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2020.0 DEFENDER (LE), 501-29

SIDE PANEL SHEET METAL REPAIRS

SIDE PANEL REINFORCEMENT FRONT ASSEMBLY - 90 [G2452616]

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REMOVAL

The following step(s) applies to:

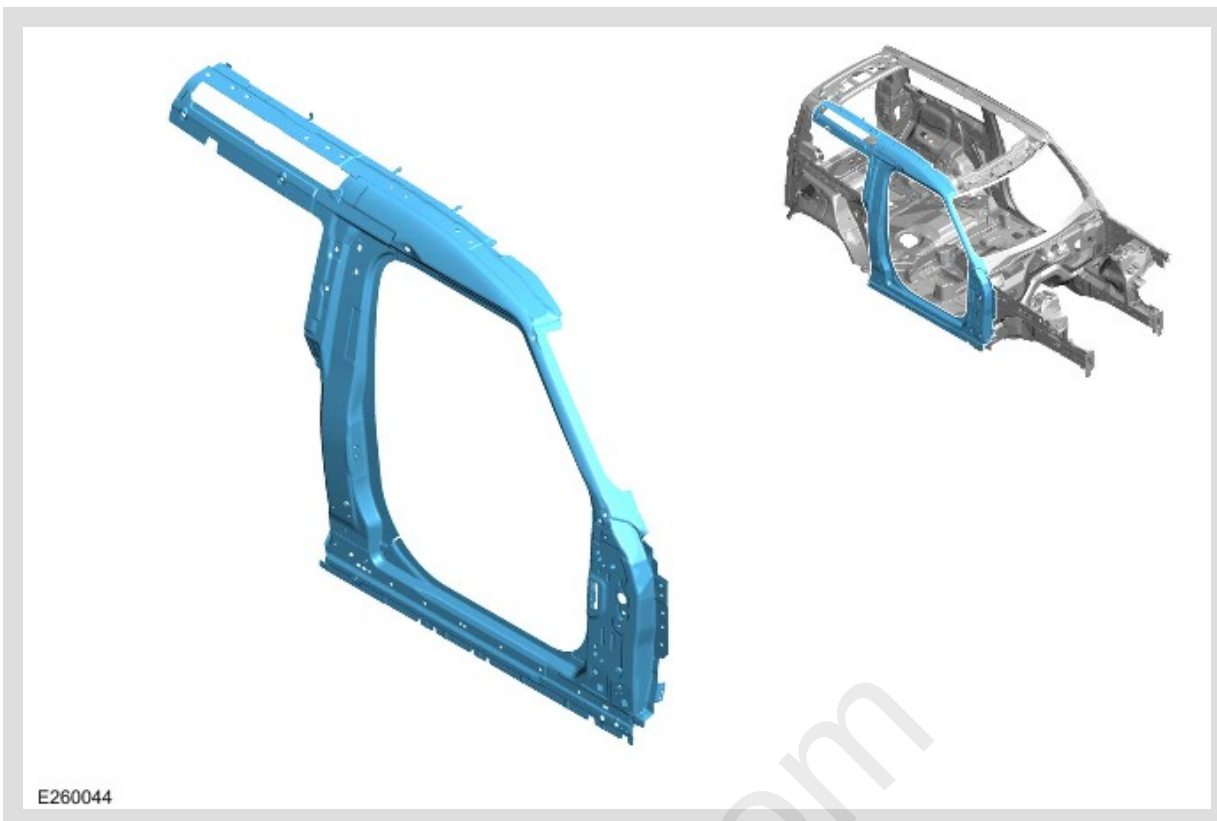
All vehicles

**NOTE:**

In this procedure the side panel reinforcement front assembly is installed in conjunction with:

- Windshield header panel upper
- Rear header panel upper
- Front roof reinforcement panel
- Center roof reinforcement panel
- Rear roof reinforcement panel
- Side panel.

1.



The side panel reinforcement front assembly is serviced as indicated.

2.

Before commencing this procedure make sure that you are aware of all Health and Safety requirements. Refer to: [Health and Safety Precautions](#) (100-00 General Information, Description and Operation).

3.



NOTES:

- Where Breakstem Fastener (BSF) removal is instructed remove the fastener shaft with a 4 mm punch and remove the head with a 6.5 mm drill bit. Clean all the drilled holes to make sure they are free from debris.
- Where Self Piercing Rivet (SPR) removal is instructed use either the Jaguar Land Rover (JLR) approved SPR tool or a 5.3 mm drill bit. Clean all the drilled holes to make sure they are free from debris.
- Where Flow Form Rivet (FFR) removal is instructed, remove the head and then remove the shaft with a punch. Clean the holes to make sure they are free from debris.
- Any joints sealed as part of vehicle manufacture must be sealed as part of the repair.
- To make sure that the vehicle is correctly aligned it must be placed on a JLR approved alignment jig.

When installing the side panel reinforcement front assembly make sure that you are aware of the methods, tools and fixings used in this procedure.

Refer to: [Body Repairs](#) (501-25A Body Repairs - General Information, Description and Operation).

Refer to: [Adhesives, Fixings and Consumables](#) (501-25A Body Repairs - General Information, Description and Operation).

4. For additional information on the fixings required to complete this procedure
Refer to: [Specifications - 110](#) (501-29 Side Panel Sheet Metal Repairs, Specifications).

5. For additional removal information.
Refer to: [Windshield Header Panel Upper - 90](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

6. For additional removal information.
Refer to: [Rear Header Panel Upper - 90](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

7. For additional removal information.
Refer to: [Front Roof Reinforcement Panel - 90, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

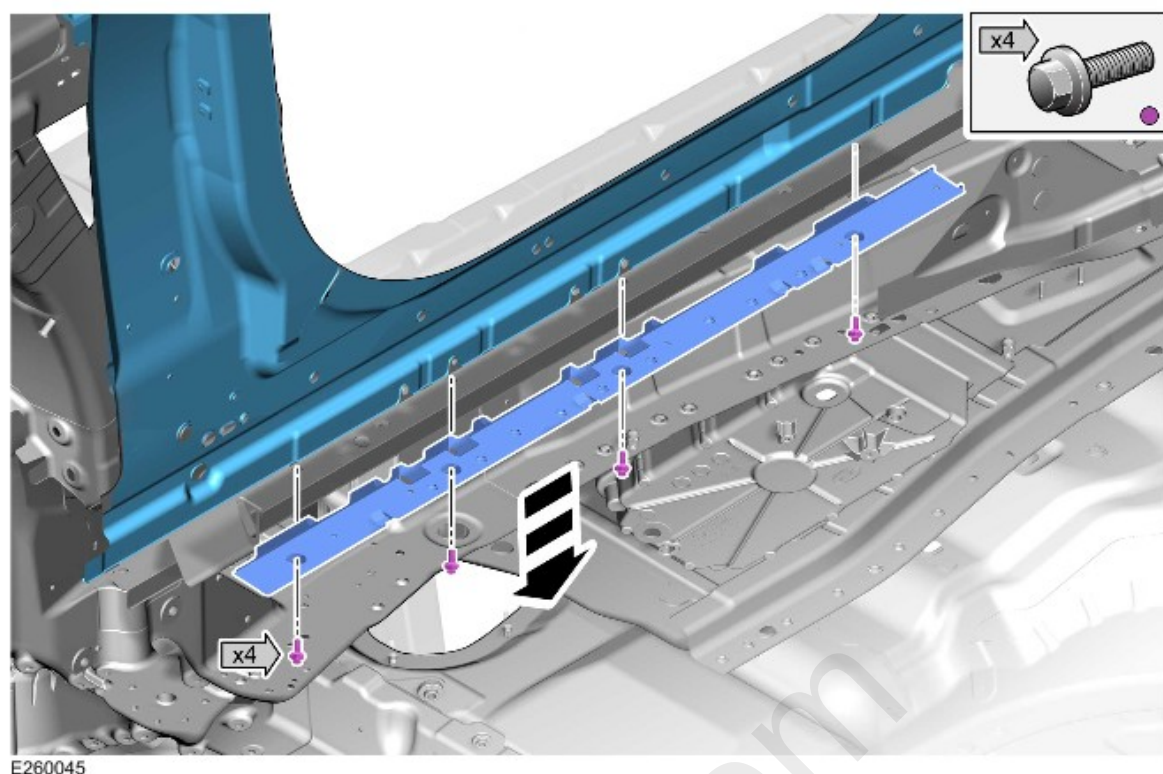
8. For additional removal information.
Refer to: [Center Roof Reinforcement Panel - 90, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

9. For additional removal information.
Refer to: [Rear Roof Reinforcement Panel - 90, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

10. For additional removal information.
Refer to: [Side Panel - 90](#) (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).

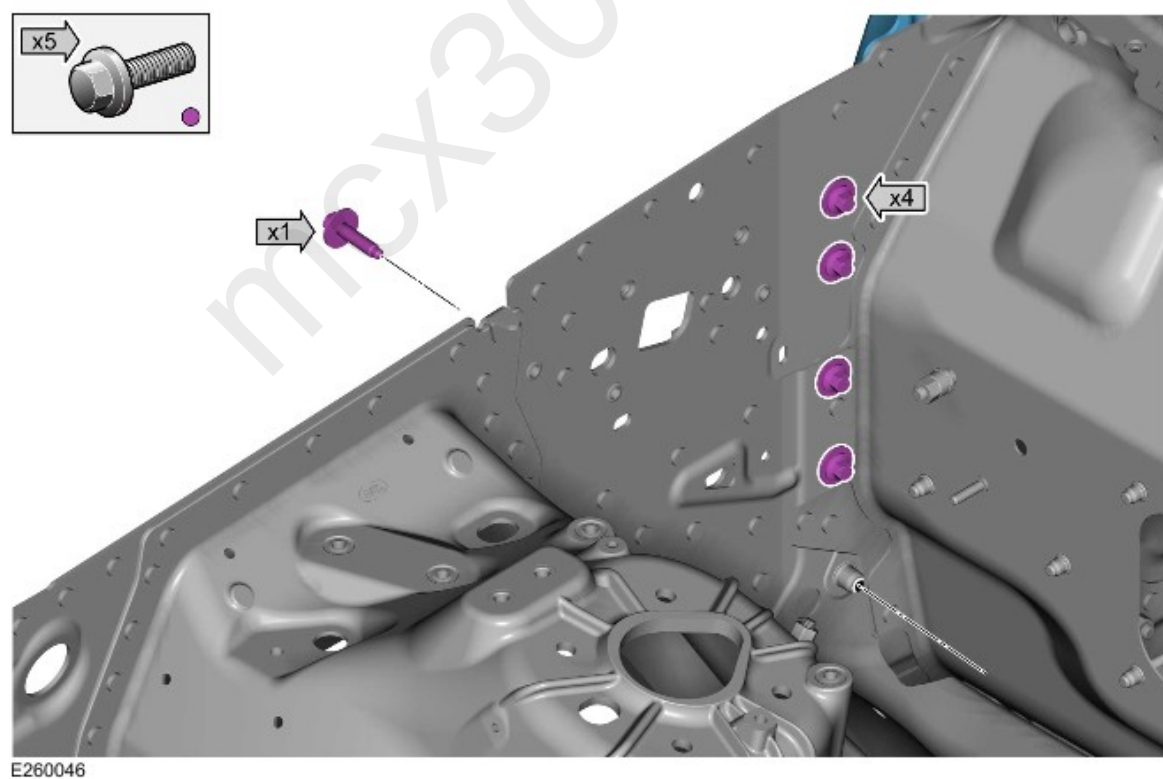
11. Release and position the wiring harness to one side.

