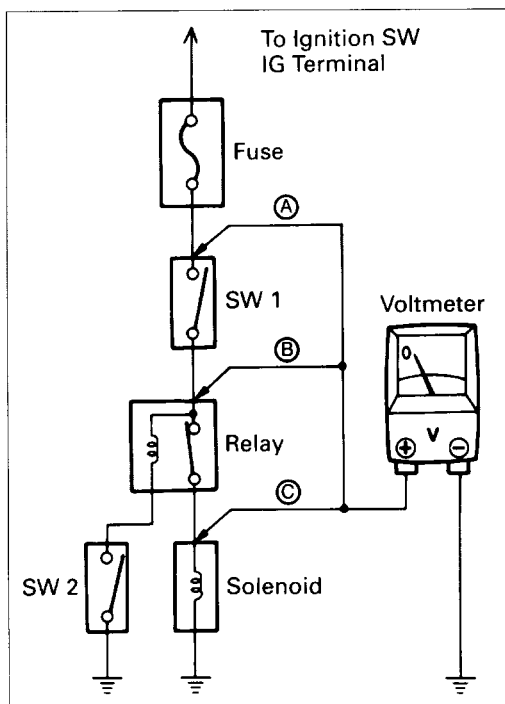


## C TROUBLESHOOTING



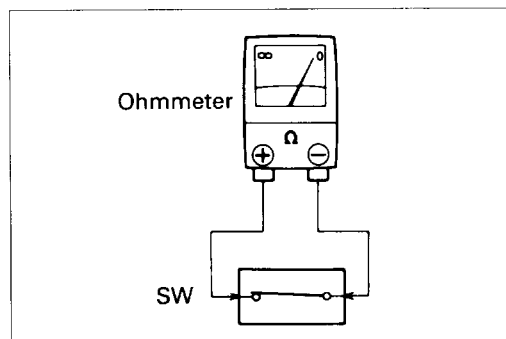
### VOLTAGE CHECK

- (a) Establish conditions in which voltage is check point.

Example:

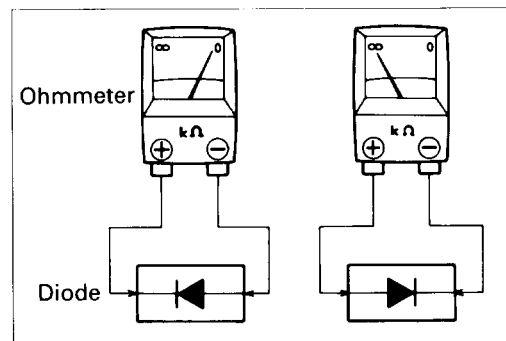
- Ⓐ – Ignition SW on
- Ⓑ – Ignition SW and SW 1 on
- Ⓒ – Ignition SW, SW 1 and Relay on (SW2 off)

- (b) Using a voltmeter, connect the negative lead to a ground point or negative battery terminal, and a positive lead to the connector or component terminal. This check can be done with a test light instead of a voltmeter.



### CONTINUITY AND RESISTANCE CHECK

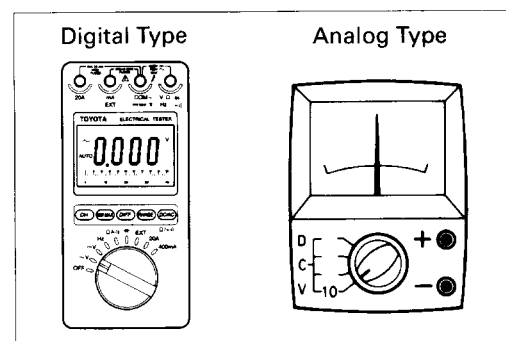
- (a) Disconnect the battery terminal or wire so there is no voltage between the check points.
- (b) Contact the two leads of an ohmmeter to each of the check point.



