# Ford F-650/750

Gen 4 Liquid Propane Autogas Fuel System:
Dual Short (P16FB-10A005-B & P16FB-10A006-B)
Dual Medium (P16FB-10A005-C & P16FB-10A006-C)
Single Medium Tank (P17FB-10A005-A)
Single Long Saddle Tank (P16FB-10A005-A)

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# SPECIAL TOOLS

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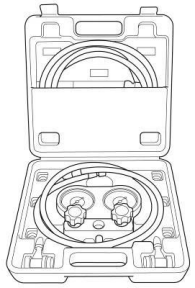
|  |  |  |  |  |  |  |  |
| **Touch-Up Paint** | **Liquid Leak Detector** | **Premium Aerosol Undercoating** | **Torque Wrenches (to 8 Nm and to 200 Nm)** | **A/C Manifold Gauge Kit** | **Gloves (Approved for Propane)** | **Scan Tool** | **J2044 Quick Disconnect Tool (1/4” and 3/8”)** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| **Hole Saw – 29 mm.** | **Vacuum Gauge** | **Vacuum Pump** | **Dielectric Grease** | **Stepless Ear Clamp Pliers** | **Drill Bits – 1/4”, 9/32“, 3/8”, 1/2 and 5/8”.** | **Tubing Cutter** | **Crows Foot – 9/16” and 11/16”** |

# SPECIAL TOOLS CONTINUED

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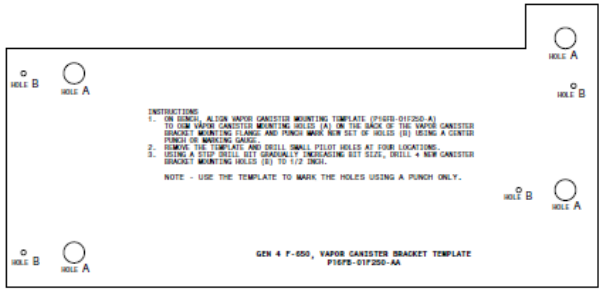
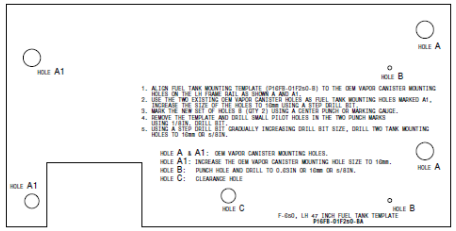
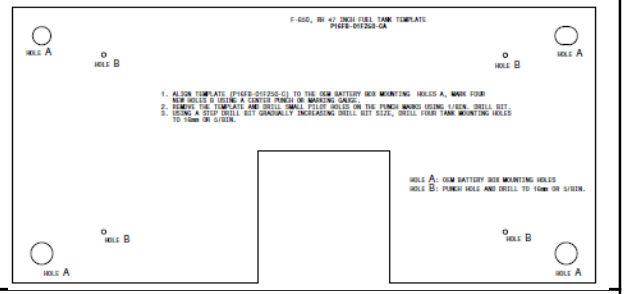
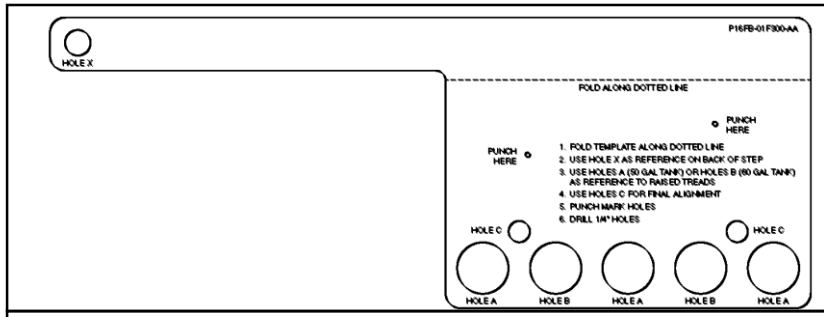
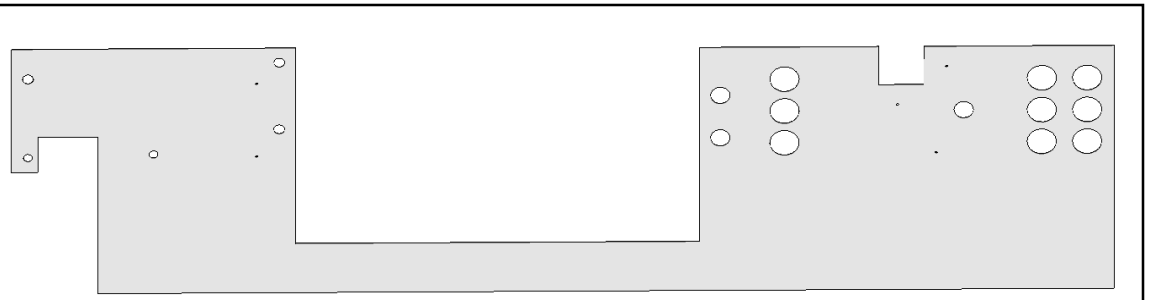
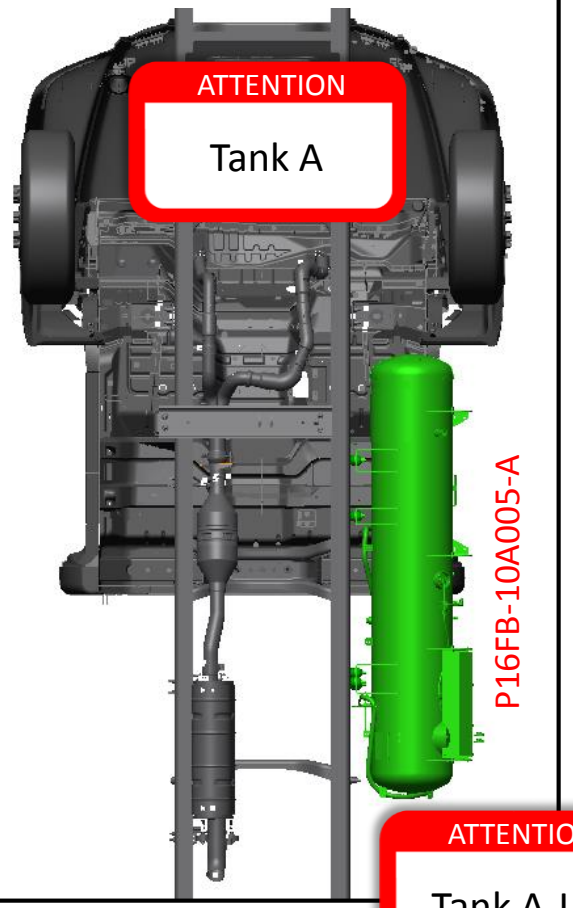
|  |  |  |  |  |
| Reciprocating Saw | Die Grinder With Deburring Tool | Evap Canister Template #1 – P16FB-01F200-A | LH Short/Med Tank Mounting Template P16FB-10E201-B* | RH Short/Med Tank Mounting Template – P16FB-01F250-C* |

| | |
|---|---|
|  |  |
| LH Fill Filter Mounting Template – P16FB-01F300-A | Long Tank Mounting Template – P16FB-01F250-C* |

***Note: If truck was not ordered with VSO frame punch code, please call Roush (800-59-ROUSH) to order tank mounting template**

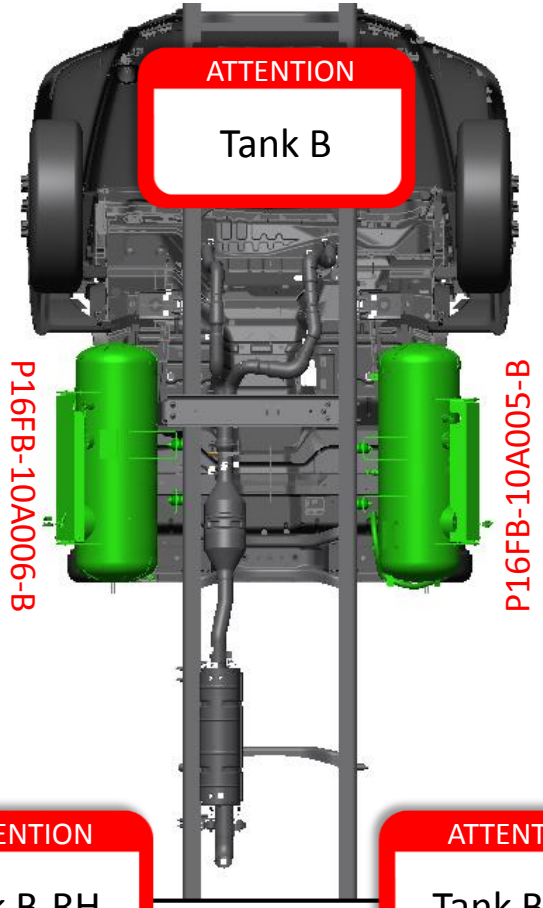
# TANK PART NUMBERS

## Single Long Tank




ATTENTION
Tank A-LH

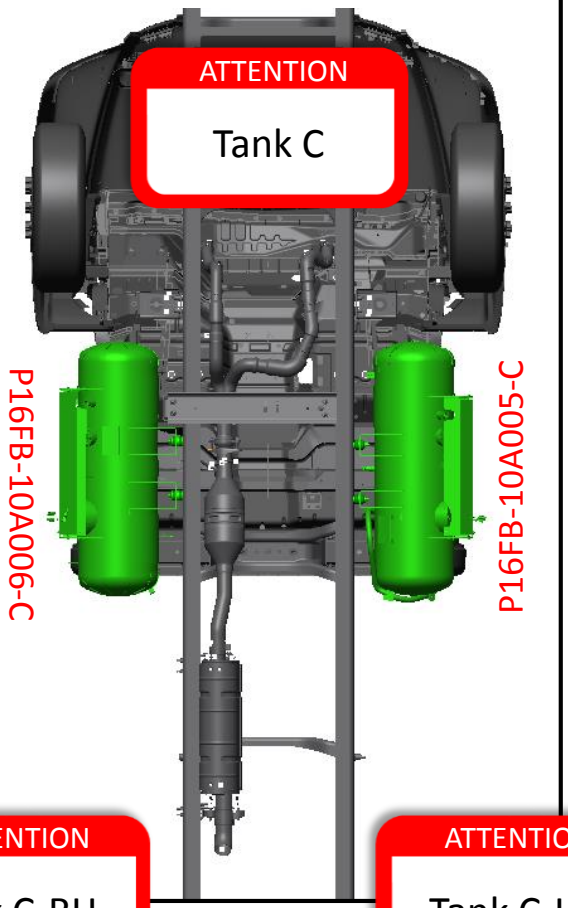
## Short Tanks




ATTENTION
Tank B-RH

ATTENTION
Tank B-LH

## Medium Tanks

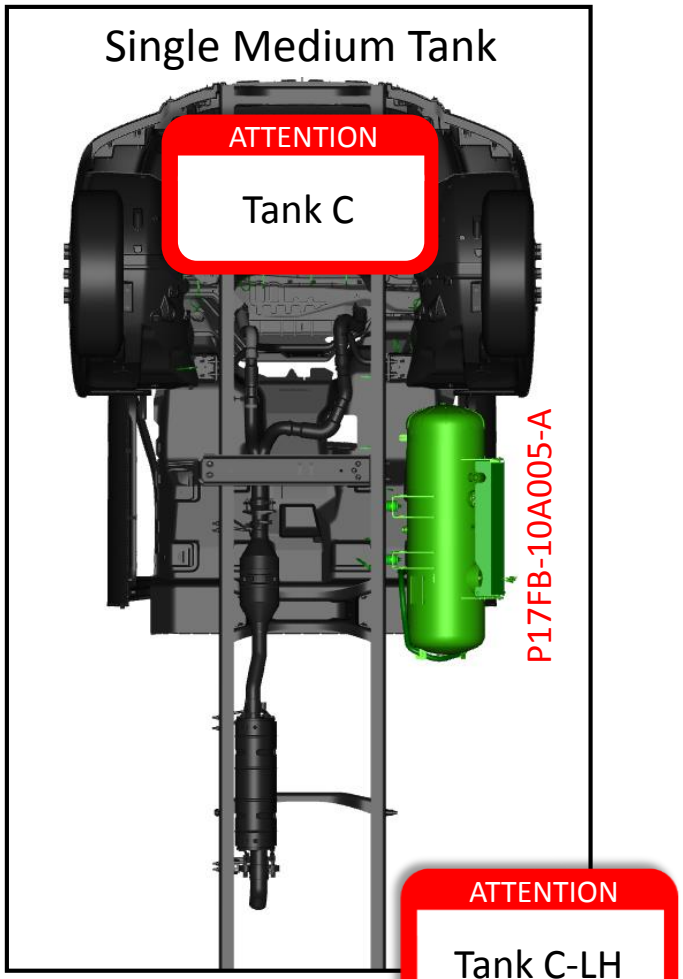



ATTENTION
Tank C-RH

ATTENTION
Tank C-LH

**Note: Installation Instructions that pertain to specific tank configurations will be identified using these symbols**

# TANK PART NUMBERS




**Note: Installation Instructions that pertain to specific tank configurations will be identified using these symbols**

# PREPARING VEHICLE

***ATTENTION***

Prior to starting the installation of the ROUSH CleanTech propane fuel system please ensure the vehicle has been registered online via the ROUSH Installer Portal. This will automatically generate a request to overnight a VECI label for the vehicle which will be needed to program the Ford PCM with the ROUSH CleanTech propane calibration after the fuel system has been installed.

If any assistance is needed with the registration of the vehicle please contact ROUSH CleanTech at **1-800-59-ROUSH (opt 2)**.

**Note: Threaded fasteners and threaded fuel line connections must be paint marked after they have been torqued to specification.**

1. Using a scan tool, check for all diagnostic trouble codes. Correct all trouble codes before continuing.
2. Depressurize the fuel rails using the procedure described in the *Ford Workshop Manual Section 310-00 Fuel System, General Information*.
3. Disconnect the battery terminals and remove the battery.
4. Disconnect the mass air flow (MAF) sensor connector and remove the air cleaner assembly including the air filter cover, degas bottle hose, air box and intake air box adapter. Separate the air cleaner cover, MAF sensor and air box from the adapter independently.
5. Place tank mounting isolators (22002-15) in an ice box. This will aid with installation onto tank and help them to stay together on the tank prior to bolting the tank to the frame.
6. Remove the drivers side front fender and wheel well liner. Follow Ford service procedure 501-02 for instructions.

ATTENTION

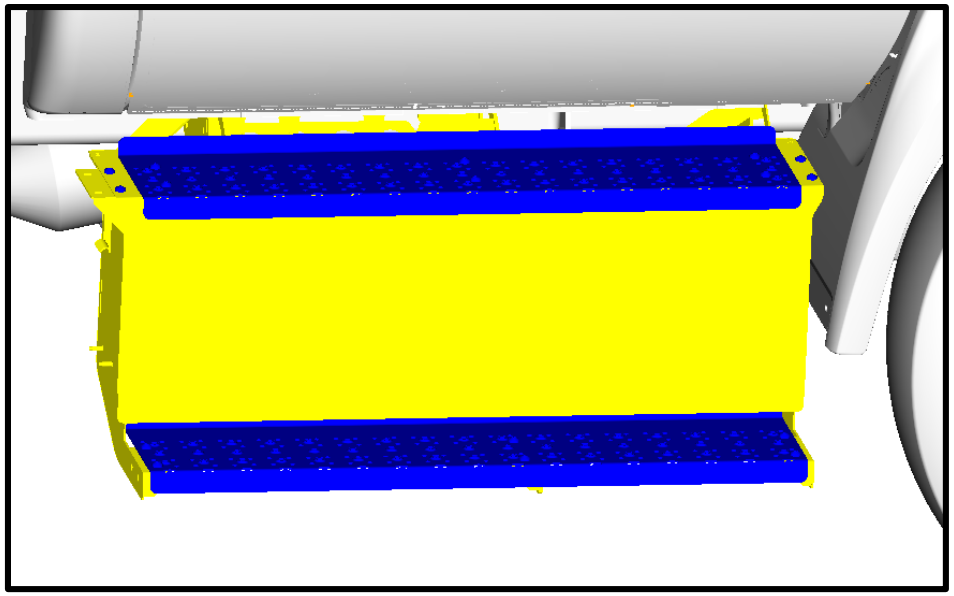
All Tanks

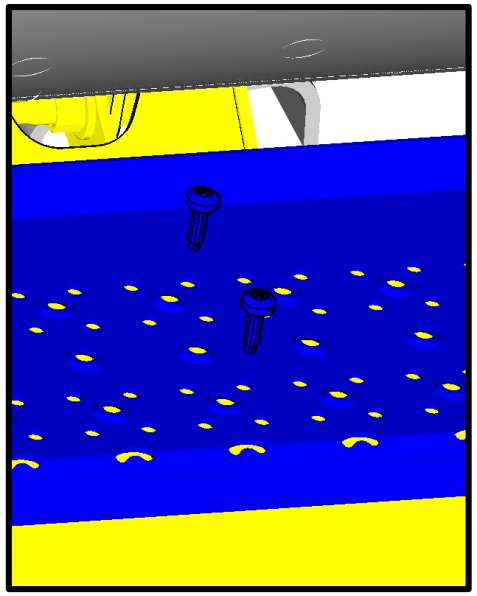
# REMOVE AND RETAIN STEPS FOR LATER USE (REGULAR CAB)

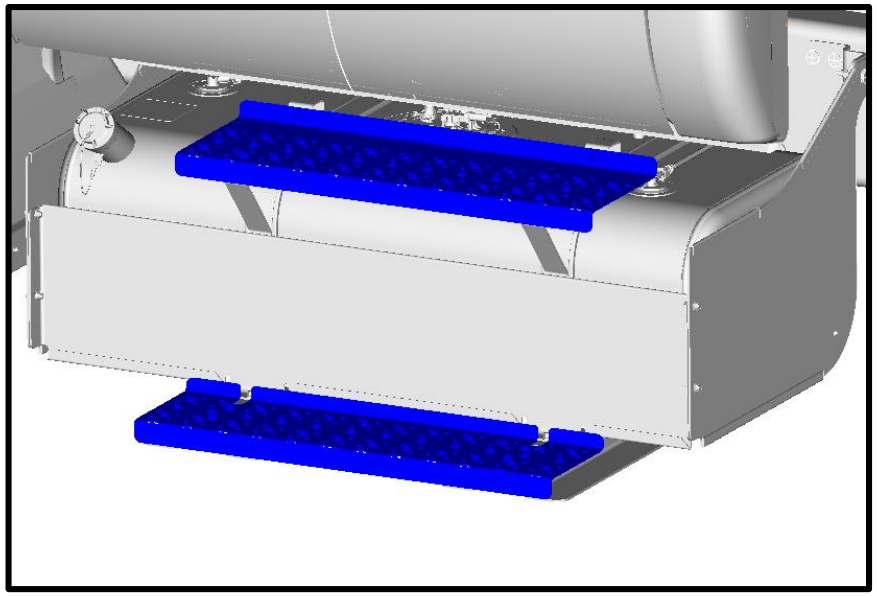
**NOTE: The images shown below are applicable to the regular cab configuration only.**

Refer to the *Ford Workshop Manual, Section 414-01, Battery, Mounting, and Cables*, for instructions on removing the original battery cover, battery, battery box, electrical cables, terminals, connectors and all associated hardware.

1. Remove and discard Ford brackets.
2. Save the step treads, applicable step tread mounting brackets, and bolts as shown below for later use. On this configuration the components that need to be saved for later use are the step treads and the M8x24 bolts that retain the treads to the brackets.







ATTENTION

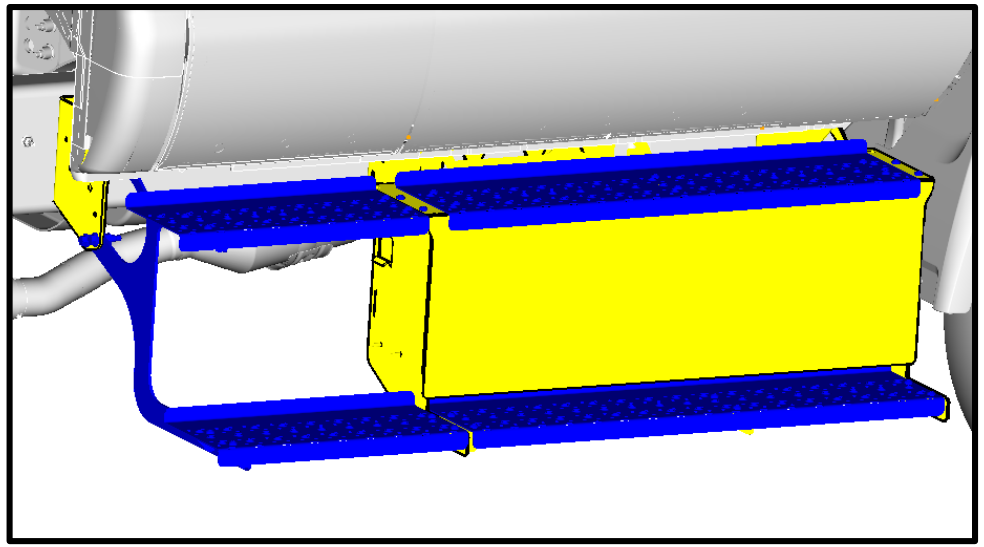
All Tanks

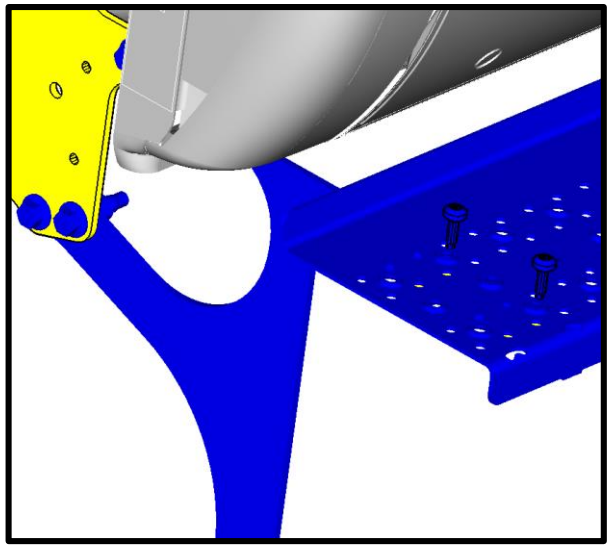
# REMOVE AND RETAIN STEPS FOR LATER USE (SUPER CAB)

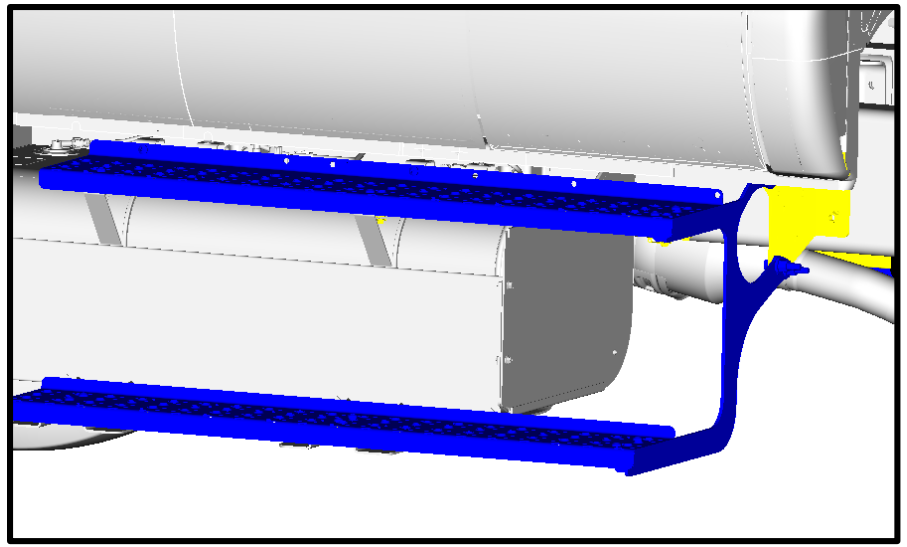
**NOTE: The images shown below are applicable to the super cab configuration only.**

Refer to the *Ford Workshop Manual, Section 414-01, Battery, Mounting, and Cables*, for instructions on removing the original battery cover, battery, battery box, electrical cables, terminals, connectors and all associated hardware.

1. Remove and discard Ford brackets.
2. Save the step treads, applicable step tread mounting brackets, and bolts as shown below for later use. On this configuration the components that need to be saved for later use are the step treads, the M8x24 bolts that retain the treads to the brackets, and the M14x45 bolts that attach the step bracket to the support bracket mounted on the frame.







ATTENTION

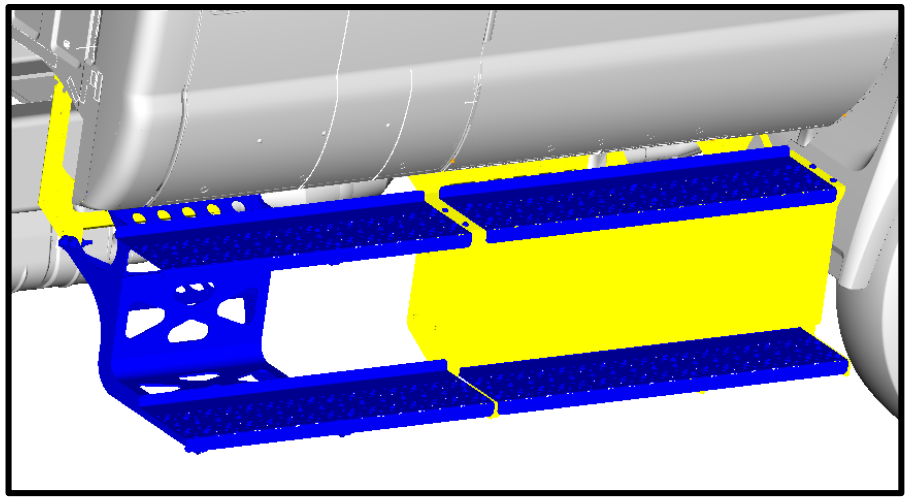
All Tanks

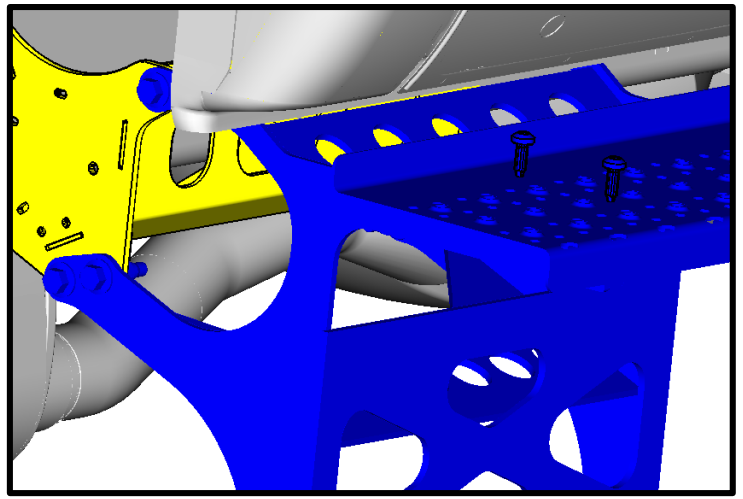
# REMOVE AND RETAIN STEPS FOR LATER USE (CREW CAB)

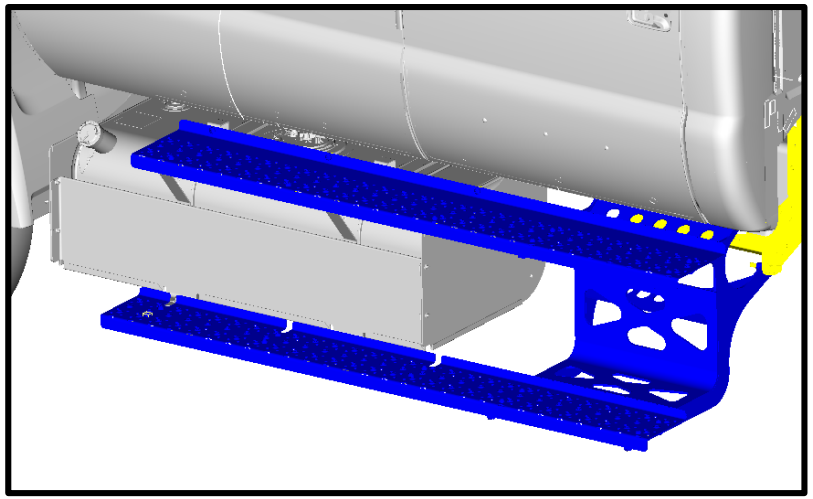
**NOTE: The images shown below are applicable to the crew cab configuration only.**

Refer to the *Ford Workshop Manual, Section 414-01, Battery, Mounting, and Cables*, for instructions on removing the original battery cover, battery, battery box, electrical cables, terminals, connectors and all associated hardware.

1. Remove and discard Ford brackets.
2. Save the step treads, applicable step tread mounting brackets, and bolts as shown below for later use. On this configuration the components that need to be saved for later use are the step treads, the M8x24 bolts that retain the treads to the brackets, the M14x45 bolts, and M14 nuts that attach the step bracket to the support bracket mounted on the frame.







ATTENTION

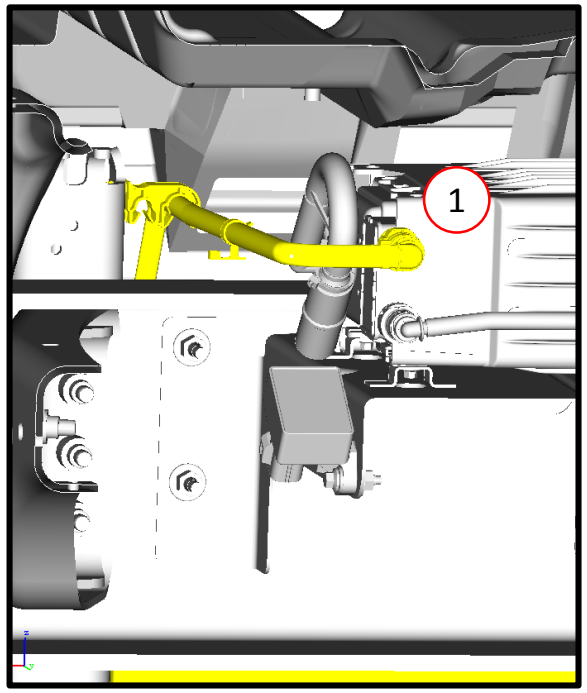
All Tanks

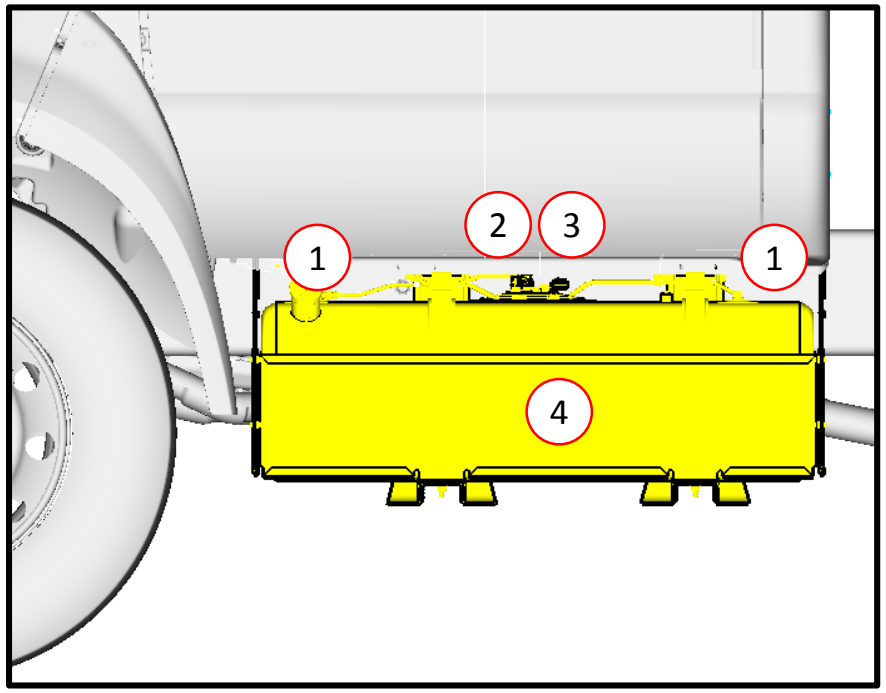
# REMOVE AND DISCARD OEM FUEL TANK

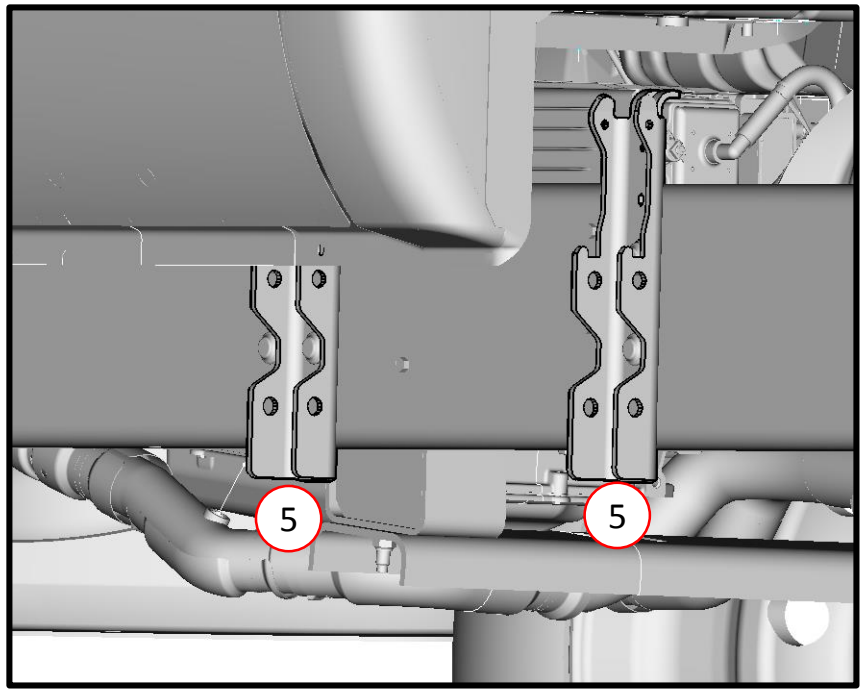
Refer to the *Ford Workshop Manual, Section 310-01, Fuel Tank and Lines*, for instructions on removing the original fuel tank, tank shield, and hardware.

**Note: Remove only the fuel and vapor lines, do NOT remove the brake lines when following the Ford Workshop Manual procedure.**

1. Disconnect vapor line from OEM fuel tank and from the vapor canister, discard it.
2. Disconnect and discard fuel supply line from OEM fuel tank.
3. Disconnect the OEM wiring harness from the OEM fuel tank.
4. Remove and discard OEM fuel tank assembly and L brackets.
5. **<u>Do not remove the brackets retained with huck fasteners.</u>**



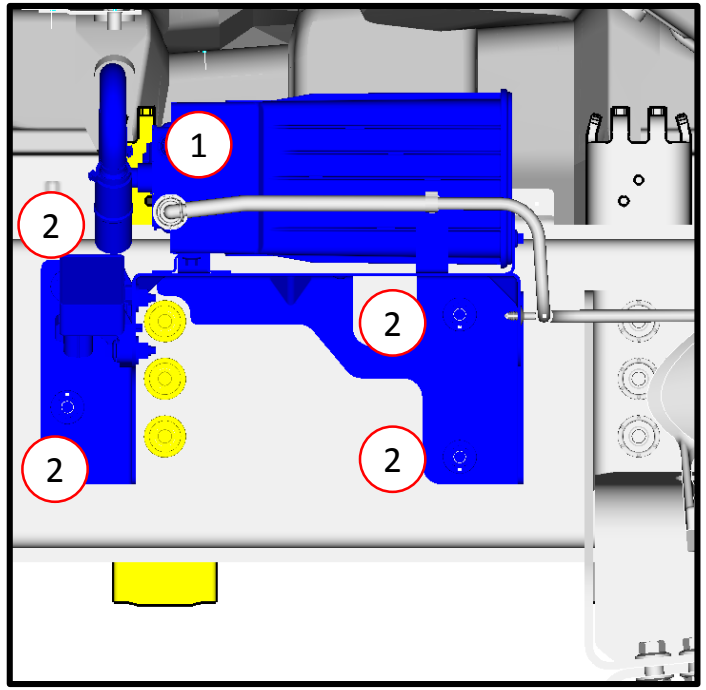
ATTENTION

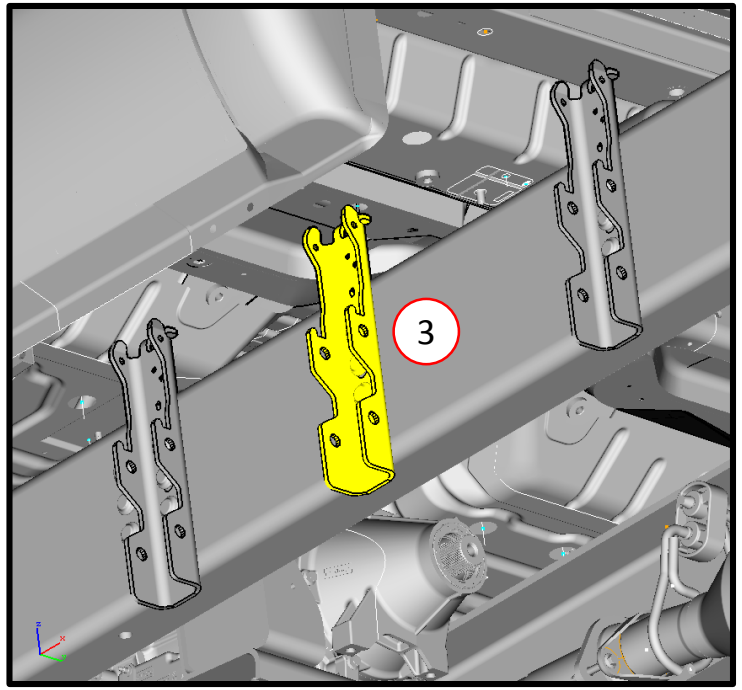
All Tanks

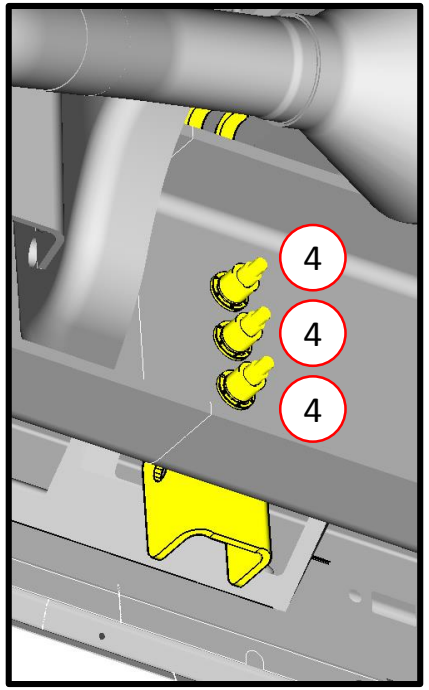
# REMOVE AND DISCARD FUEL TANK MOUNT FOR 60 GALLON TANK

**NOTE: These instructions are only applicable for vehicles originally equipped with a 60 gallon gasoline tank. If your vehicle was originally equipped with a 50 gallon gasoline tank please proceed to the next page.**

1. Disconnect the remaining vapor line from the vapor canister.
2. Unbolt the vapor canister bracket with vapor canister assembly to avoid accidentally damaging it.
3. **ONLY THE MIDDLE MOUNTING BRACKET NEEDS TO BE REMOVED. THE BRACKET SHOULD NOT BE ATTACHED TO ANY CROSS MEMBERS.**
4. Use a small wheel grinder to cut the collar longitudinally along the extent of the swaged section in order to open up the collar and release the pin. Alternatively, a drill may be used on opposing sides of the collar to break the pin free. Use a chisel and pliers as needed to deform the collar until the pin is freed.



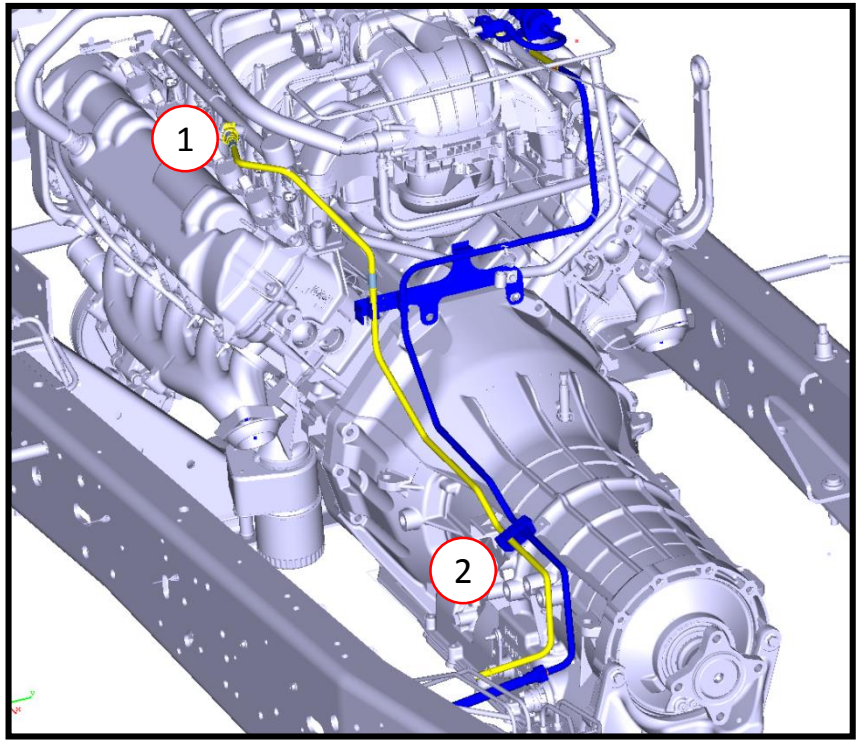



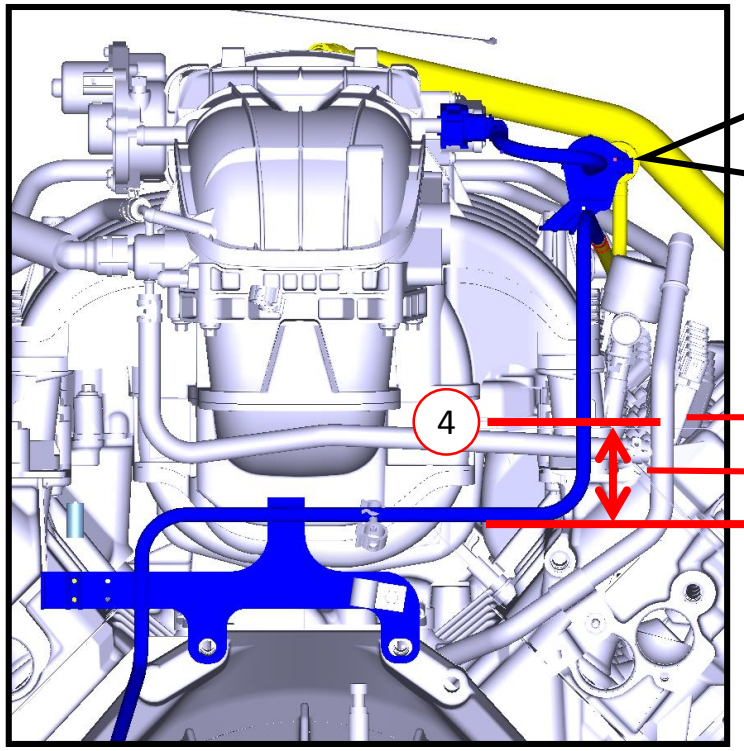
ATTENTION

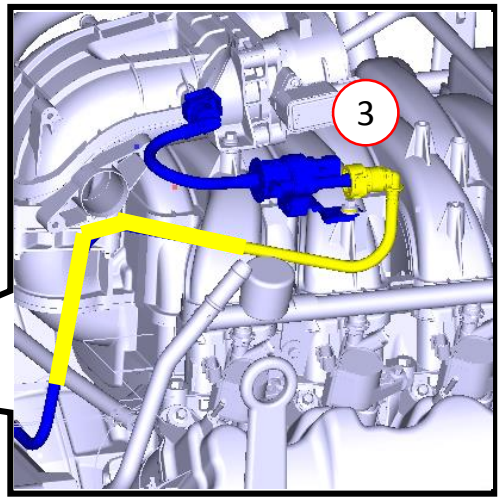
All Tanks

# REMOVING OEM FUEL SUPPLY LINE AND MODIFYING VAPOR LINE

1. Disconnect fuel rail supply.
2. Open fuel line retention clip (do not remove) and remove fuel supply line.
3. Disconnect the vapor line from the Vapor Management Valve (VMV).
4. Cut the vapor line 2.5” from the bottom and discard the top portion.




DISCARD REUSE NEW

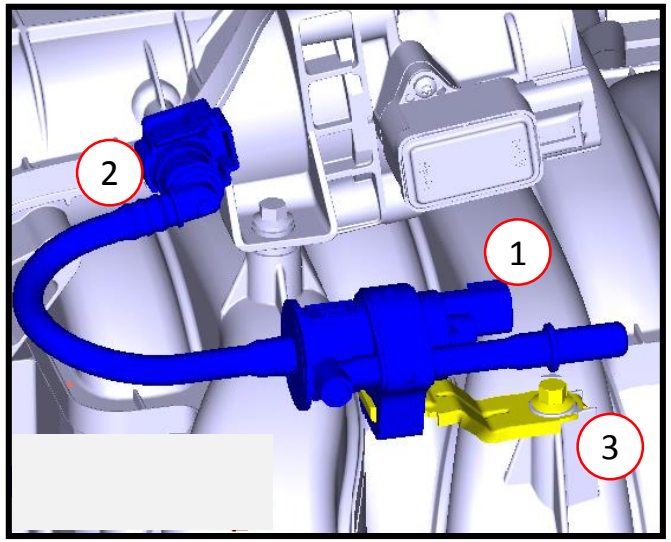
# PREPARING THE ENGINE COMPARTMENT

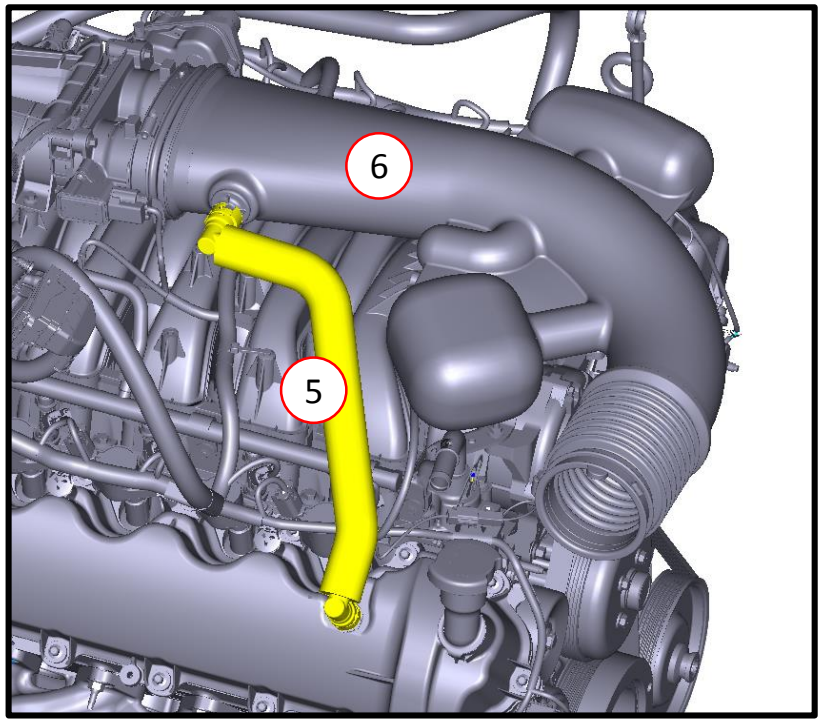
ATTENTION

All Tanks

Refer to the *Ford Workshop Manual, Section 303-04, Fuel Charging and Controls — 6.8L(3V), for complete instructions on removing the fuel rails and injectors.* Some original parts will be reused. The components in this section may be saved, discarded or new. Refer to color key.

