



# GENERAL SERVICE BULLETIN

## Load box reinforcement for Hard Top Canopy installation

**23-7044**

26 April 2023

### Model:

Ranger	Year: 2022-2023 Assembly Plant: Silverton
Ranger - Raptor 2022.75	Year: 2022.75 Onwards Assembly Plant: THAILAND LTD PLANT BUILD (AAGB7)

**Markets:** All European markets

### Summary

**NOTE: This is a customer paid upgrade only. No cost coverage by Ford Motor Company.**

To support structural integrity of the load box on the all-new Ranger 2023 when a **Hard Top Canopy** is fitted, vehicles require the installation of genuine Ford load box reinforcement brackets.

This General Service Bulletin should be followed in conjunction with the instructions supplied with the load box reinforcement brackets, Ranger 2022 Body and Equipment Mounting Manual (BEMM) and the 2022 Ranger Workshop Manual (WSM) on PTS.

On some variants it is not required to remove the wheel arch liner and there is no need to unclip/realign the fuel vent hose.

### Labor Times

Description	Operation No.
Load box reinforcement - Installation Double Cab variants (1.2 hours)	770440R23
Load box reinforcement - Installation Super Cab variants (0.5 hours)	770440R22

### Material / General Equipment

Material / General Equipment	Source of supply
∅ 4.0 mm HSS cobalt drill	commercial available
∅ 6.5 mm HSS cobalt drill	
Pneumatic body saw	
Mini belt grinder	
Pneumatic rivet tool (Huck rivet tool preferred)	
Ranger Raptor 2022.75: Kit - Brace Body Side Panel Rear Service (1 off)	Finis Code: 2 664 322
Ranger 2023: Kit - Brace Body Side Panel Rear Service (1 off)	Finis Code: 2 649 591
Bolt and Washer M12x47 (2 off) (W715381-S442)	Finis Code: 1 723 566
Rivets / Clips (If Required)	see Microcat EPC
Cleaner T-VR	Finis Code: 2 341 955
Corrosion protection wax (50 ml are essential)	Finis Code: 1 219 834

### Service Information

#### Hard Top Canopy

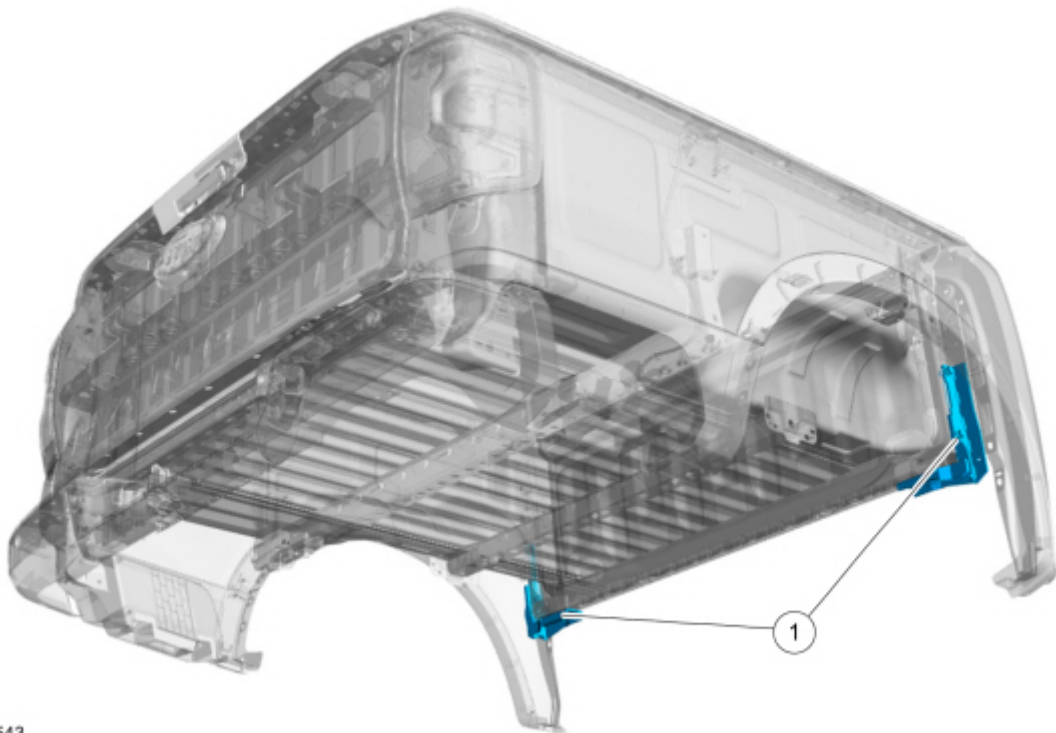
Hard Top Canopy installed on Ranger with Double Cab (Example image)



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### Installation position of the load box reinforcement brackets

Reinforcement brackets (both sides)



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Item	Description
1	Reinforcement brackets (both sides)

Reinforcement brackets - Detail view



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**Load box reinforcement - Installation (vehicles with Double Cab shown)**

1. Remove the aero lip on both sides (where fitted).
  - Discard the rivets.



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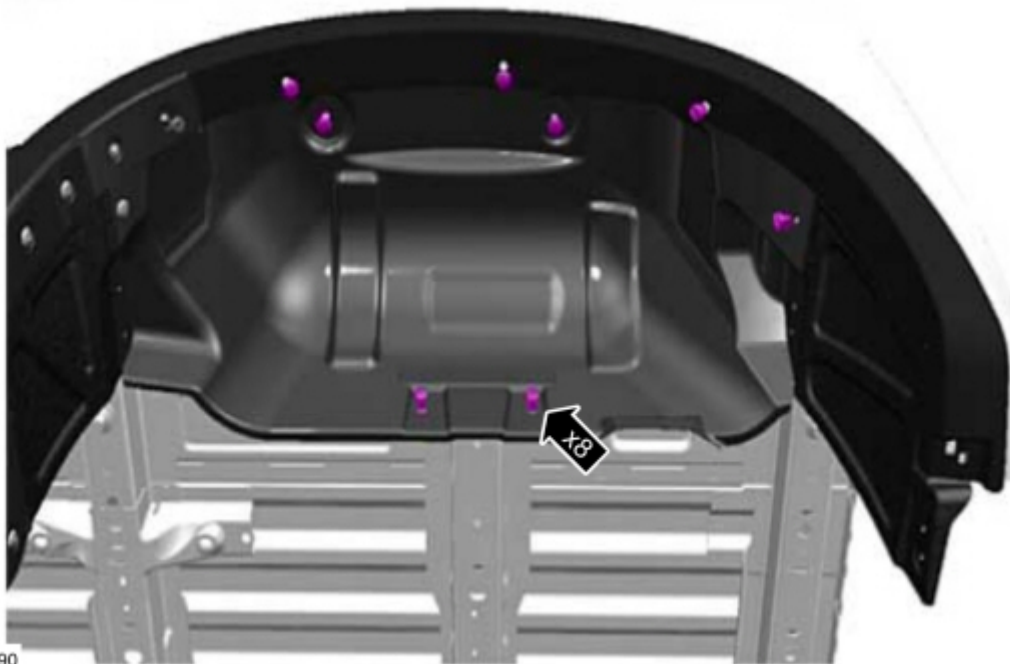
**NOTE:** The rivet mandrel is made from high strength stainless steel. To avoid melting the splash shield, drill out the mandrel with a sharp  $\varnothing$  4.0 mm HSS cobalt drill. Drill on a slow speed and attach vice grips or pliers to the back of the rivet to act as a heat sink.

2. Remove the lower bolt and carefully remove the rivets from the rear wheel arch liner **on both sides**.



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3. Once the mandrel has been drilled out, drill out the aluminum body of the rivet with  $\varnothing$  6.5 mm HSS cobalt drill. Clean up any remaining rivet head with a mini belt grinder.
4. Remove the rivets (8 off) from the rear wheel arch liner **on both sides**.



