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2020.0 DEFENDER (LE), 501-29

SIDE PANEL SHEET METAL REPAIRS

## ROCKER PANEL AND B-PILLAR OUTER PANEL (G2414136)

mcx30.com

## REMOVAL

**The following step(s) applies to:**

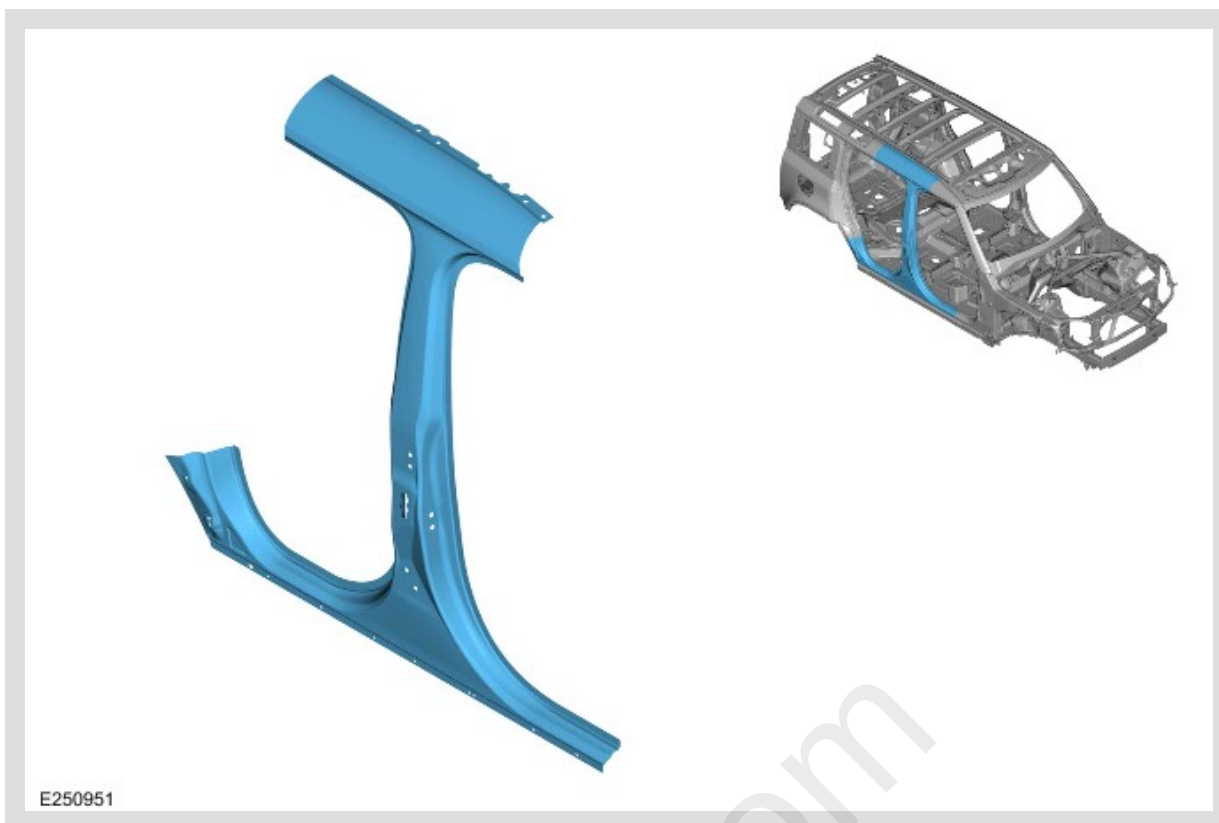
All vehicles

**NOTE:**

In this procedure the rocker panel and B-pillar outer panel is installed in conjunction with:

- Rear door
- Front row seat
- Second row seat
- Front row safety belt retractor
- Front treadplate
- Rear treadplate
- A-pillar lower trim panel
- B-pillar upper trim panel
- B-pillar lower trim panel
- Fixed roof
- Roof opening panel frame
- Deployable side step
- Fender mounting bracket lower.

1.



The rocker panel and B-pillar outer panel 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.

When installing the rocker panel and B-pillar outer panel 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).

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4. For additional information on the fixings required to complete this procedure  
Refer to: [Specifications - 110](#) (501-29 Side Panel Sheet Metal Repairs, Specifications).
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5. For additional removal information  
Refer to: [Rear Door](#) (501-03 Body Closures, Removal and Installation).
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6. For additional removal information  
Refer to: [Front Row Seat - Vehicles With: Power Seats](#) (501-10 Seating, Removal and Installation).  
Refer to: [Front Row Seat - Vehicles Without: Power Seats](#) (501-10 Seating, Removal and Installation).
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7. For additional removal information  
Refer to: [Second Row Left Seat - 110](#) (501-10 Seating, Removal and Installation).  
Refer to: [Second Row Right Seat - 110](#) (501-10 Seating, Removal and Installation).
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8. For additional removal information  
Refer to: [Front Row Seatbelt Retractor - 110](#) (501-20A Seatbelt System, Removal and Installation).
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9. For additional removal information  
Refer to: [Front Treadplate](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
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10. For additional removal information  
Refer to: [Rear Treadplate](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
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11. For additional removal information  
Refer to: [A-Pillar Lower Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
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12. For additional removal information  
Refer to: [B-Pillar Upper Trim Panel - 110](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
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13. For additional removal information  
Refer to: [B-Pillar Lower Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).
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14. For additional removal information  
Refer to: [Roof Panel - 110, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).
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15. For additional removal information  
Refer to: [Roof Opening Panel Frame](#) (501-17 Roof Opening Panel, Removal and Installation).
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16. For additional removal information

Refer to: [Deployable Side Steps - Part number: 110: VPLEP0393, VPLEP0394, VPLEP0422](#), (102-03 Exterior, Removal and Installation).

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17. For additional removal information

Refer to: [Front Fender Mounting Bracket Lower - 110](#) (501-27 Front End Sheet Metal Repairs, Removal and Installation).

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18. Release and position the floor carpet to one side.

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19. Release and position the floor Noise, Vibration and Harshness (NVH) material to one side.

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

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21. Remove the rear door upper hinge from the B-pillar.

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22. Remove the rear door lower hinge from the B-pillar.

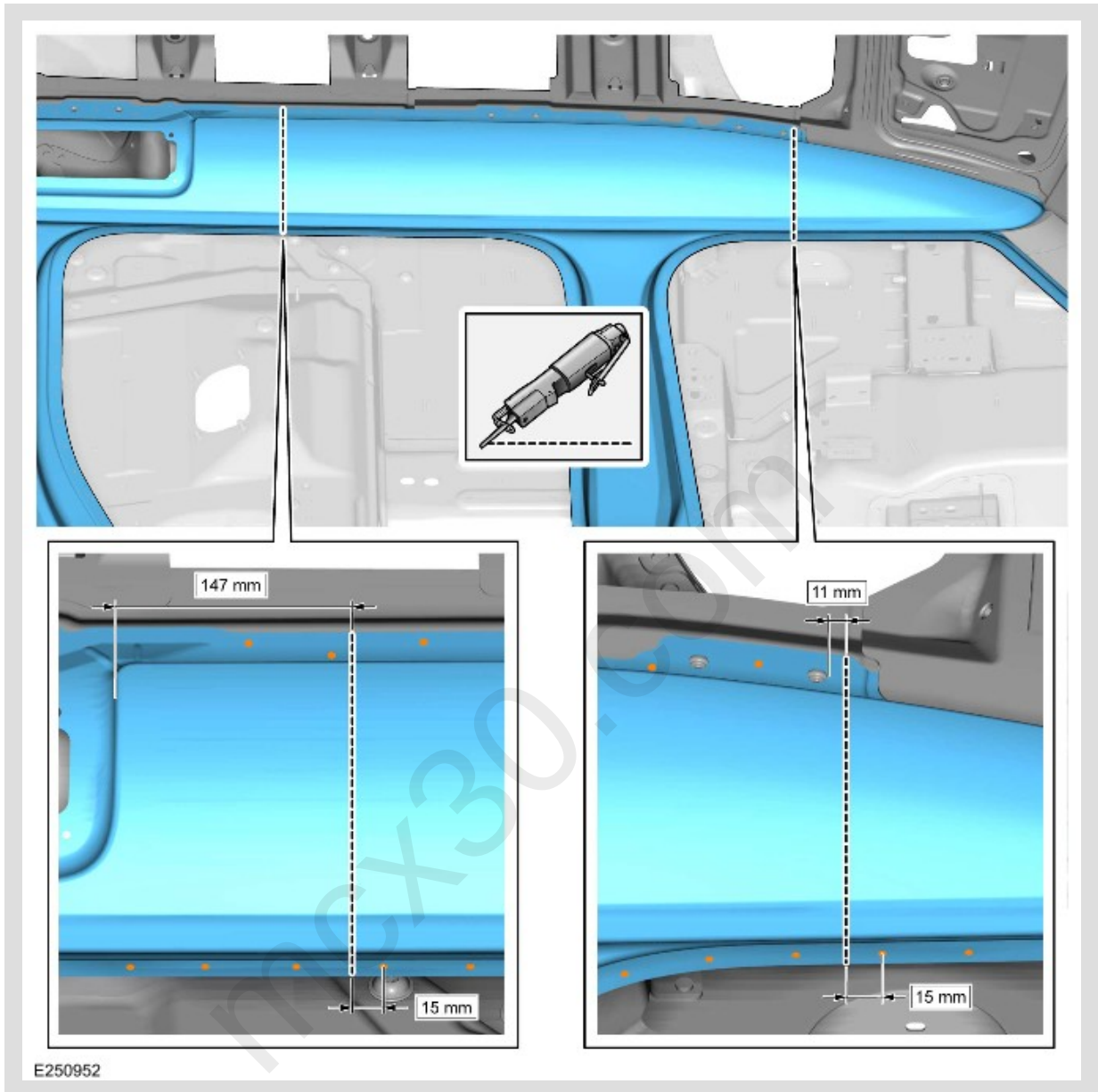
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23. Remove the front door striker from the B-pillar.

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**⚠ CAUTION:**

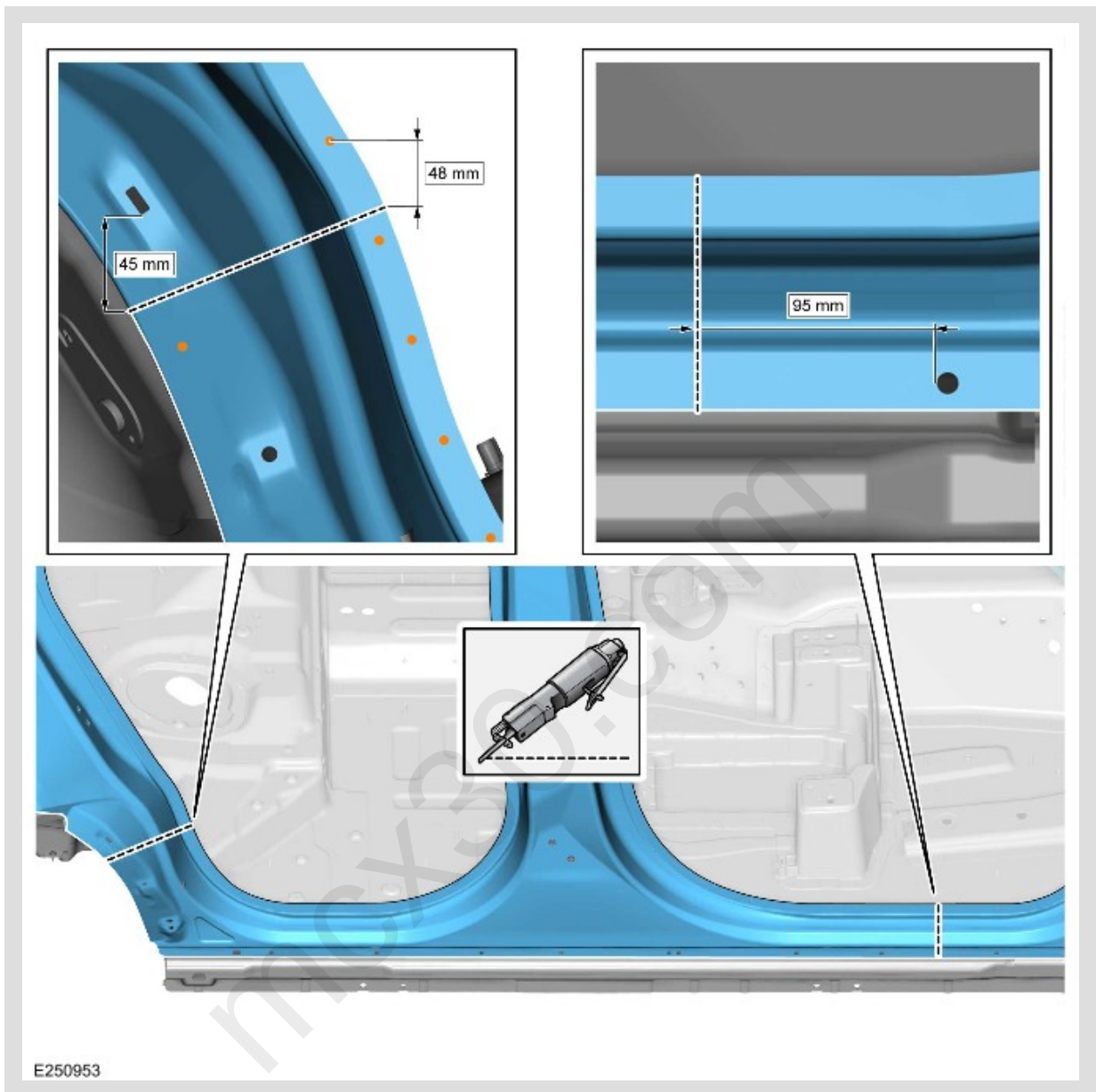
Care should be taken not to cut through into the inner reinforcements.



Use a combination of the new rocker panel and B-pillar outer panel and the data supplied to measure, mark and cut the remaining panel for the Metal Inert Gas (MIG) welded butt joint.