1. Unplug the electrical harness connector from OEM VMV.
2. Disconnect the VMV hose quick-connect fitting from the throttle body.
3. Remove the bolt securing the bracket and remove the VMV assembly (hose, VMV and bracket).
4. Pull the OEM VMV bracket out of the VMV. Discard the bracket and bolt.
5. Remove the PCV hose that connects the right hand crank cover to the clean air hose and discard.
6. Remove the clean air tube.



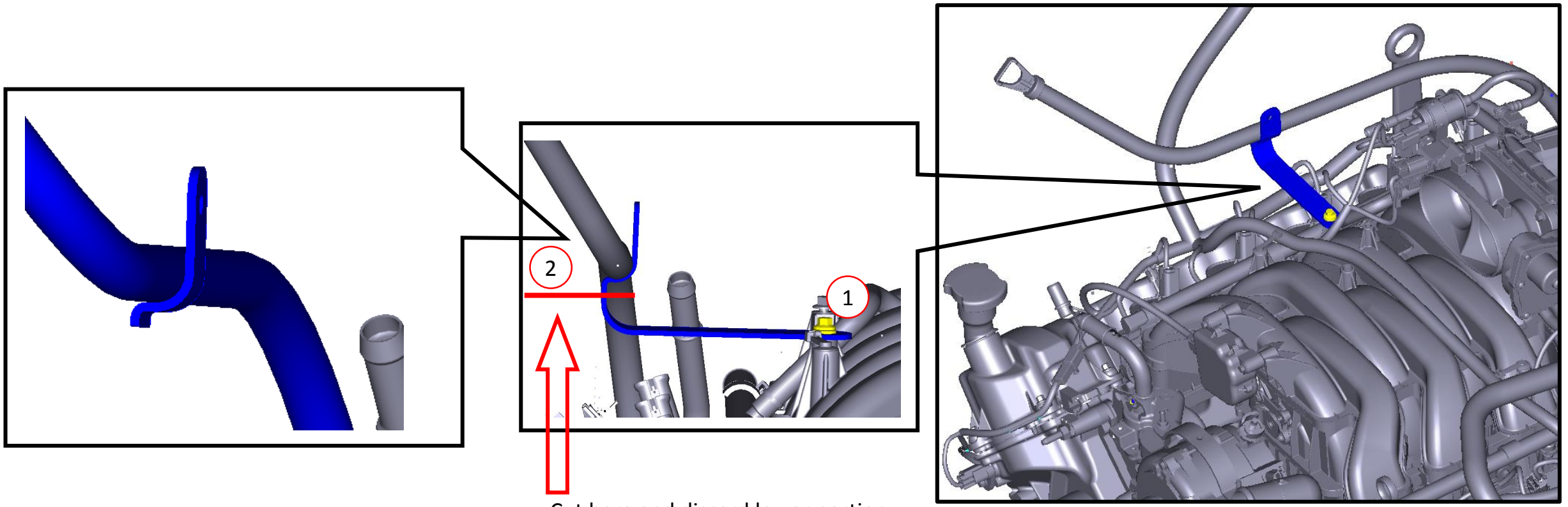

DISCARD REUSE NEW

ATTENTION

All Tanks

# PREPARING THE ENGINE COMPARTMENT CONTINUED

1. Remove the OEM fastener that holds the dip stick tube bracket to the intake manifold and discard.
2. Cut the OEM transmission dip stick tube bracket (blue) in the location shown below.




Cut here and discard lower portion.

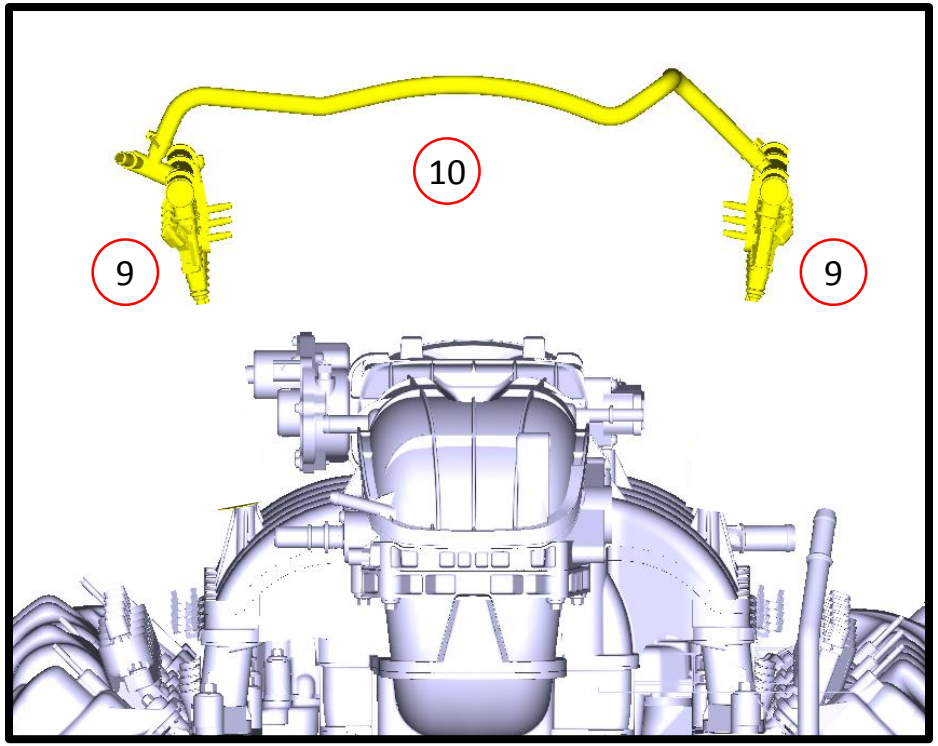
ATTENTION

All Tanks

# PREPARING THE ENGINE COMPARTMENT CONTINUED

1. If necessary, remove the engine wiring harness from the mounting studs on the valve cover.
2. Disconnect electrical connector from each OEM fuel injector.
3. Remove the six fuel rail mounting bolts and fuel rail assembly (with crossover hose).
4. Discard fuel rail assembly and bolts.

**Note: Fuel line may need to be cut to remove fuel rail assembly.**



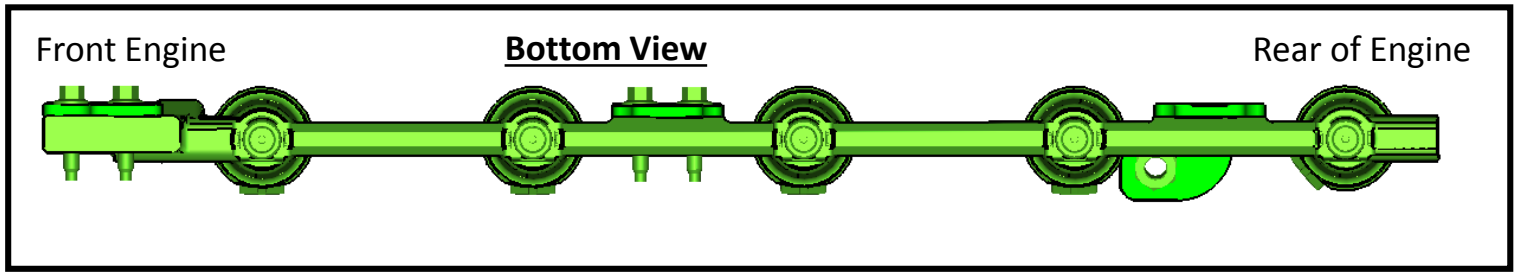
ATTENTION

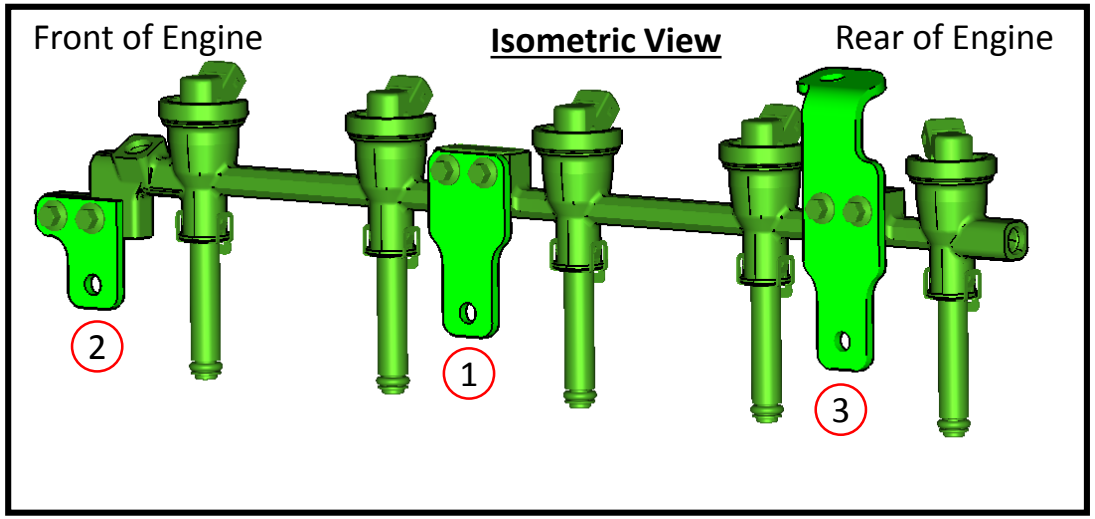
All Tanks

# PREPARING THE RIGHT HAND RAIL (P16MB-03D002-A)

1. Attach part P16MB-03D200-B using Qty. 2 M6x1x25 flange head bolts to the middle mounting location.
2. Attach part P16MB-03D200-C using Qty. 2 M6x1x25 flange head bolts to the forward mounting location.
3. Attach part P16MB-03D200-A using Qty. 2 M6x1x25 flange head bolts to the rear mounting location as shown in the image below. **Bracket should bend towards the fuel rail.**
4. Torque all 6 bolts to 8 – 12 Nm.

**Note: The rear injector is facing a different direction than the other four injectors to avoid interference with the heater line on the engine.**



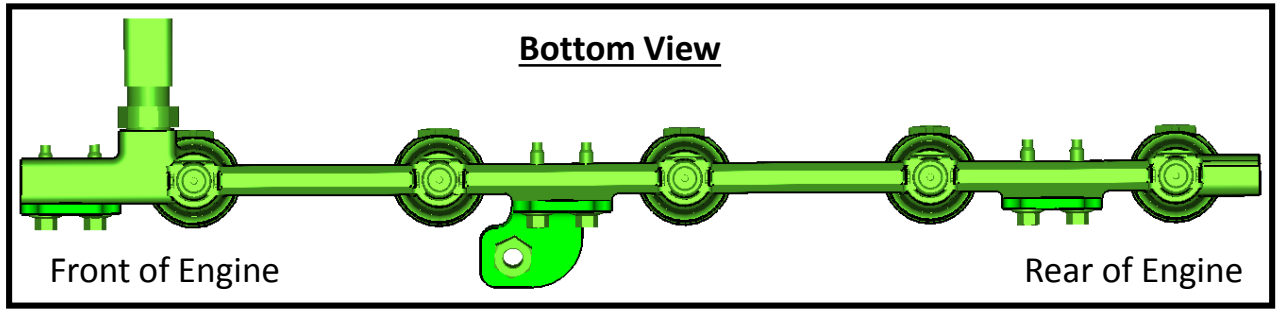

**NOTE: Brackets mount to inboard side of rails.**

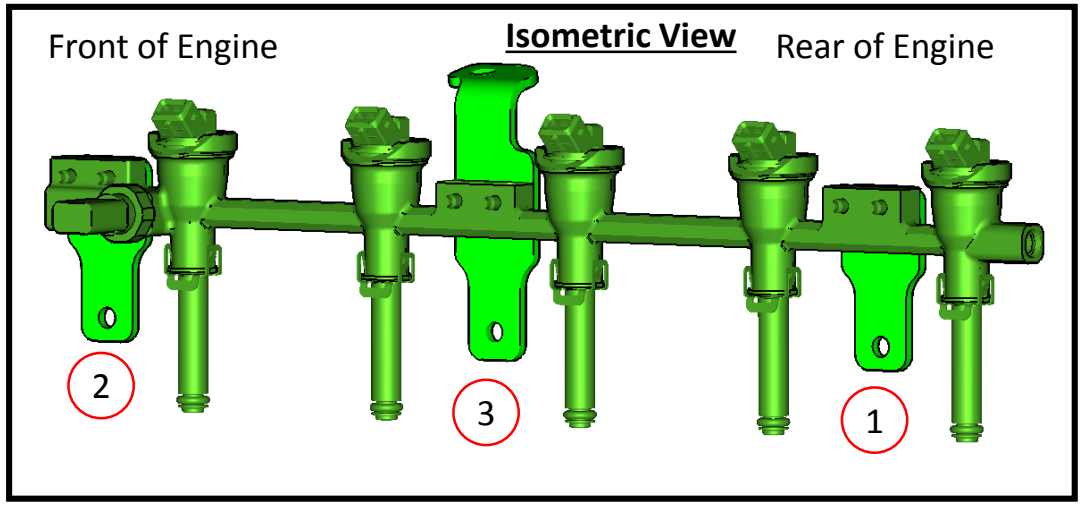
ATTENTION

All Tanks

# PREPARING THE LEFT HAND RAIL (P16MB-03D001-A)

1. Attach part P16MB-03D200-B using Qty. 2 M6x1x25 flange head bolts to the rear mounting location.
2. Attach part P16MB-03D200-B using Qty. 2 M6x1x25 flange head bolts to the forward mounting location.
3. Attach part P16MB-03D200-A using Qty. 2 M6x1x25 flange head bolts to the middle mounting location as shown in the image below. **Bracket should bend away from the fuel rail.**
4. Torque all 6 bolts to 8 – 12 Nm.




**NOTE: Brackets mount to inboard side of rails.**

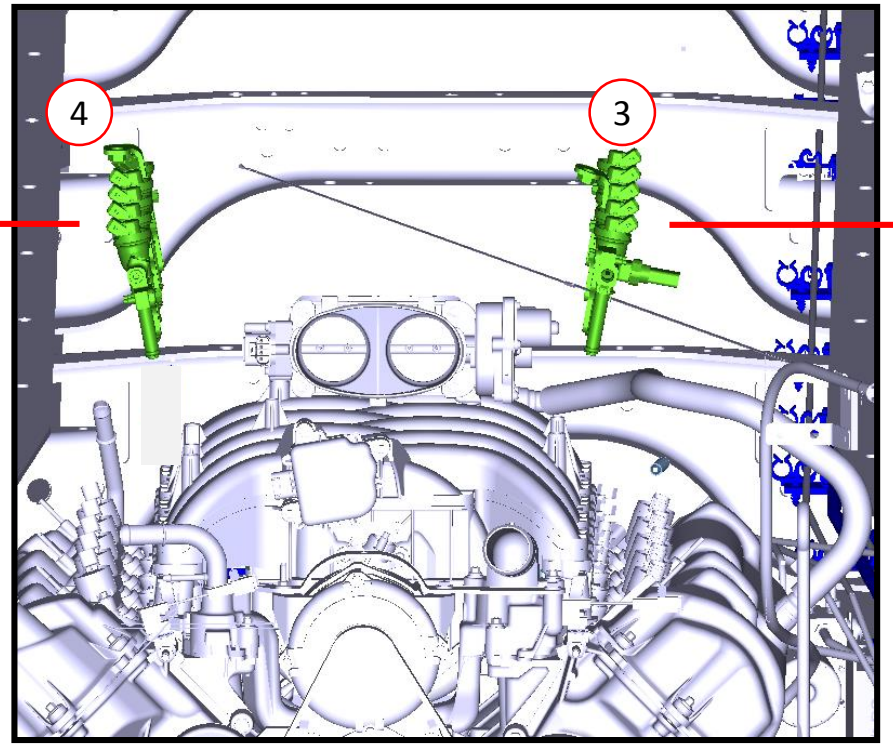
ATTENTION

All Tanks

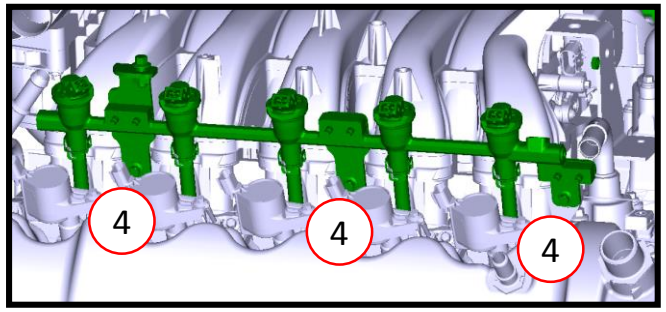
# INSTALLING THE FUEL RAILS

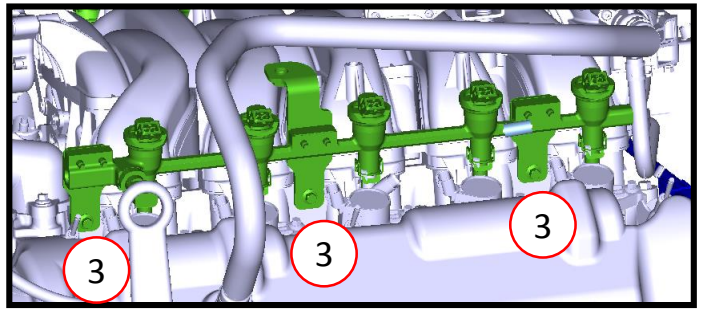
1. If necessary, disconnect coil electrical wires (and ignition coils if necessary) for clearance.
2. Using engine oil (Motorcraft SAE 5W-20 or equivalent), lubricate lower O-rings on injector nozzles before seating rail assemblies.
3. Position left hand fuel rail assembly onto driver side of intake manifold and fully seat nozzles. Using Qty. 3 M6x1x16 flange head bolts, secure fuel rail to intake manifold. Tighten bolts to 8–12 Nm.
4. Position right hand fuel rail assembly onto driver side of intake manifold and fully seat nozzles. Using Qty. 3 M6x1x16 flange head bolts, secure fuel rail to intake manifold. Tighten bolts to 8–12 Nm.

**Right hand rail orientation.**




**Left hand rail orientation.**



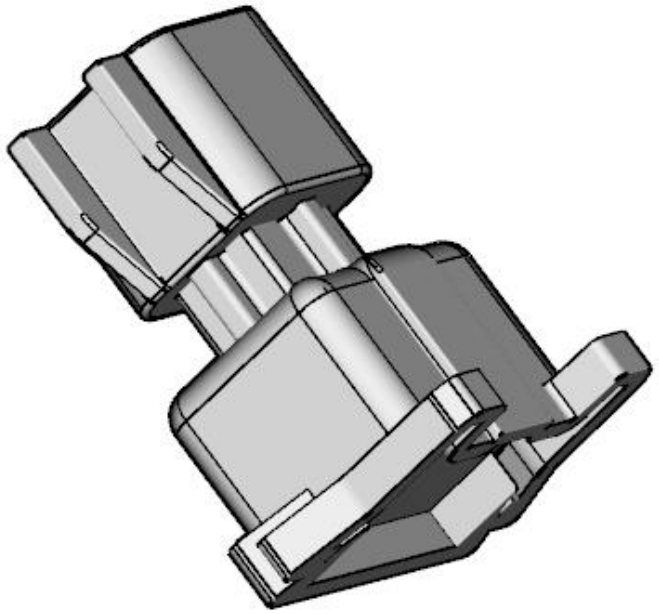

DISCARD REUSE NEW

# INJECTOR JUMPER AND ADAPTER INSTALLATION

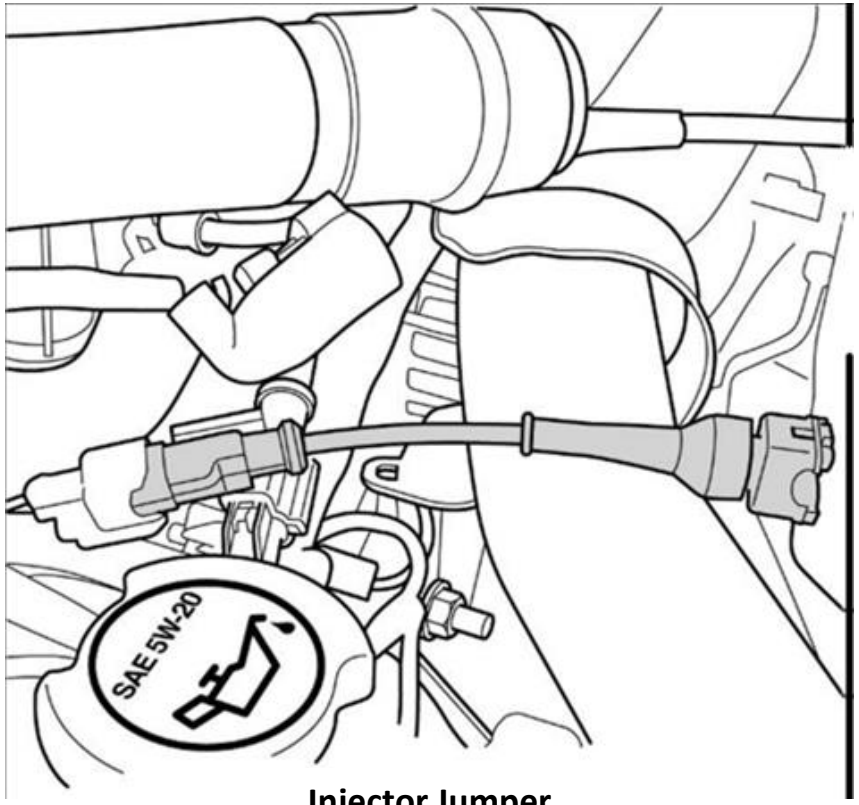
ATTENTION

All Tanks

Note: Kit will either come with injector jumpers or adapters. For jumper installation, see Page 20 for installation instructions. For adapter installation, see Page 21 for installation instructions.



**Injector Adapter**



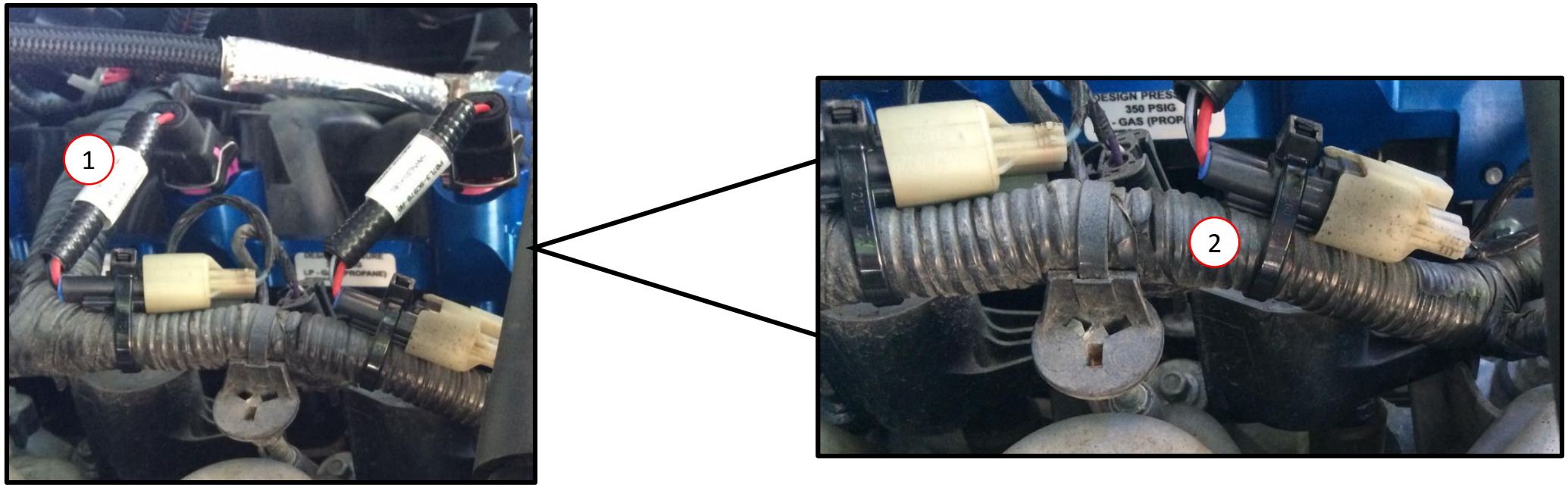

**Injector Jumper**

# INJECTOR JUMPER INSTALLATION

ATTENTION

All Tanks

1. Install qty. 10 RCT jumper harnesses (P07L3-9C978-A) as shown below, the RCT jumper harness connects the OEM wiring harness to RCT injectors.
2. Secure the RCT jumpers to the OEM engine wiring harness using zip ties (20-403-0003) for each injector. Make sure you leave enough slack so that the wires are not being pulled out of the connectors.

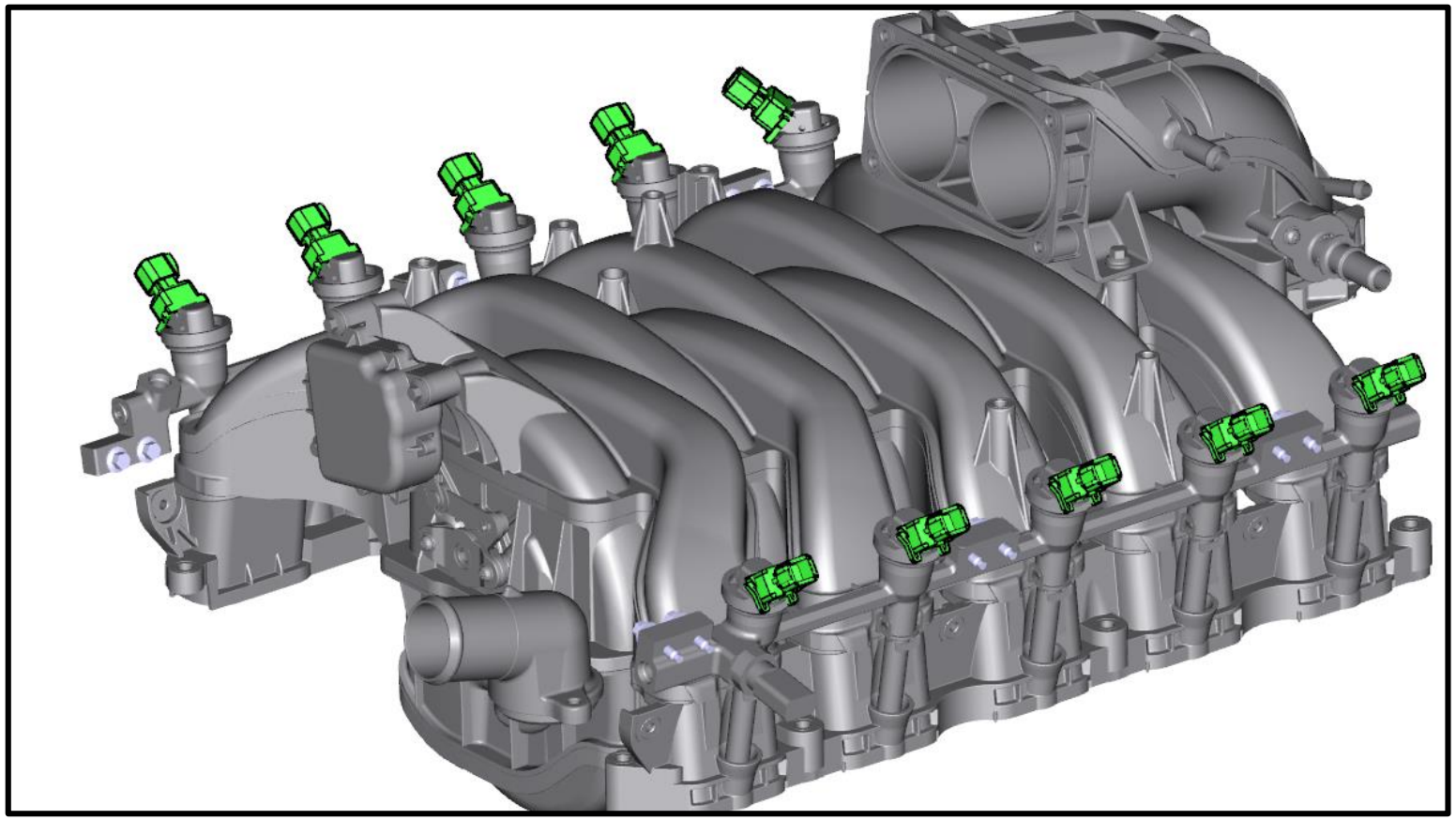


ATTENTION

All Tanks

# INJECTOR ADAPTER INSTALLATION

1. Install qty. 10 injector adapters (109076) ensuring that you hear each one click

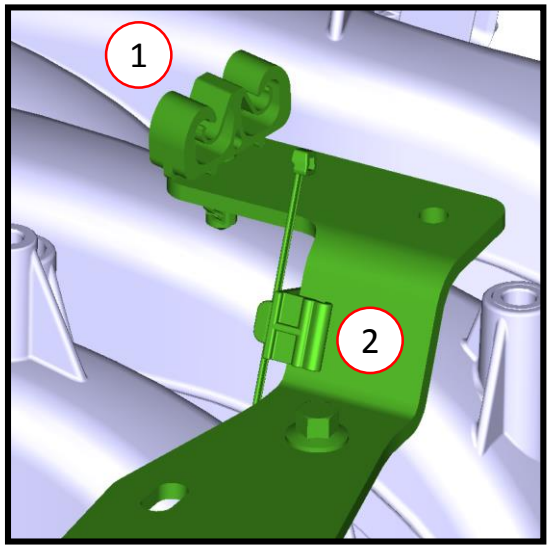


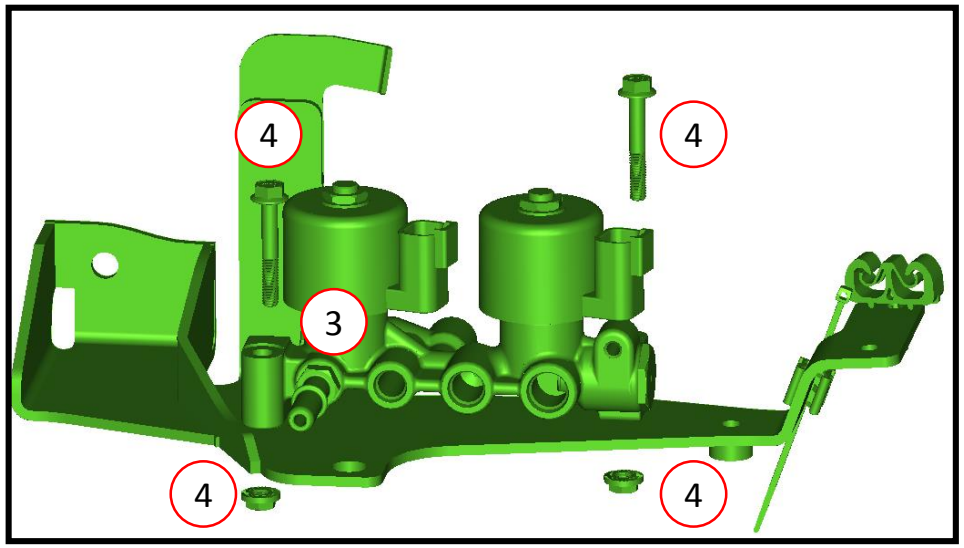
ATTENTION

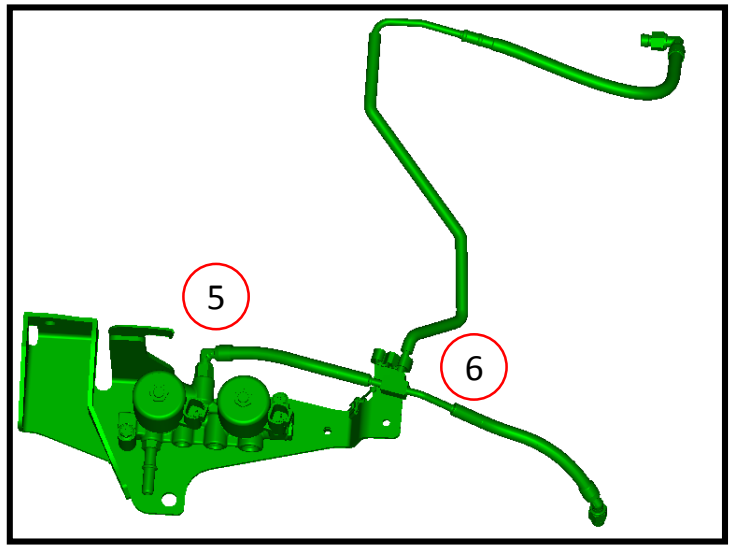
All Tanks

# PREPARING THE FUEL RAIL PRESSURE CONTROL MODULE (FRPCM)

1. Install a double snail clip (15-004175) in the front inboard hole of the FRPCM bracket (P16MB-10E201-A).
2. Install an edge clip zip tie (156-04600) on the FRPCM bracket as shown. This will be used to retain the VMV wiring harness branch later on.
3. Install the bleeder port (P16MB-10E215-A) on the FRPCM (P16MB-10E200-A) as shown below. Torque to 18-20 Nm.
4. Retain the FRPCM using qty. 2 M6x1x40 flange head bolts and qty. 2 M6 serrated nuts. Torque bolts to 8-12 Nm.
5. Thread the engine return line (P16MB-03D120-A) into the FRPCM as shown below. Hand tighten only.
6. Insert the return line into the dual snail clip on the FRPCM bracket as shown.



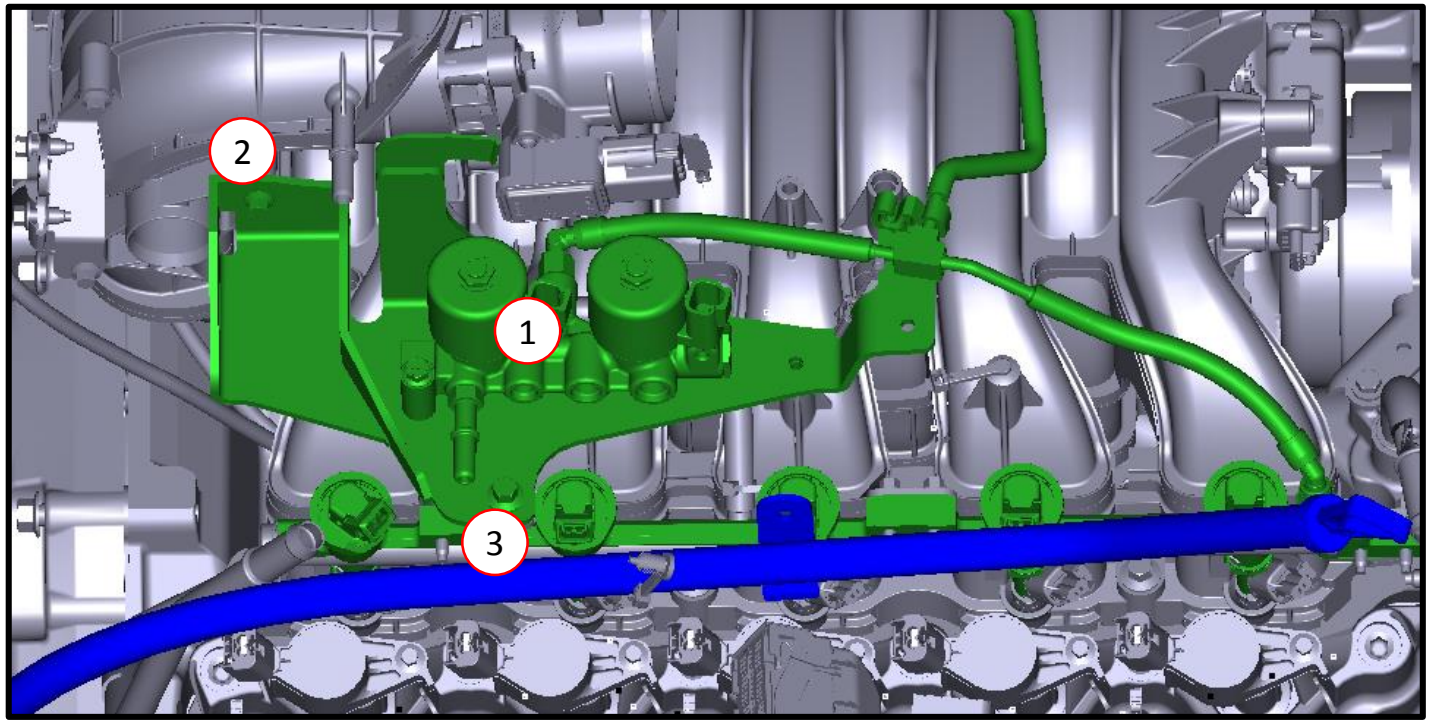



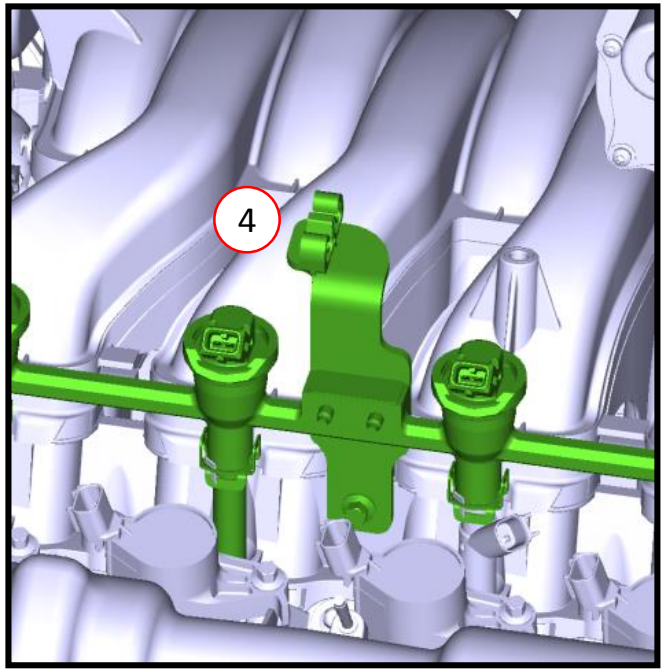
ATTENTION

All Tanks

# INSTALLING THE FRPCM AND ENGINE RETURN LINE

1. Place the FRPCM assembly on right hand side of engine as shown below.
2. Insert an M6x1x16 flange head bolt at the rear near the throttle body spacer and hand tighten.
3. Insert an M8x1.25x20 flange head bolt at the side into the fuel rail mounting bracket and hand tighten.
4. Install a double snail clip (15-004175) onto the middle bracket on the left hand fuel rail assembly by threading it into the weld nut.



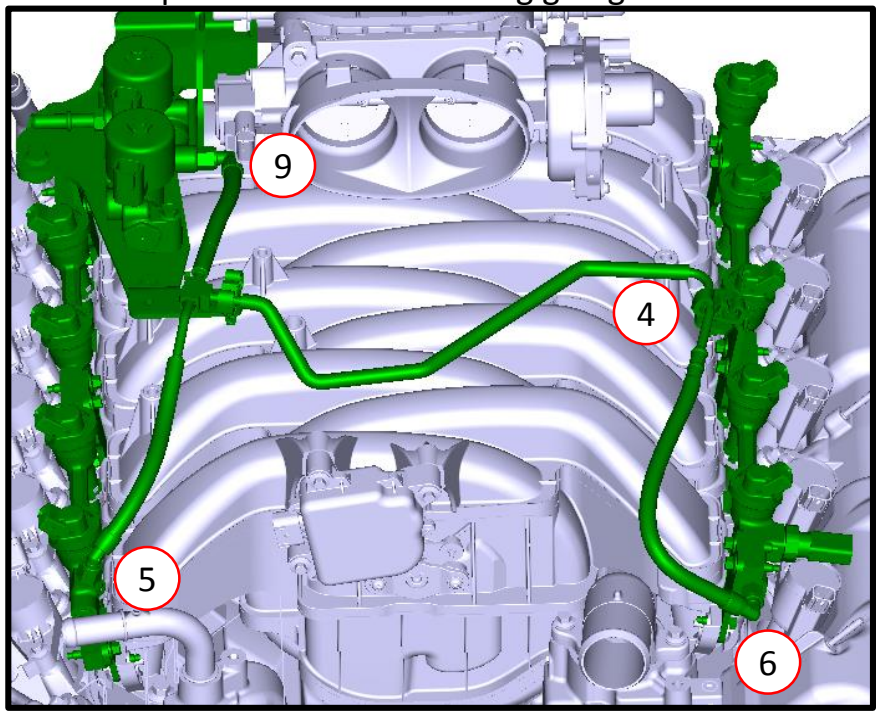



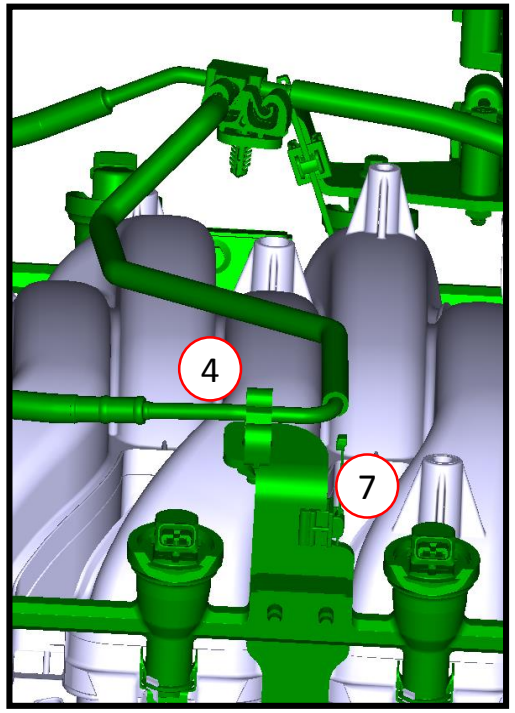
ATTENTION

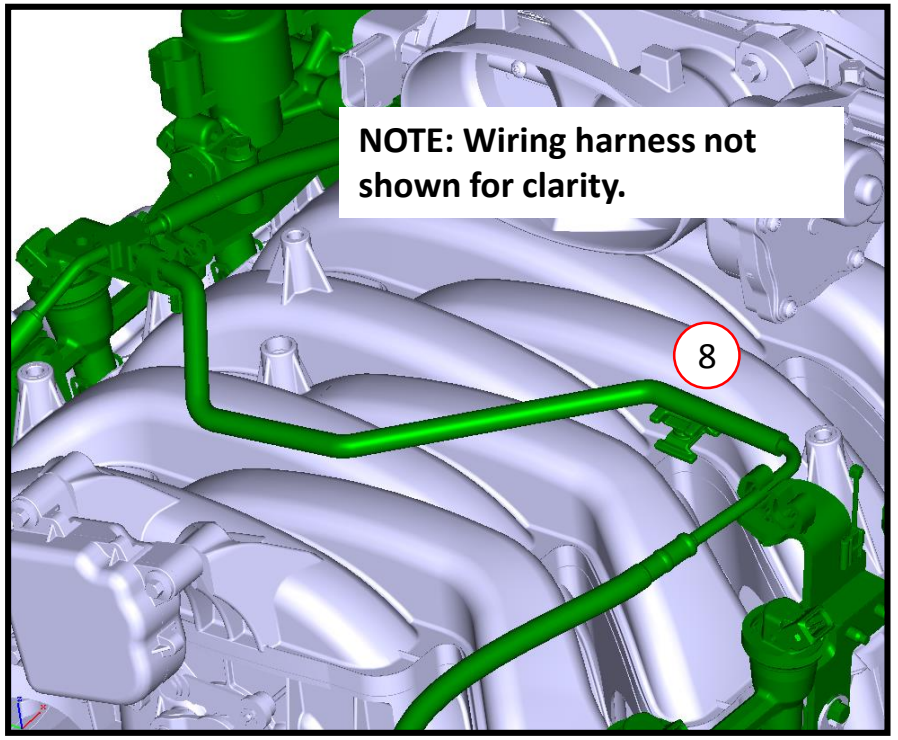
All Tanks

# INSTALLING THE FRPCM AND ENGINE RETURN LINE CONTINUED

4. Insert the return line into the dual snail clip on the left hand rail assembly.
5. Hand tighten the engine return line fitting to the right hand rail. **Using a wrench to hold the fuel rail and a torque wrench with a crow's foot,** torque the return line fitting going to the left hand rail to 18-20 Nm.
6. Hand tighten the engine return line fitting to the left hand rail. **Using a wrench to hold the fuel rail and a torque wrench with a crow's foot,** torque the return line fitting going to the left hand rail to 18-20 Nm.
7. Install an edge clip zip tie (156-04600) on the middle bracket on the right hand rail as shown. Retain engine harness to edge clip.
8. Install one dual swivel spacer (151-06500) on return line with zip ties (7130K48) as shown below. Zip tie the engine harness to the other side to maintain spacing between the engine return line and the engine harness.
9. Torque the return line fitting going to the FRPCM to 18-20 Nm.




