

- **ELECTRICAL WIRING SYSTEM—DIODE TESTING AND REPLACEMENT PROCEDURE**
- **WIRING—POSSIBLE WIRING HARNESS DIODE DAMAGE WHEN CHARGING BATTERY.**

**Article No.
90-22-10**

MERCURY: 1991 CAPRI

ISSUE

Diodes attached to the main wiring harness (14401) and the engine control wiring harness (12A522) may be damaged if external power sources, such as battery chargers, are connected incorrectly.

ACTION

Test the diodes for evidence of damage and, if needed, replace them as required. Refer to the following procedure for service details.

AVOIDING ELECTRICAL SYSTEM DAMAGE

Avoid damaging the electrical system by taking the following precautions when connecting any external power source.

- Only connect the power source to the car through the battery cable terminals.
- Connect the power source negative and positive cables to the correct battery cable terminals.

NOTE

**THE BLACK CABLE IS BATTERY POSITIVE (+).
THE BLACK/YELLOW CABLE IS BATTERY
NEGATIVE (-).**

DIODE - MAIN WIRING HARNESS - CHECKING FOR A SHORTED CIRCUIT

If the engine continues to run with the ignition key in the OFF position and with either of the car doors open, diode (C2000) has short circuited. It is feeding 12 volts to the ignition switch. It is located on the main wiring harness, Figure 1.

Other indications of a short circuited diode (C2000) are:

- The ignition switch is in the RUN position with the instrument cluster gauges operating, warning lamps illuminated and either car door is open.
- When the door is closed, or the door sill mounted switch is depressed, the battery and fuel gauges drop to zero and the warning lamps are not illuminated.
- The gauges and warning lamps return to the original condition when the door is reopened.

Additionally, for turbo engine cars, diode (C262 & C263) may also be damaged, Figure 2.

DIODE - MAIN WIRING HARNESS - CHECKING FOR AN OPEN CIRCUIT

If the seat belt warning buzzer fails to operate, the cause may be an open circuit diode (C2000), Figure 1. Additionally, for turbo only, diodes (C262 & C263) may also be damaged. Diode locations are shown below.

- Diode (C2000) - is located on the main wiring harness, above the fuse panel on the left side of the the instrument panel, Figure 1.
- Diodes (C262 & C263 - Turbo Engines Only) - are located under the center console, on the RH side of the ECC processor.

DIODE REPLACEMENT PROCEDURE

REMOVAL

1. Disconnect the battery.
2. Disconnect the wiring connectors from the front of the fuse panel.
 - a. Remove the the fuse panel retaining nuts.
 - b. Move the fuse panel to access the main wiring harness.

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- Unwrap the electrical insulation tape holding the diode to the main wiring harness.
- Disconnect the diode from the two pole wiring connectors. There are two (2) types of diode assemblies used...
 - A grey rectangular moulded plastic assembly. This diode does not have a connector locking feature and may be separated from the wiring connector by gently pulling the diode assembly out of the connector.
 - A blue rectangular moulded plastic assembly. This diode has a connector locking feature which must be depressed to allow the diode assembly to detach from the wiring connector.
- Use an ohmmeter to be sure that the diode conducts current in one direction only.
- Disconnect the overboost vacuum switch wiring connector, Figure 1.
- Bridge the wiring connector terminals together and listen for the audible warning in the passenger compartment.
- If the audible warning system is OK, reconnect the turbo overboost vacuum switch wiring.

C262 & C263 REPLACEMENT

If the audible warning system does not operate, test diodes (C262 & C263) by using the following procedure.

- Turn the ignition key to OFF.
- Remove the center console forward trim panel, RH side.
- Detach the two diodes from the wiring harness and test them as previously described with an ohmmeter.
- Replace any diodes which are defective.
- Tape the diodes to the wiring harness to prevent rattles.
- Check the overboost audible warning system.
- Connect the turbo overboost switch wiring.
- Install the center console forward trim panel.

NOTE

IF THE DIODE IS SHORT CIRCUITED, IT WILL CONDUCT IN BOTH DIRECTIONS. IF THE DIODE IS OPEN CIRCUITED, IT WILL NOT CONDUCT IN EITHER DIRECTION.

INSTALLATION

- Install the replacement diode assembly to the wiring connector.
- Attach the diode assembly to the main wiring harness using electrical tape or a cable tie. Be sure the diode is firmly held to prevent rattles, etc.
- Install the fuse panel and retaining hardware. Reconnect the wiring connectors.
- Connect the battery.
- Check the system by operating the engine. Make sure it stops when the ignition switch is turned off while the car doors are open.

TURBO OVERBOOST TESTING

Test the turbo overboost audible warning system by using the following procedure.

