INSTALLATION INSTRUCTIONS

Original Issue Date: **1/15**
Model: **RDC2, DC2, and VSC Controllers**
Market: **Residential/Light Commercial**
Subject: **Battery Charging Diode Kit GM95500**

Introduction

The battery charging diode kit reduces the battery charging voltage from the RDC2, DC2, or VSC controller.

Use kit GM95500 on generators equipped with original design (green-board) RDC2 or DC2 controllers built before 9/15/2014. See Figure 1 for applicable controllers. The controller build date is shown on the bar code label located on the back of the controller on the controller's circuit board. See Figure 2 for the location of the label. See Figure 3 to find the date on the label.

Note: Do not use this kit on revised red-board RDC2, DC2, or VSC controllers, or on original design (green-board) controllers with a bar code date after 9/15/14.

See Figure 12 for the diode harness illustration.

Connect the diode harness to the controller's 24-pin connector and the generator set's engine harness as described in the Installation Procedure. Read the entire installation procedure and compare the kit parts with the parts list at the end of this publication before beginning installation. Perform the steps in the order shown.

After installing the diode harness, give the wiring diagram from these instructions to the generator's owner. Instruct the owner to keep the diagrams with the generator manual.

Note: Proper battery maintenance is critical to prevent premature battery failures. Refer to the generator set operation manual and the battery manufacturer's recommendations for battery maintenance instructions.

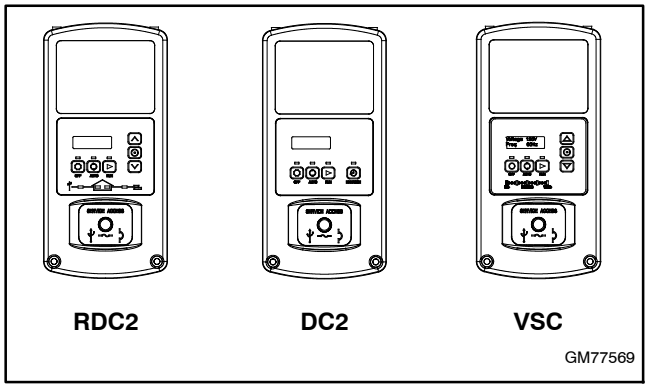
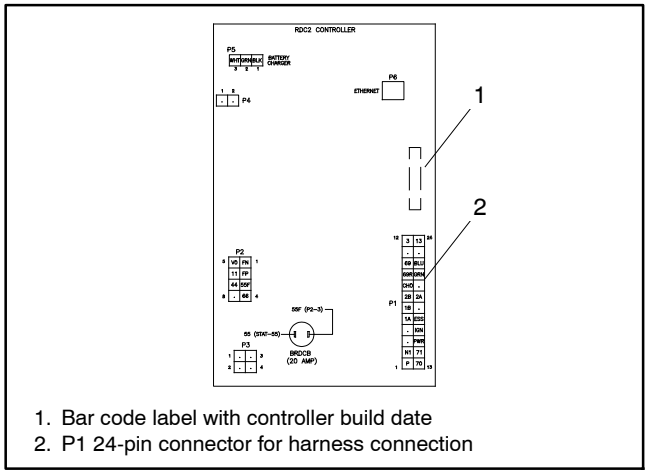


Figure 1 Applicable Controllers (original green-board design only)



1. Bar code label with controller build date
2. P1 24-pin connector for harness connection

Figure 2 Back of Controller

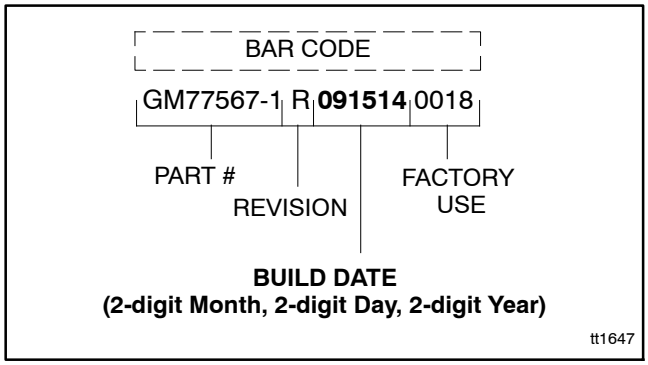
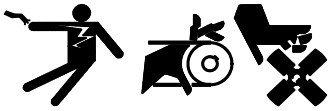


Figure 3 Controller Bar Code Label

Safety Precautions

Observe the following safety precautions while installing the kit.

⚠ WARNING



Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

⚠ WARNING

Hazardous voltage. Moving parts.
Can cause severe injury or death.

