

Roof Rear Frame**Special Tool(s) / General Equipment**

6.5 mm Drill Bit
Self-Piercing Rivet (SPR) Remover/Installer
Belt Sander
Blind Rivet Gun
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® 803DTM	-

Removal

NOTE: Aluminum body panels are highly receptive to heat transfer. With the extensive use of structural adhesives and non-structural sealers used in vehicle construction, the potential of heat transfer could impact adhesives and sealers in non-associated panels during the repair process. Many repairs areas that utilize structural adhesive may be separated after fastener removal by using a panel chisel along the joint/flange. Using heat not exceeding 425° F to loosen a bonded panel should only be done when all panels in the joint will be replaced and new adhesive applied.

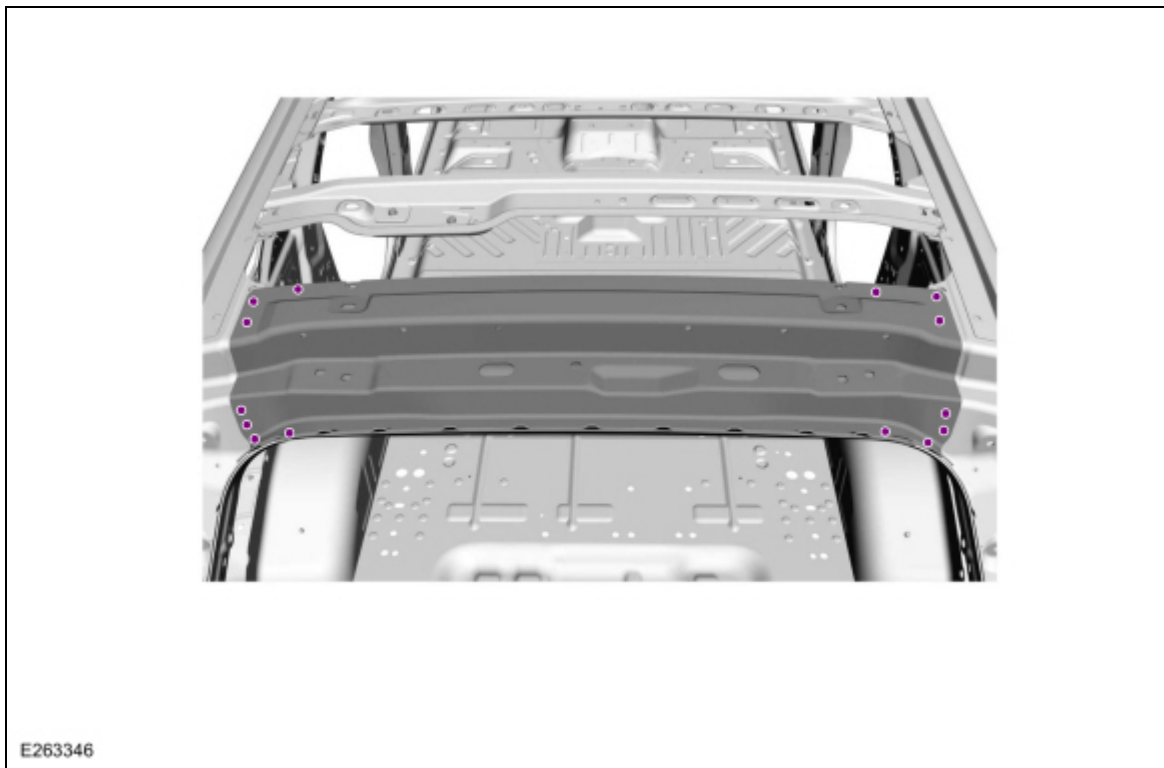
1. Remove the roof outer panel.
Refer to: [Roof Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).
Refer to: [Roof Panel - Vehicles With: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

NOTE: Roof rear frame reinforcement is provided as 2 service parts (upper and lower), the following steps assume all components are to be replaced. **Adjust to meet repair needs.**

Assembly of the upper and lower rear frame is required when replacing entire component.

