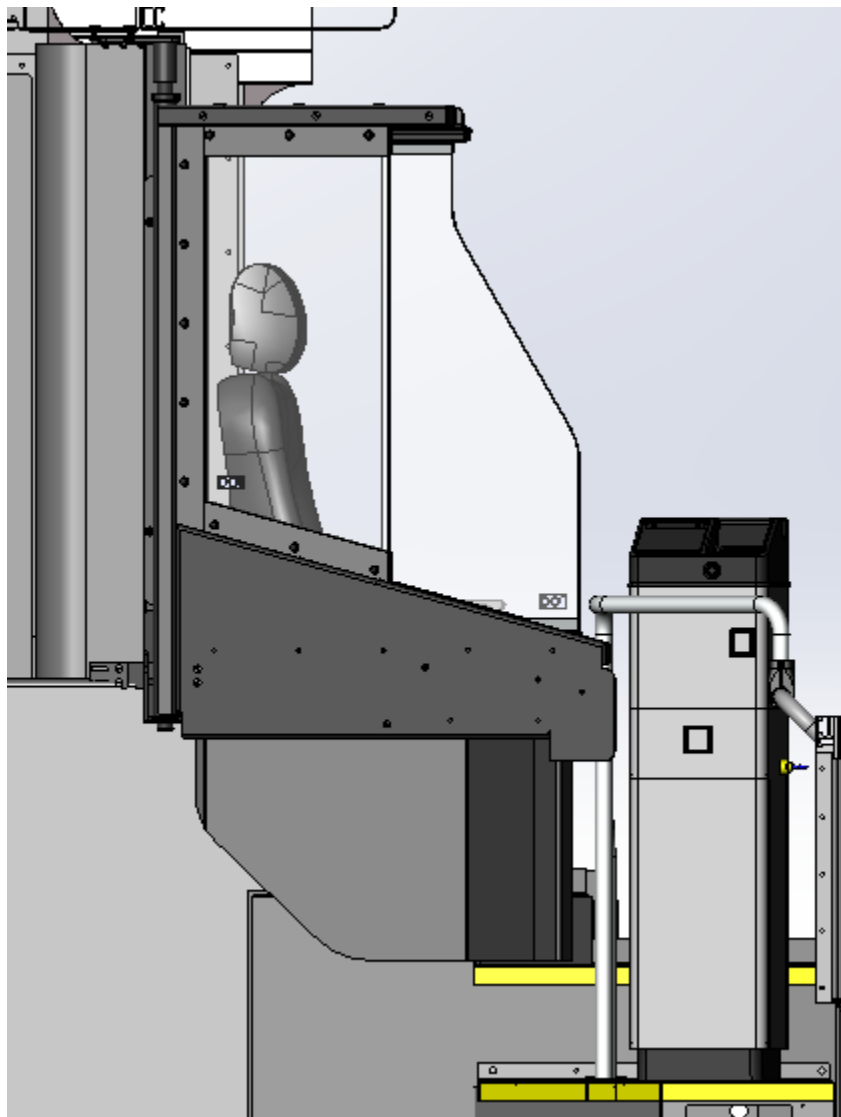


MV3080165 DPS Installation Procedure

Duluth Gillig Retrofit



Tools Needed

Drill

Phillips Screw Bit

Phillips Screw Driver

Flat Screw Driver

Tape Measure

3" Cut Off Wheel

Black Sharpie Marker

Silver Sharpie Marker

Center Punch

Level

1/4"-20 Tap

5/16" – 18 Tap

Loctite 243

Utility Knife

3/4" Hole Saw

Box Wrenches and Sockets

7/16"

1/2"

Hex Keys

5/32"

3/16"

1/4"

Drill Bits

1/8"

#7

#F (0.2570")

9/32"

21/64" or 11/32"

25/64" or 3/8"

T20 Torx Bit

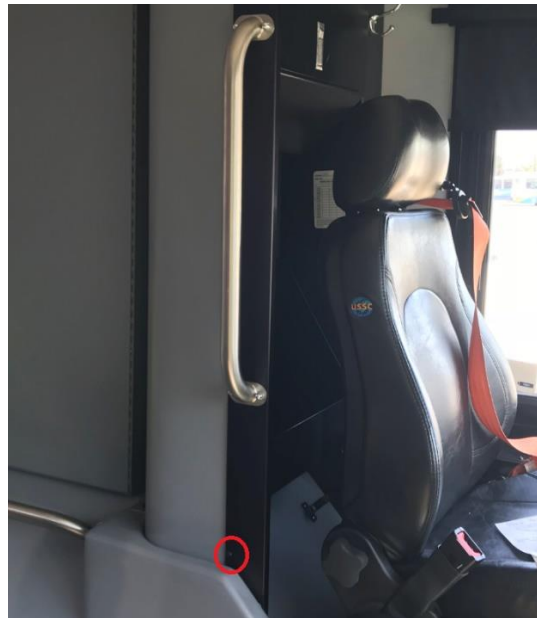
AR0021425 (Ceiling Mount Template)

