OVERHEAD CONSOLE SYSTEMS

CONTENTS

DESCRIPTION AND OPERATION

OVERHEAD CONSOLE

DESCRIPTION

An overhead console is standard factory-installed equipment on Limited models, and an available option on Laredo models. The overhead console includes the Electronic Vehicle Information Center (EVIC) and two reading and courtesy lamps (Fig. 1). On vehicles equipped with a power sunroof option, the overhead console also houses the power sunroof switch between the two reading and courtesy lamps. The overhead console is mounted with one screw and two snap-clips to a molded plastic retainer bracket located above the headliner. The retainer bracket is secured with adhesive to the inside surface of the roof panel.

Following are general descriptions of the major components used in the overhead console. Refer to **Overhead Console** in the Contents of Group 8W - Wiring Diagrams for complete circuit diagrams.

OPERATION

See the owner's manual in the vehicle glove box for more information on the use and operation of the various overhead console features.

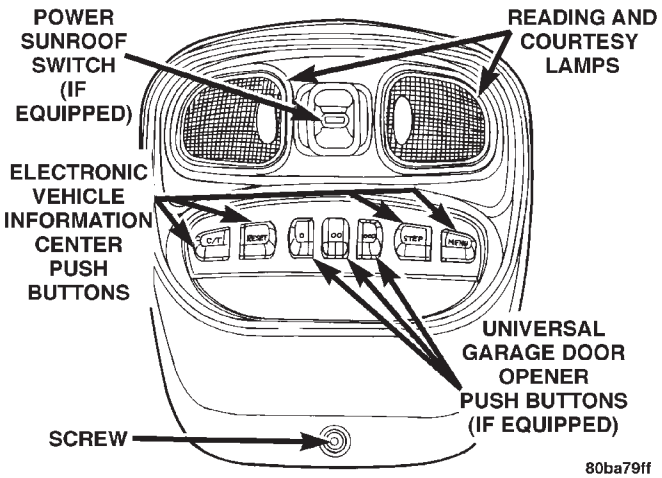


Fig. 1 Overhead Console

ELECTRONIC VEHICLE INFORMATION CENTER

DESCRIPTION

The Electronic Vehicle Information Center (EVIC) is located in the overhead console on models equipped with this option. Two versions of the EVIC module are available on the Grand Cherokee. These two versions are identical except that the standard equipment unit for the Limited model includes an integral three-push button Universal Garage Door Opener (UGDO) transceiver. Both EVIC modules feature a large Vacuum Fluorescent Display (VFD) screen for displaying information, and four back-lit push button function switches labeled C/T (compass/thermometer), RESET, STEP, and MENU. The VFD

DESCRIPTION AND OPERATION (Continued)

screen can also display a vehicle graphic that is used for door and liftgate ajar indications and to show if a turn signal has been left on. The EVIC messages and displays are coordinated with warning indicators in the instrument cluster to avoid duplication.

The EVIC module contains a central processing unit and interfaces with other electronic modules in the vehicle over the Programmable Communications Interface (PCI) data bus network. The PCI data bus network allows the sharing of sensor information. This helps to reduce wire harness complexity, reduce internal controller hardware, and reduce component sensor current loads. At the same time, this system provides increased reliability, enhanced diagnostics, and allows the addition of many new feature capabilities.

The EVIC includes the features of the compass mini-trip computer used on prior Grand Cherokee models, including the following display options:

- **Compass and thermometer** - provides the outside temperature and one of eight compass readings to indicate the direction the vehicle is facing.
- **Average fuel economy** - shows the average fuel economy since the last trip computer reset.
- **Distance to empty** - shows the estimated distance that can be travelled with the fuel remaining in the fuel tank. This estimated distance is computed using the average miles-per-gallon from the last 30 gallons of fuel used.
- **Instant fuel economy** - shows the present fuel economy based upon the current vehicle distance and fuel used information.
- **Trip distance** - shows the distance travelled since the last trip computer reset.
- **Elapsed time** - shows the accumulated ignition-on time since the last trip computer reset.
- **Distance to service** - shows the distance remaining until the next scheduled service interval.
- **Blank screen** - the EVIC compass/thermometer/trip computer VFD is turned off.

The EVIC also includes many features not available with prior compass mini-trip computers. The EVIC is capable of displaying the following warning messages, which are accompanied by an audible announcement consisting of a series of beep tones:

- **TURN SIGNALS ON (with vehicle graphic)** - Indicates that a turn signal has remained on for about 1.6 kilometers (one mile) with no decrease in speed or throttle opening.
- **PERFORM SERVICE** - Indicates that a customer programmable service interval distance has been reached.
- **DOOR AJAR (one or more, with vehicle graphic)** - Indicates that a door is open or not fully closed.
- **LIFTGATE AJAR (with vehicle graphic)** - Indicates that the liftgate or the liftgate flip-up glass is open or not fully closed.
- **COOLANT LEVEL LOW (with vehicle graphic)** - Indicates that the coolant level in the engine coolant reservoir is low.
- **WASHER FLUID LOW (with vehicle graphic)** - Indicates that the fluid level in the washer fluid reservoir is low.

The EVIC "Menu" push button provides the vehicle operator with a user interface, which allows the selection of several optional customer programmable electronic features to suit individual preferences. Refer to **ELECTRONIC VEHICLE INFORMATION CENTER PROGRAMMING** in the Service Procedures section of this group for more information on the customer programmable feature options.

If the vehicle is equipped with the optional memory system, the EVIC will display the following memory system messages:

- **MEMORY #X POSITION SET (X = Driver 1 or Driver 2)** - This message appears in the EVIC display each time the memory system is successfully programmed. It is accompanied by an audible announcement chime tone.
- **MEMORY SYSTEM DISABLED** - The memory system is automatically disabled while the driver side seat belt is fastened and/or while the vehicle is moving. This message appears in the EVIC display as a reminder when a memory switch push button is depressed while the memory system is disabled. If the REMOTE LINKED TO MEMORY customer programmable feature has been selected, this message will also appear when the Unlock button of the Remote Keyless Entry (RKE) transmitter is depressed while the memory system is disabled.

