

501-30 Rear End Sheet Metal Repairs
Removal and Installation

2021 F-150

Procedure revision date: 09/25/2020

Pickup Box Inner Side 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	-
Seam Sealer TA-2-B, 3M™ 08308, LORD Fusor® 803DTM	-

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.

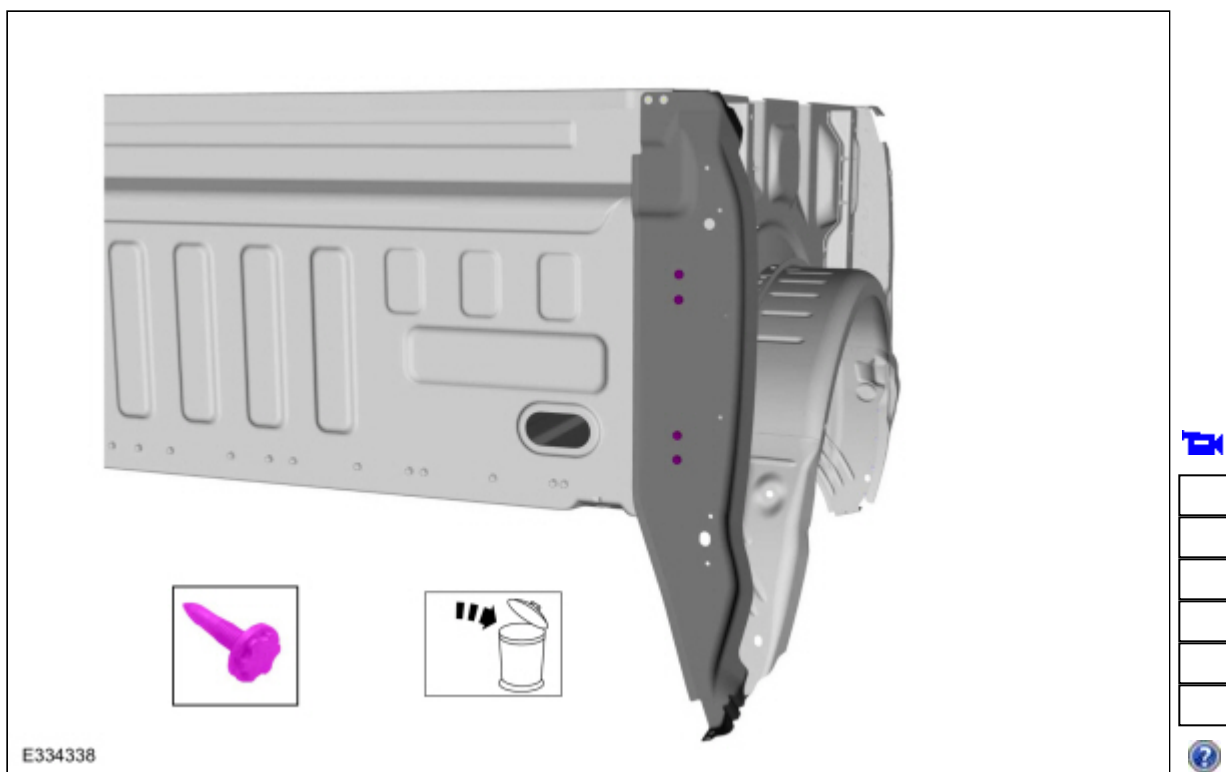
Refer to: [Health and Safety Precautions](#) (100-00 General Information, Description and Operation).

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

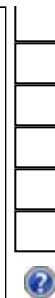
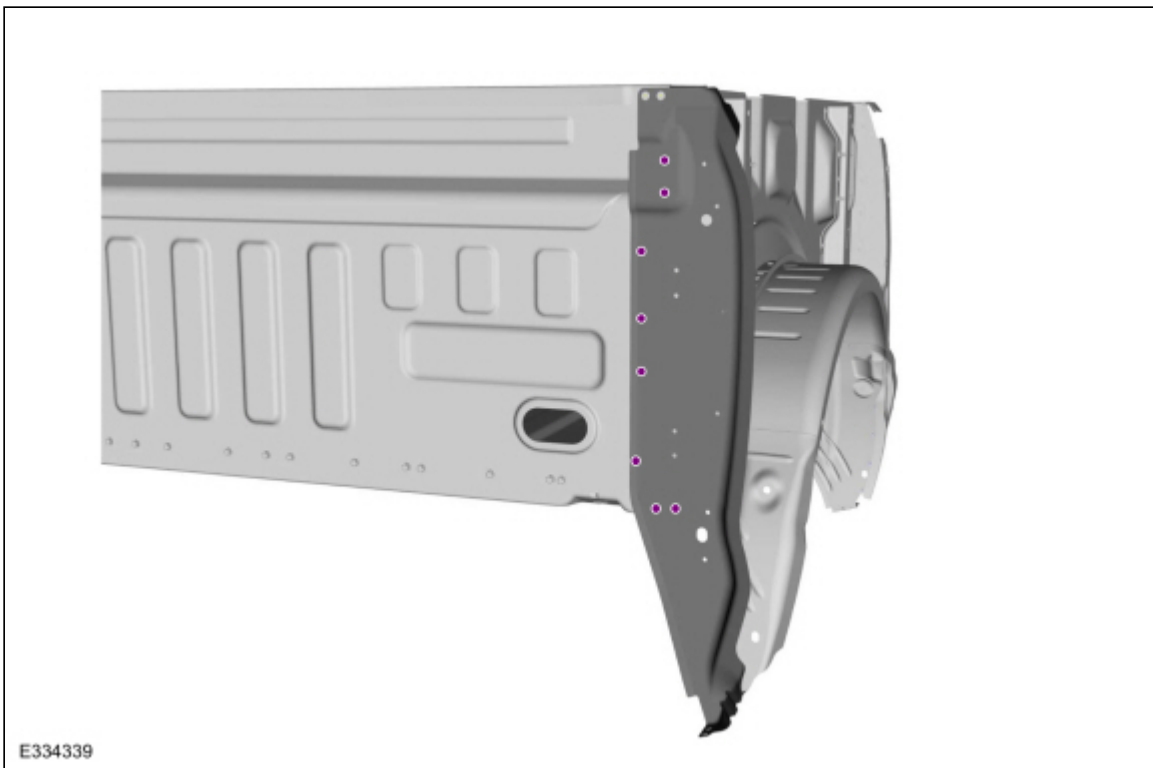
NOTE: 6.5 foot pickup box shown, 8 foot and 5.5 foot pickup boxes similar.

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. Remove the pickup box outer side panel.
Refer to: [Pickup Box Outer Side Panel](#) (501-30 Rear End Sheet Metal Repairs, Removal and Installation).
3. Remove the pickup box corner reinforcement.
Refer to: [Pickup Box Corner Reinforcement](#) (501-30 Rear End Sheet Metal Repairs, Removal and Installation).
4. Remove and discard the **FDS** fasteners.
Use the General Equipment: Polydrive Bit Socket

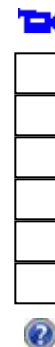


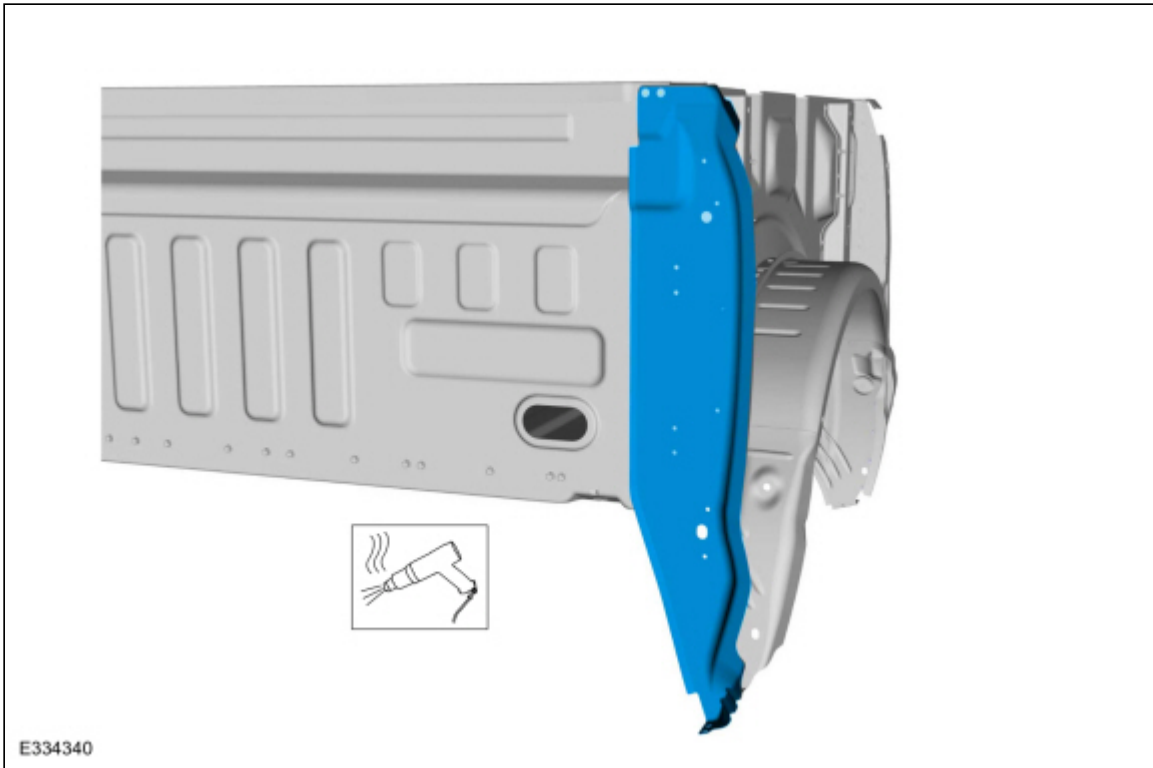
5. Remove the **SPR** fasteners.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander



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.

