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FSC 22-18-2897 - 5 Tank Fairing Close out Bracket

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Field Service Campaign

Issue Description (Rich Text)

The CNG Pontoon Closeout Brackets may experience a fatigue failure and should be removed and replaced.

Rework Instructions for CNG Closeout Brackets 20-68822-007 & 20-68822-011 & Closeout Plate 20-68891-010

This knowledge article outlines the proper procedure to replace brackets 20-68822-007 and 20-68822-011 and modify closeout plate 20-68891-010.

Symptoms (Rich Text)

Tools Required (Rich Text)

✓1/2" hex socket (qty 1)

✓3/8" or 1/2" square drive ratchet (compatible w/ the hex socket above) (qty 1)

✓Torque wrench (compatible w/ the hex socket above) capable of 17 ft-lbs (qty 1)

✓1/2" crescent wrench (qty 1)

✓15/32" drill bit (must be suitable for drilling sheet metal) (qty 1)

✓Power drill (qty 1)

✓Tape measure (qty 1)

Was this article helpful?



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Categories (0)

Expand All



✓Safety harness & fall protection

Parts Required:

- ✓Bracket - 20-68822-024P (qty 2)
- ✓Bracket - 20-68822-025P (qty 1)
- ✓5/16-18 UNC x 1.25" cap screw - (P/N 54-11318-004) (qty 2)
- ✓5/16-18 UNC x 1.00" cap screw - (P/N 54-11318-003) (qty 5)
- ✓3/8" SAE washer - (P/N 54-12600-008) (qty 7)
- ✓5/16" fender washer - (P/N 54-12605-003) (qty 7)
- ✓5/16-18 lock nut - (P/N 54-12540-006) (qty 7)

Diagnostic Steps

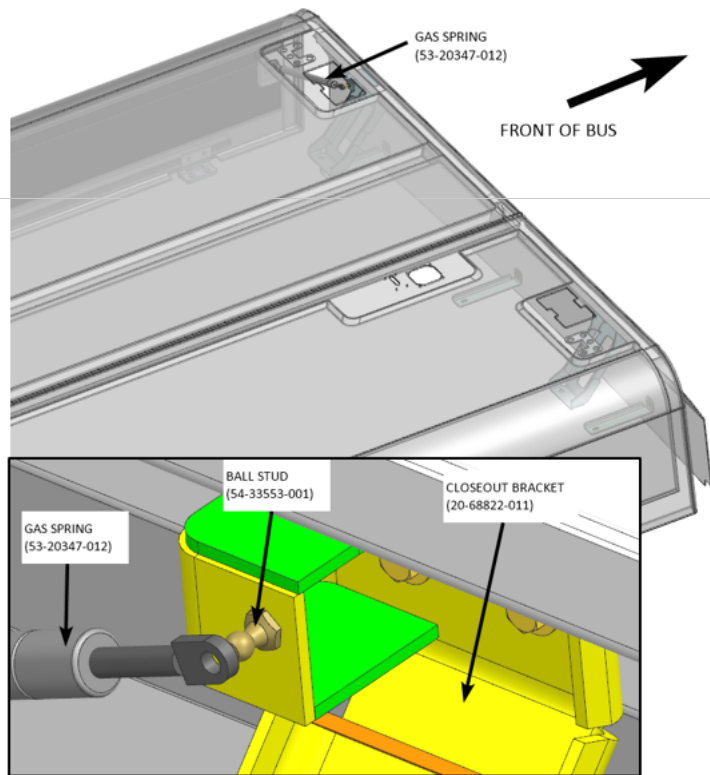
Repair Steps

STEP 1: Disconnect forward gas spring from closeout bracket

WARNING: Be sure to wear a safety harness or other fall protection safety devices when working on the roof of the bus.

