

SERVICE MANUAL

**T8.320 / T8.350 / T8.380 / T8.410 / T8.435 /
T8.380 SmartTrax™ / T8.410 SmartTrax™ /
T8.435 SmartTrax™
Continuously Variable Transmission (CVT)
Tractor**

PIN ZERE08100 and above

Part number 47748117

1st edition English
November 2014



Link Product / Engine

Product	Market Product	Engine
T8.320 696110727 CVT TIER 4B [ZERE08100 -]	North America	F2CFE613G*B001
T8.350 696110737 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614G*B002
T8.380 696110747 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614D*B002
T8.410 696110757 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614C*B002
T8.435 696110767 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614A*B002
T8.380 SmartTrax™ 696110777 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614D*B002
T8.410 SmartTrax™ 696110787 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614C*B002
T8.435 SmartTrax™ 696110797 CVT TIER 4B [ZERE08100 -]	North America	F2CFE614A*B002

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INTRODUCTION

Safety rules

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - General maintenance safety

General maintenance safety

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.



SERVICE MANUAL

Engine

T8.320 696110727 CVT TIER 4B [ZERE08100 -] , T8.350 696110737 CVT TIER 4B [ZERE08100 -] , T8.380 696110747 CVT TIER 4B [ZERE08100 -] , T8.380 SmartTrax™ 696110777 CVT TIER 4B [ZERE08100 -] , T8.410 696110757 CVT TIER 4B [ZERE08100 -] , T8.410 SmartTrax™ 696110787 CVT TIER 4B [ZERE08100 -] , T8.435 696110767 CVT TIER 4B [ZERE08100 -] , T8.435 SmartTrax™ 696110797 CVT TIER 4B [ZERE08100 -]

Engine - Remove

Prior operation:

Disconnect the batteries — **Battery - Disconnect (55.302)**

Prior operation:

Remove the hood — **Hood - Remove (90.100)**

Prior operation:

Side shield - Remove (90.102)

Prior operation:

Recover the refrigerant — **Air conditioning - Recover (50.200)**

Prior operation:

Drain the coolant — **Engine cooling system - Emptying (10.400)**

Prior operation:

Engine cooling system - Remove (10.400)

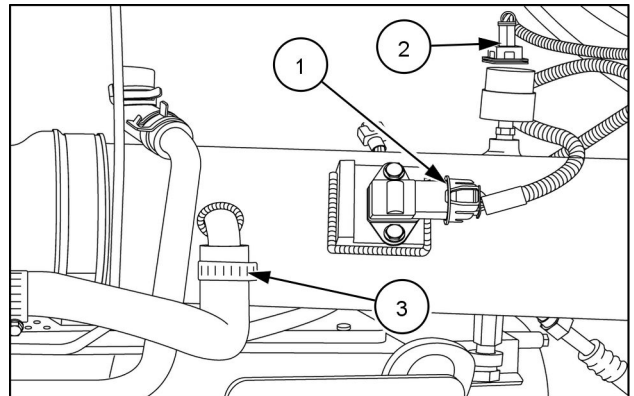
Prior operation:

Diesel Oxidation Catalyst (DOC) - Remove (10.500)

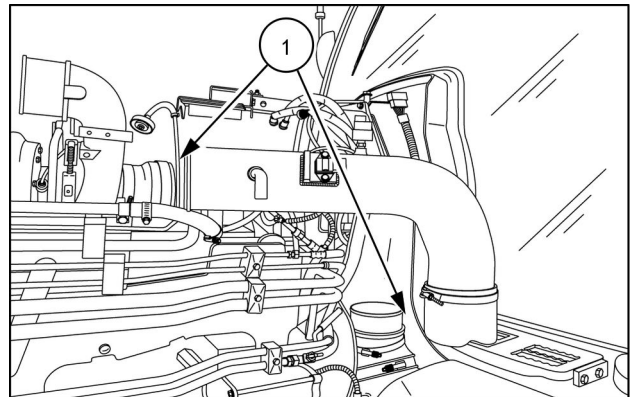
NOTE: Clean all fittings before disconnecting.

