PRODEMAND

2008 Dodge Dakota 3.7L Eng

1Search™

# INSTRUMENT CLUSTER

## DIAGNOSTIC CODE INDEX

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| DTC | Description |
|---|---|
| B1200 | AIRBAG LAMP OUTPUT CIRCUIT LOW |
| B1201 | AIRBAG LAMP OUTPUT CIRCUIT HIGH |
| B1613 | PANEL ILLUMINATION OUTPUT CIRCUIT SHORT TO GROUND |
| B1615 | PANEL ILLUMINATION OUTPUT CIRCUIT ALL OPEN |
| B2107 | IGNITION SWITCH SENSE INPUT CIRCUIT/PERFORMANCE |
| B2213 | MODULE INTERNAL FAULT |
| B222C | VEHICLE CONFIGURATION NOT PROGRAMMED |
| P0930 | BTSI CONTROL CIRCUIT LOW |
| P0931 | BTSI CONTROL CIRCUIT HIGH |
| U0019 | CAN B BUS (+)/(-) CIRCUIT |
| U0141 | LOST COMMUNICATION WITH FRONT CONTROL MODULE |
| U0151 | LOST COMMUNICATION WITH OCCUPANT RESTRAINT CONTROLLER |
| U0156 | LOST COMMUNICATION WITH EOM |
| U0168 | LOST COMMUNICATION WITH VEHICLE SECURITY CONTROL MODULE (SKREEM/WCM) |
| U0184 | LOST COMMUNICATION WITH RADIO |
| U0199 | LOST COMMUNICATION WITH DRIVER DOOR MODULE |
| U0208 | LOST COMMUNICATION WITH HEATED SEAT CONTROL MODULE |

