

Roof Side Rail Section - Crew Cab

Special Tool(s) / General Equipment

6.5 mm Drill Bit
Polydrive Bit Socket
Self-Piercing Rivet (SPR) Remover/Installer
Belt Sander
Blind Rivet Gun
Air Body Saw
MIG/MAG Welding Equipment
Locking Pliers

Materials

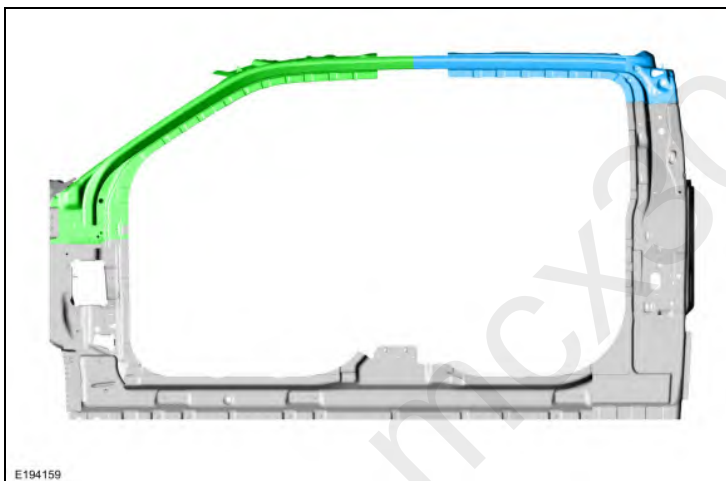
Name	Specification
Metal Bonding Adhesive TA-1, TA-1-B, 3M [®] , 08115, LORD Fusor [®] 108B	-
Seam Sealer TA-2-B, 3M [®] , 08308, LORD Fusor [®] 805DTM	-

Removal

NOTE: The roof side rail may be sectioned as a front or rear half **on Crew Cab only**. Depending on damage type, follow the appropriate steps below.

1. **Sectioning point:**

Sectioning is possible and reasonable.

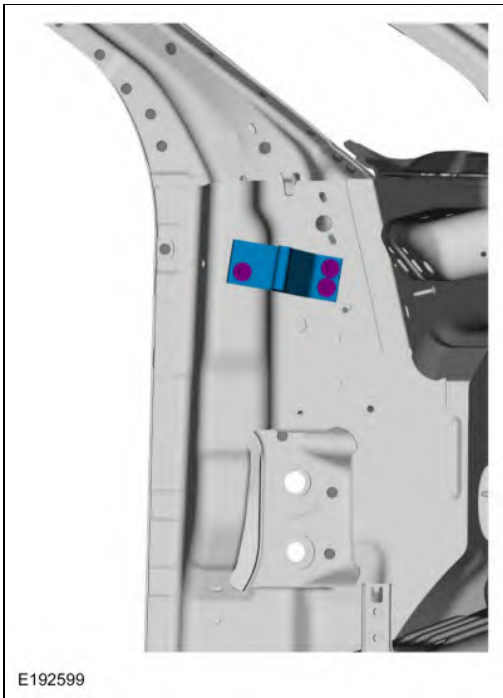


All Vehicles

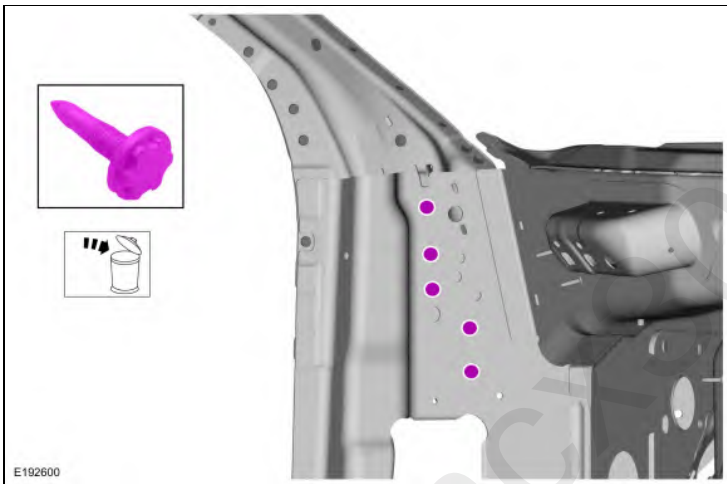
- Depower the SRS.
Refer to: Supplemental Restraint System (SRS) Depowering (501-20B Supplemental Restraint System, General Procedures).
- Make sure the vehicle is dimensionally correct.
Refer to: Body and Frame (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, Description and Operation).
- Remove the outer roof panel.
Refer to: Roof Panel - Crew Cab (501-28 Roof Sheet Metal Repairs, Removal and Installation).
Refer to: Roof Panel - Crew Cab, Vehicles With: Roof Opening Panel (501-28 Roof Sheet Metal Repairs, Removal and Installation).

Front Section

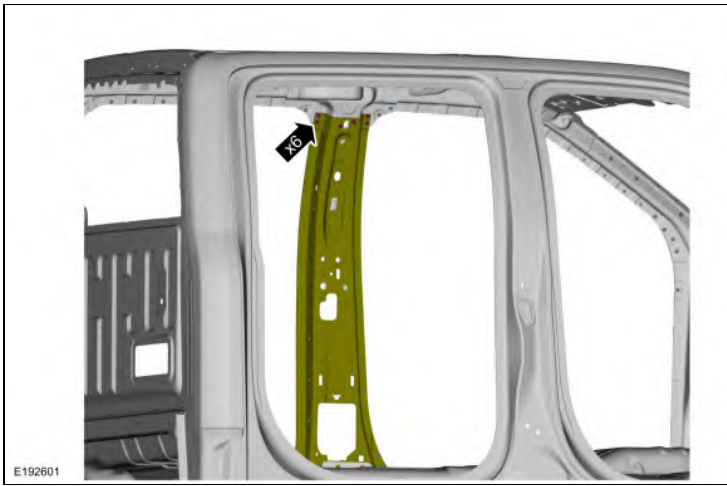
- Remove the fender and splash shield.
Refer to: Fender Splash Shield (501-02 Front End Body Panels, Removal and Installation).
Refer to: Fender (501-02 Front End Body Panels, Removal and Installation).
- Remove the doors.
Refer to: Front Door - Crew Cab/Regular Cab (501-03 Body Closures, Removal and Installation).
Refer to: Rear Door - Crew Cab (501-03 Body Closures, Removal and Installation).
- Remove the instrument panel.
Refer to: Instrument Panel (501-12 Instrument Panel and Console, Removal and Installation).
- Remove the bolts and the cross-car beam bracket.



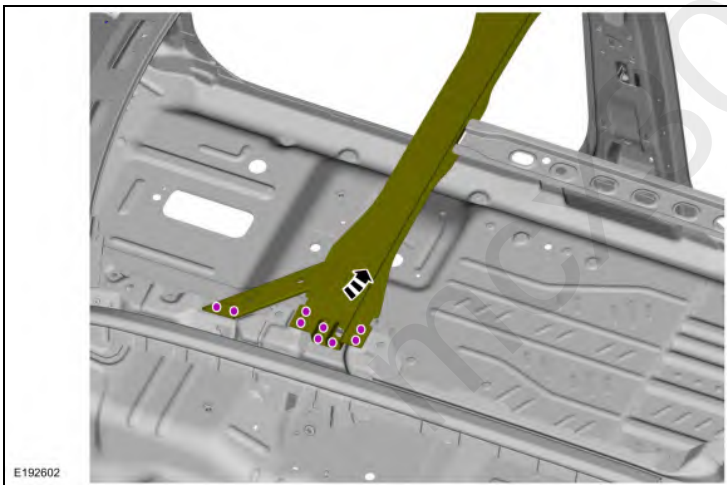
9. Remove and discard the FDS fasteners.
Use the General Equipment: Polydrive Bit Socket



