



**PROTERRA**



# TECHNICAL SERVICE BULLETIN

<b>7ISSUE DATE:</b>	4/1/2021
<b>SERVICE BULLETIN SUBJECT:</b>	Door Hat Bracket Retrofit
<b>VINs or MODELS AFFECTED:</b>	Service Specified Buses
<b>COMPLETE BY:</b>	Next Service Opportunity
<b>SERVICE BULLETIN #:</b>	SC-21-54
<b>LABOR OPERATION CODE:</b>	N/A

**NOTICE! It is expected that this process may require up to 5 hours per bus. Please schedule appropriately to minimize vehicle downtime.**

## DOOR HAT BRACKET RETROFIT

### Description

The procedure repairs a broken door hat bracket.

## Tools/Parts Required

Tools and Supplies Required:


- Provided by Vendor

Parts Required:

- Provided by Vendor

## Procedure

1. Complete the Proterra approved Lockout/Tagout procedure to make the bus safe for work.
2. Perform the OEM provided work instruction that is included in its entirety at the end of this document.
3. Remove the Lockout/Tagout devices and return the bus to service.

		<b>Project / Program</b> <b>Proterra – Door Hat Bracket Replacement</b>		<b>DOCUMENT #</b> <b>RI-20048</b>	
<b>Subject:</b> Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures				SHEET 1 of 7	
<b>WRITTEN BY:</b> Paul Grimes	<b>ORIGIN DATE:</b> 11/24/20	<b>REVISION DATE:</b> -	<b>REVISION:</b> -	<b>PRODUCT LINE:</b> Proterra Buses	

## Introduction / Overview

This instruction outlines the procedure for replacing a door hat bracket (standoff) on a Proterra bus using portable fixtures.

In summary, the steps are:

- Remove the current standoff.
- Use installation fixtures to install the new standoff with Plexus.
- Tab the flanges of the standoff with 1708.

## Parts/Materials Needed:


- Door Hat Bracket (Standoff) with studplates and threaded inserts installed.
- Plexus MA-320 or MA 530 Adhesive
- Vinyl Ester Laminating Resin
- 1708 Biaxial Fiberglass
- Polynt V310HM Vinyl Ester Chopped Fiber Putty
- Norox MEKP 925 Catalyst

## Tools Needed:

- Installation Jigs for the Hat Brackets
- Misc. fiberglassing tools – cups, brushes, rollers, gloves, etc.

