

MT50e Diode Installation

TSB-54-058-FCCC

Creation Date:2024-09-17

Engine or Vehicle Affected:

▶ MT50e

This is an informational bulletin only. The described condition is a product improvement and is not warrantable.

Described Condition

This service bulletin provides instructions for installing a diode on MT50e vehicles. This diode is installed to prevent the electrical feedback from blowing a fuse. The tools needed to complete the repair are shown in Fig. 1.



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|---|---|
| 1. 7.5-Inch Center Punch | 6. 8-mm Nut Driver |
| 2. Angle Drill with 8-Inch Drill Bit, 0.203-Inch Diameter | 7. Hammer |
| 3. Side Cutters | 8. 1/4-Inch Rechargeable Ratchet with 7/16-Inch Socket and Wobble Extension |
| 4. 1/4-Inch Drive Ratchet, 8-mm Socket | 9. Blow Out Nozzle (removes metal chips from drilling) |
| 5. 8-mm Wrench | |

Fig. 1, Tools for Diode Installation

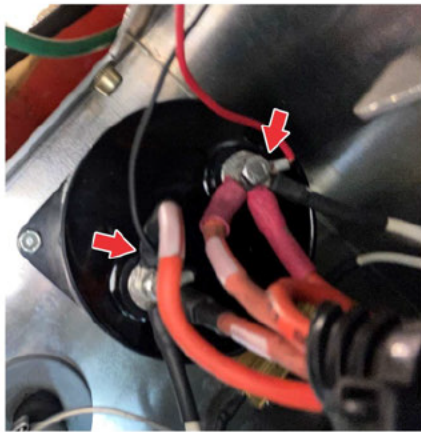
Diode Installation

- Park the vehicle on a level surface, shut down the vehicle, and set the parking brake. Chock the tires.

▲ Danger: Ensure that the high voltage system is decommissioned before performing the following procedure. Failure to do so could cause severe personal injury or death, or damage to the electric system.

- Decommission the vehicle. For instructions, see **Group 8**, Commissioning and Decommissioning chapter of the applicable workshop manual.

- Disconnect the harness from the capacitor. See Fig. 2.

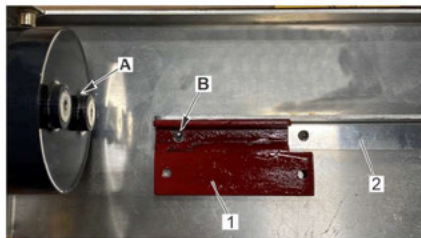


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Fig. 2, Removing the Harnesses from the Capacitor

4. Use the drill fixture to find the holes for the 5-mm bolts that secure the diode in place. See Fig. 3.



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A. The harness is removed from the capacitor.

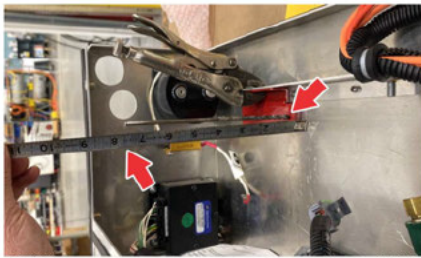
B. Locate the drill fixture using an existing rivet that attaches to the angle bracket.

1. Drill Fixture

2. Angle Bracket

Fig. 3, Locating the Holes for the Bolts Using the Drill Fixture

5. Use a 0.200-inch drill bit that is 7.5-inches long, along with an angle drill to drill the holes. See Fig. 4.

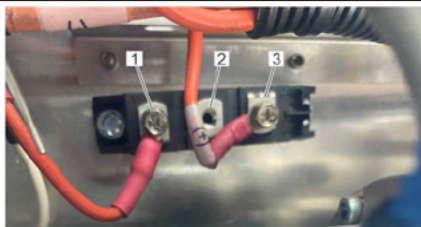


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Fig. 4, Drilling the Holes

6. Once the holes are drilled, install the diode (Y19-BTS03-03) using the provided hardware. Make sure to position terminal #1 closer to the capacitor. See Fig. 5.



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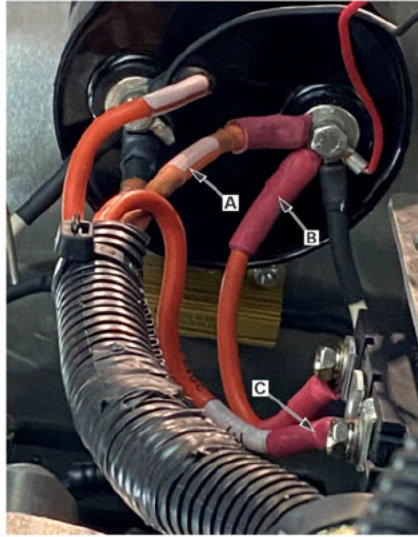
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1. Terminal #1
2. Terminal #2

3. Terminal #3

Fig. 5, Diode Terminals

7. Connect the harness as follows. See Fig. 6.
 - a. Connect the positive terminal from the box connector to terminal #3 on the diode.
 - b. Connect the small jumper from terminal #1 on the diode to the positive terminal on the capacitor.
 - c. Connect the positive harness on the capacitor to the positive wire of the compressor high-voltage (HV) connector.



- A. Connect the positive terminal of the capacitor to the HV compressor.
- B. Connect the small jumper provided from terminal #1 of the diode to the positive terminal on the capacitor.
- C. Connect the positive terminal coming from the box connector to terminal #3 of the diode.

Fig. 6, Harness Connections

8. Commission the vehicle. For instructions, see **Group 8**, Commissioning and Decommissioning chapter of the applicable workshop manual.

Warranty

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Note:

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