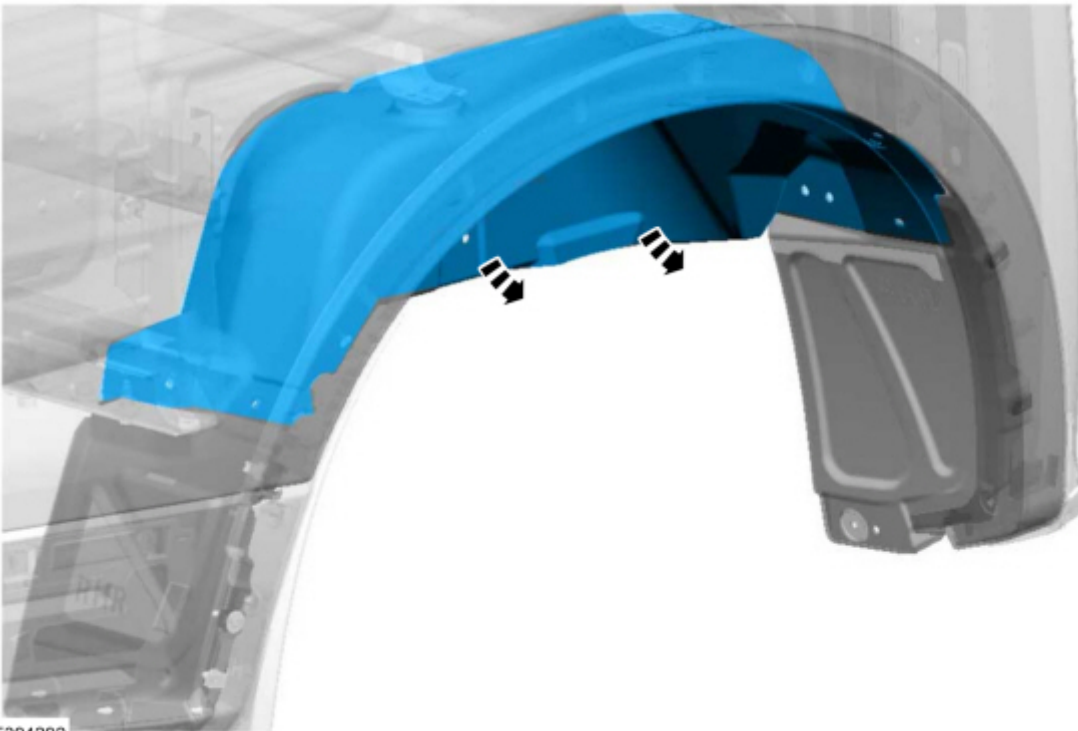
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5. Slide the outer lip of the wheel arch liner out from under the wheel lip moulding by pushing it towards the centre of the vehicle. Take care not to damage the wheel lip liner.
  - RHS shown. Repeat for the LHS.



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6. Remove the rear wheel arch liner **on both sides**.

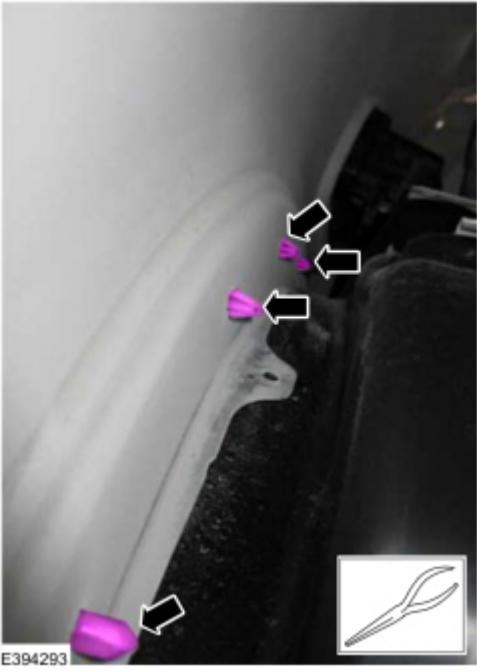


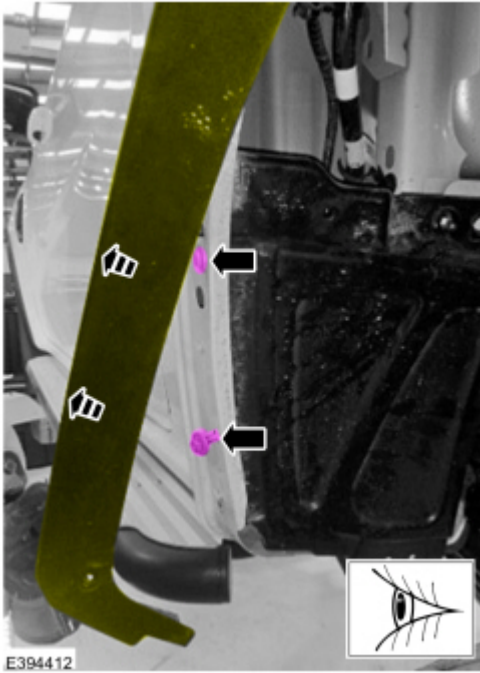
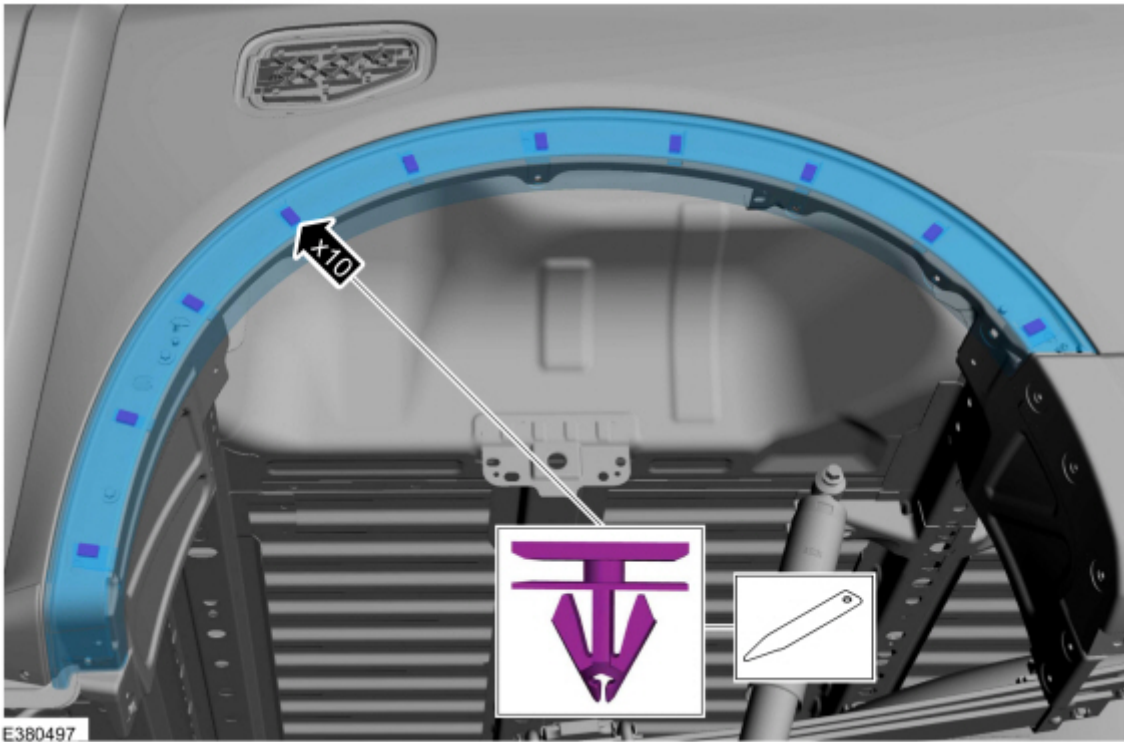
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7. Squeeze the clips on the back of the wheel arch lip and pull the front part of the front part of the wheel arch lip from the tub to expose the splash guard bolts.