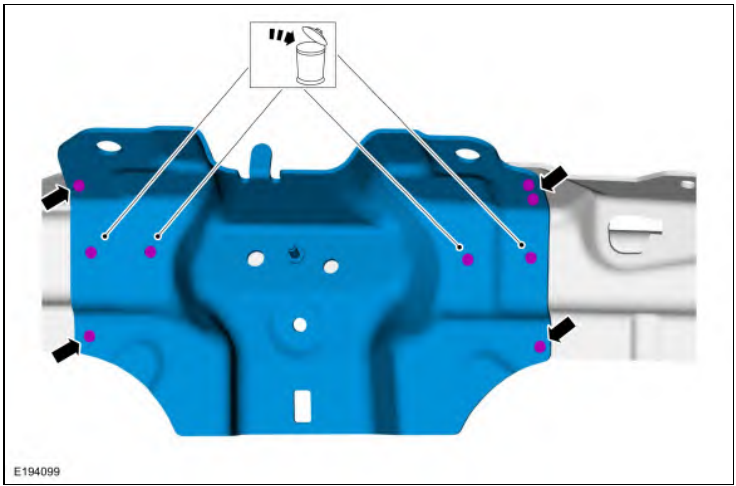
10. Remove the A-pillar reinforcement.
Refer to: A-Pillar Outer Panel Section and Reinforcement (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).
11. Remove the body side sheet metal in the repair area.
Refer to: Body Panel Sectioning (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, General Procedures).
12. Remove the B-pillar reinforcement.
Refer to: B-Pillar and Reinforcement - Crew Cab (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).
13. Remove the SPR fasteners as indicated and position aside the B-pillar inner panel.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander



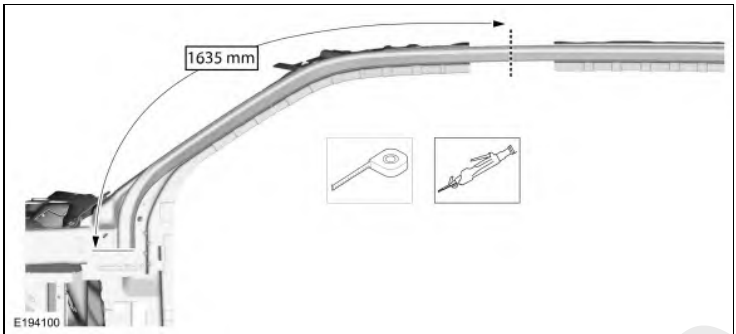
14. Remove the SPR fasteners and position aside the roof reinforcement assembly.



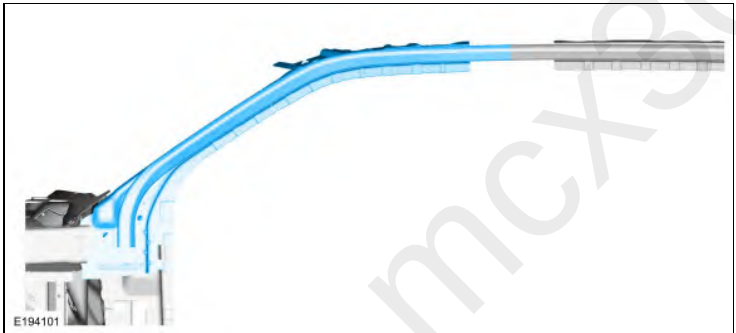
15. Remove the SPR fasteners, remove and discard the FDS fasteners and the B-pillar gusset from the roof side rail.
 Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
 Use the General Equipment: Belt Sander
 Use the General Equipment: Polydrive Bit Socket



16. **NOTE:** Measurement taken along the top of the side rail tube.
 Carefully measure and cut the tube portion only as indicated.
 Use the General Equipment: Air Body Saw

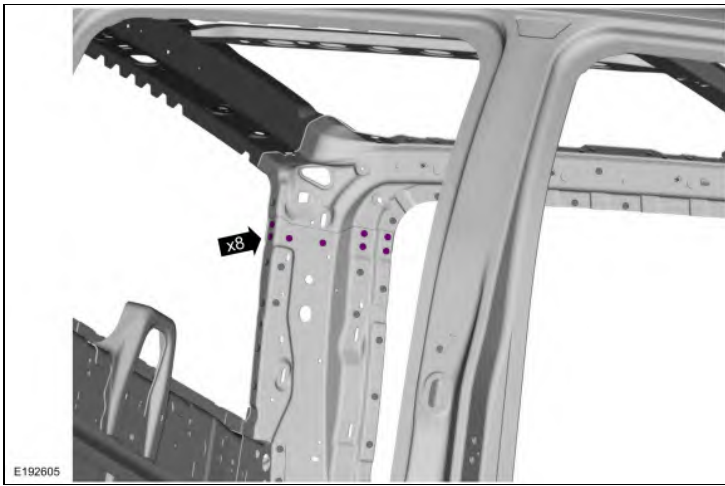


17. Remove the roof side rail section.

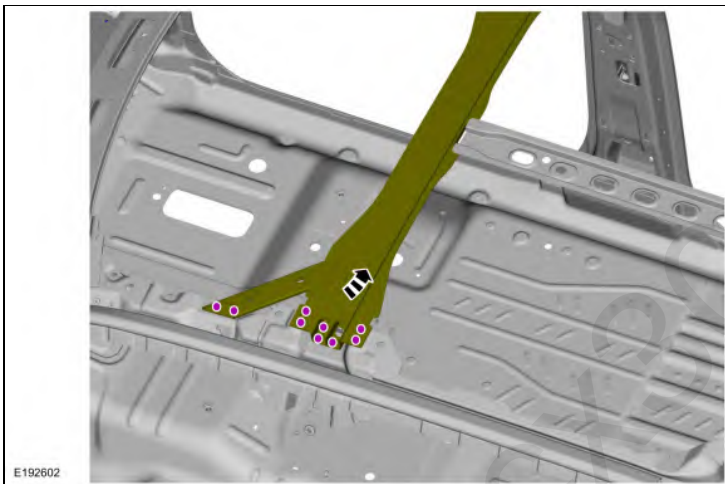


Rear Section

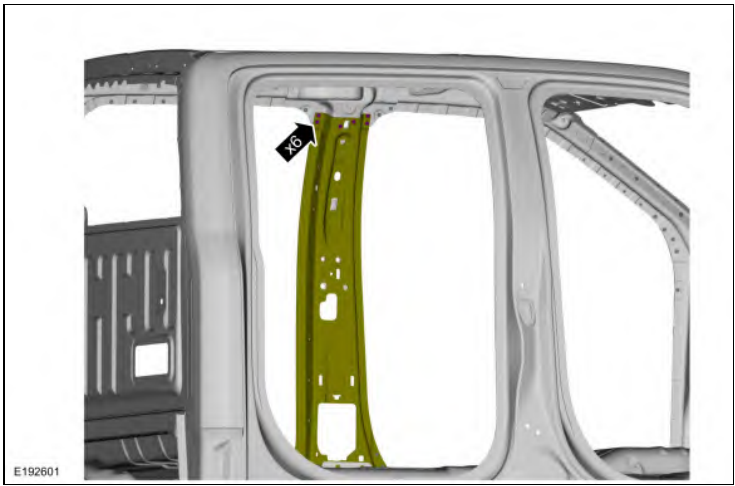
18. Remove the SPR fasteners.



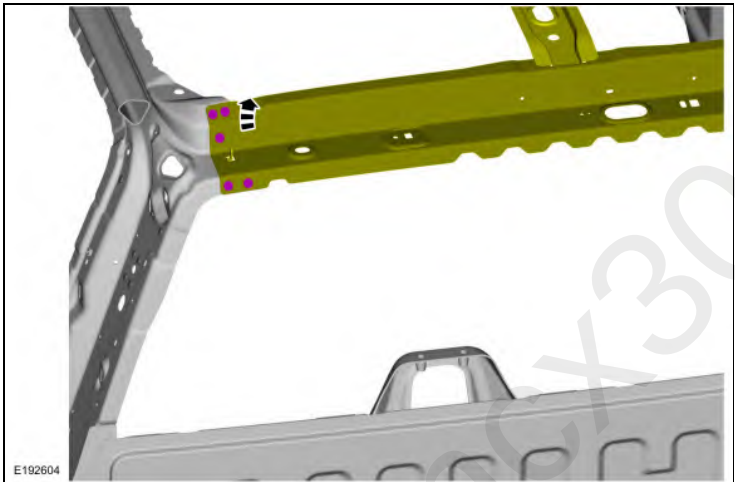
19. Remove the body side sheet metal in the repair area.
Refer to: Body Panel Sectioning (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, General Procedures).
20. Remove the SPR fasteners and position aside the roof reinforcement assembly.