Operate the generator set only when all guards and electrical enclosures are in place.

Testing live electrical circuits. Hazardous voltage or current can cause severe injury or death. Have trained and qualified personnel take diagnostic measurements of live circuits. Use adequately rated test equipment with electrically insulated probes and follow the instructions of the test equipment manufacturer when performing voltage tests. Observe the following precautions when performing voltage tests: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Do not touch the enclosure or components inside the enclosure. (4) Be prepared for the system to operate automatically.
(600 volts and under)

Short circuits. Hazardous voltage/current can cause severe injury or death. Short circuits can cause bodily injury and/or equipment damage**.** Do not contact electrical connections with tools or jewelry while making adjustments or repairs. Remove all jewelry before servicing the equipment.

Installation Procedure

1. Using the enclosure locking tool provided with the generator set, open the enclosure roof.

2. Press the OFF button on the controller.

Note: Utility power is connected to the generator's terminal block. This power must be turned off before the controller is removed.

3. Disconnect utility power to the generator set:

   a. Go to the main electrical panel in the building, and find the branch circuit breaker that provides power for the generator's battery charger and accessories.

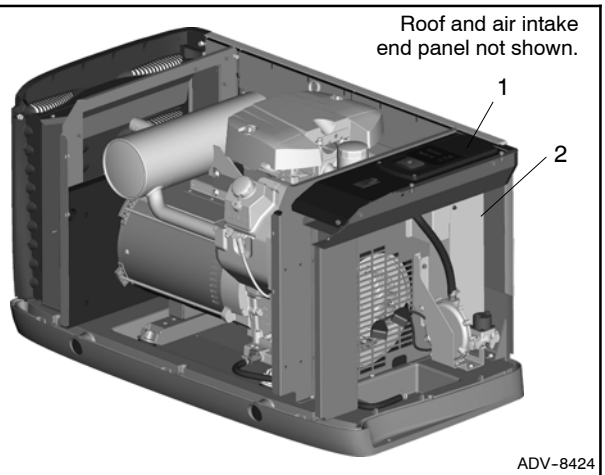
   b. Open (turn OFF) the branch circuit breaker.

   c. Use a voltmeter to verify that utility power to the generator has been disconnected. See Figure 4 (14/20RESA/L) or Figure 5 (20RESB) for the utility power connection location. See Figure 6 for the power connection detail on the generator set terminal block.

      See Figure 7 and Figure 8 for the utility power connection location on Model RCL generator sets.

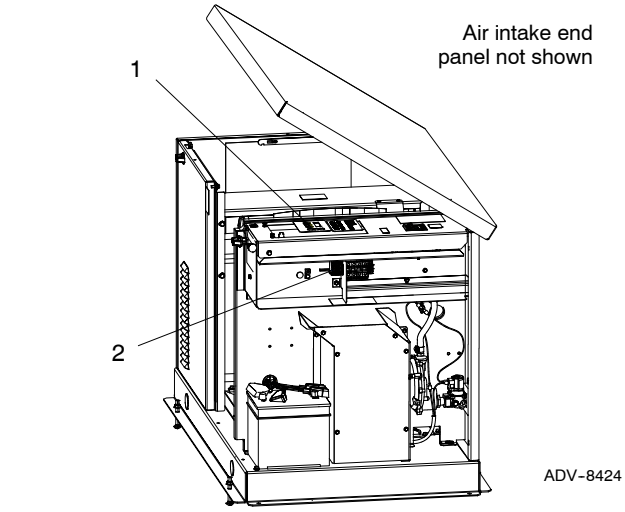
      See Figure 9 and Figure 10 for the utility power connection location on Model VSG generator sets.

4. Disconnect the generator set engine starting battery, negative (–) lead first.



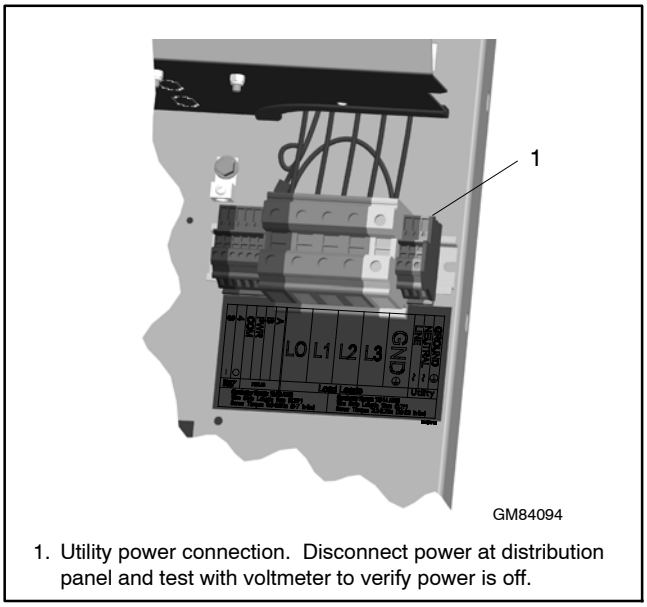
1. Controller location
2. Utility power connection location (terminal block behind panel; see detail)