AR0021426 (Hinge Tube Mount Template)

1. Remove the 4 bolts that are securing the grab handle in the aisle behind the driver so the handle can be taken off.

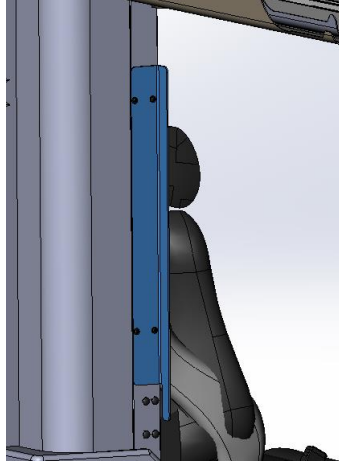


2. Remove the screw that is located below the handle that was just removed.



3. Drill out the four holes that were used to secure the handrail using a 9/32" drill bit.

4. Hold AR0014565 (Close Out Panel) against the wheel well wall as shown below, the closeout panel's left side should be flush with the black wall extrusion. Verify that the 4 holes in the closeout line up with the holes in the bus wall.



5. On the side of the wheel well, measure up 36" from the floor and make a horizontal line. Due to the floor being slanted, make sure to measure as far forward as possible.

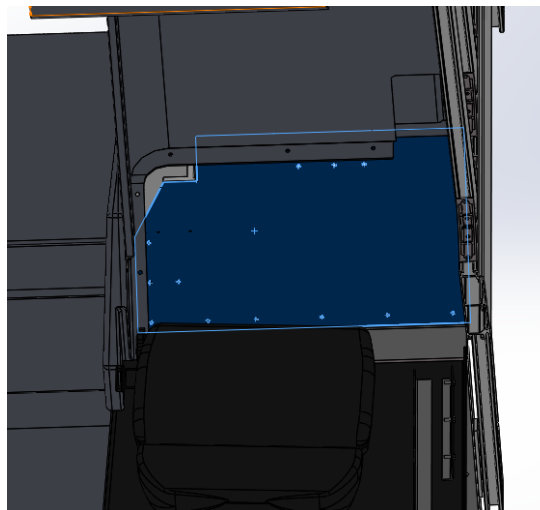
Measure
here



6. Place the bottom of AR0021426 (Hinge Tube Mount Template) on the horizontal line that was just drawn and the front edge of the template should sit flush with the edge of the wheel well wall. Mark the four holes.



7. Using the hole locations that were just marked, complete the below drilling operations at each location.
 - a. Center Punch
 - b. Drill 1/8" Pilot Hole
 - c. Use a 3/4" hole saw to drill through both walls of the extrusion
8. Remove the screws securing the wheel well cover behind the driver's seat. Once done, remove the wheel well cover.



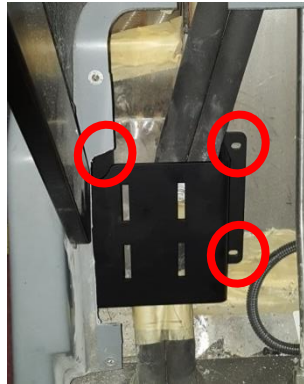
9. Behind the driver's seat, mark out the below area. This area needs to be cut out with a cut off wheel to allow for proper mounting of the mounting brackets.



10. Behind the driver seat, drill out the upper left and middle rivet for the mounting bracket. Mark the rivet head with a center punch and drill a 1/8" Pilot Hole. Enlarge the pilot hole with a #F drill bit (0.2570") and then tap the hole with a 5/16-18 tap. Only the top rivet needs to be tapped. The middle rivet needs to be removed so the bracket sits flat over the fender wall.



11. Locate AR0012705 (Hinge Post Mounting Bracket) and place it behind the driver seat as shown. The hole that was just drilled and tapped should be centered in the top left mounting hole. Using a marker, mark the two holes on the right side of the bracket.