2. Remove the SPR fasteners.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander

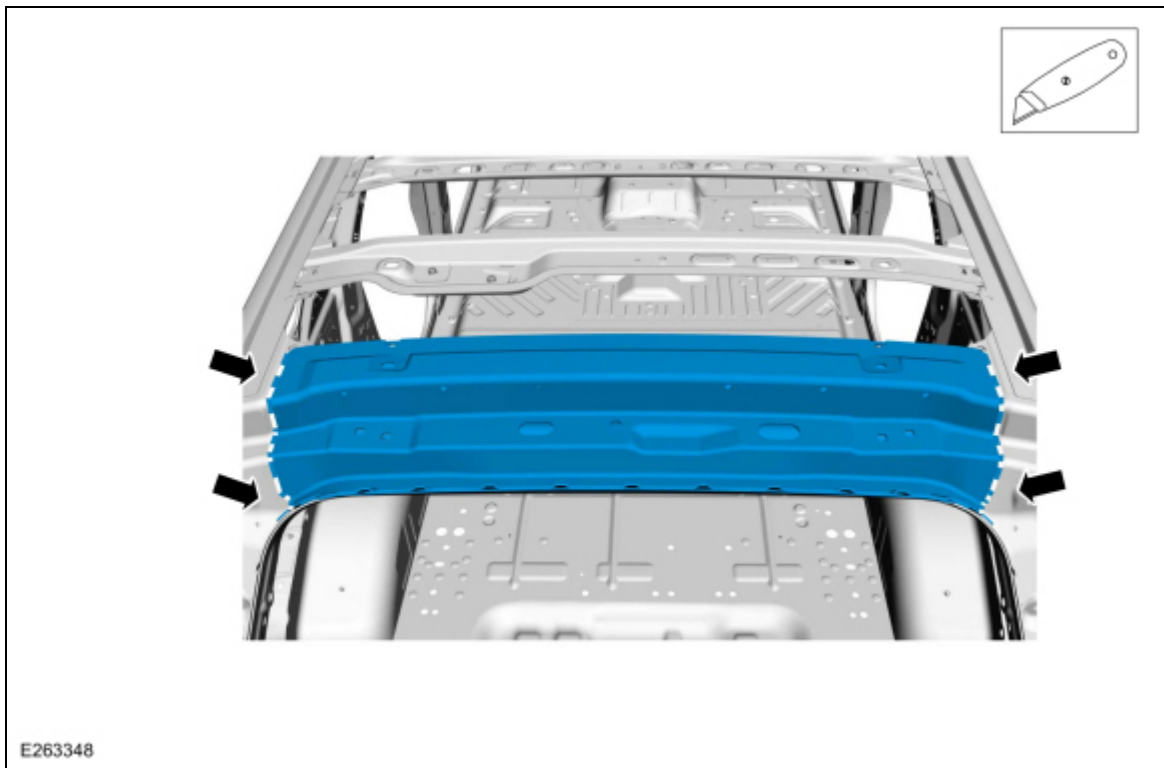




3. Remove the SPR fasteners.
 Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
 Use the General Equipment: Belt Sander