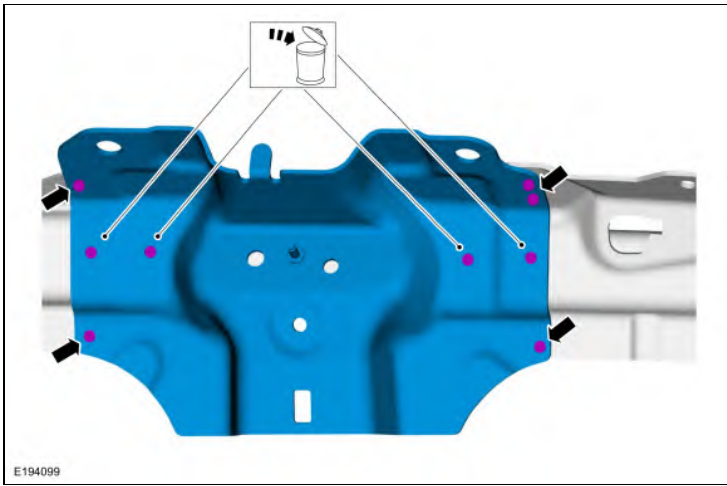
21. Remove the B-pillar reinforcement.
Refer to: B-Pillar and Reinforcement - Crew Cab (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).
22. Remove the SPR fasteners as indicated and position aside the B-pillar inner panel.



23. Remove the SPR fasteners as indicated and position aside the rear header panel.

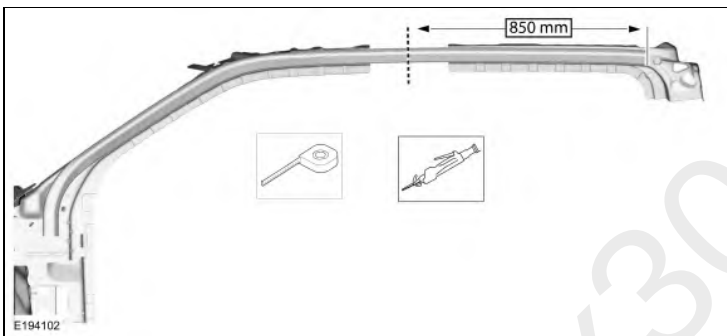


24. Remove the SPR fasteners, remove and discard the FDS fasteners and the B-pillar gusset from the roof side rail.
 Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
 Use the General Equipment: Belt Sander
 Use the General Equipment: Polydrive Bit Socket

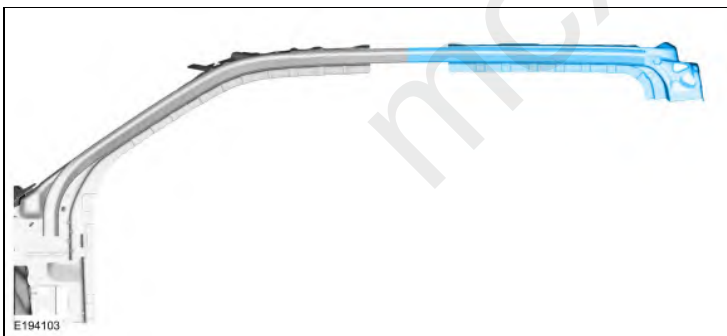


25. **NOTE:** Measurement taken along the top of the side rail tube.

Carefully measure and cut the tube portion only as indicated.
Use the General Equipment: Air Body Saw



26. Remove the roof side rail section.



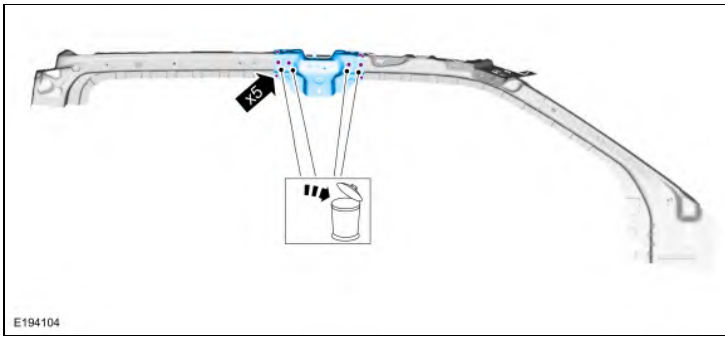
Installation

NOTE: SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

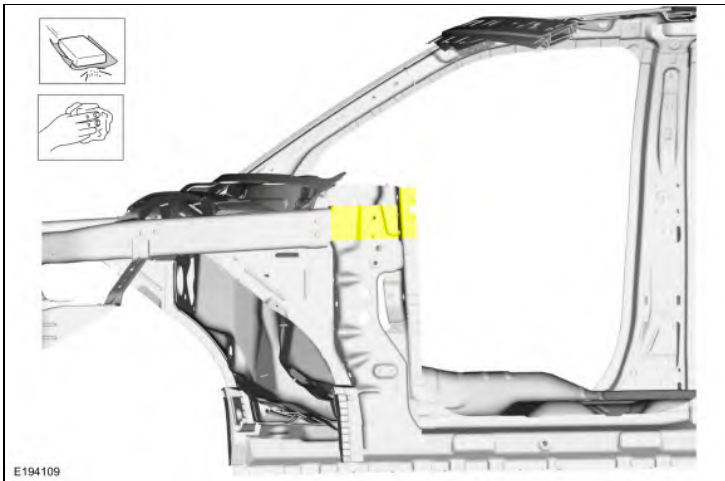
All Vehicles

1. Remove the SPR fasteners, remove and discard the FDS fasteners and the B-pillar gusset from the roof side rail service part.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander
Use the General Equipment: Polydrive Bit Socket



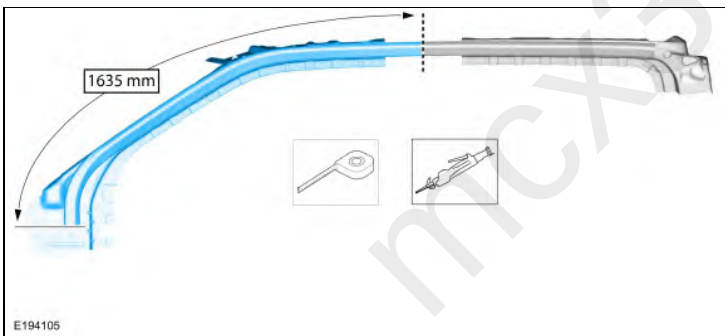
Front Section

2. 80-120 grit sand paper.
Sand remove old adhesive and clean.

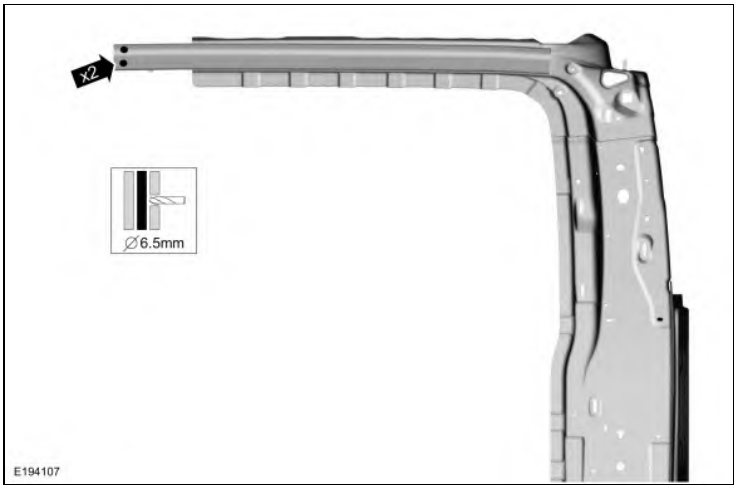


3. **NOTE:** Measurement taken along the top of the side rail tube.

