Aux Battery Retrofit Guideline (MY ‘07 – ‘13)

Sprinter Sales Engineering & Regional Upfitter Center

Disclaimer

The specifications, descriptions, information, and recommendations contained in this bulletin are believed to be accurate as of August 20, 2013.

Sprinter Sales Engineering reserves the right to modify or append this document without prior notification.

This bulletin is not intended as a work instruction, but as an aid for upfitters to provide technical information necessary to retrofit or modify Mercedes-Benz Sprinters & Freightliner Sprinters (906).

Prior to making any modification to or installing any equipment in or on a Mercedes-Benz Sprinter & Freightliner Sprinter, please check with Sprinter Sales Engineering for additional and updated information, and read the Sprinter Body Builder Information Book Model Series 906.

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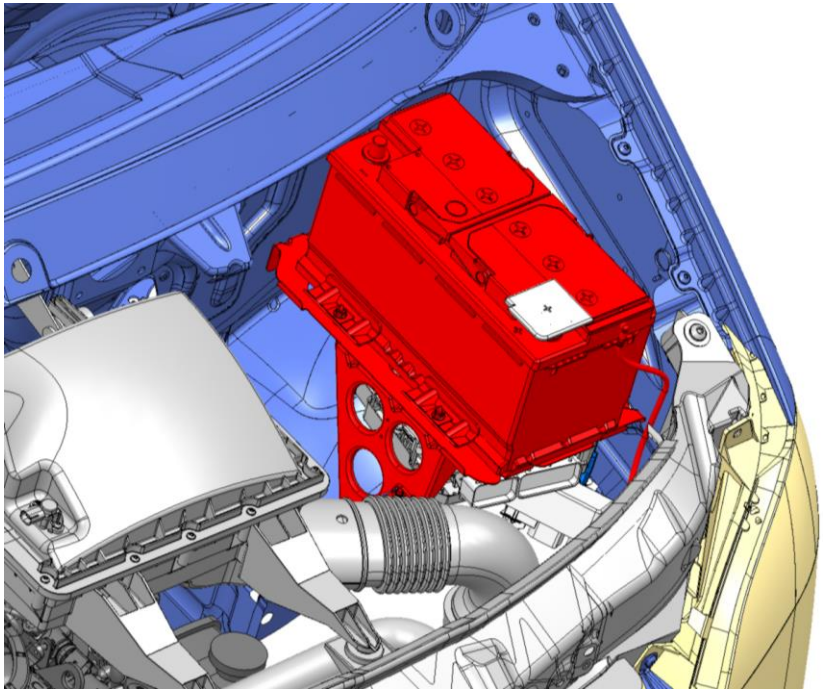
Auxiliary Battery - Overview

When installing electrical aftermarket equipment with an AMP draw of more than 25A in Mercedes-Benz Sprinters & Freightliner Sprinters it is necessary to use the optional aux battery 12V/100Ah (CODE E28).

For cost and practical reason we recommend to order this option directly from the plant.

Note:
This guideline is not intended as a complete work instruction but as an aid for body builders and upfitters that need to retrofit Mercedes-Benz / Freightliner Sprinters with an aux battery.



Work Flowchart

Main Battery located in driver foot well

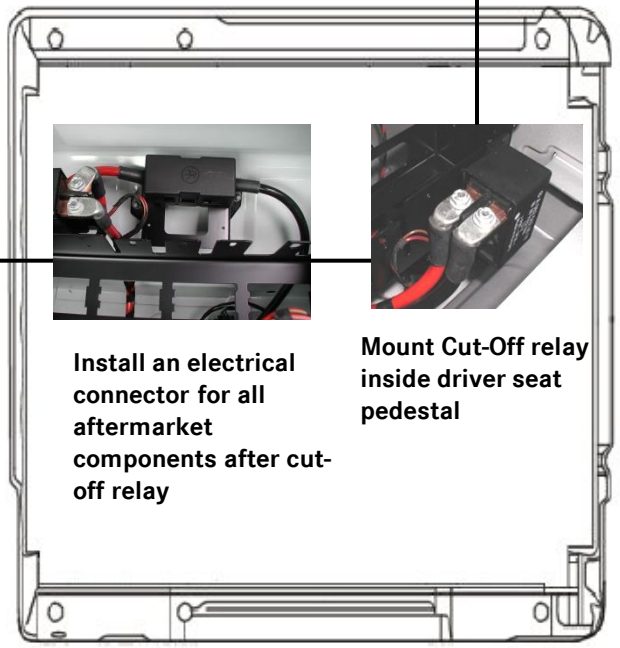
Pre-Fuse Box located on battery (+) pole