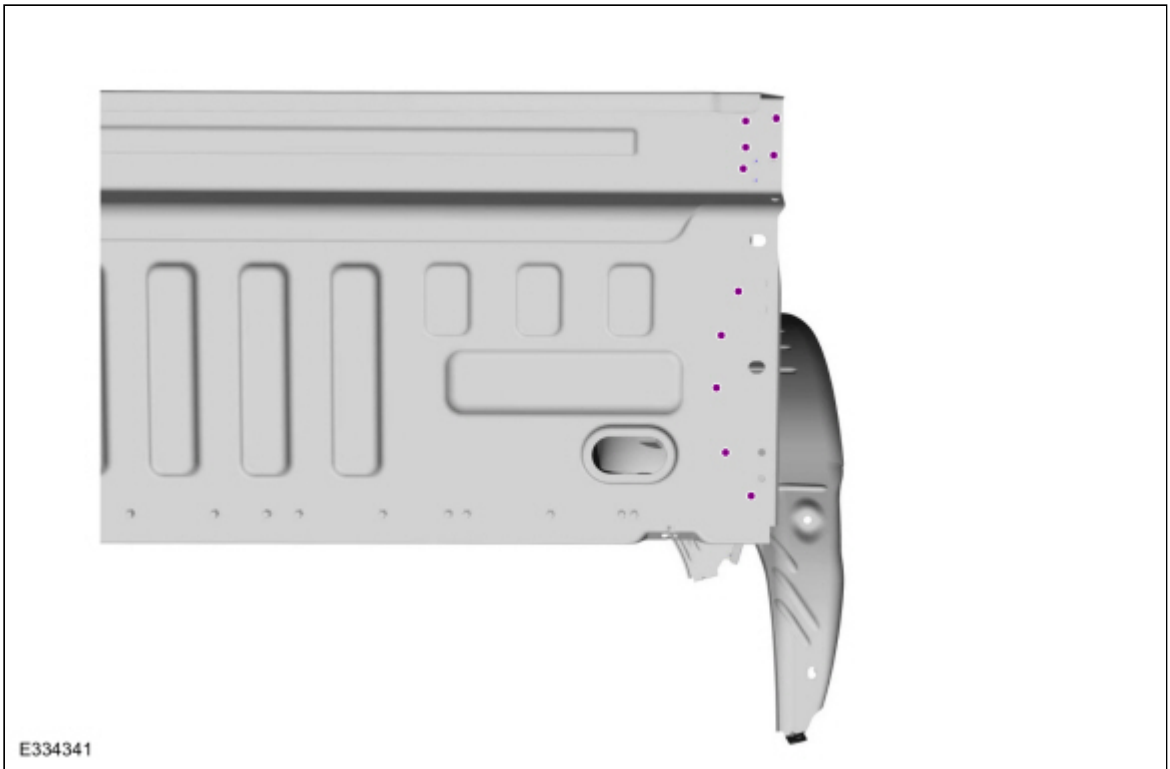
Break the adhesive bond and remove the pickup box body extension.
Use the General Equipment: Hot Air Gun





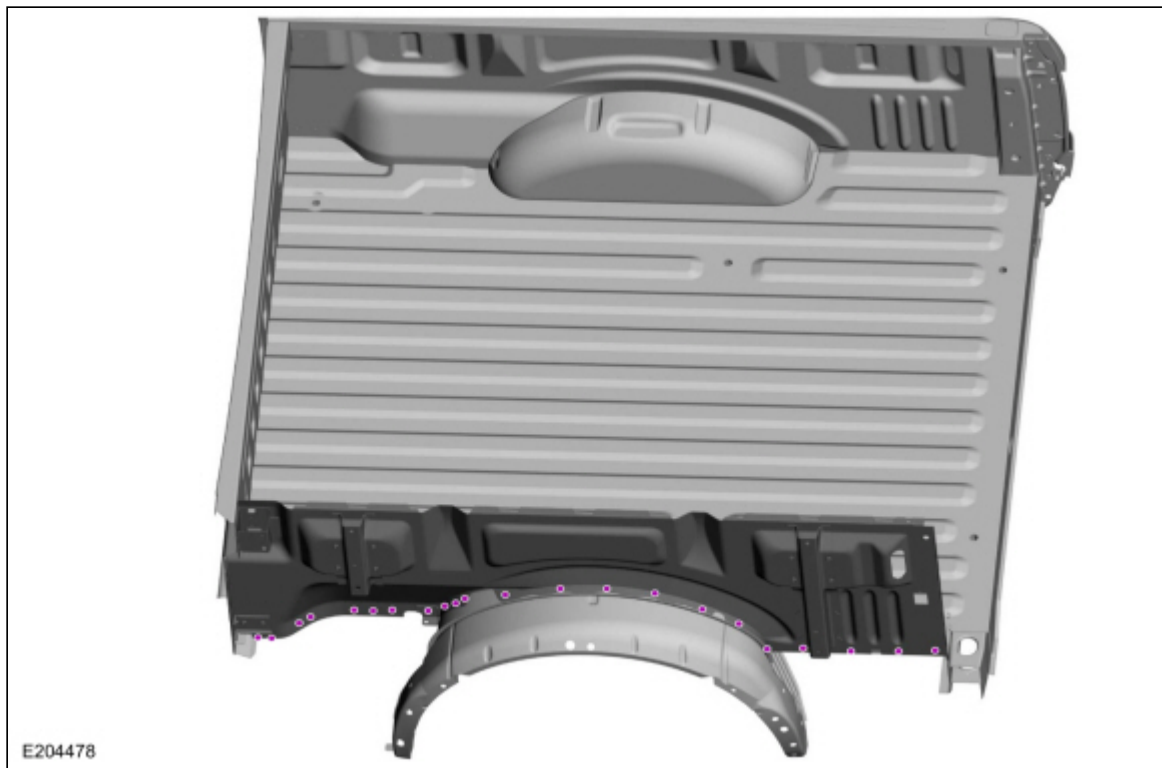
- 7. Remove the SPR fasteners.
Use the General Equipment: Self-Piercing Rivet (SPR) Remover/Installer
Use the General Equipment: Belt Sander





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

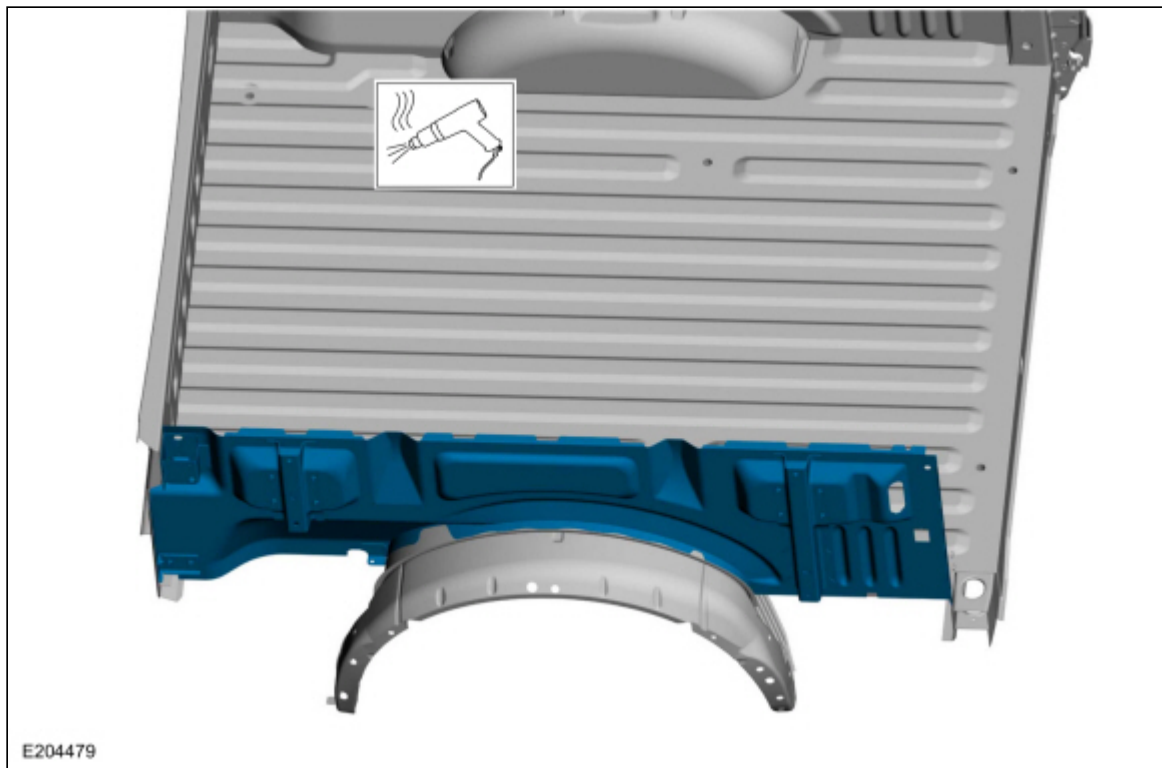




9. **NOTE:** Aluminum body panels are highly receptive to heat transfer. With the extensive use of structural adhesives and non-structural sealers used in vehicle construction, the potential of heat transfer could impact adhesives and sealers in non-associated panels during the repair process. Many repairs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





Installation

NOTE: 6.5 foot pickup box shown, 8 foot and 5.5 foot pickup boxes similar.

