



# Technical Service Bulletin

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<b>Technical Service Bulletin:</b> TSB210146	<b>Released Date:</b> 13-Sep-2021
<b>Safety Campaign #4495 RBAB Lift Cable Crimp Issue</b>	

## Safety Campaign #4495 RBAB Lift Cable Crimp Issue

### Warranty Statement

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The information in this document authorizes specific changes to the repair practice for failures covered under product warranty coverages.

### Contents

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#### Product Affected

- RBAB Spec G

#### Issue

Symptom:

- Lifting cable around the alternator may be improperly crimped and unable to carry its rated weight, which condition may cause the cable to fail during lifting.

Root Cause:

- Cable supplier quality issue with crimping tool.

#### Verification/Confirmation

If the unit has one of the serial numbers listed below, the unit needs to be inspected for uncrimped cable ferrules. If the cable ferrules do not have a marking on them to show it has been crimped, (see arrows in Figure 1 below) the cable needs to be replaced.

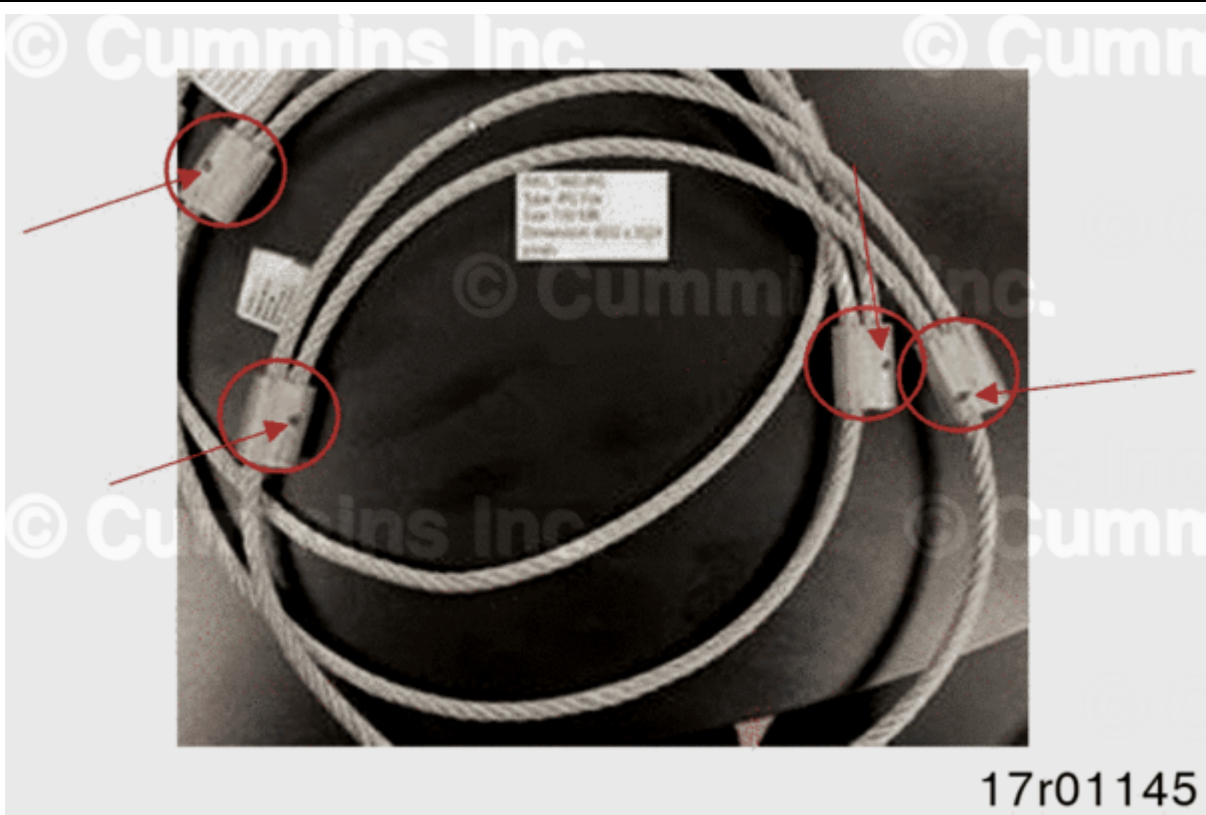


Figure 1, Cable Markings

Table 1, Serial Number		
A210866229	B210891579	D210915365
A210866230	C210891527	D210915366
A210866231	C210891528	D210915367
A210867286	C210900416	D210919566
B210875016	C210902316	D210919567
B210875018	C210904096	D210919600
B210891526	D210906237	E210919559
B210891556	D210906240	E210919561
B210891576	D210909137	E210919562
B210891577	D210915363	
B210891578	D210915364	

If the unit is found to have one of the above serial numbers, follow the below steps in the resolution to inspect and/or replace the cable.

**Note: This issue has been resolved by the supplier. New cables and generator sets outside of this serial number list do not have ferrule crimping issues.**

**Resolution**

**Warning: Ensure Engine is off and generator set is not connected to a power source to prevent accidental running of the generator set.**

**Warning: Wear the appropriate PPE to protect worker while performing this repair.**

**Warning: The generator set is over 90 kg (200 lbs). Use caution when lifting.**

**Warning: Do not use the lifting eye cable to lift the unit. Use an alternative method.**

1. If installed, lift unit out of vehicle using 4 lifting holes on each side. **Do not use lifting eye cable**

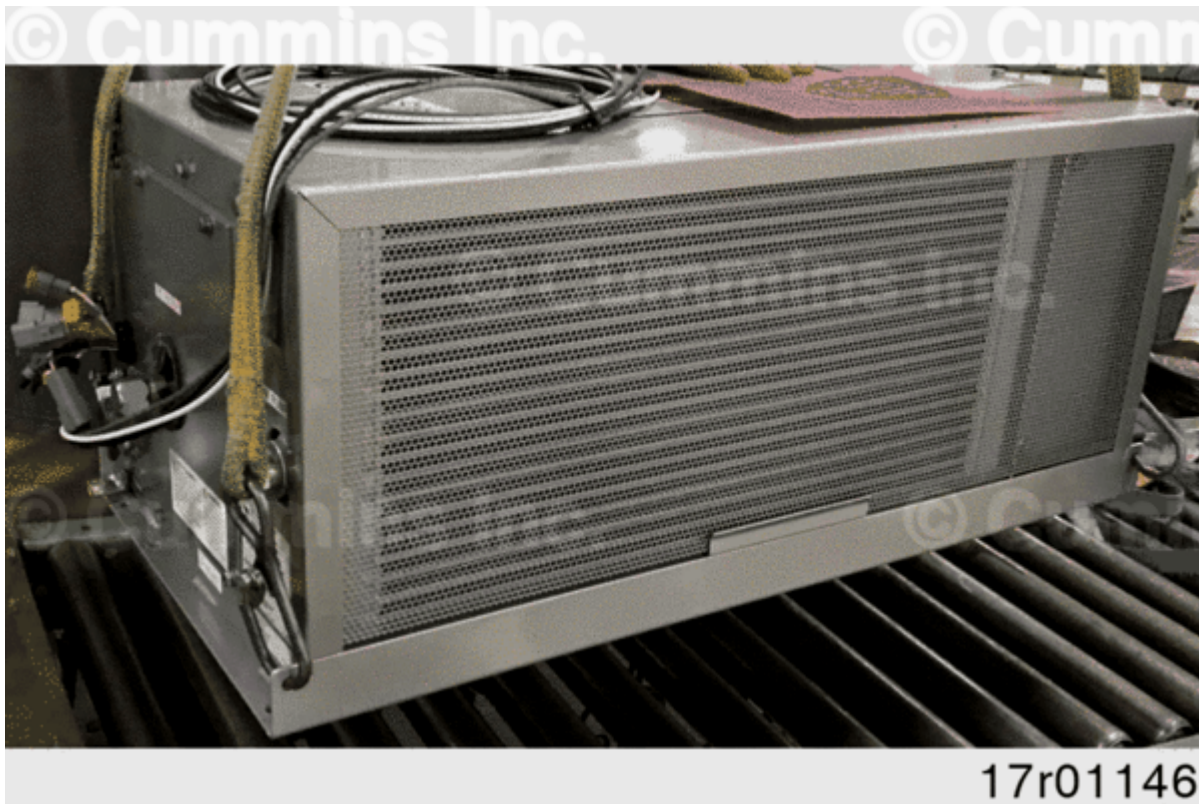
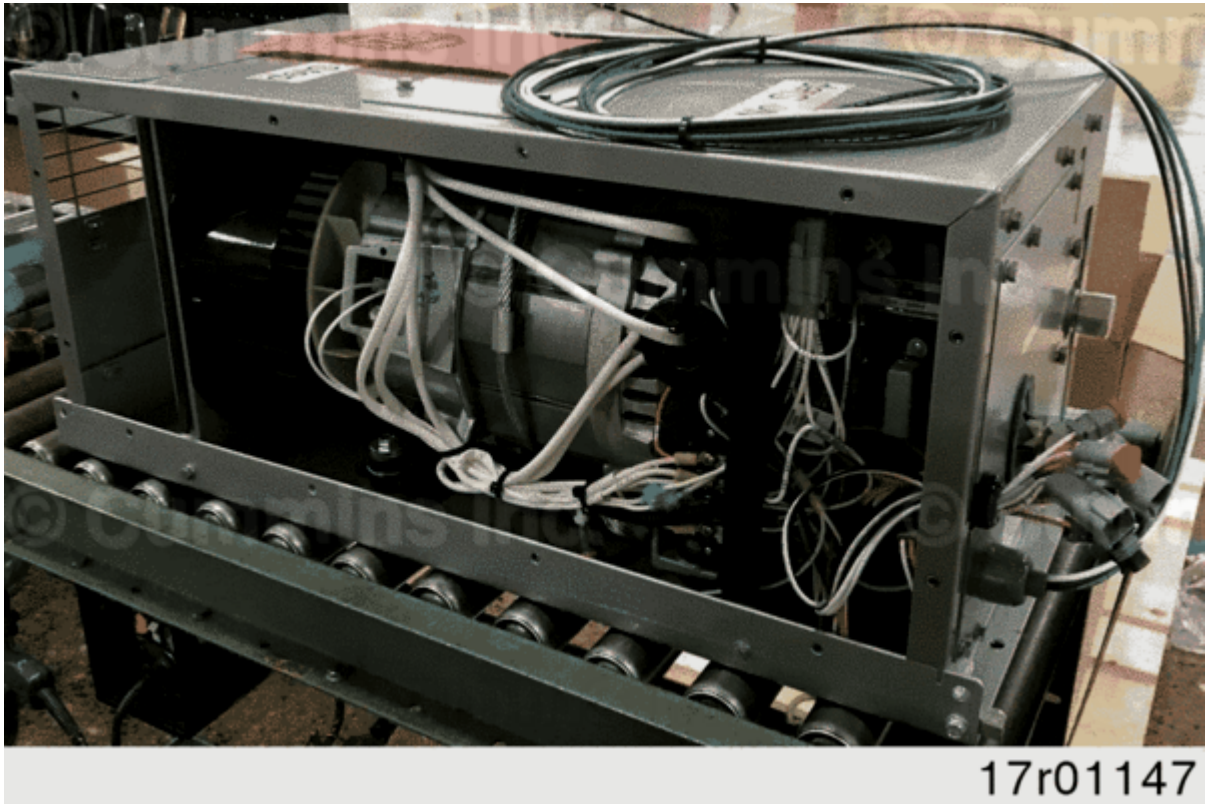


Figure 2, Lifting Unit

2. Remove front enclosure panel.





17r01147

Figure 3, Front Panel Removed

3. Remove left side enclosure panel and grate.



17r01148

Figure 4, Side Panels Removed

4. Remove top two small enclosure covers.



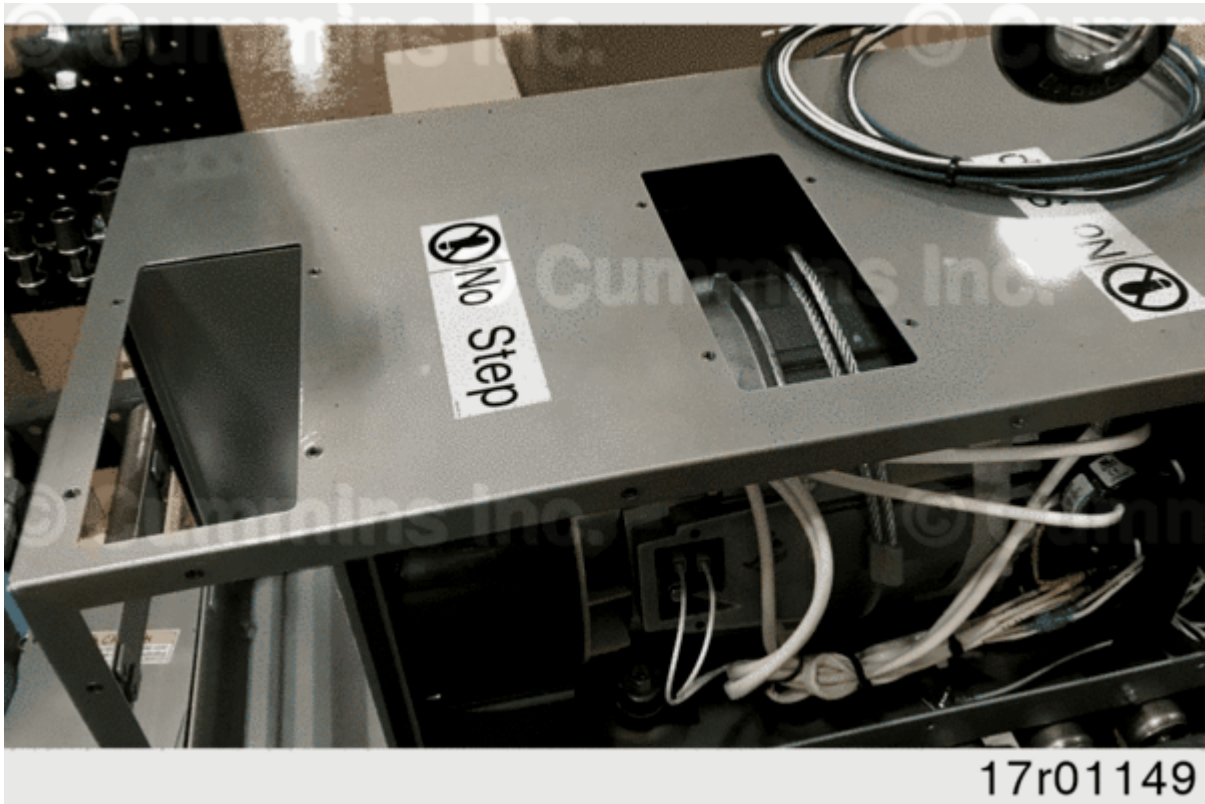


Figure 5, Top Panels Removed

5. Inspect the cable ferrules for the marking to see if the unit's cable is properly crimped. The cable can also be visually inspected for a crimped cable.