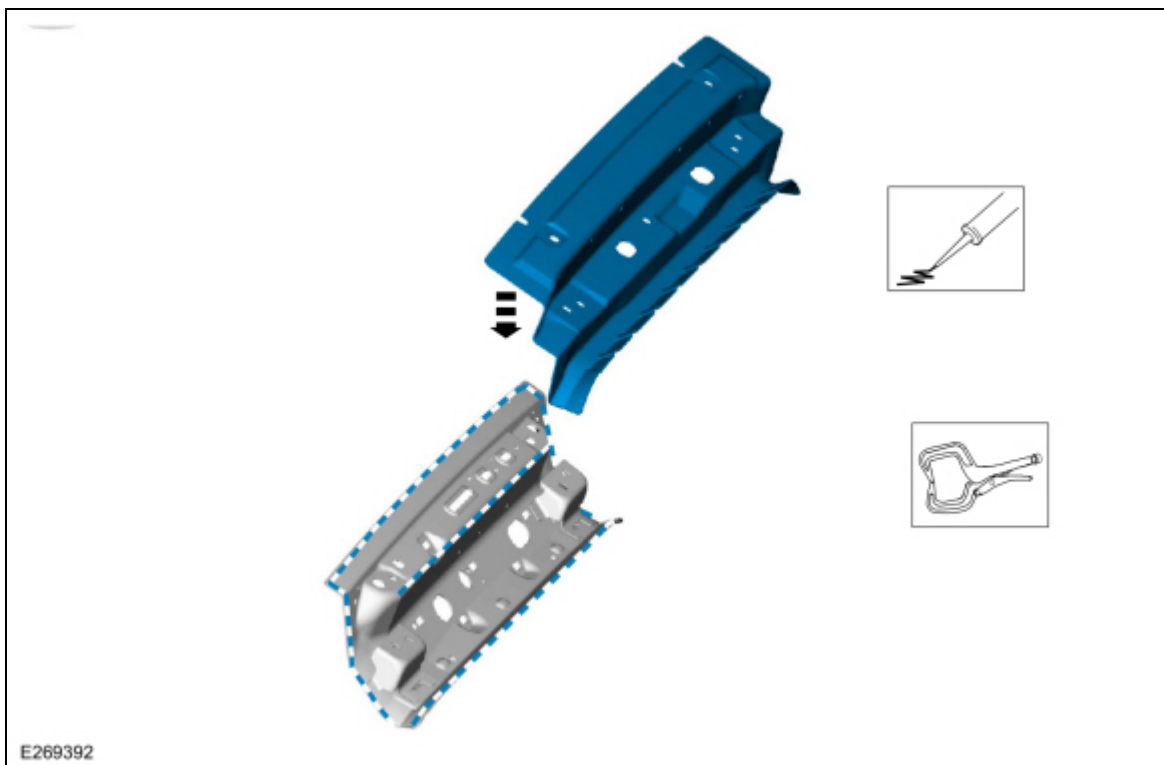


4. Break the adhesive bond and remove the roof rear frame.

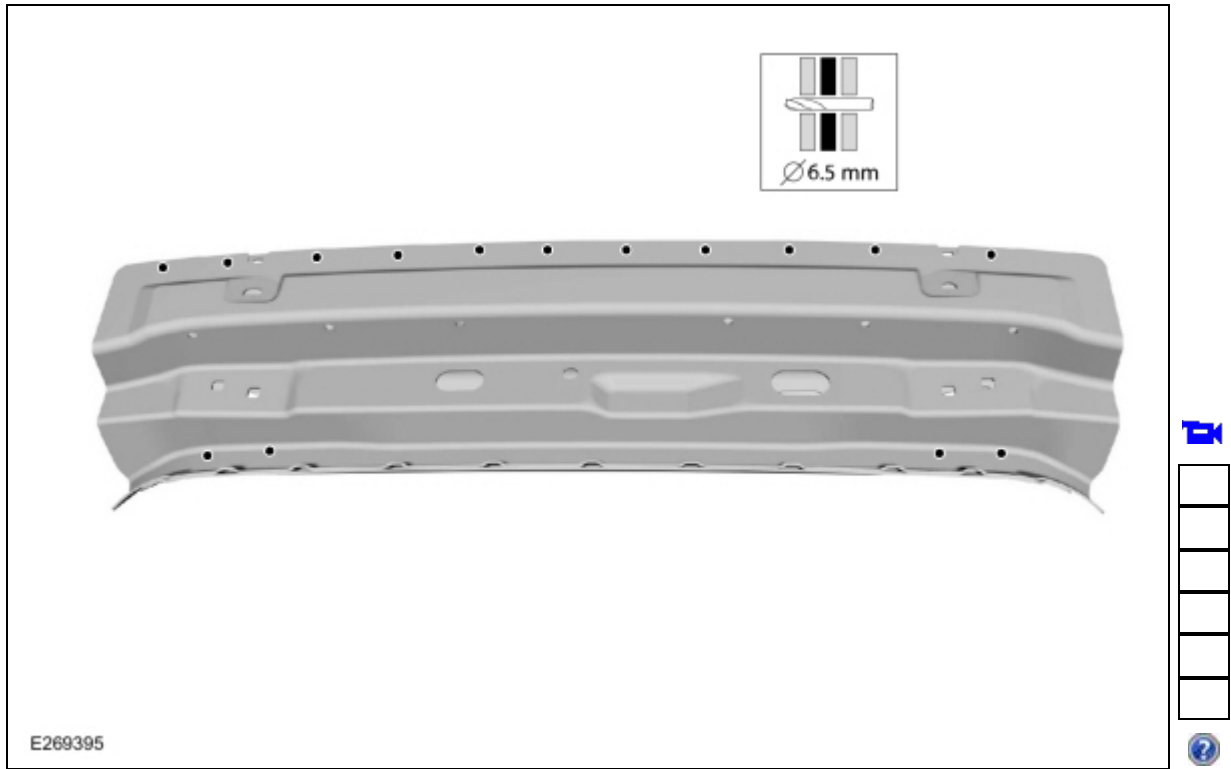


Installation

1. Apply adhesive to the mating surface, assemble and clamp the assembly.
 Refer to: [Joining Techniques](#) (501-25 Body Repairs - General Information, General Procedures).
 Use the General Equipment: Locking Pliers
Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M™ 08115, LORD Fusor® 108B



2. Drill for blind rivet fasteners.
Use the General Equipment: 6.5 mm Drill Bit



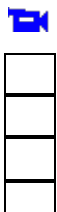
3. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

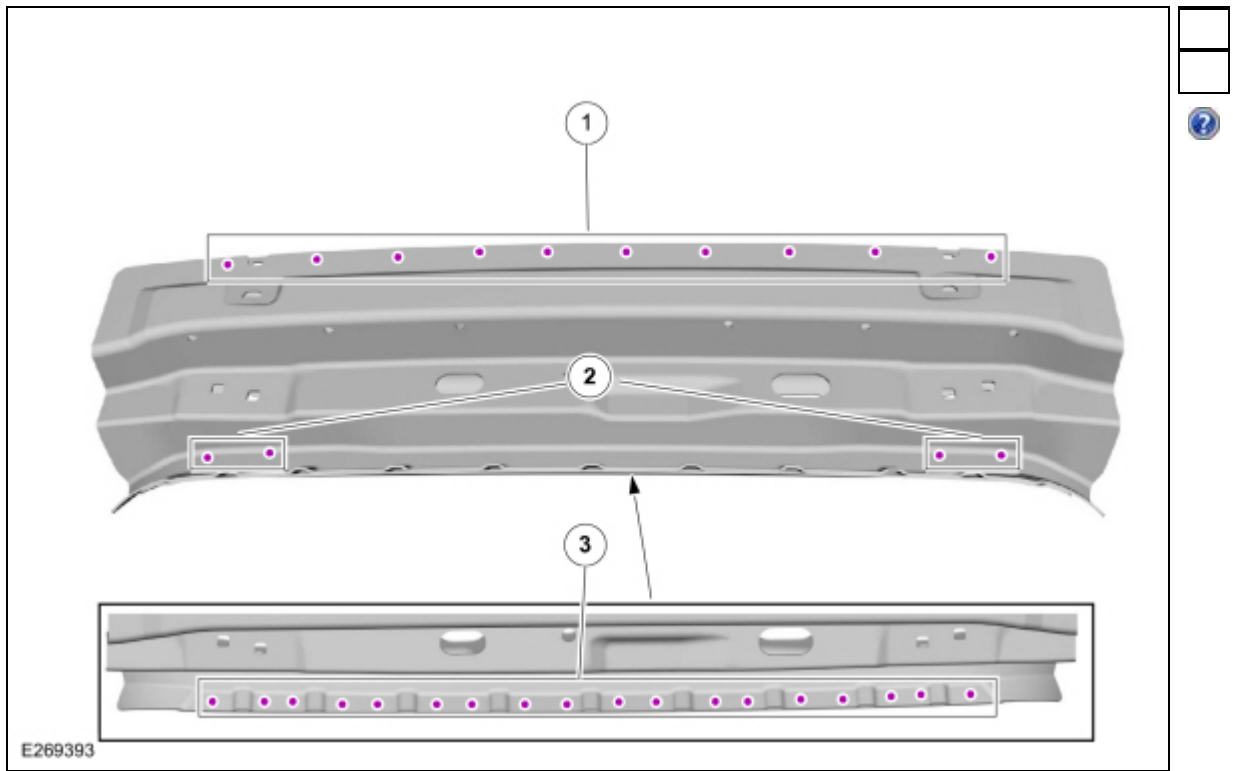
NOTE: Blind or solid rivets may be used in place of SPR in the original SPR location after enlarging hole to 6.5 mm.