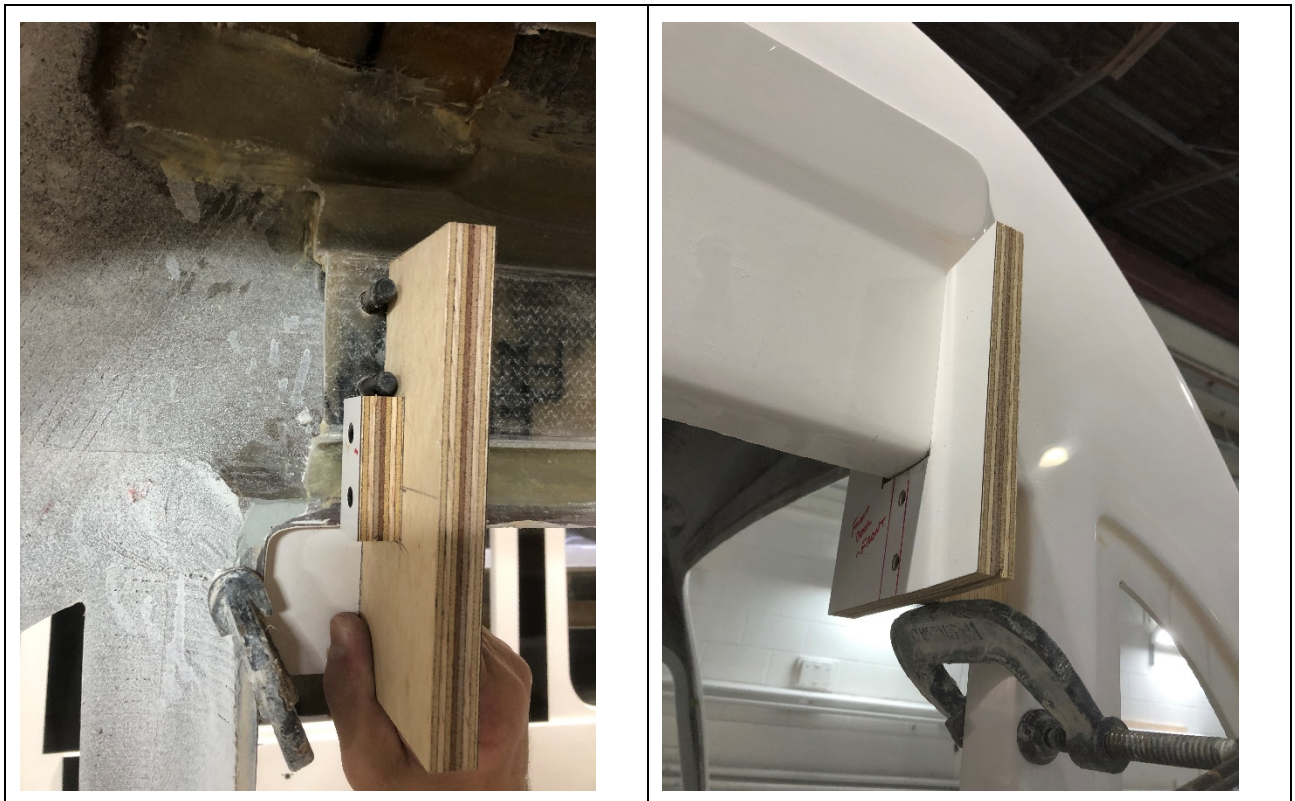
## 1.0 Remove Existing Hat Bracket

- 1.1 Cut through the tabbing and the Plexus adhesive to remove the hat bracket. An oscillating saw, or an air hammer with chisel bit can be used for this.
  - \*\* Do not pull the hat bracket off the surface – violent pulling may cause delamination of the inner skin of the bus.
- 1.2 Grind any remaining Plexus or fiberglass tabbing off the B-surface of the bus.

		<b>Project / Program</b> <b>Proterra – Door Hat Bracket Replacement</b>		<b>DOCUMENT #</b> <b>RI-20048</b>	
<b>Subject:</b> Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures				SHEET 2 of 7	
<b>WRITTEN BY:</b> Paul Grimes	<b>ORIGIN DATE:</b> 11/24/20	<b>REVISION DATE:</b> -	<b>REVISION:</b> -	<b>PRODUCT LINE:</b> Proterra Buses	

## 2.0 Dry-Fit New Hat Bracket

- 2.1 Install clamps on the door frame to hold the installation jigs in place. These clamps do not clamp the installation jigs in place – they are clamped to the door frame just below the jigs to hold them up in position.
- 2.2 Dry-fit the hat bracket using the jigs to hold it in place. (Note: The photos show the jigs with a bracket that has already been installed.) Once in position, there should be a 1-10 mm bond gap between the flanges of the standoff and the B-side of the body. The lower flange of the hat bracket may be trimmed as necessary to clear the door flange.





**Project / Program**  
**Proterra – Door Hat Bracket**  
**Replacement**

DOCUMENT #

RI-20048

**Subject:** Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures

SHEET 3 of 7

WRITTEN BY:  
Paul Grimes

ORIGIN DATE:  
11/24/20

REVISION DATE:  
-

REVISION:  
-

PRODUCT LINE:  
Proterra Buses



**Subject:** Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures

SHEET 4 of 7

WRITTEN BY:  
Paul Grimes

ORIGIN DATE:  
11/24/20


REVISION DATE:  
-

REVISION:  
-

PRODUCT LINE:  
Proterra Buses

- 2.3 Remove the hat bracket and apply a generous bead of MA 320 or MA 530 Plexus to the flanges.



