



**PROTERRA**



# TECHNICAL SERVICE BULLETIN

<b>ISSUE DATE:</b>	12-21-2021
<b>SERVICE BULLETIN SUBJECT:</b>	ADA Ramp Area Drain Retrofit
<b>VINs or MODELS AFFECTED:</b>	Service Specified Buses
<b>COMPLETE BY:</b>	Next Service Opportunity
<b>SERVICE BULLETIN #:</b>	SC-21-183
<b>Labor Operation Code:</b>	AR44Z

**NOTICE! It is expected that this process will require five (5) hours per bus. Please schedule appropriately to minimize vehicle downtime.**

## ADA RAMP AREA DRAIN RETROFIT

### Retrofit Description:

This procedure describes the addition of a drain to the ADA Ramp area to eliminate moisture accumulation.

## Tools/Parts Required

### Tools and Supplies Required:

- Tape Measure
- Straight Edge
- Permanent Marker
- 1-7/8 Inch Hole Saw
- 2-23/32 Inch Hole Saw
- Vacuum Cleaner
- Picking Tool
- Hoist
- Jack Stands
- Power Drill
- Drill Stop
- Drill Bit Set
- Cotton Swabs
- Slip Joint Pliers

### Kit Parts Required:

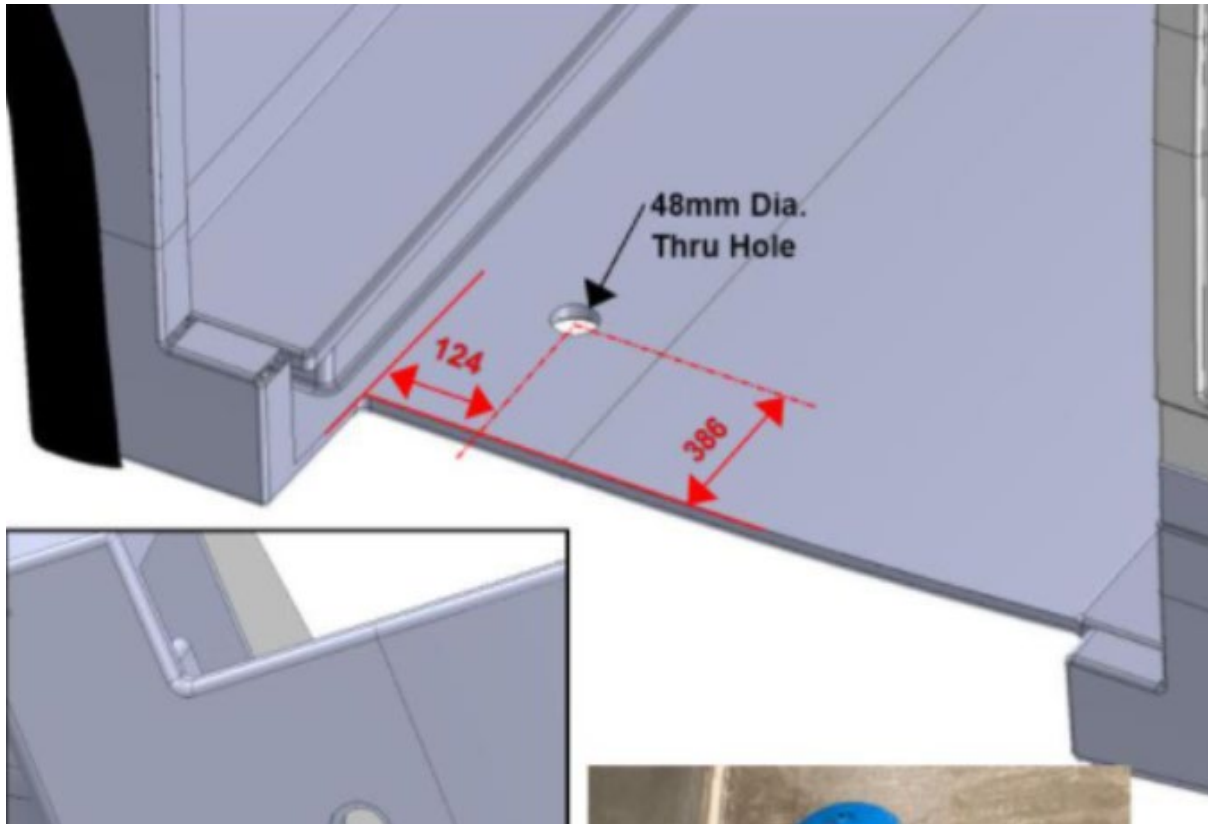
- 062637 Service Retrofit Kit, ADA Ramp Area Drain (Consisting of)
  - 044640 DRAIN, CTA ADA FLOOR 1 EA
  - 044639 VALVE, DUCKBILL, 32MM 1 EA
  - 176-9992 WASHER, ADA DRAIN, DUCKBILL VALVE, COLLAR 1 EA

