Intermittent Communication Between the TrailerTRACS Transmitter and the Qualcomm Unit

54-279

FLA COE
FLB COE
FLD Conventional
Business Class
FLC 112 Conventional
Century Class Conventional
Argosy COE
Cargo
Columbia
Coronado
Business Class M2
> Cascadia
108SD/114SD

Freightliner Service Bulletin

General Information

On some Cascadia vehicles, communication can be intermittent between the TrailerTRACS transmitter and the Qualcomm unit. Routing the wiring along the back of the cab will ensure more reliable signal strenth.

Use the instructions in this bulletin to modify the TrailerTRACS wiring.

Parts

Refer to **Table 1** for parts required for this repair.

Parts Required		
Part	**Part Number**	**Quantity**
Plug	23-13142-229	1
Connector	PAC 12033731 B	1
Fuse, ATC, 5-Amp	BUS ATC5	1
Terminal MP630P2S	PAC 12020156 L	4
Terminal GT280S	PAC 15304719 L	2
18-Gauge Cable	48-02493-182	20 ft.
Wire Crimp, Solder	PHM 1 1861	1
Terminal Seal	23-12497-281	1

Table 1, Required Parts

Work Instructions

1. Shut down the engine and apply the parking brakes. Chock the tires.
2. Access the driver-side wiring harness.

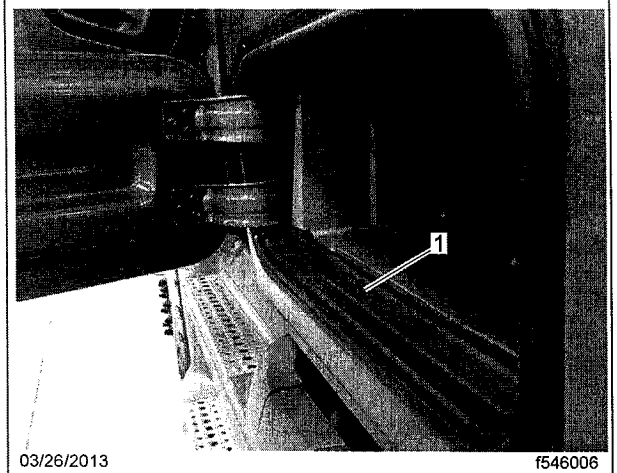
NOTE: There are three possible installations. On vehicles equipped with a driver-side luggage door, the wiring harness cover is located at the front edge of the luggage compartment. See **Fig. 1**. On vehicles without a driver-side luggage compartment, the harness is under the side panel located beneath the lower bunk. On daycabs, the harness is located behind the rear upholstery panel.

- On Sleepercabs with a driver-side luggage compartment, open the compartment and remove all stored items. Remove the fasteners from the harness cover, then remove the cover.
- On Sleepercabs without a driver-side luggage compartment, raise the lower bunk and remove the support panel. Remove the bolt that secures the side panel to the cab floor, then remove the side panel. See **Fig. 2**.
- On daycabs, move the driver and passenger seats as far forward and possible. Remove the backwall upholstery panel and the backwall panel. Support the backwall panel with blocks to gain access to the Qualcomm wiring. See **Fig. 3**.

3. Inspect circuit 45 to make sure that the wiring modification has not already been completed. If the procedure was aready performed, circuit 45 will be spliced with an 18-gauge wire and routed as shown in **Fig. 5**. If the procedure has not been performed, continue with the next step.
4. Remove the tread plate, kick panel, and lower dash panel from the passenger side of the vehicle. See **Fig. 4**.