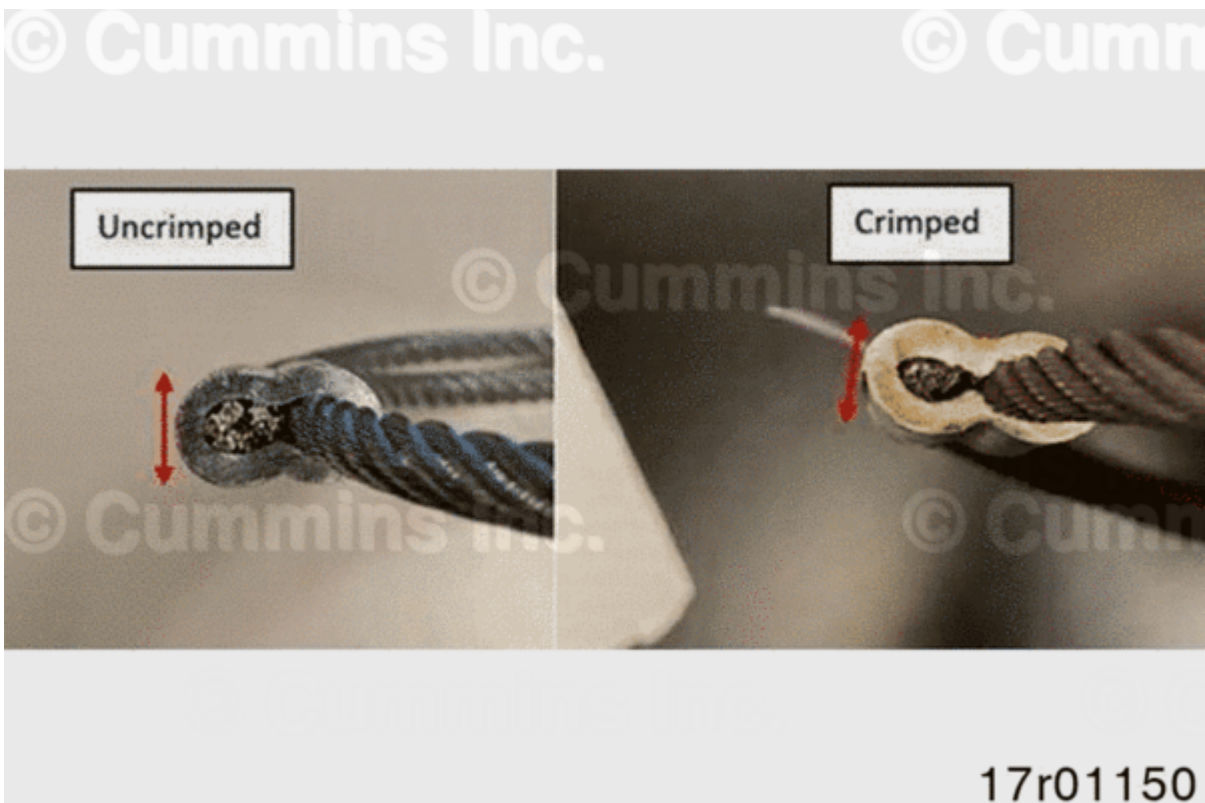


Figure 6, Uncrimped vs. Crimped

**Note: If cable has no crimp marking, continue to follow the steps below and replace the cable. If cable is marked (and properly crimped), no repair is required. Replace enclosure panel.**