**⚠ CAUTION:**

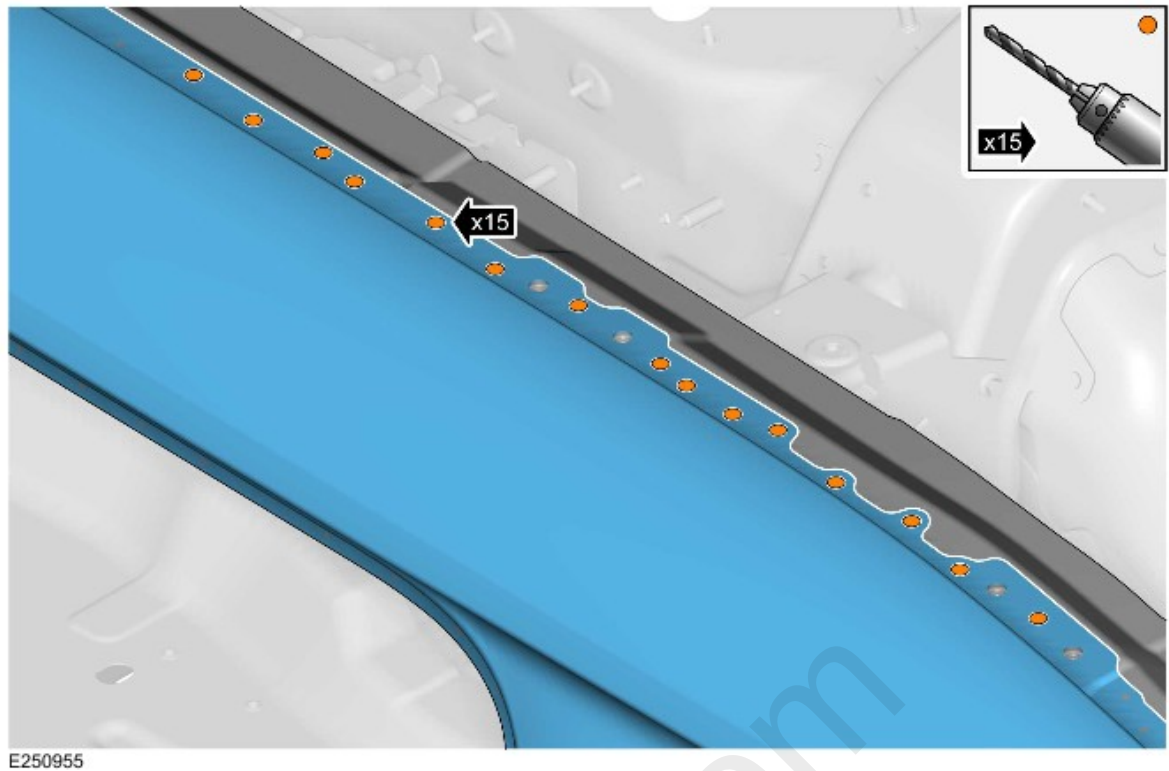
Care should be taken not to cut through into the inner reinforcements.



Use a combination of the new rocker panel and B-pillar outer panel and the data supplied to measure, mark and cut the remaining panel for the MIG welded butt joint.

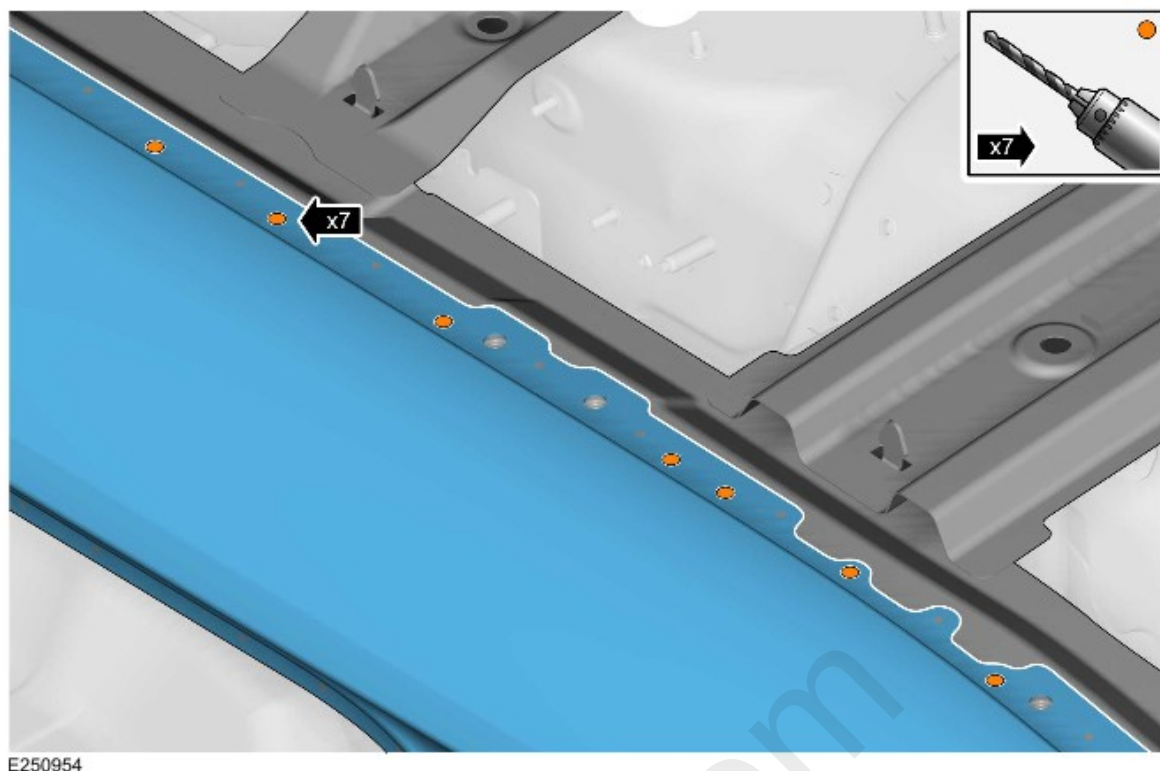
**The following step(s) applies to:**

Vehicles with roof opening panel



Remove the Self piercing Rivets (SPRs) as indicated.

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

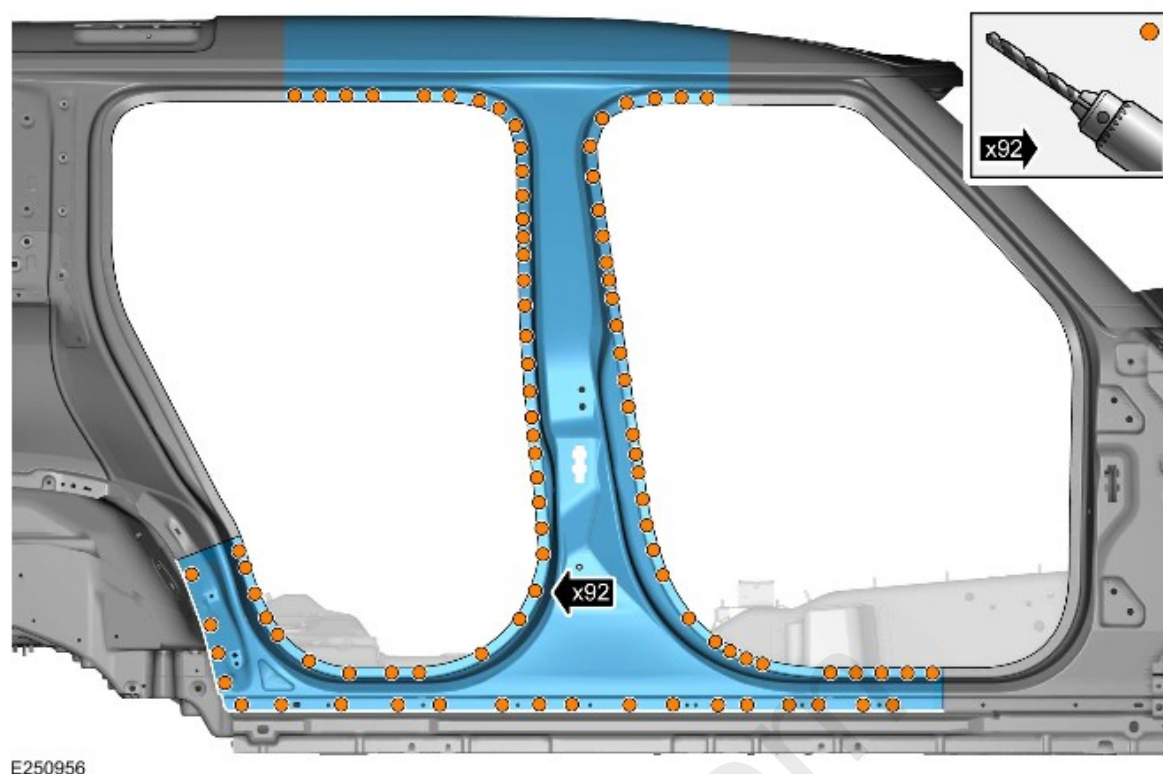


Remove the SPRs as indicated.

**The following step(s) applies to:**

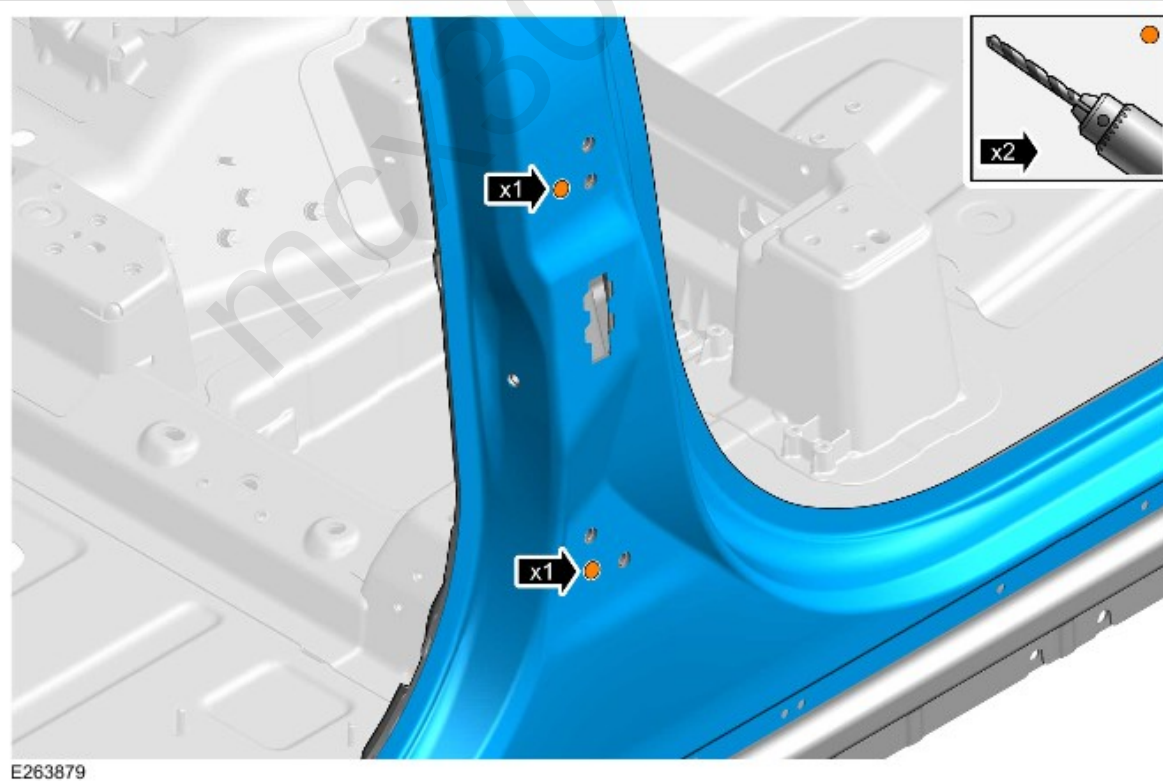
All vehicles

28.



Remove the SPRs as indicated.

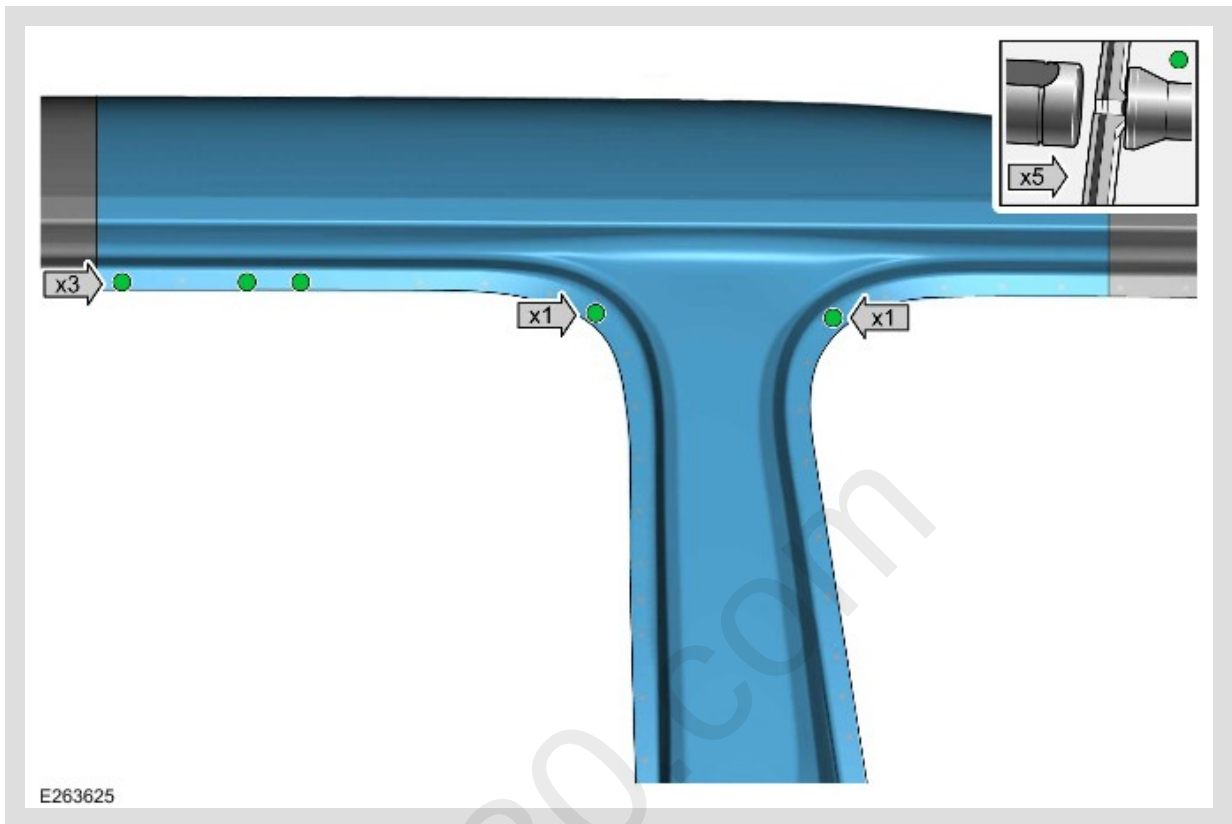
29.