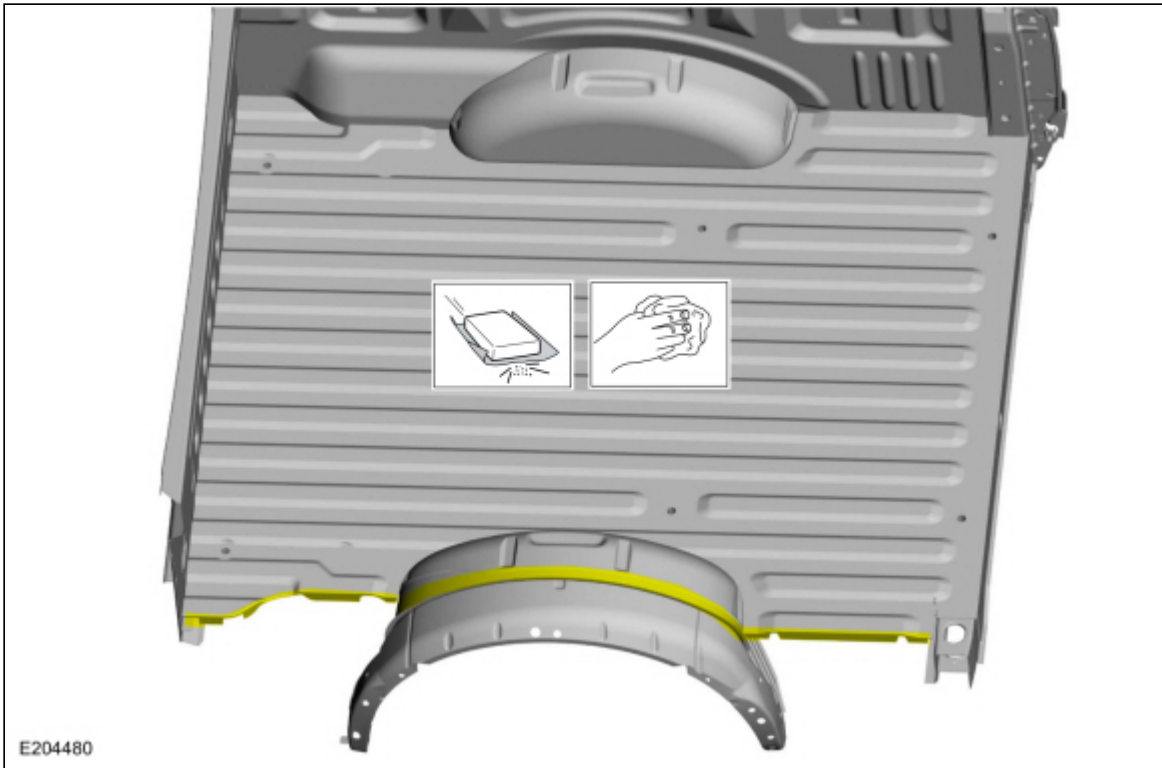
NOTE: SPR fasteners may not be placed directly over original SPR location. They must be placed adjacent to original location matching original quantity.

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

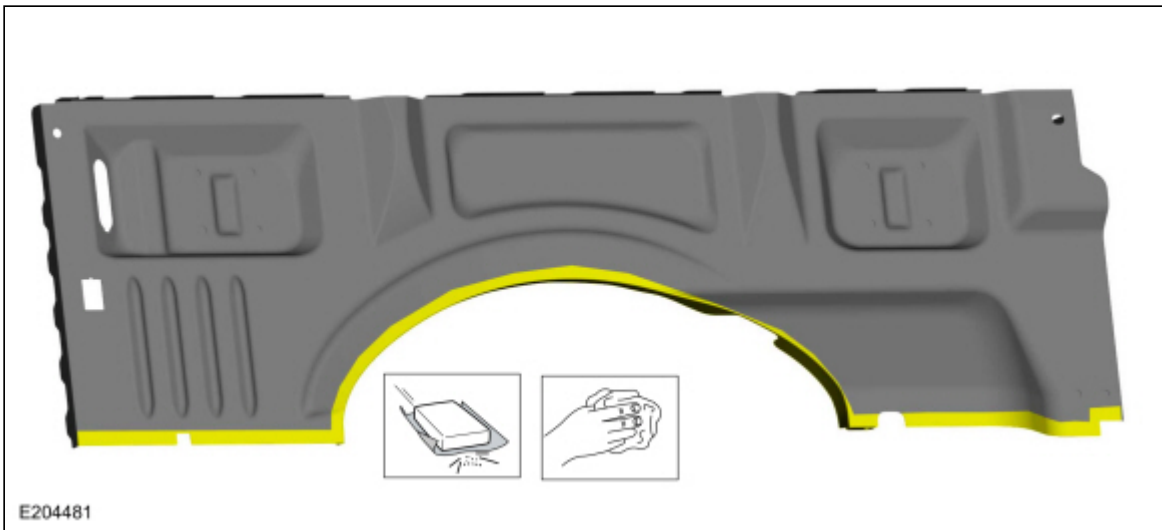
Rivet-Bonding

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



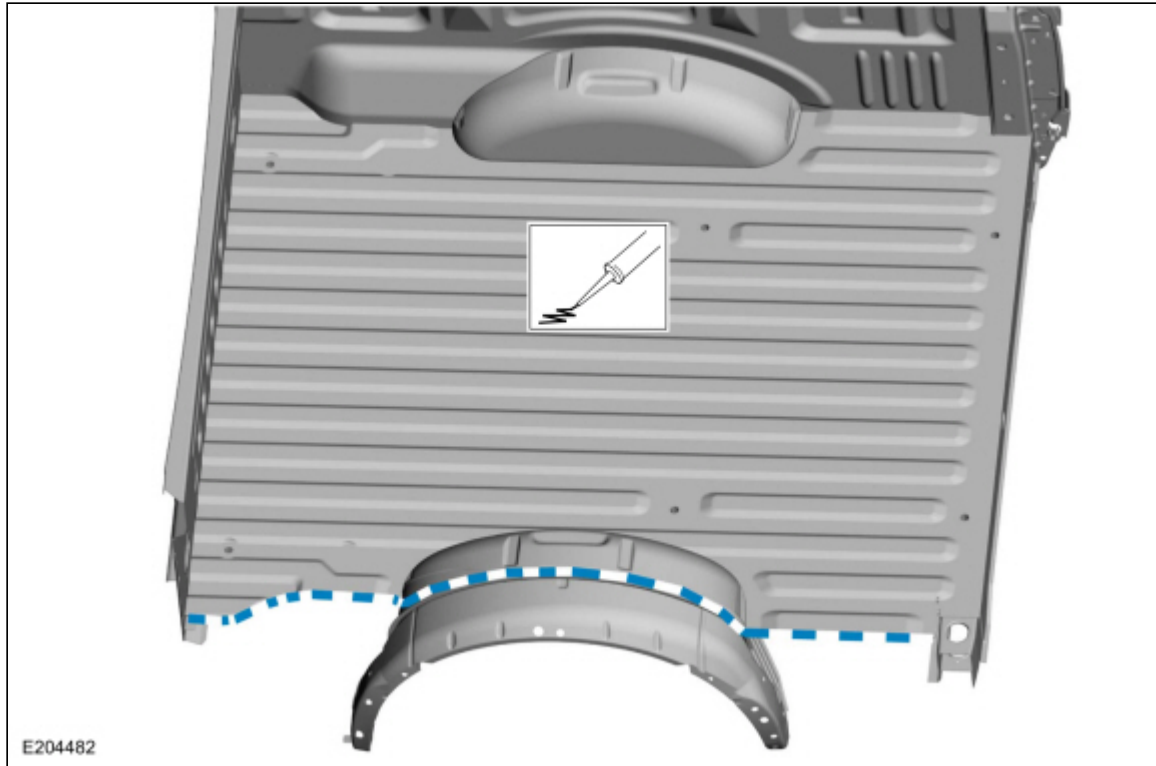


- 2. 80-120 grit sand paper.
Sand to remove e-coat and clean.