NOTE: Cap or plug all lines and ports when disconnecting hydraulic components.

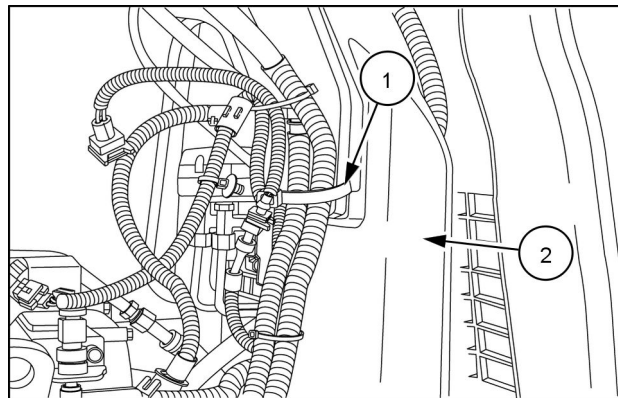
1. Disconnect the harness connector to the humidity sensor **(1)** and the air restriction sensor **(2)**. Disengage the hose clamp **(3)** and disconnect the hose from the air intake tube.



2. Disconnect the clamps **(1)** from each end of the air intake tube and remove the tube.

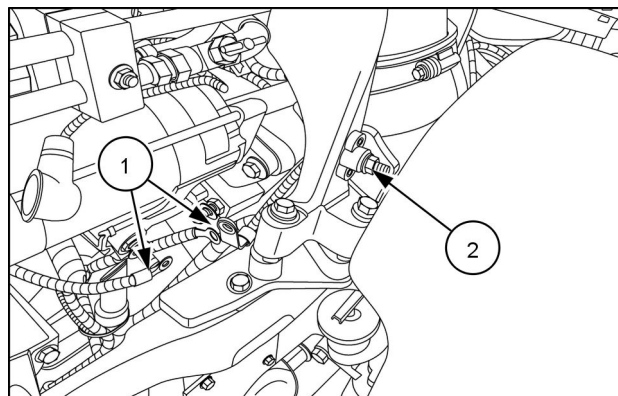


3. Cut the wire tie **(1)** securing the harness to the hood support **(2)**.



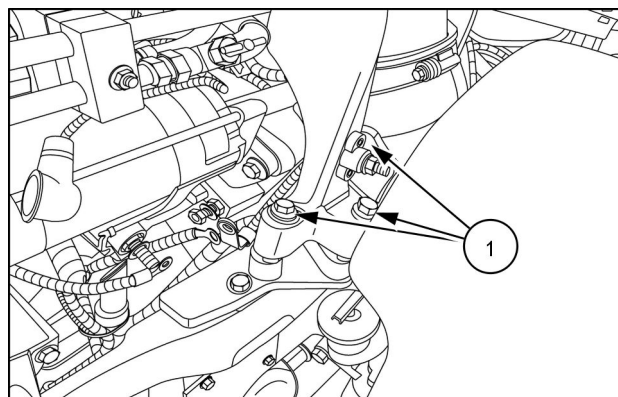
RAIL13TR04204AA 3

4. Disconnect the starter cables **(1)** and the auxiliary wire **(2)**.



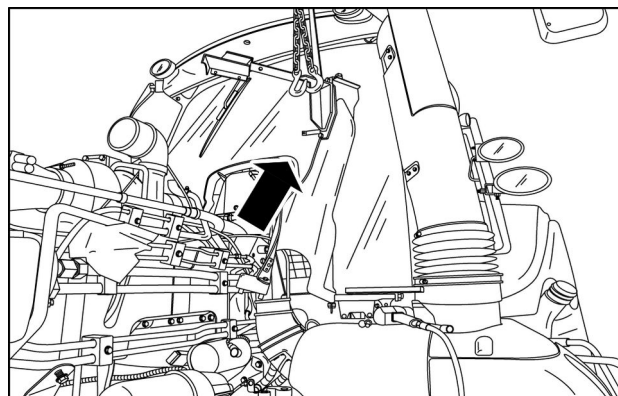
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5. Remove the three bolts **(1)** securing the hood support to the frame.



