Daimler Truck North America LLC

Field Service Campaign

January 2024
SF671A
(Revised June 2024)

Subject: Beverage Body Frame Rail 50 KSI

Models Affected: Specific model years 2015-2025 Freightliner Business Class M2 vehicles manufactured January 9, 2014, through May 23, 2024.

General Information

Daimler Truck North America LLC (DTNA), on behalf of its Freightliner Trucks Division, is initiating Field Service Campaign SF671 to modify the vehicles mentioned above.

REVISION: If you find modifications to the chassis, please submit a WSC Inquiry before beginning any additional work.

In certain customer applications, the load conditions in combination with the body builder modified frame rails can potentially cause cracks to develop at the rear suspension lateral rod bracket area.

A frame reinforcement bracket/liner will be installed on the right hand frame rail.

There are approximately 508 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.

Please contact Warranty Campaigns for consideration of additional charges prior to performing the repair.

Work Instructions

Please refer to the attached work instructions. Prior to performing the campaign, check the vehicle for a completion sticker (Form WAR261).

Replacement Parts

Replacement parts are now available and can be obtained by ordering part number(s) listed below from your facing Parts Distribution Center (PDC).

If our records show your dealership has ordered any vehicle(s) involved in campaign number SF671, a list of the customers and vehicle identification numbers will be available on the DTNA Portal. Please refer to this list when ordering parts for this campaign.

Table 1 - Replacement Parts for SF671

Campaign Number	Part Number	Part Description	Qty.
SF671A	15-27607-004	REINF-FRAME,21K ARLNR,BVRG,RH	1
	23-09444-225	SCREW-CAP,HEX,5/8-11 X 2.25,GRADE 8	2
	23-09444-175	SCREW-CAP,HEX,5/8-11 X 1.75,GRADE 8	4
	23-09444-275	5/8-11C X 2.75 in. L	2
	23-09444-500	SCREW-CAP,HEX,5/8-11 X 5.00,GRADE 8	1
	23-09444-550	SCREW-CAP,HEX,5/8-11 X 5.50,GRADE 8	1
	23-13942-020	BOLT-LOCK,3/4,1.250 GRIP	6
	23-14450-110	NUT-HEX,LKG,VLH,5/8-11	10
	23-09114-000	WASHER-0.69X1.31X.177,YLW ZN,STEEL,HRDN	16
	23-13942-036	BOLT-LOCK,3/4,2.250 GRIP	12
	23-13941-012	BOLT-LOCK,5/8 (M16),.750 GRIP	22
	23-13941-024	BOLT-LOCK,5/8 (M16),1.500 GRIP	3
	23-13939-063	COLLAR-LOCK BOLT,5/8(M16),0.92	25
	23-13939-075	COLLAR-LOCK BOLT,3/4,1.105	12
	15-14807-001	GUSSET-UPPER,5 PC CROSS MEMEBER,RR SUSP	2
	23-09114-003	WASHER-FLAT,STEEL,HARDENED,1/2 IN	36
	23-09440-150	SCREW-CAP,HEX,1/2-13 X 1.5,GRADE 8	16
	23-09592-150	1/2-13HEX SOCKET	2
	23-13833-108	NUT-HEX,PT,1/2-13,GR C,ZN/AL,.448	18
	A 680 312 11 25	C/MBR-CHANNEL	1
	A 680 312 26 87	GUSSETT-CROSSMEMBER,5 PC,LWR,21.5MM HOLE	2

Table 1

Labor Allowance

Table 2 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Corrective Action
SF671A	Inspect and install frame rail support bracket	10.2	996-F183A	12-Repair Recall/Campaign
	Inspect and install frame rail support bracket with frame rail crack repair	13.1	996-F183B	12-Repair Recall/Campaign
	Inspect and install frame rail support bracket with frame rail section replacement	40.5	996-F183C	12-Repair Recall/Campaign

Table 2

IMPORTANT: When the campaign has been completed, locate the base completion label in the appropriate location on the vehicle, and attach the gray completion sticker provided in the field service kit (Form WAR261). 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 field service kit is not required or there is no completion sticker in the kit, write the campaign number on a blank sticker and attach it to the base completion label.

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 **Field Service Campaign**.
- In the Campaign field, enter the campaign number and appropriate condition code (**SF671A**).
- In the Primary Failed Part field, enter **25-SF671-000**.
- In the Parts section, enter the appropriate part number(s) as shown in the Replacement Parts Table.
- In the Labor section, enter the appropriate SRT from the Labor Allowance Table. Administrative time will be included automatically as SRT 939-6010A for 0.3 hours. **REVISION: If you find modifications to the chassis, please submit a WSC Inquiry before beginning any additional work.**
- The VMRS Component Code is **F99-999-005** and the Cause Code is **A1 - Campaign**.
- This Field Service Campaign will **terminate on June 30, 2025**. Dealers will be notified of any changes to the termination date via an Important Campaign Information Letter (ICI) posted on the DTNA Portal.

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

All claims must be submitted within 30 days of the repair and within 30 days of the termination date of the campaign. U.S. and Canadian Dealers: All excess inventory to be returned to the PDC following the conclusion of the campaign must be returned in resaleable condition to the Memphis PDC within 90 days from the termination date. Please submit a PAR to request return to the Memphis PDC. (Canadian dealers should return the kits to their facing PDC.) Export Distributors: Excess inventory is not returnable.

For questions, U.S. and Canadian dealers, contact the Warranty Campaigns Department using the Warranty Support Center (WSC) app located on the DTNA Portal. Export distributors submit a WSC inquiry or contact your International Service Manager.

Copy of Notice to Owners

Subject: Beverage Body Frame Rail 50 KSI

Specific model years 2015-2025 Freightliner Business Class M2 vehicles manufactured January 9, 2014, through May 23, 2024.

Daimler Truck North America LLC (DTNA), on behalf of its Freightliner Trucks Division, is initiating Field Service Campaign SF671 to modify the vehicles mentioned above.

In certain customer applications, the load conditions in combination with the body builder modified frame rails can potentially cause cracks to develop at the rear suspension lateral rod bracket area.

A frame reinforcement bracket/liner will be installed on the right hand frame rail.

Please contact an authorized DTNA dealer to arrange to have the campaign performed and to ensure that parts are available at the dealership. The campaign will take approximately 11 to 41 hours and will be performed **free of charge**. To locate an authorized dealer, search online at northamerica.daimlertruck.com/contact-us. Scroll down to “Locate a Dealer,” and select the appropriate brand.

This Field Service Campaign will **terminate on June 30, 2025**. Please make sure the campaign is completed prior to this date. Work completed after this date will be done at the customer’s expense.

As stated in the terms of your express limited warranty, DTNA will not pay for any damage caused by failure to properly maintain your vehicle. DTNA considers the work necessary under this campaign to be proper maintenance and will, therefore, not pay for any damage to your vehicle caused by your failure to have the repairs that are the subject of this campaign performed in a reasonable time.

Contact the Warranty Campaigns Department at (800) 547-0712, from 7 a.m. to 4 p.m. Pacific Time, Monday through Friday, e-mail address dtna-war-campaigns@DaimlerTruck.com, or the Customer Assistance Center at (800) 385-4357, if you have any questions or need additional information.

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

January 2024
SF671A
(Revised June 2024)

Work Instructions

Subject: Beverage Body Frame Rail 50 KSI

Models Affected: Specific model years 2015-2025 Freightliner Business Class M2® vehicles manufactured January 9, 2014 through May 23, 2024.

Inspection of the Beverage Body Frame Rail

REVISION: If modifications to the chassis are observed, submit a WSC inquiry before beginning any additional work.

1. Check the base label (Form WAR259) for a completion sticker for SF671 (Form WAR261), 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, proceed to the next step.
2. Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

⚠ WARNING

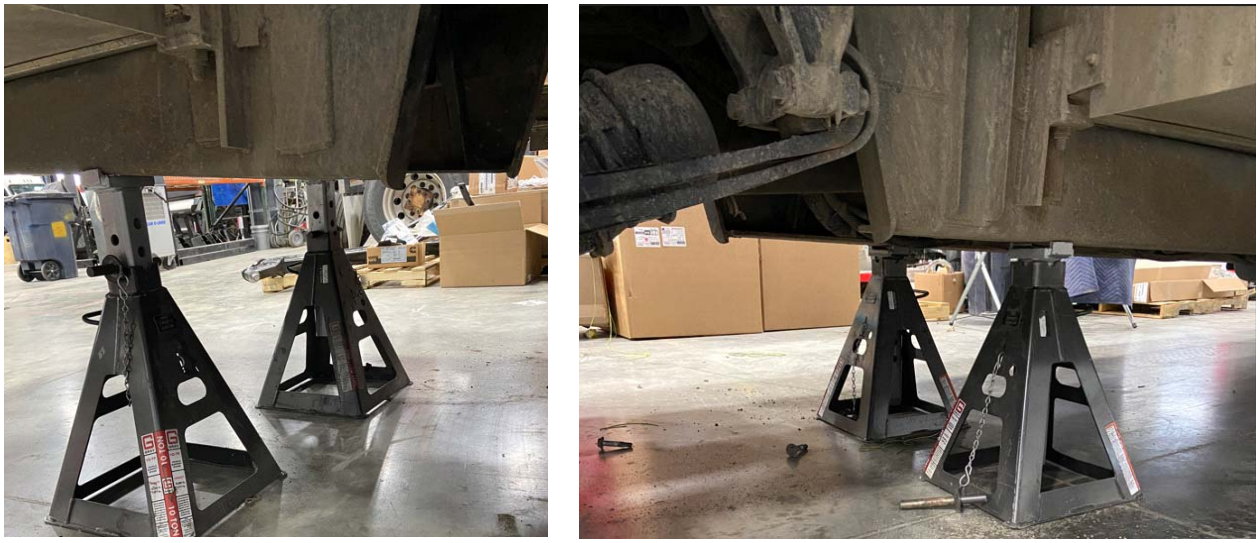
Do not use bottle jacks to raise the vehicle. Always use floor jacks. Bottle jacks can slip, allowing the vehicle to fall, which could result in damage to the axle, serious injury or death.

NOTICE

Do not place a jack under any of the suspension components.

IMPORTANT: Only raise a vehicle that is unloaded and disconnected from the trailer. For vehicles with bodies (drilling rigs, mixers), unload as much as possible.

3. Raise the vehicle and support the forward and rear of the suspension with appropriate jack stands. For instructions to raise and lower the vehicle, see **Group 00** of the *Business Class M2 Workshop Manual*. See **Fig. 1**.