DISCARD REUSE NEW

ATTENTION

All Tanks

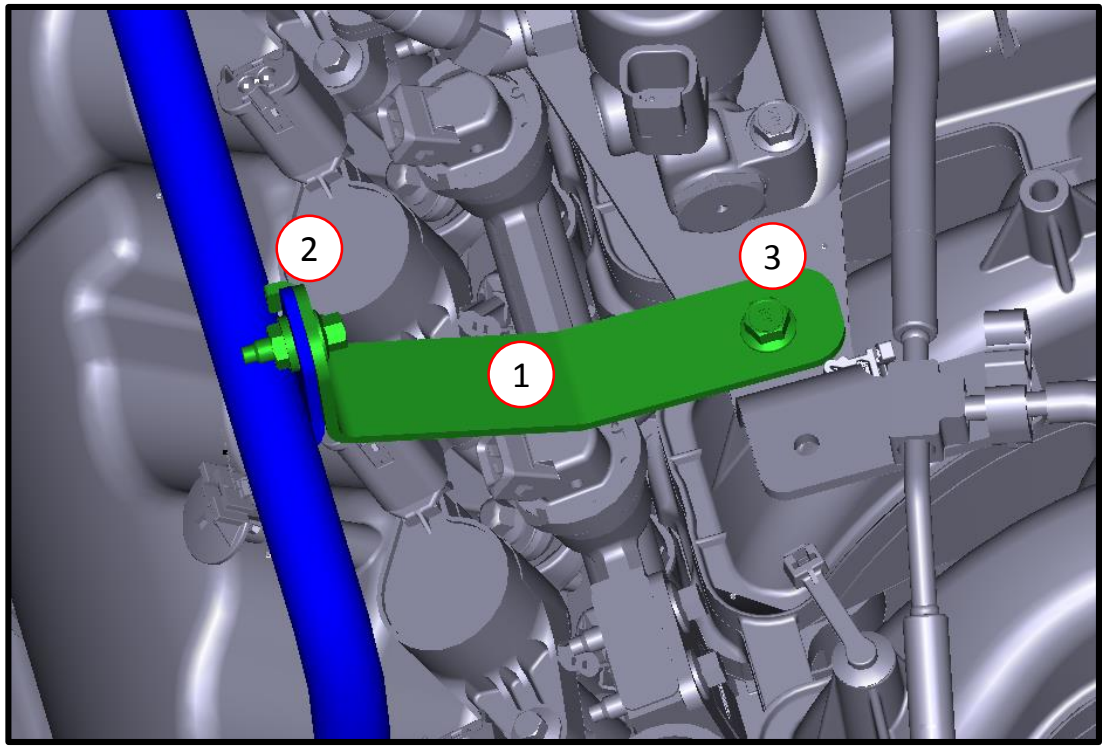
# INSTALLING THE TRANSMISSION DIPSTICK TUBE SUPPORT BRACKET

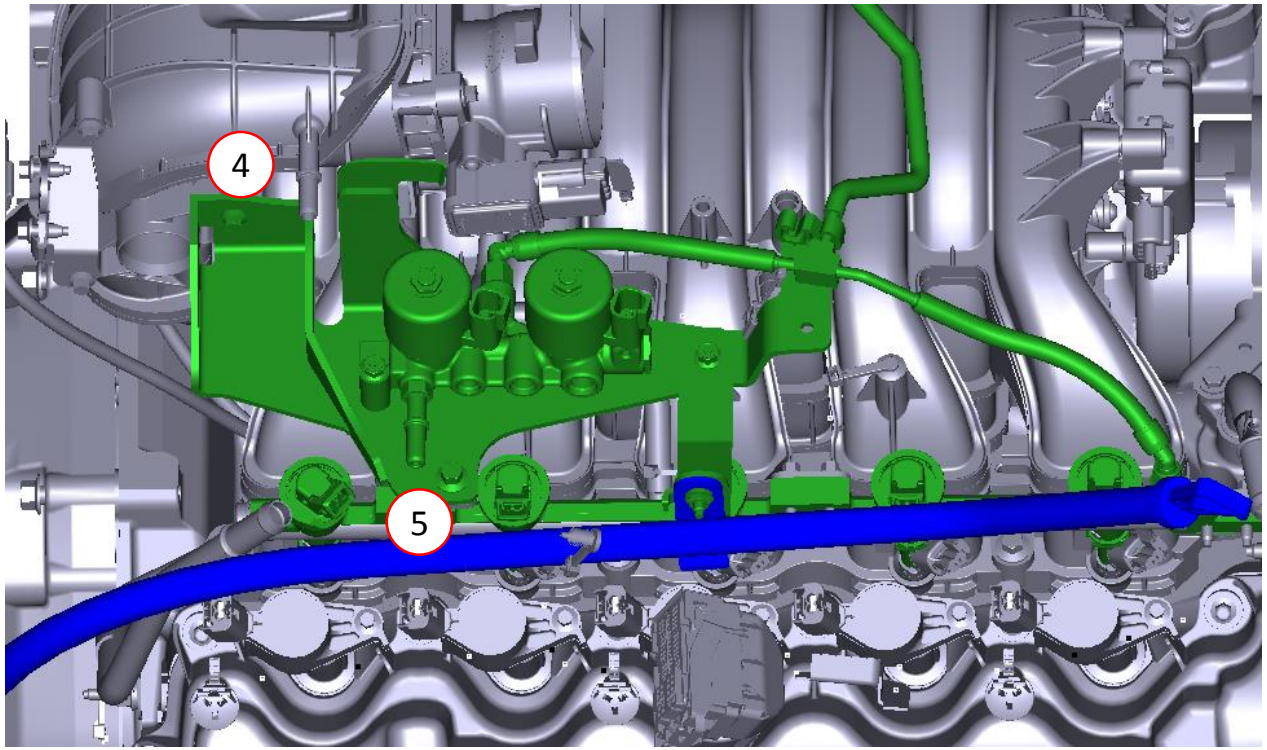
1. Install the dipstick tube support bracket (P16FB-03B001-AA) between the dipstick and the FRPCM bracket as shown below.
2. Insert an M6x1x16 flange head bolt and M6 serrated nut as shown below and hand tighten.
3. Insert an M6x1x30 flange head bolt at the side of the fuel rail mounting bracket and hand tighten.

Torque sequence for bolts:

Location 2, 3 and 4 per illustration torque bolt to 8-12 Nm

Location 5 per illustration torque bolt to 20-30 Nm.



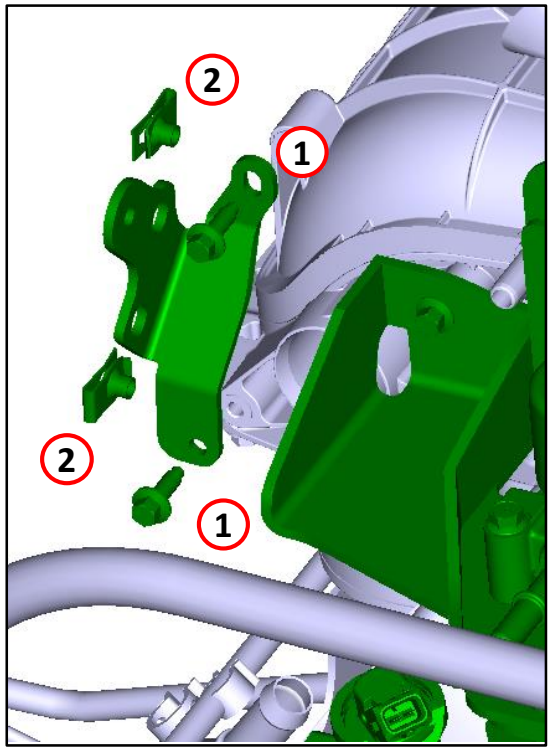



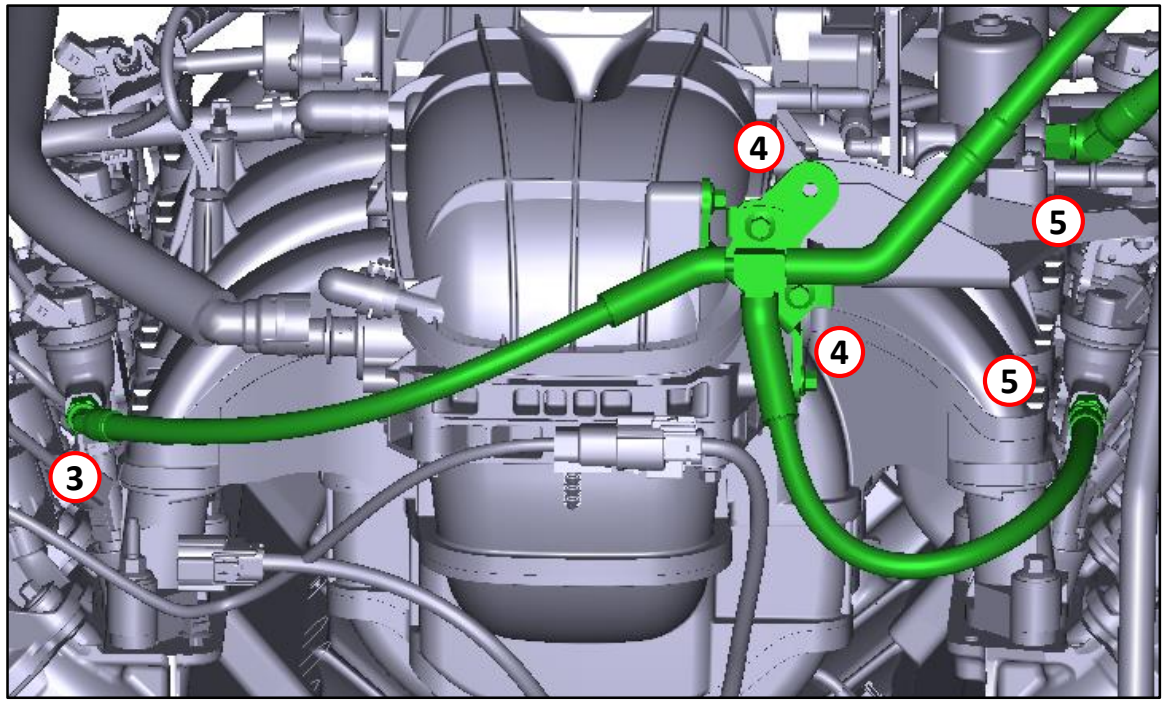
ATTENTION

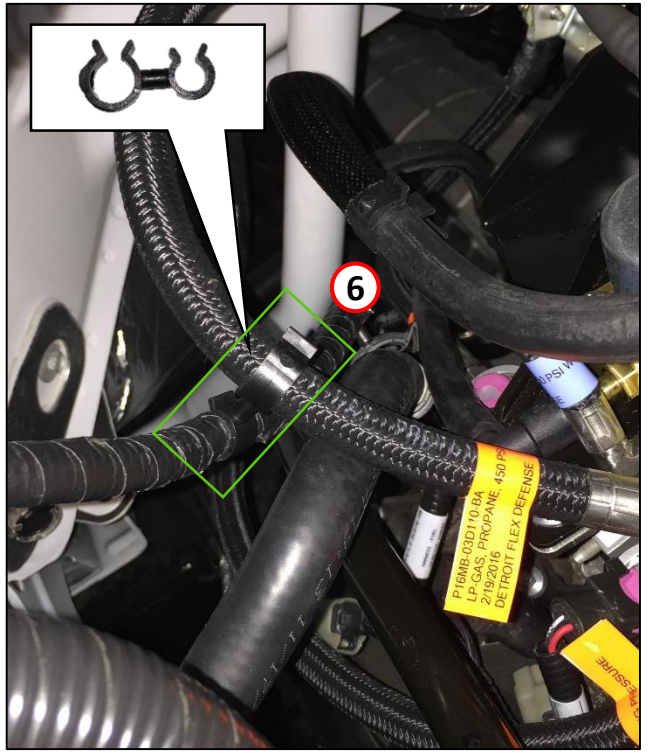
All Tanks

# INSTALLING THE ENGINE SUPPLY LINE

1. Attach bracket P16MB-10F100-B to the throttle body spacer using Qty. 2 M6x1x16 flange head bolts. Torque to 8-12 Nm.
2. Attach Qty. 2 J-clips W520822-S439 to the fuel line retention bracket (P16MB-10F100-B)
3. Hand tighten the engine supply line to the left hand rail. **Using a wrench to hold the fuel rail and a torque wrench with a crow's foot,** torque the supply line fitting going to the left hand rail to 18-20 Nm. Be careful not to cross thread fitting.
4. Attach the engine supply line to the fuel line retention bracket using Qty. 2 M6x1x16 flange head bolts. Torque to 8-12 Nm.
5. **Leave the other two ends of the engine supply line disconnected.**
6. Use a dual C-Clip (W713776-S300) to secure Engine Supply line to ground wire as shown



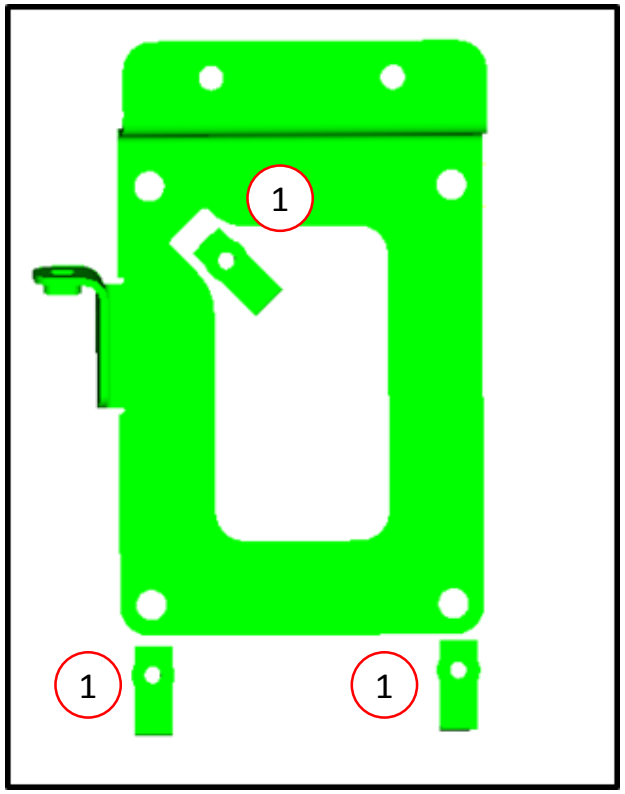



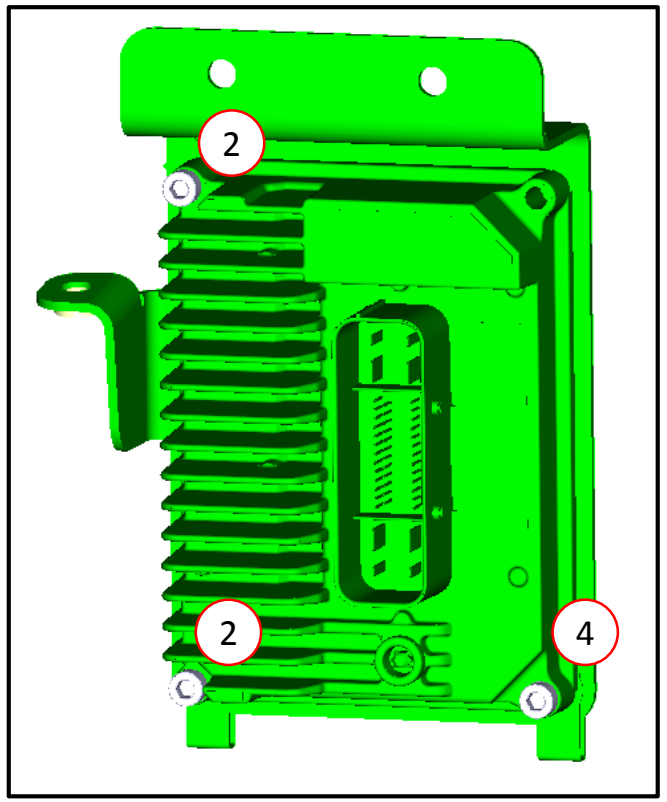
ATTENTION

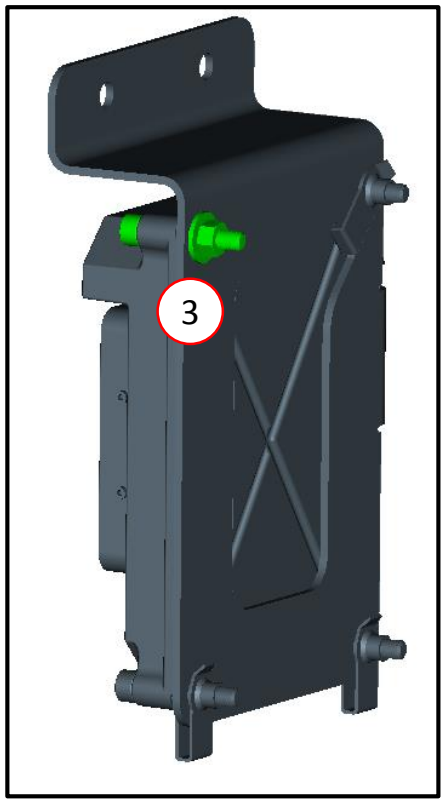
All Tanks

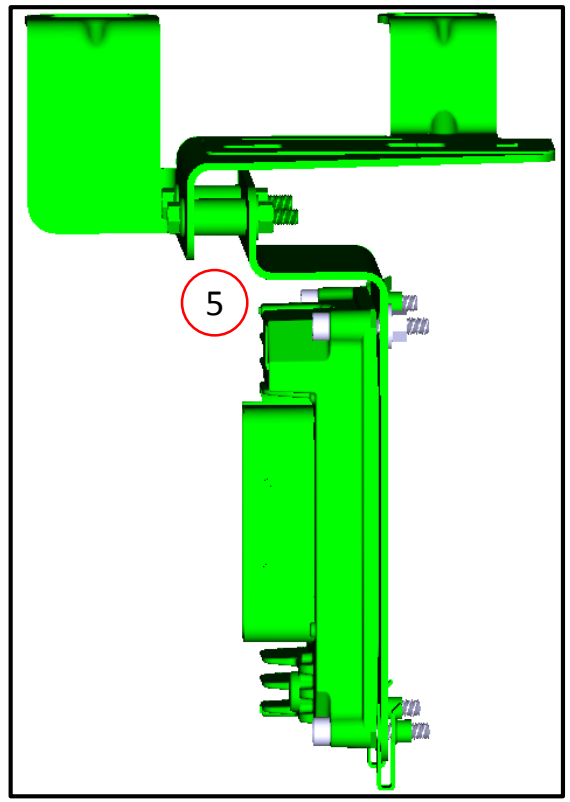
# ASSEMBLING THE SMART RELAY MODULE (SRM) ASSEMBLY

1. Attach Qty. 3 J-clips (11-056-0043) to the SRM lower bracket (P16FB-03P211-B).
2. Attach SRM to SRM lower bracket as oriented below using Qty. 3 M6x35 socket head cap bolts. Torque to 5-7 Nm.
3. Attach 4th cap head bolt using M6 flange head (shinny finish) nut. Torque to 14-18 Nm
4. Leave lower rear socket head cap screw out for later install of Ground.
5. Install the upper SRM bracket (P16FB-03P211-A) to the lower SRM bracket using Qty. 2 M6x16 bolts, Qty. 2 spacer, & Qty. 2 M6 flange head (shinny finish) nuts. Torque to 8-12 Nm.



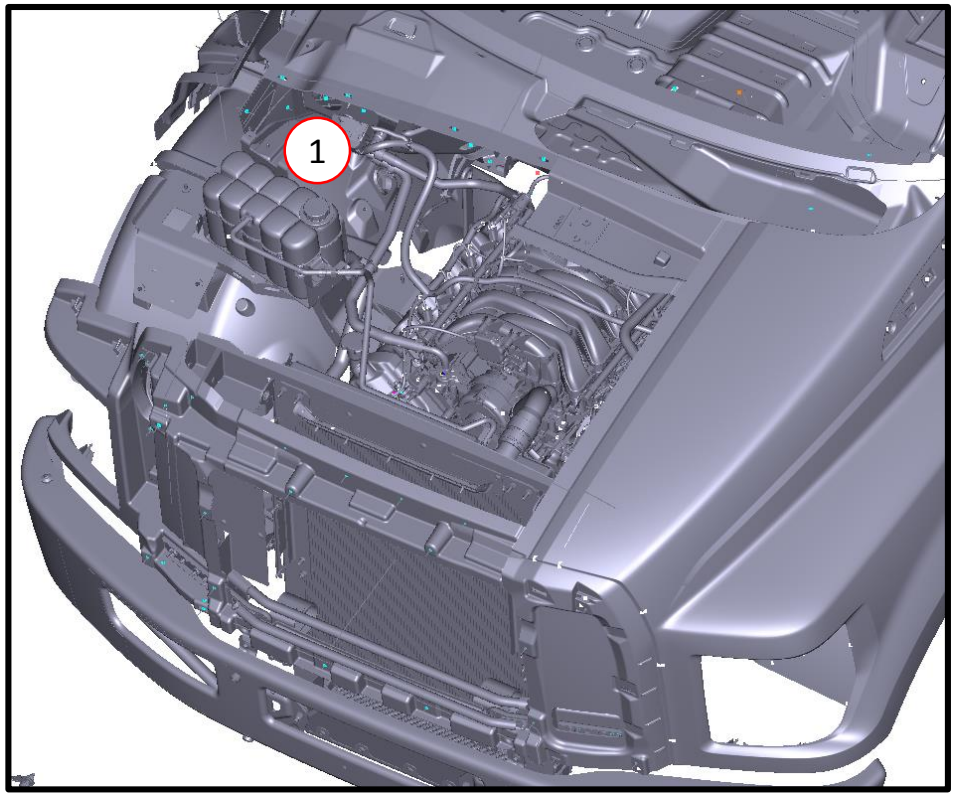



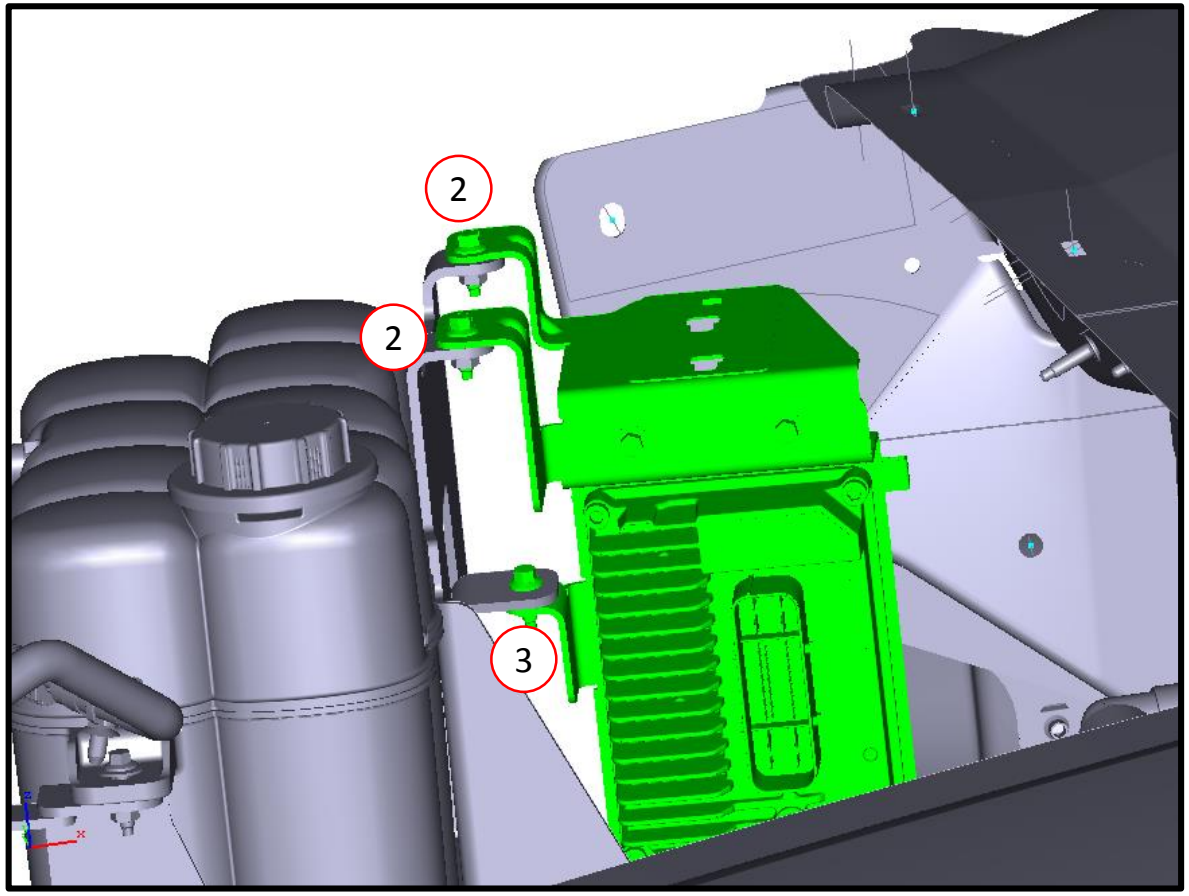
ATTENTION

All Tanks

# INSTALLING THE SMART RELAY MODULE (SRM) ASSEMBLY

1. The SRM assembly installs on the passenger side of the engine compartment, to the cooling reservoir bracketry.
2. Attach the upper SRM bracket to the cooling bracketry using Qty. 2 M6x16 flange head bolts. Torque to 8-12 Nm.
3. Attach the lower SRM bracket to the cooling bracketry using Qty. 1 M6x16 bolt. Torque to 8-12 Nm.



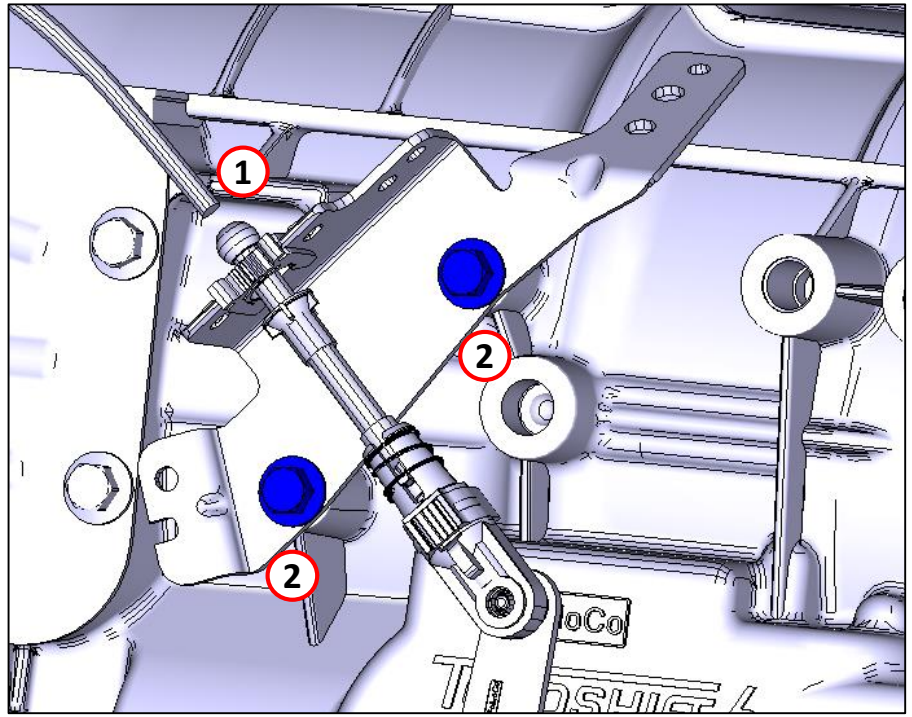



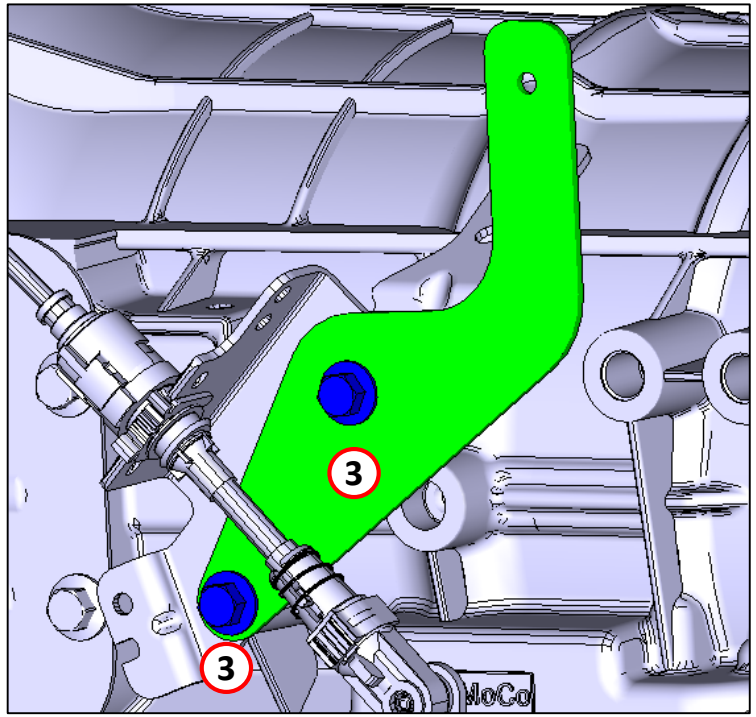
# INSTALLING THE FORWARD LINE RETENTION BRACKET

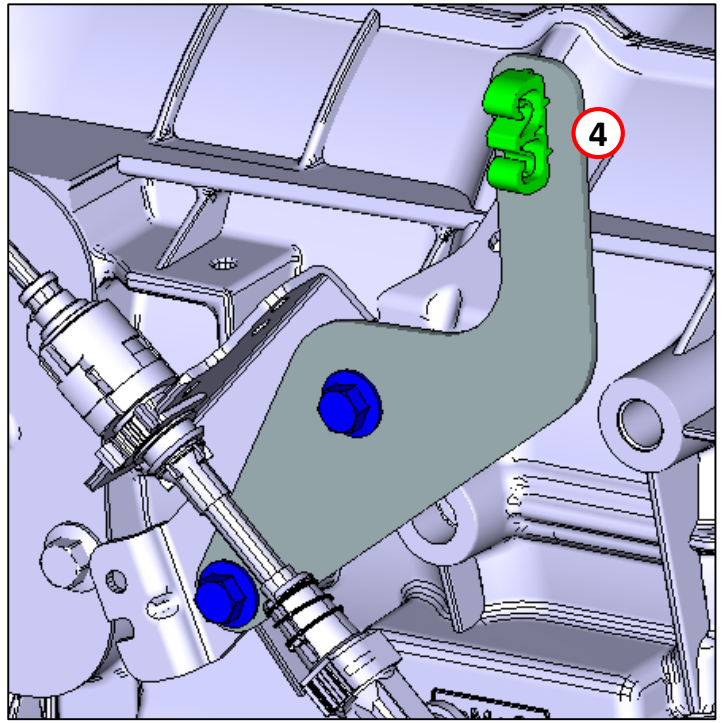
ATTENTION

All Tanks

1. Follow Ford procedure *Ford Workshop Manual, Section 307-05, Powertrain, Automatic Transaxle/Transmission External Controls,* to make sure there is no tension on the shifter cable.
2. Remove OEM fasteners attaching the transmission shift cable bracket to the transmission.
3. Attach fuel line retention bracket P16MB-10F100-D to the transmission as shown below reusing existing hardware. Torque bolts to 48 Nm.
4. Install a double snail clip (15-004175) on the fuel line retention bracket as shown.



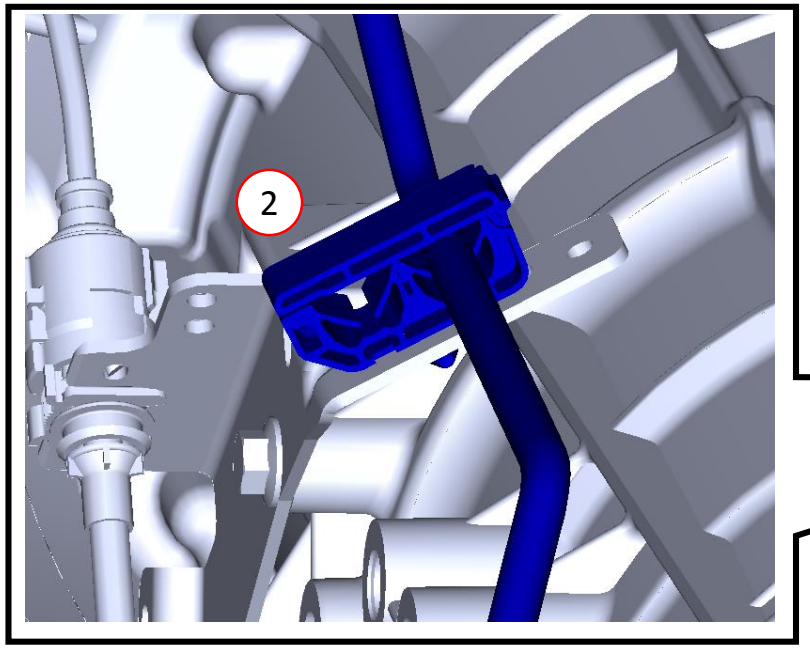

DISCARD REUSE NEW

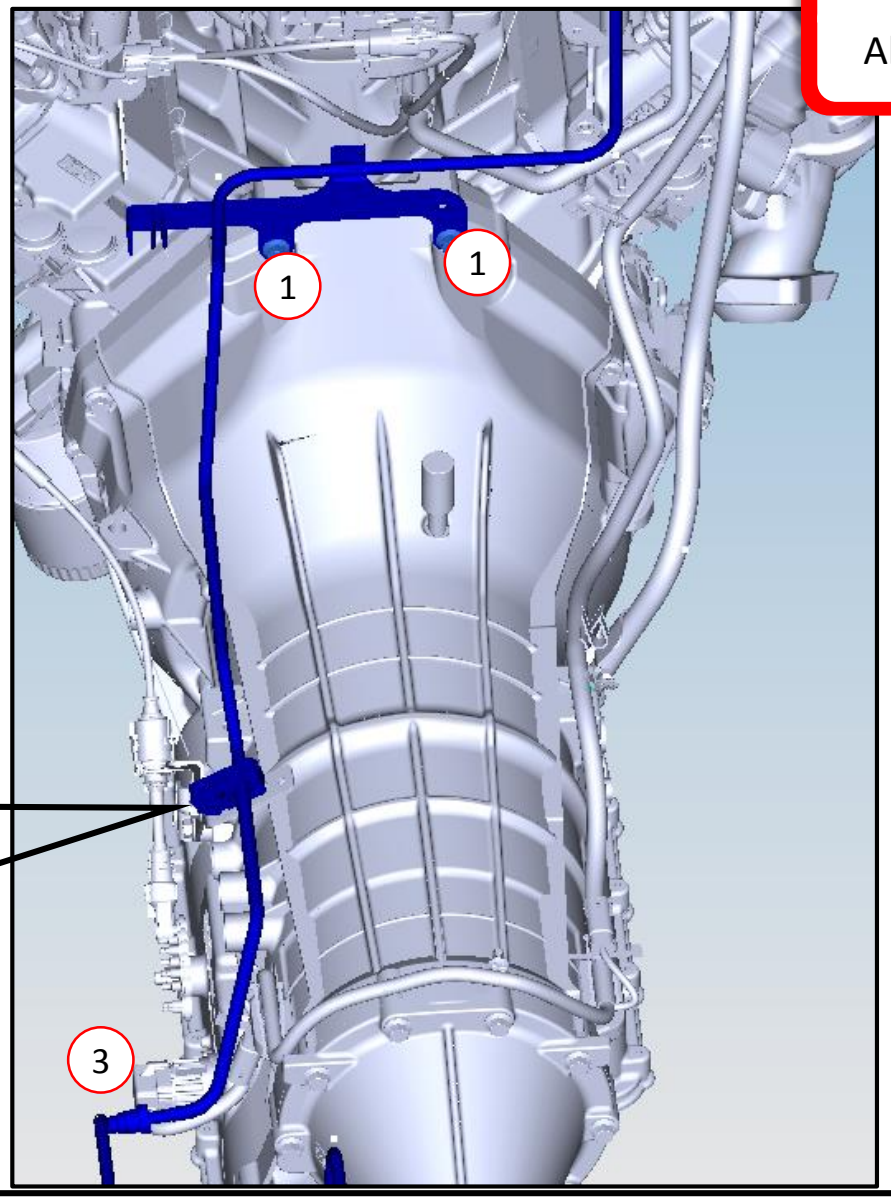
# REMOVING THE FORWARD LINE ASSEMBLY

ATTENTION

All Tanks

1. Remove the forward line assembly by removing the two bolts that hold on the fuel line retention bracket.
2. Unclip the fuel line retention clip.
3. Unplug the fuel line.
4. Remove assembly.



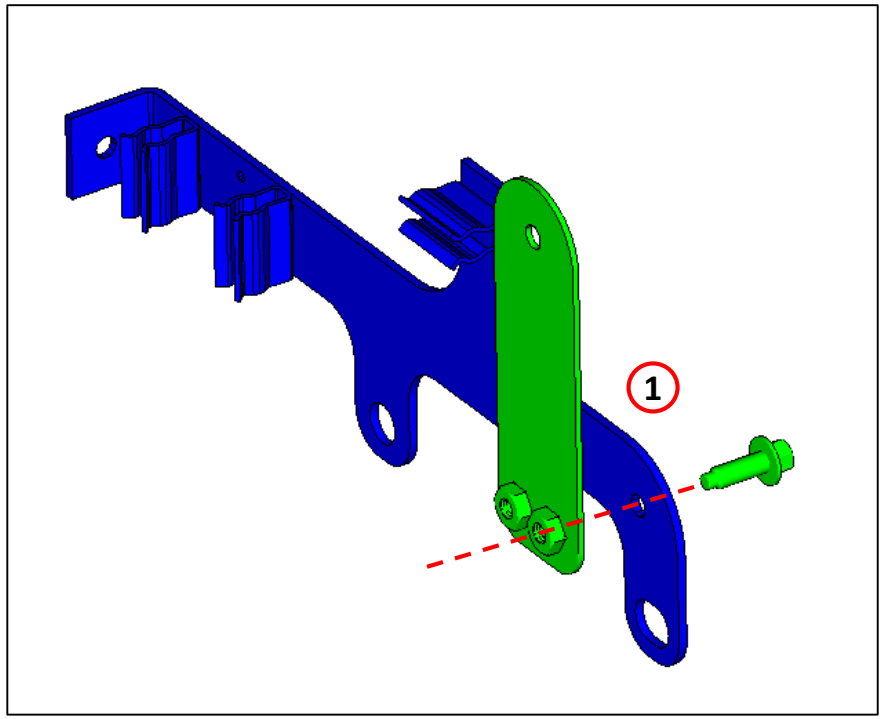



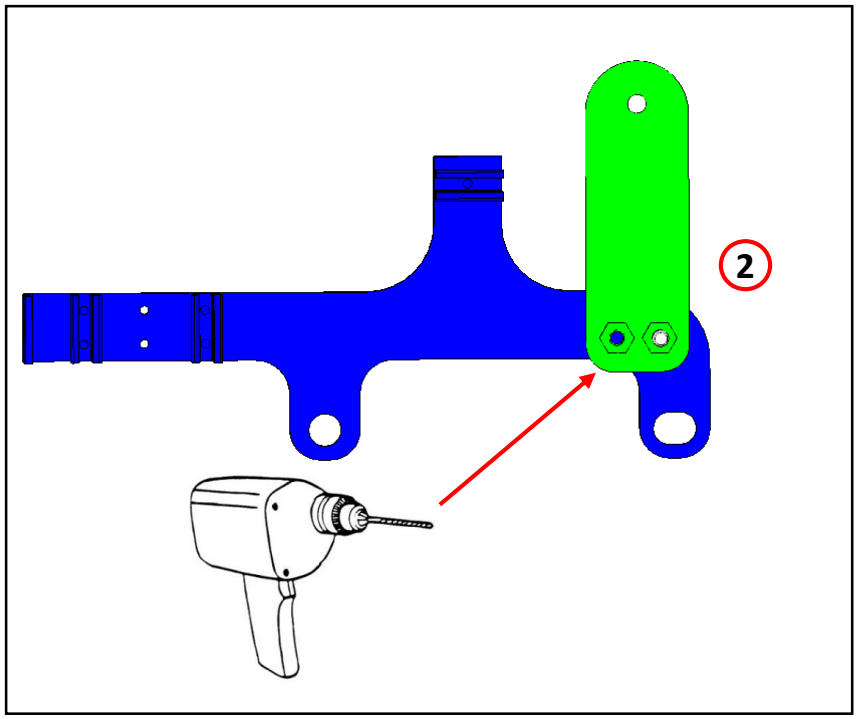
ATTENTION

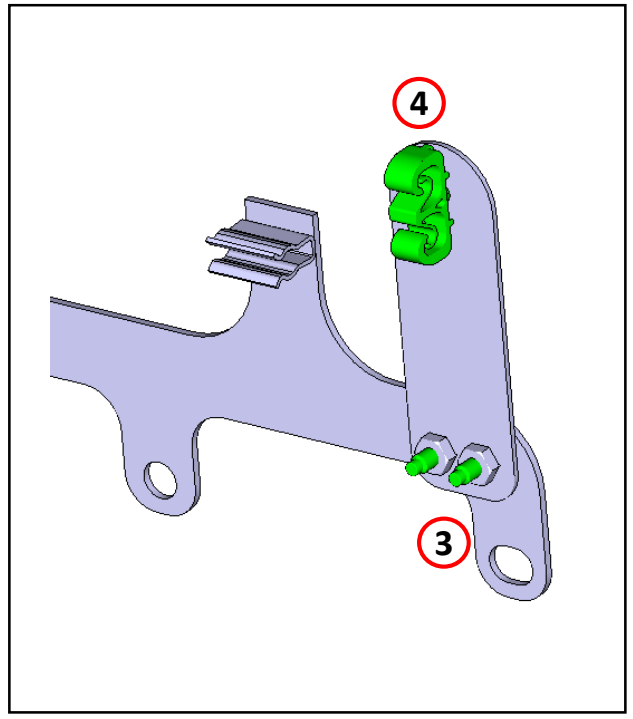
All Tanks

# MODIFYING OEM RETENTION BRACKET

1. Align the line retention bracket (P16FB-10F100-D) to the OEM retention bracket and tighten the single bolt where the through-hole lines up with the weld nut.
2. Using a centerpunch, mark the center of the hole. Remove the bracket, then drill a clearance hole through the OEM bracket using a ¼" drill bit.
3. Install the line retention bracket as shown using two  M6 X 1.0 X 16 bolts. Torque bolts to 8-12 Nm.
4. Attach the snail clip to the bracket as shown



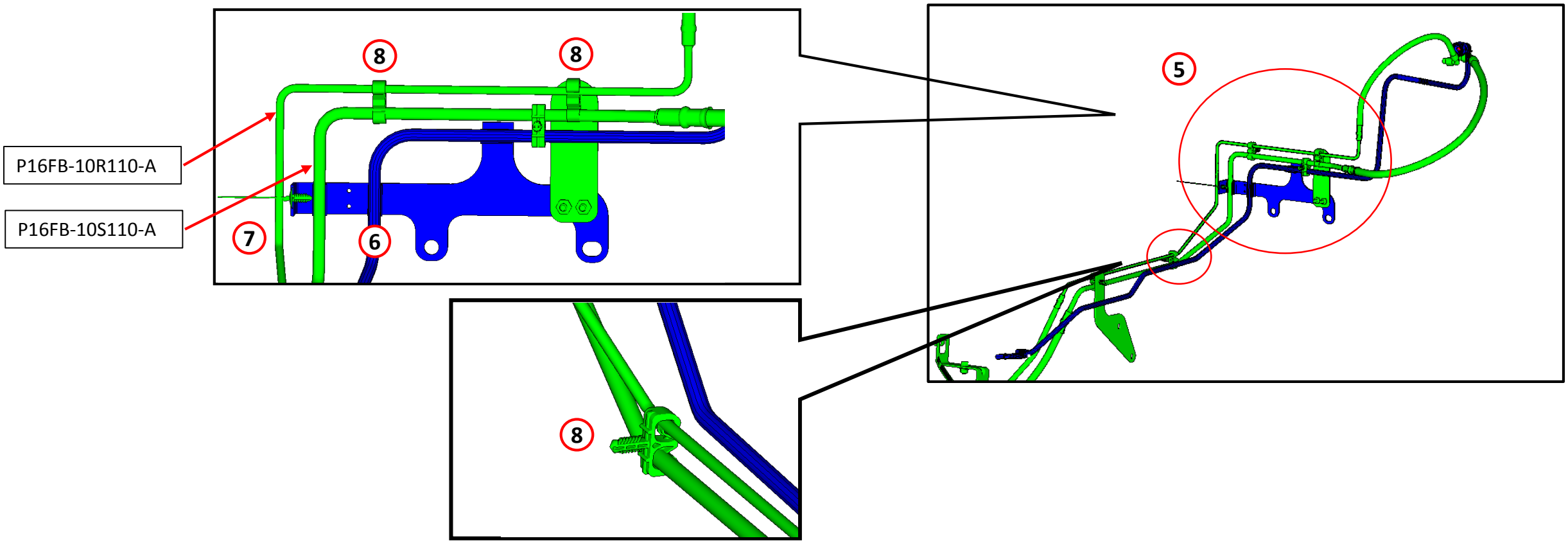



ATTENTION

All Tanks

# INSTALLING THE FORWARD LINES CONTINUED

5. Install the forward lines (P16FB-10S110-A & P16FB-10R110-A) onto the assembly as shown. The supply line routes underneath and below the return line.
6. Snap the supply line into the transmission bracket clip.
7. Retain the return line to the bracket using a push pin zip tie (155-05800) onto the Ford transmission bracket.
8. Install snail clips in the 3 locations shown below

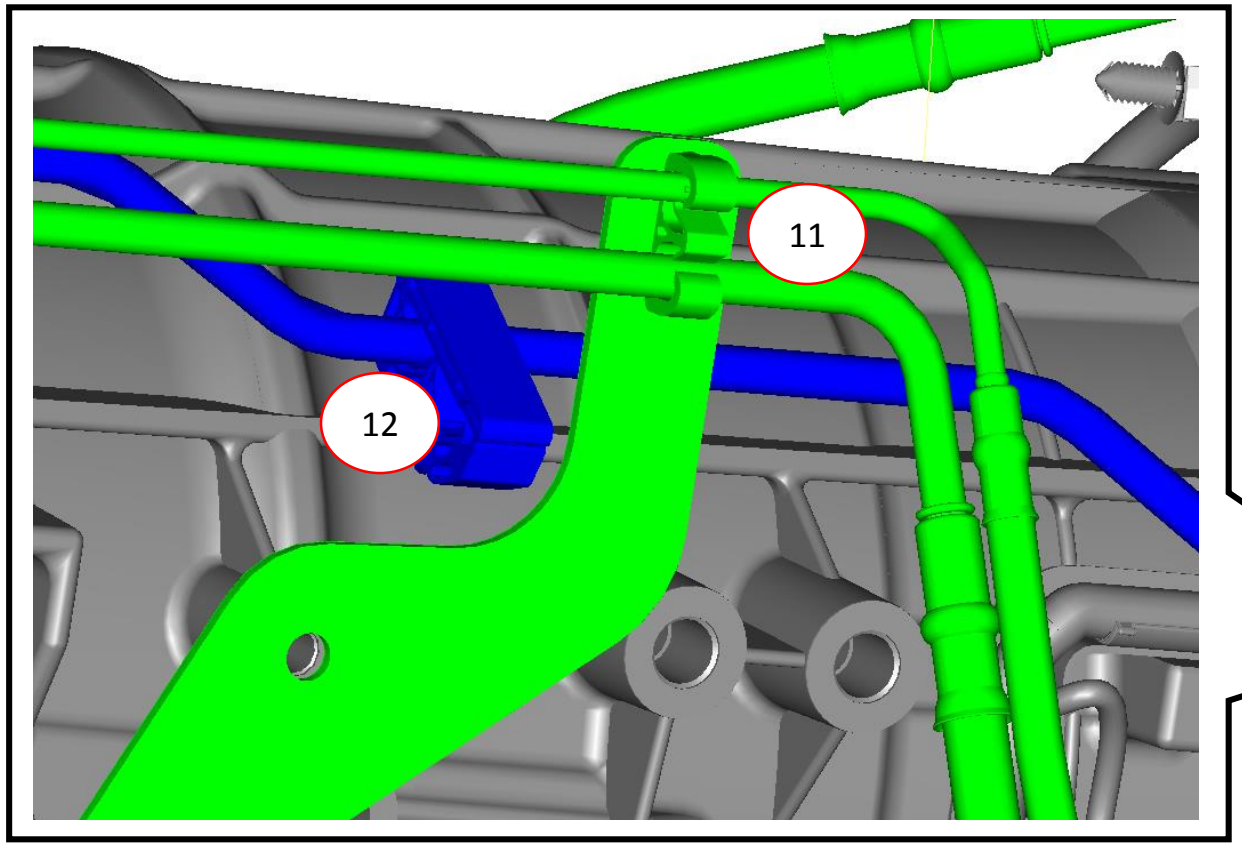


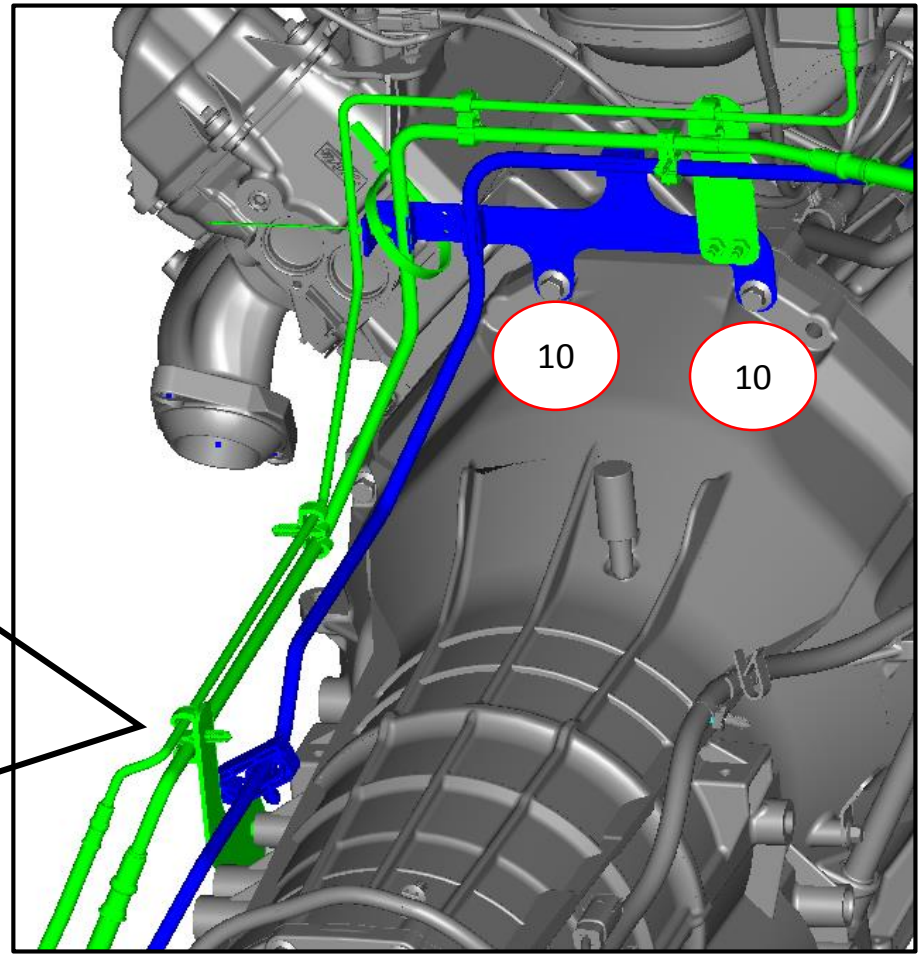
ATTENTION

All Tanks

# INSTALLING THE FORWARD LINES AS AN ASSEMBLY CONTINUED

9. Install the forward line assembly onto the transmission as shown.
10. Install the bracket to the transmission using the two OEM M10 bolts. Torque 40-55 Nm.
11. Snap the lines into the snail clip as shown.
12. Reinstall the OEM vapor line into the retention clip.