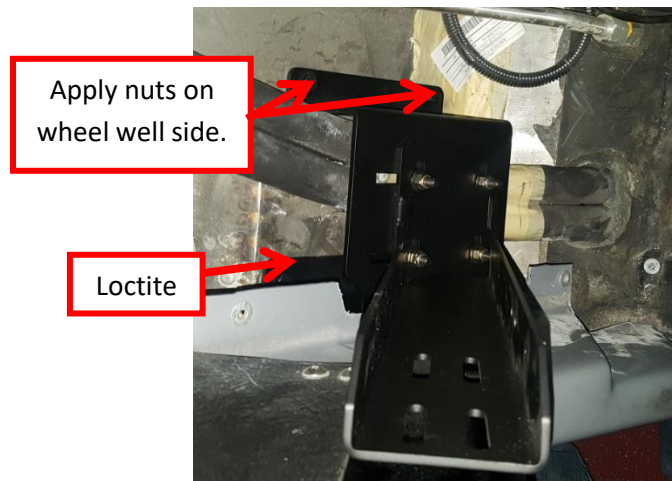


12. Remove the bracket and center punch the marked hole locations. Use a 1/8" drill bit and then an 11/32" (0.344") drill bit and drill a through hole in those locations.
13. Assemble the hinge mount assembly as shown using AR0012705 (Gillig LF Hinge Post Mounting Bracket) and AR0014271 (Hinge Mount Weldment). Use (4) AR0014064 (5/16-18 x 1" Carriage Bolts), (4) AR0010122 (5/16" Flat Washers), and (4) AR0005081 (5/16-18 Lock Nuts). **Tighten to a final torque of 11 ft-lbs.**

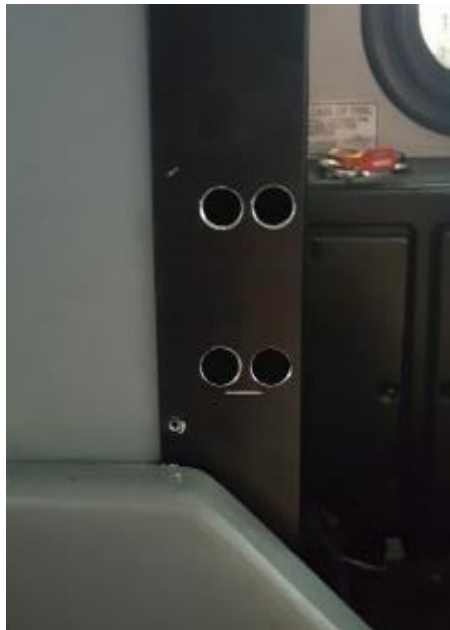
NOTE: Do not tighten bolts all the way as the bracket may need to be adjusted later.



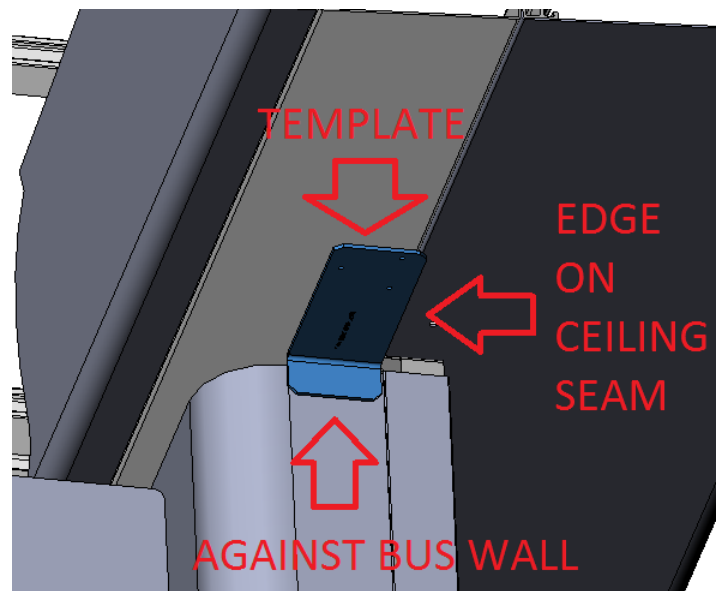
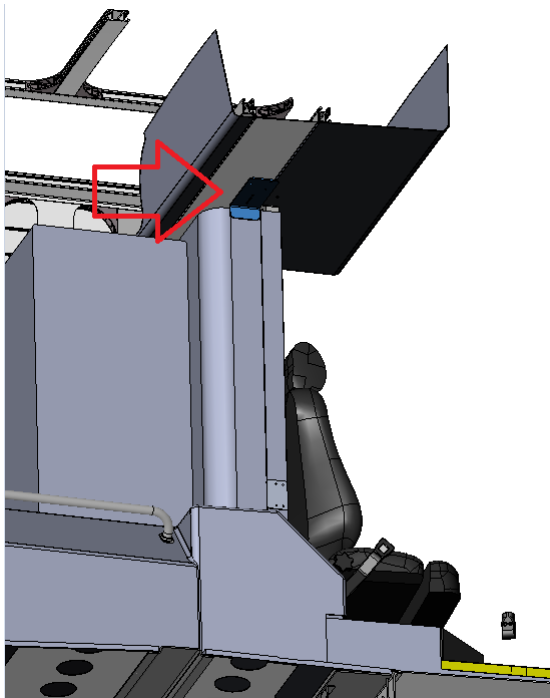
14. Using the previously drilled holes, install the hinge mounting assembly using (3) AR0010400 (5/16-18 x 1" Bolts), (5) AR0010122 (5/16" Flat Washers), and (2) AR0005081 (5/16-18 Lock Nuts). **Apply Loctite** to the top left bolt prior to fastening. On the right two bolts, the nuts are attached on the wheel side of the wheel well.