Figure 4 Controller and Utility Power Connection Locations, 14/20RESA/RESAL



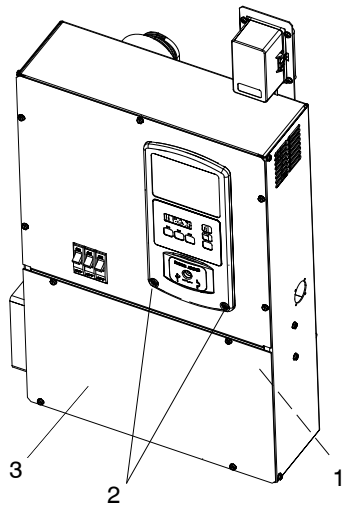
1. Controller location
2. Utility power connection location (terminal block behind panel)

Figure 5 Controller and Utility Power Connection Locations, 20RESB



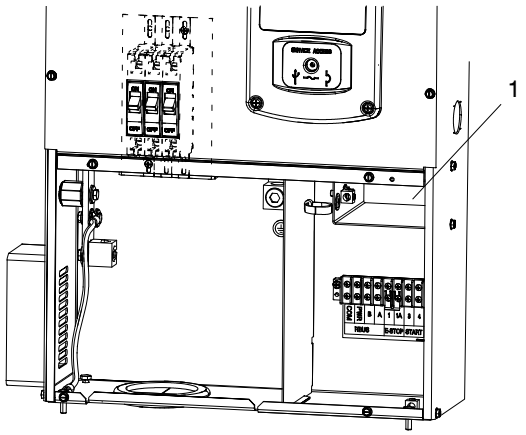
1. Utility power connection. Disconnect power at distribution panel and test with voltmeter to verify power is off.

Figure 6 Power Connection Detail (RESA shown)



1. Utility power connection (behind access panel)
2. Controller screws (qty. 2)
3. Customer connection access panel

Figure 7 Controller and Utility Power Connection Locations, RCL Models

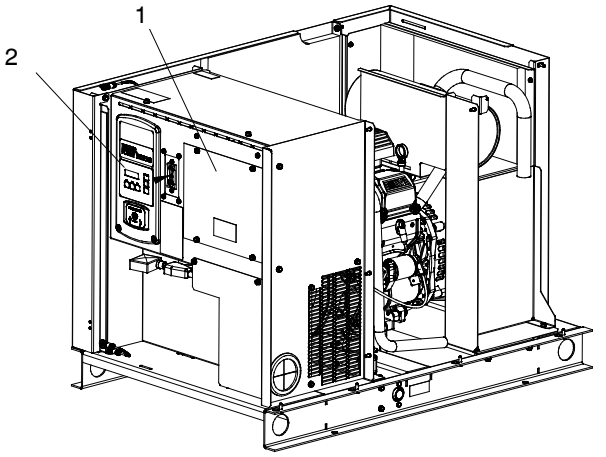


Access panel removed

GM91287

1. Utility power connection. Disconnect power at the distribution panel and use a voltmeter to verify power is off.

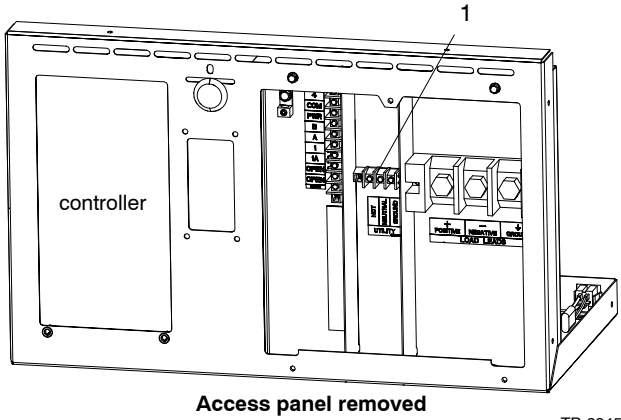
Figure 8 Power Connection Location, RCL Models