Open the black floor covers and route wire inside wire harness channel into driver seat.

Open the black floor covers and route wire inside wire harness channel.

Ground on Inner Fender

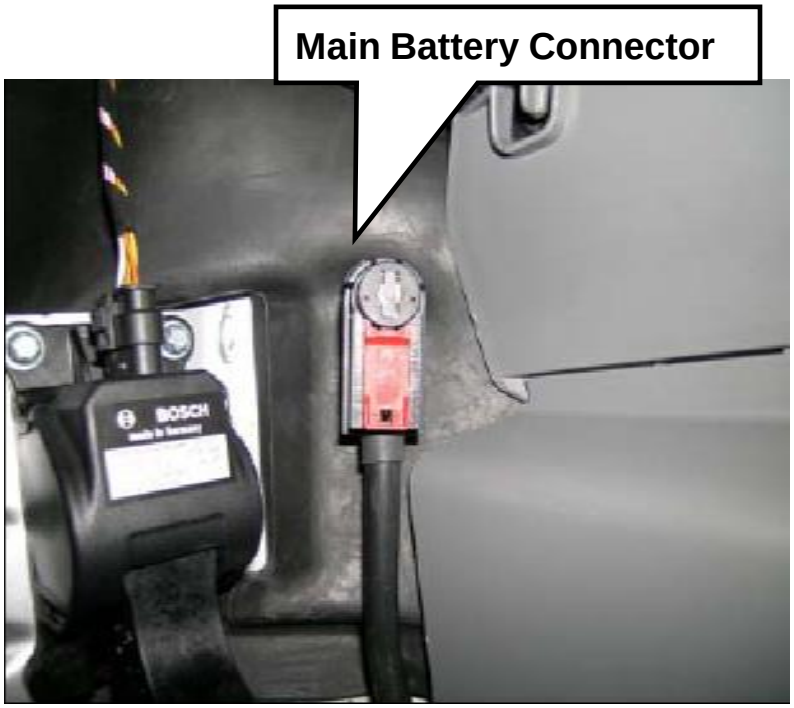
Aux Battery located in engine compartment



Driver Seat Pedestal

For all battery wiring use 35mm² [2 gauge] cable (local supply).

Disconnect Main Battery



Warning:

Before working on the electrical system disconnect the main battery using the quick connect located right to the accelerator pedal in the driver foot well.