12.



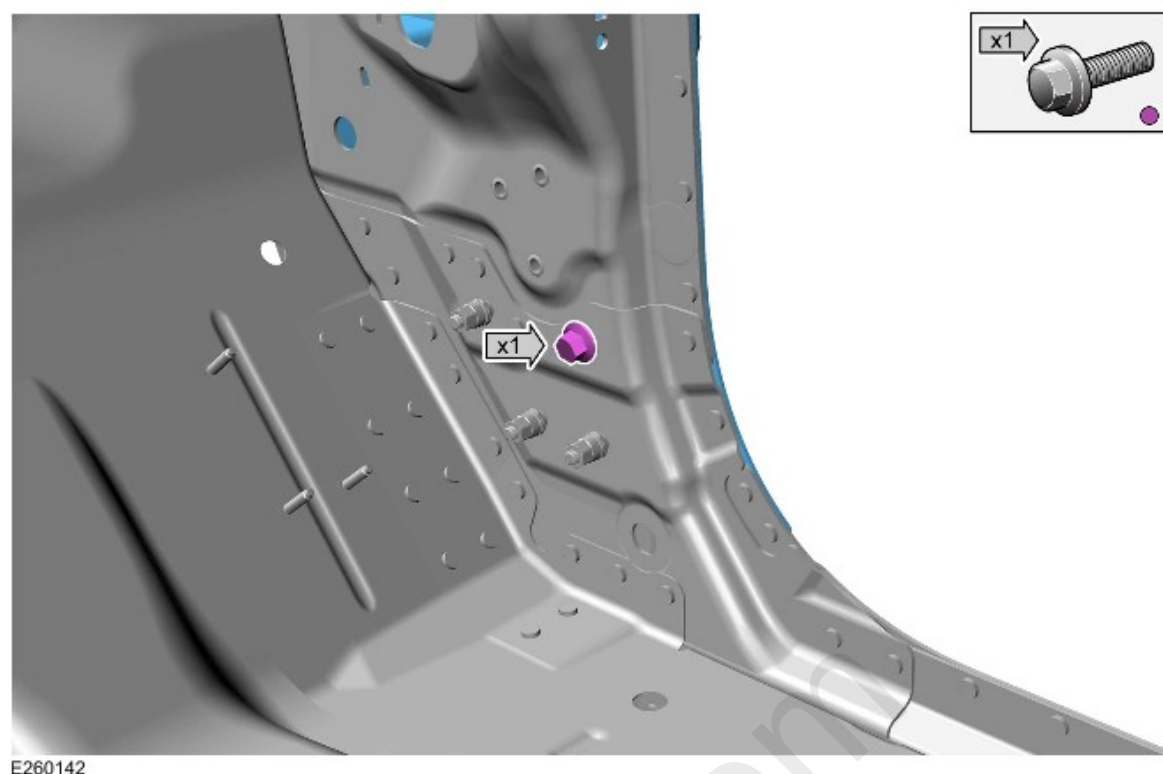
Remove the bolts and bracket as indicated.

13.



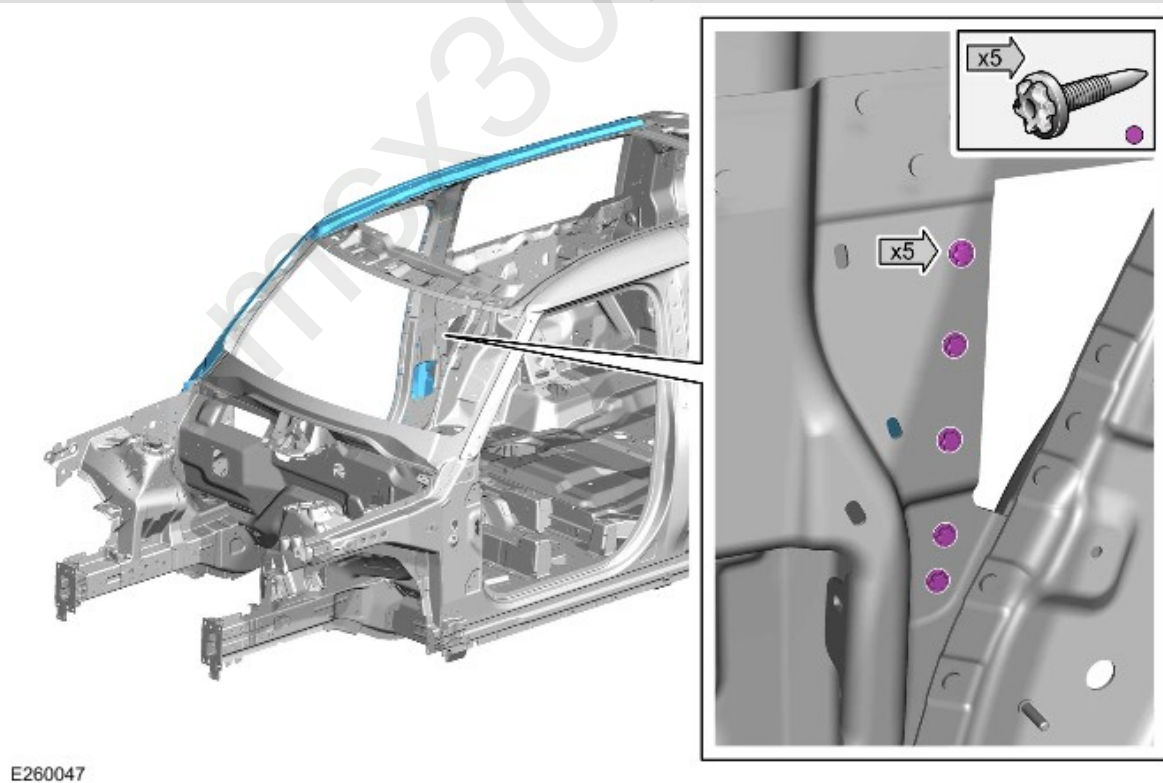
Remove the bolts as indicated.

14.



Remove the bolt as indicated.

15.

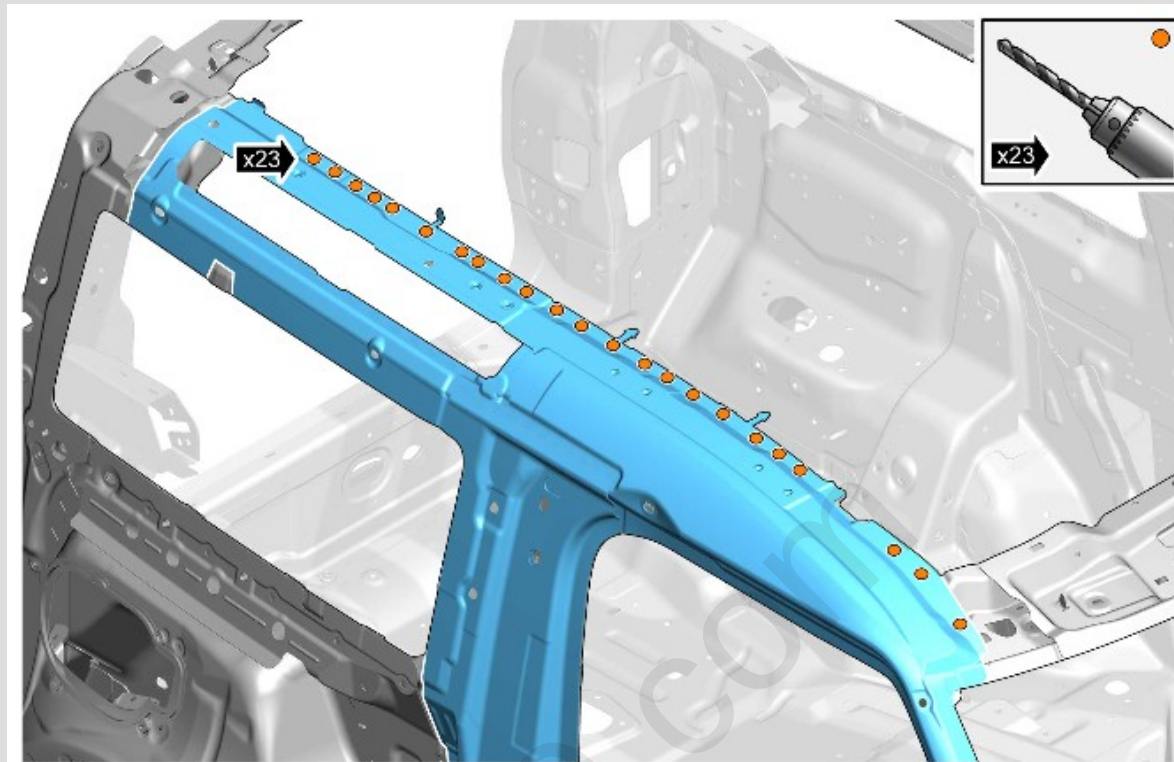


Remove the friction drilling screws as indicated.

The following step(s) applies to:

Vehicles with roof opening panel

16.