If the vehicle is equipped with the optional Universal Garage Door Opener (UGDO) transceiver, the EVIC will also display messages and an icon indicating when the UGDO transceiver is being trained, which of the three transmitter buttons is transmitting, and when the transceiver is cleared.

Data input for all EVIC functions, including VFD dimming level, is received through PCI data bus messages. The EVIC module uses its internal programming and all of its data inputs to calculate and display the requested data. If the data displayed is incorrect, perform the self-diagnostic tests as described in this group. If these tests prove inconclusive, the use of a DRB scan tool and the proper Diagnostic Procedures manual are recommended for further testing of the EVIC module and the PCI data bus.

The EVIC module cannot be repaired, and is available for service only as a unit. This unit includes the push button switches and the plastic module and dis-

DESCRIPTION AND OPERATION (Continued)

play lens. If any of these components is faulty or damaged, the complete EVIC module must be replaced. The incandescent bulbs used for EVIC push button back-lighting are available for service replacement.

COMPASS

While in the compass/thermometer mode, the compass will display the direction in which the vehicle is pointed using the eight major compass headings (Examples: north is N, northeast is NE). The self-calibrating compass unit requires no adjusting in normal use. The only calibration that may prove necessary is to drive the vehicle in three complete circles, on level ground, in not less than forty-eight seconds. This will reorient the compass unit to its vehicle.

The compass unit also will compensate for magnetism the body of the vehicle may acquire during normal use. However, avoid placing anything magnetic directly on the roof of the vehicle. Magnetic mounts for an antenna, a repair order hat, or a funeral procession flag can exceed the compensating ability of the compass unit if placed on the roof panel. Magnetic bit drivers used on the fasteners that hold the overhead console assembly to the roof header can also affect compass operation. If the vehicle roof should become magnetized, the demagnetizing and calibration procedures found in this group may be required to restore proper compass operation.

THERMOMETER

The thermometer displays the outside ambient temperature in whole degrees. The temperature display can be toggled from Fahrenheit to Celsius by selecting the desired U.S./Metric option from the customer programmable features as described in **ELECTRONIC VEHICLE INFORMATION CENTER PROGRAMMING** in the Service Procedures section of this group. The displayed temperature is not an instant reading of conditions, but an average temperature. It may take the thermometer display several minutes to respond to a major temperature change, such as driving out of a heated garage into winter temperatures.

When the ignition switch is turned to the Off position, the last displayed temperature reading stays in the Body Control Module (BCM) unit memory. When the ignition switch is turned to the On position again, the EVIC will display the memory temperature for one minute; then update the display to the current average temperature reading within five minutes.

The thermometer function is supported by an ambient temperature sensor. The sensor is mounted outside the passenger compartment near the front and center of the vehicle, and is hard wired to the Body Control Module (BCM). The BCM sends temperature status messages to the EVIC module over the PCI data bus network. The ambient temperature sensor is available as a separate service item.

OPERATION

The EVIC has access to both non-switched and ignition switched sources of battery current so that some of its features remain operational at any time, while others may only operate with the ignition switch in the On position. When the ignition switch is turned to the On position, the EVIC module VFD will return to the last function being displayed before the ignition was turned to the Off position.

The compass/thermometer display is the normal EVIC display. With the ignition switch in the On position, momentarily depressing and releasing the C/T (compass/thermometer) push button switch will cause the EVIC to return to the compass/thermometer/trip computer display mode from any other mode. While in the compass/thermometer/trip computer display mode, momentarily depressing and releasing the Step push button will step through the available trip computer display options.

The EVIC trip computer features several functions that can be reset. The functions that can be reset are: average fuel economy, trip odometer and elapsed time. With the ignition switch in the On position and with one of the functions of the trip computer that can be reset currently displayed, depressing the Reset push button twice within three seconds will perform a global reset, and all of the trip computer information that can be reset will be reset to zero. With the ignition switch in the On position and the function that is to be reset currently displayed, momentarily depressing and releasing the Reset push button once will perform a local reset, and only the value of the displayed function will be reset to zero. A global or local reset will only occur if the function currently displayed is a function that can be reset. The distance to service function can also be reset using the local reset method, but it will reset back to the Service Interval distance that is set in the EVIC programmable features mode. Refer to **ELECTRONIC VEHICLE INFORMATION CENTER PROGRAMMING** in the Service Procedures section of this group for more information on setting the Service Interval.

For more information on the features, control functions and setting procedures for the EVIC module, see the owner's manual in the vehicle glove box.

DESCRIPTION AND OPERATION (Continued)

UNIVERSAL GARAGE DOOR OPENER

DESCRIPTION

The Grand Cherokee Limited model has a Universal Garage Door Opener (UGDO) transceiver as standard factory-installed equipment. The UGDO transceiver is integral to the Electronic Vehicle Information Center (EVIC), which is located in the overhead console. The only visible component of the UGDO are the three transmitter push buttons centered between the four EVIC push buttons located just rearward of the EVIC display screen in the overhead console. The three UGDO transmitter push buttons are identified with one, two or three raised tactile bumps so that they be easily identified by sight or by feel.

Each of the three UGDO transmitter push buttons controls an independent radio transmitter channel. Each of these three channels can be trained to transmit a different radio frequency signal for the remote operation of garage door openers, motorized gate openers, home or office lighting, security systems or just about any other device that can be equipped with a radio receiver in the 286 to 399 MegaHertz (MHz) frequency range for remote operation. The UGDO is capable of operating systems using either rolling code or non-rolling code technology.