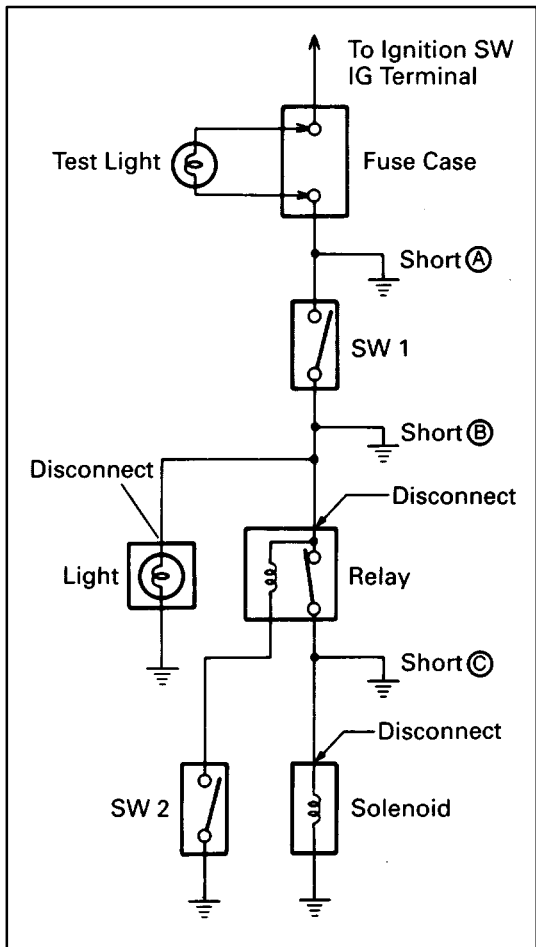
If the circuit has diodes, reverse the two leads and check again.

When contacting the negative lead to the diode positive side and the positive lead to the negative side, there should be continuity.

When contacting the two leads in reverse, there should be no continuity.



- (c) Use the volt/ohmmeter with high impedance (10kΩ/V minimum) for troubleshooting of the electrical circuit.



## FINDING A SHORT CIRCUIT

- Remove the blown fuse and disconnect all loads of the fuse.
- Connect a test light in place of the fuse.
- Establish conditions in which the test light comes on.

Example:

- (A) – Ignition SW on
  - (B) – Ignition SW and SW 1 on
  - (C) – Ignition SW, SW 1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)
- Disconnect and reconnect the connectors while watching the test light.  
The short lies between the connector where the test light stays lit and the connector where the light goes out.
  - Find the exact location of the short by lightly shaking the problem wire along the body.

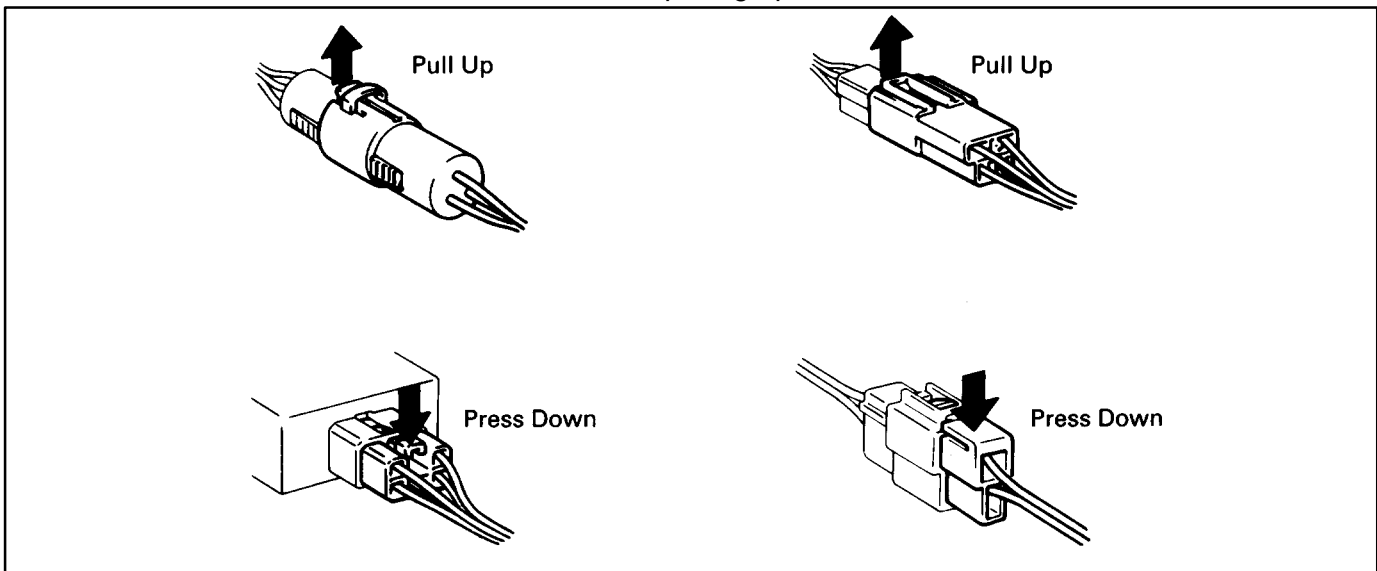
## CAUTION:

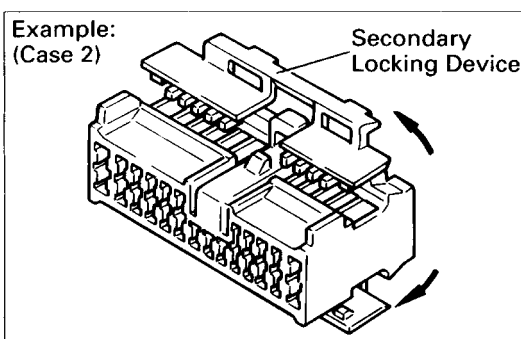
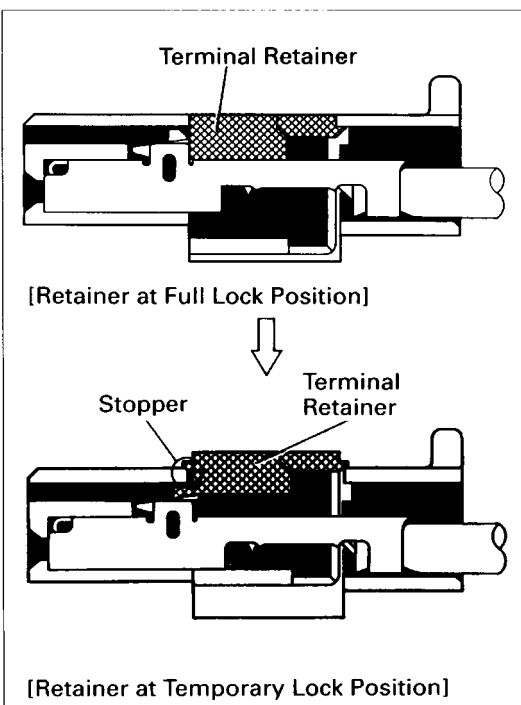
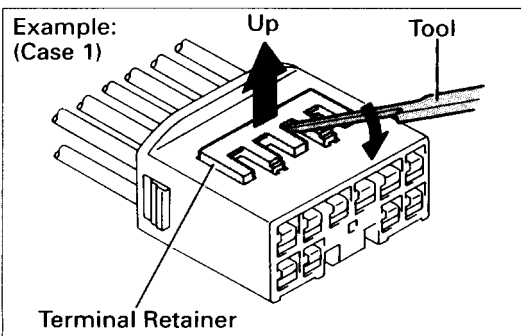
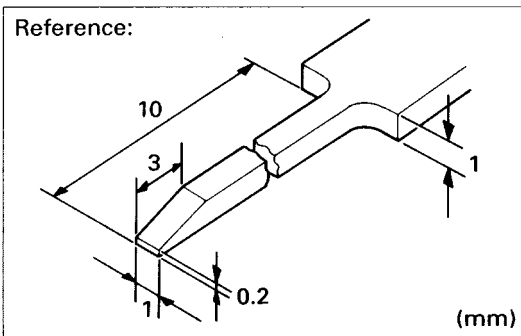
- Do not open the cover or the case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)
- When replacing the internal mechanism (ECU part) of the digital meter, be careful that no part of your body or clothing comes in contact with the terminals of leads from the IC, etc. of the replacement part (spare part).

