

Roof Panel - Crew Cab, Vehicles With: Roof Opening Panel

Special Tool(s) / General Equipment

6.5 mm Drill Bit
Scraper for Straight Edges
Spherical Cutter
Self-Piercing Rivet (SPR) Remover/Installer
Belt Sander
Blind Rivet Gun
Hot Air Gun
Knife
Locking Pliers

Materials

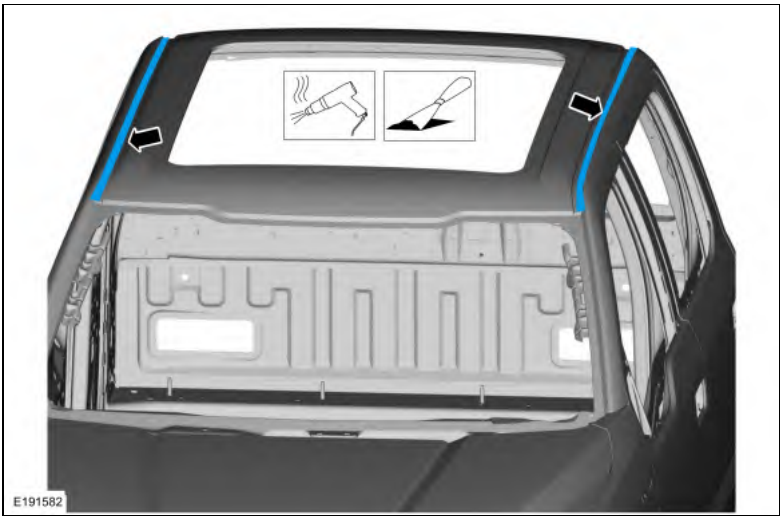
Name	Specification
Metal Bonding Adhesive TA-1, TA-1-B, 3M [®] , 08115, LORD Fusor [®] 108B	-
Roof Ditch Sealer 3M [®] , 08307, LORD Fusor [®] 122EZ	-

Removal

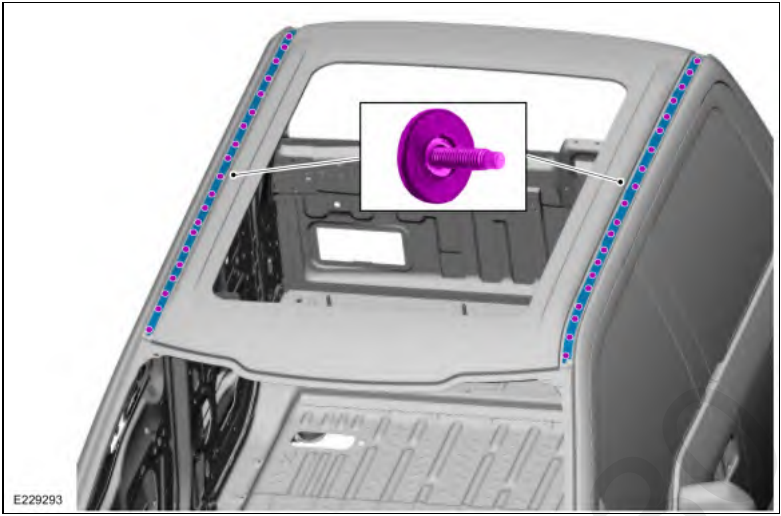
NOTICE: Adequately protect all glass, exterior finish and interior trim from contamination during entire repair procedure.

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.

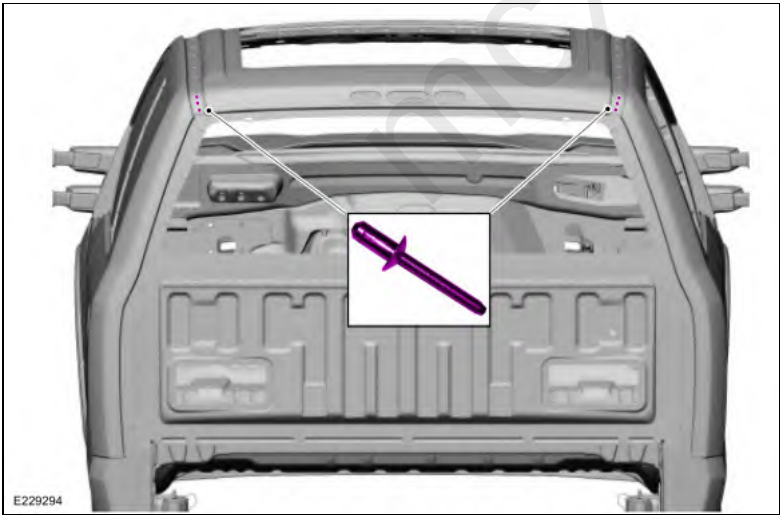
1. Depower the SRS.
Refer to: Supplemental Restraint System (SRS) Depowering (501-20B Supplemental Restraint System, General Procedures).
2. Remove the headliner.
Refer to: Headliner - Crew Cab (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. Remove the windshield and rear window glass.
Refer to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).
4. If Equipped: Remove the roof marker lamps and position aside the wiring harness.
5. If Equipped:
Remove the satellite radio antenna.
Refer to: Satellite Radio Antenna (415-00 Information and Entertainment System - General Information, Removal and Installation).
6. Remove the CHMSL (center high mount stop lamp).
Refer to: High Mounted Stoplamp (417-01 Exterior Lighting, Removal and Installation).
7. On both sides.
Remove the roof moulding.
Refer to: Roof Moulding (501-08 Exterior Trim and Ornamentation, Removal and Installation).
8. Remove the roof opening panel and frame.
Refer to: Roof Opening Panel Frame (501-17 Roof Opening Panel - Vehicles With: Vista Roof Opening Panel, Removal and Installation).
9. On both sides.
Remove the side curtain air bag.
Refer to: Side Curtain Airbag - Crew Cab (501-20B Supplemental Restraint System, Removal and Installation).
10. Remove the roof ditch sealer.
Use the General Equipment: Hot Air Gun
Use the General Equipment: Scraper for Straight Edges