**Note: To order replacement cable, see 'Service Instructions' section below.**

6. Remove right side enclosure panel and cut cable tie to slide wire leads through enclosure panel

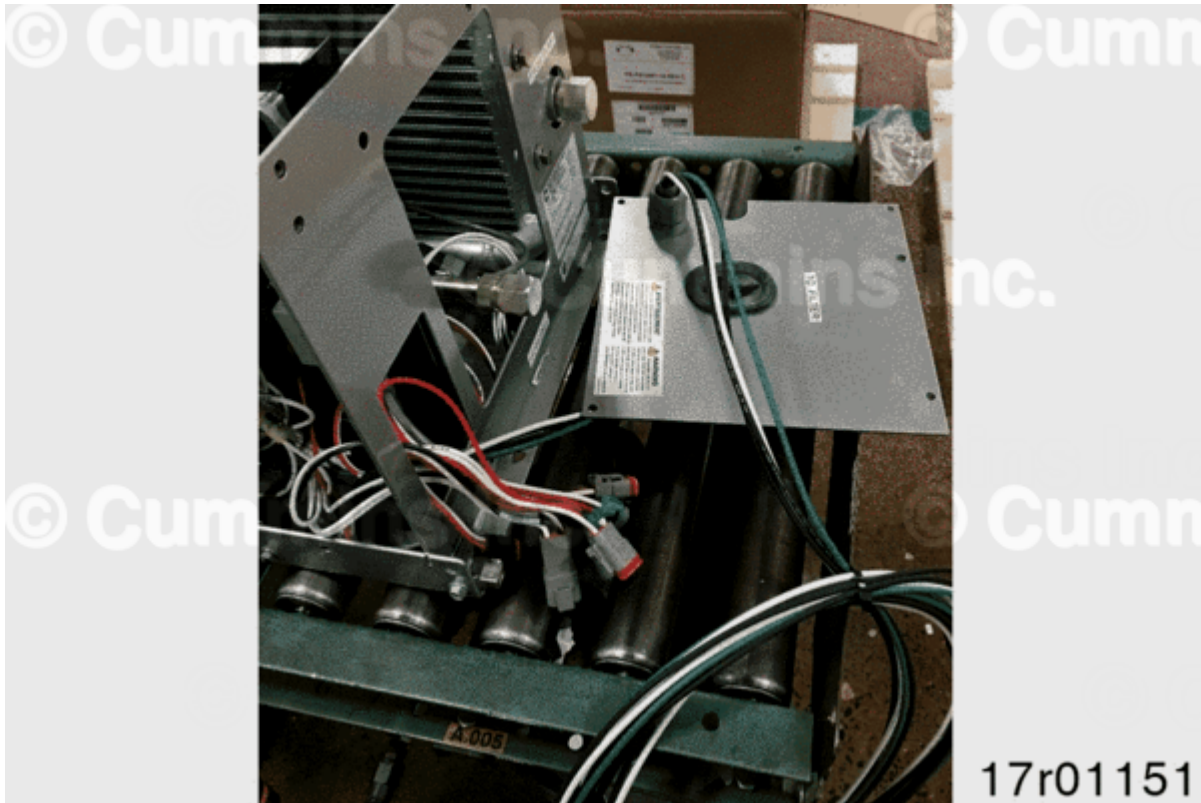


Figure 7, Right Side Panel Removed

7. Remove only the **left side** ring terminals in control box. **Do not lose the two jumper wires.**



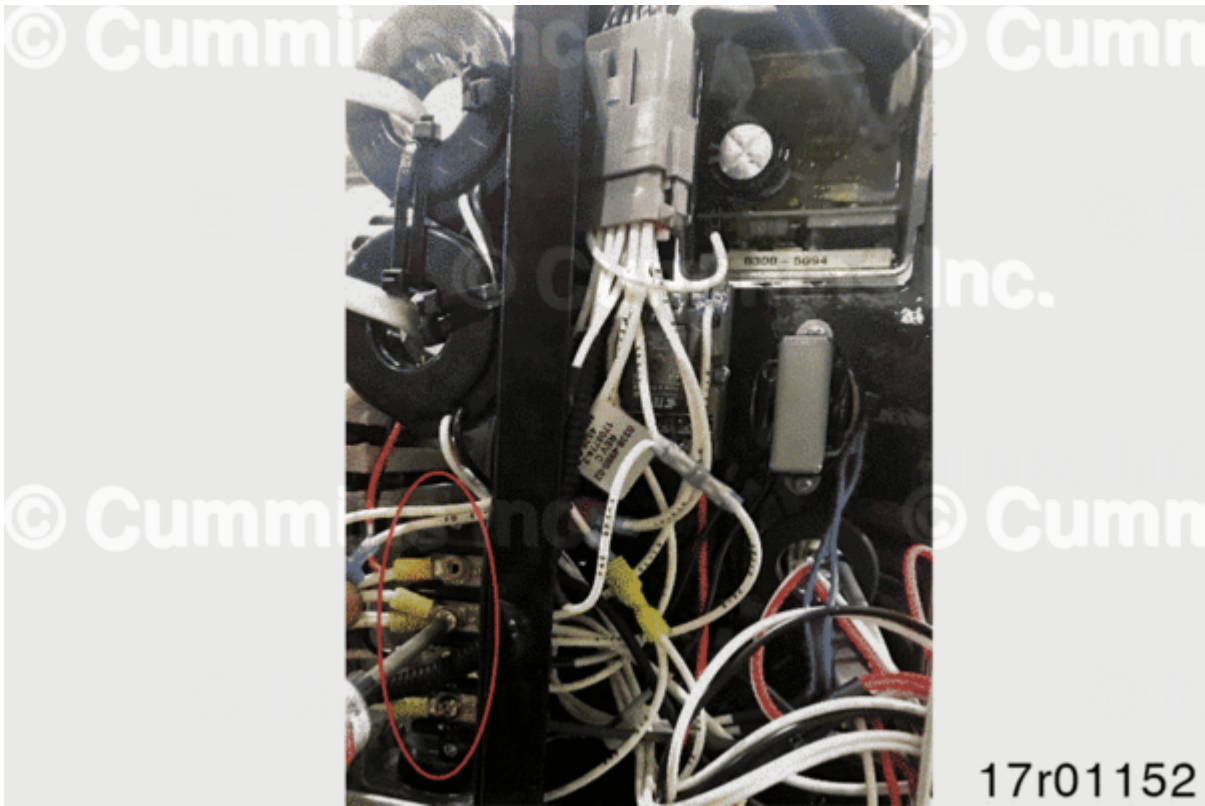


Figure 8, Left Side Ring Terminal Disconnect

8. Cut cable ties on alternator output leads.

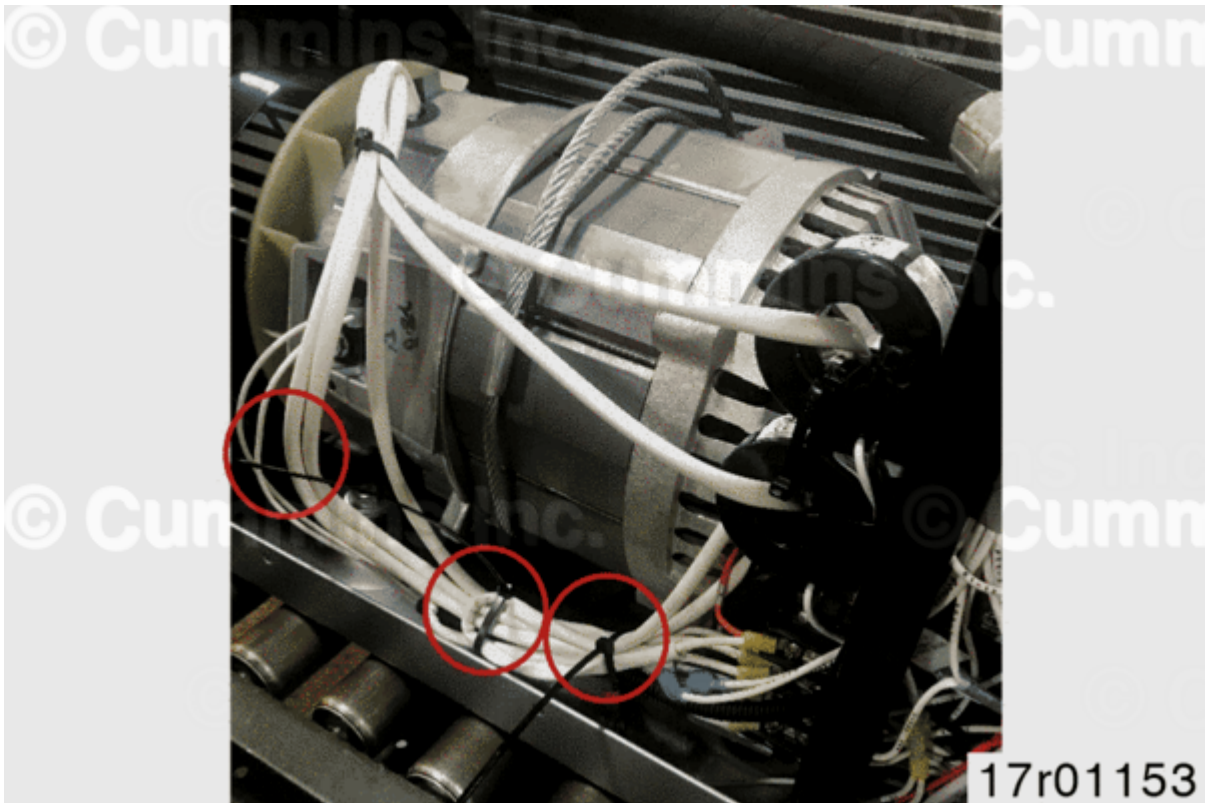


Figure 9, Remove cable Ties

9. Unplug two blue fast-on connectors.



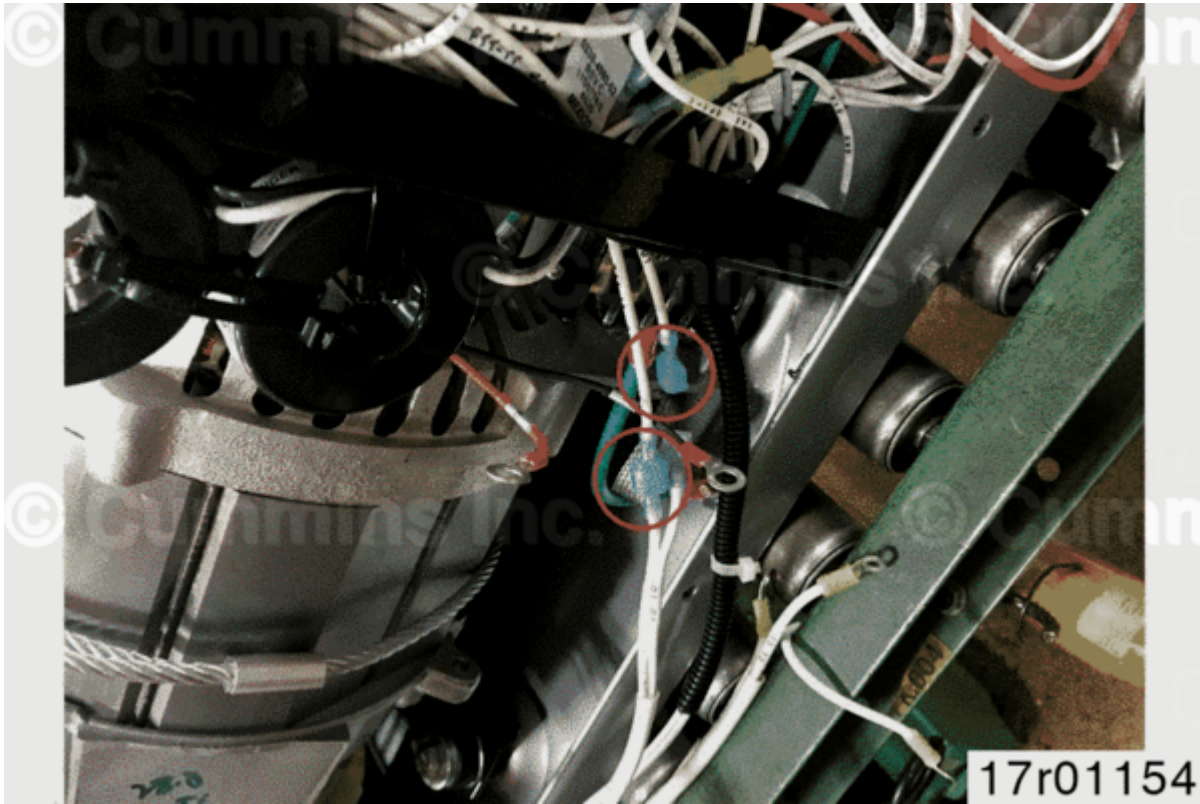


Figure 10, Unplug fast-on connectors

10. Disconnect brush block connectors.



Figure 11, Disconnect Brush Block Connections

11. Remove chassis ground connections.

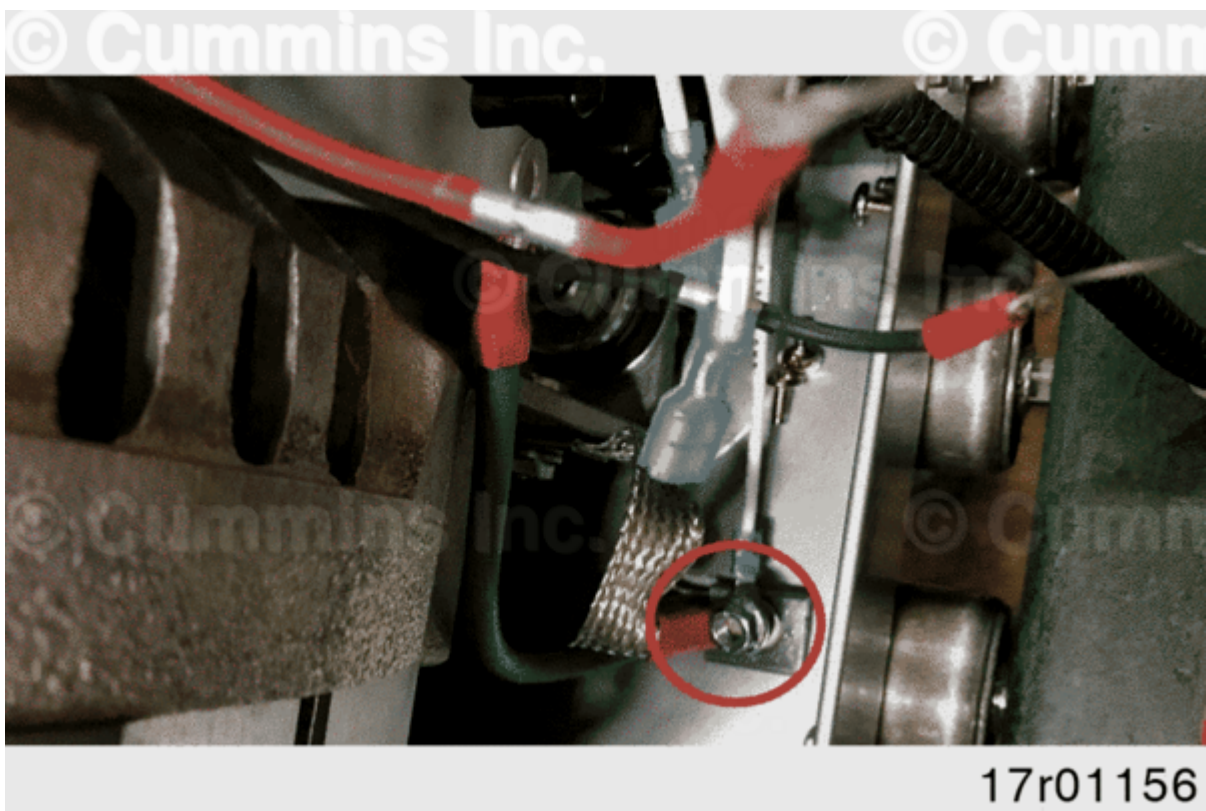


Figure 12, Chassis Ground

12. Remove Control box.

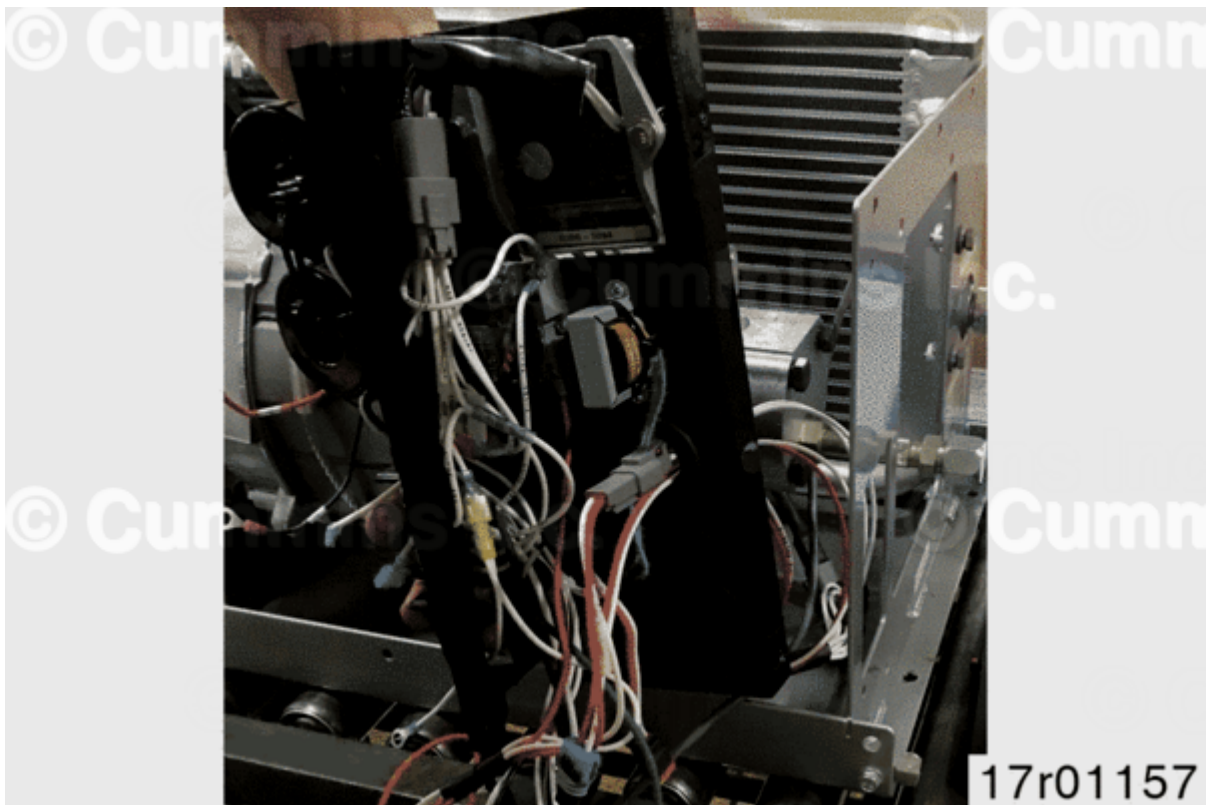


Figure 13, Remove Control Box