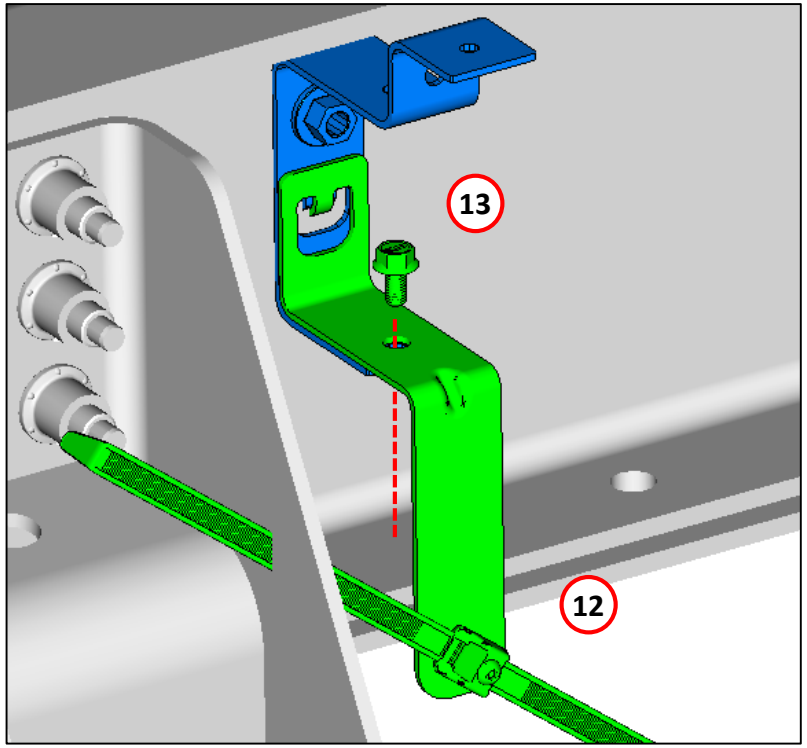

DISCARD REUSE NEW

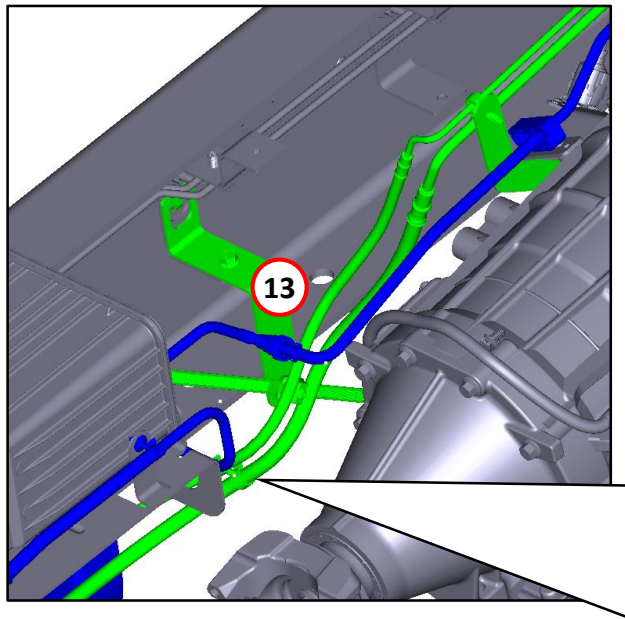
# INSTALLING THE FORWARD LINES CONTINUED

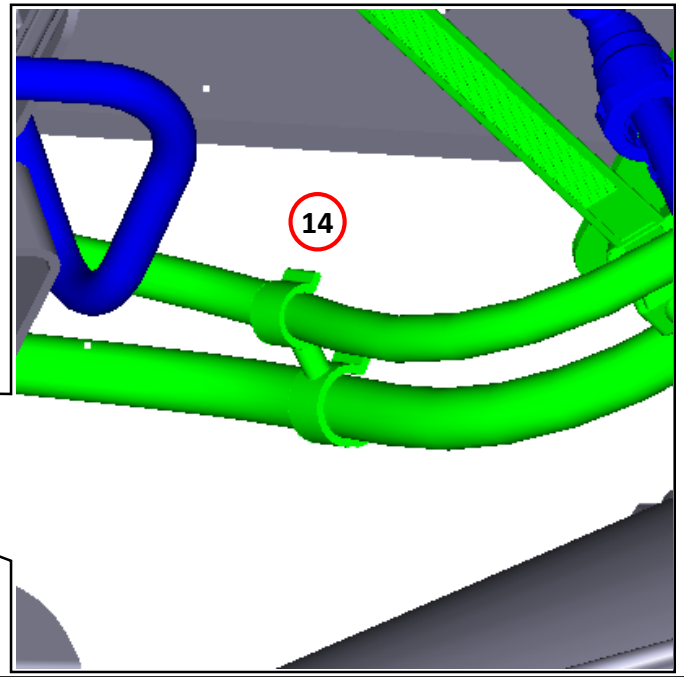
ATTENTION

All Tanks

12. Install a dual clamp zip tie (20-403-0004) onto the forward lines as shown below. Tighten the zip tie strap to each fuel lines as close to the dual clamp tie mounting location on the forward line retention bracket as possible. Then, using an M6x45 bolt and M6 nut, retain the dual clamp tie to the bracket.
13. Install the forward fuel line retention bracket (P16FB-10F100-A) on top of the OEM brake line retention bracket that is located just forward of the vapor canister using M8x1.25x16 bolt and M8 hex flange nut. Torque to 18-20 Nm.
14. Install dual C-clip (W713776-S) on the forward lines, rearward of the dual clamp zip tie as shown below.



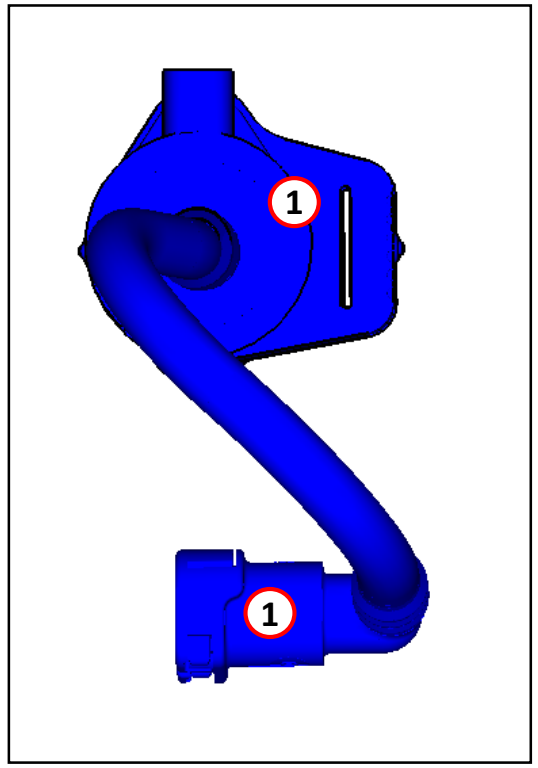



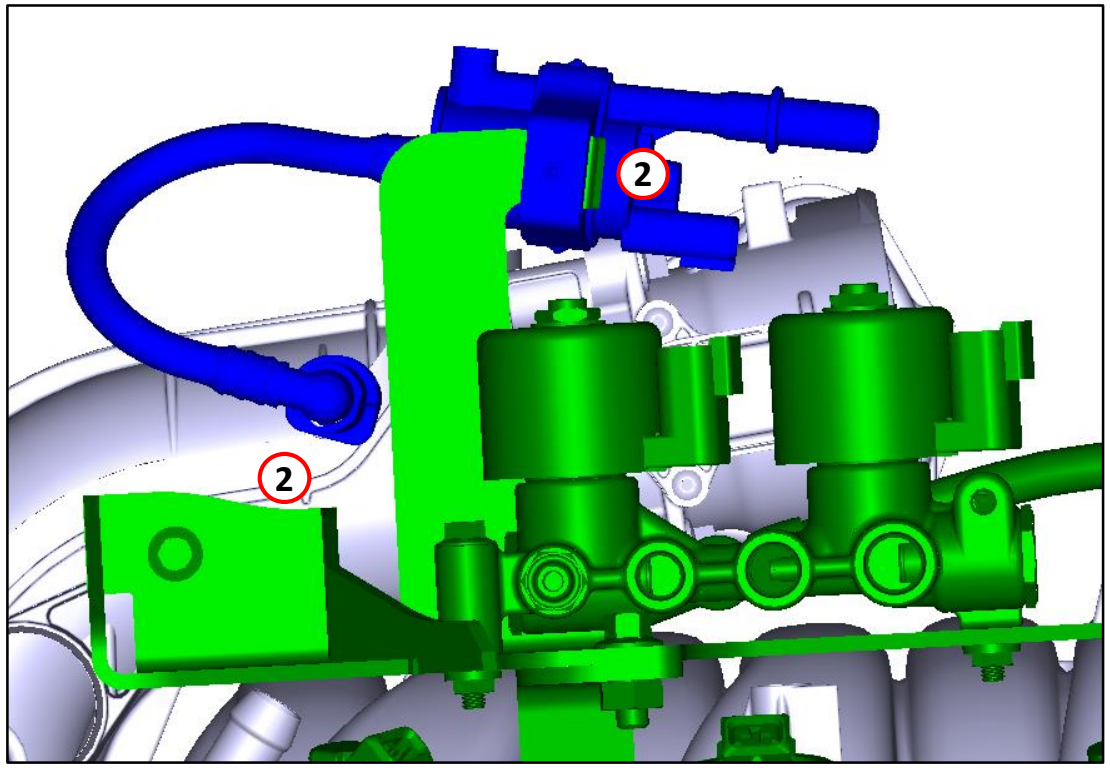
ATTENTION

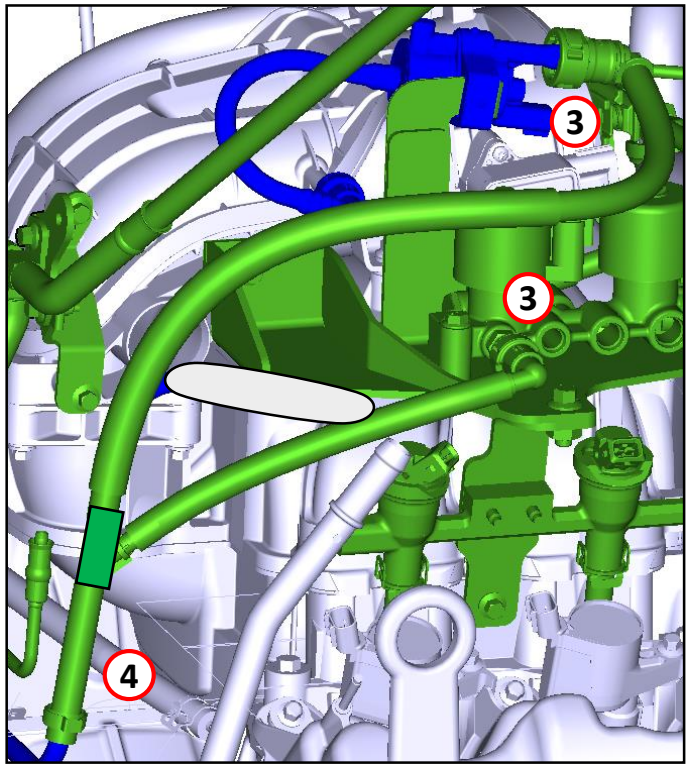
All Tanks

# INSTALLING THE VAPOR MANAGEMENT VALVE AND KIT

1. Rotate the flex line and quick connect fitting on the vapor management valve (VMV) to orient the components as shown.
2. Connect the vapor management valve assembly to the throttle body spacer and slide the vapor management valve onto the FRPCM bracket as shown.
3. Connect the vapor hose assembly P16MB-03N100-A to the VMV and to the FRPCM bleed port as shown.
4. Slide the step-less ear clamp (16700019) onto the OEM vapor line and then push the vapor hose assembly 1 inch onto the tube. Secure the hose to the tube with the clamp, refer to the *Special Tools* section for more information.



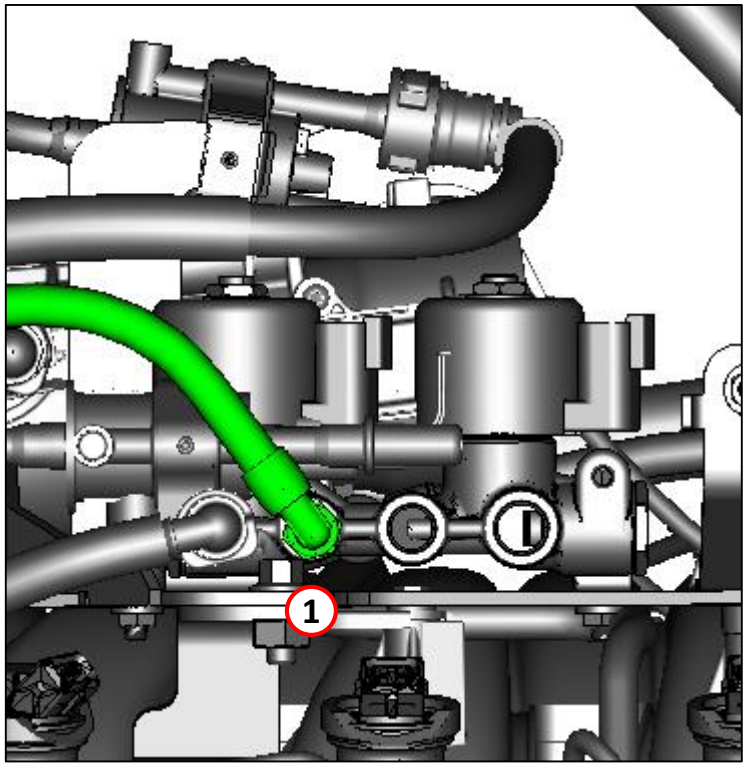



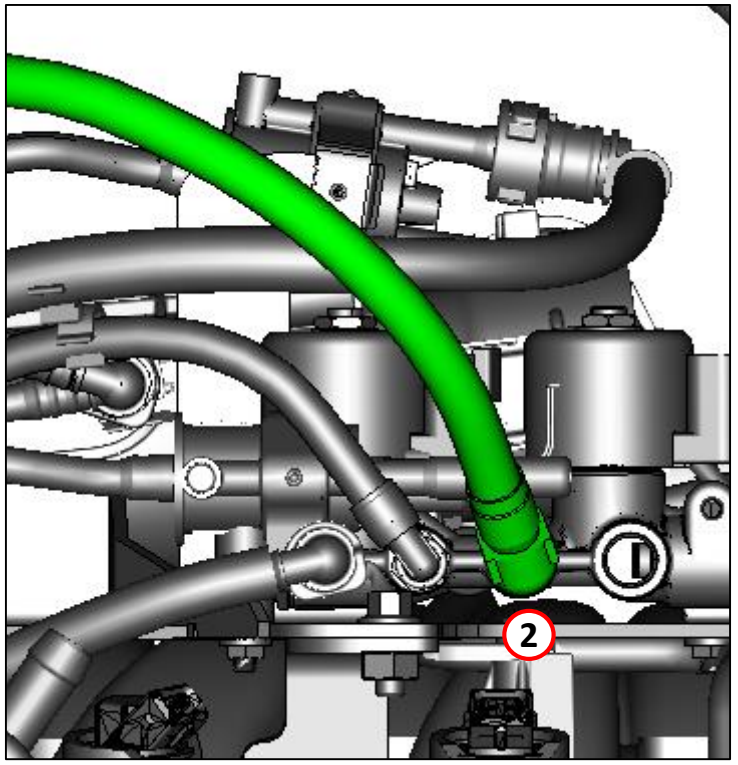
# CONNECTING THE FUEL LINES TO THE FRPCM

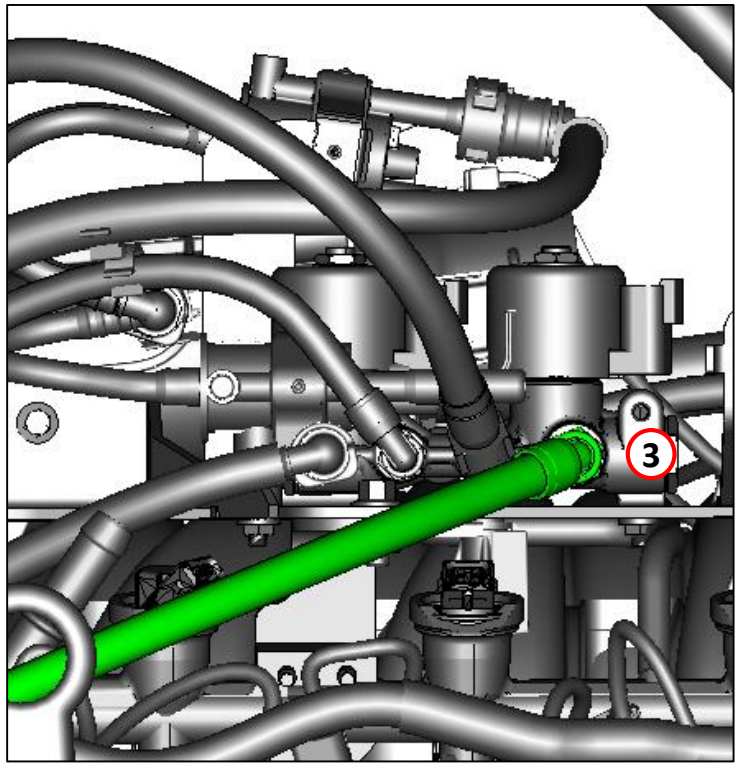
ATTENTION

All Tanks

1. Connect the forward return line (P16FB-10R110-A) to the rear port on the FRPCM. **Note: The forward line should route over the engine supply line.** Torque the fitting to 18-20 Nm.
2. Connect the engine supply line (P16MB-03D110-B) to the middle port on the FRPCM. Torque the fitting to 23-26 Nm.
3. Connect the forward supply line (P16FB-10S110-A) to the forward port on the FRPCM. Torque the fitting to 29-33 Nm.



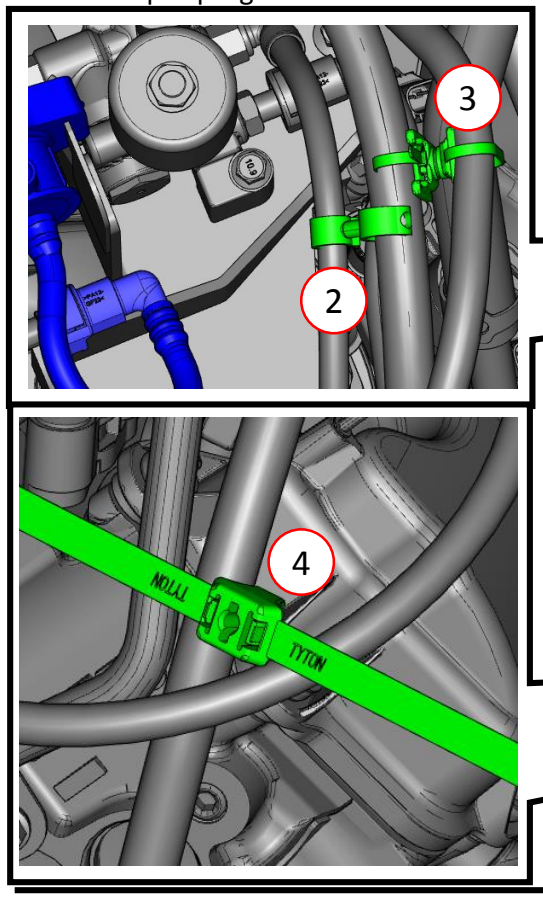



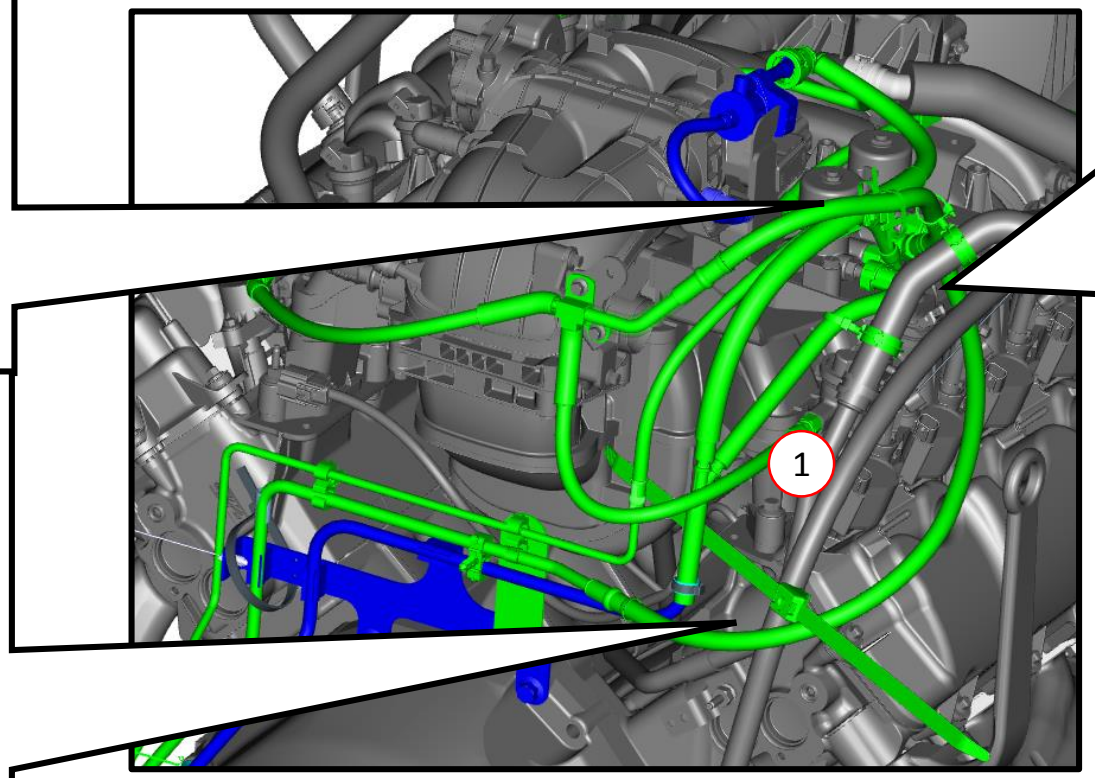
ATTENTION

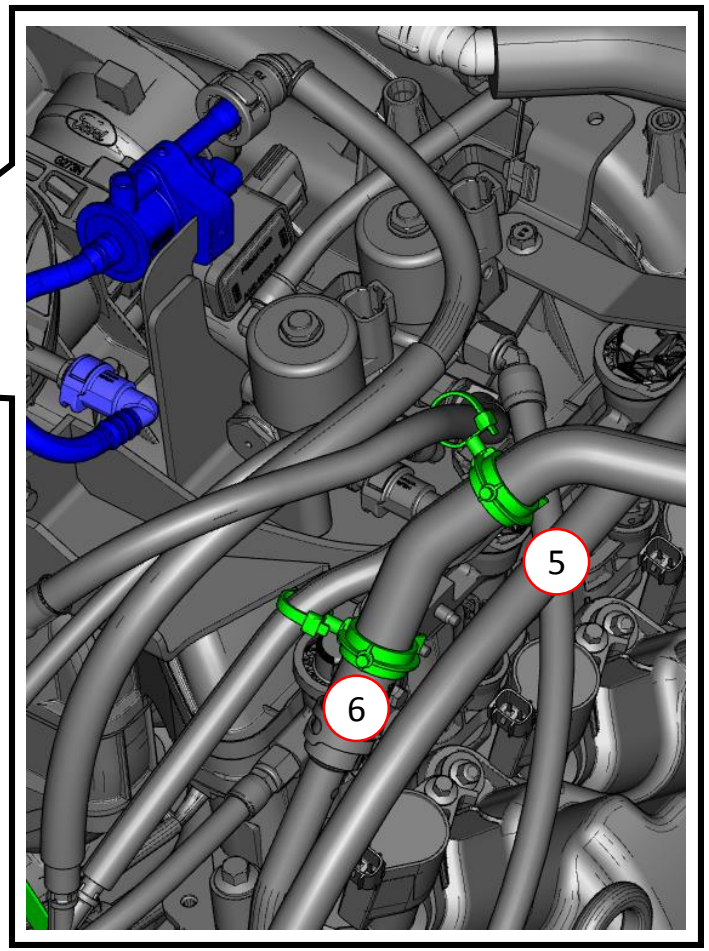
All Tanks

# CONNECTING AND RETAINING THE REMAINING LINES

1. Connect the engine supply line to the right hand rail. Using a wrench to hold the fuel rail and torque wrench with a crow's foot, torque the fitting to 18-20 Nm.
2. Secure the vapor hose assembly to the forward return line using a dual C-clip (W713776-S). Make sure to install the clip on the rubber portion of the vapor fuel line, not where the abrasion sleeve is.
3. Retain the engine supply line to the vapor line using two zip ties and a dual swivel spacer (151-06500)
4. Retain the forward supply line to the transmission dipstick tube where is passes over it using a dual clamp zip tie (20-403-0004)
5. Retain fuel rail supply line to OEM heater hose using 1 c-clip swivel tie (156-00130). Ensure zip tie is secured to fuel line, not heater hose
6. Retain vapor purge line to OEM heater hose using 1 c-clip swivel tie (156-00130). Ensure zip tie is secured to purge line, not heater hose



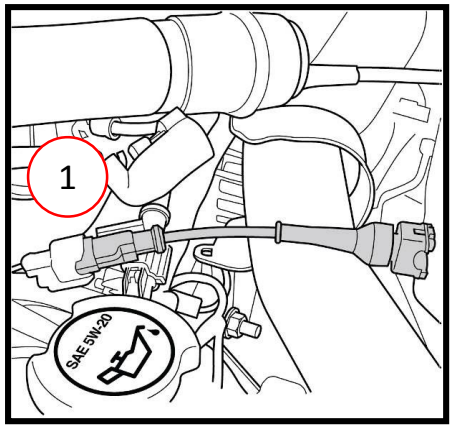

DISCARD REUSE NEW

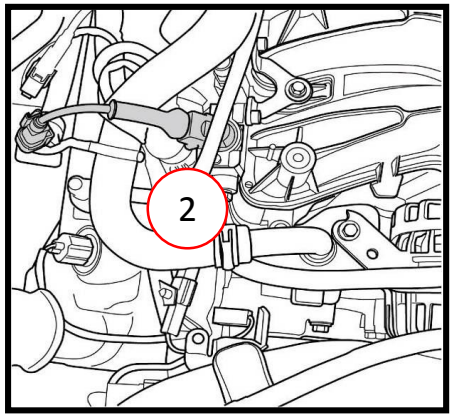
ATTENTION

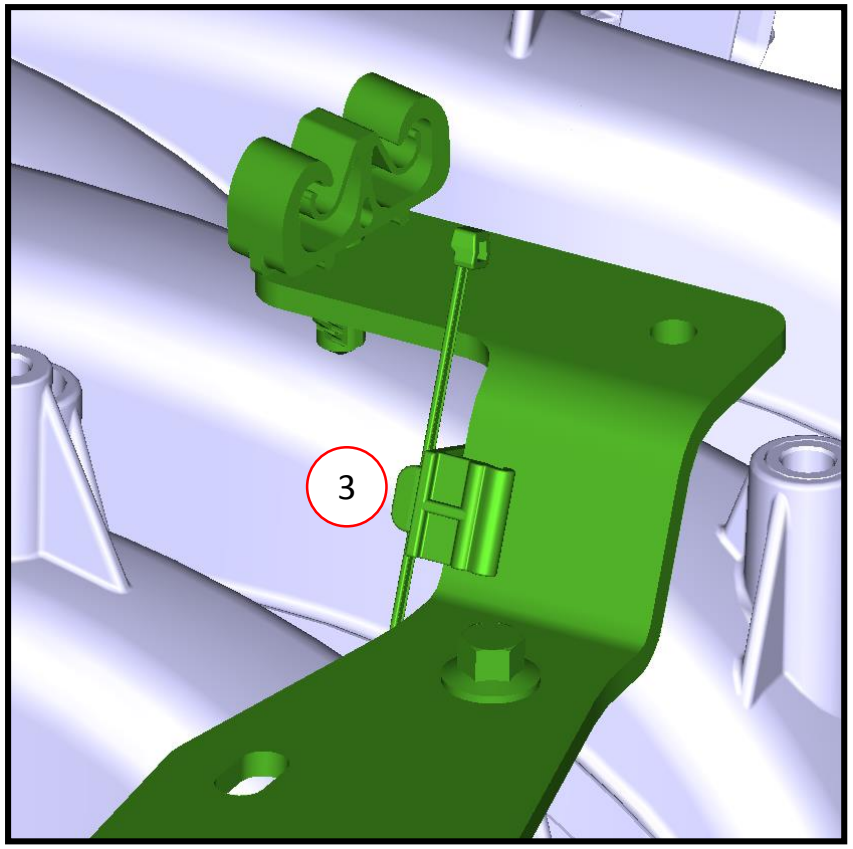
All Tanks

# FINAL ELECTRICAL CONNECTIONS

1. If applicable, connect coil wires.
2. Connect the injector jumpers to the engine harness.
3. Connect wiring to VMV and retain wiring branch to edge clip zip tie at front of FRPCM bracket.



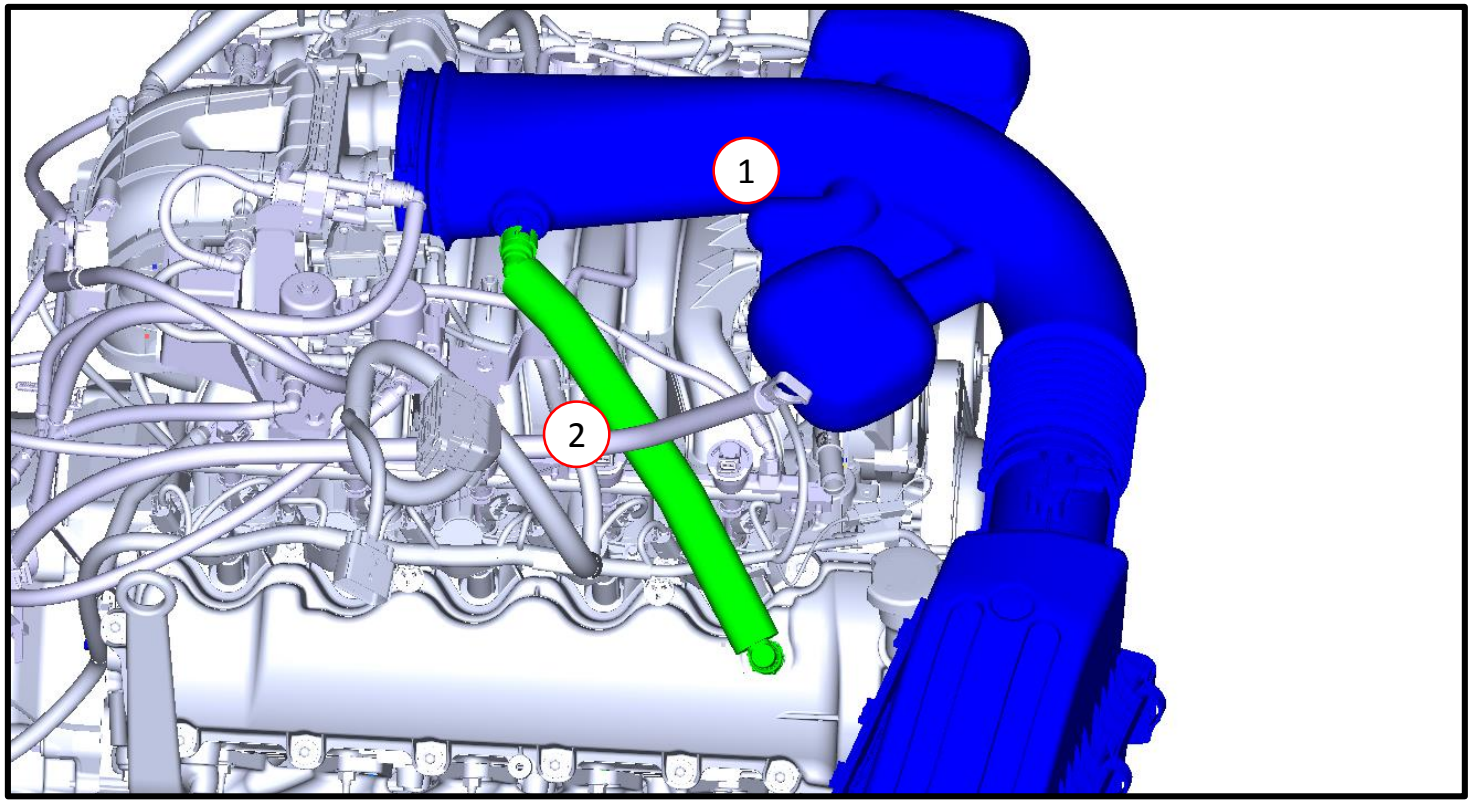



ATTENTION

All Tanks

# INSTALLING THE NEW PCV HOSE AND CLEAN AIR TUBE ASSEMBLY

1. Reinstall the clean air tube.
2. Install the new PCV hose (P16FB-03H110-AA) which connects the clean air tube to the RH engine valve cover.

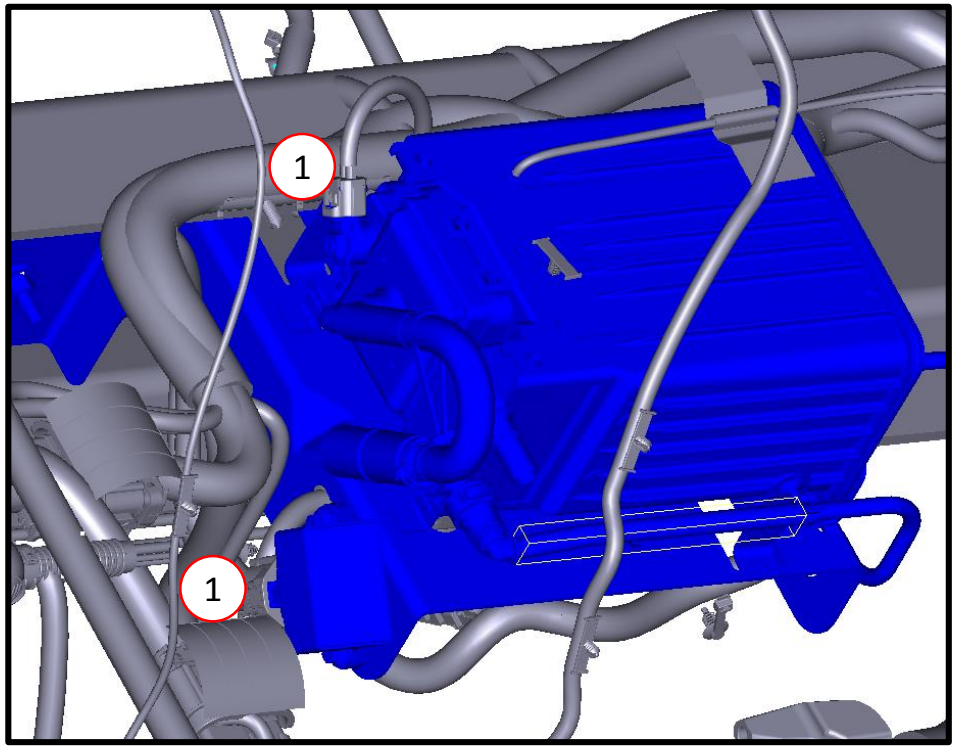


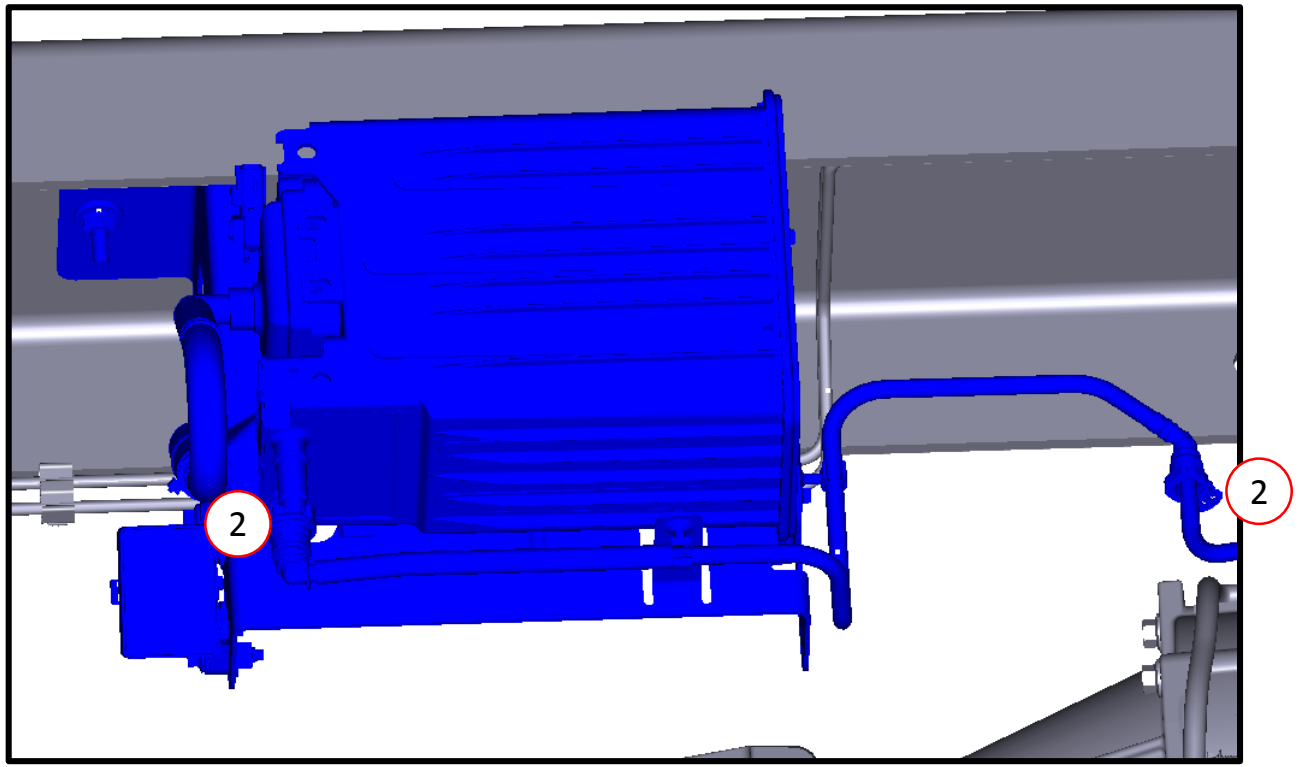
ATTENTION

All Tanks

# REMOVING THE VAPOR CANISTER BRACKET ASSEMBLY

1. Unplug the OEM harness from the OEM Electronic fuel pump relay EFPR and the dustbox cover.
2. Remove the OEM vapor line that routes from the canister to the forward vapor line by unplugging the quick connects. Do not discard, set aside.



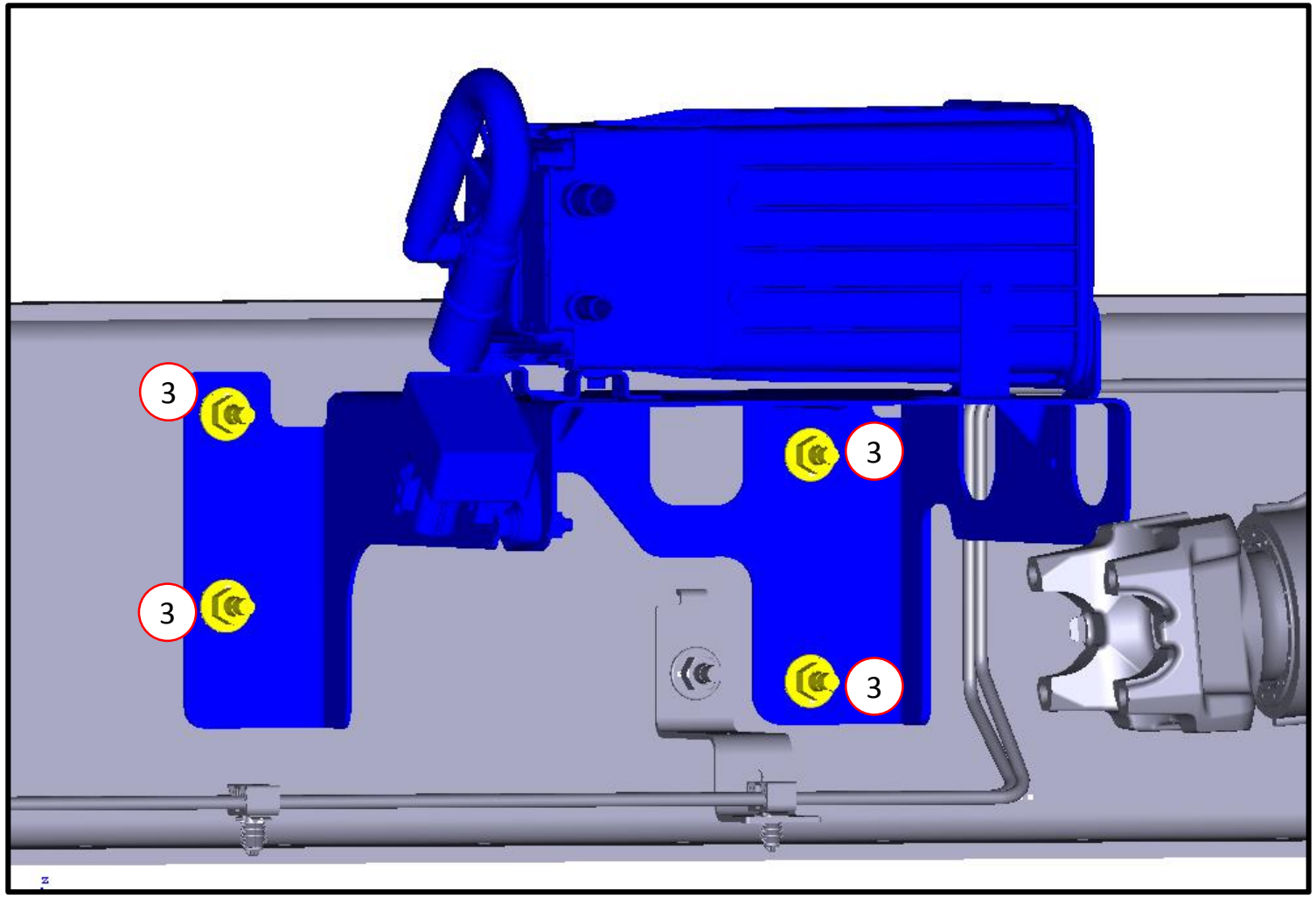



ATTENTION

All Tanks

# REMOVING THE VAPOR CANISTER BRACKET ASSEMBLY CONTINUED

3. Remove the vapor canister bracket assembly by removing the 4 nuts and 4 bolts that attach it to the frame. Discard the nuts and bolts.



