BackupServiceManual

3000GT

1991: Volume 2

FOREWORD

This Service Manual has been prepared with the latest service information available at the time of publication. It is subdivided into various group categories and each section contains diagnosis, disassembly, repair, and installation procedures along with complete specifications and tightening references. Use of this manual will aid in properly performing any servicing necessary to maintain or restore the high levels of performance and reliability designed into these outstanding vehicles.

MITSUBISHI MOTOR SALES OF AMERICA, Inc.

Reprinted in USA

GROUP / SECTION INDEX

MOOAAA- -B

NOTE:
For Engine, Chassis & Body, refer to ...
Volume-1
"Engine, Chassis & Body"

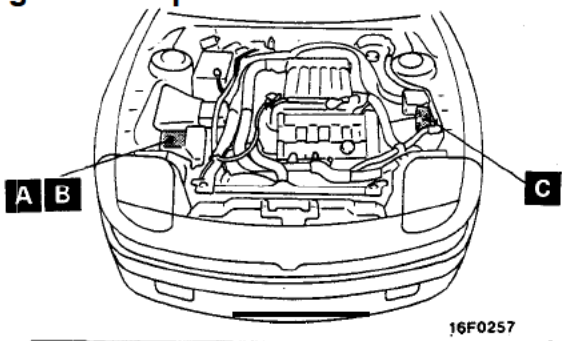
FUSIBLE LINK AND FUSE LOCATION

M16BA--

Name	Symbol	Name	Symbol
Dedicated fuse ① to ⑦	B	Fusible link	A
Dedicated fuse ⑧ ⑨	C	Multi-purpose fuse	D
Dedicated fuse ⑩	E		–

NOTE
The "Name" column is arranged in alphabetical order.

<Engine compartment>



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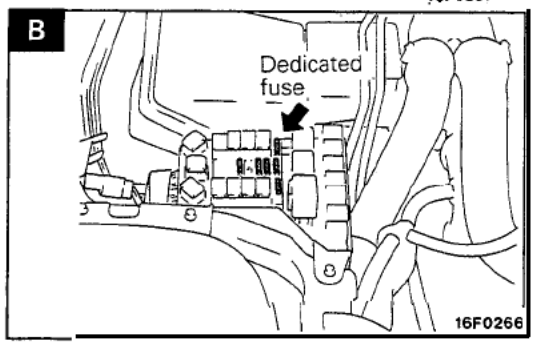

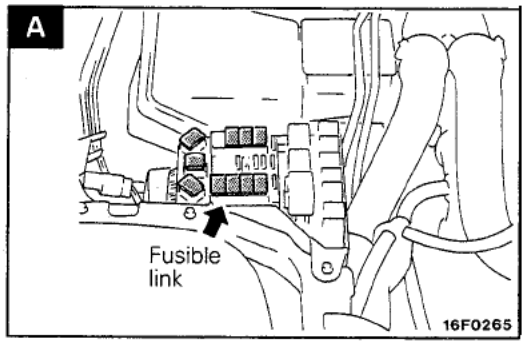

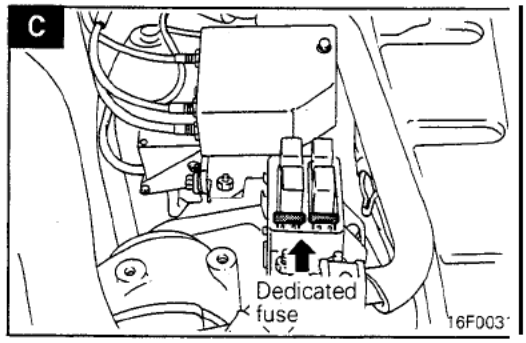

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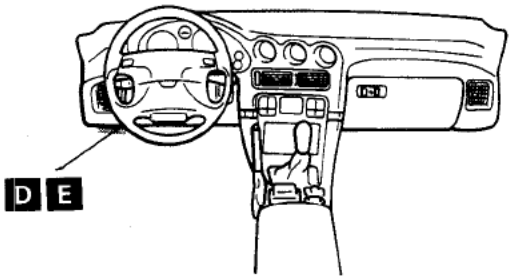

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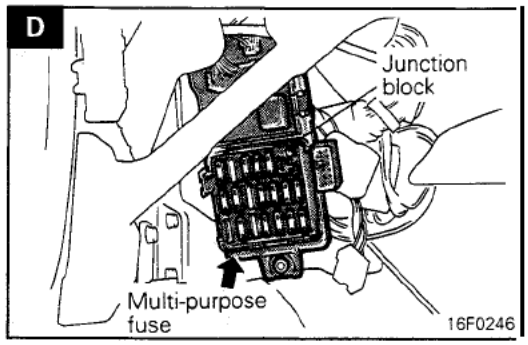
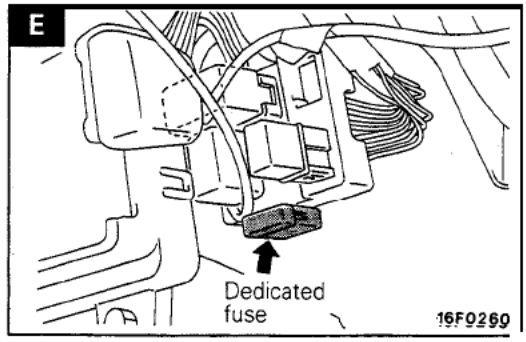


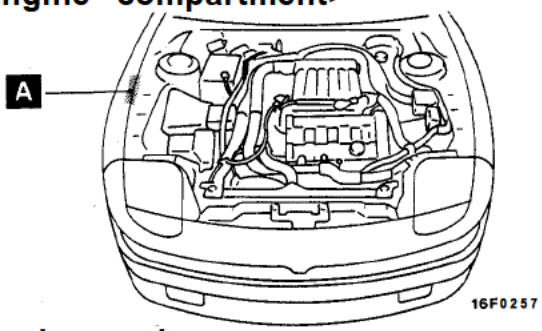


TSB Revision

DIODE LOCATION

Name	Symbol	Name	Symbol
Diode (ABS circuit)	A	Diode (Seat belt warning circuit)	C
Diode (Fog light circuit)	D	Diode (Theft-alarm circuit)	C
Diode (MPI circuit)	B	Diode (4WS fluid level warning light circuit)	E

<Engine compartment>



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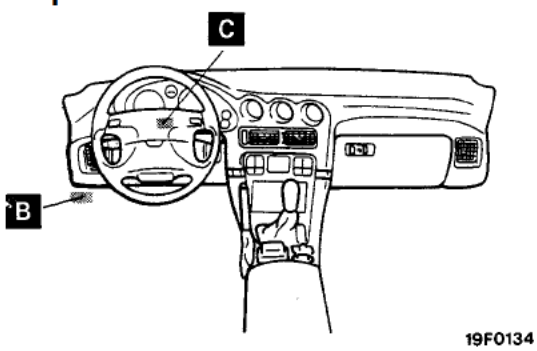