ADV-8060

1. Power connection (behind panel)
2. VSC controller

Figure 9 Controller and Utility Power Connection Locations, Model 6VSG



Access panel removed

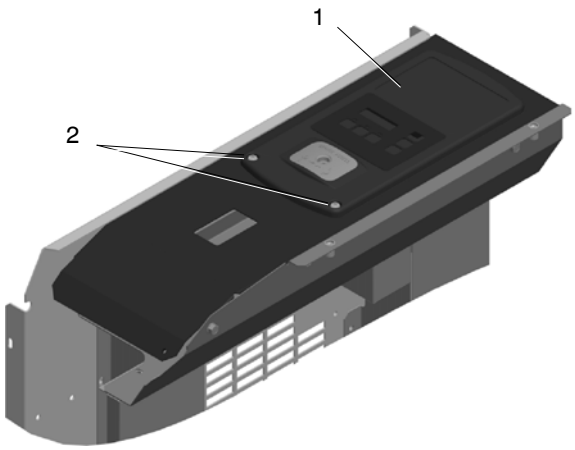
TP-6845

1. Utility power connection. Disconnect power at the distribution panel and use a voltmeter to verify power is off.

Figure 10 Power Connection Location, 6VSG

5. Remove the two (2) screws securing the controller to the junction box and *carefully* lift the bottom edge of the controller. See Figure 11.

   Note: Be careful of the leads and harness connected to the controller panel.



1. Controller
2. Controller mounting screws (qty. 2)

Figure 11 Controller Mounting (14/20RESA shown)

6. Disconnect the engine harness from the controller at the 24-pin connector. See Figure 2 or Figure 13.

7. Connect P1 of diode harness GM95149 to P1 on the controller. See Figure 12 and Figure 13.

8. Connect P23 of the diode harness to the 24-pin connector on the engine harness. See Figure 12 and Figure 13.

9. Install the controller onto the junction box using the two (2) screws removed in step 5.

10. Reconnect the engine starting battery, negative (-) lead last.

11. Reconnect the utility power to the generator set by closing the circuit breaker in the distribution panel.

12. The controller will prompt you to set the date and time, and then to set the exerciser. See the generator set Operation Manual for instructions, if necessary.

13. Use a voltmeter to check the battery charging voltage at the engine starting battery terminals. The voltage should be 13.5 ±0.2 VDC. If the voltage is significantly different, check the controller and harness connections and make sure that the controller is a green-board controller built before 9/15/14 as described on page 1.

