

# CHEVROLET 1999 Lumina

## PRECAUTIONS

**Warning:** Batteries produce explosive gases, contain corrosive acid, and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery: Always shield your eyes and avoid leaning over the battery whenever possible; do not expose the battery to open flames or sparks; do not allow the battery electrolyte to contact the eyes or skin; flush immediately and thoroughly any contacted areas with water, and get medical help.

**Warning:** Unless directed otherwise, the ignition and start switch must be in the OFF or LOCK position, and all electrical loads must be OFF before servicing any electrical component. Disconnect the battery ground cable to prevent an electrical spark should a tool or equipment come in contact with an exposed electrical terminal. Failure to follow these precautions may result in personal injury and/or damage to the vehicle or its components.

For vehicles equipped with OnStar® (UE1) with Back Up Battery, the back up battery is a redundant power supply to allow limited OnStar® functionality in the event of a main vehicle battery power disruption to the VCIM (OnStar® module). Do not disconnect the main vehicle battery or remove the OnStar® fuse with the ignition key in any position other than OFF. Retained Accessory Power (RAP) should be allowed to time out or be disabled (simply opening the driver door should disable RAP) before disconnecting power. Disconnecting power to the OnStar® module in any way while the ignition is ON or with RAP activated may cause activation of the OnStar® Back Up Battery (BUB) system and will discharge and permanently damage the BUB. Once the BUB is activated, it will stay on until it has completely discharged. The BUB is

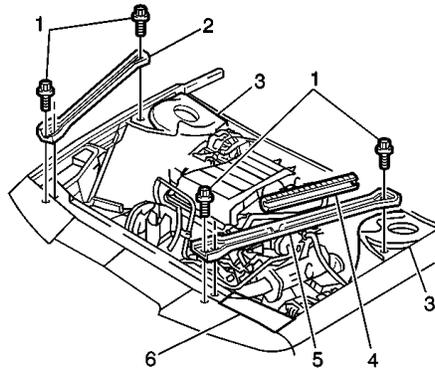


Fig. 1 Front end sheet metal diagonal brace removal

not rechargeable and, once activated, the BUB must be replaced.

## BATTERY Removal

**Caution:** When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unrequired SIR system repairs.

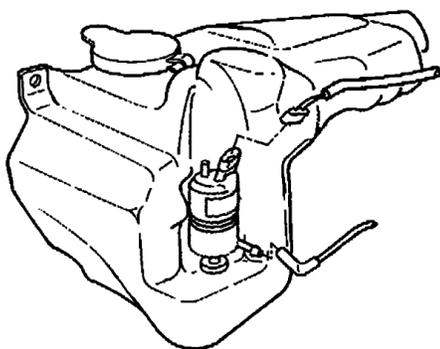
1. Record radio anti-theft code and station presets.
2. Turn off all lamps and accessories.
3. Turn ignition switch to OFF position.
4. Remove air cleaner assembly.
5. Disconnect battery ground cable from battery.
6. Remove front end sheet metal diagonal brace, Fig. 1.
7. Disconnect windshield washer pump electrical connector, Fig. 2.
8. Disconnect windshield washer hose from washer pump.

9. Remove windshield washer solvent container, Fig. 3.
10. Remove air cleaner bracket upper attachment bolt, Fig. 4.
11. Remove battery hold down retainer bolt, air cleaner bracket and hold down retainer, Fig. 4.
12. Disconnect battery positive cable from battery.
13. Remove battery from battery tray. Do not tip battery more than 40 degrees during battery removal.
14. Remove battery insulator from battery.

## Installation

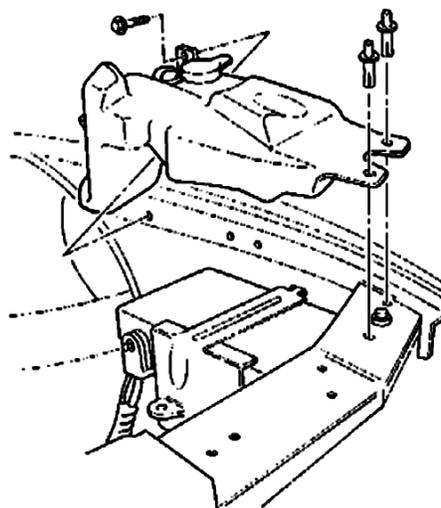
Clean any existing oxidation from the contact face of the battery terminal and battery cable using a wire brush before installing the battery cable to the battery terminal.

1. Install battery insulator to battery.
2. Install battery to battery tray. Do not tip battery more than 40 degrees during battery installation.
3. Connect battery positive cable to battery. **Torque** cable bolt to 11 ft. lbs.
4. Install battery hold down retainer, air cleaner bracket and hold down retainer bolt, Fig. 4. **Torque** bolt to 13 ft. lbs.
5. Install air cleaner bracket upper attachment bolt, Fig. 4. **Torque** bolt to 35 inch lbs.
6. Install windshield washer solvent container, Fig. 3.
7. Connect windshield washer hose to washer pump, Fig. 2.
8. Connect windshield washer pump electrical connector.
9. Install front end sheet metal diagonal brace, Fig. 1.
10. **Torque** cross brace front bolts to 18 ft. lbs.
11. **Torque** cross brace rear bolt to 35 ft. lbs.
12. Connect battery ground cable to battery. **Torque** cable bolt to 11 ft. lbs.
13. Reset all preset and theft codes previously recorded to radio.
14. Install air cleaner assembly.



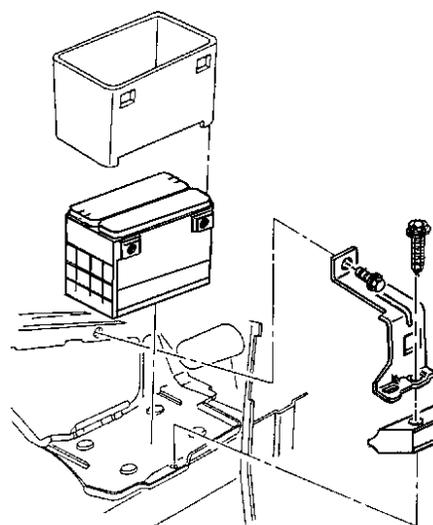
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**Fig. 2** Windshield washer pump electrical connector & hose disconnection



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**Fig. 3** Windshield washer solvent container removal



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**Fig. 4** Battery removal

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