Install fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	-	-
2	W717182-S900	QE	DG11-200/H	SA-0400/SA-0402	-	-	-
3	W717186-S900	EN	DG11-220/H	SA-0400/SA-0402	-	-	-

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

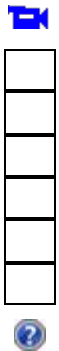


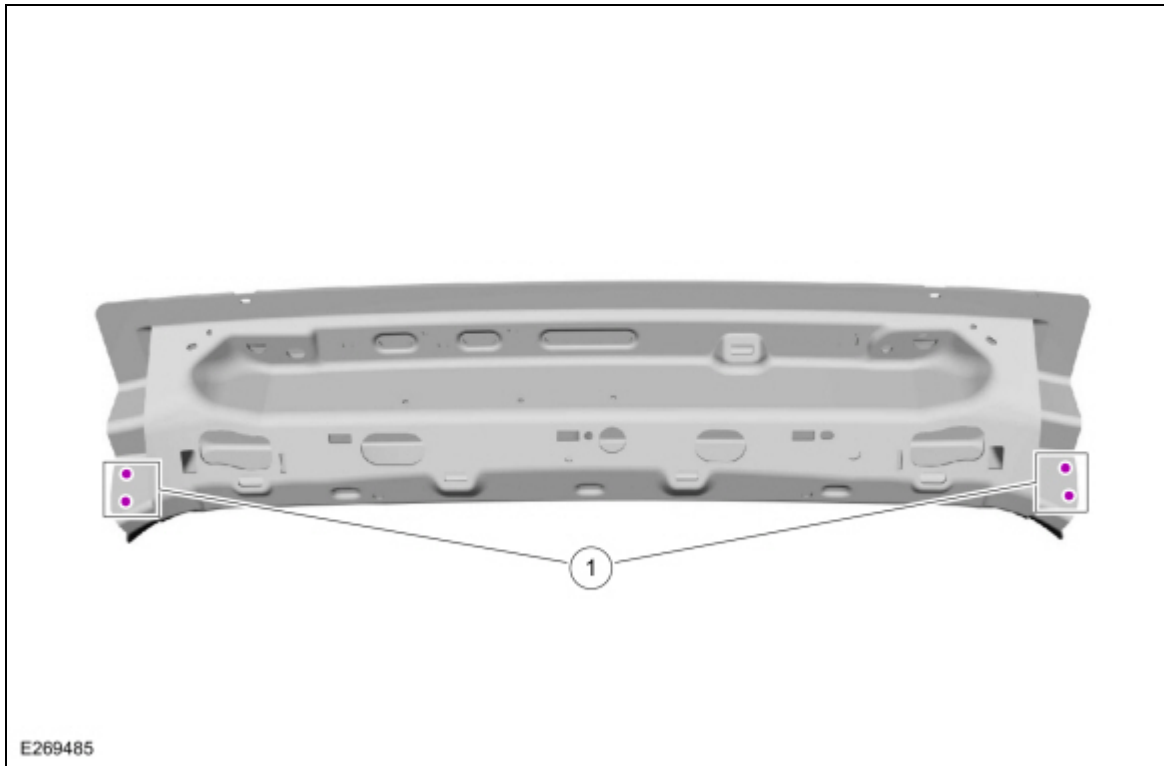


4. Install fasteners.

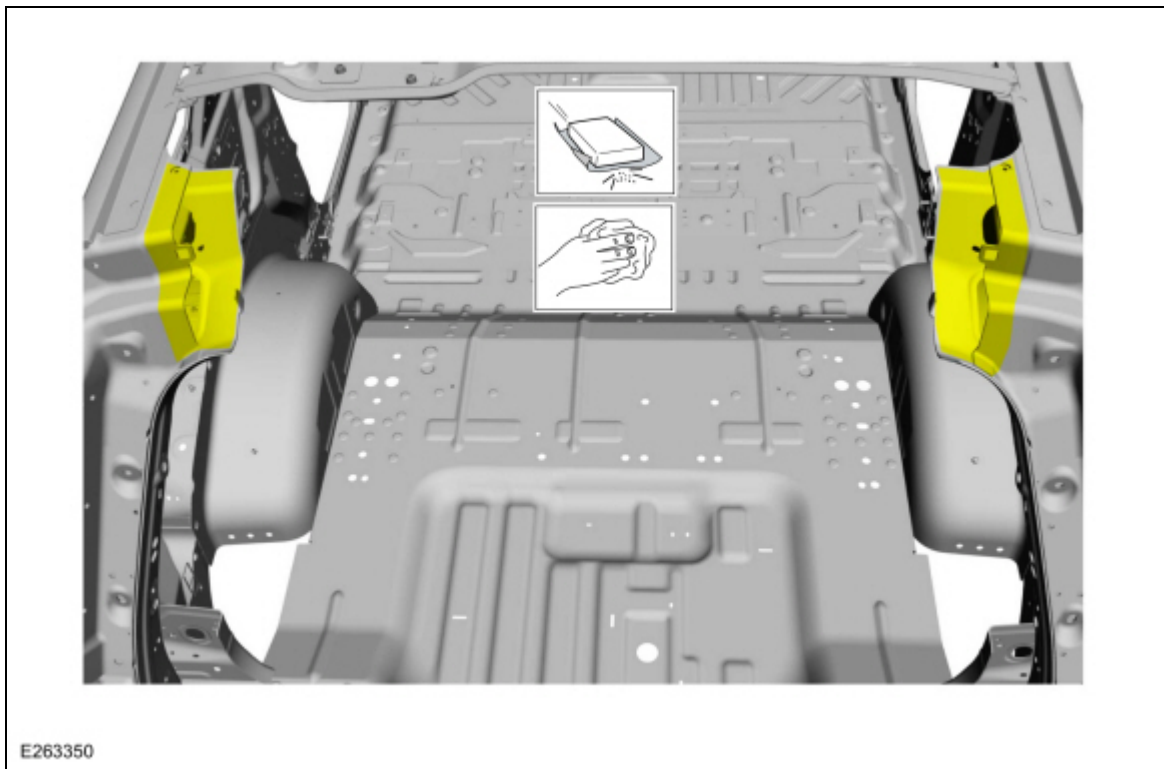
Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	W717186-S900	EN	DG11-220/H	SA-0400/SA-0402	-	W790377-S900	-