15. Check the alignment of the holes in the bus wall and the hinge mount assembly to ensure they line up. Adjust the hinge mount assembly as needed.

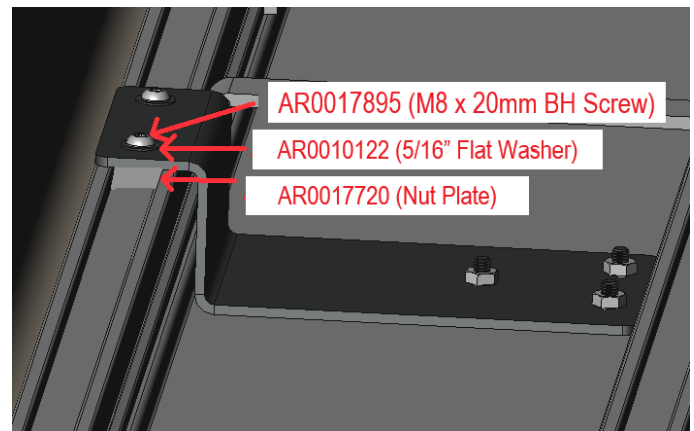
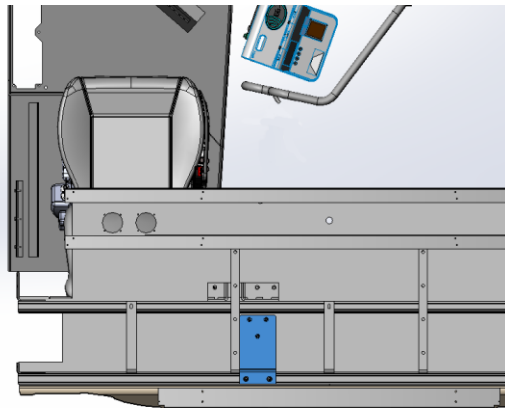


16. Locate AR0021425 (Ceiling Mount Template) and place it on the ceiling as shown below. The short edge of the template should sit flush against the wheel well wall and the long edge should line up with the split line in the ceiling. Mark the three holes in the template and then the template can be removed.

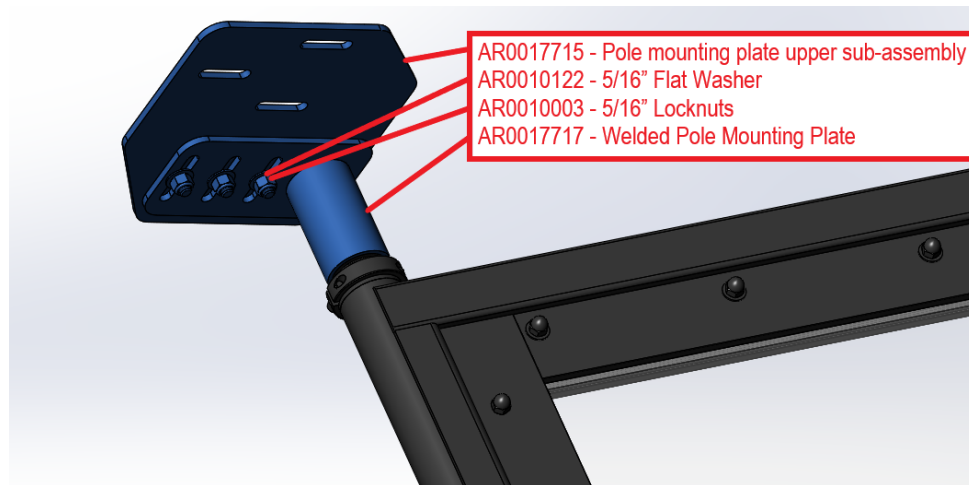


17. Open the ceiling panel and verify there is nothing directly above the marked hole locations.
18. Center punch and drill a 1/8" pilot hole at the 3 ceiling mount locations. Enlarge the holes using an 25/64" or 3/8" drill bit.

