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Revision_: This document supersedes previous revisions.

CHARGING SYSTEM IMPROVEMENT

Prevost vehicles

APPLICATION

NOTICE TO SERVICE CENTERS <i>Verify vehicle eligibility by checking warranty bulletin status with SAP or via ONLINE WARRANTY SYSTEM available on Service / Warranty tab of Prevost website.</i>	
Model	VIN  
X3-45 VIP Commercial use Model Year : 2016	Vehicles 2PCCS349XGC73 <u>5962</u> 2PCCS3494GC73 <u>5973</u> 2PCCS3493GC73 <u>5981</u> 2PCCS3492GC73 <u>5986</u> 2PCCS3498GC73 <u>5989</u> 2PCCS3493GC73 <u>6001</u> 2PCCS3492GC73 <u>6006</u> 2PCCS3497GC73 <u>6020</u> 2PCCS3497GC73 <u>6048</u> 2PCCS349XGC73 <u>6061</u> 2PCCS3493GC73 <u>6063</u> 2PCCS3495GC73 <u>6064</u>
	This bulletin does not necessarily apply to all the above-mentioned vehicles, some vehicles may have been modified before delivery. The owners of the vehicles affected by this bulletin will be advised by a letter indicating the Vehicle Identification Number (VIN) of each vehicle concerned.

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DESCRIPTION

On the vehicles affected by this bulletin, it is necessary to perform a Multiplex software update plus other corrective measures to improve the charging system. The corrective measures of this bulletin are very important and must all be carried out on the involved vehicles.

MATERIAL NEEDED

Order Electrical Improvement kit #7770176 that includes the following parts:

Part No.	Description	Qty
062490	SLEEVE, HEAT SHRINKING 6-IN LONG	1
067835	CABLE, JUMPER Rev.C	1
564055	TERMINAL, SOCKET (BUSSMAN CONNECTOR)	1
564590	ADAPTER, STUD	1
5001341	WASHER, FLAT M8 STAINLESS STEEL	3
5001787	NUT, M8 STAINLESS STEEL	2
12089679	SEAL, CABLE (BUSSMAN CONNECTOR)	1

NOTE

Material can be obtained through regular channels.

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The bulletin structure is as follows (the corrective measures can be performed in any order):



1. MULTIPLEX SOFTWARE UPDATE

2. ELECTRICAL COMPONENTS – CORRECTIVE MEASURES



2.1 ALTERNATOR JUMPER CABLE INSPECTION & REPLACEMENT



2.2 ALTERNATOR 24VD (direct) ON PIN #4 CHANGED FOR 24VI (indirect)

PROCEDURE



DANGER

Park vehicle safely, apply parking brake, stop engine. Prior to working on the vehicle, set the ignition switch to the OFF position and trip the main circuit breakers equipped with a trip button. On Commuter type vehicles, set the battery master switch (master cut-out) to the OFF position.

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1. MULTIPLEX SOFTWARE UPDATE

1. A Multiplex software update should be performed on the vehicle.
2. You must make an appointment at your nearest Prevost Service Center in order to receive the software update. You can also contact your Prevost Service Representative for help.

2. ELECTRICAL COMPONENTS – CORRECTIVE MEASURES

2.1 ALTERNATOR JUMPER CABLE INSPECTION / REPLACEMENT

RISK OF ELECTRICAL SHOCK

The alternator is connected to the batteries through master relay R1. If the ignition switch is in the OFF position and the battery master switch (master cut-out) is set to the OFF position, there should not be electrical power to the alternator terminals. However, a faulty master relay R1 could eventually leave the battery power circuit closed, thus electrical power would be present at the alternator terminals.

Using a multimeter, probe the alternator **B1+** terminal and the ground terminal. Make sure that the voltage reading is 0 volt prior disconnecting the alternator cables.

1. Disconnect power cable **A** from the upper alternator **B1+** stud terminal.

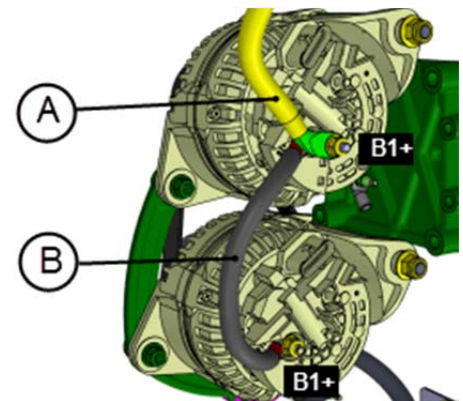


FIGURE 1

A : (+) POWER CABLE

B : (+) JUMPER CABLE

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2. Disconnect jumper cable **B** from the upper alternator **B1+** stud terminal. To do so, unscrew and remove stud adapter **C** and flat washer.
3. Disconnect jumper cable **B** from the lower alternator **B1+** stud terminal. To do so, remove hex nut and washer.