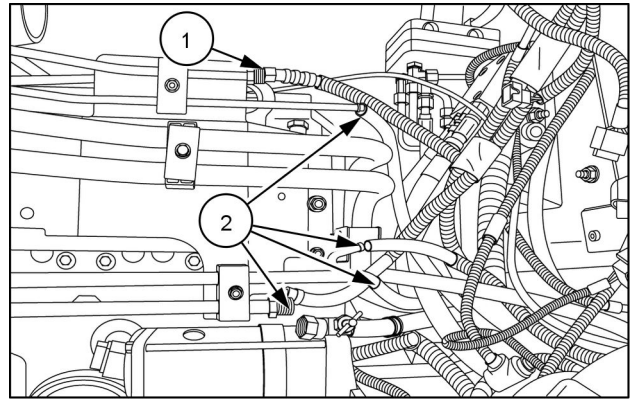
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6. Remove the hood support.



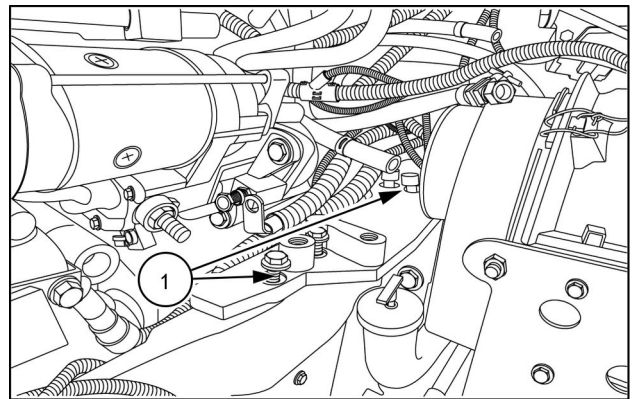
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7. Disconnect the high pressure A/C hose (1) and the coolant lines (2). Plug or cap all ports and lines.



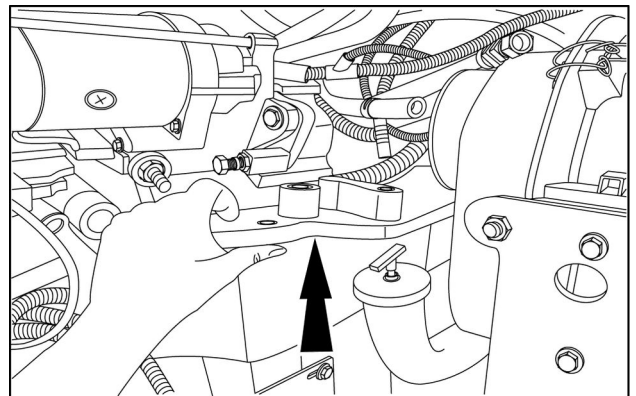
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8. Remove the two bolts (1) from the rear engine mount plate.



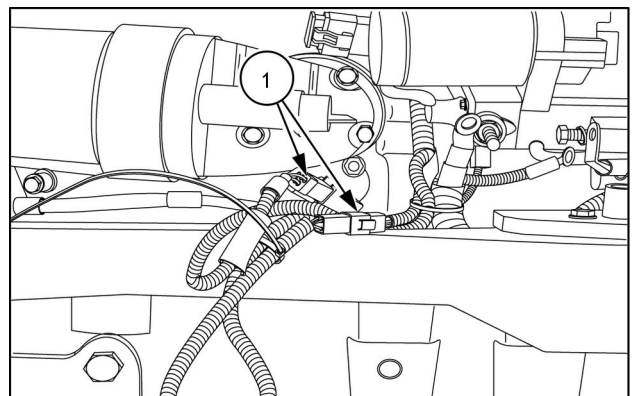
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9. Remove the engine mount cover plate.