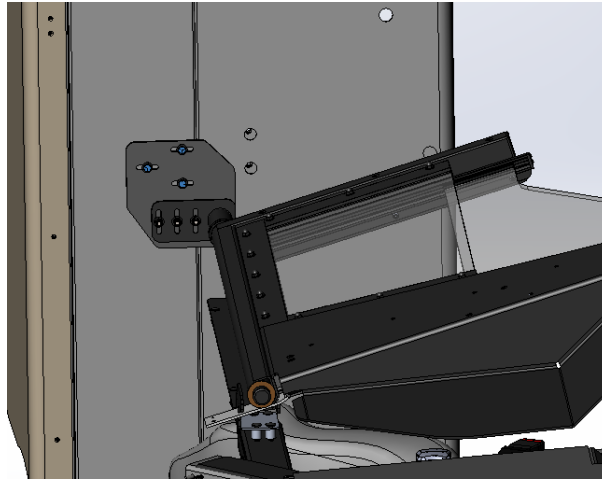
19. Locate (1) AR0017713 (Ceiling Mount), (2) AR0010122 (5/16" Flat Washers), (2) AR0017895 (M8 x 20mm BH Screws), and (2) AR0017720 (Nut Plates). Place the two nut plates in the ceiling extrusion and place the ceiling mount so it hangs over the ceiling extrusion and goes towards the front of the bus. Use the screws, washers, and nut plates to fasten the ceiling mount plate. Prior to fastening all of the way, ensure the weld nuts line up with the previously drilled holes. **Apply Loctite to the bolts prior to installation. Tighten to a final torque of 11 ft-lbs.**



20. Locate (1) AR0017717 (Welded Pole Mounting Plate), (1) AR0017715 (Pole Mounting Plate Upper Sub-Assembly), (3) AR0010122 (5/16" Flat Washer), and (3) AR0010003 (5/16-18 Lock Nuts) and fasten together as shown. Next Slide it on top of the doors hinge post. **Tighten to a final torque of 11 ft-lbs.**



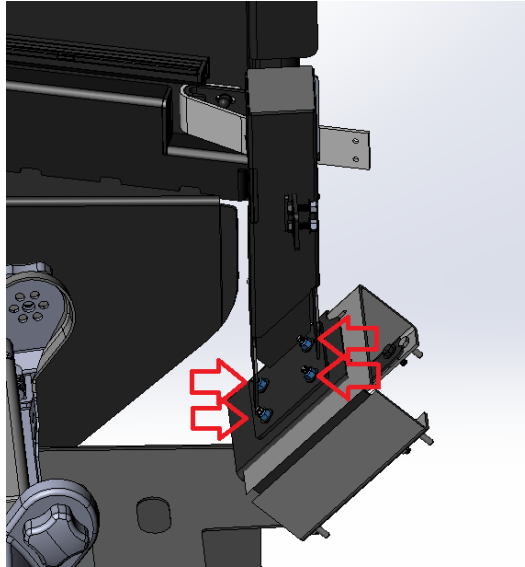
21. Insert (4) AR0010437 (Spacers) into the drilled holes in the wheel well wall. Attach the door using (4) AR0010116 (5/16-18 x 2" Carriage Bolts), (4) AR0010122 (5/16" Flat Washers), and (4) AR0005081 (5/16-18 Lock Nuts). **Tighten to a final torque of 11 ft-lbs.**
22. Use (3) AR0010400 bolts to secure the ceiling mount to the bus. The bolts should thread into the previously installed weld nuts. **Apply Loctite to the bolts prior to installation. Tighten to a final torque of 11 ft-lbs.**



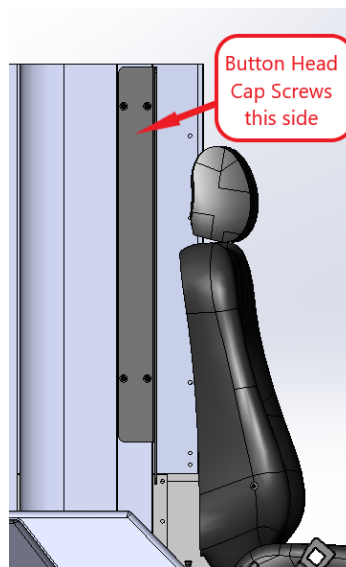
23. Using a level, make sure the hinge post is level front to back and side to side, adjust as needed by loosening the nuts and/or bolts and sliding in the needed direction.



24. Finish tightening the four nuts that were used to assemble the hinge mounting assembly.
Tighten to a final torque of 11 ft-lbs.



