

# OVERHEAD CONSOLE

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### DESCRIPTION

The overhead console includes:

- reading and courtesy lights for the front and rear seats
- the receiver for the keyless entry system
- storage compartment for remote garage door opener
- storage compartments sun glasses.

A compass/thermometer mini trip computer that displays 6 conditions:

- Compass/Temperature
- Trip odometer (ODO)
- Average miles per gallon (ECO)
- Instant miles per gallon (ECO)
- Distance to empty (DTE)
- Elapsed time (ET)
- Blank Display

### READING AND COURTESY LAMPS

All reading and courtesy lamps in the overhead console are activated by the door courtesy circuit. When all four doors and the liftgate are closed the lamps can be activated by depressing the corresponding lens. When any door or the liftgate is open, the switches are disabled. They will not turn the lamps off.

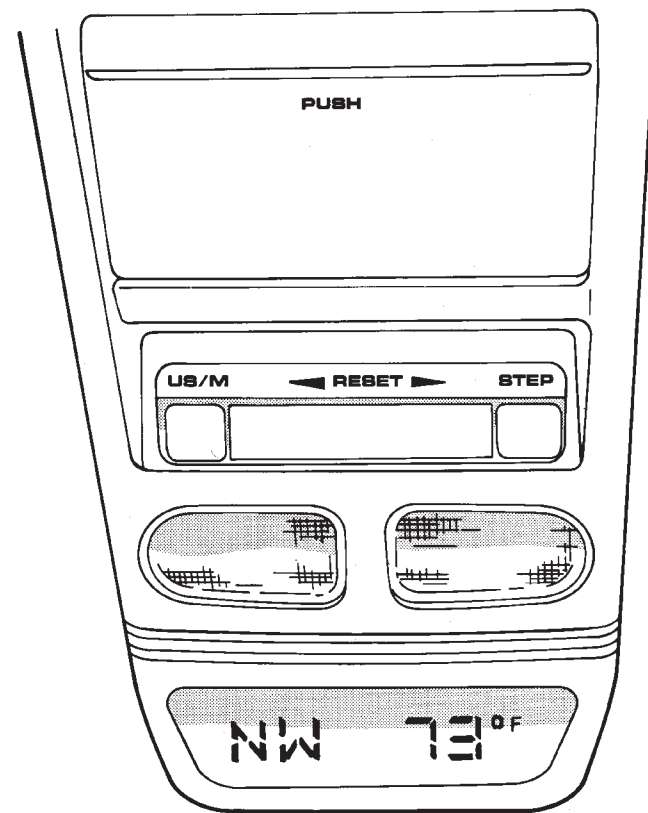
### TRIP COMPUTER

Actuating the STEP switch will cause the trip computer to change mode of operation when ignition is ON. Traveler data is obtained from the Powertrain Control Module and HEVAC on the CCD lines. If the data displayed is wrong, run self diagnostics before replacing the computer. The DRB II is recommended for checking the CCD lines.

### COMPASS

The compass will display the direction the vehicle is pointed in using the 8 major compass headings (Examples: North is "N", Northeast is "NE"). It does not display the headings in actual degrees.

The compass is a self calibrating unit that requires no adjusting. The only calibration that may prove



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necessary is to drive the vehicle in 3 complete circles, on level ground, in not less than 48 seconds. This will "reorient" the unit to its vehicle. The unit will also compensate for magnetism the vehicle may acquire during its life. Care should be used to avoid putting anything magnetic on the roof of the vehicle.

The unit can compensate for some magnetic fields in the body. The use of magnetic attachments like antenna mounts or repair order "hats" placed directly on the roof can exceed the compensation ability of the unit. Magnetic bit drivers used on the fasteners to hold the assembly to the roof header can also affect operation. If the vehicle roof should become magnetized, then the demagnetizing and calibration procedures may be required to restore proper operation.

**If the front console attaching screw is replaced, the new screw must be a #10 stainless.**

If the compass functions but accuracy is suspect, it may be necessary to perform a variation adjustment. This procedure allows the unit to accommodate variations in the earth's magnetic field strength based on geographic location.

**If the compass has blanked out and only CAL appears, demagnetizing may be necessary to remove residual magnetic fields.**

#### THERMOMETER

The ambient temperature display can be changed from Fahrenheit to Celsius using the US/Metric button. The temperature reported is not an instant reading of conditions but an average temperature. It may take the unit several minutes to react to a major change such as driving out of a heated garage into winter temperatures.