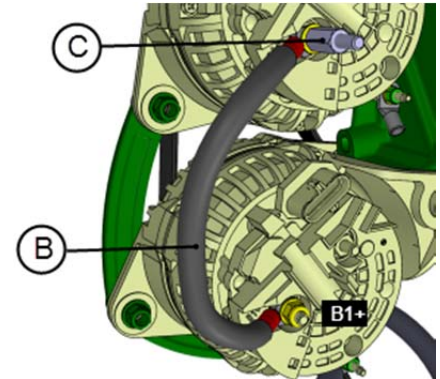


FIGURE 2

B : (+) JUMPER CABLE

C : (+) STUD ADAPTER

CHECKING YOUR VEHICLE STUD ADAPTER

4. Inspect the stud adapter that you have just removed from the upper alternator. The hex part of the stud adapter must measure 1 inch long.
5. If the stud adapter hex part is **too short (about 13/16")**, install stud adapter #564590 included in kit #7770176.

*Using improper stud adapter leaves jumper cable lug improperly tightened and **does not provide good electrical conductivity** between the lug and the alternator stud.*

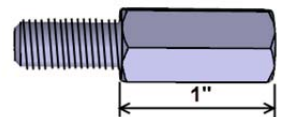


FIGURE 3

CORRECT (part #564590)

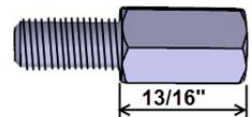


FIGURE 4

INCORRECT (part #564159)

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6. Reinstall the jumper cable **#067835 revision C** included in kit #7770176 (FIGURE 5, FIGURE 6).

Rev.C lug terminal through hole diameter= 5/16" **CORRECT**

Rev.B lug terminal through hole diameter= 13/32" **INCORRECT**

Rev.B diameter of the through hole is too large, reducing contact surface with the stud and the nut thus reducing electrical conductivity between the lug and the alternator stud (FIGURE 7).



FIGURE 5



FIGURE 6

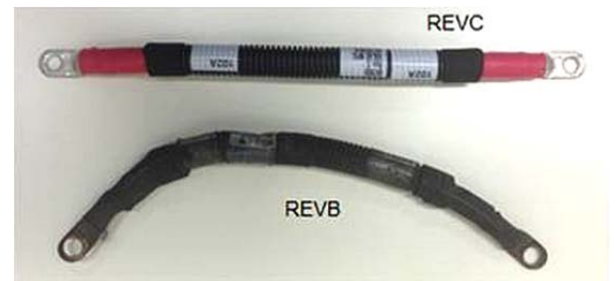


FIGURE 7

7. Reinstall appropriate jumper cable **B** (i.e. rev.C) with appropriate stud adapter. Refer to FIGURE 8.

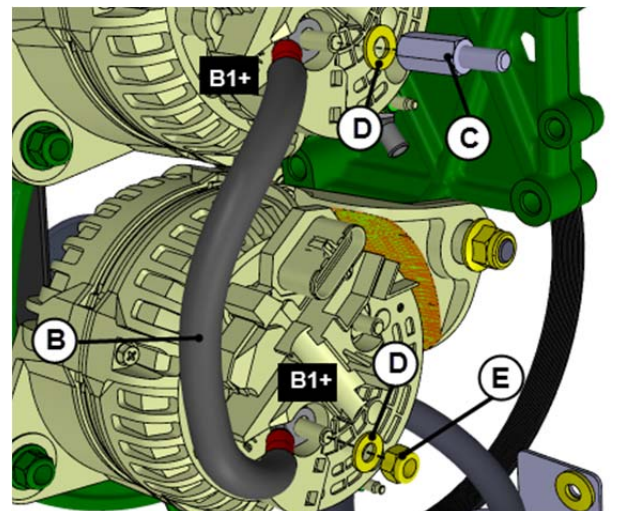


FIGURE 8

B : JUMPER CABLE #067835 revision C

C : STUD ADAPTER #564590 *torque: 10 lbf-ft*

D: FLAT WASHER #5001341

E: NUT M8 #5001787 *torque: 10 lbf-ft*

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8. Reinstall power cable **A**. To do so, connect power cable **A** to the upper alternator **B1+** stud terminal. Refer to **FIGURE 9**.

