

October 2020
FL860AB
NHTSA #20V-527
Transport Canada #2020-408

Subject: Freightliner Engine Harness Clearance

Models Affected: Specific Model Year 2018-2021 Freightliner 108SD, 114SD, and Business Class M2 vehicles manufactured May 24, 2017, through August 26, 2020, and equipped with a Detroit Diesel DD8 engine.

General Information

Daimler Trucks North America LLC (DTNA), on behalf of its Freightliner Trucks Division, has decided that a defect that relates to motor vehicle safety exists on the vehicles mentioned above.

On certain vehicles, the engine harness may contact and chafe at various locations around the air compressor and the frame rail. If the wires are damaged and short, under certain circumstances the engine may stall without any warning, with no ability to restart, which may increase the risk of a crash.

Engine harnesses will be inspected for damage, and adequate clearance, and repaired as required. (Less than 1% of vehicles are expected to need the harness replaced.)

There are approximately 10,904 vehicles involved in this campaign.

Additional Repairs

Dealers must complete all outstanding Recall and Field Service campaigns prior to the sale or delivery of a vehicle. A Dealer will be liable for any progressive damage that results from its failure to complete campaigns before sale or delivery of a vehicle.

Owners may be liable for any progressive damage that results from failure to complete campaigns within a reasonable time after receiving notification.

Work Instructions

Please refer to the attached work instructions. Prior to performing the campaign, check the vehicle for a completion sticker (Form WAR260).

Replacement Parts

Replacement parts are now available and can be obtained by ordering the kit listed below from your facing Parts Distribution Center.

If our records show your dealership has ordered any vehicle(s) involved in campaign number FL860, a list of the customers and vehicle identification numbers will be available on DTNAConnect. Please refer to this list when ordering parts for this recall.

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Table 1 - Replacement Parts for FL860

Campaign Number	Kit Number	Part Description	Part Number	Qty. per Kit
FL860A	25-FL860-000	WASHER-HRDN,0.41X	23-09114-011	1 ea
		BRKT-STANDOFF,,.34	23-09130-017	1 ea
		SPACER-NYLON,,.38X	23-12262-001	1 ea
		SCRW HEX FLNG,M8X	23-13345-025	1 ea
		BRKT-STDF,,.344X.3	23-13516-001	1 ea
		CABLE TIE ASSY-FI	23-14137-000	1 ea
		CABLE TIE-FIR TRE	23-14137-001	4 ea
		BRKT-RTG&CLPG,HAR	66-13326-000	1 ea
		TUBE-TWIST TUBE,PES,BK,DIA25	BEN 2421002503SCM	5 ft
	BLANK COMPLETION STICKER	WAR260	1 ea	
FL860B	25-FL860-001	WASHER-HRDN,0.47X	23-09114-001	1 ea
		BRKT-STDF,Z,11 GA	23-13514-021	1 ea
		CABLE TIE-FIR TRE	23-14137-001	3 ea
		TUBE-TWIST TUBE,PES,BK,DIA25	BEN 2421002503SCM	5 ft
			BLANK COMPLETION STICKER	WAR260

Table 1

Removed Parts

U.S. and Canadian Dealers, please follow Warranty Failed Parts Tracking shipping instructions for the disposition of all removed parts. Export distributors, please destroy removed parts unless otherwise advised.

Labor Allowance

Table 2 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Corrective Action
FL860A	Inspect, wrap, and secure engine harness	2.5	996-R112A	12-Repair Recall/Campaign
	Inspect, repair wiring, wrap, and secure engine harness	3.4	996-R112B	12-Repair Recall/Campaign
	Inspect, replace engine harness, wrap, and secure engine harness (Less than 1% of vehicles are expected to need the harness replaced)	3.9	996-R112C	12-Repair Recall/Campaign
FL860B	Inspect, wrap, and secure engine harness	2.0	996-R112D	12-Repair Recall/Campaign
	Inspect, repair wiring, wrap, and secure engine harness	2.9	996-R112E	12-Repair Recall/Campaign
	Inspect, replace engine harness, wrap, and secure engine harness (Less than 1% of vehicles are expected to need the harness replaced)	3.4	996-R112F	12-Repair Recall/Campaign

Table 2

IMPORTANT: When the Recall has been completed, locate the base completion label in the appropriate location on the vehicle, and attach the red completion sticker provided in the recall kit (Form WAR260). If the vehicle does not have a base completion label, clean a spot on the appropriate location of the vehicle and first attach the base completion label (Form WAR259). If a recall kit is not required or there is no completion sticker in the kit, write the recall number on a blank sticker and attach it to the base completion label.