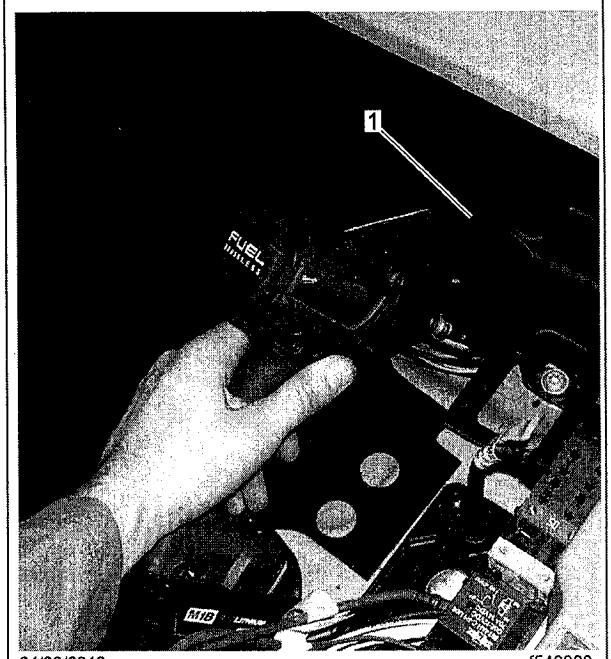
NOTE: See **Fig. 5** for the parts required for the wire splice.

5. Measure and cut enough 18-gauge wire to extend from the driver-side wall under the bunk to the passenger-side wall, and under the passenger-side kick panel to the Qualcomm ECU connector under the dash.
6. Feed the wire through the fuse holder. Strip the wire, then crimp on the fuse holder terminal end.



1. Harness Cover

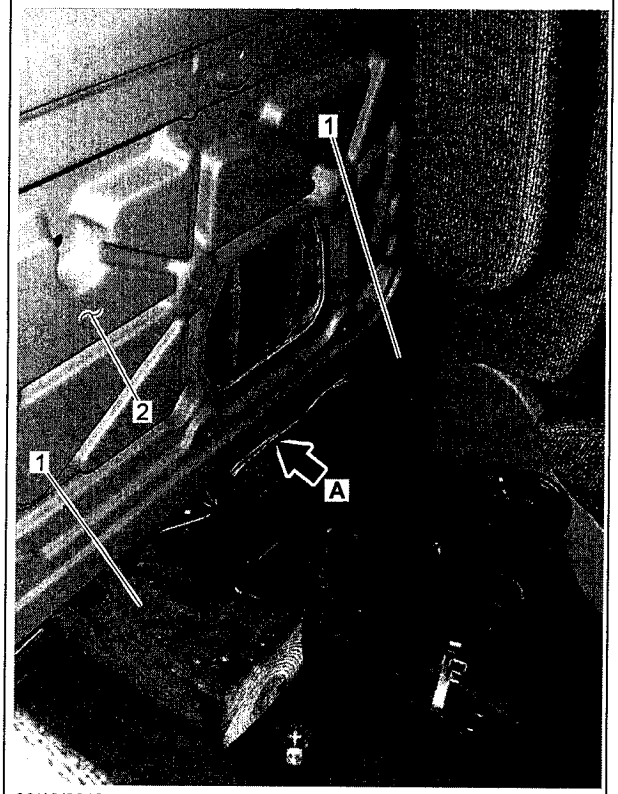
Fig. 1, Driver-Side Luggage Compartment without Auxiliary Heater Option (Sleepercab)



1. Side Panel

Fig. 2, Under Bunk Side Panel Removal

7. Cut a 4 to 6 inch (10 to 15 cm) strand of wire.
8. Feed the short strand of wire through the fuse holder. Strip the wire on both ends, then crimp on the fuse holder terminal end.
9. Inside the cab, cut and strip the circuit 45 blue wire.
10. Splice the new wire into circuit 45. See **Fig. 6**.
    - 10.1 Slide a butt connector onto the the end of circuit 45 that leads to the SAM Chassis.
    - 10.2 Slide the new wire and the other end of circuit 45 into the opposite end of the butt connector.
    - 10.3 Crimp each end of the butt using a crimp tool to secure the wires. See **Fig. 7**.
    - 10.4 Pull test the wires by hand to ensure the crimp is mechanically solid.
    - 10.5 Heat the splice using a heat gun rated at 1,000°F (538°C) until the sleeve has completely shrunk against the wire and the solder inside the butt connector flows.