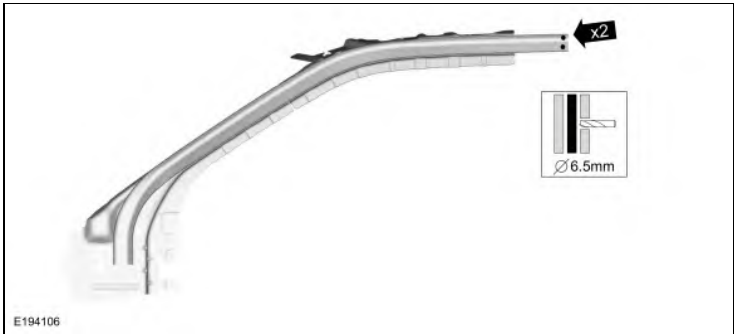
Carefully measure and cut the roof side rail tube service part as indicated.
Use the General Equipment: Air Body Saw



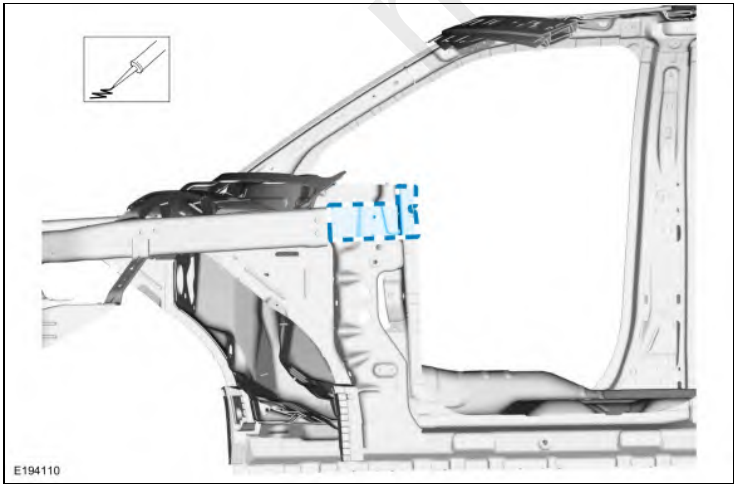
4. Create a 100 mm insert from an **unused portion** of the old component or new service part.
5. Drill two 6.5 mm plug weld holes in existing frame rail as indicated.
Use the General Equipment: 6.5 mm Drill Bit



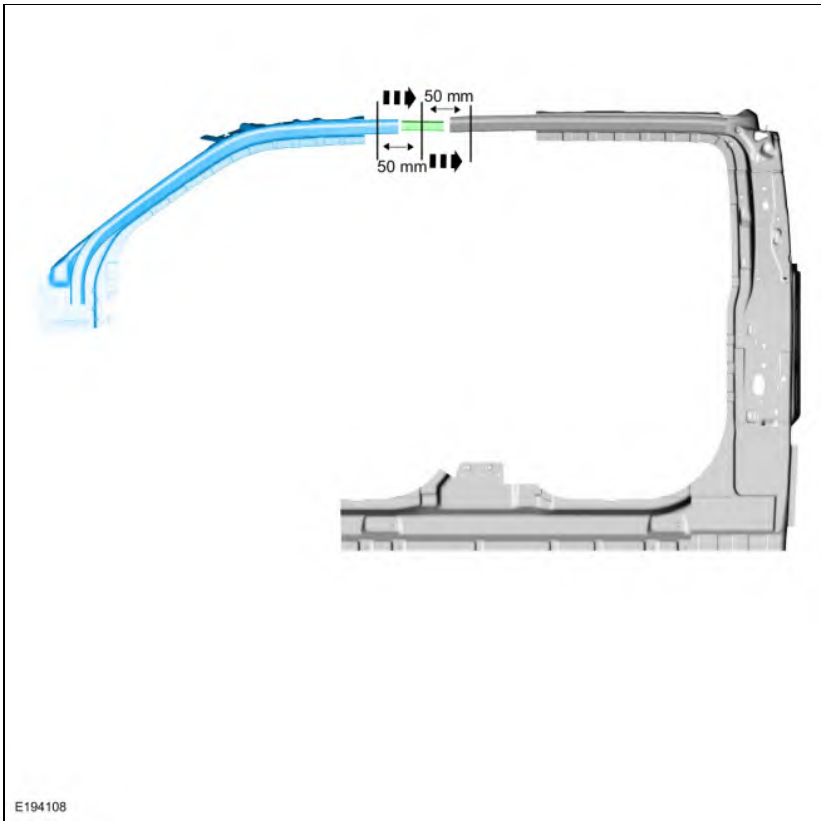
6. Drill two 6.5 mm plug weld holes in replacement rail as indicated.
Use the General Equipment: 6.5 mm Drill Bit



7. Apply adhesive.
Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M[®], 08115, LORD Fusor[®] 108B



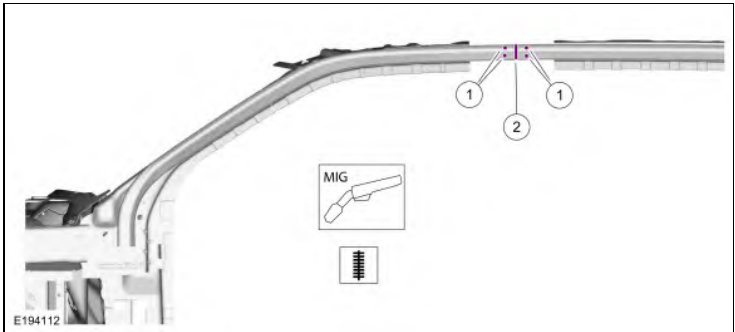
8. **NOTE:** 100 mm insert should extend 50 mm in to service part section and original component.
Install insert and service part section as indicated.



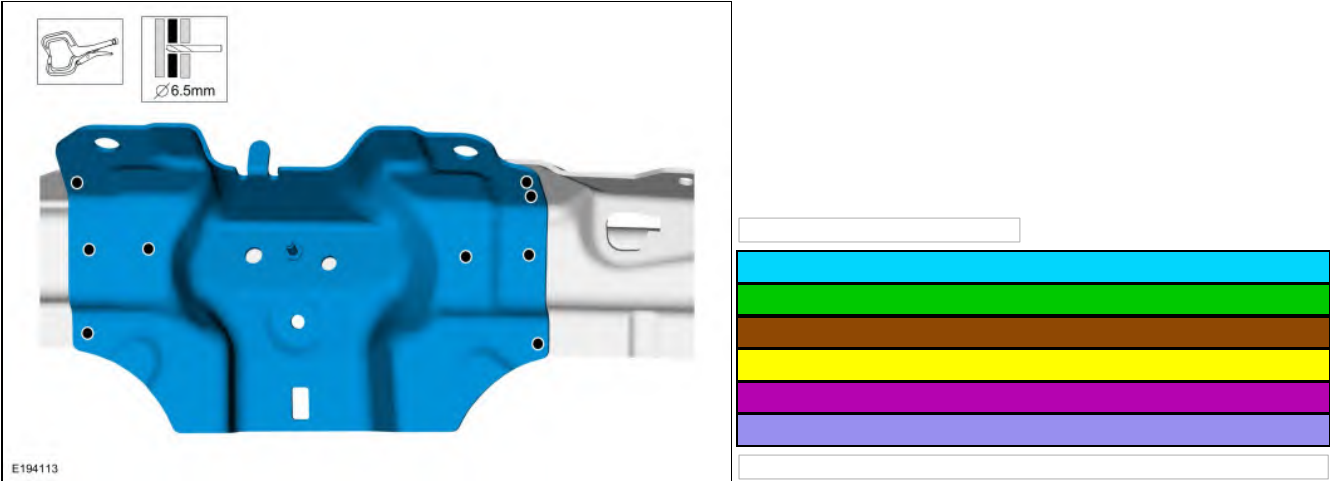
9. Clamp in place.
Use the General Equipment: Locking Pliers



10. Weld as indicated.
- Install MIG plug welds.
Use the General Equipment: MIG/MAG Welding Equipment
 - Entirely seam weld as indicated.
Use the General Equipment: MIG/MAG Welding Equipment



11. Metal finish as required.
12. Install, clamp and drill side rail to B-pillar gusset as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



