

# Automatic Battery Disconnect

part number 765



Towing and Suspension Solutions

## Installation Instructions

ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

85-4195-00 11-08

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### CAUTION – before you begin...

Before you begin the installation, check the owner's manual or call the dealership to verify that the vehicle's battery cable can be safely disconnected.

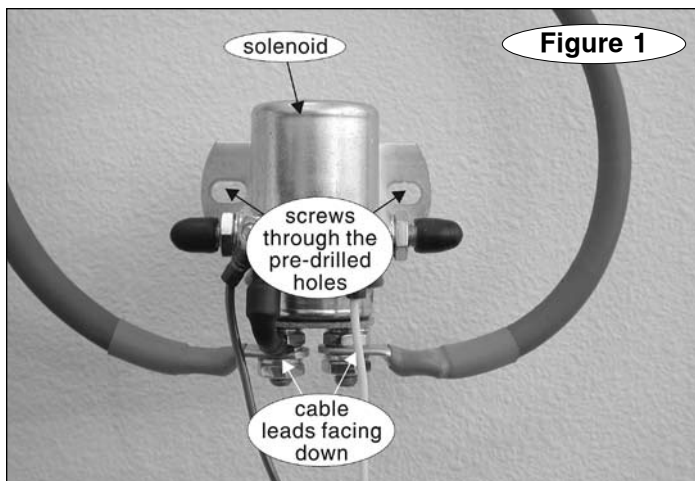
The battery cable in some models of the Volkswagen Beetle, as well as other vehicles, cannot be disconnected without disabling the computer or other electronics – factory-authorized repairs may be necessary before the vehicle can be driven.

Failure to follow these instructions may cause damage to the vehicle's computer or other electronics, as well as other consequential non-warranty damage.

1. Follow the vehicle manufacturer's instructions to disconnect the battery cables. Disconnect the cable to the negative terminal first, then the cable to the positive terminal.

2. Choose a mounting location for the Automatic Battery Disconnect solenoid (Figure 1), which meets the following conditions:

- The mounting point must have a surface of sufficient strength to hold the solenoid firmly in place.
- The end of the cable labeled "Positive POST" (attached to the solenoid) must be within reach of the vehicle's battery.
- The solenoid will be attached with two 5/16" screws. Make certain that the screws will not damage any components on the other side.
- When activated, the solenoid generates heat – make certain that the mounting point you choose is not close to any lines, hoses or other plastic or rubber components which may be damaged.
- The solenoid must be mounted so that the cable leads



are facing down, as shown in Figure 1.

3. Using the two large self-tapping screws, attach the solenoid (Figure 1).

If the cables must be rotated to attach the solenoid, hold the top nut with a wrench, and loosen the bottom nut with another wrench or a pair of pliers, as shown in Figure 2. Rotate the cable, then tighten the bottom nut.

### CAUTION

To prevent damage to the solenoid when rotating the cables, do not apply side loads to the nuts. Instead, hold the bottom nut and turn the top nut.

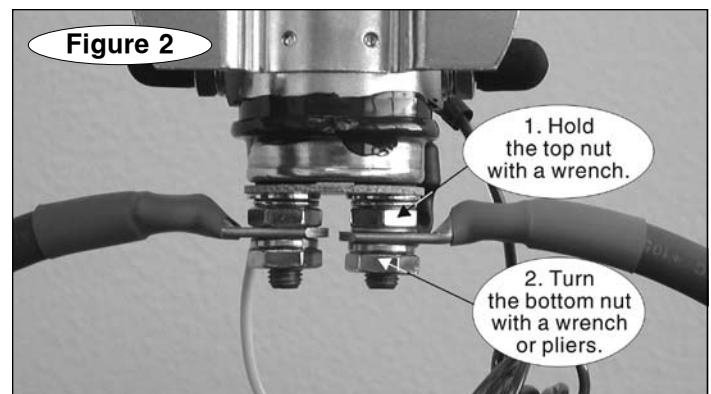
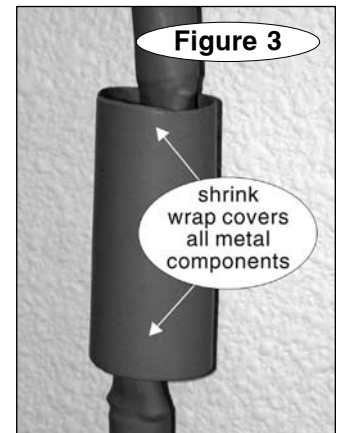
Failure to follow these instructions may result in damage to the solenoid housing, or to components inside the solenoid.

4. Attach the cable labeled "Positive POST" to the positive terminal on the battery. Follow the vehicle manufacturer's instructions to attach the cable.

5. Slide the provided section of shrink wrap (Figure 3) over the cable labeled "Positive CABLE." Then, attach this cable to the positive cable from the towed vehicle's battery – first, align the two ends of the cables so they match. Then bolt the two cable ends together with the provided 5/16" bolt, nut and star washers.

Note: The star washers must be positioned as shown in Figure 4 – one washer between the ends of the cables, and one under the nut.

Note: If the end of the continued on next page



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vehicle's battery cable has a diameter smaller than 5/16", use a 5/16" drill to enlarge it.

### CAUTION

If the cables are reversed, the Automatic Battery Disconnect will not provide a constant charged current to the battery while the vehicle is being towed – if an aftermarket accessory is connected to the battery, it may drain the battery completely.