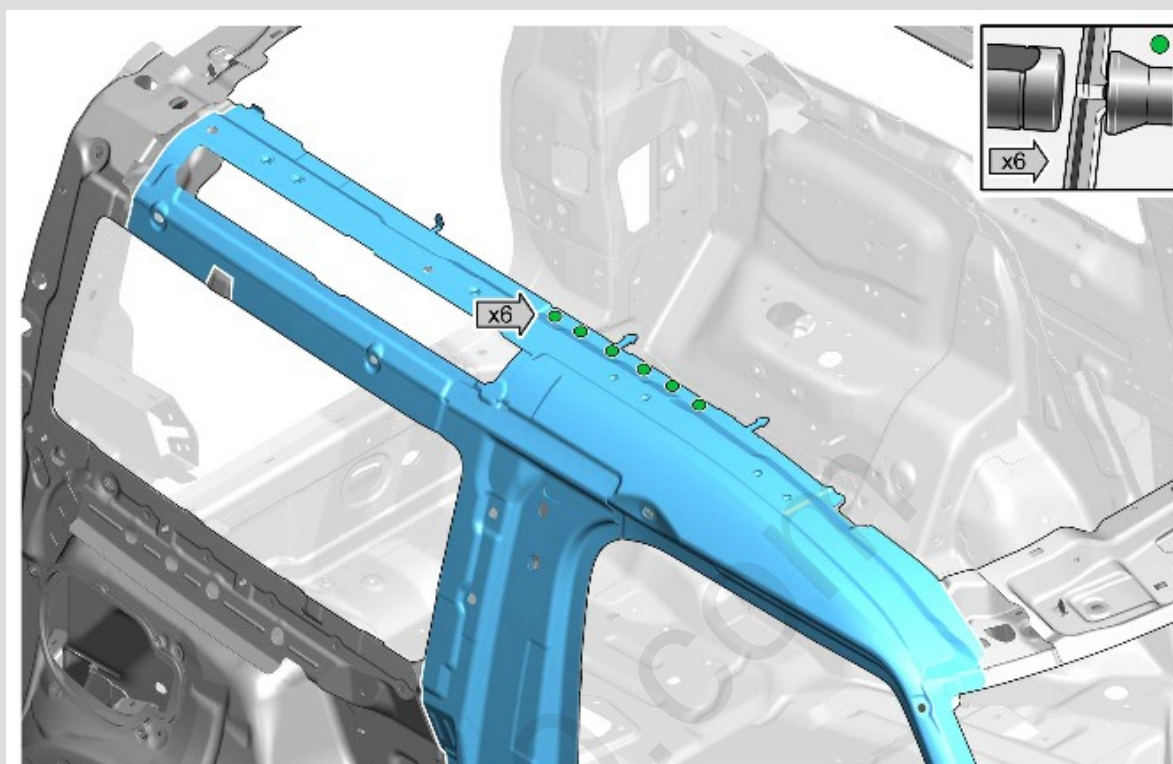


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Remove the Self Piercing Rivets (SPRs) as indicated.

NOTE:

Where Flow Form Rivet (FFR) installation is indicated. Make sure that the panel is planished before removal.



Planish the panel as indicated.

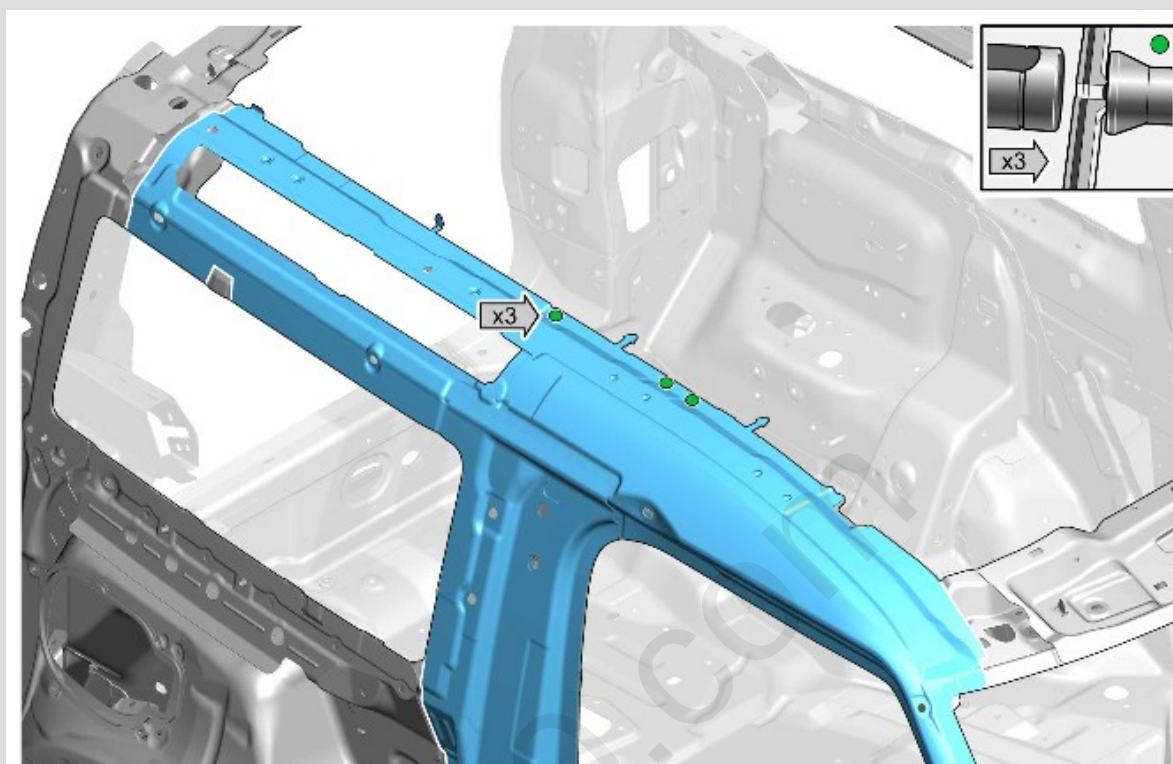
The following step(s) applies to:
Vehicles without roof opening panel



Remove the SPRs as indicated.

NOTE:

Where Flow Form Rivet (FFR) installation is indicated. Make sure that the panel is planished before removal.



Planish the panel as indicated.

The following step(s) applies to:

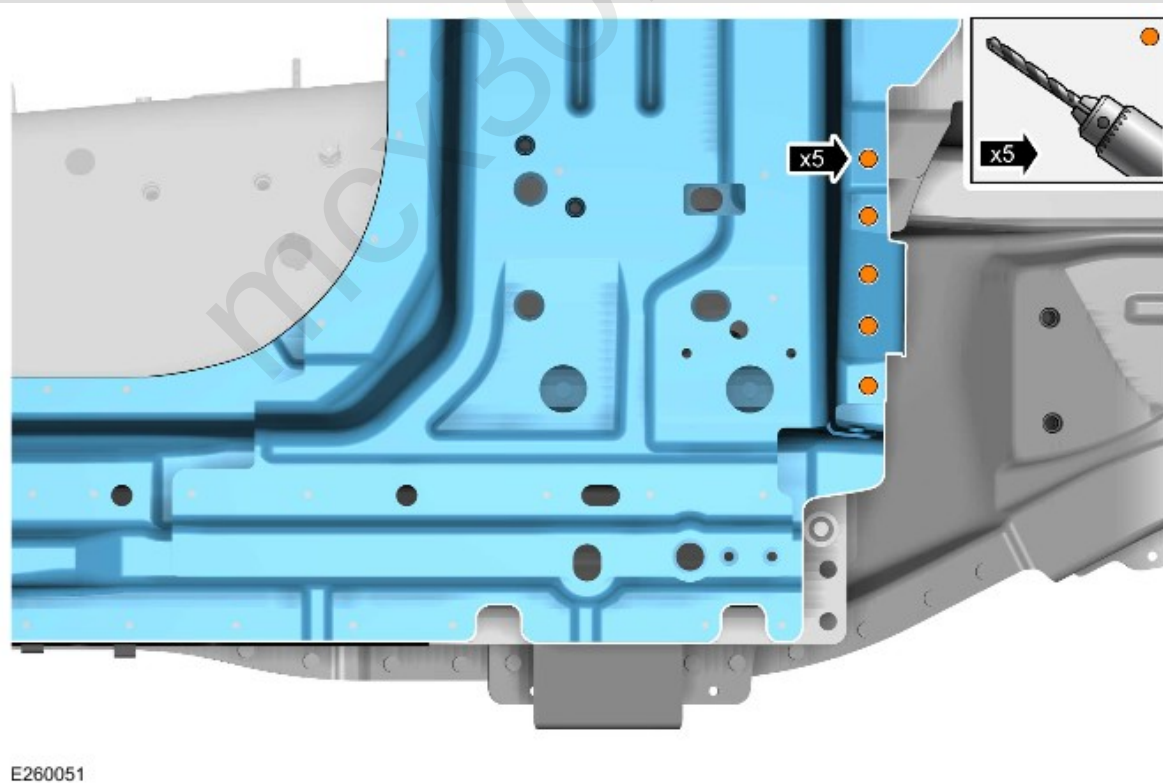
All vehicles

20.

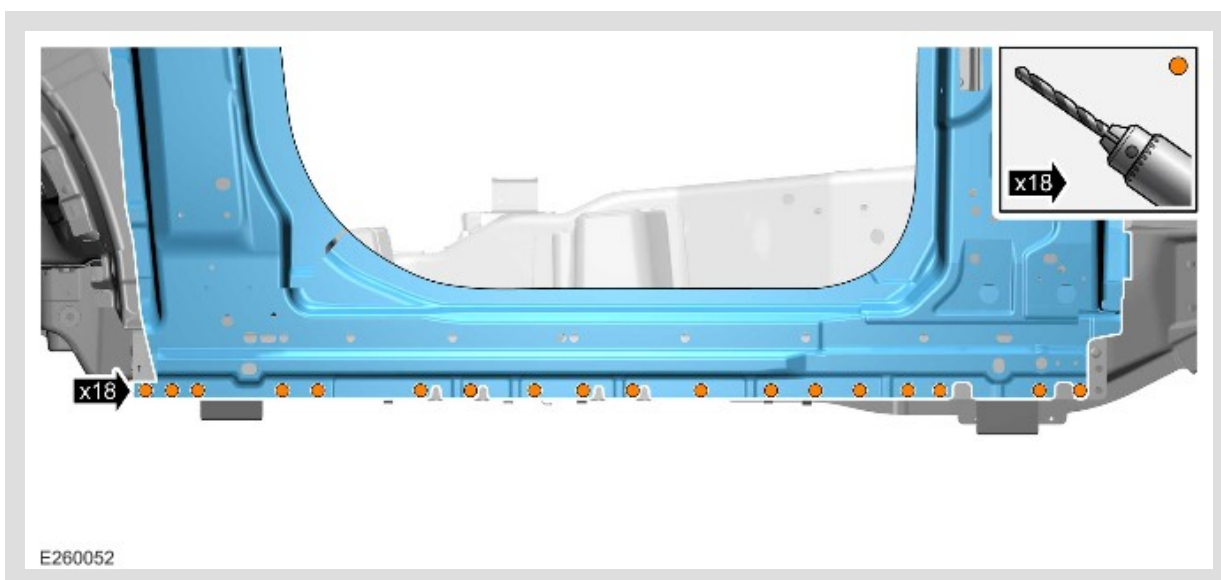


Remove the SPRs as indicated.

21.



Remove the SPRs as indicated.



Remove the SPRs as indicated.