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

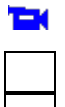
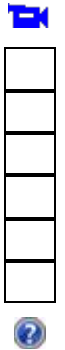


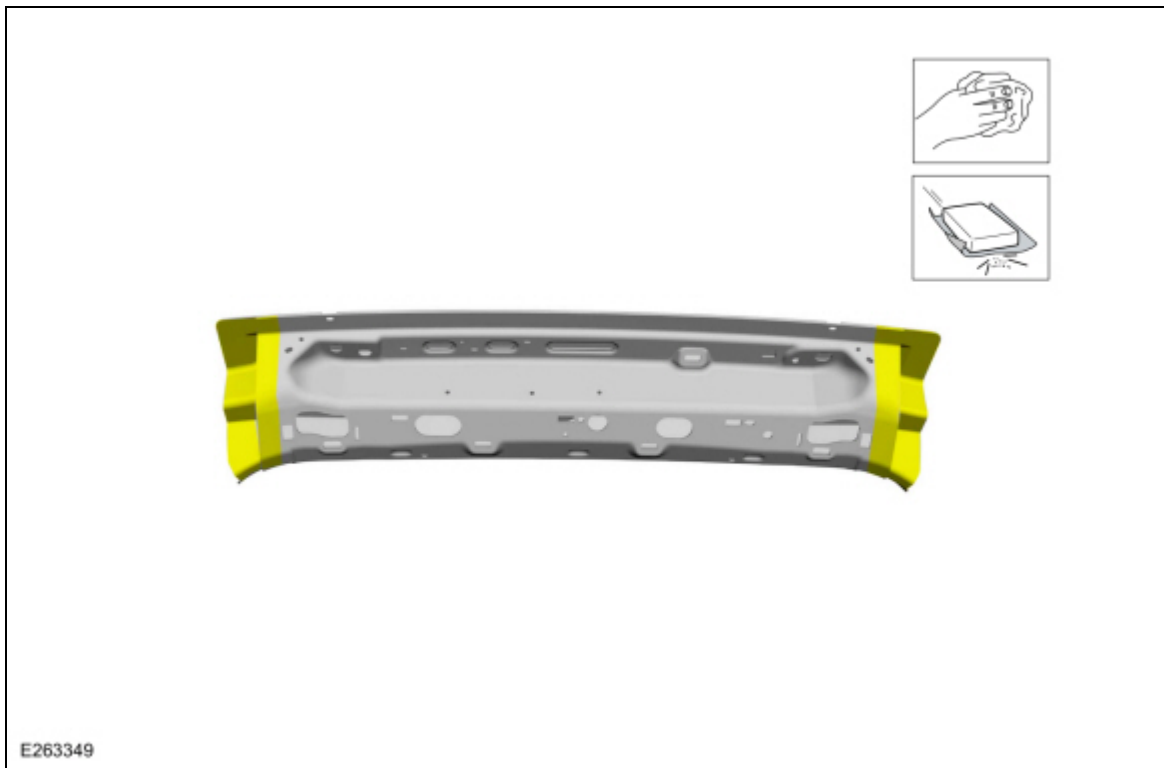


5. Sand using 80-120 grit sandpaper to remove all adhesive and clean.



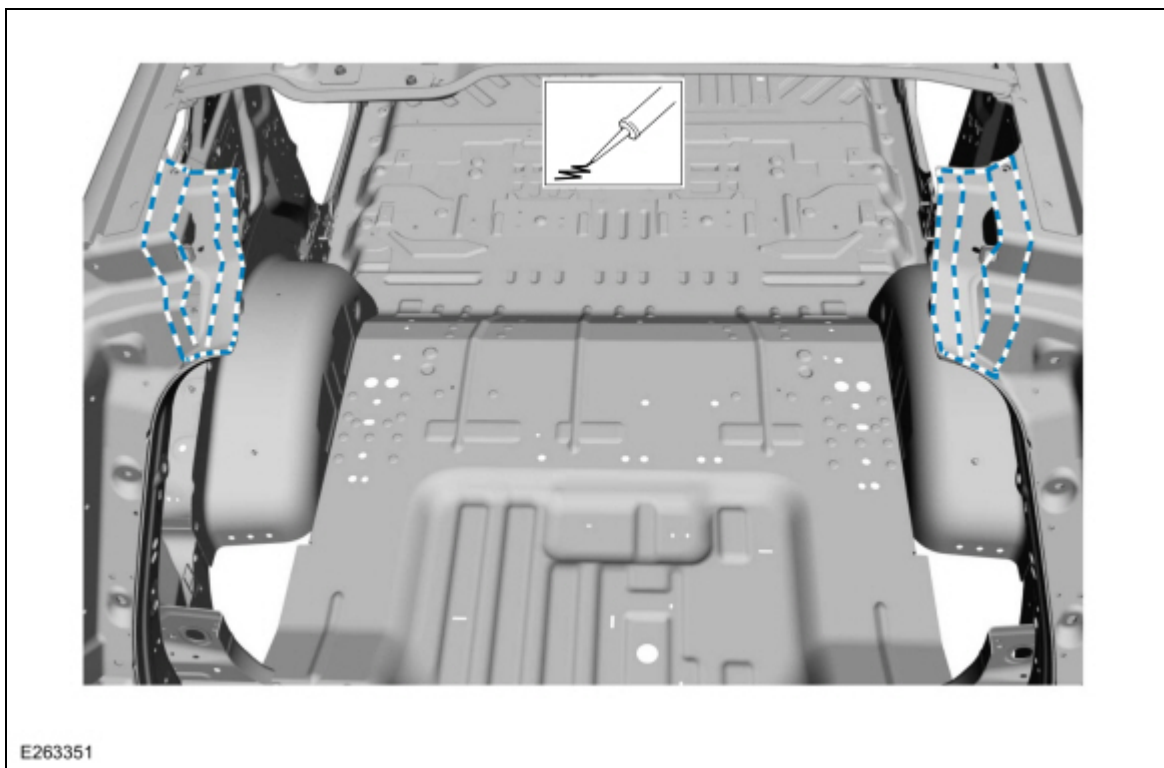
6. Sand the roof rear frame mating surfaces using 80 grit sandpaper to remove e-coat and clean.