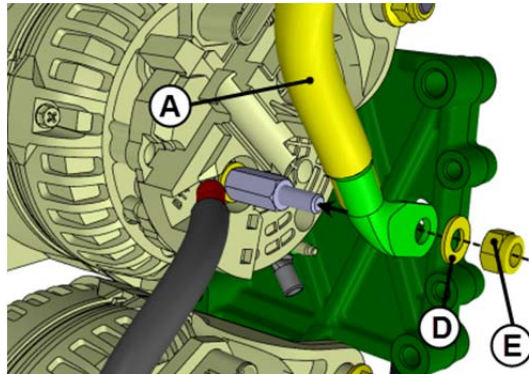


FIGURE 9

A : POWER CABLE

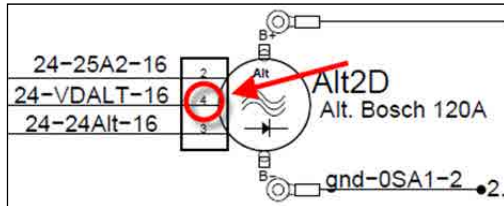
D: FLAT WASHER #5001341

E: NUT M8 #5001787 *torque: 10 lbf-ft*

9. **Protect the alternator studs against corrosion.** Apply anti-corrosion compound or **Color Guard Rubber Coating** on alternator terminals, cable lugs and nuts.

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2.2 ALTERNATOR 24VD (DIRECT) ON PIN #4 CHANGED FOR 24VI (INDIRECT)



1. Inside rear electrical compartment (rear junction box), locate VECR module (FIGURE 10).

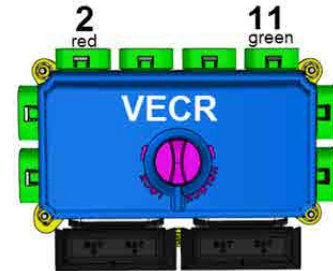


FIGURE 10 : VECR

2. Unplug connector no. 11 (green).

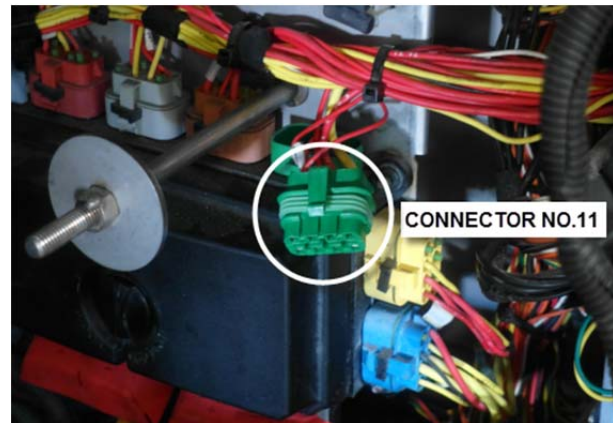


FIGURE 11

3. Using an extractor tool or a small flat blade screwdriver, remove wire 24VDALT from cavity H of connector no.11 (FIGURE 11 to FIGURE 14).



FIGURE- 12 : EXTRACTOR DELPHI 12094430

Remove the terminal by disengaging the flexible lock tab on the terminal. Gently remove the terminal from the connector by pulling on the wire.

FLEXIBLE LOCK TAB LOCATION -
EXTRACTOR INSERTION POINT

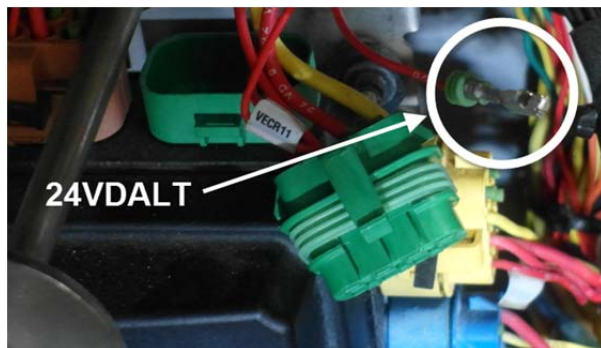


FIGURE 13

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4. Relocate wire 24VDALT to cavity **C** of connector no.2 (red) on the harness.

Cavity **C** of connector no.2 should be available. This branch of the circuit will be protected by 10A fuse F64 (see FIGURE 16 below).

Should cavity C not be available, refer to your vehicle wiring diagram page 5.1 to select another free cavity protected by a 10A or 15A fuse (see FIGURE 16 for reference).

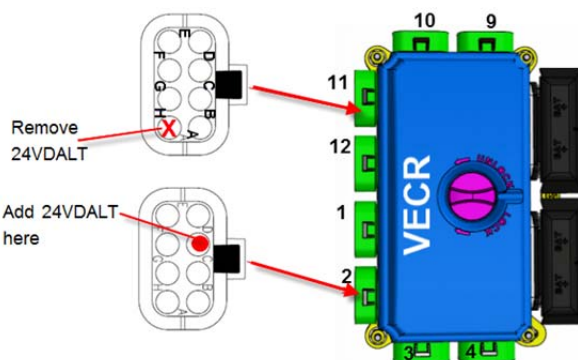


FIGURE 14

IMPORTANT NOTE: If required, extend wire 24VDALT using 16 AWG red electrical wire in order to reach connector no.2.