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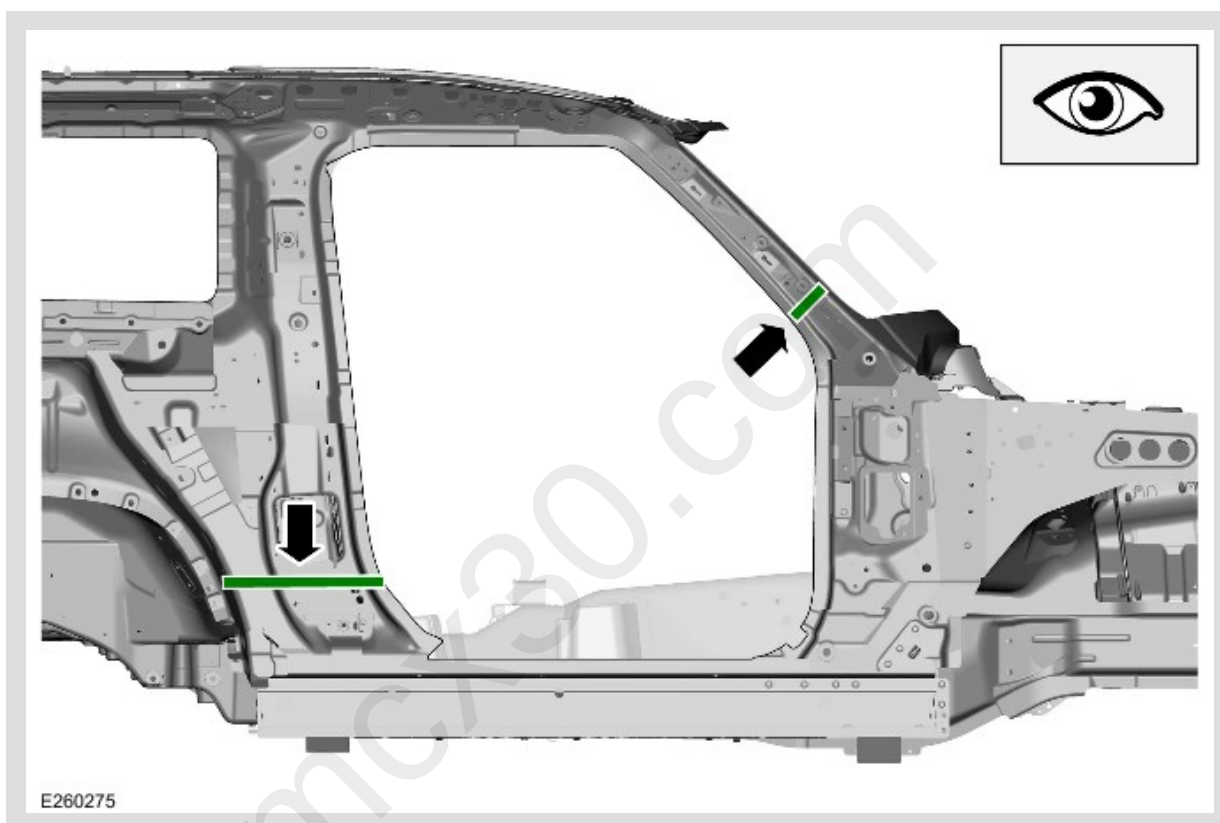


CAUTION:

This step will require the aid of another technician as the panel will be heavy.

NOTE:

Avoid where possible damaging the Noise, Vibration and Harshness (NVH) material located behind the side panel reinforcement front assembly.



Carefully separate the joints and remove the side panel reinforcement front assembly.

INSTALLATION

The following step(s) applies to:

All vehicles

CAUTION:

Where structural adhesive is to be applied between surfaces it is essential compression is applied to the joints during the curing period.



NOTES:

- Breakstem Fastener (BSF) installation involves using the JLR approved BSF installation tool and requires a hole diameter of 6.5 mm.
- Self Piercing Rivet (SPR) installation requires using the JLR approved SPR tool.
- Flow Form Rivet (FFR) installation requires using the JLR approved FFR installation tool.
- Refer to Adhesive, Fixings and Consumables for further information on Flow Form Rivets (FFRs).

1. Remove the rivet remnants.

2. Dress the flanges where necessary.

3.



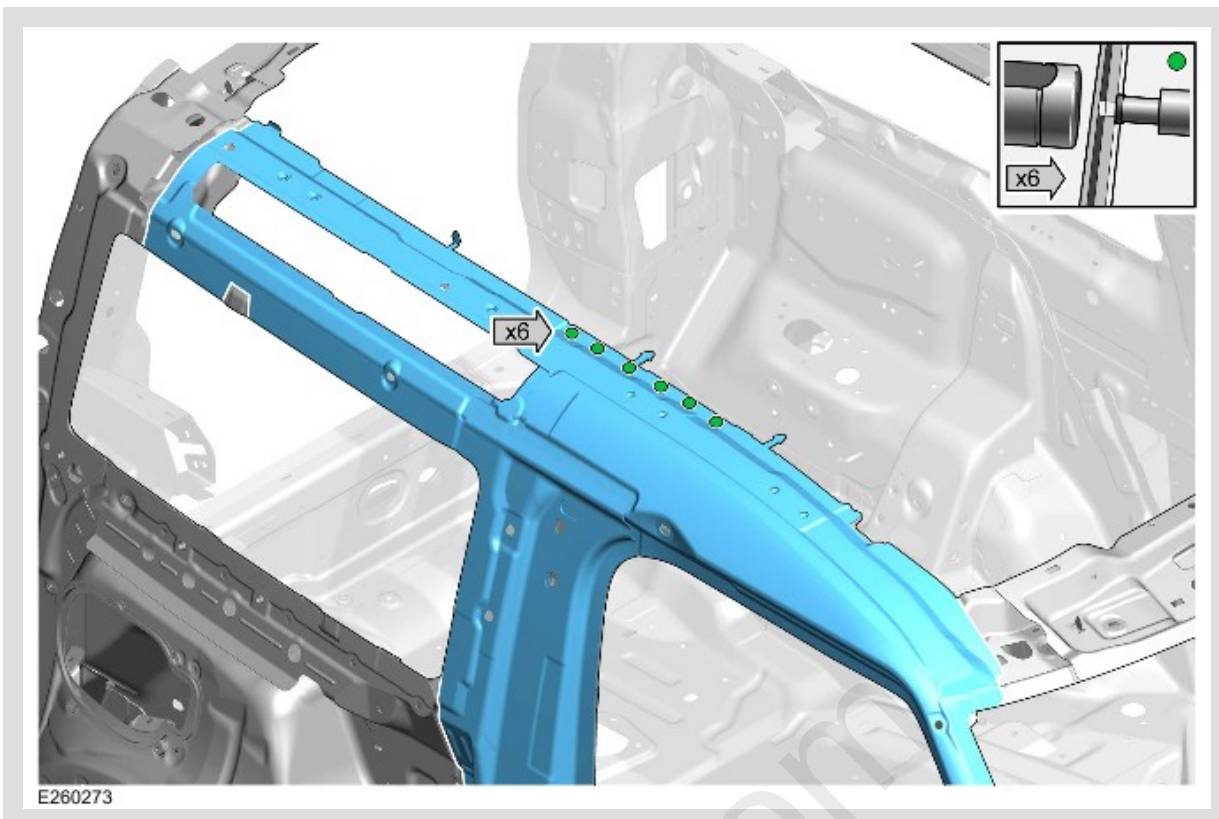
CAUTION:

This step will require the aid of another technician as the panel will be heavy.

Offer up the new side panel reinforcement front assembly and clamp into position. Check alignment, if correct proceed to next step, if not rectify and check the alignment again before proceeding.

The following step(s) applies to:

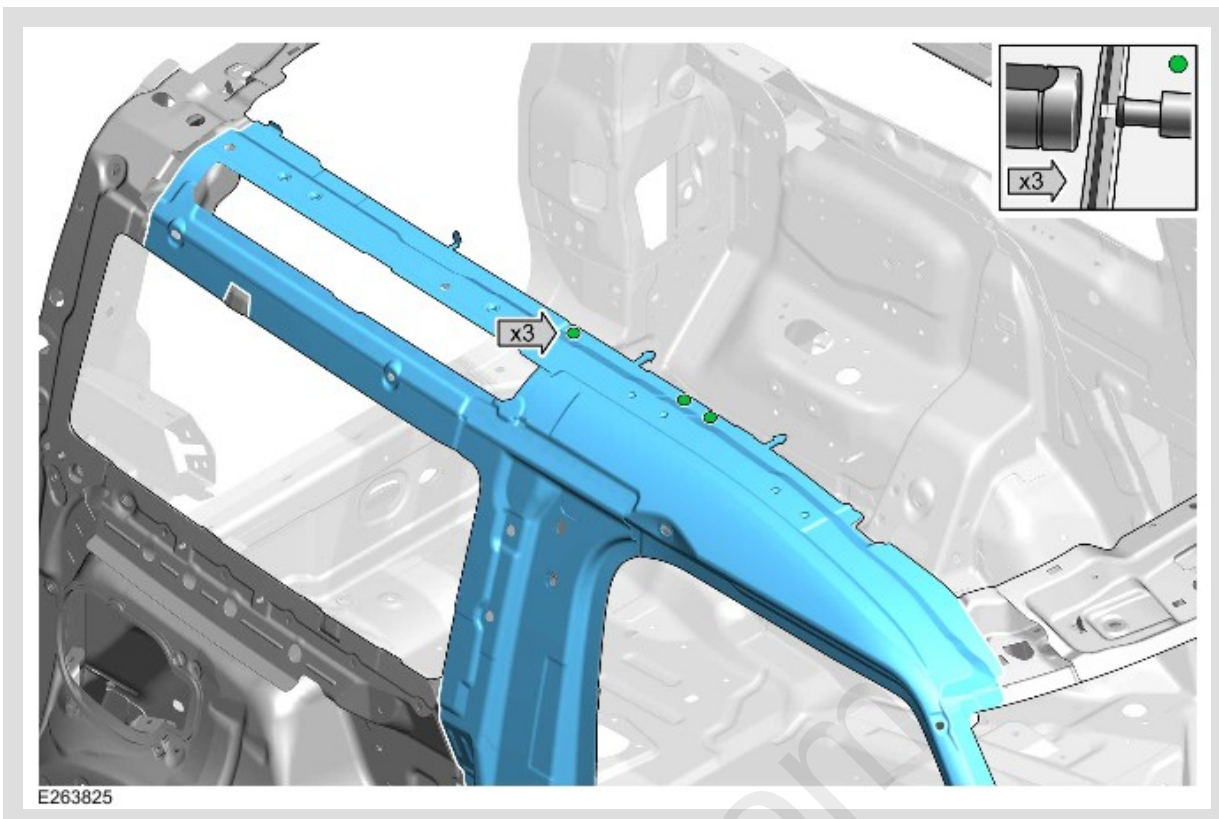
Vehicles with roof opening panel



Punch calibrated holes where the Flow Form Rivets (FFRs) are to be installed as indicated.

The following step(s) applies to:

Vehicles without roof opening panel



Punch calibrated holes where the FFRs are to be installed as indicated.