The EVIC module displays messages and a small house-shaped icon with one, two or three dots corresponding to the three transmitter buttons to indicate the status of the UGDO. The EVIC messages are:

- **Cleared Channels** - Indicates that all of the transmitter codes stored in the UGDO have been successfully cleared.
- **Training** - Indicates that the UGDO is in its transmitter learning mode.
- **Trained** - Indicates that the UGDO has successfully acquired a new transmitter code.
- **Transmit** - Indicates that a trained UGDO transmitter button has been depressed and that the UGDO is transmitting.

The UGDO cannot be repaired, and is available for service only as a unit with the EVIC module. This unit includes the push button switches and the plastic module and display lens. If any of these components is faulty or damaged, the complete EVIC module must be replaced.

OPERATION

The UGDO operates on a non-switched source of battery current so the unit will remain functional, regardless of the ignition switch position. For more information on the features, programming procedures and operation of the UGDO, see the owner's manual in the vehicle glove box.

OVERHEAD CONSOLE READING AND COURTESY LAMP

DESCRIPTION

The overhead console in this vehicle is equipped with two individual reading and courtesy lamps. The lamp lenses are the only visible components of these lamps. The reading and courtesy lamp lenses are mounted near the rear of the overhead console housing. Each lamp has its own switch, bulb, reflector and lens; but both lamps share a common lamp housing within the overhead console.

The overhead console reading and courtesy lamps operate on battery current that is provided at all times, regardless of the ignition switch position. The ground feed for the lamps is switched through the integral reading and courtesy lamp switches or through the door jamb switches. Each lamp is designed and aimed to provide illumination that will be directed only to that side of the vehicle on which the lamp is located.

The reading and courtesy lamp lenses and the lamp housing and reflector unit are serviced only as a unit with the overhead console housing. If either of the lamp lenses or the lamp housing is faulty or damaged, the overhead console housing unit must be replaced. The reading and courtesy lamp switches, bulb holders and wiring are only available as part of the overhead console wire harness. If either of the lamp switches or bulb holders is faulty or damaged, the overhead console wire harness unit must be replaced.

For service of the reading and courtesy lamp bulbs, refer to **Overhead Console Reading Lamp Bulbs** in the Removal and Installation section of Group 8L - Lamps. For diagnosis of the reading and courtesy lamps, refer to **Lamp Diagnosis** in the Diagnosis and Testing section of Group 8L - Lamps. For complete circuit diagrams, refer to **Overhead Console** in the Contents of Group 8W - Wiring Diagrams.

OPERATION

All reading and courtesy lamps located in the overhead console are activated by the door jamb switches. When all of the doors are closed, these lamps can be individually activated by depressing the corresponding lens. When any door is open, depressing the lamp lenses to activate the lamp switches will not turn the lamps off.

See the owner's manual in the vehicle glove box for more information on the use and operation of the overhead console reading and courtesy lamps.

DESCRIPTION AND OPERATION (Continued)

AMBIENT TEMPERATURE SENSOR

DESCRIPTION

Ambient air temperature is monitored by the Electronic Vehicle Information Center (EVIC) through ambient temperature messages received from the Body Control Module (BCM) over the Programmable Communications Interface (PCI) data bus network. The BCM receives a hard wired input from the ambient temperature sensor. The ambient temperature sensor is a variable resistor mounted to a bracket that is secured with a screw to the right side of the headlamp mounting module grille opening, behind the radiator grille and in front of the engine compartment.

Refer to **Body Control Module** in the Description and Operation section of Group 8E - Instrument Panel Systems for more information on the BCM. For complete circuit diagrams, refer to **Body Control Module** in the Contents of Group 8W - Wiring Diagrams. The ambient temperature sensor cannot be adjusted or repaired and, if faulty or damaged, it must be replaced.

OPERATION

The ambient temperature sensor is a variable resistor that operates on a five-volt reference signal sent to it by the BCM. The resistance in the sensor changes as temperature changes, changing the temperature sensor signal circuit voltage to the BCM. Based upon the resistance in the sensor, the BCM senses a specific voltage on the temperature sensor signal circuit, which it is programmed to correspond to a specific temperature. The BCM then sends the proper ambient temperature messages to the EVIC over the PCI data bus.

DIAGNOSIS AND TESTING

ELECTRONIC VEHICLE INFORMATION CENTER

If the problem with the Electronic Vehicle Information Center (EVIC) is an “Open Circuit” or “Short Circuit” shown in the compass/thermometer display, refer to **Ambient Temperature Sensor** in the Diagnosis and Testing section of this group. If the problem with the EVIC is an inaccurate or scrambled display, refer to **Self-Diagnostic Test** in the Diagnosis and Testing section of this group. If the problem with the EVIC is incorrect Vacuum Fluorescent Display (VFD) dimming levels, use a DRB scan tool and the proper Diagnostic Procedures manual to test for the correct dimming message inputs being received from the Body Control Module (BCM) over the Programmable Communications Interface (PCI) data bus. If the problem is a no-display condition, use the following procedures. For complete circuit diagrams, refer to **Overhead Console** in the Contents of Group 8W - Wiring Diagrams.

(1) Check the fused B(+) fuse in the junction block. If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(2) Check for battery voltage at the fused B(+) fuse in the junction block. If OK, go to Step 3. If not OK, repair the open fused B(+) circuit to the fused B(+) fuse in the PDC as required.

(3) Check the fused ignition switch output (run/start) fuse in the junction block. If OK, go to Step 4. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

(4) Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output (run/start) fuse in the junction block. If OK, go to Step 5. If not OK, repair the open fused ignition switch output (run/start) circuit to the ignition switch as required.

(5) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Remove the overhead console. Check for continuity between the ground circuit cavity of the roof wire harness connector for the EVIC module and a good ground. There should be continuity. If OK, go to Step 6. If not OK, repair the open ground circuit to ground as required.

(6) Connect the battery negative cable. Check for battery voltage at the fused B(+) circuit cavity of the roof wire harness connector for the EVIC module. If OK, go to Step 7. If not OK, repair the open fused B(+) circuit to the fused B(+) fuse in the junction block as required.