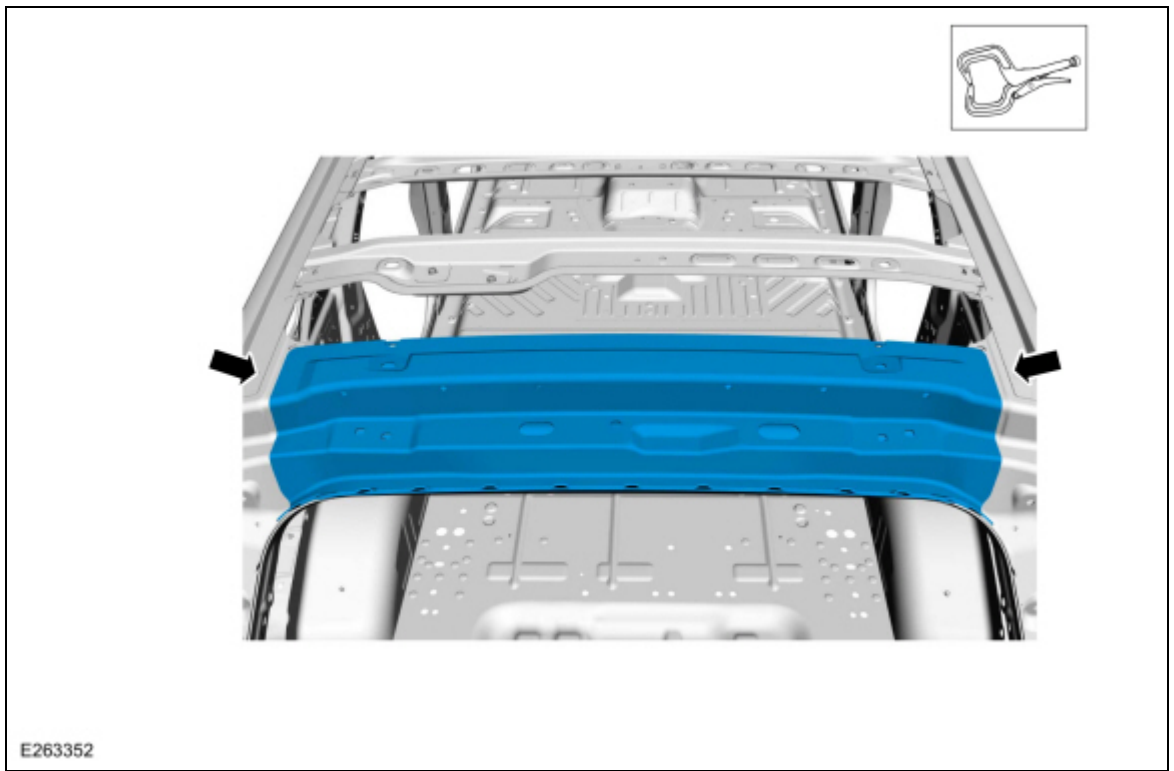
7. Apply adhesive.

Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M™ 08115, LORD Fusor® 108B

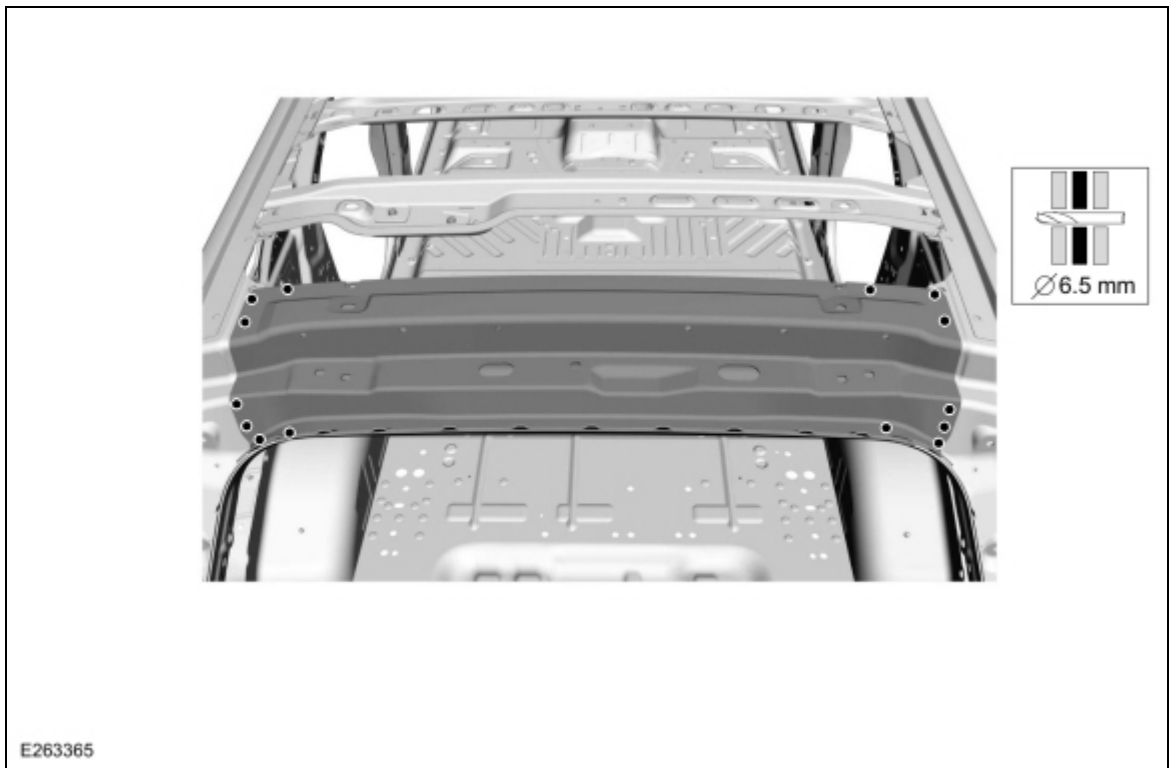


8. Install the rear roof frame and clamp in position.

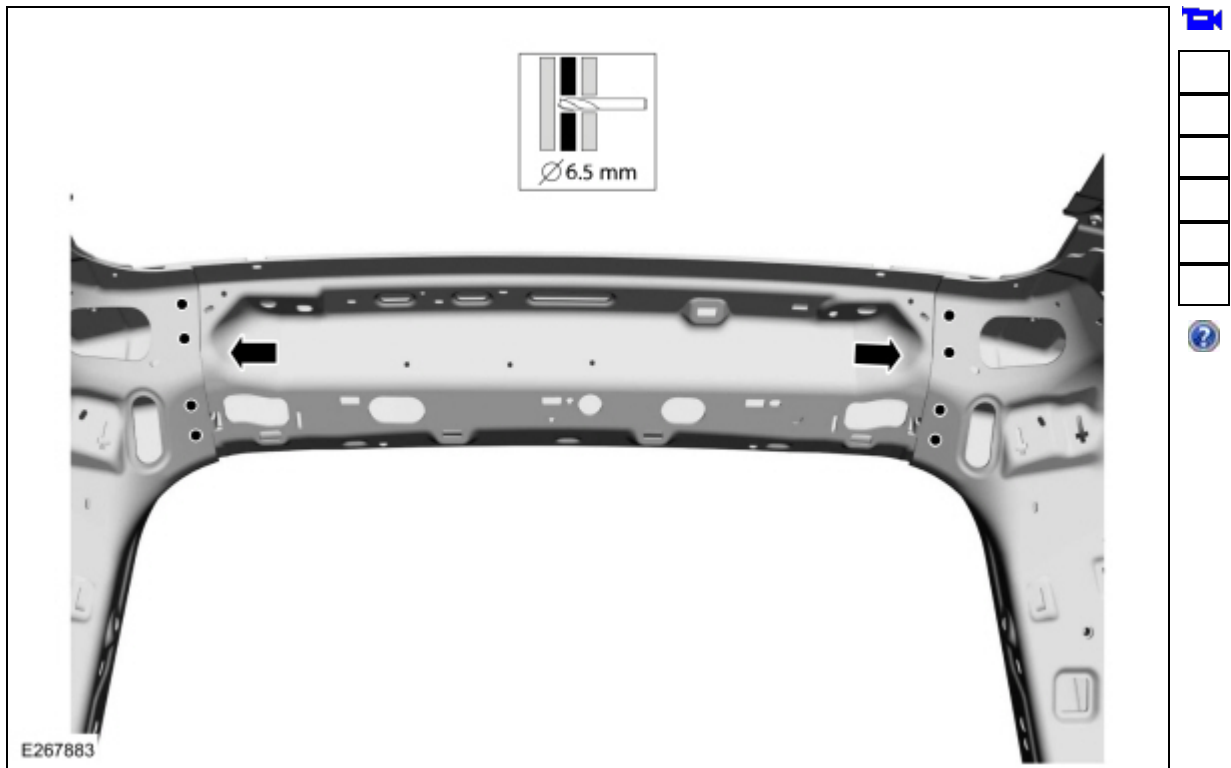
Use the General Equipment: Locking Pliers



- 9. Drill holes for fasteners as indicated
Use the General Equipment: 6.5 mm Drill Bit



- 10. Drill holes for fasteners as indicated
Use the General Equipment: 6.5 mm Drill Bit