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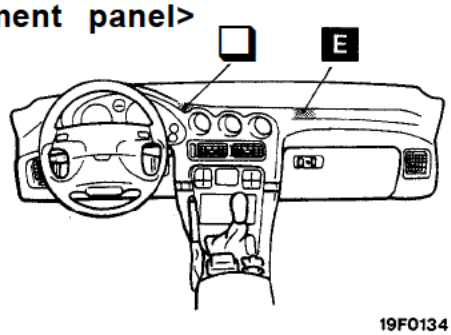

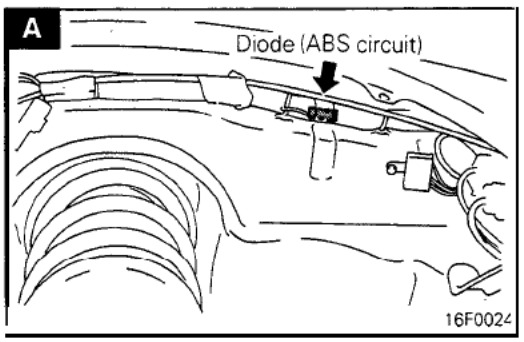

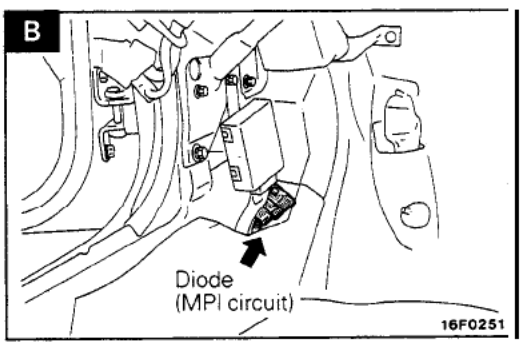

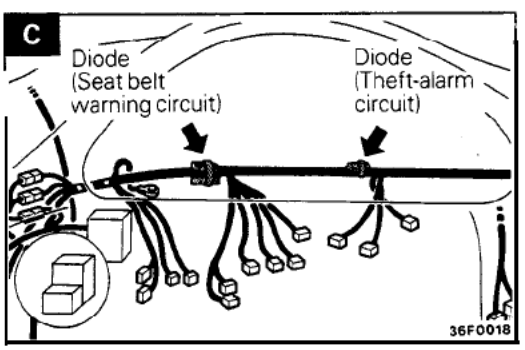

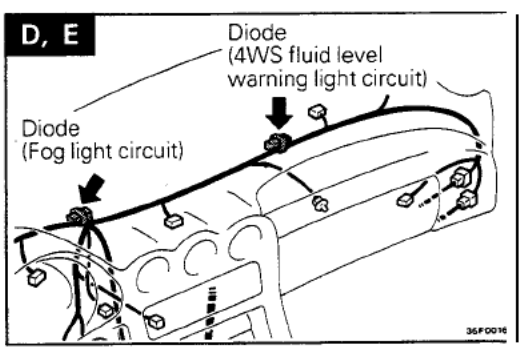

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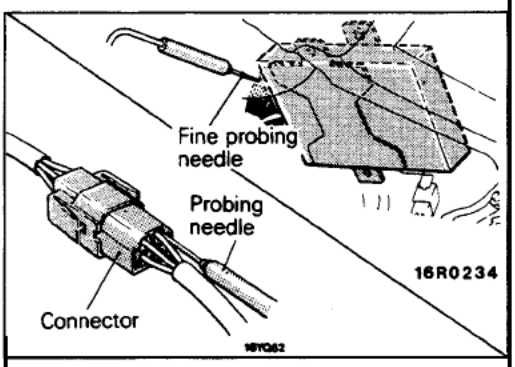
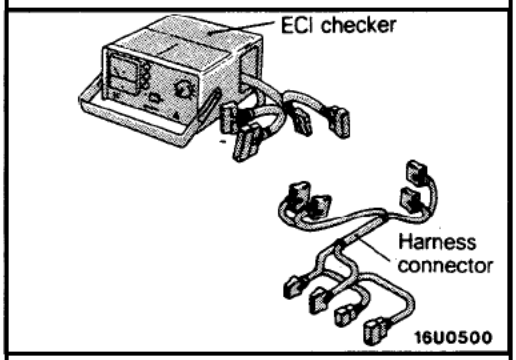
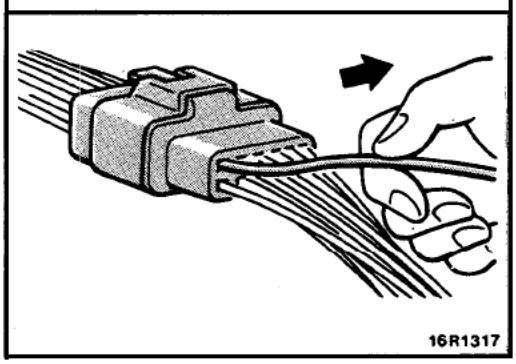






INSPECTION OF HARNESS CONNECTOR

M16C/

CONTINUITY AND VOLTAGE TEST FOR CONNECTOR

Following procedures shall be followed for testing continuity and voltage at connector in order to prevent improper contact and deterioration of waterproofing in connector.

CONVENTIONAL (NON-WATERPROOF) CONNECTOR

Check shall be done by inserting a probing needle from harness side.

WATER PROOF CONNECTOR

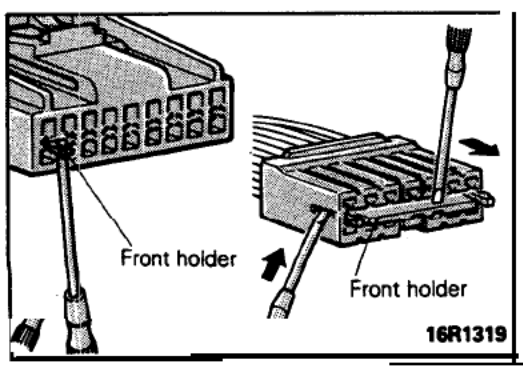
Caution
Do not insert probing needle from harness side as it will deteriorate waterproofing and cause rusting. To inspect the energized circuit, use the ECI checker.

CHECK FOR IMPROPER ENGAGEMENT OF TERMINAL

When the terminal stopper of connector is out of order, engagement of male and female terminals becomes improper even when the connector itself is engaged perfectly and the terminal sometimes slips out to the rear side of connector. Ascertain, therefore, that each terminal does not come off the connector by pulling each harness wire.