(7) Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output (run/start) circuit cavity of the roof wire harness connector for the EVIC module. If OK, refer to **Self-Diagnostic Test** in the Diagnosis and Testing section of this group for further diagnosis of the EVIC module and the PCI data bus. If not OK, repair the open fused ignition switch output (run/start) circuit to the fuse in the junction block as required.

SELF-DIAGNOSTIC TEST

A self-diagnostic test is used to determine that the EVIC module is operating properly, and that all PCI data bus messages are being received for initial operation. Initiate the self-diagnostic test as follows:

(1) With the ignition switch in the Off position, simultaneously depress and hold the C/T button and the Reset button.

(2) Turn the ignition switch to the On position.

DIAGNOSIS AND TESTING (Continued)

(3) Continue to hold both buttons depressed until the EVIC software version information is displayed, then release both buttons.

(4) Following completion of these tests, the EVIC module will display one of the following messages:

a. **Pass Self Test** - Momentarily depress and release the Reset button to return to the compass/thermometer/trip computer display mode. The EVIC module is working properly.

b. **Failed Self Test** - The EVIC module has an internal failure. The EVIC module is faulty and must be replaced.

c. **Failed J1850 Communication** - The EVIC module is not receiving proper message input through the PCI data bus. This can result from one or more faulty electronic modules in the vehicle, or from a faulty PCI data bus. The use of a DRB scan tool and the proper Diagnostic Procedures manual are required for further diagnosis.

NOTE: If the compass functions, but accuracy is suspect, it may be necessary to perform a variation adjustment. This procedure allows the compass unit to accommodate variations in the earth's magnetic field strength, based on geographic location. Refer to Compass Variation Adjustment in the Service Procedures section of this group.

NOTE: If the compass reading displays dashes, and only "CAL" appears in the display, demagnetizing may be necessary to remove excessive residual magnetic fields from the vehicle. Refer to Compass Demagnetizing in the Service Procedures section of this group.

UNIVERSAL GARAGE DOOR OPENER

If the Universal Garage Door Opener (UGDO) is inoperative, but the Electronic Vehicle Information Center (EVIC) is operating normally, see the owner's manual in the vehicle glove box for instructions on training the UGDO. Retrain the UGDO with a known good transmitter as instructed in the owner's manual and test the UGDO operation again. If the unit is still inoperative, replace the faulty UGDO and EVIC module as a unit. If both the UGDO and the EVIC module are inoperative, refer to **Electronic Vehicle Information Center** in the Diagnosis and Testing section of this group for further diagnosis. For complete circuit diagrams, refer to **Overhead Console** in the Contents of Group 8W - Wiring Diagrams.

AMBIENT TEMPERATURE SENSOR

The thermometer function is supported by the ambient temperature sensor, a wiring circuit, the Body Control Module (BCM), the Programmable Communications Interface (PCI) data bus, and a portion of the Electronic Vehicle Information Center (EVIC) module. If any portion of the ambient temperature sensor circuit fails, the BCM will self-diagnose the circuit. A "Short Circuit" message will appear in the EVIC display in place of the temperature when the sensor is exposed to temperatures above 55° C (131° F), or if the sensor circuit is shorted. An "Open Circuit" message will appear in the EVIC display in place of the temperature when the sensor is exposed to temperatures below –40° C (–40° F), or if the sensor circuit is open.

The ambient temperature sensor circuit can also be diagnosed using the following Sensor Test, and Sensor Circuit Test. If the temperature sensor and circuit are confirmed to be OK, but the temperature display is inoperative or incorrect, refer to **Electronic Vehicle Information Center** in the Diagnosis and Testing section of this group. For complete circuit diagrams, refer to **Body Control Module** in the Contents of Group 8W - Wiring Diagrams.

SENSOR TEST

(1) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Disconnect the ambient temperature sensor wire harness connector.

(2) Measure the resistance of the ambient temperature sensor. At –40° C (–40° F), the sensor resistance is 336 kilohms. At 55° C (140° F), the sensor resistance is 2.488 kilohms. The sensor resistance should read between these two values. If OK, refer to **Sensor Circuit Test** in the Diagnosis and Testing section of this group. If not OK, replace the faulty ambient temperature sensor.

SENSOR CIRCUIT TEST

(1) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Disconnect the ambient temperature sensor wire harness connector and the 22-way Body Control Module (BCM) wire harness connector.

(2) Connect a jumper wire between the two terminals in the body half of the ambient temperature sensor wire harness connector.

(3) Check for continuity between the sensor return circuit and the ambient temperature sensor signal circuit cavities of the 22-way BCM wire harness connector. There should be continuity. If OK, go to Step 4. If not OK, repair the open sensor return circuit or ambient temperature sensor signal circuit to the ambient temperature sensor as required.

(4) Remove the jumper wire from the body half of the ambient temperature sensor wire harness connector. Check for continuity between the sensor

DIAGNOSIS AND TESTING (Continued)

return circuit cavity of the 22-way BCM wire harness connector and a good ground. There should be no continuity. If OK, go to Step 5. If not OK, repair the shorted sensor return circuit as required.

(5) Check for continuity between the ambient temperature sensor signal circuit cavity of the 22-way BCM wire harness connector and a good ground. There should be no continuity. If OK, refer to **Electronic Vehicle Information Center** in the Diagnosis and Testing section of this group. If not OK, repair the shorted ambient temperature sensor signal circuit as required.

SERVICE PROCEDURES

ELECTRONIC VEHICLE INFORMATION CENTER PROGRAMMING

EVIC PROGRAMMING MODE

The Electronic Vehicle Information Center (EVIC) provides the vehicle operator with a user interface, which allows the selection of several optional customer programmable electronic features to suit individual preferences. The EVIC must be placed into its programming mode in order to view or change the programmable features. To enter the EVIC programming mode and to view or change the selected programmable features options, proceed as follows:

(1) Turn the ignition switch to the On position.