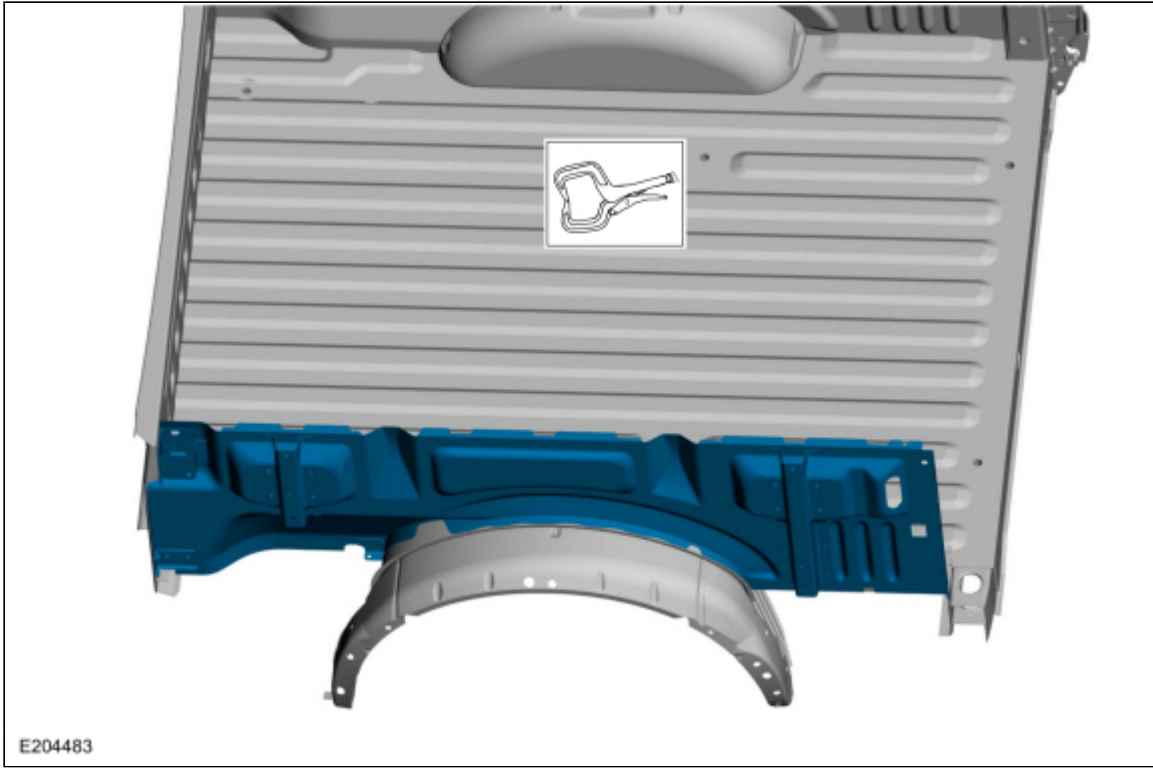
3. Apply adhesive.

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



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





- 5. Drill for fasteners.
Use the General Equipment: 6.5 mm Drill Bit



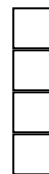


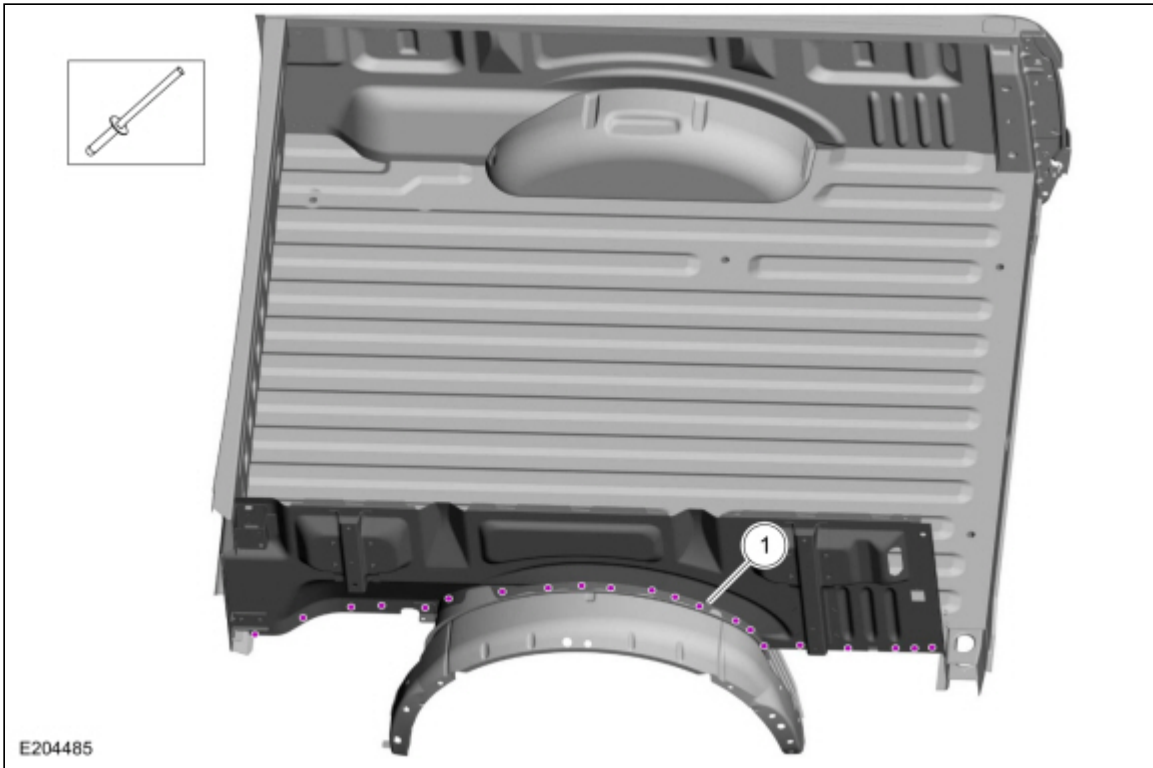
6. **NOTE:** Blind rivets, solid rivet fasteners or aluminum MIG plug welds may be used in place of SPR fasteners after enlarging holes to 6.5 mm.

Install fasteners.

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

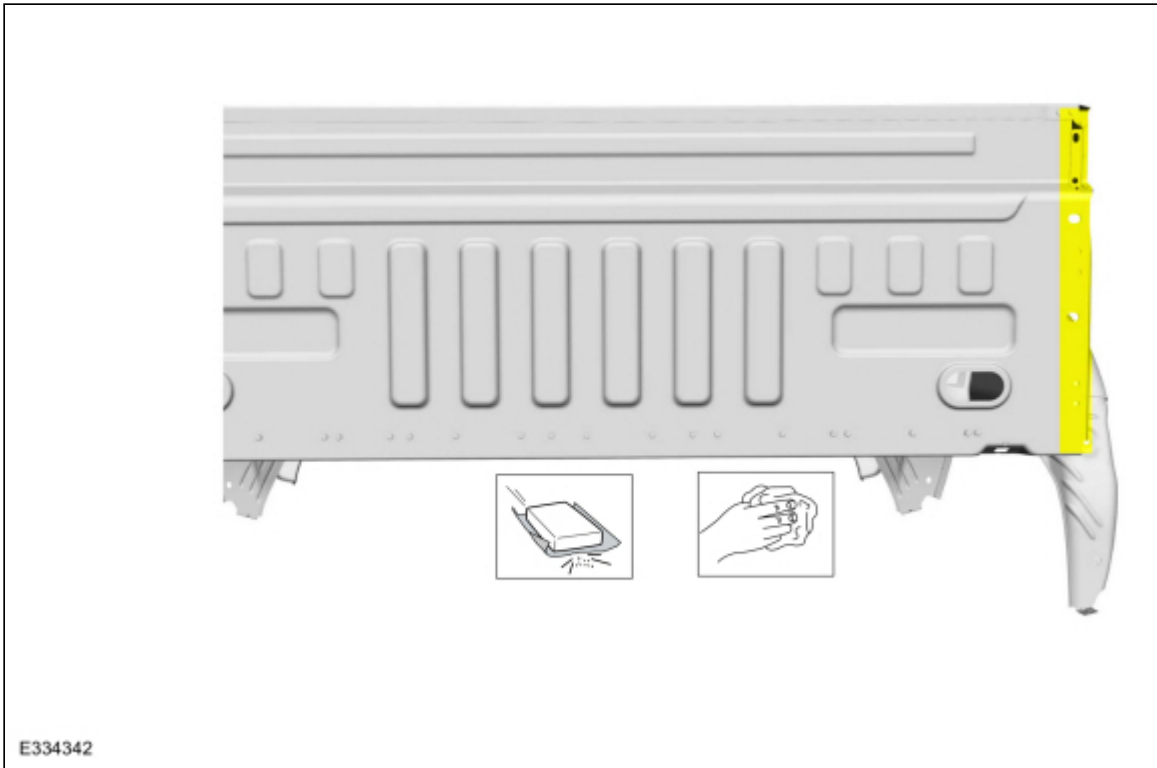
Use the General Equipment: Blind Rivet Gun