- Use a 8 mm socket to squeeze the clip.
- Refer to the following four illustrations for details.







8. Carefully pull back the wheel arch lip moulding to access the lower rear arch moulding bolts (2 off). Remove the bolts and the push pin. Detach the lower rear arch moulding from the vehicle.

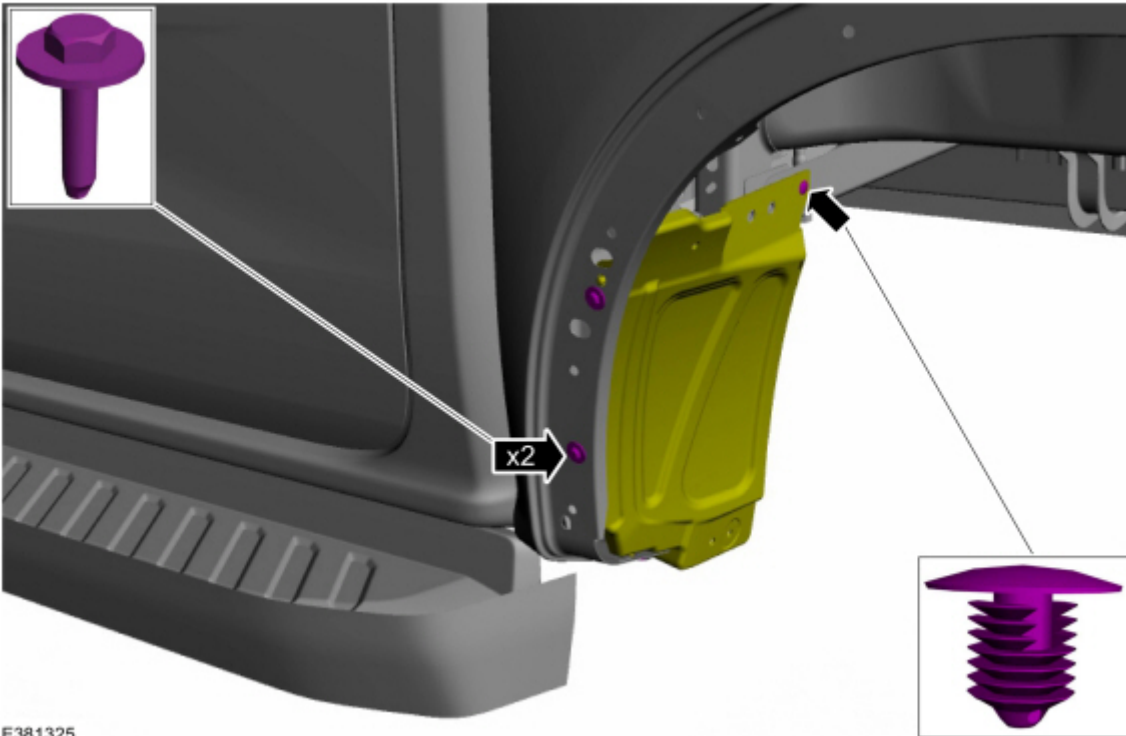
- RHS shown. Repeat for the LHS.



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9. Remove the rear wheel front side splash shield push pin.

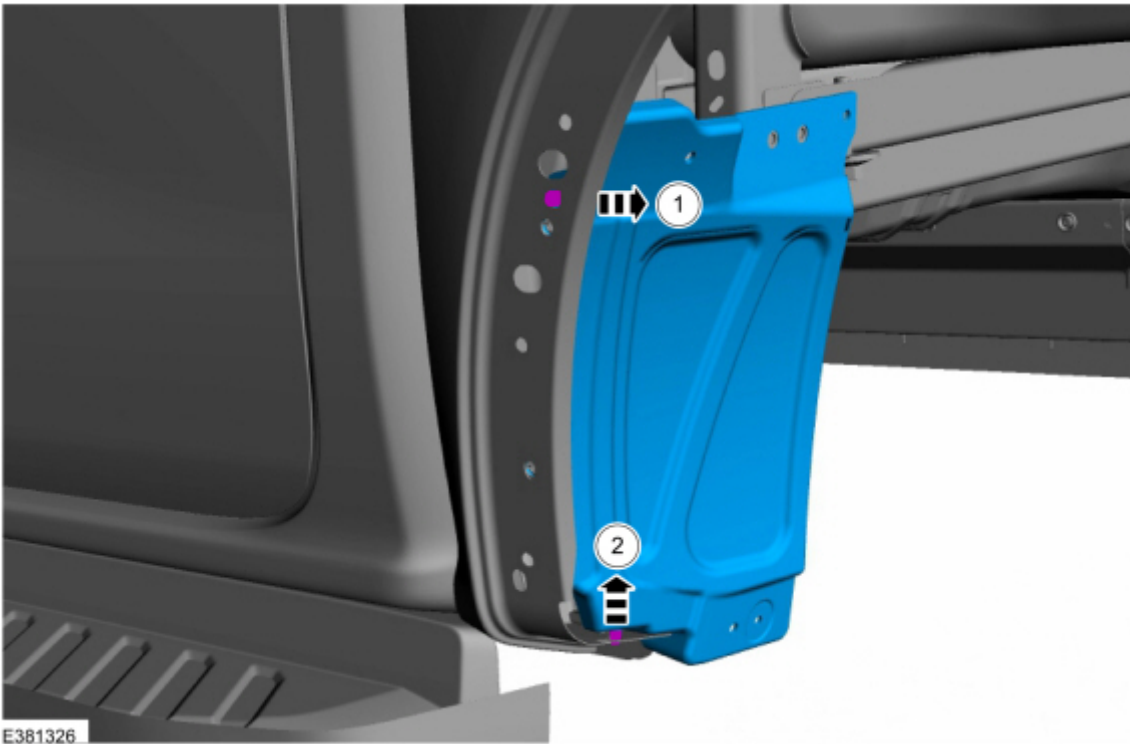
- RHS shown. Repeat for the LHS.



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10. Remove the rear wheel front side splash shield **on both sides**.



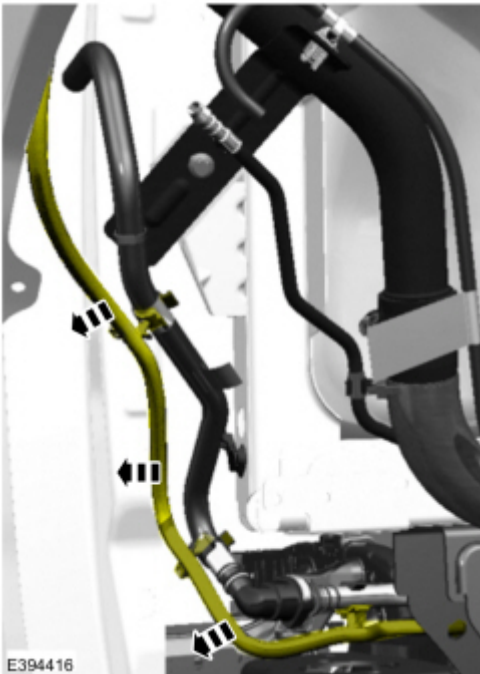


11. Where applicable, unclip the roller shutter wiring harness as shown (RHS only).



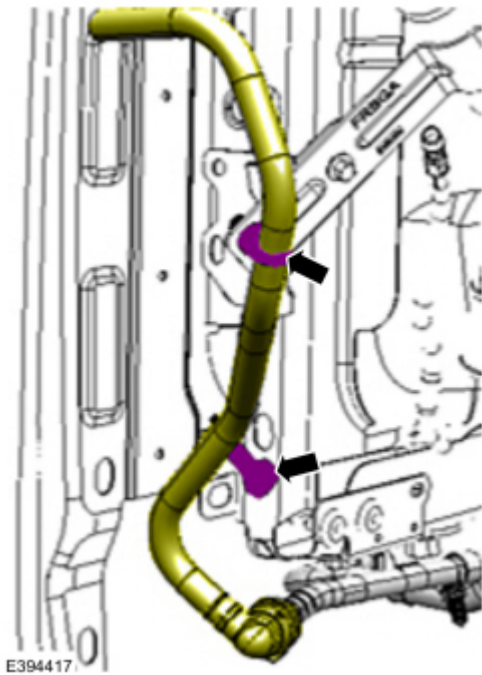
12. Where applicable, unclip the wiring harness from the fuel vent hose (LHS only).