(2) Depress and release the Menu push button. The first item in the programmable features menu list will appear in the EVIC display.

(3) Momentarily depress and release the Menu push button to step through the programmable features list. Each programmable feature and its currently selected option will appear on the EVIC display in the sequence shown in the Programmable Features list that follows.

(4) Momentarily depress and release the Step push button to step through the available options for the programmable feature being displayed.

(5) The option that last appears in the display with a programmable feature before exiting the programming mode, becomes the newly selected programmable feature option.

(6) The EVIC exits the programming mode and returns to its normal operating mode when the C/T push button is depressed or when the end of the programmable features menu list is reached, whichever occurs first.

PROGRAMMABLE FEATURES

- **LANGUAGE?** - The options include English, Francaise, Deutsch, Italiana, or Espanol. The default is English. All EVIC display nomenclature, including the trip computer functions, warning messages and the programmable features appear in the selected language.
- **DISPLAY U.S. OR METRIC?** - The options include U.S. and M. The default is U.S. This feature toggles the trip computer temperature, fuel economy and odometer display readings between U.S. and metric units of measure. It also changes the odometer display in the instrument cluster.
- **AUTO DOOR LOCKS?** - The options include Yes and No. The default is Yes. When Yes is selected, all doors and the liftgate lock automatically when vehicle speed reaches 25 kilometers-per-hour (15 miles-per-hour). If YES is selected, a second programmable feature appears, **AUTO UNLOCK ON EXIT?** - The options again include Yes and No. The default is No. When Yes is selected, following each Auto Door Lock event all doors and the liftgate will automatically unlock when the driver door is opened, if the vehicle is stopped and the transmission gear selector is in Park or Neutral. The Auto Door Unlock event will only occur once following each Auto Door Lock event.
- **REMOTE UNLOCK** - The options include Driver Door 1st and All Doors. The default is Driver Door 1st. When Diver Door 1st is selected, only the driver door unlocks when the Unlock button of the Remote Keyless Entry (RKE) transmitter is depressed once. The Unlock button of the RKE transmitter must be depressed twice to unlock all doors and the liftgate. When All Doors is selected, all doors and the liftgate unlock when the Unlock button of the RKE transmitter is depressed once.
- **REMOTE LINKED TO MEMORY?** - This programmable feature only applies to vehicles equipped with the optional memory system. The options include Yes and No. The default is No. When Yes is selected, the memory system will recall the Driver 1 or Driver 2 memory settings assigned to the RKE transmitter being used to unlock the vehicle. When No is selected, the memory system will only recall memory settings when the Driver 1 or Driver 2 push buttons of the memory switch on the driver side front door trim panel are depressed.
- **SOUND HORN ON LOCK?** - The options include Yes and No. The default is No. When Yes is selected, a short horn chirp will provide an audible confirmation when the RKE receiver recognizes a valid Lock signal from an RKE transmitter. When No is selected, no horn chirp will occur with the RKE Lock event. This feature may be selected independent of the **FLASH LIGHTS WITH LOCKS?** programmable feature.
- **FLASH LIGHTS WITH LOCKS?** - The options include Yes and No. The default is Yes. When Yes is selected, a single flash of the hazard warning

SERVICE PROCEDURES (Continued)

lamps will provide an optical confirmation when the RKE receiver recognizes a valid Lock signal from an RKE transmitter, and two flashes of the same lamps will occur when the RKE receiver recognizes a valid Unlock signal from an RKE transmitter. When No is selected, no lamp flash will occur with the RKE Lock or Unlock event. This feature may be selected independent of the **SOUND HORN ON LOCK?** programmable feature.

- **HEADLAMP DELAY =** - The options include Off, 30 Sec, 60 Sec, and 90 Sec. The default is 90 Sec. When a time interval is selected, the headlamps will remain on for that length of time when the headlamps are turned off after the ignition is turned off, or if the Auto mode is selected on vehicles with the Auto Headlamps option. When Off is selected, the headlamp delay feature is disabled.
- **HEADLAMPS ON WITH WIPERS?** - This programmable feature only applies to vehicles equipped with the optional Auto Headlamps. The options include Yes and No. The default is Yes. When Yes is selected, the headlamps will turn on automatically when the windshield wipers are turned on. The headlamps will turn off when the wipers are turned off, as long as the headlamp switch is in the Auto or Off positions. When No is selected, the headlamps will only turn on if manually selected or if the Auto mode is selected and the outside ambient light levels dictate that they should be on.
- **SERVICE INTV. =** - The options include from 1000 to 12000 kilometers in 1000 kilometer increments (2000 to 7500 miles in 500 mile increments). The default is 12000 kilometers (7500 miles). The selected distance becomes the interval at which the Perform Service warning message will be displayed by the EVIC. If a new distance is selected, a second programmable feature appears, **RESET SERVICE DISTANCE?** - The options include No and Yes. The default is Yes. When Yes is selected, the accumulated distance since the last previous Perform Service warning message will be reset to zero because the service interval has been changed. When No is selected, the distance until the next Perform Service warning message is reduced by the accumulated distance since the last previous message.
- **LOW FUEL CHIME?** - The options include Yes and No. The default is Yes. When Yes is selected, a single chime will sound as an audible alert whenever the instrument cluster low fuel warning lamp lights. The chime will sound only once per ignition cycle. When No is selected, only the low fuel warning lamp in the instrument cluster will light and no chime will sound.
- **EASY EXIT SEAT?** - This programmable feature only applies to vehicles equipped with the optional memory system. The options include Yes and No. The default is No. When Yes is selected, the driver seat moves rearward about 55 millimeters (two inches) or to the farthest rearward position, whichever comes first, when the key is removed from the ignition switch lock cylinder. This provides additional ease for exiting from the vehicle. The seat will automatically return to the memory system setting position when the Driver 1 or Driver 2 button of the memory switch on the door panel is depressed or, if the **REMOTE LINKED TO MEMORY** programmable feature is enabled, when the RKE Unlock button is depressed. While not automatic, an easy entry feature can be obtained by enabling the **EASY EXIT SEAT** feature and disabling the **REMOTE LINKED TO MEMORY** feature. Then the **EASY EXIT SEAT** feature will move the seat back, but the RKE unlock event will not reposition the seat. Thus, the seat remains positioned for easy entry, and the memory switch on the door panel can be depressed after entering the vehicle to return the seat to the desired memory position.