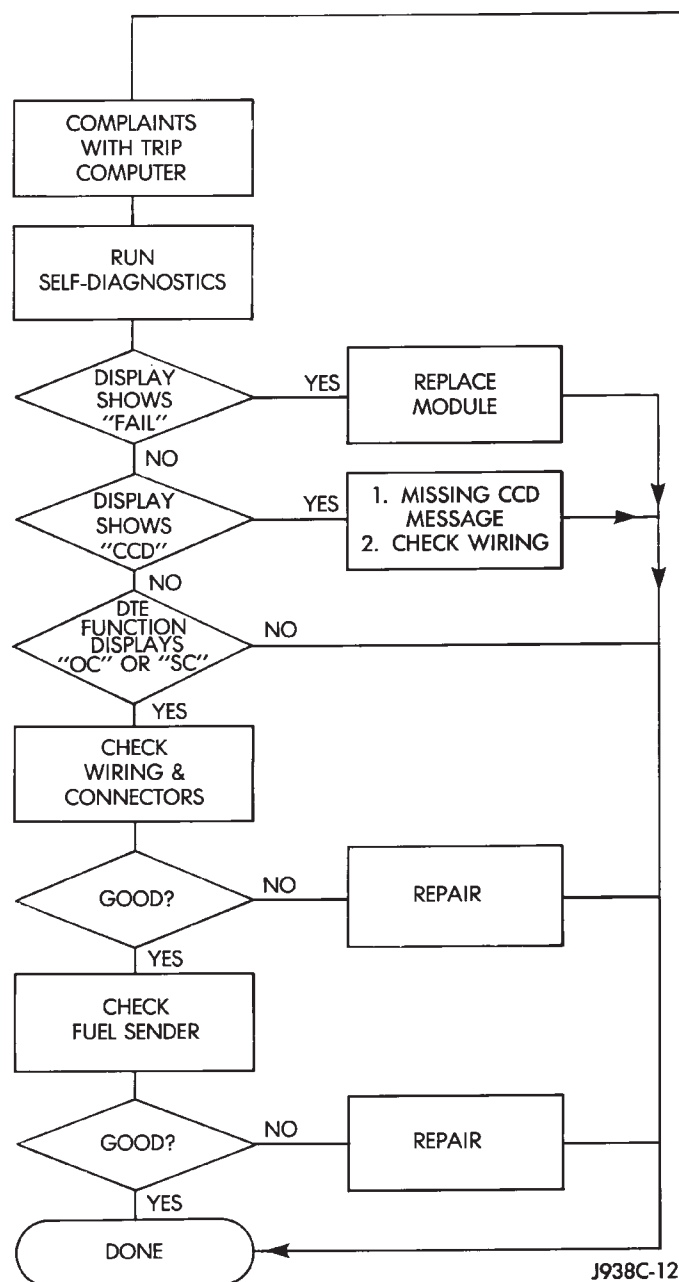
When the ignition switch is turned off, the last displayed temperature reading stays in memory.

If the temperature is more than 55°C (131°F) or the circuit is shorted to ground, the temperature display should read SC. If the temperature message received is less than -40°C (-40°F), or an open circuit exists, the display should read OC.