- Refer to the following two illustrations for details.

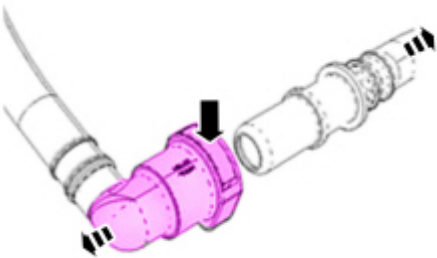


**13.** Unclip the fuel vent hose from the vehicle body. Disconnect the hose from the elbow connector by pushing down on the clip. Cap both sides of the fuel vent hose to prevent debris from entering (LHS only).

- Refer to the following two illustrations for details.

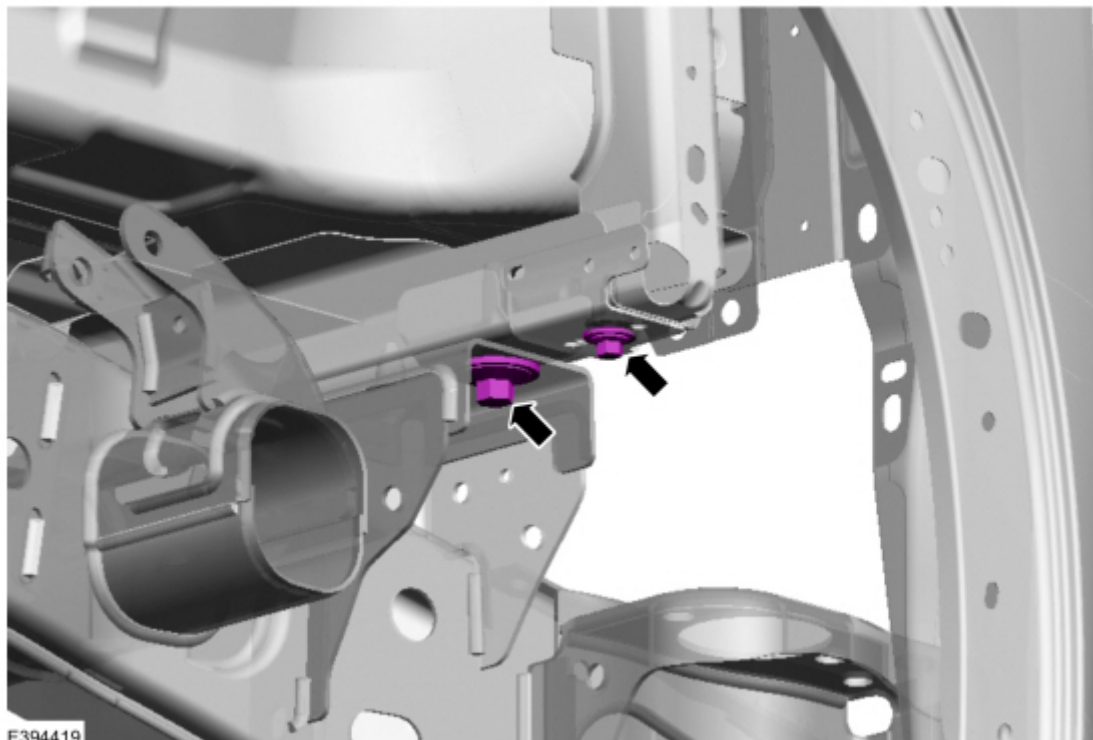


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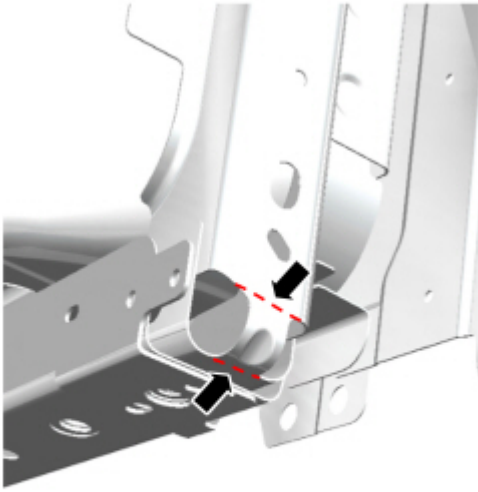
E394418

14. Remove and discard the M12x47 bolts.
- RHS shown. Repeat for the LHS.



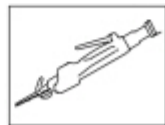
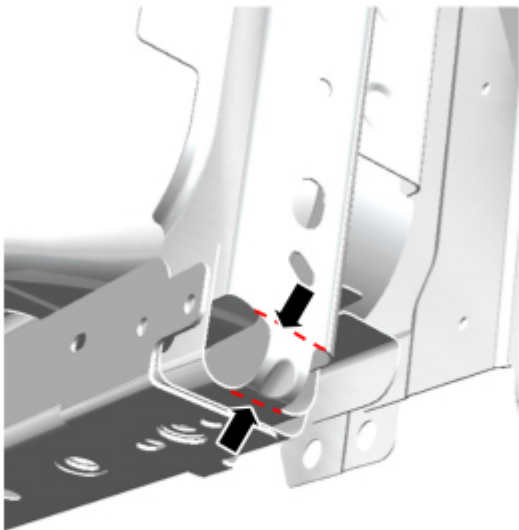
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15. Scribe cutting lines on the tub reinforcement channel **on both sides**..



E394420

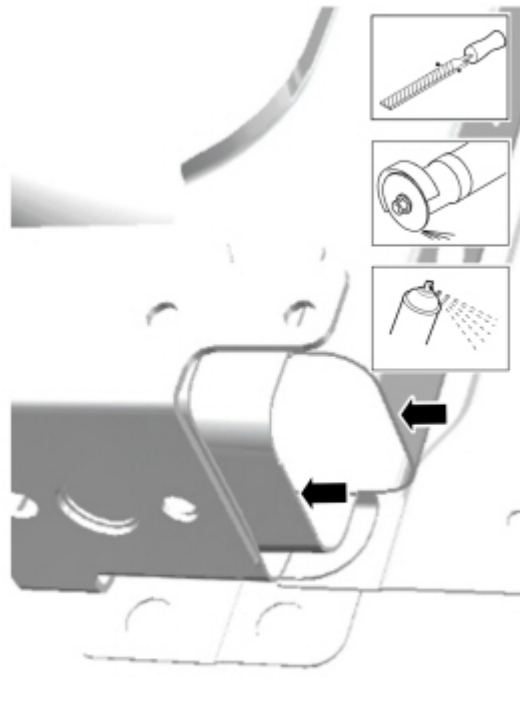
16. Cut the corners out of the tub reinforcement channel as shown with an air body saw. Remove any burrs, sharp edges, and swarf from the cutting. Remove burrs or sharp edges with a file or mini grinder. Clean the repair area, apply primer, paint and corrosion protection in reference to the body repair manual.