ENGAGING AND DISENGAGING OF CONNECTOR TERMINAL'

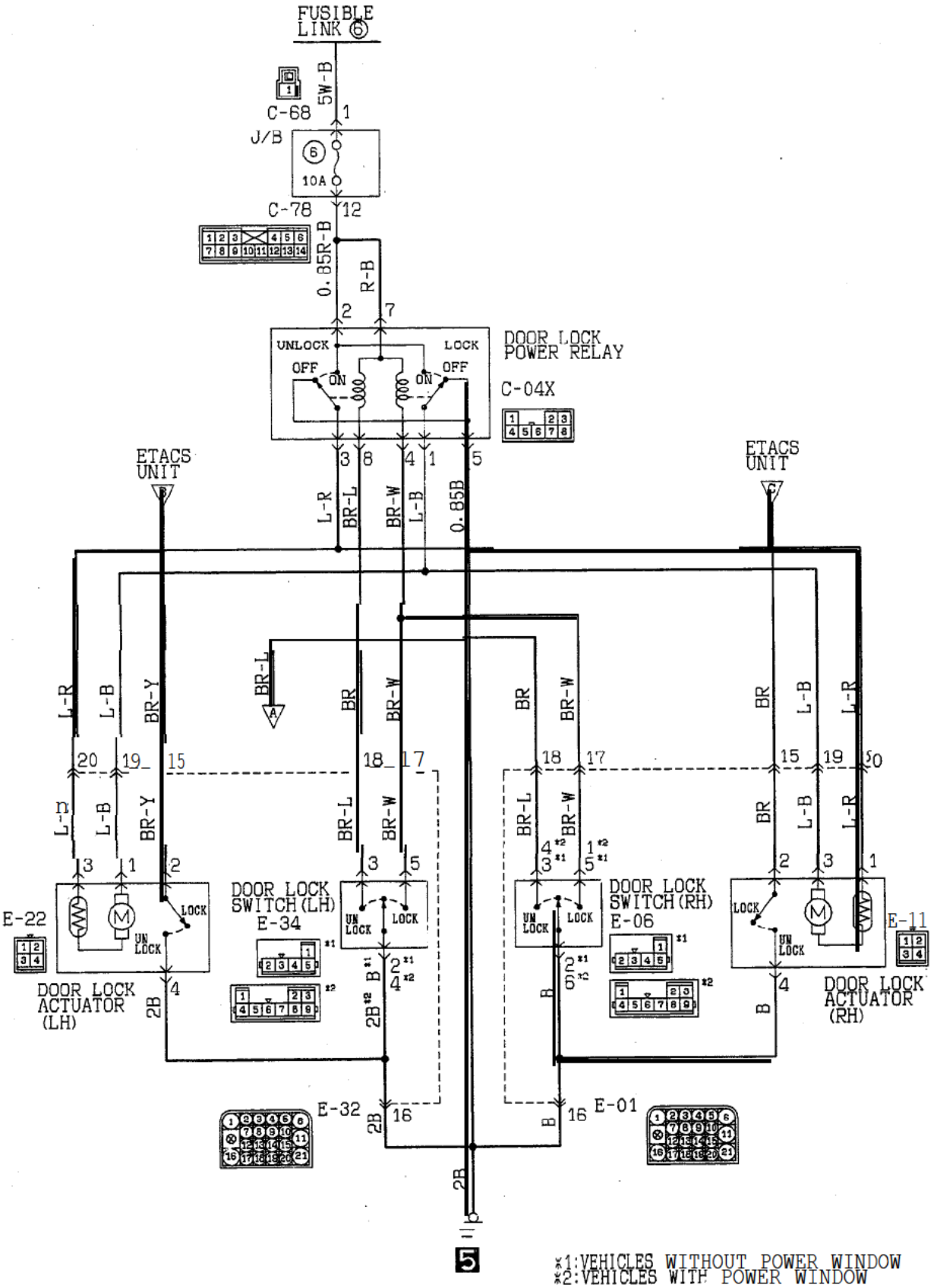
Connectors which are loose shall be rectified by removing the female terminal from connector housing and raising its lance to establish a more secure engagement. Removal of connector terminal used for ECI and 4 A/T control circuit shall be done in the following manner.



COMPUTER CONNECTOR

(1) Insert screwdriver [1.4 mm (.06 in.) width] as shown in the figure, disengage front holder and remove it.

CENTRAL DOOR LOCKING CIRCUIT



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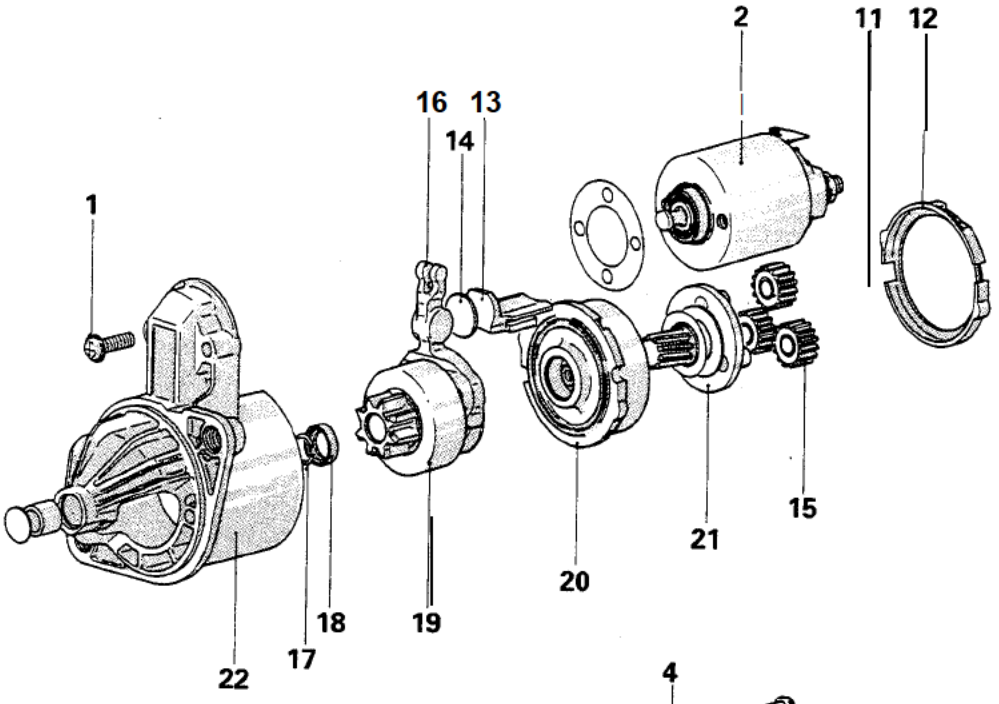
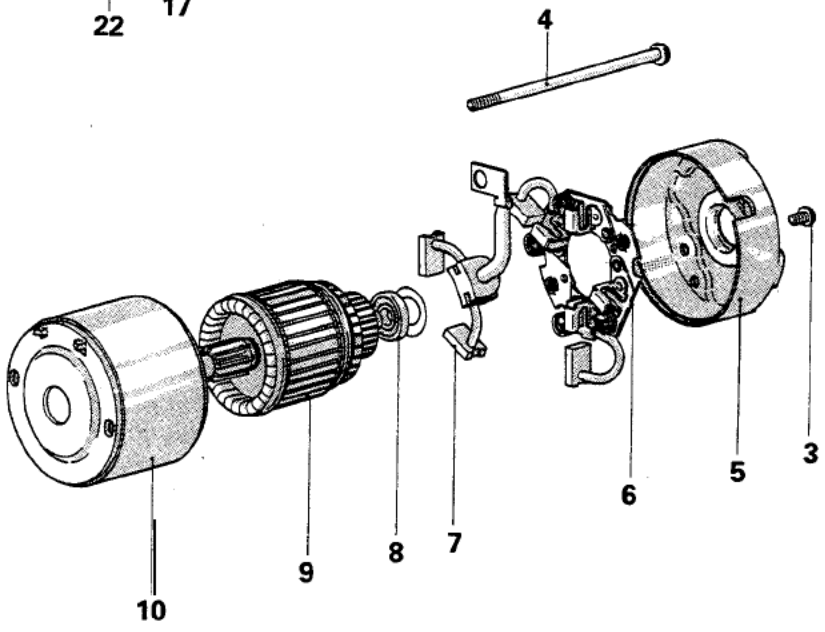
DISASSEMBLY AND REASSEMBLY