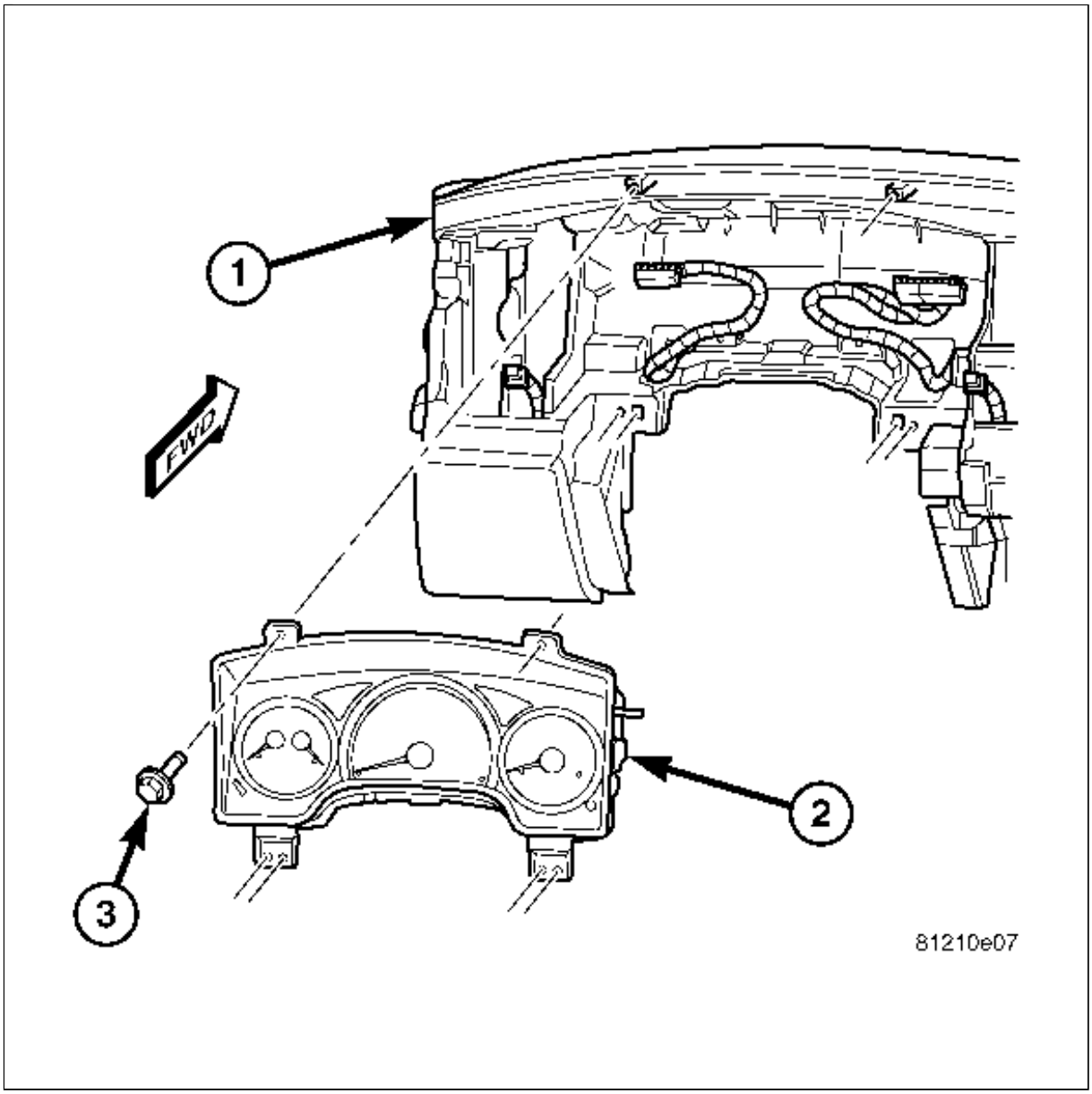
## REMOVAL

### INSTRUMENT CLUSTER

*WARNING: To avoid serious or fatal injury on vehicles equipped with airbags, disable the Supplemental Restraint System (SRS) before attempting any steering wheel, steering column, airbag, seat belt tensioner, impact sensor, or instrument panel component diagnosis or service. Disconnect and isolate the battery negative (ground) cable, then wait two minutes for the system capacitor to discharge before performing*

*further diagnosis or service. This is the only sure way to disable the SRS. Failure to take the proper precautions could result in accidental airbag deployment.*

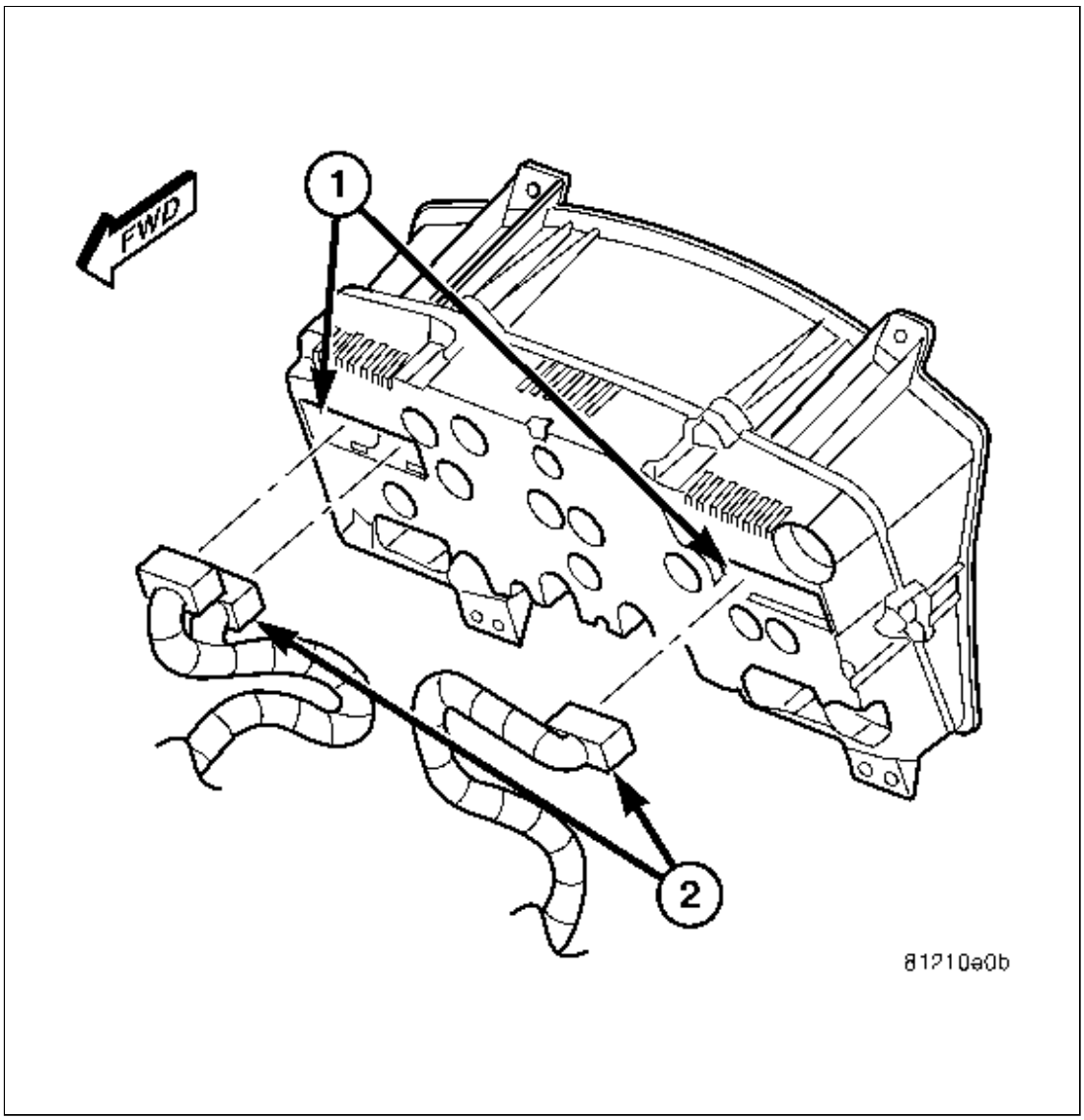
Fig 1: Identifying Instrument Cluster




Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the cluster bezel from the instrument panel. Refer to REMOVAL .
3. Remove the four screws (3) that secure the instrument cluster (2) to the instrument panel structural support (1).

