

Roof Panel - Crew Cab

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

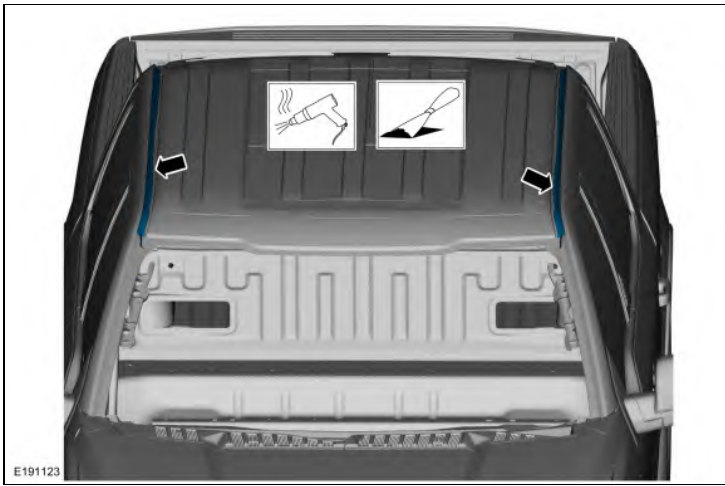
Name	Specification
Metal Bonding Adhesive TA-1, TA-1-B, 3M [®] , 08115, LORD Fusor [®] 108B	-
Roof Ditch Sealer 3M [®] , 08307, LORD Fusor [®] 122EZ	-

Removal

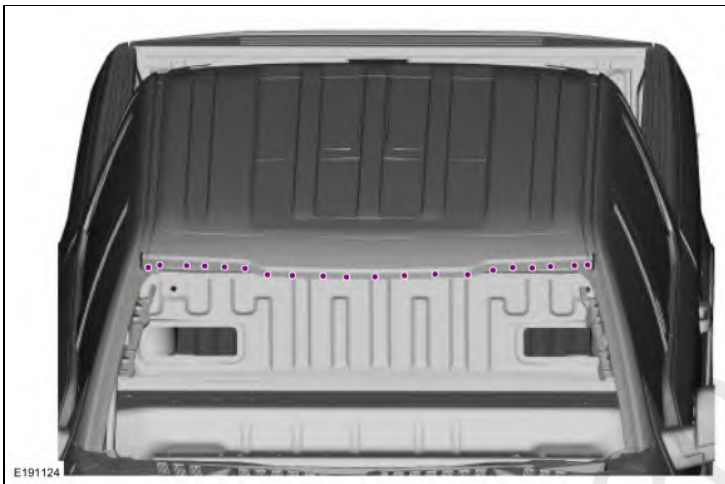
NOTICE: Adequately protect all glass, exterior finish and interior trim from contamination during entire repair procedure.

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.

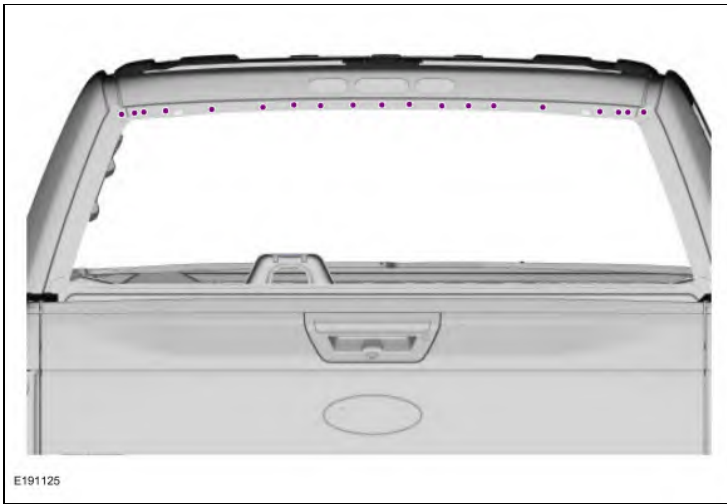
1. Depower the SRS.
Refer to: Supplemental Restraint System (SRS) Depowering (501-20B Supplemental Restraint System, General Procedures).
2. Remove the headliner.
Refer to: Headliner - Crew Cab (501-05 Interior Trim and Ornamentation, Removal and Installation).
3. If Equipped: Remove the roof marker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



