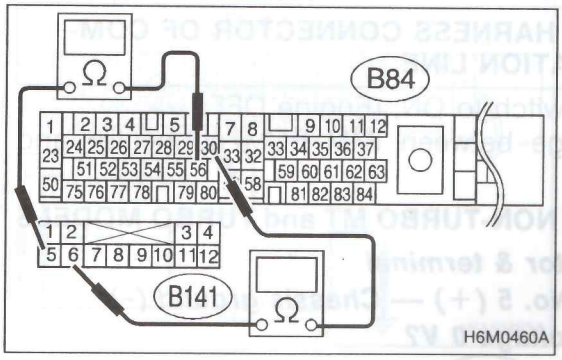


3	CHECK HARNESS CONNECTOR BETWEEN IMM ECM AND ECM.

1) Disconnect connector from ECM and IMM ECM.
2) Measure resistance between IMM ECM connector and ECM connector.

LHD MT and RHD NON-TURBO MT and TURBO MODELS

CHECK : ***Connector & terminal (B141) No. 5 — (B135) No. 13: Is the resistance less than 10 Ω?***
YES : Go to next CHECK .
NO : Repair open circuit of harness between IMM ECM connector and ECM connector.
CHECK : ***Connector & terminal (B141) No. 6 (+) — (B135) No. 12: Is the resistance less than 10 Ω?***
YES : Go to step **4**.
NO : Repair open circuit of harness between IMM ECM connector and ECM connector.



LHD AT MODEL

CHECK : ***Connector & terminal (B141) No. 5 — (B84) No. 56: Is the resistance less than 10 Ω?***

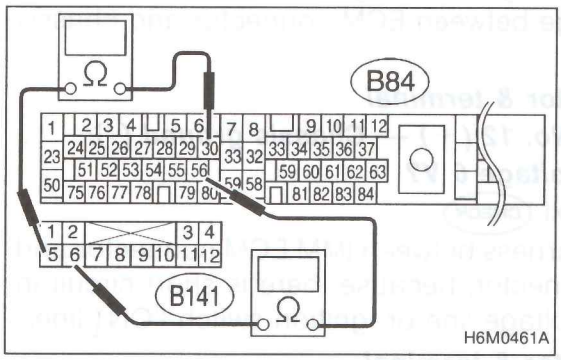
YES : Go to next CHECK .

NO : Repair open circuit of harness between IMM ECM connector and ECM connector.

CHECK : ***Connector & terminal (B141) No. 6 (+) — (B84) No. 30: Is the resistance less than 10 Ω?***

YES : Go to step **4**.

NO : Repair open circuit of harness between IMM ECM connector and ECM connector.



RHD NON-TURBO AT MODEL

CHECK : ***Connector & terminal (B141) No. 5 — (B84) No. 30: Is the resistance less than 10 Ω?***

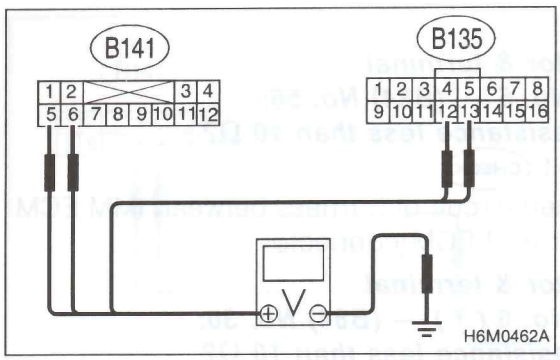
YES : Go to next CHECK .

NO : Repair open circuit of harness between IMM ECM connector and ECM connector.

CHECK : ***Connector & terminal (B141) No. 6 (+) — (B84) No. 56: Is the resistance less than 10 Ω?***

YES : Go to step **4**.

NO : Repair open circuit of harness between IMM ECM connector and ECM connector.



4	CHECK HARNESS CONNECTOR OF COMMUNICATION LINE.

1) Turn ignition switch to ON. (Engine OFF.)
2) Measure voltage between IMM ECM connector and chassis ground.