### Additional Parts Required:

- 009479 RESIN, EPOXY, WEST SYSTEMS 1 EA
- 009499 HARDENER, EPOXY, FAST, WEST SYSTEMS 1 EA
- 043223 EQUIPMENT, SERVICE, WEST SYSTEM MINI PUMP 1 EA
- 018362 PLEXUS, MA-530 1 EA
- 042536 TOOL, SERVICE, MANUAL ADHESIVE GUN 1 EA

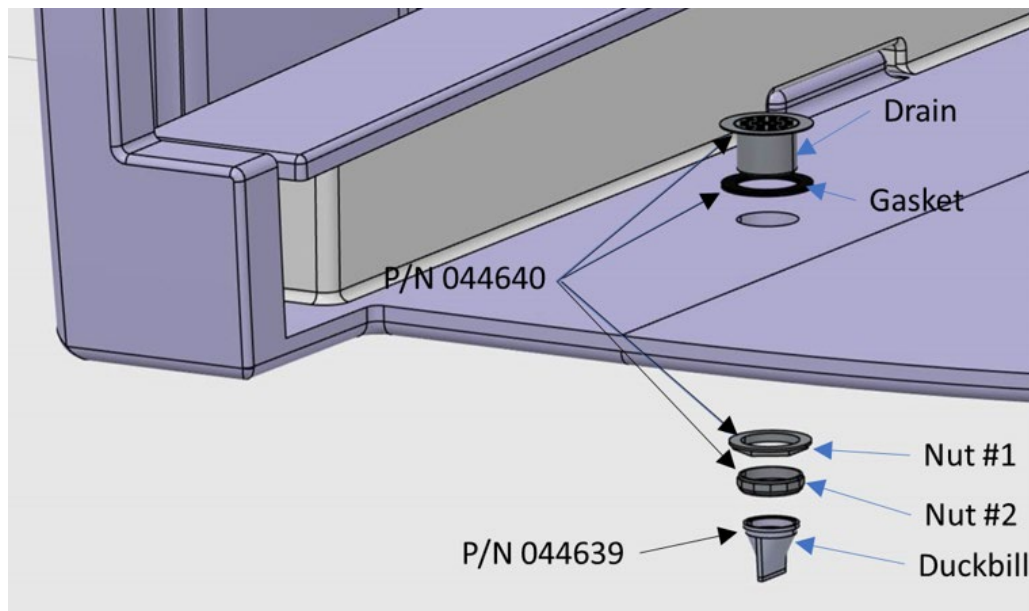
## Procedure:

1. Perform the Proterra approved Lockout/Tagout process to make the bus safe for work.
2. Download the Maintenance and Repair Manual at the following location before beginning this procedure. The ADA Ramp removal and replacement begins on page 18-279. Use this procedure to remove the ADA Ramp.  
<\\bus.local\files\Engineering\Service Bulletins\Service Bulletin Files for SC-21-183>
3. Using the following illustration as a guide, mark the location shown for drilling using a Permanent Marker.