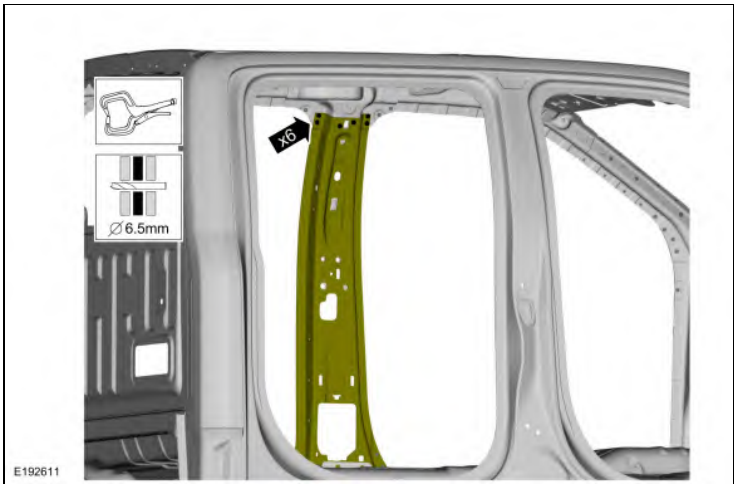
13. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.
- NOTE:** Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm
- Install fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Blind Rivet Gun



14. Position the B-pillar inner panel clamp and drill 6.5 mm holes as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



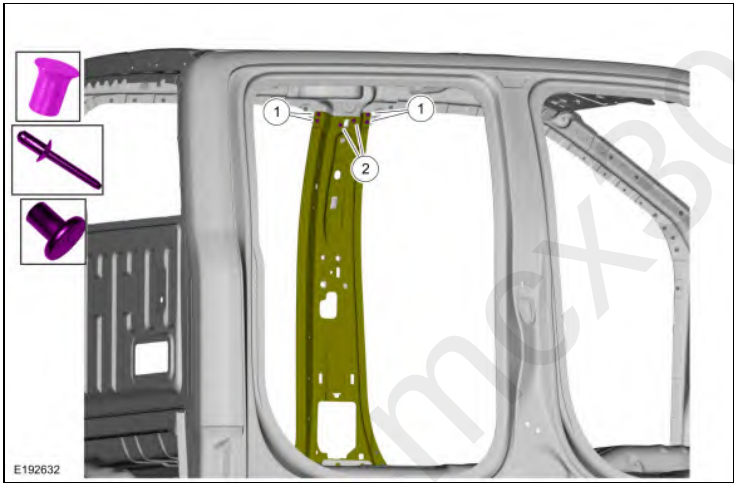
15. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

Install fasteners.

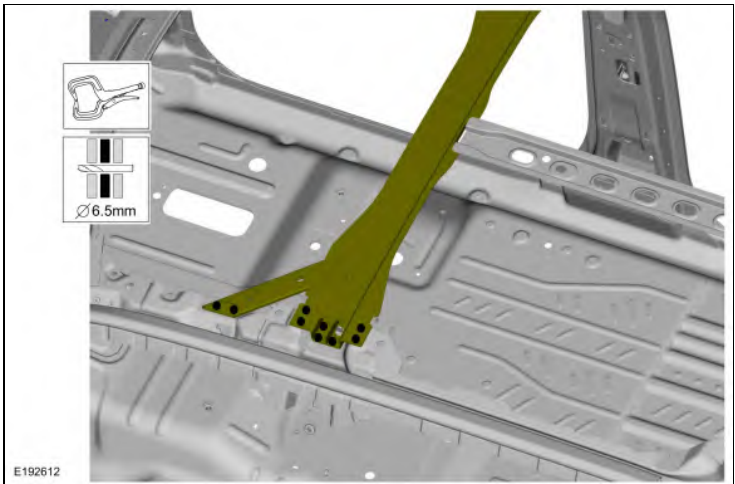
Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	W717186-S900	EN	DG11-200/H	SA-0400/SA-0401	-	W790376-S900	-
2	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Blind Rivet Gun



16. Install the body side panel. Metal finish using typical metal finishing techniques.
Refer to: Body Panel Sectioning (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, General Procedures).
Refer to: Joining Techniques (501-25 Body Repairs - General Information, General Procedures).
Refer to: Special Repair Considerations for Aluminum Repairs (501-25 Body Repairs - General Information, Description and Operation).

17. Position the roof reinforcement assembly, clamp and drill 6.5 mm holes as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



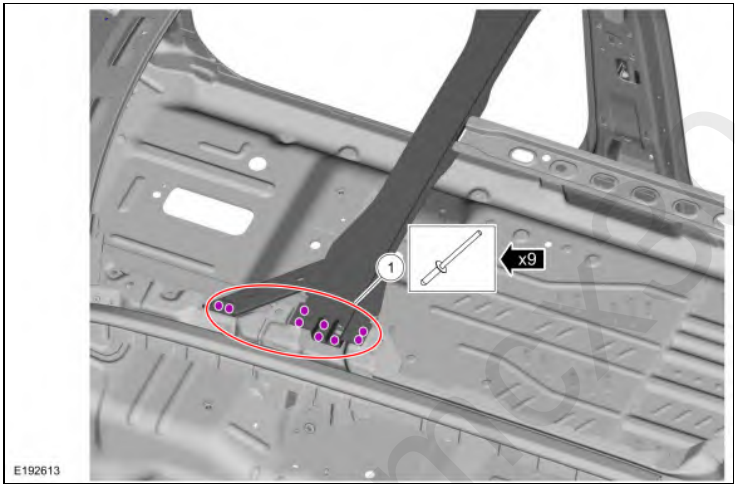
18. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

Install fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-

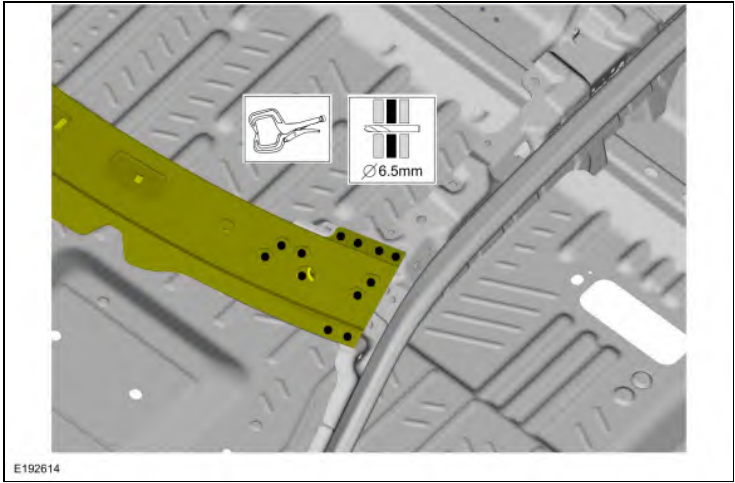
Use the General Equipment: Blind Rivet Gun



19. Position the windshield header panel, clamp and drill 6.5 mm holes as indicated.

Use the General Equipment: Locking Pliers

Use the General Equipment: 6.5 mm Drill Bit



20. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-
2	W710246-S900	BN	DP10-200/H	SA-0400/SA-0402	-	W790377-S900	-

Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer

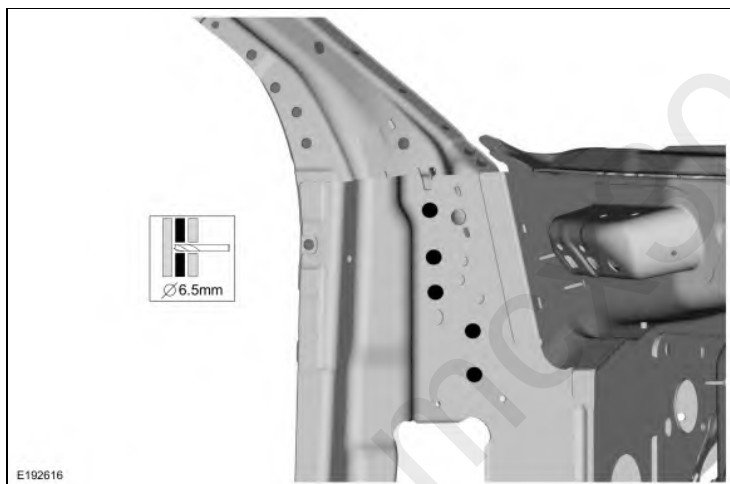
Use the General Equipment: Blind Rivet Gun