Remove the SPRs as indicated.

**NOTE:**

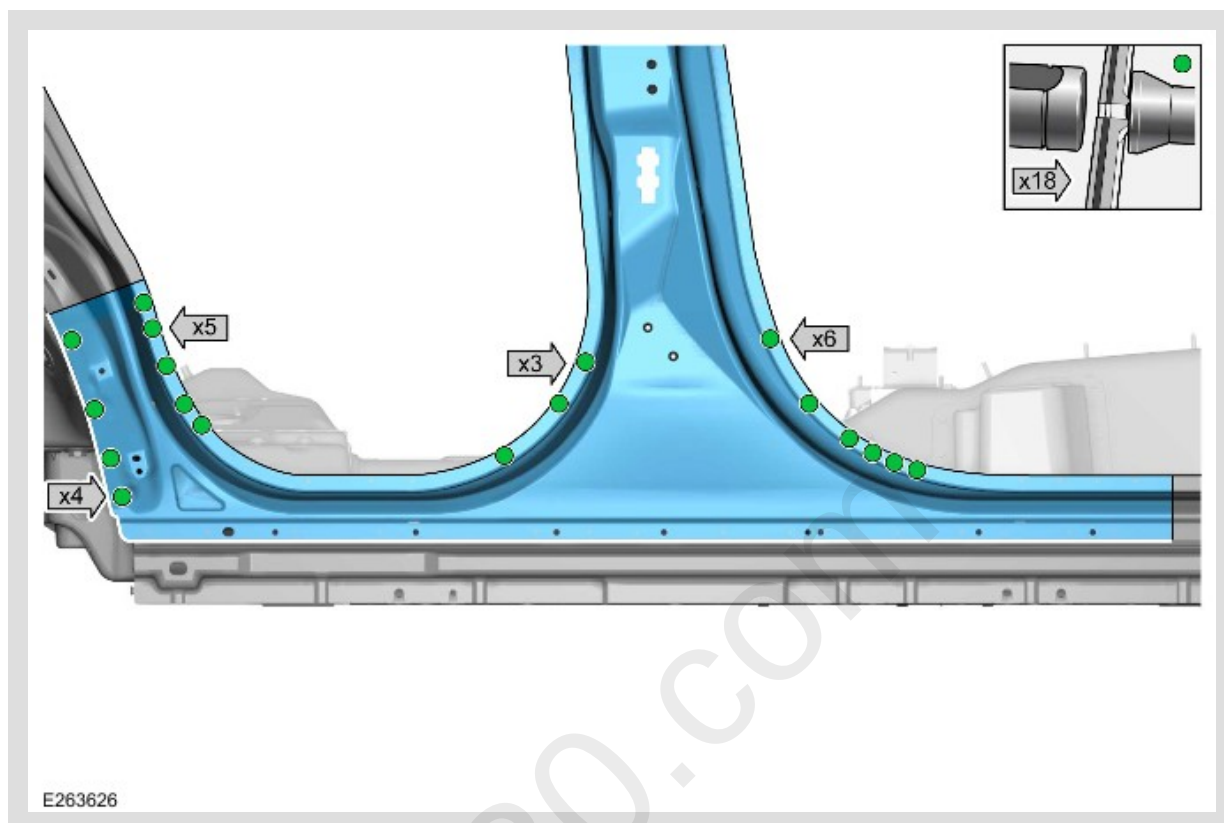
Where Flow Form Rivet (FFR) installation is indicated. Make sure that the panel is planished before removal.



Planish the panel as indicated.

**NOTE:**

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



Planish the panel as indicated.

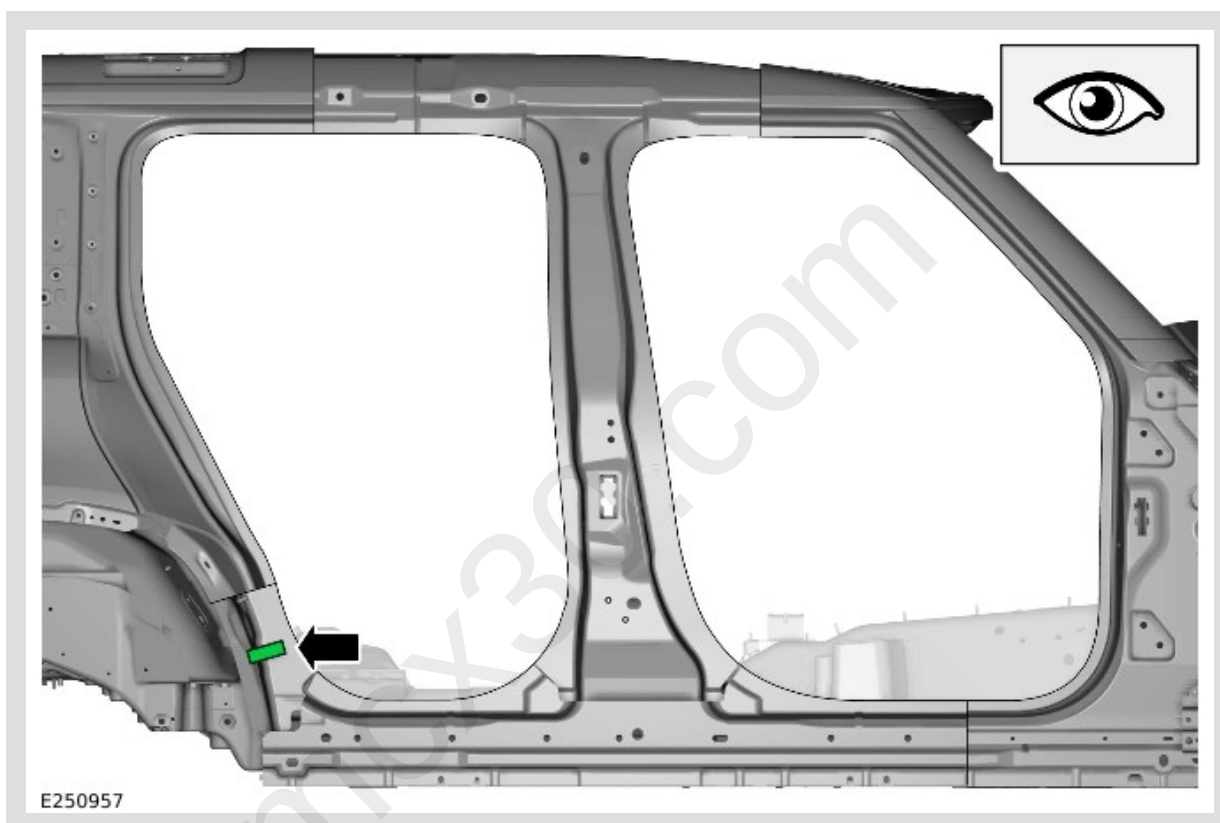


**⚠ CAUTION:**

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

**△ NOTE:**

Avoid where possible damaging the NVH material located behind the rocker panel and B-pillar outer panel.



Carefully separate the joints and remove the rocker panel and B-pillar outer panel.

## 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.

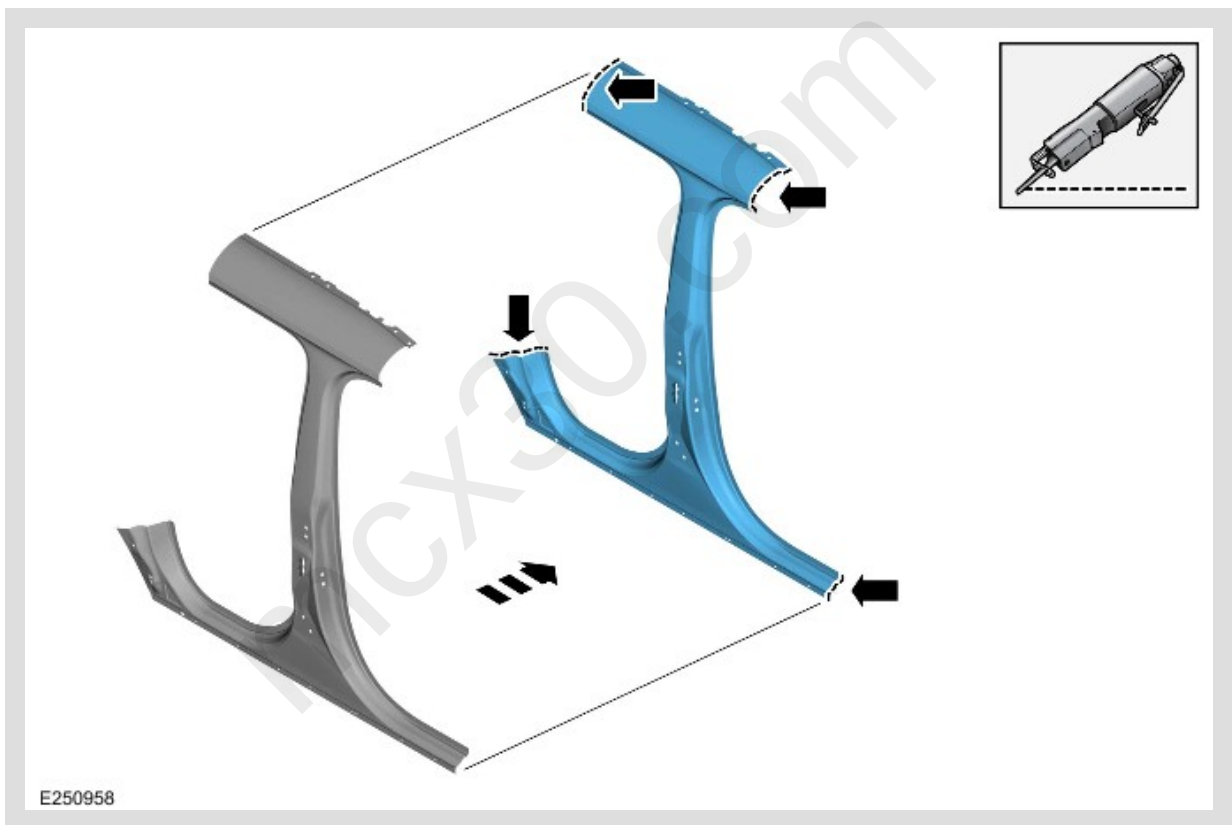
## NOTES:

- 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.



Use the old rocker panel and B-pillar outer panel as a guide. Measure, mark and cut the new rocker panel and B-pillar outer panel, where the MIG welded butt joints are to be made as indicated.

4.



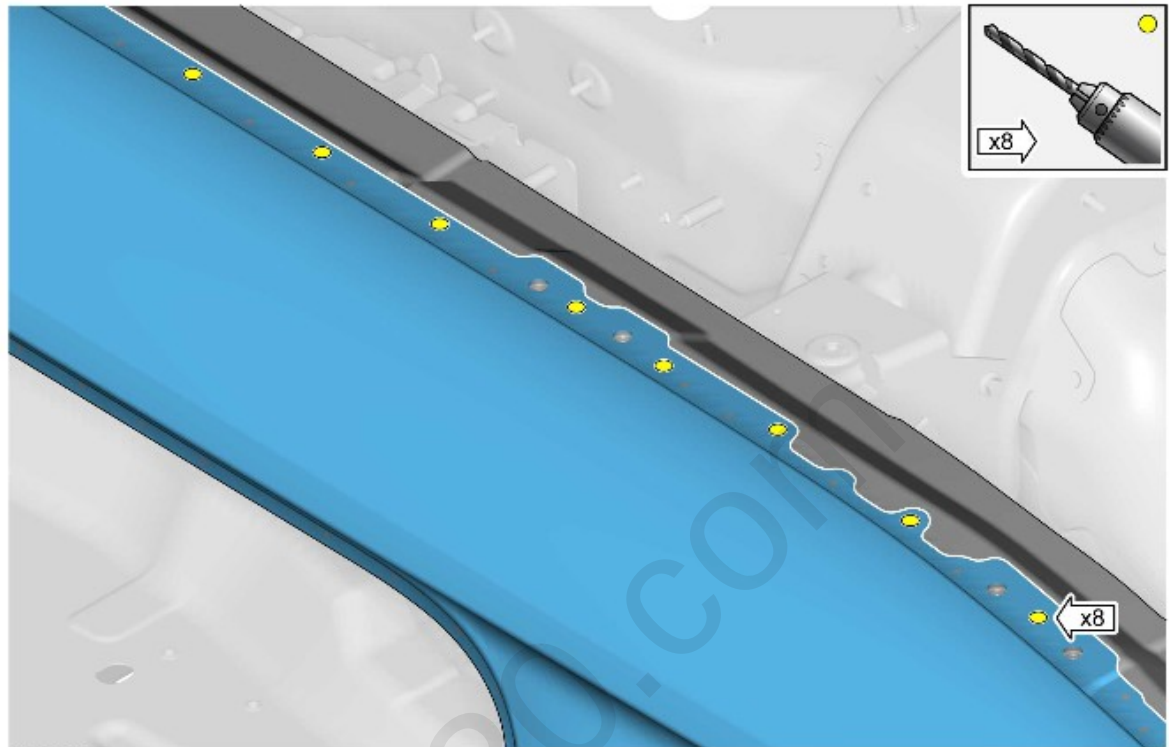
## CAUTION:

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

Offer up the new rocker panel and B-pillar outer panel 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

5.