A B

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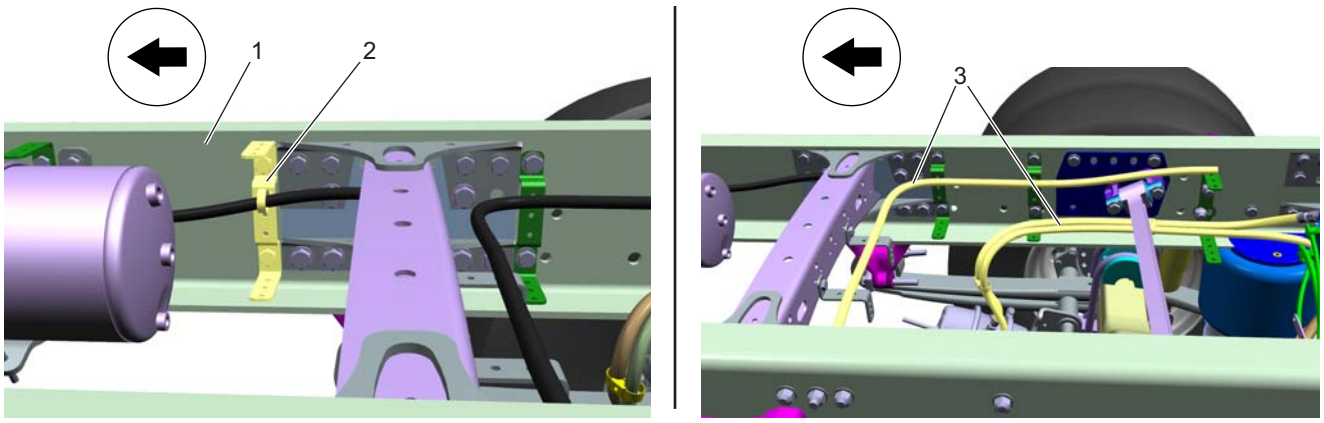
A. Jack stands on the forward side of the suspension.
B. Jack stands on the rear side of the suspension.

Fig. 1, Jack Stands on the Forward and Rear of the Suspension

4. Remove the wheels. For instructions, see **Group 40** of the *Business Class M2 Workshop Manual*.
5. Remove the tie straps that secure the wiring harness and hoses to the frame rails, then gently move the wiring harness and hoses to access the bracket mounting fasteners. See **Fig. 2**.



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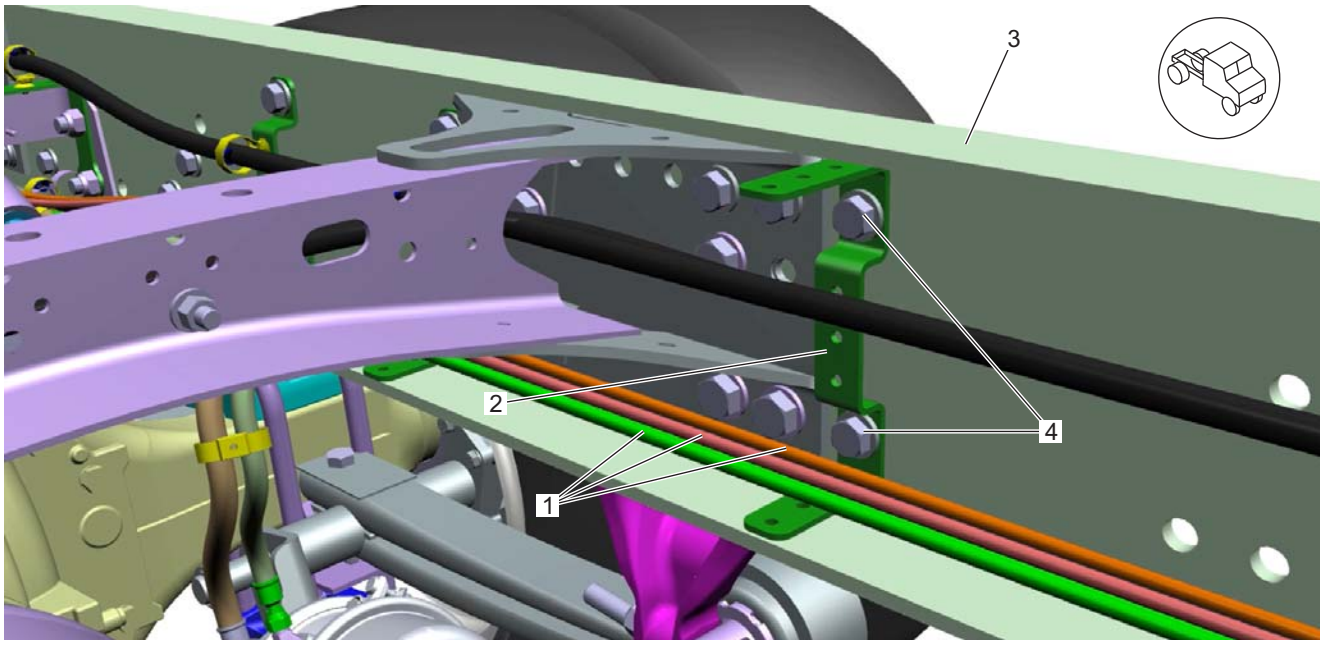
1. Frame Rail
2. Tie Strap and Frame Bracket
3. Wiring Harness and Hoses

Fig. 2, Right-Hand Frame Bracket, Wiring Harness, and Hoses

6. Remove the mounting fasteners that attach the brackets to the frame rails, then remove the brackets. See **Fig. 3** and **Fig. 4**.



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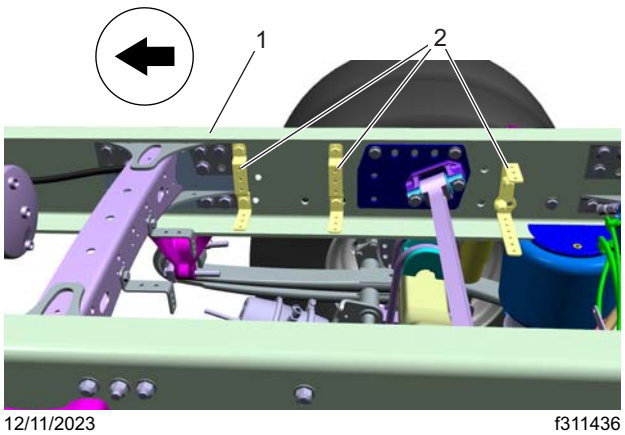
1. Wiring Harness and Hoses
2. Frame Bracket
3. Frame Rail
4. Mounting Fasteners

Fig. 3, Left-Hand Side Frame Brackets



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1. Frame Rail
2. Frame Brackets

Fig. 4, Right-Hand Side Frame Brackets

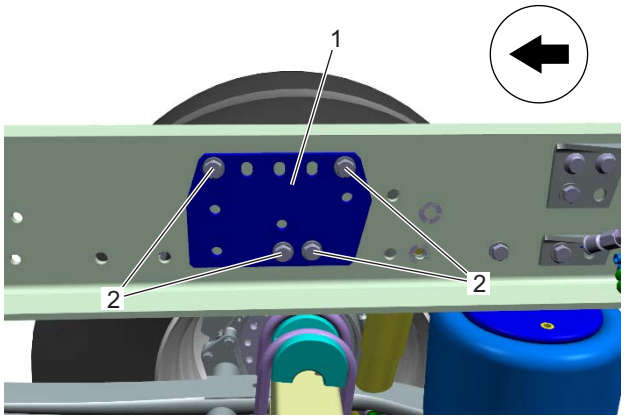
7. Support the axle with appropriate jack stands.

8. Remove the shock absorber and the air-spring bag, shown in **Fig. 5**. Only cut the hucks on the right-hand side of the vehicle to remove the air-spring bag. Disconnect the airbag from the leaf spring on the left--hand side of vehicle. Do not remove the airbag hucks on the left-hand side of the vehicle. For detailed instructions, see **Group 32** of the *Business Class M2 Workshop Manual*.

Fig. 5, Location of the Air-Spring Bag

9. Remove the fasteners and the shock bracket from the right-hand side frame rail.
10. Use the jack to apply pressure to the axle, and remove the hucks from the suspension hangers on both sides of the vehicle.
11. Disconnect all the air lines from the axle and brakes, then remove the frame-mounted brackets.
12. Remove the existing air line brackets from the crossmember.

13. Remove the fasteners that attach the lateral control rod backing plate to the right-hand frame rail, as shown in **Fig. 6**. Remove and discard the right-hand side backing plate.



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Right-hand side backing plate shown.

1. Backing Plate
2. Mounting Fasteners

Fig. 6, Lateral Control Rod Backing Plate

14. Remove the driveline. For instructions, see **Group 41** of the *Business Class M2 Workshop Manual*.
15. Lower the axle and place it on the wheel dollies. See **Fig. 7** and **Fig. 8**.

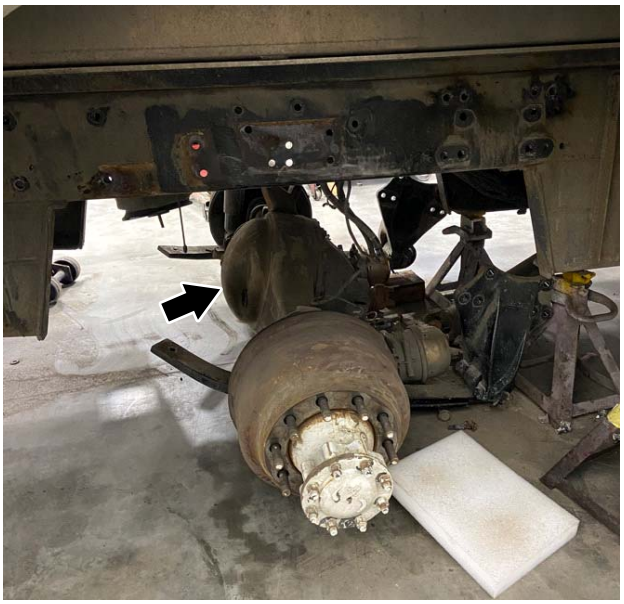

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Fig. 7, Rear Axle Removed from the Vehicle

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A. The rear axle is secured on the wheel dollies.
1. Lateral Control Rod
2. Wheel Dollies

Fig. 8, Rear Axle Placed on the Wheel Dollies

16. Remove the fasteners from both the ends of the lateral control rod, and remove the lateral control rod. Ensure that the driveline yoke is supported to prevent it from rolling forward. See **Fig. 9** and **Fig. 10**.