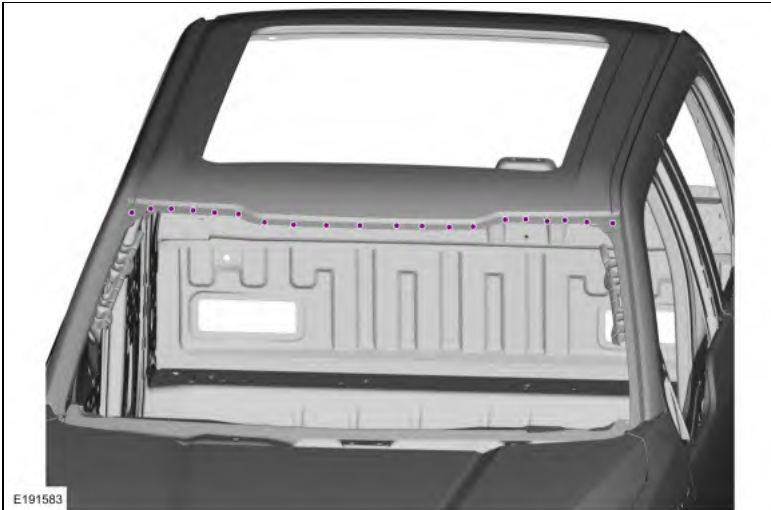
11. Remove the fasteners and roof panel retainer strips.



12. Remove the blind rivet fasteners.
Use the General Equipment: Belt Sander



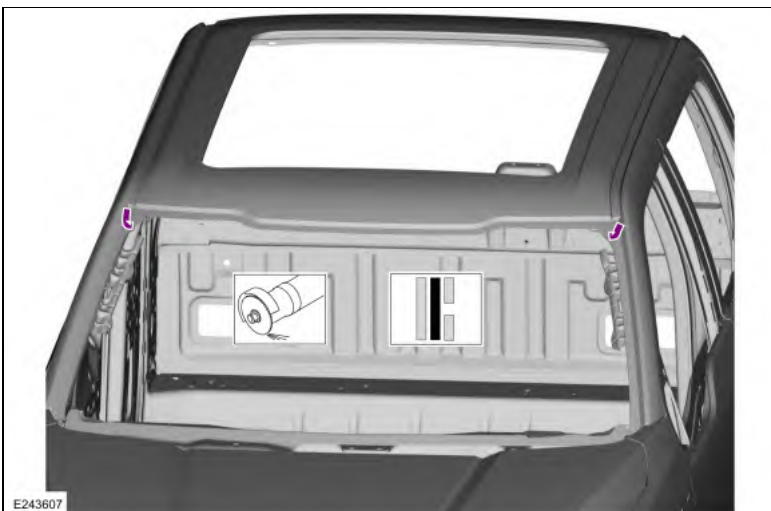
13. Remove the front header SPR fasteners.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander



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

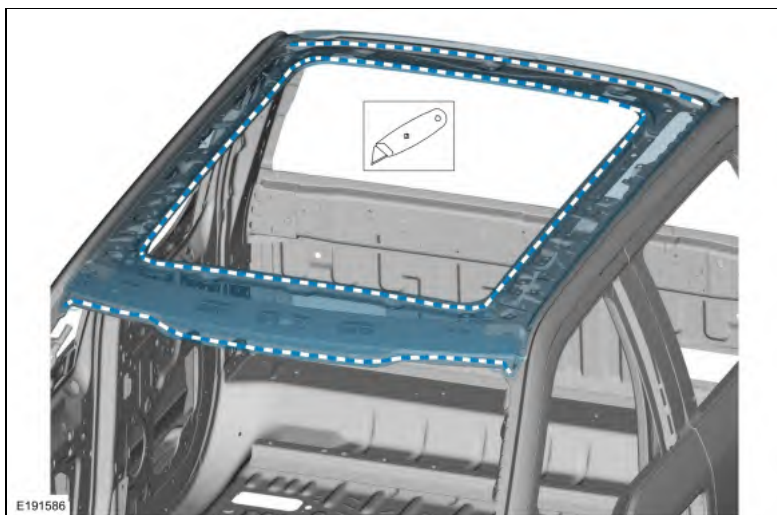


15. Remove the welds.
Use the General Equipment: Spherical Cutter

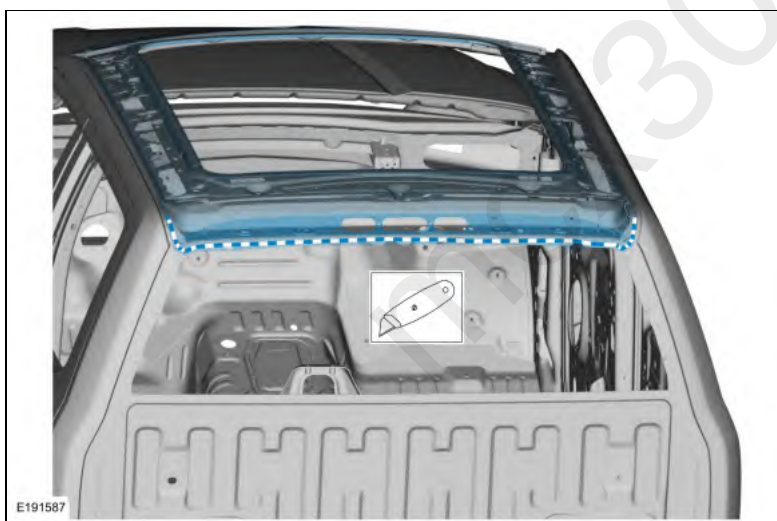


16. **NOTE:** Leave as much NVH foam intact as possible on the roof supports.
Separate the foam and adhesive from the roof panel.

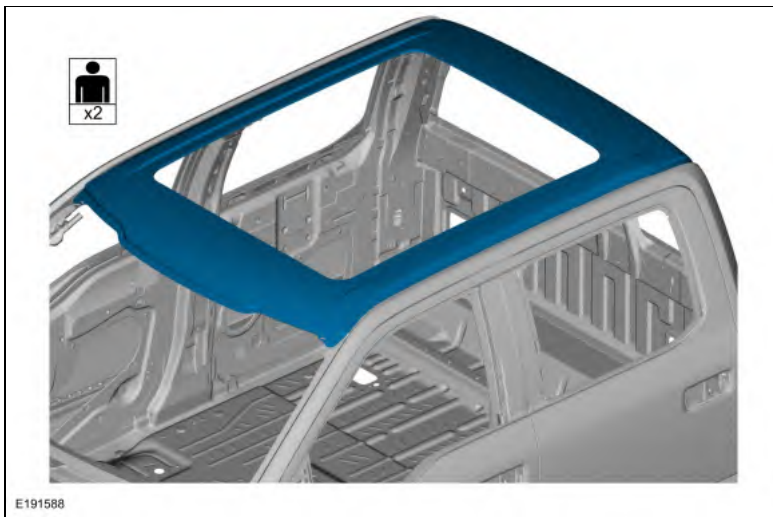
Use the General Equipment: Knife



17. Cut the adhesive between the roof panel and the rear header.
Use the General Equipment: Knife



18. With the help of an assistant, remove the roof panel.



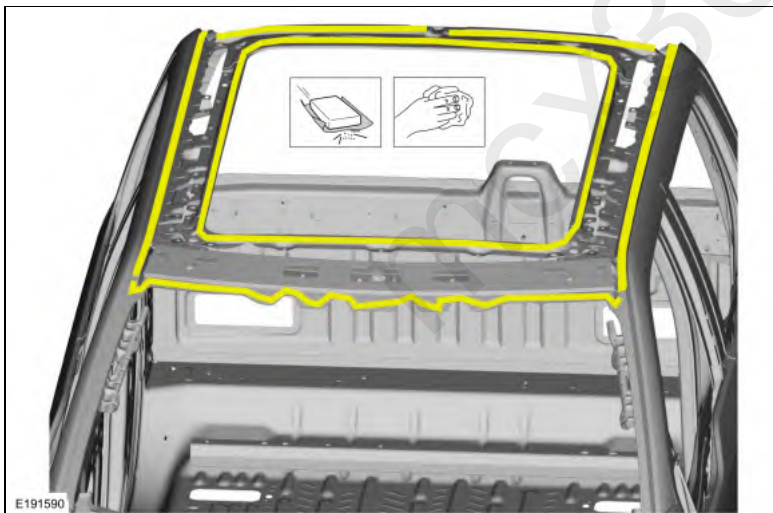
Installation

NOTICE: Adequately protect all glass, exterior finish and interior trim from contamination during entire repair procedure.