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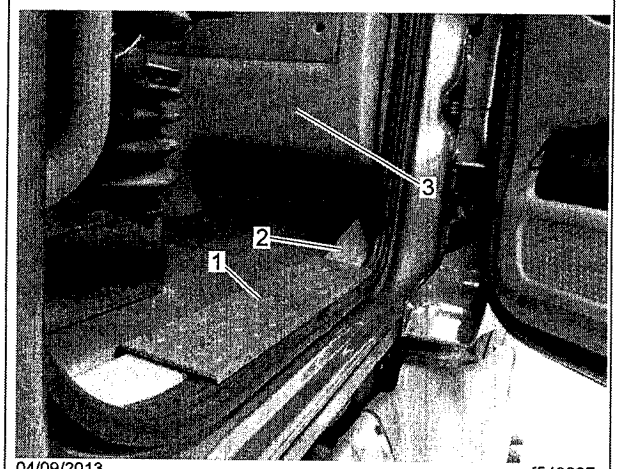
A. Circuit 45 can be accessed once the cab backwall is lifted off of the cab floor.
1. Support Blocks
2. Cab Backwall

Fig. 3, Support the Cab Backwall with Blocks (daycabs)



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1. Tread Plate
2. Kick Panel

Fig. 4, Passenger-Side Tread Plate and Kick Panel

11. Route the wire to the Qualcomm ECU.

    11.1 On Sleeper cabs, route the wire underneath the bunk along the bunk support wall and underneath the floor mat.

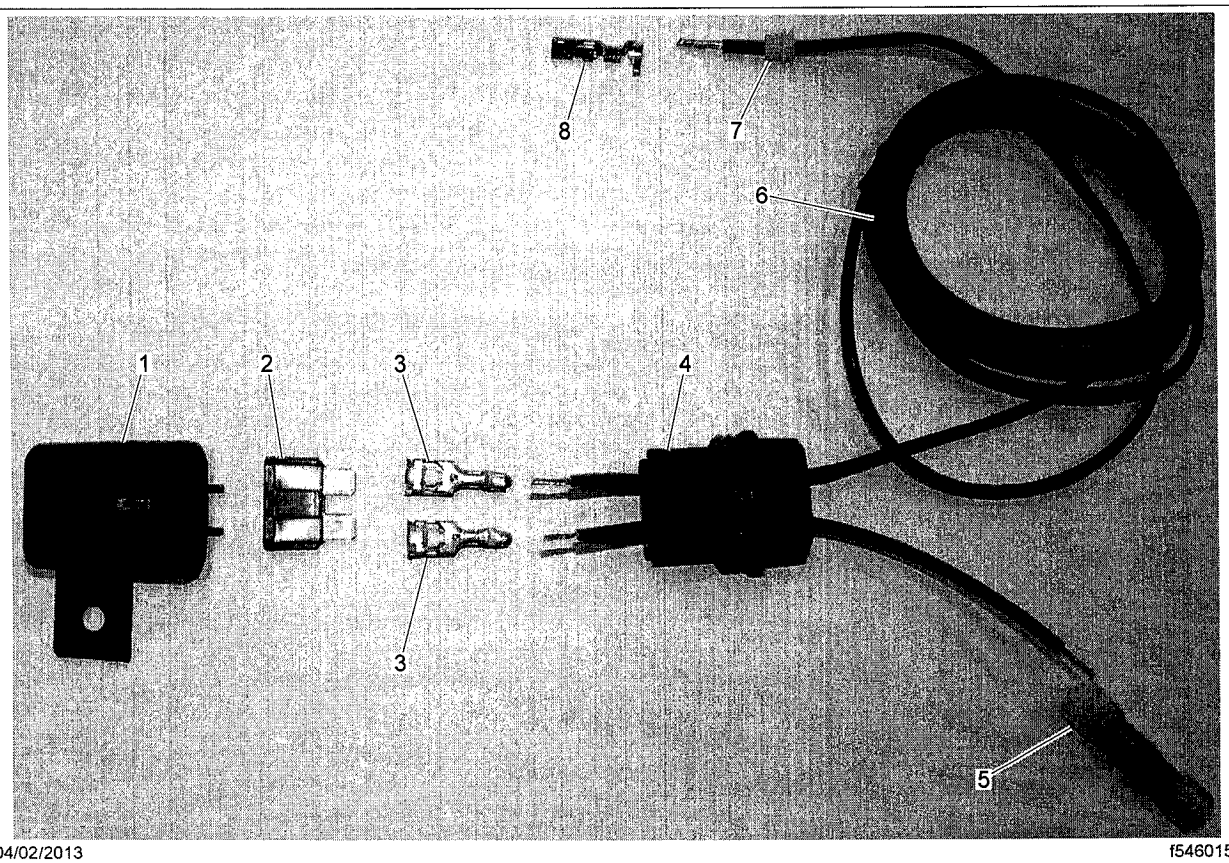
    On daycabs, route the wire along the cab backwall.