13. Disconnect hydraulic pump connector.



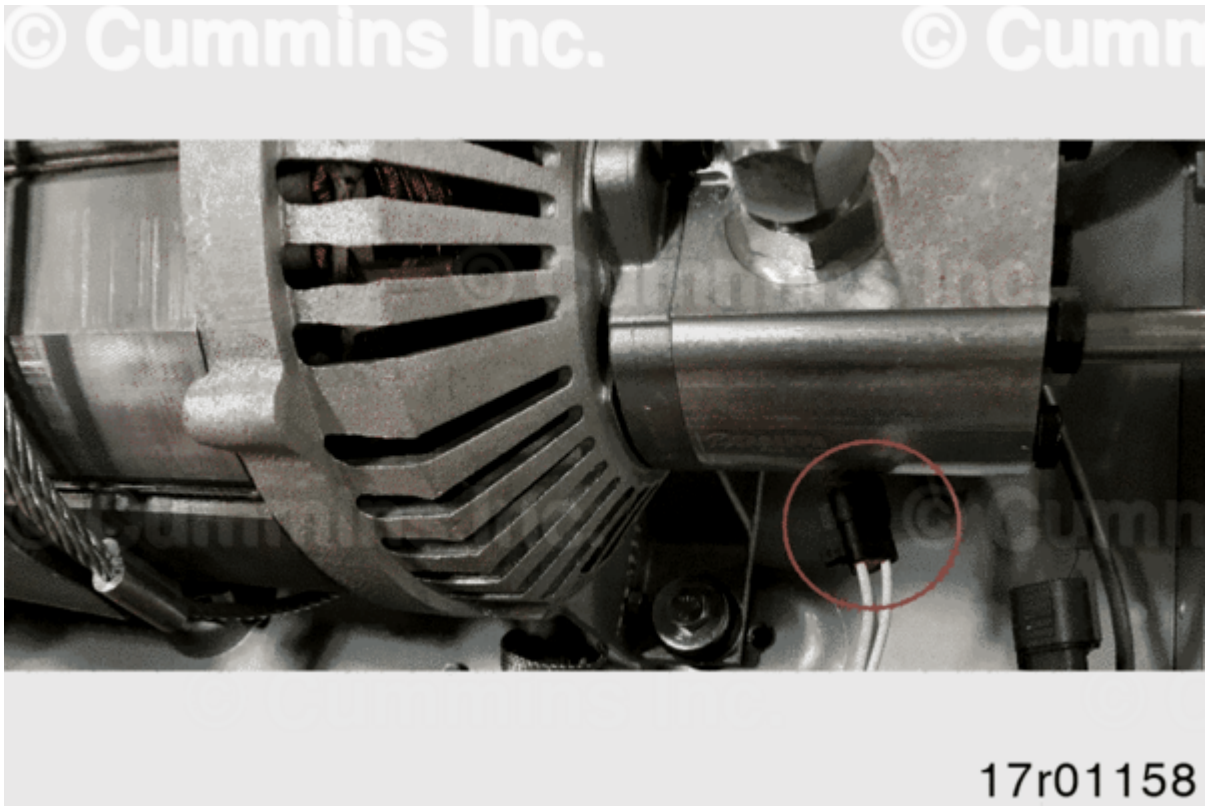


Figure 14, Disconnect Pump Connection

14. Push coolant temp sensor through control grommet.

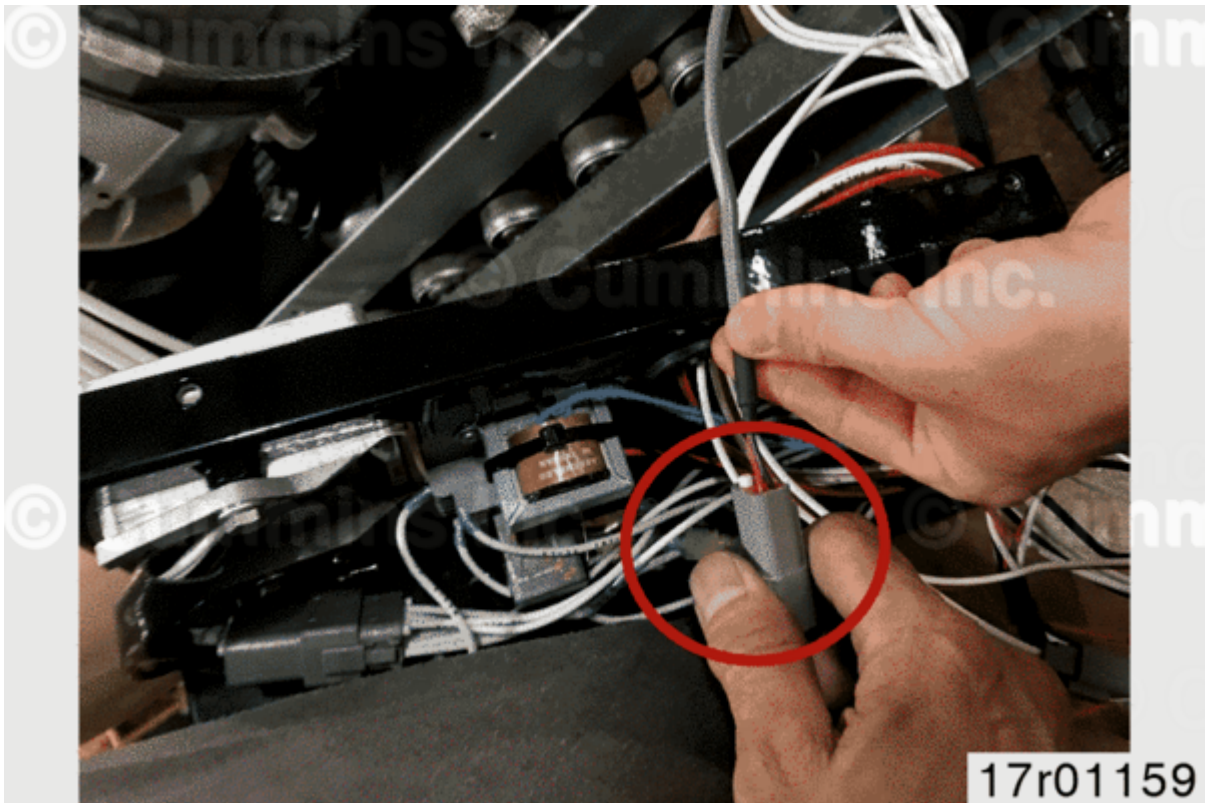


Figure 15, Coolant Temperature Sensor

**Warning: Confirm unit is still disabled to ensure fan does not accidentally spin**



15. Remove fan shroud and fan mounting bolts. **Fan and shroud come off together**



Figure 16, Fan and Fan Shroud

16. Remove secondary fan bolt.

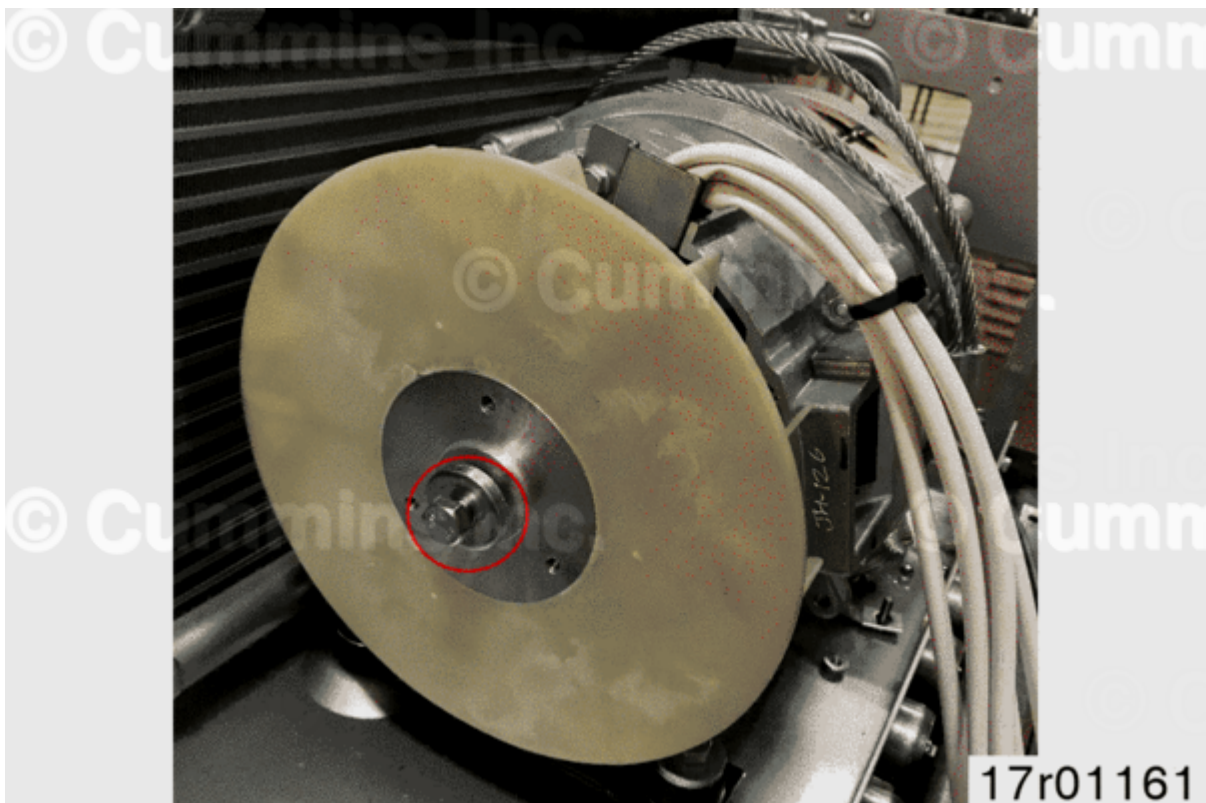


Figure 17, Remove Fan Bolt

17. Use puller to remove fan

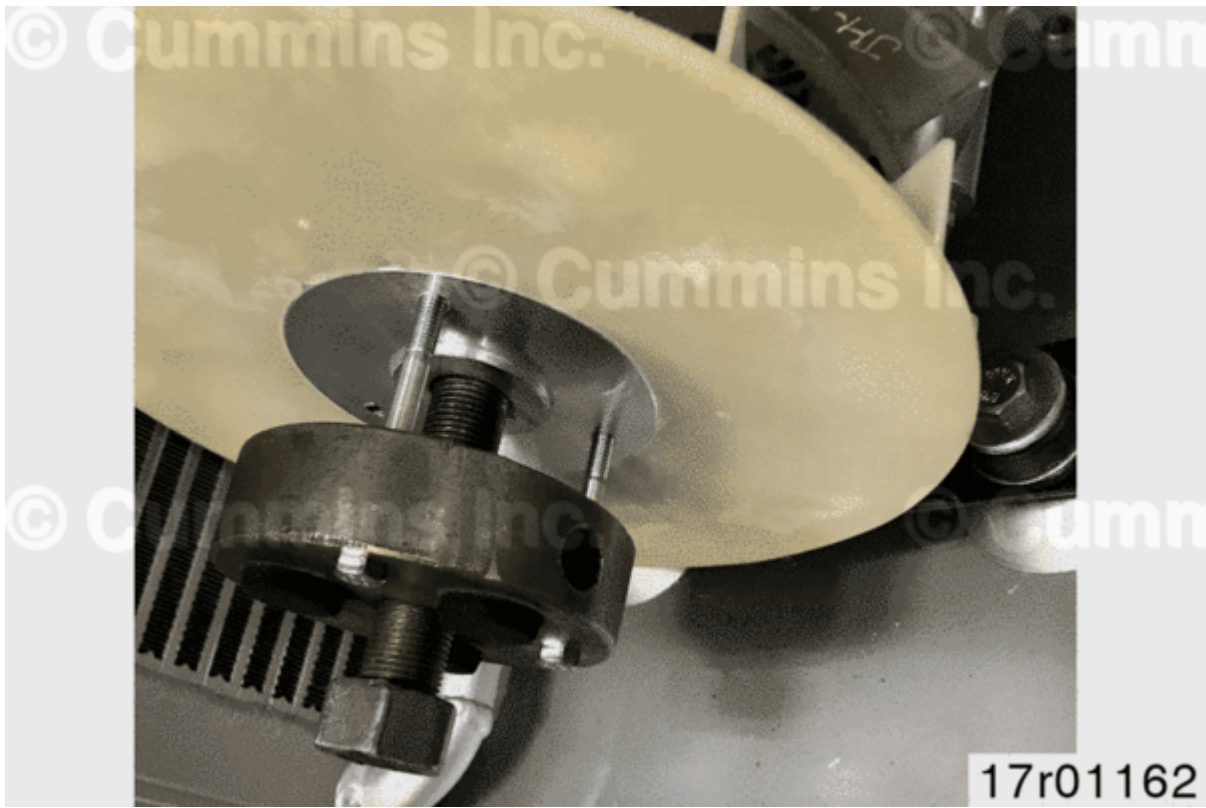


Figure 18, Fan Puller

**Warning: Make sure engine driving hydraulic fluid is off and the lines are not pressurized before removing**

18. Remove hydraulic hose.



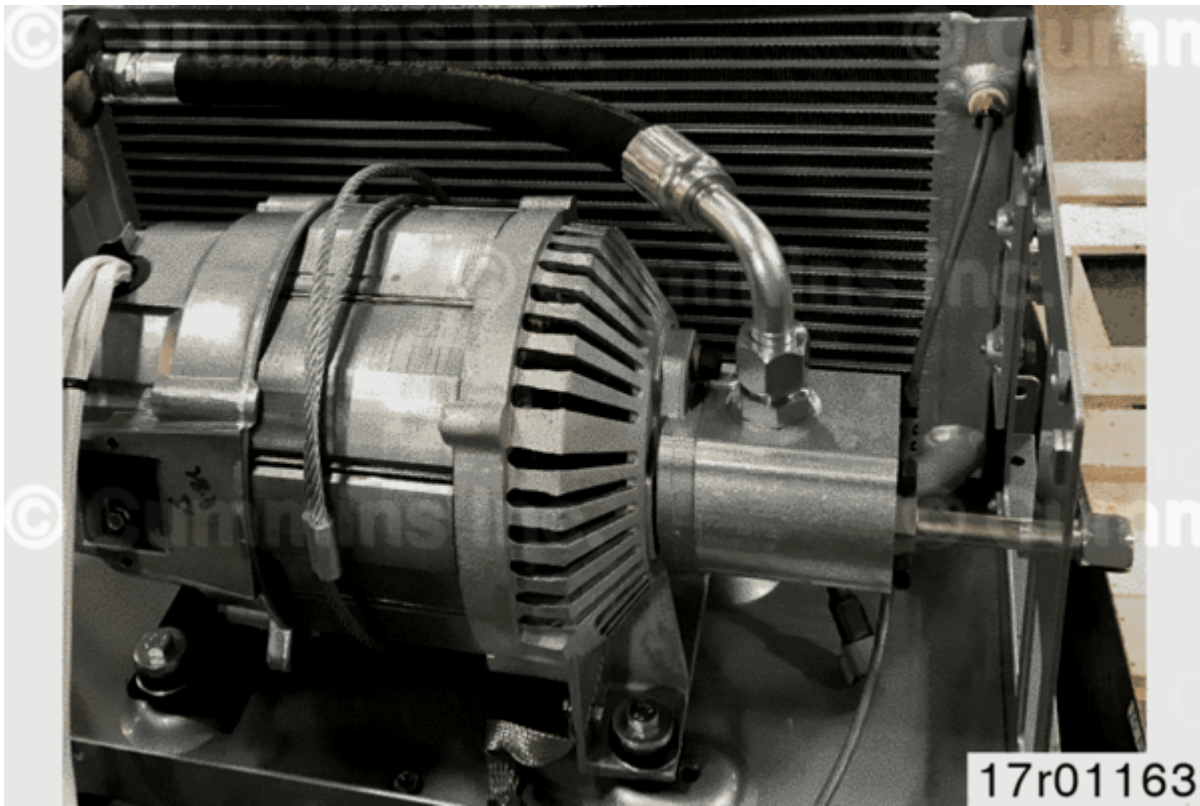


Figure 19, Remove Hose

19. Remove hose coupler connection on hydraulic pump.

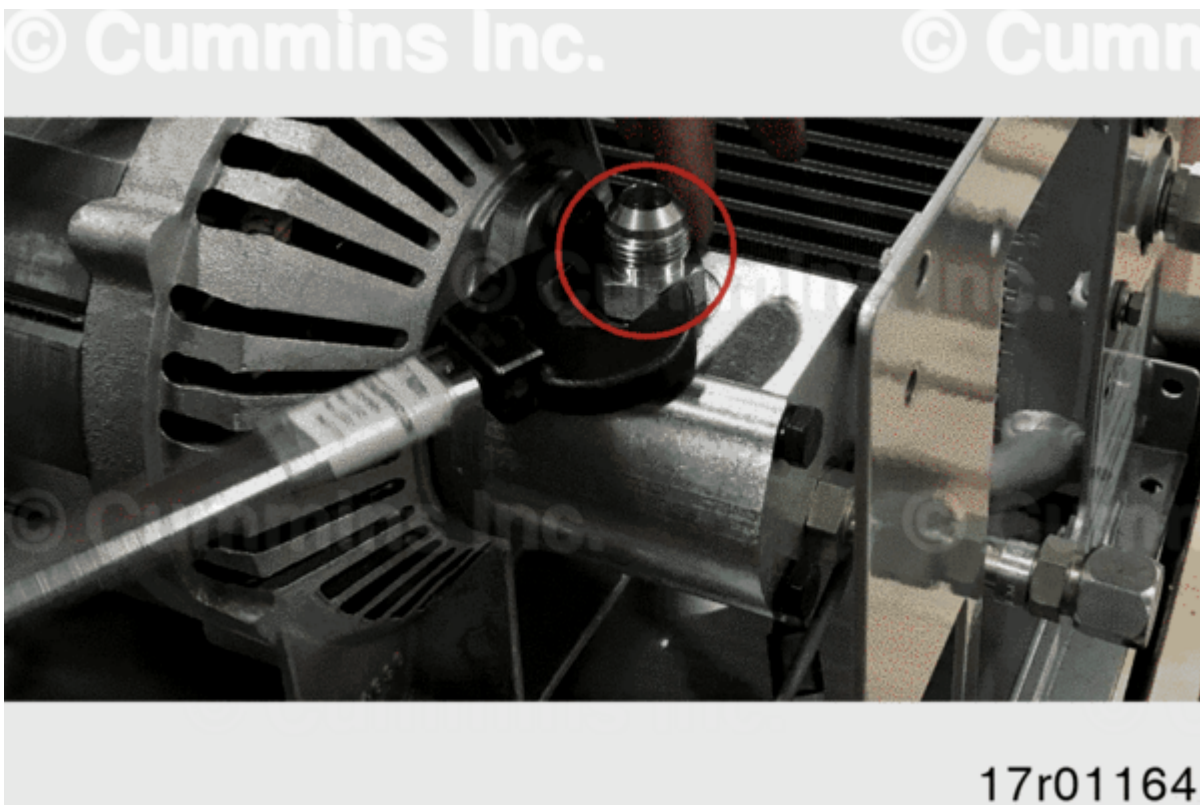


Figure 20, Remove Hose Coupler

20. Remove pump.