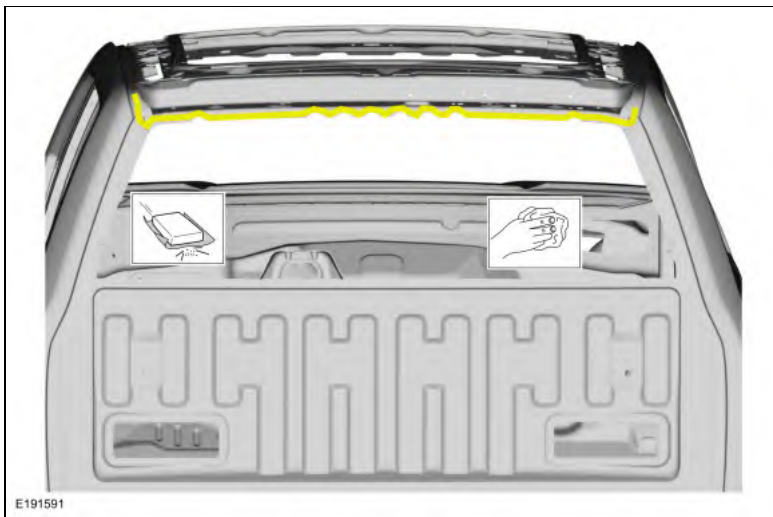
NOTE: SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: A template is available for vehicles equipped with roof mounted clearance lights and/or a roof mounted antenna. This can be accessed through the PTS (Professional Technician Society) web site under Service Tips for this vehicle.

1. Use a hammer and dolly dedicated to aluminum repair to repair any damage to the body side flange to roof mating surfaces.
Refer to: Special Repair Considerations for Aluminum Repairs (501-25 Body Repairs - General Information, Description and Operation).
2. 80-120 grit sand paper.
Sand to remove old adhesive and clean the body to roof mating surfaces.



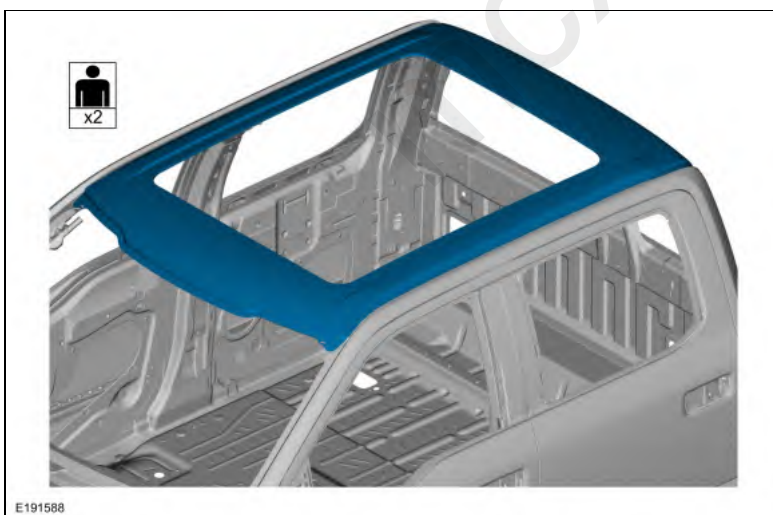
3. 80-120 grit sand paper.
Sand remove any remaining adhesive in the rear flange mating surface and clean.



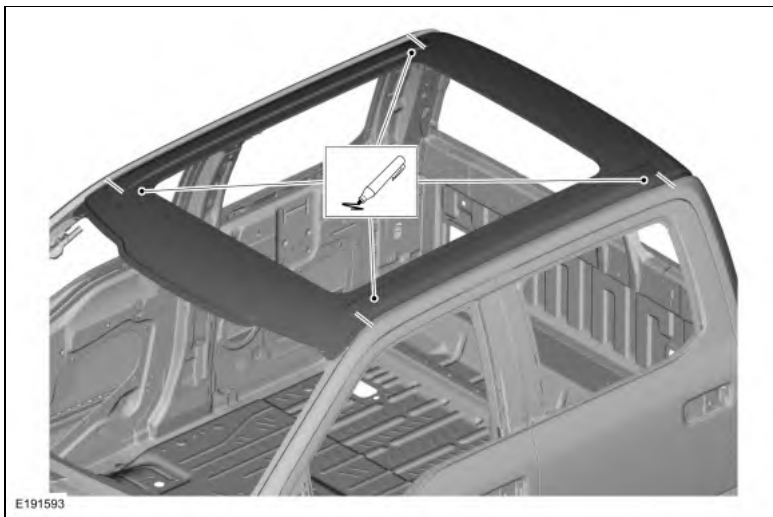
4. 80-120 grit sand paper.
Sand to remove the e-coat and clean the roof panel mating surface.



5. With the help of an assistant, install the roof outer panel.



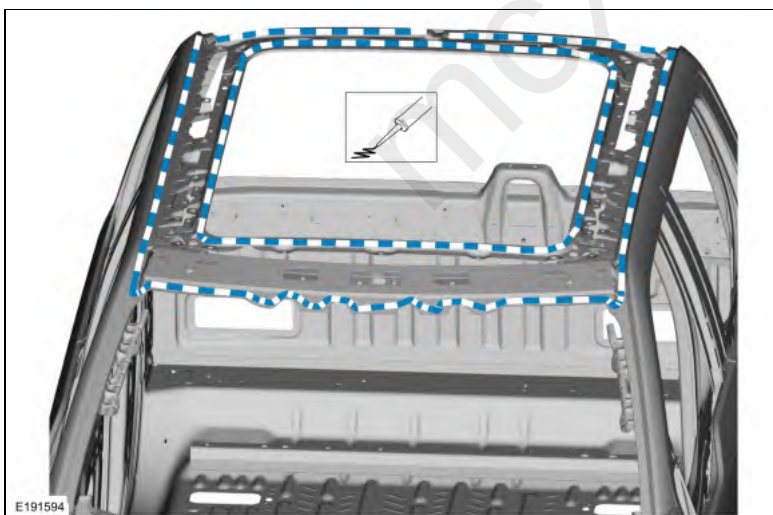
6. Properly align and index mark the roof panel to the vehicle.