- Lower the driver's side door window.
- Be sure that both doors are closed.
- Turn the ignition key to the ON position (Not START).
- Wait until the audible warning system stops sounding.

PART NUMBER	PART NAME
F1CZ-14A604-A 95874-S	Diode Tie Strap

OTHER APPLICABLE ARTICLES: None

WARRANTY STATUS: Eligible Under Basic
Warranty Coverage

OPERATION	DESCRIPTION	TIME
902210A	Test Diode	0.3 Hr.
902210B	Test And Relace Diode	0.6 Hr.
902210C	Test Turbo Overboost And C262 & C263 With Diode Replacement	1.2 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
14A604	46

OASIS CODES: 203000, 203100, 203200

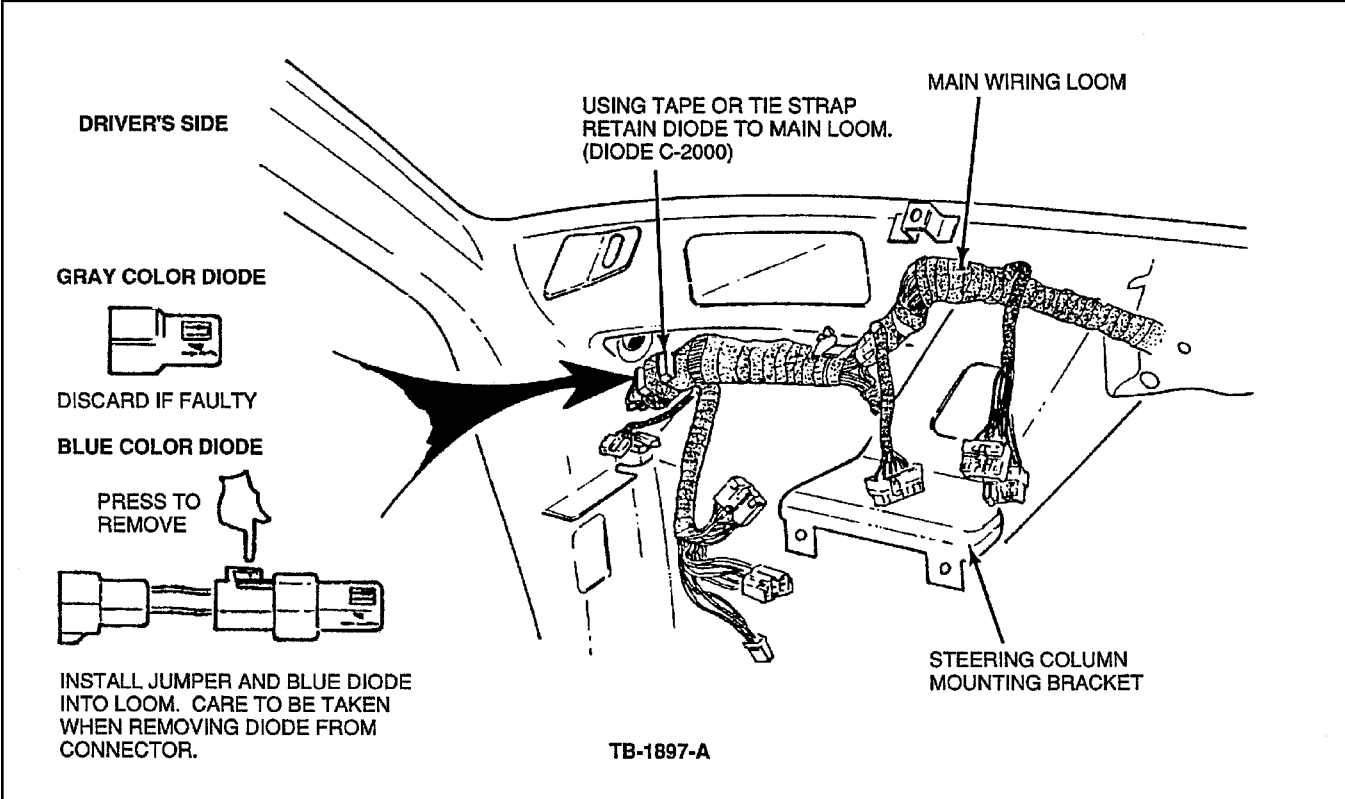


Figure 1 - Article 90-22-10

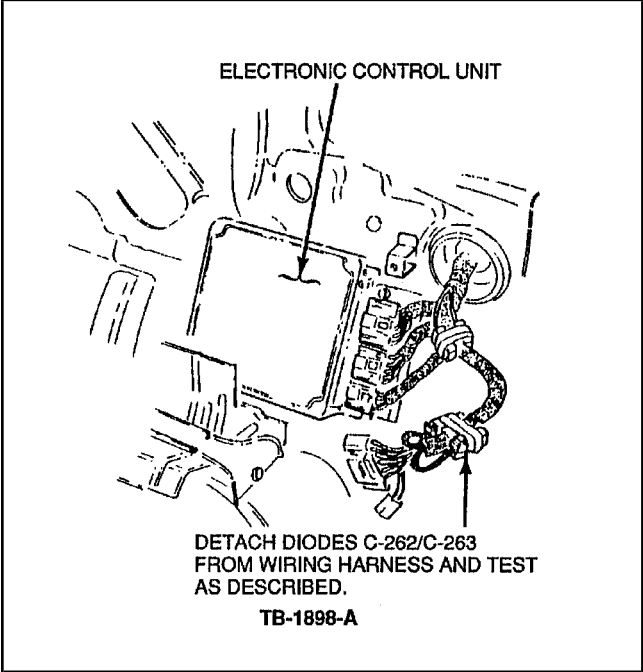


Figure 2 - Article 90-22-10

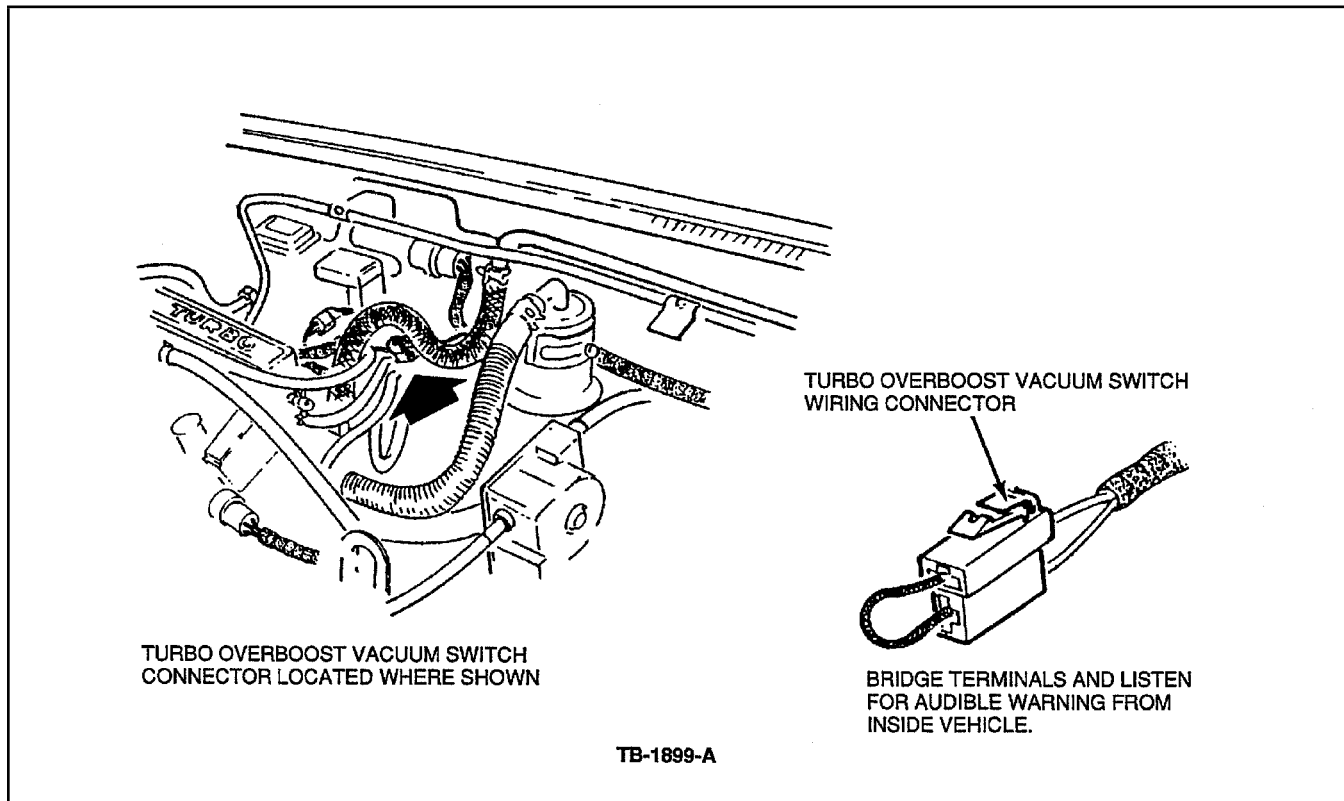


Figure 3 - Article 90-22-10