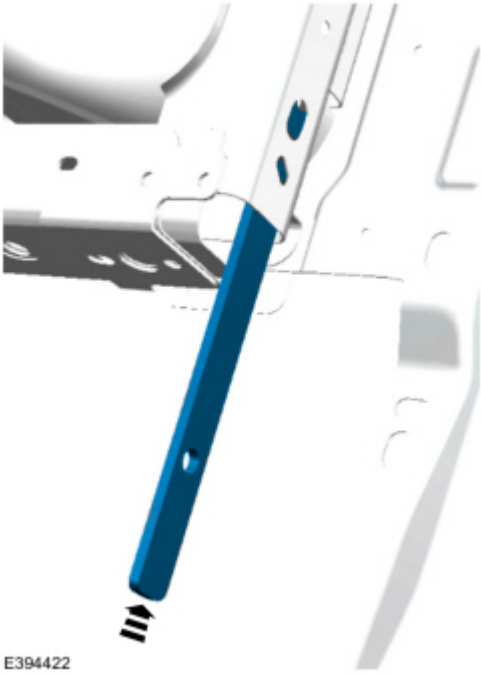


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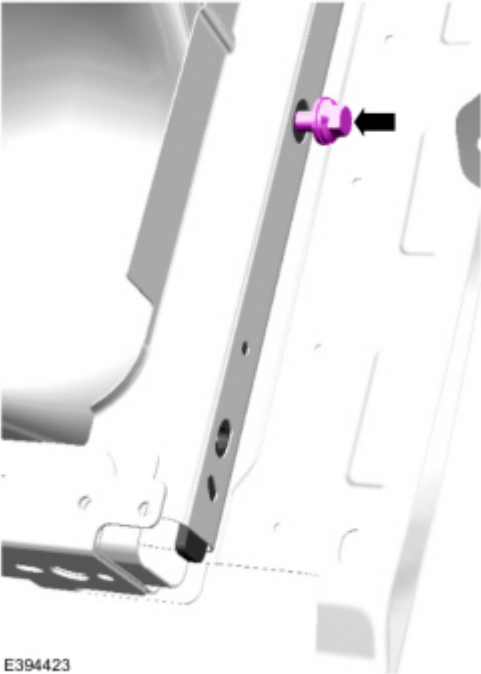
17. Insert the nut plate into the opening and finger tighten the upper bracket bolt M10x25 (Part No. W503314-S442) (to hold the nut plate in place). **DO NOT** tighten the upper bolt yet.

- RHS shown. Repeat for the LHS.





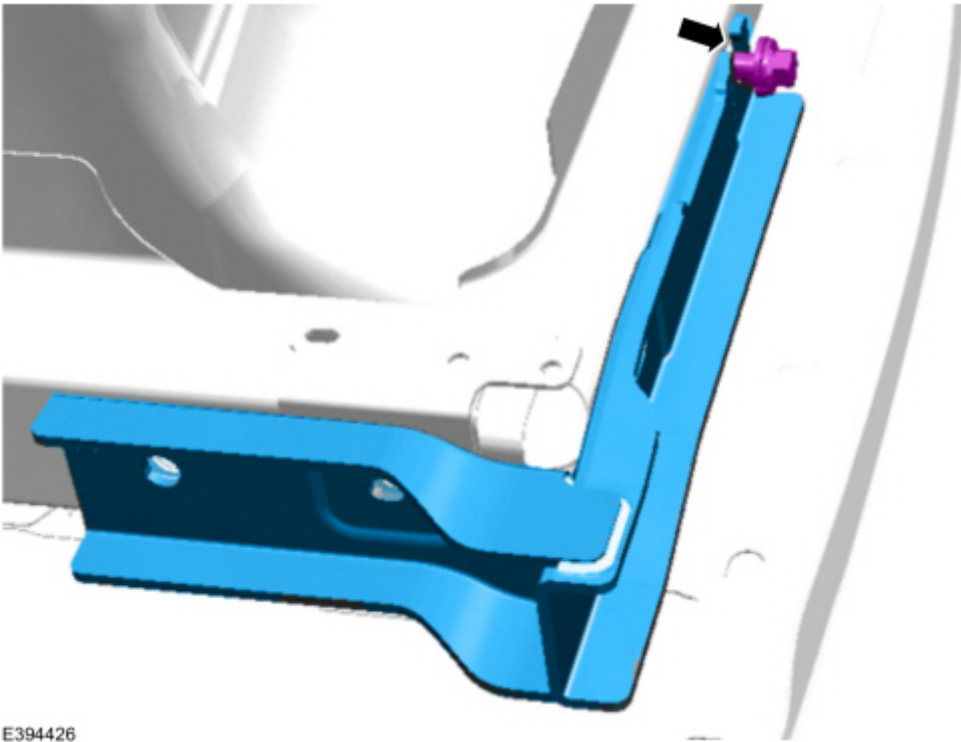
E394422



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18. Slide and hook the bracket into place over the top bolt. **DO NOT** tighten the upper bolt yet.

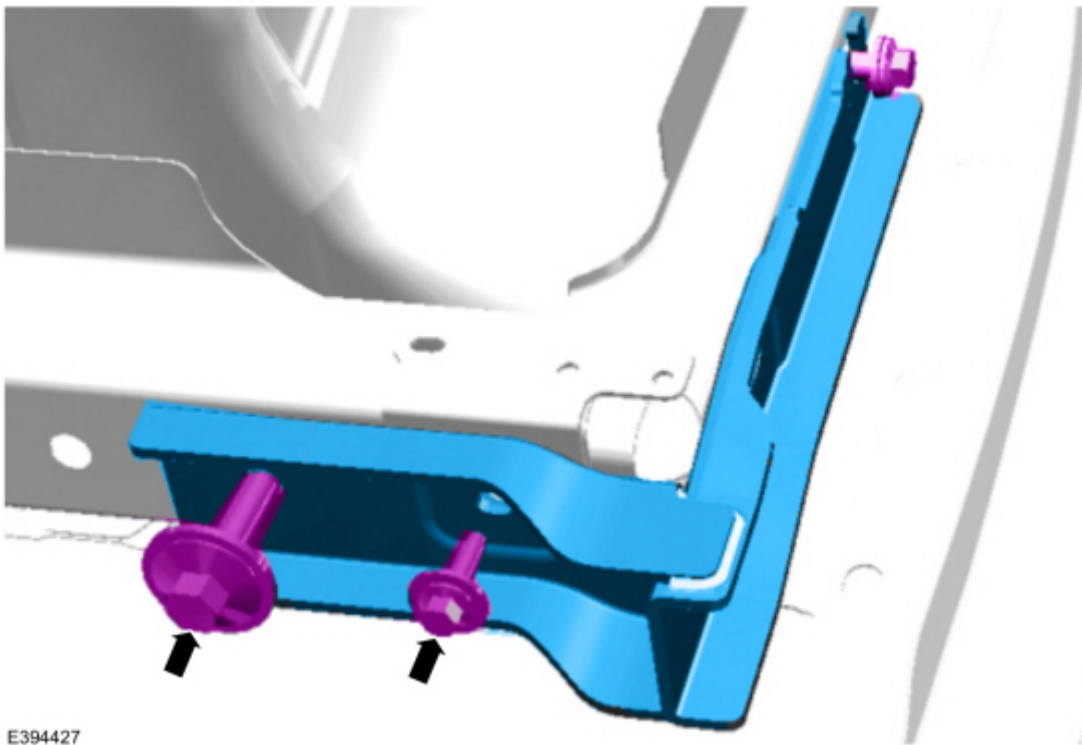
- RHS shown. Repeat for the LHS.