LHD MT and RHD NON-TURBO MT and TURBO MODELS

CHECK : ***Connector & terminal (B141) No. 5 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B141) No. 6 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to step 3).

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

3) Measure voltage between ECM connector and chassis ground.

CHECK : ***Connector & terminal (B135) No. 12 (+) — Chassis ground (–): Is the voltage 0 V?***

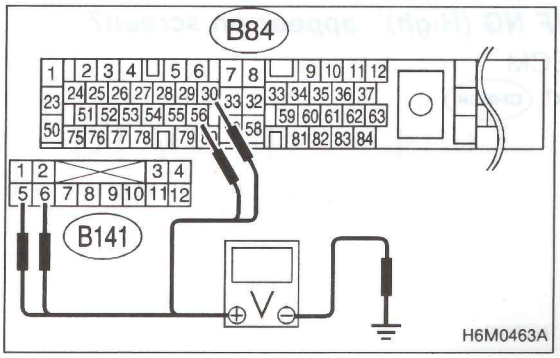
YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B135) No. 13 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to step 4).

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.



LHD AT and RHD NON-TURBO AT MODELS

CHECK : ***Connector & terminal (B141) No. 5 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B141) No. 6 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to step 3).

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

3) Measure voltage between ECM connector and chassis ground.

CHECK : ***Connector & terminal (B84) No. 30 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B84) No. 56 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to step 4).

NO : Repair harness between IMM ECM connector and ECM connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

EG I - IMM (FD0)
I / F NG (Low)

B6M0643

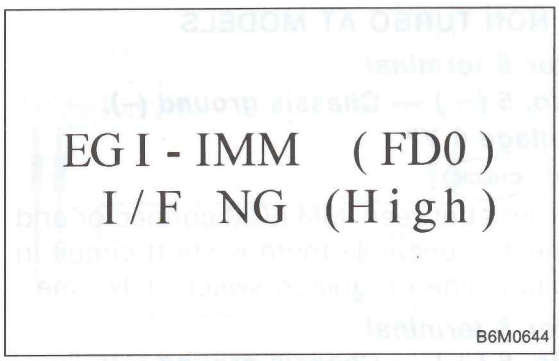
5	CHECK ECM BY INTERFACE CHECK.

1) Connect connector to ECM.
2) Disconnect connector from IMM ECM.
3) Perform interface check. <Ref. to 6-2 [T6B0].>

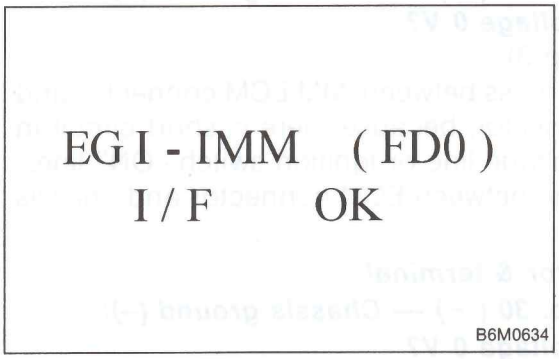
CHECK : ***Does "I/F NG (Low)" appear on screen?***

YES : Replace ECM.

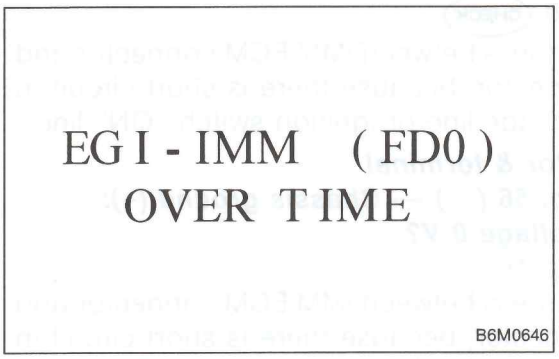
NO : Go to next CHECK .



CHECK : ***Does "I/F NG (High)" appear on screen?***
YES : Replace ECM.
NO : Go to next CHECK .



CHECK : ***Does "I/F OK" appear on screen?***
YES : Replace IMM ECM.
NO : Go to step 4).