Fig 2: Disconnecting/Connecting Instrument Panel Wire Harness Connectors




Courtesy of CHRYSLER LLC

4. Pull the instrument cluster rearward far enough to access and disconnect the instrument panel wire harness connectors (2) from the connector receptacles (1) on the back of the cluster housing.
5. Remove the instrument cluster from the instrument panel.

## DISASSEMBLY

### INSTRUMENT CLUSTER

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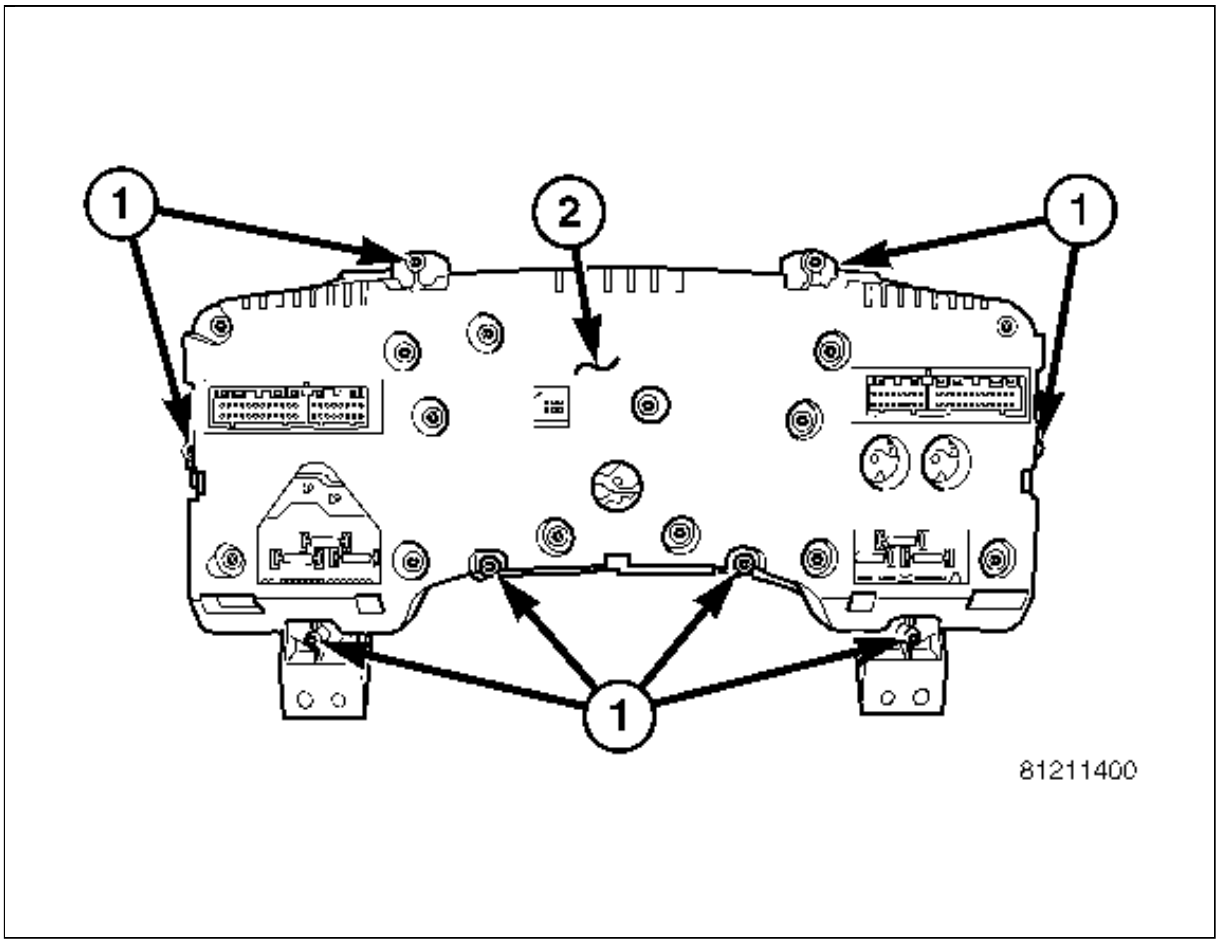
*component diagnosis or service. Disconnect and isolate the battery negative (ground) cable, then wait two minutes for the system capacitor to discharge before performing further diagnosis or service. This is the only sure way to disable the SRS. Failure to take the proper precautions could result in accidental airbag deployment.*

*NOTE: The cluster lens, hood and mask unit is the only component of the instrument cluster used in this vehicle that is serviced separately. Following is the procedure for disassembling this component from the instrument cluster.*