Use the General Equipment: Blind Rivet Gun



21. Drill 6.5 mm holes as indicated.

Use the General Equipment: 6.5 mm Drill Bit



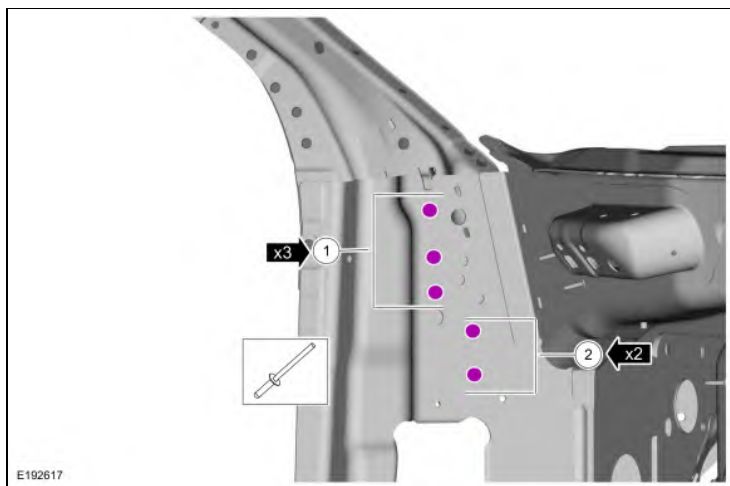
22. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

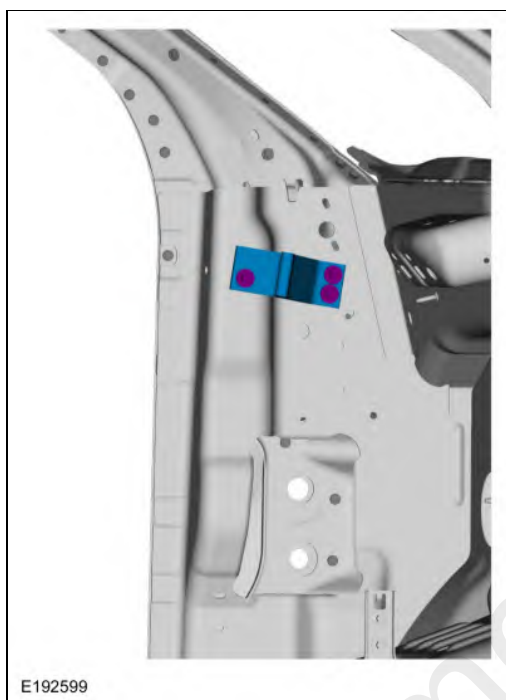
Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W702512-S900C	-	-
2	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Blind Rivet Gun



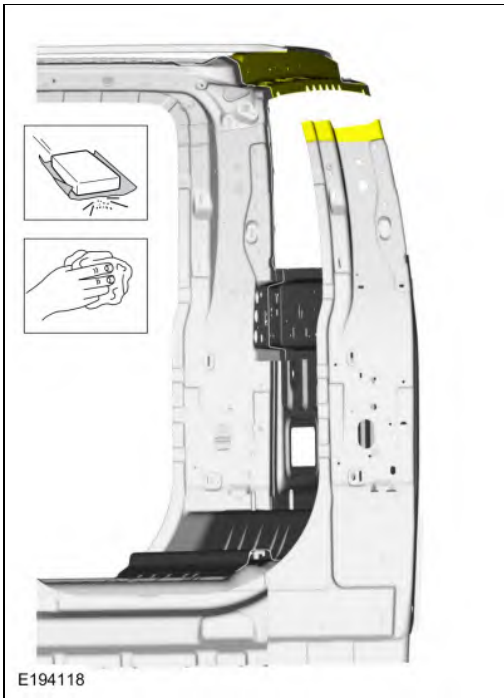
23. Install the cross-car beam bracket and the bolts.
Torque: 18 lb.ft (25 Nm)



24. Install the B-pillar reinforcement.
Refer to: B-Pillar and Reinforcement - Crew Cab (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).
25. Install the A-pillar reinforcement.
Refer to: A-Pillar Outer Panel Section and Reinforcement (501-29 Side Panel Sheet Metal Repairs, Removal and Installation).
26. Install the instrument panel.
Refer to: Instrument Panel (501-12 Instrument Panel and Console, Removal and Installation).

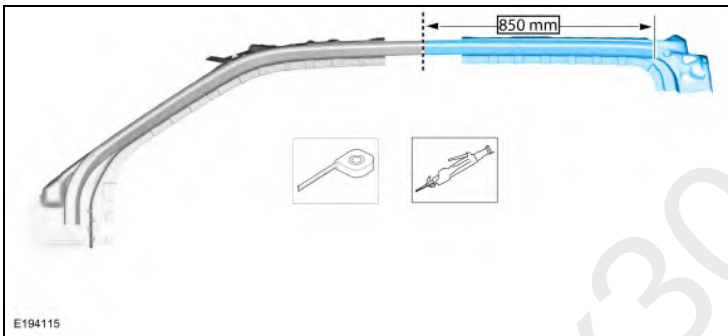
Rear Section

27. 80-120 grit sand paper.
Sand to remove old adhesive and clean.



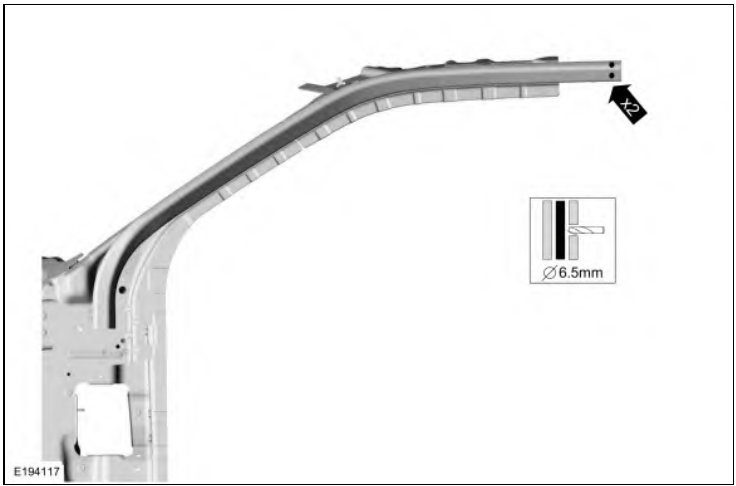
28. **NOTE:** Measurement taken along the top of the side rail tube.

Carefully measure and cut the **tube portion only** as indicated.

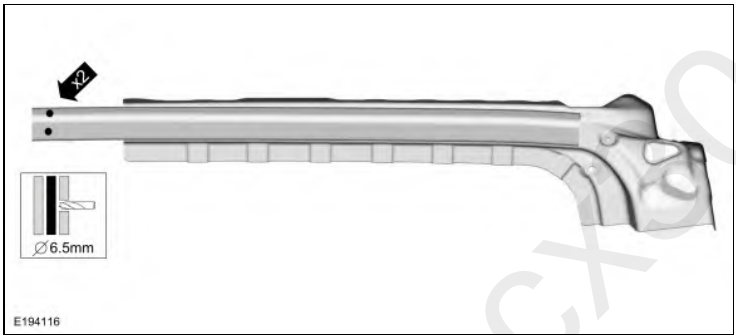


29. Create a 100 mm insert from an **unused portion** of the old component or new service part.

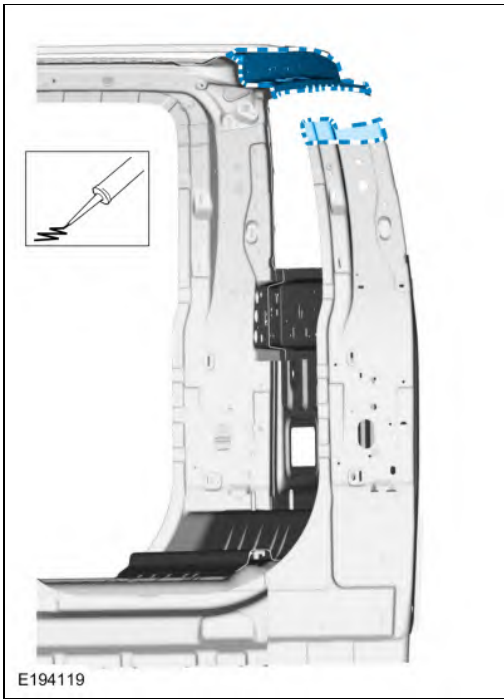
30. Drill two 6.5 mm plug weld holes in existing frame rail as indicated.
Use the General Equipment: 6.5 mm Drill Bit