7. With the help of an assistant, remove the roof outer panel.

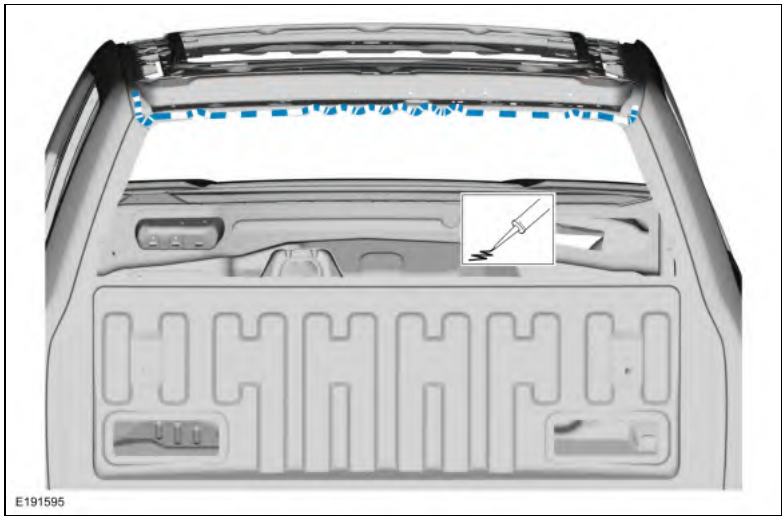


8. Apply adhesive to the roof opening reinforcement, front header and roof ditch area mating surfaces.
 Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M, 08115, LORD Fusor® 108B

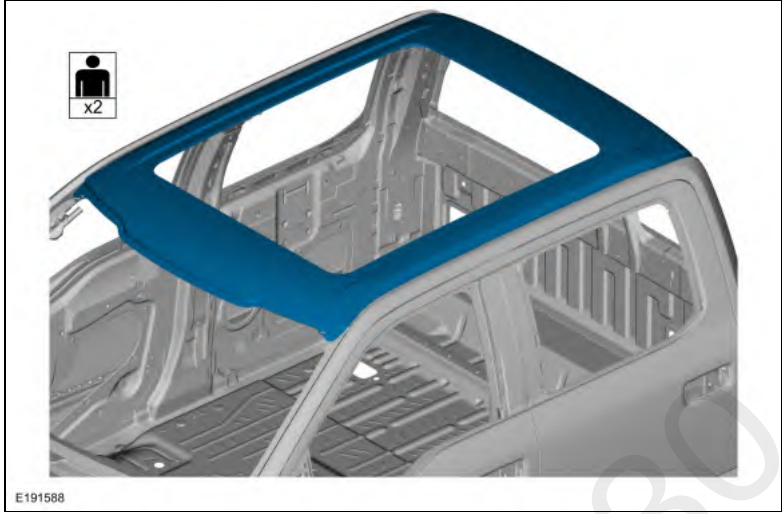


9. Apply adhesive to the rear header mating surface.
 Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M, 08115, LORD Fusor® 108B