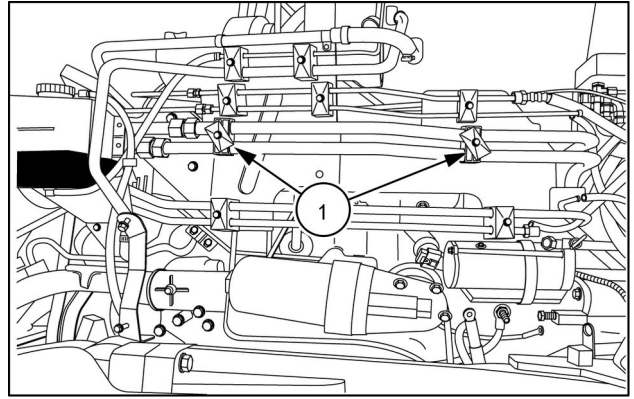
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10. Disconnect the suspended axle electrical connectors (1) if equipped.



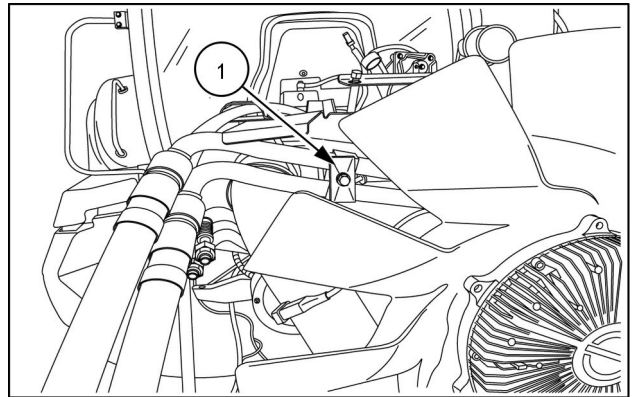
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11. Remove the two tube clamps **(1)** securing the hydraulic cooler tubes.



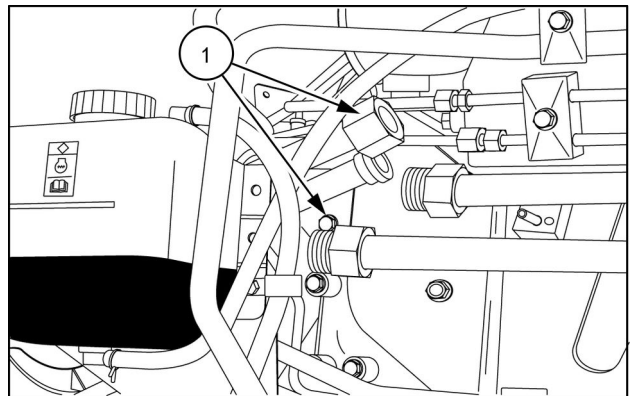
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12. On the front of the engine, remove the tube clamp **(1)** for the oil cooler tubes.



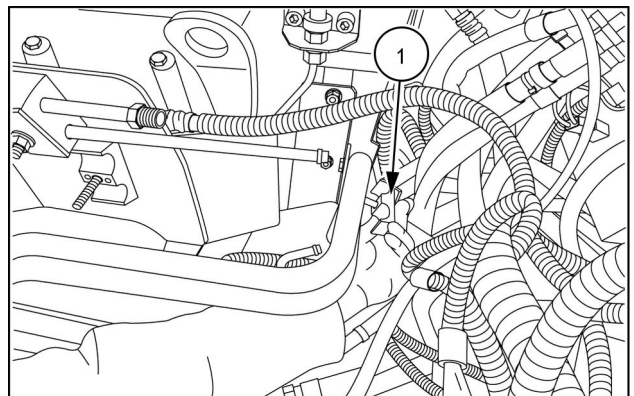
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13. Disconnect the oil cooler tubes **(1)** and set them aside.



