

# BMW

## 2012-16 528i xDrive

### PRECAUTIONS

**Warning:** Batteries produce explosive gases that may cause personal injury. Do not expose battery to flame or sparks. Always provide adequate ventilation. Do not smoke when working near batteries. Do not place tools or any similar object on battery.

**Warning:** Do not allow any battery acid to come into contact with eyes, skin or clothing. Wear protective clothing, gloves and eye protection. Do not tilt battery or acid may leak from vent hole.

**Warning:** If acid is splashed into eyes, rinse them immediately for several minutes with clear water and consult a doctor immediately. Seek medical attention immediately if battery acid is accidentally swallowed. If acid is splashed onto skin or clothing, neutralize it immediately with a soap solution and rinse with lots of water.

On vehicles equipped with Intelligent Battery Sensor (IBS), do not under any circumstances release socket-head cap screw of IBS. Do not establish any connection between IBS and sensor screw.

The intelligent battery sensor (IBS) and wiring can be destroyed by mechanical strain during battery replacement. Do not use force when disconnecting pole shoe from battery terminal. Do not pull on ground cable. Do not place any tools under IBS to lever off pole shoe. Do not use IBS connections as levers.

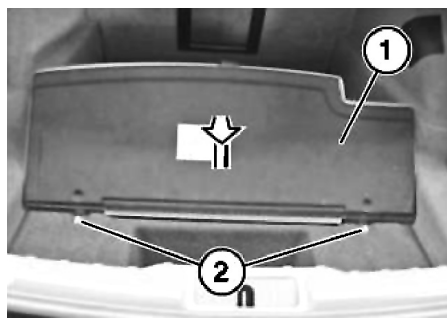
On vehicles with radio code, radio code must be entered after disconnecting battery. Note stored stations and restore them after connecting battery. Stored settings of on-board computer and clock will also be lost. All available central keys must be coded for vehicles with first generation infrared transmitter locking systems. DTCs may be set in some control units after battery is connected.

### BATTERY

#### Removal

Disconnect battery ground cable first, followed by battery positive cable. Do not disconnect battery leads while engine is running.

1. Verify that ignition and all other electrical loads are OFF.
2. Lift up panel (1), remove nuts (2), and remove luggage compartment floor trim panel, Fig. 1.
3. Disconnect battery ground cable. Do not pull cable or pry off intelligent battery sensor (IBS) using force.
4. Remove power distributor as follows:
  - a. Open covers (1), and remove power distributor mounting fasteners (2), Fig. 2.



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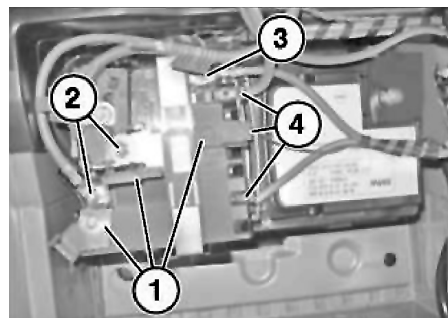
**Fig. 1 Luggage compartment floor trim removal**

- b. Remove nut (3), then disconnect electrical plug connector (4), Fig. 2.
  - c. Disconnect locking brackets (1) by pressing downward, then remove power distributor (2), Fig. 3.
5. Remove screws (1) and battery retaining bracket (2), Fig. 4.
  6. Detach battery vent hose (3), Fig. 4.
  7. Detach positive battery cable, then lay it to one side and secure. Do not pull or pry positive battery terminal off by force.
  8. Remove retaining screw (1), and remove battery hold down bracket (2), Fig. 5.
  9. Remove battery.

#### Installation

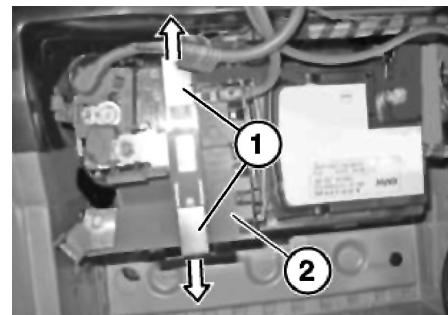
When installing a new battery in vehicles equipped with Intelligent Battery Sensor (IBS), replacement battery information may need to be programmed into vehicle data in accordance with specifications. If new battery is not registered, incorrect readings may appear in display of on-board computer due to old data in power management system (i.e. control message "Recharge battery" appears even though battery is new).