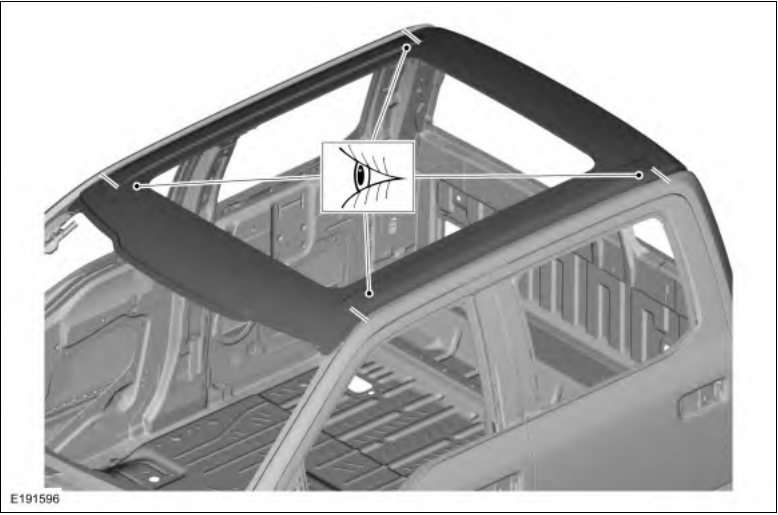




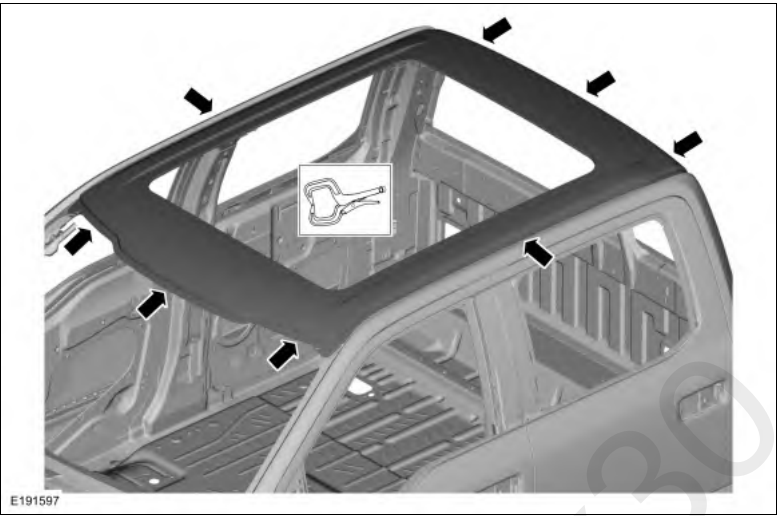
10. With the help of an assistant, install the roof outer panel.



11. **NOTE:** Do not lift the roof panel to align to index marks. Slide the panel in position to reduce the possibility of breaking the adhesive bond.
- NOTE:** Check for full adhesive contact. Add additional adhesive to all contact points if necessary.
- Properly align the roof panel to the index marks.

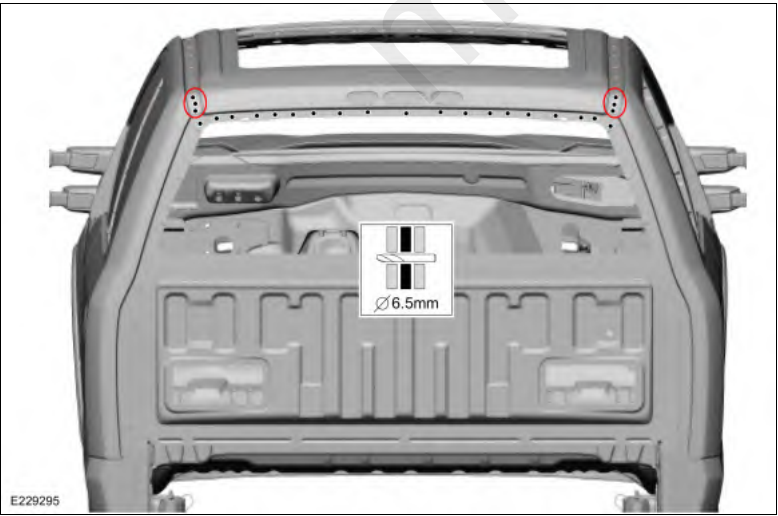


12. Clamp in position without damaging
Use the General Equipment: Locking Pliers



13. **NOTE:** Circled holes must be drilled for fastener installation. Remaining holes only need to be drilled for blind or solid rivet fastener installation. If using SPR fasteners do not drill these holes.

Drill for fastener installation.
Use the General Equipment: 6.5 mm Drill Bit

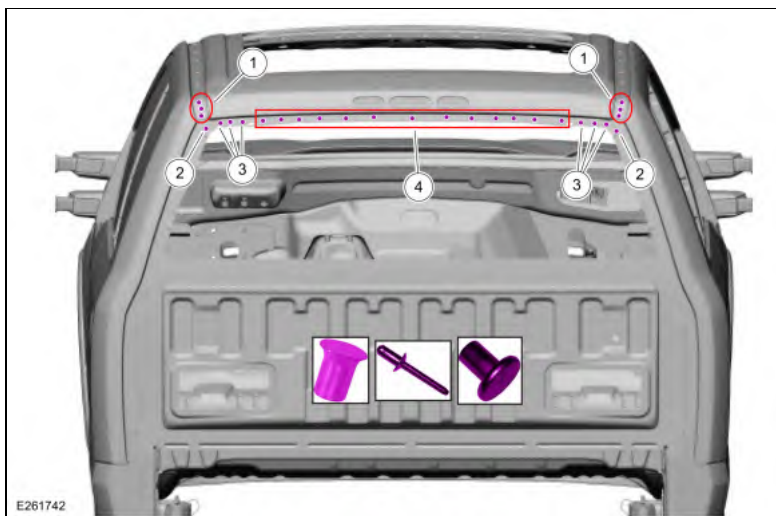


14. Install fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W702512-S900C	-	-
2	W708714-S900	AT	DZ09-025/H	SA-0400/SA-0401	W707638-S900C	W790376-S900	-

