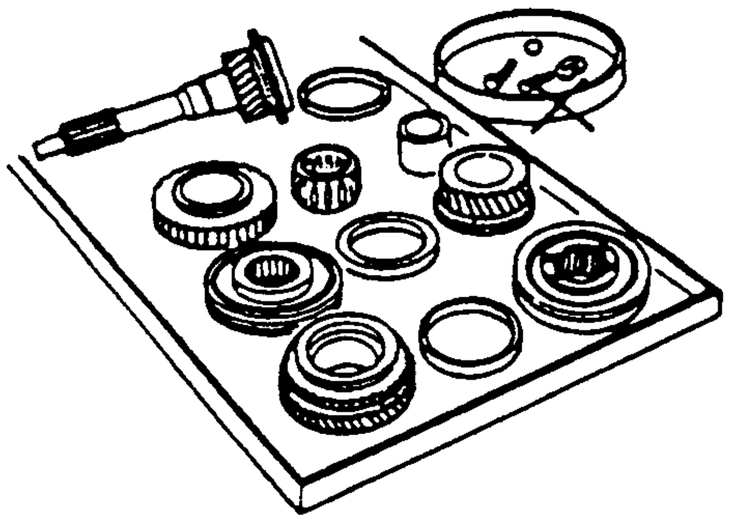
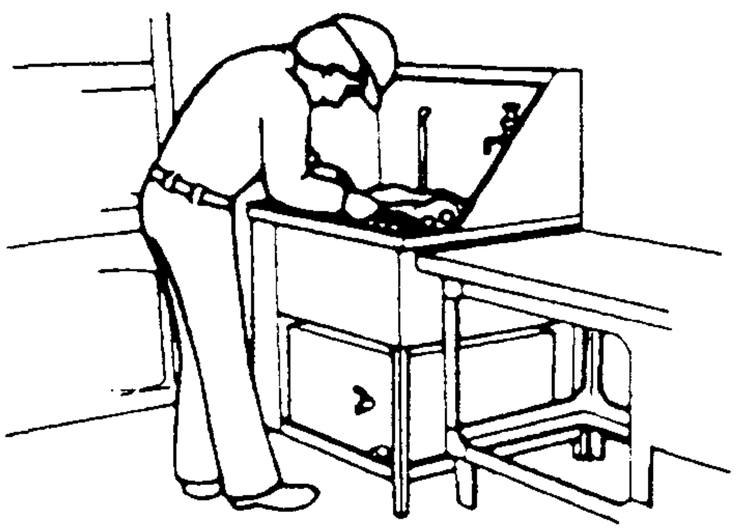


CLEANING OF PARTS

- All parts to be reused should be carefully and thoroughly cleaned in the appropriate method.

Warning

- **Using compressed air can cause dirt and other particles to fly out, causing injury to the eyes. Wear protective eye wear whenever using compressed air.**

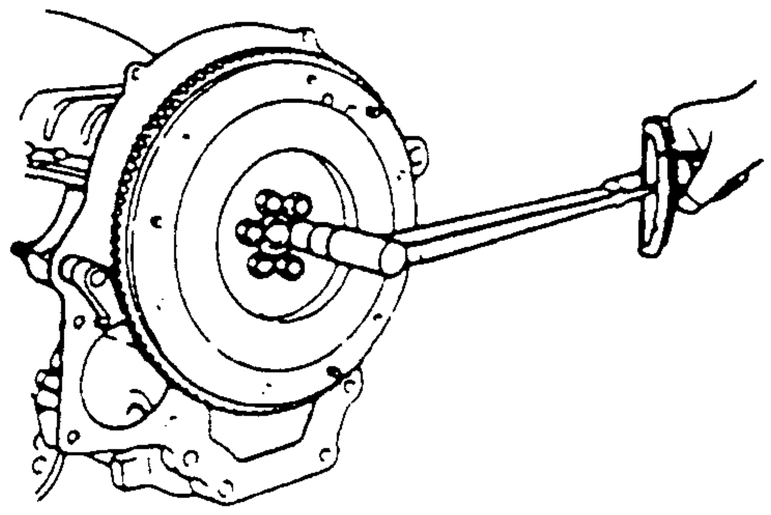


REASSEMBLY

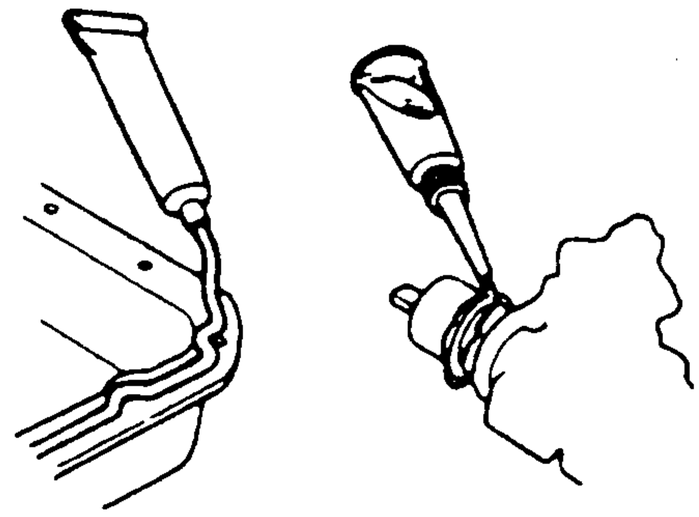
- Standard values, such as torques and certain adjustments, must be strictly observed in the reassembly of all parts.

