

501-30 Rear End Sheet Metal Repairs  
Removal and Installation

2021 F-150

Procedure revision date: 09/25/2020

### Pickup Box Front Panel

#### Special Tool(s) / General Equipment

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

#### Materials

Name	Specification
Metal Bonding Adhesive TA-1, TA-1-B, 3M™ 08115, LORD Fusor® 108B	-

#### Removal

 **WARNING:** Electric vehicles damaged by a crash may have compromised high voltage safety systems and present a potential high voltage electrical shock hazard. Exercise caution and wear appropriate Personal Protective Equipment (PPE) safety gear, including high voltage safety gloves and boots. Remove all metallic jewelry, including watches and rings. Isolate the HV system as directed by the Ford Emergency Response Guide for the vehicle. Failure to follow these instructions may result in serious personal injury or death.

**NOTICE:** Battery electric vehicle (BEV), hybrid electric vehicle (HEV) and plug-in hybrid electric vehicle (PHEV) contain a high-voltage battery. Before cutting or welding near the high-voltage battery it must be removed to avoid damage.

-  **WARNING:** Before beginning any service procedure in this manual, refer to health and safety warnings in section 100-00 General Information. Failure to follow this instruction may result in serious personal injury.

Refer to: [Health and Safety Precautions](#) (100-00 General Information, Description and Operation).

Refer to: [High Voltage System Health and Safety Precautions - Overview](#) (100-00 General Information, Description and Operation).

**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.*

**2. Both Sides:**

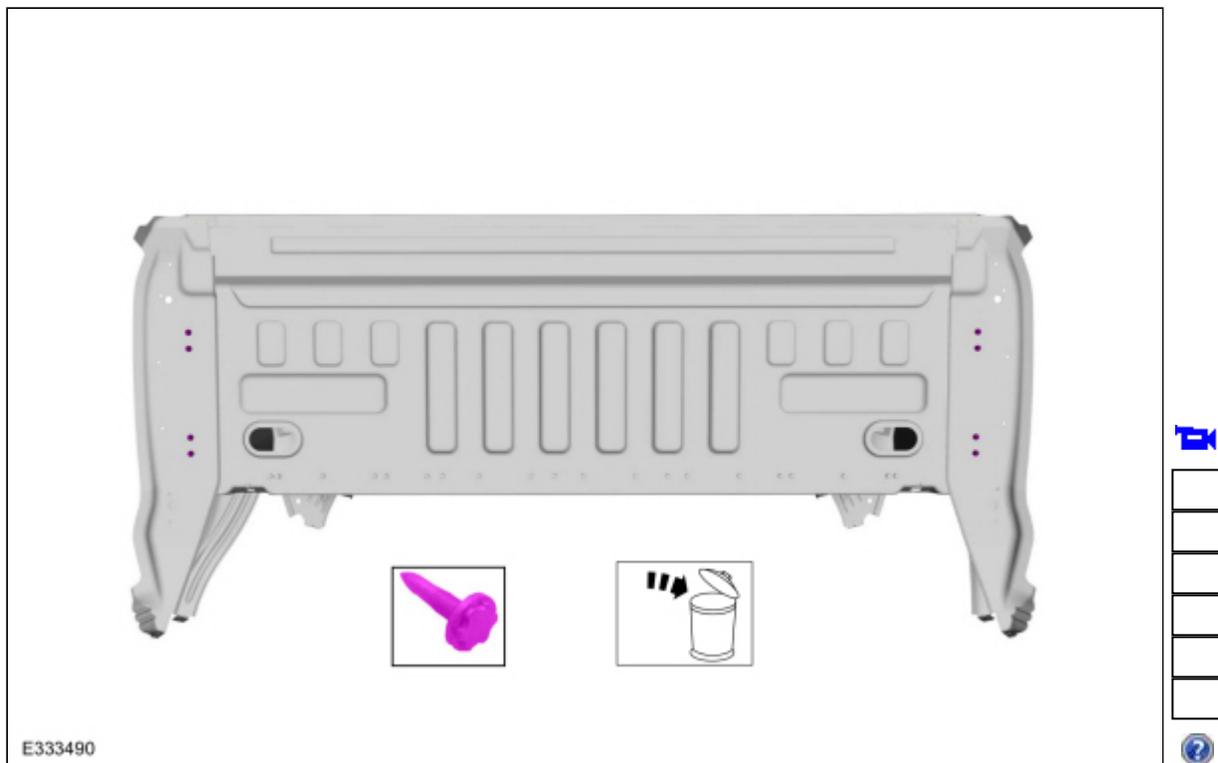
Remove the pickup box outer side panels.

Refer to: [Pickup Box Outer Side Panel](#) (501-30 Rear End Sheet Metal Repairs, Removal and Installation).

3. Remove the pickup box seals and plugs.

4. Remove and discard the FDS fasteners.

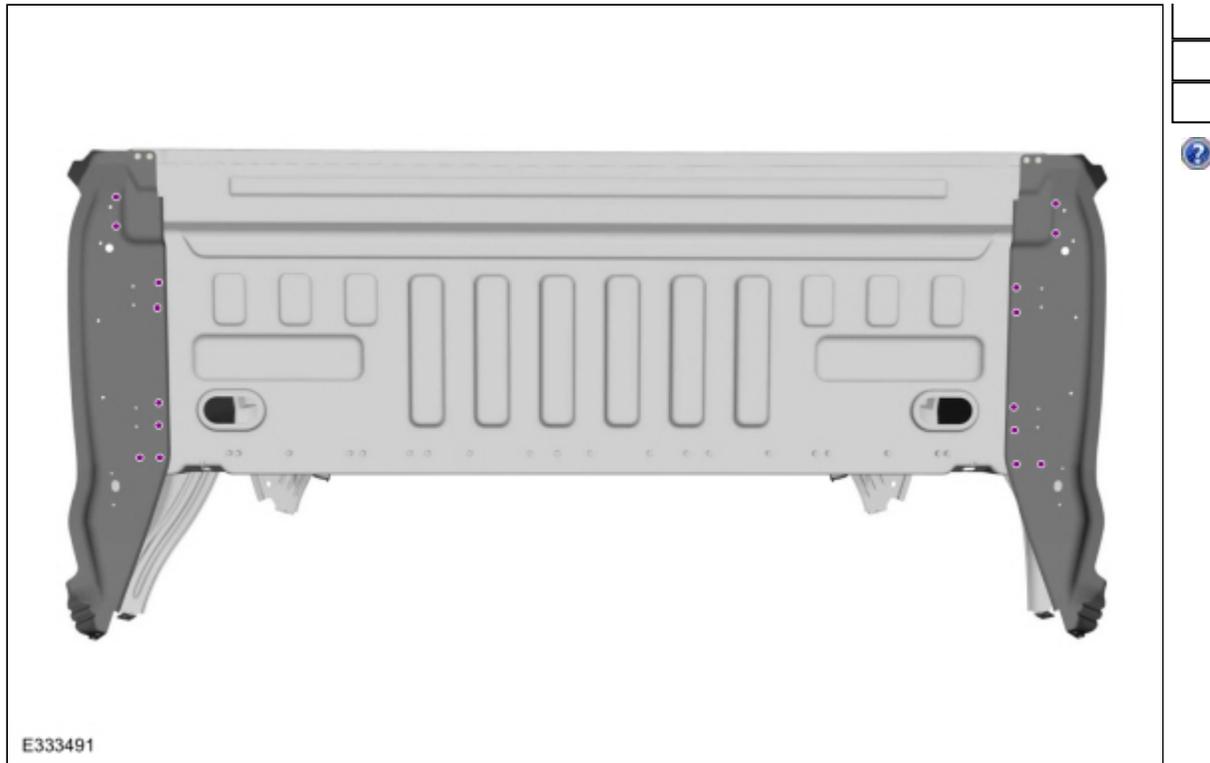
Use the General Equipment: Polydrive Bit Socket