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Claims for Credit

You will be reimbursed for your parts, labor, and handling (landed cost for Export Distributors) by submitting your claim through the Warranty system within 30 days of completing this campaign. Please reference the following information in OWL:

- Claim type is **Recall Campaign**.
- In the Campaign field, enter the campaign number and appropriate condition code (**FL860-A or FL860-B**).
- In the Primary Failed Part Number field, enter **25-FL860-000**.
- In the Parts field, enter the appropriate kit as shown in the Replacement Parts Table.
- In the Labor field, first enter the appropriate SRT from the Labor Allowance Table. Administrative time will be included automatically as SRT 939-6010A for 0.3 hours.
- The VMRS Component Code is **F99-999-005** and the Cause Code is **A1 - Campaign**.
- **U.S. and Canada -- Reimbursement for Prior Repairs.** When a customer asks about reimbursement, please do the following:
 - Accept the documentation of the previous repair.
 - Make a brief check of the customer's paperwork to see if the repair may be eligible for reimbursement. (See the "Copy of Owner Letter" section of this bulletin for reimbursement guidelines.)
 - Submit an OWL Recall Pre-Approval Request for a decision.
 - Include the approved amount on your claim in the Other Charges section.
 - Attach the documentation to the pre-approval request.
 - If approved, submit a based on claim for the pre-approval.
 - Reimburse the customer the appropriate amount.

IMPORTANT: OWL must be viewed prior to performing the recall to ensure the vehicle is involved and the campaign has not been previously completed. Also, check for a completion sticker prior to beginning work.

U.S. and Canadian dealers, contact the Warranty Campaigns Department via Web inquiry at DTNACconnect.com / WSC, if you have any questions or need additional information. Export distributors, submit a Web inquiry or contact your International Service Manager.

U.S. and Canadian Dealers: To return excess kit inventory related to this campaign, U.S. dealers must submit a Parts Authorization Return (PAR) to the Memphis PDC. Canadian dealers must submit a PAR to their facing PDC. All kits must be in resalable condition. PAR requests must include the original purchase invoice number. Export Distributors: Excess inventory is not returnable.

The letter notifying U.S. and Canadian vehicle owners is included for your reference.

Please note that the National Traffic and Motor Vehicle Safety Act, as amended (Title 49, United States Code, Chapter 301), requires the owner's vehicle(s) be corrected within a reasonable time after parts are available to you. The Act states that failure to repair a vehicle within 60 days after tender for repair shall be prima facie evidence of an unreasonable time. However, circumstances of a particular situation may reduce the 60 day period. Failure to repair a vehicle within a reasonable time can result in either the obligation to (a) replace the vehicle with an identical or reasonably equivalent vehicle, without charge, or (b) refund the purchase price in full, less a reasonable allowance for depreciation. The Act further prohibits dealers from selling a vehicle unless all outstanding recalls are performed. Any lessor is required to send a copy of the recall notification to the lessee within 10 days. Any subsequent stage manufacturer is required to forward this notice to its distributors and retail outlets within five working days.

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Copy of Notice to Owners

Subject: Freightliner Engine Harness Clearance

For the Notice to U.S. Customers: This notice is sent to you in accordance with the National Traffic and Motor Vehicle Safety Act. **For the Notice to Canadian Customers:** This notice is sent to you in accordance with the requirements of the Motor Vehicle Safety Act. This is to inform you that your vehicle may contain a defect that could affect the safety of a person.

Daimler Trucks North America LLC (DTNA), on behalf of its Freightliner Trucks Division, has decided that a defect that relates to motor vehicle safety exists on specific Model Year 2018-2021 Freightliner 108SD, 114SD, and Business Class M2 vehicles manufactured May 24, 2017, through August 26, 2020, and equipped with a Detroit Diesel DD8 engine.

On certain vehicles, the engine harness may contact and chafe at various locations around the air compressor and the frame rail. If the wires are damaged and short, under certain circumstances the engine may stall without any prior warning, with no ability to restart, which may increase the risk of a crash.

Engine harnesses will be inspected for damage, and adequate clearance, and repaired as required.

Please contact an authorized Daimler Trucks North America dealer to arrange to have the Recall performed and to ensure that parts are available at the dealership. To locate an authorized dealer, search online at www.Daimler-TrucksNorthAmerica.com. On the menu tab, select "Contact," scroll down to "Find a Dealer," and select the appropriate brand. The Recall will take approximately two to four hours and will be performed at no charge to you. You may also confirm your vehicle's involvement in this recall at this URL: <https://dtna-dlrinfo.prd.freightliner.com:48518/VinLookup/vin-module/getVinLookupPage>

You may be liable for any progressive damage that results from your failure to complete the Recall within a reasonable time after receiving notification.