## DISCONNECTION OF MALE AND FEMALE CONNECTORS

To pull apart the connectors, pull on the connector itself, not the wire harness.

HINT: Check to see what kind of connector you are disconnecting before pulling apart.





## HOW TO REPLACE TERMINAL (with terminal retainer or secondary locking device)

### 1. PREPARE THE SPECIAL TOOL

HINT: To remove the terminal from the connector, please construct and use the special tool or like object shown on the left.

### 2. DISCONNECT CONNECTOR

### 3. DISENGAGE THE SECONDARY LOCKING DEVICE OR TERMINAL RETAINER

- Locking device must be disengaged before the terminal locking clip can be released and the terminal removed from the connector.
- Use a special tool or the terminal pick to unlock the secondary locking device or terminal retainer.

### NOTICE:

**Do not remove the terminal retainer from connector body.**

#### Ⓐ For Non-Waterproof Type Connector

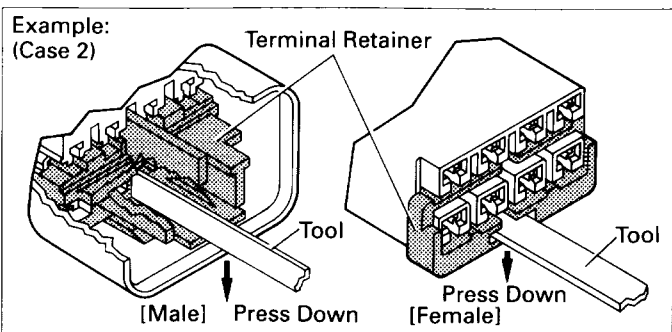
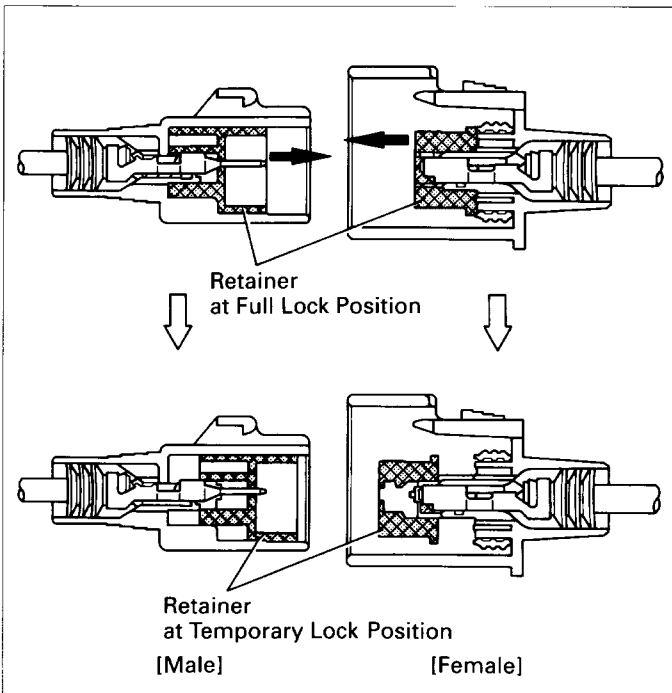
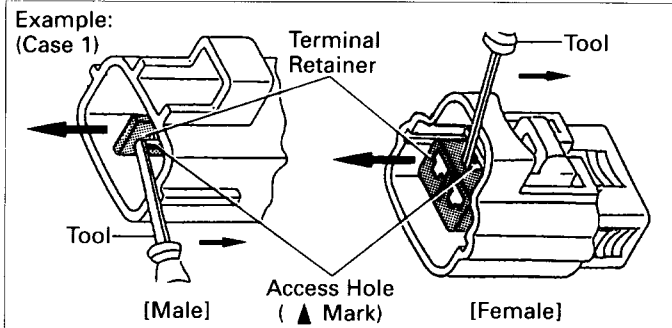
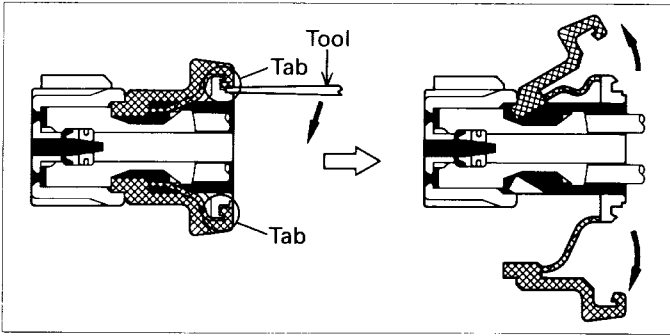
HINT: The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