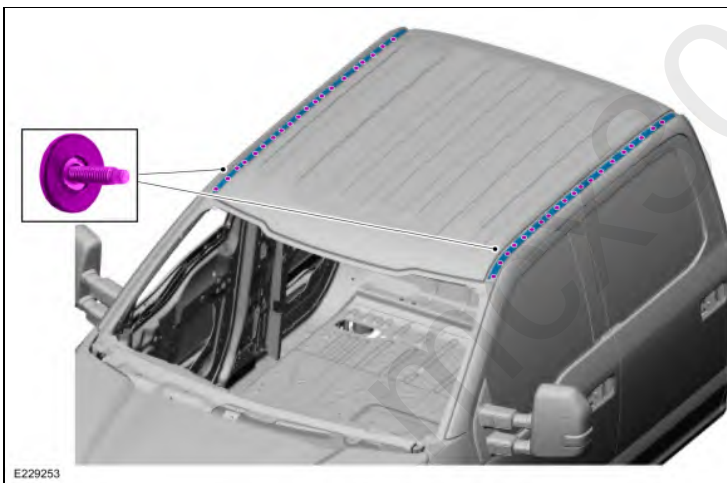
10. Remove the front header SPR fasteners.
 Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
 Use the General Equipment: Belt Sander



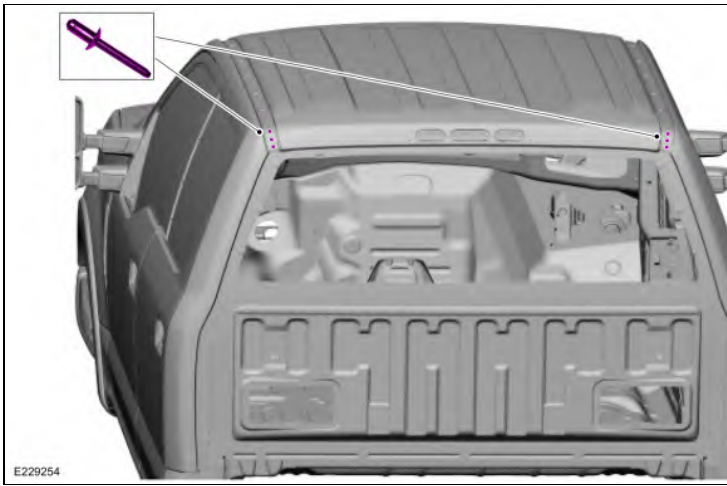
11. Remove the rear header SPR fasteners.
 Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
 Use the General Equipment: Belt Sander



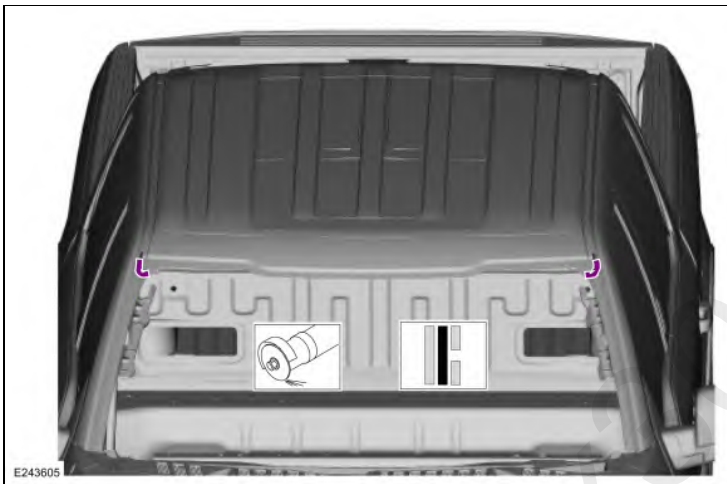
12. Remove the fasteners and roof reinforcement strip.