    NOTE: On Sleepercabs with a driver-side luggage compartment, the wire needs to be routed along the cab wall, underneath the harness cover.

    11.2 On Sleepercabs, route the wire behind the passenger side B-pillar panel and under the harness cover using fish tape or a wire guide. See **Fig. 8**.

    On daycabs, feed the wire underneath the passenger-side harness cover. See **Fig. 9**.

    11.3 Strip the wire end and crimp on terminal 23-13212-120 with seal 23-12497-281.



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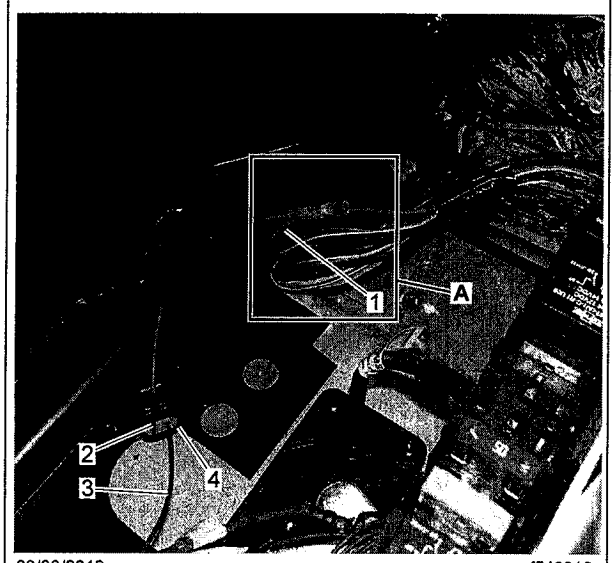
1. Fuse Holder Housing (23-13302-800)
2. Fuse, 5-Amp
3. Fuse Terminal (23-13213-460)
4. Fuse Holder (23-13142-229)
5. Butt Connector with Solder (phm 1 1861)
6. 18-Gauge GXL Wire
7. Terminal Seal (23-12497-281)
8. Terminal End for Wire 376C4 (23-13212-120)

Fig. 5, Wiring Modification Parts

12. Disconnect the 14- or 16-pin Qualcomm ECU connector. It is located on the passenger-side of the vehicle, behind the kick panel. See **Fig. 10**.
13. Remove wire 376C4 (orange) from the Qualcomm connector. Refer to module 330 for terminal details. Terminate the wire by adding shrink tubing to the end of the wire. Heat the tubing using a heat gun rated at 1,000°F (538°C) until the sleeve has completely shrunk against the wire.
14. Insert the new wire into the Qualcomm connector in the same cavity where wire 376C4 was connected. See **Fig. 11**.
15. Tape down the new wire along the inner bunk support, along the cab wall and the passenger-side door frame. See **Fig. 12**.
16. Install the kick panel, tread plate, and lower dash panel on the passenger-side of the vehicle.
17. On Sleepercabs, install the harness cover on the driver side of the vehicle.