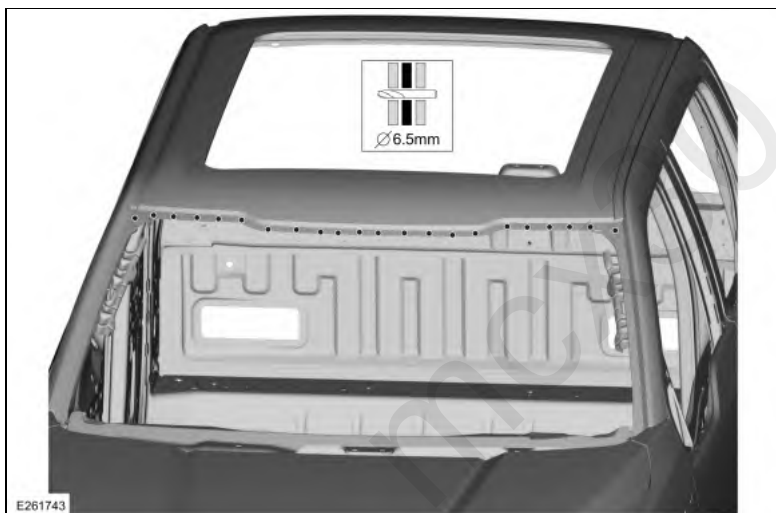
3	W710246-S900	BN	DP10-200/H	SA-0400/SA-0401	W708777-S900C	W790376-S900	-
4	W718595-S900	SU	DP07-140/H	SA-0400/SA-0401	W702512-S900C	W790376-S900	

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



15. **NOTE:** Holes only need drilling for blind or solid rivet fasteners. If using SPR fasteners, disregard this step.

Drill for fastener installation.
Use the General Equipment: 6.5 mm Drill Bit



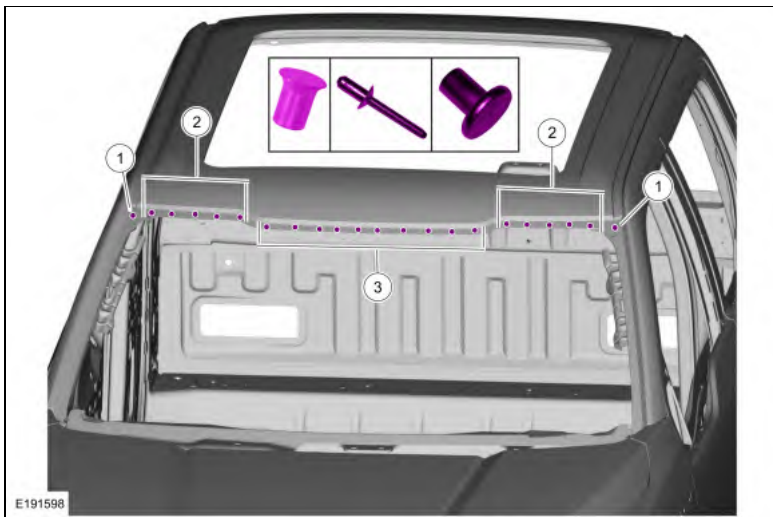
16. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

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

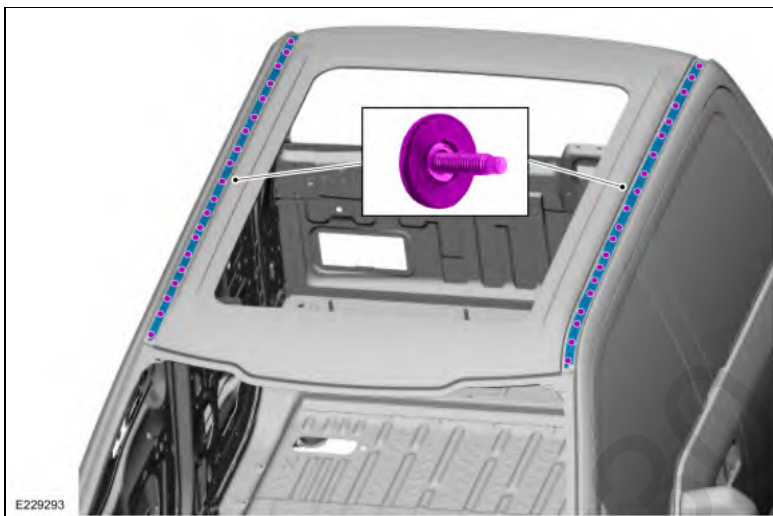
Install fasteners.

Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	W708714-S900	AT	DZ09-025/H	SA-0400/SA-0401	W708777-S900C	W790376-S900	-
2	W717186-S900	EN	DG11-220/H	SA-0400/SA-0402	W702554-S900C	W790377-S900	-
3	W708713-S900	AS	DZ09-025/H	SA-0400/SA-0401	W702512-S900C	W790376-S900	-

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



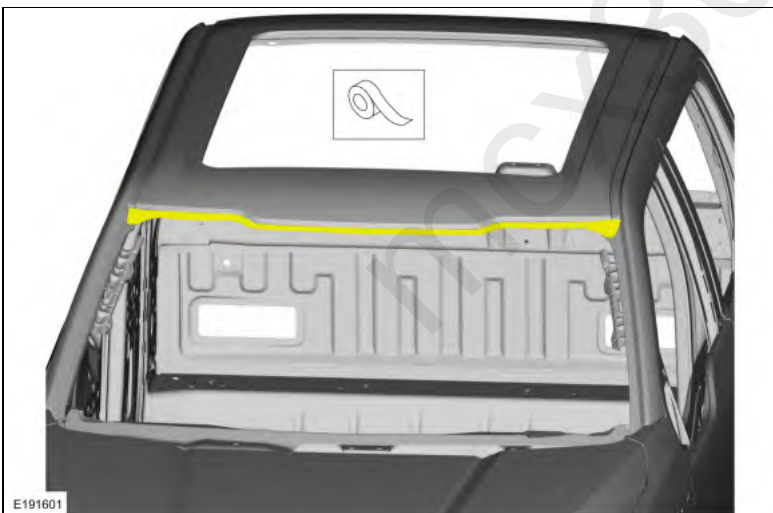
17. Install the roof panel reinforcing strips and fasteners.
Torque: 62 lb.in (7 Nm)