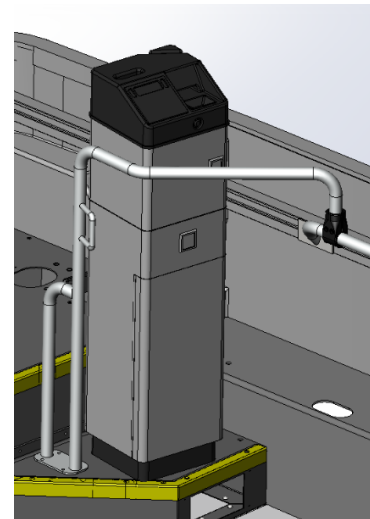
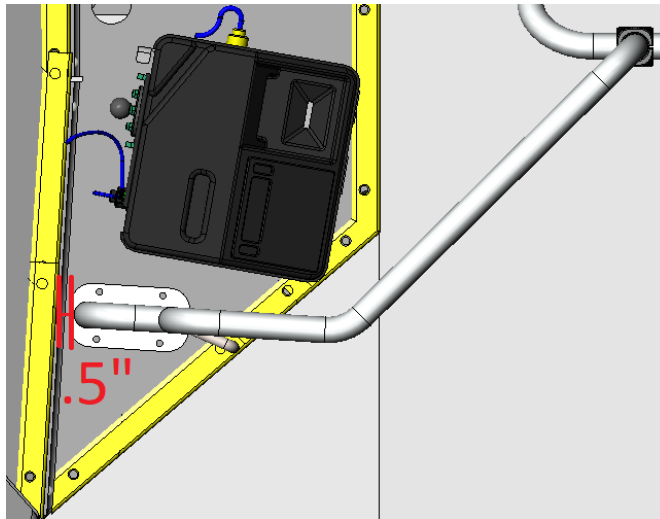
25. Locate AR0014565 (Hinge Closeout), (4) AR0014566 (1/4"-20 x 1.25" BH Screws), (4) AR0007440 (1/4" Flat Washers), and (4) AR0007439 (1/4"-20 Acorn Nuts). Install the closeout on wheel well wall using the holes that were previously drilled. **Tighten to a final torque of 7 ft-lbs.**



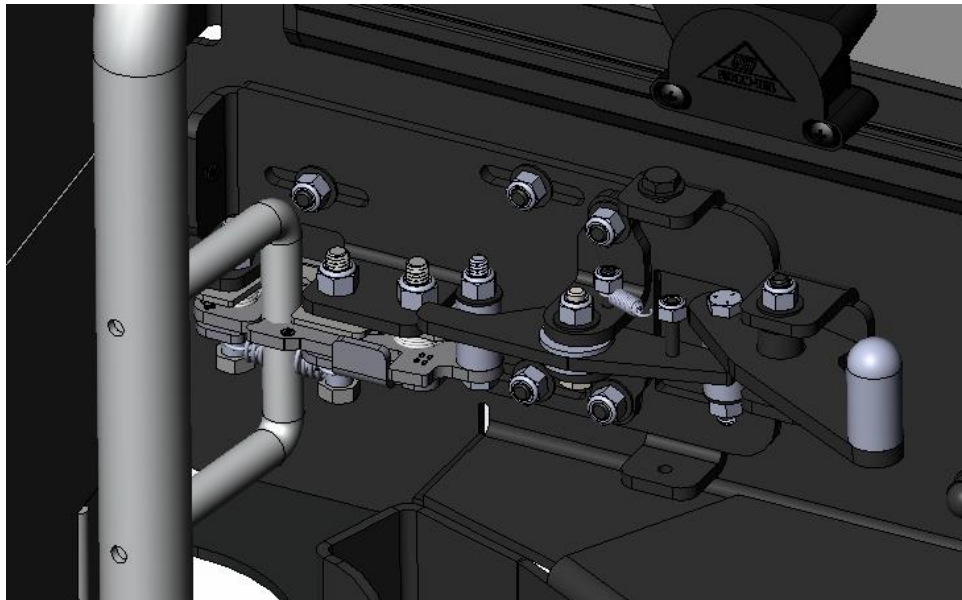
26. Remove the 4 Phillip screws holding on the fare box pedestal cover plate.



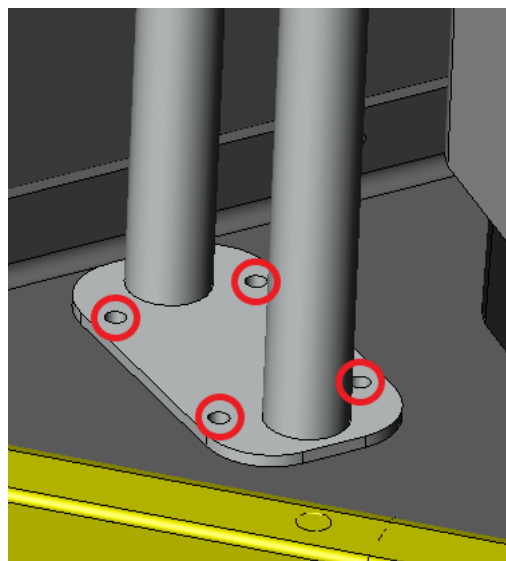
27. Locate AR0023776 (Stanchion Weldment) and AR0011994 (Handrail Clamp). Position the stanchion 1/2" from the driver pedestal as shown below and use the handrail clamp to attach the stanchion to the front handrail.