If removed, these parts should be replaced with new ones:

1	Oil seals	2	Gaskets
3	O-rings	4	Lockwashers
5	Cotter pins	6	Nylon nuts

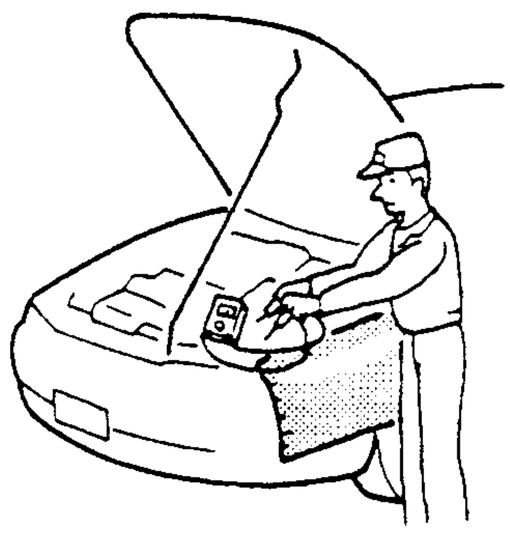


1. Sealant, gasket, or both should be applied to the specified locations. When sealant is applied, parts should be installed before sealant hardens. Hardened sealant causes leaks.
2. Oil should be applied to the moving components of parts.
3. Specified oil or grease should be applied at the prescribed locations (such as oil seals) before reassembly.



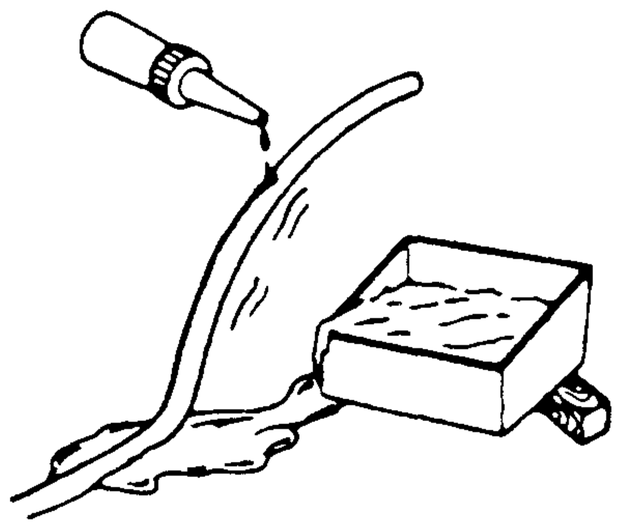
ADJUSTMENT

- Use suitable gauges and testers when making adjustments.



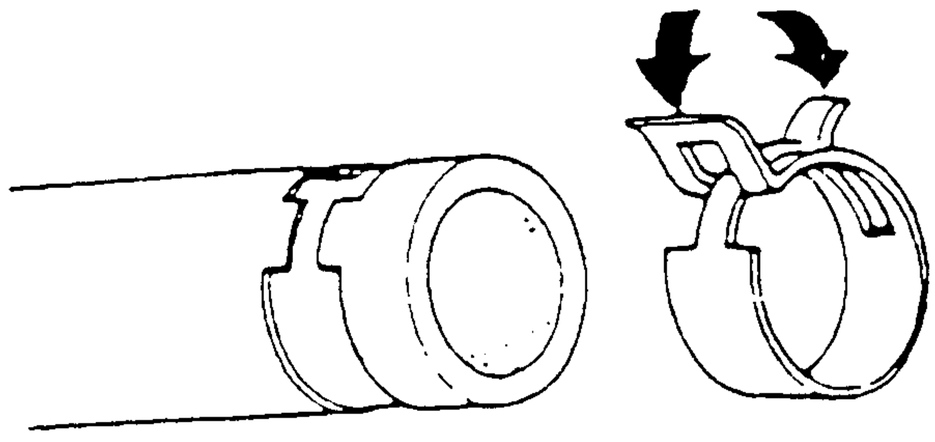
RUBBER PARTS AND TUBING

- Prevent gasoline or oil from getting on rubber parts or tubing.



HOSE CLAMPS

- When reinstalling, position the hose clamp in the original location on the hose, and squeeze the clamp lightly with large pliers to ensure a good fit.

