ISSUE DATE:	8/2/2022
SERVICE BULLETIN SUBJECT:	Lift-U ADA Ramp Bracket 6 to 1 Retrofit
VINs or MODELS AFFECTED:	Service Specified Buses
COMPLETE BY:	Next Service Opportunity
SERVICE BULLETIN #:	SC-22-97
LABOR OPERATION CODE:	AR47Z

NOTICE! It is expected that this process may require up to 10 hours per bus with two associates. Please schedule appropriately to minimize vehicle downtime.

LIFT-U ADA RAMP BRACKET SIX TO ONE RETROFIT

Description

The procedure describes the process of updating the ADA Ramp Brackets to stainless steel.

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Tools/Parts Required

Tools and Supplies Required:

- Power Drill
- 10mm Drill Bit
- 21/32 Inch Counterbore
- 36-Grit Sanding Disk
- T-30 Torx Driver
- White or Silver Permanent Marker
- Ratchet
- Calibrated Torque Wrench
- 13mm Combination Wrench
- 13mm Socket
- 15mm Socket
- 8mm Allen Socket
- Heat Gun
- Slip-Joint Pliers
- Isopropyl Alcohol
- Shop Towels
- ADA Ramp Fixture
- Vacuum Cleaner
- Tongue Depressors
- Mixing Cup
- Cotton Swabs
- Orange Torque Stripe Paint
- ADA Ramp Fixture LIFT U LU11

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Kit Parts Required:

- 058864-002 RETROFIT KIT, ADA RAMP BRACKETS, LIFT -U, LU11, 6:1 (Consisting of)
  - 139-5202 BRACKET, ADA RAMP 1 EA
  - 146-3360 BRACKET, CROSSMEMBER SUPPORT, ADA RAMP 2 EA
  - 146-3359 BRACKET, ADA RAMP 1 EA
  - 146-3357 BRACKET, SUPPORT WEDGE, ADA RAMP 1 EA
  - 139-2147 PLATE, RAMP BRACKET, INBOARD 3 EA
  - 020856-001 BOLT, DIN 6921, FLG, SST A2, M10-1.50X16X16 8 EA
  - 023938-015 BOLT, DIN 6921, FLG, SST A2, M8-1.25X55X55 9 EA
  - 020891 WASHER, DIN 9021, SST, M8 9 EA
  - 019924-010 SCREW, SHC, M10-1.5X50X50, GB-500M 3 EA
  - 016878 WASHER, FLAT, SS, M10 1 EA
  - 002068 TUBING, GAROLITE G-10, 3/8 ID" 24 IN
  - 013570-001 BOLT,HEX,FLG,STL,1000HSS,CLASS10.9,M10-1.5X16X16 3 EA
- 062254 Service Retrofit Kit, Add-On, Consumables, Kit 2 (Consisting of)
  - 018362 PLEXUS, MA-530 1 EA
  - 009479 RESIN, EPOXY, WEST SYSTEMS 1 GL
  - 043223 EQUIPMENT, ADHESIVE, WEST SYSTEM MINI PUMP 1 EA
  - 020990 PRIMER,COND.,0-RMD,PLE QT.IP120 PC 120 1 EA
  - 009499 HARDENER, EPOXY, FAST, WEST SYSTEMS 1 EA

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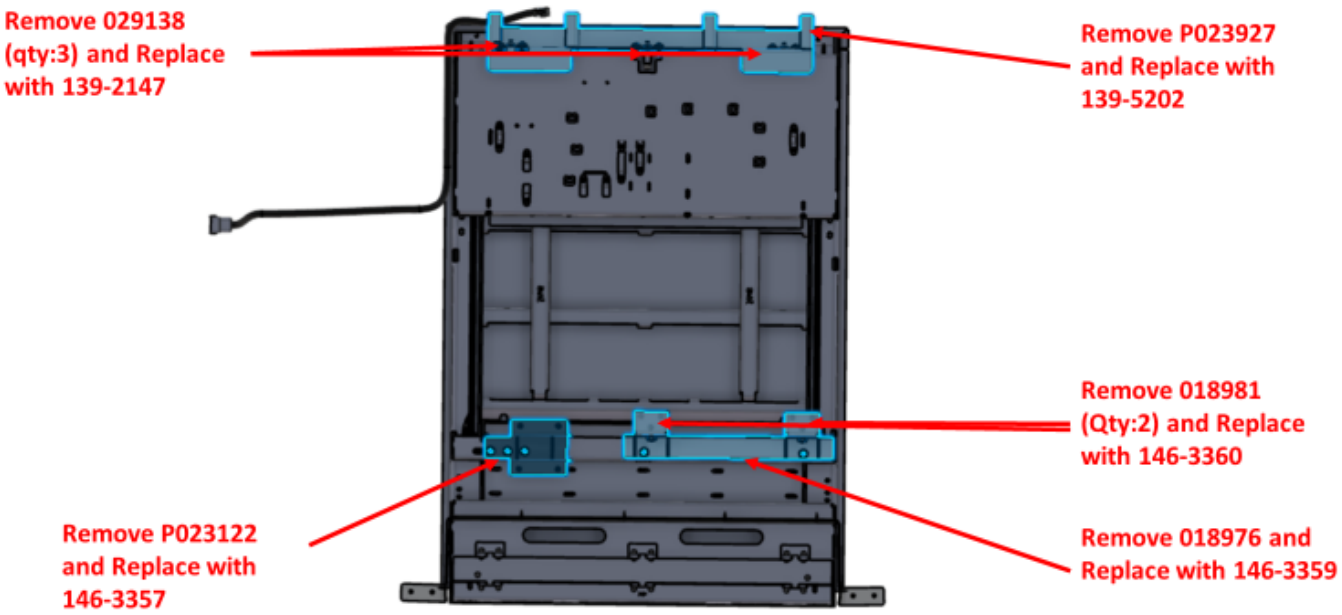
Procedure