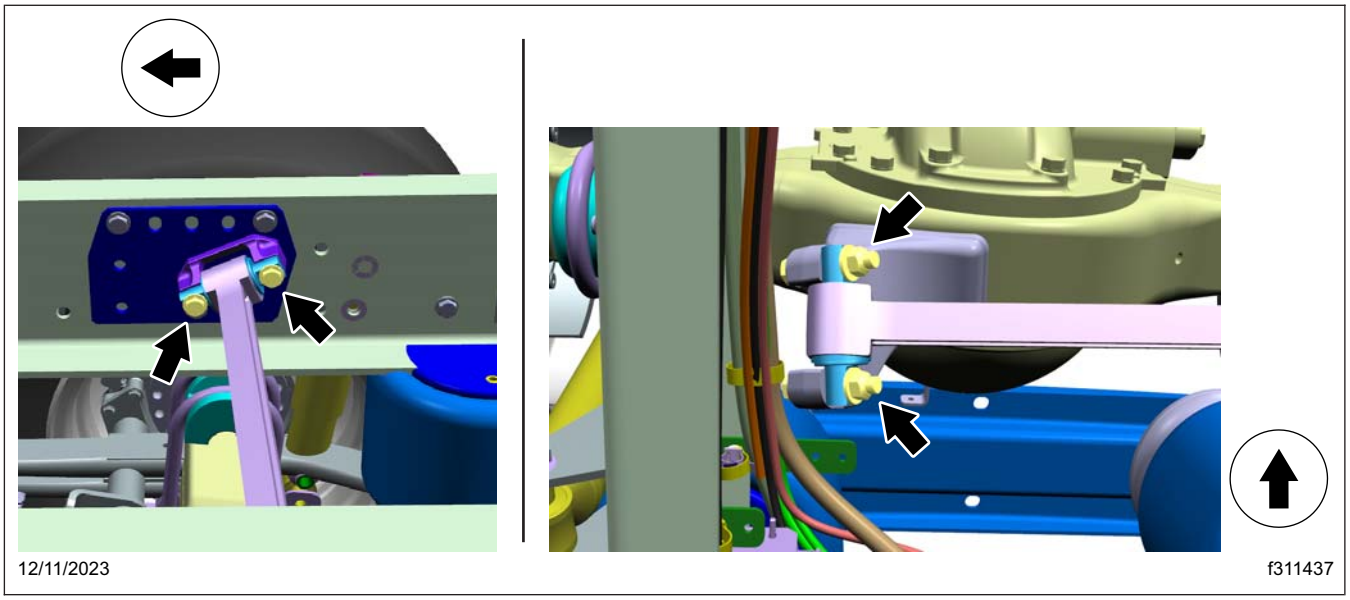


Fig. 9, Lateral Control Rod Mounting Fasteners

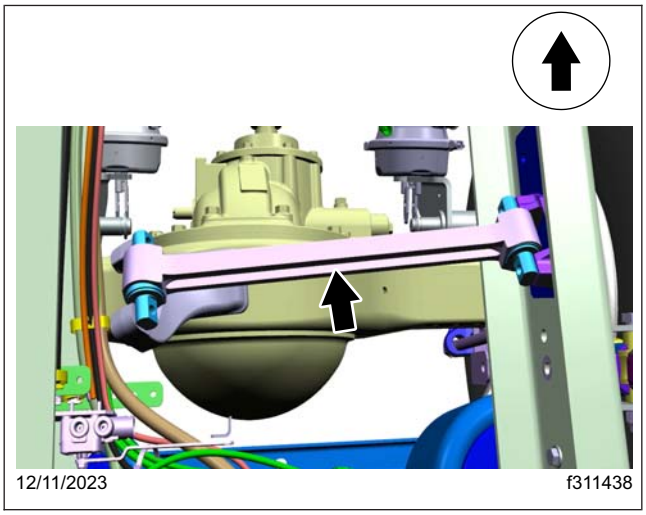
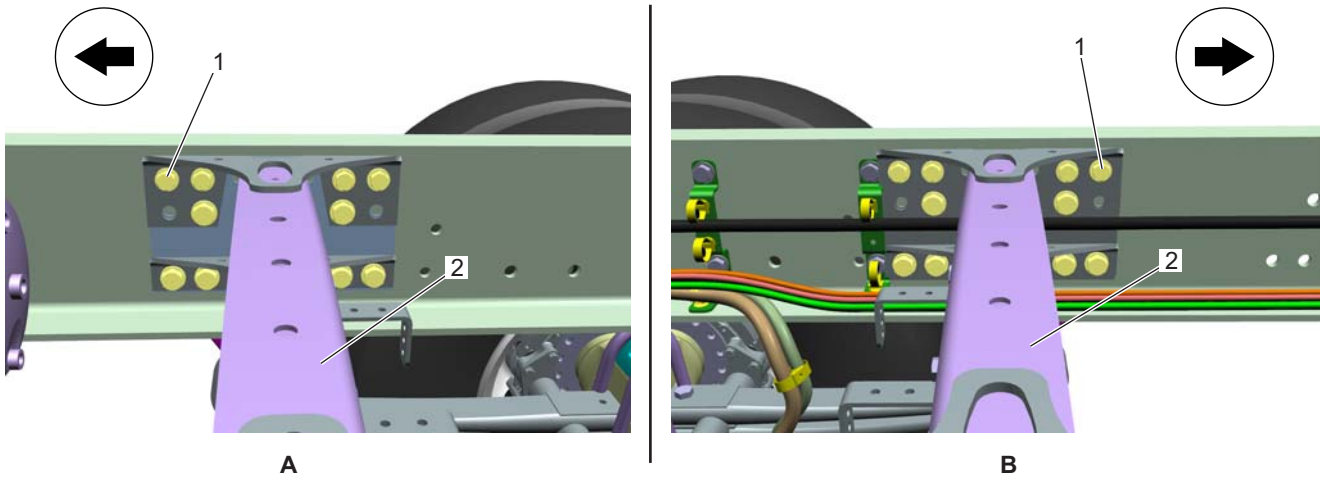


Fig. 10, Removal of the Lateral Control Rod

17. Carefully support and remove the axle stop on the outside of the right-hand side frame rail.
18. Remove the axle on the dollies by rolling it out of the side and store out of the way.
19. Carefully inspect the frame rail for any signs of cracks or damage around the lateral control rod backing plate.
    - If there is no crack/damage → continue with the **Installation of the L-Bracket** procedure below.
    - If there are cracks on the frame rail → go to the **Repair of the Frame Rail** procedure on page 14.
    - If there is damage on the frame rail → go to the **Replacement of the Frame Rail** procedure on page 18.

Installation of the L-Bracket

1. Remove the fasteners that attach the crossmember to both the frame rails. See **Fig. 11**.



A. Crossmember Right-Hand Mounting Bolts
B. Crossmember Left-Hand Mounting Bolts
1. Crossmember Mounting Fasteners (qty. 20)
2. Crossmember

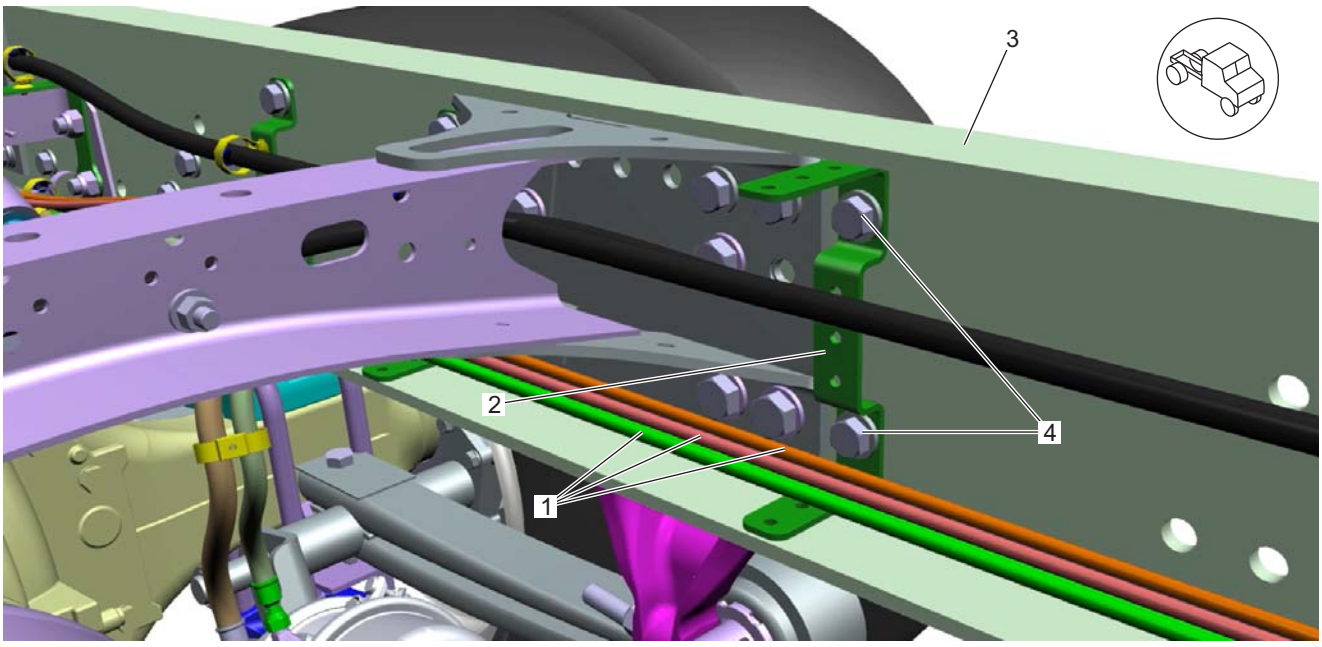
Fig. 11, Crossmember Mounting Fasteners

2. Cut the crossmember at a 45-degree angle, and remove it. See **Fig. 12**.

Fig. 12, Crossmember Cut at a 45-Degree Angle

IMPORTANT: **Do not** discard the left-hand side backing plate, the same plate is used during installation.

3. Discard the right-hand side crossmember backing plate.
4. Remove the fasteners that attach the rear shock absorber bracket to the frame rail.
5. Drill three additional holes on the L-bracket before installing the crossmember using a mag drill. These holes are for the frame brackets in **Fig. 13** and **Fig. 14**.