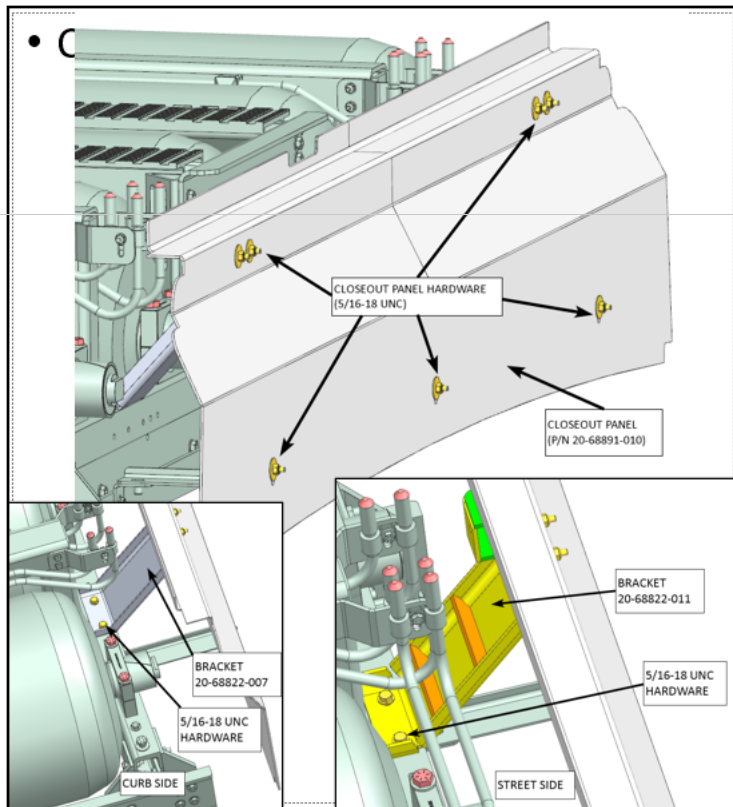
WARNING: The gas spring is under a compression load. Exercise caution when removing or re-attaching the gas spring.

1. Fully open both fairing doors.
2. Disconnect the street side forward gas spring (P/N 53-20347-012 or -013) from the ball stud (P/N 54-33553-001) on the closeout bracket (P/N 20-68822-011).
3. Use 1/2" hex sockets or wrenches to remove the ball stud (P/N 54-33553-001) from the closeout bracket (P/N 20-68822-011). The ball stud will be reused later.



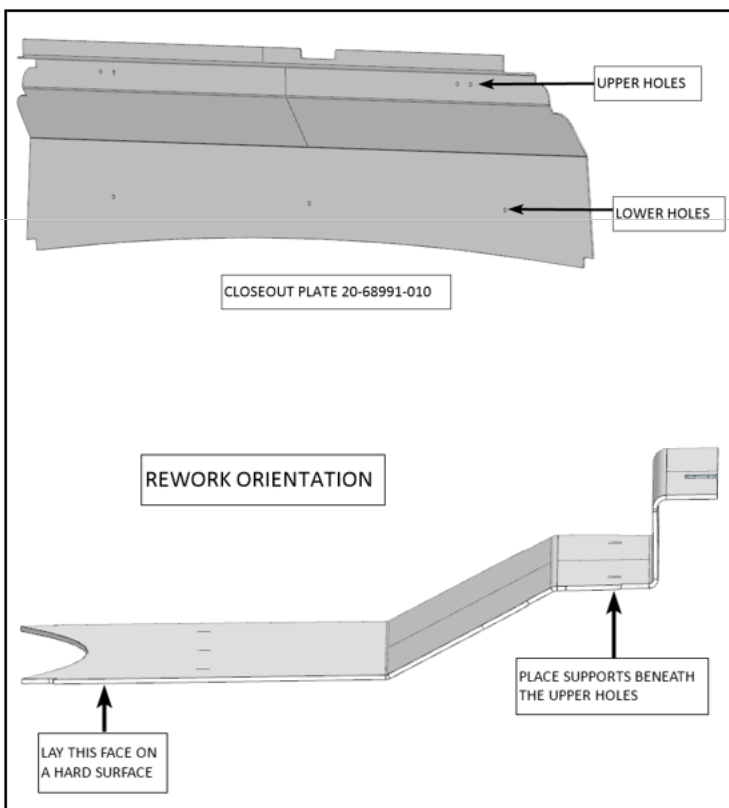
STEP 2: Remove the closeout panel and two closeout brackets from the CNG frame.

1. Use the 1/2" hex socket and crescent wrench to remove the 5/16-18 hardware that secures the closeout panel (P/N 20-68891-010) to the brackets (P/N 20-68822-007 & 20-68822-011).
2. Remove the closeout panel (P/N 20-68891-010) from the bus. This panel will need to be reworked on a work bench or other stable surface.
3. Remove the 5/16-18 hardware that secures the brackets (P/N 20-68822-007 & 20-68822-011) to the CNG frame.
4. Remove the brackets (P/N 20-68822-007 & 20-68822-011) from the bus. These brackets can be discarded.