4) When **"OVER TIME"** appears on screen, perform interface check again. <Ref. to 6-2 [T6B0].>

DIAG.UD (FB0)
53 <TIME OVR>

B6M0647

F: DIAGNOSTIC ITEM 3

— TIME OVR —

DIAGNOSIS:

- Communication error between IMM ECM and ECM

1	**ELIMINATE CAUSE OF MINGLE NOISE.**

Do not operate radios or portable telephones which emit noise (electromagnetic waves) near or inside vehicle.

CHECK ***: Does engine start?***

YES : END

NO : Re-check and eliminate cause of mingle noise.

DIAG.UD (FB0)
53 <KEY-IMM>

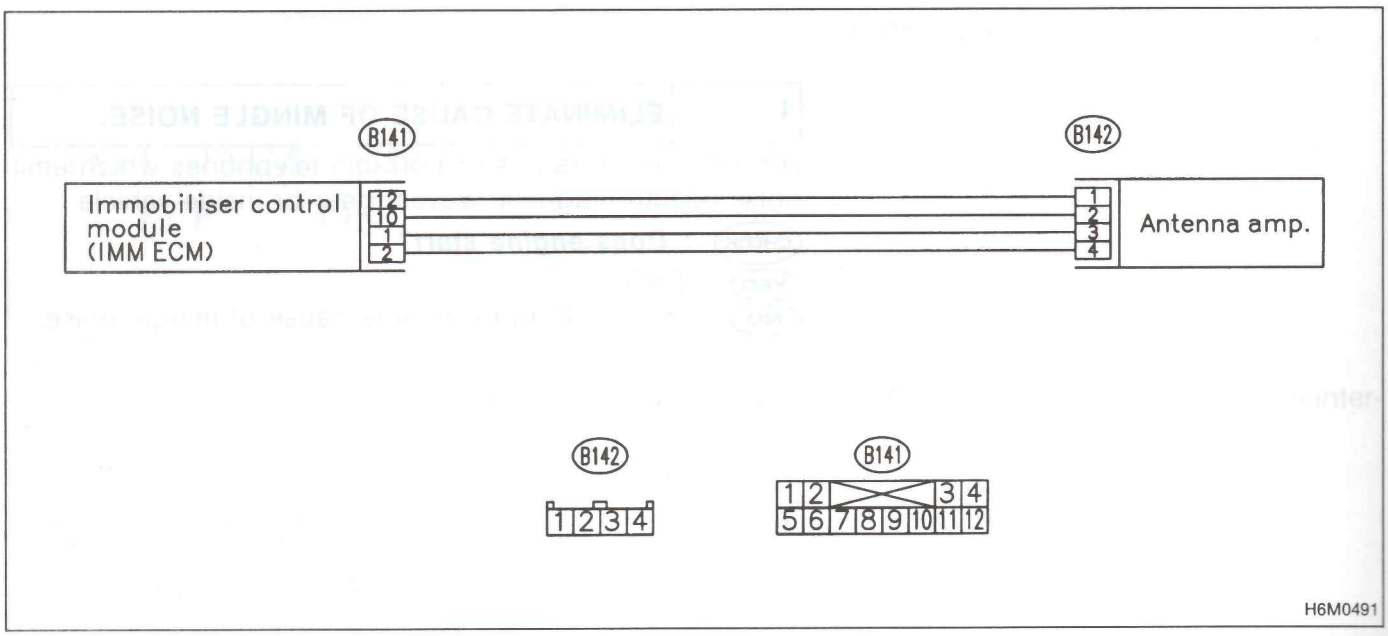
B6M0648

G: DIAGNOSTIC ITEM 4

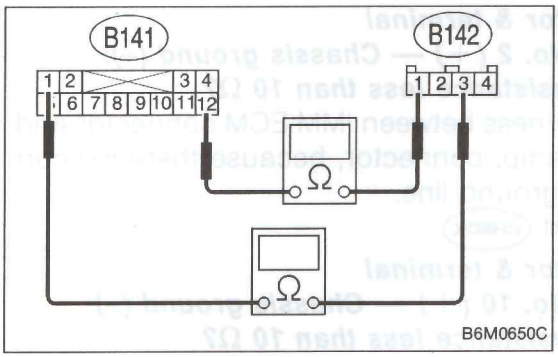
— KEY-IMM —

DIAGNOSIS:

- Failure of IMM ECM to verify key ID code



H6M0491

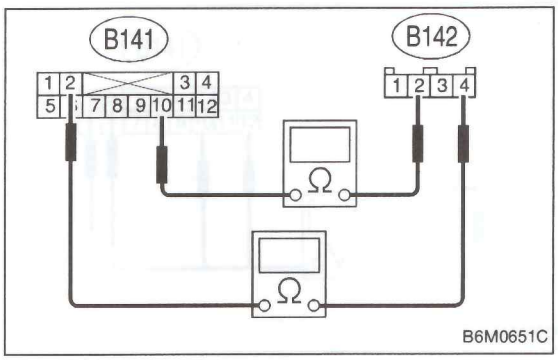


1	CHECK ANTENNA AMP. CIRCUIT.

1) Turn ignition switch to OFF.
2) Disconnect connector from IMM ECM and antenna amp.
3) Measure resistance between IMM ECM connector and antenna amp. connector.

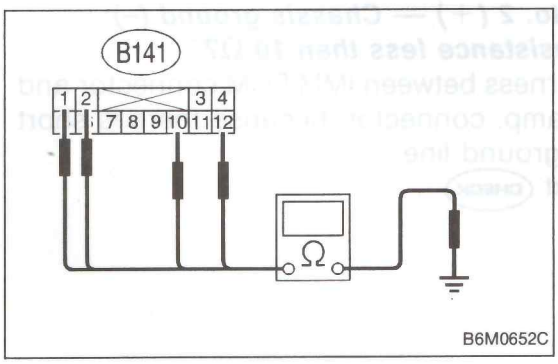
CHECK : ***Connector & terminal (B141) No. 1 — (B142) No. 3: Is the resistance less than 10 Ω?***
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector.

CHECK : ***Connector & terminal (B141) No. 12 — (B142) No. 1: Is the resistance less than 10 Ω?***
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector.



CHECK : ***Connector & terminal (B141) No. 2 — (B142) No. 4: Is the resistance less than 10 Ω?***
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector.

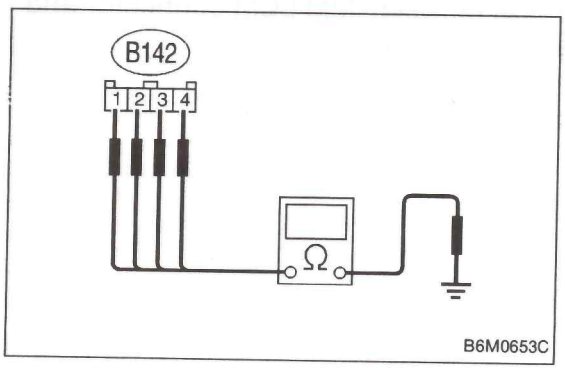
CHECK : ***Connector & terminal (B141) No. 10 — (B142) No. 2: Is the resistance less than 10 Ω?***
YES : Go to step 4).
NO : Repair harness between IMM ECM connector and antenna amp. connector.



4) Measure resistance between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 1 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to next CHECK .

CHECK : ***Connector & terminal (B141) No. 2 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to next CHECK .
CHECK : ***Connector & terminal (B141) No. 10 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to next CHECK .
CHECK : ***Connector & terminal (B141) No. 12 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to step 5).



5) Measure resistance between antenna amp. connector and chassis ground.
CHECK : ***Connector & terminal (B142) No. 1 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to next CHECK .
CHECK : ***Connector & terminal (B142) No. 2 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.
NO : Go to next CHECK .