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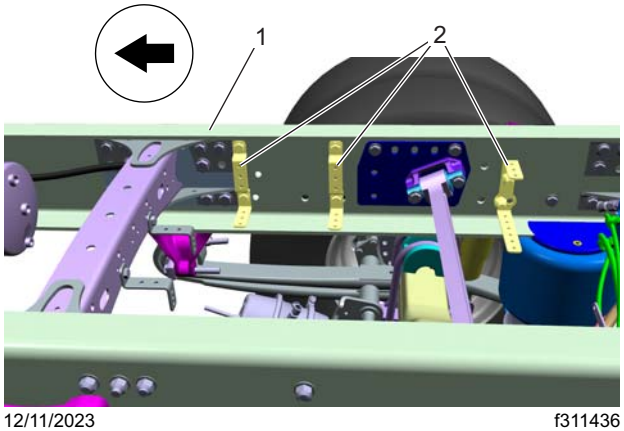
1. Wiring Harness and Hoses
2. Frame Bracket
3. Frame Rail
4. Mounting Fasteners

Fig. 13, Left-Hand Side Frame Brackets



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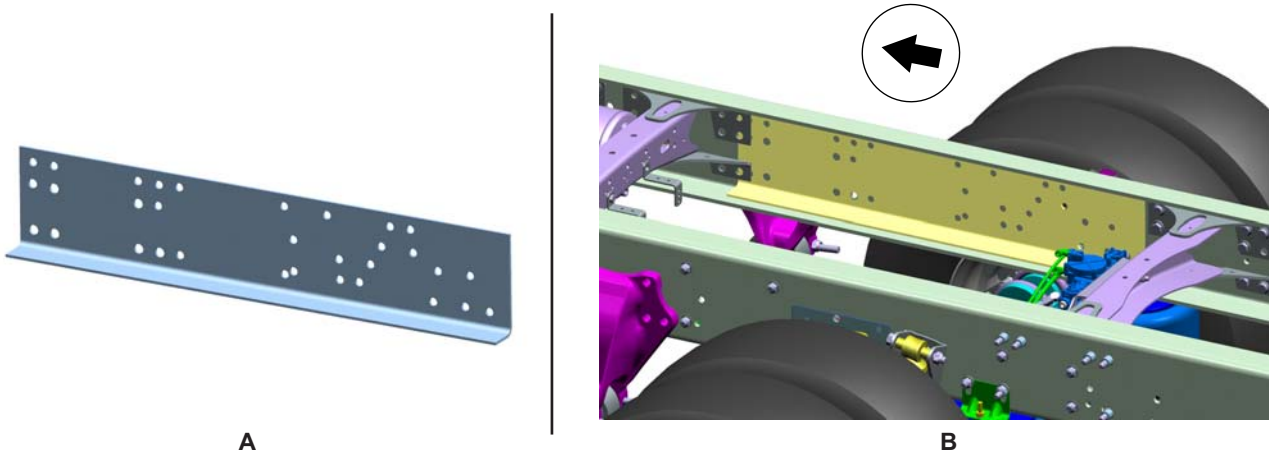
1. Frame Rail
2. Frame Brackets

Fig. 14, Right-Hand Side Frame Brackets

6. Slide the L-bracket inside the frame rail lining and align with the pre-drilled holes, as shown in **Fig. 15**.



A. L-Bracket
B. L-Bracket Fitted in Position

Fig. 15, Installation of the L-Bracket

7. Align the five-piece replacement crossmember mounting holes, and loosely assemble the crossmember in place. See **Fig. 16**.

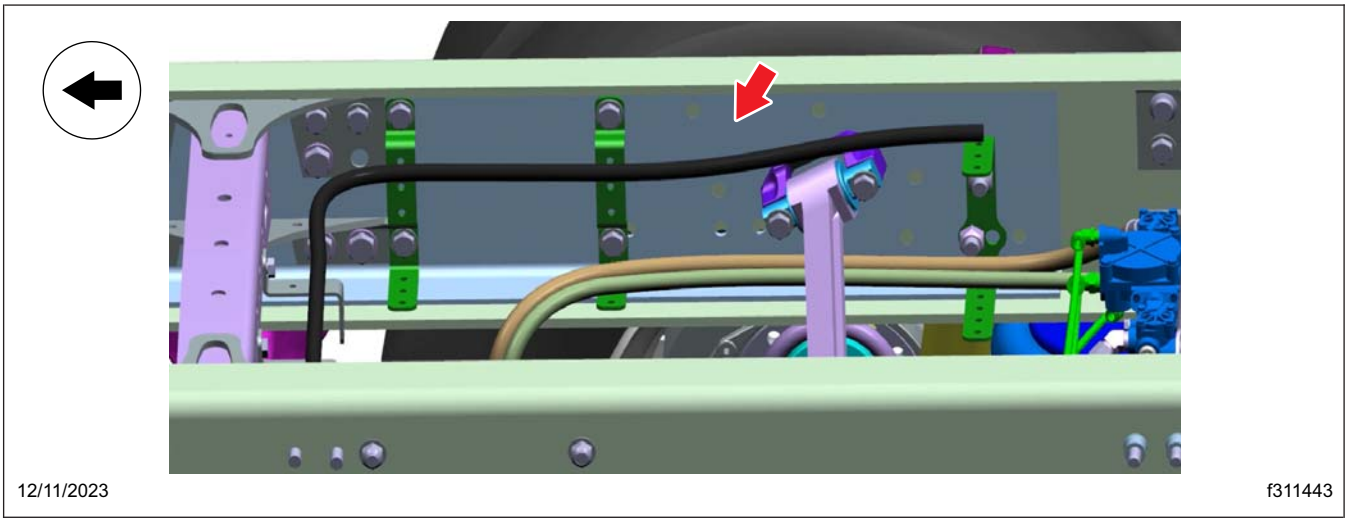


Fig. 16, L-Bracket Installed

8. Carefully raise the rear axle and secure it. Loosely install airbags, driveline, suspension hangers and shock absorbers.

9. Install the fasteners that attach the crossmember to both the frame rails.
   - If huck-style fasteners are used, install the huck collars on the bolts with a suitable tool.
   - If threaded bolts and locknuts are used, tighten the nuts to the corresponding coating torque values.

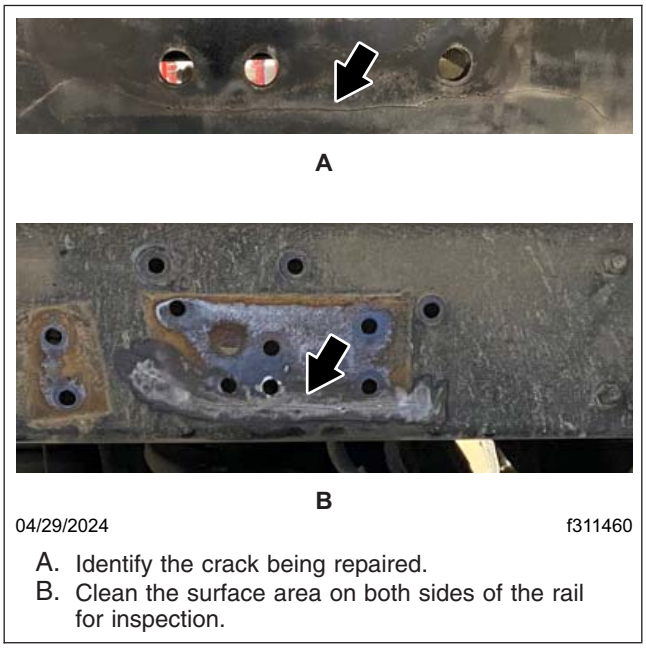
Fastener Type	Torque: lbf·ft (N·m)
5/8 XL	129 (175)
5/8 VLH	174 (236)
3/4 XL	200 (271)

Fastener Type	Torque: lbf·ft (N·m)
3/4 VLH	266 (361)

10. Install the mounting fasteners that secure the lateral control rod on both the ends. If equipped with XL fasteners, tighten the fasteners 129 lbf·ft (175 N·m). If equipped with VLH fasteners, tighten the fasteners 174 lbf·ft (236 N·m).
11. Install the bracket mounting fasteners that attach the brackets to the frame rails.
12. Install the rear shock absorber bracket fasteners that attach the bracket to the frame rail.
13. Gently move the wiring harness and hoses to their original positions. Connect the air lines to the rear axle or rear brakes.
14. Use suitable tie straps to secure the wiring harness and hoses with the brackets along the frame rails.
15. Install the wheels. For instructions, see **Group 40** of the *Business Class M2 Workshop Manual*.
16. Remove the jack stands, and lower the vehicle to the ground. For detailed instructions, see **Group 00** of the *Business Class M2 Workshop Manual*.
17. Clean a spot on the base label (Form WAR259), and attach a campaign completion sticker for SF671 (Form WAR261), indicating this work has been completed.

Repair of the Frame Rail Crack

1. Clean the inside and outside of the affected frame rail area.
2. Inspect the crack carefully to determine if it is repairable. See **Fig. 17**.



A. Identify the crack being repaired.
B. Clean the surface area on both sides of the rail for inspection.

Fig. 17, Crack Inspection

3. Remove the fasteners that attach the crossmember to both the frame rails.

4. Cut the crossmember at a 45-degree angle and remove it. See **Fig. 18**.

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Fig. 18, Crossmember Cut at a 45-Degree Angle

5. Remove the shock bracket.
6. Grind the crack 1/4 to 1/2 inch past each end of the crack to prevent further cracking. It is the responsibility of the welder to prepare their own work. See **Fig. 19**.