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

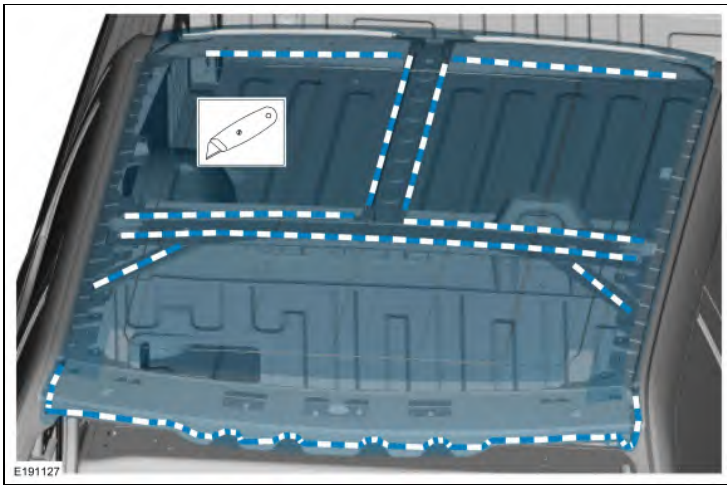


14. Remove the welds.
Use the General Equipment: Spherical Cutter

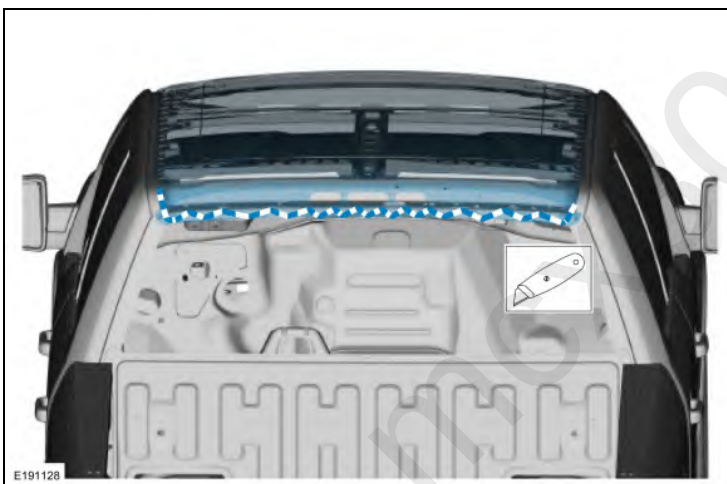


15. **NOTE:** Leave as much foam as possible intact on the roof bows.

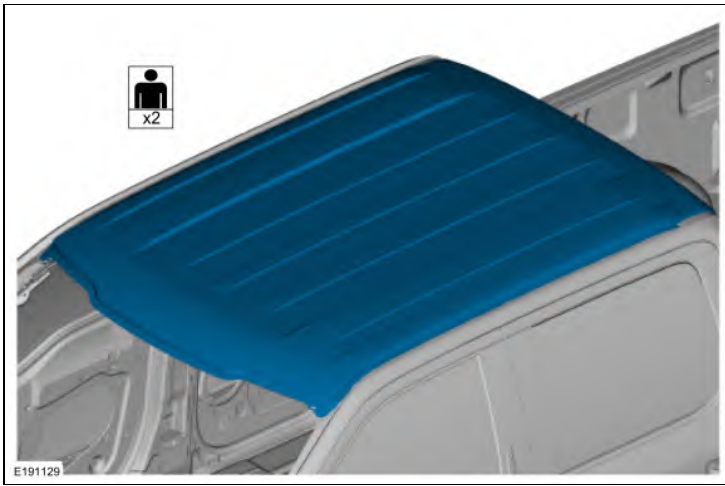
Break the bond at the roof reinforcements and front header.
Use the General Equipment: Knife