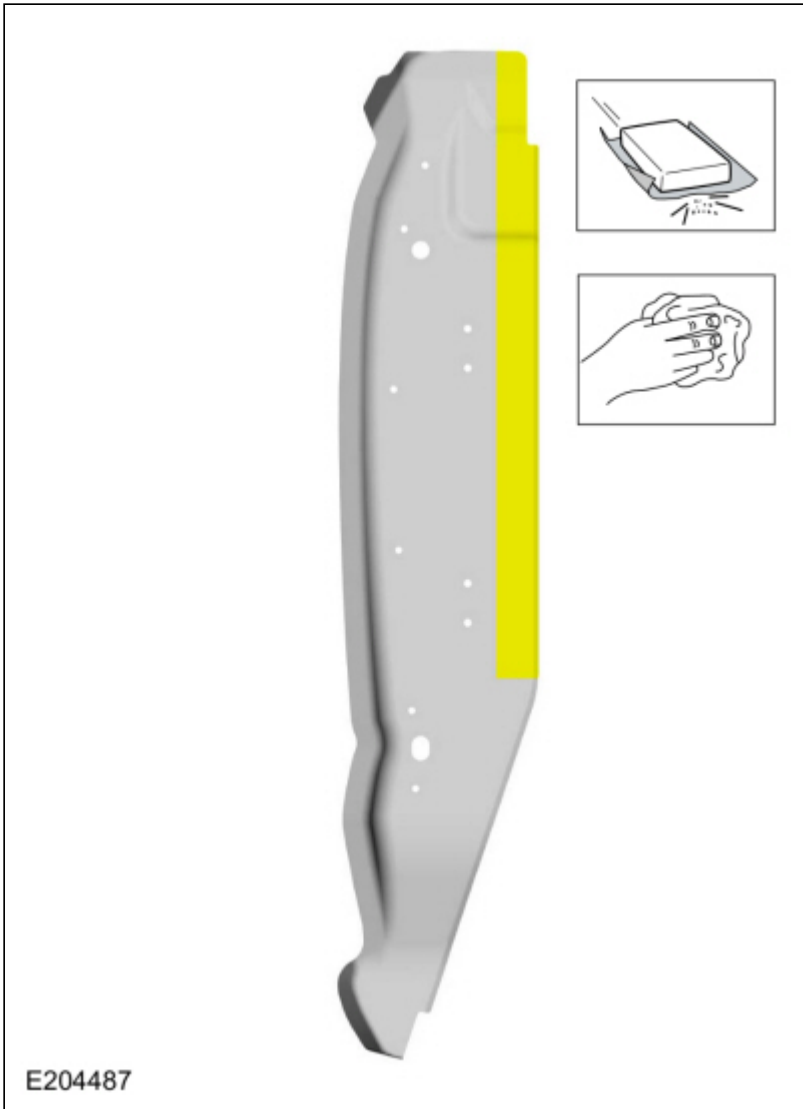
- 7. 80-120 grit sand paper.
Sand to remove e-coat and adhesive and clean.





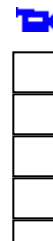
- 8. 80-120 grit sand paper.
Sand to remove e-coat and adhesive and clean.

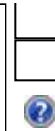
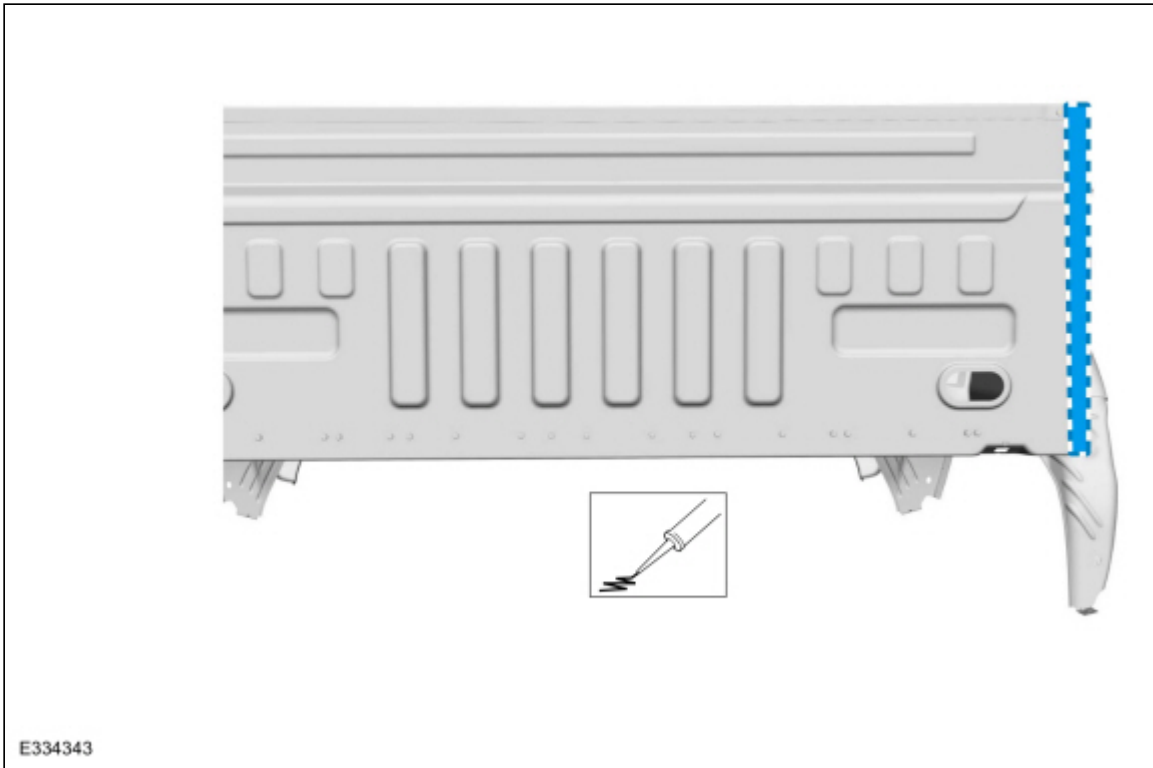




9. Apply adhesive.

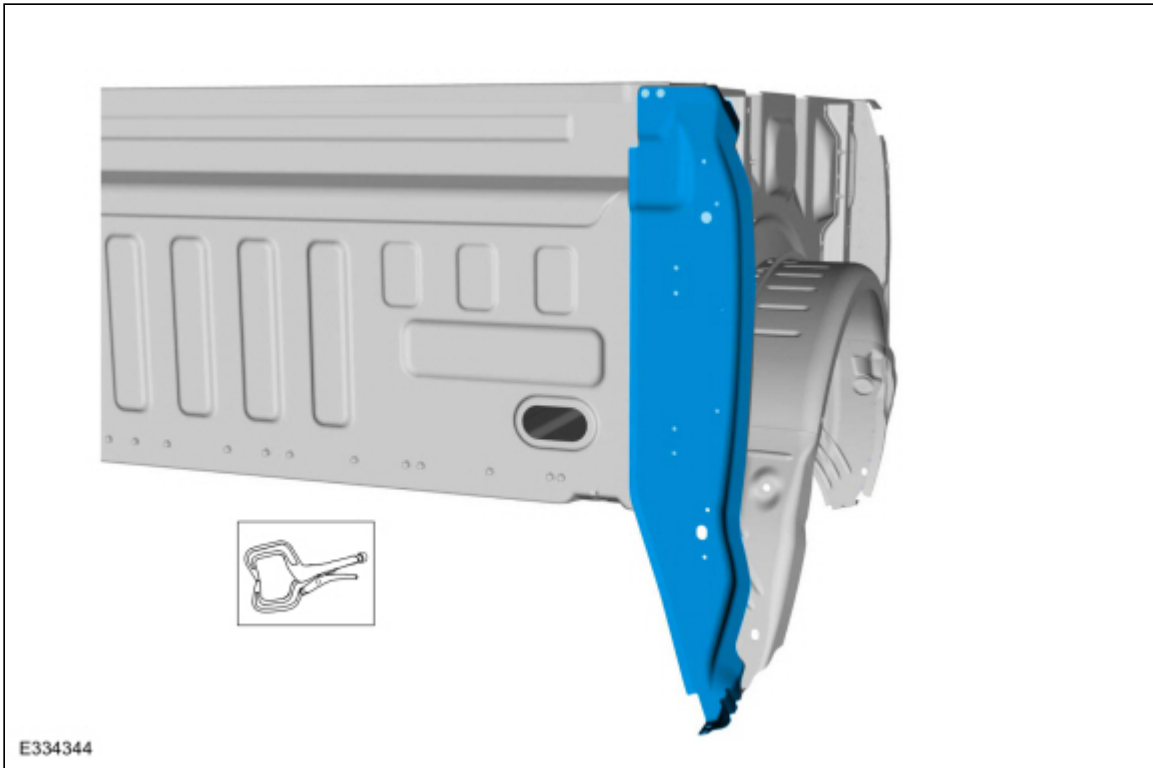
Material: Metal Bonding Adhesive / TA-1, TA-1-B, 3M™ 08115, LORD Fusor® 108B





- 10. Install the pickup box body extension and clamp in position.
Use the General Equipment: Locking Pliers