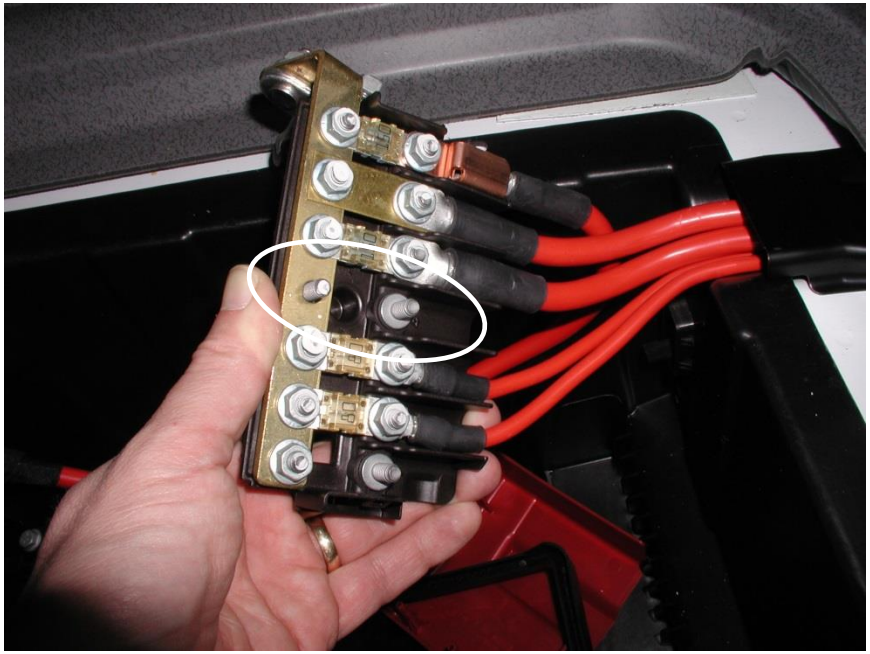
Failure to disconnect the battery may cause serious damage to the electrical system and its components.

Do not disconnect the battery before ensuring that the vehicle ignition key is in position 0 (off) or the key is removed, otherwise serious damage to the electrical system and its components may occur.

Do not install an auxiliary battery without a battery cut-off relay and suitable fuses for the charge current.

Prefuse Box at Main Battery

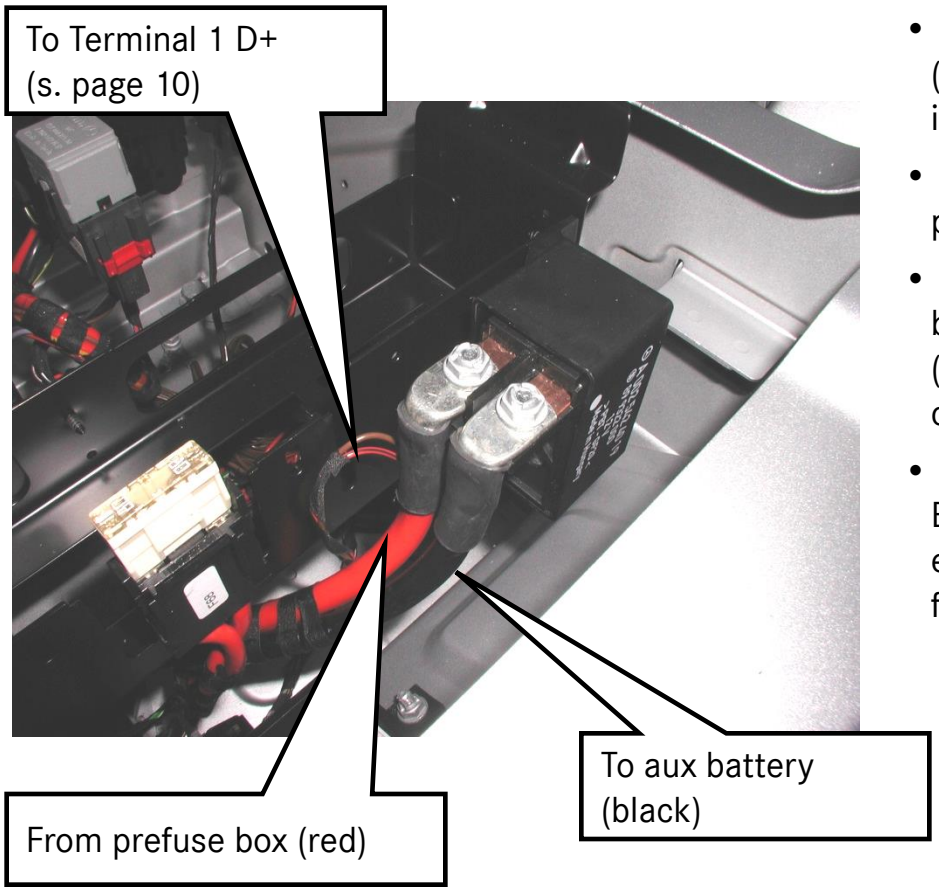
Locate starter battery under driver floor matt. Disconnect all electrical seat connectors. Remove driver seat (4 screws). Insert finger into the pull hole near the back of the foam seat riser cover and pull the cover upward very gently and evenly to disengage the tabs that secure the edges of the cover to the top of the seat riser.