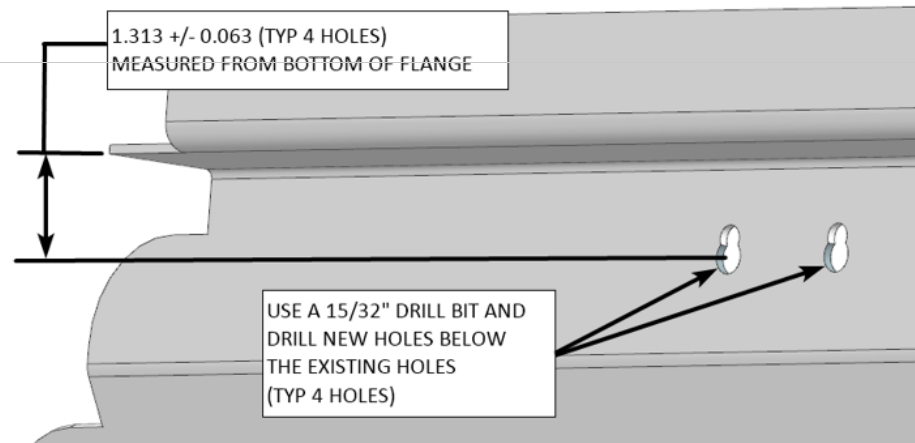


STEP 3: Modify closeout panel 20-68991-010.

1. Place the closeout panel on a hard surface in the orientation shown in the lower left picture. Support the closeout as necessary to prevent deformation during the rework process.
2. Use a 15/32" drill bit to drill new upper mounting holes as shown in the picture on sheet 5
3. Use a 15/32" drill bit and enlarge the existing lower mounting holes. Drill new lower mounting holes (as shown on sheet 6) and then trim the material around the holes to make vertical slots.



UPPER HOLE MODIFICATION



LOWER HOLE MODIFICATION



EXISTING HOLE
(TYP 3 LOCATIONS)



USE A 15/32" DRILL BIT TO ENLARGE THE EXISTING HOLE.
DRILL A NEW 15/32" HOLE BELOW THE EXISTING HOLE.
(TYP 3 LOCATIONS)

0.875 +/- 0.063 (TYP 3 LOCATIONS)

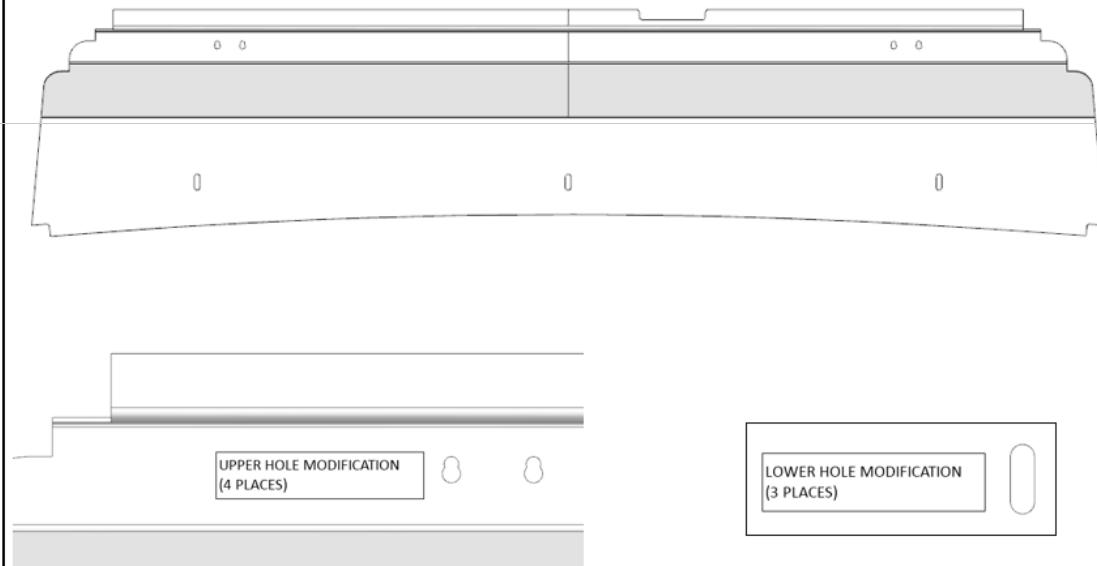


REMOVE THIS MATERIAL
TO FORM A SLOT
(TYP 3 PLACES)



FINAL SLOT
(TYP 3 PLACES)