#### “Case 1”

Raise the terminal retainer up to the temporary lock position.

#### “Case 2”

Open the secondary locking device.



## ② For Waterproof Type Connector

HINT: Terminal retainer color is different according to connector body.

Example:

Terminal Retainer	:Connector Body:
Black or White	:Gray
Black or White	:Dark Gray
Gray or White	:Black

### “Case 1”

Type where terminal retainer is pulled up to the temporary lock position (Pull Type).

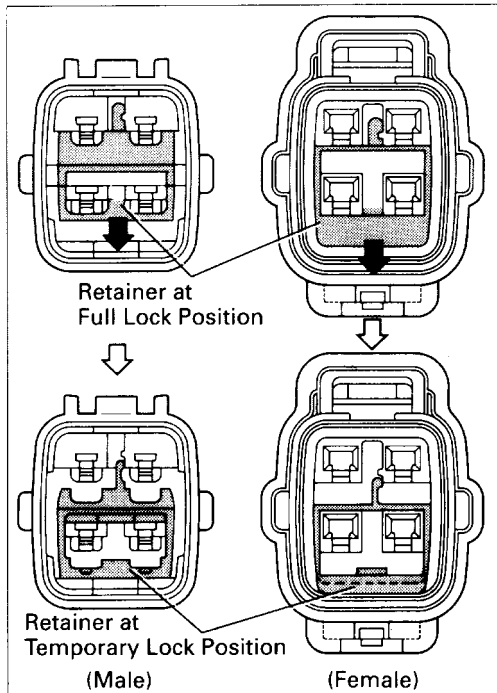
Insert the special tool into the terminal retainer access hole (▲Mark) and pull the terminal retainer up to the temporary lock position.

HINT: The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

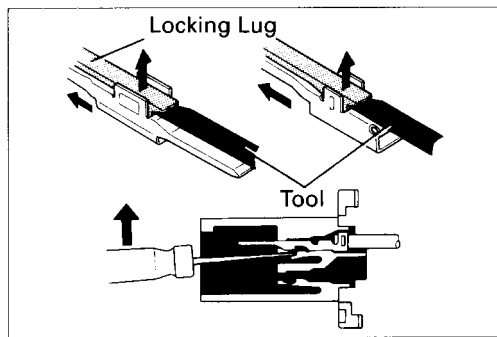
### “Case 2”

Type which cannot be pulled as far as Power Lock insert the tool straight into the access hole of terminal retainer as shown.

