

# MERCEDES-BENZ 2009-14 ML350

## PRECAUTIONS

**Warning:** Risk of explosion when charging lead batteries with battery electrolyte containing sulfuric acid. A highly explosive gas mixture is created that ignites by means of fire, sparks, open flames and smoking.

**Warning:** The battery electrolyte contains diluted sulfuric acid that causes caustic burns to the skin, eyes and mucous membranes in the event of contact. Bonded electrolyte is just as caustic as liquid electrolyte. Battery electrolyte mist causes caustic burns to eyes. If inhaled, this can result in caustic burns to mucous membranes and respiratory tracts.

**Warning:** In event of a short circuit from battery positive to ground, battery terminals and conductive objects causing short circuit, such as a tool or jewelry, become hot in seconds and cause burns.

**Warning:** If battery electrolyte is swallowed, this can result in symptoms of poisoning such as headache, dizziness, stomach ache, respiratory paralysis, unconsciousness, vomiting, caustic burns and cramps. Absorption of lead in body through contact with leaded components (battery terminals, lead plates in damaged batteries) damages blood, nerves and kidneys; lead compounds are also toxic for reproduction.

**Caution:** Wear acid-resistant gloves and clothing and safety glasses with side guards.

Only charge lead batteries in well-ventilated rooms with appropriate voltage and appropriate current with approved chargers, taking into account the instructions of battery and charger manufacturers.

**Caution:** Do not place any conductive objects on battery, and do not wear any conductive jewelry (risk of short circuit).

Always disconnect the ground terminal first; always connect positive terminal first (risk of short circuit caused by tool).

Only store, transport and install batteries with liquid battery electrolyte horizontally, otherwise battery electrolyte can escape from the degassing holes.

## BATTERY Primary REMOVAL

1. Move front passenger seat (1) into foremost and uppermost position, and set backrest to vertical position, **Fig. 1**.
2. Switch off all electrical consumers, switch off ignition, and remove trans-

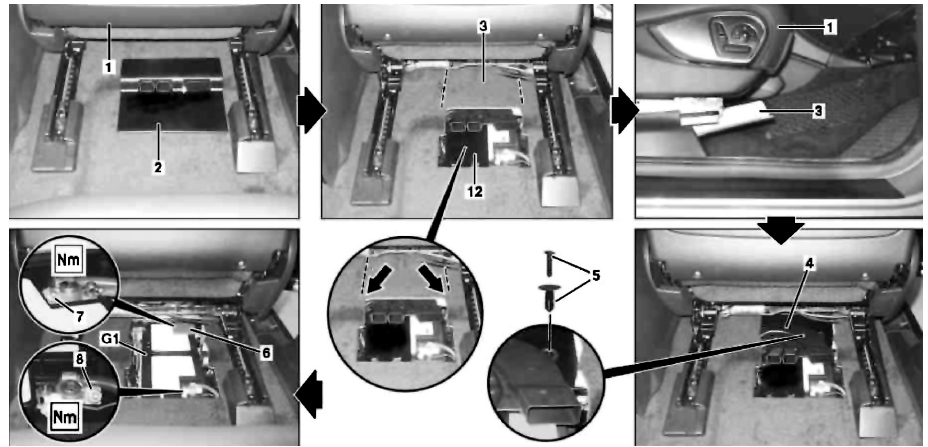


Fig. 1 Primary battery removal (Part 1 of 2)

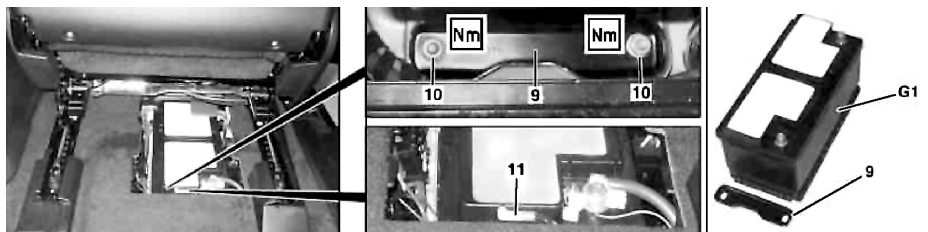


Fig. 1 Primary battery removal (Part 2 of 2)

mitter key or Keyless-Go start-stop button from electronic ignition lock control unit. All electrical consumers must be switched off, otherwise they may be damaged when ground line is connected/disconnected.