The following step(s) applies to:

All vehicles

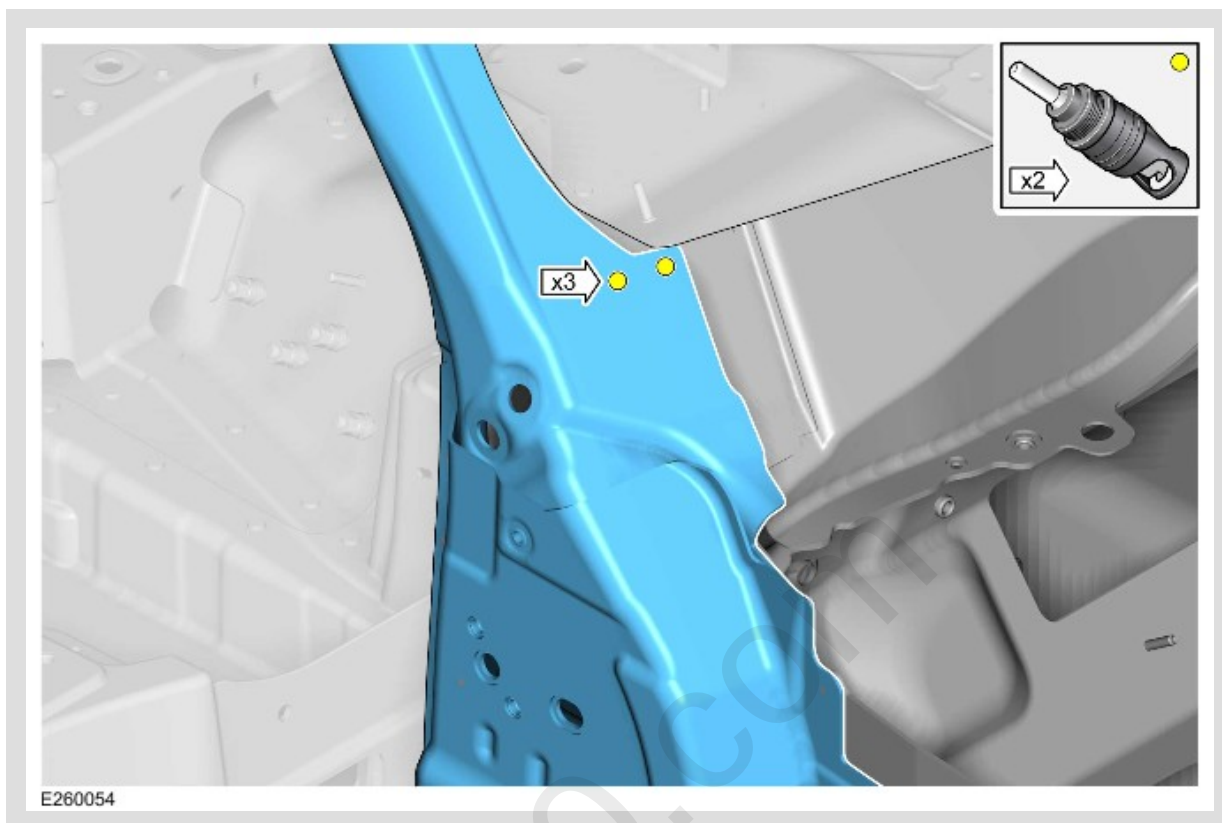


Drill holes where the Breakstem Fasteners (BSFs) are to be installed as indicated.

7.

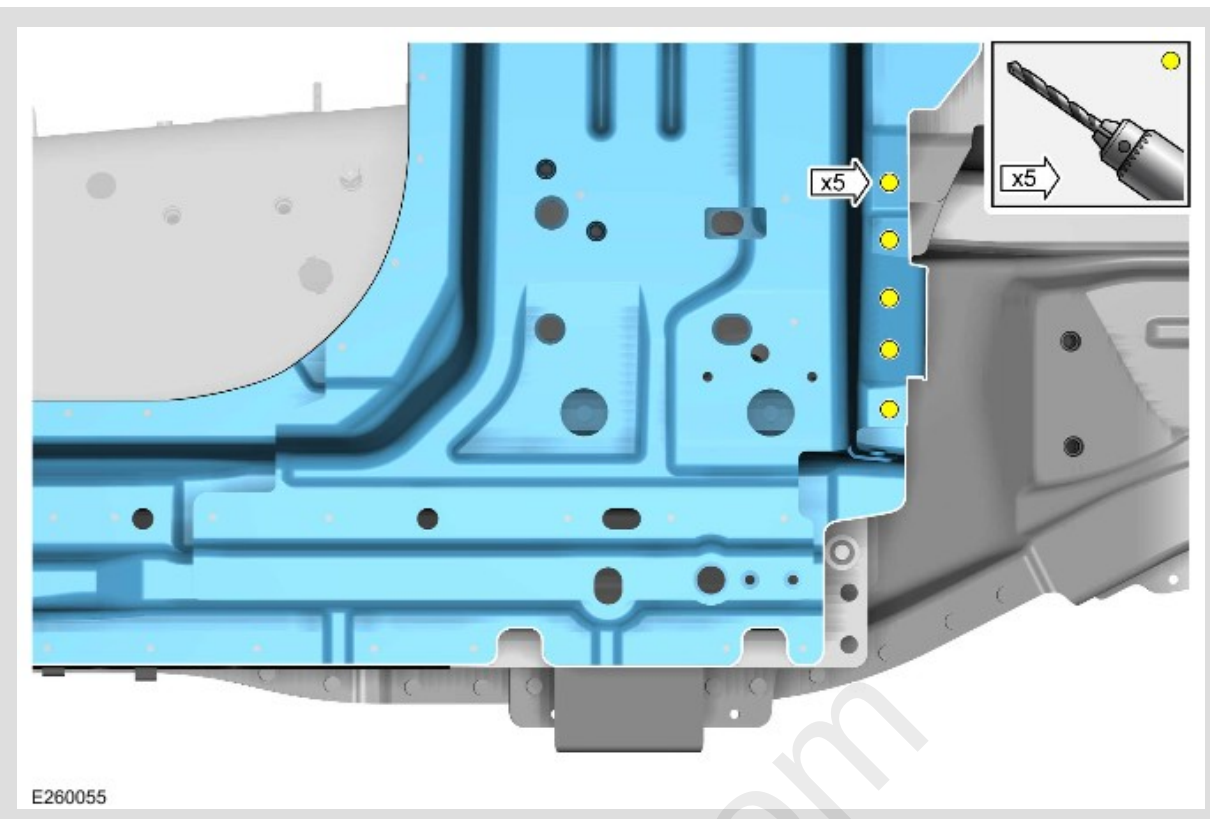
NOTE:

Make sure that the JLR recommended countersink tool is used for this step.



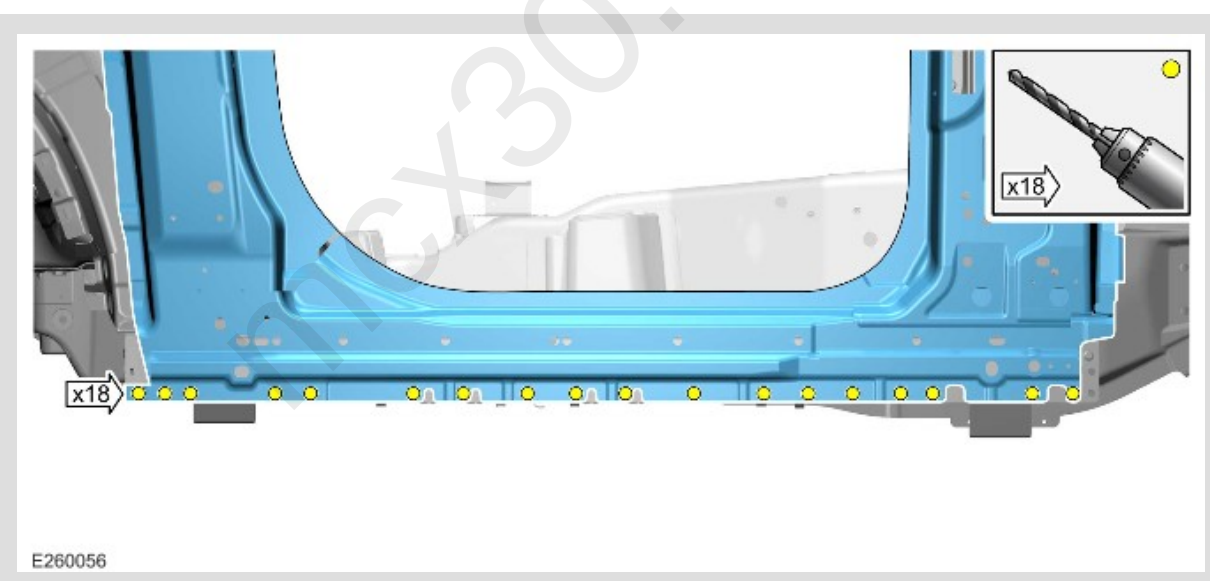
Countersink the holes to a depth of 2 mm as indicated.

8.



Drill holes where the BSFs are to be installed as indicated.

9.



Drill holes where the BSFs are to be installed as indicated.

10.



ⓘ CAUTION:

This step will require the aid of another technician as the panel will be heavy.

Remove the new side panel reinforcement front assembly.

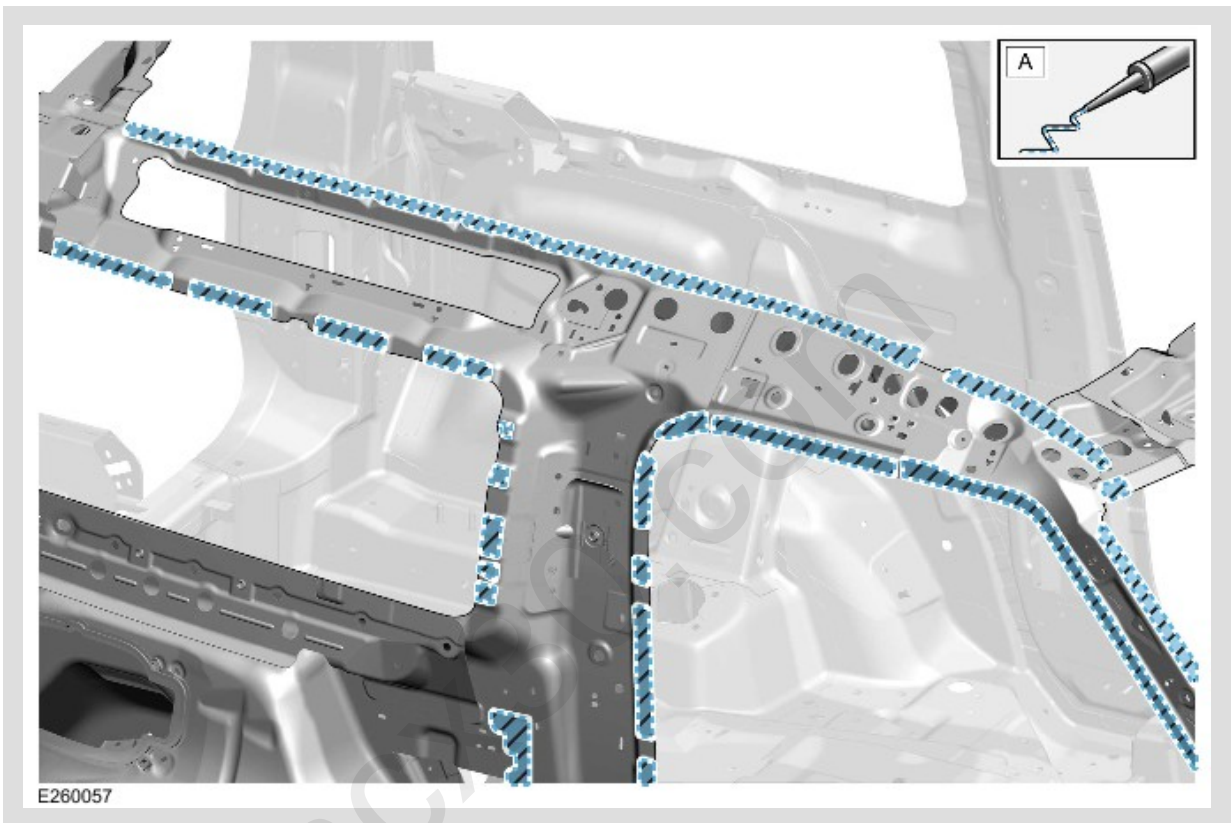
11. Deburr the drilled holes.