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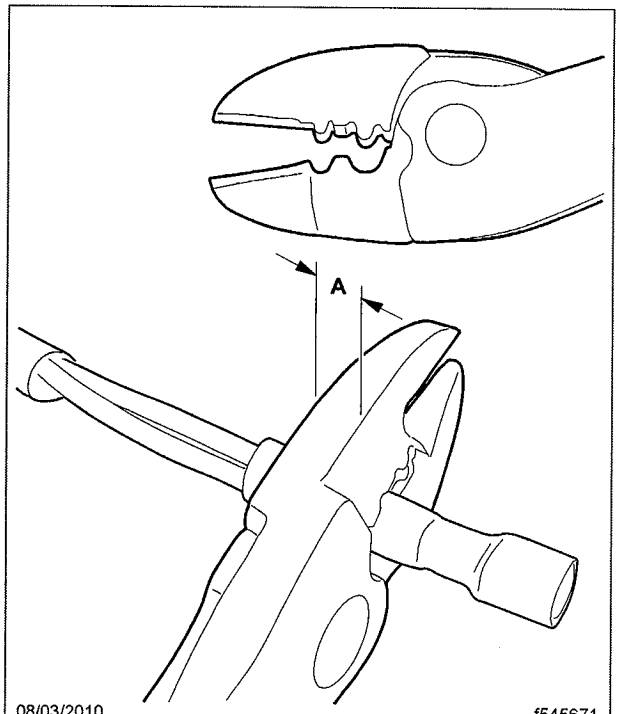
A. Circuit 45 inserted into the butt connector with the new 18-gauge wire.
1. Circuit 45
2. Wire to Circuit 45 from the Fuse Holder
3. Wire to Qualcomm ECU
4. Fuse Holder

Fig. 6, Wire Re-Routed to Qualcomm ECU



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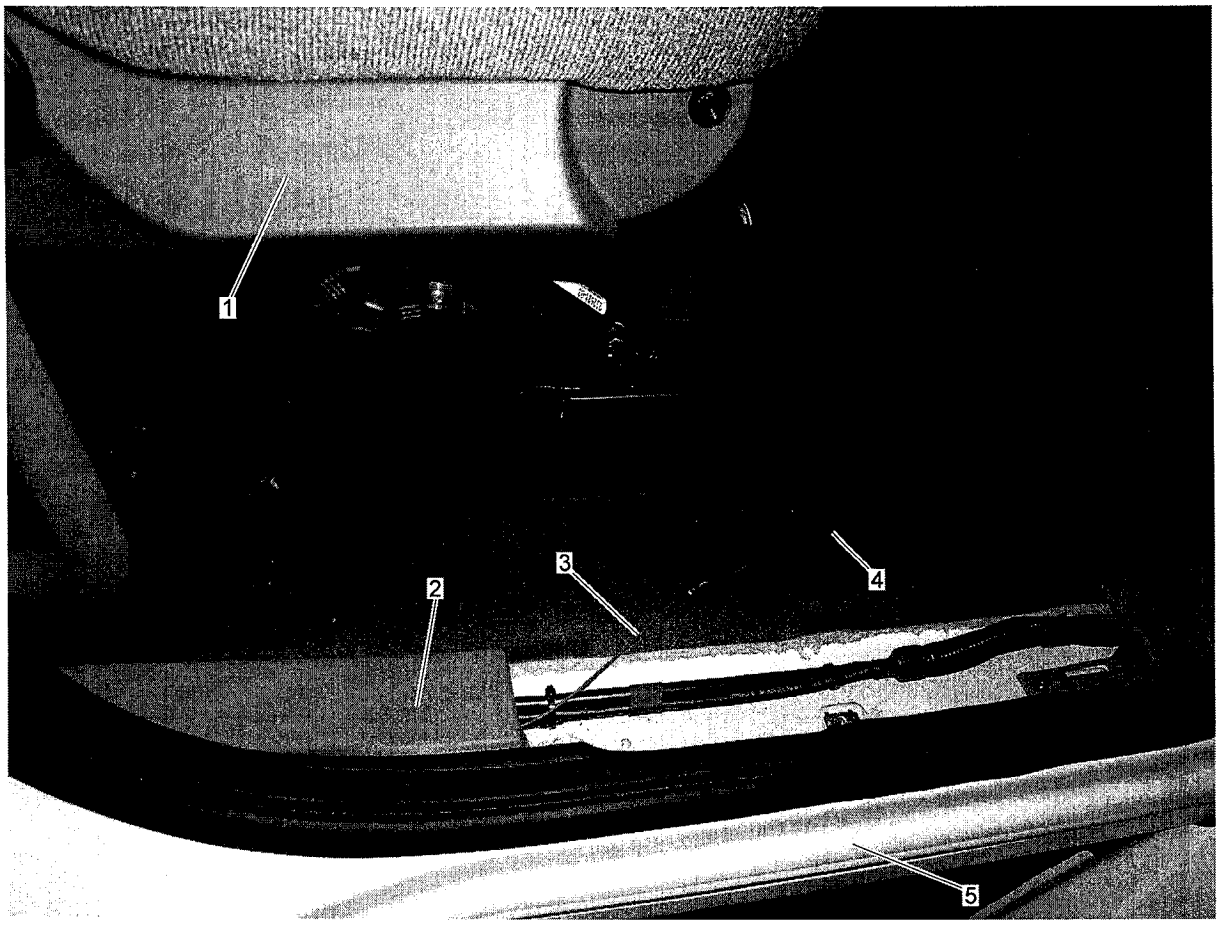
A. The crimp tool must have a minimum 3/16-inch width.