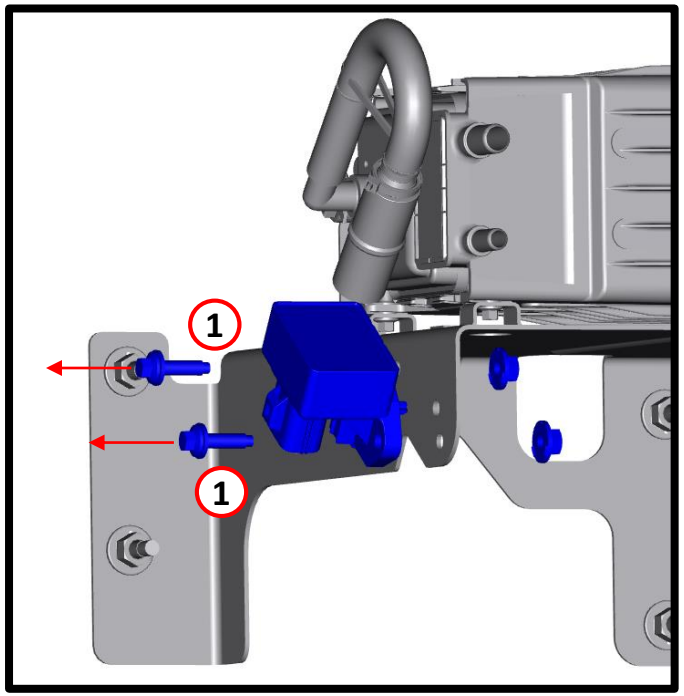
ATTENTION

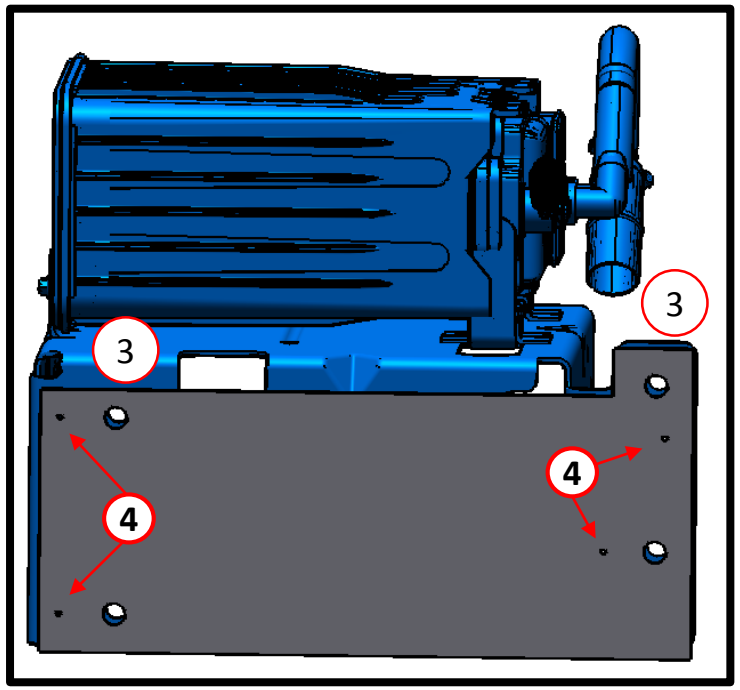
All Tanks

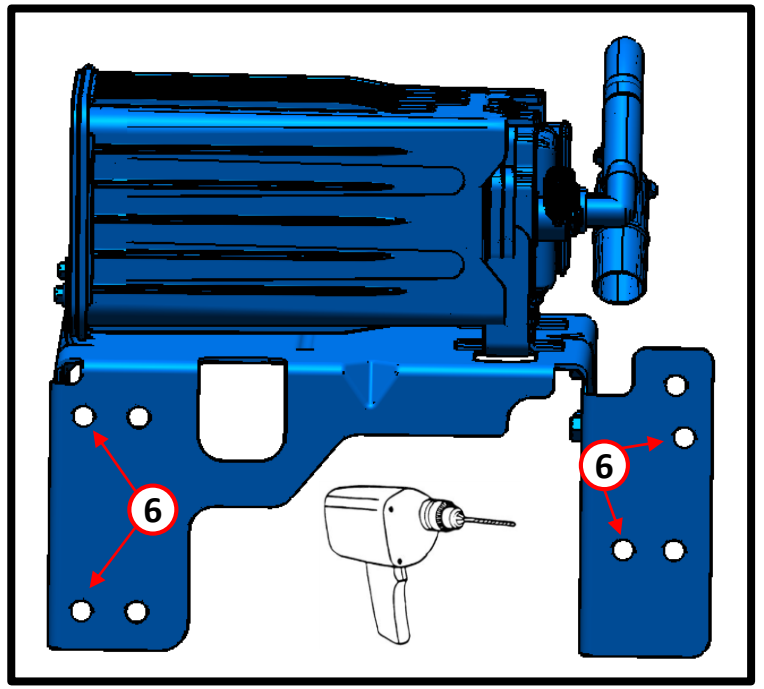
# MODIFYING THE VAPOR CANISTER BRACKET

1. Remove OEM EFPR and M8x27 mounting screws and nuts for re-use.
2. Remove the OEM vapor canister bracket assembly.
3. On bench, align vapor canister mounting template (P16FB-01F250-A) to OEM vapor canister mounting holes on the side the mates to the frame.
4. Punch mark new set of holes using a center punch or marking gauge.
5. Remove the template and drill small pilot holes at four locations.
6. Using a step drill bit gradually increasing bit size, drill 4 canister bracket mounting holes to ½" inch. **Cover holes with undercoating to prevent rust.**

**NOTE: Instructions to locate mounting holes are also provided on the template.**



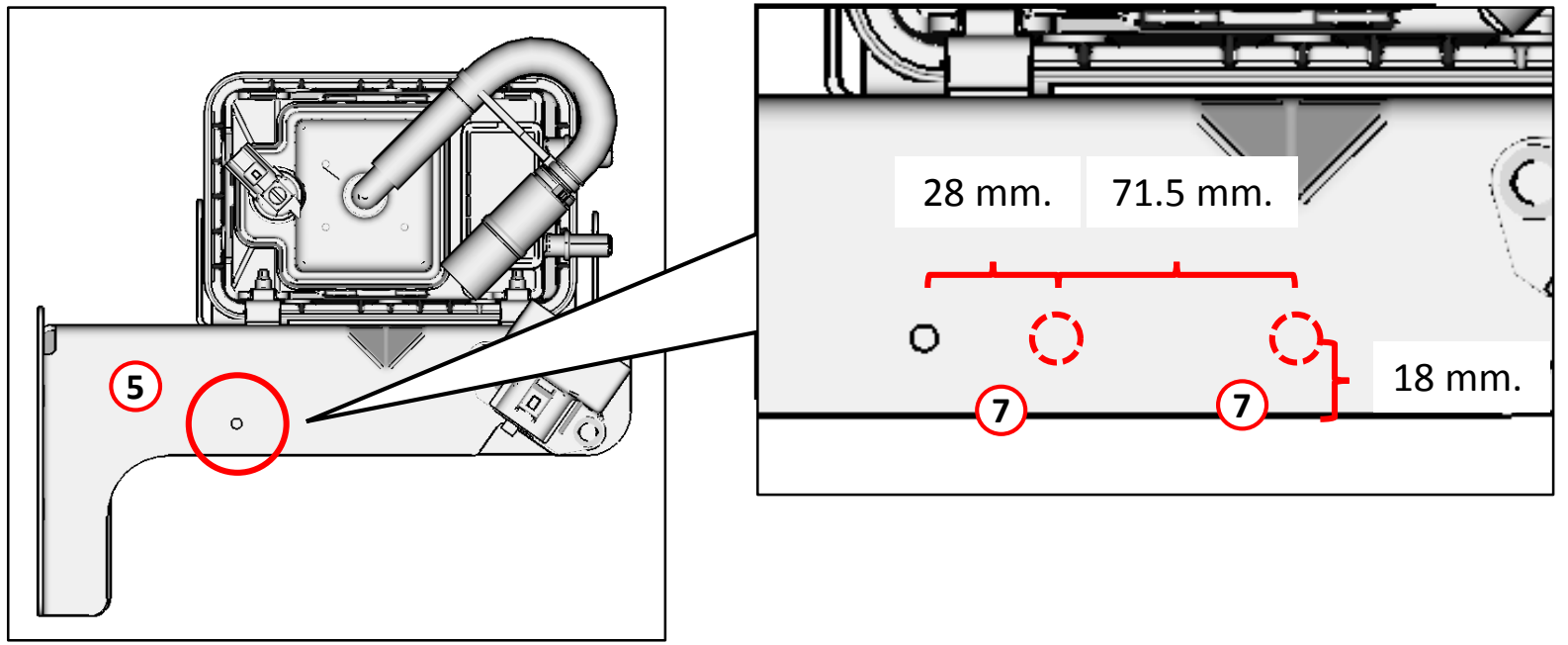



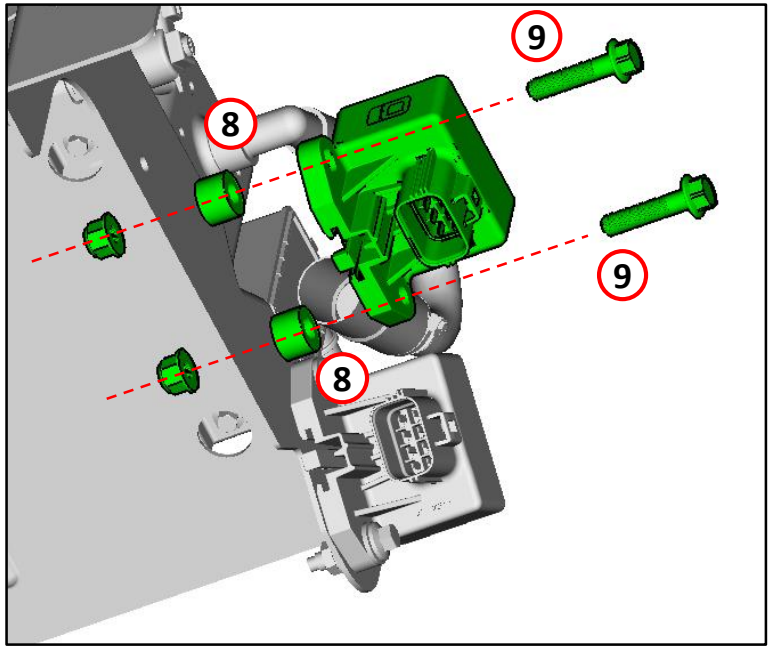
ATTENTION

Single Tanks

# MODIFYING THE VAPOR CANISTER BRACKET

5. Locate the reference hole on the vapor canister bracket shown on the image below.
6. Using a center punch or marker, mark the center of the two new EFPR mounting holes as shown in the diagram below.
7. Drill both holes out using a 3/8” or 9mm drill bit.
8. Use two spacers 11-373-0005 between the EFPR and vapor canister bracket, position EFPR and fasten using two M8x40 flange head bolts and M8 locknuts.
9. Torque to 7.6 – 10.4 Nm.



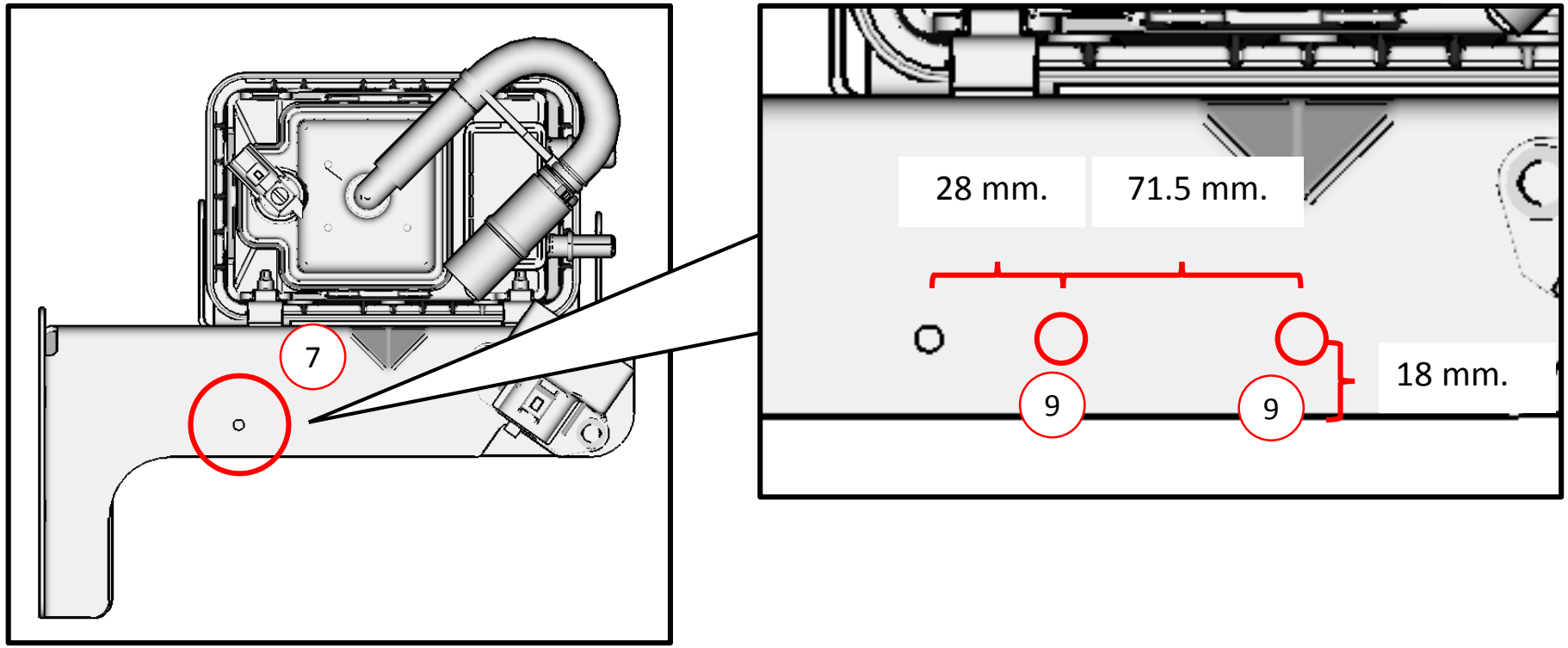



ATTENTION

Dual Tanks

# MODIFYING THE VAPOR CANISTER BRACKET

7. Locate the reference hole on the vapor canister bracket shown on the image below.
8. Using a center punch or marker, mark the center of the two new EFPR mounting holes as shown in the diagram below.
9. Drill both holes out using a 3/8” or 9mm drill bit.

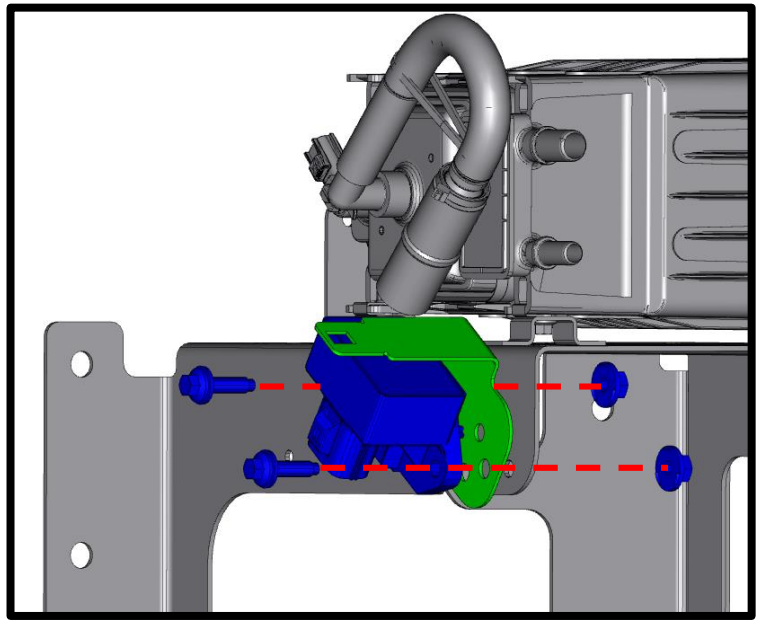


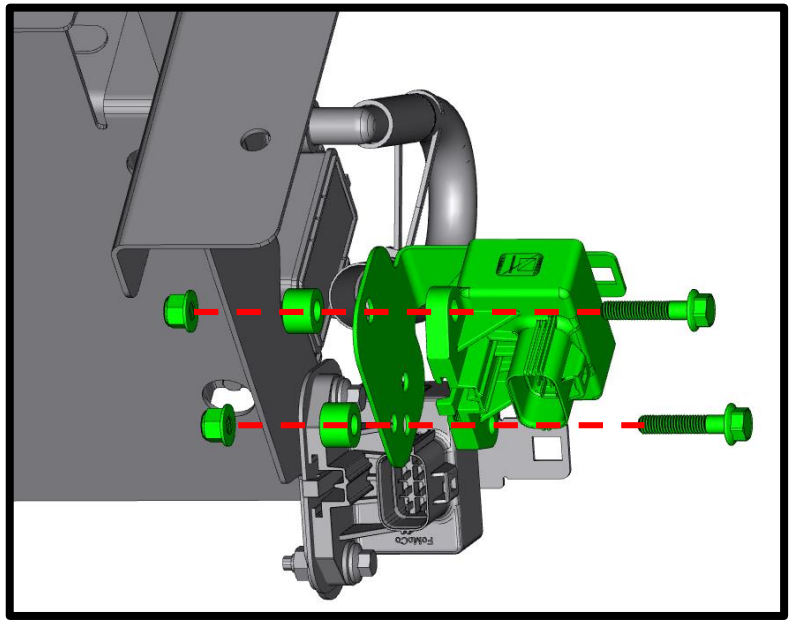
ATTENTION

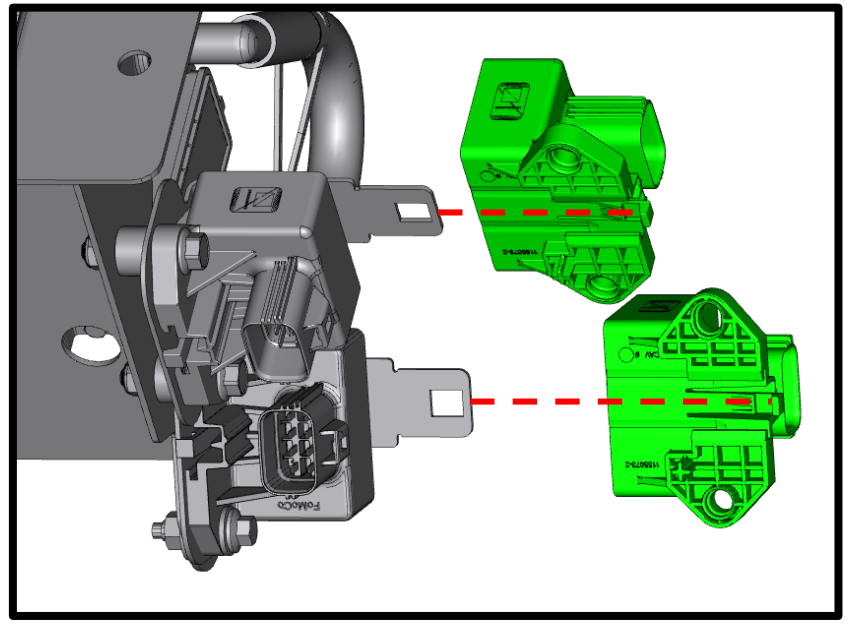
Dual Tanks

# MODIFYING THE VAPOR CANISTER BRACKET

11. Reinstall the OEM EFPR with a EFPR Bracket (P14MB-03P301-AB) between the vapor canister bracket and the EFPR using the M8x27 mounting screws and flanged nuts.
12. Use two spacers 11-373-0005 between the EFPR bracket (P14MB-03P301-AB) and vapor canister bracket, position EFPR and fasten using two M8x40 flange head bolts and M8 locknuts.
13. Torque all to 7.6 – 10.4 Nm.
14. Slide on two more EFPRs onto the EFPR bracket until they snap into place.





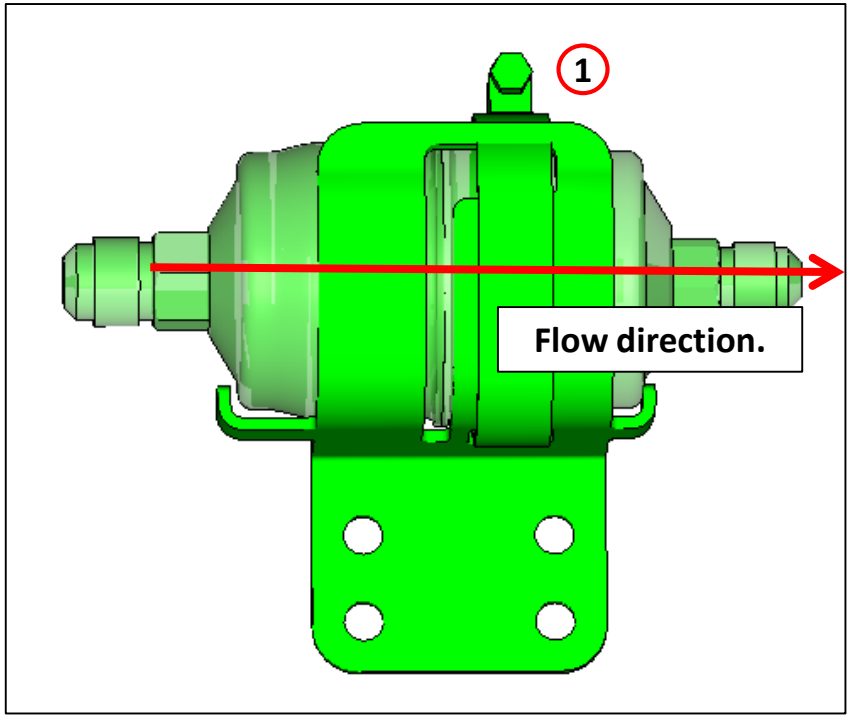


# ASSEMBLING THE IN-LINE SUPPLY FILTER

ATTENTION

All Tanks

1. Assemble the supply filter (P-10S200-A) to the supply filter bracket (P10C2-10S220-A) using a worm gear clamp (6P-300-52). Make sure that the fuel flow direction on the filter is oriented correctly as shown below. Tighten the clamp to secure the filter to the bracket.

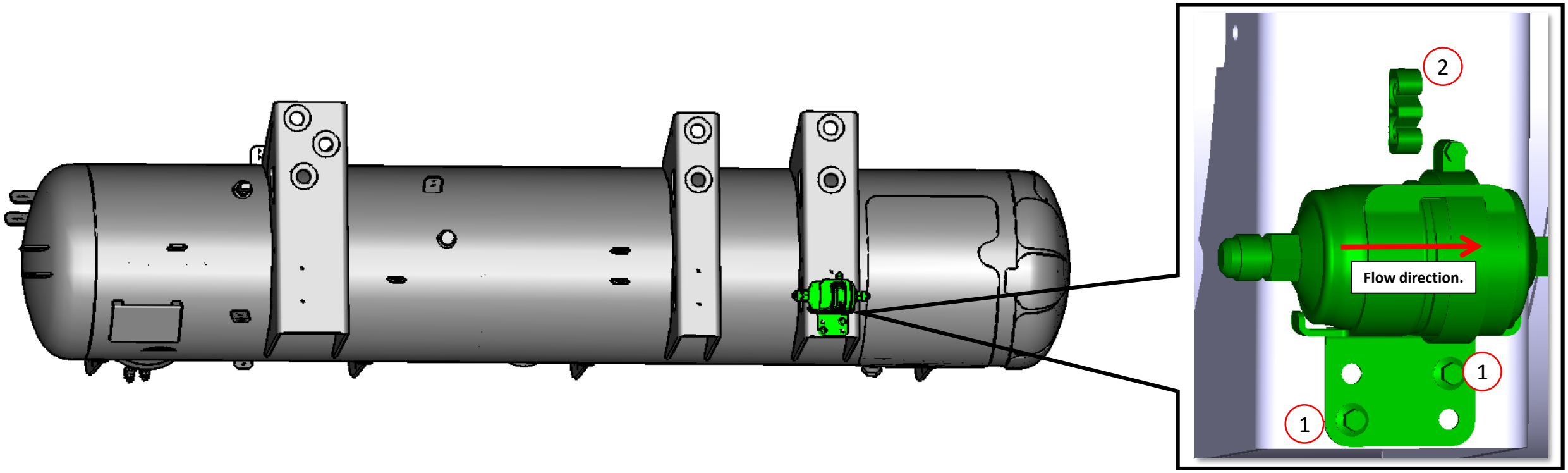


# INSTALLING THE SUPPLY LINE FILTER

ATTENTION

Tank A

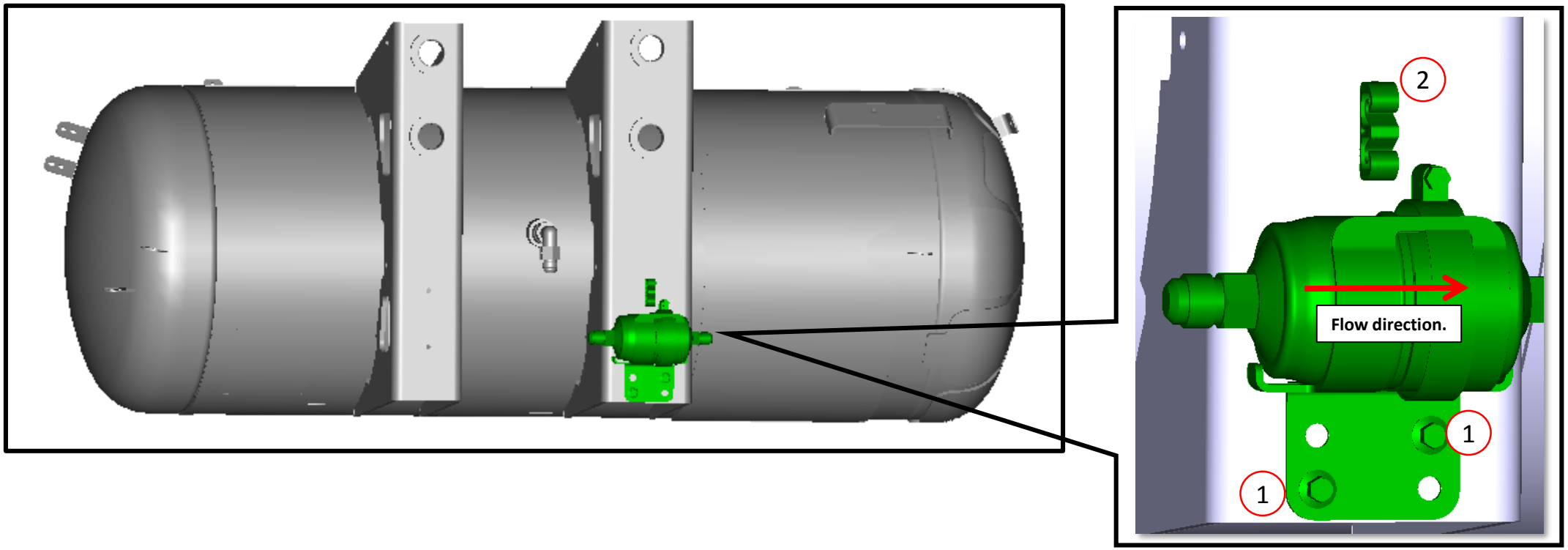
1. Attach the supply filter assembly to the LH tank's forward most mounting bracket using Qty. 2 M6x16 bolts and Qty. 2 serrated M6 nuts. Torque to 8-12 Nm.
2. Install a double snail clip (15-004175) onto the forward most fuel tank mounting bracket.



# INSTALLING THE SUPPLY LINE FILTER

ATTENTION
Tank B
Tank C

1. Attach the supply filter assembly to the LH tank's forward most mounting bracket using Qty. 2 M6x16 bolts and Qty. 2 serrated M6 nuts. Torque to 8-12 Nm.
2. Install a double snail clip (15-004175) onto the forward most fuel tank mounting bracket.

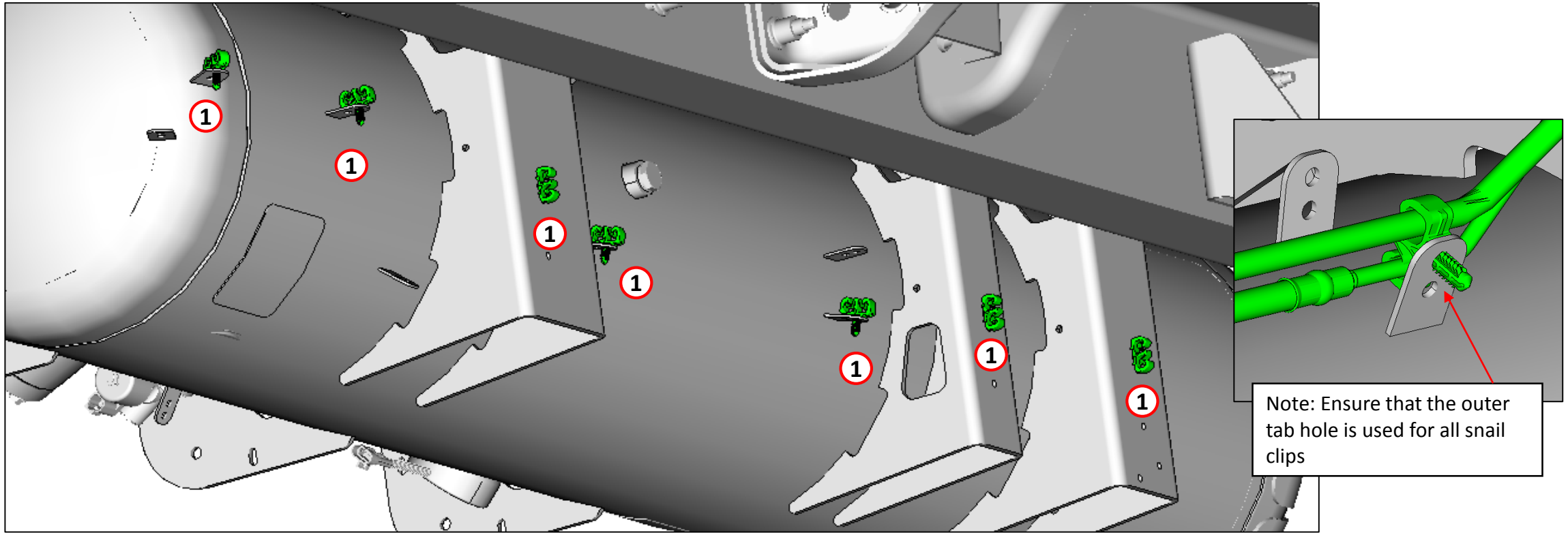


ATTENTION

Tank A

# PREPARING THE FUEL TANK TO INSTALL REAR FUEL LINES

1. Install the seven snail clips (15-004175) to the tabs on the LH fuel tank as shown below.

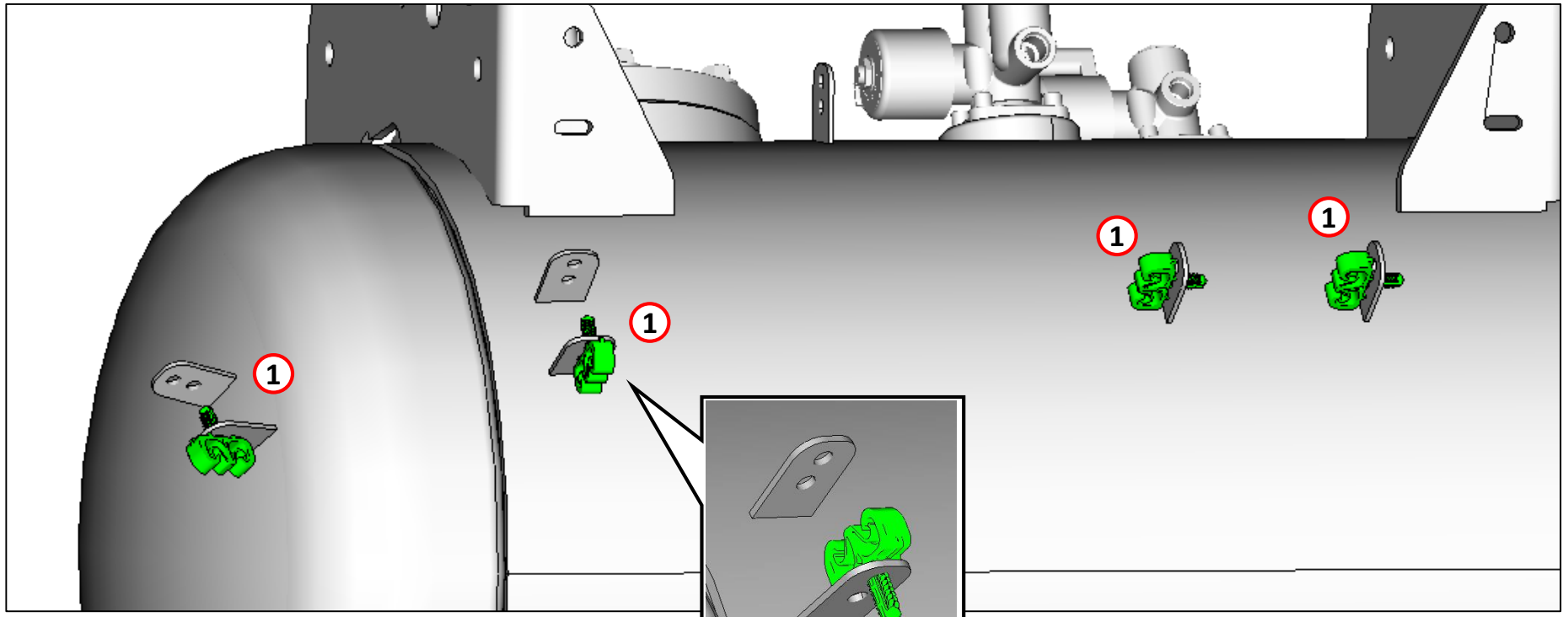


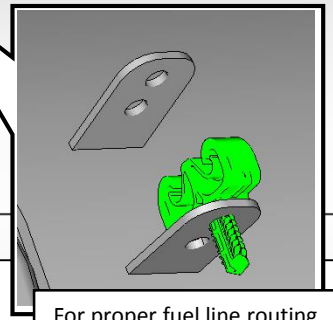
ATTENTION

Tank A

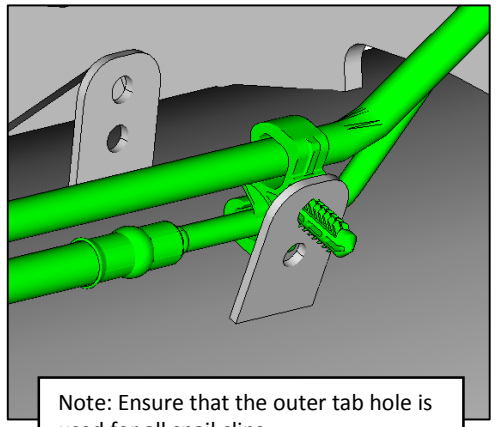
# PREPARING THE FUEL TANK TO INSTALL REAR FUEL LINES

1. Install four snail clips (15-004175) to the tabs on the LH fuel tank as shown below.



For proper fuel line routing retention, clip may need to be attached to opposite side of tab.



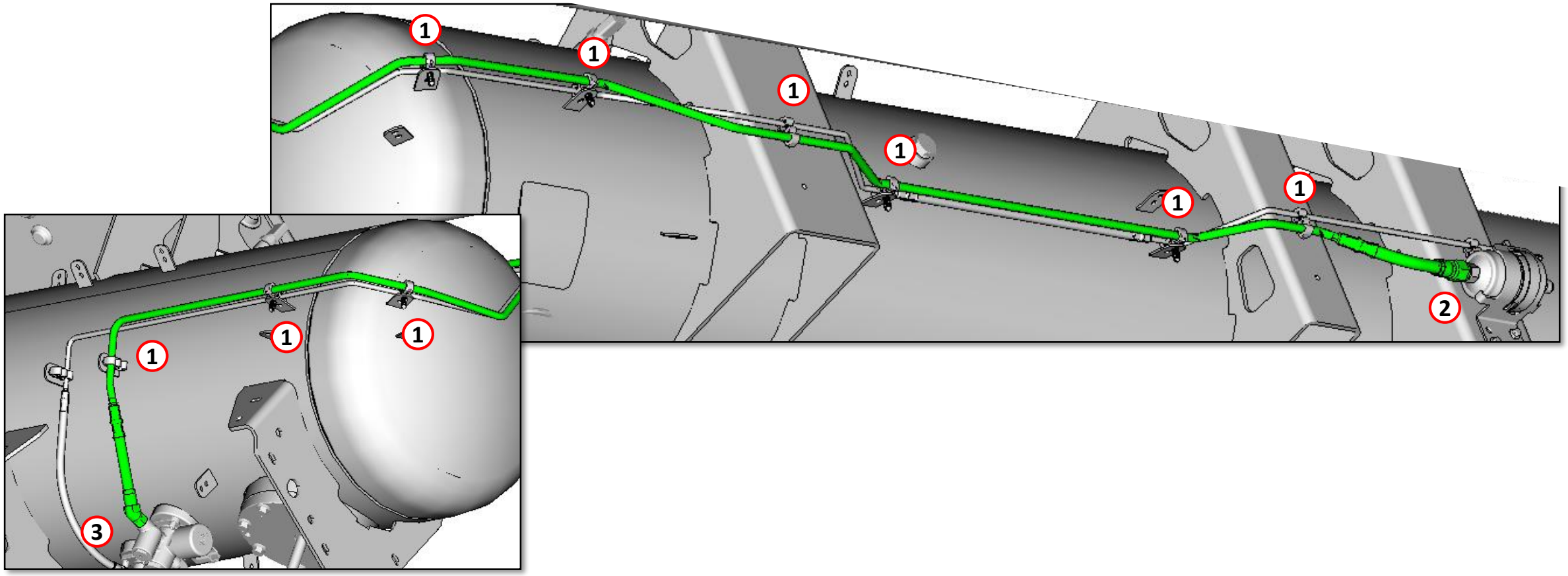
Note: Ensure that the outer tab hole is used for all snail clips

ATTENTION

Tank A

# INSTALLING THE REAR SUPPLY FUEL LINES

1. Route the fuel supply line (P16FB-10S130-AA) and retain it with the snail clamps you previously installed as seen below.
2. Thread the supply line into the supply line filter. Torque to 53-61 Nm.
3. Thread the supply line into the supply valve on the outboard side of the tank. Torque to 29-33 Nm. **Make sure the line does not touch or rub other lines/brackets.**

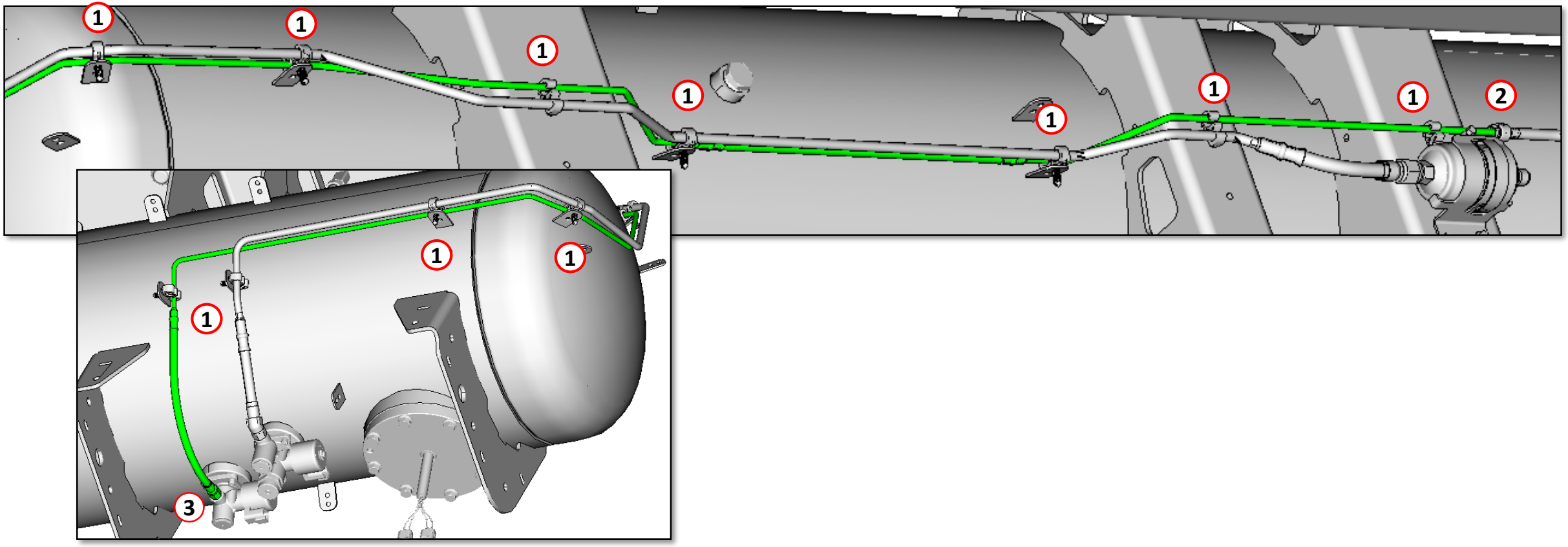


ATTENTION

Tank A

# INSTALLING THE REAR RETURN FUEL LINES

1. Route the rear return line (P16FB-10R130-AA) into the snail clamps as shown below.
2. Connect the rear return line to the forward fuel return line at the quick-connect fitting
3. Thread the return line into the return valve on the outboard side of the tank. Torque to 18-20 Nm. **Make sure the line does not touch or rub other lines/brackets.**

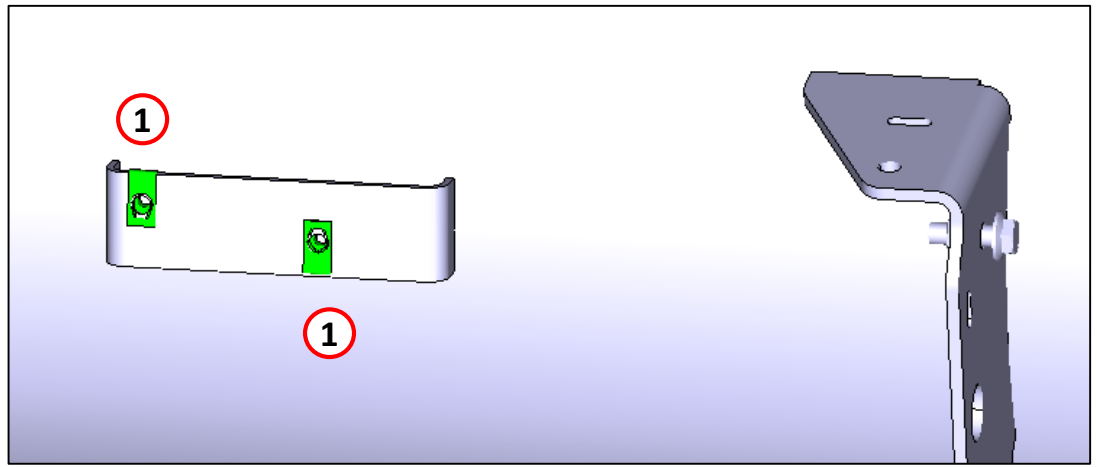


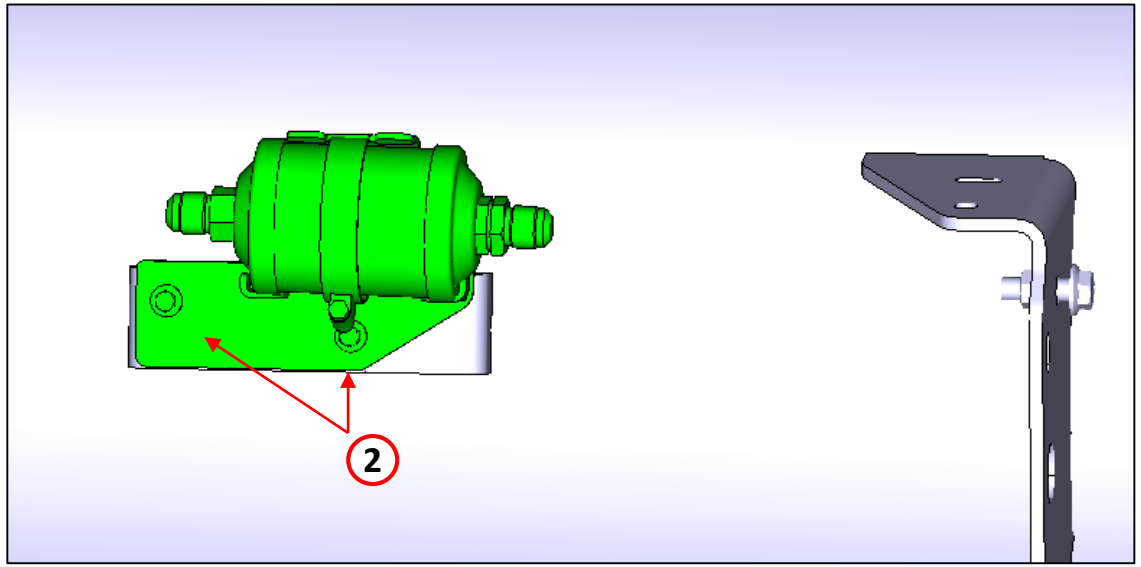
ATTENTION

Tank A

# INSTALLING THE FUEL FILL LINES AND FILTER ASSEMBLY ON THE TANK

1. Install Qty. 2 M6 J-Clips (W520822) on the LH fuel tank inboard filter mounting bracket.
2. Install the assembly on the LH tank filter bracket as shown using Qty. 2 M6x16 bolts into the J-clips you installed during step 1. Torque 8-12 Nm.