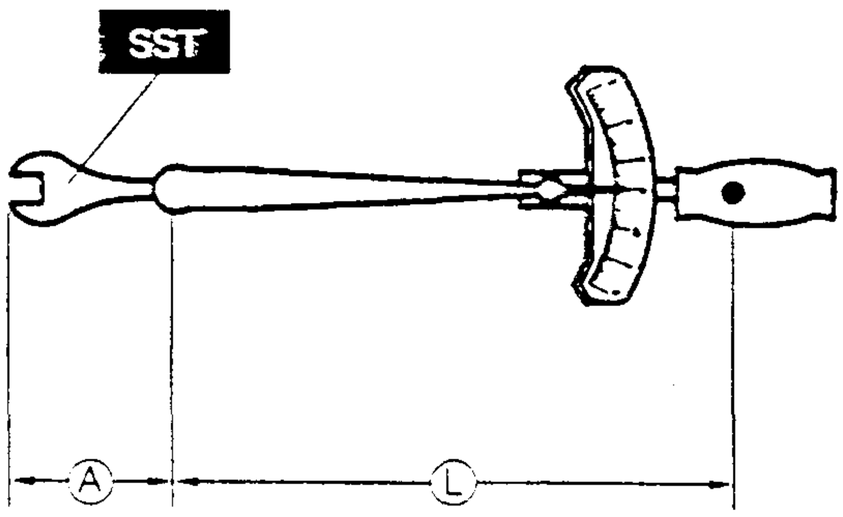


TORQUE FORMULAS

- When using a torque wrench-**SST** combination, the written torque must be recalculated due to the extra length that the **SST** adds to the torque wrench. Recalculate the torque by using the following formulas. Choose the formula that applies to you.

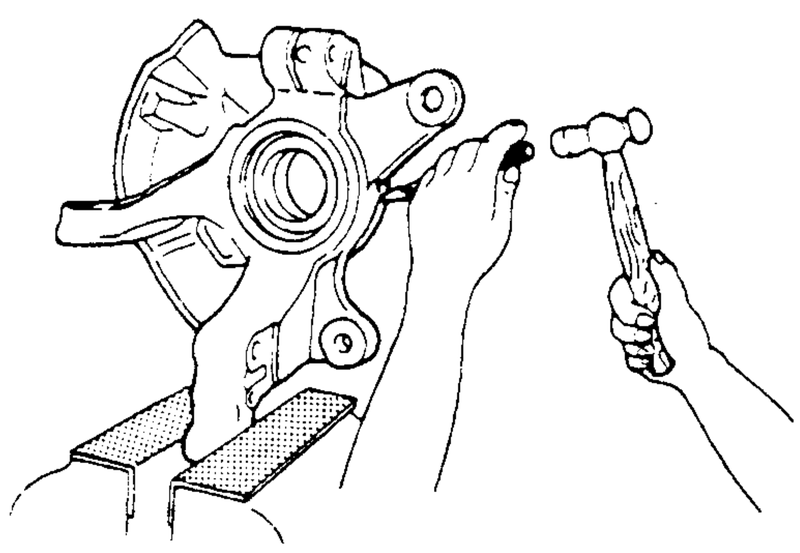
Torque Unit	Formula
kgf·m	kgf·m × [L/(L+A)]
kgf·cm	kgf·cm × [L/(L+A)]
ft·lbf	ft·lbf × [L/(L+A)]
in·lbf	in·lbf × [L/(L+A)]

A: The length of the **SST** past the torque wrench drive.
L: The length of the torque wrench.



VISE

- When using a vise, put protective plates in the jaws of the vise to prevent damage to parts.



DYNAMOMETER

When test-running a vehicle on dynamometer

- Place a fan, preferably a vehicle-speed proportional type, in front of the vehicle.
- Connect an exhaust gas ventilation unit.
- Cool the exhaust pipes with a fan.
- Keep the area around the vehicle uncluttered.
- Watch the water temperature gauge.

Note

- ABS warning light illuminates when the vehicle is on a chassis roller and rotate only front wheel for more than **20 seconds** (60 seconds for ABS/TCS model). Turn ignition switch OFF and ON again, then drive the vehicle faster than **20 km/h {12.4 mph }**. Verify that ABS warning light goes out. DTC does not memorized.

INSTALLATION OF RADIO SYSTEM

If a radio system is installed improprerly or if a high-powered type is used, the CIS and other systems my be affected.
When the vehicle is to be equipped with a radio, observe the following precautions.