16. Break the adhesive bond at the roof outer panel to the rear header panel.
Use the General Equipment: Knife



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



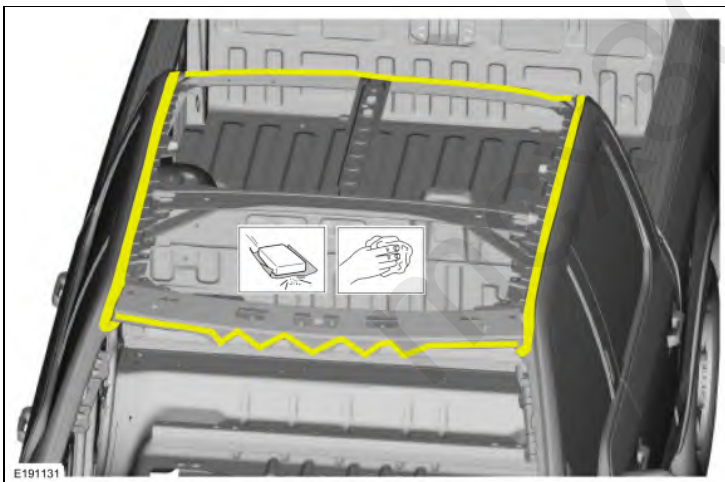
Installation

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

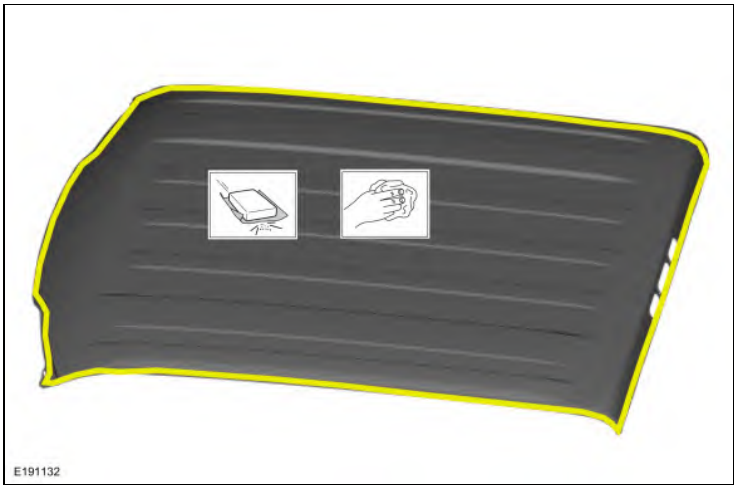
NOTE: SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

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.

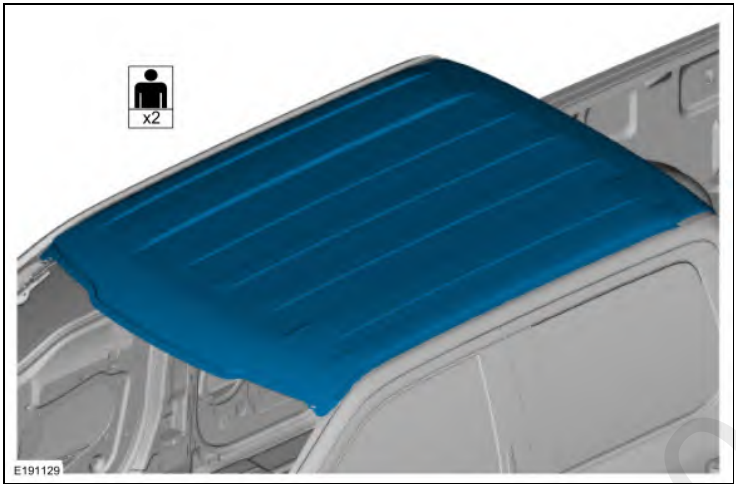
1. Use a hammer and dolly dedicated to aluminum repair to repair any damage to the body side flange to roof mating surfaces.
Refer to: Special Repair Considerations for Aluminum Repairs (501-25 Body Repairs - General Information, Description and Operation).
2. 80-120 grit sand paper.
Sand to remove old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



3. 80-120 grit sand paper.
Sand to remove the e-coat and clean.



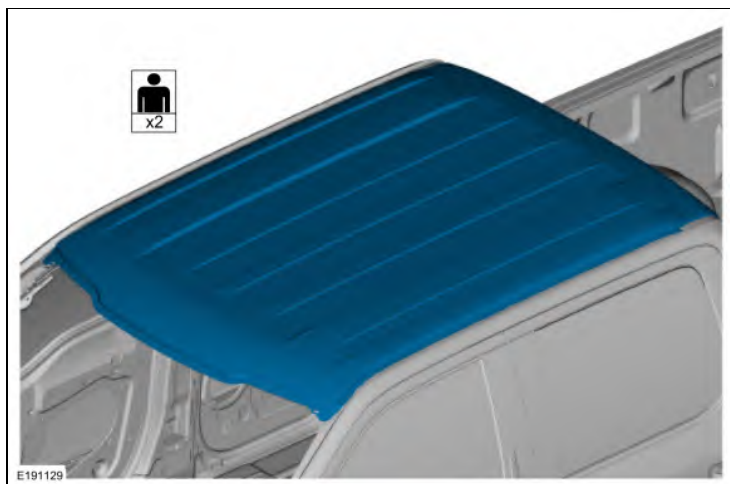
4. With the help of an assistant, install the roof outer panel.