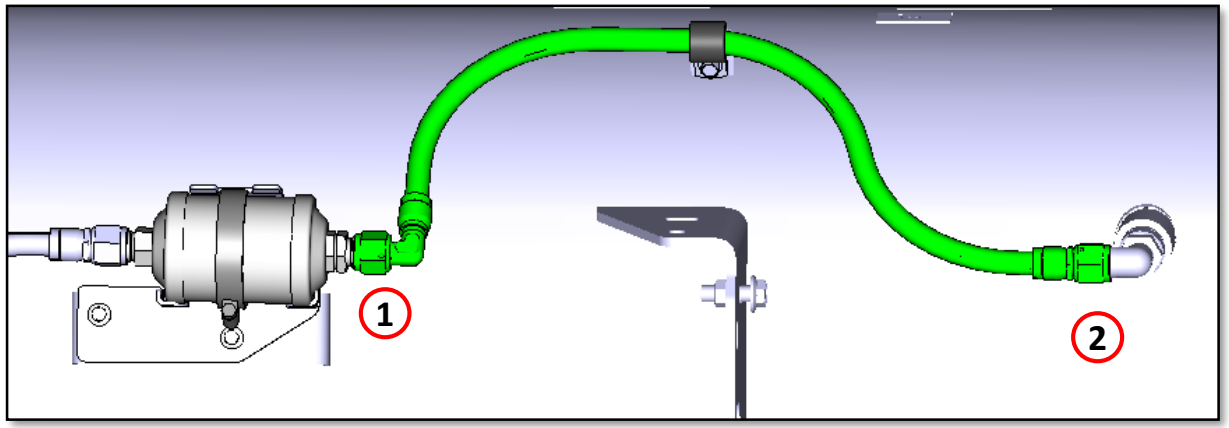



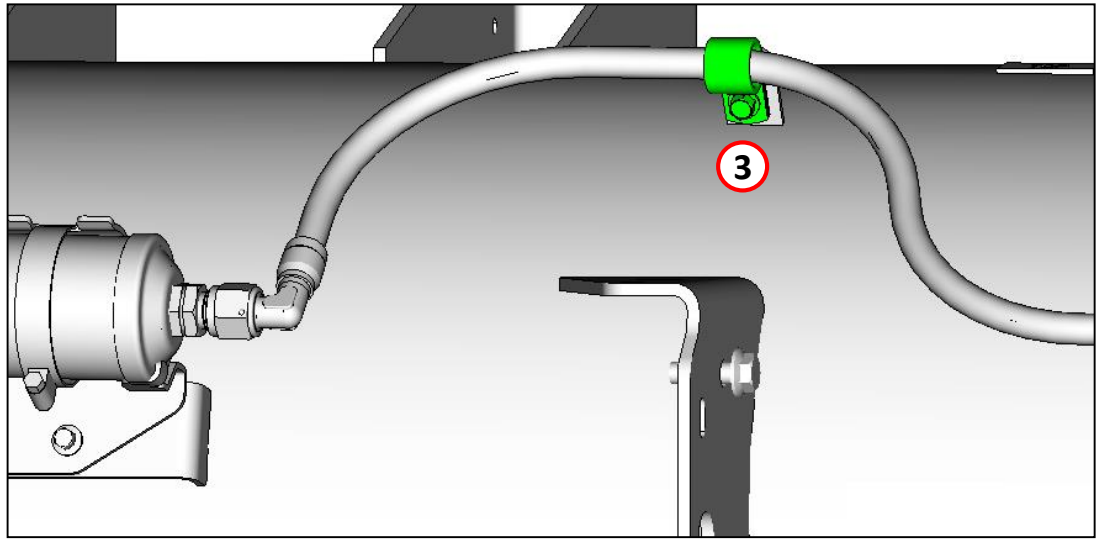
ATTENTION

Tank A

# ASSEMBLING THE FUEL FILL LINES AND FILTER ASSEMBLY

1. Install fuel fill line (P-10D121-C-624), torque to 41-49 Nm.
2. Thread the fill line on the OPD and torque to 41-49 Nm.
3. Install Qty. 1 P-Clamp onto the fuel line into the tab as shown using Qty. 1 M6 X 1.0 bolts and an M6 nut

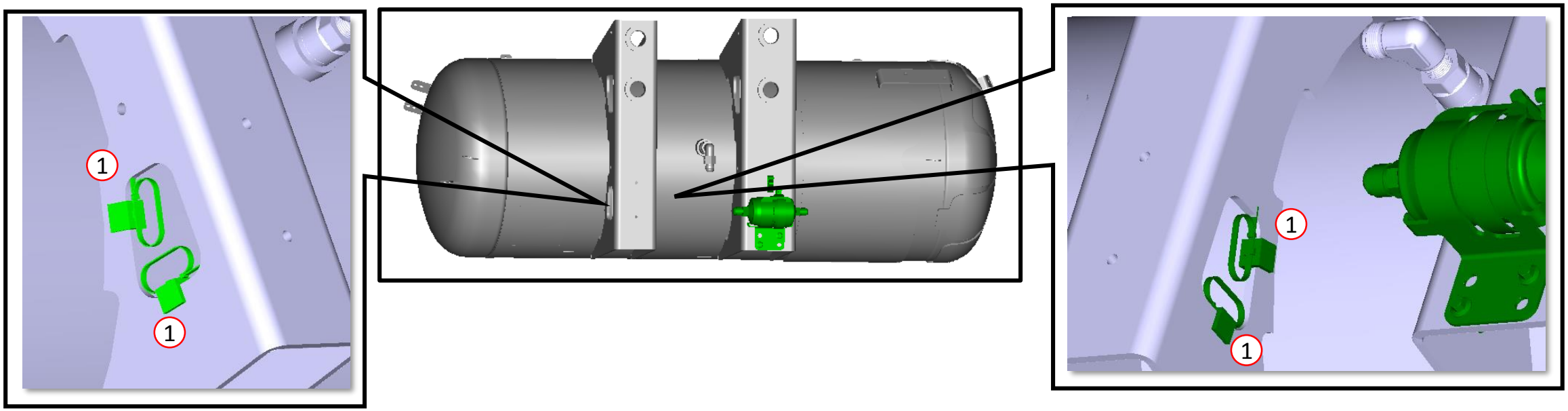


ATTENTION
Tank B
Tank C

# PREPARING THE LH FUEL TANK TO INSTALL REAR FUEL LINES

1. Install four edge clips (156-00537) on the rearmost LH fuel tank mounting bracket as shown below.

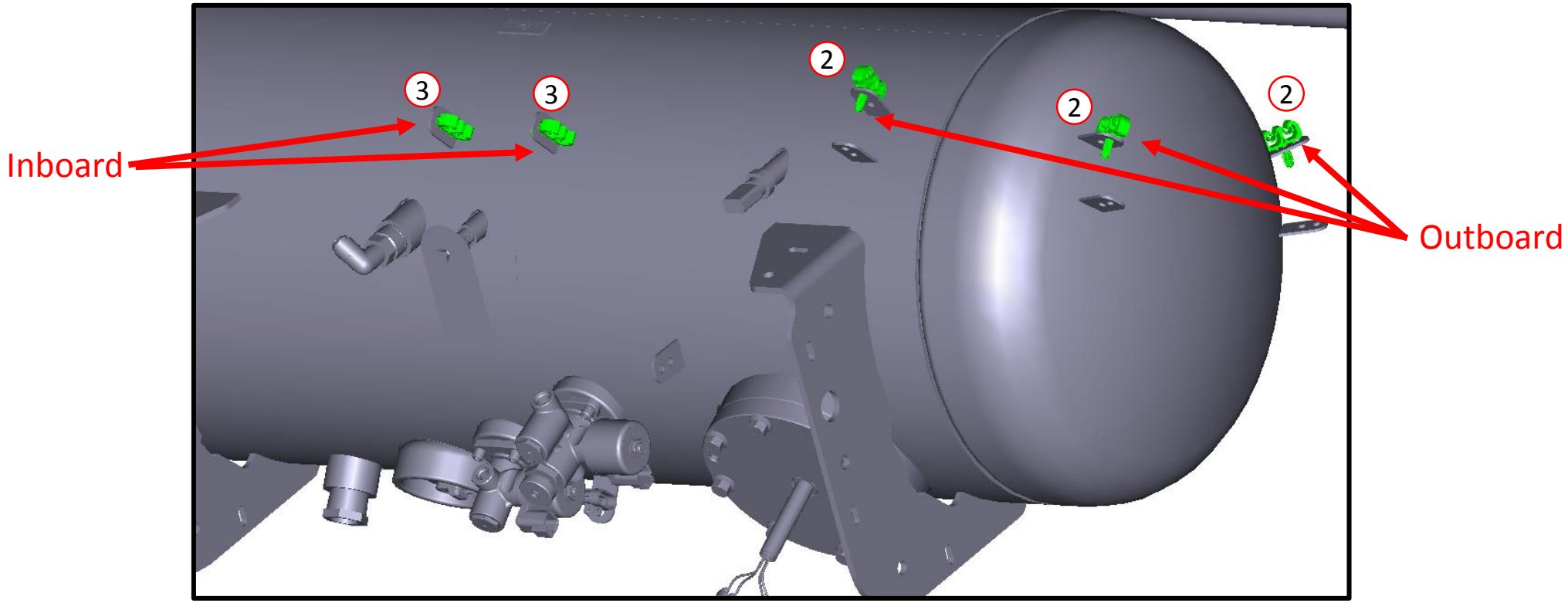


ATTENTION
Tank B
Tank C

# PREPARING THE LH FUEL TANK TO INSTALL REAR FUEL LINES

**Note: Snail clips should come installed on tank. These instructions are for reference & service only.**

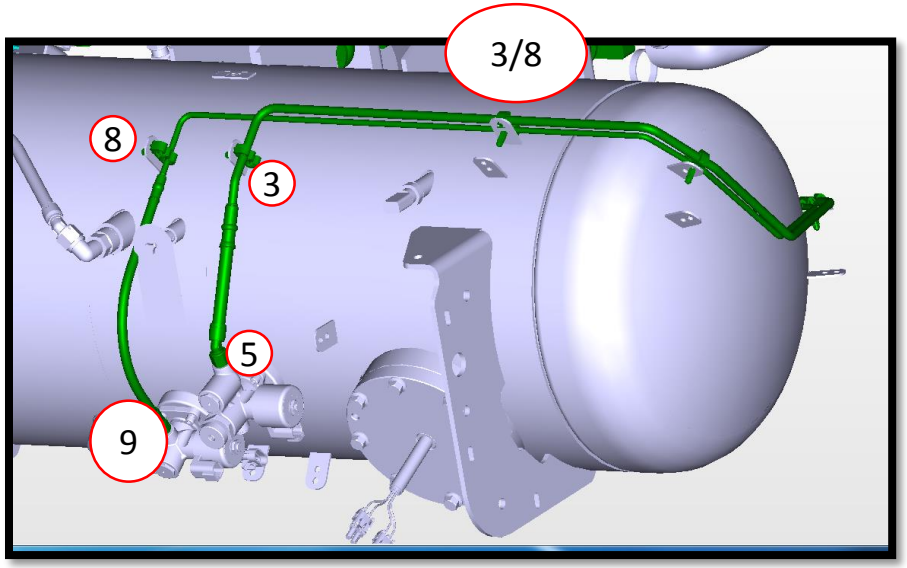
2. Install the three snail clips (15-004175) to the tabs on the LH fuel tank as shown below. These snail clips install in the holes furthest to the tank on the retention tabs.
3. Install two more snail clips as shown below. These snail clips install in the holes closest to the tank on the retention tabs.

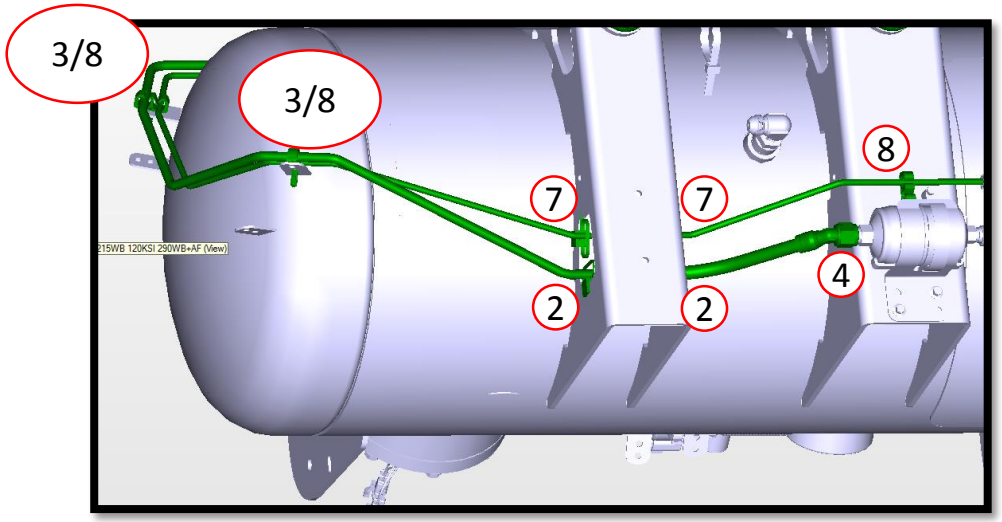


ATTENTION
Tank B
Tank C

# INSTALLING THE LH REAR SUPPLY AND RETURN FUEL LINES

1. Route the rear supply line (P16FB-10S130-B/C) through the tank mounting bracket and along the rear end of the fuel tank as shown below.
2. Retain the fuel supply line where it passes through the tank mounting bracket on each side using two previously installed edge clips with zip ties.
3. Retain the fuel supply line on the rear of the fuel tank using four previously installed snail clips.
4. Thread the supply line into the supply line filter. Torque to 53-61 Nm.
5. Thread the supply line into the supply valve on the outboard side of the tank. Torque to 29-33 Nm. **Make sure the line does not touch or rub other lines/brackets.**
6. Route the rear return line (P16FB-10R130-B/D) through the tank mounting bracket and along the rear end of the fuel tank as shown below.
7. Retain the fuel return line where it passes through the tank mounting bracket on each side using two previously installed edge clips with zip ties.
8. Retain the fuel return line on the fuel tank using the five previously installed snail clips.
9. Thread the return line into the return valve on the outboard side of the tank. Torque to 18-20 Nm. **Make sure the line does not touch or rub other lines/brackets.**




DISCARD REUSE NEW

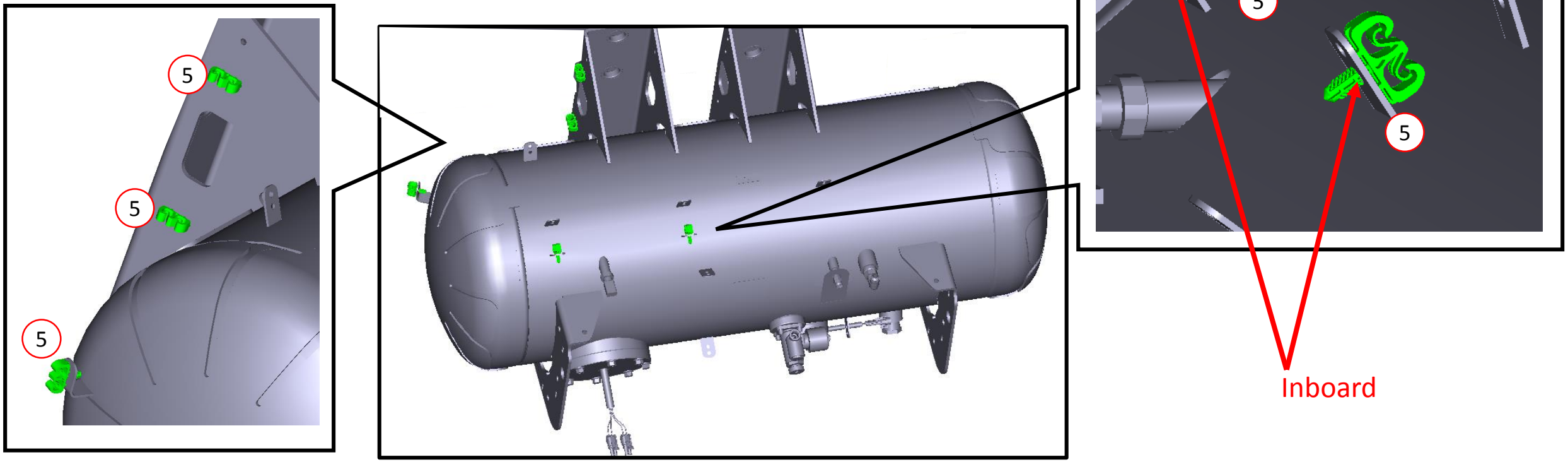
# PREPARING RH TANK TO INSTALL FUEL FILL LINE AND TRANSFER LINE

ATTENTION

Tank B

5. Install the five snail clips (15-004175) to the tabs on the RH fuel tank as shown below.

**Note: Front (2) snail clips should come installed on tank. These instructions are for reference & service only.**

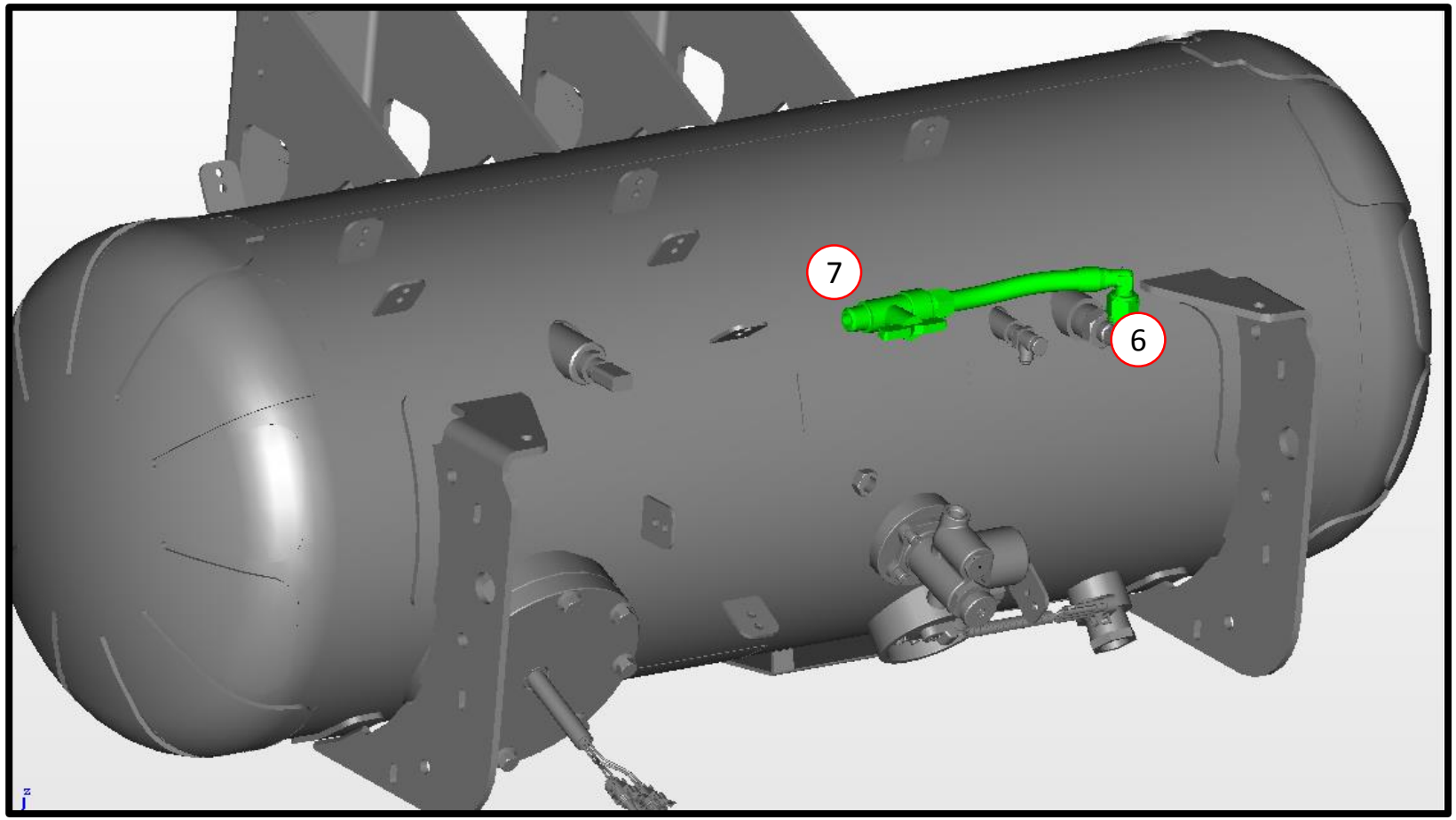


ATTENTION

Tank B

# PREPARING RH TANK TO INSTALL FUEL FILL LINE AND TRANSFER LINE CONTINUED

6. Install fuel fill line (P-10D128-C-187) to the fill valve on the RH fuel tank and torque to 41-49 Nm.
7. Install ball valve (11-438-0001), torque to 41-49 Nm. Make sure the “T” handle is facing away from tank as shown.

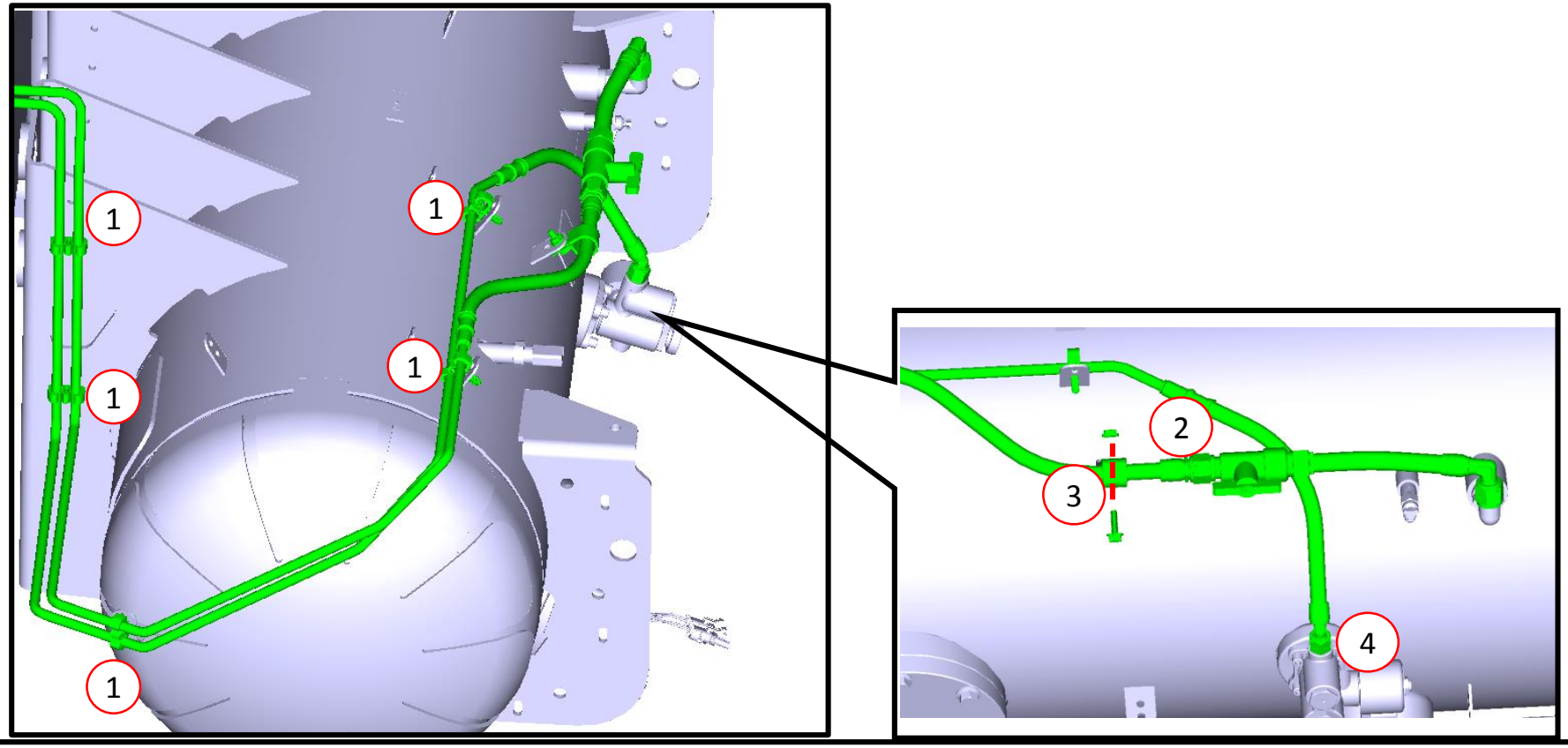


ATTENTION

Tank B

# INSTALLING FUEL FILL LINE AND TRANSFER LINE ON RH TANK

1. Install the fuel lines around the tank as shown below by snapping them into the snail clips.
2. Thread the fuel fill line into the ball valve and torque to 41-49 Nm.
3. Retain the fill line using a P-clamp to the underside of the tank tab as shown using an M6x20 bolt and M6 serrated nut. Torque 8-12 Nm.
4. Thread the end of the transfer line into the RH tank supply valve. Torque to 29-33 Nm.



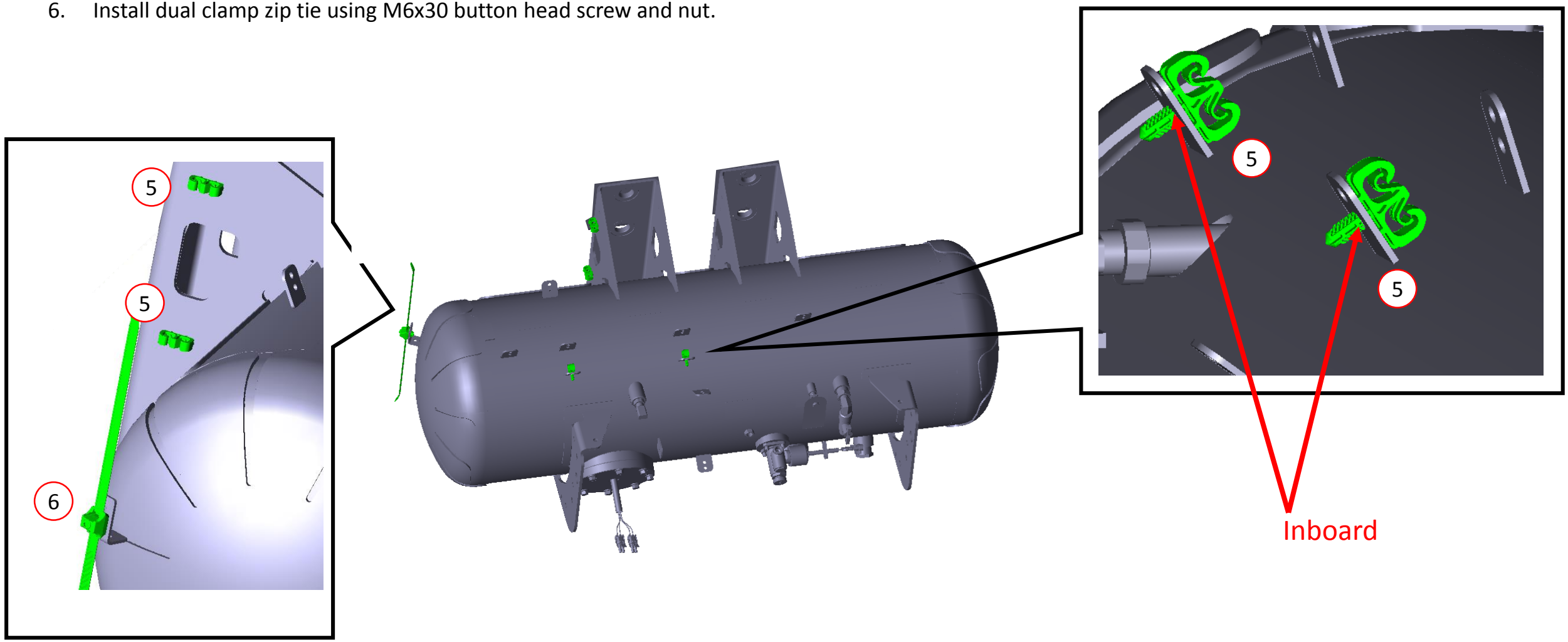

DISCARD REUSE NEW

ATTENTION

Tank C-RH

# PREPARING RH TANK TO INSTALL FUEL FILL LINE AND TRANSFER LINE

5. Install the four snail clips (15-004175) to the tabs on the RH fuel tank as shown below.
6. Install dual clamp zip tie using M6x30 button head screw and nut.

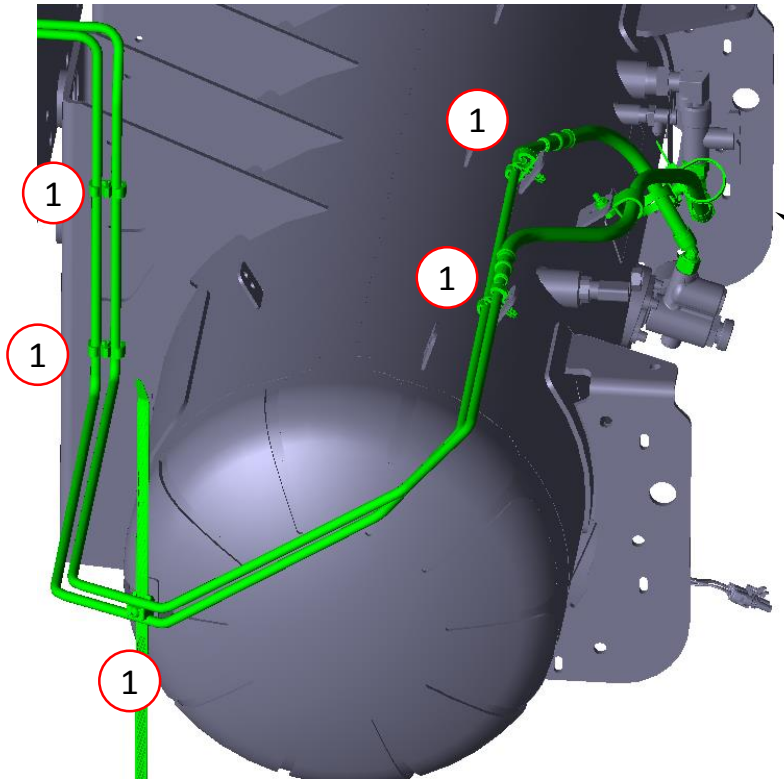


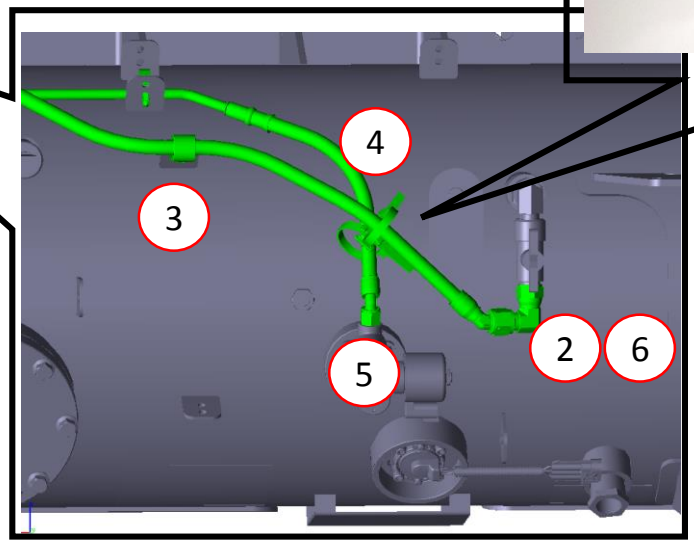
ATTENTION

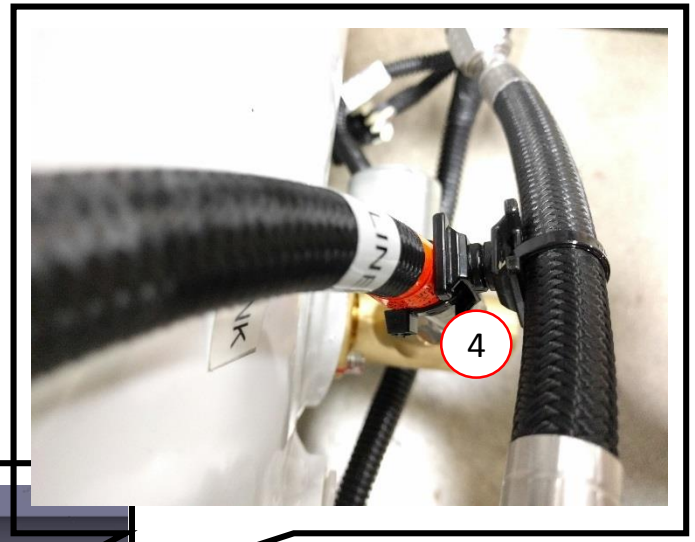
Tank C-RH

# INSTALLING FUEL FILL LINE AND TRANSFER LINE ON RH TANK

1. Install the fuel lines around the tank as shown below by snapping them into the snail clips and dual clamp tie
2. Thread the fuel fill line loosely into the swivel 90 degree elbow and elbow loosely into ball valve.
3. Retain the fill line using a P-clamp to the underside of the tank tab as shown using an M6x20 bolt and M6 serrated nut. Torque 8-12 Nm.
4. Use 2 zip ties and install dual swivel clip between transfer line and fill line.
5. Thread the end of the transfer line into the RH tank supply valve. Torque to 29-33 Nm.
6. Finish tightening dual clamp tie from Step 1 and torque elbow from Step 2 to 41-49 Nm.



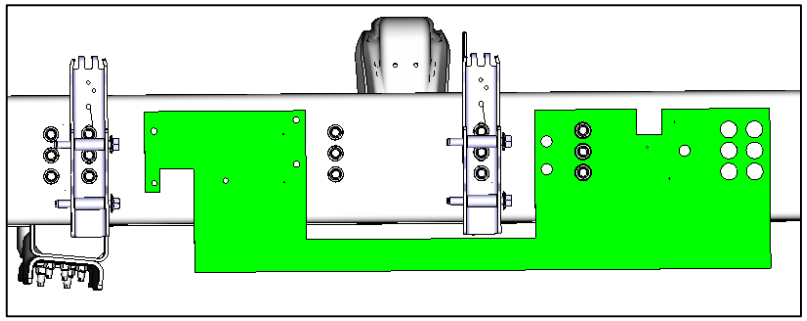



ATTENTION

Tank A

# PREPARING THE DRIVER SIDE FRAME TO MOUNT

1. Align fuel tank mounting template (P16FB-01F250-D) to the OEM vapor canister mounting holes on the LH frame rail as shown.
2. **CUT OFF THE THREADED SECTION ON THE OUTSIDE OF THE GROUNDING BOLT AS SHOWN TO ENSURE MINIMAL INTERFERENCE BETWEEN STUD EXTENDING OFF OF THE FLANGE HEAD AND THE TANK MOUNTING BRACKET**.
3. Remove the grounding bolt and move the wiring out of the way.



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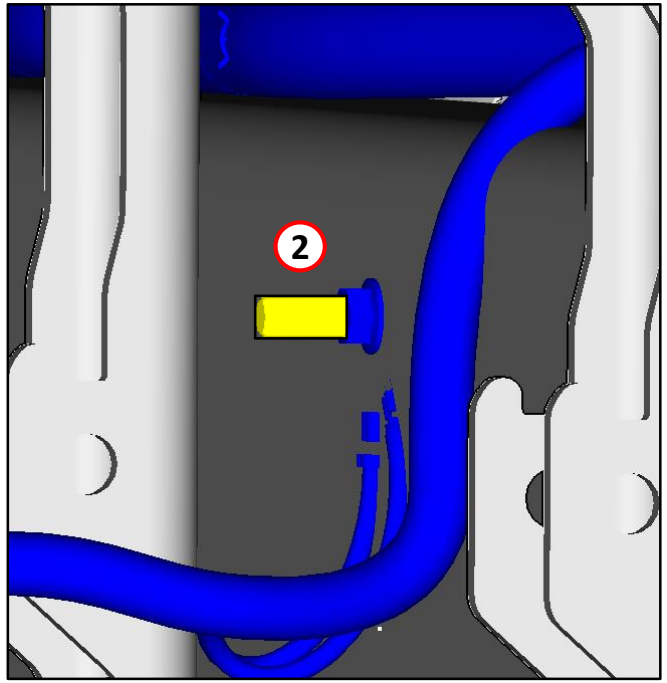
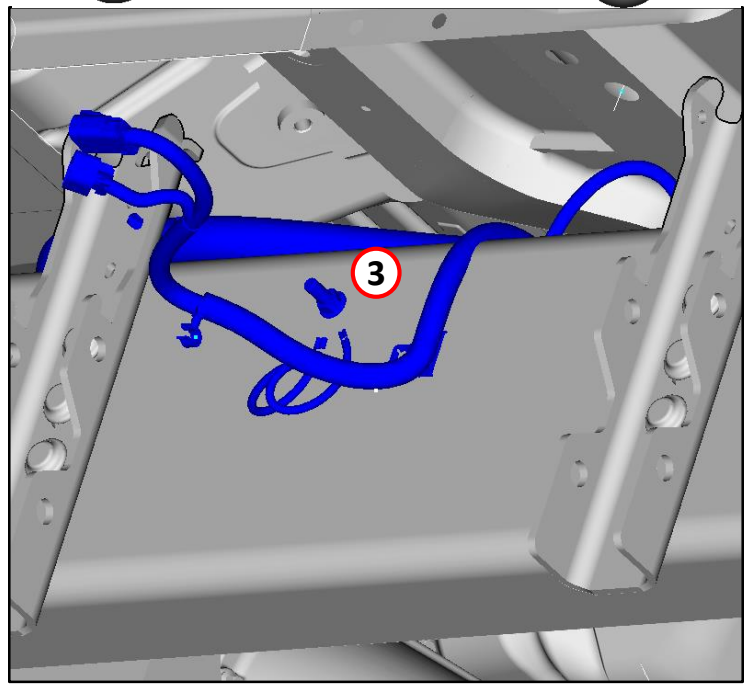


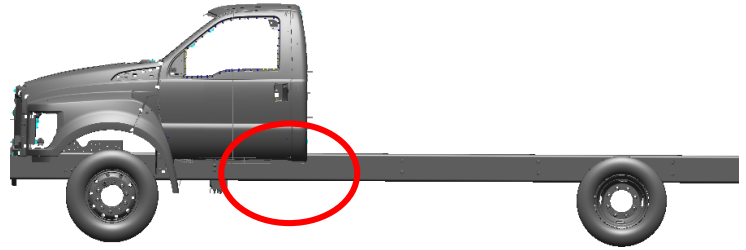
ATTENTION

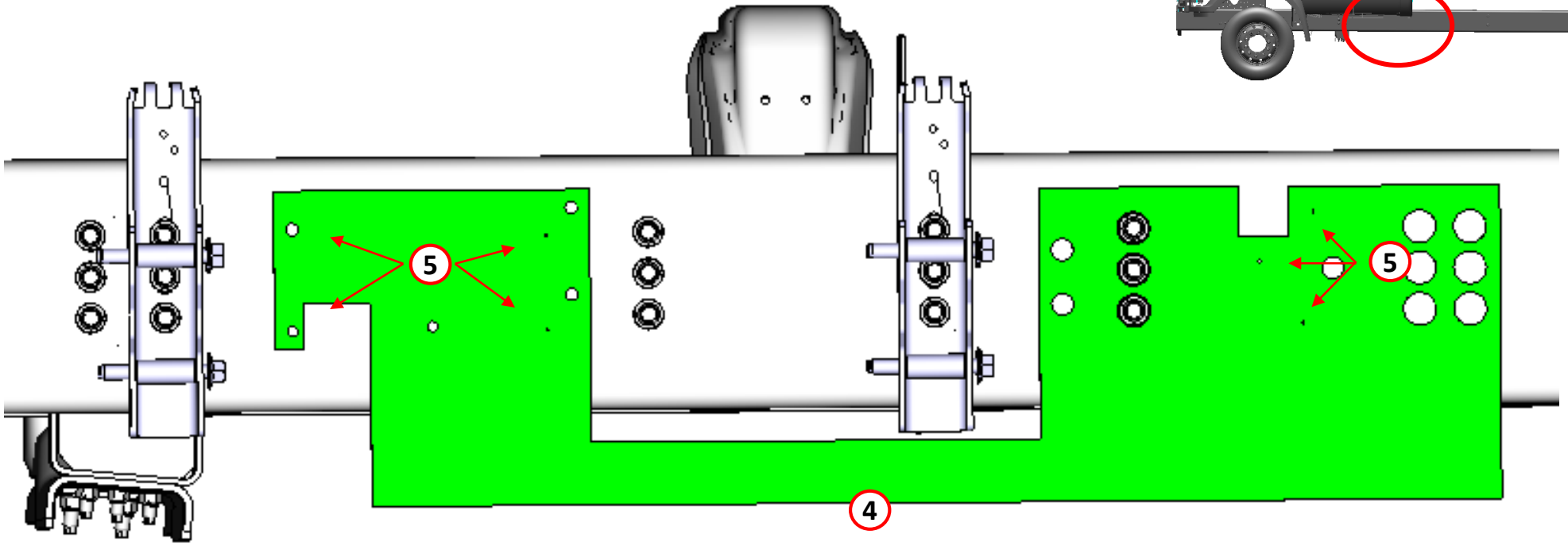
Tank A

# PREPARING THE DRIVER SIDE FRAME TO MOUNT

**Note: If truck was not ordered with VSO frame punch code, please call Roush (800-59-ROUSH) to order mounting template**

4. Align fuel tank mounting template (P16FB-01F250-D) to the OEM vapor canister mounting holes on the LH frame rail as shown. Retain securely in place with tape or magnets.
5. Follow the instructions on the template to drill the tank mounting holes.
6. Deburr and coat all bare metal using a premium undercoating. Refer to the Special Tools section.
7. Reattach the ground wires reusing the same hardware that was modified and removed previously.





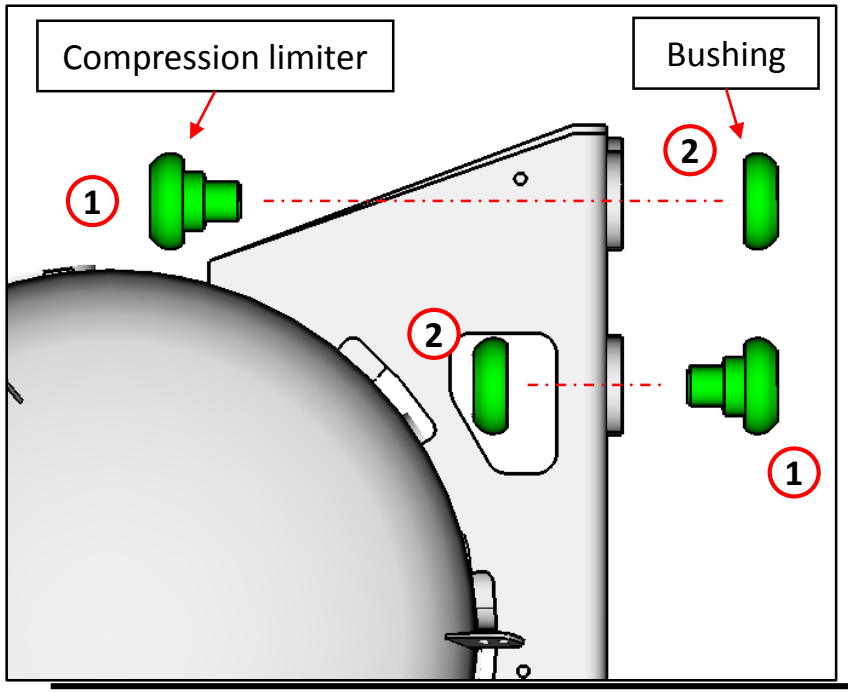
# PREPARING TO INSTALL THE TANK

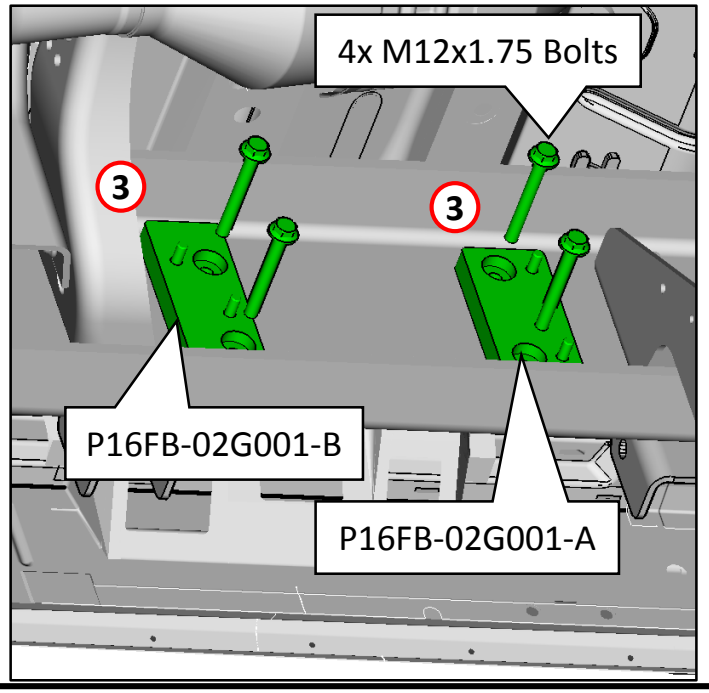
ATTENTION

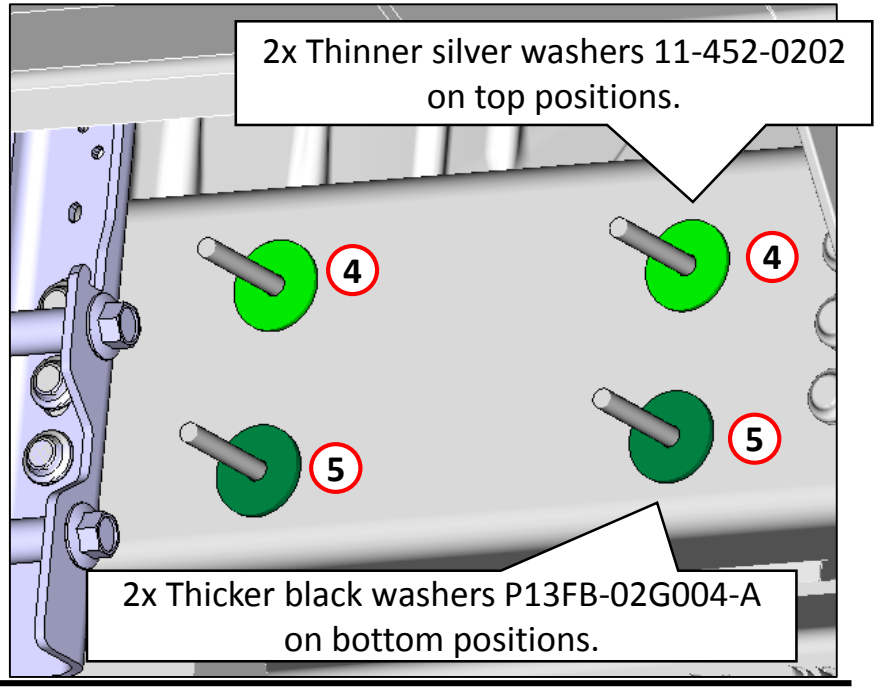
Tank A

**NOTE: The tank mounting hardware is the same for all of the mounting holes of each bracket.**

1. Assemble the compression limiter and bushing (22002-15) into the **upper** tank mounting bracket hole as shown. The **COMPRESSION LIMITER** should be placed **INSIDE** the tank bracket
2. Assemble the compression limiter and bushing (22002-15) into the **lower** tank mounting bracket hole as shown. The **BUSHING** should be placed **INSIDE** the tank bracket
3. Assemble the doubler plates to the frame rail as shown below using four M12x1.75 flange head bolts. **Note the correct orientation of the doubler plates.** The studs must be in the correct location or the vapor canister bracket will not assemble to the vehicle.
4. Place thin snubbing washers as shown on the upper bolts that are protruding through the frame.
5. On the lower bolts, place the thicker black washers into position



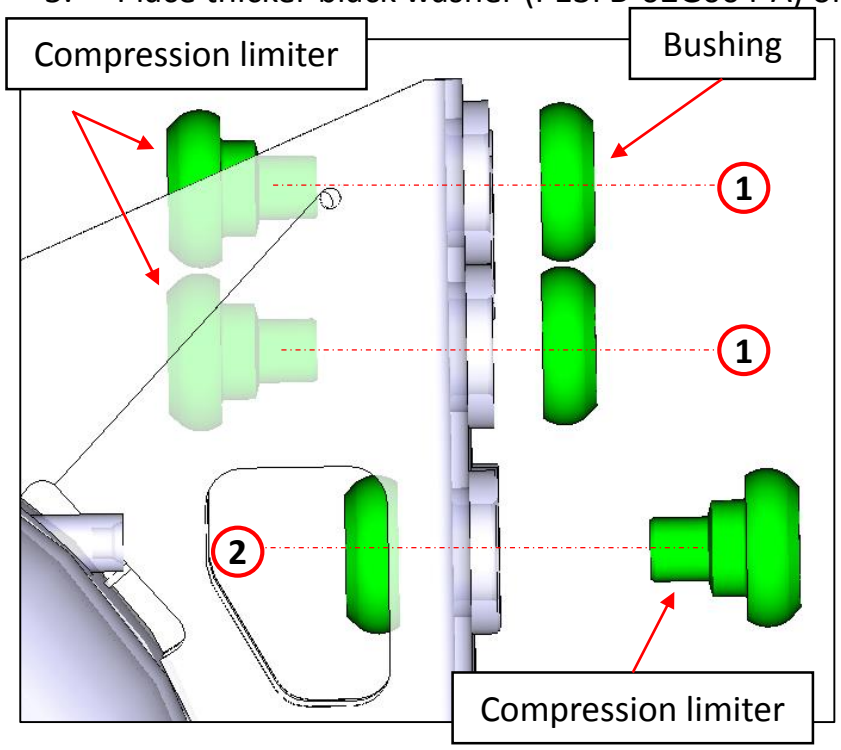

DISCARD REUSE NEW

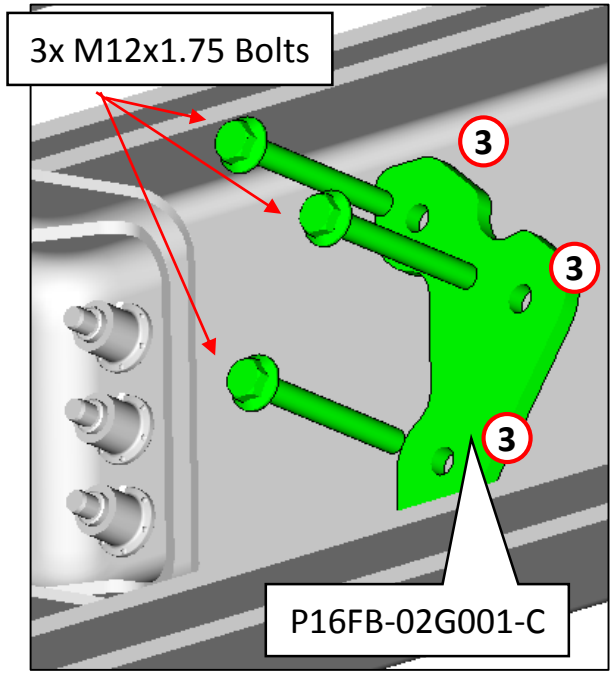
ATTENTION

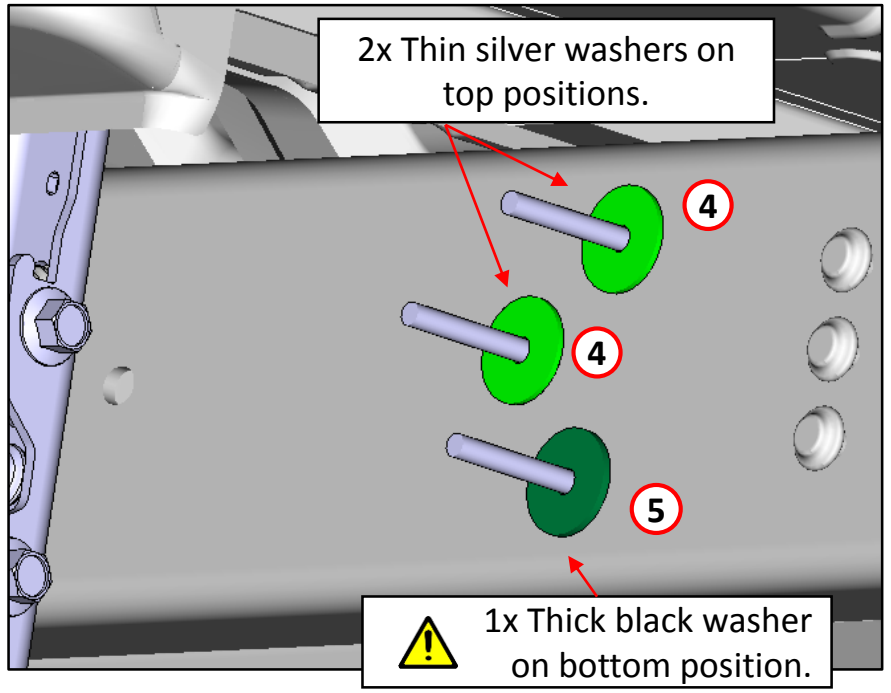
Tank A

# PREPARING TO INSTALL THE TANK

1. Assemble the bushing and compression limiters (22002-15) into the **top two** tank mounting bracket holes as shown. The **COMPRESSION LIMITER** should be placed on the **INSIDE** of the tank bracket
2. Assemble the bushing and compression limiters into the **lower** tank mounting bracket hole as shown. The **COMPRESSION LIMITER** should be placed on the **OUTSIDE** of the tank bracket
3. Assemble the doubler plate to the frame rail as shown below using three M12x1.75 flange head bolts.
4. Place thin snubbing washers (11-452-0202) as shown on the upper two bolts that are sticking out through the frame.
5. Place thicker black washer (P13FB-02G004-A) on the bottom position.