12. Clean and prepare the panel surfaces.

13.

 NOTE:

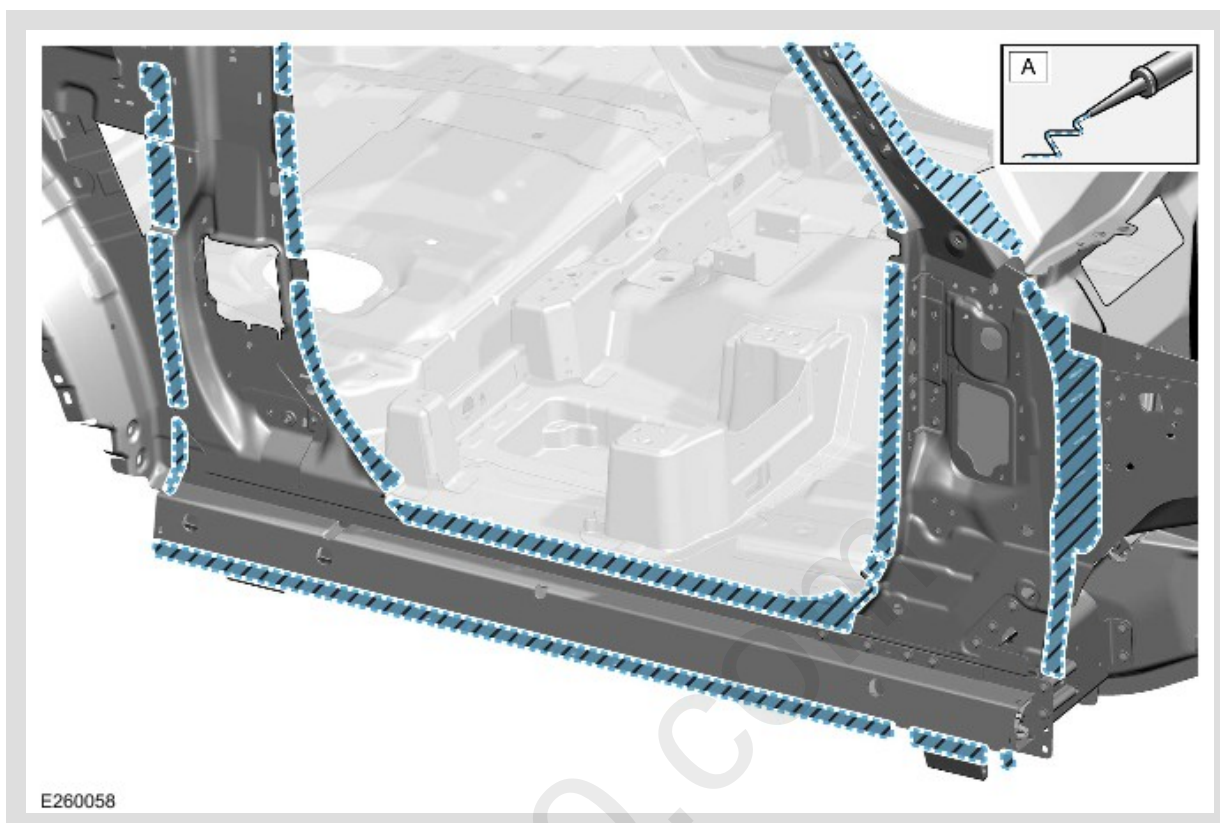
Make sure a continuous bead of adhesive surrounds the fixing holes.



Apply a 5 mm zig zag bead of the JLR recommended bonding material as indicated.

NOTE:

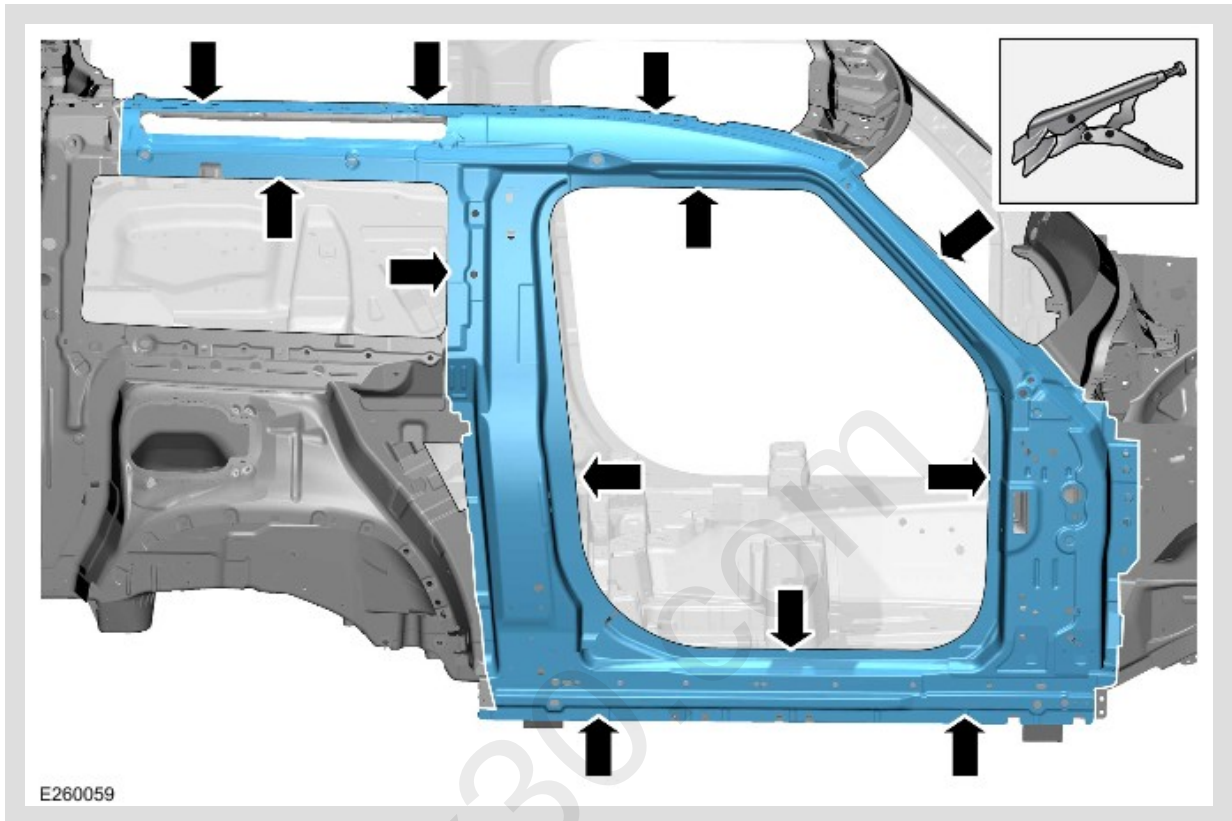
Make sure a continuous bead of adhesive surrounds the fixing holes.



Apply a 5 mm zig zag bead of the JLR recommended bonding material as indicated.

**⚠ CAUTION:**

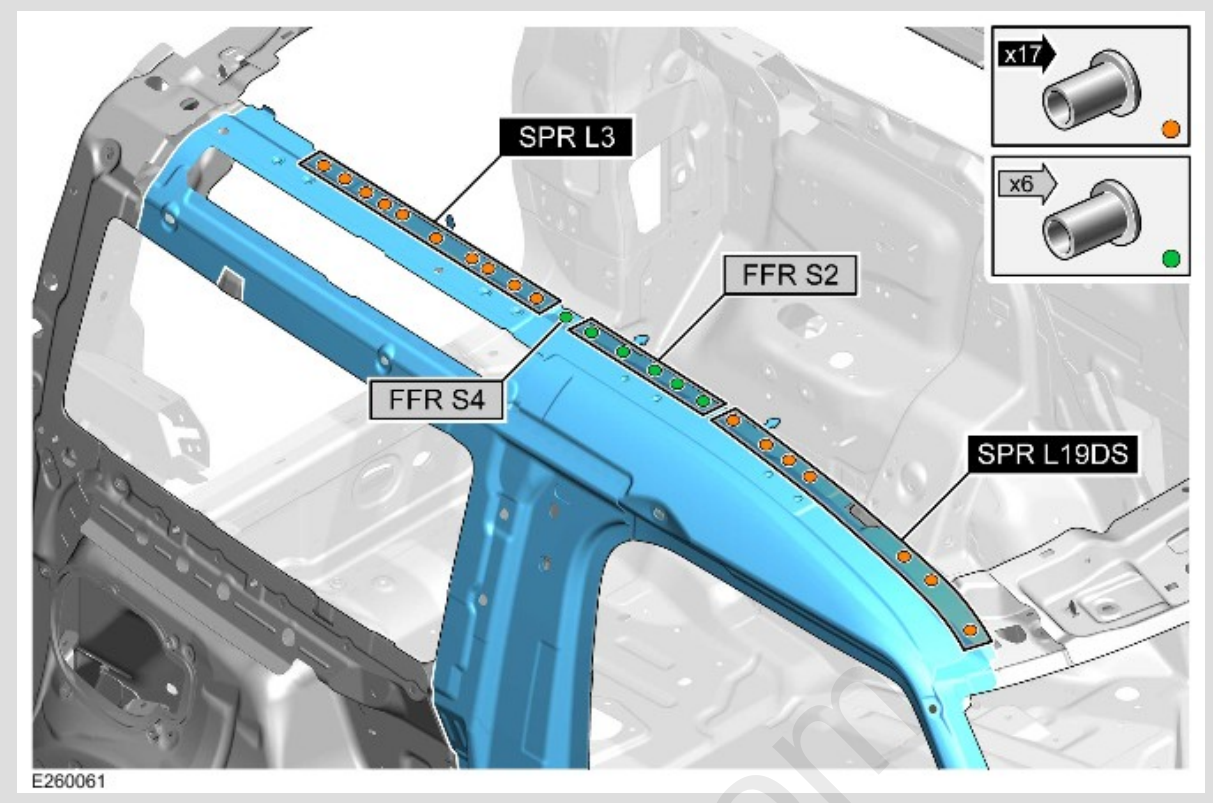
This step will require the aid of another technician as the panel will be heavy.