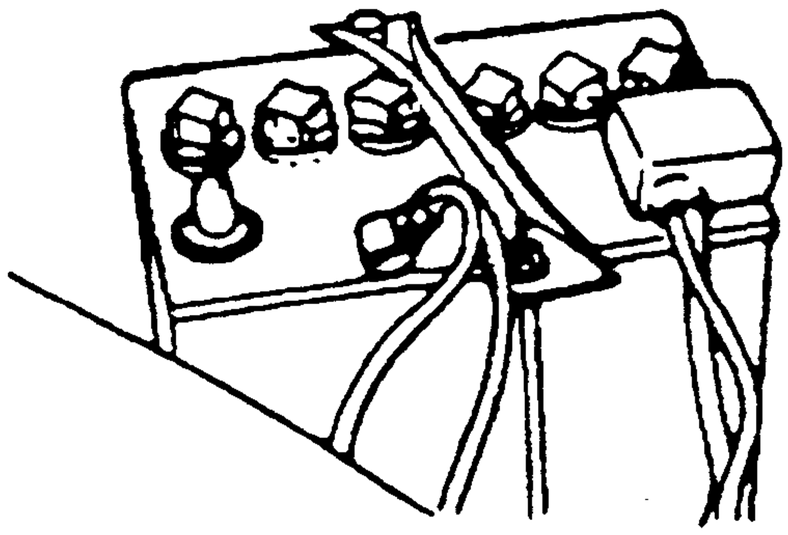
1. Install the antenna at the farthest point from control modules.
2. Install the antenna feeder as far as possible from the control modules harness, and perpendicular to wiring harnesses.
3. Do not install a high-powered radio system.
4. After installing the radio system, start and idle the engine, then confirm that the engine is not influenced by output waves from the system.

ELECTRICAL SYSTEM

ELECTRICAL PARTS

Battery Cable

- Before disconnecting connectors or removing electrical parts, disconnect the negative battery cable.



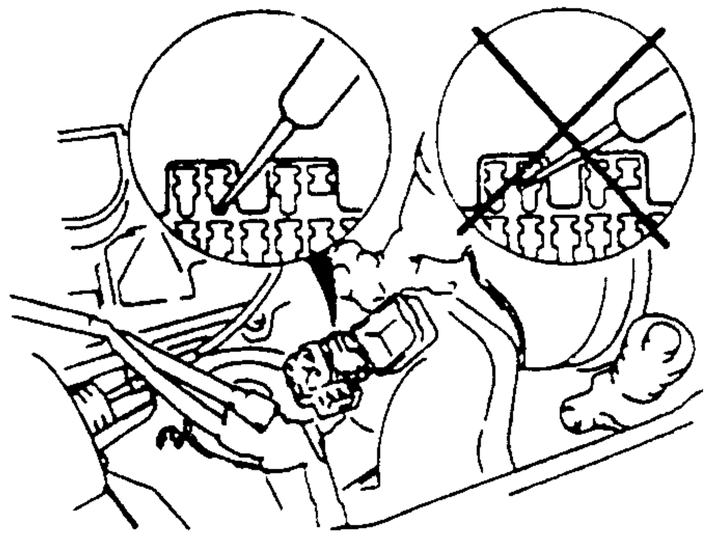
CONNECTORS

Data Link Connector

- Insert the probe into the service hole when connecting a jumper wire to the data link connector.

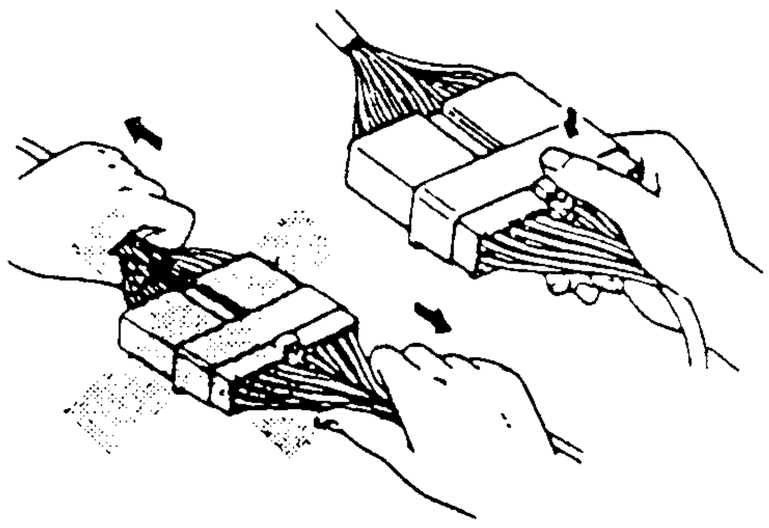
Caution

- **Inserting a jumper wire probe into the data link connector terminal may damage the terminal.**

