



Date: December 9, 2019

Service Bulletin

Bulletin No.: 2019-0039

Product Models Affected:

World Trans E-series, 2016MY thru 2018MY

FORM Rev 2019-0625

Purpose:

To repair assembly of second unit body front hood to vehicle chassis over driver door and windshield on the passenger side.

Warranty Status:

Standard warranty coverage for all product models.

Tool(s) / Equipment Required:

Welder
Grinder
Scraper
Chocks
Wire Brush
Vise Grip(s)/Clamp(s)
Safety Glasses (PPE)
Hearing Protection (PPE)
Gloves (PPE)
Weld Helmet (PPE)
Weld Gloves (PPE)
Weld Leather (PPE)
Torque Wrench, 50 pound-foot
Standard Socket Set
Standard Wrench Set
Tape Measure

Part(s) / Material Required:

<u>Description</u>	<u>Part Number</u>	<u>Quantity</u>
Anti-corrosion Spray Paint	N/A	A/R
Torque Seal	N/A	A/R
Steel, A36	N/A	A/R
Sikaflex 252 (or equivalent)	E52631	A/R
Isopropyl Alcohol	N/A	A/R
Paint Reducer	N/A	A/R
Bolt, Hex 5/16-18 x 1 PLTD GR8	111240	7
Washer, Flat 5/16 PLTD	119200	18
Nut, Hex Nylock 5/16-18	0026554	9
Plate, Top Road Ford WT2	WB-0070584	1
Bolt, Hex 5/16-18 x 1.25 PLTD GR8	0038789	2
Bracket, B-pillar Reinforcement WT	0040436	1
Bolt, Hex 3/8-16 x 1.50 PLTD GR8	111001	2
Bolt, Hex 3/8-16 x 3.00 PLTD GR8	0040438	3
Nut, Hex Nylock 3/8-16 GR8	0033185	5

General:

1. Park the vehicle on a flat level surface.
2. Chock wheels of the vehicle.
3. Ensure that the product use date is not greater than one (1) year from the expiration/manufacturing date of adhesives and sealants. Ensure product handling and storage processes meet manufacturer requirements.
4. Protect adjacent areas, from weld spatter and debris from grinding during hot work operations.
5. Protect adjacent areas, from overspray of paints and adhesives during assembly/finish operations.
6. Disconnect battery(ies), PCM/ECM/Modules, and other electrical device connections as described in the Ford Service Manual for welding on the chassis.
7. Reconnect battery(ies), PCM/ECM/Modules, and other electrical device connections as described in the Ford Service Manual for welding on the chassis only after completing all weld process operations.
8. Wear appropriate PPE during rework process operations.
9. Ensure a fire extinguisher or other fire control apparatus are available during hot work operations.
10. Follow OEM instructions regarding the removal and re-installation, or protection of alternate fuel cells and/or components of the alternate fuel system installed on the vehicle when completing hot work operations.
11. Move any hoses, electrical harnesses or wire, or other components from the immediate work area where the hot work operations may be performed.
12. Follow appropriate industry standards and best practices for welding operations.

Procedure:

Prep

1. Remove ABS Trim Cover from A-pillar at front of entry and place aside for re-installation. Reference Photo #1.



Photo #1

2. Remove ABS Trim Cover from over driver door and bulkhead behind driver and place aside for re-installation. Reference Photo #2.



Photo #2

3. Remove ABS Trim Cover from over windshield and place aside for re-installation. Reference Photo #3 and #4.



Photo #3



Photo #4

4. Inspect the following areas:
 - a. Location 1, above driver side A-pillar; reference Photo 5.
 - b. Location 2; above driver side B-pillar; reference Photo 6.
 - c. Location 3; above passenger side A-pillar; reference Photo 7.