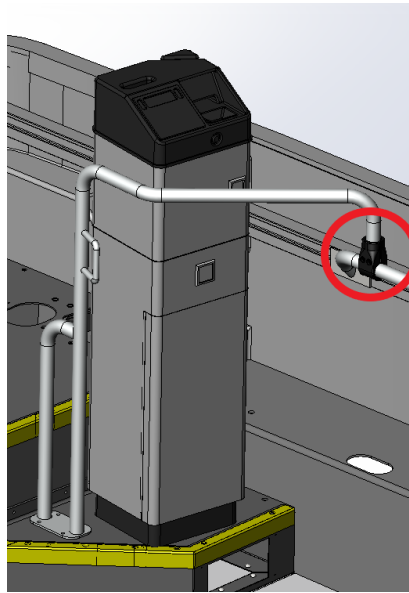
28. Once the stanchion is in its' approximate location, cycle the door open and closed and check the alignment of the latch and the latch strike. There is some adjustment in the latch so it does not need to be perfect, but should be close. Adjust the stanchion as needed.



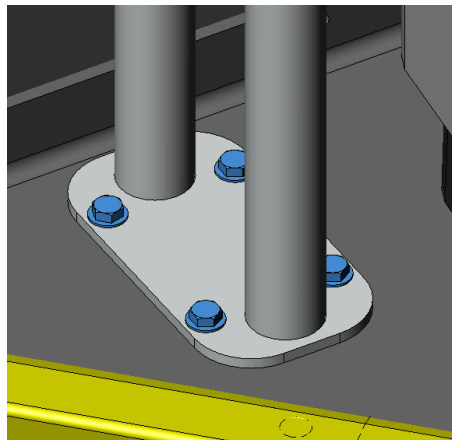
29. Mark the 4 holes on the stanchion base plate and the stanchion can be removed.



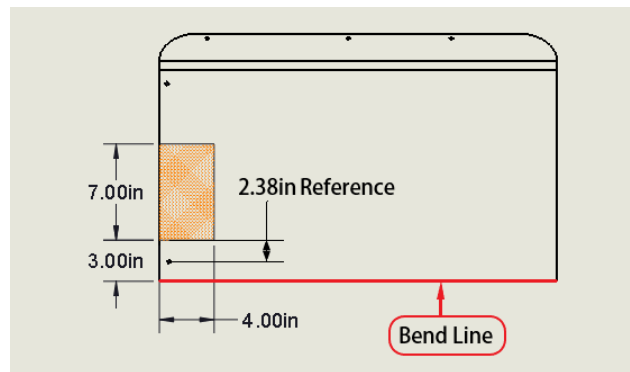
30. Center punch and drill a 1/8" pilot holes at the hole locations. Use a 9/32" drill bit and drill two through holes. **NOTE: ENSURE THERE ARE NO WIRES DIRECTLY UNDER THE HOLES**
31. Reposition the stanchion and use a 1/4" hex key to secure AR0011994 (Handrail Clamp) to the front handrail. **Apply Loctite and tighten to a final torque of 7 ft-lbs.**



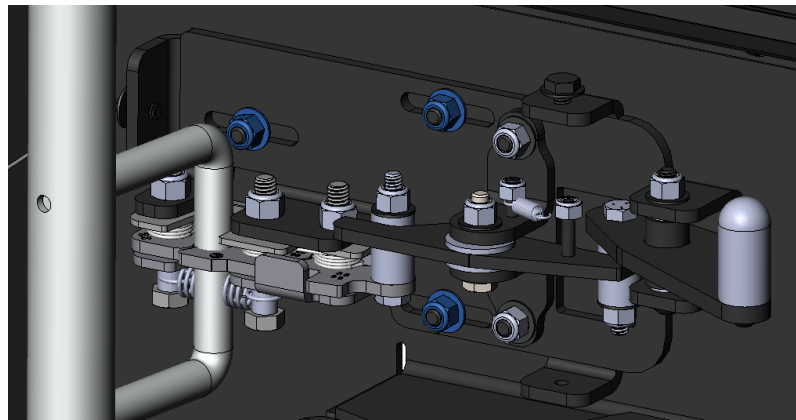
32. Use (4) AR0010117 (1/4"-20 Hex Bolts), (8) AR0007440 (1/4" Flat Washers), and (4) AR0004824 (1/4"-20 Lock Nuts) to secure the stanchion to the farebox pedestal. **Tighten to a final torque of 7 ft-lbs.**