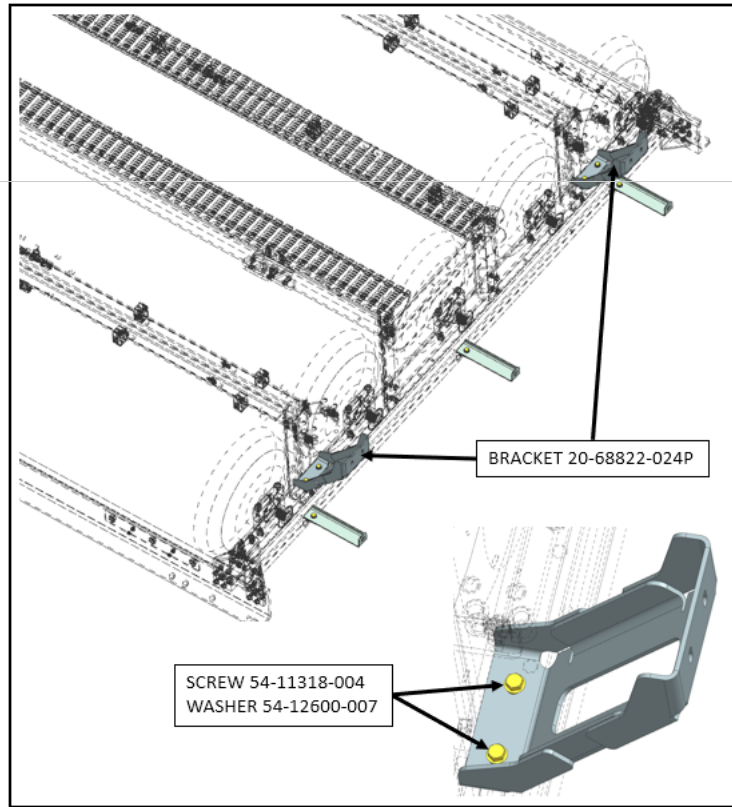
MODIFIED CLOSEOUT



STEP 4: Install new brackets.

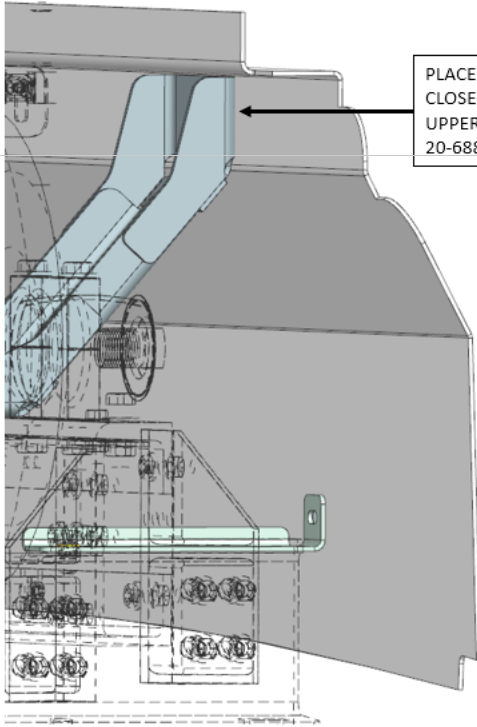
1. Install new two new brackets (P/N 20-68822-024P) in the same location as brackets 20-68822-007 and 20-68822-011 using 5/16-18 UNC x 1.25 cap screws (P/N 54-11318-004) and 5/16" SAE washers (P/N 54-12600-007).

2. Hand-tighten the screws only (to allow for adjustments during the closeout plate installation).



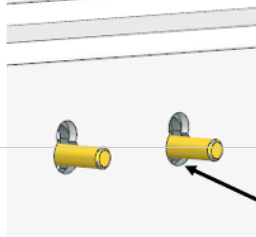
STEP 5: Install closeout plate.

1. Place the modified closeout plate (P/N 20-68891-010) against the upper face of the new 20-68822-024P brackets.
2. Install the curb side upper mounting hardware into the large upper mounting holes that were drilled during the closeout plate modification.
The curb side bracket uses 5/16-18 UNC x 1.00 cap screws (P/N 54-11318-003), 3/8 SAE washers (P/N 54-12600-008), 5/16 fender washers (P/N 54-12605-003), and 5/16-18 UNC lock nuts (P/N 54-12540-006).

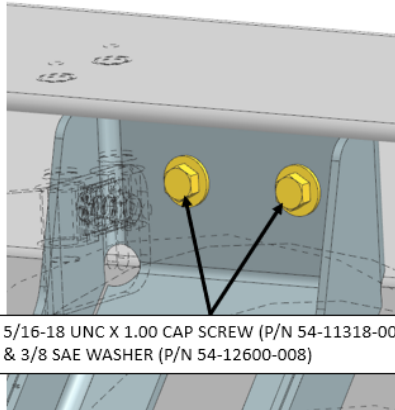


PLACE THE MODIFIED
CLOSEOUT AGAINST THE
UPPER FACE OF THE NEW
20-68822-024P BRACKETS

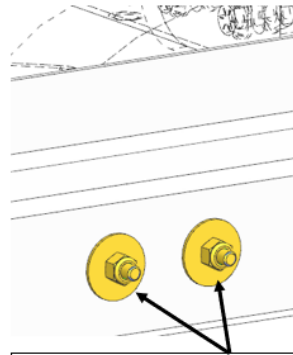
CURB SIDE UPPER MOUNTING HARDWARE



INSTALL THE UPPER MOUNTING HARDWARE IN THE NEW HOLES THAT WERE DRILLED IN THE CLOSEOUT PLATE DURING THE MODIFICATION PROCESS