CHECK : ***Connector & terminal (B142) No. 3 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***

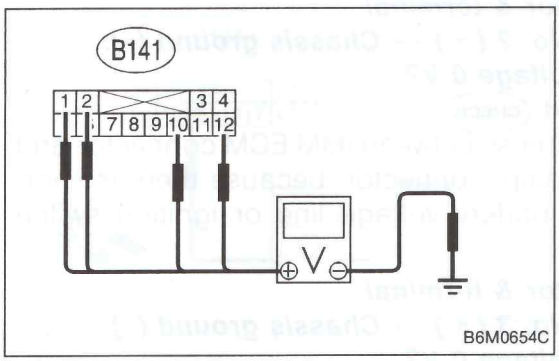
YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.

NO : Go to next CHECK .

CHECK : ***Connector & terminal (B142) No. 4 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***

YES : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in ground line.

NO : Go to step 6).



6) Turn ignition switch to ON. (Engine OFF.)
7) Measure voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 1 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B141) No. 2 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

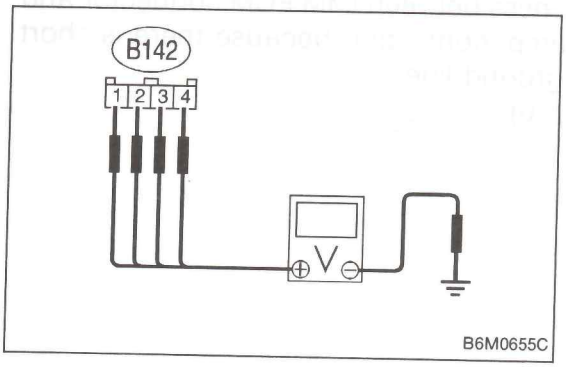
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal (B141) No. 10 (+) — Chassis ground (–): Is the voltage 0 V?***

YES : Go to next CHECK .

NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal***
(B141) No. 12 (+) — Chassis ground (–):
Is the voltage 0 V?
YES : Go to step 8).
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

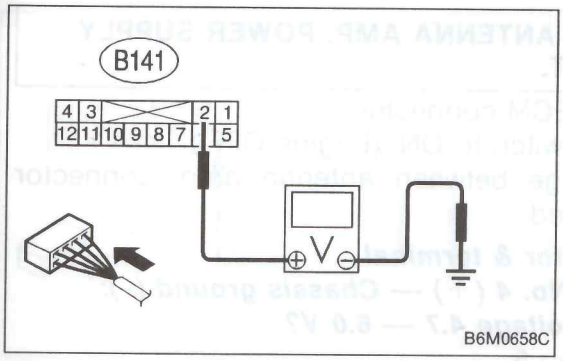


8) Measure voltage between antenna amp. connector and chassis ground.
CHECK : ***Connector & terminal***
(B142) No. 1 (+) — Chassis ground (–):
Is the voltage 0 V?
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal***
(B142) No. 2 (+) — Chassis ground (–):
Is the voltage 0 V?
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal***
(B142) No. 3 (+) — Chassis ground (–):
Is the voltage 0 V?
YES : Go to next CHECK .
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.

CHECK : ***Connector & terminal***
(B142) No. 4 (+) — Chassis ground (–):
Is the voltage 0 V?
YES : Go to step **2**.
NO : Repair harness between IMM ECM connector and antenna amp. connector, because there is short circuit in battery voltage line or ignition switch "ON" line.



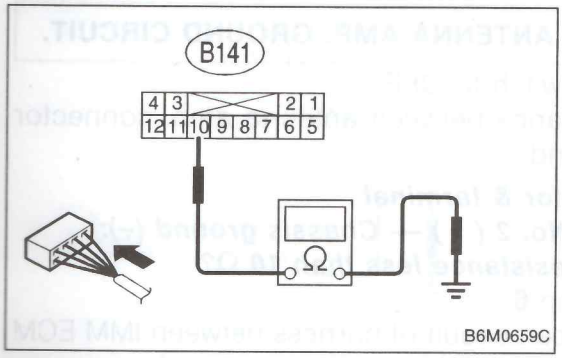
2	CHECK IMM ECM OUTPUT VOLTAGE.

1) Connect connector to IMM ECM.
2) Turn ignition switch to ON. (Engine OFF.)
3) Measure voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 2 (+) — Chassis ground (–): Is the voltage 4.7 — 6.0 V?***

YES : Go to step **3.**

NO : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).