1. Complete the Proterra approved Lockout/Tagout procedure to make the bus safe for work.

2. Using the procedure in the Maintenance and Repair Manual, remove the ADA Ramp and set it aside for later use.

3. Using a Heat Gun and Slip-Joint Pliers, remove the brackets highlighted in blue in the following illustration. Heat each bracket until the Plexus Adhesive that secures the bracket to the bus softens. Apply pressure to each bracket with Slip-Joint Pliers until the Plexus softens. Continue applying pressure until the bracket loosens.



4. Continue applying pressure until the bracket becomes detached from the body.

5. Repeat the process to remove all the brackets shown in the illustration.

6. Using a Heat Gun and a Putty Knife, remove any remaining Plexus Adhesive from the bus body in the ramp area.

7. Using Isopropyl Alcohol and Shop Towels, clean the surfaces where the Plexus was removed.

8. Using a Power Drill with a 36-Grit Sanding Disk, scuff the areas on the body needed for installing the new Brackets.

9. Using Isopropyl Alcohol and Shop Towels, clean the scuffed surfaces on the bus body.

10. Using a Power Drill with a 36-Grit Sanding Disk, scuff the bonding surfaces of all the brackets from the kit.

11. Using Isopropyl Alcohol and Shop Towels, clean the scuffed surfaces of the brackets.

12. Using a Shop Towel, apply Plexus Primer **(020990)** to the scuffed areas.

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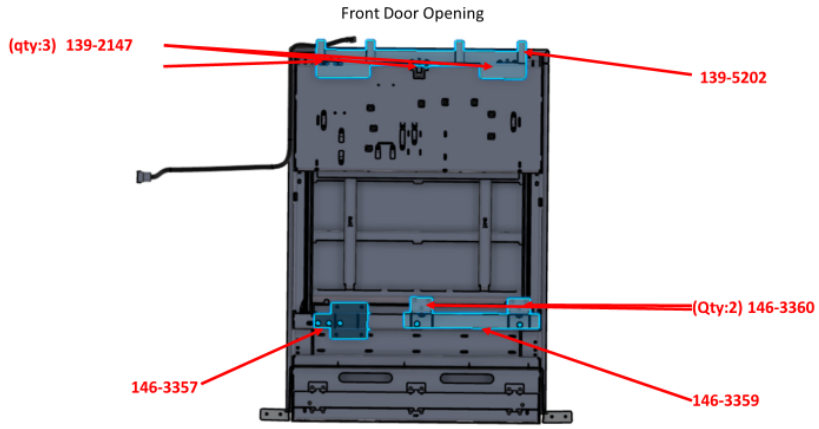
13. Install the LIFT U LU11 Fixture into the bus as shown in the following photograph.

14. Using the LIFT U LU11 Fixture and a Plexus Gun with Plexus **(018362)**, install the Brackets shown in the following illustration.



15. Allow the Plexus **(018362)** to cure. Approximately 160 minutes is required for temperatures between 65 and 85-degrees Fahrenheit.

16. Using a Power Drill with a 10mm Drill Bit, drill holes through the body using the weld-nut holes in the ramp brackets as a guide.

17. Using four Wheel Lifts, raise the bus to access the bottom of the ADA Ramp area.

18. Using four Jack Stands, support the bus for safety.

19. Using a Power Drill with a 21/32 Inch Counterbore, enlarge the nine holes previously. Drill up from underneath the bus. Stop drilling when the hole saw contacts the bracket.