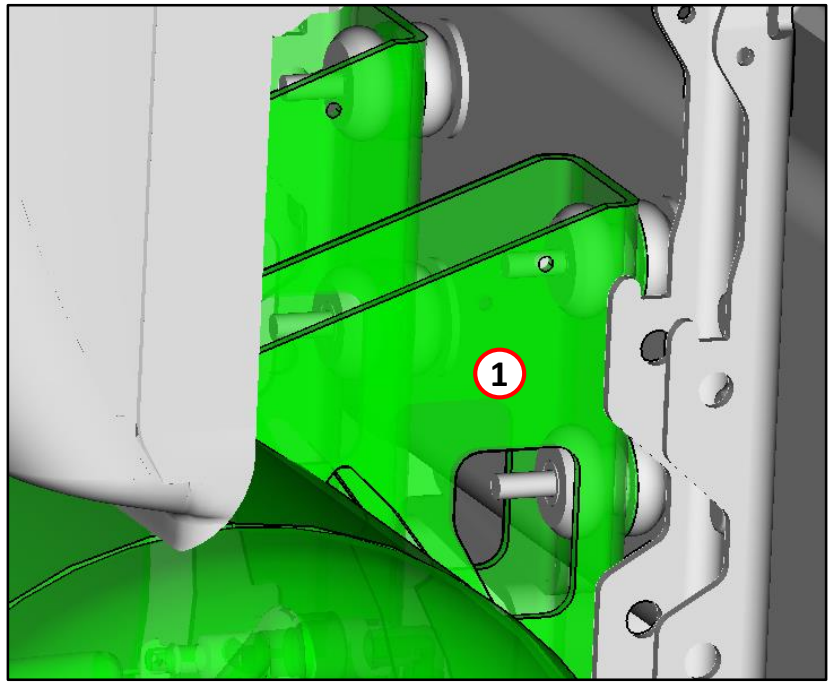

DISCARD REUSE NEW

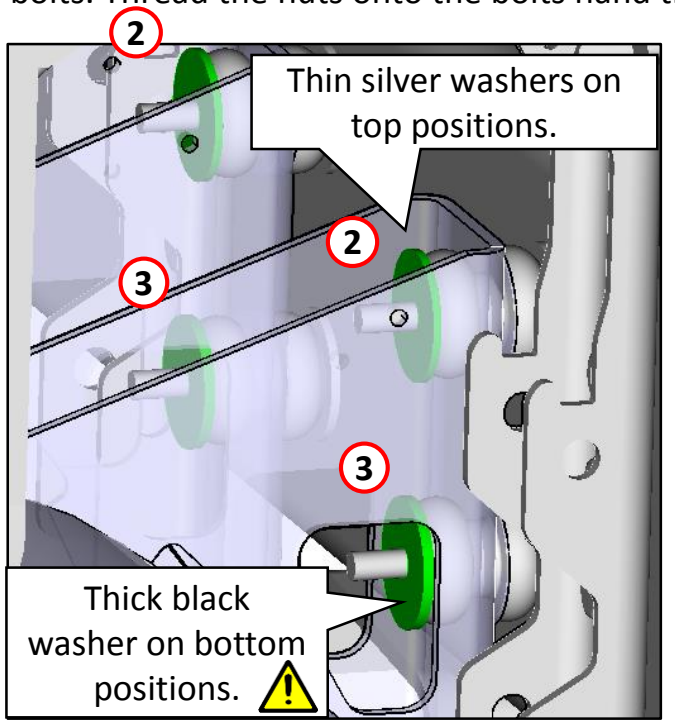
# INSTALLING THE TANK

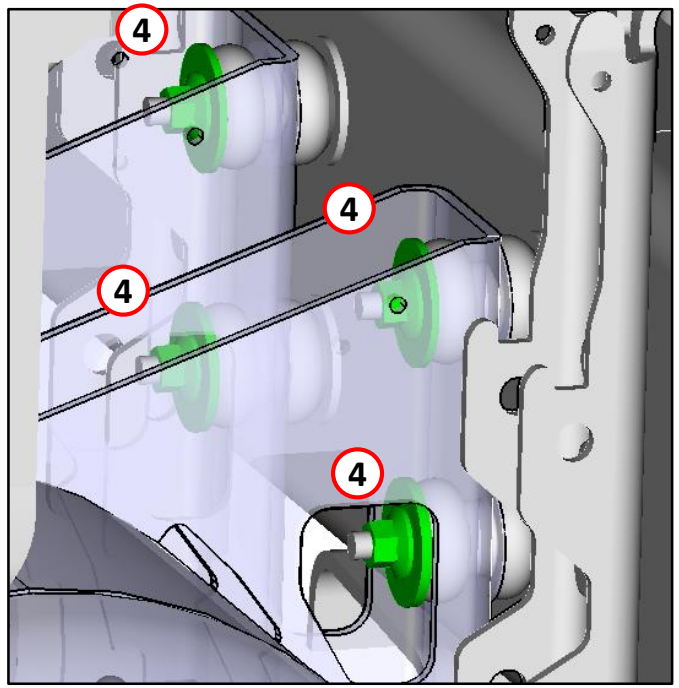
ATTENTION

Tank A

1. Carefully position the tank assembly to the frame rail until the tank (and hardware) is aligned with mounting bolts. If necessary, hold the bolts and doublers in place so that they don't fall out when the tank pushes on them.
2. Place the washers into the top position inside the tank mounting brackets. The **THIN SILVER WASHER** (11-452-0202) should be used on the top position.
3. Place the washers into the bottom position inside the tank mounting brackets. The **THICK BLACK WASHER** (P13FB-02G004-A) should be on all **BOTTOM POSITIONS.**
4. Install the four M12 x 1.75 mounting nuts onto the M12 bolts. Thread the nuts onto the bolts hand tight. Torque the nuts to 80-90 Nm.



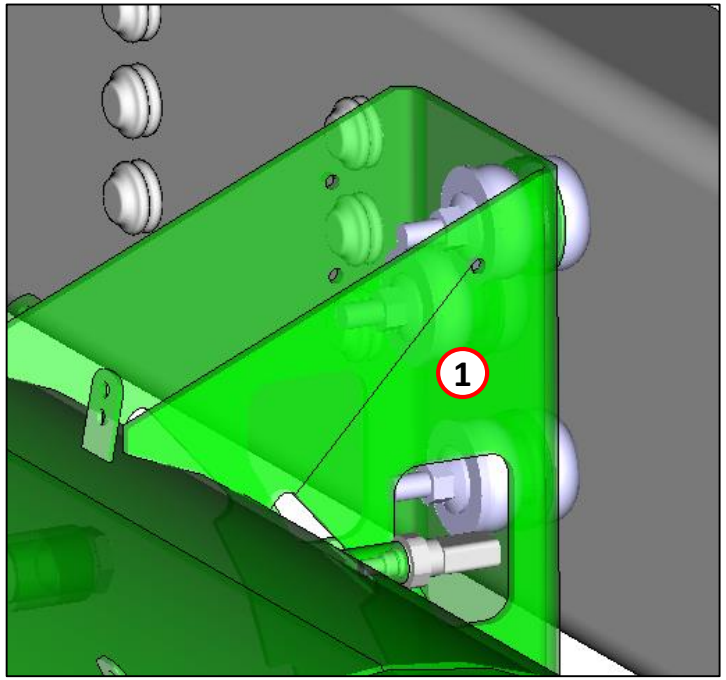



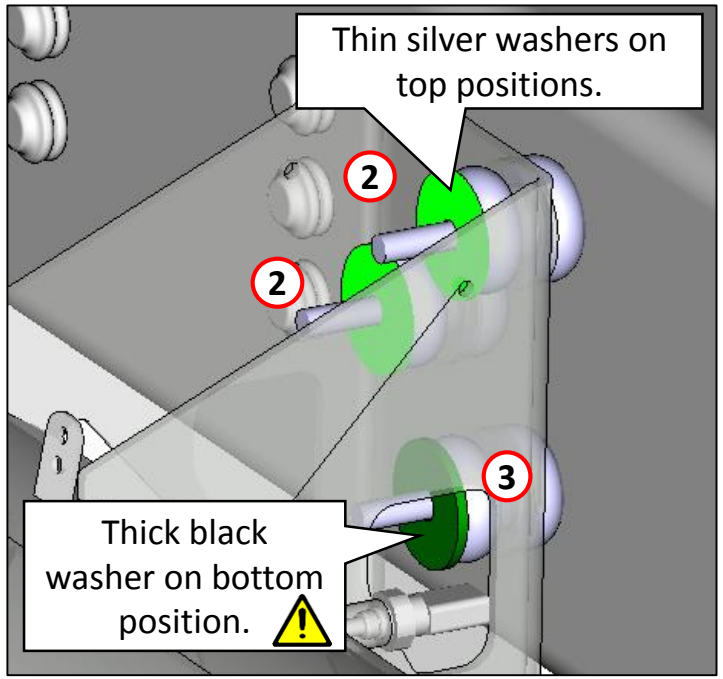
# INSTALLING THE TANK

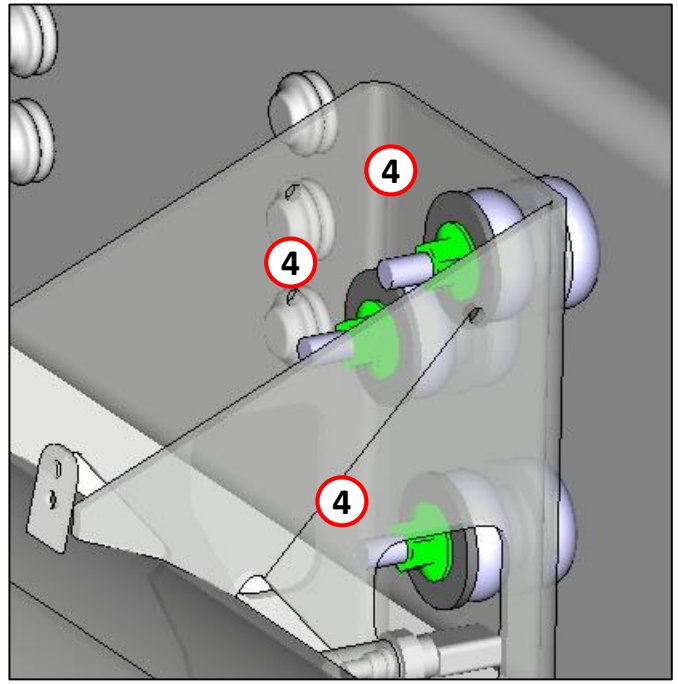
ATTENTION

Tank A

1. At the rear position, ensure the tank (and hardware) is aligned with mounting bolts. If necessary, hold the bolts and doublers in place so that they don't fall out when the tank pushes on them.
2. Place the washers into the top position inside the tank mounting brackets. The **THIN SILVER WASHER** (11-452-0202) should be used on the top position.
3. Place the washer into the bottom position inside the tank mounting brackets. The **THICK BLACK WASHER** (P13FB-02G004-A) should be on all **BOTTOM POSITIONS.**
4. Install the four M12 x 1.75 mounting nuts onto the M12 bolts. Thread the nuts onto the bolts hand tight. Torque the nuts to 80-90 Nm.



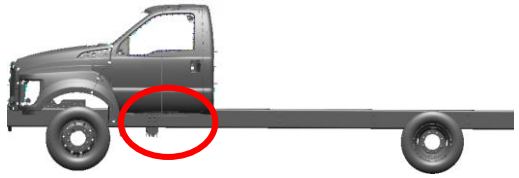



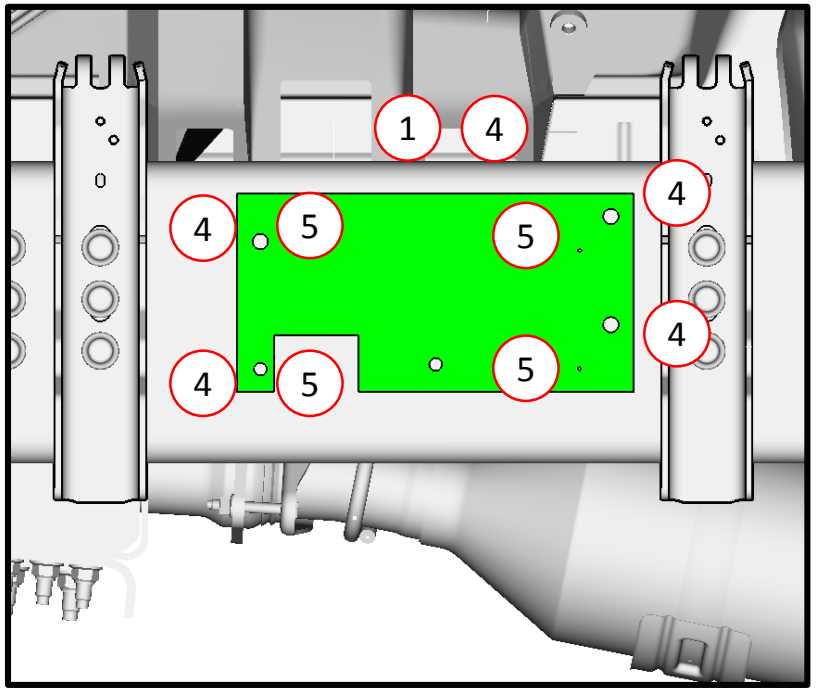
ATTENTION
Tank B-LH
Tank C-LH

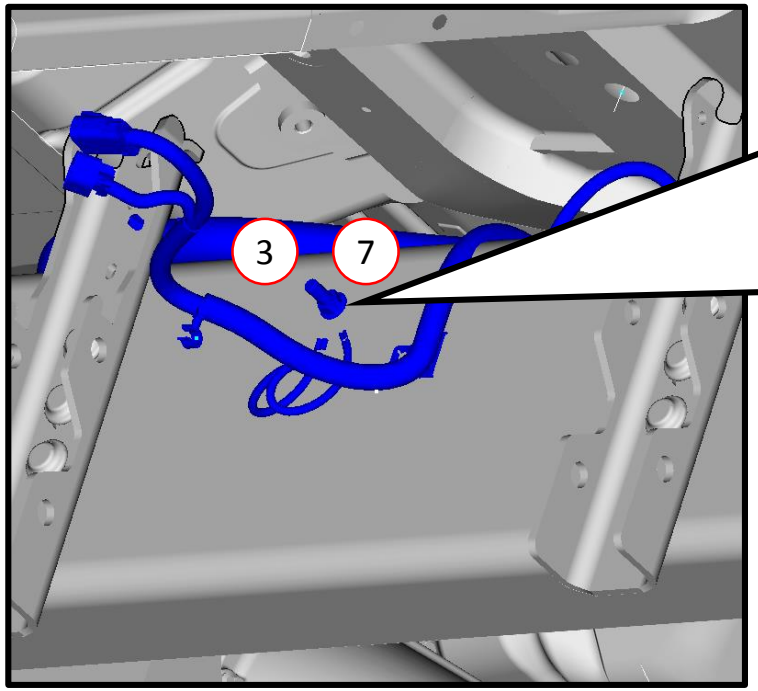
# PREPARING THE DRIVER SIDE FRAME TO MOUNT THE LH FUEL TANK

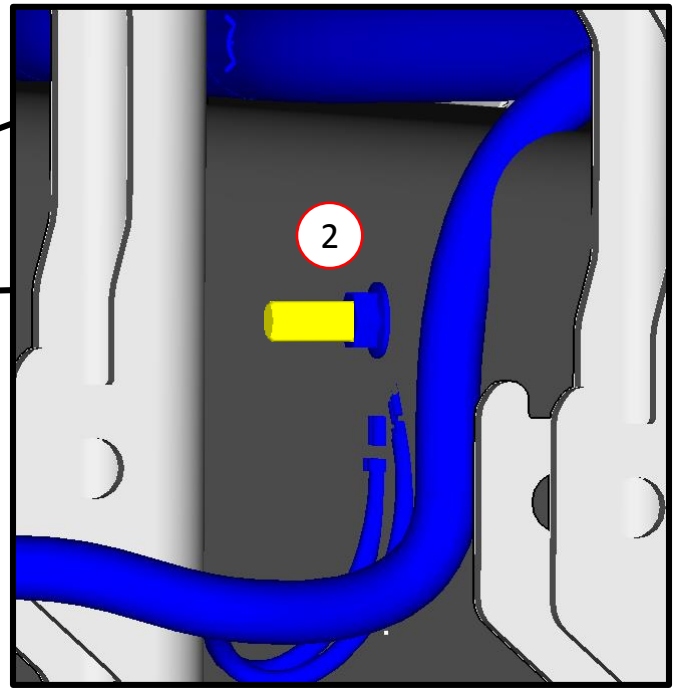
**Note: If truck was not ordered with VSO frame punch code, please call Roush (800-59-ROUSH) to order mounting template**

1. Align fuel tank mounting template (P16FB-01F250-B) to the OEM vapor canister mounting holes on the LH frame rail as shown.
2. If a grounding bolt is in the way, **CUT OFF THE THREADED SECTION ON THE OUTSIDE AS SHOWN SO THERE IS NO STUD COMING OFF OF THE FLANGE HEAD. THIS WILL ENSURE THAT THERE IS NO INTERFERENCE BETWEEN THE GROUNDING BOLT AND THE TANK MOUNTING BRACKET**.
3. Remove the grounding bolt and move the wiring out of the way.
4. Align fuel tank mounting template (P16FB-01F250-B) to the OEM vapor canister mounting holes on the LH frame rail as shown. Retain securely in place with tape or magnets.
5. Follow the instructions on the template to drill the tank mounting holes.
6. Deburr and coat all bare metal using a premium undercoating. Refer to the Special Tools section.
7. Reattach the ground wires reusing the same hardware that was modified and removed.





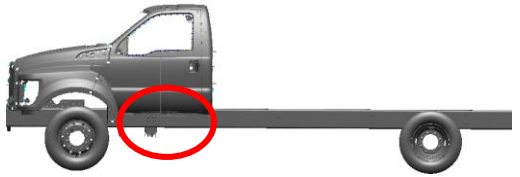

DISCARD REUSE NEW

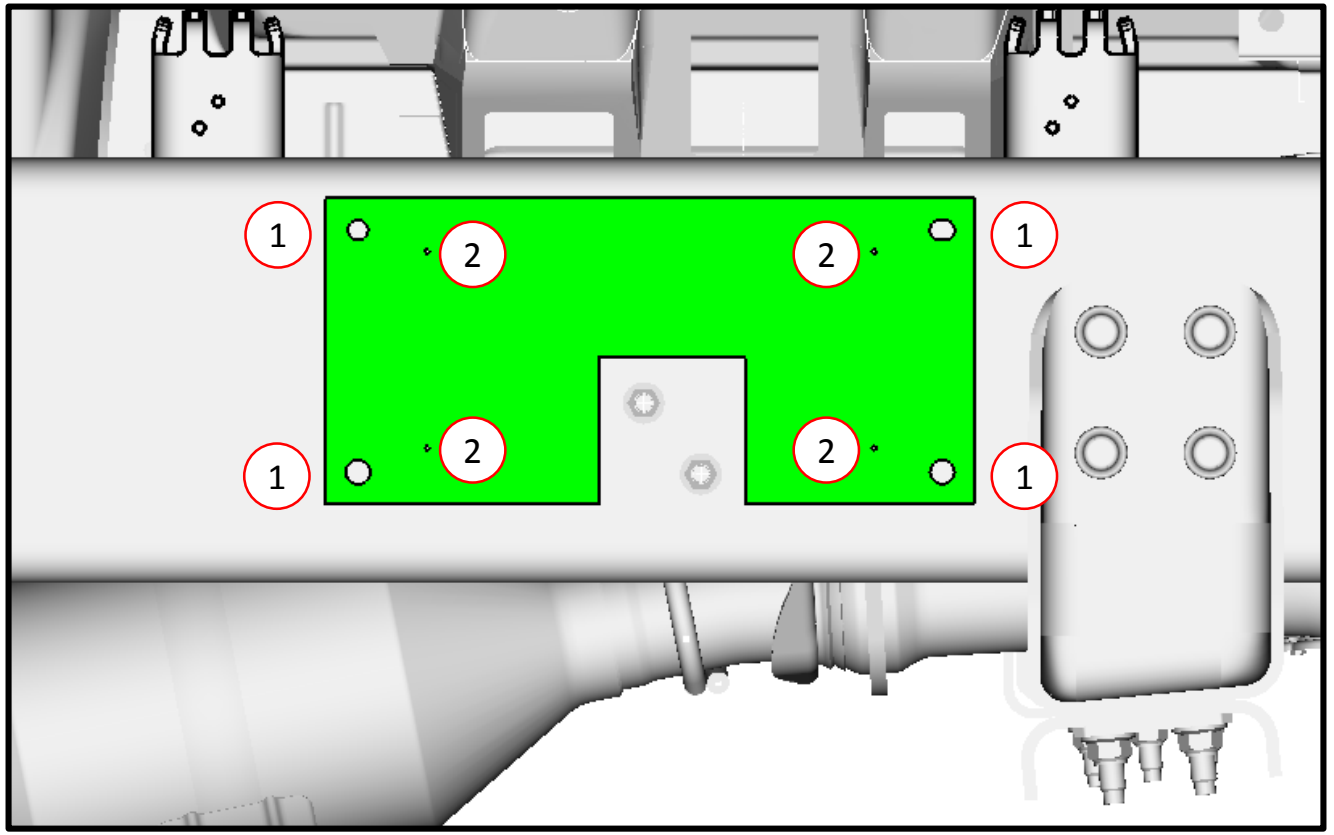
ATTENTION
Tank B-RH
Tank C-RH

# PREPARING THE PASSENGER SIDE FRAME TO MOUNT THE RH FUEL TANK

**Note: If truck was not ordered with VSO frame punch code, please call Roush (800-59-ROUSH) to order mounting template**

1. Align fuel tank mounting template (P16FB-01F250-B) to the OEM battery box mounting holes on the RH frame rail as shown. Retain securely in place using tape or magnets.
2. Follow the instructions on the template to drill the tank mounting holes.
3. Deburr and coat all bare metal using a premium undercoating. Refer to the Special Tools section.



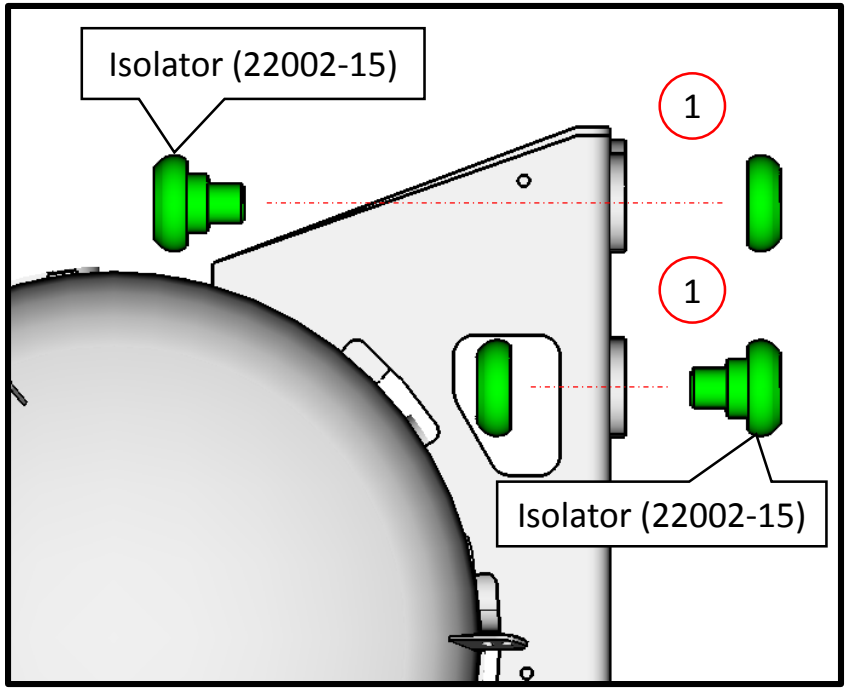


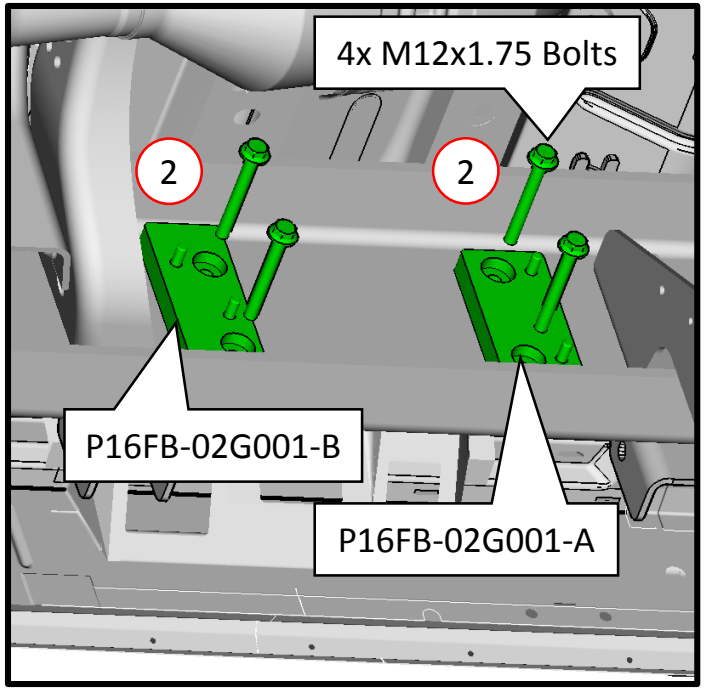
# PREPARING TO INSTALL THE LH TANK

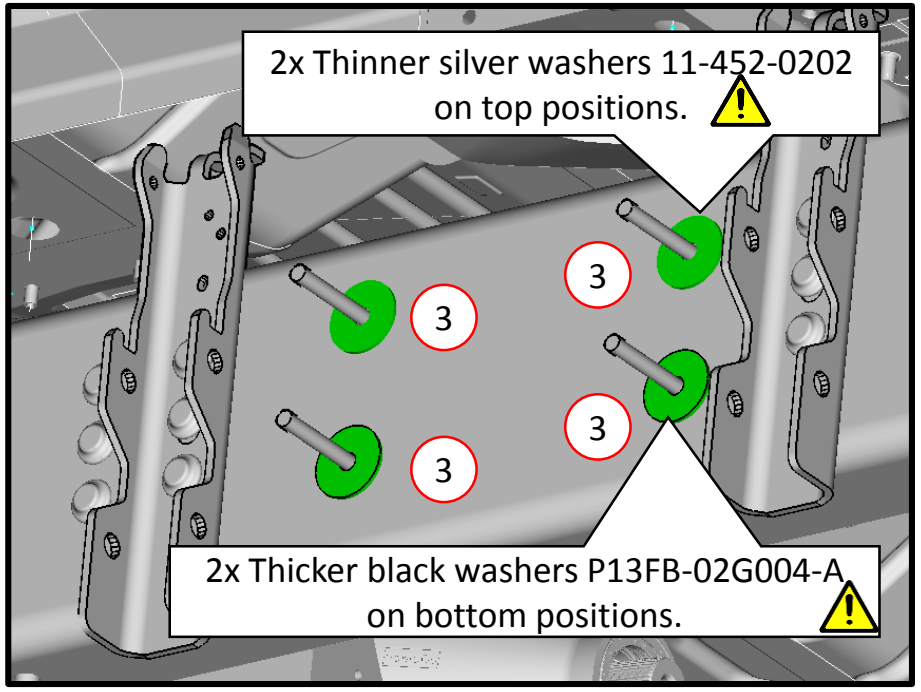
ATTENTION
Tank B-LH
Tank C-LH

**NOTE: The tank mounting hardware is the same for all of the mounting holes of each bracket.**

1. Assemble the isolators and crush limiters onto the tank mounting brackets as shown. **NOTE THE CORRECT ORIENTATION OF THE COMPONENTS. THE BUSHING SIDE SHOULD BE ON THE FRAME SIDE ON THE BOTTOM POSITIONS AND AWAY FROM THE FRAME ON THE TOP POSITIONS.**
2. Assemble the doubler plates to the frame rail as shown below using four M12x1.75 flange head bolts. **Note the correct orientation of the doubler plates. The studs must be in the correct location or the vapor canister bracket will not assemble to the vehicle.**
3. Place snubbing washers as shown on the bolts that are sticking out through the frame. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON ALL BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON ALL TOP POSITIONS.**



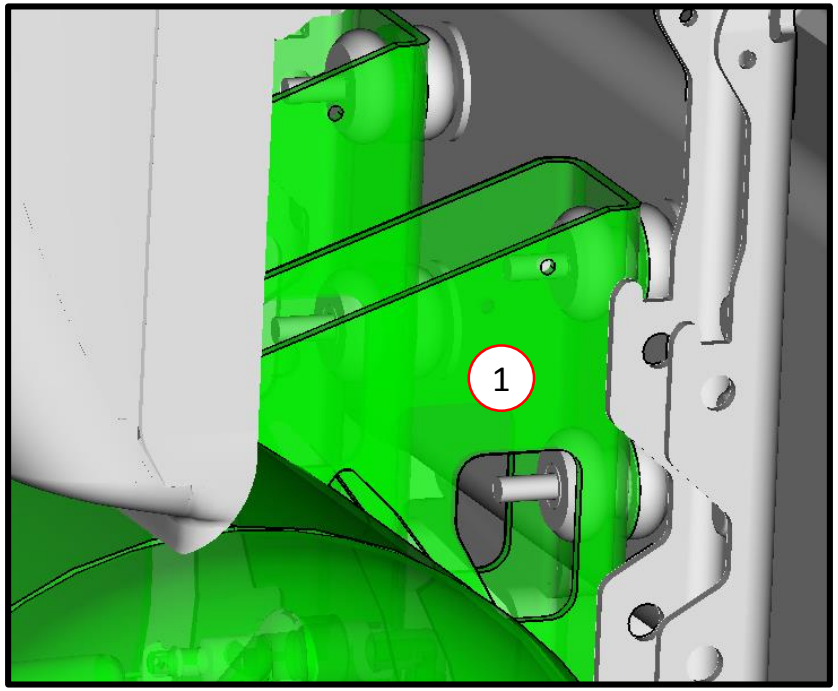



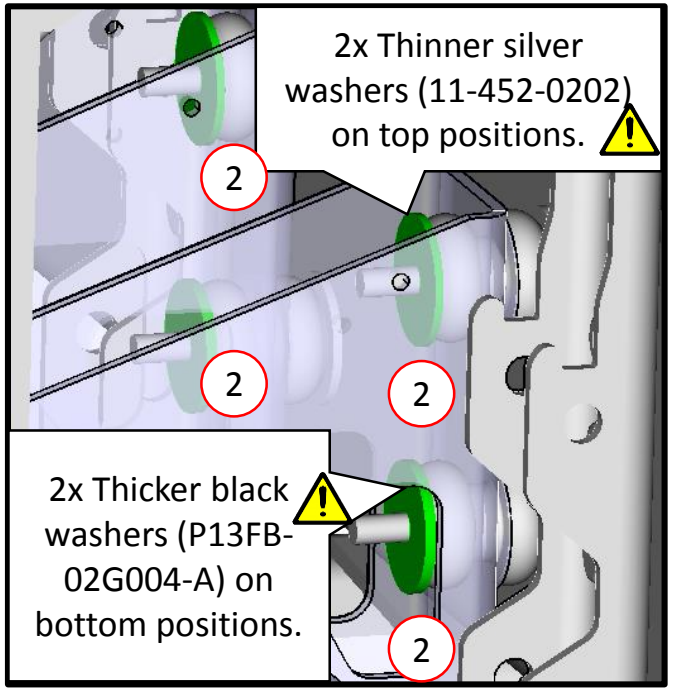
# INSTALLING THE LH TANK

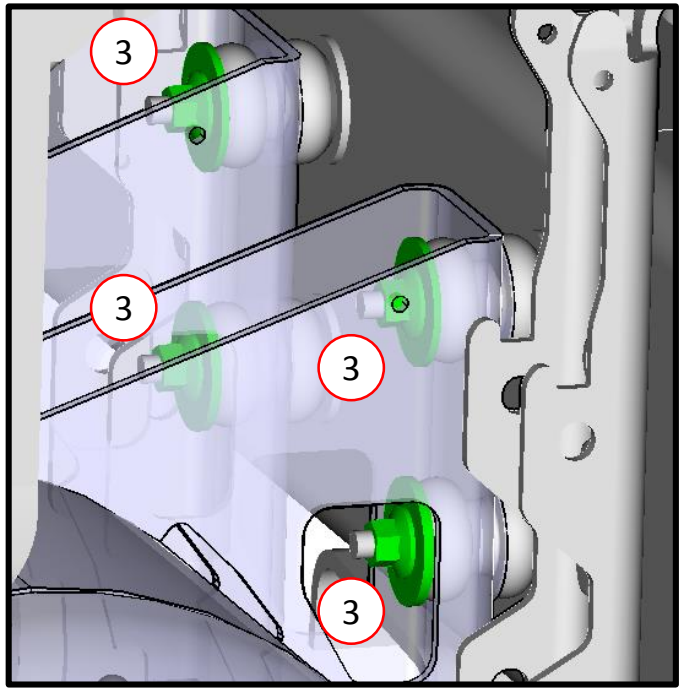
ATTENTION
Tank B-LH
Tank C-LH

**NOTE: The tank mounting hardware is the same for all of the mounting holes of each bracket.**

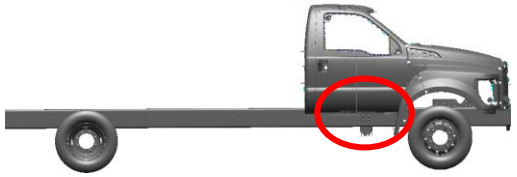
1. Carefully position the tank assembly to the frame rail until the tank (and hardware) is aligned with mounting bolts. If necessary, hold the bolts and doublers in place so that they don't fall out when the tank pushes on them.
2. Slip the washers into position inside the tank mounting brackets. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON ALL BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON ALL TOP POSITIONS.**
3. Install the four M12 x 1.75 mounting nuts one each onto the M12 bolts. Thread the nuts onto the bolts hand tight. Torque the fasteners to 80-90 Nm.



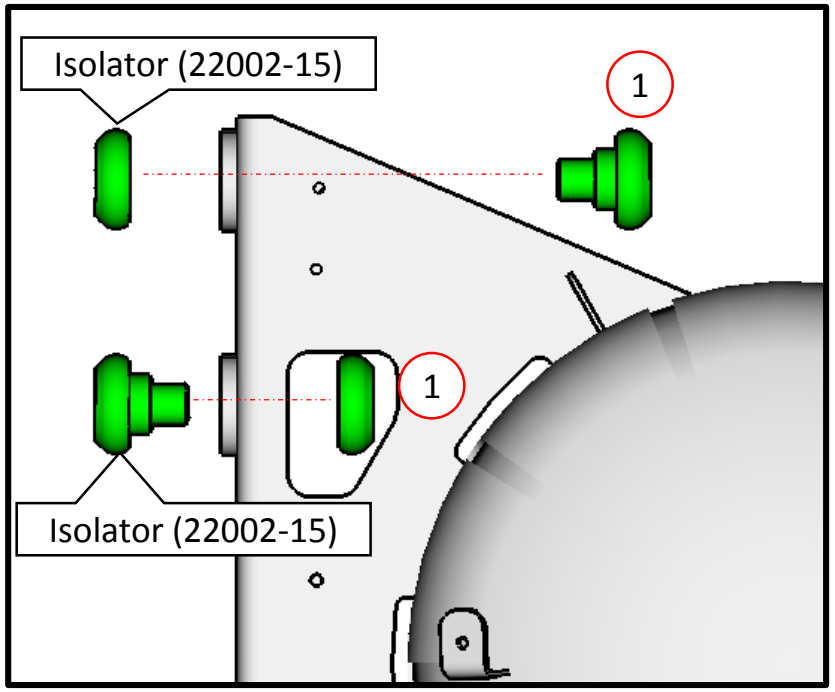
# PREPARING TO INSTALL THE RH TANK

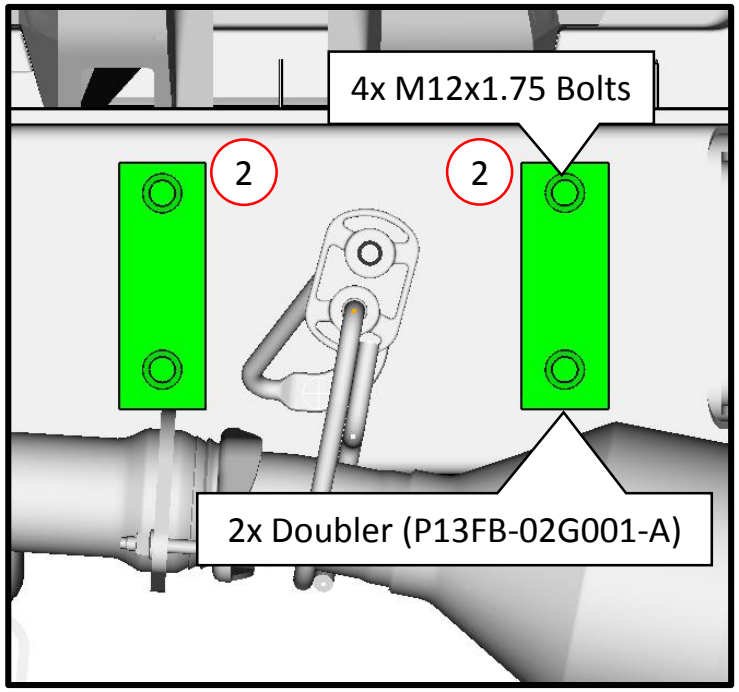


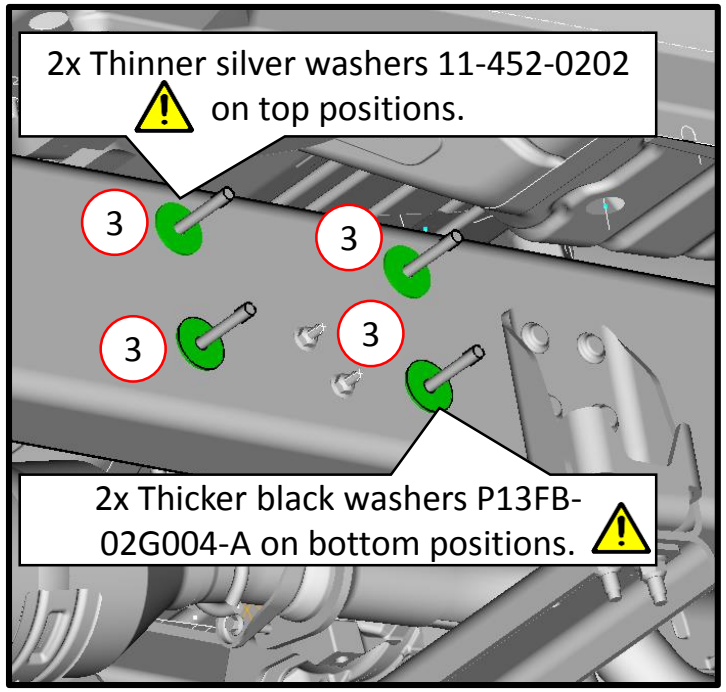
ATTENTION
Tank B-RH
Tank C-RH

**NOTE: The tank mounting hardware is the same for all of the mounting holes of each bracket.**

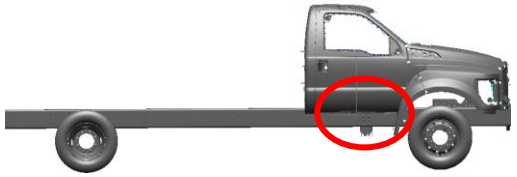
1. Assemble the isolators and crush limiters onto the tank mounting brackets as shown. **NOTE THE CORRECT ORIENTATION OF THE COMPONENTS. THE BUSHING SIDE SHOULD BE ON THE FRAME SIDE ON THE BOTTOM POSITIONS AND AWAY FROM THE FRAME ON THE TOP POSITIONS.**
2. Assemble the doubler plates (P13FB-02G001-A) to the frame rail as shown below using four M12x1.75 flange head bolts.
3. Place snubbing washers as shown on the bolts that are sticking out through the frame. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON ALL BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON ALL TOP POSITIONS.**



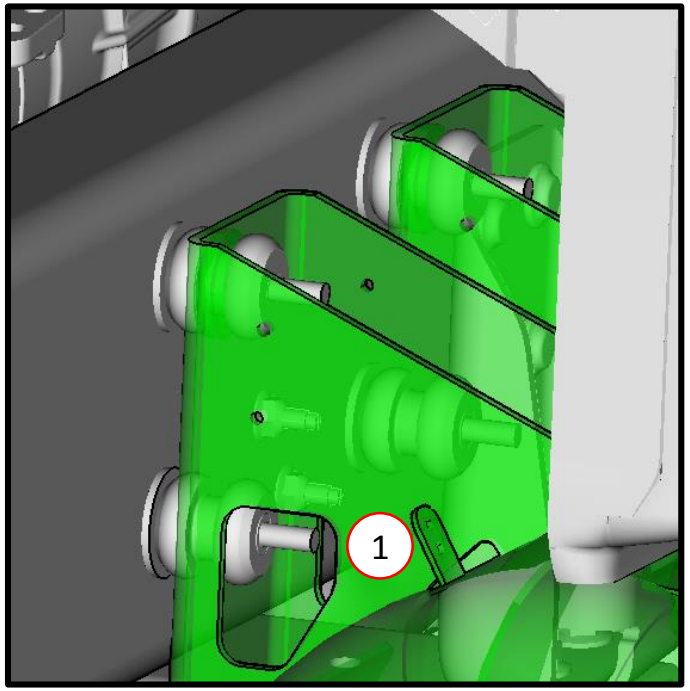
# INSTALLING THE RH TANK

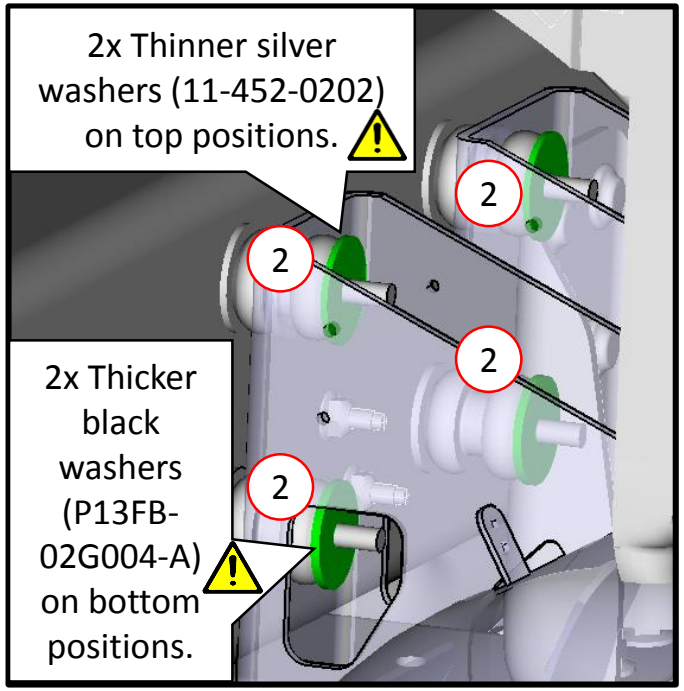


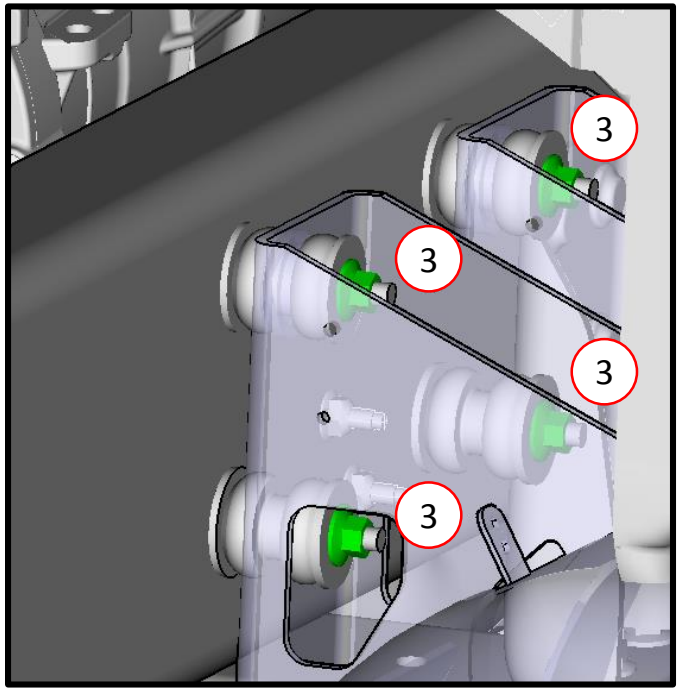
ATTENTION
Tank B-RH
Tank C-RH

**NOTE: The tank mounting hardware is the same for all of the mounting holes of each bracket.**

1. Carefully position the tank assembly to the frame rail until the tank (and hardware) is aligned with mounting bolts. If necessary, hold the bolts and doublers in place so that they don't fall out when the tank pushes on them.
2. Slip the washers into position inside the tank mounting brackets. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON ALL BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON ALL TOP POSITIONS.**
3. Install the four M12 x 1.75 mounting nuts one each onto the M12 bolts. Thread the nuts onto the bolts hand tight. Torque the fasteners to 80-90 Nm.