**CLUSTER LENS, HOOD, AND MASK**

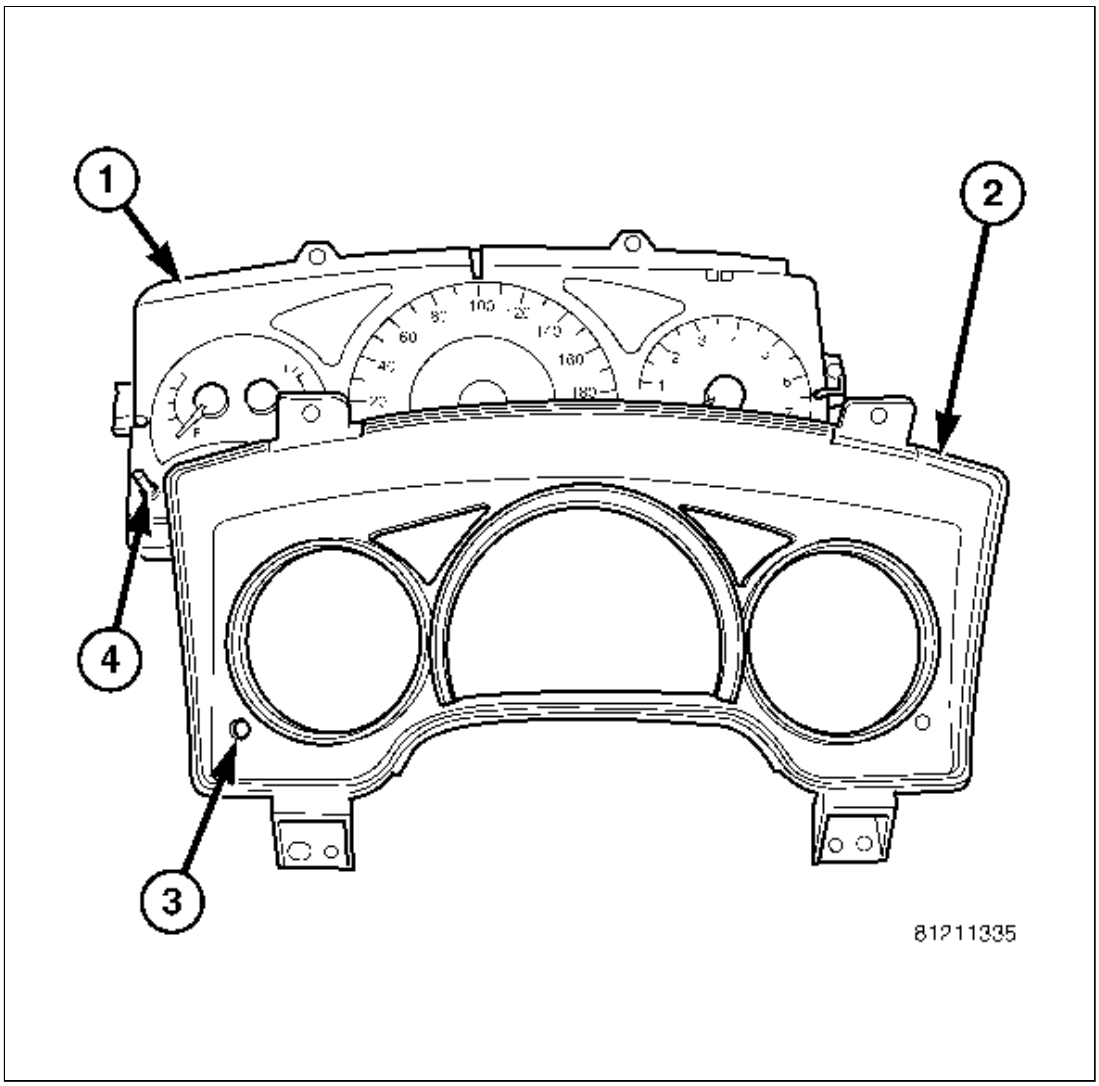
Fig 3: Rear Instrument Cluster Screws




Courtesy of CHRYSLER LLC

1. Disconnect and isolate the battery negative cable.
2. Remove the instrument cluster from the instrument panel. See REMOVAL .
3. From the back of the instrument cluster (2), remove the eight screws (1) around the outer perimeter of the rear cover that secure the lens, hood, and mask unit to the cluster housing.

Fig 4: Instrument Cluster Mask Unit




Courtesy of CHRYSLER LLC

4. Remove the lens, hood, and mask unit (2) from the face of the instrument cluster (1).

## INSTRUMENT CLUSTER

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If all of the instrument cluster gauges and indicators are ineffective, be certain to check the instrument cluster fused B(+) fuse and the instrument cluster fused B(+) and ground circuits for

shorts or opens. Refer to SYSTEM WIRING DIAGRAMS for appropriate wiring information. The wiring information includes wiring diagrams, proper wire and connector repair procedures, details of wire harness routing and retention, connector pin-out information and location views for the various wire harness connectors, splices and grounds.