5/16-18 UNC X 1.00 CAP SCREW (P/N 54-11318-003)
& 3/8 SAE WASHER (P/N 54-12600-008)

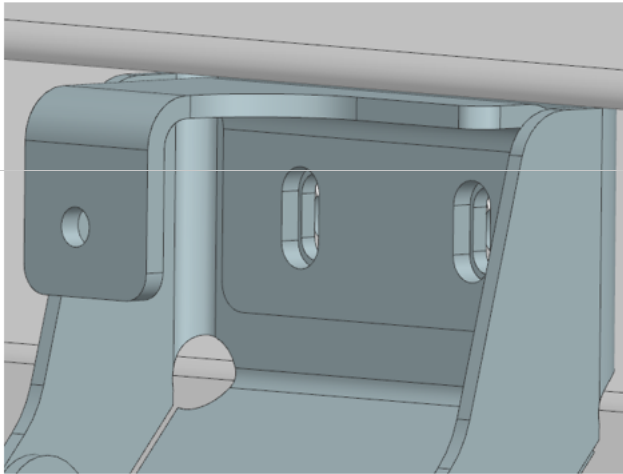


5/16-18 FENDER WASHER (P/N 54-12605-003)
& 5/16-18 UNC LOCK NUT (P/N 54-12540-006)

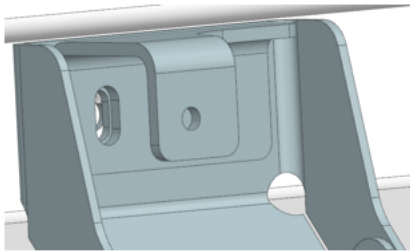
STEP 5: Install closeout plate (continued)

3. Adjust the position of the street side 20-68822-024P bracket as necessary to align all of the closeout plate mounting holes and slots.
4. Install new gas spring bracket 20-68822-025P on the street side 20-68822-024P bracket.
5. Install the street side upper mounting hardware into the large upper mounting holes that were drilled during the closeout plate modification.
The street side bracket uses 5/16-18 UNC x 1.25 cap screws (P/N 54-11318-004), 3/8 SAE washers (P/N 54-12600-008), 5/16 fender washers

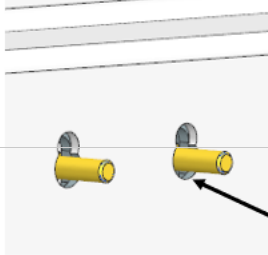
(P/N 54-12605-003), and 5/16-18 UNC lock nuts (P/N 54-12540-006).



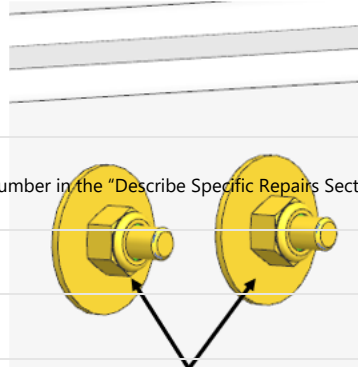
PLACE NEW BRACKET 20-68822-025P ON THE STREET SIDE 20-6822-024P BRACKET



STREET SIDE UPPER MOUNTING HARDWARE



INSTALL THE UPPER MOUNTING HARDWARE IN THE NEW HOLES THAT WERE DRILLED IN THE CLOSEOUT PLATE DURING THE MODIFICATION PROCESS



5/16-18 FENDER WASHER (P/N 54-12605-003)
& 5/16-18 UNC LOCK NUT (P/N 54-12540-006)

Labor Information

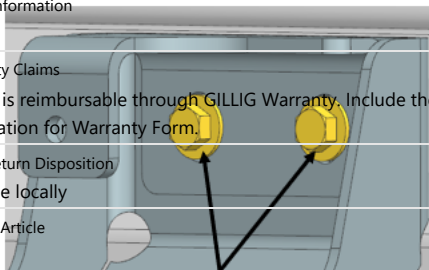
Warranty Claims

Repair is reimbursable through GILLIG Warranty. Include the Repair Plan bulletin number in the "Describe Specific Repairs Section" (3C's) of GILLIG Application for Warranty Form.