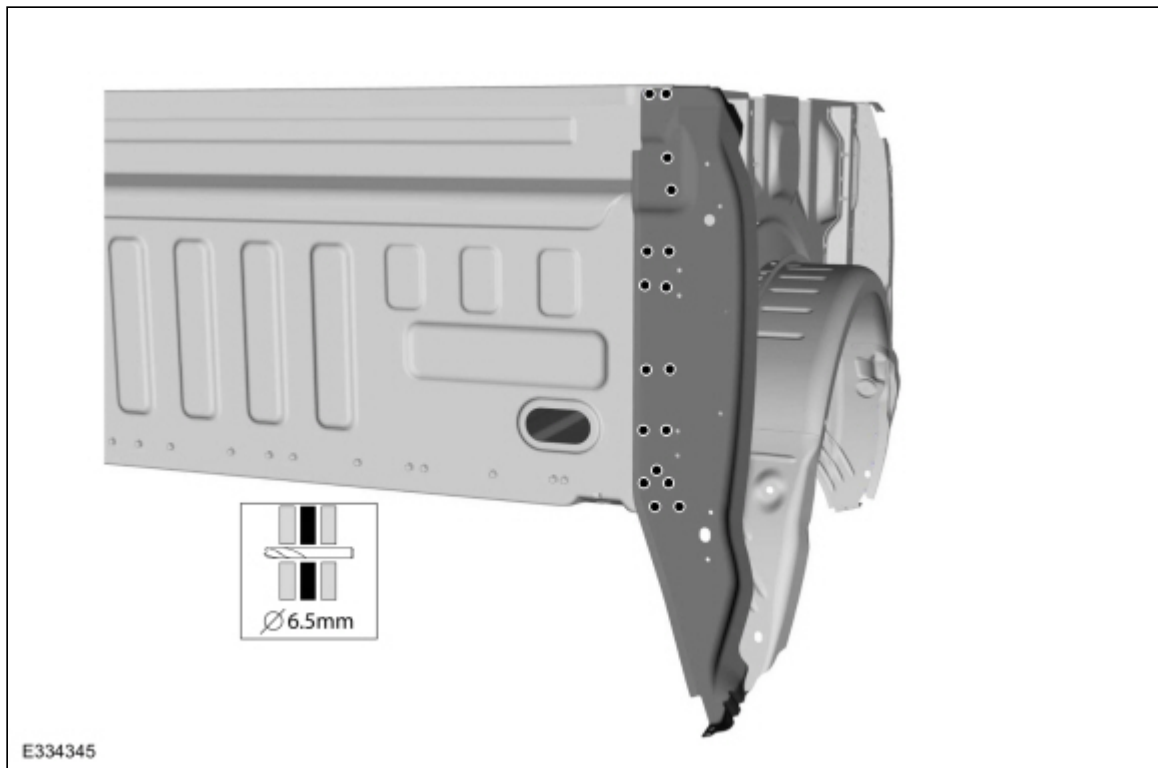




11. **NOTE:** *Blind rivets, solid rivet fasteners or aluminum MIG plug welds may be used in place of SPR fasteners after enlarging holes to 6.5 mm.*

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



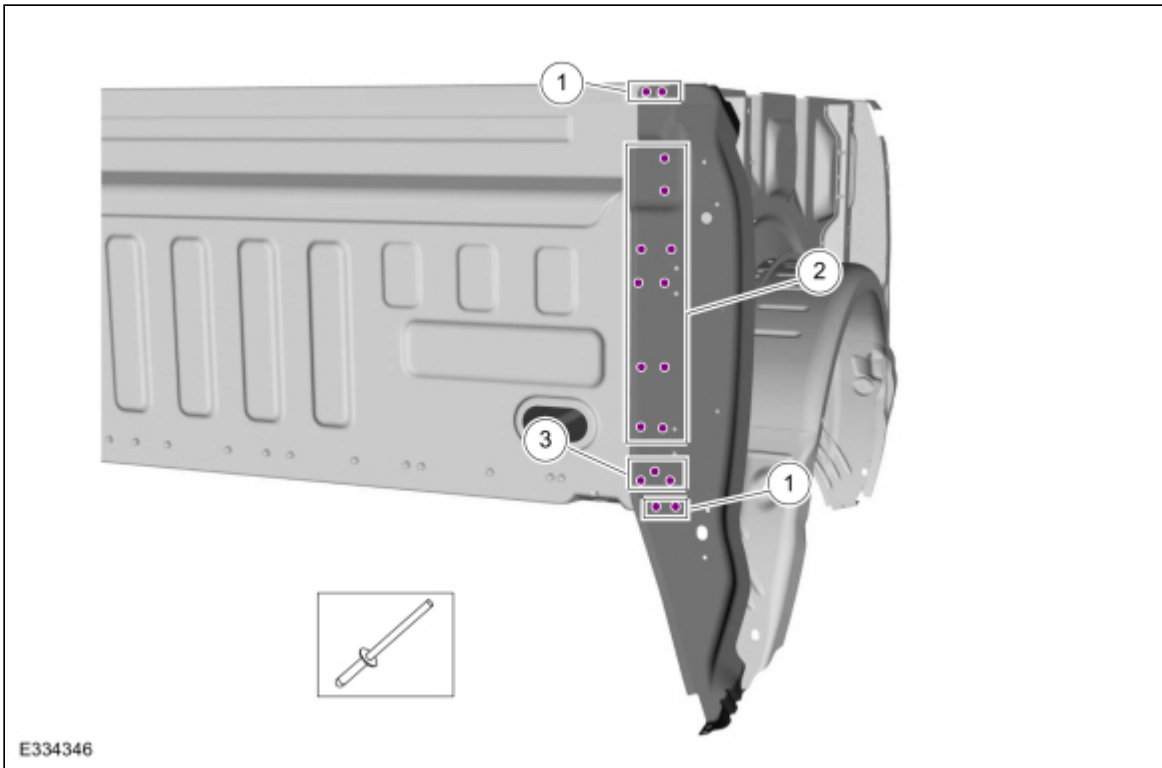


12. **NOTE:** Blind rivets, solid rivet fasteners or aluminum MIG plug welds may be used in place of SPR fasteners after enlarging holes to 6.5 mm.

Install fasteners from the inside of the pickup box.

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

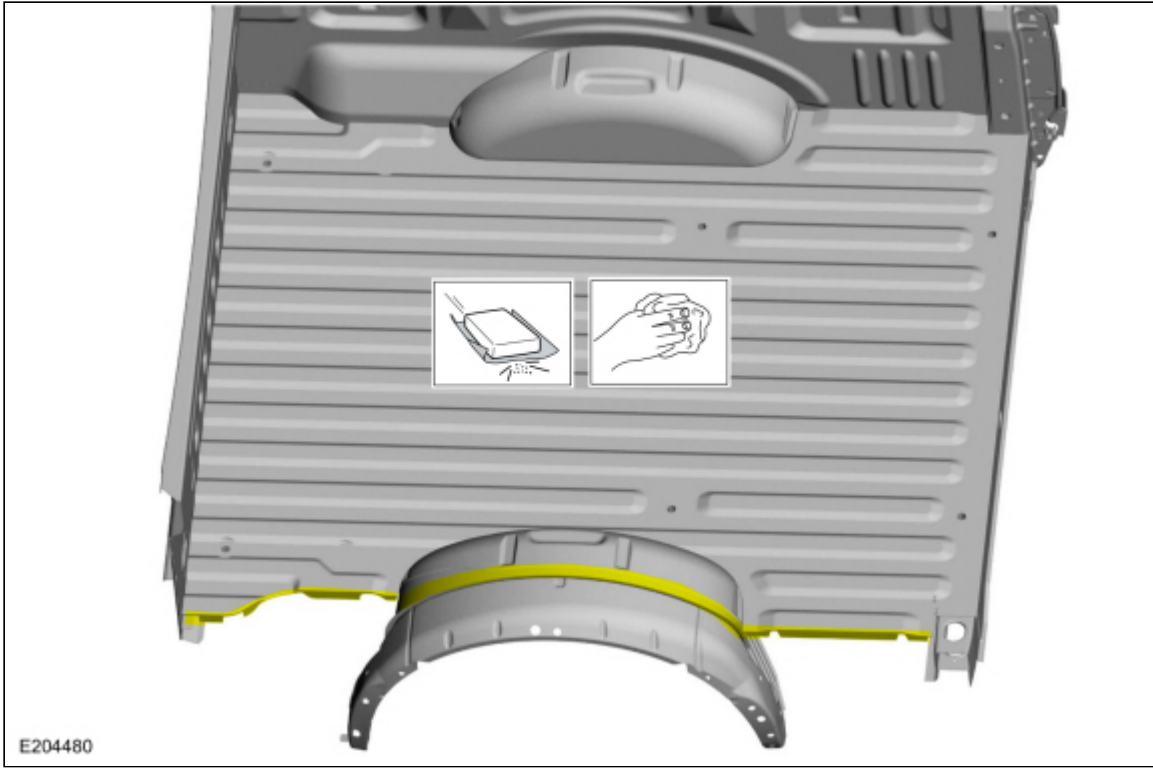




Plug-Welding

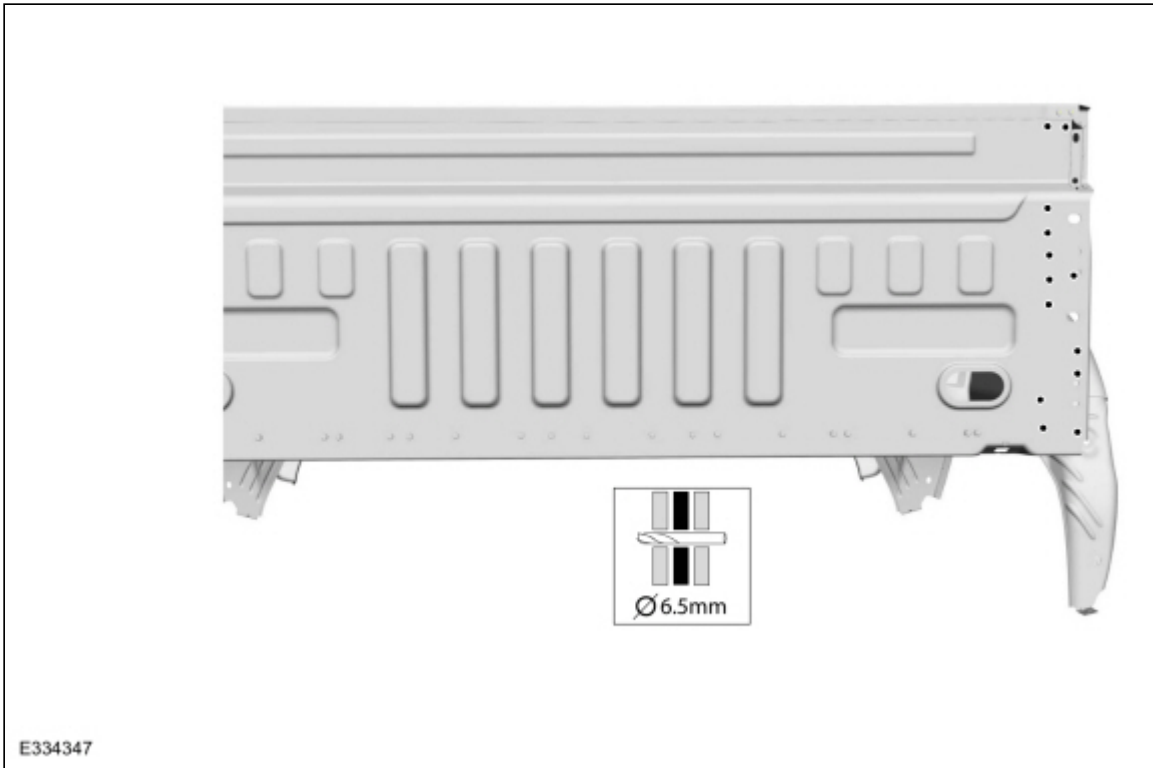
13. Sand to remove old adhesive and clean.