		<b>Project / Program</b> <b>Proterra – Door Hat Bracket Replacement</b>		<b>DOCUMENT #</b> <b>RI-20048</b>	
<b>Subject:</b> Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures				SHEET 5 of 7	
<b>WRITTEN BY:</b> Paul Grimes	<b>ORIGIN DATE:</b> 11/24/20	<b>REVISION DATE:</b> -	<b>REVISION:</b> -	<b>PRODUCT LINE:</b> Proterra Buses	

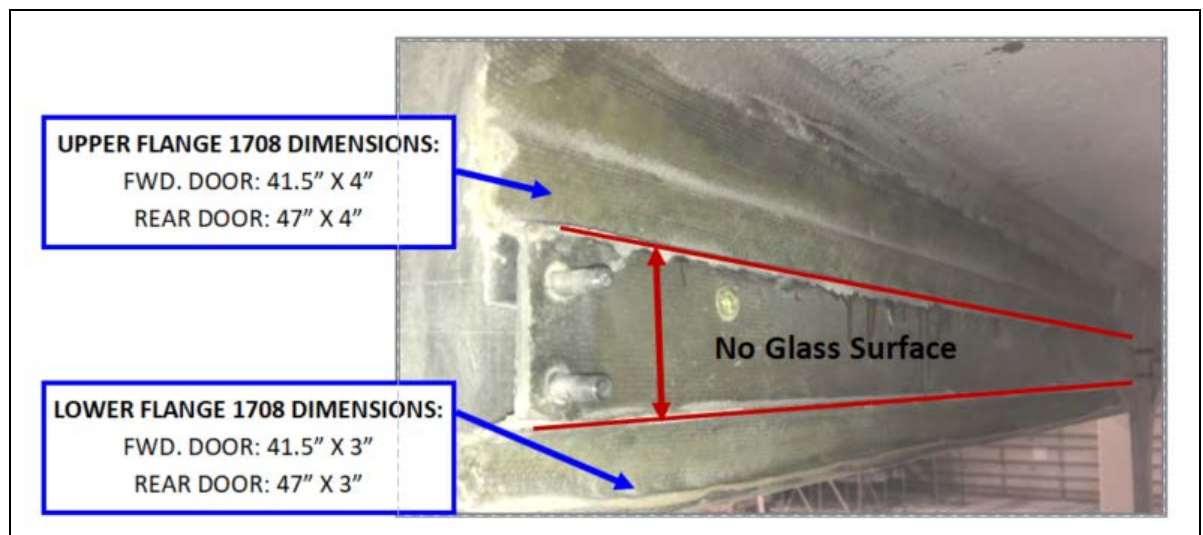
- 2.4 Reposition the hat bracket against the bus with the positioning jigs to hold it in place. Fill any gaps in the plexus adhesive, and clean any Plexus squeeze-out. Allow the Plexus to cure.


### 3.0 Prep and Tab Flanges with 1708

- 3.1 Remove the bonding fixtures and clamps.
- 3.2 Smooth and scuff the areas of the standoff and bus where the fiberglass tabbing will be in contact with both.



- 3.3 Cut (2) layers of 1708 fiberglass for tabbing the standoff flanges.