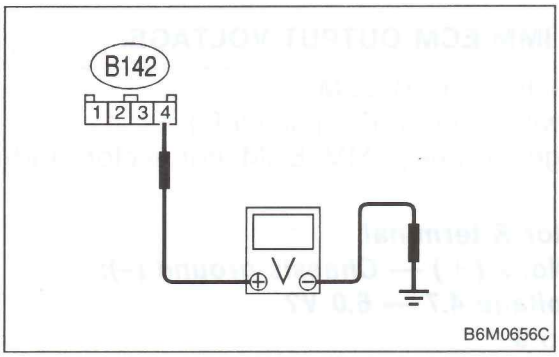
3	CHECK IMM ECM GROUND CIRCUIT.

1) Connect connector to IMM ECM.
2) Turn ignition switch to OFF.
3) Measure resistance between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 10 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***

YES : Go to step **4.**

NO : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

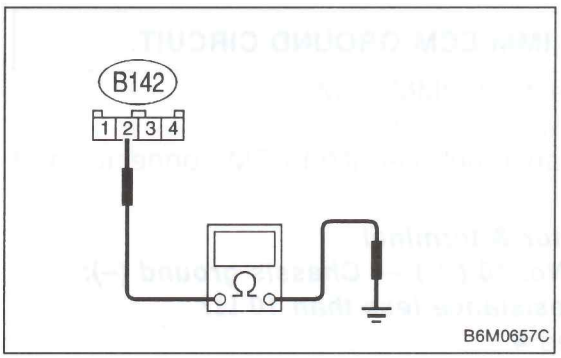


4	CHECK ANTENNA AMP. POWER SUPPLY CIRCUIT.

1) Connect IMM ECM connector.
2) Turn ignition switch to ON. (Engine OFF.)
3) Measure voltage between antenna amp. connector and chassis ground.

CHECK : ***Connector & terminal (B142) No. 4 (+) — Chassis ground (–): Is the voltage 4.7 — 6.0 V?***

YES : Go to step **5**.
NO : Repair open circuit of harness between IMM ECM connector and antenna amp. connector.

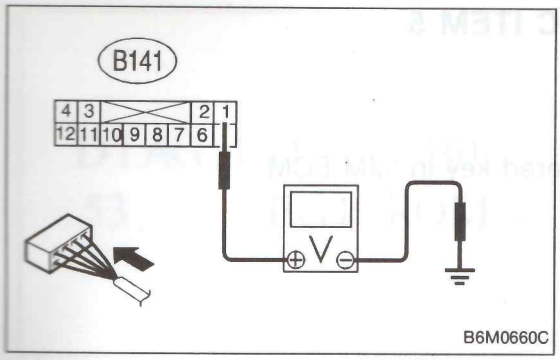


5	CHECK ANTENNA AMP. GROUND CIRCUIT.

1) Turn ignition switch to OFF.
2) Measure resistance between antenna amp. connector and chassis ground.

CHECK : ***Connector & terminal (B142) No. 2 (+) — Chassis ground (–): Is the resistance less than 10 Ω?***

YES : Go to step **6**.
NO : Repair open circuit of harness between IMM ECM connector and antenna amp. connector.

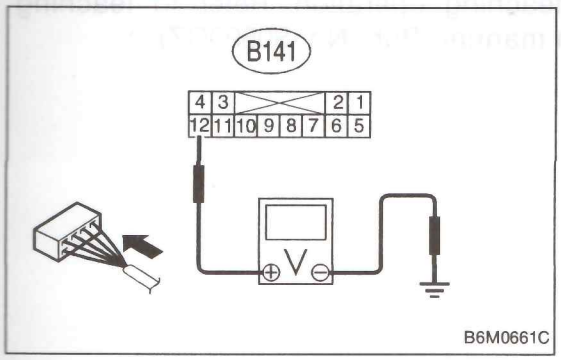


6	CHECK IMM ECM FUNCTION.

1) Connect IMM ECM connector and antenna amp. connector.
2) With ignition switch turned "ON", measure changes in voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 1 (+) — Chassis ground (–): Is the voltage 2 — 5 V? (Approximately 0.5 second after ignition switch is turned "ON".) Is the voltage 0 V? (Approximately 1 second after ignition switch is turned "ON".)***

YES : Go to step 3).
NO : Go to step **7**.