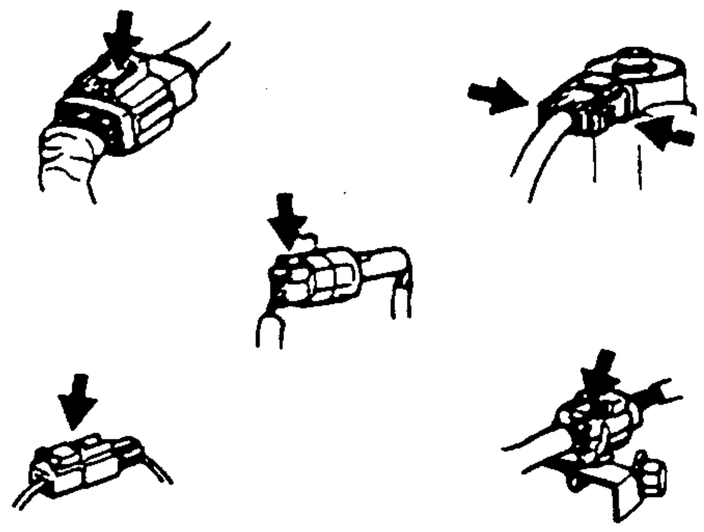


Disconnecting Connectors

- When disconnecting two connectors, grasp the connectors, not the wires.

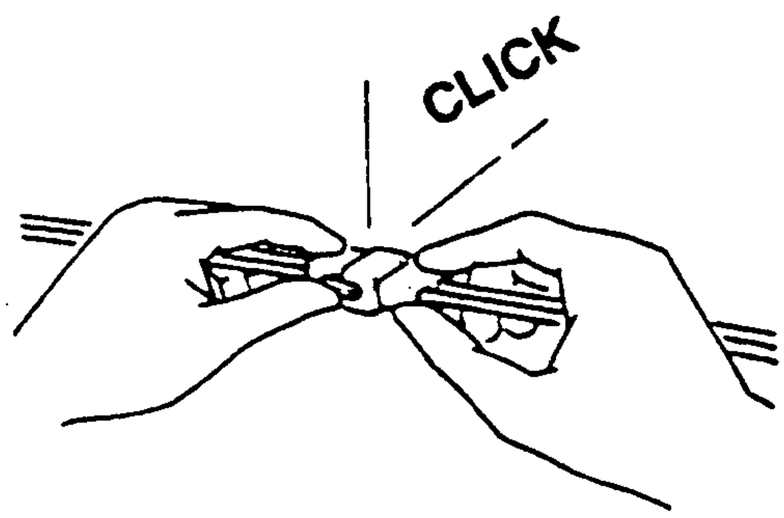


- Connectors can be disconnected by pressing or pulling the lock lever as shown.



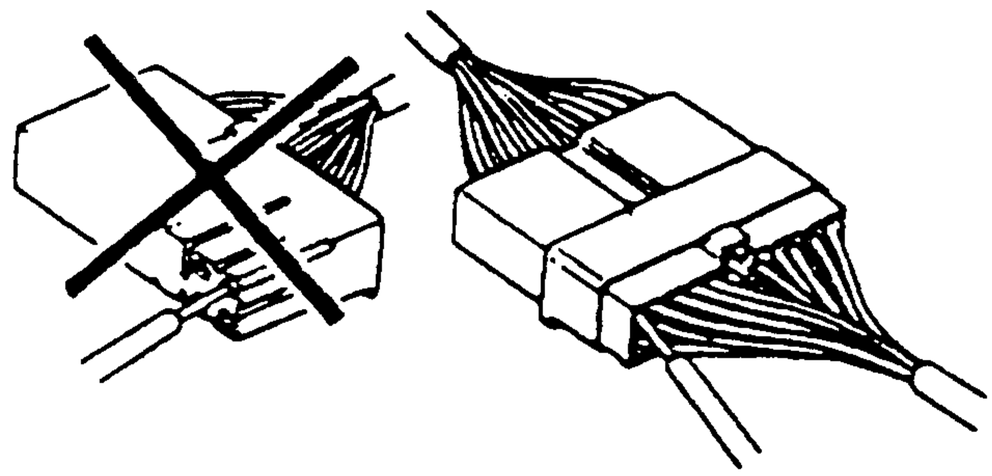
Locking Connector

- When locking connectors, listen for a click that will indicate they are securely locked.



Inspection

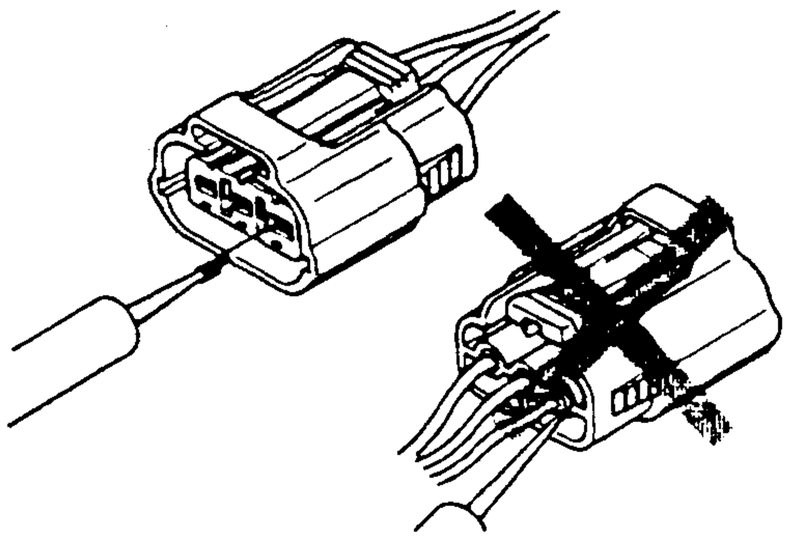
1. When a tester is used to check for continuity or to measure voltage, insert the tester probe from the wiring harness side.