If you do not own the vehicle that corresponds to the identification number(s) which appears on the Recall Notification, please return the notification to the Warranty Campaigns Department with any information you can furnish that will assist us in locating the present owner. If you have leased this vehicle, Federal law requires that you forward this notice to the lessee within 10 days. If you are a subsequent stage manufacturer, Federal law requires that you forward this notice to your distributors and retail outlets within five working days. If you have paid to have this recall condition corrected prior to this notice, you may be eligible to receive reimbursement. Please see the reverse side of this notice for details.

If you have questions about this Recall, please contact the Warranty Campaigns Department at (800) 547-0712, 7:00 a.m. to 4:00 p.m. Pacific Time, Monday through Friday, e-mail address DTNA.Warranty.Campaigns@Daimler.com. **For the Notice to U.S. Customers:** If you are not able to have the defect remedied without charge and within a reasonable time, you may wish to submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; or call the Vehicle Safety Hotline at (888) 327-4236 (TTY: 800-424-9153); or to <http://www.safercar.gov>. **For the Notice to Canadian Customers:** If you wish to submit a complaint about this recall, you can contact Transport Canada road safety, 80 rue Noel, Gatineau, Quebec J8Z 0A1 or call (800) 333-0510.

We regret any inconvenience this action may cause but feel certain you understand our interest in motor vehicle safety.

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

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Reimbursement to Customers for Repairs Performed Prior to Recall

If you have already **paid** to have this recall condition corrected you may be eligible to receive reimbursement.

Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by an authorized Daimler Trucks North America LLC dealer. The following documentation must be presented to your dealer for consideration for reimbursement.

Please provide original or clear copies of all receipts, invoices, and repair orders that show:

- The name and address of the person who paid for the repair
- The Vehicle Identification Number (VIN) of the vehicle that was repaired
- What problem occurred, what repair was done, when the repair was done
- Who repaired the vehicle
- The total cost of the repair expense that is being claimed
- Proof of payment for the repair (such as the front and back of a cancelled check or a credit card receipt)

Reimbursement will be made by check from your Daimler Trucks North America LLC dealer.

Please speak with your Daimler Trucks North America LLC authorized dealer concerning this matter.

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Work Instructions

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Models Affected: Specific Model Year 2018-2021 Freightliner 108SD, 114SD, and Business Class M2 vehicles manufactured May 24, 2017, through August 26, 2020, and equipped with a Detroit Diesel DD8 engine.

DD8 Engine Harness Repair - All Vehicles

On affected vehicles, DD8 engine harnesses are chafing against several locations: at and around the air compressor, the edges of the engine harness bracket, and at the engine power steering pump and frame rail. This chafing results in circuits shorting out. Depending on which wires are chafed, the symptoms can include: dash lights flashing, gauges dropping in and out, and/or sweeping intermittently, the check engine light coming on, loss of power, transmission shifting issues, and engine shutdown/stall with no restart.

1. Check the base label (Form WAR259) for a completion sticker for FL860 (Form WAR260) indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a completion sticker is present, no work is needed. If a completion sticker is not present, continue with the next step.
2. Park the vehicle on a level surface, turning the steering wheel hard to the right for repair access. Shut down the engine and set the parking brake. Chock the tires.
3. Open the hood.
4. Disconnect the battery negative cable.
5. Remove the left bumper end cap by removing the fasteners.
6. Remove the left front quarter fender. Using a suitable tether as support (rope, bungee, tie strap, etc.), tie the Power Train Power Distribution Module (PTPDM) and main Power Distribution Module (PDM) to the front-wall hood support to prevent damage to the harness and connectors.
7. To gain access to the complete DD8 engine harness to enable inspection of all key chaffing points, cut the tie straps that secure the engine harness. See [Fig. 1](#) and [Fig. 2](#). Key DD8 engine harness chaffing points include:
 - the air compressor
 - the air compressor mounted bracket
 - the air compressor discharge line
 - the fuel lines
 - the transmission dipstick tube
 - the power steering pump
 - the frame rail

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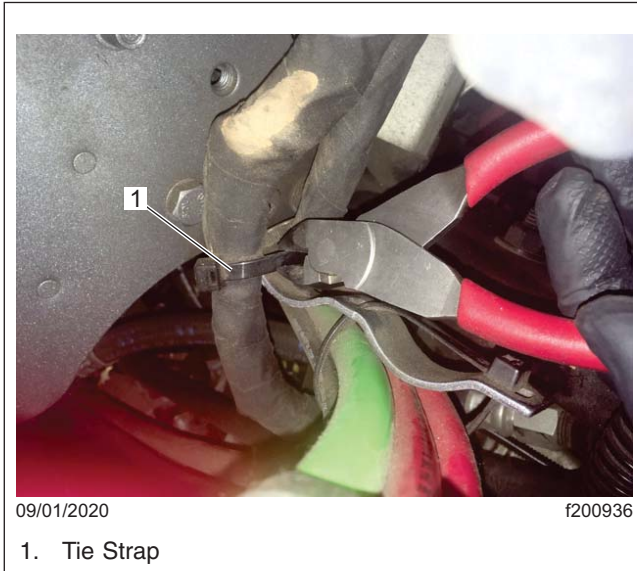