5. Remove the SPR fasteners.

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

Use the General Equipment: Belt Sander



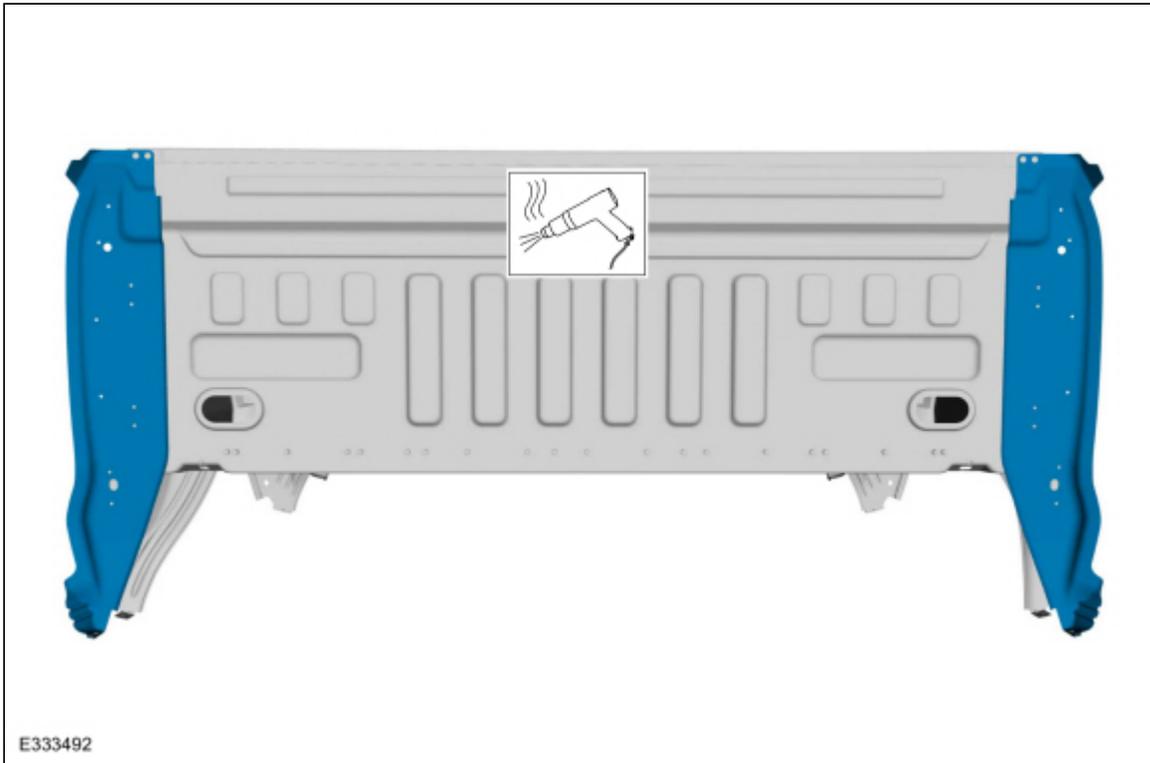
6. **NOTE:** Aluminum body panels are highly receptive to heat transfer. With the extensive use of structural adhesives and non-structural sealers used in vehicle construction, the potential of heat transfer could impact adhesives and sealers in non-associated panels during the repair process. Many repairs 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.

Both Sides:

Break the adhesive bond and remove the pickup box extensions.

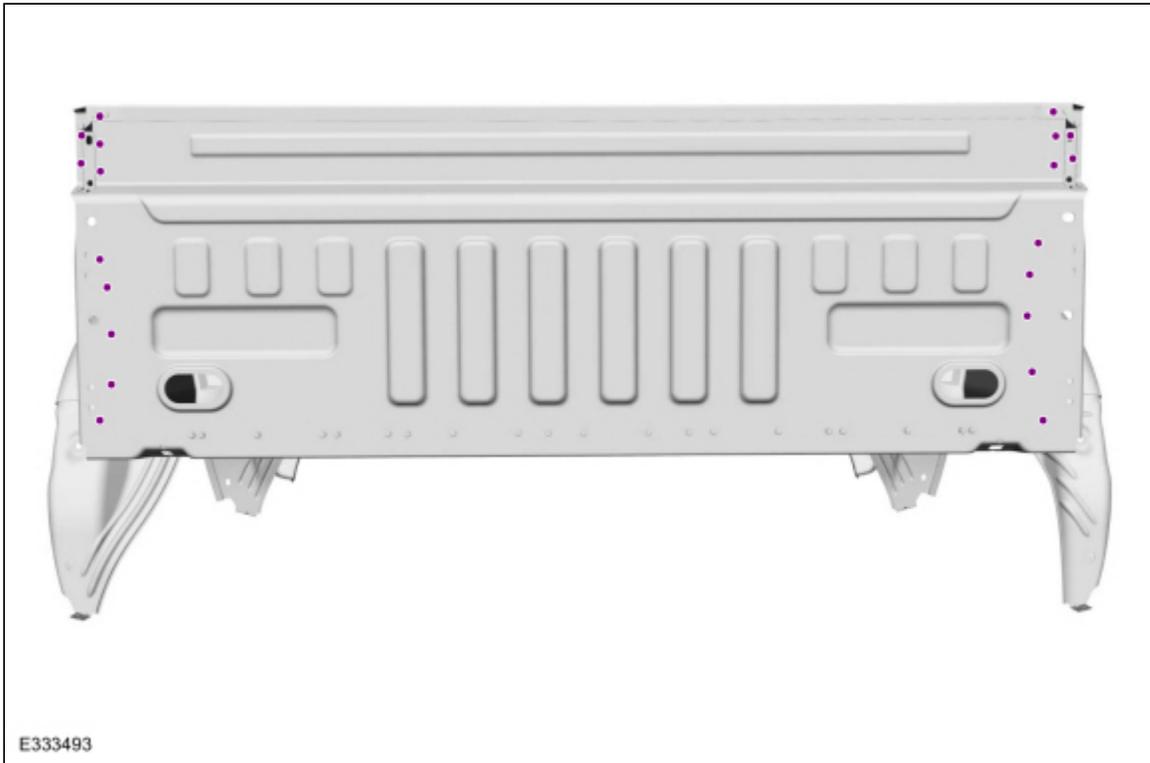
Use the General Equipment: Hot Air Gun





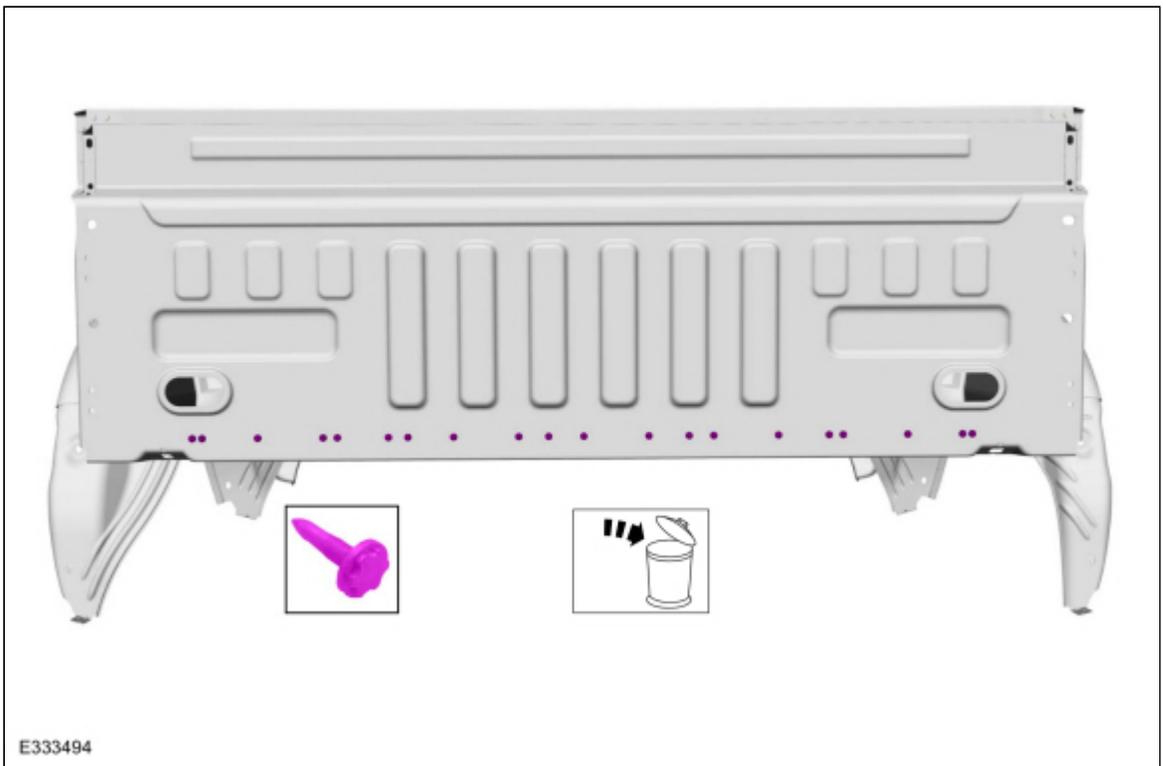
- 7. Both Sides:  
Remove the SPR fasteners.  
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer  
Use the General Equipment: Belt Sander