E394426

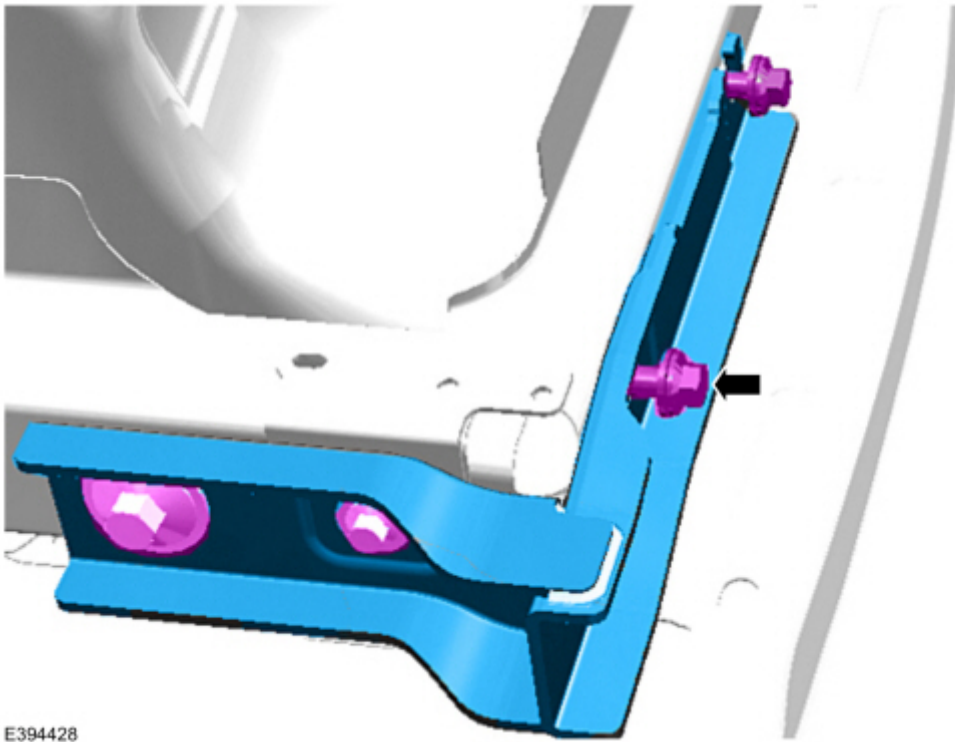
**19.** Install the new M12x47 structural bolt, existing M8x25 bolt (Part Number W711806-S422) and remaining upper bracket bolt M10x25 (Part Number W503314-S442).

- Tighten these bolts finger tight only. Repeat for the LHS.



E394427

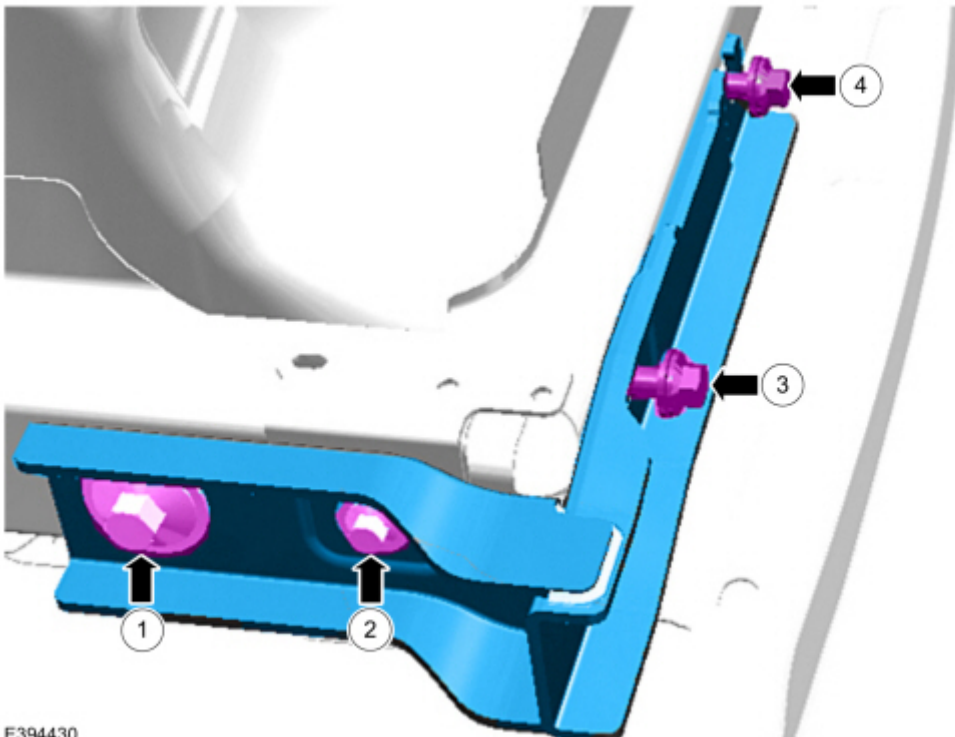




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**20.** Tighten the structural bolts in the sequence as shown **on both sides**.

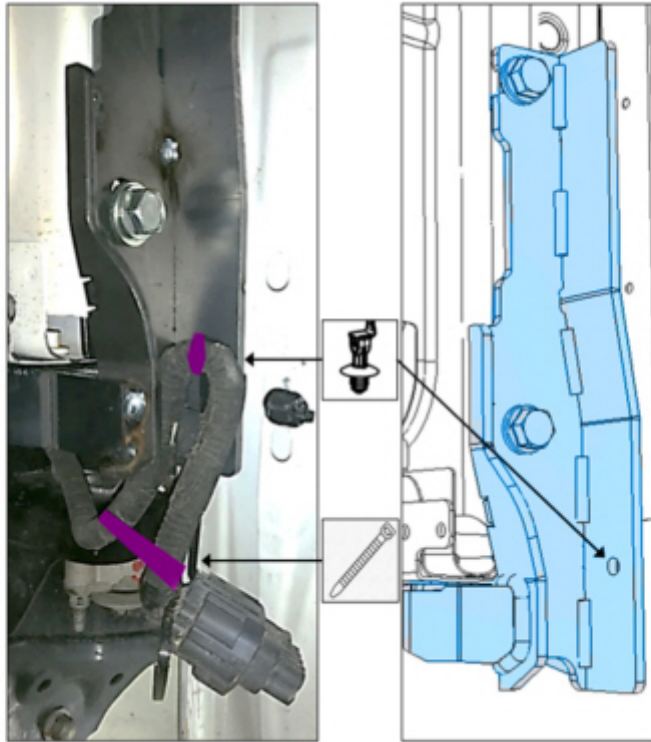
- (1). Torque: M12x47 -  $125.5 \pm 18$  Nm
- (2). Torque: M8x25 -  $25 \pm 3.8$  Nm
- (3). Torque: M10x25 -  $47.5 \pm 7.2$  Nm (lower)
- (4). Torque: M10x25 -  $47.5 \pm 7.2$  Nm (upper)