Disassembly steps

1. **Screw**
2. Magnetic switch
3. Screw
4. Screw
5. Rear bracket
6. Brush holder
7. Brush
8. Rear bearing
9. ➠ Armature
10. Yoke assembly
11. ➠ Ball
12. Packing A
13. Packing B
14. Plate
15. Planetary gear
16. Lever
17. ➠ ● * Snap ring
18. ➠ ● * Stop ring
19. Overrunning clutch
20. Internal gear
21. Planetary gear holder
22. Front bracket

6EL199

SERVICE POINTS OF DISASSEMBLY

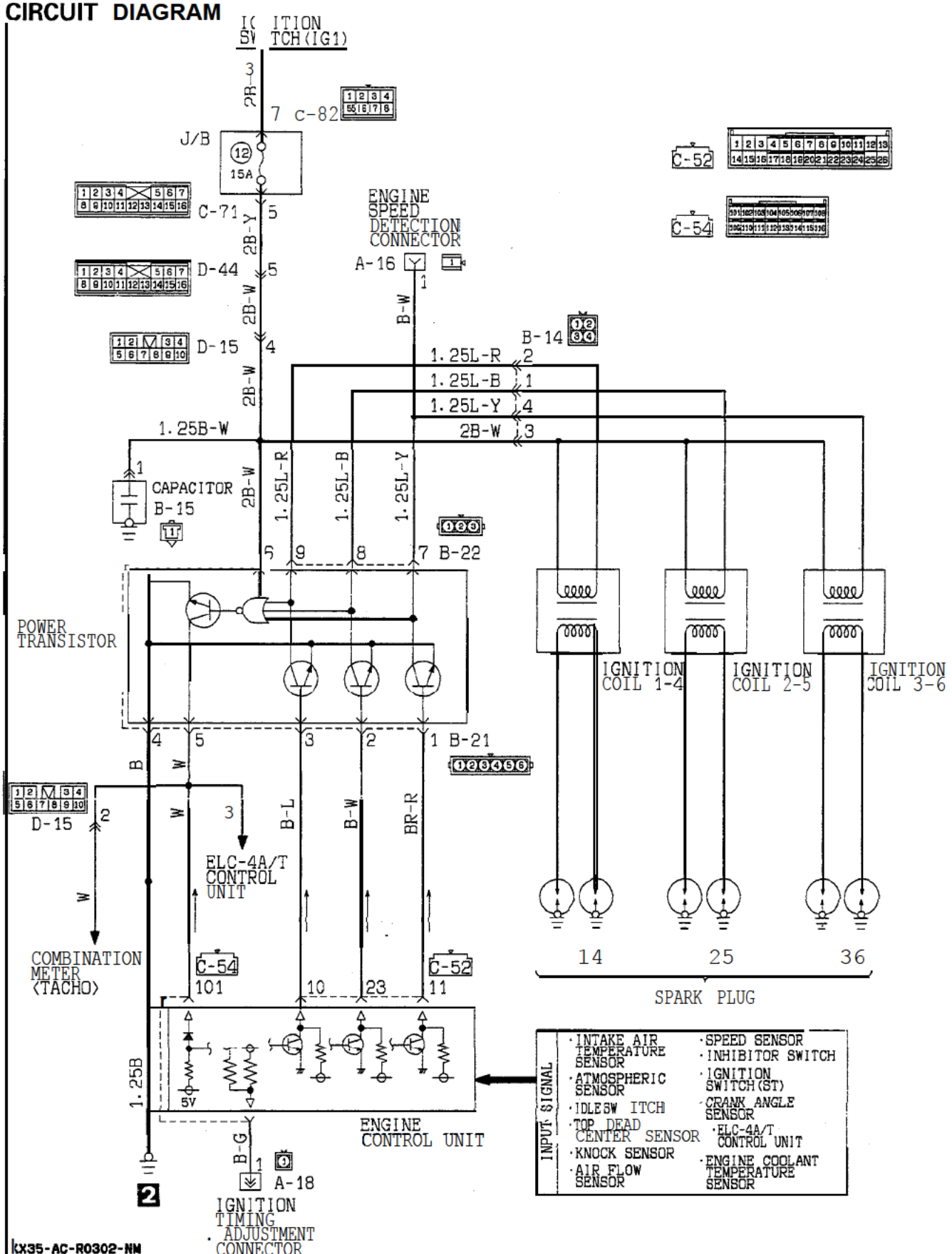
9. REMOVAL OF ARMATURE / 11. BALL

Caution
When removing the armature, take care not to lose the bail (which is used as a bearing) in the armature end.

TROUBLESHOOTING

M16GHAH

CIRCUIT DIAGRAM



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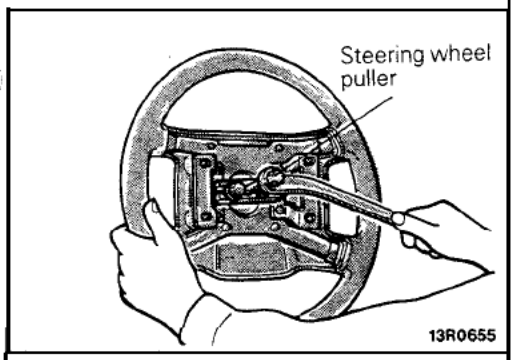
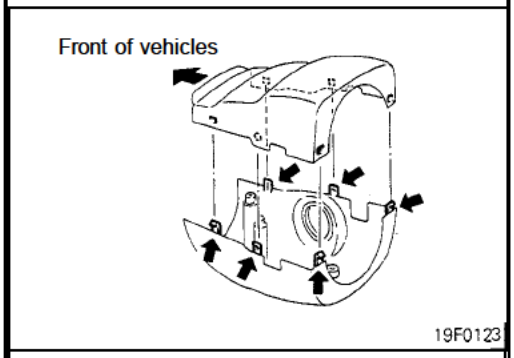


2. REMOVAL OF STEERING WHEEL

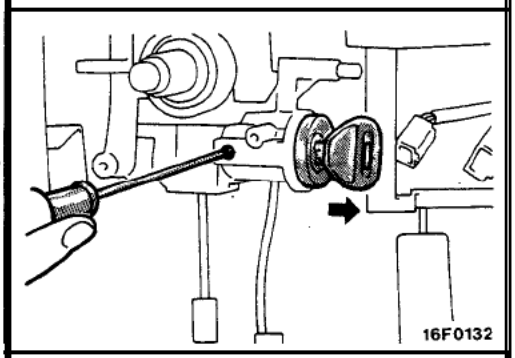
Remove the steering wheel by using a steering wheel puller.