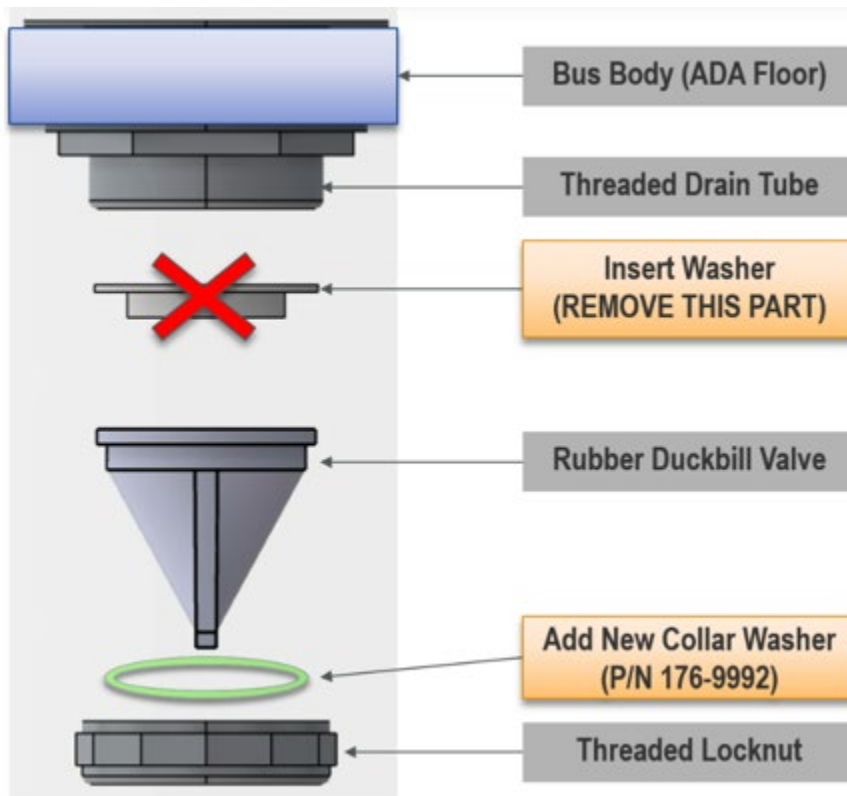
4. Using a Power Drill with a 1/4-Inch Drill Bit, drill a hole in the marked location for installing the Drain (044640).
5. Using a Power Drill with a 1-7/8 Inch Hole Saw, enlarge the hole drilled in the previous step. This hole should go all the way through the body.
6. Using a Heavy-Duty Jack and a Heavy-Duty Jack Stand, support the bus so that the underside of the ADA Ramp area can be accessed.
7. Working underneath the bus, use a Power Drill with a 2-3/4 Inch Hole Saw with a Drill Stop set to 10mm depth, counter bore a hole 10mm deep concentric with the 1-7/8 Inch Hole. Use the pilot hole from the 1-7/8 Inch hole. This hole will be used for mounting the Drain (044640).
8. Using a Picking Tool, remove five to ten mm of the Balsa Core from around the perimeter of the 1-7/8 Inch hole.

9. Using a Vacuum Cleaner, clean up any debris from the drilling operations.
10. Mix West Systems 105 Epoxy Resin with West Systems 205 Hardener to get the amount required to seal the balsa core of the body that was exposed by the drilling operations.
11. Using a Cotton Swab, apply the Epoxy Mixture to all the holes to completely cover any exposed balsa.
12. Allow 30 minutes for the Epoxy to cure before proceeding.
13. Using a Plexus Gun (042536), fill the void created by the removal of balsa using Plexus (018362) around the entire perimeter of the hole. The Plexus used in this step will prevent crushing of the balsa when torque is applied to the drain.
14. Allow 30 minutes for the Plexus (018362) to cure.
15. Remove the White Washer from the Drain (044640) and discard it. It will not be used.
16. Place the Gasket on the Drain (044640) as shown in the following illustration. Push the Gasket up until it is flush with the lower side of the drain.



17. Place the Drain (044640) with the installed Gasket into the 1-7/8 Inch hole in the floor.
18. Secure the Drain (044640) using Nut #1 as shown in the previous illustration.
19. Using Slip Joint Pliers, hold the Drain (044640) while tightening Nut #1 by hand.

20. Place the new Collar Washer (176-9992) around the outside of the Duckbill Valve (044639) prior to installation of the Drain (044640). The following illustration shows the order of installing the parts.



21. Insert the Duckbill (044639) into Nut #2 and hand tighten it.
22. Safely lower the bus to begin the process of reinstalling the ADA Ramp.
23. Using the Maintenance and Repair manual, reinstall the ADA Ramp.
24. Remove the Lockout/Tagout devices and power the bus on.
25. Test the ADA Ramp for proper functionality before returning the bus to service.