Fig. 1, Harness Tie Strap Removal



Fig. 2, Harness Tie Strap Removal

8. If necessary to access the engine harness for inspection, remove the transmission dipstick tube brackets, fuel line brackets, and clipping points for the airline bundle.
9. Inspect the engine harness for damage at the key chaffing points. Pull the harness away from the brackets to make a complete inspection, using a mirror as needed. See [Fig. 3](#).



Fig. 3, Inspection by Mirror

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NOTE: Wiring harnesses are considered damaged when chaffing has worn through the fiber wrap and wire insulation to expose strands of wire copper.

IMPORTANT: Do **not** use a hook razor blade to cut the fiber harness wrap. Use a sewing seam ripper (see [Fig. 4](#)), and take care not to cut the harness wires.

10. If damage to the wiring is found, cut and unwrap the harness wrap in the damaged area to determine the extent of damage. See [Fig. 5](#).

- If five or fewer wires (approximately 30% or less) in the harness are damaged, the harness can be repaired.
- If more than five wires in the harness are damaged, the harness must be replaced.



Fig. 4, Cutting an Opening into the Fiber Wrap



Fig. 5, Cutting the Fiber Wrap Using the Blunt End of the Seam Ripper

IMPORTANT: It is expected that less than 1% of harnesses will need to be replaced. When needed, use PartsPro® (module 487) or EZWiring™ to locate the correct VIN specific engine harness. Using EZWiring, enter the serial number under "Vehicle Information/Location search," then select "Commodity Harness" under "System Options." For assistance in engine harness replacement, submit a WSC ticket to Warranty Campaigns.

NOTE: Additional harness clipping points and harness connectors may need to be removed to provide access to repair the wiring harness.

11. Repair damaged wiring as follows.

- 11.1 Locate the damaged area and carefully cut open the fiber wrap using a sewing seam ripper tool. See [Fig. 4](#).
- 11.2 Flip the seam ripper tool over so that the blunt end is facing the wiring, then cut enough length to allow the fiber wrap to be unwrapped. See [Fig. 5](#).

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11.3 Unwrap the fiber wrap until a sufficient area is exposed to make the repair. See [Fig. 6](#).



Fig. 6, Unwrapping the Harness

11.4 Cut out the damaged section of the wire.

11.5 Inspect the harness and ensure there is enough slack in the wire to install a Phillips STA-DRY® connector. See [Table 3](#) to determine the correct size of Phillips STA-DRY connector to use.

Phillips STA-DRY Crimp and Solder Connectors Parts		
Wire Size: Gauge (mm)	Connector Part Number*	Shrinkable Tubing (Daimler Part Number)
20 to 18 (0.5 to 0.8)	PHM 1 1863	1/4 inch with internal adhesive coating (48 02461 025)
16 to 14 (1 to 2)	PHM 1 1862	1/4 inch with internal adhesive coating (48 02461 025)
12 to 10 (3 to 5)	PHM 1 1861	3/8 inch with internal adhesive coating—4 foot length (48-02461-038)
8 or larger (5 or larger)	Replace the terminal or the entire cable	Use adhesive lined red for positive cables and black for negative cables.

* Twenty-five connectors per pack.

Table 3, Phillips STA-DRY Crimp and Solder Connectors Parts

11.6 If the wire does not have enough slack to install a Phillips STA-DRY connector, add a new section of overlay wire using two Phillips STA-DRY connectors. If an overlay wire is necessary, remove the fiber to allow for a splice into the damaged wire. See [Fig. 7](#). Make sure the overlay wire is the same gauge and quality as the wire being repaired.



Fig. 7, Overlay Added to Damaged Area of the Harness

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- 11.7 Crimp the Phillips STA-DRY connector on the repaired wires using tool DKIOCHA17003-2 or similar. Use a heat gun to apply the solder and heat shrink the Phillips STA-DRY connectors. See [Fig. 8](#).