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

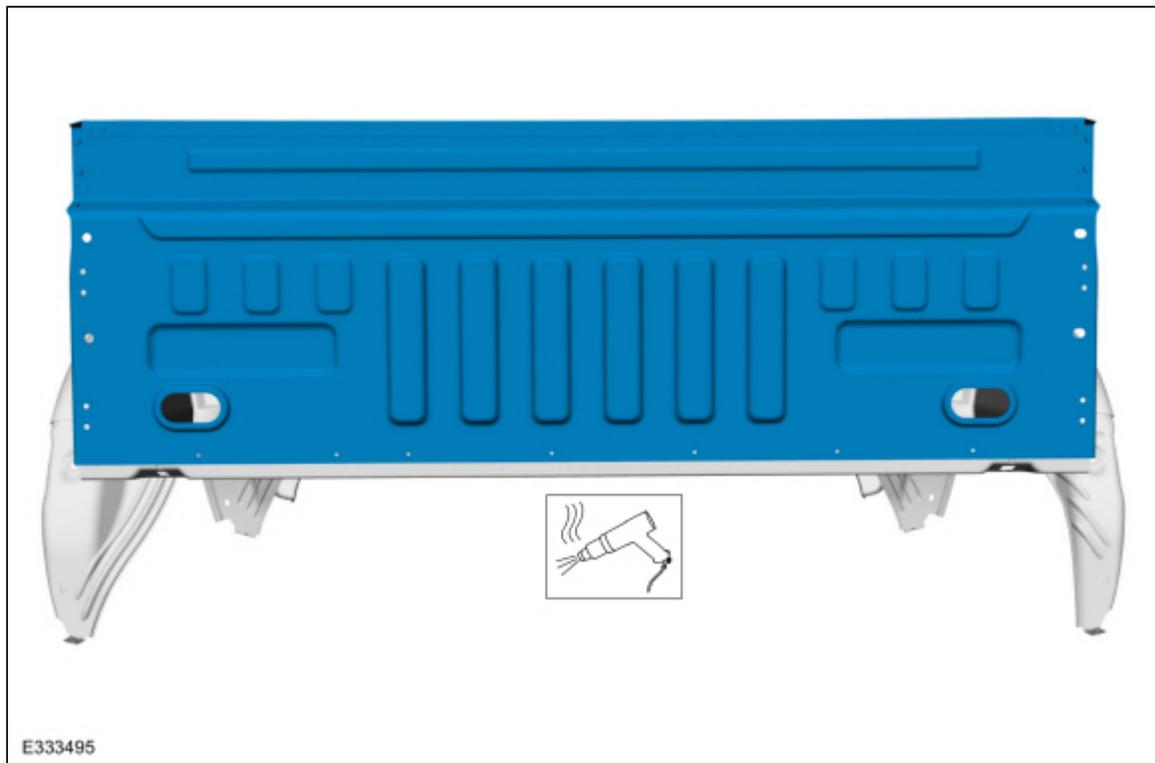




9. **NOTE:** Aluminum body panels are highly receptive to heat transfer. With the extensive use of structural adhesives and non-structural sealers used in vehicle construction, the potential of heat transfer could impact adhesives and sealers in non-associated panels during the repair process. Many repairs 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.

Break the adhesive bond and remove the pickup box front panel.  
Use the General Equipment: Hot Air Gun





### Installation

**NOTE:** 6.5 foot pickup bed shown, 5.5 foot and 8 foot bed similar.

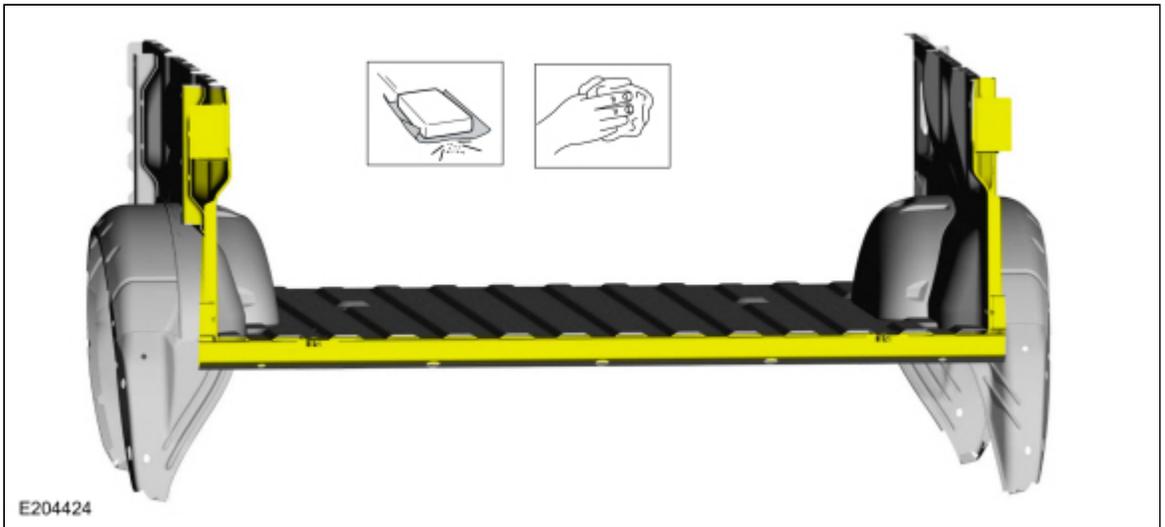
**NOTE:** SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

**NOTE:** Blind rivet, solid rivet fasteners or aluminum plug welds may be used in place of SPR fasteners after enlarging holes to 6.5 mm.

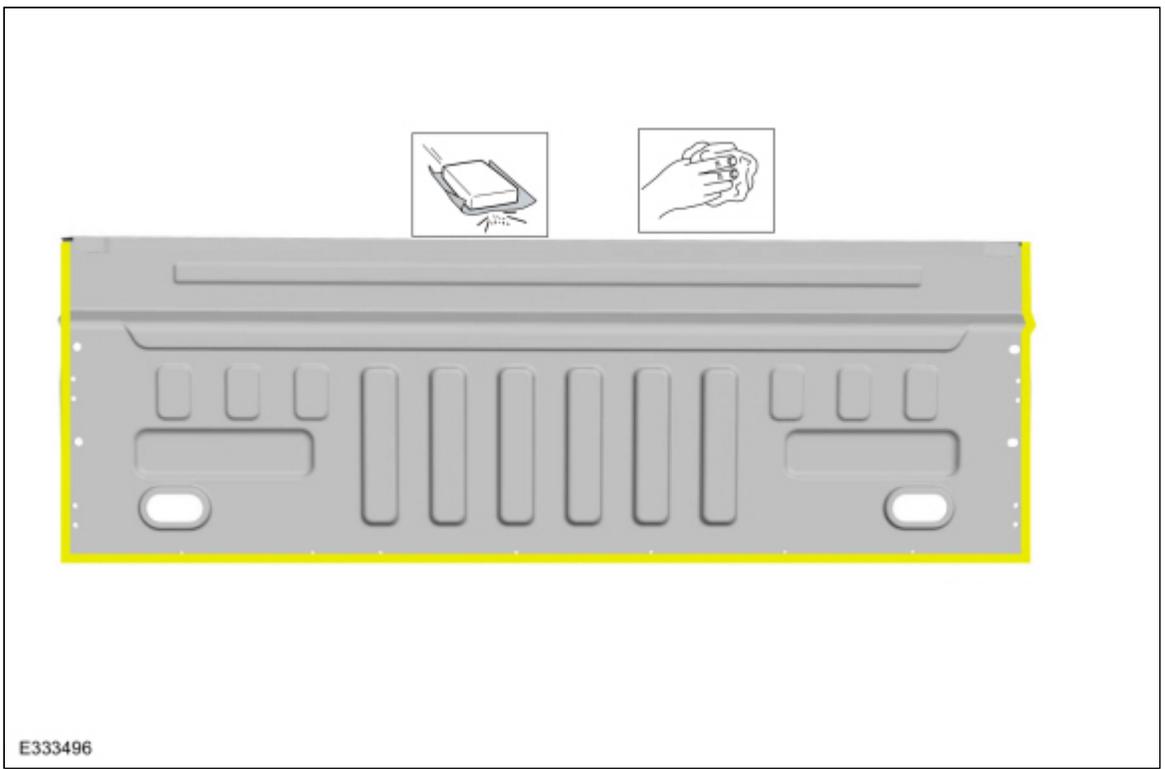
### Rivet-Bonding

1. 80-120 grit sand paper.  
Sand to remove old adhesive and clean.



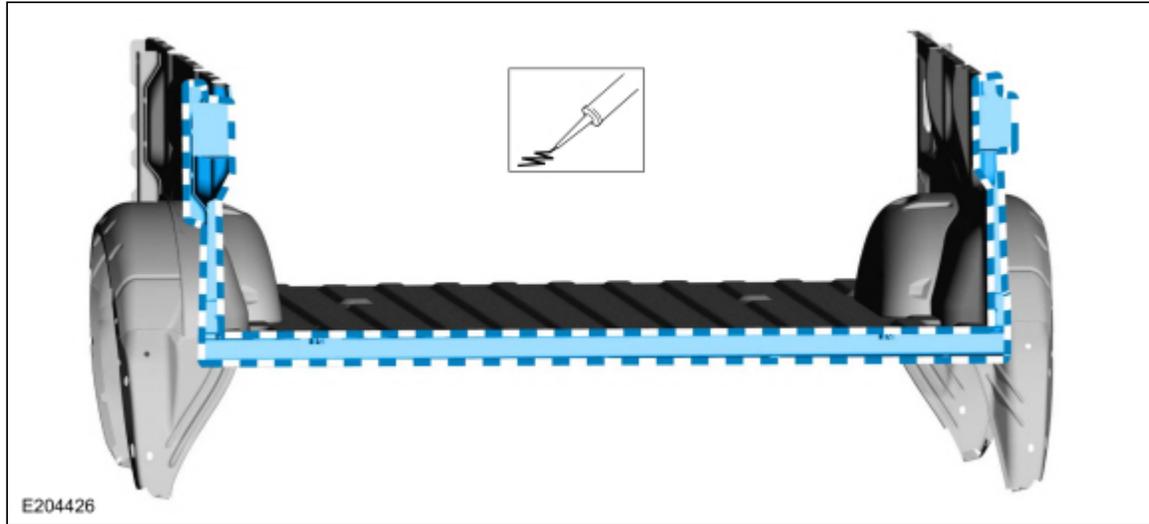


- 2. 80-120 grit sand paper.  
Sand to remove e-coat and clean.