3. Remove cover (2), **Fig. 1**.
4. Separate floor covering (3) at both marked positions (arrows), **Fig. 1**.
5. Move front passenger seat fully to rear.
6. Fold floor covering (3) forward. Ensure that folded-over floor covering (3) does not tear at fold, **Fig. 1**.
7. Move front passenger seat far enough forward until battery compartment is fully accessible.
8. Switch off ignition and remove transmitter key from EIS (EZS) control unit, or press Keyless-Go start/stop button repeatedly until ignition is switched off. Remove transmitter key from vehicle, and store it in a location beyond its transmission range (at least six feet).
9. Remove spreader clip (5) and detach air vent (4), **Fig. 1**.
10. Remove battery cover (12), **Fig. 1**.
11. Loosen nut (8) on battery ground pole clamp and disconnect ground line of battery (G1). Ensure that no jumper start device is connected to vehicle. All consumers must be switched off, otherwise vehicle electrical system may be damaged, **Fig. 1**.

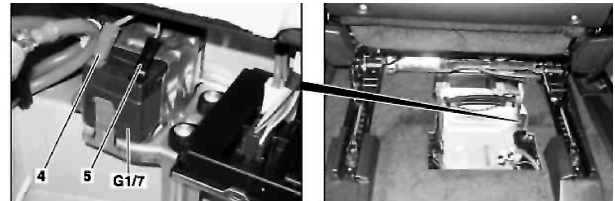
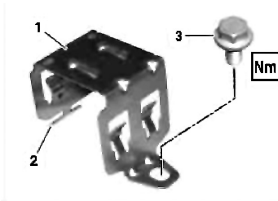
12. Remove positive battery terminal cover (6), undo nut on clamping device for positive battery terminal (7), and remove positive lead, **Fig. 1**.
13. Detach bleed hose (11) including plastic support from battery (G1), **Fig. 1**.
14. Undo nuts (10), then remove retaining panel (9), **Fig. 1**.
15. Remove battery.

## INSTALLATION

1. Before installing battery, it must be ensured that there are no cables in battery support area, otherwise they may be damaged when installing battery.
2. Install battery.
3. Install retaining panel (9), **Fig. 1**.
4. **Torque** battery retaining plate to frame floor nut to 18 ft. lbs.
5. Attach bleed hose (11) including plastic support from battery (G1). Route bleed hose (11) without kinks, **Fig. 1**.
6. Install positive lead to battery.
7. Connect ground line to battery.
8. **Torque** battery cable to battery terminal nuts to 53 inch lbs.
9. Install positive battery terminal cover.
10. Install battery cover.
11. Attach air vent (4) and replace spreader clip (5) if it is damaged, **Fig. 1**.
12. Fold over floor covering.
13. Install cover (2), **Fig. 1**.
14. Ensure that maxi fuses on pre-fuse

box in battery compartment are not unintentionally loosened when removing and installing battery.

15. Perform basic programming as follows:
  - a. Close all doors and switch on ignition.
  - b. Set time on instrument cluster.
  - c. Switch low beam on and off.
  - d. Switch air conditioning on and off.
  - e. Switch rear air conditioning on and off, if equipped.
  - f. Switch radio (COMAND) on and off, if equipped.
  - g. Move each window fully down and then fully back up again. In this position, press each switch of power window switch group for at least three seconds.
  - h. Open tilting/sliding roof fully and close again, then press and hold switch after closing for at least three seconds, if equipped. Operate express function by pressing switch briefly (beyond point of resistance). If tilting/sliding roof is thereby fully opened, normalization was successful. If required, repeat procedure.
  - i. Normalize power pop-out windows, if equipped.
  - j. Start engine.
  - k. Turn steering wheel to lefthand stop, then turn it to righthand stop. Steering angle sensors are normal-



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**Fig. 2 Auxiliary battery removal**

ized as a result.

- l. Switch off engine and ignition.
- m. Get out of vehicle and close driver door.
- n. Lock and unlock vehicle.
- o. Open and close driver door.
- p. Calibrate compass, if equipped. Call up and run calibration via instrument cluster. Calibration is conducted by driving a complete circle at low speed. Do not perform calibration in vicinity of high-voltage lines or large structural steel work; switch off as many electrical consumers in vehicle as possible.

## Auxiliary

### REMOVAL

1. Remove primary battery.
2. Detach plug on ground terminal (5) of auxiliary battery (G1/7), **Fig. 2**.
3. Detach plug on positive terminal (4) of

auxiliary battery (G1/7), **Fig. 2**.

4. Remove bolt (3) and open retaining clamp (1). Ensure that anchor fitting (2) engages into frame-side retaining panel, **Fig. 2**.
5. Remove auxiliary battery.

### INSTALLATION

1. Install auxiliary battery.
2. Install retaining clamp (1). Ensure that anchor fitting (2) engages into frame-side retaining panel, **Fig. 2**.
3. **Torque** battery retaining plate to frame floor nut to 18 ft. lbs.
4. **Torque** auxiliary battery retaining clamp bolt to 44 inch lbs.
5. Attach plug on positive terminal of auxiliary battery.
6. Attach plug on ground terminal of auxiliary battery.
7. **Torque** battery cable to battery terminal nuts to 53 inch lbs.
8. Install primary battery. Perform basic programming.

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