Offer up the new side panel reinforcement front assembly and clamp into position as indicated. Check alignment, if correct proceed to next step, if not rectify and check the alignment again before proceeding.

The following step(s) applies to:

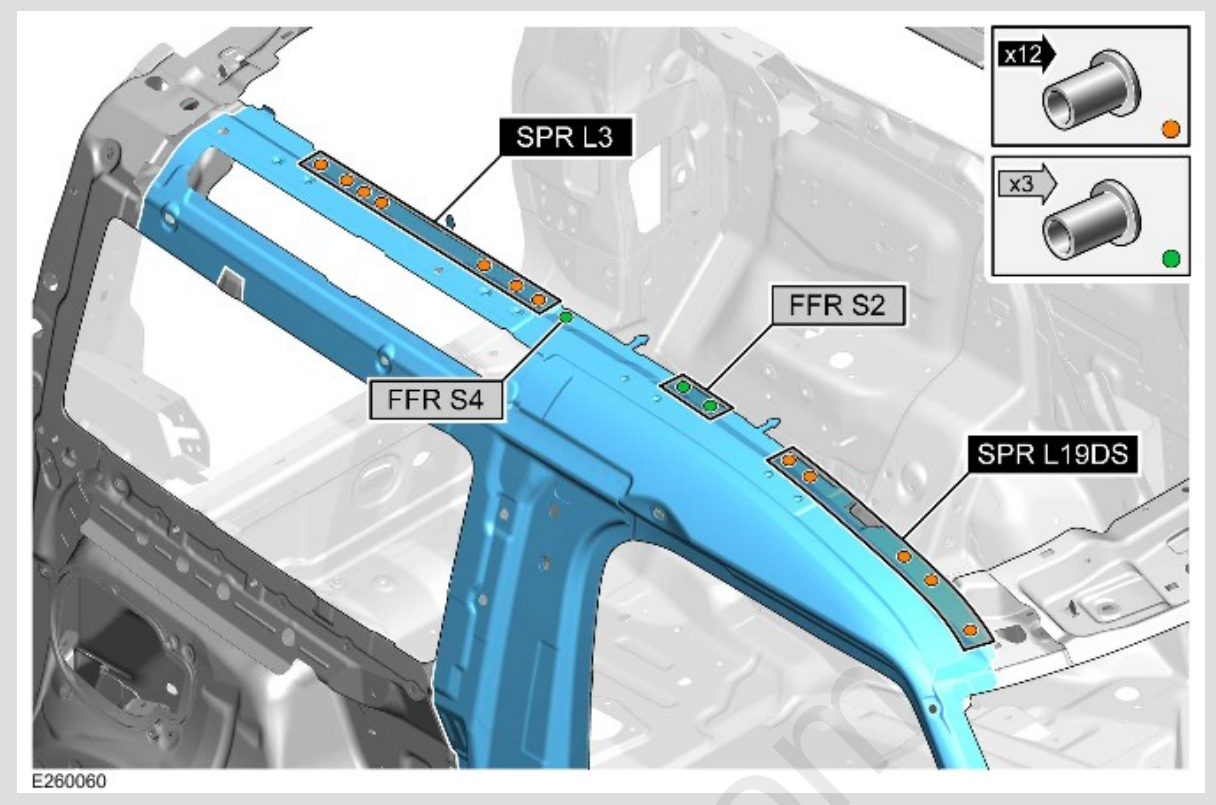
Vehicles with roof opening panel



Install the Self Piercing Rivets (SPRs) and FFRs as indicated.

The following step(s) applies to:

Vehicles without roof opening panel



Install the SPRs and FFRs as indicated.

The following step(s) applies to:

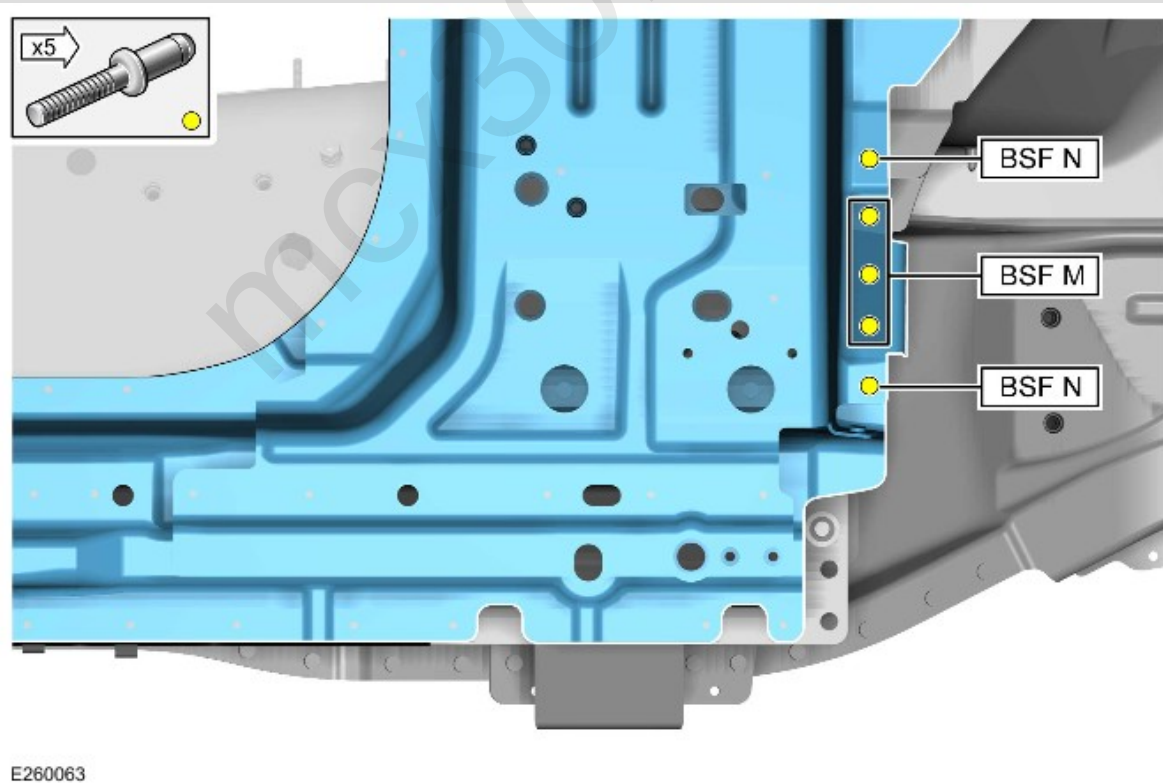
All vehicles

18.



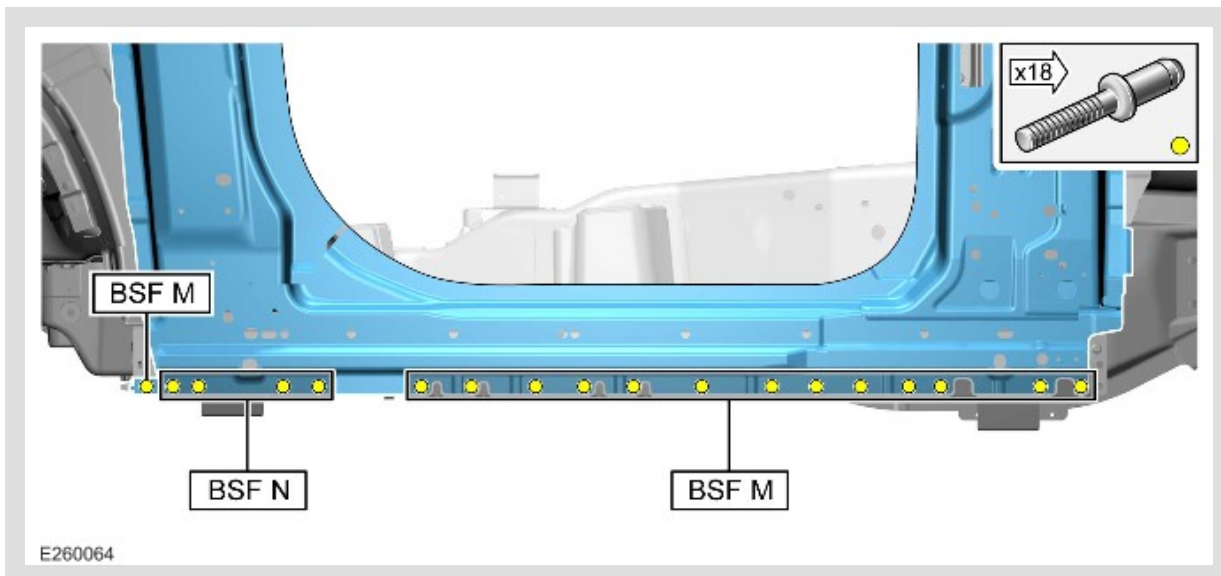
Install the BSFs as indicated.

19.



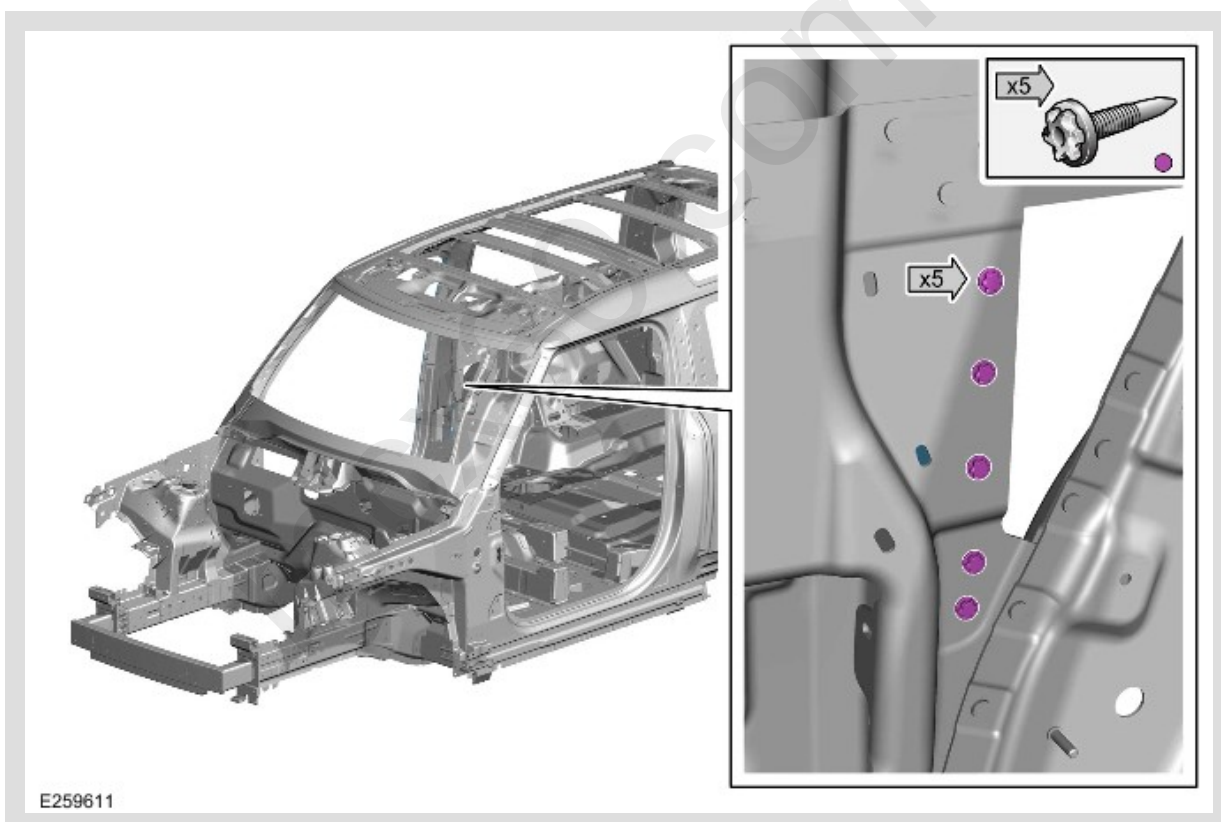
Install the BSFs as indicated.