Parts Return Disposition

Dispose locally

Vendor Article



5/16-18 UNC X 1.25 CAP SCREW (P/N 54-11318-004)
& 3/8 SAE WASHER (P/N 54-12600-008)

✓ Visibility

Visible In Internal App

Visible to Customer

STEP 5: Install closeout plate (continued)

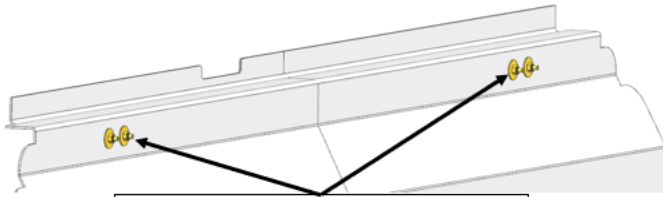
Visible In Public Knowledge Base

6. Tighten the upper mounting hardware to 17 ft-lbs torque (typical 4 places).

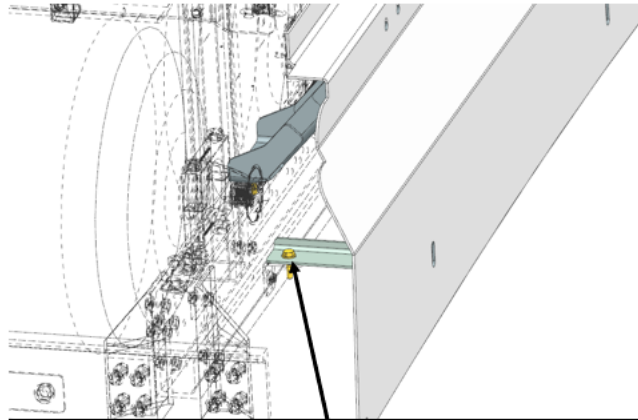
7. If required, loosen the lower bracket hardware and adjust the lower brackets as needed to align with the lower slots on the closeout plate.

8. Install the mounting hardware for the lower closeout mounting slots (typical 3 places). The lower mounting hardware consists of 5/16-18 UNC x 1.00 cap screws (P/N 54-11318-003), 3/8 SAE washers (P/N 54-12600-008), 5/16 fender washers (P/N 54-12605-003), and 5/16-18 UNC lock nuts (P/N 54-12540-006).

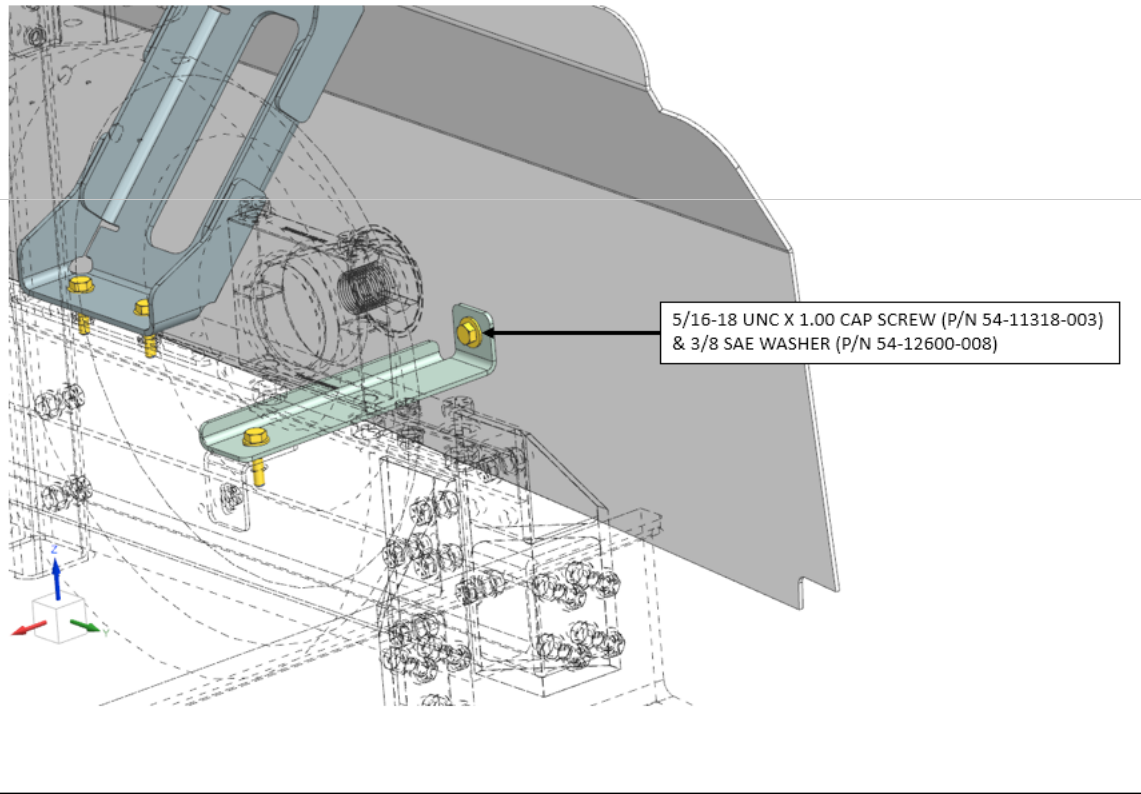
9. Tighten the lower bracket mounting hardware and the closeout lower mounting hardware to 17 ft-lbs.