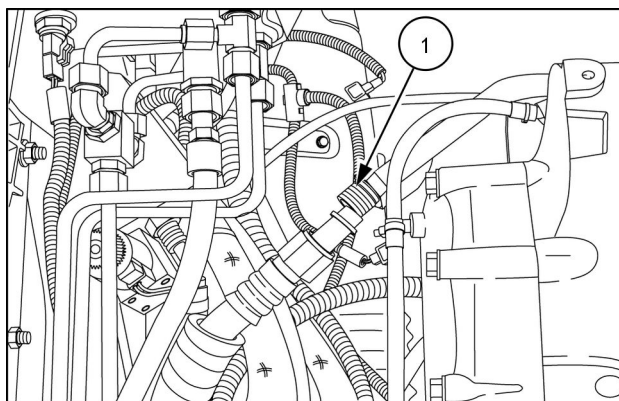
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14. On the rear of the engine, remove the oil cooler tube clamp **(1)**.



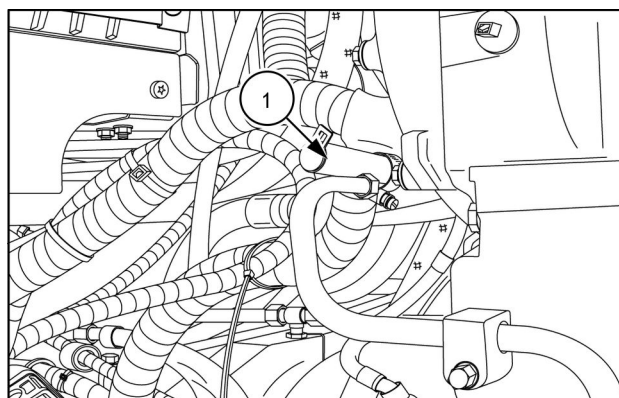
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15. Disconnect the low pressure A/C line (1). Plug or cap the fittings.



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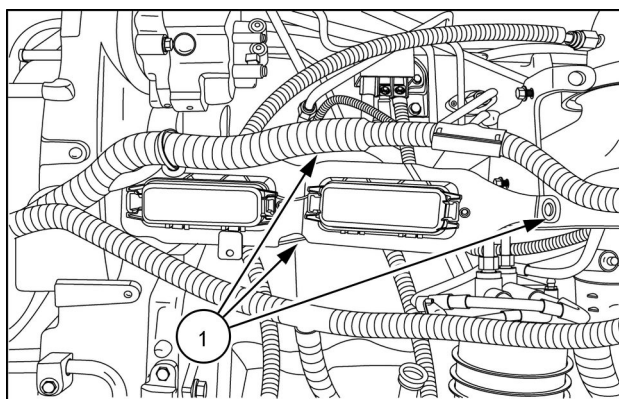
16. Disengage the hose clamp and disconnect the engine controller oil line (1).



RAIL13TR04227AA 16

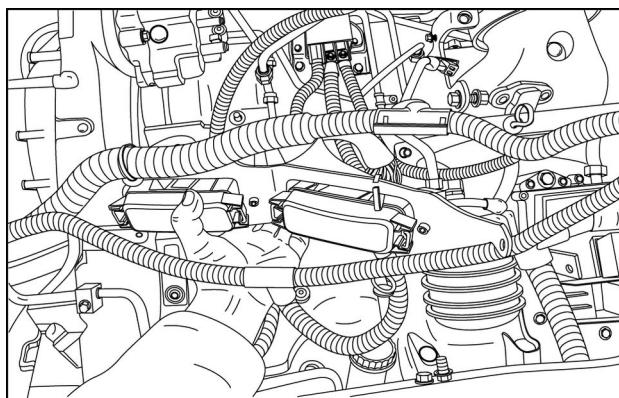
17. Remove the three mounting bolts (1) securing the fuse panel bracket.