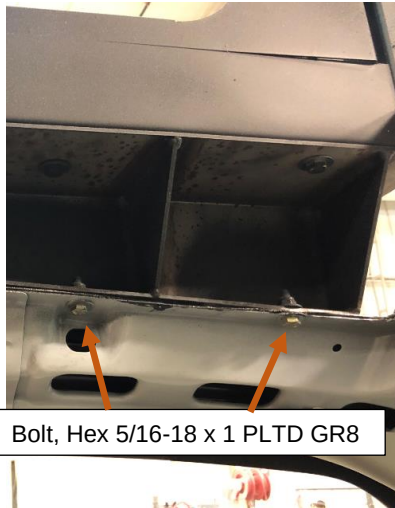


Photo #5
Location 1,
Above driver side A-pillar

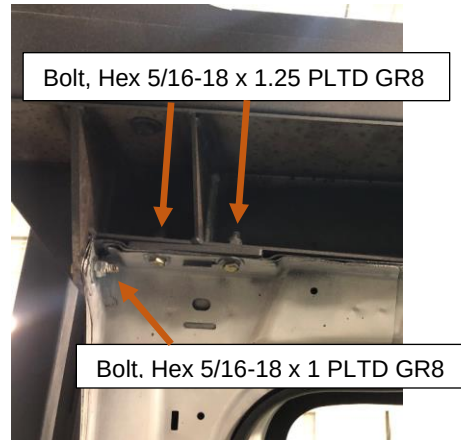


Photo #6
Location 2,
Above driver side B-pillar



Photo #7
Location 3,
Above passenger side A-pillar

5. If damage to any of these three areas is realized, proceed with the appropriate Repair Procedure outlined in this Bulletin.
6. If no damage to any of these three areas is realized, no further action is required. Proceed to the **Finish** section beginning at Step 61.

Repair - Location 1, Above Driver Side A-pillar and Location 2, Above Driver Side B-pillar

1. Remove the fasteners securing bracket to the second unit body hood over the driver door and retain for re-installation. Reference Photo #8.



Photo #8

2. Locate fasteners securing the second unit body bracket/hood to the vehicle chassis above the driver door. Reference Photo #9.



Photo #9

3. Locate fasteners securing the second unit body bracket/hood to the vehicle chassis over the driver door that shows fracture to the vehicle chassis. Reference Photos #13, #10, #11, and #12.

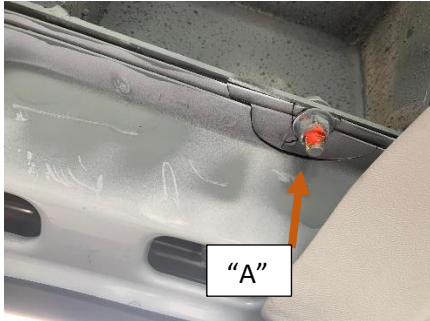


Photo #10

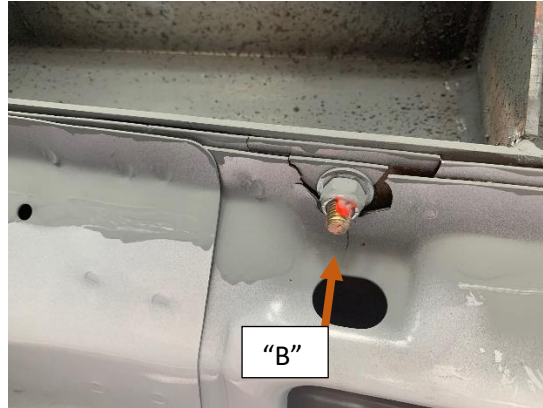


Photo #11

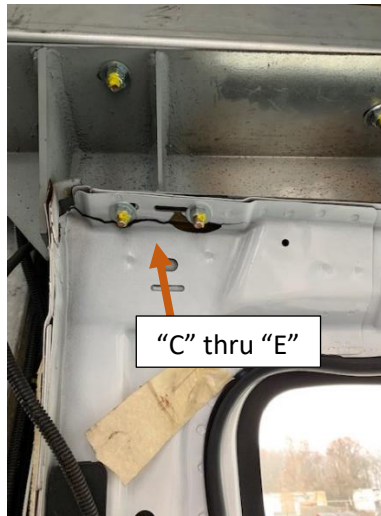


Photo #12

4. If there is a fracture in the sheet metal at Location 1 "A" or "B", proceed to Step #6. Reference Photos #5 and #13.
5. If there is no fracture in the sheet metal at Location 1 "A" or "B", proceed to Step #10.
6. Mark a location 2.00 inches rearward of fastener "A", and 0.50 inches outward from the edge of the bracket. Drill a 0.38-inch diameter hole from the underside of the chassis door frame thru the second unit body bracket. Reference Photos #10 and #13.