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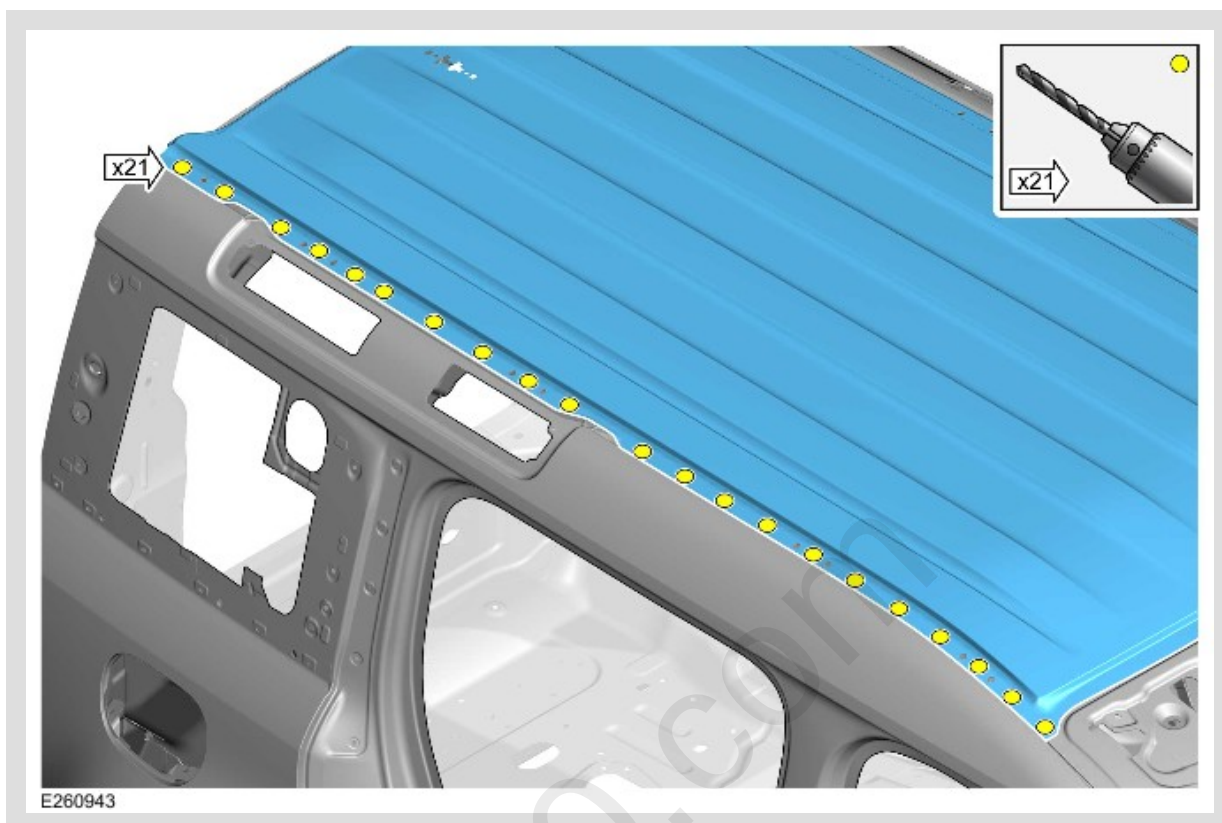
Drill holes where the Breakstem Fasteners (BSFs) and MIG plug welds are to be installed as indicated.

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

6.

**NOTE:**

When installing the rocker panel and B-pillar outer panel in conjunction with the Roof Panel.

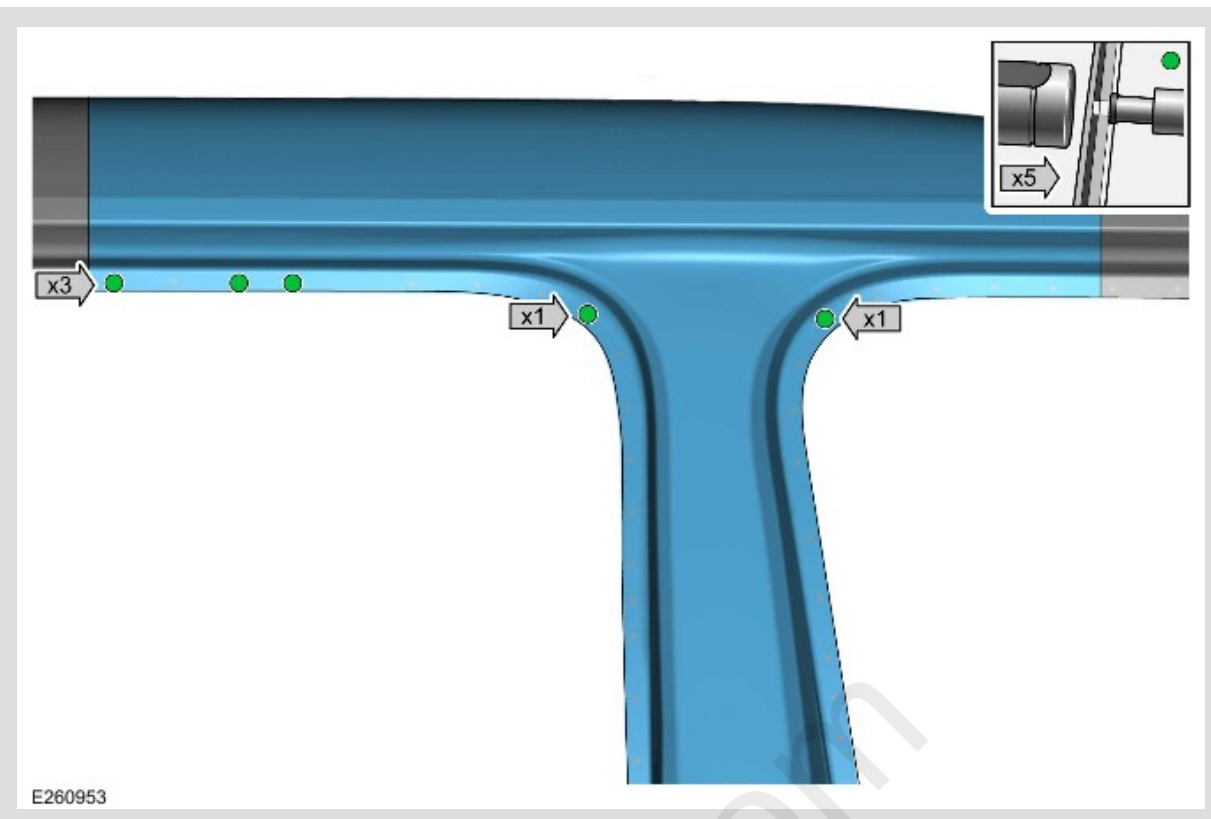


Drill holes where the BSFs are to be installed as indicated.

**The following step(s) applies to:**

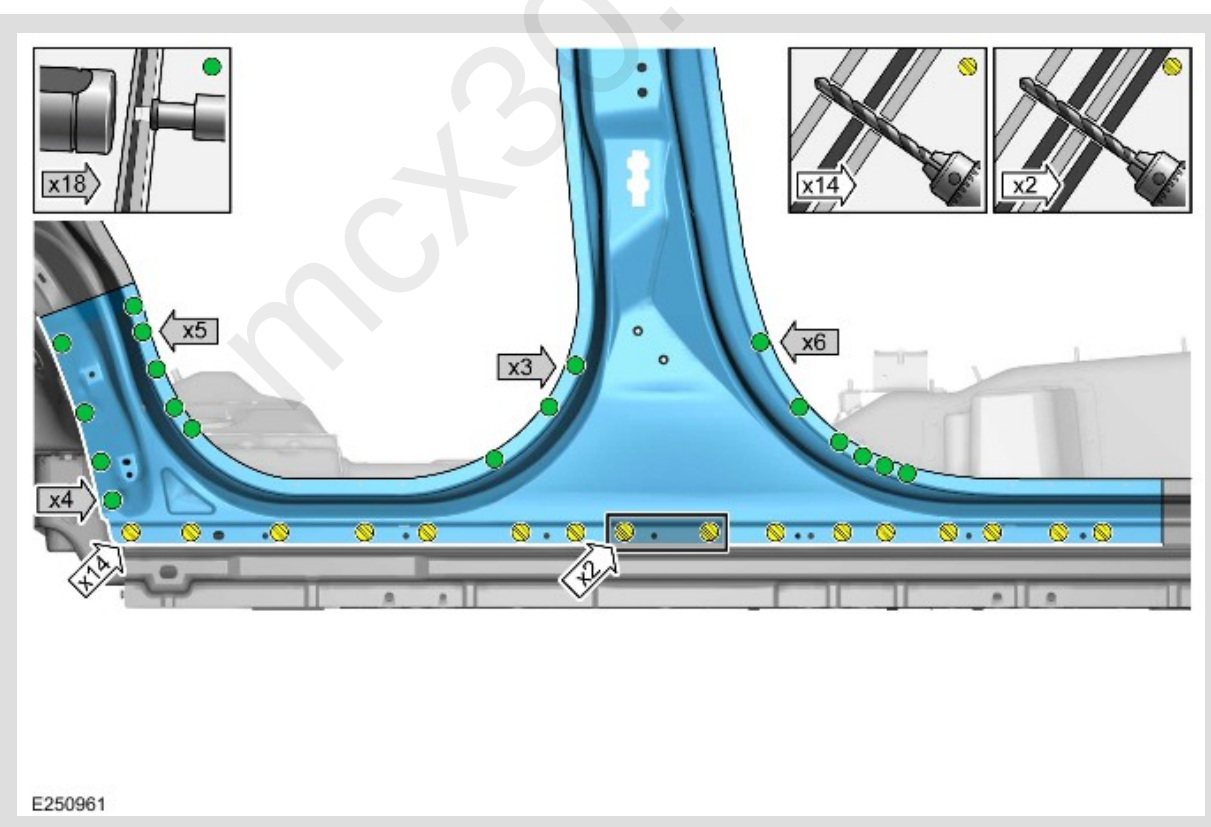
All vehicles

7.

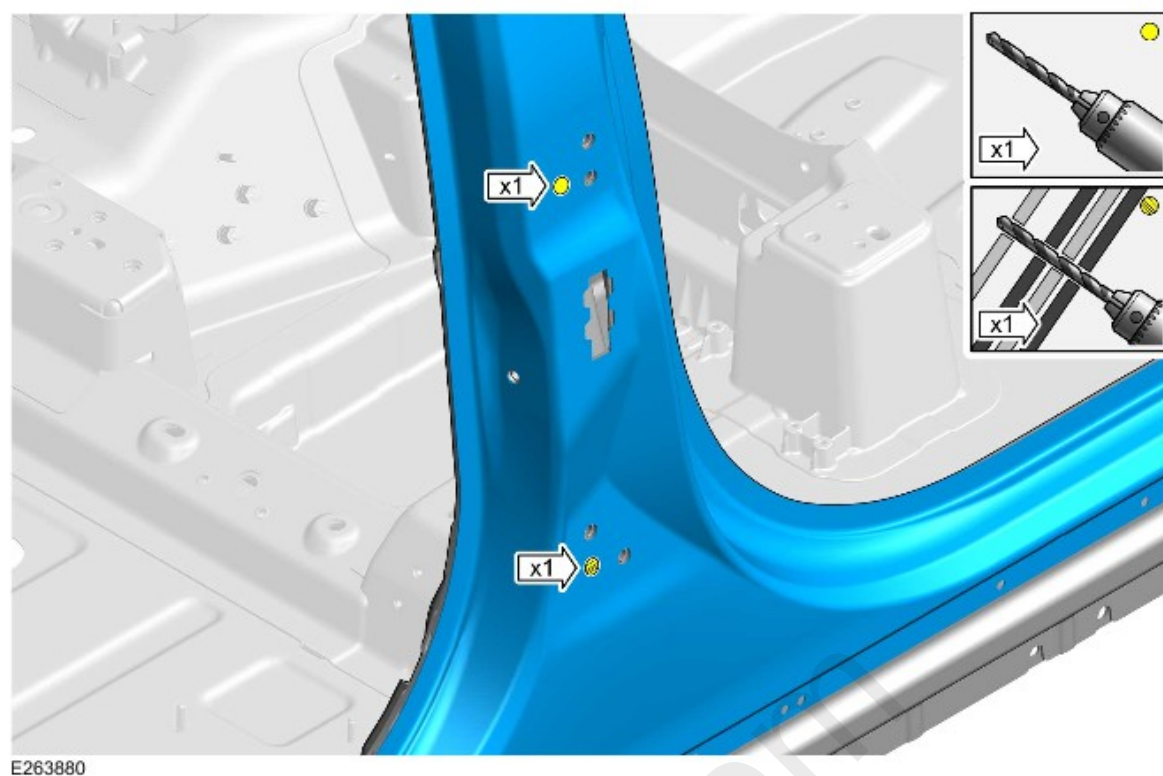


Punch calibrated holes where the Flow Form Rivets (FFRs) are to be installed as indicated.

8.