Figure 21, Remove Pump

21. Remove the 4 alternator mounting bolts.

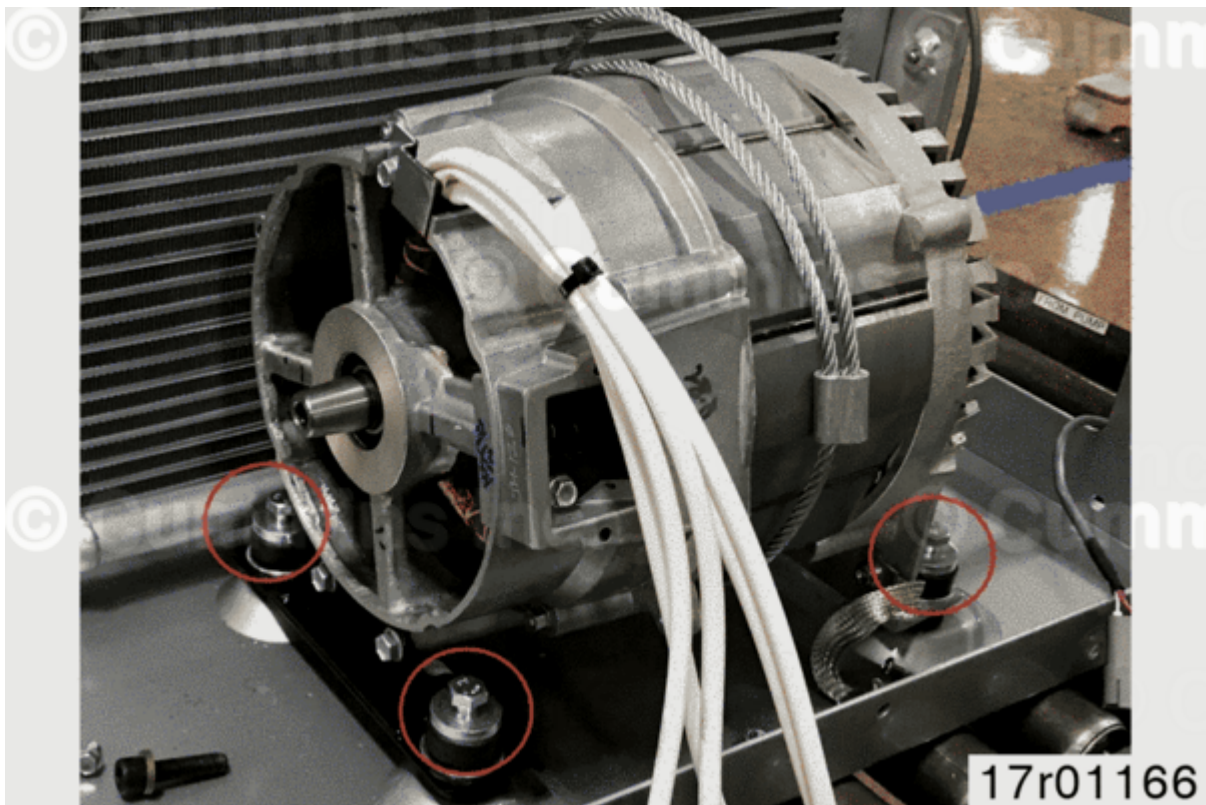


Figure 22, Remove Mounting Bolts

**Warning: Alternator weighs over 75 lbs. Use caution when lifting.**

**Warning: Do not use the lifting eye cable to lift the unit. Use an alternate lift method**

22. Lift with rated lifting strap and remove alternator from base pan. **Do not use lifting eye cable.**

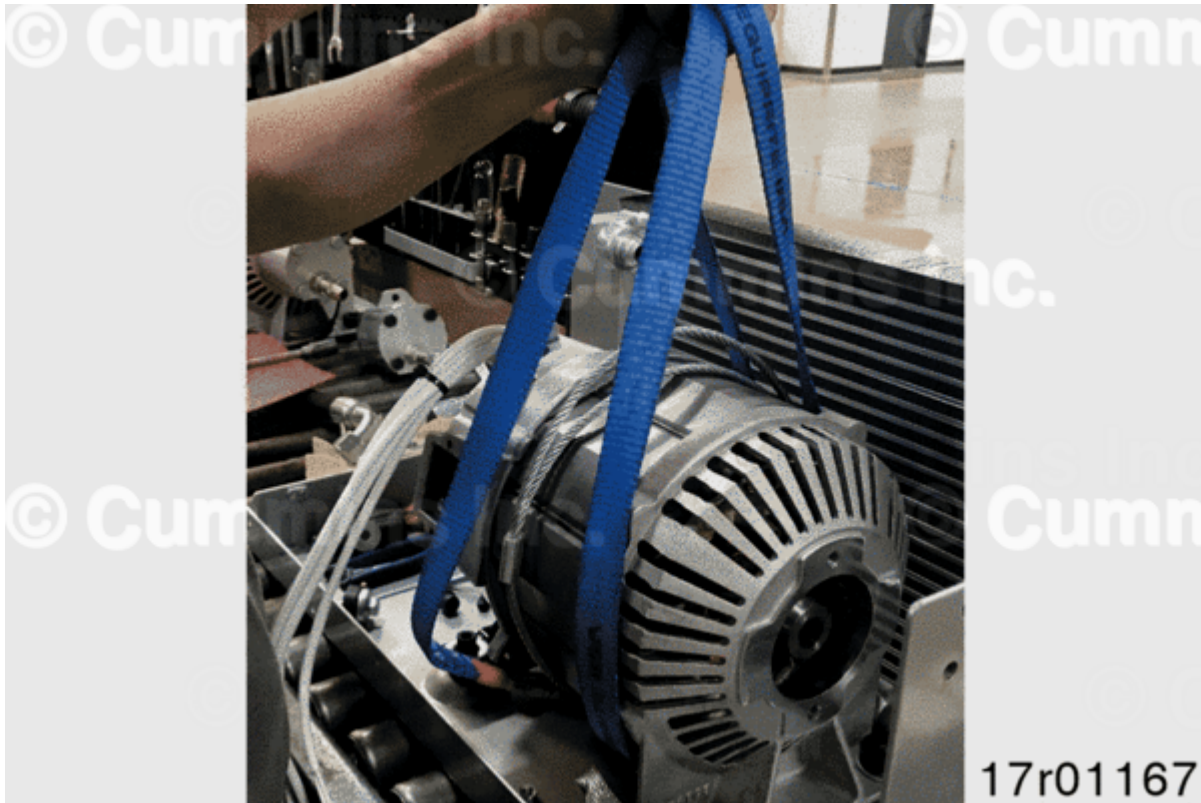


Figure 23, Lift Alternator

23. Remove bolt and grommet bracket.



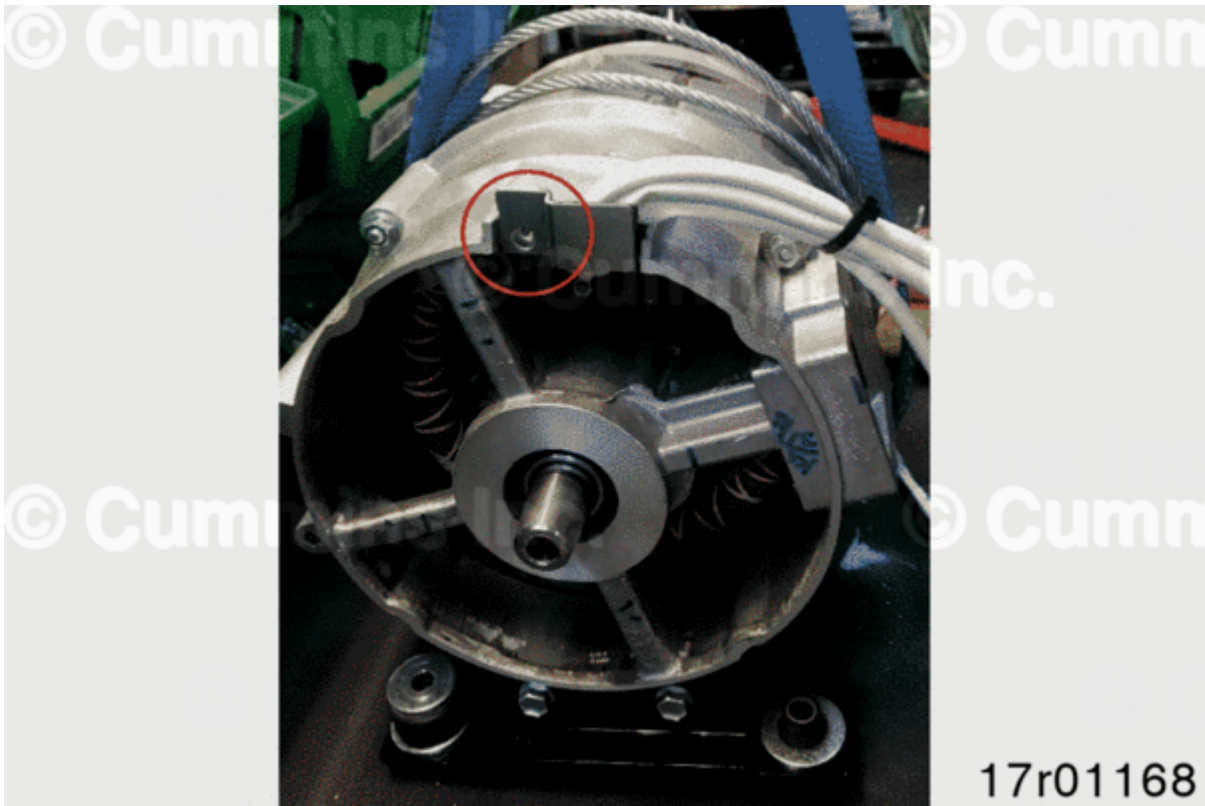


Figure 24, Wire Grommet Bolt

24. Remove brush blocks.

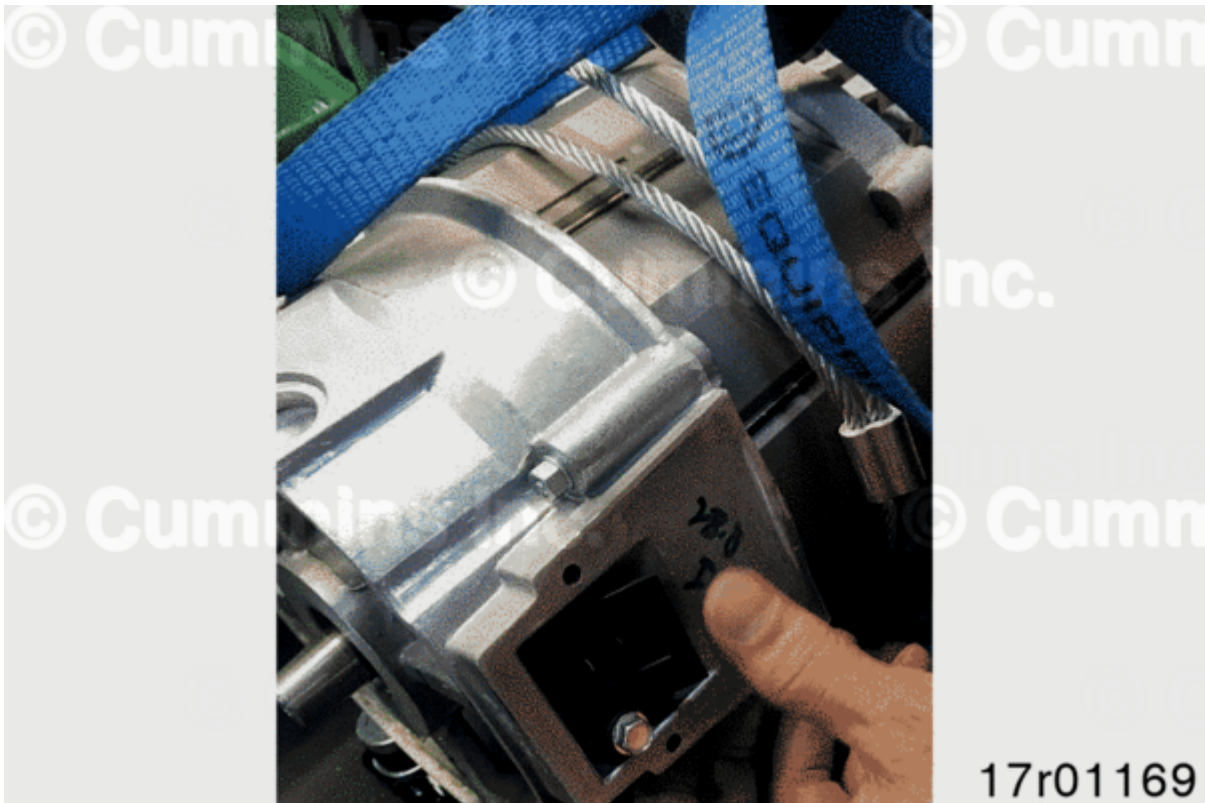


Figure 25, Brush Block Removal

25. Tilt alternator up and set on pump end with shaft pointing up.



26. Remove 4 bolts holding on alternator end.



Figure 26, Alternator Orientation

27. Remove alternator end. **Do not cut or strip output wire insulation.**

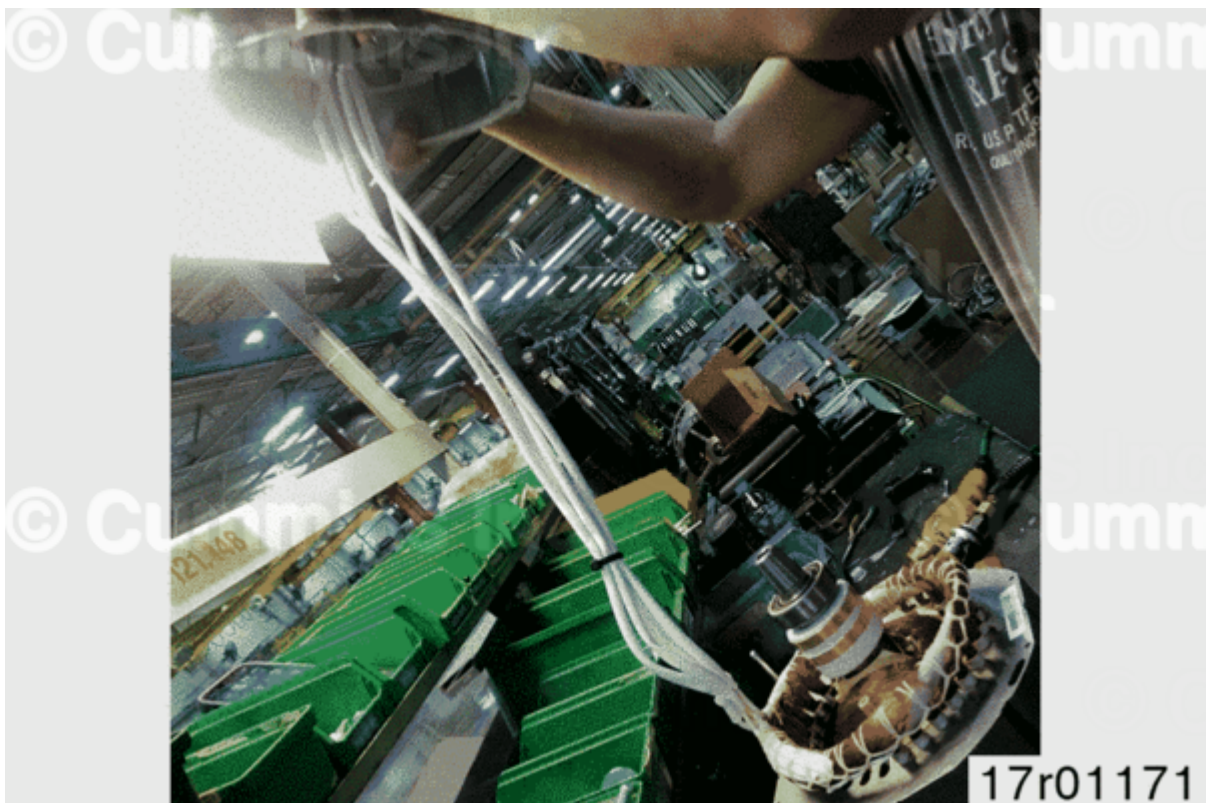


Figure 27, Lift Off Alternator End

28. Slide off old cable.