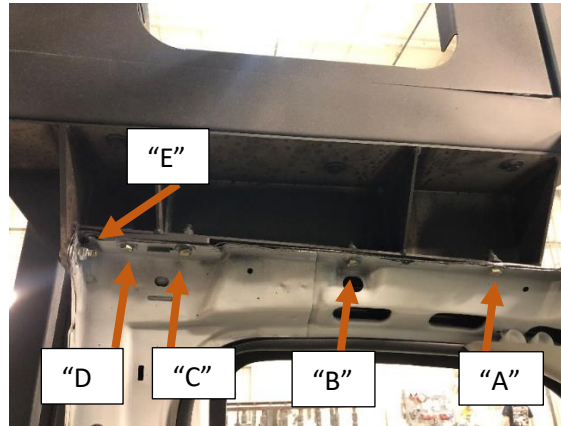


Photo #13

7. Install 5/16-18 bolt with one (1) washer from the underside thru the drilled hole and assemble the washer and nut, then tighten.
8. Mark a location 3.00 inches rearward of fastener "B", and 0.50 inches outward from the edge of the bracket. Drill a 0.38-inch diameter hole from the underside of the chassis door frame thru the second unit body bracket. Reference Photos #11 and #13.
9. Install 5/16-18 bolt with one (1) washer from the underside thru the drilled hole and assemble the washer and nut, then tighten.
10. If there is no fracture in the sheet metal at Location 2 over the driver B-pillar, the proceed with Step 11. Reference Photos #6 and #13.
11. If there is a plate between the chassis cab and the bottom of the bracket, then no further action is required. Proceed to the **Finish** section, beginning Step 61.
12. If there is no plate between the chassis cab and the bottom of the bracket, remove the bolts/hardware assemblies identified as "C", "D", and "E". Reference Photo #13.
13. Insert the Plate, Top Road Ford WT2 above the B-pillar between the top of chassis sheet metal and the bottom of the bracket. Reference Photo #14.
14. Install the bolts/hardware removed, then tighten. Reference Photo #13.

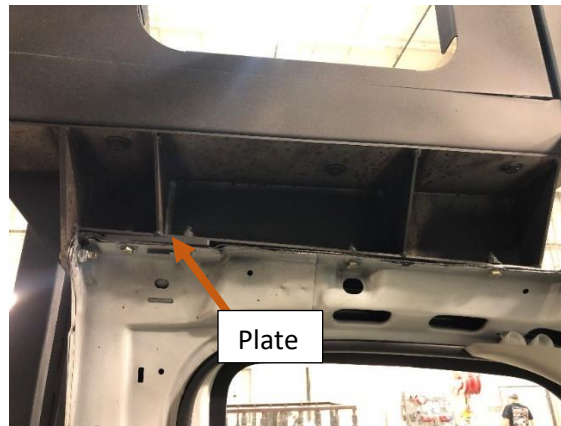


Photo #14

15. Torque all bolt/hardware assemblies securing the vehicle chassis/bracket assembly identified as “A” through “E”, including the two (2) added bolt/hardware assemblies located rearward of locations “A” and “B” as applicable, to 21 pound-foot. Reference Photos #13.
16. Apply torque seal to the fasteners that were torqued in Step 15.
17. If there is a fracture in the sheet metal at Location 2 over the driver B-pillar, remove the bolts/hardware assemblies identified as “C”, “D”, and “E”. Reference Photos #12 and #13.
18. Grind the paint off the chassis vehicle sheet metal in the weld area and prep for welding.
19. If there is no plate between the chassis cab and the bottom of the bracket, insert the Plate, Top Road Ford WT2 above the B-pillar between the top of chassis sheet metal and the bottom of the bracket. Reference Photo #14.
20. Weld the sheet metal in place along the fractured surface(s).
21. Paint the welded area using a corrosion inhibitor paint.
22. Clear the tab between the bolts by grinding or bending over, allowing for the bracket to sit flat on the sheet metal structure upon installation. Reference Photos #15 and #16.



Photo #15

23. Place the bracket, B-Pillar Reinforcement to the B-pillar top flange and rear flange, highlighted in gray. Reference Illustration #16.