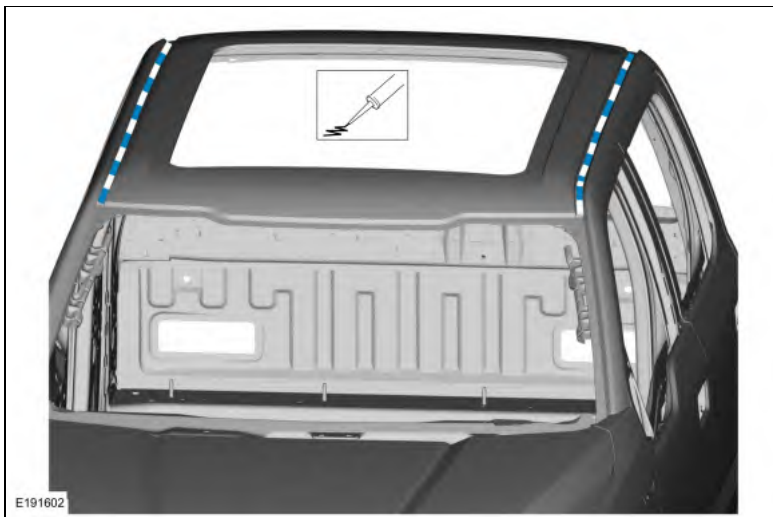
18. Sand and prime the front and rear window opening channels using a Ford approved epoxy based primer and allow to dry.
19. Mask off the rear window glass channel.



20. Mask off the windshield glass channel.



21. Apply roof ditch sealer following manufacturer's directions.
 Material: Roof Ditch Sealer / 3M, 08307, LORD Fusor® 122EZ

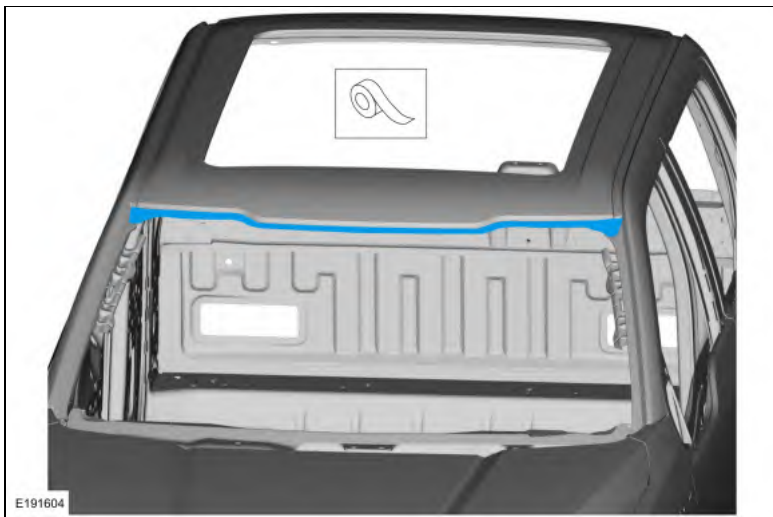


22. Refinish the entire repair area using a Ford approved paint system and standard refinishing techniques.

23. Remove the masking in the rear window glass channel.



24. Remove the masking in the windshield glass channel.



25. Install the roof opening panel and frame.
Refer to: Roof Opening Panel Frame (501-17 Roof Opening Panel - Vehicles With: Vista Roof Opening Panel, Removal and Installation).
26. If Equipped:
Install the satellite radio antenna.
Refer to: Satellite Radio Antenna (415-00 Information and Entertainment System - General Information, Removal and Installation).
27. On both sides.
Install the side curtain air bag.
Refer to: Side Curtain Airbag - Crew Cab (501-20B Supplemental Restraint System, Removal and Installation).
28. Install the CHMSL (center high mount stop lamp).
Refer to: High Mounted Stoplamp (417-01 Exterior Lighting, Removal and Installation).
29. If Equipped: Install the roof marker lamps and reposition the wiring harness to original location.
30. Install the windshield and rear window glass.
Refer to: Fixed Glass (501-11 Glass, Frames and Mechanisms, General Procedures).
31. On both sides.
Install the roof moulding.
Refer to: Roof Moulding (501-08 Exterior Trim and Ornamentation, Removal and Installation).
32. Install the headliner.
Refer to: Headliner - Crew Cab (501-05 Interior Trim and Ornamentation, Removal and Installation).
33. Repower the SRS.
Refer to: Supplemental Restraint System (SRS) Repowering (501-20B Supplemental Restraint System, General Procedures).