If an individual hard wired gauge or indicator is ineffective, refer to the diagnosis and testing. If an individual Controller Area Network (CAN) data bus message-controlled gauge or indicator is ineffective, perform the Actuator Test as follows:

> ⚠ *CAUTION: Instrument clusters used in this vehicle automatically configure themselves for compatibility with the features and optional equipment in the vehicle in which they are initially installed. The instrument cluster is programmed to do this by embedding the Vehicle Identification Number (VIN) and other information critical to proper cluster operation into electronic memory. This embedded information is learned through electronic messages received from other electronic modules in the vehicle over the Controller Area Network (CAN) data bus, and through certain hard wired inputs received when the cluster is connected to the vehicle electrically. Once configured, the instrument cluster memory may be irreparably damaged and certain irreversible configuration errors may occur if the cluster is connected electrically to another vehicle; or, if an electronic module from another vehicle is connected that provides data to the instrument cluster (including odometer values) that conflicts with that which was previously learned and stored. Therefore, the practice of exchanging (swapping) instrument clusters and other electronic modules in this vehicle with those removed from another vehicle must always be avoided. Failure to observe this caution may result in instrument cluster damage, which is not reimbursable under the terms of the product warranty. Service replacement instrument clusters are provided with the correct VIN, and the certified odometer and engine hours values embedded into cluster memory, but will otherwise be automatically configured for compatibility with the features and optional equipment in the vehicle in which they are initially installed.*

> 📄 *NOTE: Certain indicators in this instrument cluster are automatically configured. This feature allows those indicators to be activated or deactivated for compatibility with certain optional equipment. If the problem being diagnosed involves improper illumination of the cruise indicator, the electronic throttle control indicator, the tow/haul indicator, the fog lamp indicator, any of the four-wheel drive indicators, the transmission overtemp indicator, the security indicator or the gear selector indicator, disconnect and isolate the battery negative cable. After about five minutes, reconnect the battery negative cable and turn the ignition switch to the ON position. The instrument cluster should automatically relearn the equipment in the vehicle and properly configure the configurable indicators accordingly.*

**ACTUATOR TEST**

The instrument cluster actuator test will put the instrument cluster into its self-diagnostic mode. In this mode the instrument cluster can perform a self-diagnostic test that will confirm that the instrument cluster circuitry, the gauges, and the indicators are capable of operating as designed. During the actuator test the instrument cluster circuitry will position each of the gauge needles at

various calibration points, illuminate all of the segments in the Vacuum Fluorescent Display (VFD) unit, and turn all of the indicators ON and OFF again.

Successful completion of the actuator test will confirm that the instrument cluster is operational. However, there may still be a problem with the CAN data bus, the Powertrain Control Module (PCM), the Front Control Module (FCM), the Transmission Control Module (TCM), the Occupant Restraint Controller (ORC), the Controller Anti-lock Brake (CAB), the Sentry Key REmote Entry Module (SKREEM) (also known as the Wireless Control Module/WCM) or the hard wired inputs to one of these electronic control modules. Use a diagnostic scan tool to diagnose these components. Refer to the appropriate diagnostic information.

1. Begin the test with the ignition switch in the OFF position.
2. Depress the odometer/trip odometer switch button.
3. While still holding the odometer/trip odometer switch button depressed, turn the ignition switch to the ON position, but do not start the engine.
4. Release the odometer/trip odometer switch button.
5. The instrument cluster will simultaneously begin to illuminate all of the operational segments in the VFD unit, and perform a bulb check of each operational LED indicator. The VFD segments and LED indicators remain illuminated as each gauge needle is swept to several calibration points and back. If a VFD segment or an LED indicator fails to illuminate, or if a gauge needle fails to sweep through the calibration points and back during this test, the instrument cluster must be replaced.
6. The actuator test is now completed. The instrument cluster will automatically exit the self-diagnostic mode and return to normal operation at the completion of the test. The actuator test will be aborted if the ignition switch is turned to the OFF position, or if a vehicle speed message indicating that the vehicle is moving is received from the PCM over the CAN data bus during the test.
7. Go back to step 1 to repeat the test, if necessary.