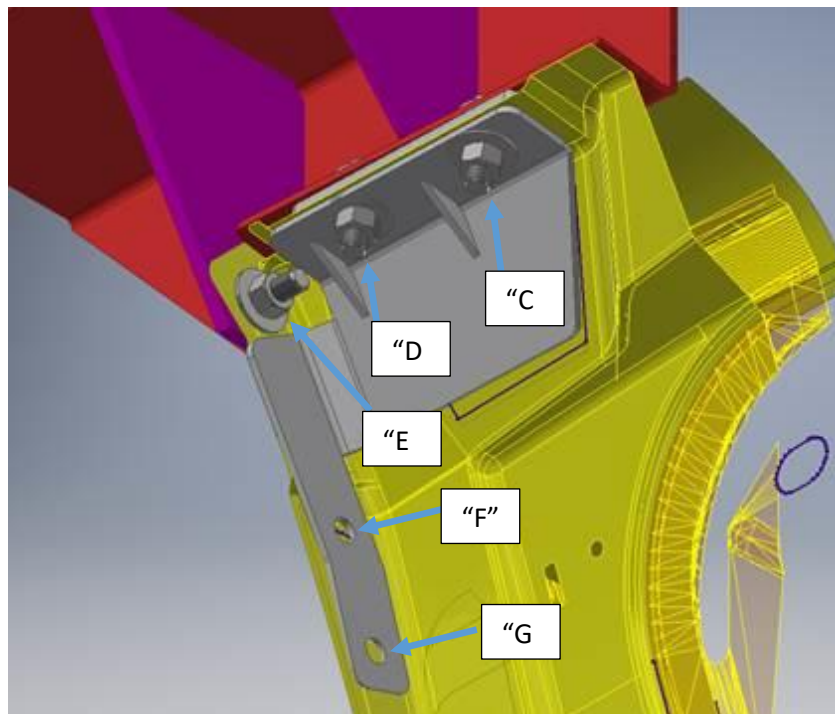


Illustration #16

24. Install 5/16-18 bolt with one (1) washer from the underside thru the hole locations identified as "C" and "D", assemble the washer and nut, then tighten.
25. Install the 5/16-18 bolt with one (1) washer from the rear-side of B-pillar thru the drilled hole identified as "E" and assemble the washer and nut, then tighten.

26. Drill a 0.38-inch diameter hole from the forward side of the flange to the rear of the vehicle through the two remaining holes identified as “F” and “G”.
27. Install a 5/16-18 bolt with one (1) washer from the rear-side of B-pillar thru the drilled holes identified as “F” and “G” and assemble the washer and nut, then tighten.
28. If a fracture in the sheet metal in Location 1 “A” and “B” is realized, grind vehicle chassis fracture area on the underside of the chassis door frame in preparation for welding.
Note: Remove the bolts/hardware as necessary.
29. Weld the vehicle chassis fractured parts to the vehicle chassis door frame. Reference Photo #10 and #11, as appropriate.
30. Spray paint the welded areas using a corrosion inhibitor paint.
31. Reinstall bolts/hardware if removed for weld preparation.
32. Torque all bolt/hardware assemblies securing the vehicle chassis/bracket assembly identified as “A” through “G”, including the two (2) added bolt/hardware assemblies located rearward of locations “A” and “B”, to 21 pound-foot. Reference Photos #13.
33. Apply torque seal to the fasteners that were torqued in Steps 31.

Repair - Location 3, Above the Passenger Side A-pillar:

34. Locate the second unit body bracket above the windshield on the passenger side.
Reference Photo #7 and #17.
35. Inspect for fractures in the vehicle chassis above the windshield or on the second unit body bracket. Reference Photo #17.



Photo #17

36. Remove the fasteners securing the second unit body bracket to the second unit body hood. Reference Photo #18 and #19.



Photo #18



Photo #19

37. If a fracture in the bracket is not realized, then proceed to Step 41.
38. If a fracture in the bracket is realized, prep the area for weld by grinding the area to be welded on each bracket piece. Reference Photo #20.



Photo #20

39. Weld the bracket pieces together. Reference Photo #20.
40. Spray paint the welded area using a corrosion inhibitor paint.
41. Measure distance between the top of the bracket over the driver door to the bottom of the second unit body hood at each fastener location. Reference Photo #21.