#### DIAGNOSTIC PROCEDURES

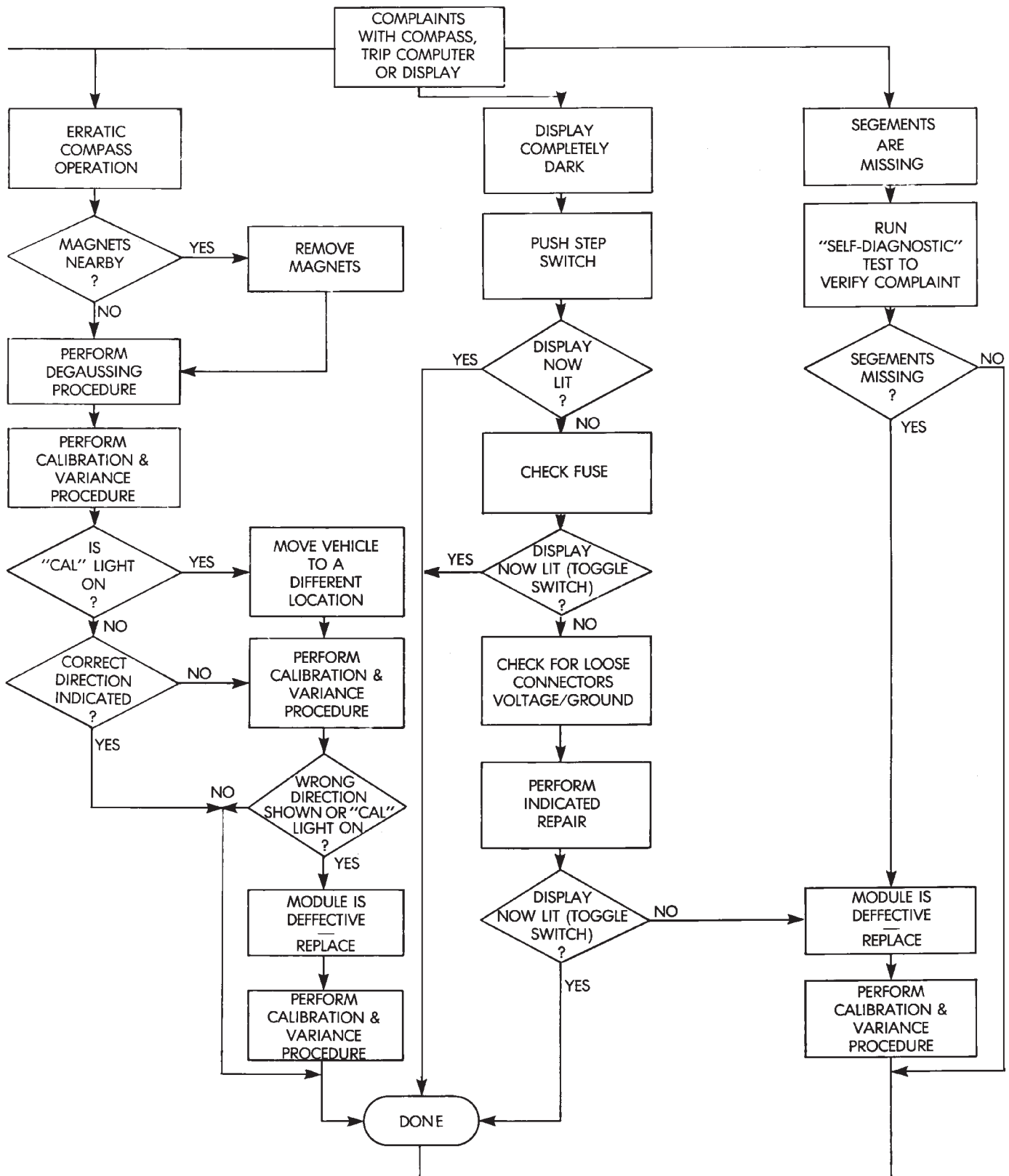
Follow the appropriate diagnostic flow chart:

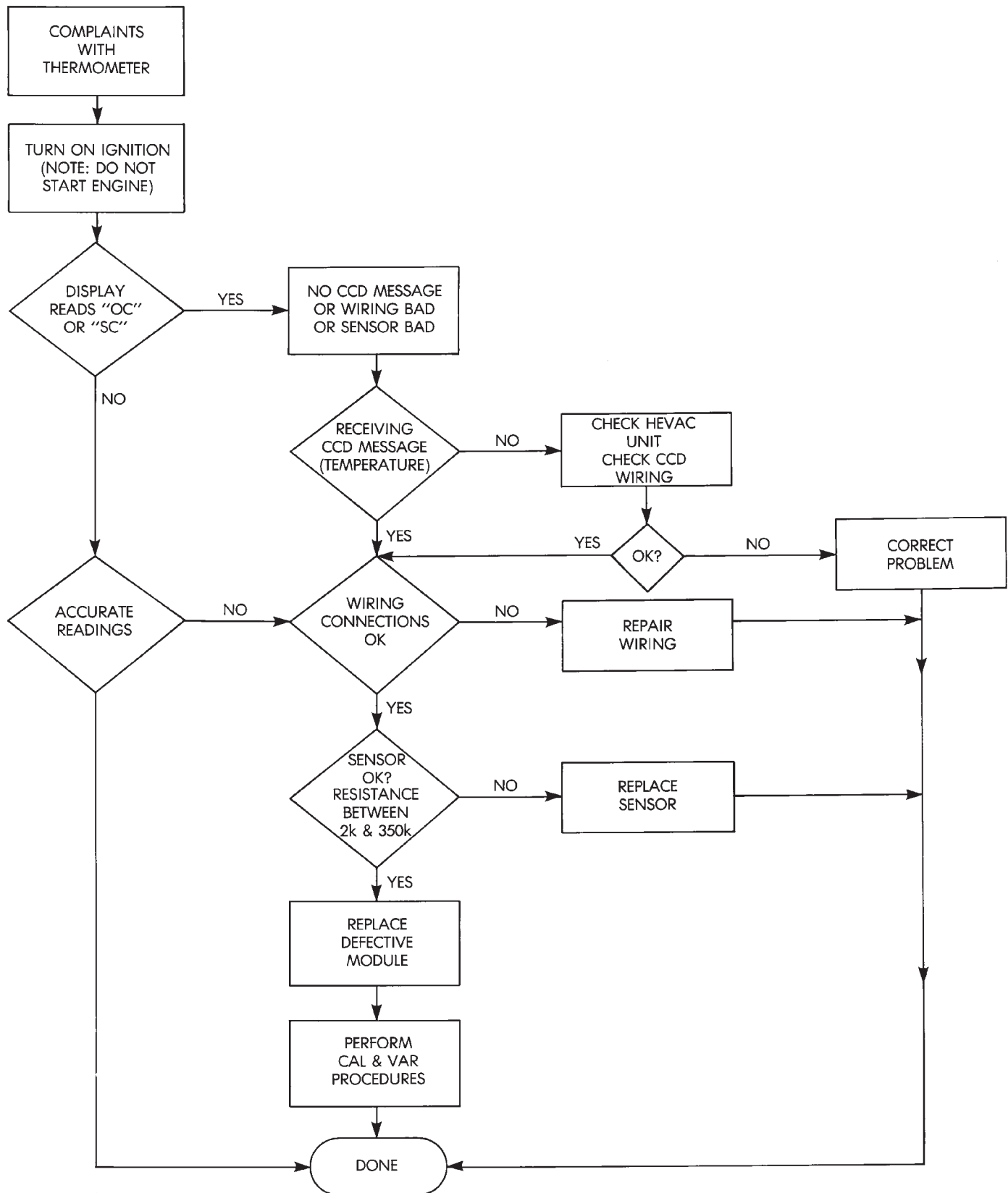
- Chart 1 Describes the procedures for compass and display problems.
- Chart 2 Describes the procedures for outside temperature measuring problems.
- Chart 3 Describes the procedures for illumination lamp problems.