## ASSEMBLY

### INSTRUMENT CLUSTER

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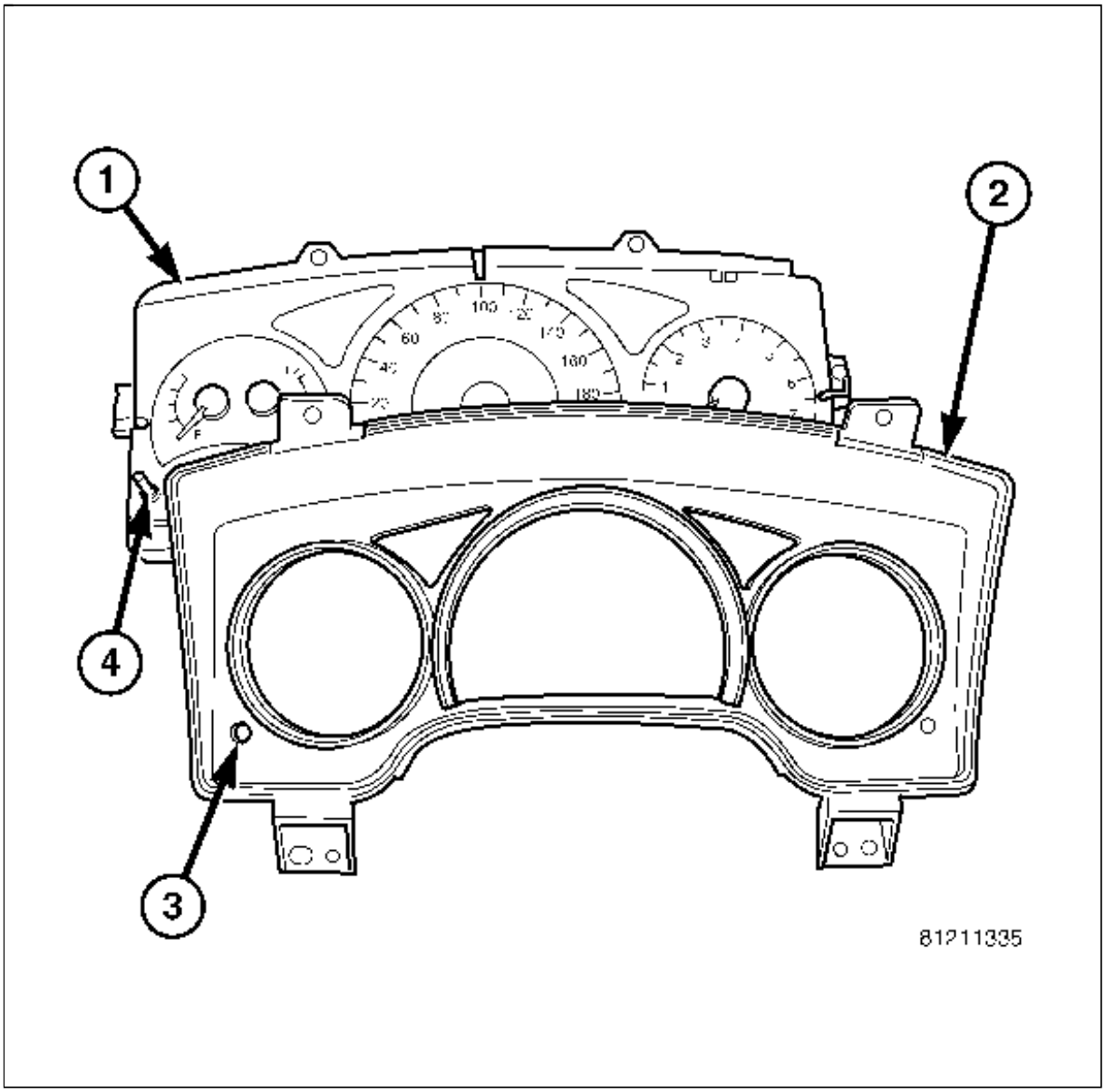
*NOTE: The cluster lens, hood and mask unit is the only component of the instrument cluster used in this vehicle that is serviced separately. Following is the procedure for assembling this component to the instrument cluster.*

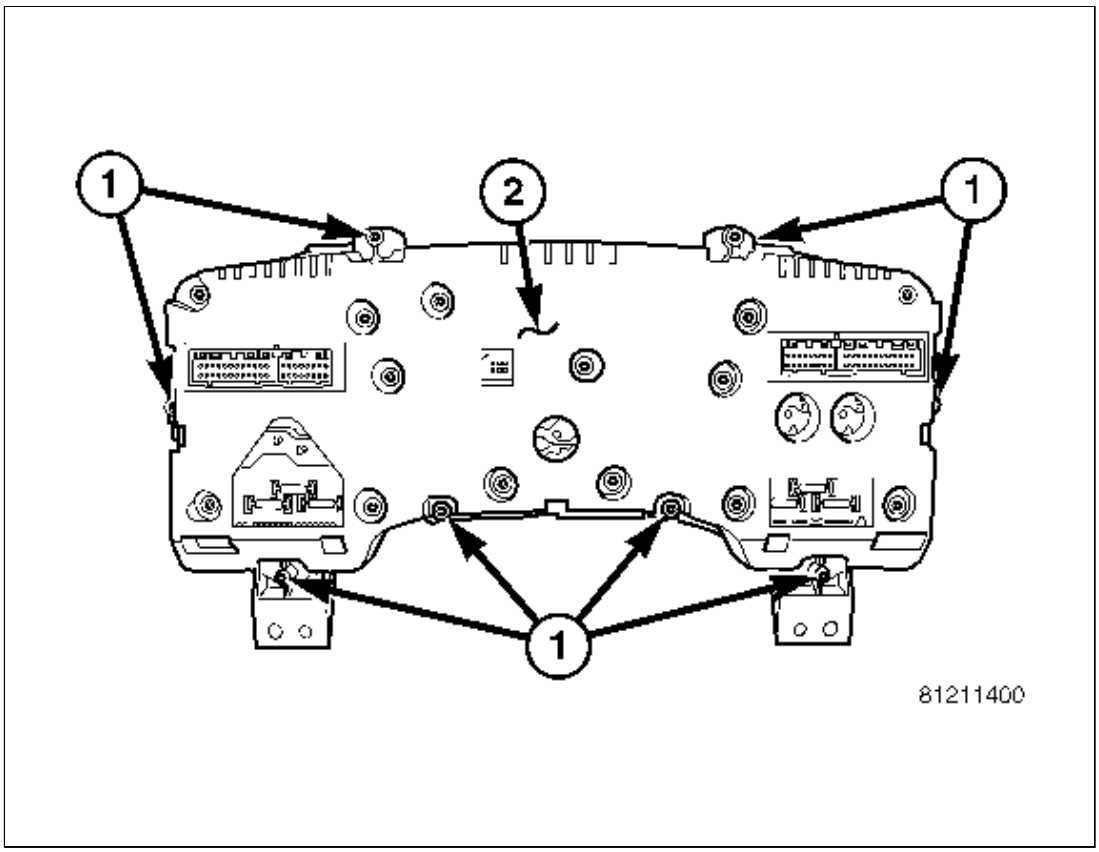
Fig 5: Instrument Cluster Mask Unit




Courtesy of CHRYSLER LLC

1. Position the cluster lens, hood, and mask unit (2) over the face of the instrument cluster (1). Be certain that the odometer/trip odometer switch button (4) is inserted through the proper clearance holes (3) in the mask and the lens.