6. Center the provided section of shrink wrap over the connection (Figure 3). Be certain no metal is exposed. Then, seal the shrink wrap with a heat gun or similar device.

### CAUTION

In order to prevent damage from a short circuit, make certain that no metal is exposed on either side of the shrink wrap. If metal is exposed, a short circuit may cause an electrical fire, which may result in severe damage to the vehicle.

7. Attach the white wire extending from the solenoid to any good chassis ground, using the provided ring terminal and small self-tapping screw.

*Note: Make certain that the towed vehicle's electrical harness (the 4-wire flat harness) is grounded to the motorhome. If it is not, the Automatic Battery Disconnect will not operate.*

8. Attach the brown wire extending from the solenoid to the taillight wire in the towed vehicle's electrical harness (the 4-wire flat harness), as shown in Figure 5.

9. Attach the provided protective loom to both cables.

### CAUTION

In order to prevent damage from a short circuit, cover both cables with the protective loom. If the cables are not covered, a short circuit may cause an electrical fire, which may result in severe damage to the vehicle.

10. If necessary, use one or more of the provided wire ties to secure the cables away from any moving components.

11. Following the manufacturer's instructions, reattach the negative cable to the vehicle's battery.

12. Test the system –

*Note: The Automatic Battery Disconnect will not function with a 'dead' battery.*

**A.** Connect the electrical harness between the motorhome and the towed vehicle. Activate the motorhome's taillights. With a volt meter, check to confirm that the Automatic Battery Disconnect solenoid has 12 VDC positive at the brown wire, and 12 VDC negative at the white wire.

**B.** Disconnect the electrical harness between the motorhome and the towed vehicle. Activate the towed vehicle's taillights and start the engine. If the vehicle fails to start, check to see if a diode has been installed on the taillight circuit. If there is no diode, install one – diodes (part number 790) are available from ROADMASTER.



### WARNING

If the towed vehicle's lighting system has been re-wired for towing, diodes must be attached to the taillight

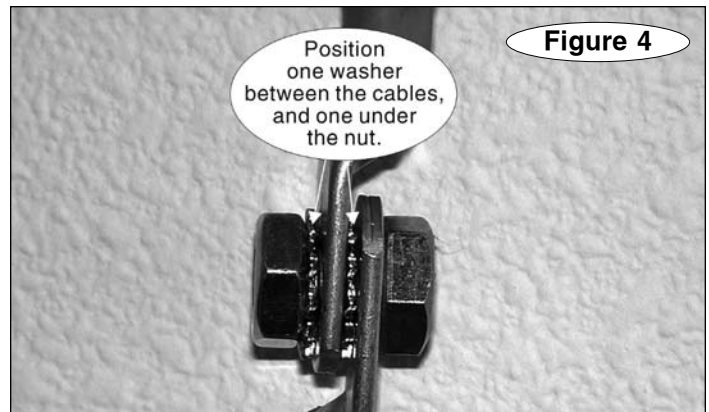


Figure 4

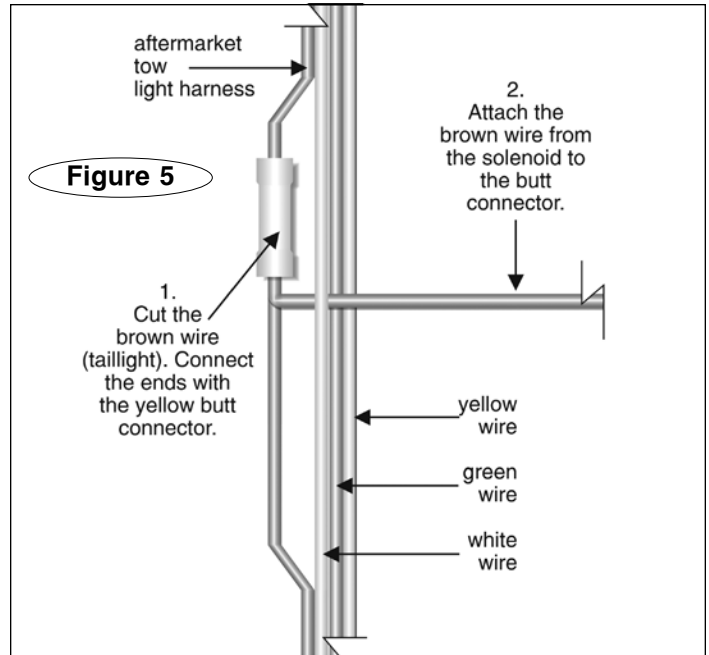


Figure 5

wiring.

If diodes are not attached, electrical feedback through the taillight wiring will disconnect the battery when the vehicle is driven, which may disable and/or damage the vehicle's steering system, clutch, dashboard indicators or systems, or cause other, consequential damage.

**Failure to follow these instructions may cause property damage, personal injury or even death.**

The installation is complete. The vehicle can be towed, then disconnected and driven, without any further adjustment to the battery.

13. To activate the Automatic Battery Disconnect for towing, the motorhome's headlight switch must be turned on (at least halfway), which will provide 12 VDC positive current to the Automatic Battery Disconnect. If the headlight switch is not turned at least halfway on, the Automatic Battery Disconnect will not operate.

## To attach aftermarket accessories...

Attach aftermarket accessories, such as the BrakeMaster break away switch, to the positive post on the vehicle's battery.