E394430

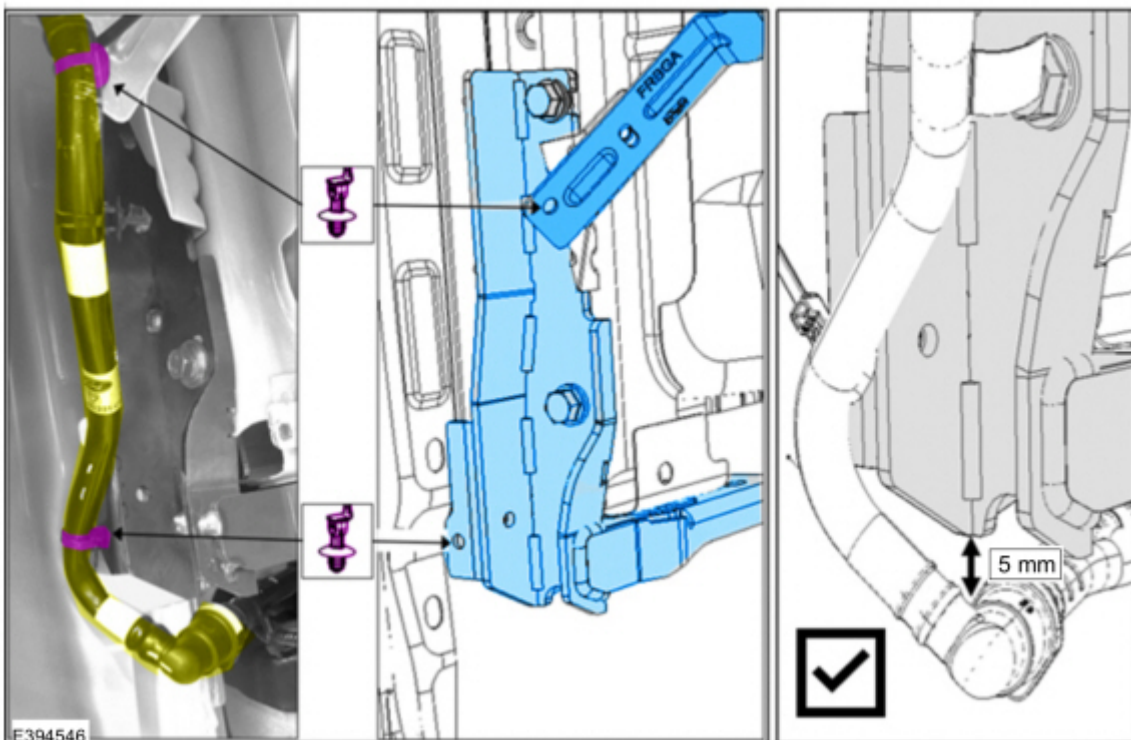
**21.** Where applicable, refit the wiring harness. Use the provided tie straps to secure the electrical connector and any loose harness as shown (RHS only).

E394549



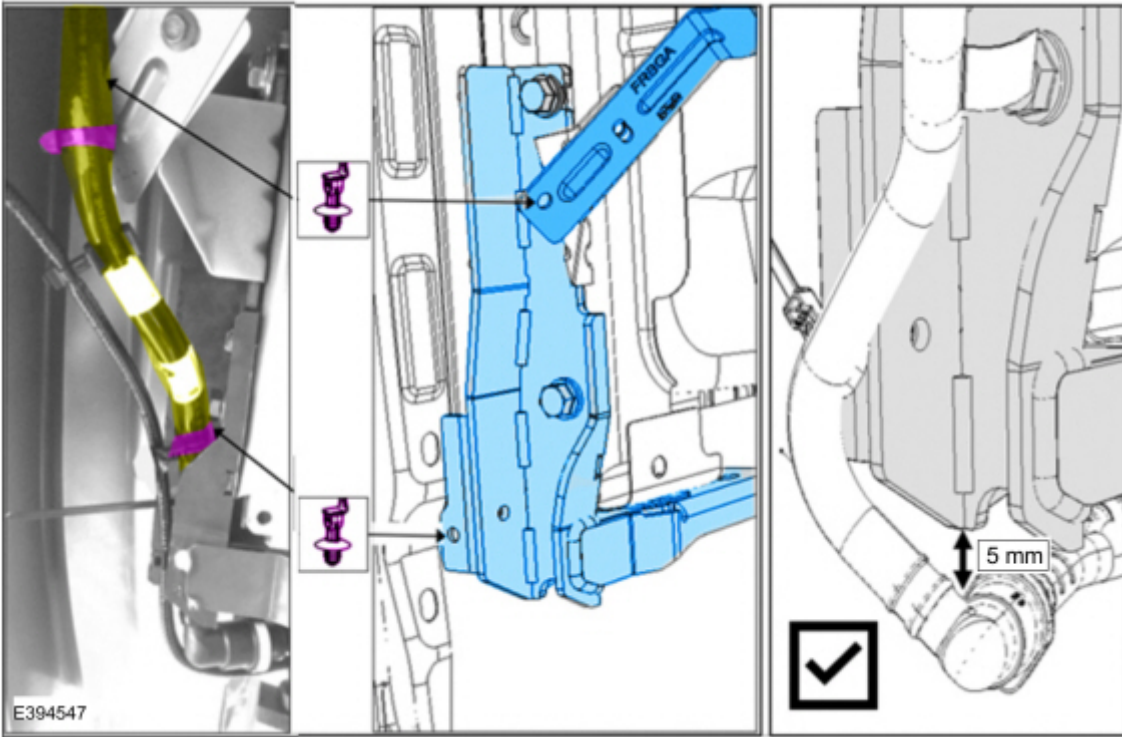
**NOTE: Vehicles with Diesel engine only.**

**22.** Re-position the fuel vent hose. Replace the existing tie strap clips on the fuel vent hose and fit onto the brackets as shown. **DO NOT** reuse the existing tie strap clips (LHS only).

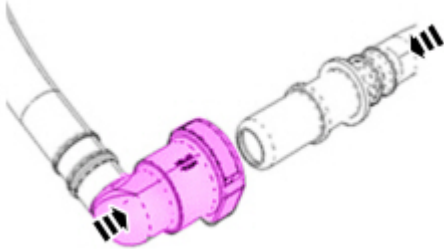


**NOTE: Vehicles with Petrol engine only.**

**23.** Re-position the fuel vent hose. Replace the existing tie strap clips on the fuel vent hose and fit onto the brackets as shown. **DO NOT** reuse the existing tie strap clips (LHS only).



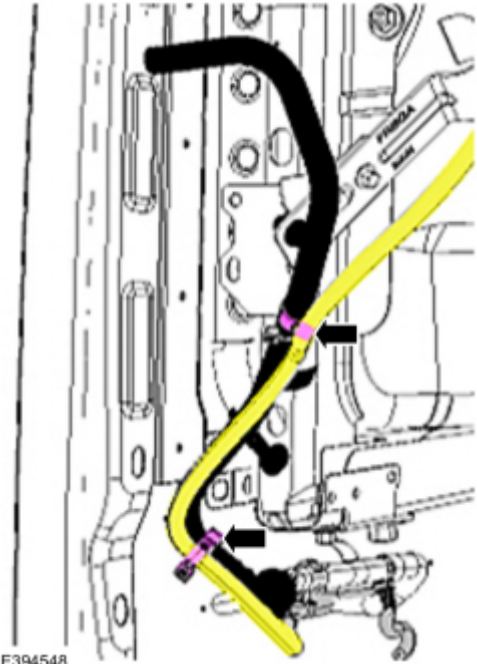
24. Remove the caps from the fuel vent hose. Reconnect the fuel vent hose at the elbow connector. Ensure the hose is connected and the clip is fully engaged (RHS only).



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**NOTE: All fuel line and wiring harnesses must comply with the Ford Ranger 2022 Body and Equipment Mounting Manual (BEMM) requirements.**

25. Where applicable, reinstall the wiring harness back to the fuel vent hose (RHS only).



E394548

**NOTE: The rivets are a structural part of the assembly, so correct rivets and assembly methods must be used.**

26. Install the wheel arch liner and splash guards. Using a pneumatic rivet gun, install the new rivets supplied in the kit. Refit the lower bolt.