31. Drill two 6.5 mm plug weld holes in service part as indicated.
Use the General Equipment: 6.5 mm Drill Bit

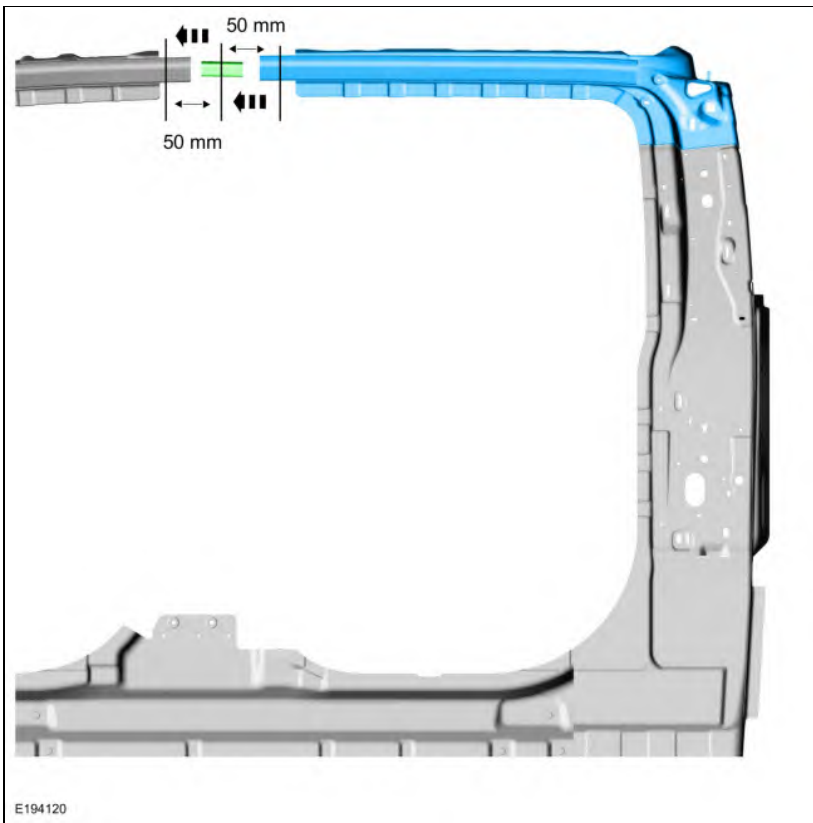


32. Apply adhesive.
Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M[®] 08115, LORD Fusor[®] 108B

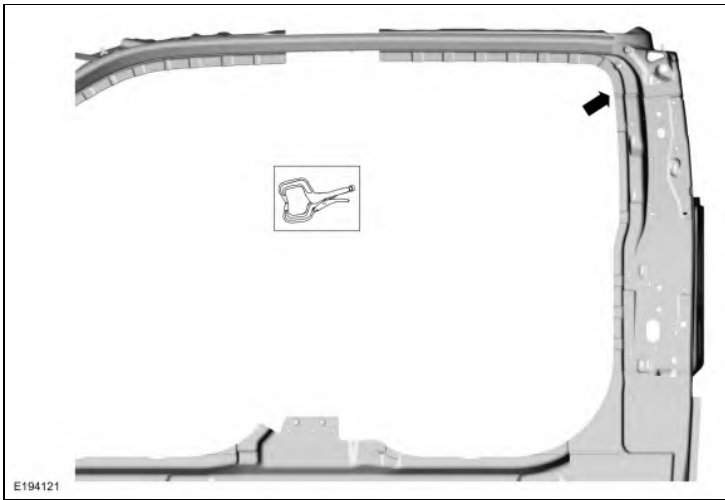


33. **NOTE:** 100 mm insert should extend 50 mm in to service part section and original component.

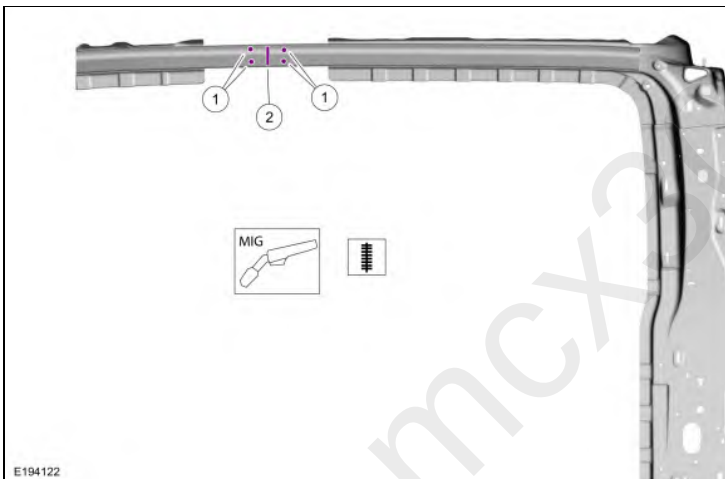
Install insert and service part section as indicated.



34. Clamp service part to C-pillar reinforcement.



35. Aluminum weld as indicated.
- Install MIG plug welds.
Use the General Equipment: MIG/MAG Welding Equipment
 - Entirely seam weld as indicated.
Use the General Equipment: MIG/MAG Welding Equipment



36. Install, clamp and drill roof rail to B-pillar gusset.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: 6.5 mm Drill Bit



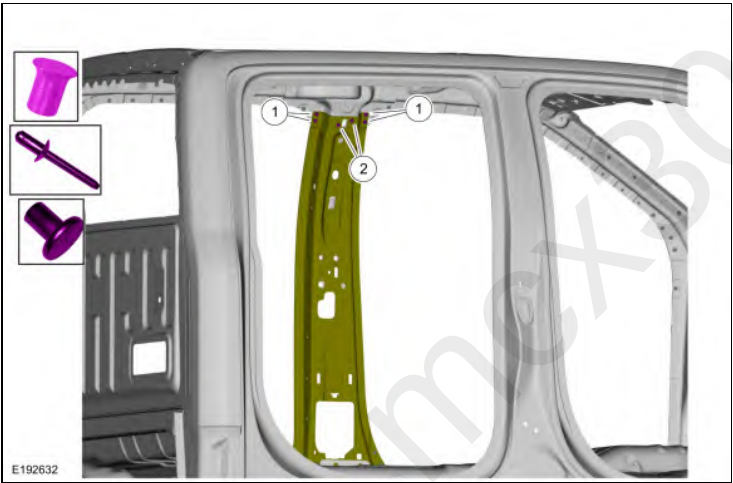
39. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

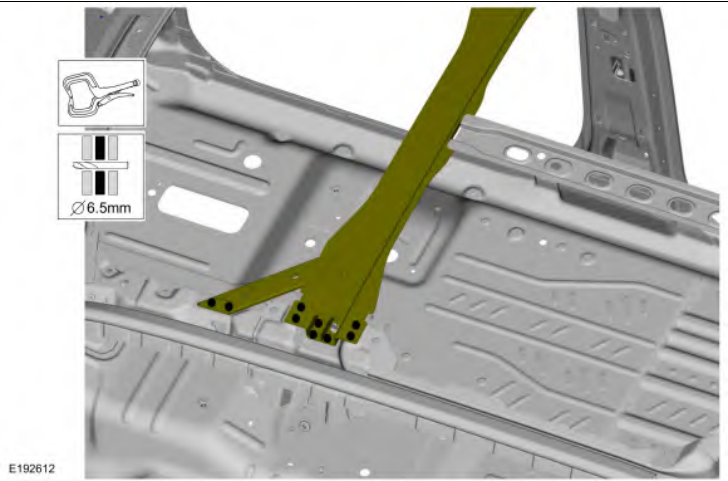
Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	W717186-S900	EN	DG11-200/H	SA-0400/SA-0401	-	W790376-S900	-
2	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Blind Rivet Gun



40. Install the body side panel. Metal finish using typical metal finishing techniques.
Refer to: Body Panel Sectioning (501-26 Body Repairs - Vehicle Specific Information and Tolerance Checks, General Procedures).
Refer to: Joining Techniques (501-25 Body Repairs - General Information, General Procedures).
Refer to: Special Repair Considerations for Aluminum Repairs (501-25 Body Repairs - General Information, Description and Operation).
41. Position the roof reinforcement assembly, clamp and drill as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