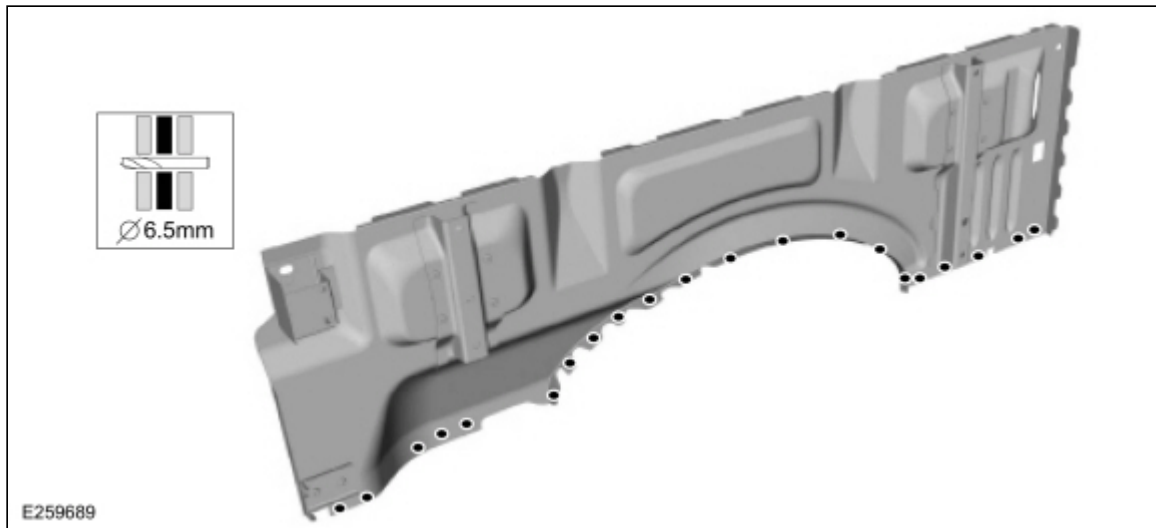


- 14. Drill for plug welds.
Use the General Equipment: 6.5 mm Drill Bit

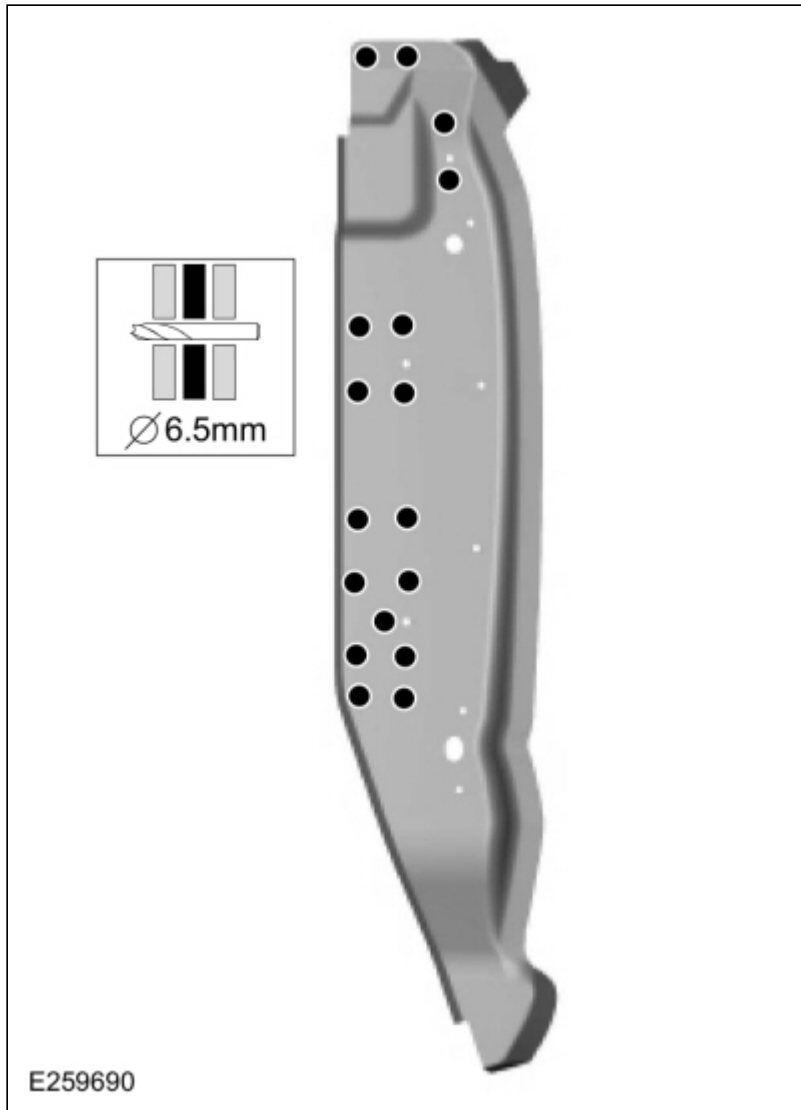




- 15. Drill for plug welds.
Use the General Equipment: 6.5 mm Drill Bit

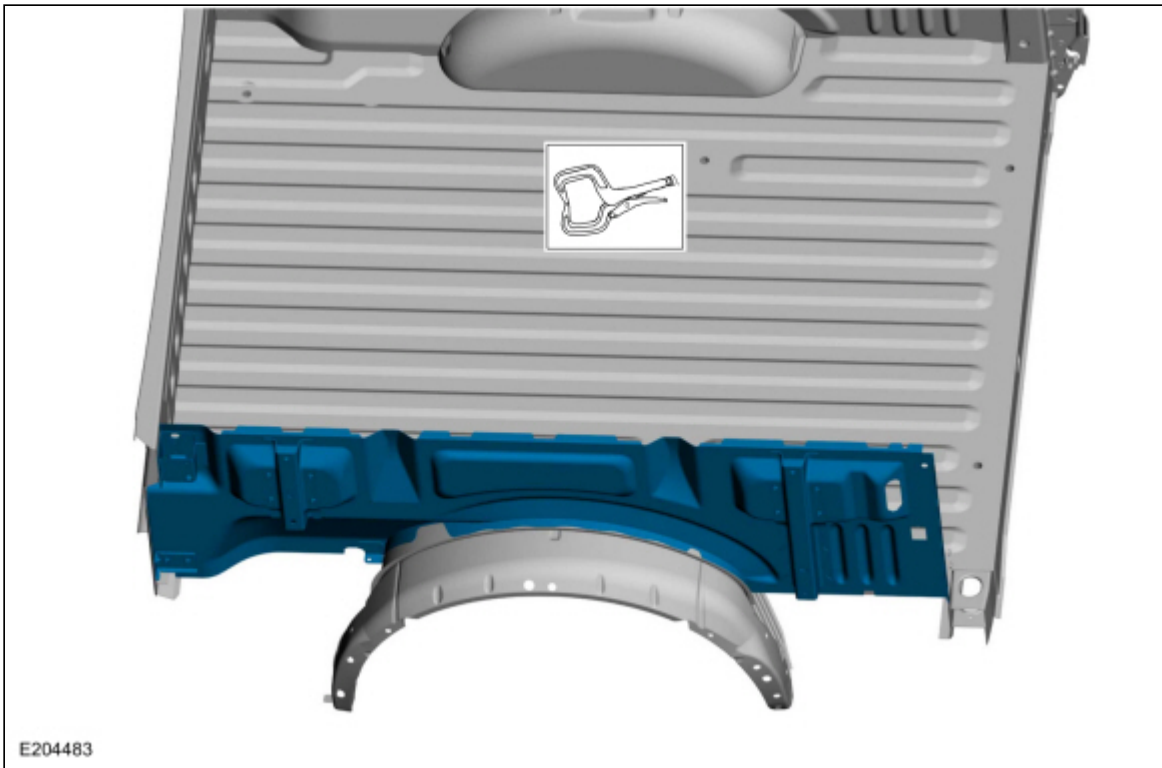


- 16. Drill for plug welds.
Use the General Equipment: 6.5 mm Drill Bit



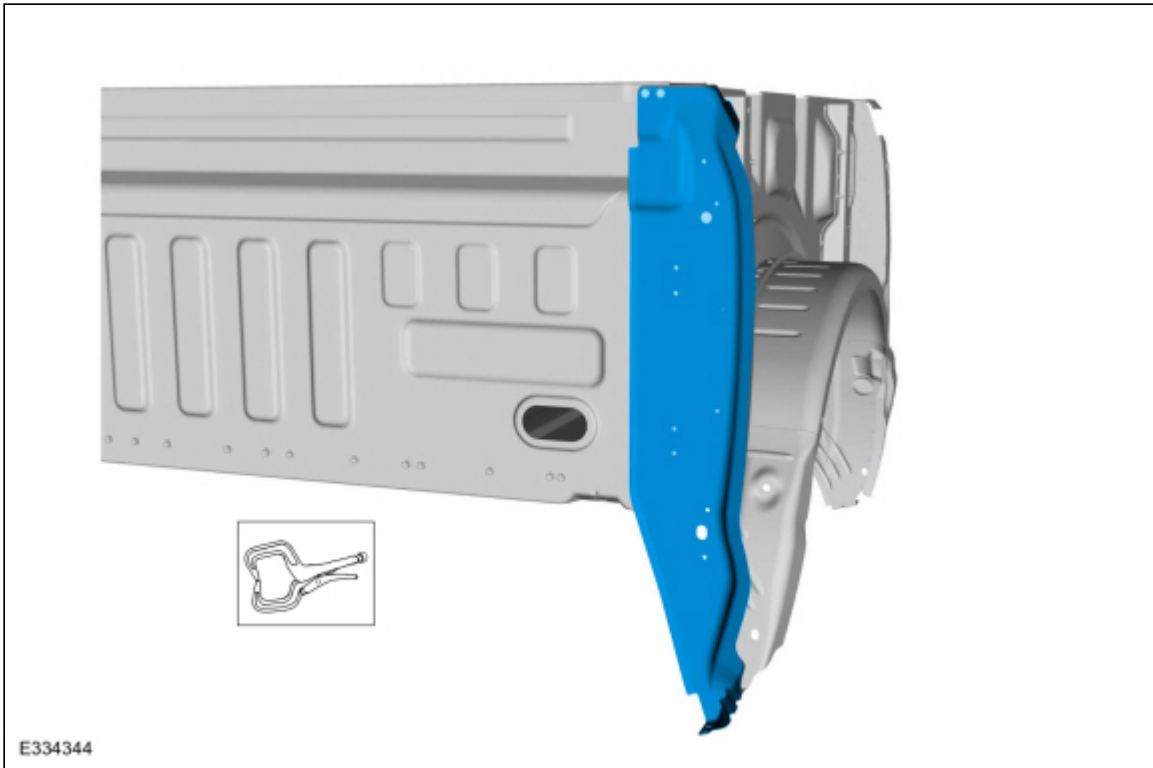
- 17. Install and clamp in position.
Use the General Equipment: Locking Pliers





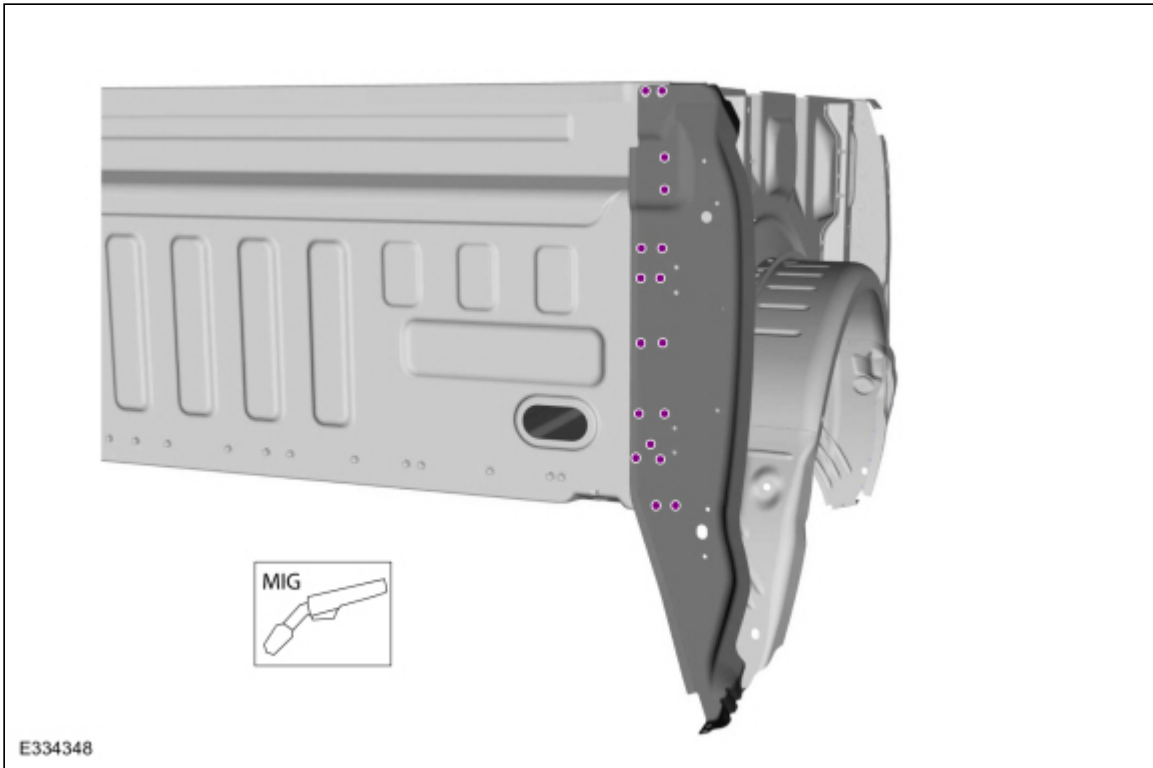
18. Install and clamp in position.
Use the General Equipment: Locking Pliers





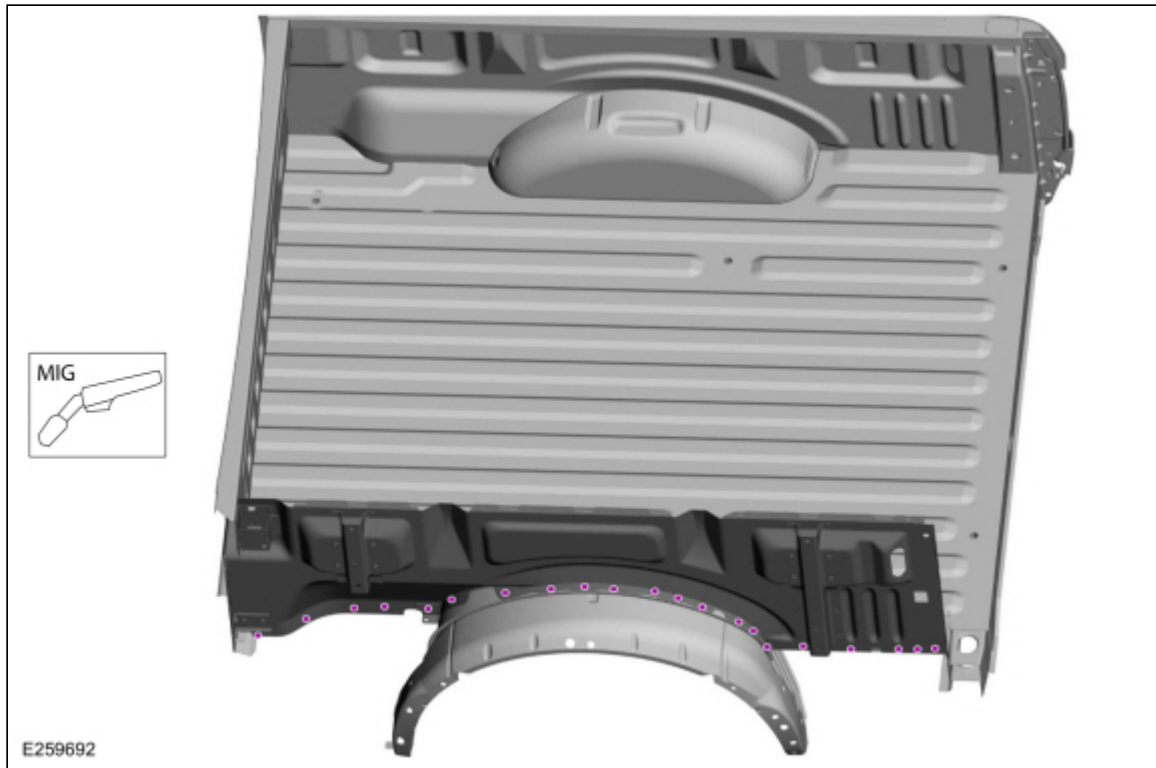
- 19. Install aluminum MIG plug welds.
Use the General Equipment: MIG/MAG Welding Equipment





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





21. Metal Finishing:

Metal finish the repair area as necessary using typical techniques and materials.

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

All vehicles

22. Install the pickup box corner reinforcement.

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

23. Install the pickup box outer side panel.

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

24. Seam Sealing:

All seams must be sealed to production level.

Material: Seam Sealer / TA-2-B, 3M™ 08308, LORD Fusor® 803DTM

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