Caution
Do not hammer on the steering wheel to remove it; doing so may damage the collapsible mechanism.



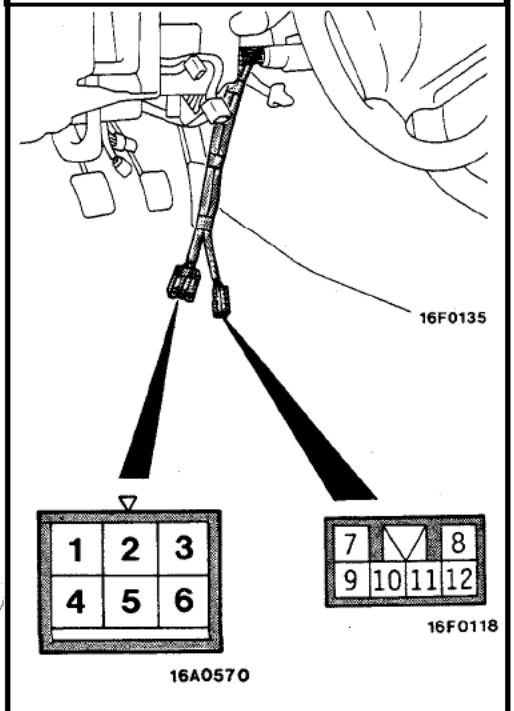
4. REMOVAL OF COLUMN COVER LOWER / 5. COLUMN COVER UPPER

After the screws have been removed, remove the covers, while making sure not to break the grippers.



9. REMOVAL OF STEERING LOCK CYLINDER

(1) Insert the ignition key into the steering lock cylinder and place the key in the ACC position.
(2) Press the lock pin down with a Phillips head screwdriver (small-size one) to remove the steering lock cylinder.



INSPECTION

IGNITION SWITCH INSPECTION

(1) Remove the knee protector, the column cover lower and the column cover upper. (Refer to GROUP 52A – Instrument Panel.)
(2) Disconnect the wiring connector from the ignition switch and key reminder switch, and connect an ohmmeter to the switch side connector.

(3) Operate the switch, and check the continuity between the terminals.

Terminal / Position	Key	Ignition switch 1	2	3	4	5	6	Key reminder switch 7	8	9	12	Ignition key illumination light 10	11
LOCK	Removed									○	○		
ACC	Inserted			○			○	○	○			○	○
ON			○	○	○		○						
START		○			○	○	○						

NOTE
○–○ indicates that there is continuity between the terminals

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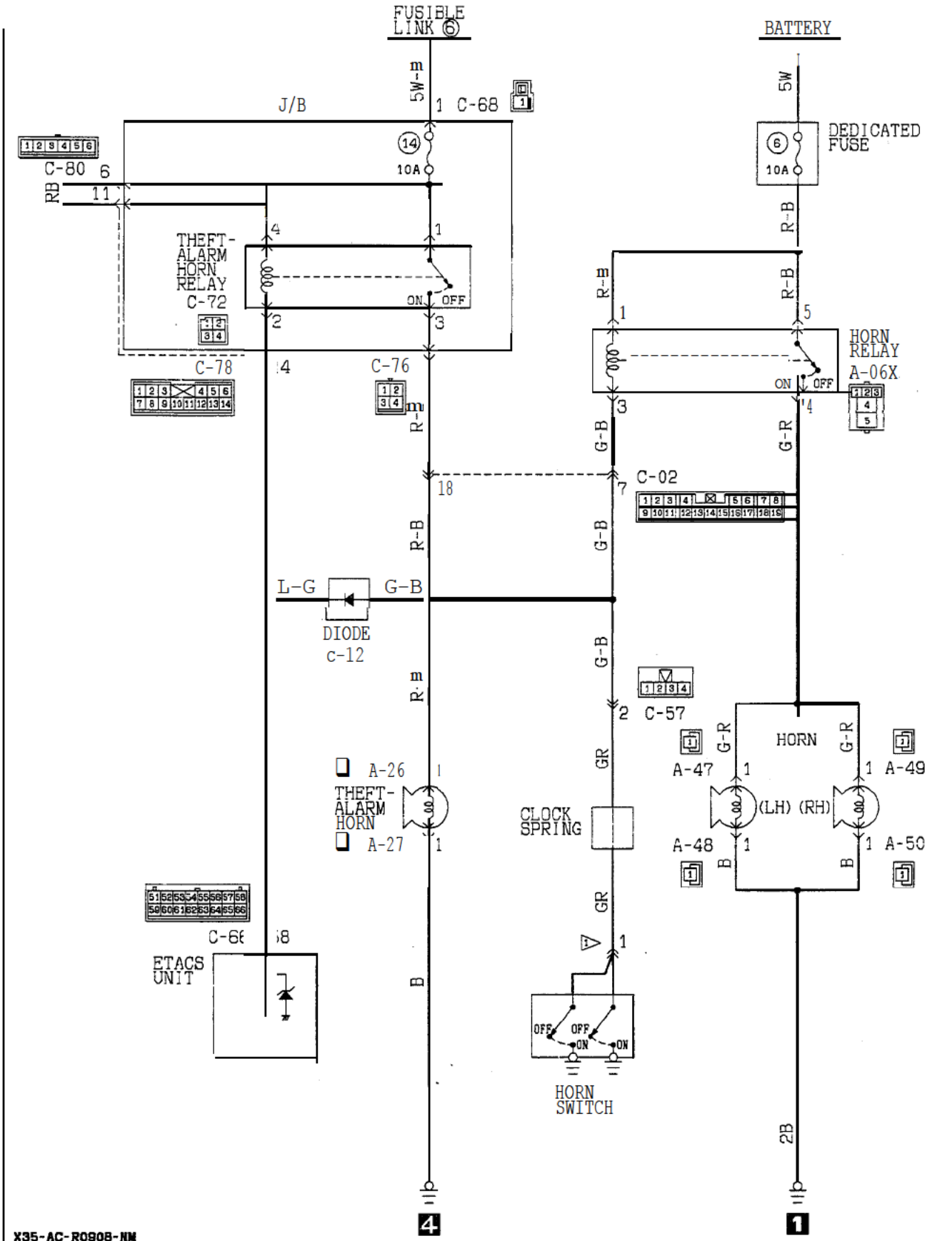
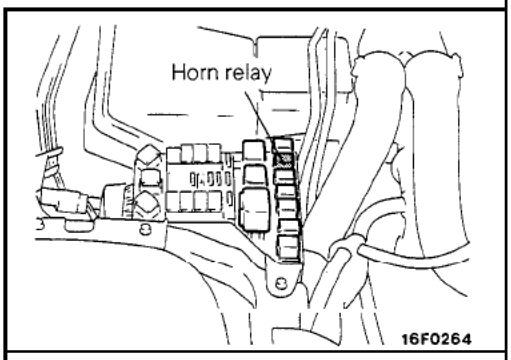
<VEHICLES WITH THEFT-ALARM SYSTEM>