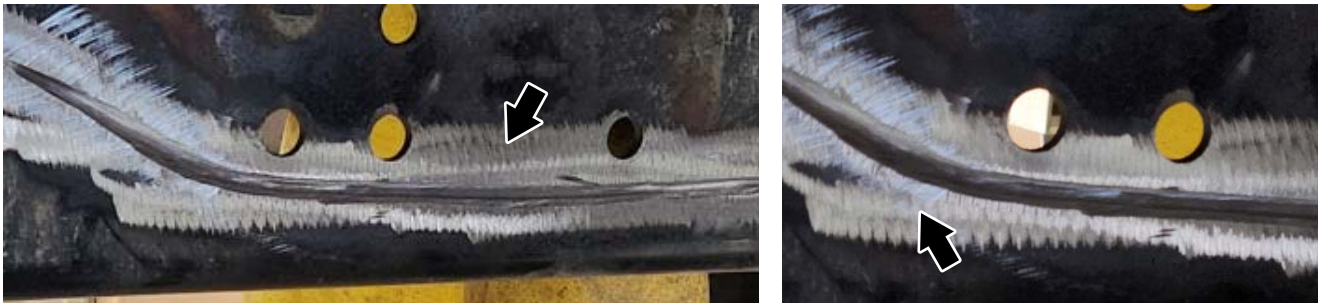

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Fig. 19, After Grinding 1/4 to 1/2 Inch Past Each End of the Crack on the Frame Rail

7. The welder must prepare and weld both sides of the frame rail.

8. Preheat the cracked area to 150°F before welding. See **Fig. 20**.

A **B**

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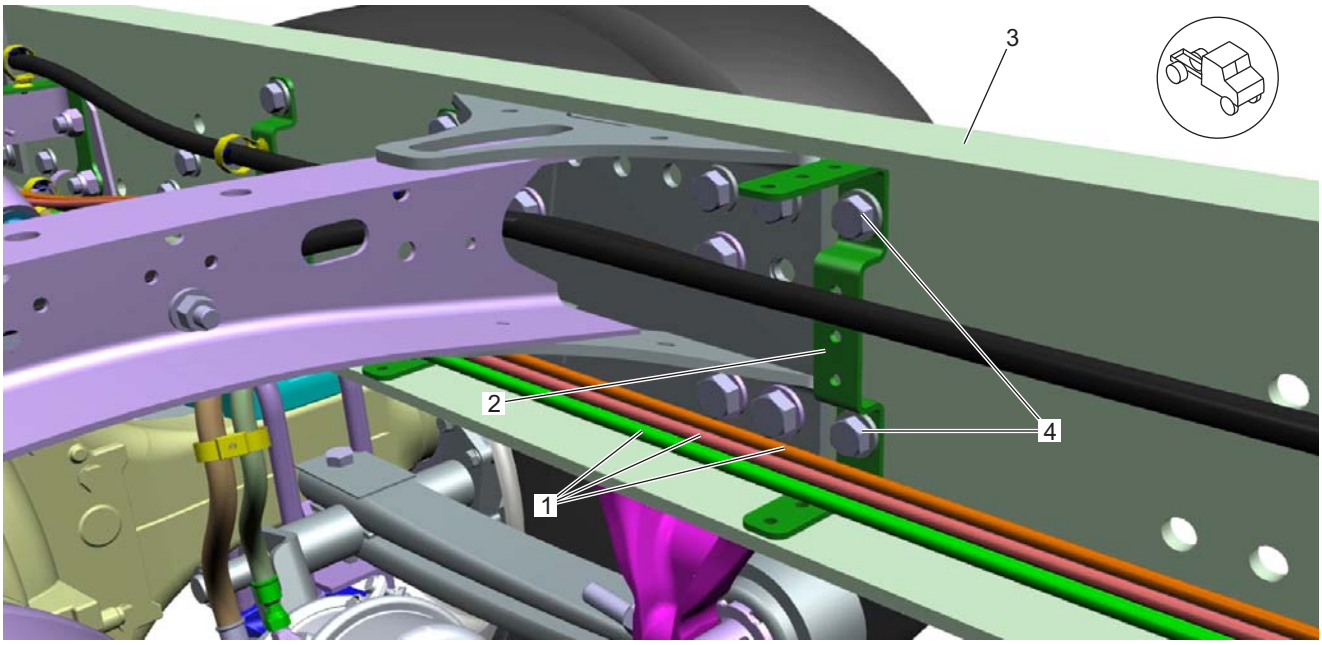
A. Carrying Out the Welding Process.
B. After Finishing the Welding Process.

Fig. 20, Welding the Frame Rail Crack

9. Materials required for the welding per AWS D-1.1:
   - Stick – E7018
   - Solid Wire – E70s-6
   - Flux Core – E71t-1
10. Grind all welds flush to the frame rail.

11. Drill three additional holes on the L-bracket before installing the crossmember using a mag drill. These holes are for the frame brackets in **Fig. 21** and **Fig. 22**.



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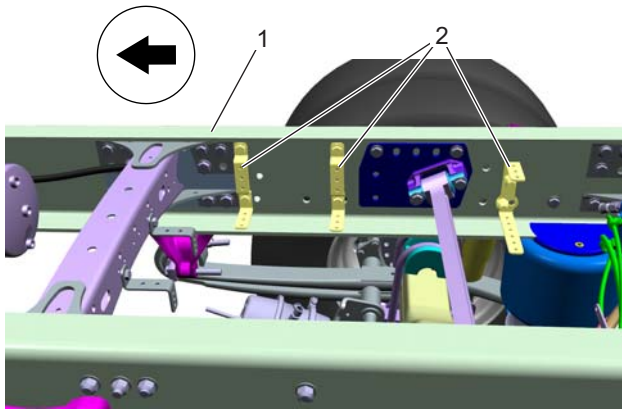
1. Wiring Harness and Hoses
2. Frame Bracket
3. Frame Rail
4. Mounting Fasteners

Fig. 21, Left-Hand Side Frame Brackets



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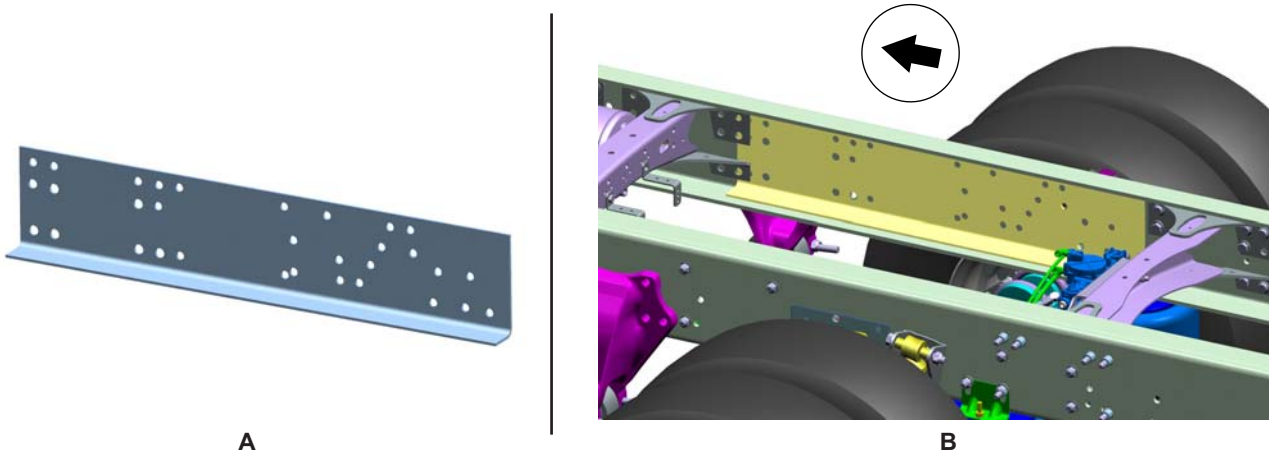
1. Frame Rail
2. Frame Brackets

Fig. 22, Right-Hand Side Frame Brackets

12. Apply the primer and paint on the welded areas.
13. Slide the L-bracket inside the frame rail lining and align with the pre-drilled holes, as shown in **Fig. 23**.



A. L-Bracket
B. L-Bracket Fitted in Position

Fig. 23, Installation of the L-Bracket

14. Discard the backing plates for the lateral control rod and forward crossmember.
15. Install the shock mount.
16. Install the bump stop and the backing plate.
17. Partially assemble the five-piece replacement crossmember, and install the fasteners finger-tight.
18. Place the crossmember between the frame rails.
19. Install the lateral control rod on the axle side, and install the fasteners finger-tight.
20. Raise the axle enough to install the lateral control rod to the frame rail. Install the control rod fasteners finger-tight. The axle stop is attached to the outside of the frame rail.
21. Raise the axle until it is aligned with the suspension hangers.
22. When the axle is in place, install the fasteners to secure the suspension hangers and crossmember.
23. Install the mounting fasteners that secure the lateral control rod on both the ends. If equipped with XL fasteners, tighten the fasteners 129 lbf·ft (175 N·m). If equipped with VLH fasteners, tighten the fasteners 174 lbf·ft (236 N·m).
24. Install the fasteners that attach the crossmember to both the frame rails.
    - If huck-style fasteners are used, install the huck collars on the bolts with a suitable tool.
    - If threaded bolts and locknuts are used, tighten the nuts to the corresponding coating torque values.

Fastener Type	Torque: lbf·ft (N·m)
5/8 XL	129 (175)
5/8 VLH	174 (236)
3/4 XL	200 (271)
3/4 VLH	266 (361)

25. Install and huck the right-hand side airbags. Fasten the left-hand side airbags to the leaf spring.
26. Install the air line bracket on the crossmember.
27. Install the driveline to the axle.
28. Install the air line brackets to the frame rail and tighten them.
29. Install all the air and power lines.
30. Install the wheels. For instructions, see **Group 40** of the *Business Class M2 Workshop Manual*.
31. Remove the jack stands, and lower the vehicle to the ground. For detailed instructions, see **Group 00** of the *Business Class M2 Workshop Manual*.
32. Clean a spot on the base label (Form WAR259), and attach a campaign completion sticker for SF671 (Form WAR261), indicating this work has been completed.

Replacement of the Frame Rail

1. Clean the inside and outside of the frame rail where the cuts should be removed.
2. Cut the forward crossmember at a 45-degree angle to remove it. See **Fig. 24**.