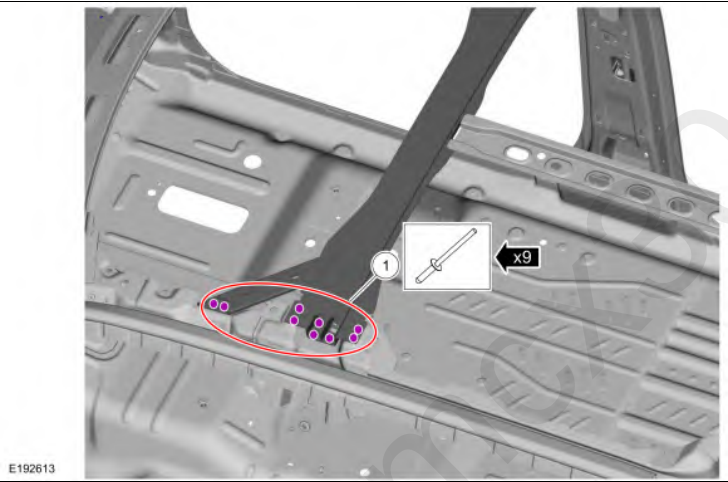
42. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

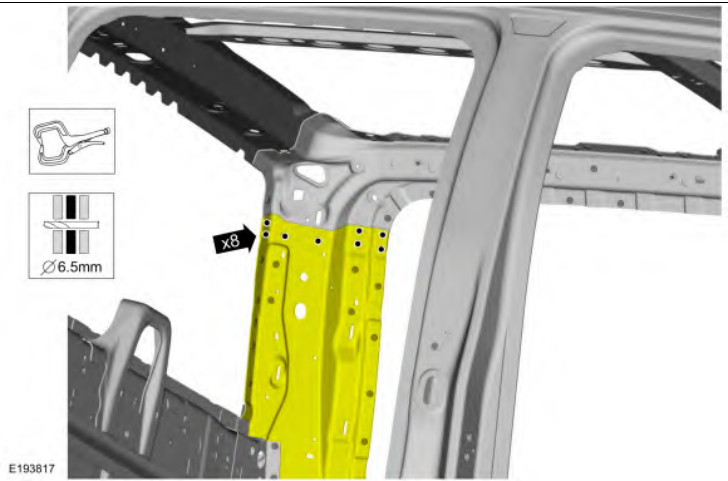
Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Blind Rivet Gun



43. Position, clamp and drill as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit



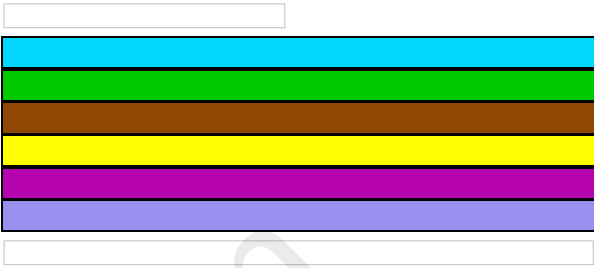
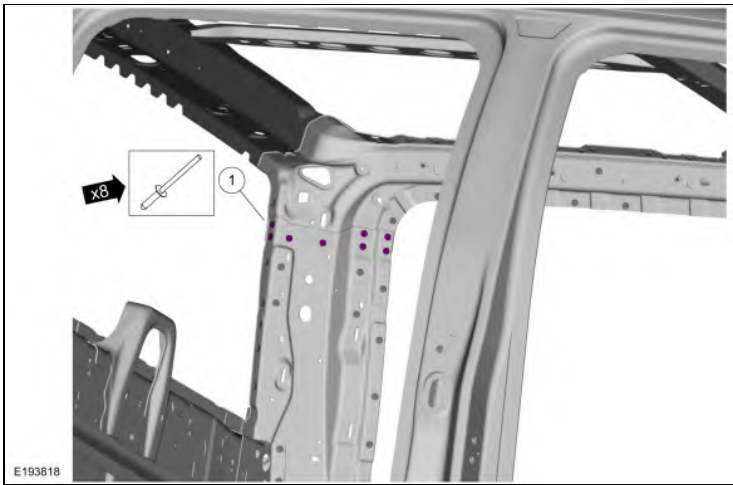
44. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

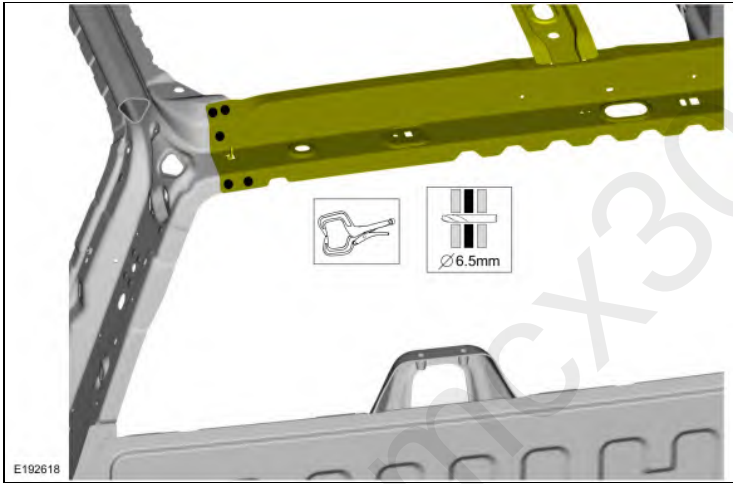
Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Blind Rivet Gun



45. Position the rear header panel to the roof side rail, clamp and drill as indicated.
Use the General Equipment: Locking Pliers
Use the General Equipment: 6.5 mm Drill Bit

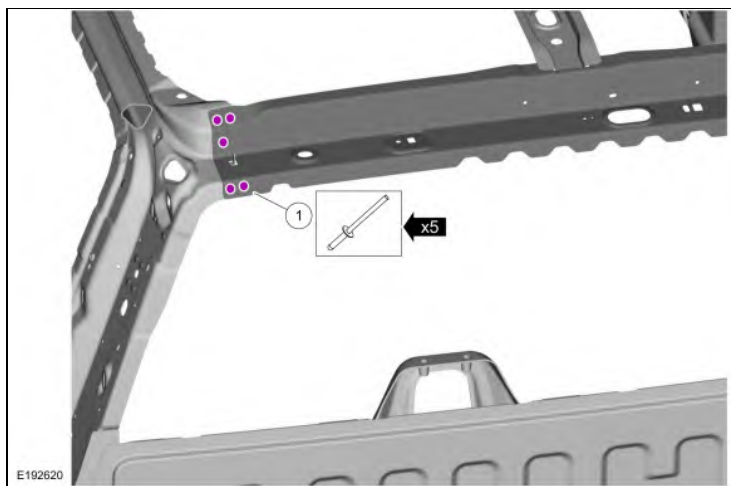


46. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.
NOTE: Solid rivets or blind rivet fasteners may be used in place of SPR fasteners in original SPR position after enlarging hole to 6.5 mm

Install the fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W707638-S900C	-	-

Use the General Equipment: Blind Rivet Gun



All Vehicles

47. Install the roof panel.
Refer to: Roof Panel - Crew Cab (501-28 Roof Sheet Metal Repairs, Removal and Installation).
Refer to: Roof Panel - Crew Cab, Vehicles With: Roof Opening Panel (501-28 Roof Sheet Metal Repairs, Removal and Installation).
48. Sand and prime the entire repair area using a Ford approved paint system.
49. **Seam Sealing:** All seams must be sealed to production level.
Material: Seam Sealer / TA-2-B, 3M[®], 08308, LORD Fusor[®] 805DTM
50. Refinish the entire repair area using a Ford approved paint system.
51. Install the doors.
Refer to: Front Door - Crew Cab/Regular Cab (501-03 Body Closures, Removal and Installation).
Refer to: Rear Door - Crew Cab (501-03 Body Closures, Removal and Installation).
52. Install the front fender and splash shield.
Refer to: Fender (501-02 Front End Body Panels, Removal and Installation).
Refer to: Fender Splash Shield (501-02 Front End Body Panels, Removal and Installation).
53. Align the doors.
Refer to: Front Door Alignment - Crew Cab/Regular Cab (501-03 Body Closures, General Procedures).
Refer to: Rear Door Alignment - Crew Cab (501-03 Body Closures, General Procedures).
54. Repower the SRS.
Refer to: Supplemental Restraint System (SRS) Repowering (501-20B Supplemental Restraint System, General Procedures).