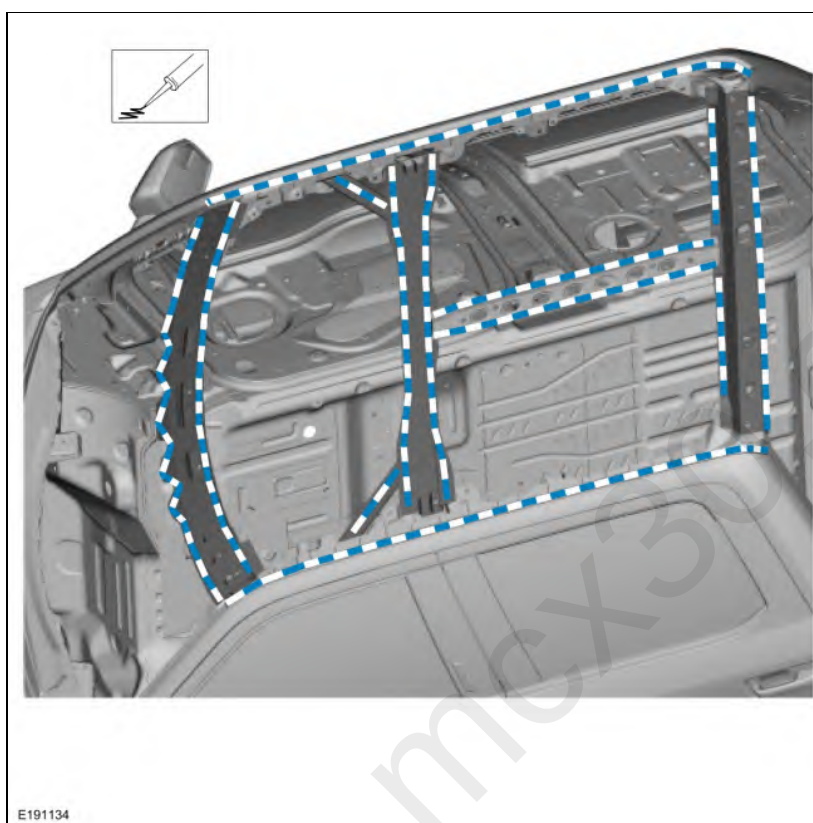
5. Properly align and index mark the roof panel to the vehicle.



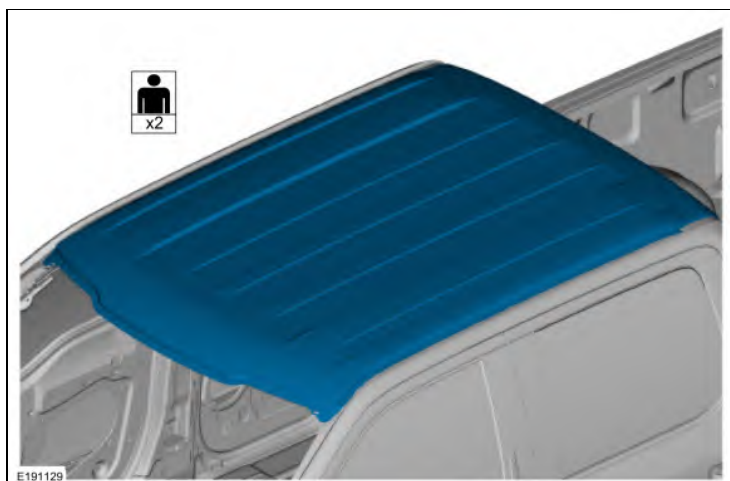
6. With the help of an assistant, remove the roof outer panel.



7. Apply adhesive to the roof bows, front header panel, rear header panel and roof ditch mating surfaces.
 Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M, 08115, LORD Fusor® 108B



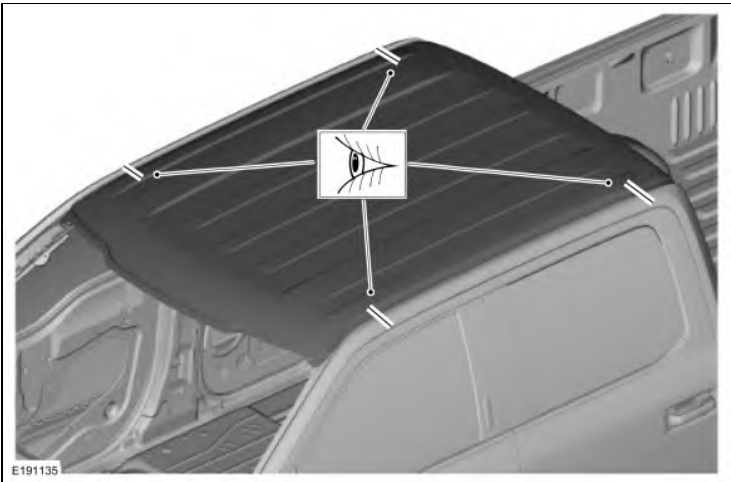
8. With the help of an assistant, install the roof panel.



9. **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.