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

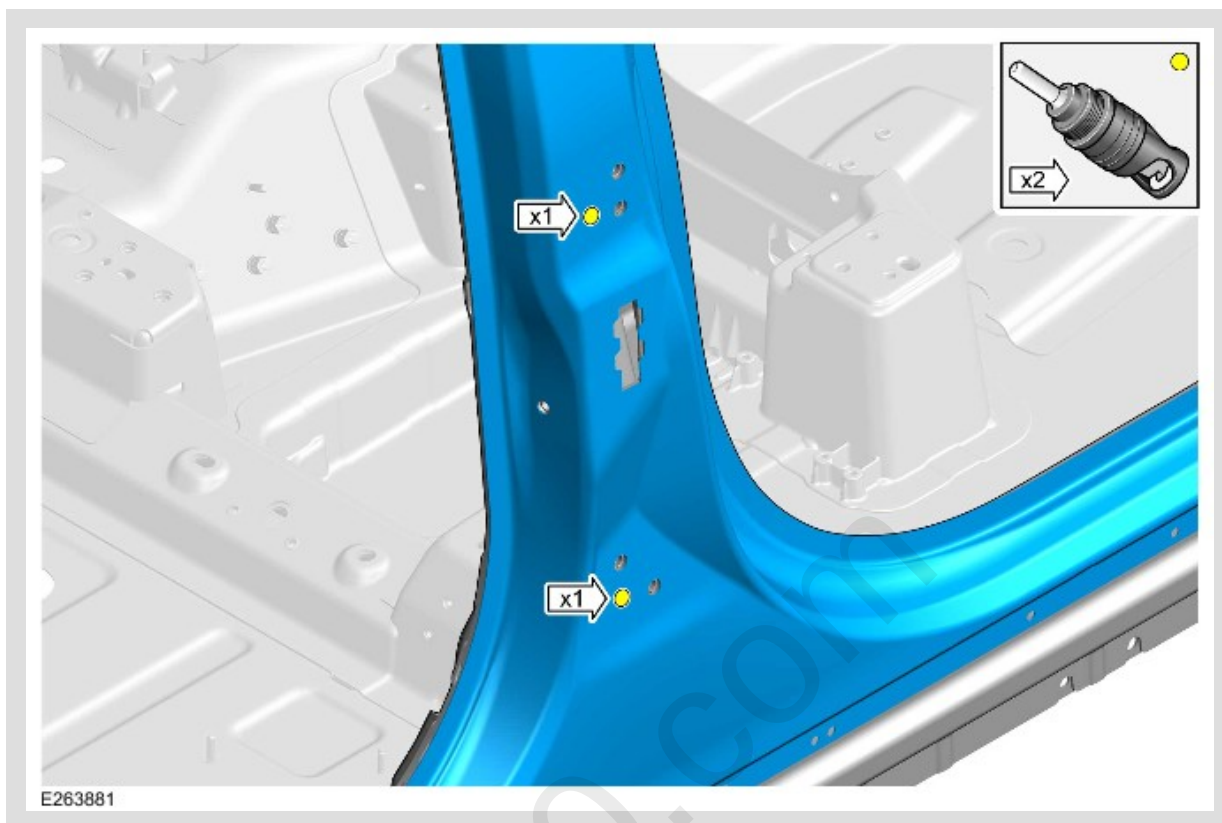


Drill holes where the BSFs are to be installed as indicated.

10.

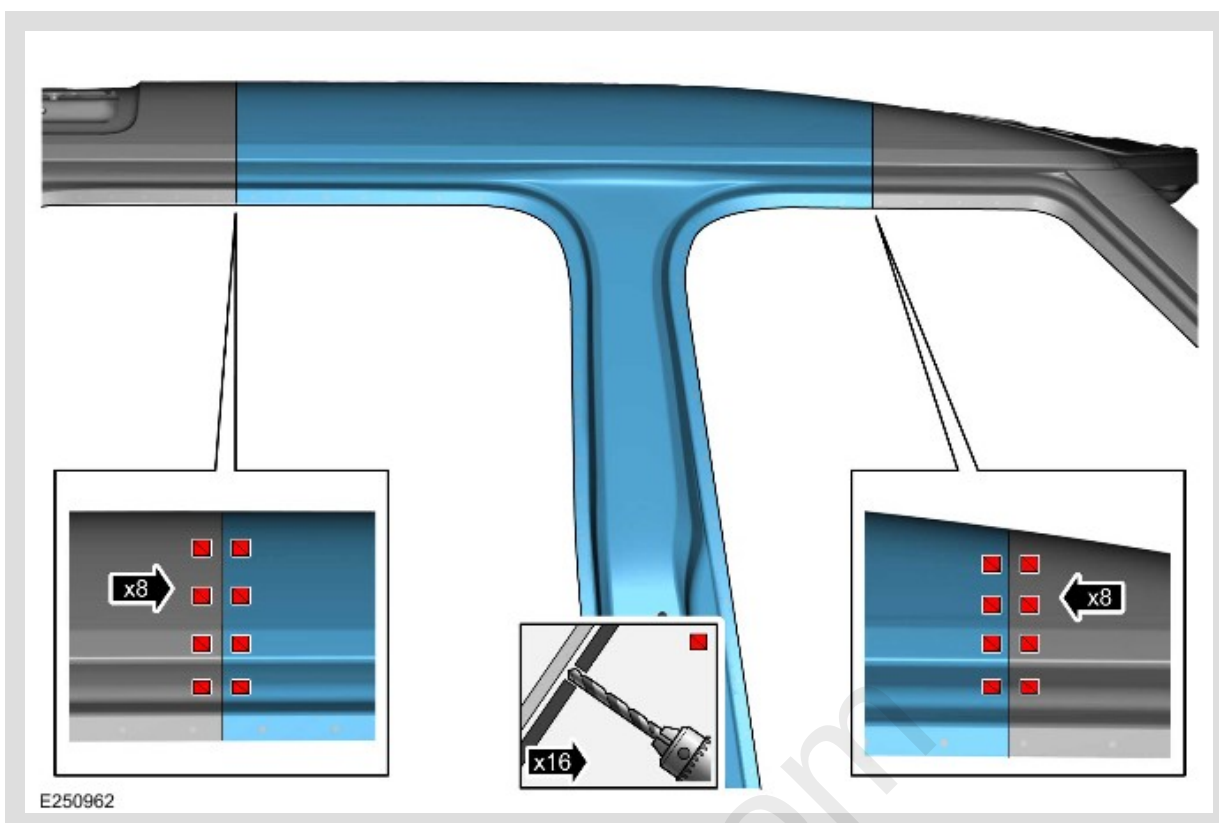
 **NOTE:**

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



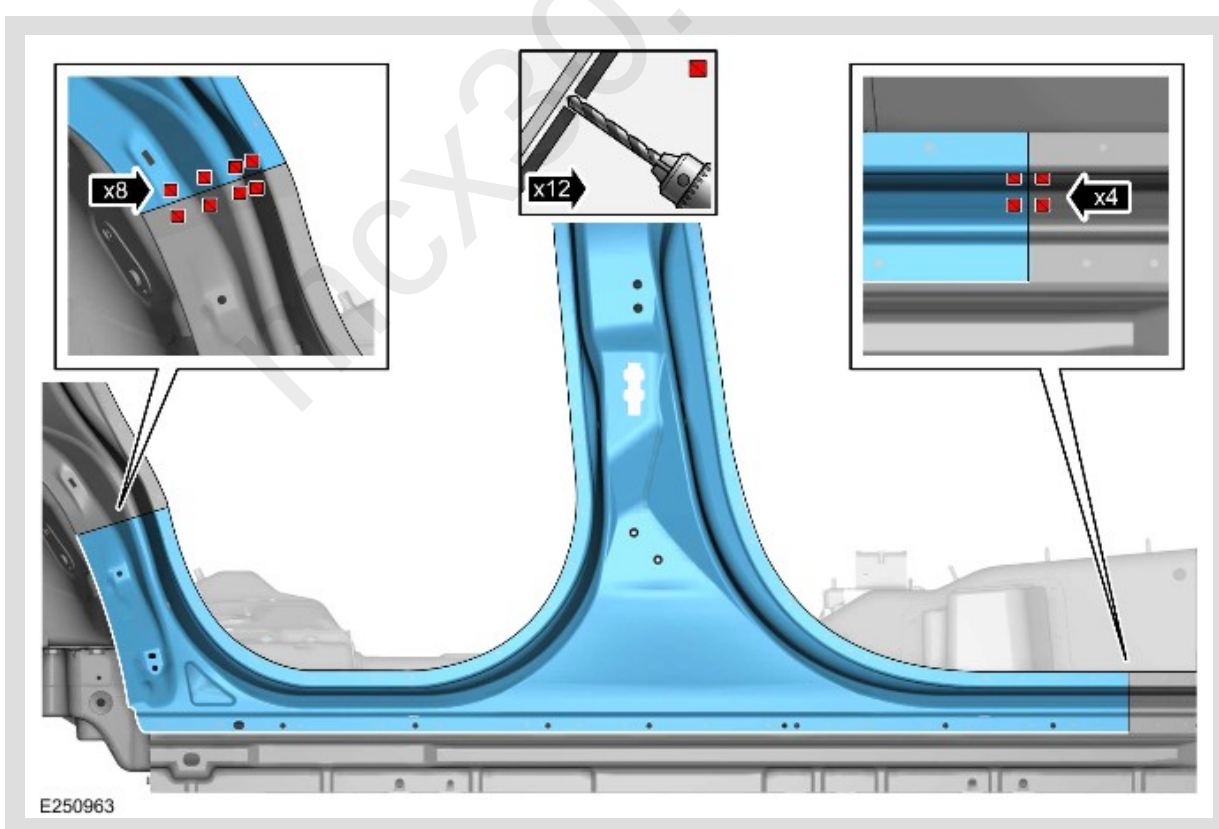
Countersink the hole to a depth of 2 mm as indicated.

11.



Drill holes where the backing plates are to be installed as indicated.

12.



Drill holes where the backing plates are to be installed as indicated.

13.



**CAUTION:**

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

Remove the new rocker panel and B-pillar outer panel.

14.

Deburr the drilled holes.

15.

Measure and cut 4 backing plates 50 mm wide, 25 mm each side of the MIG welded butt joint from the rocker panel and B-pillar outer panel remnant.

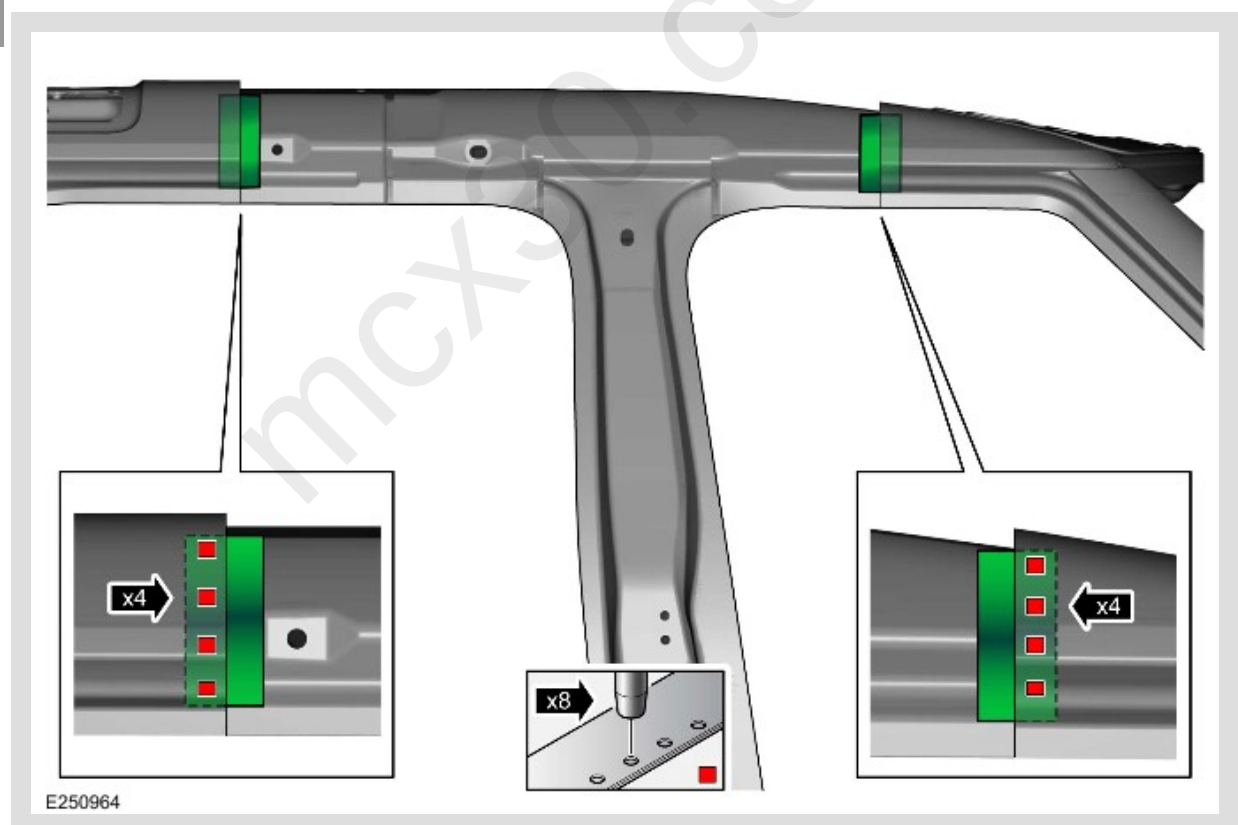
16.

Cut 5 run on/run off tabs from the rocker panel and B-pillar outer panel remnant.