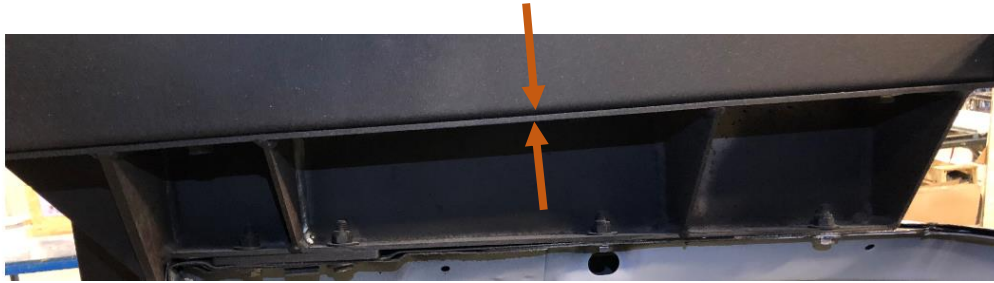


Photo #21

42. Cut a piece of steel 2.50 inches wide by 27.50 inches long. The thickness of the cut piece of steel is the measured distance between the second unit body hood and the second unit body bracket recorded in Step 41.
43. Prep the surface of the cut steel, and spray paint the part using a corrosion inhibitor paint.
44. Insert the piece of steel between the top of the bracket and the bottom of the second unit body hood.
45. Clamp the cut steel in place.
46. Drill a 0.41-inch diameter hole thru the steel spacer at each fastener location.
47. Install the 3/8-16x1.50 inch fasteners thru the bracket, steel spacer, and the hood, then tighten. Reference Photo #8.
48. Measure distance between the top of the bracket over the windshield on the passenger side to the bottom of the second unit body hood at each fastener location. Reference Photo #22.



Photo #22

49. Cut a piece of steel 1.50 inches wide by 12.00 inches long. The thickness of the cut piece of steel is the measured distance between the second unit body hood and the second unit body bracket recorded in Step 48.
50. Prep surface of the cut steel, and spray paint the part using a corrosion inhibitor paint.
51. Insert the piece of steel between the top of the bracket and the bottom of the second unit body hood.
52. Clamp the cut steel in place.
53. Drill a 0.41-inch diameter hole thru the steel spacer at each fastener location.
54. Install the 3/8-16x3.00-inch fasteners thru the bracket, steel spacer, and the hood, then tighten. Reference Photo #18.
55. Torque each fastener installed in Step 47 and 54 to 26 pound-foot.
56. Apply torque seal to the fastener.
57. Verify alignment of holes from the vertical tube to the bracket. Reference Photo #19. Drill 3/8-inch diameter hole for alignment as necessary.
58. Install the fasteners previously removed thru the side of the bracket, then tighten. Reference Photo #19.
59. Torque each fastener to 26 pound-foot.
60. Apply torque seal to the fastener.

Finish

61. Re-install the ABS Trim Cover over the windshield, reversing task(s) of Step 3.
62. Re-install the ABS Trim Cover over the driver door and bulkhead, reversing task(s) of Step 2.
63. Re-install the ABS Trim Cover on the passenger A-pillar, reversing task(s) of Step 1.
64. Inspect the caulking on the exterior of the vehicle sealing the joint between the front cap and vehicle chassis over the windshield. Reference Photo #23.



Photo #23

65. IF cracking of the caulking is realized, remove carefully the caulking between the front cap and vehicle chassis over the windshield. Reference Photo #23.
Proceed to Step 65.
66. IF no cracking of the caulking is realized, then no further action is required.
67. Clean the surfaces on the front cap and vehicle chassis where the caulking was removed using paint reducer.
68. Apply new caulking/sealant at the joint of the front cap and vehicle chassis over the windshield. Reference Photo #23.

Contact Information:

Contact Eldorado Customer Service, 1655 Wall Street, Salina, KS 67401; or by calling (785) 827-1033 / (800) 955-9086; or by Email: bussupport@eldorado-bus.com; or by Fax: (785) 823-9471.

Estimate Time-To-Repair:

4 hours.