20.



Install the BSFs as indicated.

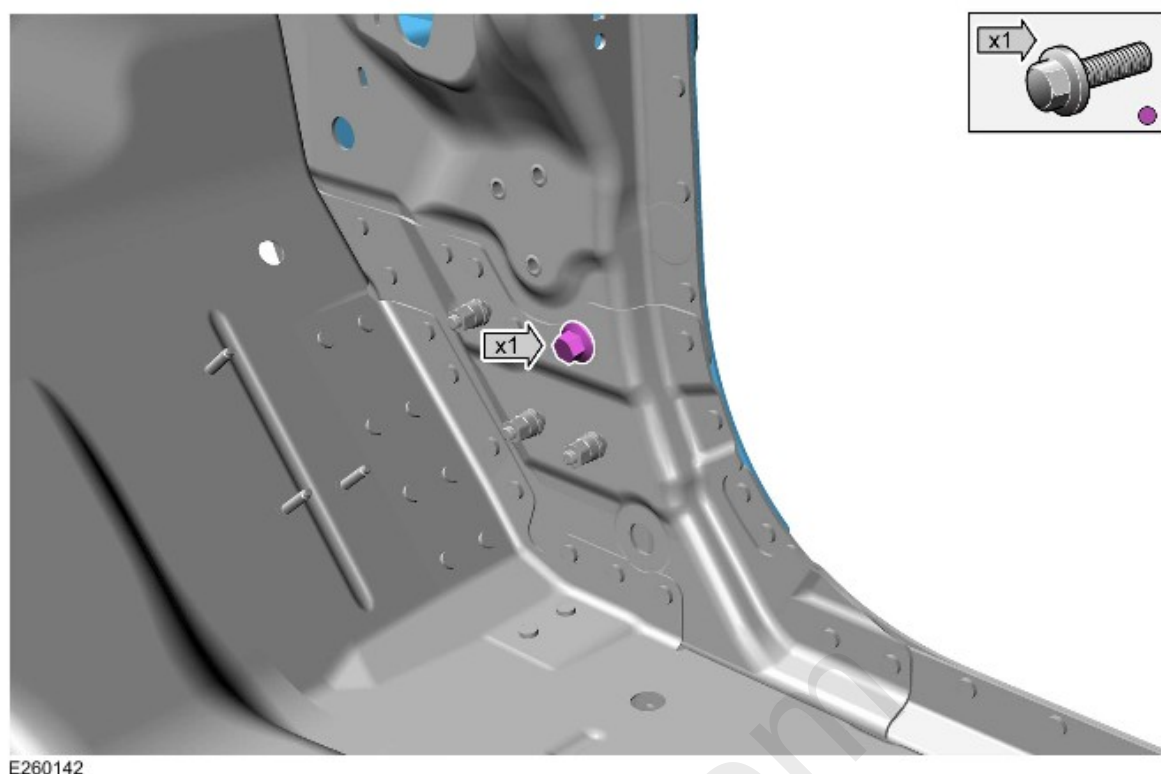
21.



Install the new M6 Friction Drilling Screws (FDS) and tighten.

Torque: 10Nm

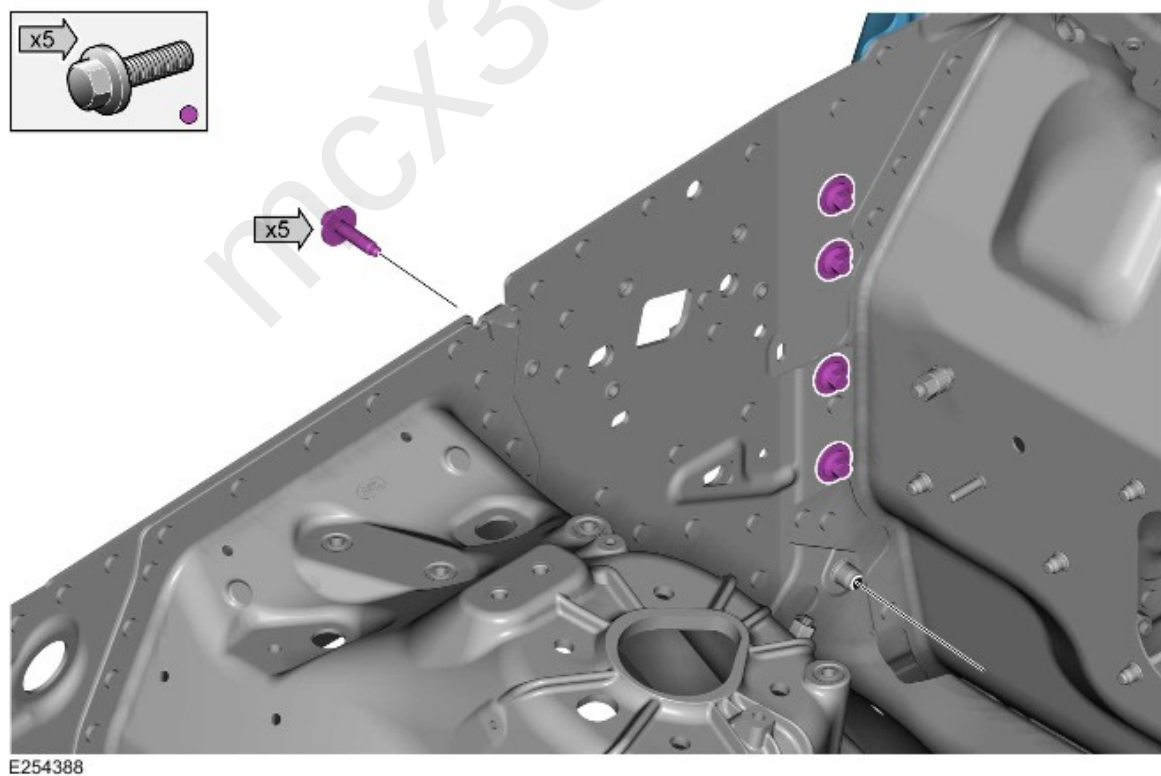
22.



Install the bolt and tighten.

Torque: 60Nm

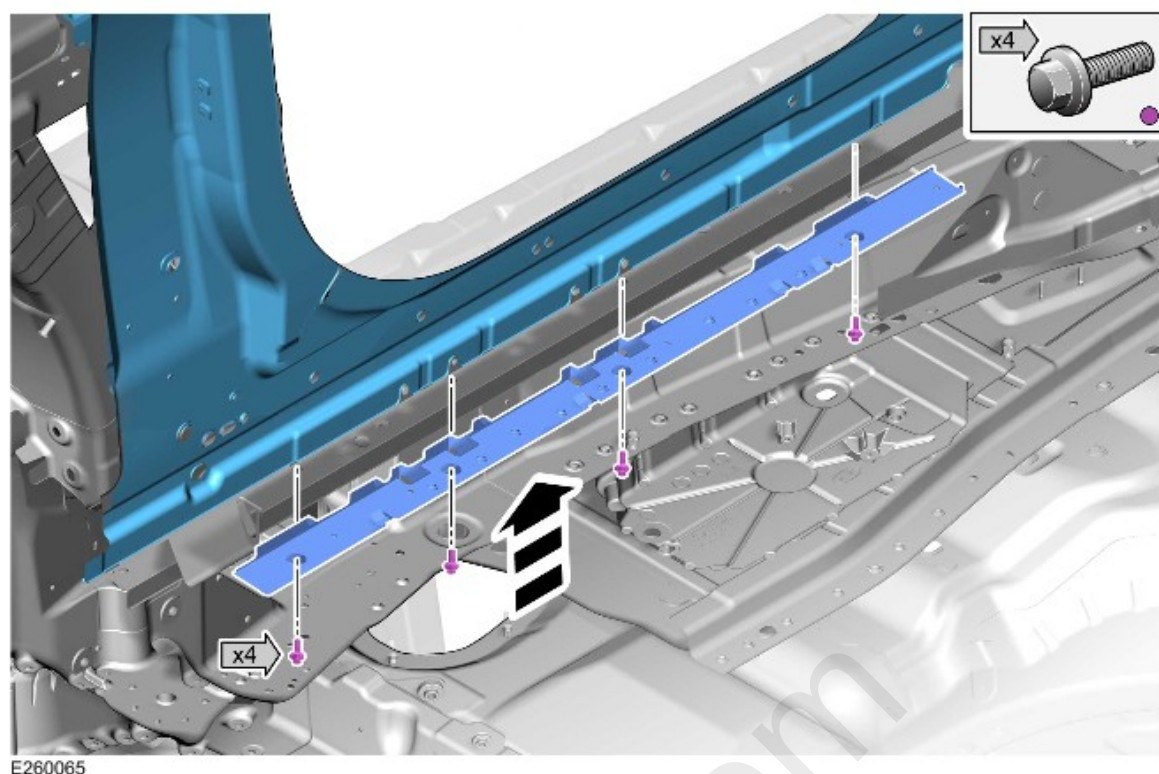
23.



Install the bolts and tighten.

Torque: 25 Nm

24.



Install the bracket and tighten the bolts.

Torque: 25Nm

25. Remove any excess adhesive.

26. Make sure that any open or exposed panel joints are correctly sealed.

27. Make sure that all installed fixings are sealed using a JLR recommended sealer.

28. Make sure corrosion protection is applied to all areas affected by the repair.



NOTE:

The installation of associated panels and components is the reversal of the removal procedure.

29. For additional installation information.

Refer to: [Side Panel - 90](#) (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).

30. For additional installation information.

Refer to: [Rear Roof Reinforcement Panel - 90](#), [Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

31. For additional installation information.

Refer to: [Center Roof Reinforcement Panel - 90, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

32. For additional installation information.

Refer to: [Front Roof Reinforcement Panel - 90, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

33. For additional installation information.

Refer to: [Rear Header Panel Upper - 90](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

34. For additional installation information.

Refer to: [Windshield Header Panel Upper - 90](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).