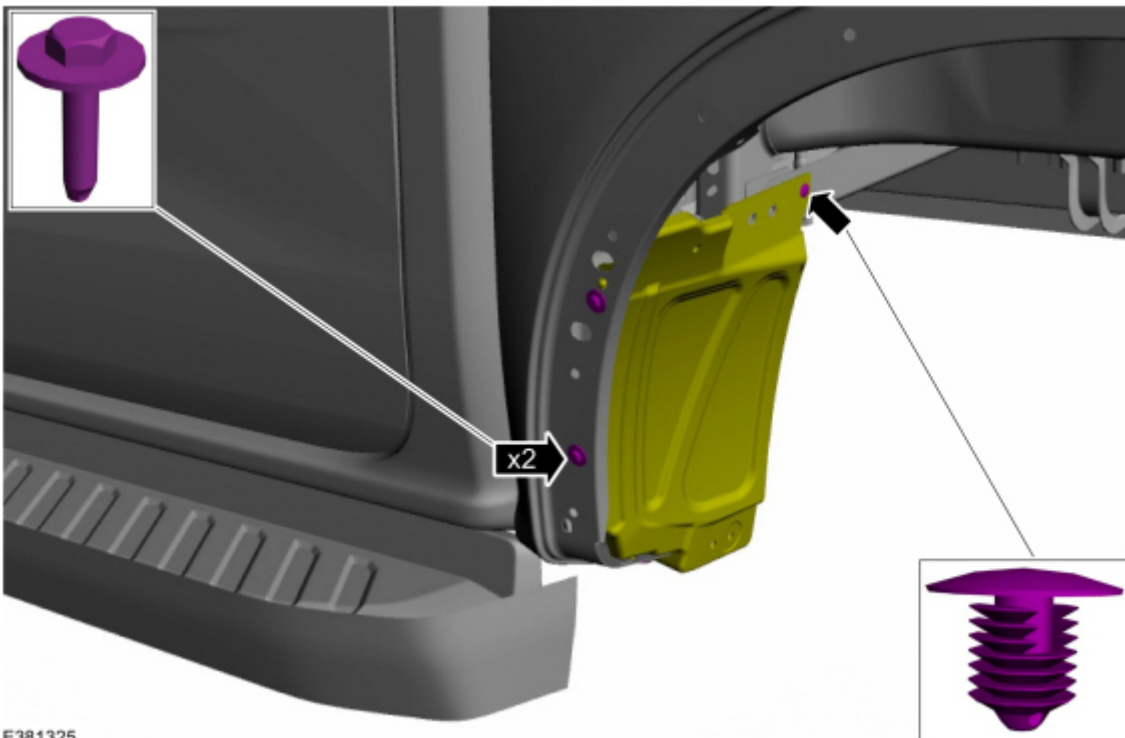
- Repeat for the LHS (RHS shown, LHS similar).
- Torque:  $9.0 \pm 4.0$  Nm



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27. Refit the bolts and torque to specifications. Refit the push pin.

- Repeat for the LHS (LHS shown, RHS similar).
- Torque:  $9.0 \pm 4.0$  Nm



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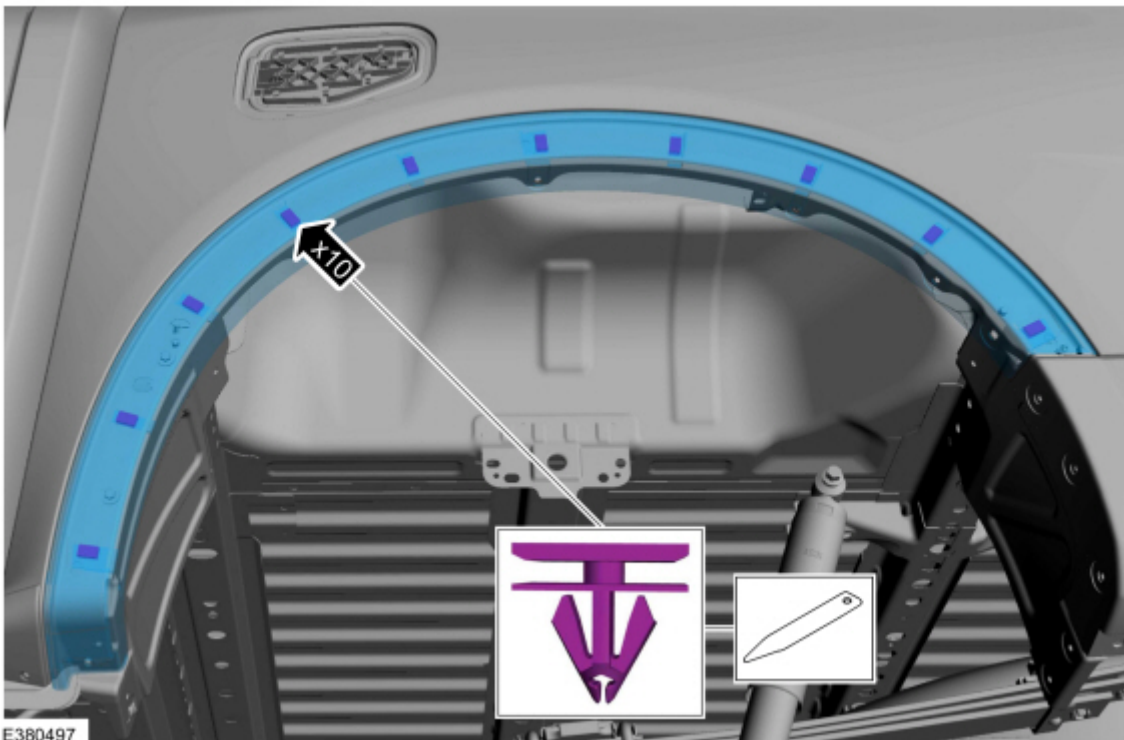


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**NOTE: Replace any damaged clips.**

28. Reinstall the wheel lip moulding.

- Repeat for the LHS (RHS shown, LHS similar).

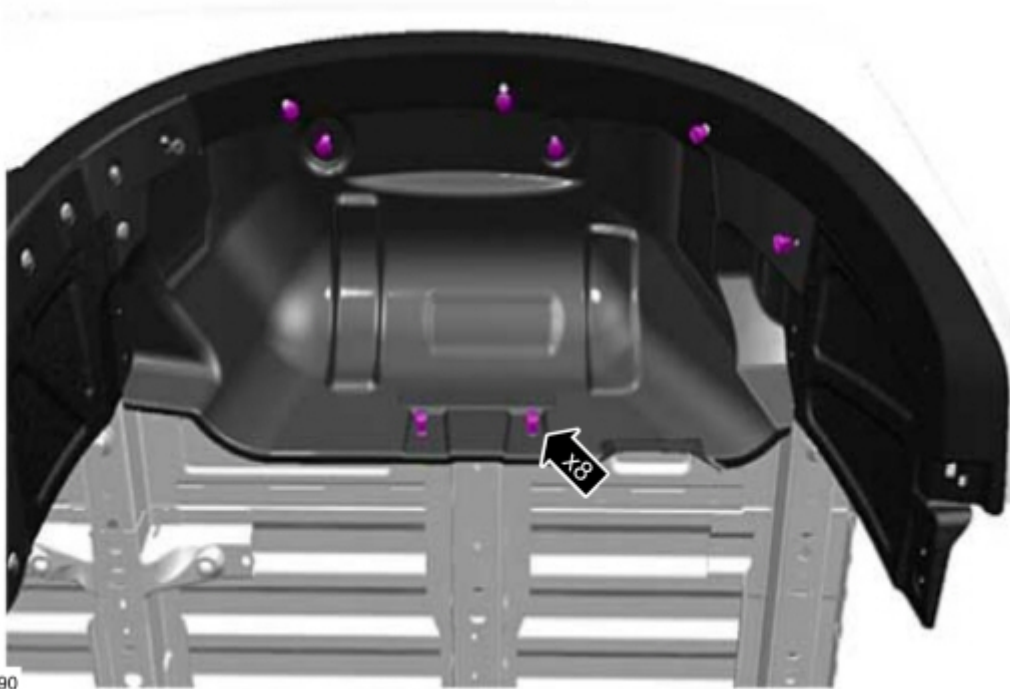


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**NOTE: Replace any damaged clips.**

29. Reinstall the rivets (8 off). Replace any damaged clips.

- Repeat for the LHS (RHS shown, LHS similar).



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**NOTE: Replace any damaged clips.**

**30.** Where applicable, reinstall the aero lip and rivets (2 off).

- Repeat for the LHS (RHS shown, LHS similar).



E394288

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