CIRCUIT DIAGRAM





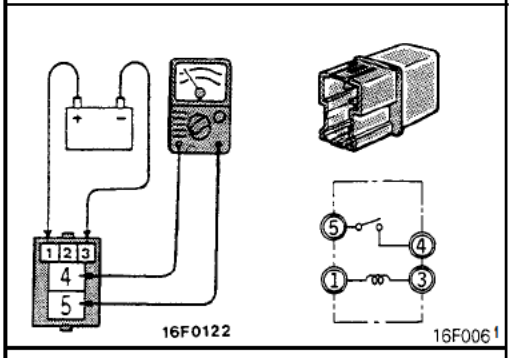
RELAY

M54LLAA

INSPECTION

HORN RELAY

(1) Take out the horn relay from the engine compartment relay box.

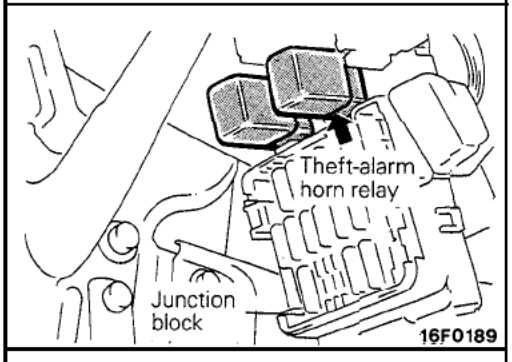


(2) Connect battery to terminal 1 and check continuity between terminals with terminal 3 grounded.

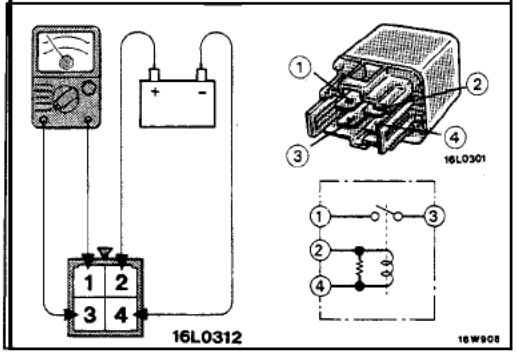
Power is supplied	4 – 5 terminals	Continuity
Power is not supplied	4 – 5 terminals	No continuity
	1 – 3 terminals	Continuity

THEFT-ALARM HORN RELAY

(1) Take out the theft-alarm horn relay from junction block.



(2) Connect battery to terminal 2 and check continuity between terminals with terminal 4 grounded.



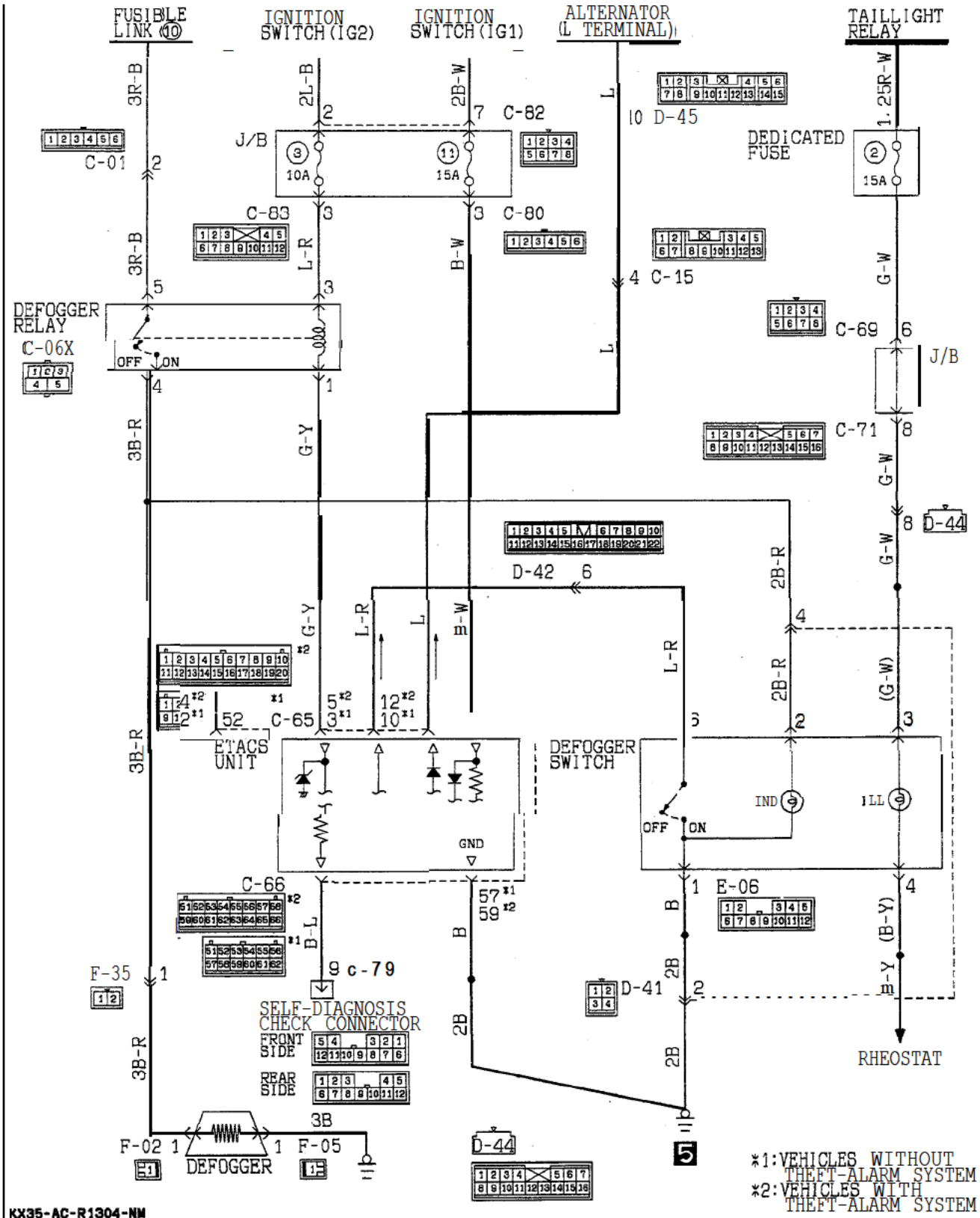
Power is supplied	1 – 3 terminals	Continuity
Power is not supplied	1 – 3 terminals	No continuity
	2 – 4 terminals	Continuity