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**Chart 1**





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Chart 2

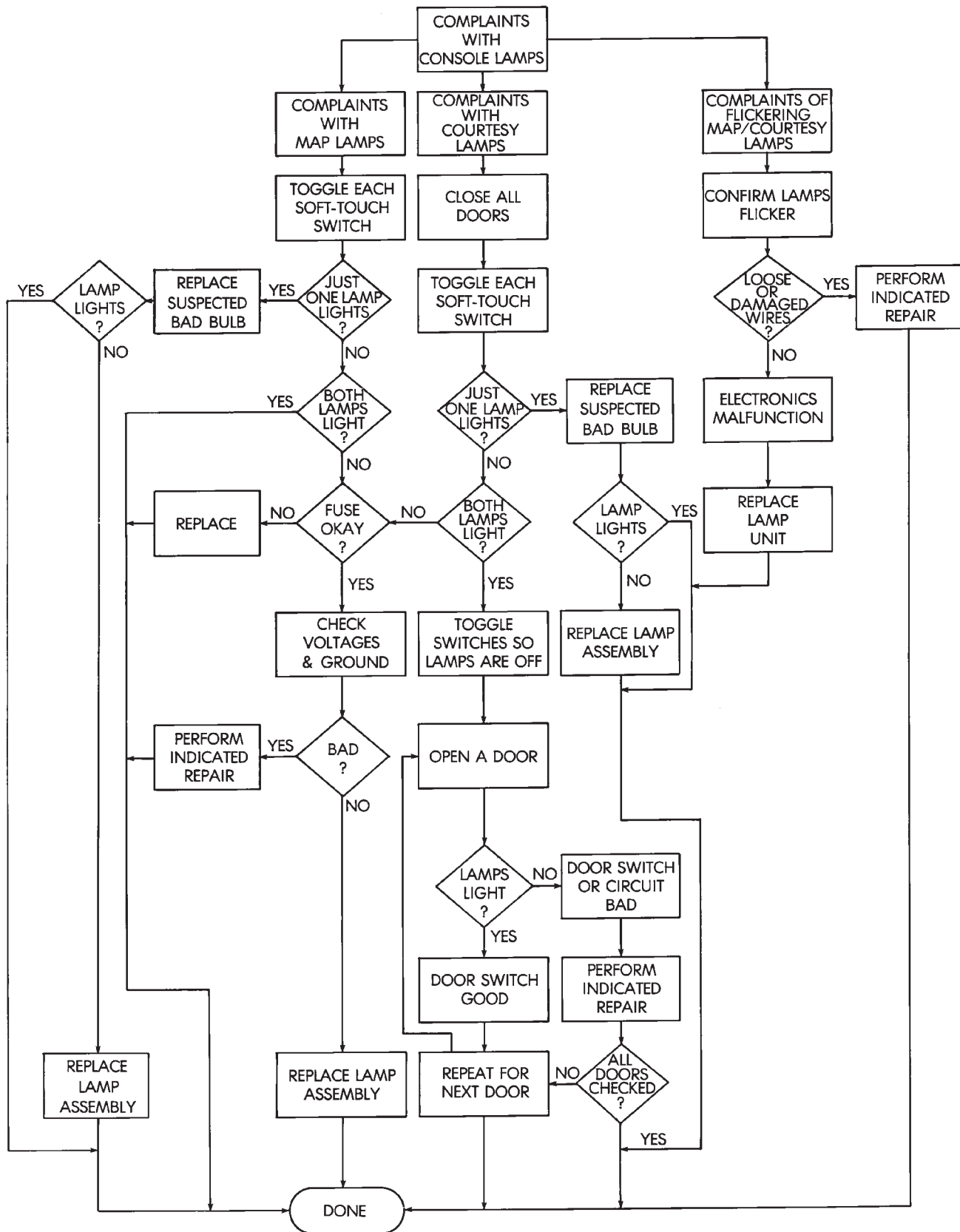


Chart 3

## COMPASS REPAIR PROCEDURES

### VARIATION ADJUSTMENT PROCEDURE

Variance is the difference between magnetic North and geographic North. In some areas the difference between magnetic and geographic north is great enough to cause the compass to give false readings. If this occurs, the variance must be set.

To set the variance: turn key to the ON position. Depress both buttons and hold down until VAR light appears. This takes about 5 seconds.

Release both buttons.

Using the map (Fig. 1) find your geographic location and note the Zone Number.

Press the U.S./Metric button to sequentially go through the numbers until the zone number for your area appears in the display.

Press the STEP button to enter this zone number.

Confirm correct directions are indicated.

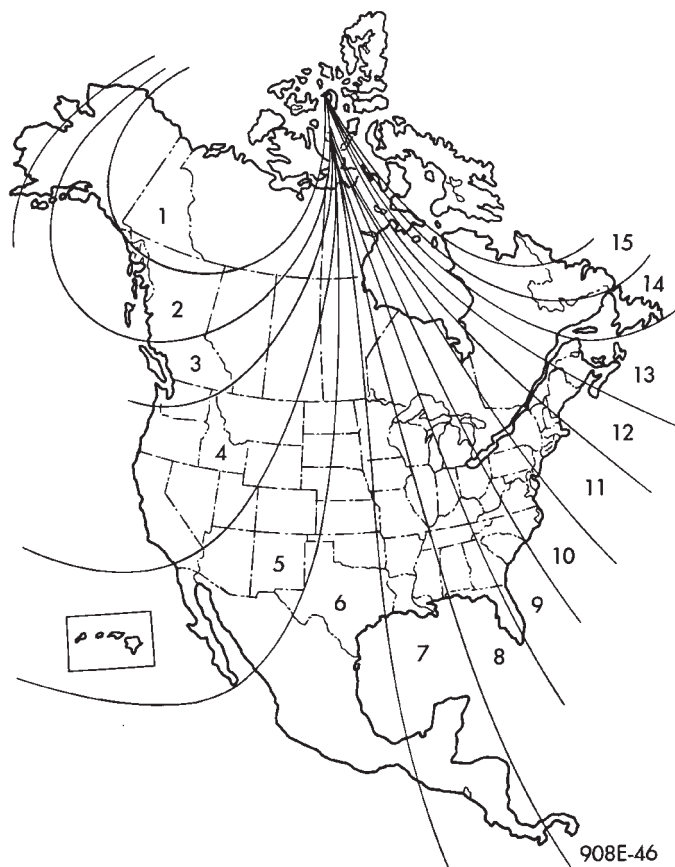


Fig. 1 Variance Settings

### COMPASS CALIBRATION PROCEDURE

**CAUTION: DO NOT** use magnetic tools when servicing the overhead console.

**CAUTION: DO NOT** place any external magnets such as magnetic roof mount antennas, in the vicinity of the compass.

Do not attempt to set compass near large metal objects such as other vehicles, large buildings or bridges. The compass features an "Auto-Cal" design which simplifies the calibration procedure. During normal driving this feature automatically updates the compass calibration. This takes into account small changes in magnetism the vehicle may see over its life time.

Calibrate the compass manually as follows:

- (1) Start the engine.
- (2) Depress both buttons and hold down until CAL light appears. This takes about 10 seconds and appears about 5 seconds after the VAR light appears.
- (3) Release buttons.
- (4) Drive vehicle on a level surface that is away from metal objects through 3 or more complete circles, in not less than 48 seconds. The CAL light will go off and the compass is now calibrated.