20. Using a Vacuum Cleaner, remove any dust and debris from the holes.
21. Using a Tongue Depressor, mix 0.2 Ounces of Resin **(009479)** with five milliliters of MEKP

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(050675). Stir until the mixture is thoroughly mixed.

22. Using a Cotton Swab, apply the mixture to the inside of the nine holes in the body. This will seal the Balsa core.

23. Allow 30 minutes for the resin to cure.

24. Working on one hole at a time, cut a length of Garolite Tube (002068) that is two millimeters longer than the depth of the hole.

25. Repeat the process to cut a section of Garolite Tube **(002068)** that is two millimeters longer than each hole. A total of nine Tubes are needed. Each Tube must be longer than the hole so that it receives the compression load of the bolt instead of the body of the bus.

26. Mark each piece of Garolite Tube **(002068)** so that it can be bonded in the correct location.

27. Using a Power Drill with a 36-Grit Sanding Disk, scuff each piece of Garolite Tube **(002068)** to prepare it for bonding.

28. Using Isopropyl Alcohol and Shop Towels, clean all the Garolite Tubes **(002068).**

29. Using the Pump, apply Plexus **(018362)** to the outside of a Garolite Tubes **(002068)**.

30. Using a Tongue Depressor, smooth the Plexus **(018362)** around the Garolite Tube **(002068)** to create a layer of Plexus that is about 1.5mm all around the outside of the Tube.

31. Using two Associates, one inside the bus and underneath, insert the Garolite Tube **(002068)** into its identified location. The Associate inside the bus should plug the hole in the bracket so that no Plexus (018362) enters the hole.

32. Using a 13mm Combination Wrench, install a M8 Bolt **(023938-015)** and Washer **(020891)** into the weld-nut on the bracket.

33. Using a Calibrated Torque Wrench with a 13mm Socket, **torque the bolt to 44-inch pounds.** This is an intermediate torque value for the fastener. It will be torqued to its final value later in the procedure.

34. Repeat the process to install the remaining Garolite Tubes **(002068),** Bolts **(023938-015),** and Washers **(020891)** into the bus.

35. Allow 160 minutes for the Plexus **(018362)** to cure.

36. Using a Calibrated Torque Wrench with a 13mm Socket, **torque the fasteners to 29.5 foot-pounds.**

37. Using Orange Torque Stripe Paint, mark the properly torqued fasteners.

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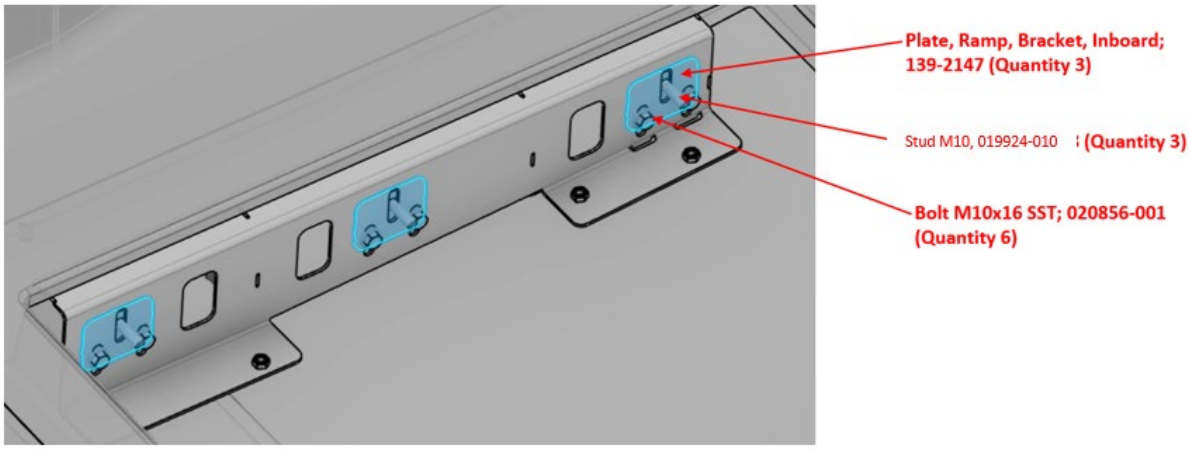
38. Using the following illustration as a guide, install the three Ramp Bracket Plates **(139-2147)** onto the bus.