1. Position battery in vehicle.
2. Install battery hold down bracket (2) and retaining screw (1). **Torque** retaining screw to 88 inch lbs., Fig. 5.
3. Connect positive battery cable. **Torque** terminal nut to 44 inch lbs.
4. Connect battery vent hose (3), Fig. 4.
5. Install battery retaining bracket (2) and screws (1), Fig. 4. **Torque** screws to 88 inch lbs.
6. Install power distributor as follows:
  - a. Install power distributor (2), and clip locking brackets (1), Fig. 3.
  - b. Connect electrical plug connector (4), Fig. 2.
  - c. Install nut (3), Fig. 2. **Torque** nut to 71 inch lbs.
  - d. Install power distributor mounting fasteners (2). **Torque** fasteners to 11 ft. lbs., and replace covers (1), Fig. 2.



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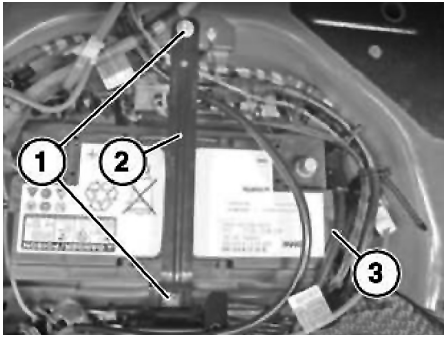
**Fig. 2 Power distributor connector removal**



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**Fig. 3 Power distributor removal**

7. Connect battery ground cable. **Torque** terminal nut to 44 inch lbs.
8. Install luggage compartment floor trim.
9. Power window initialization for front door windows must be performed after battery has been connected. Initialize power windows as follows:
  - a. Open door window glass completely.
  - b. Press and hold switch in "Open one touch function" position (second switch position) for between 15 and 25 seconds.
  - c. Close door window glass completely.
  - d. Pull and hold switch in "Close one touch function" (2nd switch position) for between 15 and 25 seconds.
  - e. Verify operation of toll function and anti-trapping protection.
  - f. Repeat procedure for opposite window.
10. Sunroof initialization may need to be performed after battery has been connected. For correct initialization and function, ignition must be ON and vehicle should be stationary and at room temperature (73° or higher) with no direct sunlight. Let engine run to enable key, as required. Initialize sunroof as follows:
  - a. Press and hold sunroof switch in "Lift" position. If delayed starting or sudden stopping of sunroof occurs,

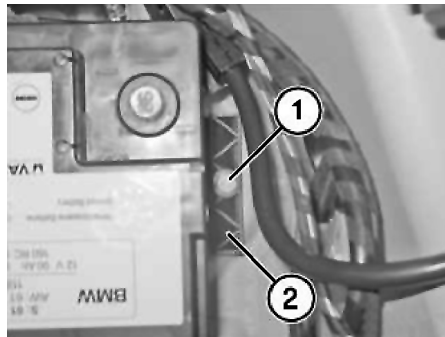


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**Fig. 4 Battery retaining bracket removal**

continue pressing switch in "Lift" position. Keep switch pressed for entire process. If switch is released during process, entire procedure must be repeated.

- b. After reaching lift end position (A), keep switch pressed for an additional 30 seconds, **Fig. 6**.
- c. Glass sunroof should move briefly from lift end position (A) in direction

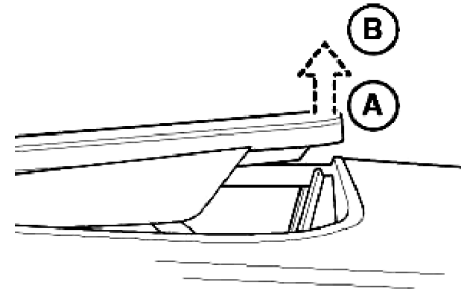


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**Fig. 5 Battery removal**

of position (B), **Fig. 6**.

- d. Shading system (floating headlining) closes completely, then moves to closed position.
- e. Glass sunroof should move to "Close" position, then move to "Open" end position and immediately back to "Close" position.
- f. After a brief pause, shading system should close completely.
- g. Once glass roof and shading system



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**Fig. 6 Sunroof initialization**

tem have closed completely, initialization is finished. Switch can be released.

- h. Verify tip function, anti-trapping protection and, as required, comfort function.
11. Install a suitably programmed scan tool, and follow manufacturer instructions to clear DTCs that may have been set when battery was disconnected.

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