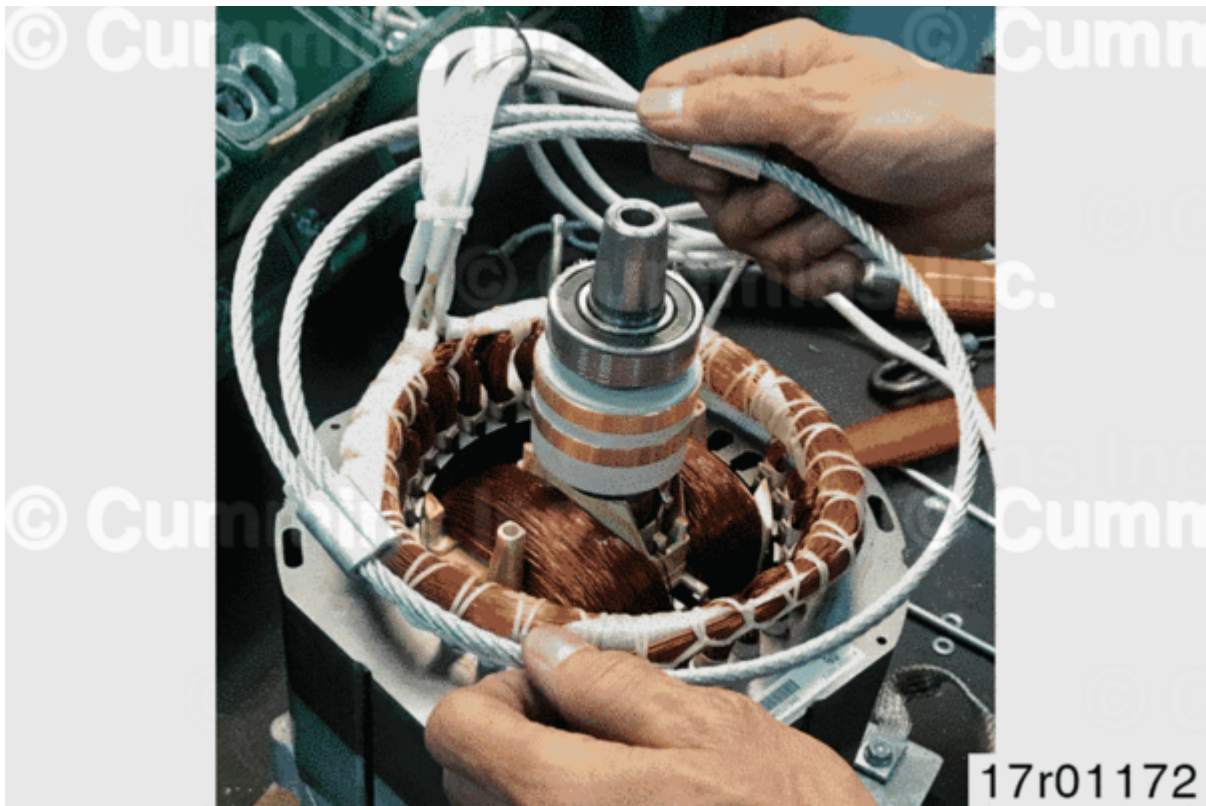


Figure 28, Remove Old Cable

**Installation of New Cable**

1. Install new cable





Figure 29, Install New Cable

2. Feed wires through alternator end and line up bolt holes.

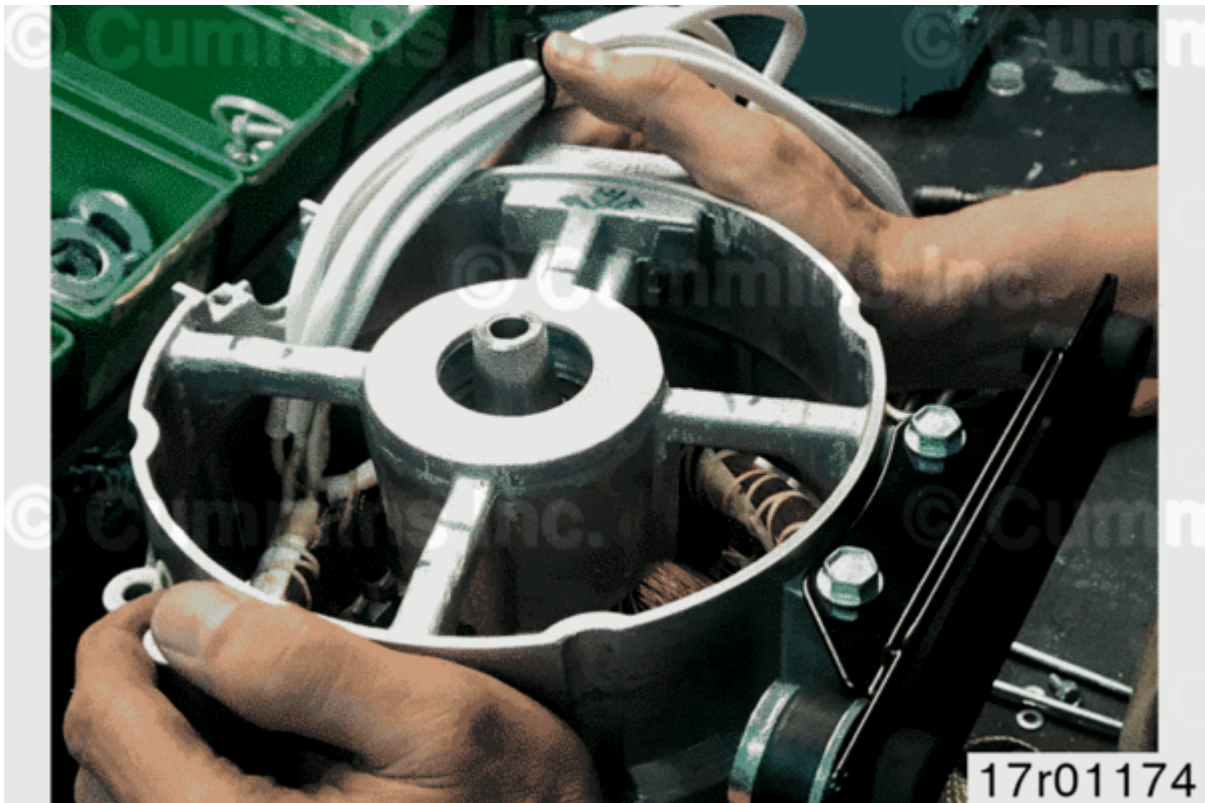


Figure 30, Install Alternator End

3. Install 4 mounting bolts with washers to alternator.



4. Make sure all vibration isolators are installed and oriented correctly.



Figure 31, Vibration Isolator

5. Tilt alternator and set on 4 mounting isolators.

6. Reinstall wire grommet bracket. **Make sure it is seated completely and flush.**

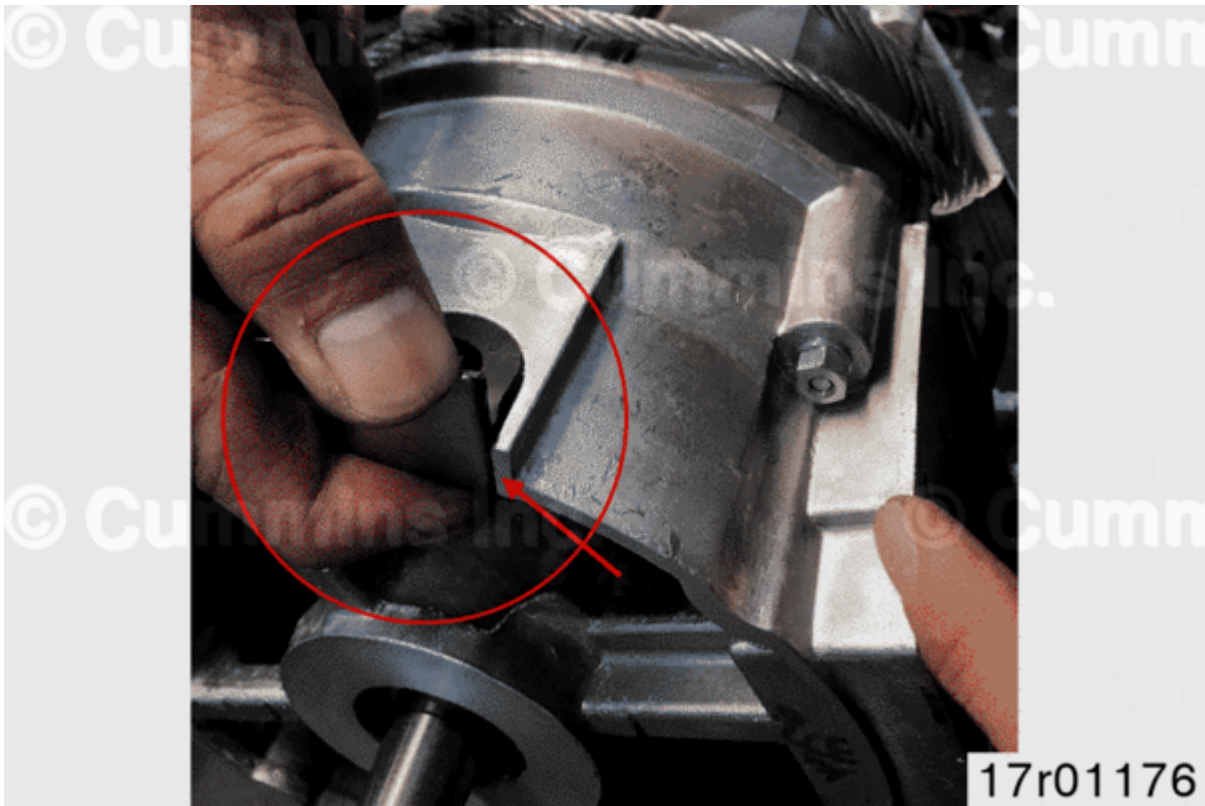


Figure 32, Seated and Flush

7. Reinstall 2 pump bolts by hand first. Then torque to 58 Nm.



Figure 33, Pump Bolt Installation

8. Test fit plastic fan to ensure it spins freely with no interference.



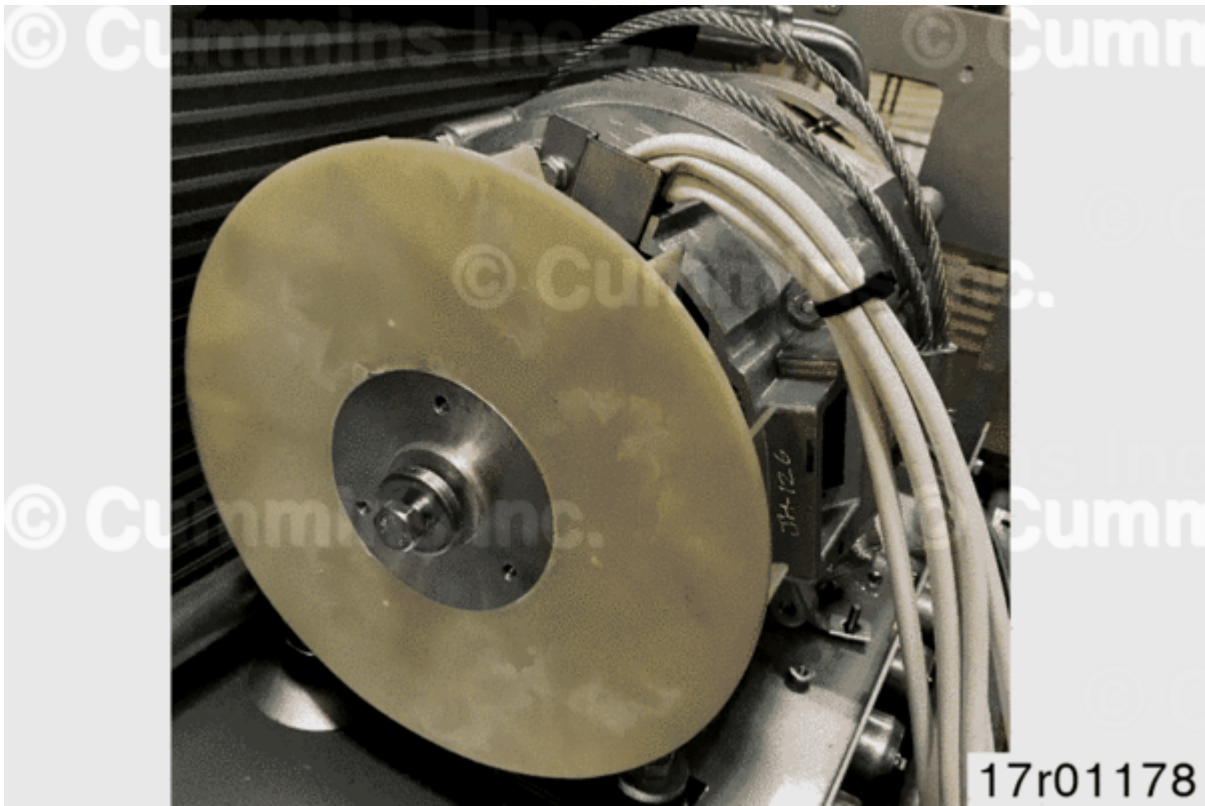


Figure 34, Test Fit Fan for Interference

9. Reinstall brush blocks, ensure bolt C clip is installed.