39. Secure the Ramp Bracket Plates **(139-2147)** using six M10 Bolts **(020856-001).**

40. Using a Calibrated Torque Wrench with a 15mm Socket, **torque the bolts to 32.5 foot-pounds.**

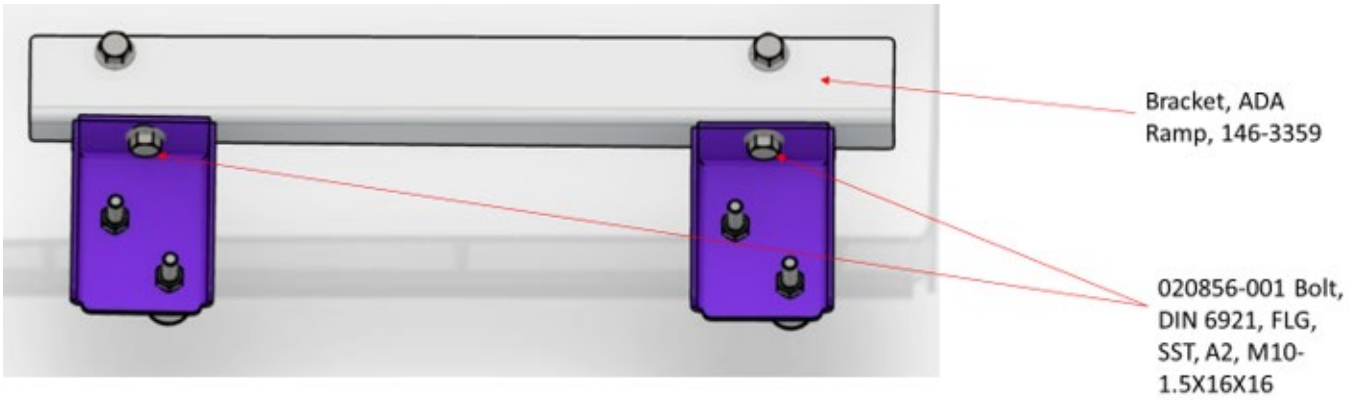
41. Using Orange Torque Stripe Paint, mark the properly torqued fasteners.

42. Using a Ratchet with an 8mm Allen Socket, install the three M10 Studs **(019924-010)** into the bracket.

43. Using a Calibrated Torque Wrench with an 8mm Allen Socket, **torque the M10 Studs (019924-010) to 15 foot-pounds.**

44. Using Orange Torque Stripe Paint, mark the properly torqued fasteners.

45. Using the following illustration as a guide, install the ADA Ramp Bracket **(146-33590)** using two M10 Bolts **(020856-001).**



46. Using a Calibrated Torque Wrench with a 15mm Socket, **torque the bolts to 32.5 foot-pounds.**

47. Place the ADA Ramp back inside the bus and reconnect the wiring harness.

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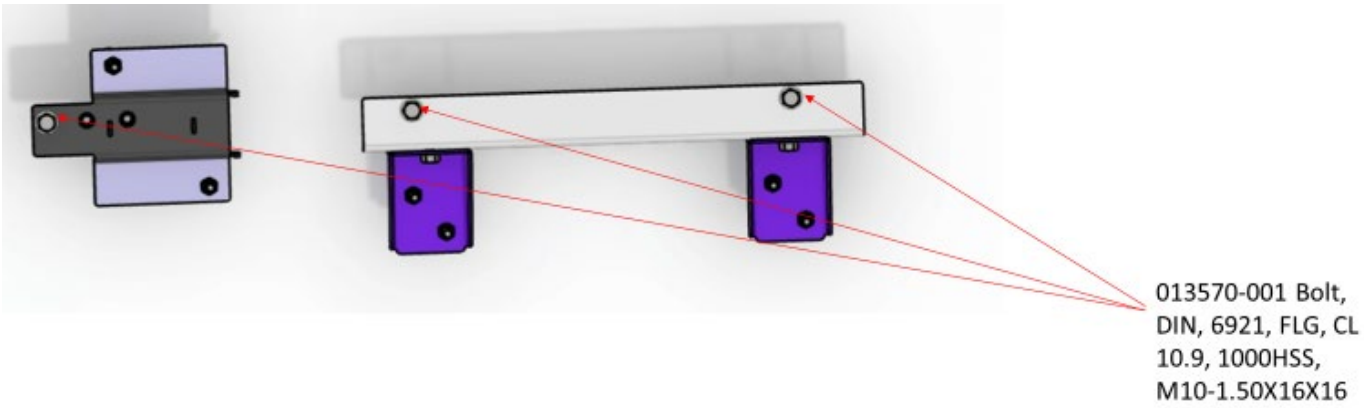
48. Using a 15mm Ratchet/Socket, secure the ADA Ramp to the bus as shown in the following illustration using M10 Bolts **(013570-001).**



49. Use the Maintenance and repair manual for any additional details that are needed for installing the Ramp. The following photographs show the completed installation.

50. Remove the Lockout/Tagout devices and power in the bus.

51. Test the ADA Ramp for proper operation before returning the bus to service.

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