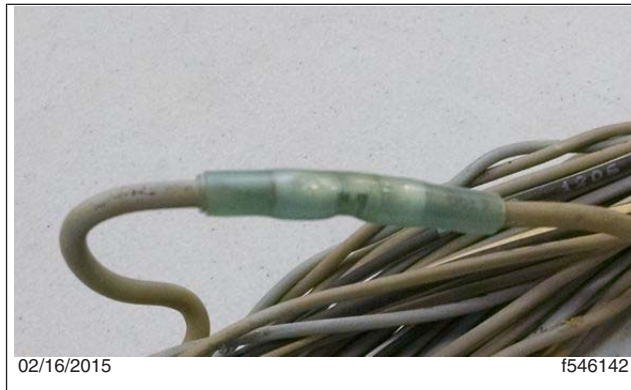


Fig. 8, Wire Repaired with Shrink Tubing

IMPORTANT: No more than five wires on the engine harness should be repaired. This includes up to five sections of overlay wires. Multiple wire repairs should be staggered using varying length overlay wires in order to keep the overall engine harness size to a minimum.

- 11.8 Wrap the entire length of repaired area with new fiber wrap tape (part number 48-25910-003). Make sure to use enough tape to overlap the starting point.
 - 11.9 Secure both ends of the fiber wrap with electrical tape.
 - 11.10 Install any clipping points and connectors removed to make the repair.
- 12. Wrap the harness at the key chaffing points with severe duty harness wrap (TwistTube®) for added protection.
 - 13. Add TwistTube to the engine harness at the air compressor bracket area. Use the measurements provided in [Fig. 9](#), [Fig. 10](#), [Fig. 11](#), and [Fig. 12](#).

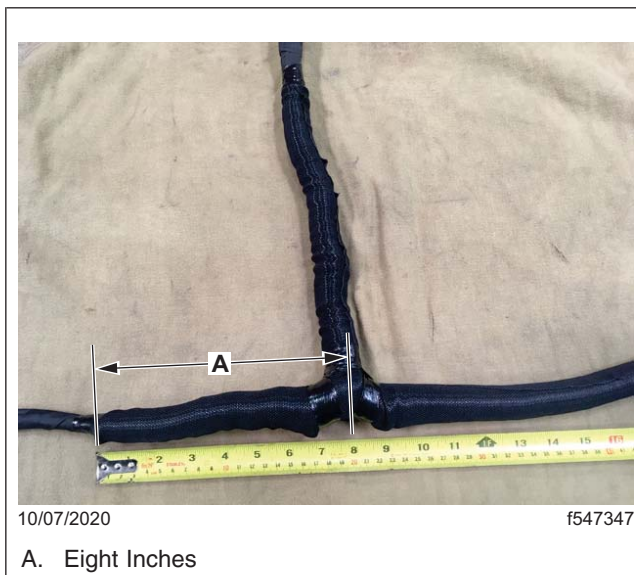


Fig. 9, Eight Inch Horizontal Section of TwistTube

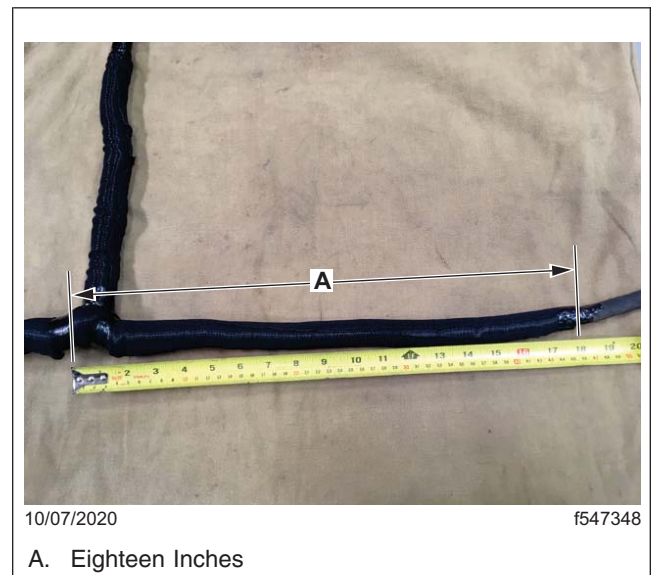


Fig. 10, 18-inch Horizontal Section of TwistTube

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Add TwistTube over the first 8 inches (203 mm) of the horizontal section ahead of the vertical section (see [Fig. 9](#)) and over the first 18 inches (457 mm) behind the vertical section (see [Fig. 10](#)). There will be a total of 26 inches (660 mm) of added TwistTube. See [Fig. 11](#).

Add TwistTube over 12 inches (304 mm) of the vertical section, starting at the horizontal section juncture. See [Fig. 12](#).

Secure the loose ends of the TwistTube with electrical tape or tie straps.