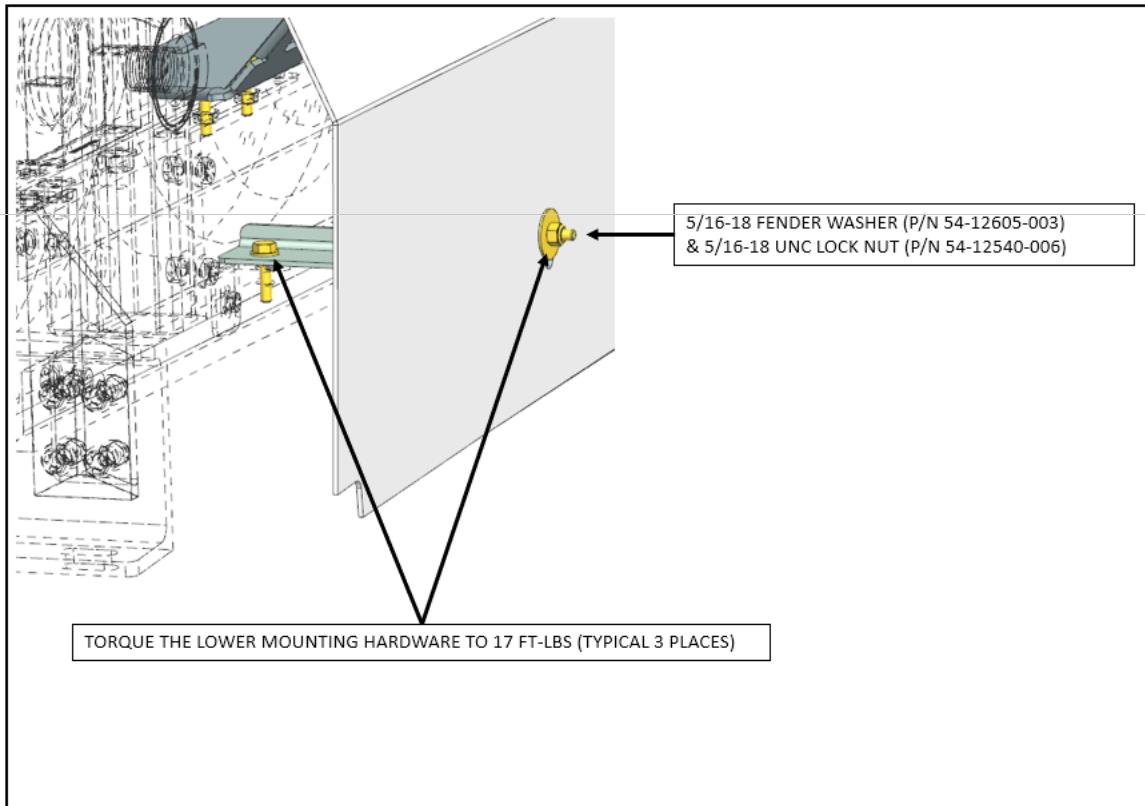


TIGHTEN THE UPPER HARDWARE TO 17 FT-LBS



IF NEEDED, LOOSEN THE LOWER BRACKET HARDWARE AND ADJUST THE LOWER BRACKETS TO ALIGN WITH THE LOWER SLOTS IN THE CLOSEOUT PLATE (3 PLACES).