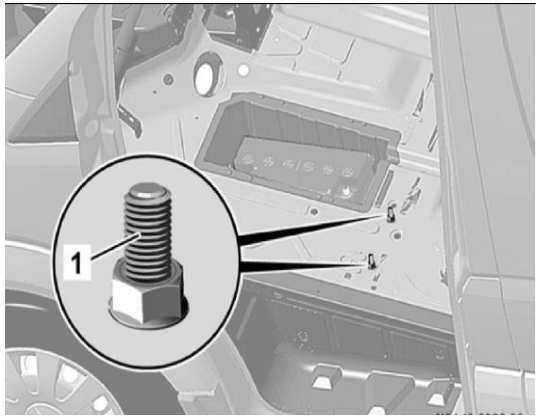
Unhook prefuse box and use existing empty terminal Position #4. See owners manual for fuse locations. Use OEM 150A fuse (MB# N 000000 000432).

For all battery wiring use 35mm^2 [2 gauge] cable (local supply).

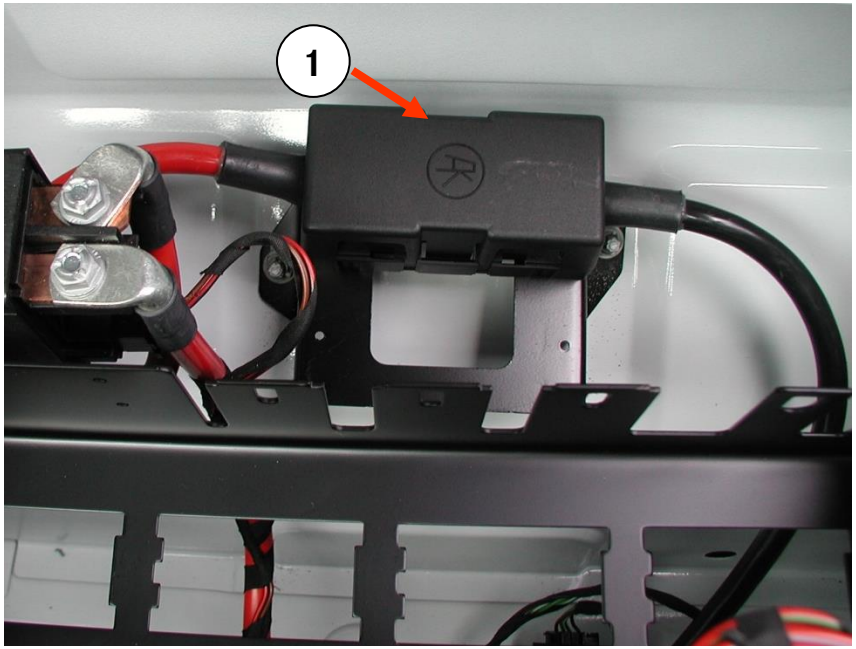
Battery Cut-Off Relay Mounting Inside Seat Pedestal