Cut and discard existing terminal. Extend wire 24VDALT by doing one soldered joint. Use the included piece of heat shrinking sleeve to protect the soldered joint. Place seal #12089679 at the end of wire and crimp terminal #564055 (see FIGURE 15).



FIGURE 15

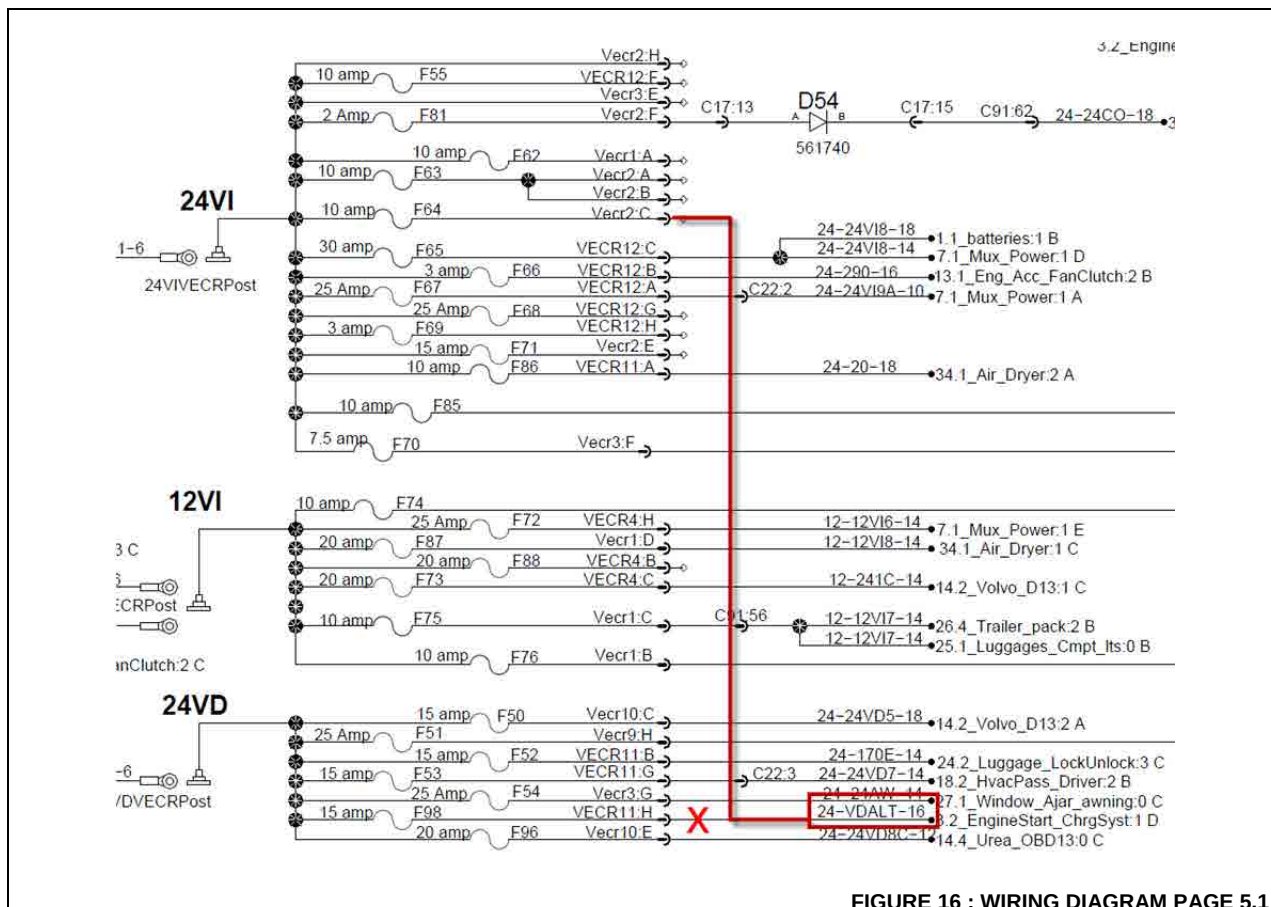


FIGURE 16 : WIRING DIAGRAM PAGE 5.1

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PARTS / WASTE DISPOSAL

Discard waste according to applicable environmental regulations (Municipal/State[Prov.]/ Federal)

ESTIMATED TIME

The software update time is not included in the labor reimbursed by this Special Bulletin. The Multiplex software update is covered under "Red Carpet Policy".

The time required to perform this special bulletin is approximately 1hour 30 minutes (1.5 h).

OTHER

VBC Bulletin	N/A
Fail Code	06.15
Defect Code	09
System Condition	B
Causal Part	067835

Prevost engages in a continuous program of testing and evaluating to provide the best possible product. Prevost, however, is not committed to, or liable for updating existing products.