3) Disconnect antenna amp. connector.
4) Turn ignition switch to ON. (Engine OFF.)
5) Measure voltage between IMM ECM connector and chassis ground.

CHECK : ***Connector & terminal (B141) No. 12 (+) — Chassis ground (–): Is the voltage 4.7 — 6.0 V?***

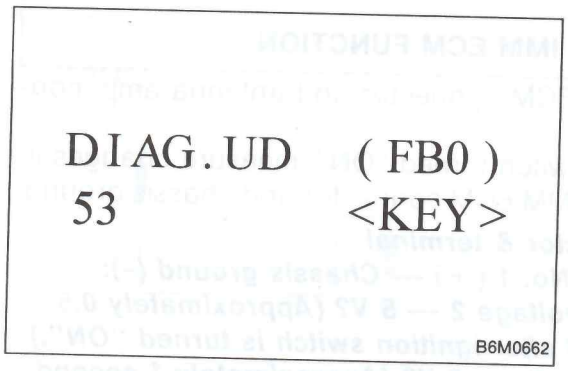
YES : Replace antenna amp. <Ref. to 6-2 [W10A2].>
NO : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).

7	CHECK IGNITION KEY.

1) Connect antenna amp. connector and then pull out key from ignition switch.
2) Start engine using keys that have undergone the teaching operation, furnished with vehicle.

CHECK : ***Does engine start?***

YES : Replace ignition key. Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).
NO : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).



H: DIAGNOSTIC ITEM 5
— KEY —

DIAGNOSIS:

- Use of unregistered key in IMM ECM

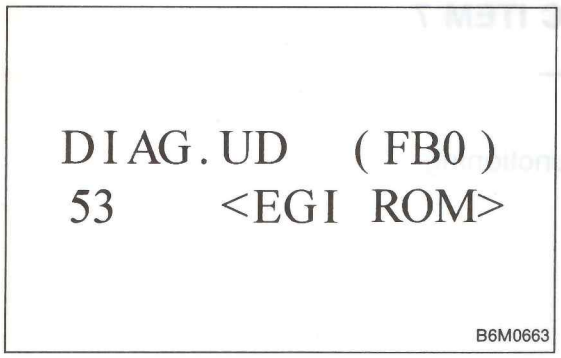
1	**PERFORM TEACHING OPERATION ON IGNITION KEY.**

Perform teaching operation on all keys with vehicle. Refe to teaching operation manual (Pub. No. S0590GZ).

CHECK ***: Is teaching operation for all keys completed?***

YES : END

NO : Replace IMM ECM. <Ref. to 6-2 [W10A1].> Ther perform teaching operation. Refer to teachinç operation manual (Pub. No. S0590GZ).



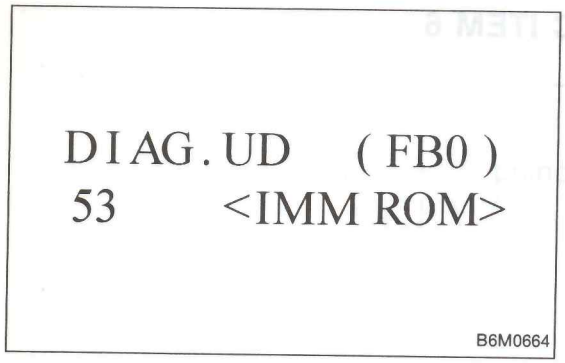
I: DIAGNOSTIC ITEM 6
— EGI ROM —

DIAGNOSIS:

- ECM malfunctioning

1		**REPLACE ECM.**

Replace ECM. Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).



J: DIAGNOSTIC ITEM 7
— IMM ROM —

DIAGNOSIS:

- IMM ECM malfunctioning

1	**REPLACE IMM ECM.**

Replace IMM ECM. Then perform teaching operation. Refer to teaching operation manual (Pub. No. S0590GZ).