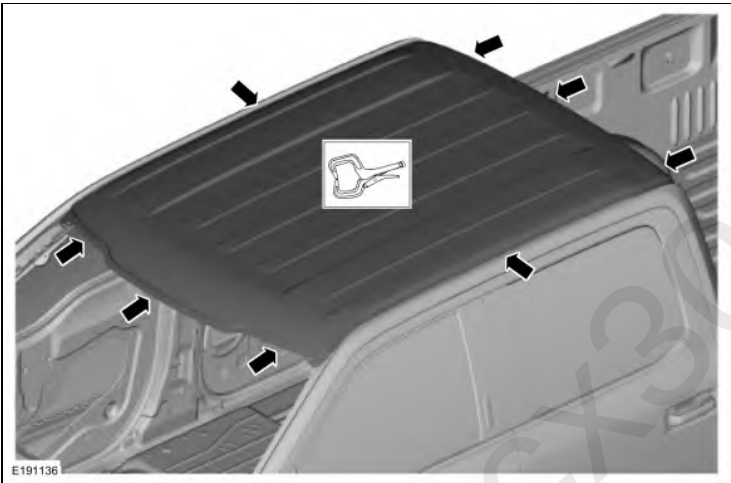
NOTE: Check for full adhesive contact. Add additional adhesive to the roof bows if necessary.

Properly align the roof panel to the index marks.

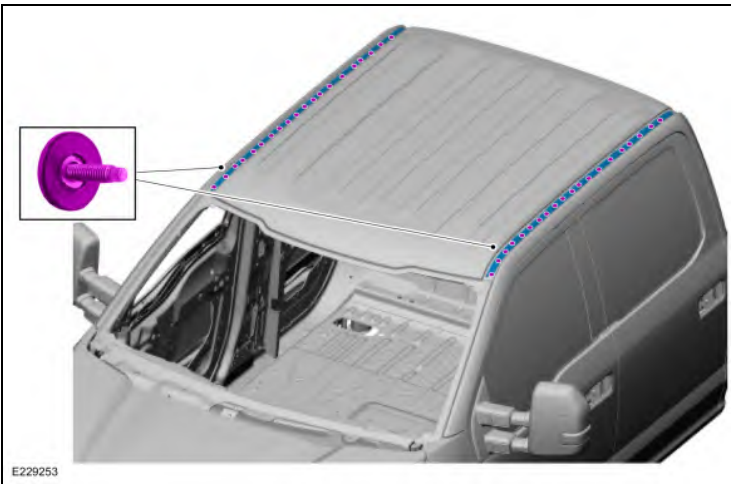


10. **NOTE:** Do not remove excess adhesive squeeze-out in the roof ditch area, smooth in to the joint to act as additional sealer.

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



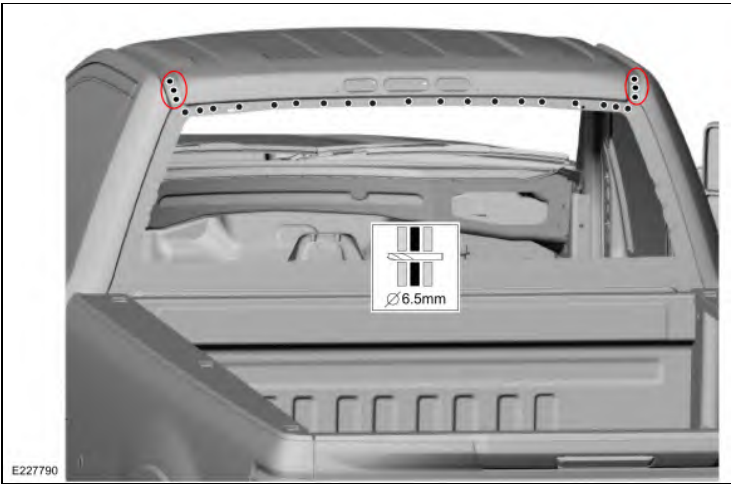
11. Install the roof retainer strips and fasteners.
Torque: 62 lb.in (7 Nm)



12. **NOTE:** Circled holes must be drilled for fastener installation. Remaining holes indicated only need to be drilled for blind or solid rivet installation. If using SPR fasteners,

disregard these holes.

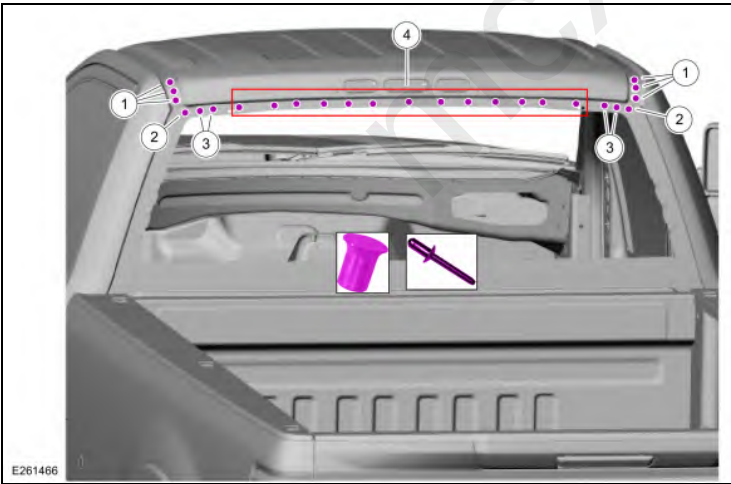
Drill for fastener installation.
Use the General Equipment: 6.5 mm Drill Bit