2. Check the terminals of waterproof connectors from the connector side, as they cannot be accessed from the wiring harness side.

Caution

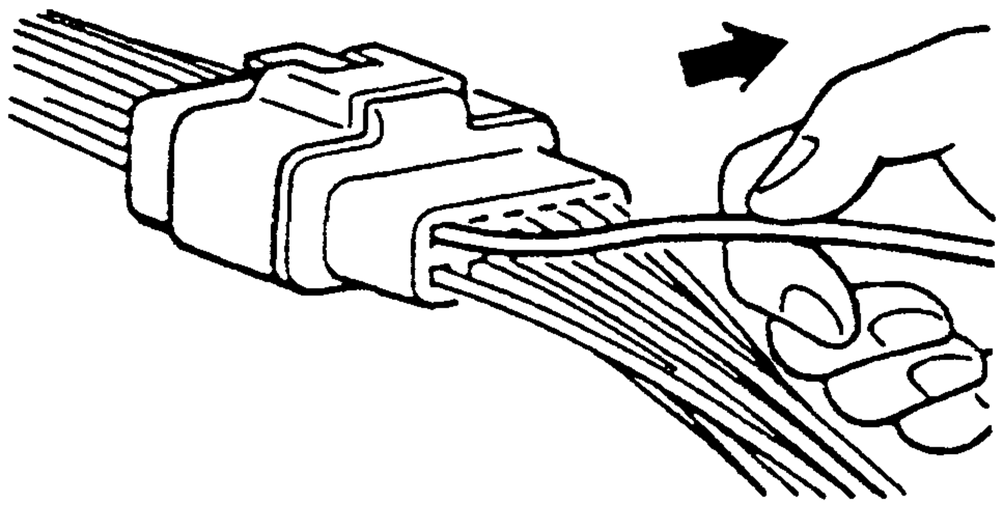
- **To prevent damage to the terminal, wrap a thin wire around the lead before inserting it into the terminal.**



Terminals

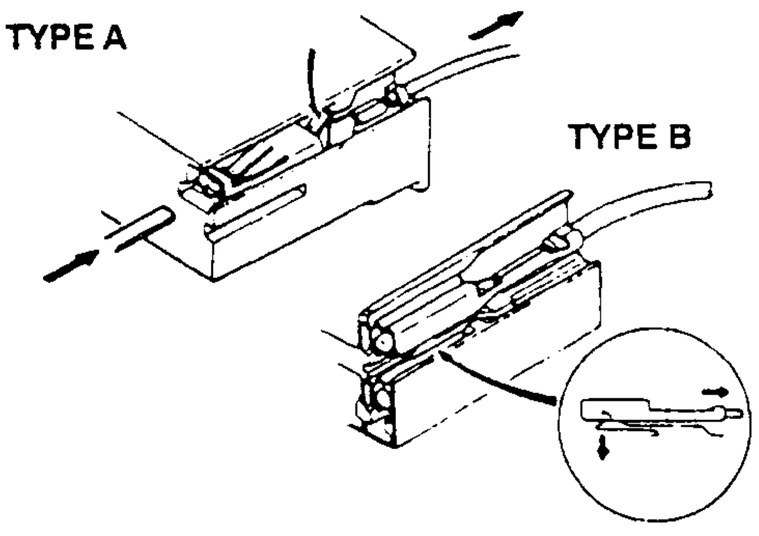
Inspection

- Pull lightly on individual wires to check that they are secured in the terminal.