3. Apply adhesive.

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

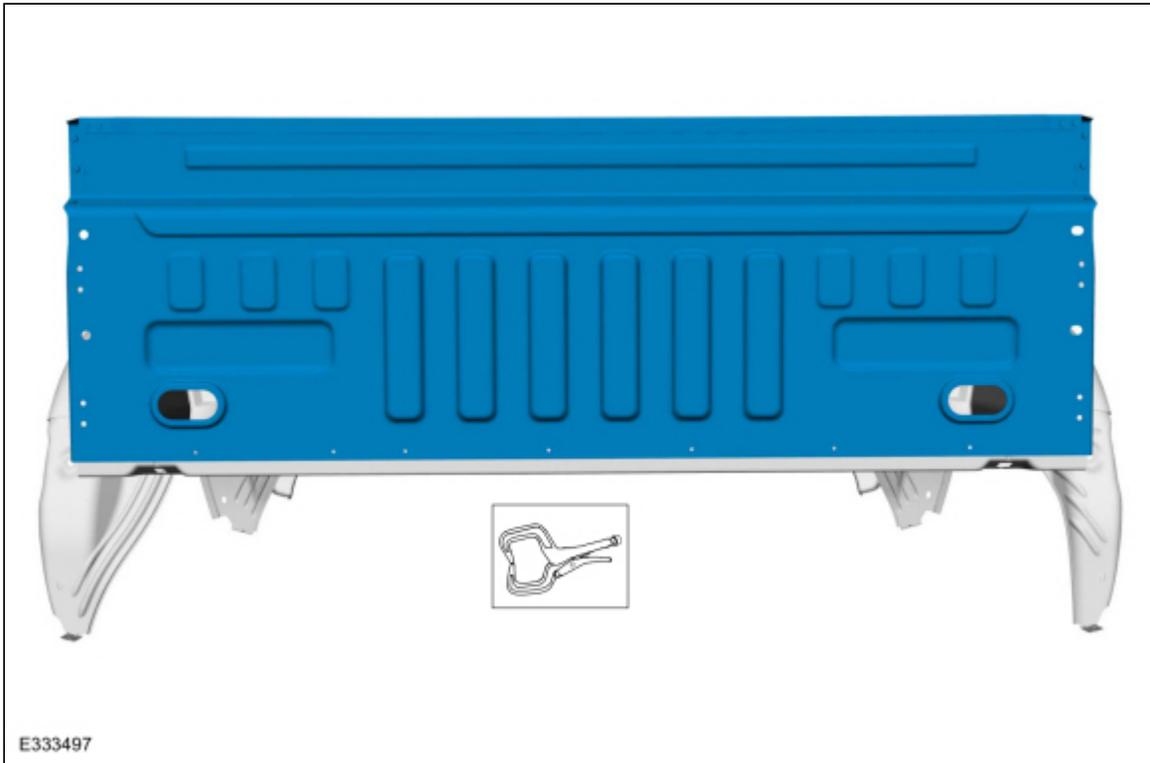





4. Install the pickup box front panel and clamp in position.  
Use the General Equipment: Locking Pliers



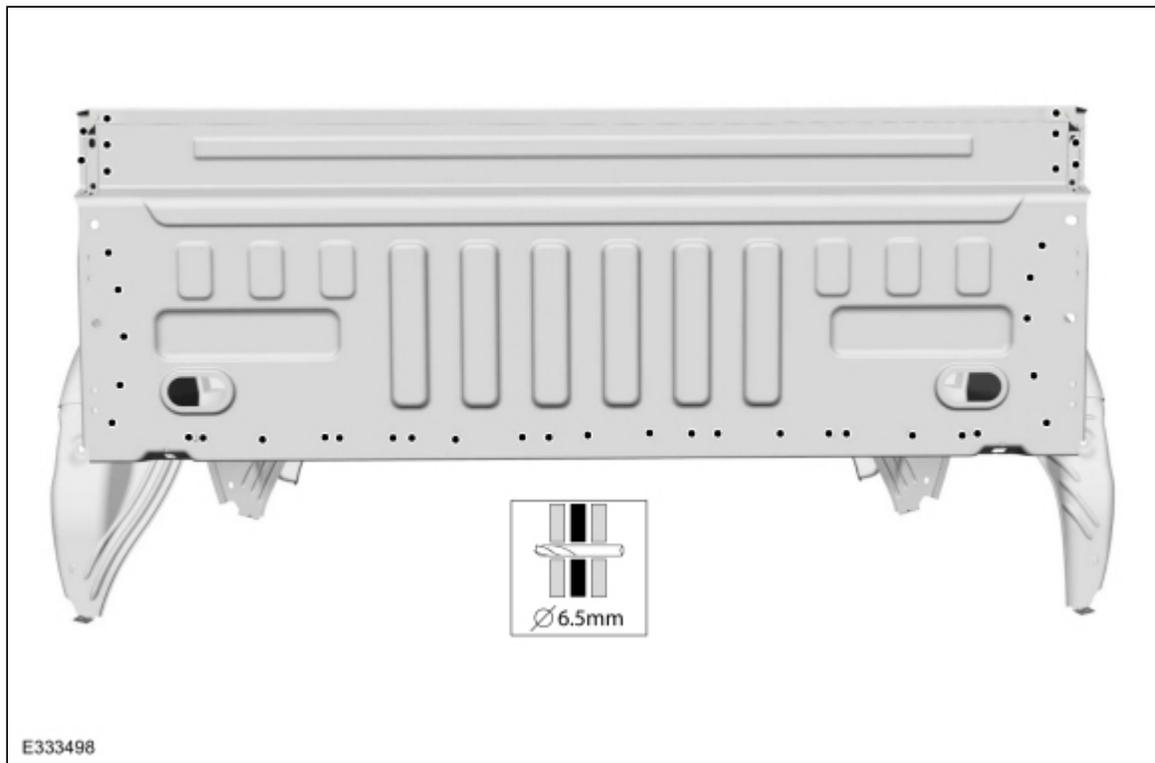


5. **NOTE:** *Blind rivet or solid rivet fasteners may be used in place of SPR fasteners after enlarging holes to 6.5 mm.*

Drill for fastener installation.



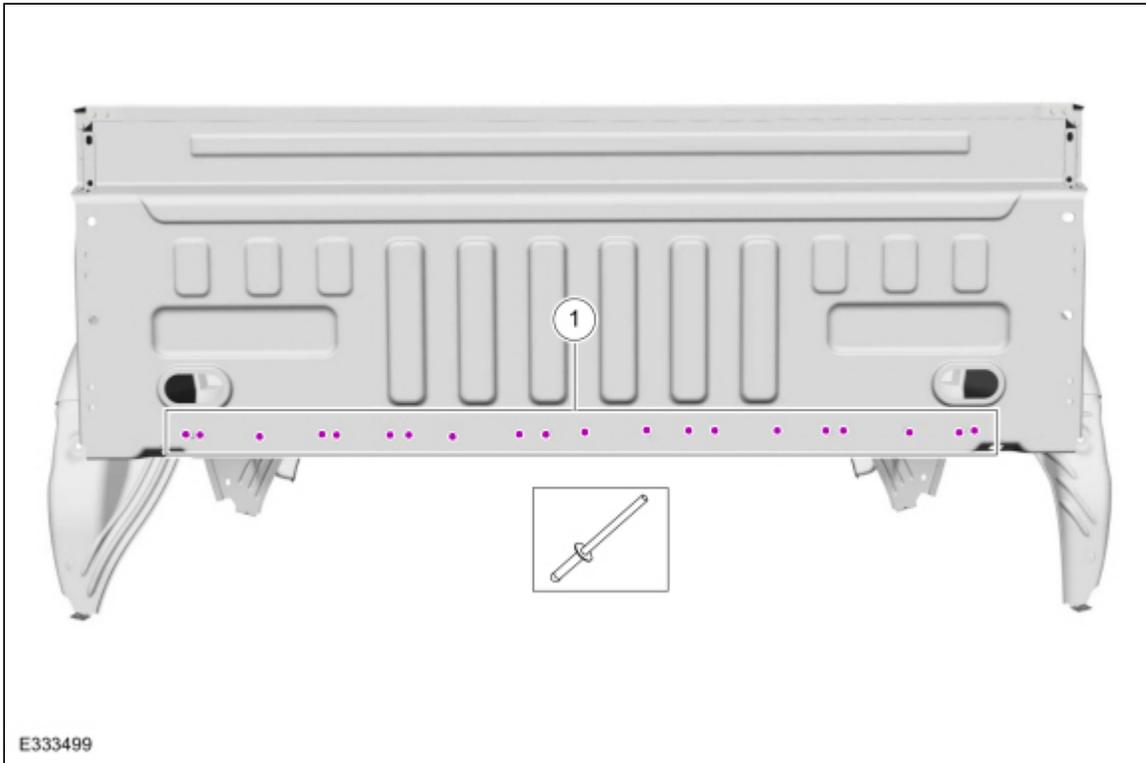


6. Install fasteners.

Item	SPR Number	SPR Code	Henrob® Car-O- Liner®, CMO®, Chief®, Spanesi® Wielande and Schill® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W707638-S900C	-	-