**If CAL light does not go off, either there is excessive magnetism near the compass or the unit is defective. Repeat the demagnetizing and calibration procedures at least one more time.**

**If the wrong direction is still indicated, the area selected may be too close to a magnetic source. Repeat the calibration procedure in another location.**

### DEMAGNETIZING PROCEDURE

The tool used to demagnetize the forward console attaching screw and roof panel is the Miller Tool 6029. Equivalent units must be rated as continuous duty for 110/115 volts and 60Hz. They must also have a field strength of over 350 gauss at 1/4 inch beyond the tip of the probe.

In this procedure the demagnetizing tool is used to demagnetize both the roof panel and console forward mounting screw.

- (1) Be sure the ignition switch is in the OFF position before you begin the demagnetizing procedures.
- (2) Plug the demagnetizing tool into a 110/115 volt outlet while keeping the tool at least 2 inches away from the compass area.

### CONSOLE FORWARD MOUNTING SCREW

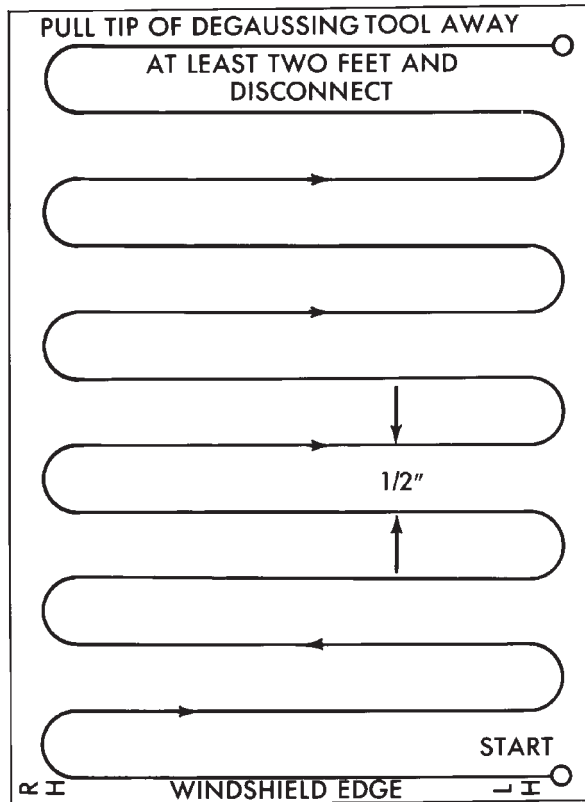
(3) Slowly approach the head of the forward mounting screw with the plastic coated tip of the demagnetizing tool. Contact the head of the screw for about 2 seconds.

(4) With the demagnetizing tool still energized, slowly back it away from the screw until the tool is at least 2 inches from the screw head. Unplug the tool.

### ROOF PANEL

(5) Place an 8 1/2 X 11 piece of paper on the center of the roof at the windshield, oriented lengthwise from front to rear. The purpose of the paper is to protect the roof panel from scratches and define the area

to be degaussed (Fig. 2). Figure 2 shows the recommended sweep pattern of 1/2 inch between passes in a sweeping zig-zag pattern.



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**Fig. 2 Roof Demagnetizing Pattern**

(6) Plug in the demagnetizing tool. Keep the tool at least 2 inches away from the compass unit.

(7) Slowly approach the center of the roof panel at the windshield with the demagnetizing tool plugged in.

(8) Contact the roof panel with the tip of the tool (be sure template is in place to avoid scratching the roof panel). Use slow sweeping motions of 1/2 inch between sweeps. Move the tool approximately 4 inches either side of the centerline and at least 11 inches back from the windshield.

(9) With the demagnetizing tool still energized, slowly back it away from the roof panel until the tip is at least 2 inches from the roof. Unplug the tool.

(10) Calibrate the compass and set the variance as described.

#### SELF-DIAGNOSTIC TEST

The Self-Diagnostic test is used to verify compass electrical operation and that all CCD messages required are being received. This can be used to confirm that the display and all of its segments are operating properly. Initiate the self-diagnostic test as follows:

(1) With the ignition switch in the OFF position simultaneously press and hold the STEP button and the US/METRIC button.

(2) Turn ignition switch to ON.