Fig. 11, 26-Inch Top Section of TwistTube

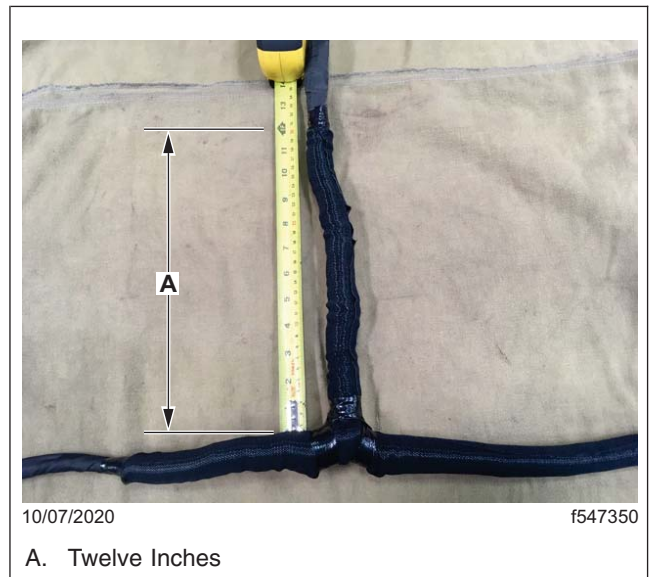


Fig. 12, 12-Inch Vertical Section of TwistTube

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Air Compressor Mounted Stand-Off Bracket Replacement for FL860A

1. Replace the existing air compressor-mounted bracket (see [Fig. 13](#)) with the one supplied in the kit (part number 66-13326-000). See [Fig. 14](#).
 - 1.1 Remove the two fasteners securing the old bracket to the air compressor and remove the bracket.
 - 1.2 Install the new bracket (part number 66-13326-000) then torque the fasteners 27 to 32 lbf-ft (36 to 43 N-m).

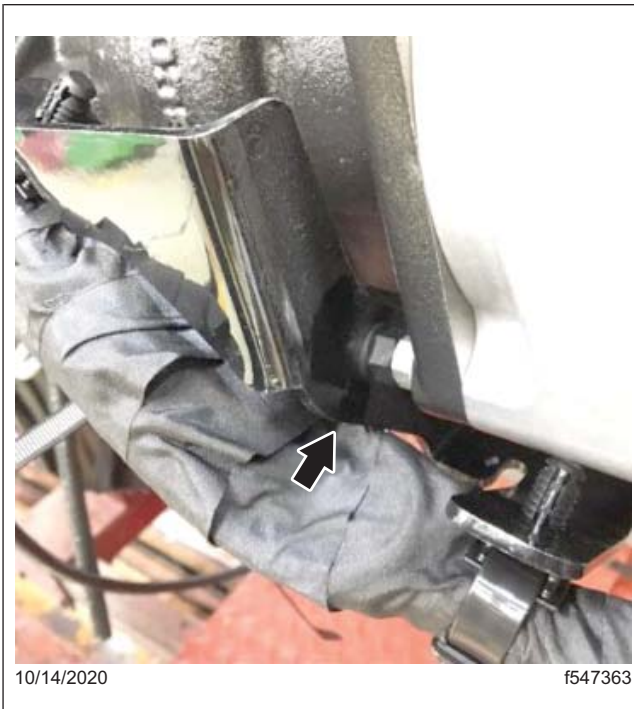


Fig. 13, Current Air Compressor Mounted Bracket Showing Area of Possible Harness Rub

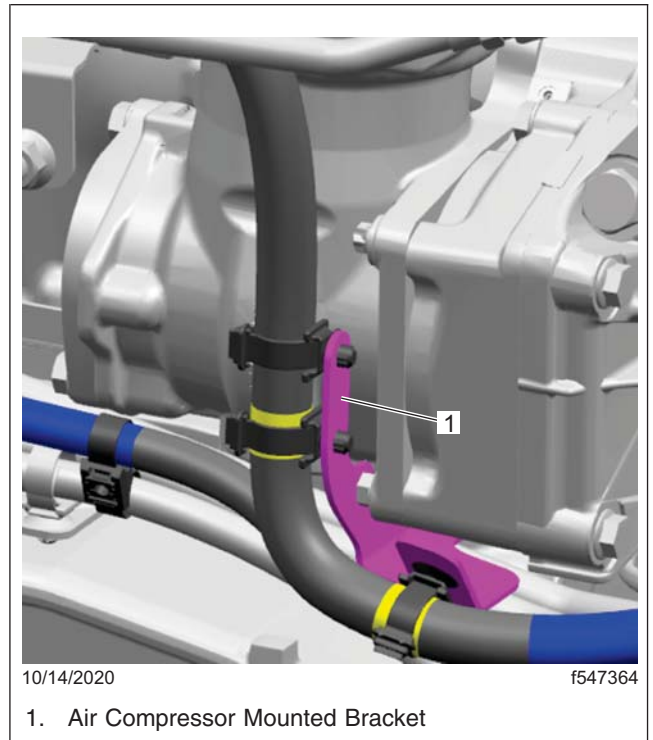


Fig. 14, New Air Compressor Mounted Bracket, Back View

- 1.3 To provide additional clearance for the horizontal section of harness on the new bracket, install a nylon spacer (part number 23-12262-001) under the fir tree fastener with tie strap (part number 23-14137-000). See [Fig. 15](#).