13. Install fasteners.

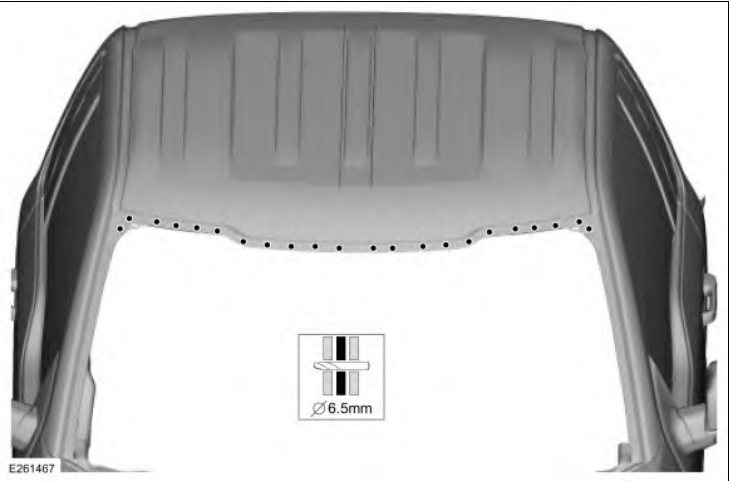
Item	SPR Number	SPR Code	Henrob® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W702512-S900C	-	-
2	W708714-S900	AT	DZ09-025/H	SA-0400/SA-0401	W707638-S900C	W790376-S900	-
3	W710246-S900	BN	DP10-200/H	SA-0400/SA-0401	W708777-S900C	W790376-S900	-
4	W718595-S900	SU	DP07-140/H	SA-0400/SA-0401	W702512-S900C	W790376-S900	-

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



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

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



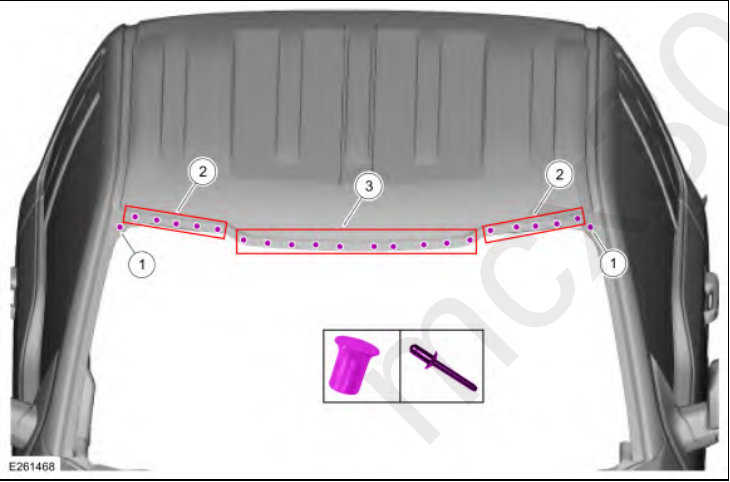
15. **NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

NOTE: Blind or solid rivets may be used in place of SPR in the original SPR location 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-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	-

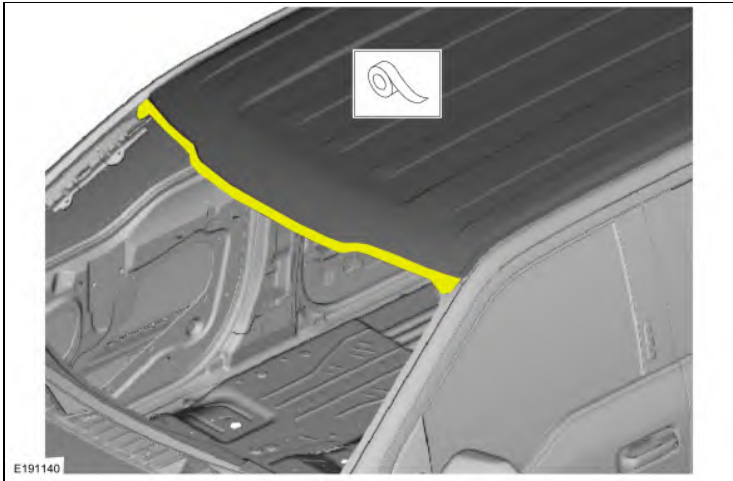
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Blind Rivet Gun