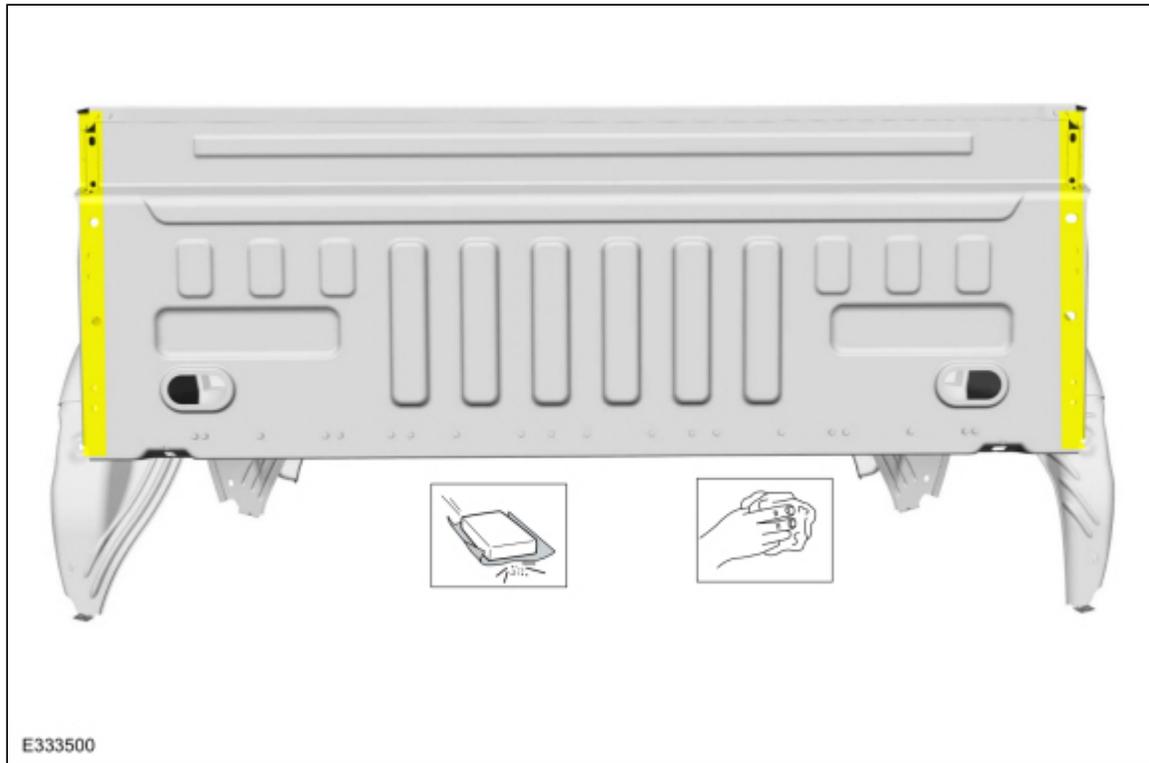
Use the General Equipment: Blind Rivet Gun





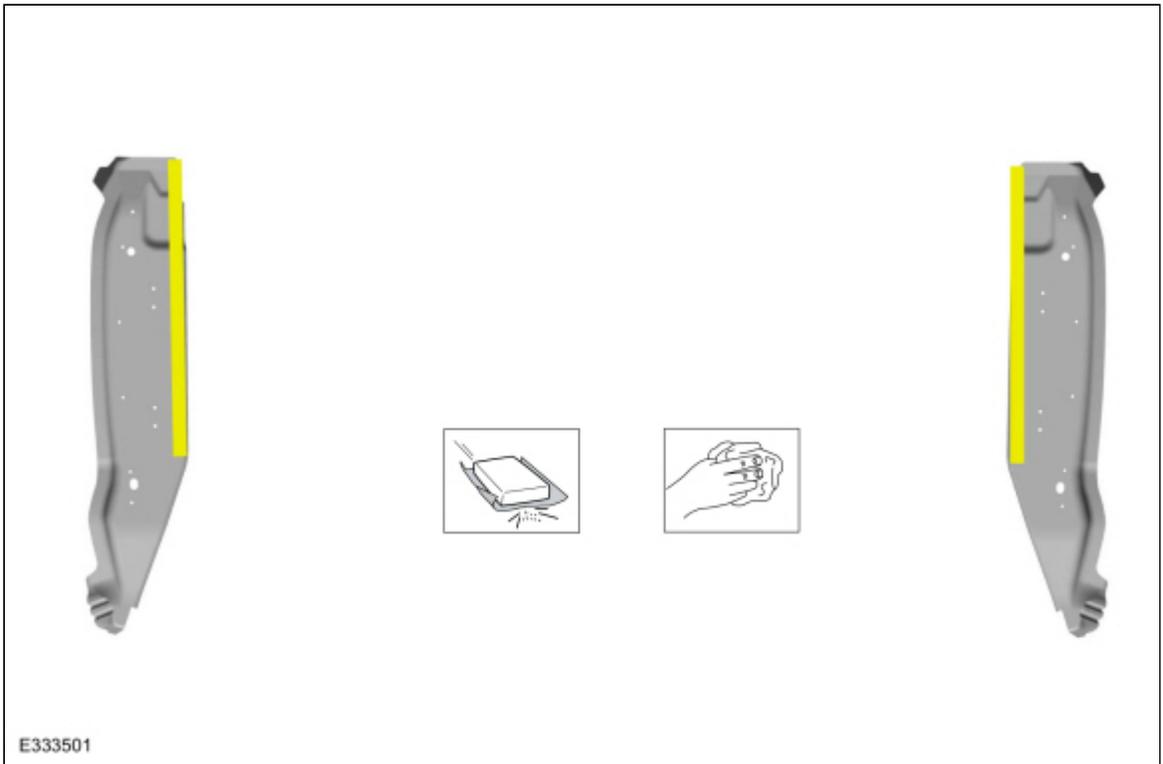
- 7. 80-120 grit sand paper.  
Sand to remove e-coat and clean.





- 8. 80-120 grit sand paper.  
Sand to remove e-coat and clean.



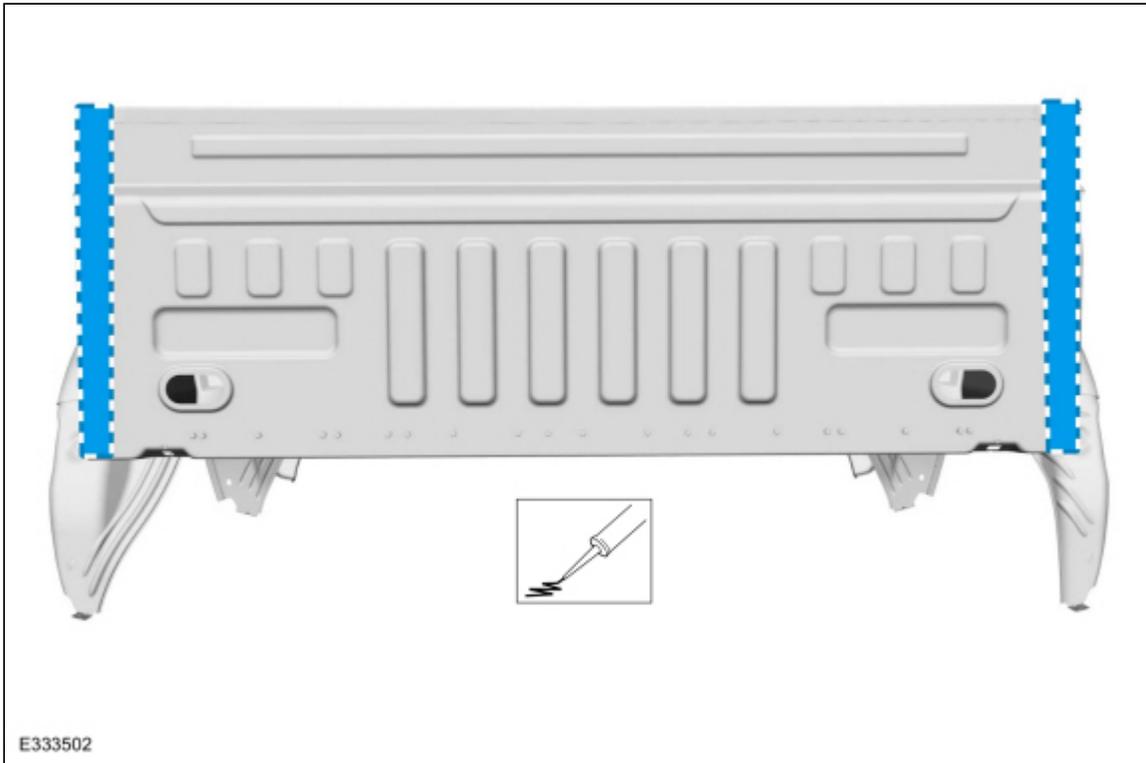


9. Both Sides:

Apply adhesive.