(3) Continue to hold both buttons until all segments on the display light. The module is now in self diagnostic test. The test will:

(a) Display all segments

(b) Check internal circuitry

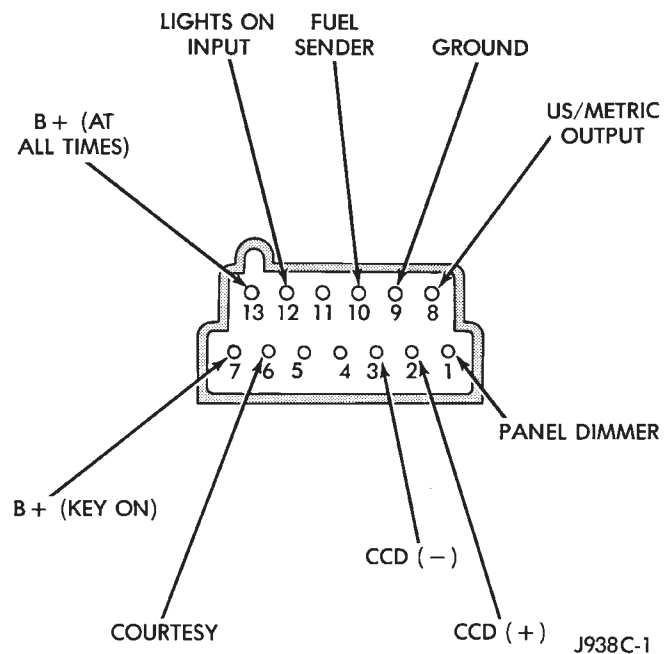
(c) Check if all CCD messages needed are being received.

(4) If tests (a) and (b) pass, the module will automatically return to normal operation.

(5) If test (b) fails, the module will display "FAIL". To return to normal operation press either button. Replace module.

(6) If test (c) fails, the module is not receiving all the CCD messages required for operation. The failure message on the display will be "CCD". Check CCD buss for missing messages. Press either button to return to normal operation.

**Should any segment in any of the digit positions fail to light, the unit is defective and should be replaced.**

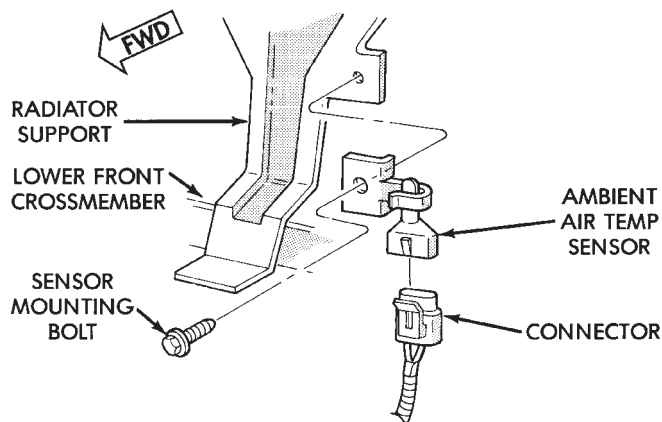


**Fig. 3 Compass/Temperature Harness Connector**



### THERMOMETER SENSOR REPLACEMENT

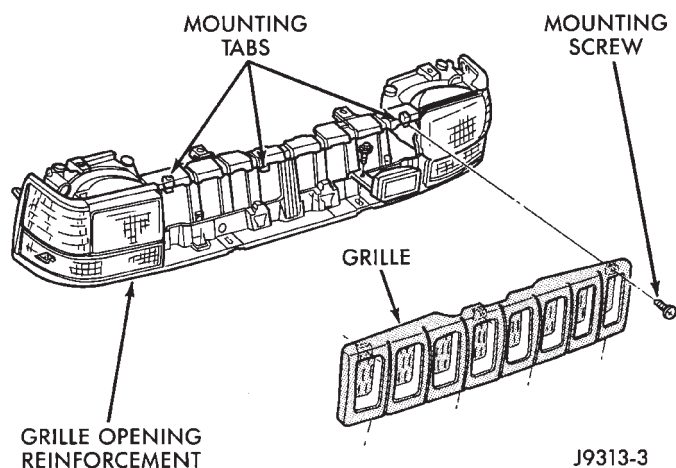
The sensor is mounted to the radiator support in the center just behind the grille (Fig. 1).



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**Fig. 1 Ambient Temperature Sensor.**

Remove the grille to access the sensor (Fig. 2).



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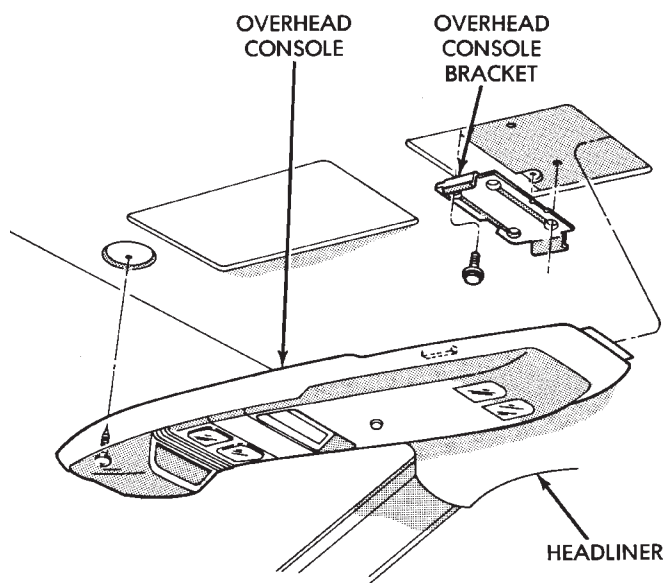
**Fig. 2 Grille Removal**