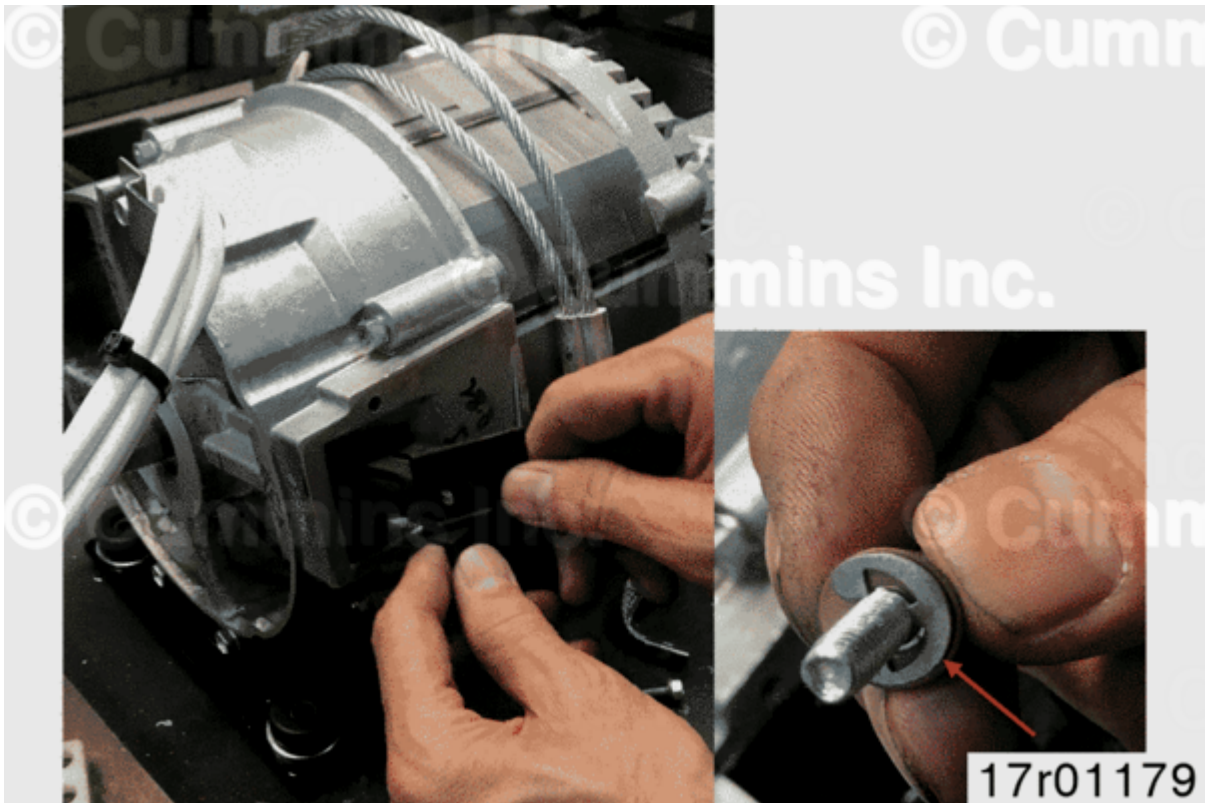


Figure 35, Brush Block Installation and C-Clip

10. Reinstall hose coupler to pump. Torque to 97 Nm.



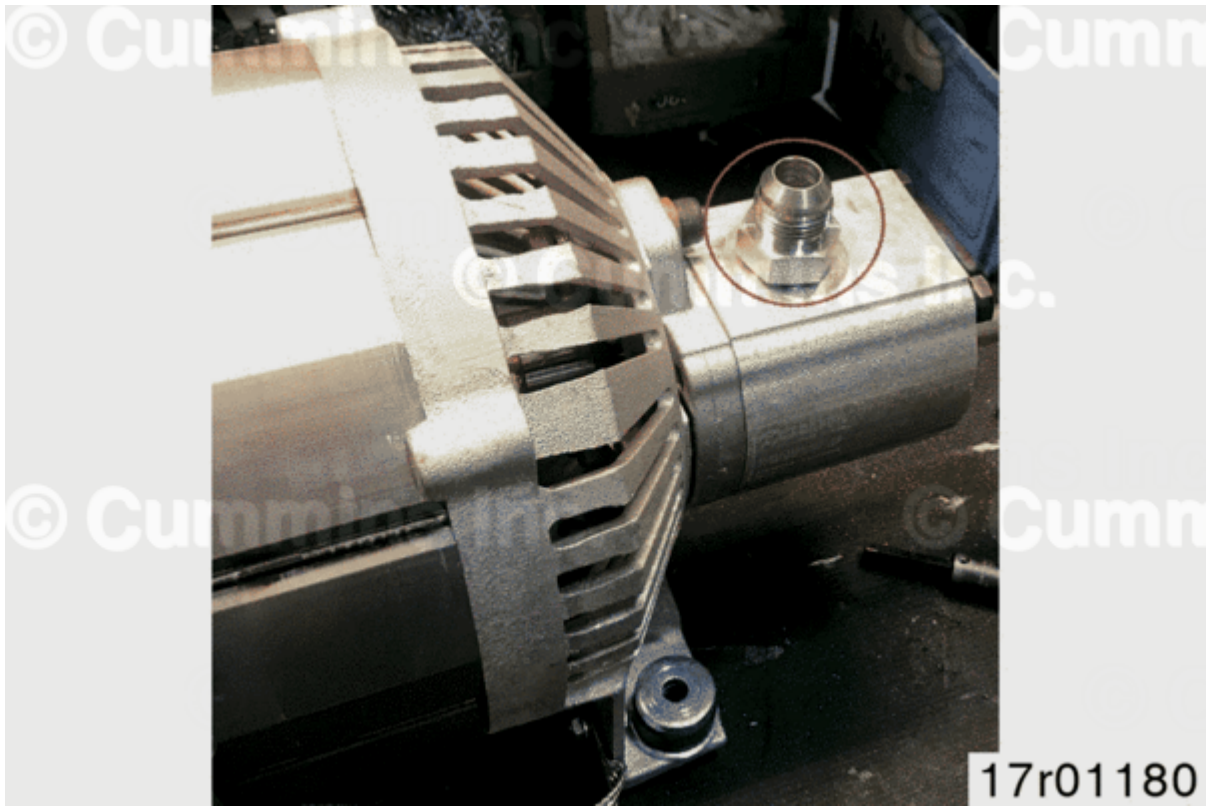


Figure 36, Hose Coupler Installation

**Warning: Alternator weighs over 34 kg (75 lbs). Use caution when**

11. Lift alternator and reinstall alternator in base pan, torque bolts to 46 Nm.

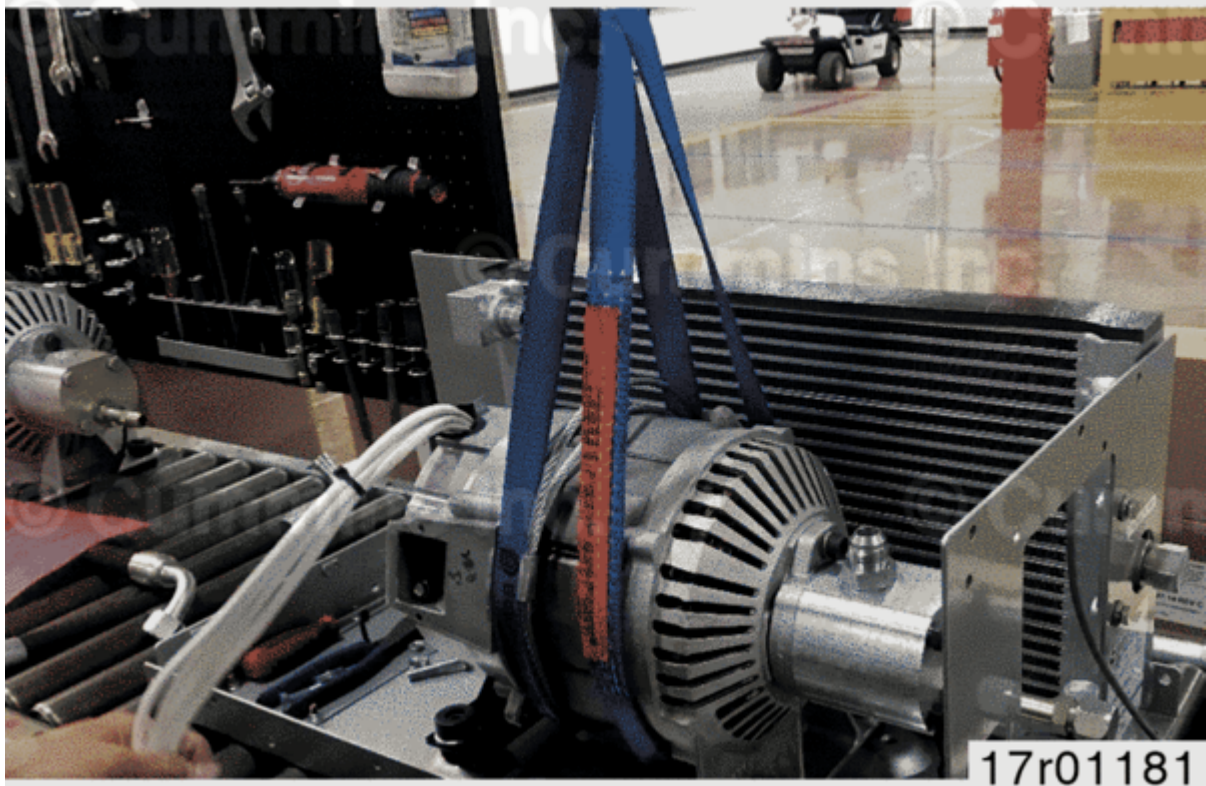


Figure 37, Lift and Install Alternator

12. Reinstall hose, torque hose fittings to 97 Nm,

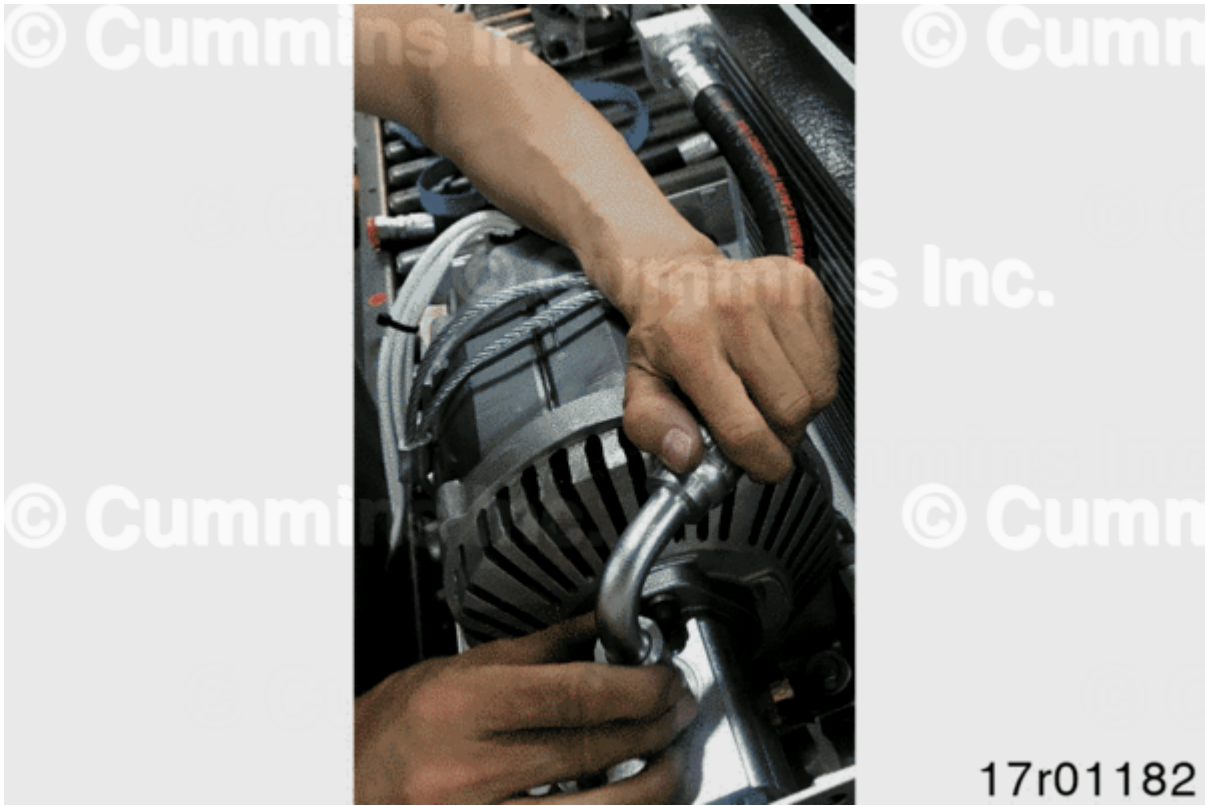


Figure 38, Hose Installation

13. Reinstall fan, torque to 58 Nm using fan holder

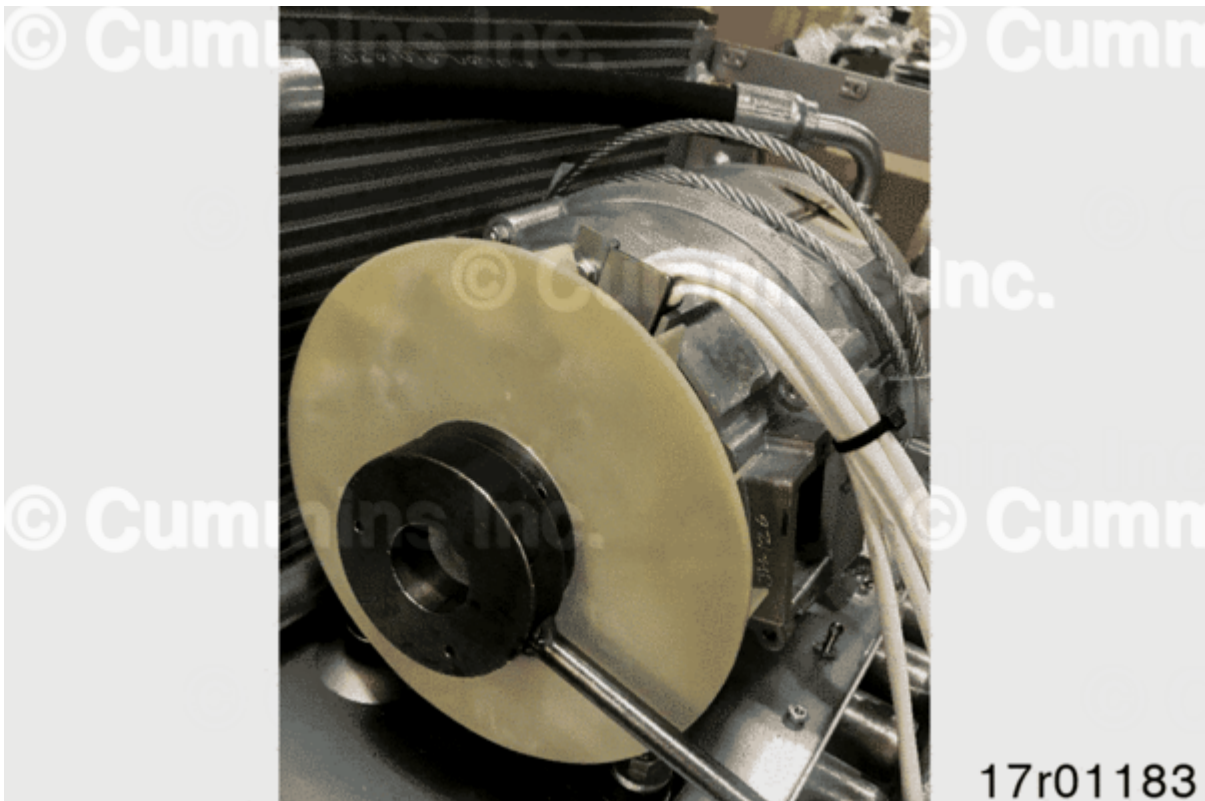


Figure 39, Fan Holder

#### 14. Reinstall fan and shroud.

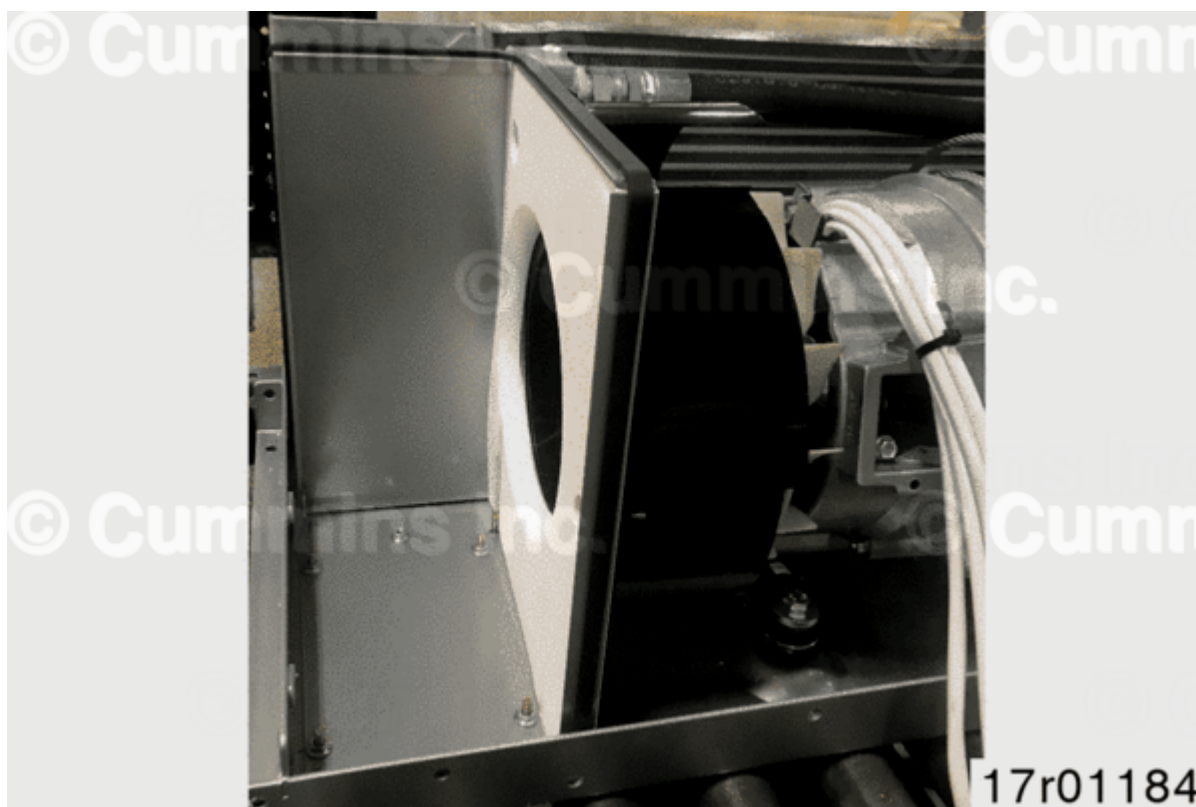


Figure 40, Install Fan and Shroud

15. Push side panel over pump inlet. Do not install panel bolts yet (see step 20).
16. Reinstall coolant temperature sensor through control grommet and connect pump connector.
17. Reinstall control