Fig. 7, Crimp Tool

18. On daycabs, remove the support blocks, then install the backwall panel, and the upholstery panel.



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1. Passenger Seat
2. Harness Cover
3. 18-Gauge Wire
4. Wire Guide

Fig. 8, Passenger-Side Wire Routing (tread plate removed)

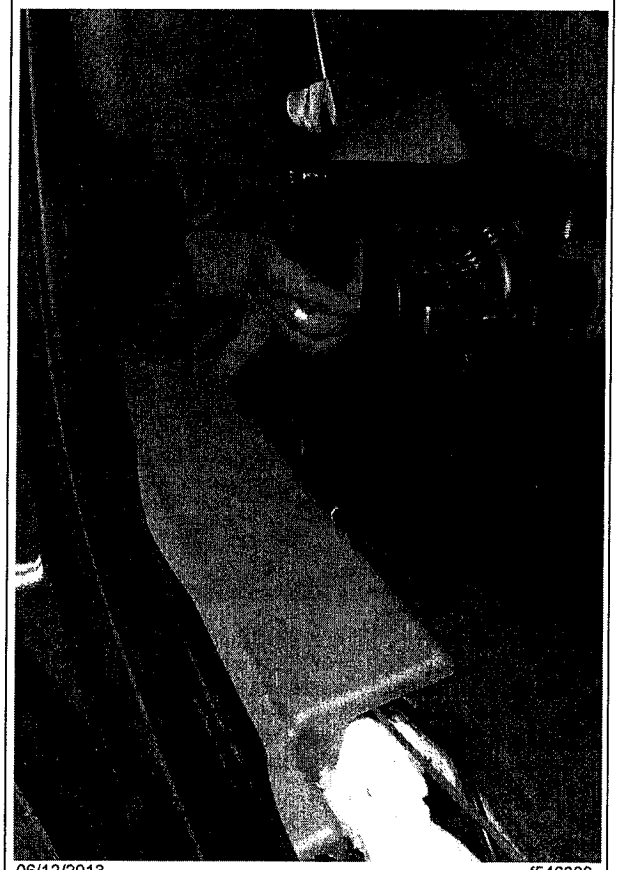

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Fig. 9, Wire Fed into the Passenger-Side Harness Cover (daycabs)