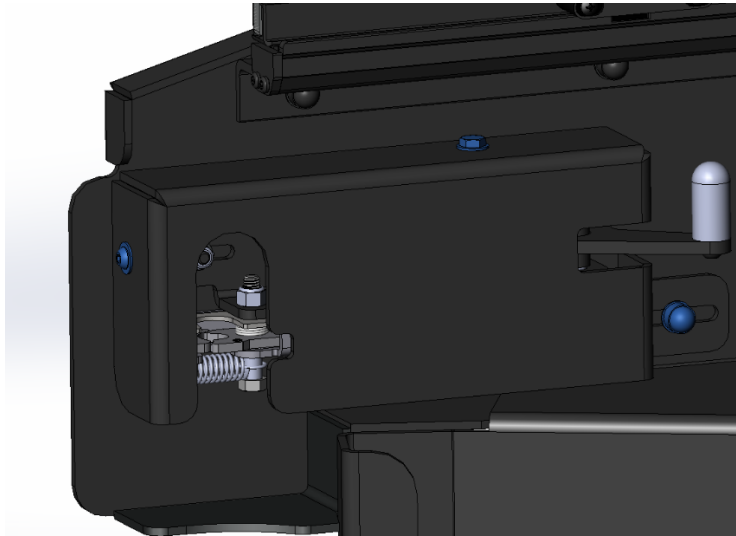
33. The front farebox cover plate can be reinstalled using the previous hardware.
34. Verify all bolts on the hinge mount assembly, wheel well mount, and ceiling mount are all tight.
35. Mark out the bracket location on the wheel well cover using the provided dimensions. Use a cut off wheel to cut out that area.



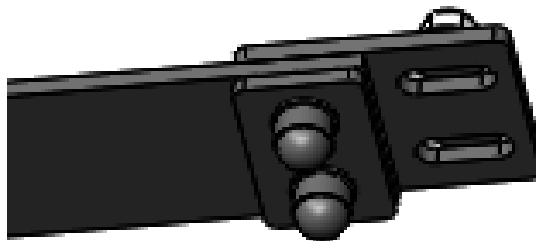
36. Reinstall the wheel well cover using the previous hardware.
37. Cycle the door open and closed and adjust the door latch if needed. The latch strike should line up in the center of the door latch.
38. If the latch needs to be adjusted, loosen the three nuts and slide the latch whatever way is needed and then retighten the nuts. **Tighten to a final torque of 7 ft-lbs.**



39. Locate AR0014055 (Latch cover) and secure it to the door using (1) AR0014568 (1/4-20 x .5" Hex Bolt), (1) AR0011051 (1/4-20 x .5" BH Screw), (3) AR0007440 (1/4" Flat Washers), (1) AR0004824 (1/4-20 Lock Nut), and (1) AR0011048 (1/4" Dome Cap). **Tighten to a final torque of 7 ft-lbs.**



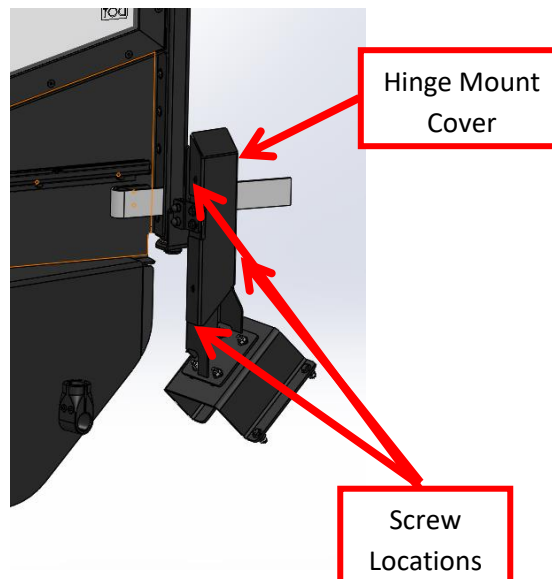
40. Locate AR0011243 (Tether Retainer) and AR0014279 (Tether Adjuster). Position the adjuster on the backside of the strap and the Retainer on the front. Use (2) AR0012529 (1/4-20 x 1" FH Screws), (2) AR0007440 (1/4" Flat Washers), and (2) AR0004824 (1/4-20 Lock Nuts) to fasten the 3 pieces together. Place AR0011048 (1/4" Dome Cap) over the nut. **Tighten to a final torque of 7 ft-lbs.**



41. Attach the tether strap assembly to the side of the hinge mount weldment. Use (2) AR0010400 (5/16-18 x 1" Hex Bolts), (4) AR0010122 (5/16" Flat Washers), and (2) AR0005081 (5/16-18 Lock Nuts). Adjust strap to the desired open location. **Tighten to a final torque of 7 ft-lbs.**



42. Locate AR0014276 (Hinge Mount Cover) and (3) 0000422F (Torx Pan Head Screws). Fasten the hinge mount cover to the hinge mount weldment as shown using the above hardware.



43. Cycle the door to ensure proper latch engagement.
44. This installation is complete.



Revision	Date	Change Detail
-	6/18/20	Created