### CONSOLE REPAIR PROCEDURES

- (1) Remove console forward mounting screw (Fig. 3).
- (2) Slide console forward until the console detaches from the rear mounting bracket.
- (3) Disconnect wire harnesses from keyless entry and compass (Fig. 4).
- (4) To install overhead console, reverse the removal procedures.

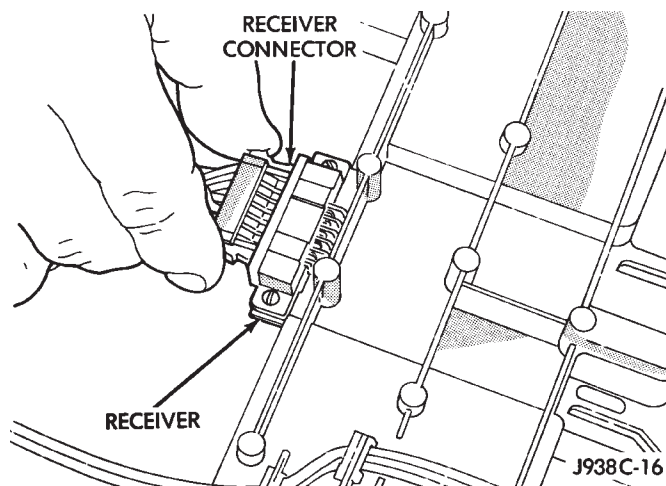
### TRIP COMPUTER REPLACEMENT

- (1) Remove overhead console and disconnect wiring. Refer to Console Repair Procedures.
- (2) Unplug harness connectors from Trip Computer.
- (3) Remove 2 screws holding trip computer to console (Fig. 5).
- (4) Spread retaining tabs on the sides to remove trip computer from the console.



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**Fig. 3 Remove/Install Overhead Console**



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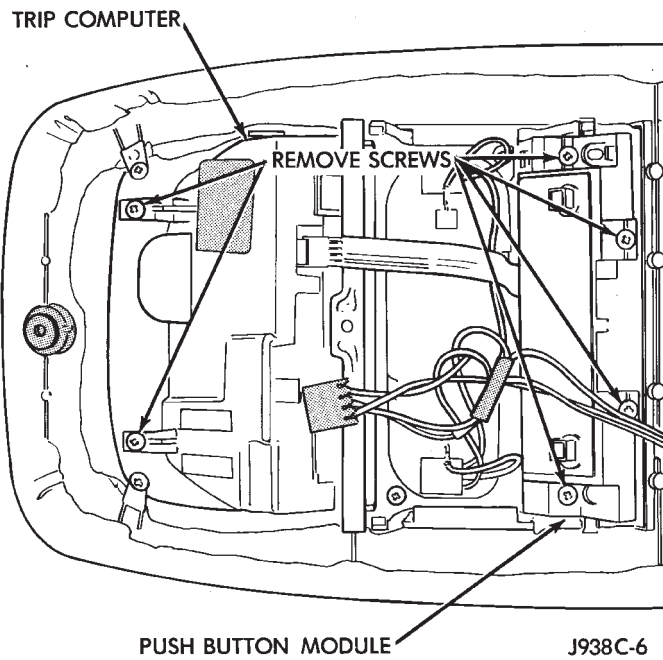
**Fig. 4 Keyless Entry Harness Connector**

- (5) For installation, reverse the removal procedures.

### PUSH BUTTON MODULE REPLACEMENT

- (1) Remove overhead console and disconnect wiring. Refer to Console Repair Procedures.
- (2) Unplug harness connectors from Push Button Module.
- (3) Remove 4 screws holding module to console (Fig. 5).
- (4) Remove module from console.
- (5) For installation, reverse the removal procedures.





**Fig. 5 Trip Computer Removal/Installation**

#### LENS/LAMP REPLACEMENT

(1) Insert a long flat blade tool at the notch on the curved edge of the lens. Carefully pry the lens from

the housing and pivot the lens down. It may be necessary to move the tool along the edge to free the lens.

(2) Remove bulb by pulling straight down.

(3) Install new bulb by pushing firmly into socket.

(4) Pivot lens up into position and snap in. Test by pressing lens for proper operation and lighting.

#### KEYLESS ENTRY RECEIVER

Refer to Group 8P - Power Locks.