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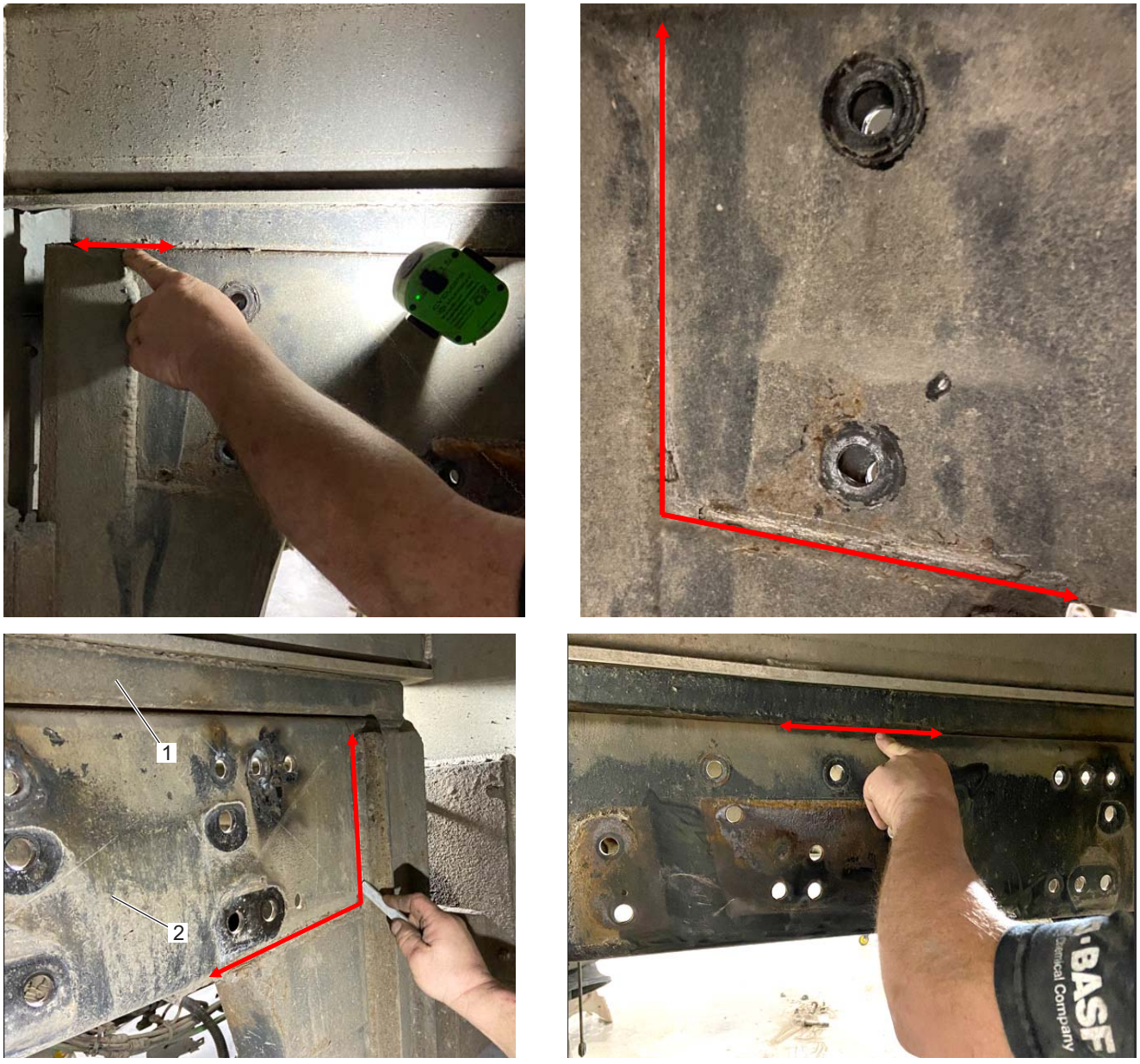
Fig. 24, Crossmember Cut at a 45-Degree Angle

3. Remove the shock bracket.

4. Use a paint pen or similar tool to mark the frame rail on both ends to indicate where cuts should be made. See **Fig. 25** .



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1. Upper Support
2. Frame Rail

Fig. 25, Marking the Frame Rail with a Paint-Pen

5. **For rail replacement procedure only:** Remove the hucks from the rear crossmember, and use bolts on the left-hand side to secure the crossmember. The rear crossmember can be taken out for cleaning, but it needs to be installed with bolts before welding the new frame rail. See **Fig. 26**.

Fig. 26, Rear Crossmember

IMPORTANT: **Do not** remove the upper support above the frame rail, as it provides support, and serves as a guide for the new rail.

6. Use a plasma cutter or similar tool to cut along the existing welds inside and outside the frame rail. It is easy to remove the frame rail in two pieces. See **Fig. 27**.

Fig. 27, Existing Welds on the Inside and Outside of the Frame Rail

7. The technician is responsible for the weld clean-up and preparation for the new rail installation. See **Fig. 28** and **Fig. 29**. The area must be squared for the new rail installation. The welder should make necessary corrections if required. See **Fig. 30** and **Fig. 31**.

Fig. 28, Before Cleaning-Up the Weld Remains

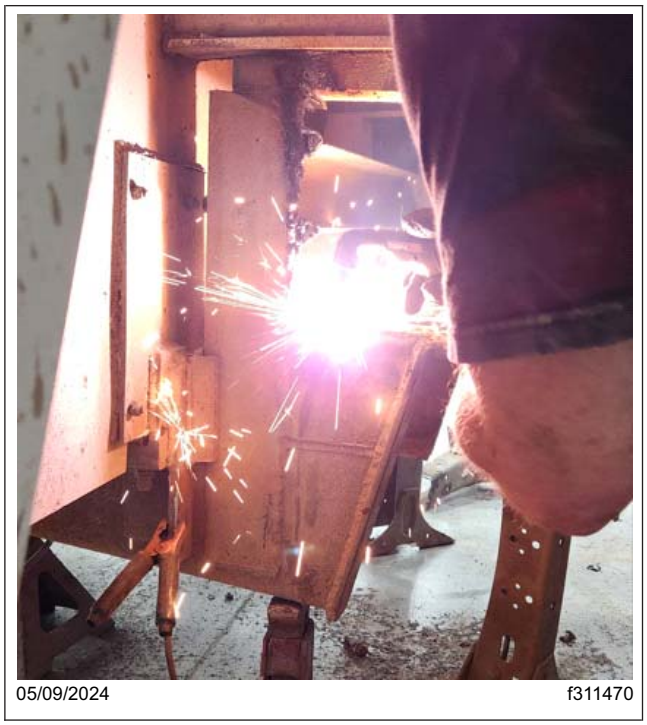

Fig. 29, Preparing for the New Rail Installation

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Fig. 30, Grinding the Cut Areas

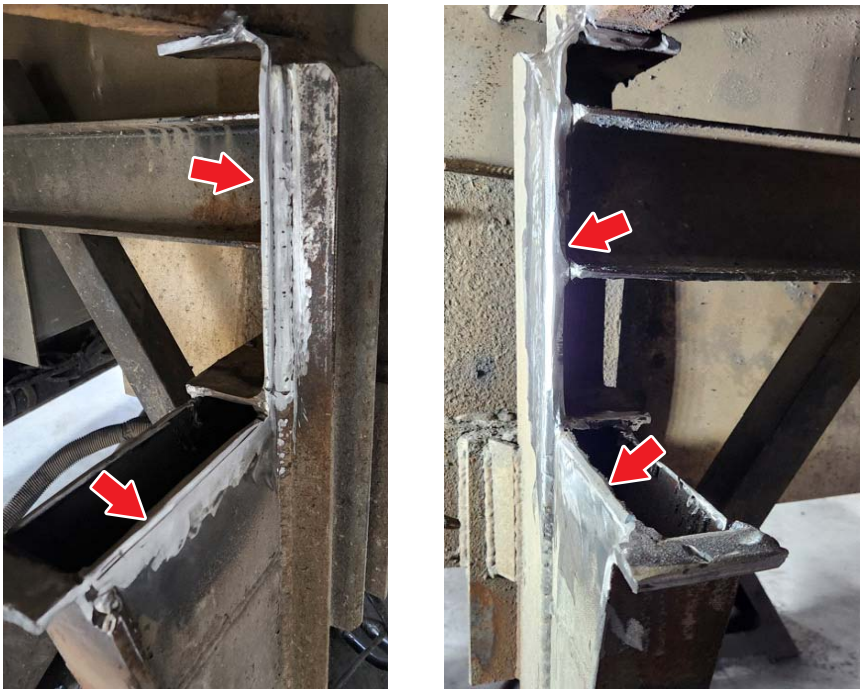

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Fig. 31, Old Weld Cleaned and Prepared for the New Frame Rail Installation

IMPORTANT: The replacement frame rail should meet the 50 ksi requirement. The fabrication shop should follow the given specifications for the replacement rail.

Figure 32 is the view from inside the frame rail. The new frame rail is made longer to allow the welder/fabricator to cut it down to the appropriate size for proper alignment. See **Fig. 33** and **Fig. 34**.

IMPORTANT: Unless otherwise specified, this material shall meet the requirements of ASTM (american society for testing and materials) A656. Material with thickness greater than 0.240 inch to one inch may be furnished to HSLAS-F (high-strength low-alloy steel with improved formability) requirements of ASTM A1018.

NOTE: It is recommended to use the old frame rail or the L-bracket as a template for the hole placement in the new rail. This does not cover the rear crossmember mounting holes; those are covered by the schematic shown in **Fig. 32**.

8. The welder/fabricator is responsible for measuring, cutting, preparing, and aligning the new rail for installation. See **Fig. 35** and **Fig. 36**.