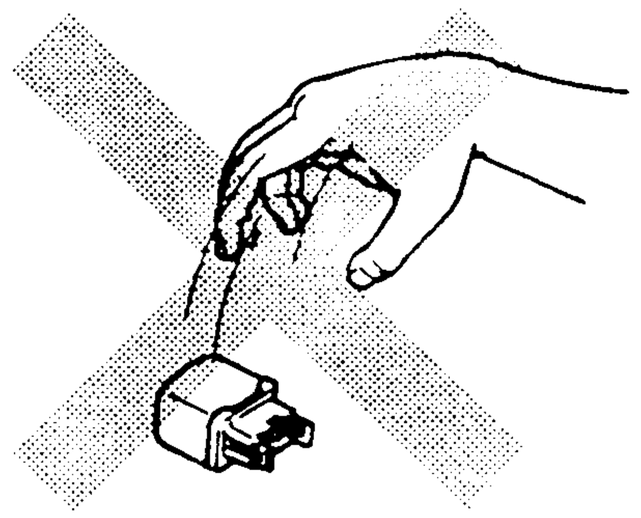
Replacement

- Use the appropriate tools to remove a terminal as shown. When installing a terminal, be sure to insert it until it locks securely.
- Insert a thin piece of metal from the terminal side of the connector, and then, with the terminal locking tab pressed down, pull the terminal out from the connector.



Sensors, Switches, and Relays

- Handle sensors, switches, and relays carefully. Do not drop them or strike them against other objects.

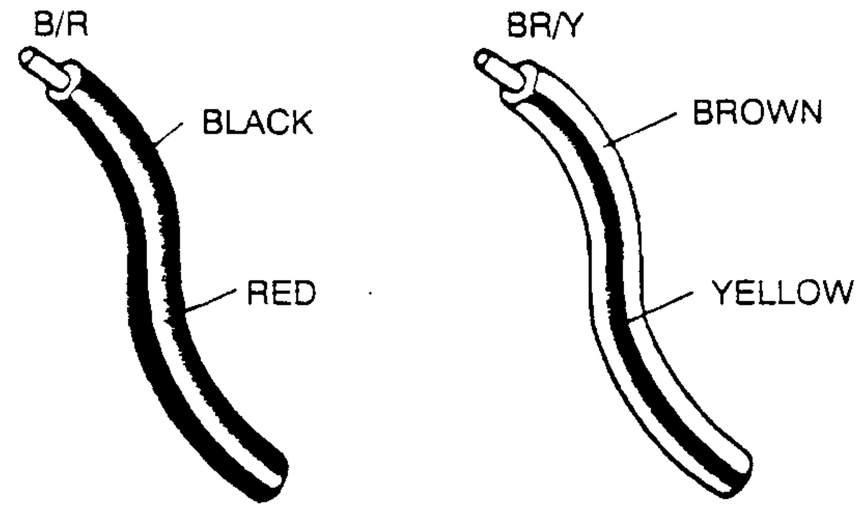


Wiring Harness

Wiring color codes

- Two-color wires are indicated by a two-color code symbol.
- The first letter indicates the base color of the wire and the second the color of the stripe.

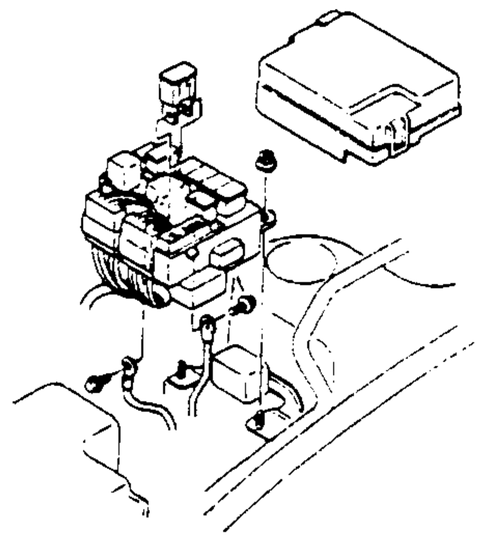
CODE	COLOR		CODE	COLOR
B	Black		O	Orange
BR	Brown		P	Pink
G	Green		R	Red
GY	Gray		V	Violet
L	Blue		W	White
LB	Light Blue		Y	Yellow
LG	Light Green			



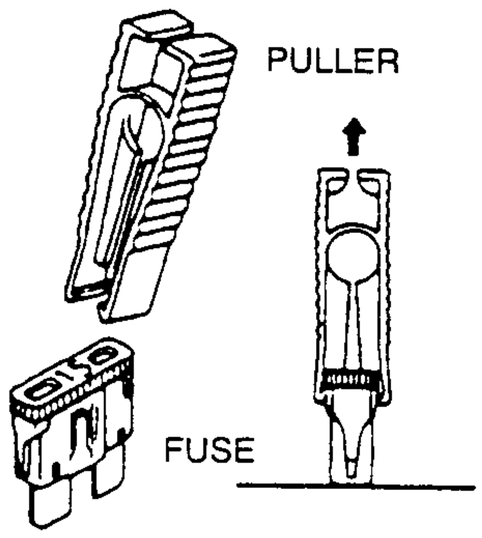
Fuse

Replacement

1. When replacing a fuse, be sure to replace it with one of the specified capacity. If a fuse again fails after it has been replaced, the circuit probably has a short and the wiring should be checked.
2. Be sure the negative battery terminal is disconnected before replacing a main fuse.