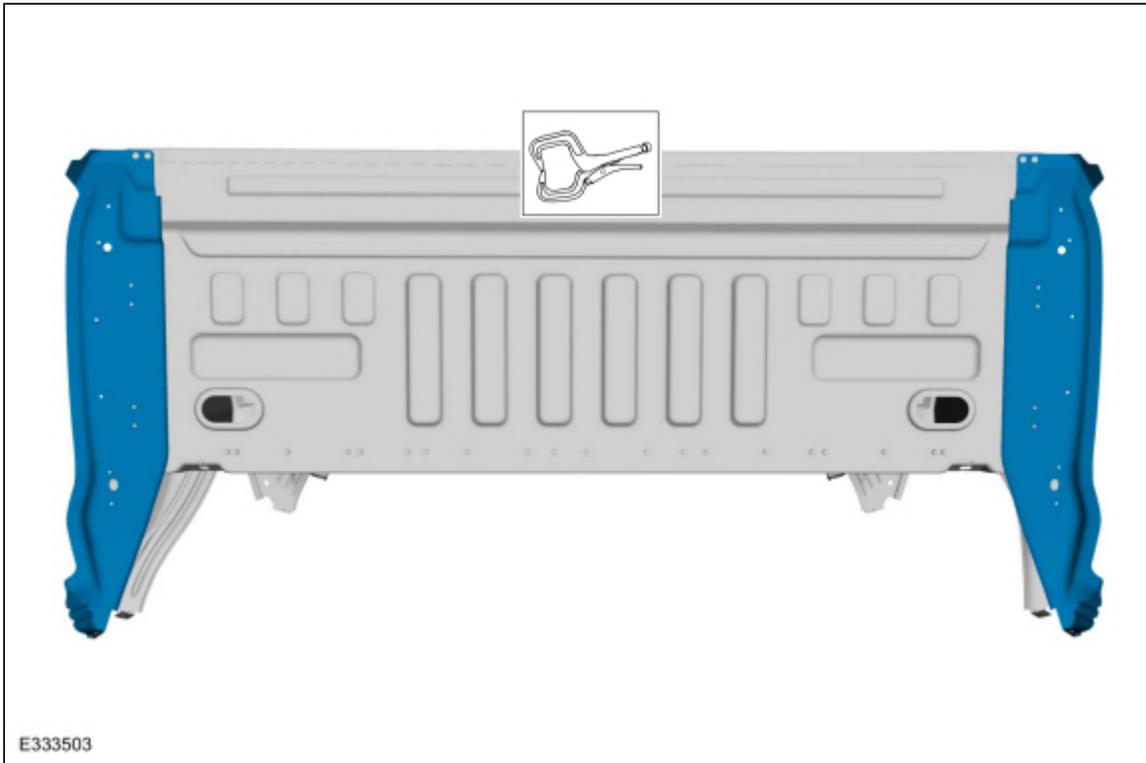
*Material:* Metal Bonding Adhesive / TA-1, TA-1-B, 3M™ 08115, LORD Fusor® 108B





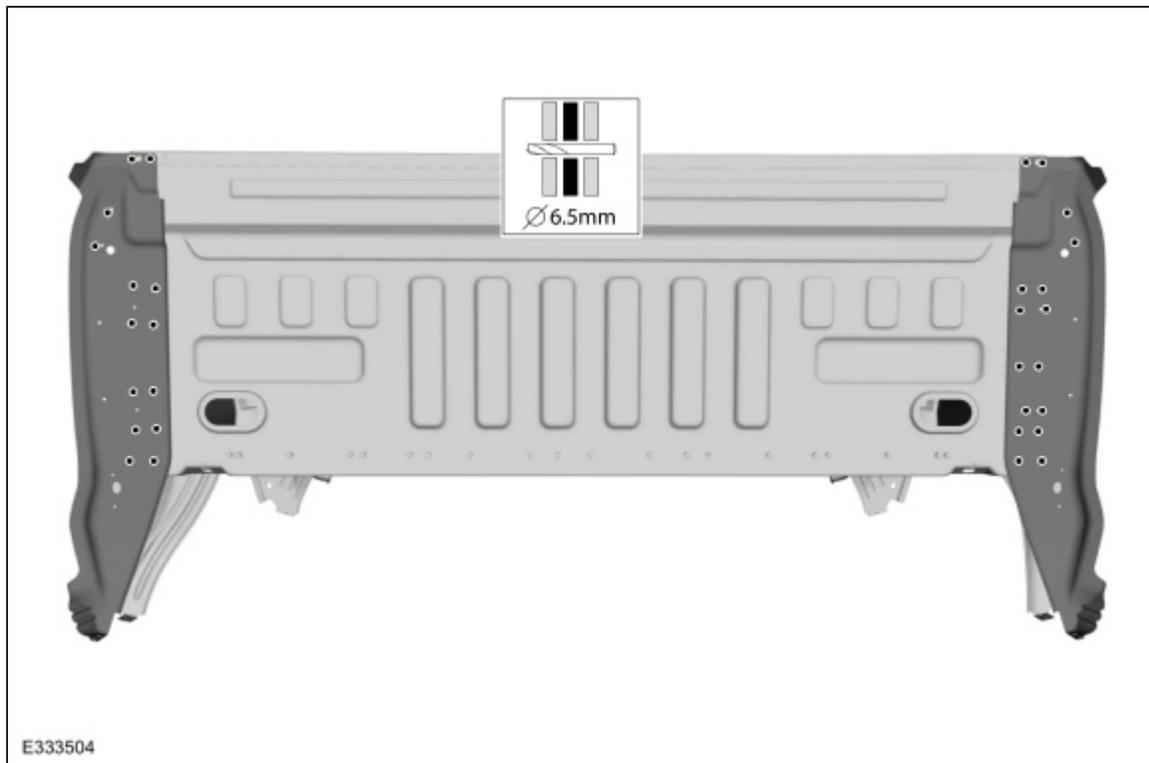
- 10. Both Sides:  
Install extensions and clamp in position.  
Use the General Equipment: Locking Pliers





- 11. Both Sides:  
Drill for fastener installation.  
Use the General Equipment: 6.5 mm Drill Bit



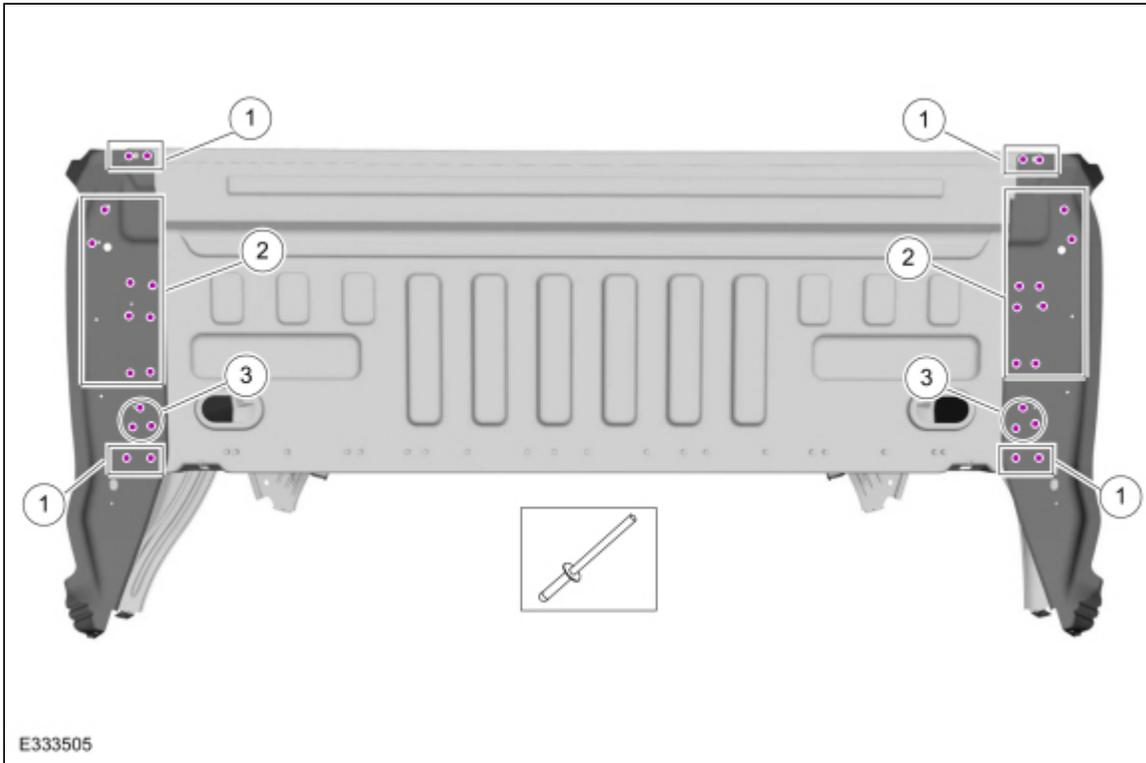


12. Both Sides (from inside):  
Install fasteners.

Item	SPR Number	SPR Code	Henrob® Car-O- Liner®, CMO®, Chief®, Spanesi® Wielande and Schill® Mandrel	Pro-Spot® Mandrel	Blind Rivet	Solid Rivet	Rivnut®
1	-	-	-	-	W702512-S900C	-	-
2	-	-	-	-	W707638-S900C	-	-
3	-	-	-	-	W708777-S900C	-	-