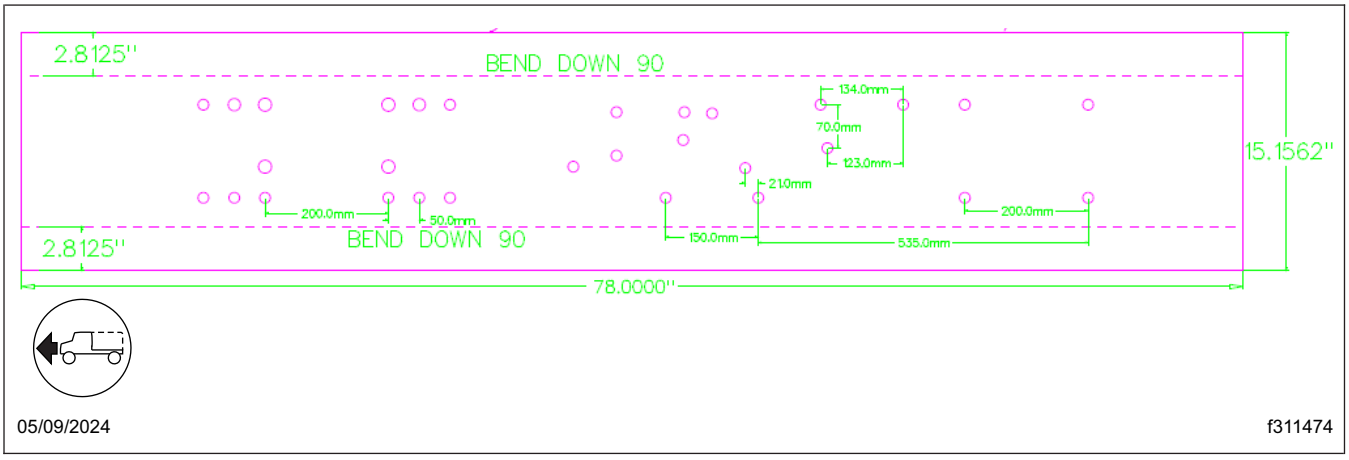
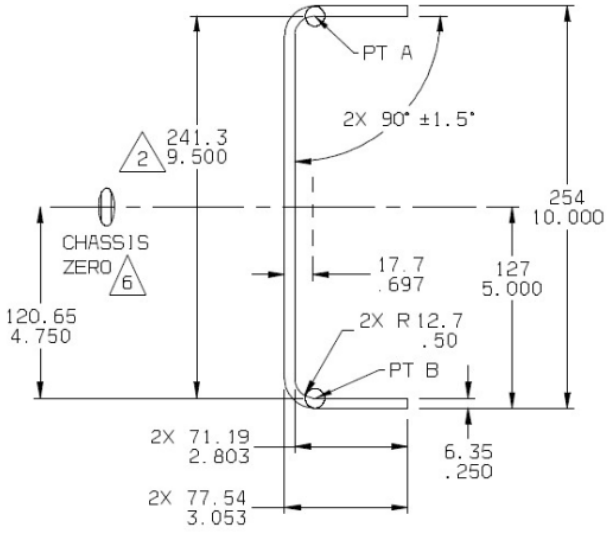


Fig. 32, New Rail Measurements



Area	MM^2 (IN^2)	2429.7 (3.766)
Flat	MM (IN)	379.4 (14.938)
1x-x	MM4 (IN4)	2.114 E7 (50.789)
1y-y	MM4 (IN4)	1.234 E6 (2.965)
Z	MM^3 (IN^3)	1.665 E5 (10.16)
RBM	lbf·in	@50ksi = 508,000
Mat'l Spec *Part Number*		15-20456-XXX
50 KSI		Steel per spec 48-00731-525 6.35 (0.25 in) Thick

Thickness, Nominal, Inch	**Grade 50**	
	As Rolled	**Pickled & Oiled**
0.250	–025	–525

Grade	Yield Strength, minimum, ksi	Tensile Strength, minimum, ksi	Elongation, min, %					
			ASTM A656		ASTM A1011		ATSM A1018	
			In 8 inches	In 2 inches	In 2 inches for thickness		In 8 inches	In 2 inches
					over .097 inches	up to .097 inches		
50	50	60	20	23	24	22	16	22

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Fig. 33, Cutting the New Frame Rail to the Required Length

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Fig. 34, New Frame Rail Cut to the Required Length

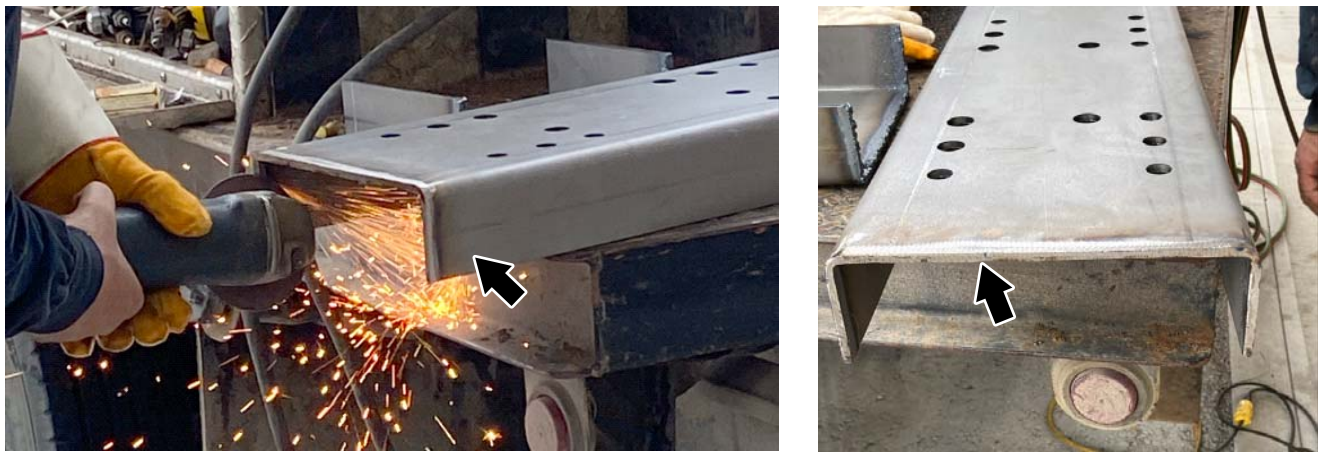

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Fig. 35, Cleaning Up the Weld Remains

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Fig. 36, Aligning the New Frame Rail

9. Preheat to 150°F before welding. See **Fig. 37**.

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Fig. 37, Preheating to 150-Degree Fahrenheit

10. Required methods for welding types per AWS D-1.1:
    - Stick – E7018
    - Solid Wire – E70s-6
    - Flux Core – E71t-1

11. Tack the new rail in place and lay the final welds. Ensure all seams inside and outside the frame rail are welded. See **Fig. 38** and **Fig. 39**.

    Figure 40 shows completed seam welds.

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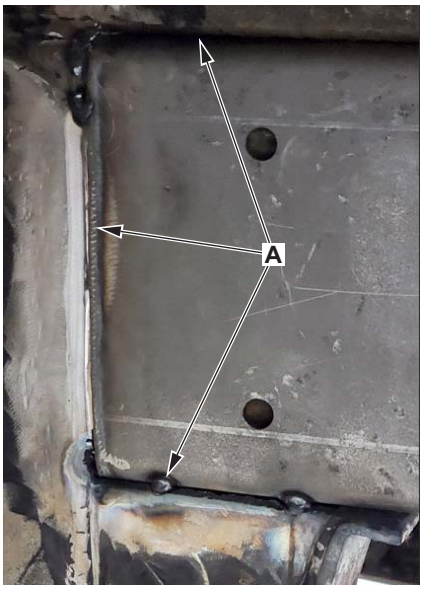
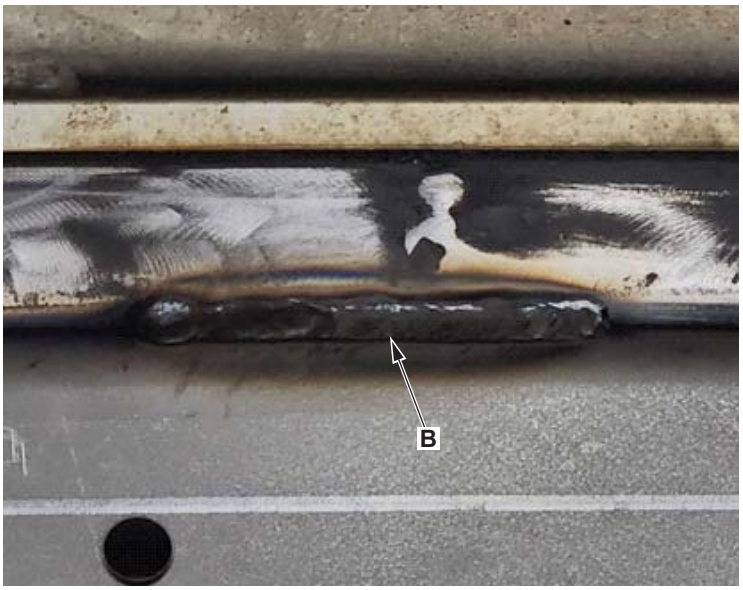
Fig. 38, Laying the Final Weld





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A. Tack Welds and Seam Welds

B. The new frame rail is tacked to the upper support.

Fig. 39, Final Weld

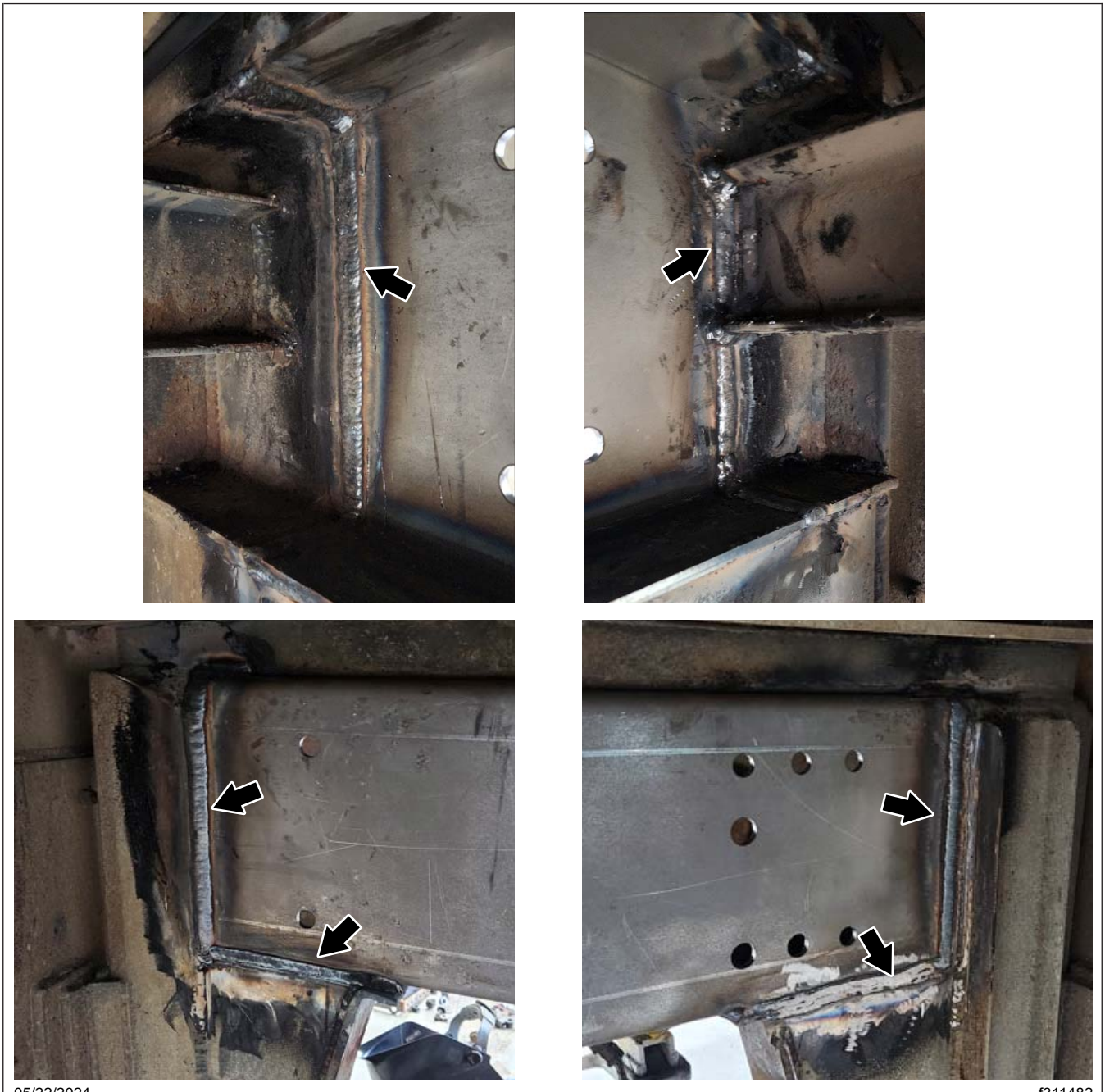

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Fig. 40, Completed Seam Welds

12. Clean and prepare the new frame rail for paint.
13. Apply primer and paint on the inside and outside of the new frame rail. See **Fig. 41** .