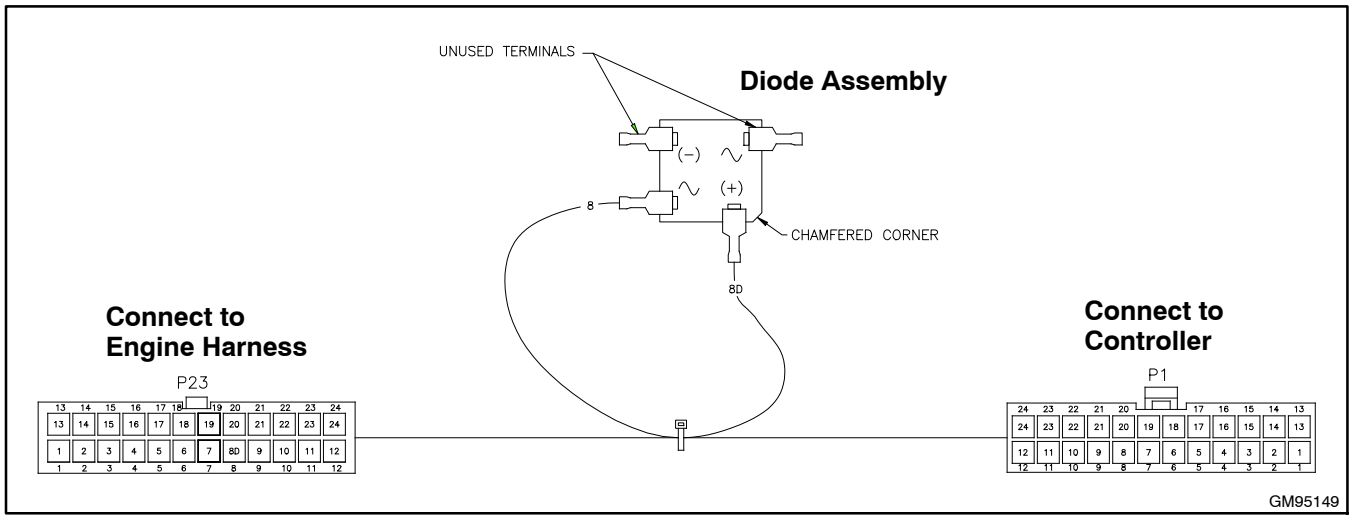


Figure 12 Harness with Diode, GM95149

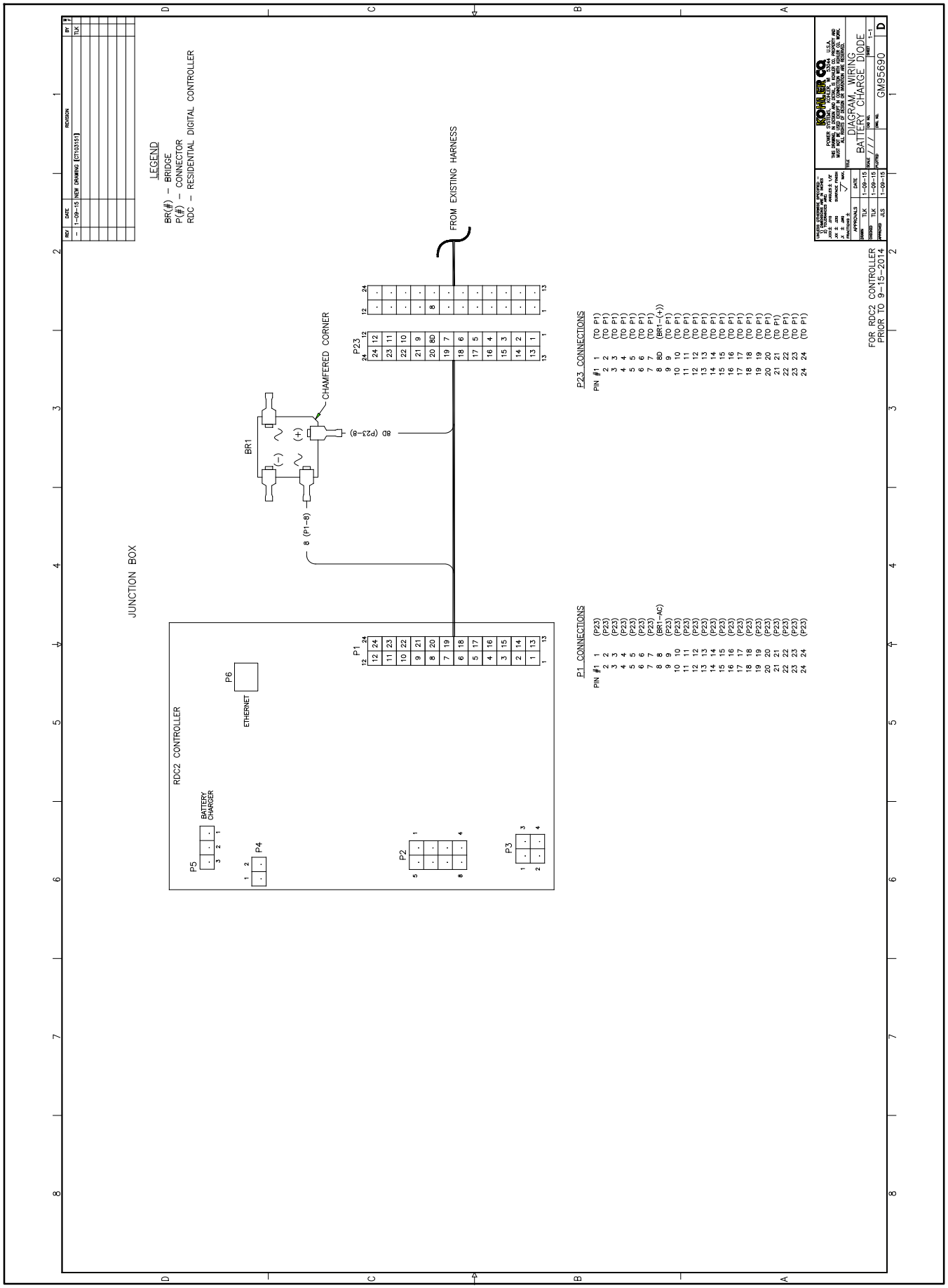


Figure 13 Diode Harness Wiring Diagram GM95690

Notes

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KOHLERPower.com

Kohler Power Systems
Asia Pacific Headquarters
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Singapore 619159
Phone (65) 6264-6422, Fax (65) 6264-6455

Parts List

Kit Name

Kit: GM95500		
Qty.	**Description**	**Part Number**
1	Harness, RDC2 Extension w/BC Diode	GM95149
1	Installation Instructions	TT-1647

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