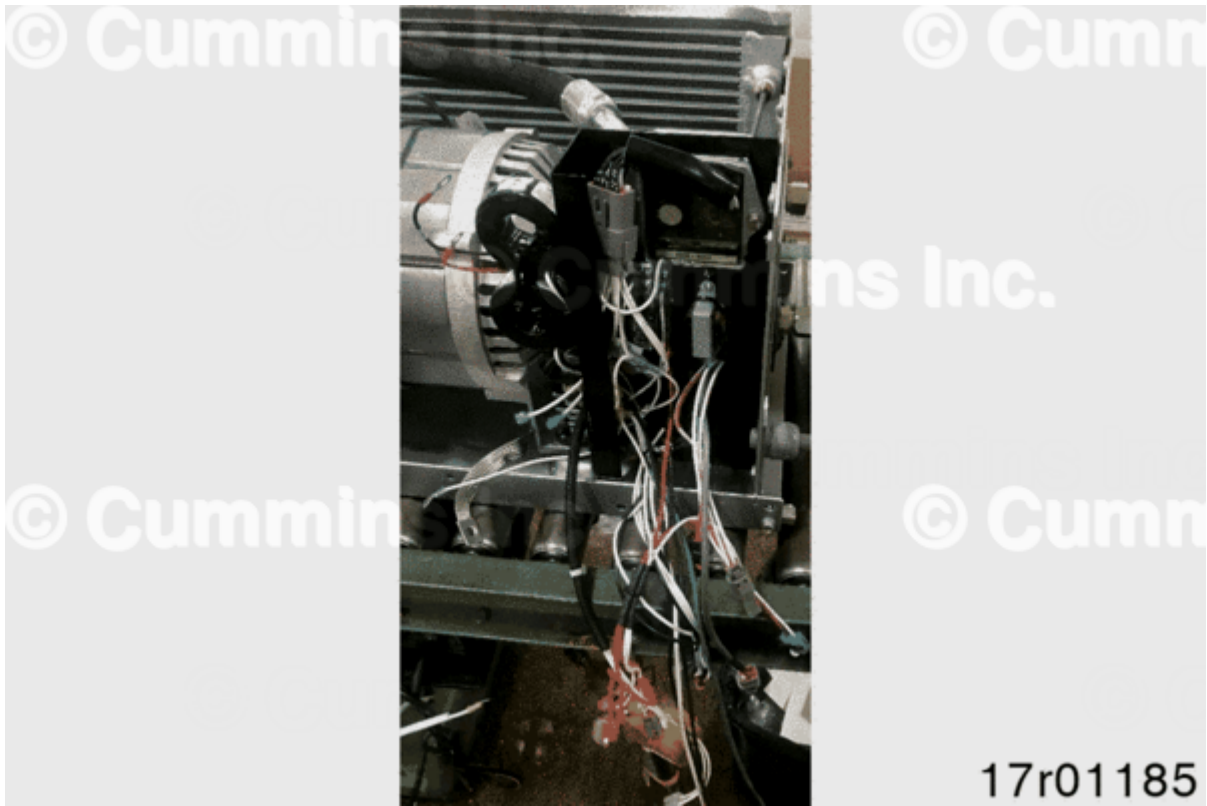


Figure 41, Install Control Box

18. Push generator output wire leads through side panel.

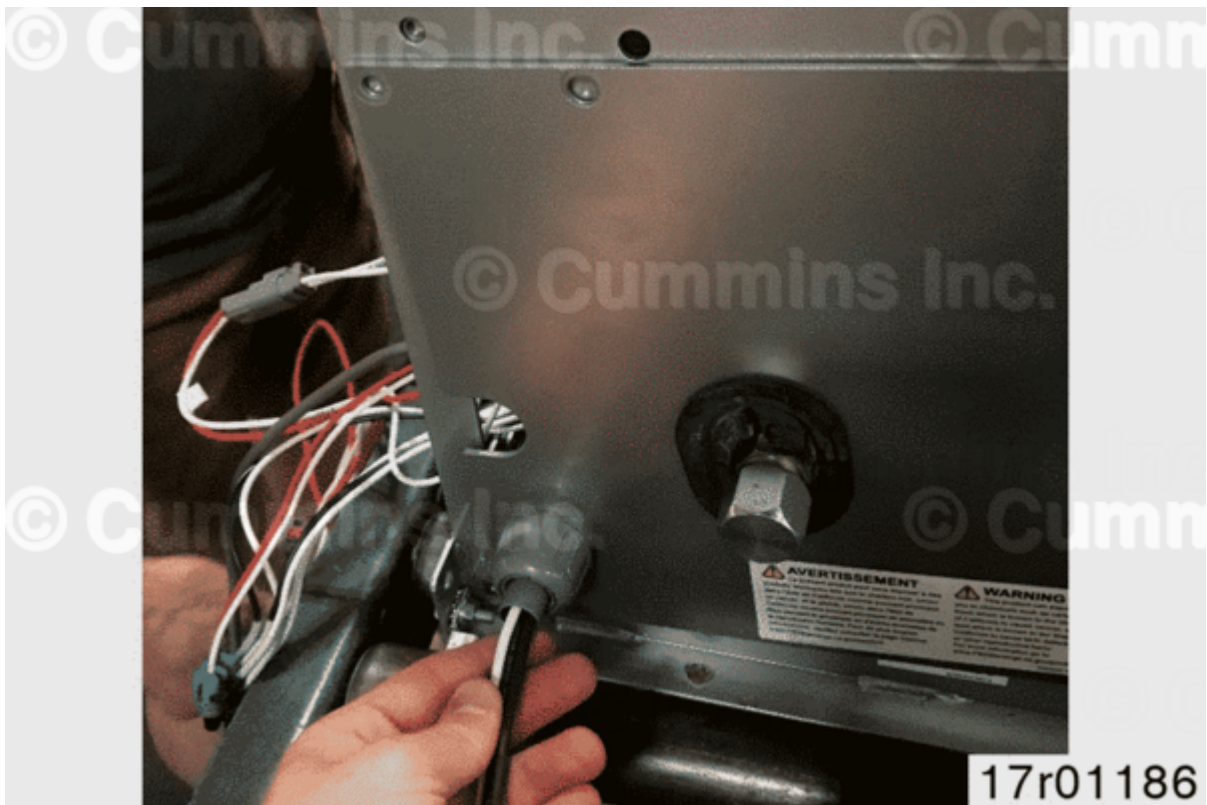


Figure 42, Output Wire Leads

19. Feed the 7 wire connectors through the side panel. Install wire holder and twist up into opening.

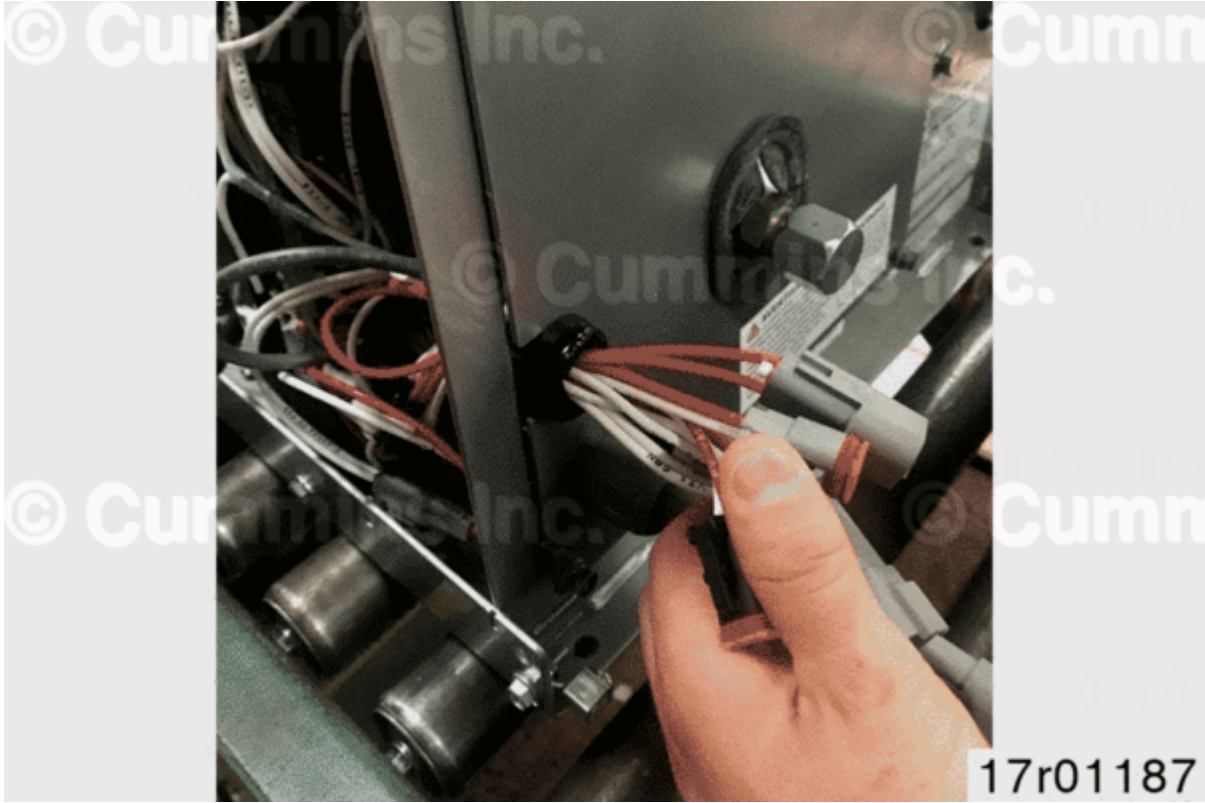


Figure 43, Wires Through Grommet

20. Install side panel bolts.



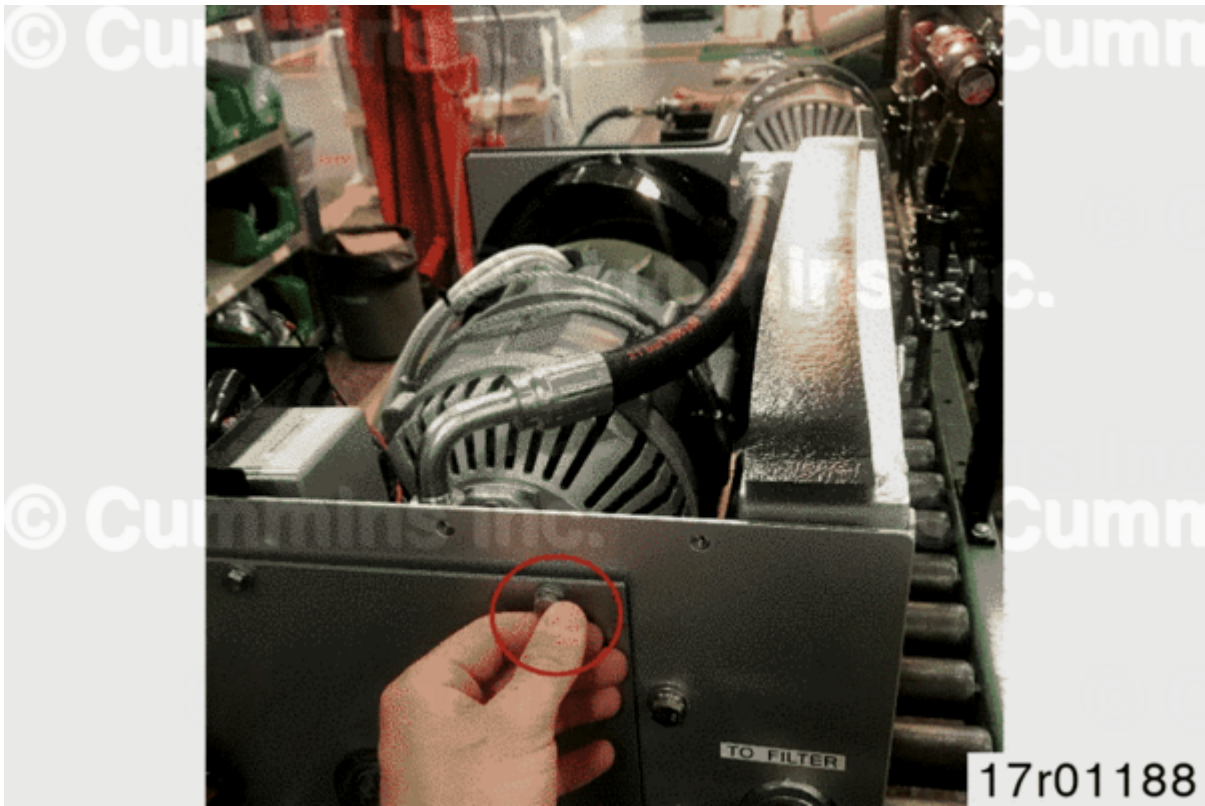


Figure 44, Side Cover Installation

21. Install wire jumpers to bottom terminal.

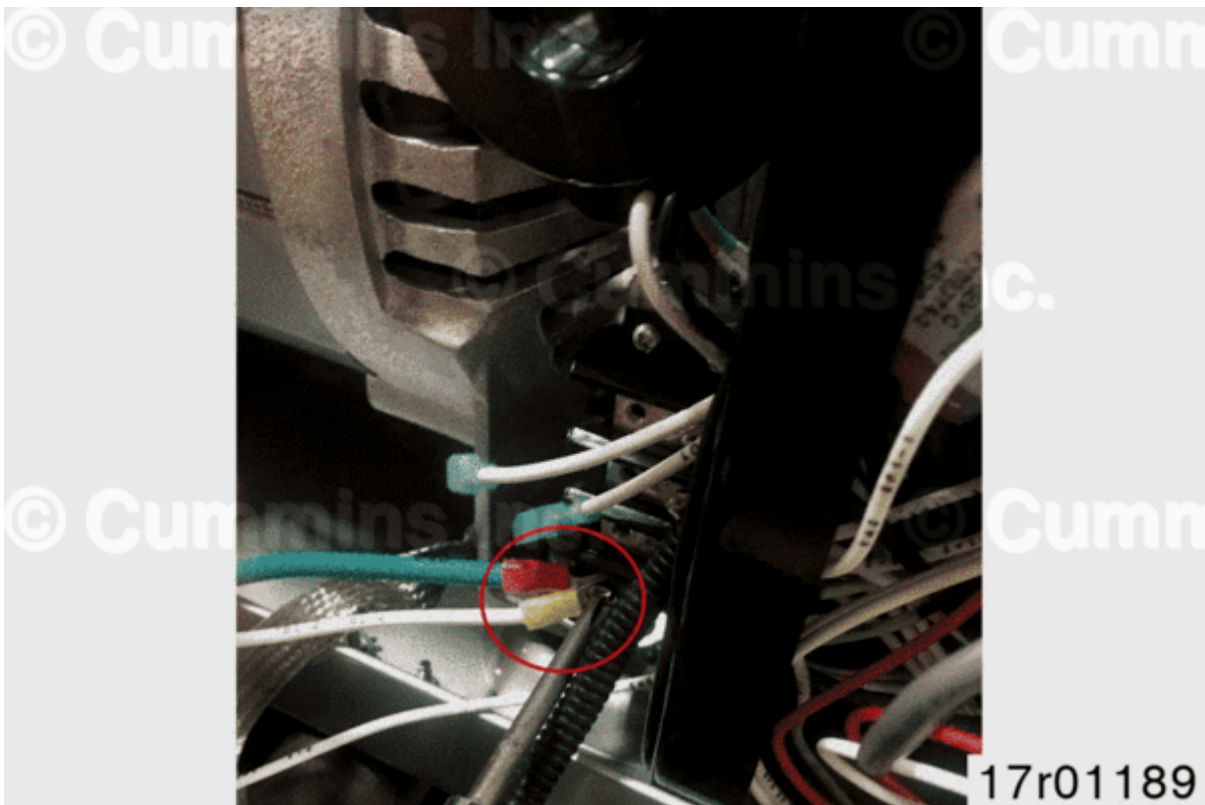


Figure 45, Jumper Connections

22. Install chassis ground connections (green jumper, silver strap and white with blue ring terminal).



Figure 46, Ground Connection

23. Install brush blocks (Wire F1 on the left, Wire F2 on the right).

24. Connect two blue fast-on connectors.

25. Run J1 through top current transformer loop.



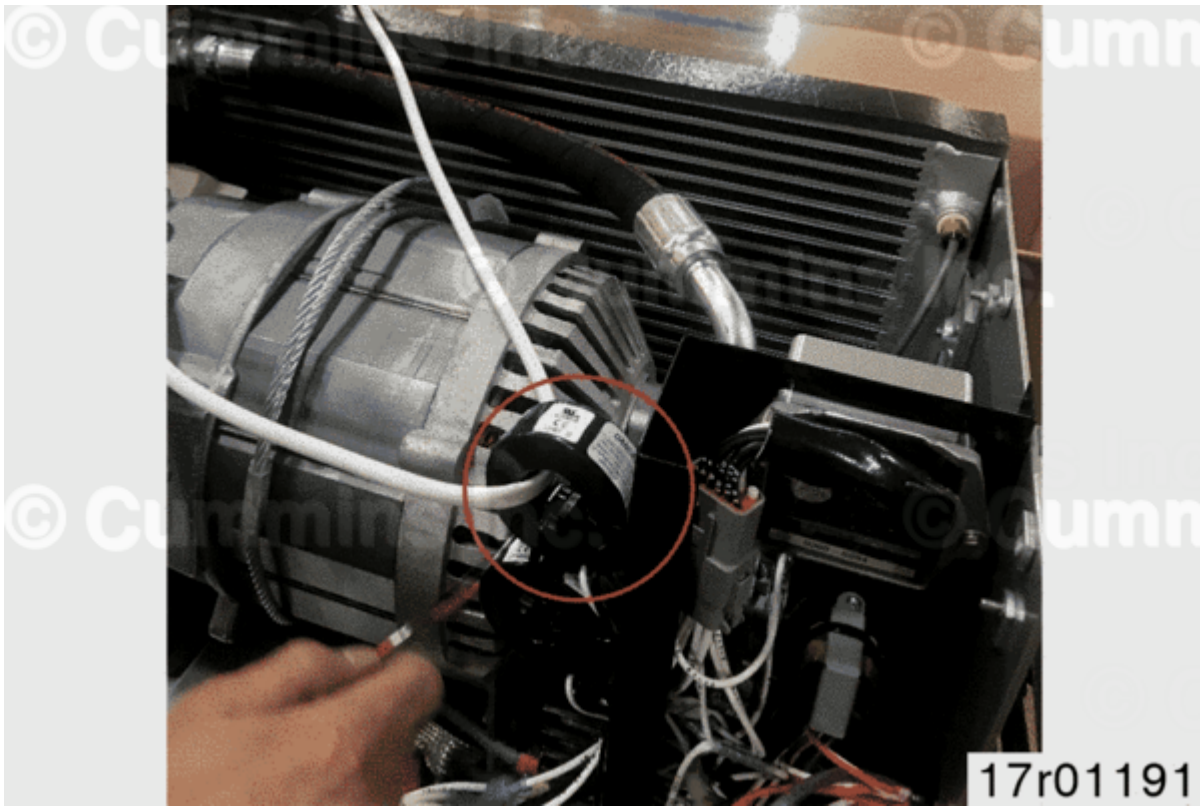


Figure 47, J1 Through Top CT

26. Run J4 through bottom current transformer loop.

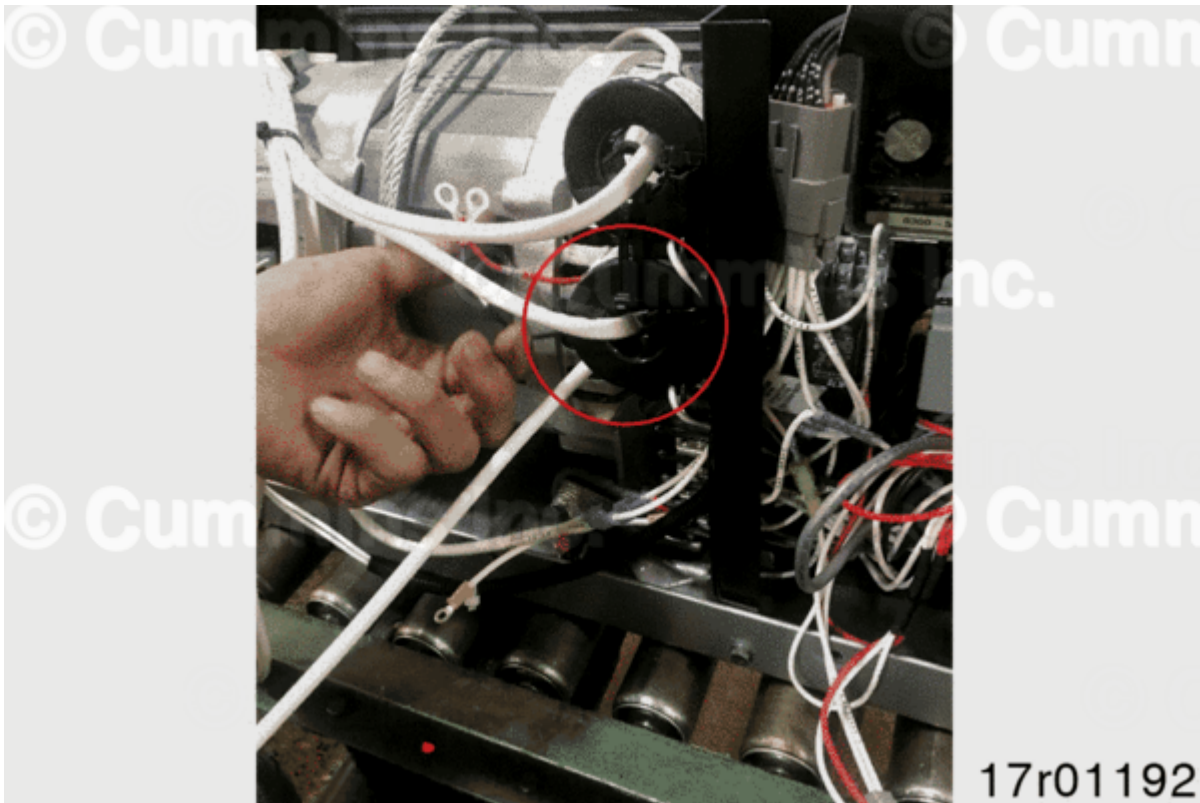


Figure 48, J4 Through Bottom CT

27. Take black wire and J4 and install to second from bottom terminal.

28. Take wires T3, T2, and jumper wire TB1-2 TB1-4 and install to third from bottom terminal.

29. Take orange wire and T1 and install in top terminal

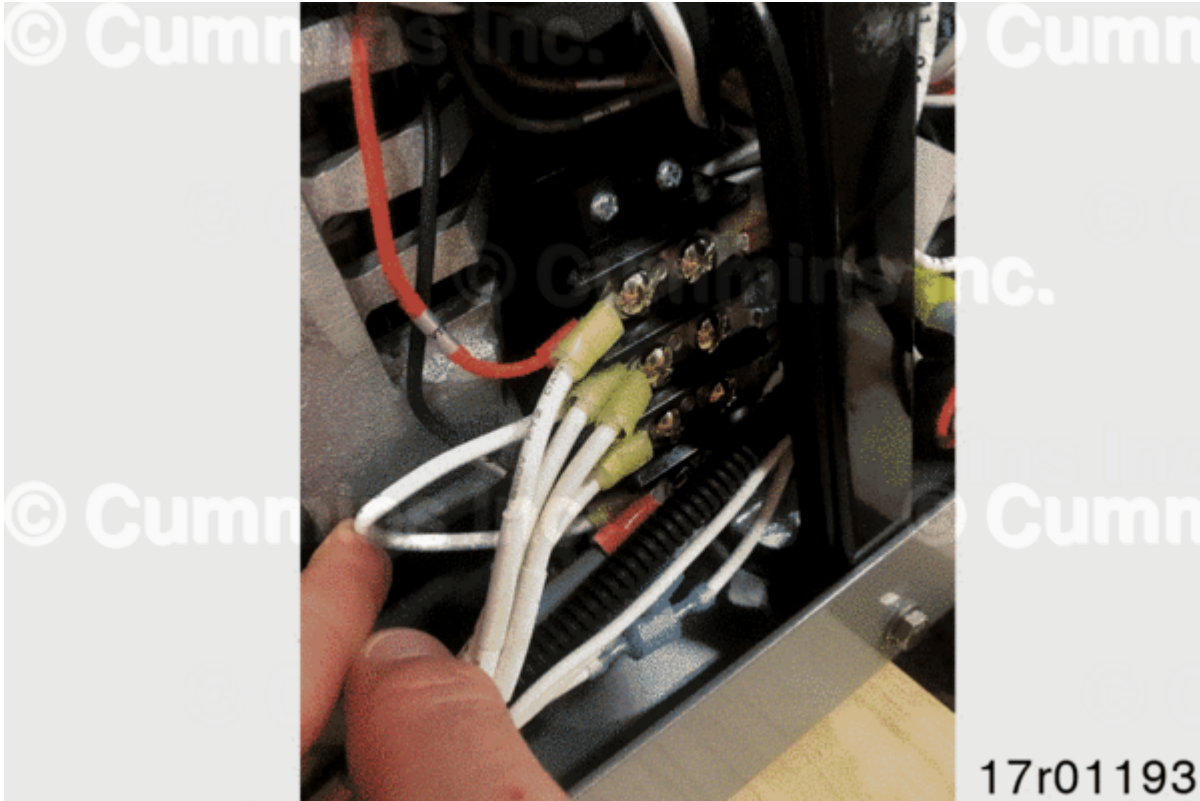


Figure 49, Wire Locations

30. Push wires inside base pan and install 3 cable ties.



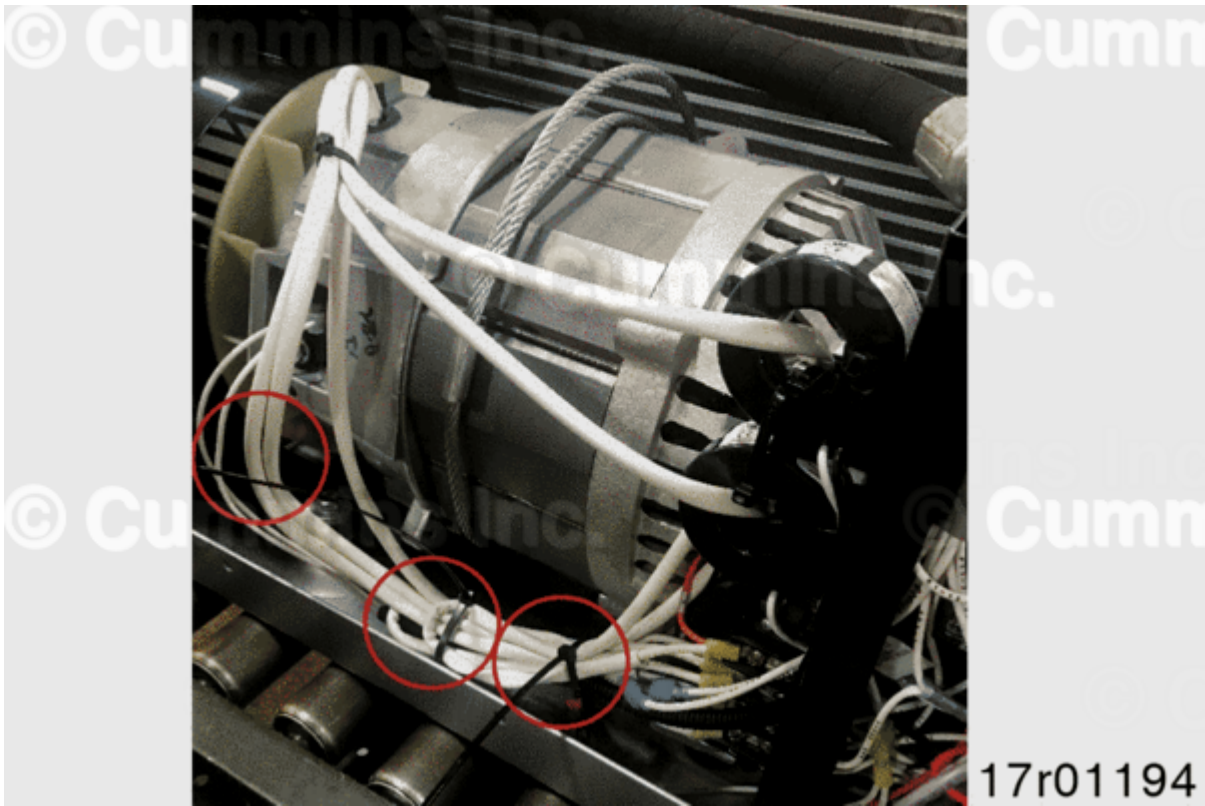


Figure 50, Wire Securing

31. Install enclosure make sure mesh grate is behind tab.

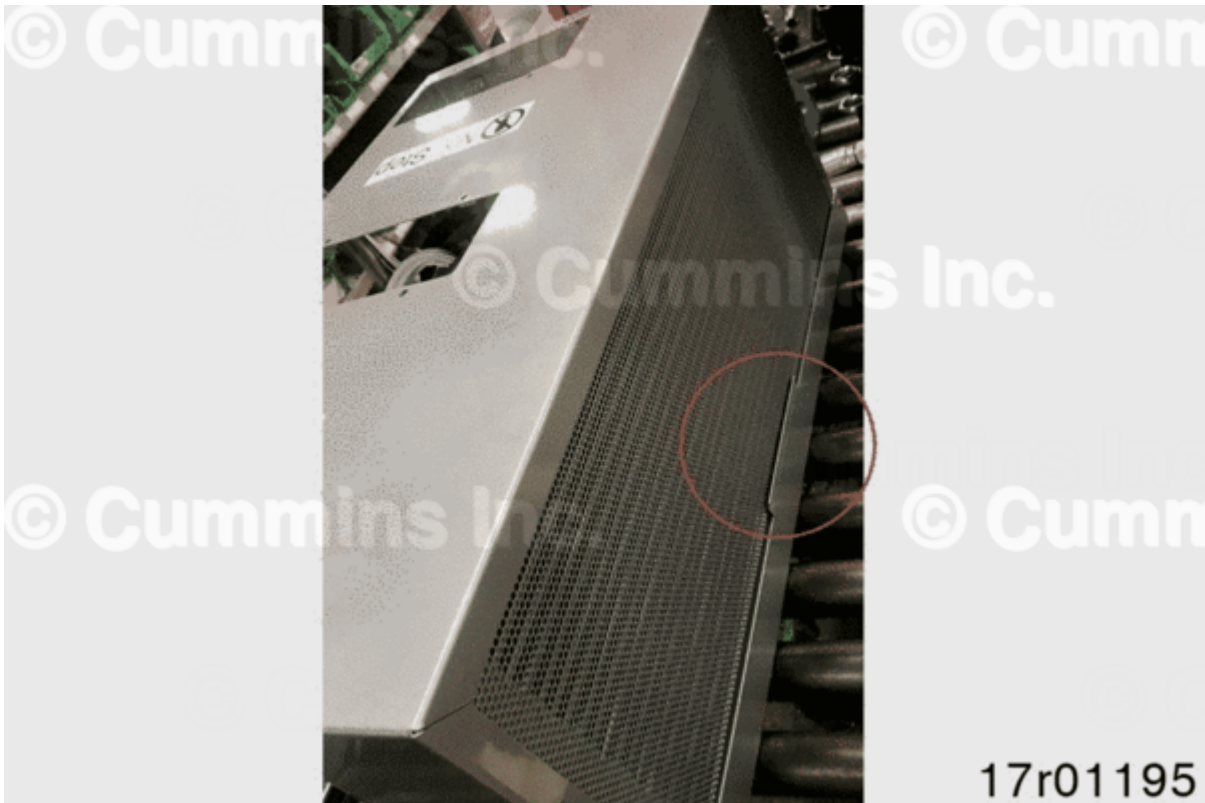


Figure 51, Enclosure Tab

32. Reinstall side panel and grate.

33. Reinstall top two enclosure panels.

34. Reinstall front enclosure panel.

### Service Instructions

#### Campaign Filing Instructions:

Fail Code: JSLIML

Account Code: **65**

Authorization Code: **4495**

Applicable SRT's:

00-901: 0.7 hours- Administrative time (shop)

99-999: 1.0 hours Inspect cable ferrules

25-3AG: 5.1 hours cable replacement

Parts: Email: [cpgf.customer.quality@cummins.com](mailto:cpgf.customer.quality@cummins.com) to order a replacement cable. In the email please provide the **model and serial number** of the unit being repaired, and the attention and **address** of where to ship the cable.

Travel: If travel to customer site is necessary, travel allowed else follow in-shop repair procedures and claims filing.

Expiration Date: None

## Document History

Date	Details
2021-7-8	Module Created
2021-9-10	Non-Product Problem Solving (PPS)
2021-9-13	Non-Product Problem Solving (PPS)

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**Last Modified: 13-Sep-2021**

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