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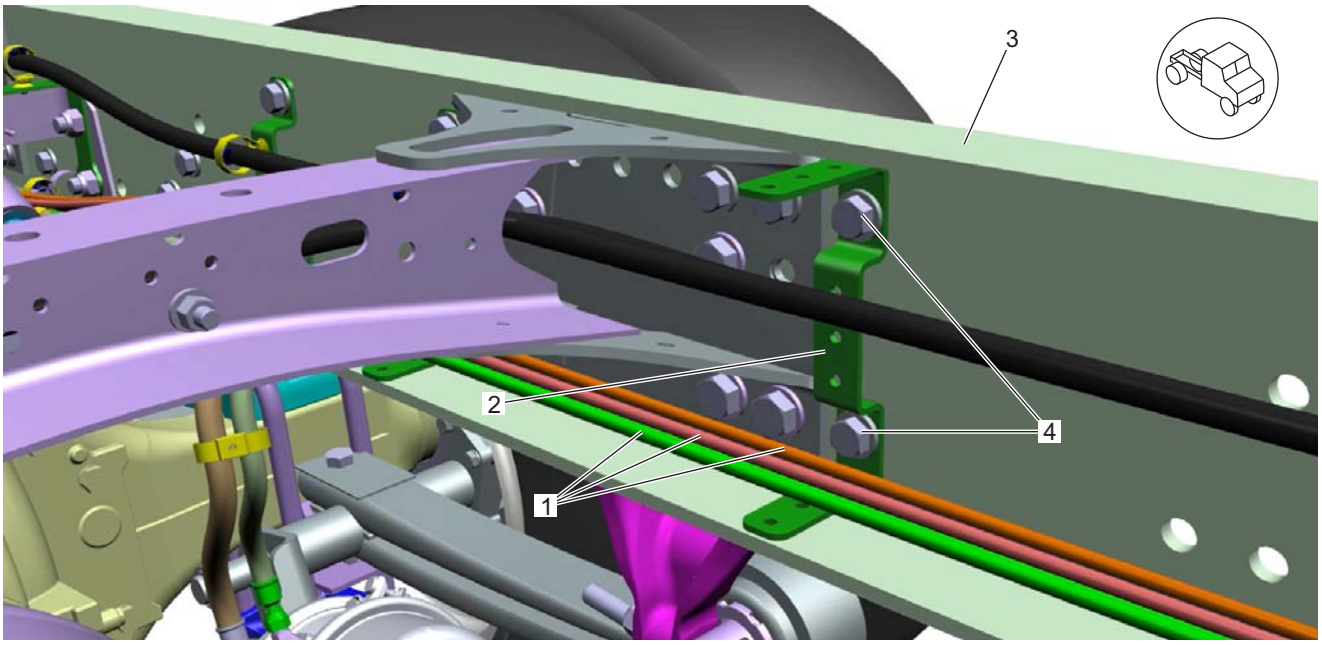
Fig. 41, Primer and Paint Applied on the New Frame Rail

14. Drill three additional holes on the L-bracket before installing the crossmember using a mag drill. These holes are for the frame brackets in **Fig. 42** and **Fig. 43**.



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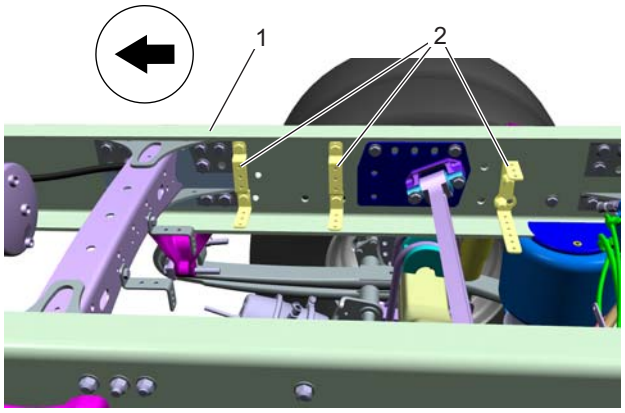
1. Wiring Harness and Hoses
2. Frame Bracket
3. Frame Rail
4. Mounting Fasteners

Fig. 42, Left-Hand Side Frame Brackets



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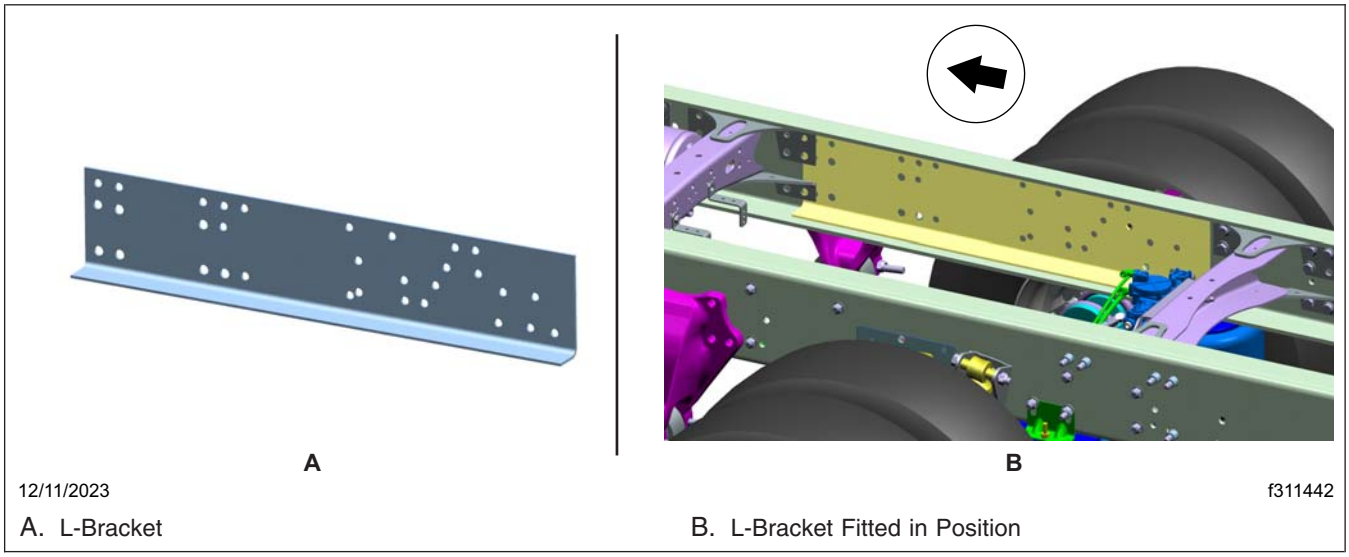
1. Frame Rail
2. Frame Brackets

Fig. 43, Right-Hand Side Frame Brackets

15. Slide the L-bracket inside the frame rail lining and align with the pre-drilled holes, as shown in **Fig. 44**.



A. L-Bracket
B. L-Bracket Fitted in Position

Fig. 44, Installation of the L-Bracket

16. Discard the lateral rod and the forward crossmember backing plates.
17. Install the shock mount.
18. Install the bump stop and the backing plate.
19. Remove the bolts from the rear crossmember and huck into place.
20. Partially assemble the five-piece replacement crossmember, and install the bolts finger-tight.
21. Position the crossmember between the frame rails.
22. Move the axle under the vehicle, and position it in place.
23. Install the lateral rod on axle side, and install the fasteners finger-tight.
24. Raise the axle enough to install the lateral rod on the frame rail, and install the fasteners finger-tight. The axle stop is attached to the outside of frame rail.
25. Raise the axle in place, and align the suspension hangers.
26. When the axle is in place, install the fasteners to secure the suspension hangers and crossmember.
27. Install the mounting fasteners that secure the lateral control rod on both the ends. If equipped with XL fasteners, tighten the fasteners 129 lbf·ft (175 N·m). If equipped with VLH fasteners, tighten the fasteners 174 lbf·ft (236 N·m).
28. Install the fasteners that attach the crossmember to both the frame rails.
    - If huck-style fasteners are used, install the huck collars on the bolts with a suitable tool.
    - If threaded bolts and locknuts are used, tighten the nuts to the corresponding coating torque values.

Fastener Type	Torque: lbf·ft (N·m)
5/8 XL	129 (175)
5/8 VLH	174 (236)
3/4 XL	200 (271)
3/4 VLH	266 (361)

29. Install and huck the right-hand side airbags. Fasten the left-hand side airbags to the leaf spring.
30. Install the air line bracket on the crossmember.
31. Install the driveline on the axle.
32. Install the air line brackets to the frame rail and tighten them.
33. Install all the air lines and power lines.
34. Install the wheels. For instructions, see **Group 40** of the *Business Class M2 Workshop Manual*.
35. Remove the jack stands, and lower the vehicle to the ground. For detailed instructions, see **Group 00** of the *Business Class M2 Workshop Manual*.
36. Clean a spot on the base label (Form WAR259), and attach a campaign completion sticker for SF671 (Form WAR261), indicating this work has been completed.