Fig 6: Rear Instrument Cluster Screws




Courtesy of CHRYSLER LLC

2. From the back of the instrument cluster (2), install and tighten the eight screws (1) around the outer perimeter of the rear cover that secure the lens, hood, and mask unit to the cluster housing. Tighten the screws to 1 N.m (10 in. lbs.).
3. Reinstall the instrument cluster onto the instrument panel. See INSTALLATION .
4. Reconnect the battery negative cable.

## INSTALLATION

### INSTRUMENT CLUSTER

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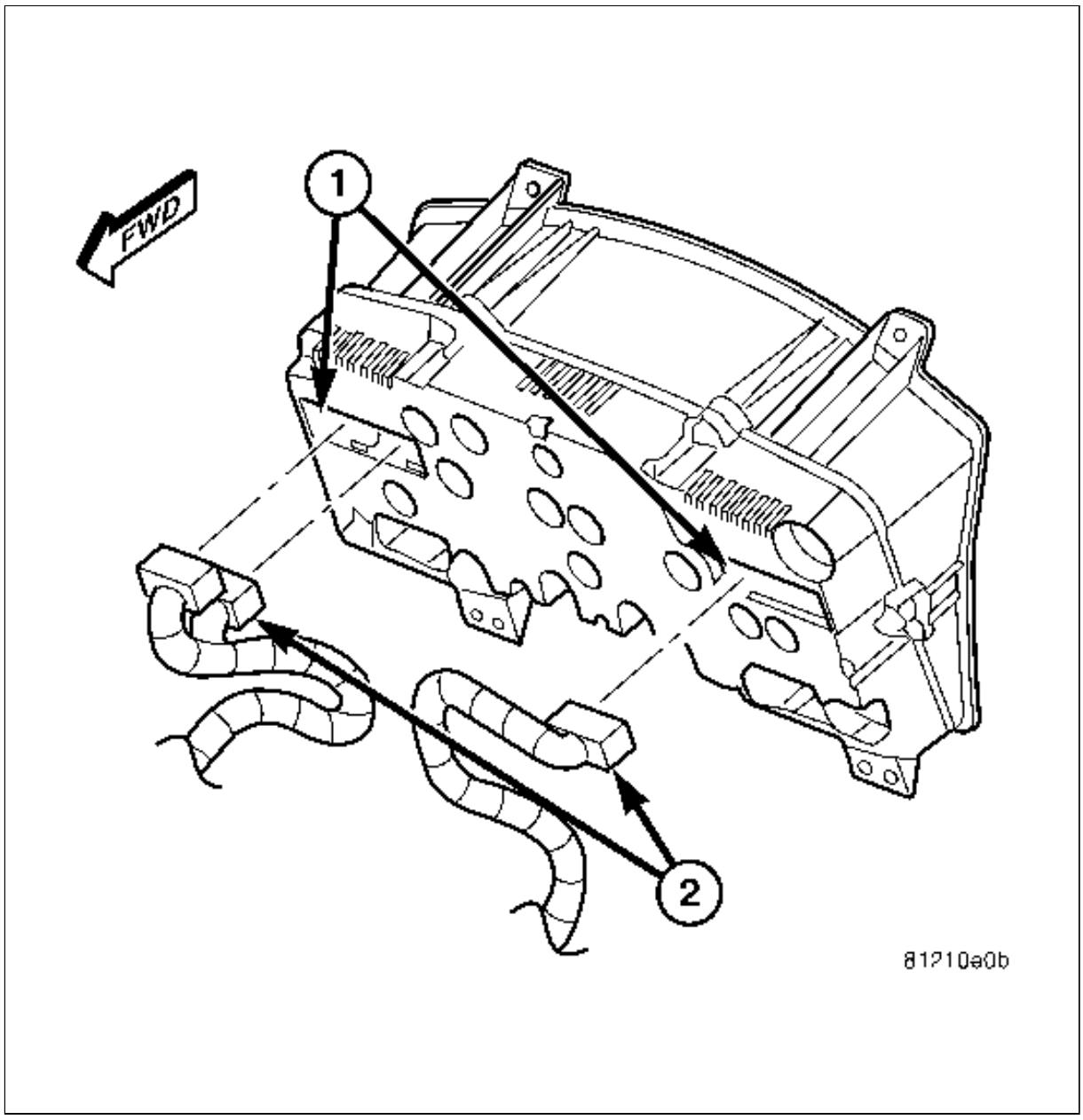
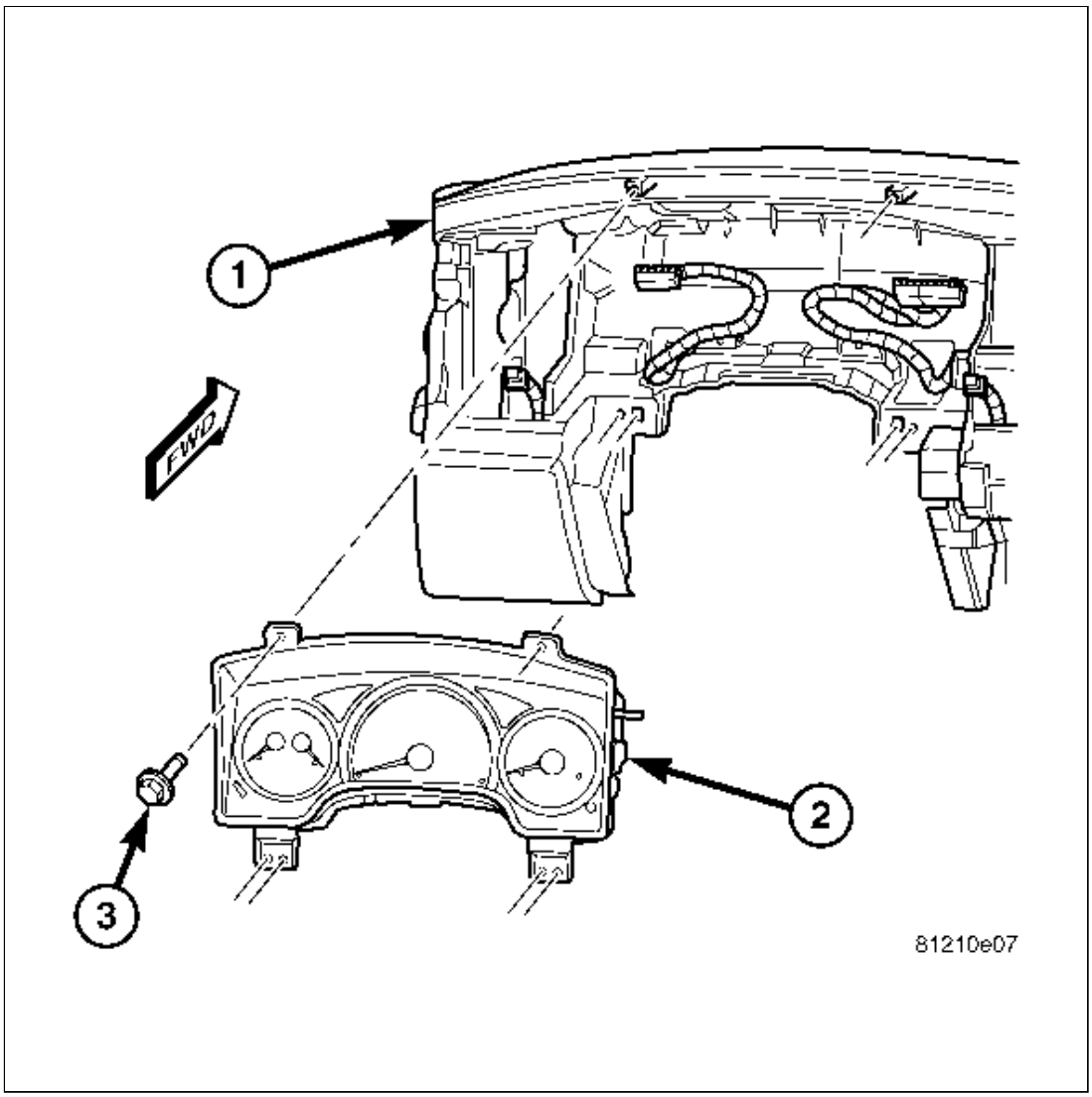
Fig 7: Disconnecting/Connecting Instrument Panel Wire Harness Connectors




Courtesy of CHRYSLER LLC

1. Position the instrument cluster close enough to the instrument panel to reconnect the instrument panel wire harness connectors (2) to the connector receptacles (1) on the back of the cluster housing.

Fig 8: Identifying Instrument Cluster




Courtesy of CHRYSLER LLC

2. Position the instrument cluster (2) into the instrument panel (1).
3. Install and tighten the four screws (3) that secure the instrument cluster to the instrument panel structural support. Tighten the screws to 2 N.m (17 in. lbs.).
4. Reinstall the cluster bezel onto the instrument panel. Refer to INSTALLATION .
5. Reconnect the battery negative cable.

*NOTE: Certain indicators in this instrument cluster are automatically configured. This feature allows those indicators to be activated or deactivated for compatibility with certain optional equipment. If a problem is noted that involves improper illumination of the cruise indicator, the electronic throttle control indicator, the fog lamp indicator, the tow/haul indicator, any of the four-wheel drive indicators, the transmission overtemp indicator, the security indicator or the gear selector indicator, disconnect and isolate the*

*battery negative cable. After about five minutes, reconnect the battery negative cable and turn the ignition switch to the ON position. The instrument cluster should automatically relearn the equipment in the vehicle and properly configure the configurable indicators accordingly.*