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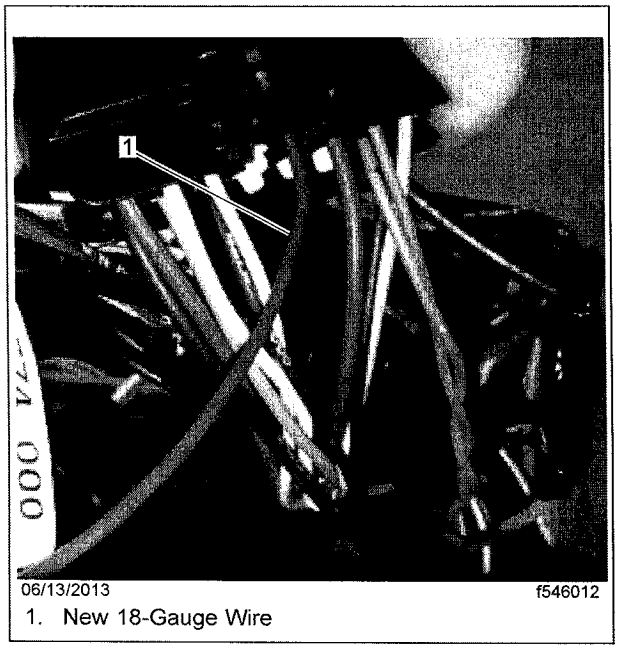
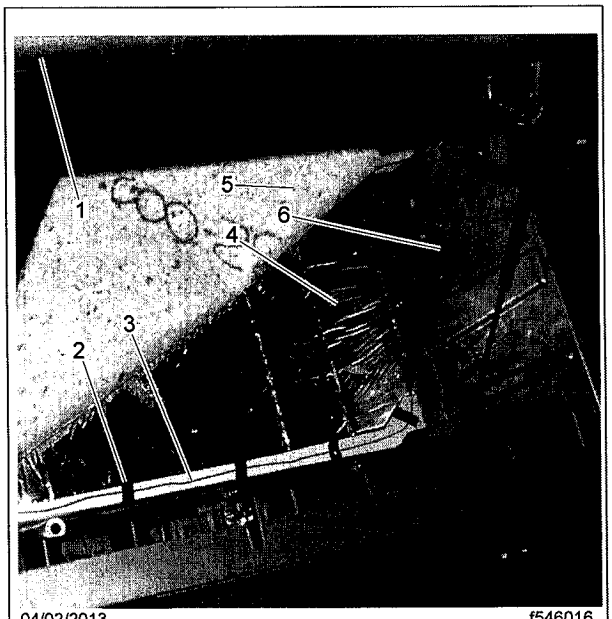
1. Qualcomm Connector
2. Cab Wall

Fig. 10, Qualcomm Connector



1. New 18-Gauge Wire

Fig. 11, Qualcomm Connector Wire Location



1. Bunk
2. Electrical Tape
3. 18-Gauge Wire
4. Floor Insulation
5. Floor Mat
6. Auxiliary Heater

Fig. 12, Wire Routing Under Bunk (auxiliary heater installation shown)

Warranty

This procedure is warrantable only if the described condition exists and the repair is performed within the applicable base or extended coverage warranty period. If a failure is not found, this procedure is considered preventive and warranty does not apply.

Normal warranty applies. See **Table 2** for QuickClaim damage code and labor allowance information. Refer to this service bulletin by number at the beginning of the claim comments. See **Table 3** for OWL VMRS codes and labor allowance information. Enter this service bulletin number in the *Service Bulletin #* field.

QuickClaim Damage Code and Labor Allowance			
Damage Code	**SRT Code**	**Description**	**Time: Hours**
786-000A04600	996-0896A	Qualcomm, TrailerTRACS, Inspect and Rewire	0.8
	996-0896B	Qualcomm, TrailerTRACS, Inspect	0.3

Table 2, QuickClaim Damage Code and Labor Allowance

OWL VMRS Codes and Labor Allowance					
Primary Failed Part	**Component Code**	**Cause Code**	**SRT Code**	**Description**	**Time: Hours**
Qualcomm, TrailerTRACS	051-008-008	12	996-0896A	Qualcomm, TrailerTRACS, Inspect and Rewire	0.8
		12	996-0896B	Qualcomm, TrailerTRACS, Inspect	0.3

Table 3, OWL VMRS Codes and Labor Allowance