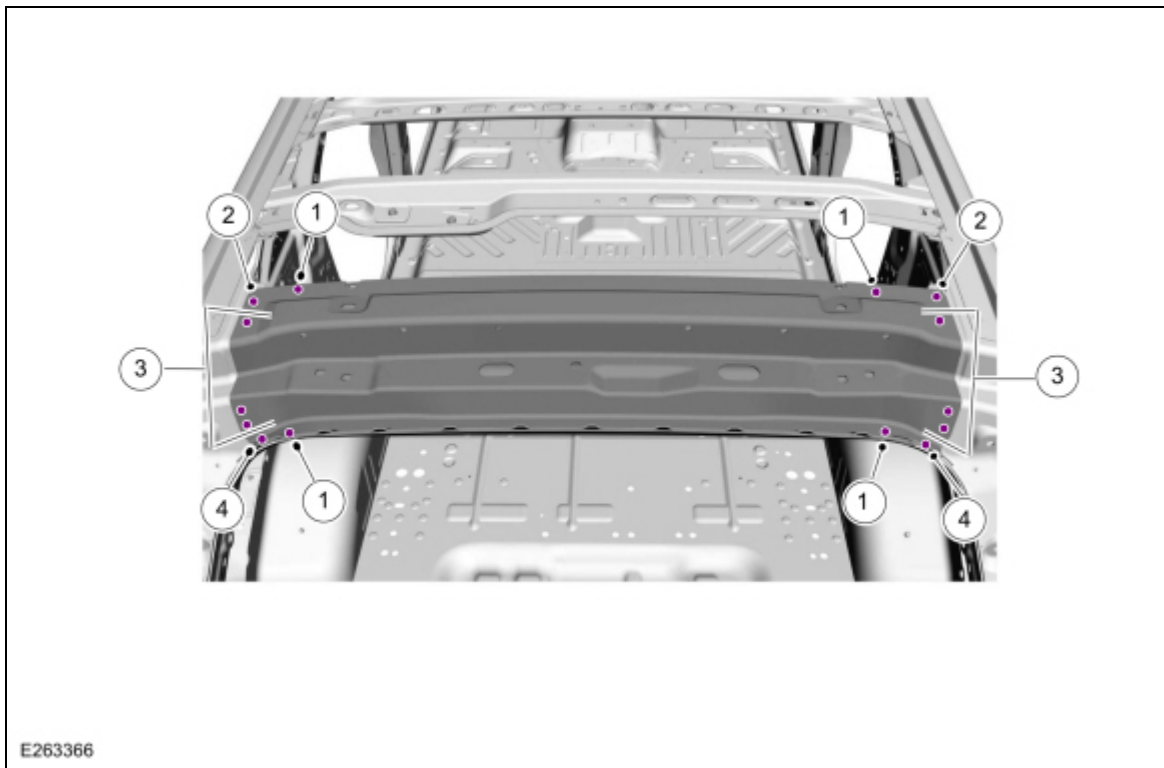
11. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Blind or solid rivets may be used in place of SPR in the original SPR location 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	-	-
2	-	-	-	-	W708778-S900C	-	-
3	-	-	-	-	W708777-S900C	-	-
4	W717183-S900	QE	DG11-200H	-	-	-	-

Use the General Equipment: Blind Rivet Gun



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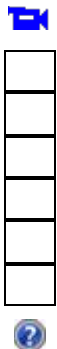
12. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

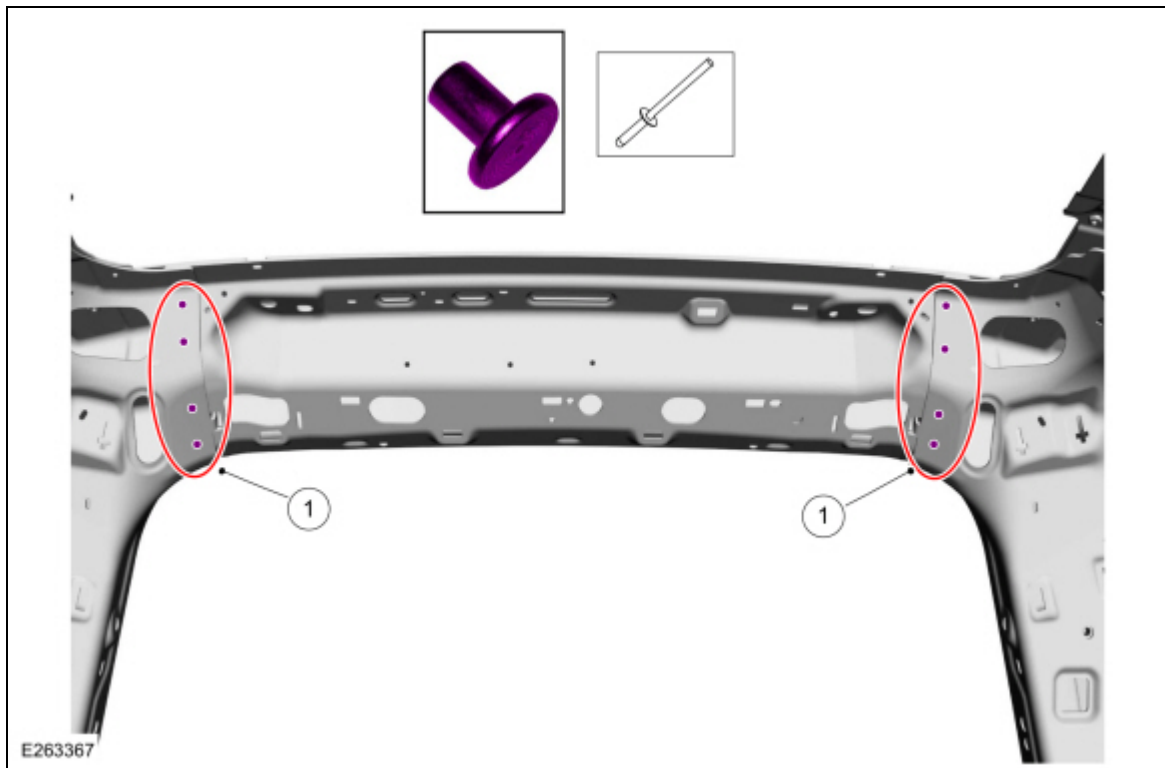
NOTE: Blind or solid rivets may be used in place of SPR in the original SPR location after enlarging hole to 6.5 mm.

Install fasteners

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W708777-S900C	W790377-S900	-

Use the General Equipment: Blind Rivet Gun





13. **Sealing work:** All areas must be sealed to production level.
Material: Seam Sealer / TA-2-B, 3M™ 08308, LORD Fusor® 803DTM
14. Sand and prime the entire repair area with a Ford approved paint system.
15. Refinish using a Ford approved paint system.
16. Restore corrosion protection.
Refer to: [Corrosion Prevention](#) (501-25 Body Repairs - General Information, General Procedures).
17. Install the roof outer panel.
Refer to: [Roof Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).
Refer to: [Roof Panel - Vehicles With: Roof Opening Panel](#) (501-28 Roof Sheet Metal Repairs, Removal and Installation).

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