NOTE: Cut any wire ties securing the harness.



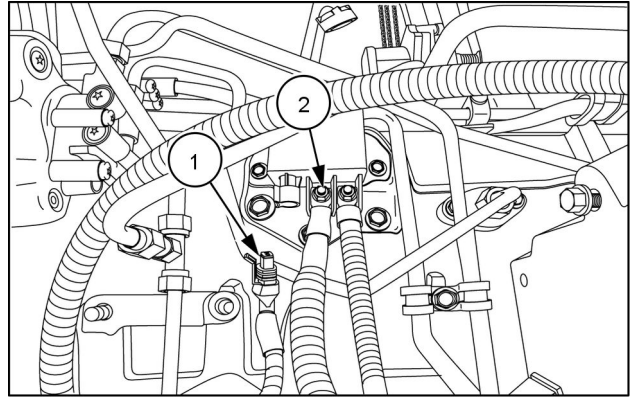
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18. Remove the fuse panel.



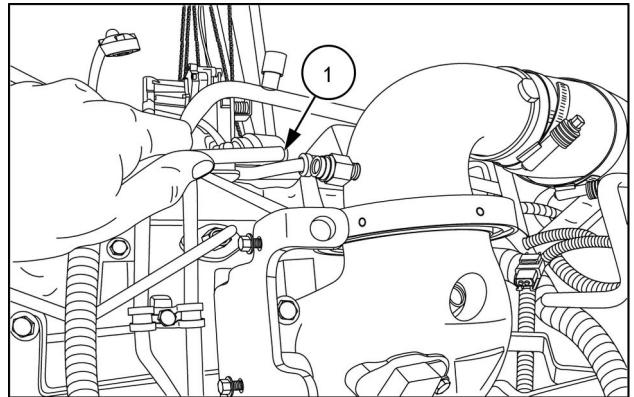
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19. Disconnect the harness connector **(1)** for the engine grid heater and the power supply cable **(2)**.



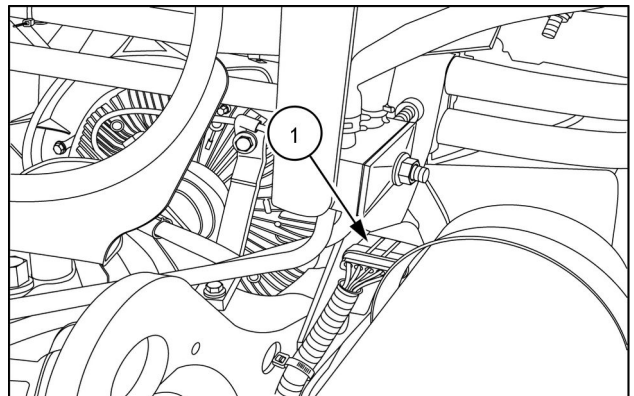
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20. Disconnect the vent hose **(1)** from the intake manifold.



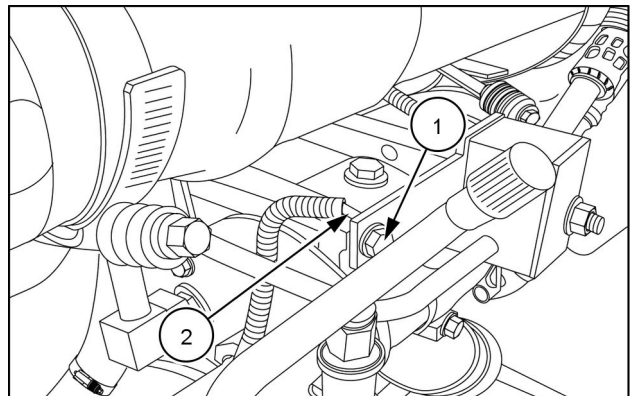
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21. Disconnect the harness connector **(1)** for the fan drive.