Fig. 15, New Air Compressor Mounted Bracket, Front View

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- 1.4 To secure the vertical section of the harness on the new bracket, install fir tree fasteners with tie straps (part number 23-14137-001) in the two holes. See **Fig. 15**.
2. Remove the existing standoff bracket and install the two new brackets.
 - 2.1 Remove the existing standoff bracket bolted to the top of air compressor. See **Fig. 16**.
 - 2.2 Install the new brackets onto the top of air compressor where existing standoff was removed. See **Fig. 17**. Install the parts in the following order:
 - washer (part number 23-09114-011)
 - standoff bracket (part number 23-09130-017)
 - standoff bracket (part number 23-13516-001)
 - M8 bolt (part number 23-13345-025).
 - 2.3 Torque the fastener for the brackets to 27 to 32 lbf·ft (36 to 43 N·m).

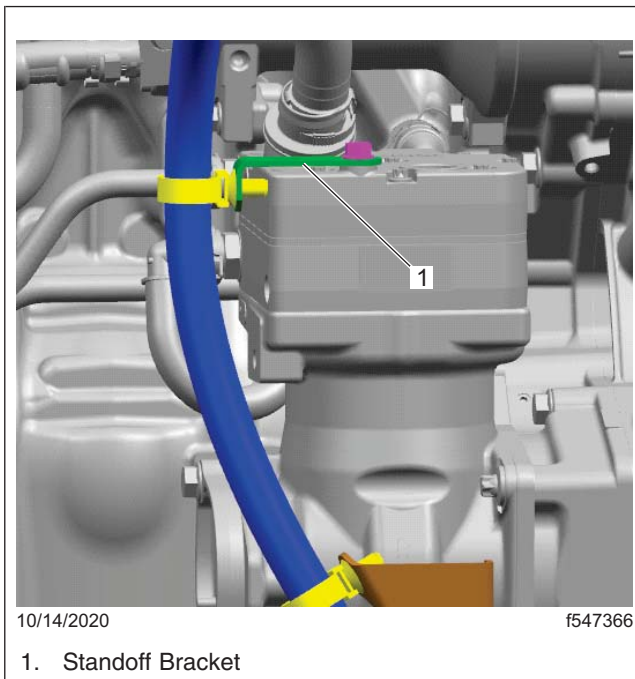


Fig. 16, Existing Standoff Bracket

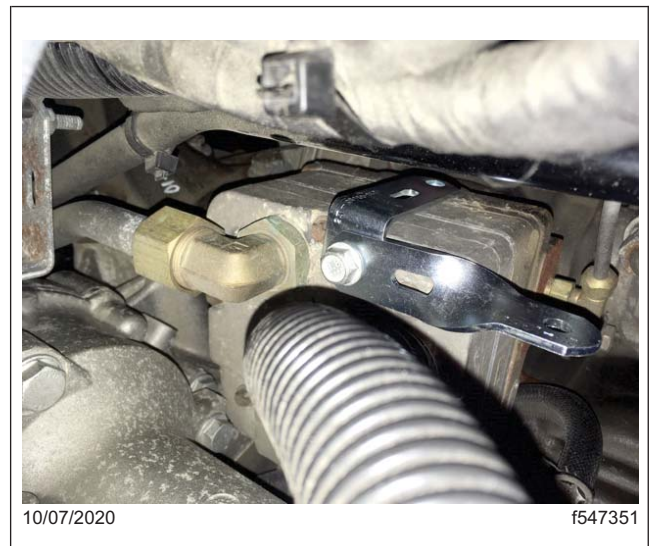


Fig. 17, New Standoff Bracket

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3. Secure the engine harness to the standoff brackets. See **Fig. 18**.
 - 3.1 Use two fir tree fastener tie straps (part number 23-14137-001) to secure the harness to the brackets; after installing tie straps make sure the harness is not contacting any part of the compressor.