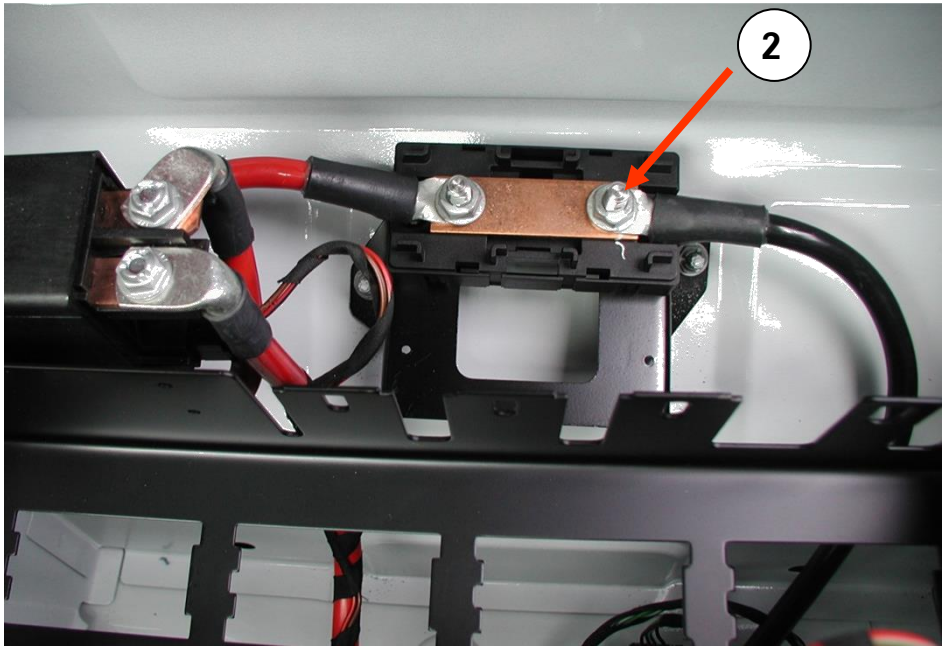


- Mount a battery cut-off relay (MB#: A 002 542 40 19 or equivalent) inside driver seat pedestal (location s. page 10)
- Route a red cable from cut-off relay to prefuse terminal using provided wire harness channel.
- Route a black cable from cut-off relay to aux battery through provided opening in firewall. (Stay clear of steering column and use convoluted tubing or equivalent)
- Connect circuit switching wire to the EK1 Terminal 1 D+ (s. Page 10) and use only existing ground terminals on driver seat base floor (1)