RAIL13TR04220AA 21

22. Remove the A/C compressor mounting bolt **(1)** and disconnect the ground wire **(2)**.



RAIL13TR04224AA 22



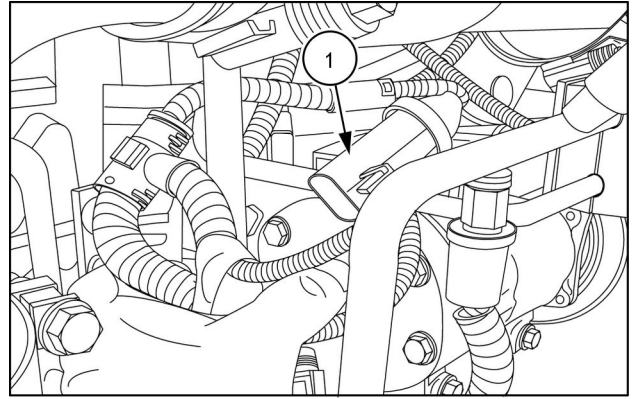
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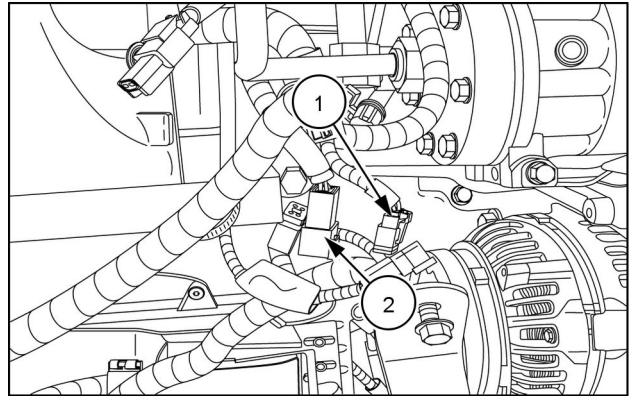
Thank you so much for reading

23. Disconnect the harness connector to the high pressure switch **(1)**.



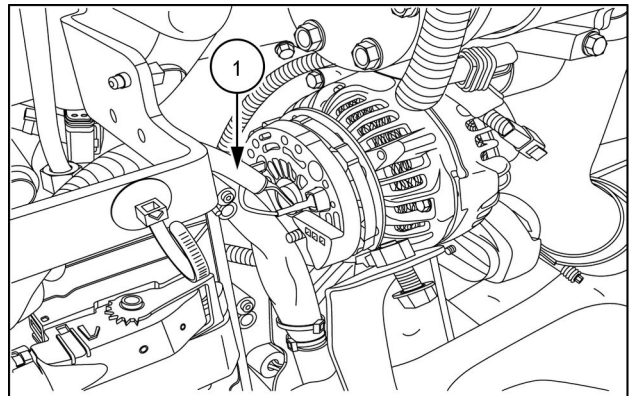
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24. Disconnect the alternator excite wire connector **(1)** and the CAN bus connector **(2)**.



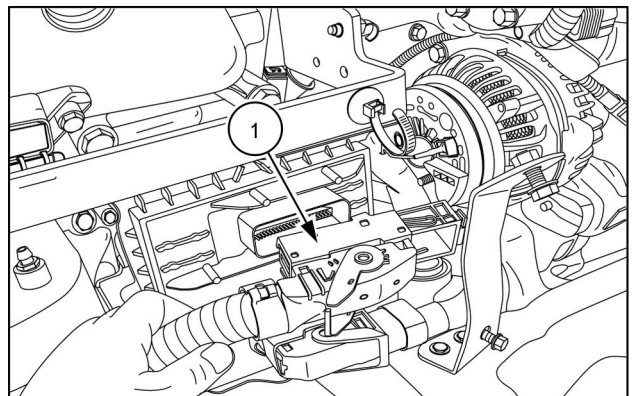
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25. Remove the nut and disengage the alternator output cable **(1)**.



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26. Disconnect the harness connector **(1)** to the engine controller.



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