REAR WINDOW DEFOGGER

TROUBLESHOOTING

M54PHBK

CIRCUIT DIAGRAM



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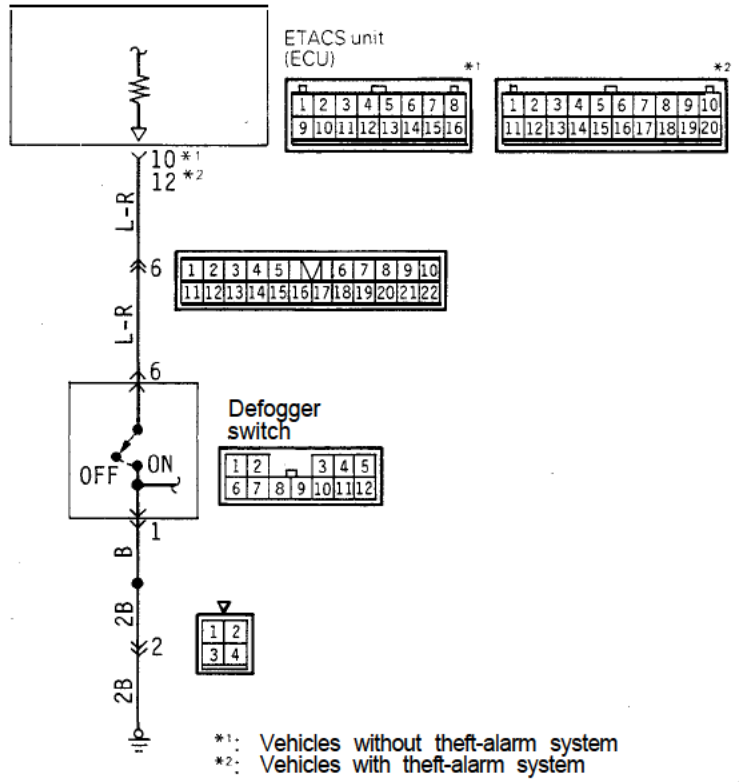
2. DEFOGGER SWITCH INPUT CIRCUIT



Operation Description

When the defogger switch is turned on with the ignition placed in the "ON" position and the alternator generating current (L terminal is not lower than 10V), the timer circuit of ECU operates.

Electronic Control Unit Terminal Voltage (Connection Status of Electronic Control Unit Connector)

ECU terminal No.	Signal	Status	Terminal voltage
10*1 12*2	Defogger switch "ON" signal	Defogger switch "OFF"	5V
		Defogger switch "ON"	ov

Checking the Defogger Switch ("ON" Position) Circuit (Disconnect the ECU Connector and Check at the Wiring Harness Side.)

ECU terminal No.	Connected to/measured component	Measure-ment	Tester connection	Check condition	Standard
10*1 12*2	Defogger switch "ON"	Resistance	10*1-ground 12*2-ground	Defogger switch "OFF"	No continuity
				Defogger switch "ON"	Continuity

NOTE
*1: Vehicles without theft-alarm system
*2: Vehicles with theft-alarm system

Checking Individual Part

Defogger switch: Refer to P.54-122.

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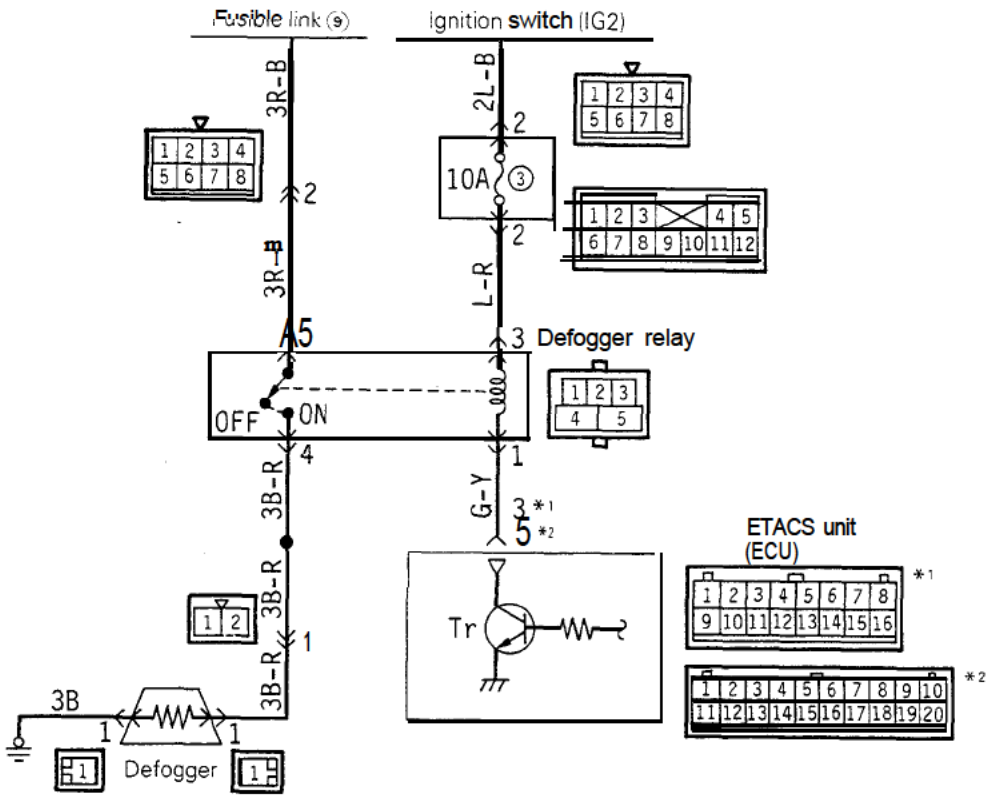
4. DEFOGGER RELAY ACTIVATION CIRCUIT



*1: Vehicles without theft-alarm system
*2: Vehicles with theft-alarm system

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Operation Description

When the defogger switch is turned on with the ignition switch placed in the ON position and with the alternator producing current (L terminal is not lower than 10V), the transistor of ECU is turned on for 11 minutes to turn on the defogger relay. Therefore, the current supplied from the battery flows to the defogger through fusible link No. 9.

NOTE
If the defogger switch is turned on again or the alternator no more produces current (L terminal is not higher than 3.5V) while the defogger is in operation, the defogger relay is turned off and the current stops flowing to the defogger.