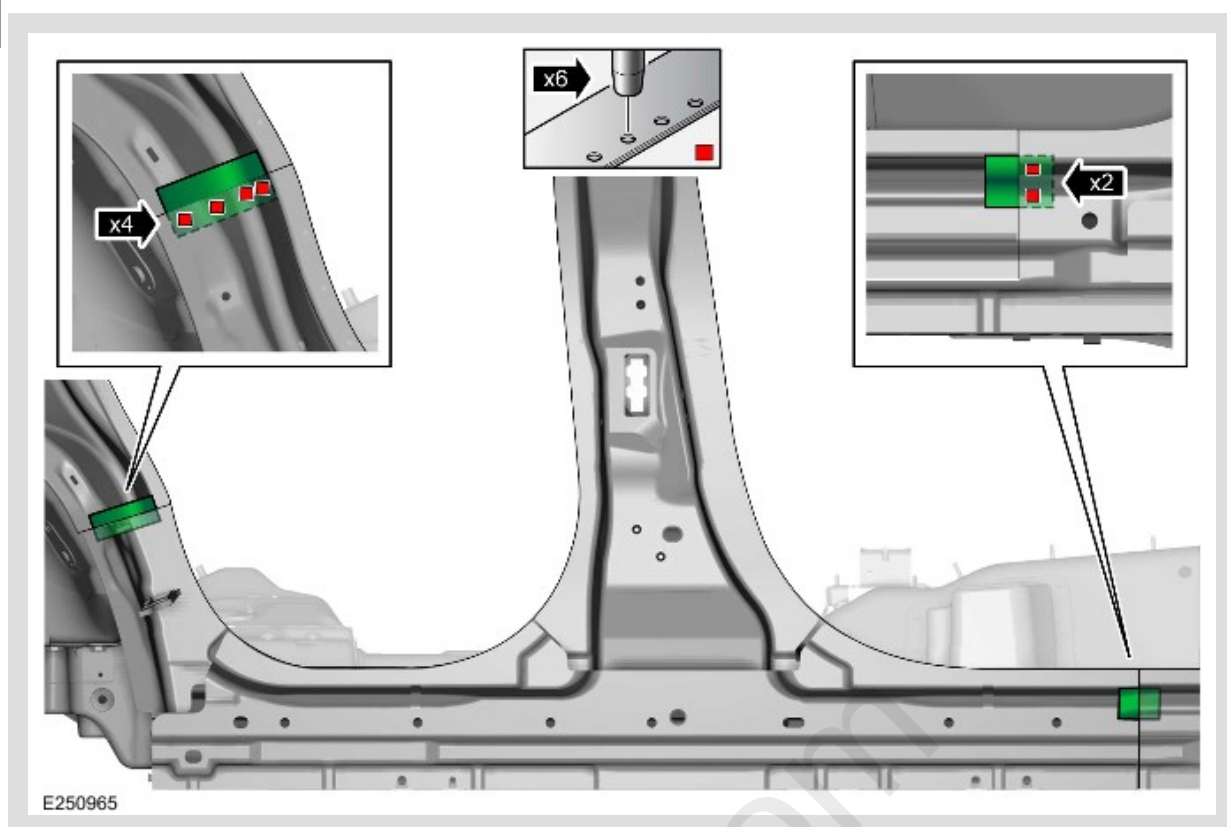
17.

Clean and prepare the panel surfaces.

18.



Install and MIG plug weld the backing plates as indicated.

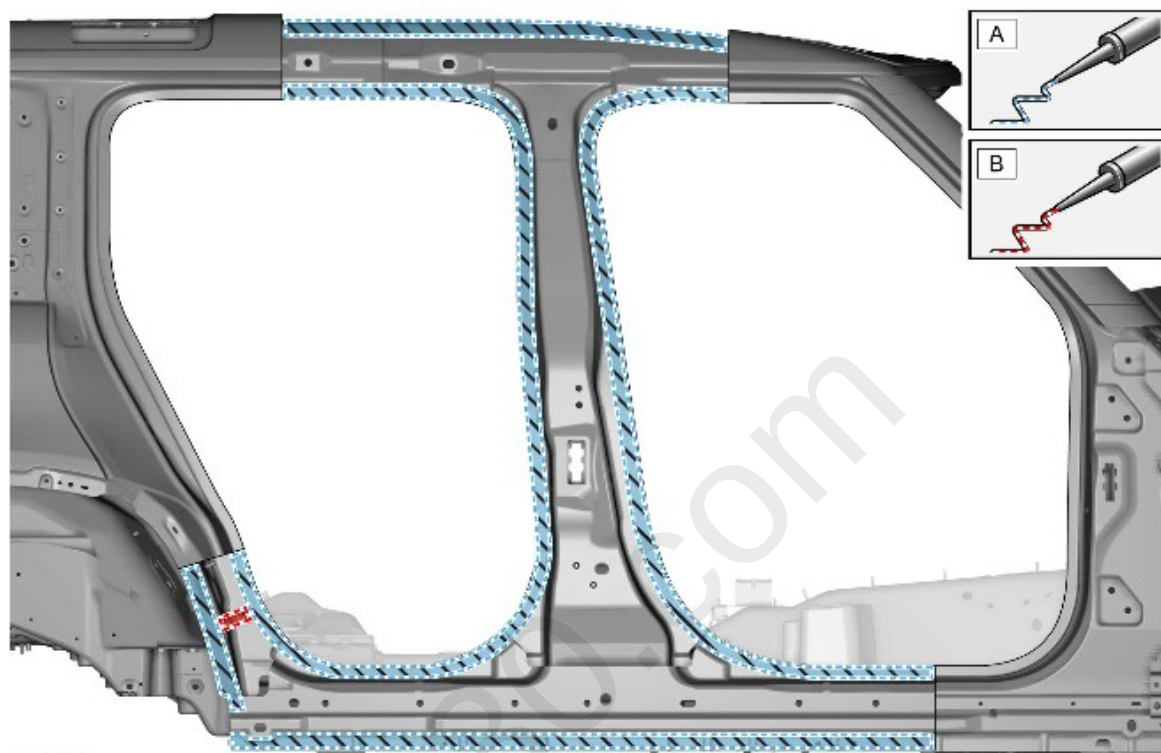


Install and MIG plug weld the backing plates as indicated.

**NOTE:**

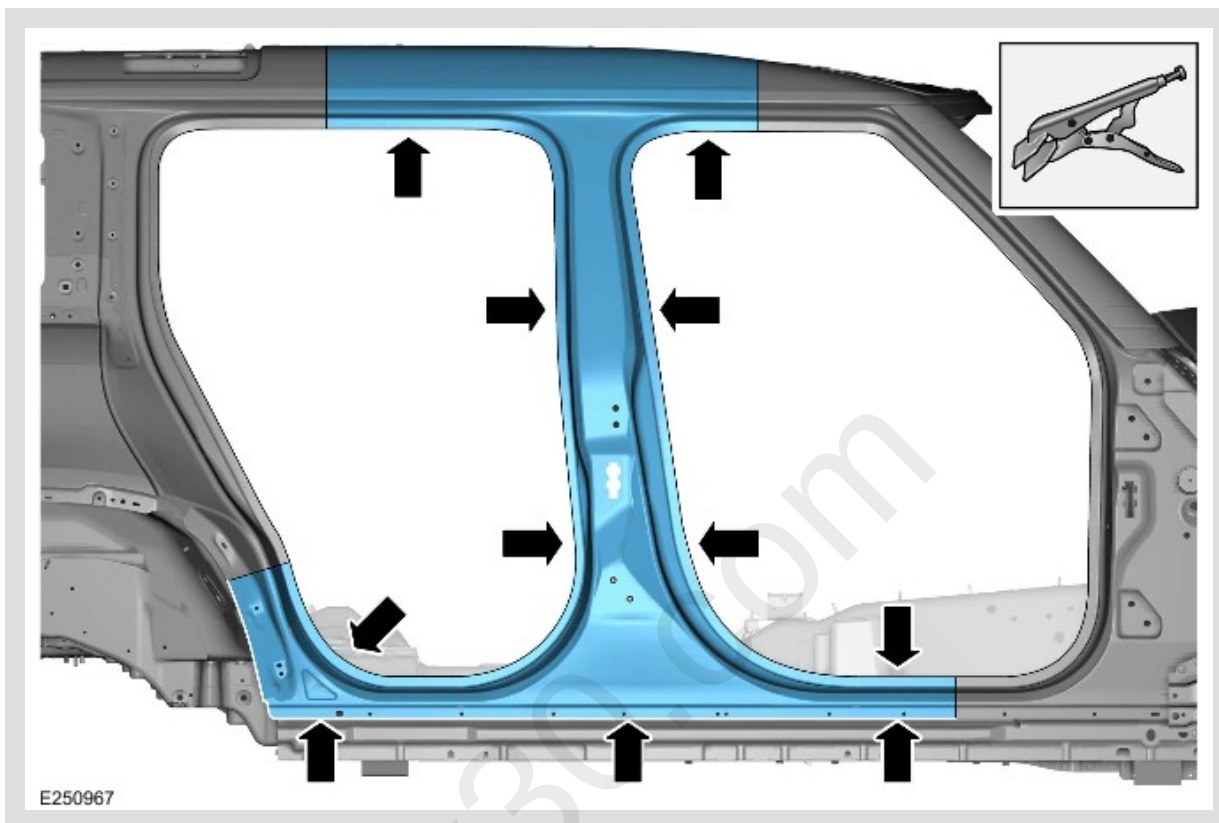
Make sure a continuous bead of adhesive surrounds the fixing holes.

- A: Apply a 5 mm zig zag bead of JLR recommended bonding material as indicated.
- B: Apply a 5 mm zig zag bead of JLR recommended flexible sealant as indicated.

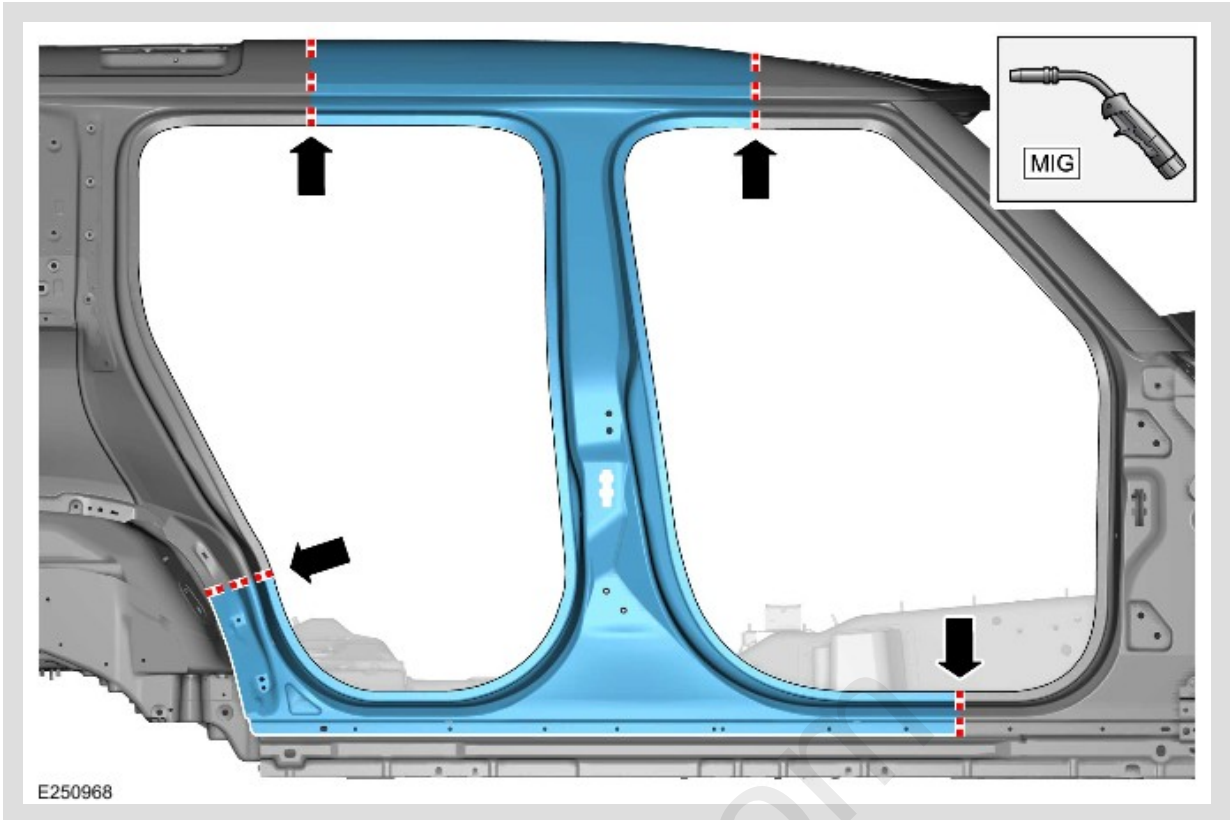


**⚠ CAUTION:**

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



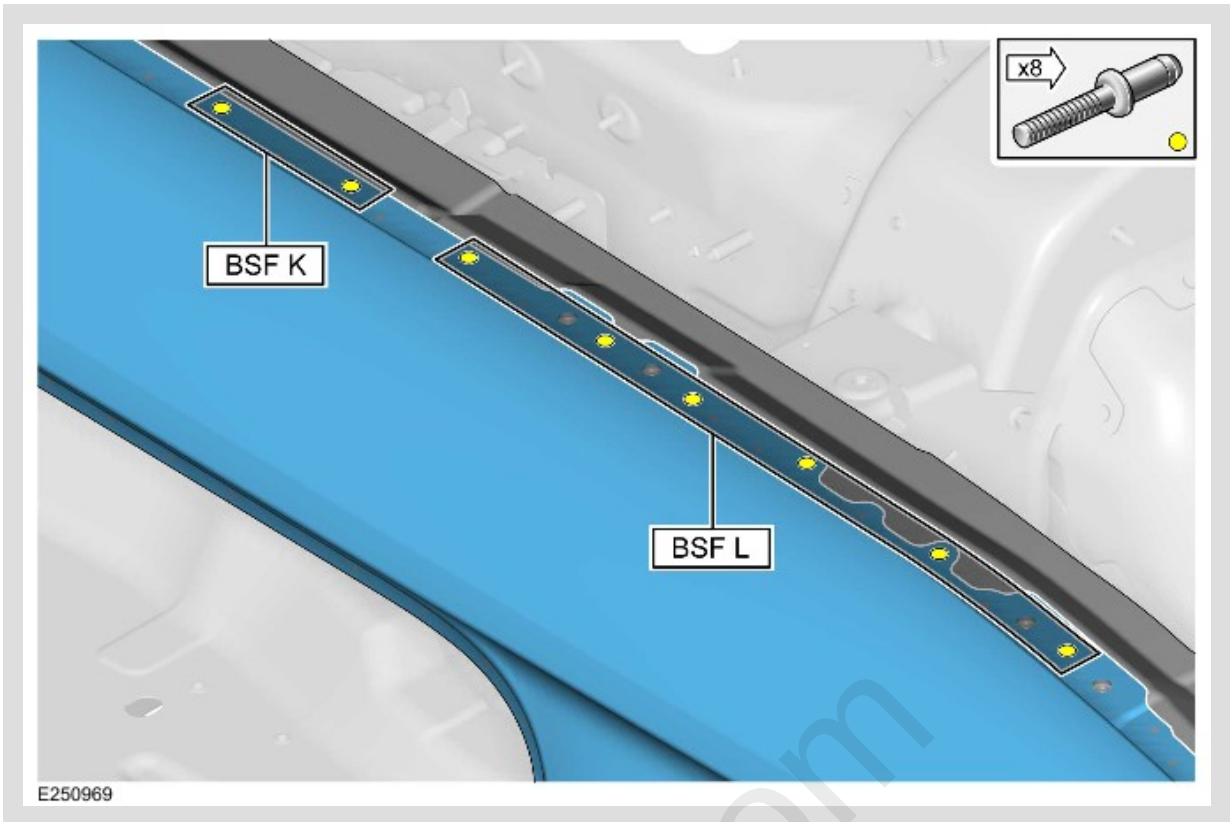
Offer up the new rocker panel and B-pillar outer panel and clamp into position as indicated. Check alignment, if correct proceed to next step, if not rectify and check the alignment again before proceeding.