COMPASS VARIATION ADJUSTMENT

Compass variance, also known as magnetic declination, is the difference in angle between magnetic north and true geographic north. In some geographic locations, the difference between magnetic and geographic north is great enough to cause the compass to give false readings. If this problem occurs, the compass variance setting may need to be changed.

To set the compass variance:

(1) Using the Variance Settings map, find your geographic location and note the zone number (Fig. 2).

(2) Turn the ignition switch to the On position. If the compass/thermometer data is not currently being displayed, momentarily depress and release the C/T push button to reach the compass/thermometer display.

(3) Depress the Reset push button and hold the button down until “VARIANCE = XX” appears in the display. This takes about five seconds.

(4) Release the Reset push button. “VARIANCE =XX ” will remain in the display. “XX” equals the current variance zone setting.

(5) Momentarily depress and release the Step push button to step through the zone numbers, until the zone number for your geographic location appears in the display.

(6) Momentarily depress and release the Reset push button to enter the displayed zone number into the EVIC module memory.

(7) Confirm that the correct directions are now indicated by the compass.

SERVICE PROCEDURES (Continued)

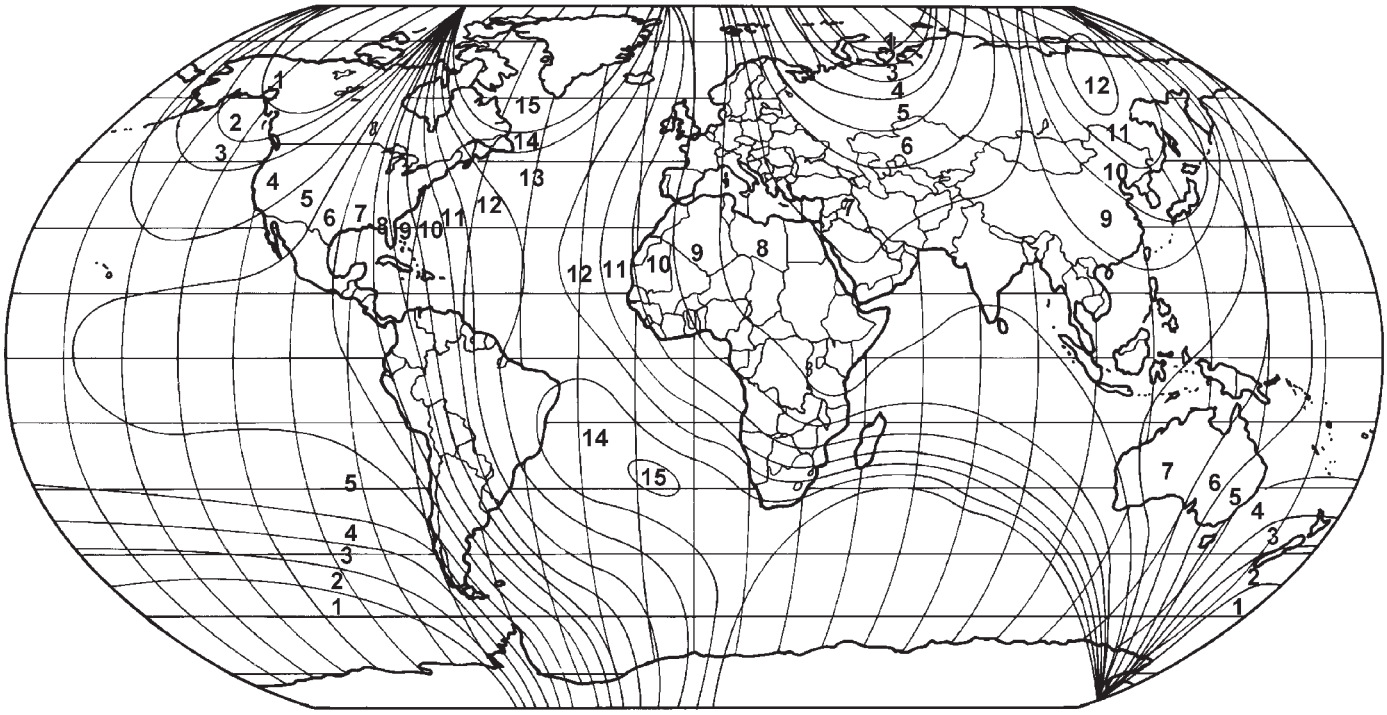


Fig. 2 Variance Settings

COMPASS CALIBRATION

CAUTION: Do not place any external magnets, such as magnetic roof mount antennas, in the vicinity of the compass. Do not use magnetic tools when servicing the overhead console.

The electronic compass unit features a self-calibrating design, which simplifies the calibration procedure. This feature automatically updates the compass calibration while the vehicle is being driven. This allows the compass unit to compensate for small changes in the residual magnetism that the vehicle may acquire during normal use. If the compass readings appear to be erratic or out of calibration, perform the following calibration procedure. Also, new service replacement Electronic Vehicle Information Center (EVIC) modules must have their compass calibrated using this procedure. Do not attempt to calibrate the compass near large metal objects such as other vehicles, large buildings, or bridges; or, near overhead or underground power lines.

NOTE: Whenever the compass is calibrated manually, the variance number must also be reset. Refer to Compass Variation Adjustment in the Service Procedures section of this group.