Use the General Equipment: Blind Rivet Gun



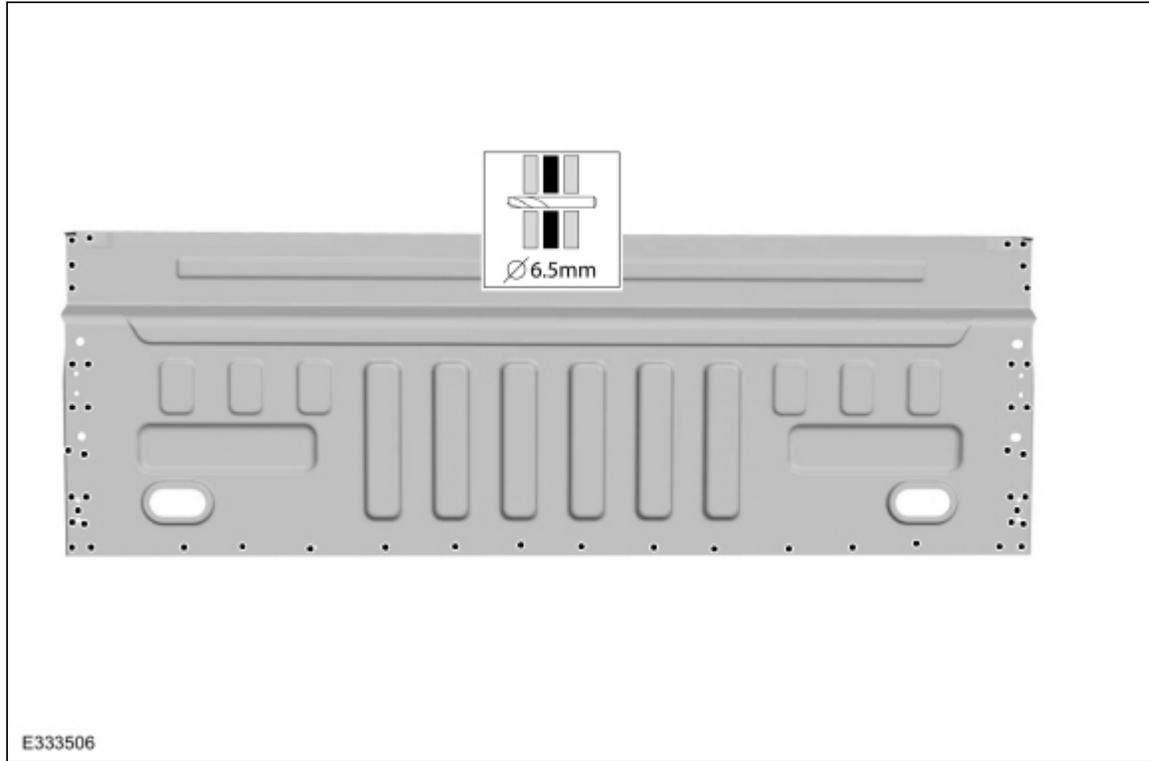


### Plug-Welding

13. Sand to remove old adhesive and clean.

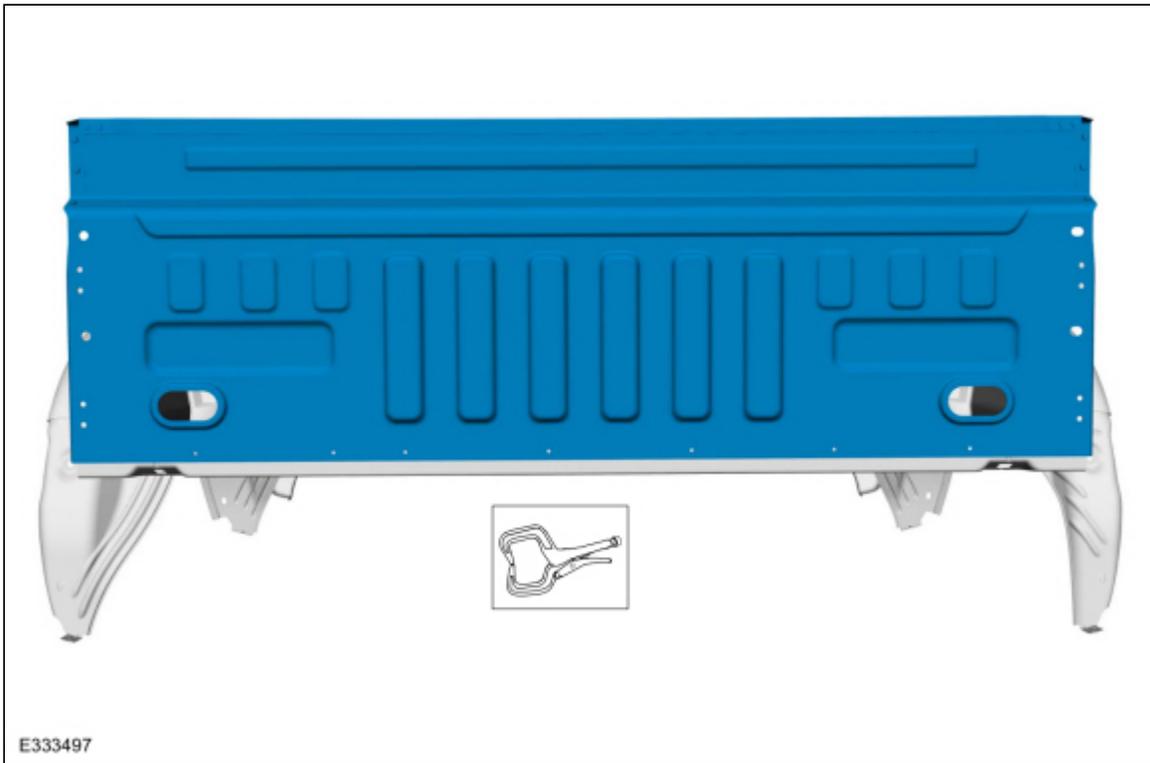


- 14. Drill for plug welds.  
Use the General Equipment: 6.5 mm Drill Bit



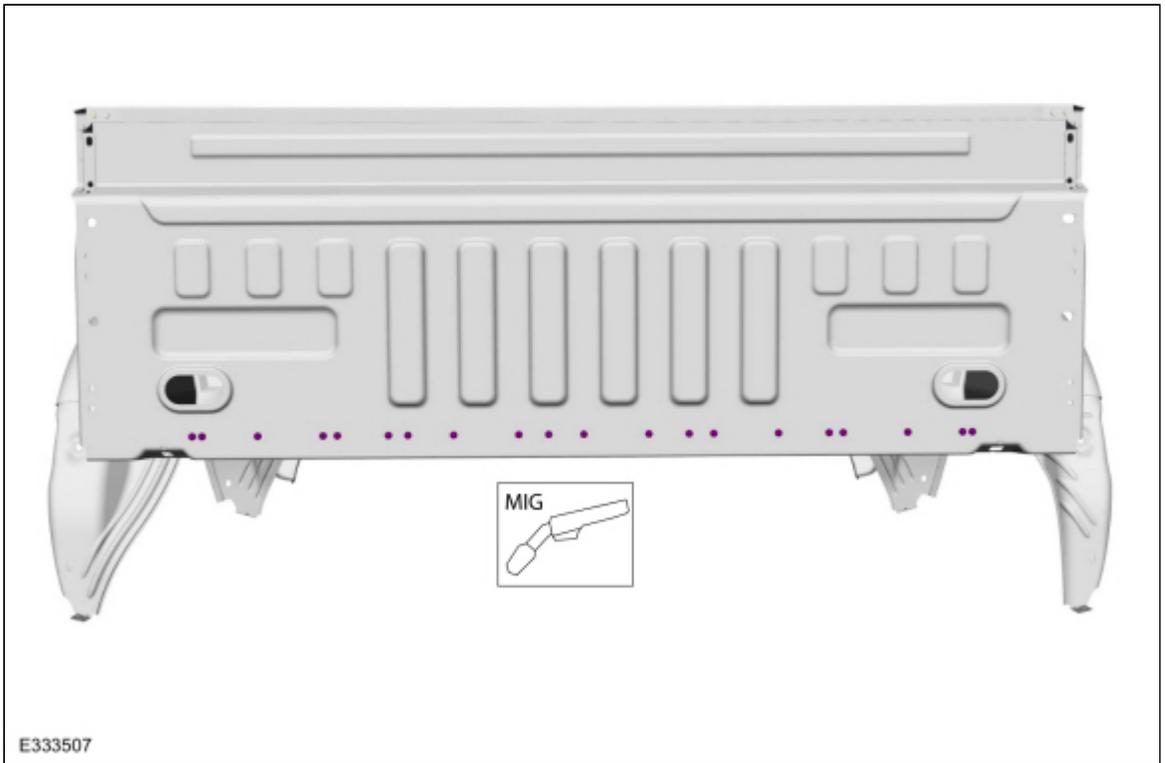
- 15. Install and clamp in position.  
Use the General Equipment: Locking Pliers



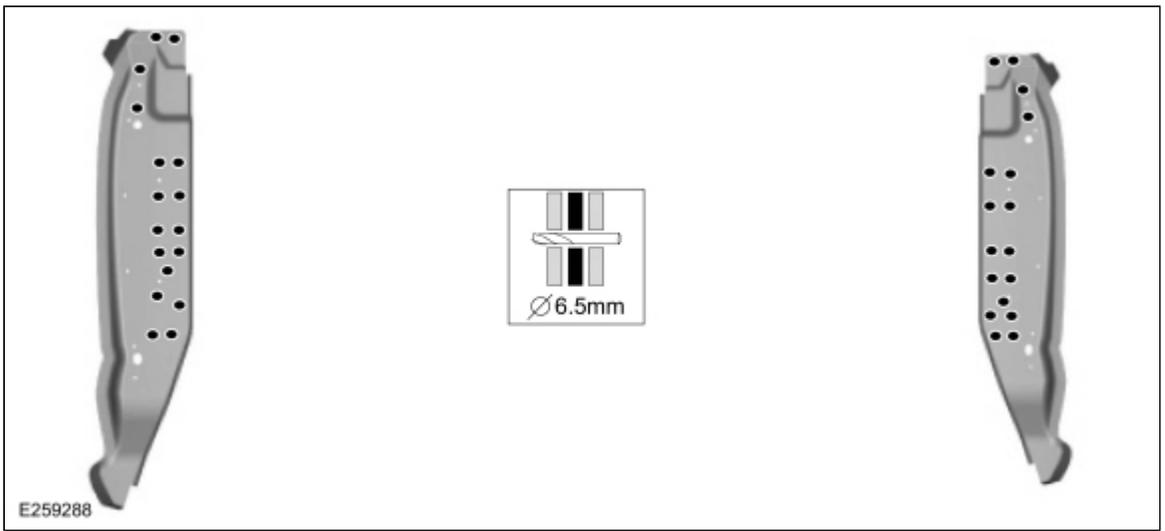


- 16. Install aluminum MIG plug welds.  
Use the General Equipment: MIG/MAG Welding Equipment