Tack MIG weld the butt joints as indicated.

**The following step(s) applies to:**

Vehicles with roof opening panel

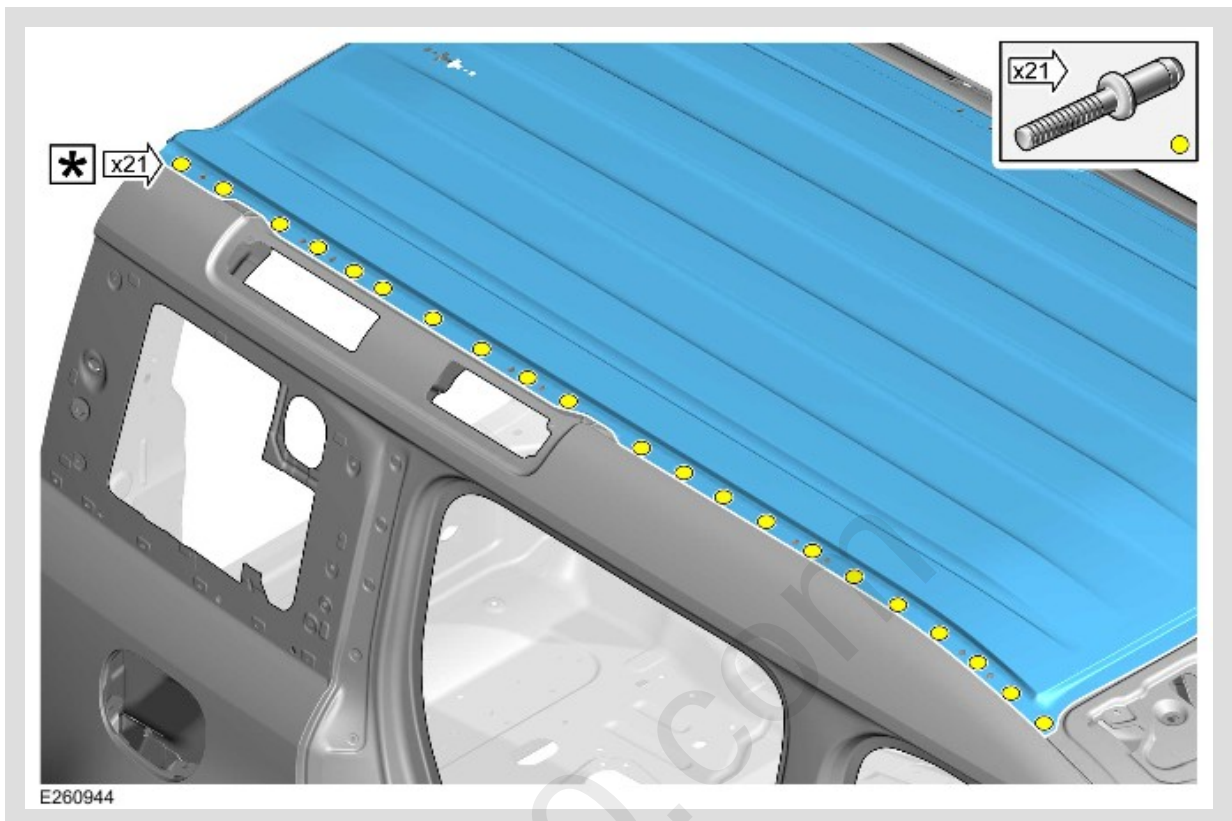


Install the BSFs as indicated.

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

**ⓘ CAUTION:**

\*Breakstem Fasteners (BSFs) to be installed in conjunction with the roof panel.



\*When installing the rocker panel and B-pillar outer panel in conjunction with the Roof Panel.

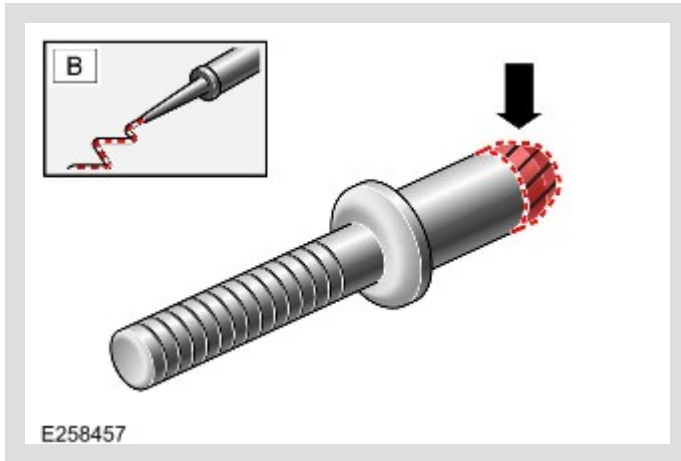
Refer to: [Roof Panel - 110, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

**The following step(s) applies to:**

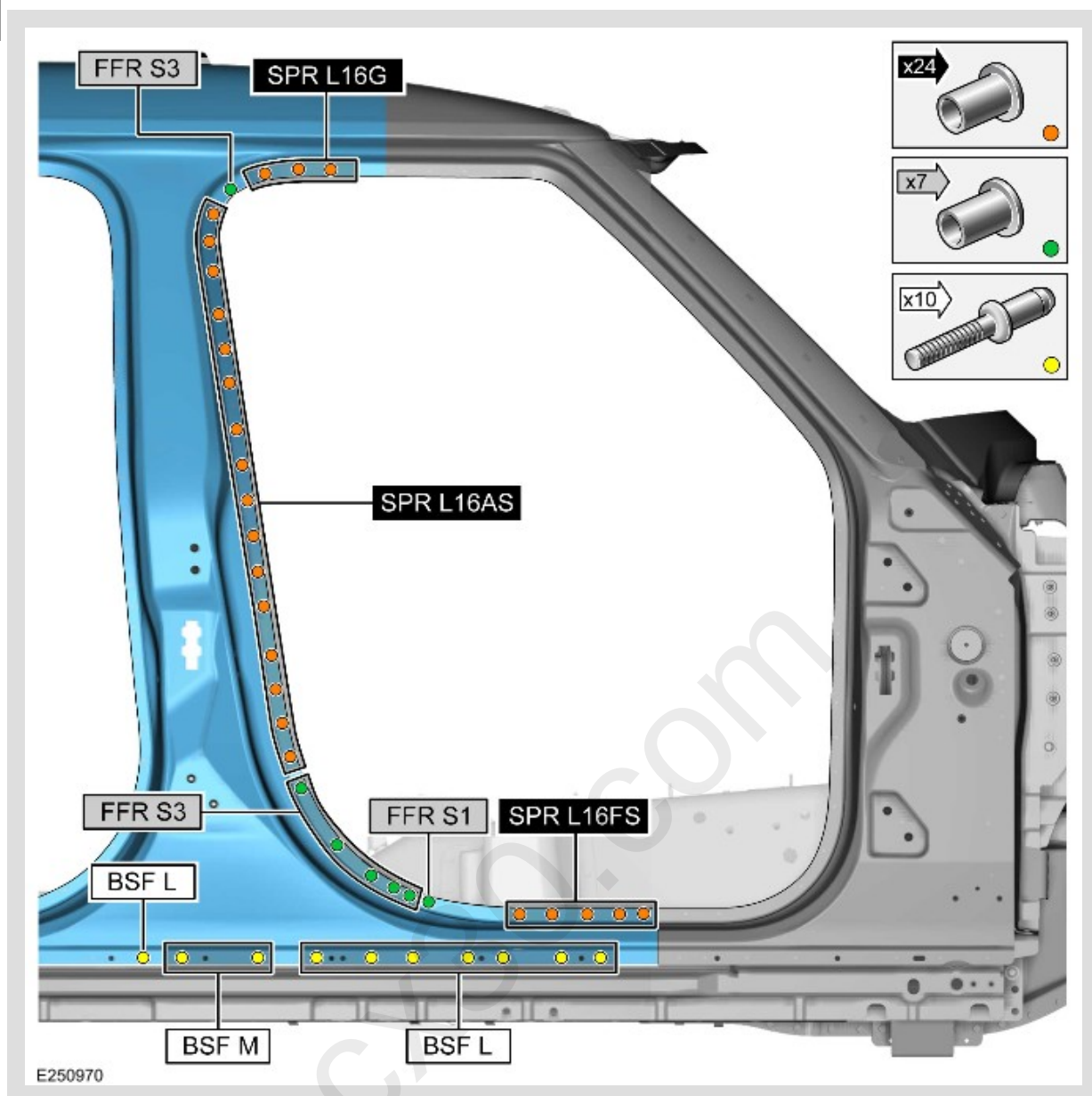
All vehicles

**NOTE:**

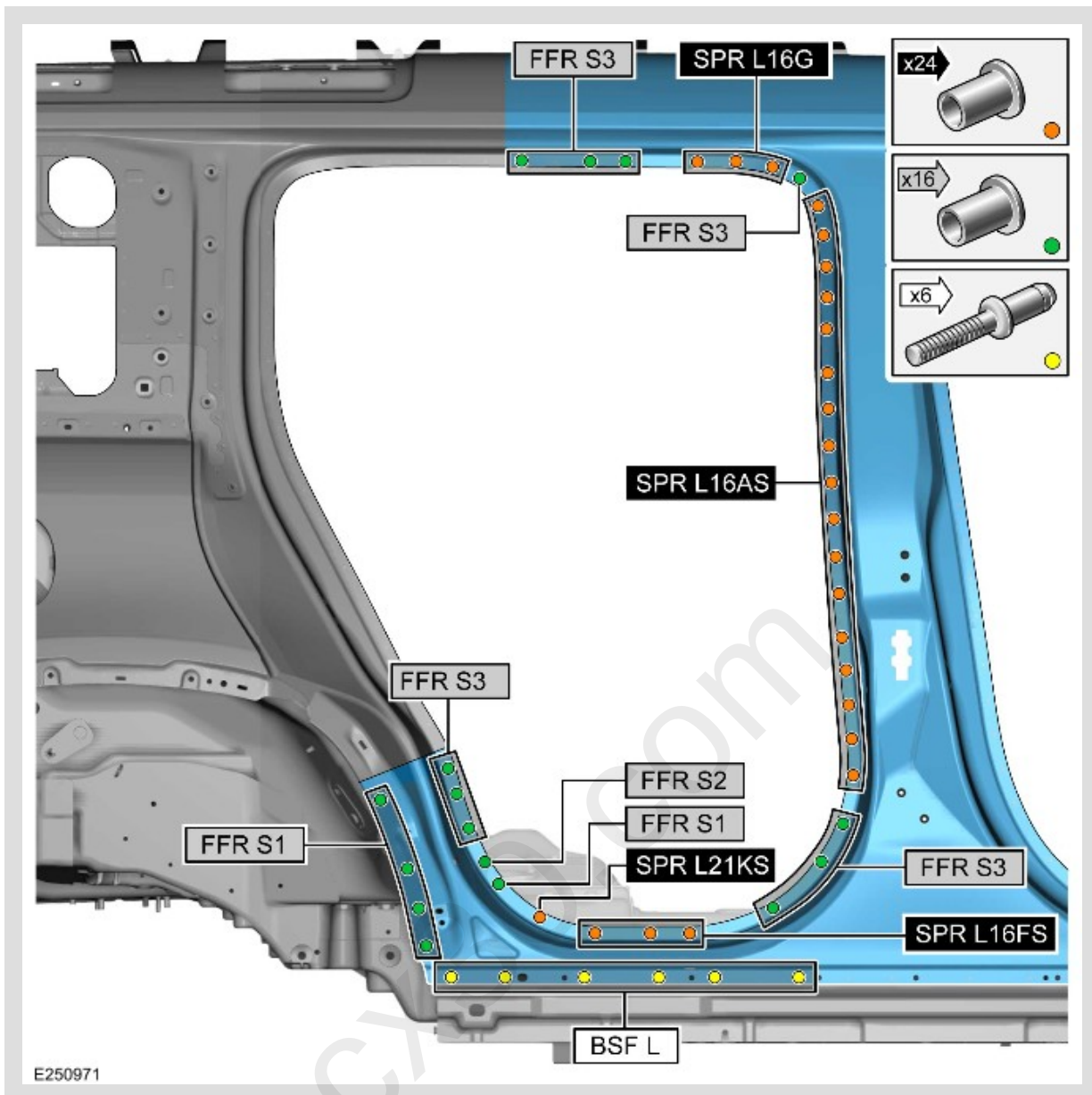
When installing Breakstem Fasteners (BSFs) into the rocker panel.



Apply a small amount of JLR recommended flexible sealant to the BSFs before installation as indicated.