Calibrate the compass manually as follows:

(1) Turn the ignition switch to the On position. If the compass/thermometer data is not currently being displayed, momentarily depress and release the C/T push button to reach the compass/thermometer display.

(2) Depress the Reset push button and hold the button down until “CAL” appears in the display. This takes about ten seconds, and appears about five seconds after “VARIANCE = XX” is displayed.

(3) Release the Reset push button.

(4) Drive the vehicle on a level surface, away from large metal objects and power lines, through three or more complete circles at between five and eight kilometers-per-hour (three and five miles-per-hour) in not less than 48 seconds. The “CAL” message will disappear from the display to indicate that the compass is now calibrated.

NOTE: If the “CAL” message remains in the display, either there is excessive magnetism near the compass, or the unit is faulty. Repeat the calibration procedure one more time.

NOTE: If the wrong direction is still indicated in the compass display, the area selected for calibration may be too close to a strong magnetic field. Repeat the calibration procedure in another location.

SERVICE PROCEDURES (Continued)

COMPASS DEMAGNETIZING

A degaussing tool (Special Tool 6029) is used to demagnetize, or degauss, the overhead console forward mounting screw and the roof panel above the overhead console. Equivalent units must be rated as continuous duty for 110/115 volts and 60 Hz. They must also have a field strength of over 350 gauss at 7 millimeters (0.25 inch) beyond the tip of the probe.

To demagnetize the roof panel and the overhead console forward mounting screw, proceed as follows:

(1) Be certain that the ignition switch is in the Off position, before you begin the demagnetizing procedure.

(2) Connect the degaussing tool to an electrical outlet, while keeping the tool at least 61 centimeters (2 feet) away from the compass unit.

(3) Slowly approach the head of the overhead console forward mounting screw with the degaussing tool connected.

(4) Contact the head of the screw with the plastic coated tip of the degaussing tool for about two seconds.

(5) With the degaussing tool still energized, slowly back it away from the screw. When the tip of the tool is at least 61 centimeters (2 feet) from the screw head, disconnect the tool.

(6) Place a piece of paper approximately 22 by 28 centimeters (8.5 by 11 inches), oriented on the vehicle lengthwise from front to rear, on the center line of the roof at the windshield header (Fig. 3). The purpose of the paper is to protect the roof panel from scratches, and to define the area to be demagnetized.

(7) Connect the degaussing tool to an electrical outlet, while keeping the tool at least 61 centimeters (2 feet) away from the compass unit.

(8) Slowly approach the center line of the roof panel at the windshield header, with the degaussing tool connected.

(9) Contact the roof panel with the plastic coated tip of the degaussing tool. Be sure that the template is in place to avoid scratching the roof panel. Using a slow, back-and-forth sweeping motion, and allowing 13 millimeters (0.50 inch) between passes, move the tool at least 11 centimeters (4 inches) to each side of the roof center line, and 28 centimeters (11 inches) back from the windshield header.

(10) With the degaussing tool still energized, slowly back it away from the roof panel. When the tip of the tool is at least 61 centimeters (2 feet) from the roof panel, disconnect the tool.

(11) Calibrate the compass and adjust the compass variance. Refer to **Compass Variation Adjustment** and **Compass Calibration** in the Service Procedures section of this group for the procedures.

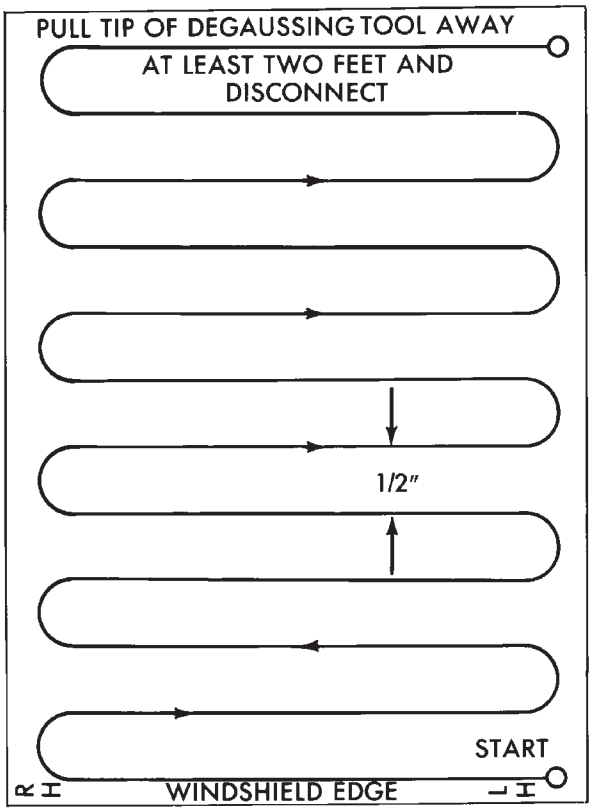


Fig. 3 Roof Demagnetizing Pattern

REMOVAL AND INSTALLATION

OVERHEAD CONSOLE

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Remove the screw that secures the front of the overhead console to the front of the overhead console retainer bracket.

(3) Insert the fingertips of both hands between the headliner and the sides of the overhead console housing in the area near the reading and courtesy lamps.

(4) Pull downward on the sides of the overhead console housing firmly and evenly to disengage the two snap clips that secure the rear of the unit from their receptacles in the overhead console retainer bracket.

(5) Lower the overhead console from the headliner far enough to access the wire harness connectors.

(6) Disconnect the roof wire harness connectors from the Electronic Vehicle Information Center connector receptacle, the reading and courtesy lamp wire harness connector and, if the vehicle is so equipped, from the back of the power sunroof switch.

(7) Remove the overhead console from the headliner.

REMOVAL AND INSTALLATION (Continued)

INSTALLATION

(1) Position the overhead console near the mounting location on the headliner.