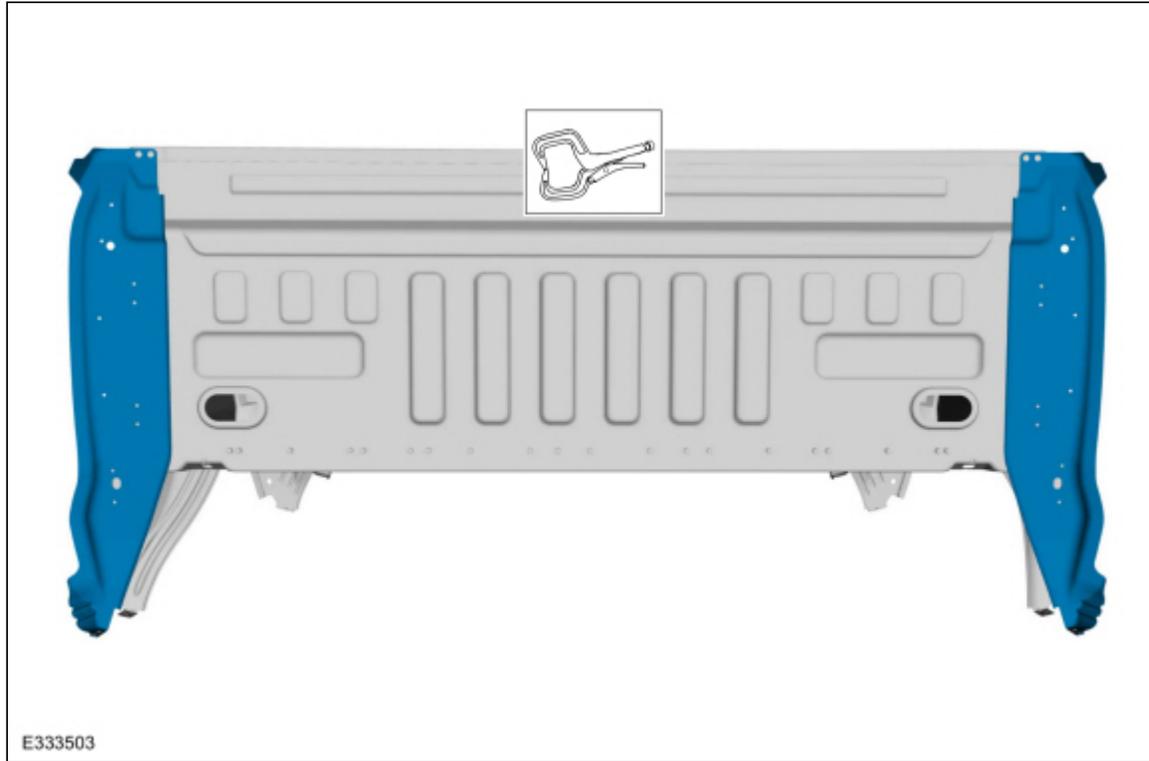




- 17. Drill extensions for plug welds.  
Use the General Equipment: 6.5 mm Drill Bit

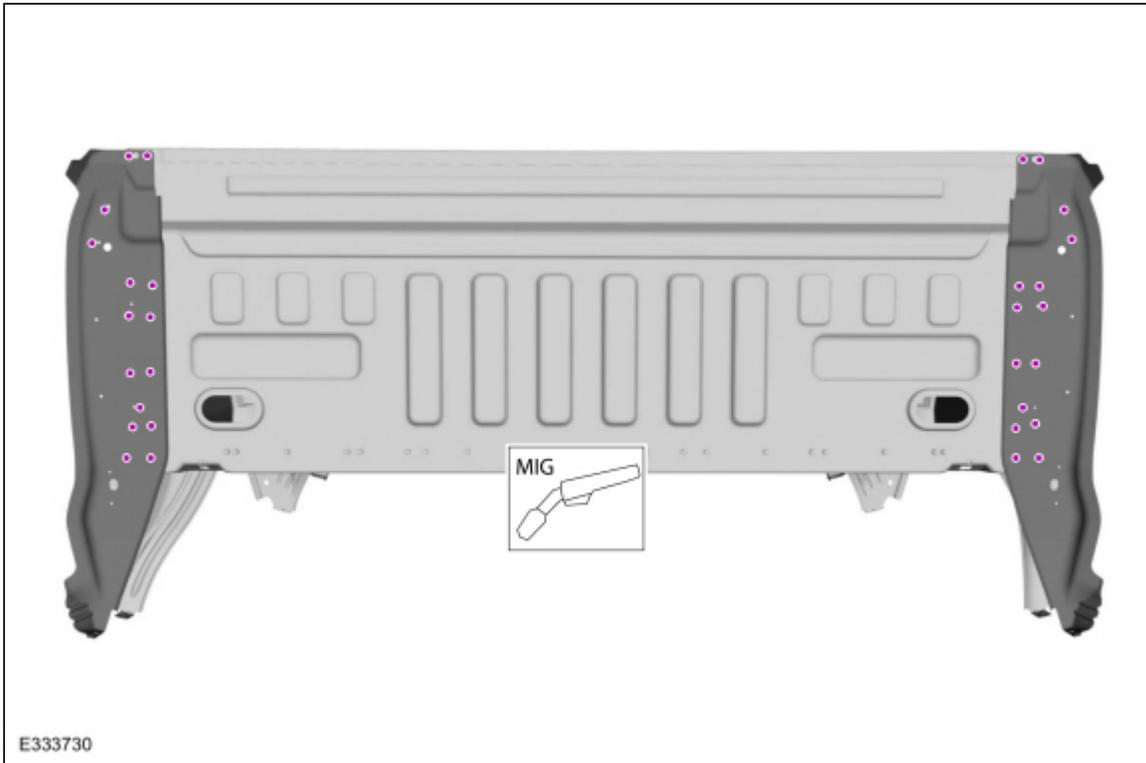


- 18. Install the extensions and clamp in position.  
Use the General Equipment: Locking Pliers



- 19. Install aluminum MIG plug welds.  
Use the General Equipment: MIG/MAG Welding Equipment





20. Metal Finishing:

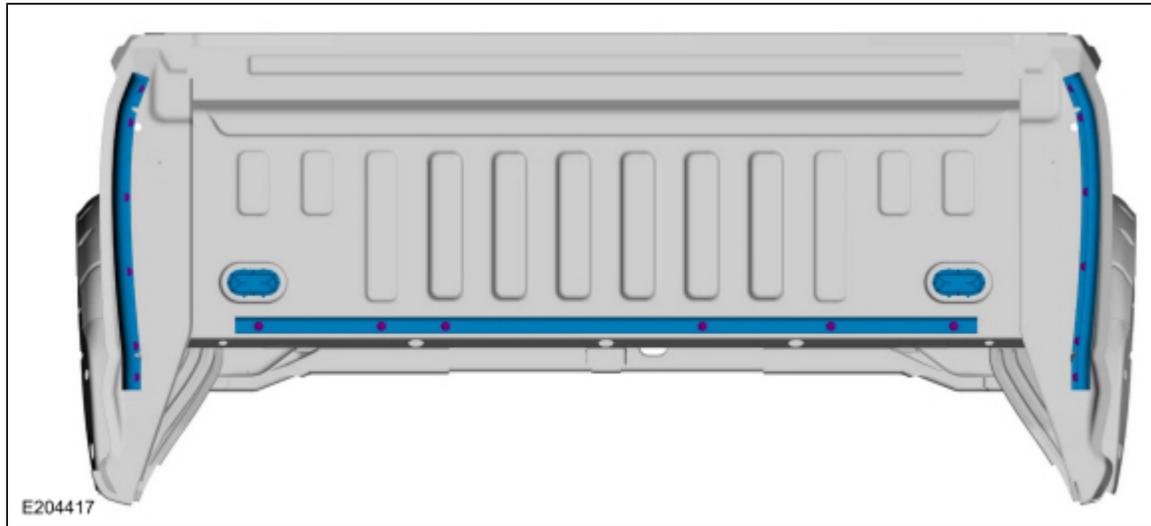
Finish as necessary using typical metal finishing techniques and materials.

Refer to: [Special Repair Considerations for Aluminum Repairs](#) (501-25 Body Repairs - General Information, Description and Operation).

**All vehicles**

21. Install the pickup box seals and plugs.





22. Both Sides:

Install the pickup box outer side panels.

Refer to: [Pickup Box Outer Side Panel](#) (501-30 Rear End Sheet Metal Repairs, Removal and Installation).

© Copyright 2021, Ford Motor Company.

---