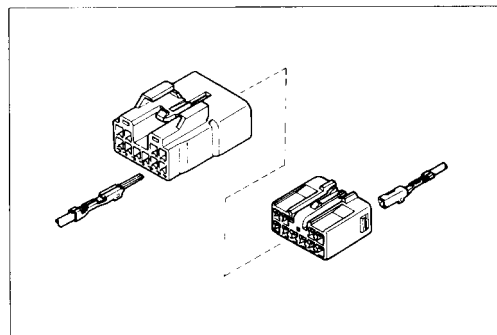
## C TROUBLESHOOTING



Push the terminal retainer down to the temporary lock position.



(c) Release the locking lug from terminal and pull the terminal out from rear.



### 4. INSTALL TERMINAL TO CONNECTOR

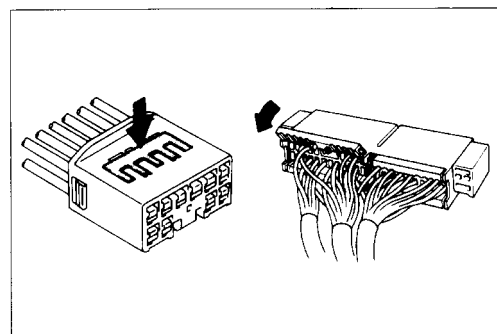
(a) Insert the terminal.

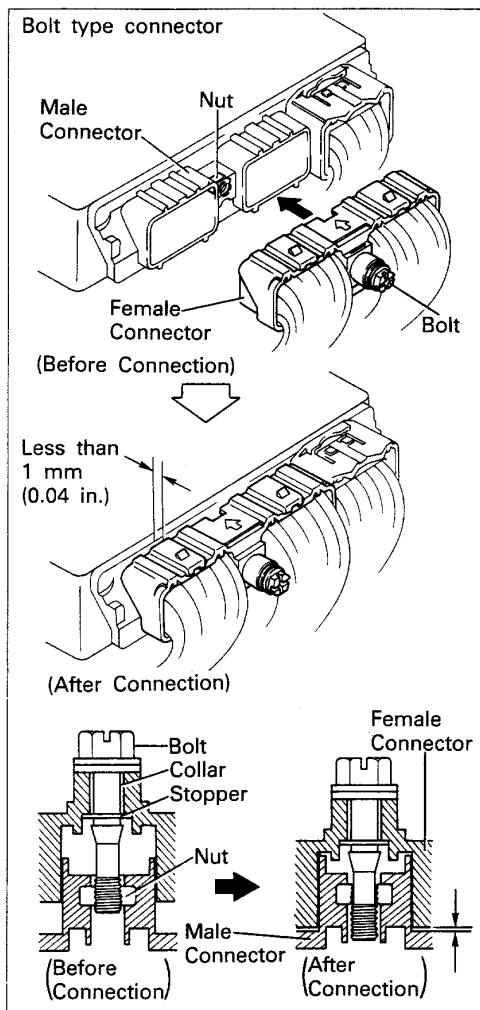
HINT:

1. Make sure the terminal is positioned correctly.
2. Insert the terminal until the locking lug locks firmly.
3. Insert the terminal with terminal retainer in the temporary lock position.

(b) Push the secondary locking device or terminal retainer into the full lock position.

### 5. CONNECT CONNECTOR





## DISCONNECTION AND CONNECTION OF BOLT TYPE CONNECTORS

For engine control module (engine and electronically controlled transmission ECU) in this vehicle, connectors are used which require a bolt built into the connector to be screwed down to securely connect the connector.

### 1. Disconnect the connector

After completely loosening the bolt, the two parts of the connector can be separated.

#### NOTICE:

Do not pull the wire harness when disconnecting the connector.

### 2. Connect the connector

#### NOTICE:

Before connecting the connector, always check that the terminals are not bent or damaged.

(a) Match the guide section of the male connector correctly with the female connector, then press them together.

(b) Tighten the bolt.

Make sure the connectors are completely connected, by tightening the bolt until there is a clearance of less than 1 mm (0.04 in.) between the bottom of male connector and the end of female connector.