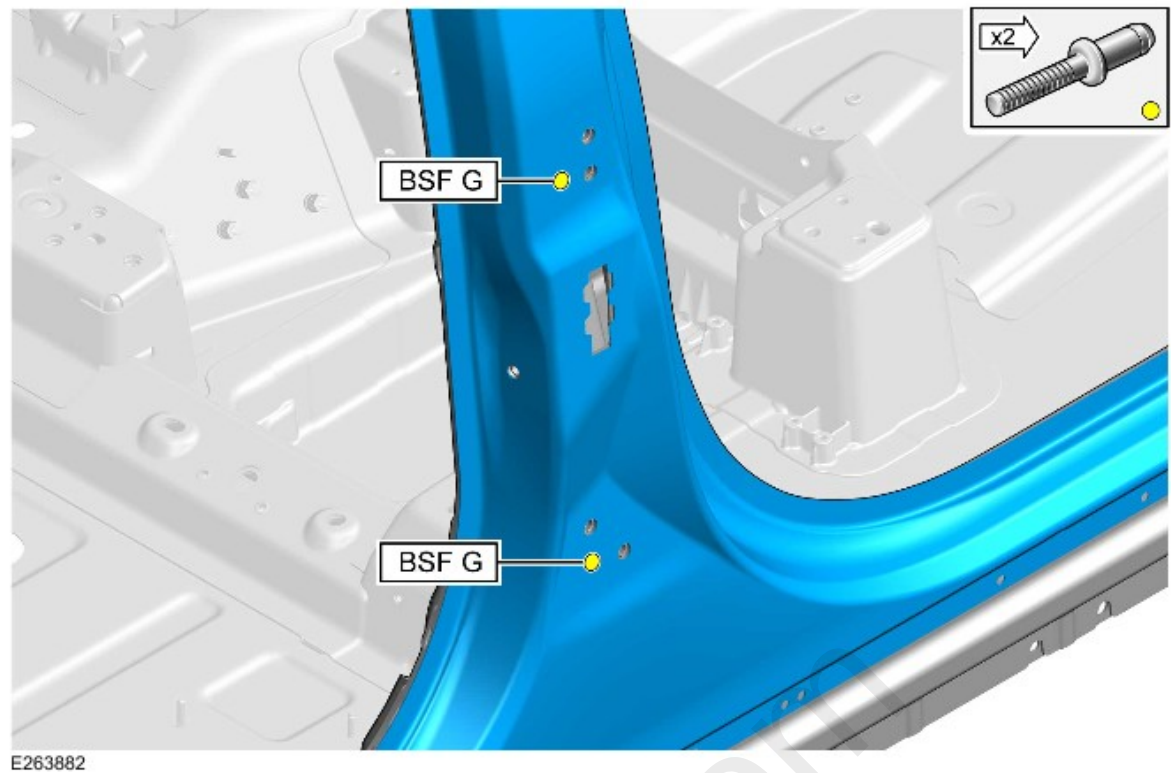


Install the BSFs, FFRs and Self Piercing Rivets (SPRs) as indicated.



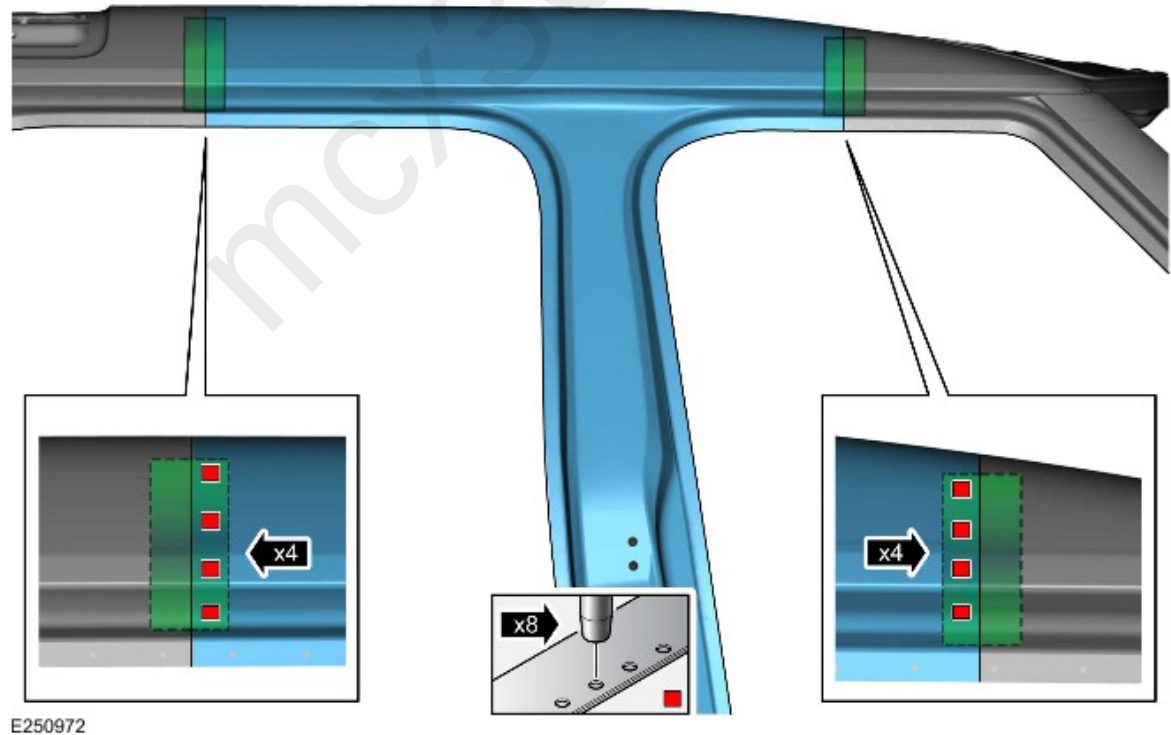
Install the BSFs, FFRs and SPRs as indicated.

28.



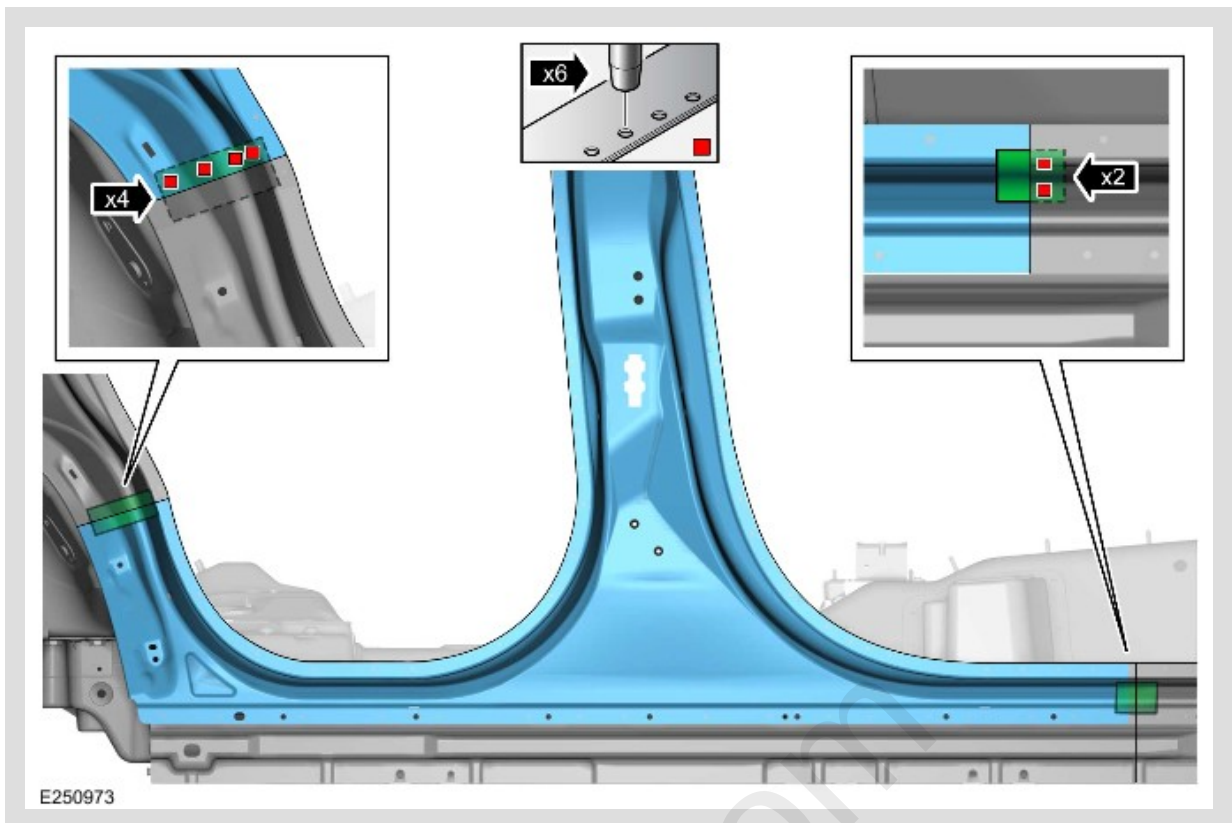
Install the BSFs as indicated.

29.



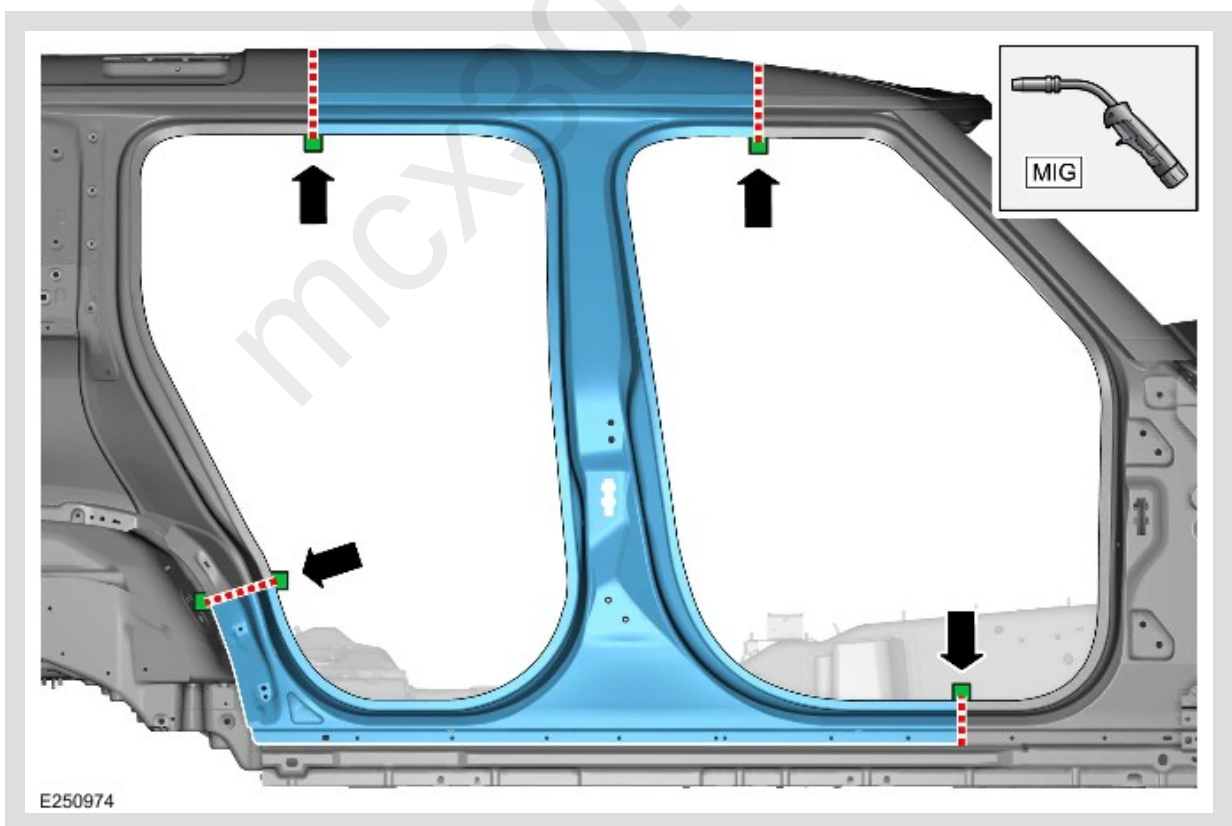
MIG plug weld the backing plates as indicated.

30.



MIG plug weld the backing plates as indicated.

31.



Install the run on/run off tabs and MIG weld the butt joints as indicated.

32.

Dress all welds.

33. Remove the run on/run off tabs.

34. Complete a non-destructive crack inspection on the MIG welded butt joints. If correct proceed to next step, if not, rectify and check again before proceeding.

35. Install the upper rear door hinge and tighten bolts.

*Torque: 35Nm*

36. Install the lower rear door hinge and tighten bolts.

*Torque: 35Nm*

37. Install the front door striker and tighten the bolts.

*Torque: 25Nm*

38. Remove any excess adhesive.

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

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

41. 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.

42. For additional installation information.

Refer to: [Front Fender Mounting Bracket Lower - 110](#) (501-27 Front End Sheet Metal Repairs, Removal and Installation).

43. For additional installation information.

Refer to: [Deployable Side Steps - Part number: 110: VPLEP0393, VPLEP0394, VPLEP0422](#), (102-03 Exterior, Removal and Installation).

44. For additional installation information.

Refer to: [Roof Opening Panel Frame](#) (501-17 Roof Opening Panel, Removal and Installation).

45. For additional installation information.

Refer to: [Roof Panel - 110, Vehicles Without: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

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46. For additional installation information.

Refer to: [B-Pillar Lower Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

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47. For additional installation information.

Refer to: [B-Pillar Upper Trim Panel - 110](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

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48. For additional installation information.

Refer to: [A-Pillar Lower Trim Panel](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

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49. For additional installation information.

Refer to: [Rear Treadplate](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

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50. For additional installation information.

Refer to: [Front Treadplate](#) (501-05 Interior Trim and Ornamentation, Removal and Installation).

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51. For additional installation information.

Refer to: [Front Row Seatbelt Retractor - 110](#) (501-20A Seatbelt System, Removal and Installation).

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52. For additional installation information.

Refer to: [Second Row Left Seat - 110](#) (501-10 Seating, Removal and Installation).

Refer to: [Second Row Right Seat - 110](#) (501-10 Seating, Removal and Installation).

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53. For additional installation information.

Refer to: [Front Row Seat - Vehicles With: Power Seats](#) (501-10 Seating, Removal and Installation).

Refer to: [Front Row Seat - Vehicles Without: Power Seats](#) (501-10 Seating, Removal and Installation).

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54. For additional installation information.

Refer to: [Rear Door](#) (501-03 Body Closures, Removal and Installation).

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