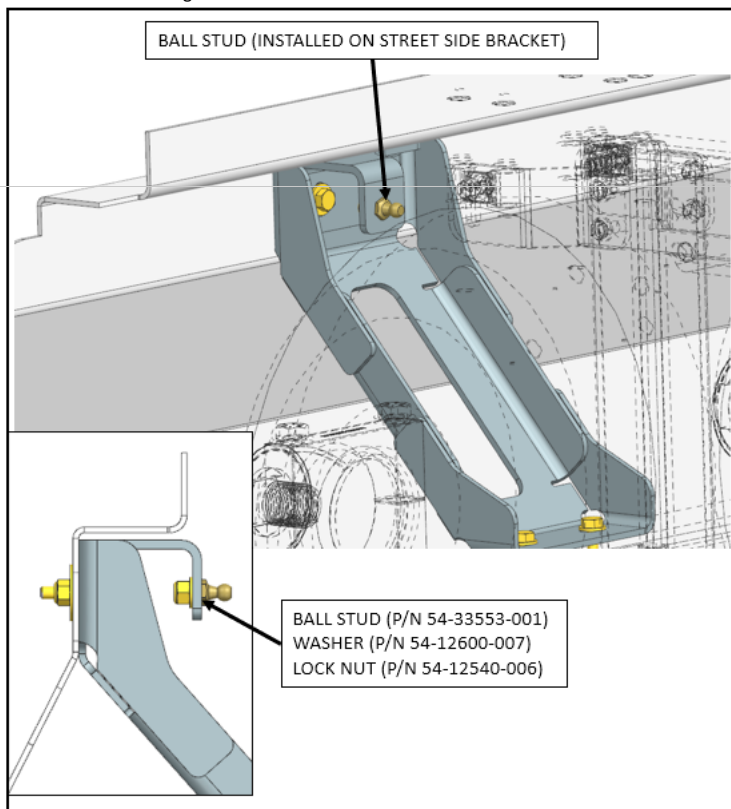




STEP 6: Install gas spring.

1. Install the ball stud (P/N 54-33553-001) onto the street side gas spring bracket (P/N 20-68822-025P). Include the 5/16 SAE washer (P/N 54-12600-007) and 5/16-18 UNC lock nut (P/N 54-12540-006).
2. Tighten the ball stud hardware to 17 ft-lbs.
3. Connect the forward gas spring (P/N 53-20347-XXX) to the ball stud.

4. Close and lock the fairing doors.





Knowledge

FSC 22-18-2897 - 5 Tank Fairing Close out Bracket

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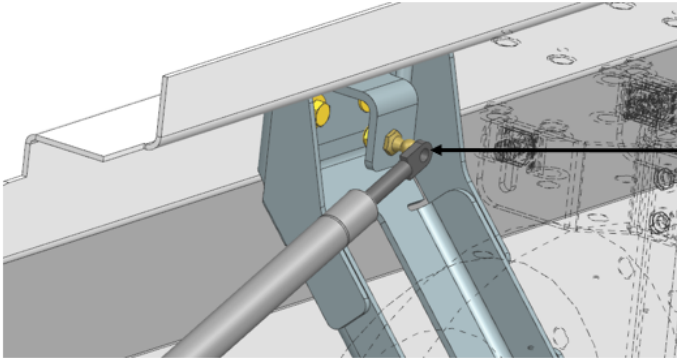
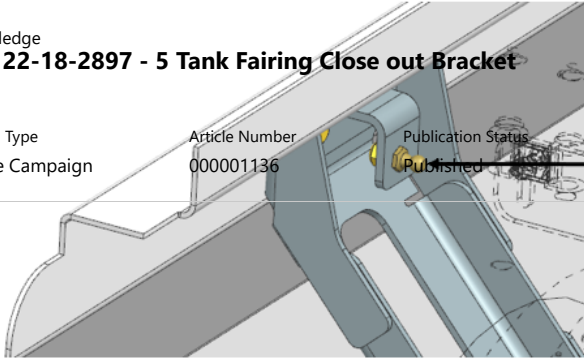
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TIGHTEN THE BALL STUD
HARDWARE TO 17 FT-LBS

Version Number

1

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ATTACH THE FORWARD STREET SIDE
GAS SPRING TO THE BALL STUD



Knowledge

FSC 22-18-2897 - 5 Tank Fairing Close out Bracket

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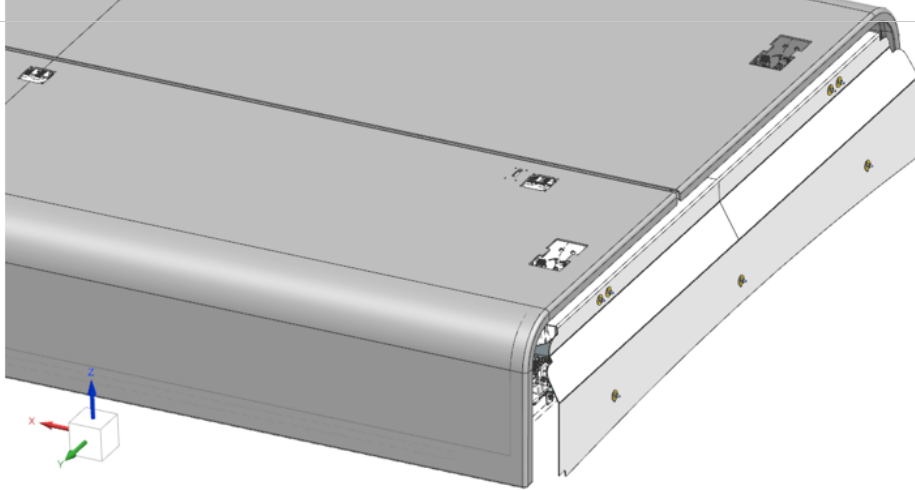
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CLOSE AND LOCK THE FAIRING DOORS