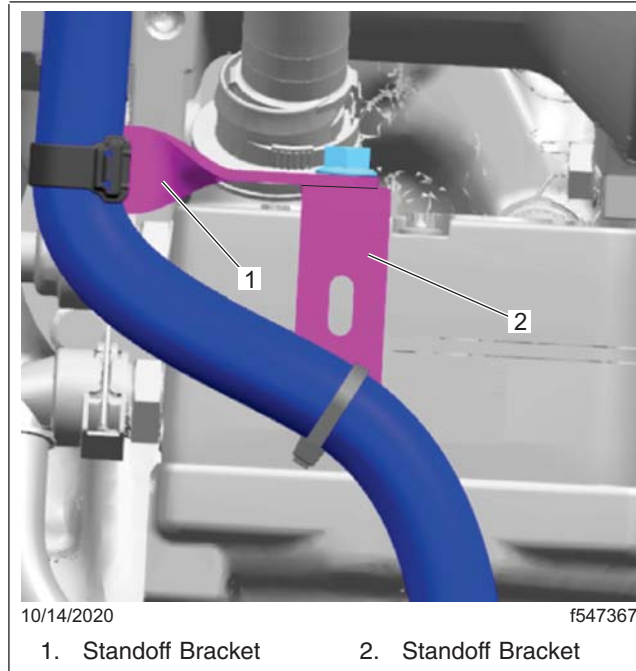


Fig. 18, Harness Secured to Both Standoff Brackets

Flywheel Standoff Bracket Replacement for FL860B

1. Replace the existing standoff bracket (see **Fig. 19**) at the left side of the flywheel housing with a new stand-off bracket from the kit (part number 23-13514-021). See **Fig. 20**.
 - 1.1 Install the bracket using the new washer (part number 23-09114-001) and the existing bolt and torque to 27 to 32 lbf-ft (36 to 43 N·m).

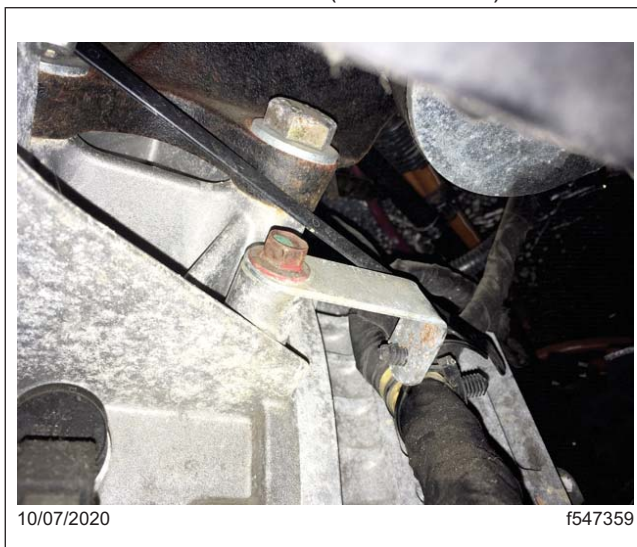


Fig. 19, Population B: Existing Standoff Bracket



Fig. 20, Population B: New Standoff Bracket

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2. Use a tie strap (part number 23-14137-001) to secure the engine harness to the new standoff bracket at the flywheel housing.

Additional Work Instructions for FL860A and FL860B

1. Using the tie straps, secure the engine harness at all clipping points onto the air compressor-mounted bracket. Add additional TwistTube at any potential chaffing points. Use additional tie straps as needed to secure the harness.
2. Install front fuel line clamp and transmission dipstick tube clamp using the original clamps and fasteners. See **Fig. 21**.

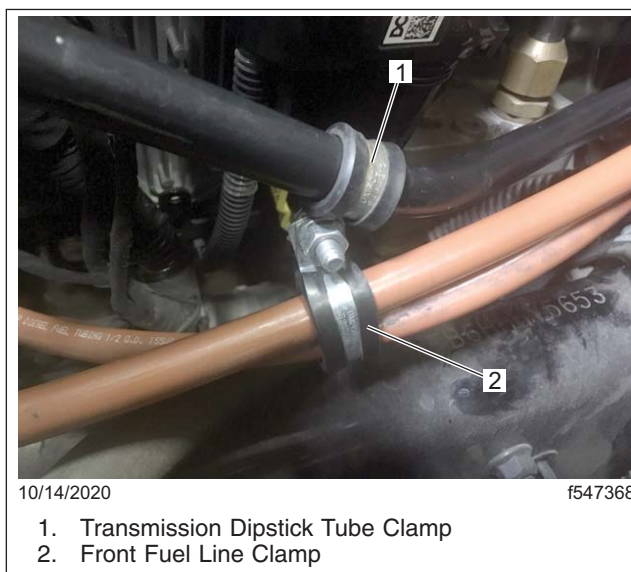


Fig 21 Front Fuel Line and Transmission Dipstick Tube Clamps

3. Install the left bumper end cap.
4. Install the left front quarter fender, remove the tethers put in place to support the PTPDM and PDM, and attach the bracket for the main PDM and PTPDM.
5. Connect the battery negative cable.
6. Start and run the vehicle for a minute to verify the repair.
7. Close the hood.
8. Clean a spot on the base label (Form WAR259), write the recall number, FL860, on a red completion sticker (Form WAR260), and attach it to the base label, indicating this work has been completed.