Electrical Connector Aux-Battery

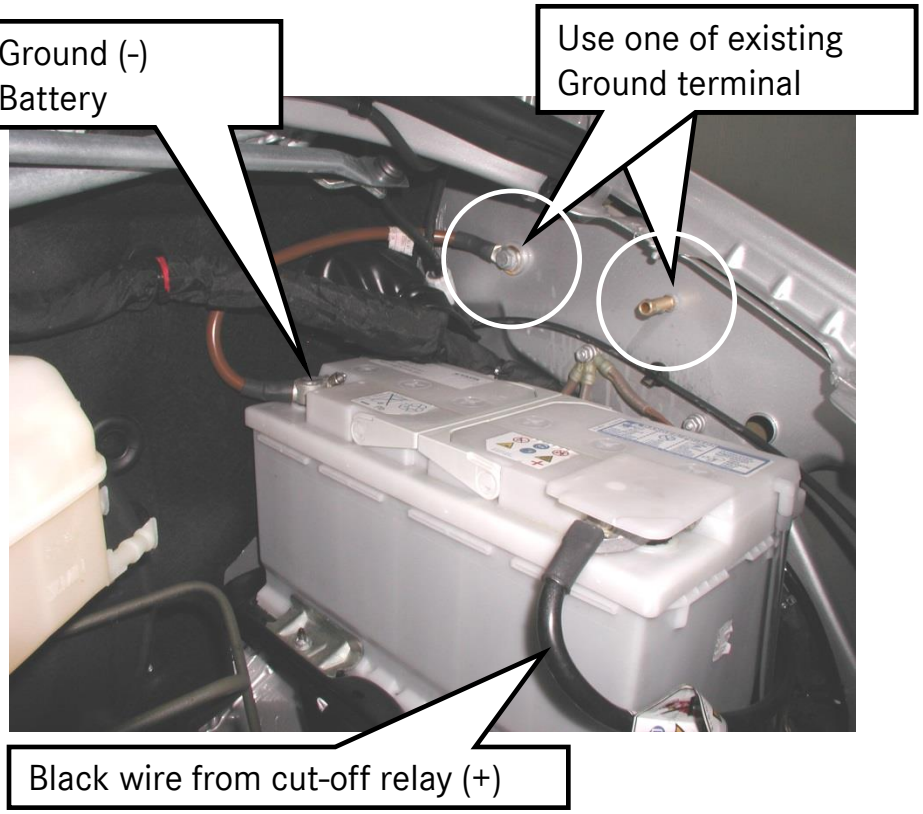




If an aux battery (code E28) is installed an electrical connector is located inside the driver seat pedestal right next to the cut-off relay. Please remove cover (1).

Use position (2) for your electrical components and install an appropriate fuse as close as possible, ensuring cover (1) is seated properly when closing.

Only Recommended Aux Battery Location



Warning:

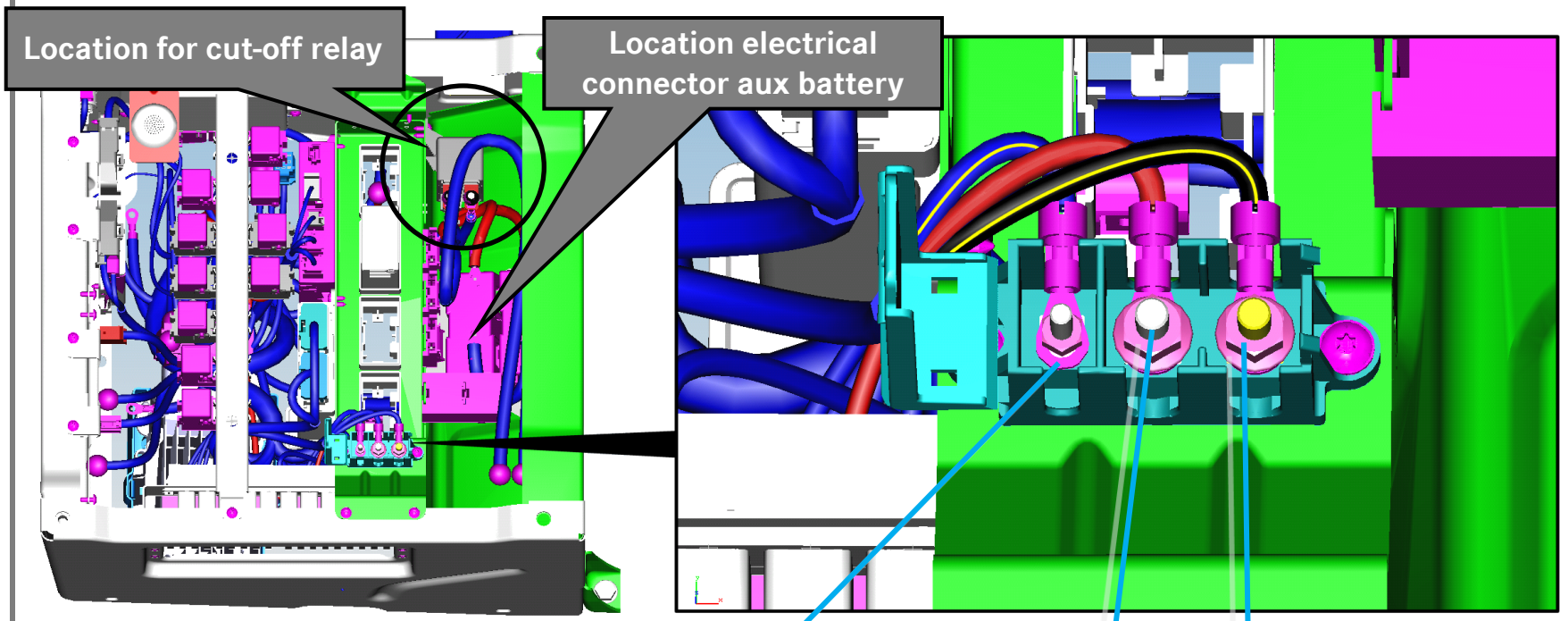
Only install aux battery under hood on driver side.