Electronic Control Unit Terminal Voltage (Disconnect the ECU Connector and Check at the Wiring Harness Side.)

ECU terminal No.	Signal	Status		Standard
3*1 5*2	Defogger relay	Ignition switch	OFF	ov
			ACC	System voltage

NOTE
*1: Vehicles without theft-alarm system
*2: Vehicles with theft-alarm system

Checking Indiyidual Part

Defogger relay: Refer to P.54-123.

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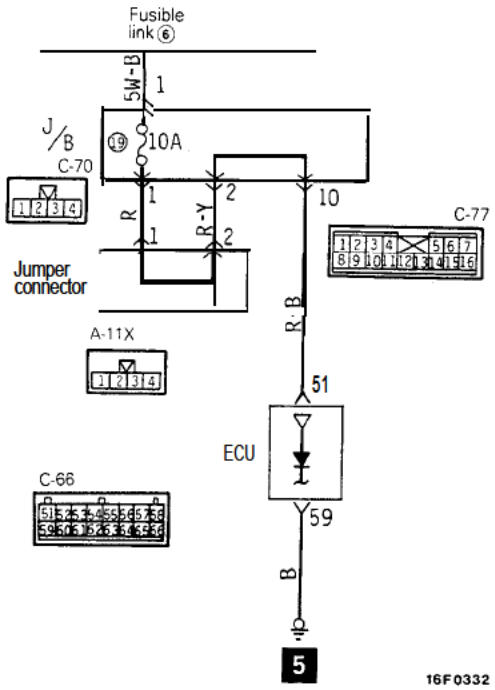
CHECKING THE CIRCUIT AND INDIVIDUAL PART

1. ETACS POWER-SUPPLY AND GROUND CIRCUITS



Description of operation

The battery supplies a stabilized 5V power supply to the ECU, via the constant-voltage circuit and terminal 51 (which is directly connected to the battery).

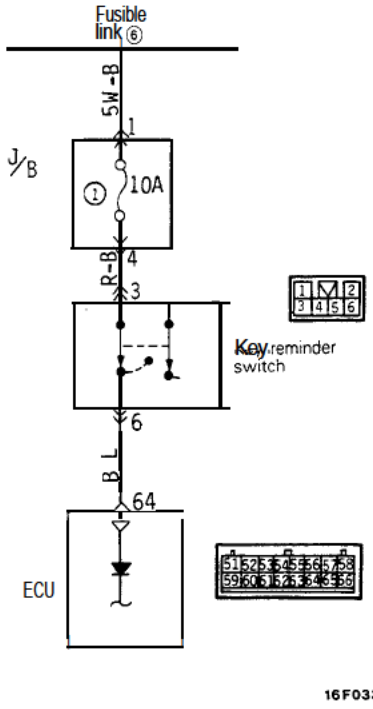
ECU terminal voltage (Connection condition of the ECU connector).

ECU terminal No.	Signal	Condition	Terminal voltage
51	ECU power supply	At all times	12V

Checking the ground circuit (Disconnect the connector and check at the wiring harness side.)

ECU terminal No.	Connected to/measured component	Measurement	Tester connection	Check condition	Standard
59	ECU ground	Resistance	59 - ground	At all times	Continuity

2. KEY-REMINDER SWITCH INPUT CIRCUIT



Description of operation

The key-reminder switch is switched OFF and HIGH-level signals are sent to the ECU when the key is inserted into the ignition key cylinder: when the key is' removed, the key-reminder switch is switched ON and LOW-level signals are sent to the ECU.

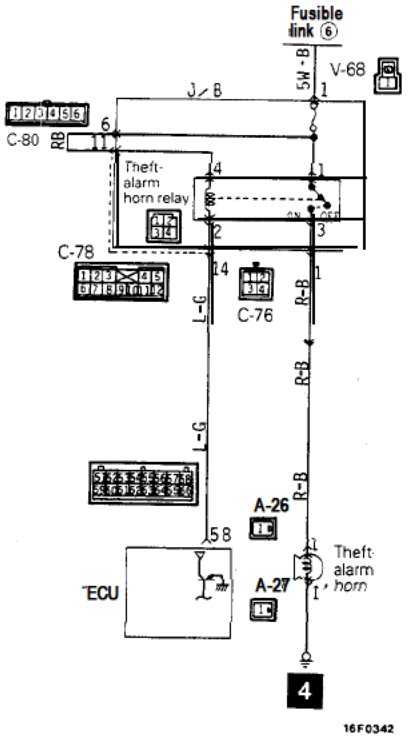
ECU terminal voltage (Connection condition of the ECU connector).

ECU terminal No.	Signal	Condition	Terminal voltage
64	Key-reminder switch	Key removed	12V
		Key inserted	0V

Checking the key-reminder switch circuit (Disconnect the connector of the ECU and check at the wiring harness side.)

ECU terminal No.	Connected to/measured component	Measurement	Tester connection	Check condition	Standard
64	Key-reminder switch	Resistance	64 - ground	Key removed	Continuity
				Key inserted	No continuity

12. THEFT ALARM HORN ACTIVATION CIRCUIT



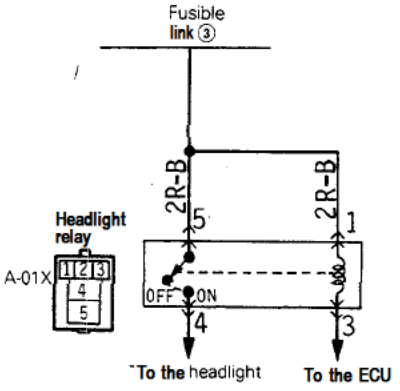
Description of operation

The ECU transistor is turned ON if the vehicle door, etc. are opened without use of the key.
This energizes the theft alarm horn relay to activate the horn.

Checking the horn activation circuit (Disconnect the connector of the ECU, then short-circuit terminal connector No. 58, and activate the theft alarm horn relay.)

Step	Check object	Judgement		Cause	Remedy
		Normal	Mal-function		
1	Horn relay terminal voltage (1 -Ground)	12V	0V	Malfunction of the horn relay	Check the horn relay (Refer to P.54-79.)
2	Horn terminal voltage (1-Ground)	12V	0V	Harness damaged or disconnected	Repair the harness
3	Horn terminal voltage (1'-Ground)	Horn sounds (0V)	Horn doesn't sound (0V)	Malfunction of the horn	Replace the horn
			Battery voltage	Damaged or disconnected wiring of ground circuit	Repair the harness

13. HEADLIGHT POWER-SUPPLY CIRCUIT



Description of operation

Power voltage is always supplied to the headlight relay.

Checking the headlight power-supply circuit (Disconnect the headlight relay)

Check object	Judgement		Cause	Remedy
	Normal	Mal-function		
(Wiring harness side) terminal voltage (5-Ground)	12V	0V	Fusible link ③ blown	Replace the fusible link
			Damaged or disconnected harness	Repair the harness