		<b>Project / Program</b> <b>Proterra – Door Hat Bracket Replacement</b>		<b>DOCUMENT #</b> <b>RI-20048</b>	
<b>Subject:</b> Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures				SHEET 6 of 7	
<b>WRITTEN BY:</b> Paul Grimes	<b>ORIGIN DATE:</b> 11/24/20	<b>REVISION DATE:</b> -	<b>REVISION:</b> -	<b>PRODUCT LINE:</b> Proterra Buses	

3.4 Mask the doorway for the glass tabbing process.

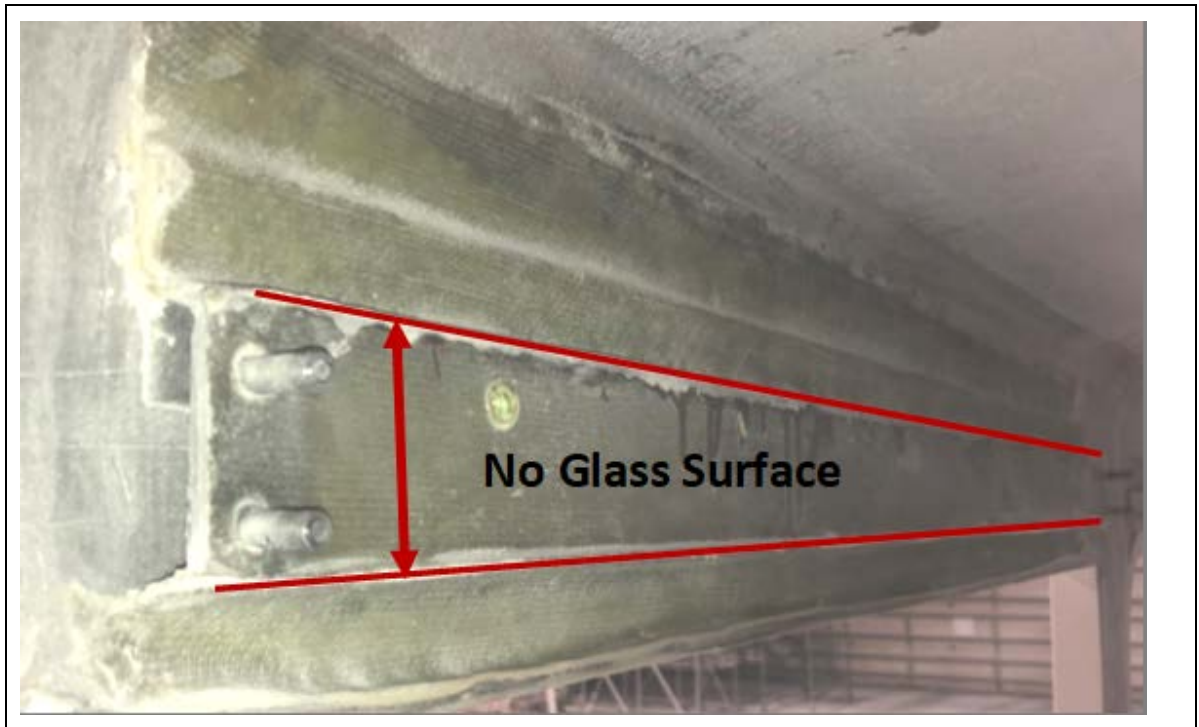


3.5 Form a fillet around the standoff with VE Chopped Fiber Putty.



		<b>Project / Program</b> <b>Proterra – Door Hat Bracket Replacement</b>		<b>DOCUMENT #</b> <b>RI-20048</b>	
<b>Subject:</b> Procedure for Replacement of Front or Rear Door Hat Brackets using Portable Fixtures				SHEET 7 of 7	
<b>WRITTEN BY:</b> Paul Grimes	<b>ORIGIN DATE:</b> 11/24/20	<b>REVISION DATE:</b> -	<b>REVISION:</b> -	<b>PRODUCT LINE:</b> Proterra Buses	

- 3.6 Glass the upper and lower flanges with (2) layers of 1708 fiberglass, mat side down, and Vinyl Ester resin. The glass should cover the flanges of the standoff, and extend onto the bus and up the sides of the standoff toward the face with the studs - but not onto that face.



- 3.7 Once the glass has cured, sand any loose strands off the edge of the door flange or the face of the standoff.

#### Revision History

Prepared By	Rev	Date	Approved	Reason for Revision
Paul Grimes	-	11/24/20	PG	Initial Release