3. When replacing a pullout fuse, use the fuse puller.



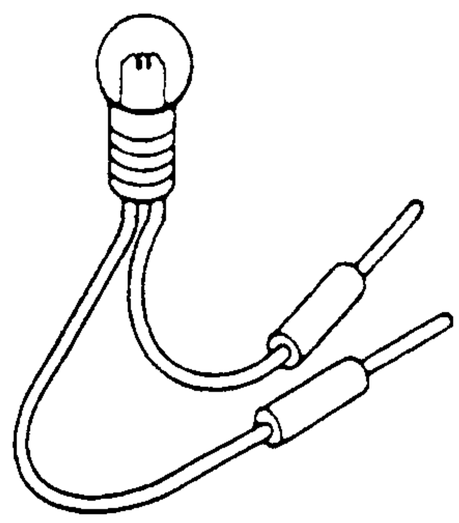
ELECTRICAL TROUBLESHOOTING TOOLS

Test Light

- The test light, as shown in the figure, uses a 12 V bulb. The two lead wires should be connected to probes. The test light is used for simple voltage checks and for checking for short circuits.

Caution

- **Using a bulb over 3.4 W when checking the control unit may damage the control unit.**

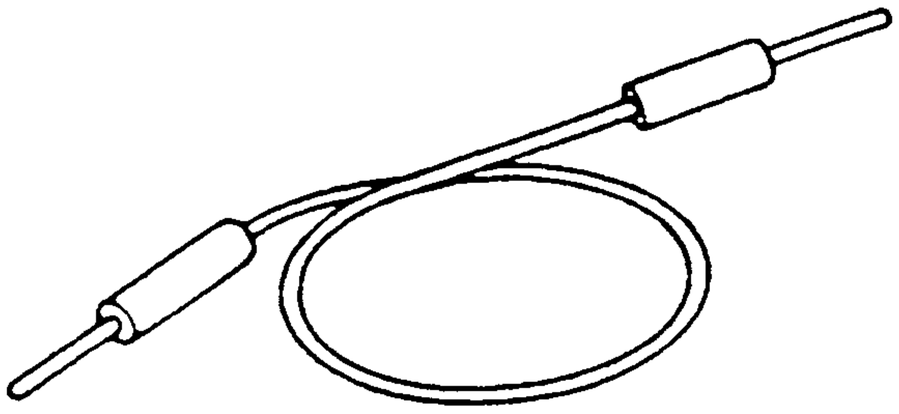


Jumper Wire

- A jumper wire is used to create a temporary circuit. Connect the jumper wire between the terminals of a circuit to bypass a switch.

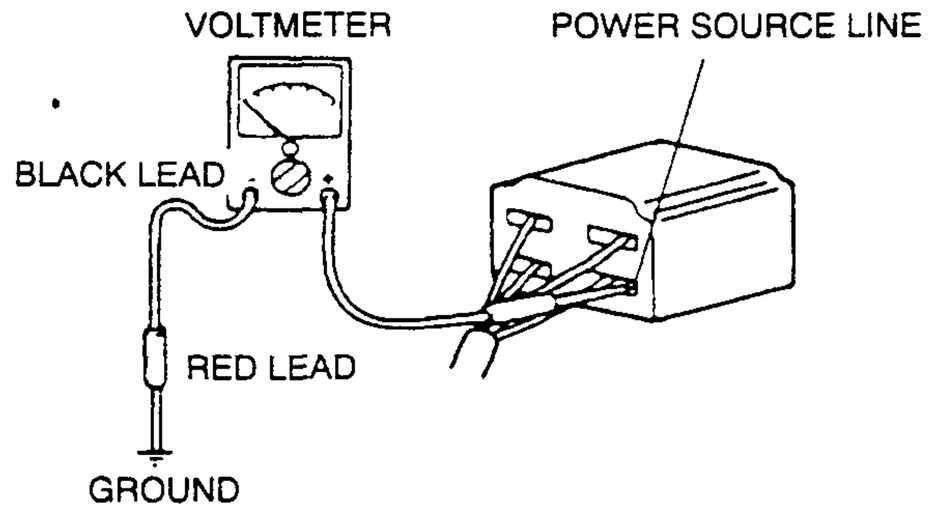
Caution

- **Do not connect a jumper wire from the power source line to a body ground; this may cause burning or other damage to wiring harnesses or electronic components.**



Voltmeter

- The DC voltmeter is used to measure circuit voltage. A voltmeter with a range of 15 V or more is used by connecting the positive (+) probe (red lead wire) to the point where voltage is to be measured and the negative (–) probe (black lead wire) to a body ground.



Ohmmeter

- The ohmmeter is used to measure the resistance between two points in a circuit, and to check for continuity and short circuits.

Caution

- **Do not connect the ohmmeter to any circuit to which voltage is applied. This will damage the ohmmeter.**