(2) Reconnect the roof wire harness connectors to the Electronic Vehicle Information Center connector receptacle, the reading and courtesy lamp wire harness connector and, if the vehicle is so equipped, to the back of the power sunroof switch.

(3) Align the two snap clips on the rear of the overhead console housing with their receptacles in the overhead console retainer bracket.

(4) Push upward firmly and evenly on the sides of the overhead console housing over both of the snap clip locations until each of the two snap clips is fully engaged with its receptacle in the overhead console retainer bracket.

(5) Install and tighten the screw that secures the front of the overhead console housing to the overhead console retainer bracket. Tighten the screw to 1.2 N·m (10 in. lbs.).

(6) Reconnect the battery negative cable.

ELECTRONIC VEHICLE INFORMATION CENTER

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Remove the overhead console from the headliner. Refer to **Overhead Console** in the Removal and Installation section of this group for the procedures.

(3) Remove the four screws that secure the Electronic Vehicle Information Center (EVIC) module to the overhead console housing (Fig. 4).

(4) Remove the EVIC module from the overhead console housing.

INSTALLATION

(1) Position the EVIC module onto the overhead console housing.

(2) Install and tighten the four screws that secure the EVIC module to the overhead console housing. Tighten the screws to 0.9 N·m (8 in. lbs.).

(3) Install the overhead console onto the headliner. Refer to **Overhead Console** in the Removal and Installation section of this group for the procedures.

(4) Reconnect the battery negative cable.

NOTE: If a new compass mini-trip computer has been installed, the compass will have to be calibrated and the variance set. Refer to Compass Variation Adjustment and Compass Calibration in the Service Procedures section of this group for the procedures.

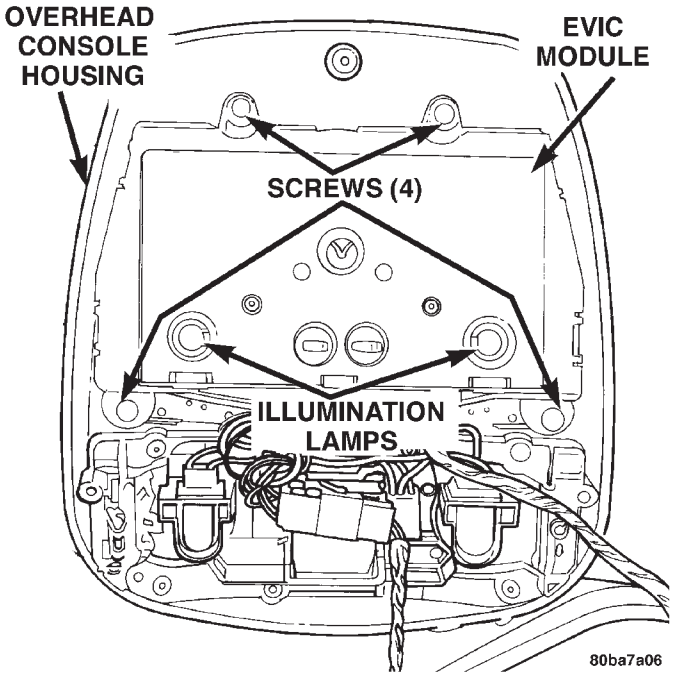


Fig. 4 Electronic Vehicle Information Center Remove/Install

AMBIENT TEMPERATURE SENSOR

REMOVAL

(1) Disconnect and isolate the battery negative cable.

(2) Locate the ambient temperature sensor, on the right side of the radiator opening in the headlamp mounting module, behind the grille (Fig. 5).

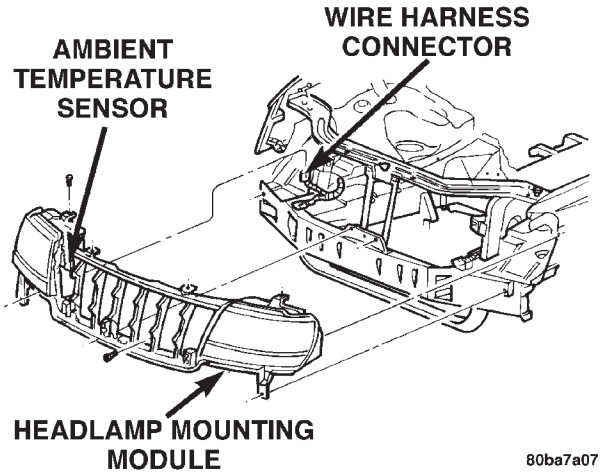


Fig. 5 Ambient Temperature Sensor Remove/Install

(3) Remove the radiator grille fascia and insert from the headlamp mounting module. Refer to **Grille** in the Removal and Installation section of Group 23 - Body for the procedures.

(4) Disconnect the wire harness connector from the ambient temperature sensor connector receptacle.

REMOVAL AND INSTALLATION (Continued)

(5) Remove the one screw that secures the ambient temperature sensor bracket to the headlamp mounting module.

(6) Remove the ambient temperature sensor from the headlamp mounting module.

INSTALLATION

(1) Position the ambient temperature sensor onto the radiator yoke.

(2) Install and tighten the one screw that secures the ambient temperature sensor bracket to the radiator yoke. Tighten the screw to 2.2 N·m (20 in. lbs.).

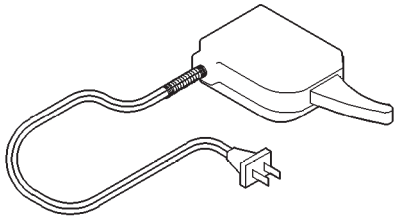
(3) Reconnect the wire harness connector to the ambient temperature sensor connector receptacle.

(4) Install the radiator grille fascia and insert onto the headlamp mounting module. Refer to **Grille** in the Removal and Installation section of Group 23 - Body for the procedures.

(5) Reconnect the battery negative cable.

SPECIAL TOOLS

OVERHEAD CONSOLE SYSTEMS



Degaussing Tool 6029