Always ground battery first

- Use battery support bracket (A 906 540 00 23)
- Aux Battery 12V / 100Ah (A 005 541 18 01)
- Brackets to hold OEM battery to tray: (2x A123 626 02 42)
- Connect battery ground cable (-) to one of the provided ground terminal inside inner fender
- Connect black wire coming from cut-off relay to the auxiliary battery terminal (+).

For all battery wiring use 35mm² [2 gauge] cable (local supply).

EK1 Terminal under Driver Seat

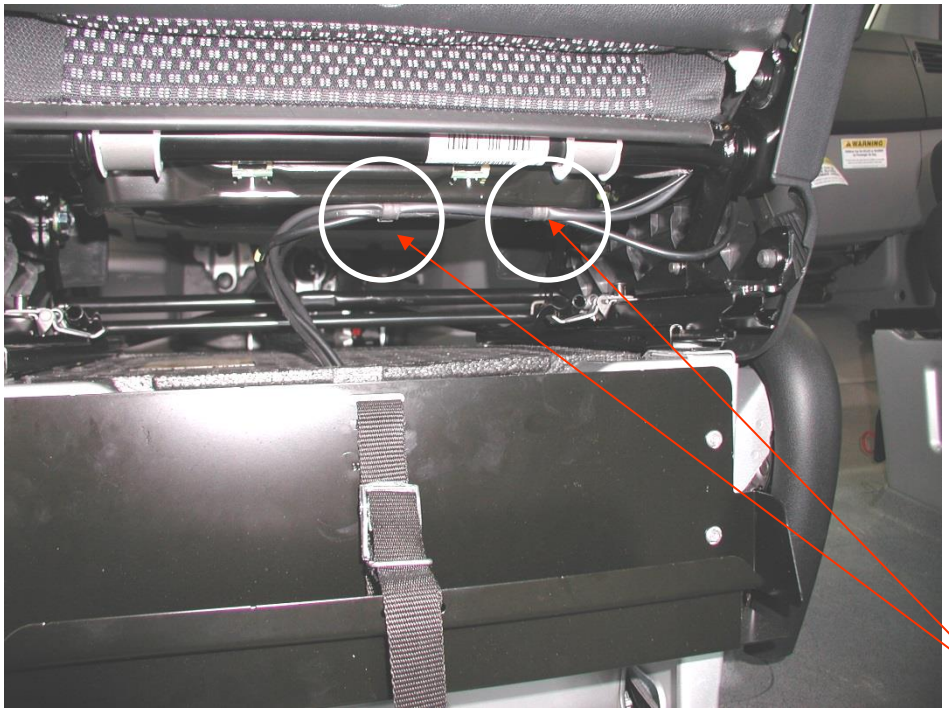


X145/1 Terminal 1 (D+)
Power with engine running
Wire color: blue/yellow
12 V/10 A (120 W)

X145/1 Terminal 2 (30)
Battery direct power
Wire color: red/gray
12 V/25 A (300 W)

X145/1 Terminal 3 (15)
Ignition power
Color: black/yellow
12 V/15 A (180 W)

Seat Reinstallation



Rear view of driver seat and pedestal

Attach driver seat to pedestal (4 screws) and torque with 37Nm [27.3 ft-lbs].

Slide seat all the way forward and very carefully reassemble foam seat riser cover. Hole has to be in the back.

Reconnect all seat connectors:

- Seat belt warning
- Heated seat (optional equipment)
- Seat airbag (optional equipment)

Reattach wire harness with provided clips located on the seat.

Reconnect main battery (s. page 4)