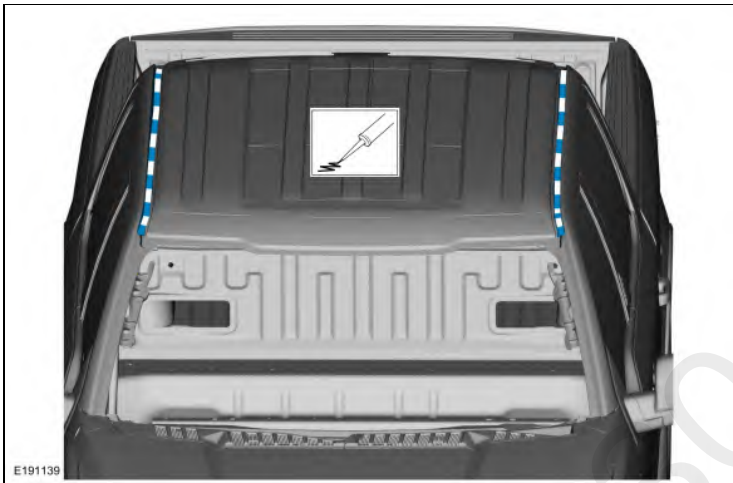
16. Sand and prime the front and rear window opening channels using a Ford approved epoxy based primer and allow to dry.
17. Mask off the rear window glass channel.



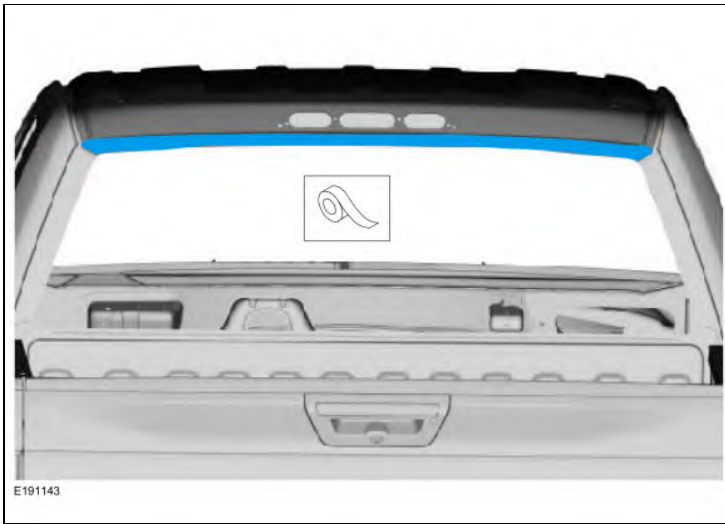
18. Mask off the windshield glass channel.



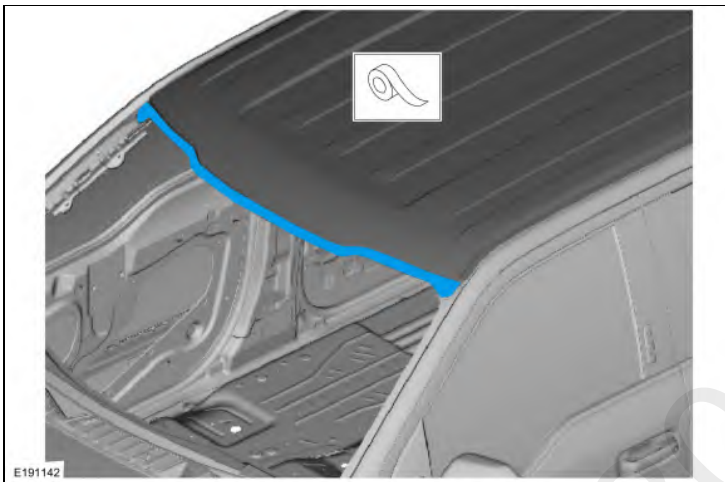
19. Apply roof ditch sealer following manufacturer's directions.
Material: Roof Ditch Sealer / 3M, 08307, LORD Fusor® 122EZ



20. Refinish the entire repair area using a Ford approved paint system and standard refinishing techniques.
21. Remove the masking in the rear window glass channel.



22. Remove the masking in the windshield glass channel.



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