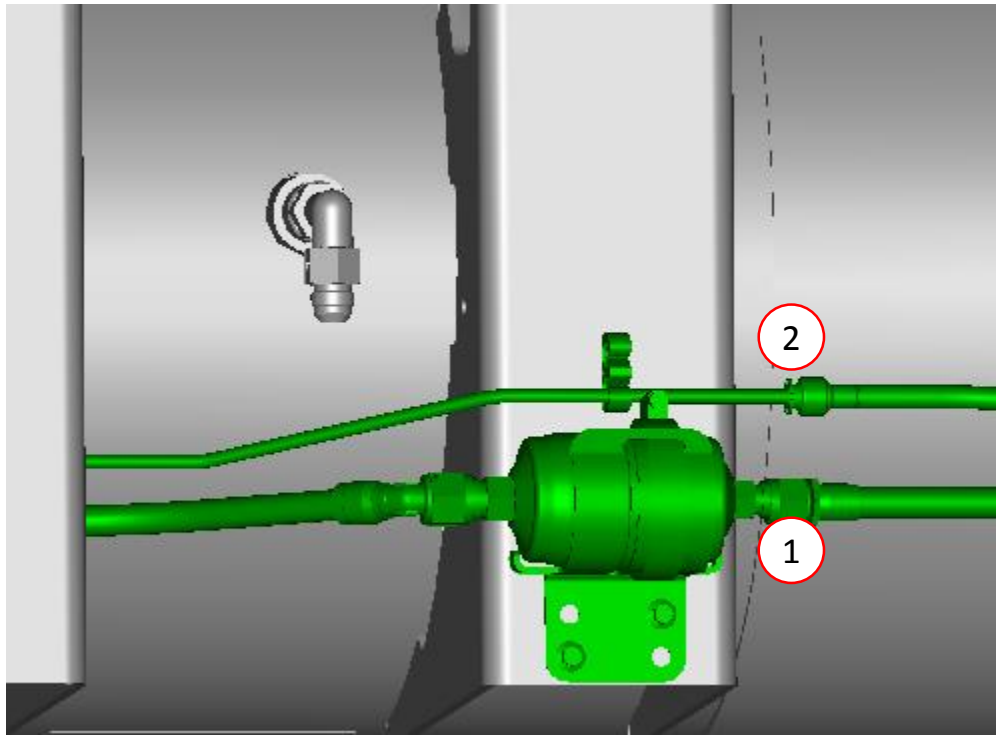



ATTENTION

All Tanks

# CONNECTING THE REAR TANK LINES TO THE FORWARD FUEL LINES

1. Thread the forward supply line into the supply line filter. Using two wrenches, torque to 24-32 Nm.
2. Snap the return line into the quick connect fitting.

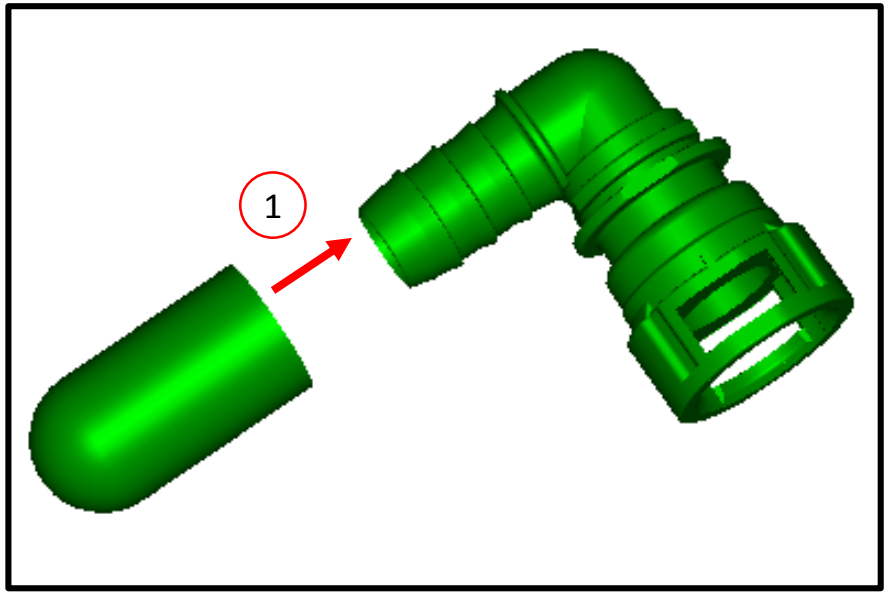


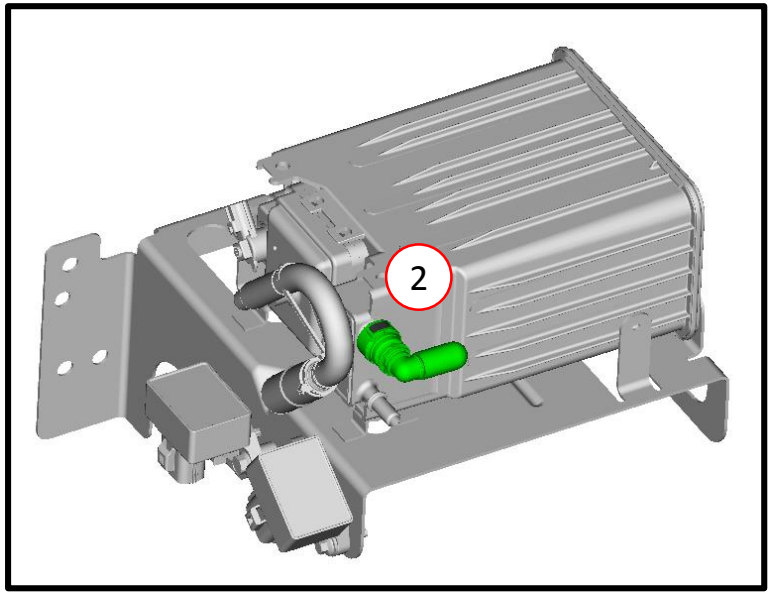
ATTENTION

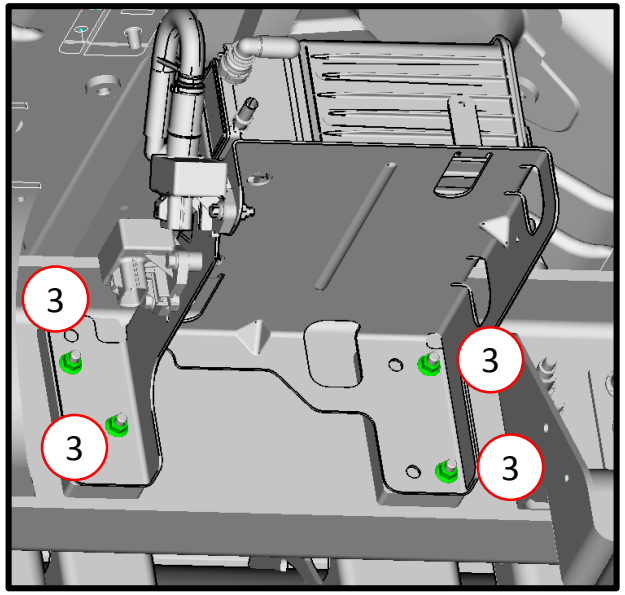
All Tanks

# INSTALLING THE VAPOR CANISTER

1. Attach the vapor cap (22-073-0020) to the 90 degree elbow (203576-000) as shown below. Make sure the parts are attached securely.
2. Attach the elbow with cap on the top port of the vapor canister as shown below.
3. Reinstall OEM vapor canister bracket onto the doubler plate weld studs.
4. Secure the OEM vapor canister bracket using four M10 flange nuts and torque to 40–55 Nm.



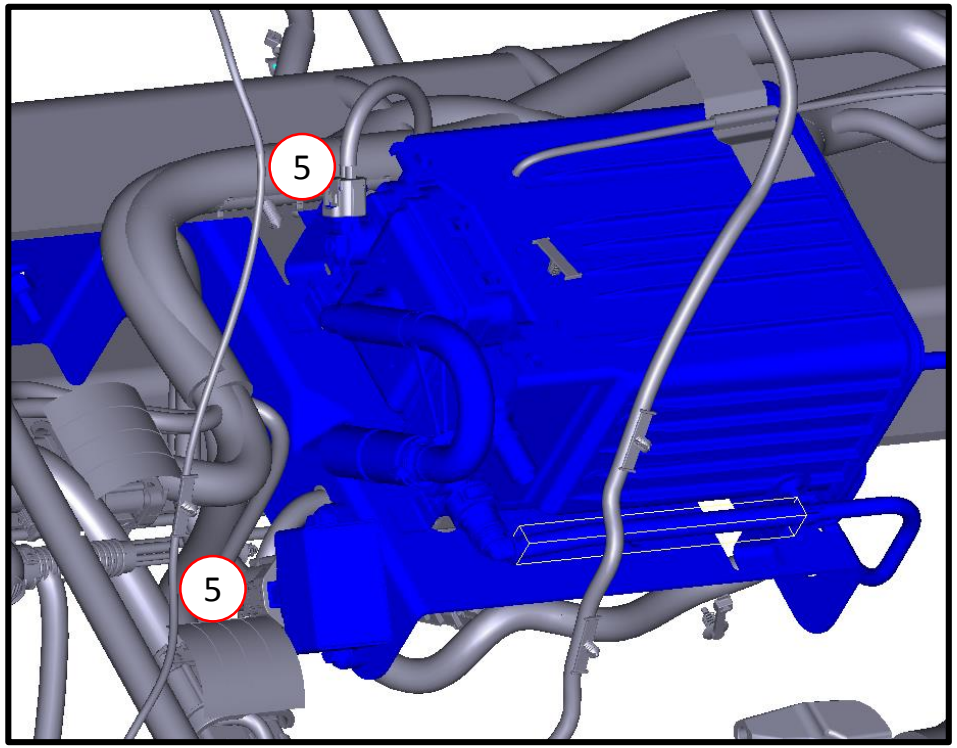



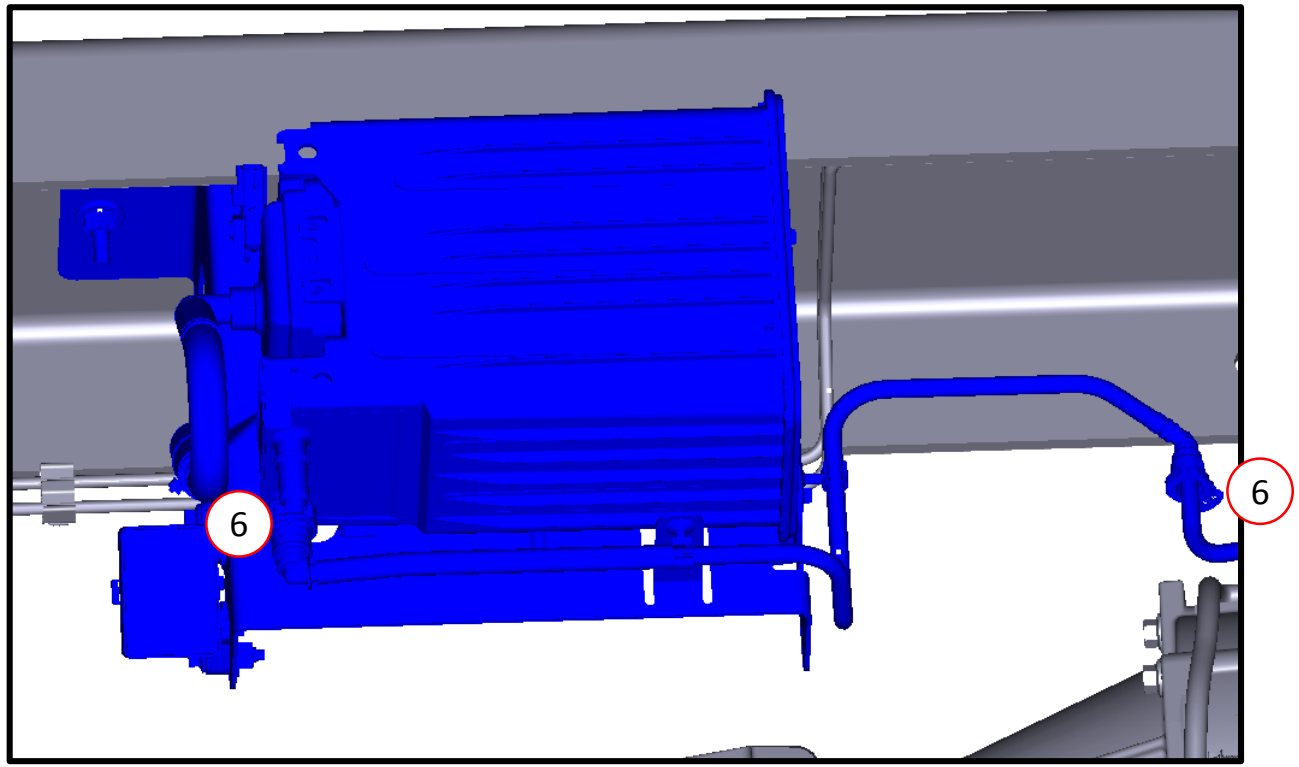
# INSTALLING THE VAPOR CANISTER ASSEMBLY CONTINUED

ATTENTION

All Tanks

5. Reconnect the OEM harness to the the OEM Electronic fuel pump relay EFPR and the dustbox cover.
6. Reinstall the OEM vapor line that routes from the canister to the forward vapor line by plugging the quick connects.



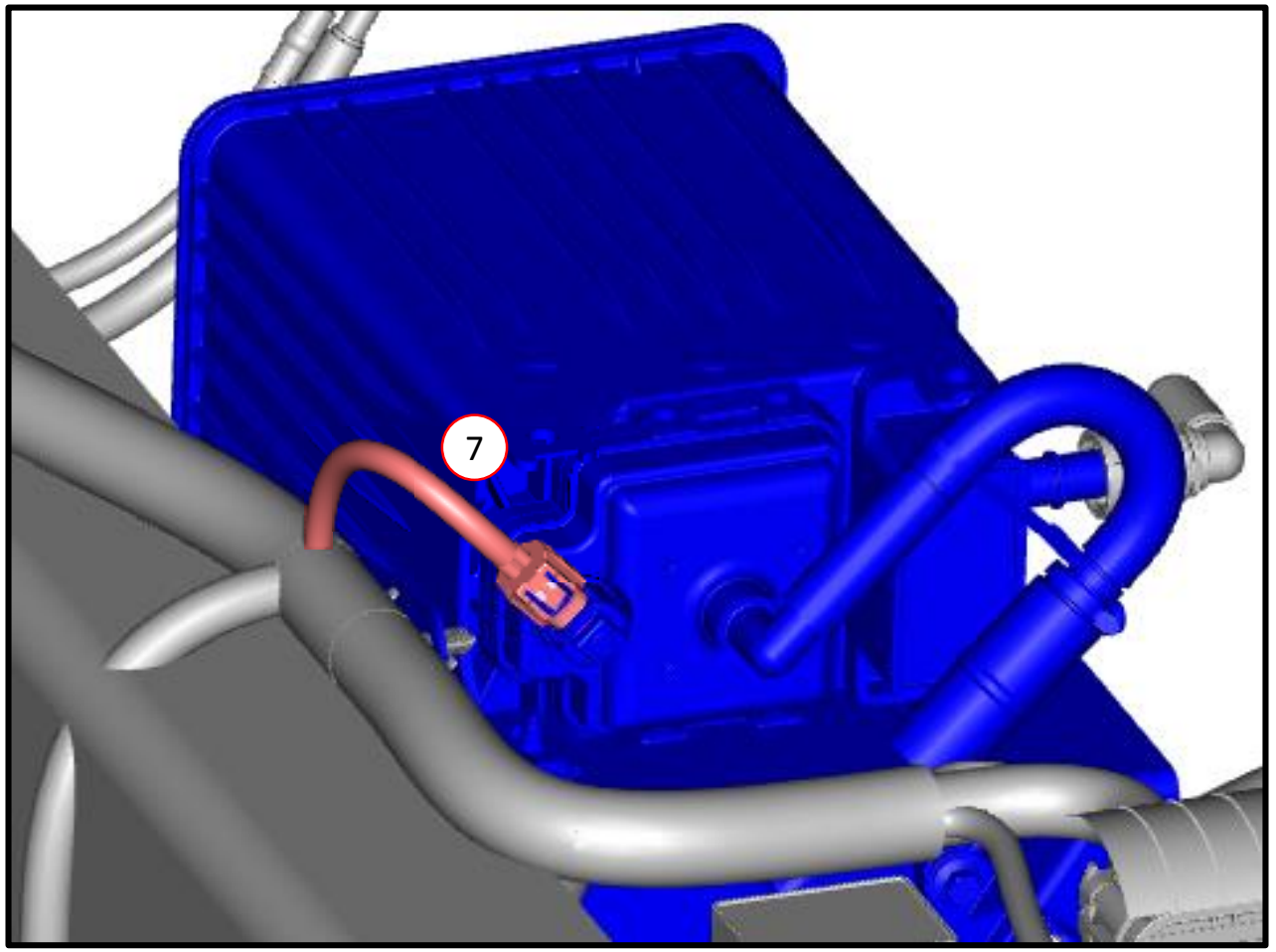



# INSTALLING THE VAPOR CANISTER ASSEMBLY CONTINUED

ATTENTION

All Tanks

7. When connecting the OEM harness ensure that the connector takeout maintains slack to avoid stress.

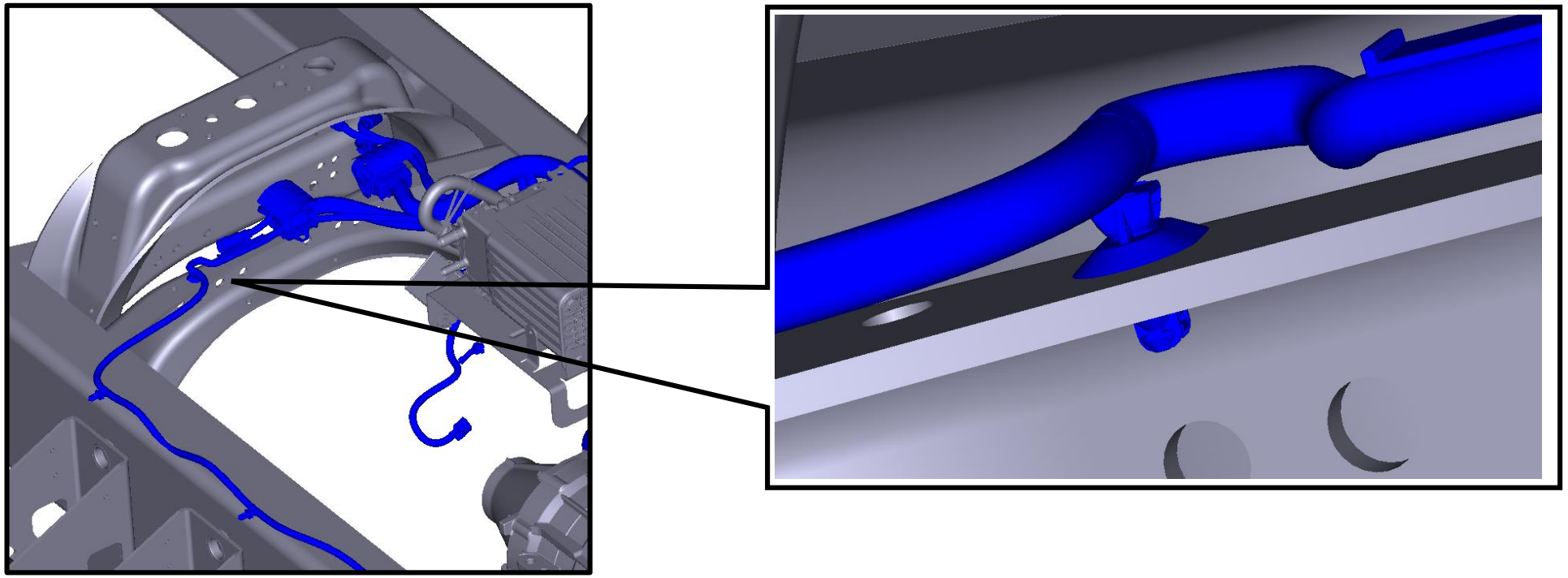


# INSTALLING FUEL FILL LINE AND TRANSFER LINE BRACKET

ATTENTION

Dual Tanks

1. Pull the OEM fir tree retention clip out from the top flange of the cross member which retains the OEM wiring harness in the location shown below.

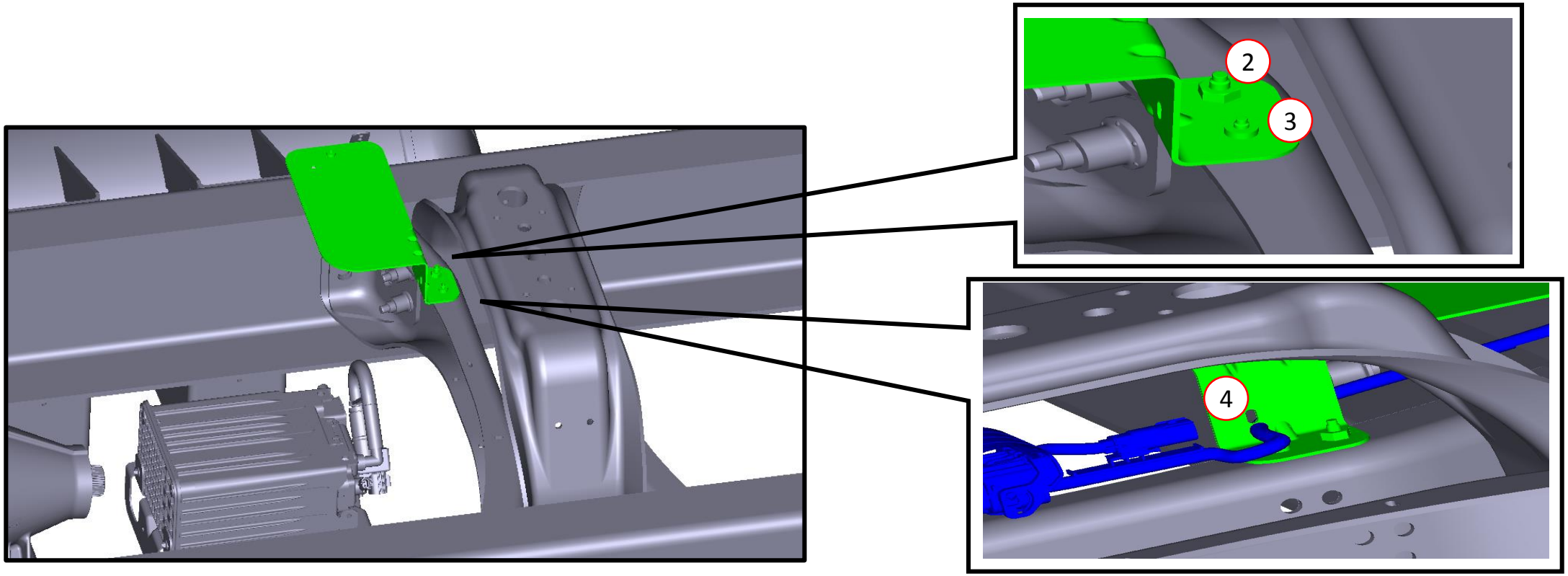


ATTENTION

Dual Tanks

# INSTALLING FUEL FILL LINE AND TRANSFER LINE BRACKET CONTINUED

2. Install the fuel line retention bracket (P16FB-10F100-B) to the OEM holes on the cross member using an M8x20 bolt and M6x16 bolt. Torque M8 bolt to 18-20 Nm.
3. Torque the M6 bolt to 8-12 Nm.
4. Now reinstall and relocate the OEM Christmas tree retention for the OEM wiring harness to the hole on the fuel line retention bracket flange (P16FB-10F100-B).

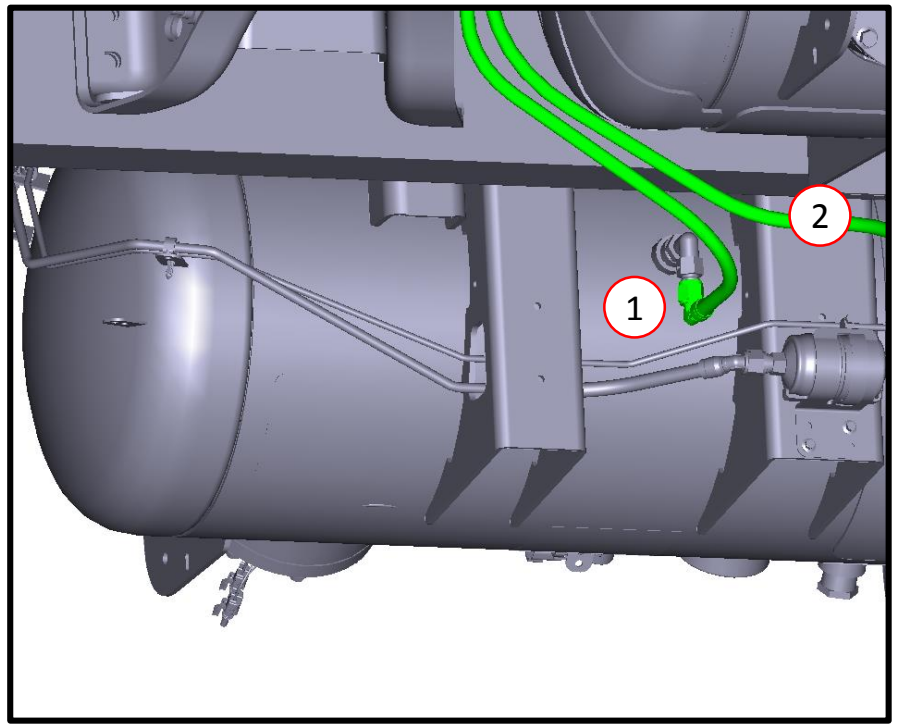


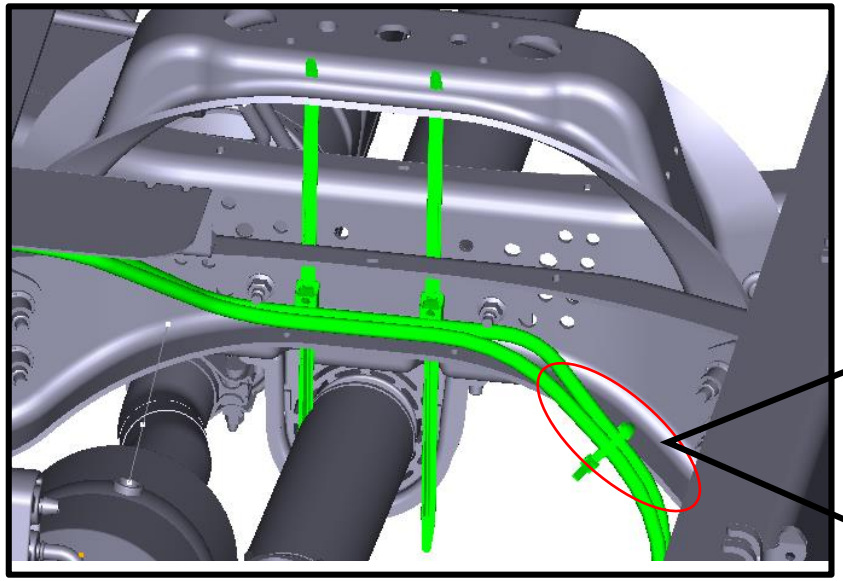
ATTENTION

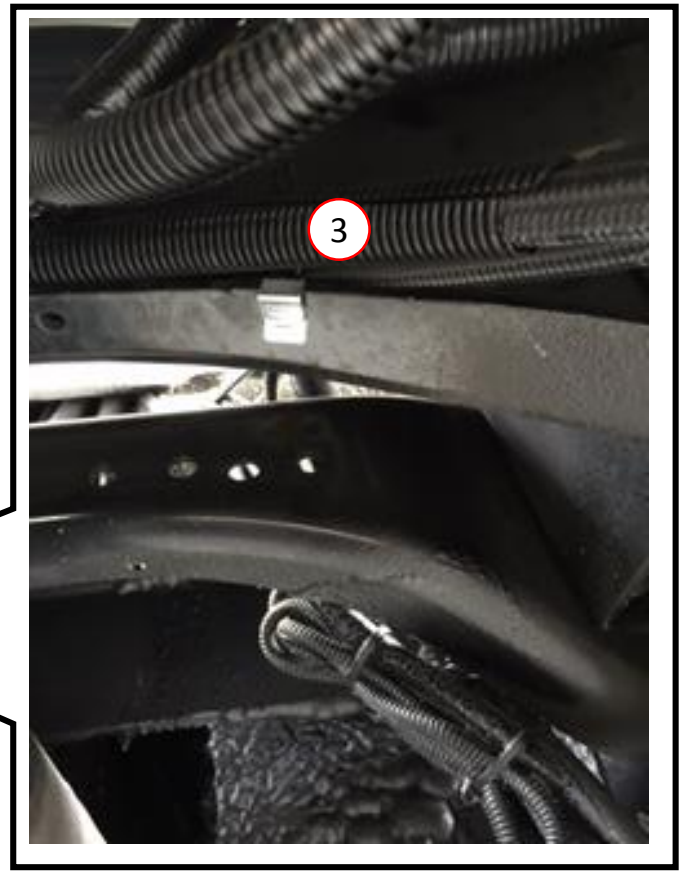
Dual Tanks

# INSTALLING FUEL FILL LINE AND TRANSFER LINE ALONG FRAME

1. Hand tighten fuel transfer fill line (P16FB-10Q130-B/C) to OPD valve present on the inboard of the LH fuel tank. Torque to 41-49 Nm.
2. Leave the LH side of the fill line (P16FB-10D110-B/D) loose. You will install this later.
3. Install qty. 1 piece of convolute (PLS-1-100-BLK-102) onto the fuel line that passes over the edge of the cross member as shown.



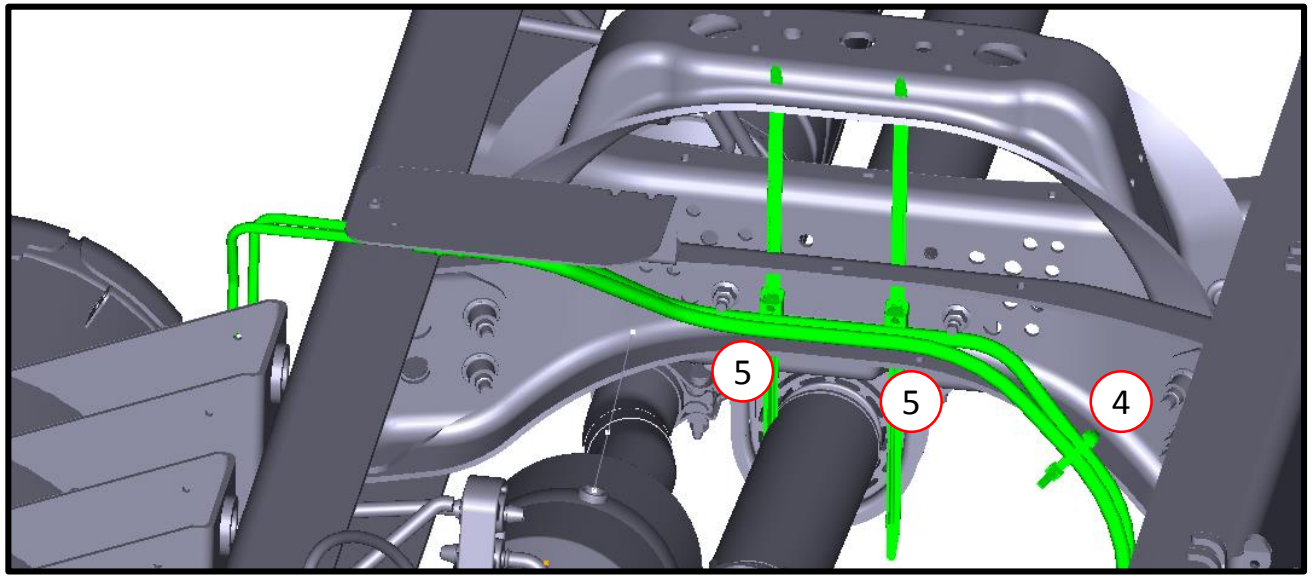


# INSTALLING FUEL FILL LINE AND TRANSFER LINE ALONG FRAME

ATTENTION

Dual Tanks

4. Retain both lines using a metal edge clip (11-056-0044) and zip tie (20-403-0003) to the cross member to protect the lines from rubbing on the lower flange of the cross member where they pass over it.
5. Retain both the lines at two locations to the bottom of the dual clamp tie (20-403-0004) as shown. Note RCT electrical harness is retained on the top of the dual clamp tie, so make sure to only use the bottom. Also, make sure the dual clamp ties align with the OEM mounting holes on the cross member and then tighten the zip tie but do not fasten it to the cross member until you have installed the electrical harness.

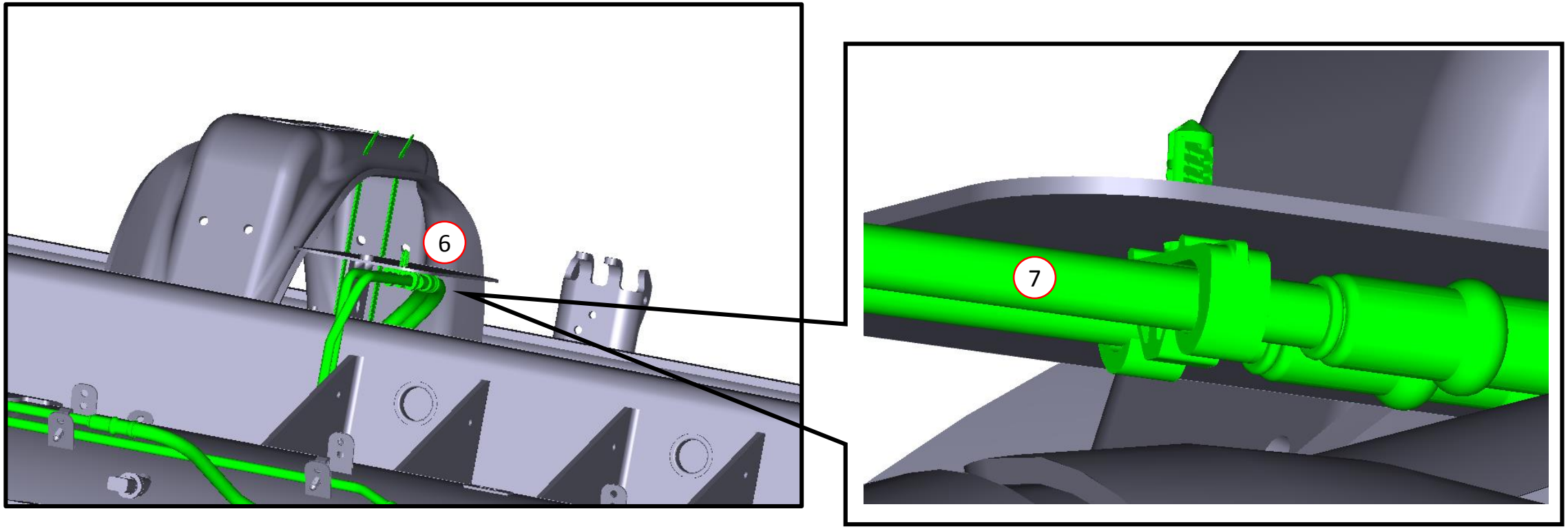


ATTENTION

Dual Tanks

# INSTALLING FUEL FILL LINE AND TRANSFER LINE ALONG FRAME CONTINUED

6. Install a snail clip into the fuel line retention bracket and the snap the fuel lines in the clips as shown.
7. Fill line is in front and the transfer line routes behind it.



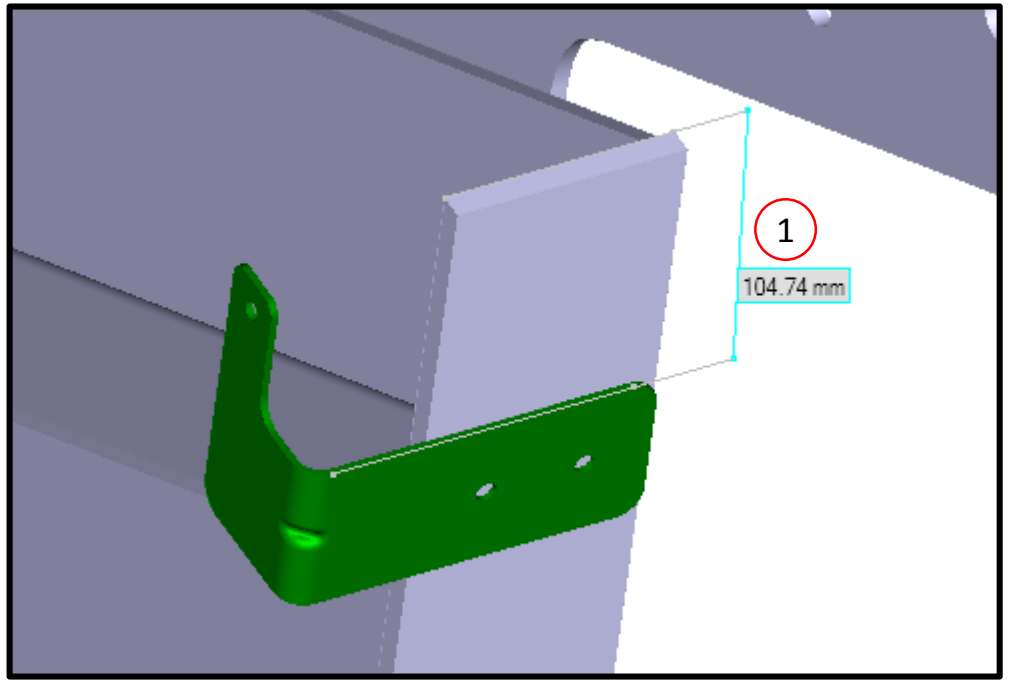
ATTENTION

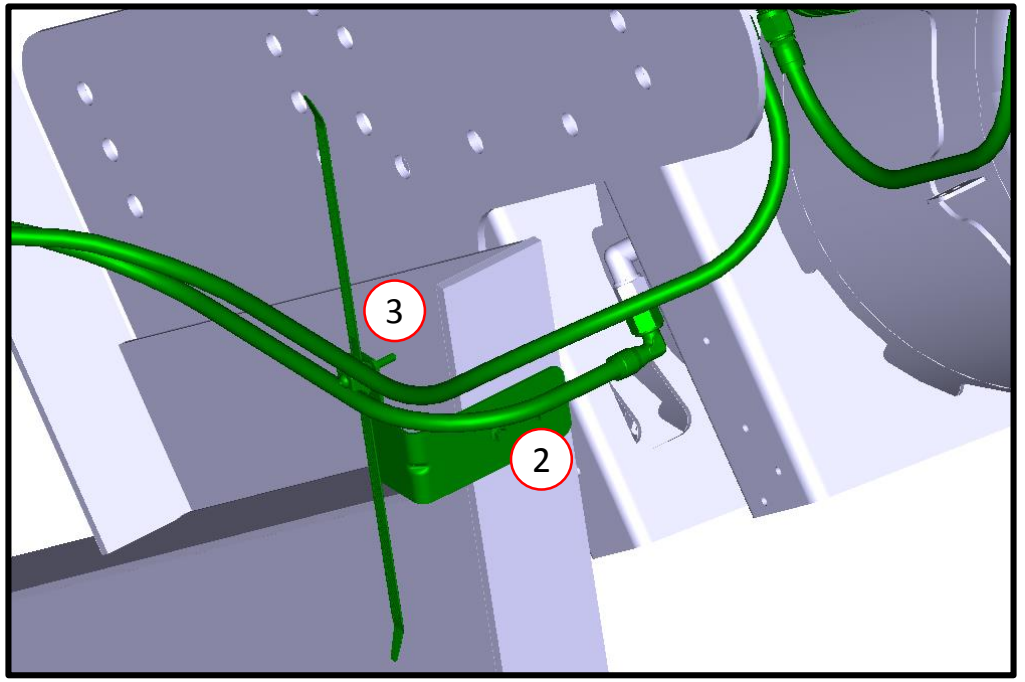
Dual Tanks

# INSTALLING FUEL FILL LINE AND TRANSFER LINE RETENTION BRACKET FOR MICKEY BODY DROP FRAME CHASSIS

**NOTE: This page and the next only applies to Mickey Body drop frame chassis installation.**

1. Align the top edge of the fuel line retention bracket (P16FB-10F100-C) 4.12” (105mm) from the top edge of the drop frame plate as shown. Mark the two mounting holes with a punch. Remove the bracket and drill the two holes using a ¼” drill bit.
2. Install the bracket on the drop frame plate using qty. 2 M6x16 bolts and qty. 2 M6 nuts. Torque to 8-12 Nm
3. Retain the two fuel lines using a dual clamp tie, M6x30 SHCS bolt and M6 nut to the bracket.



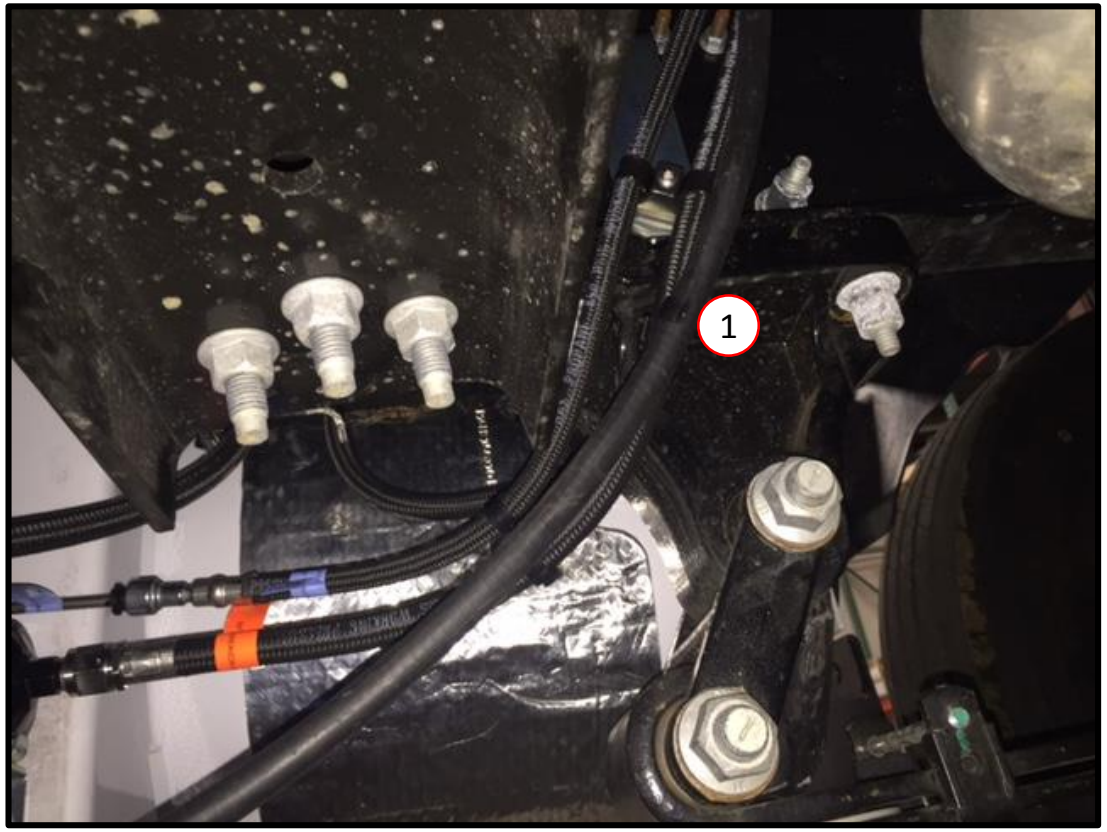
ATTENTION

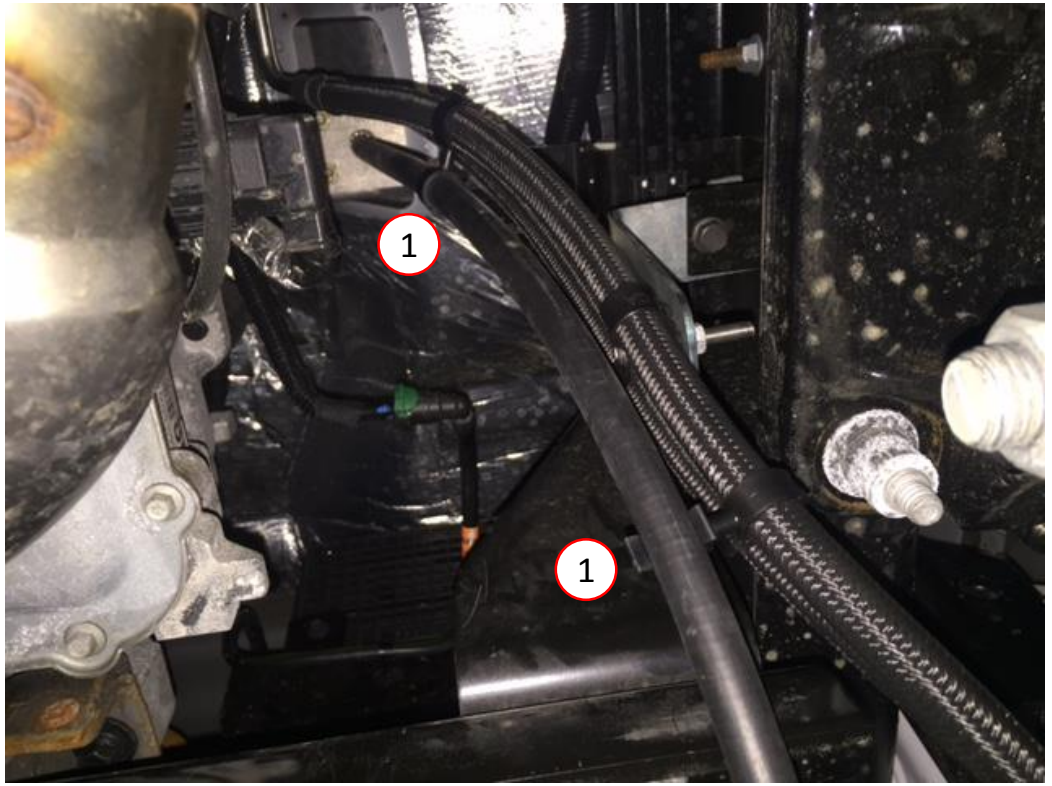
Dual Tanks

# INSTALLING PARKING BRAKE C-CLIPS FOR MICKEY BODY DROP FRAME CHASSIS

**NOTE: This page only applies to Mickey Body drop frame chassis installation.**

1. Install qty. 2 c-clips (W713776-S300 ) between the parking brake cable and the forward propane fuel lines as shown below to retain the cable away from the lines.



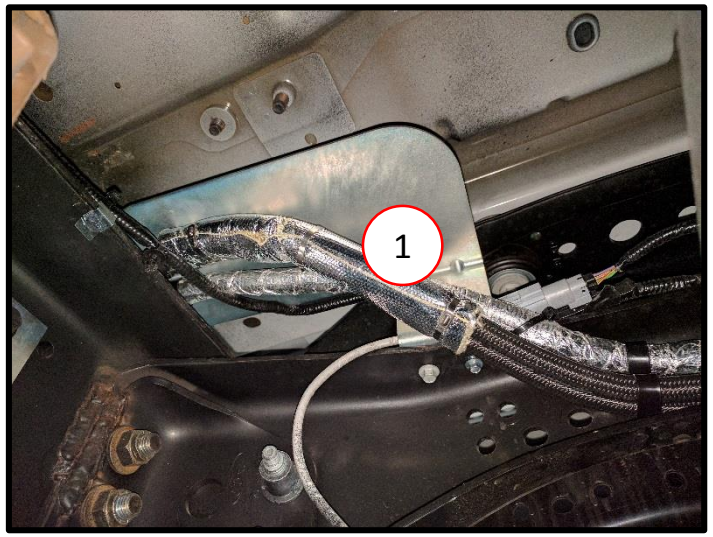



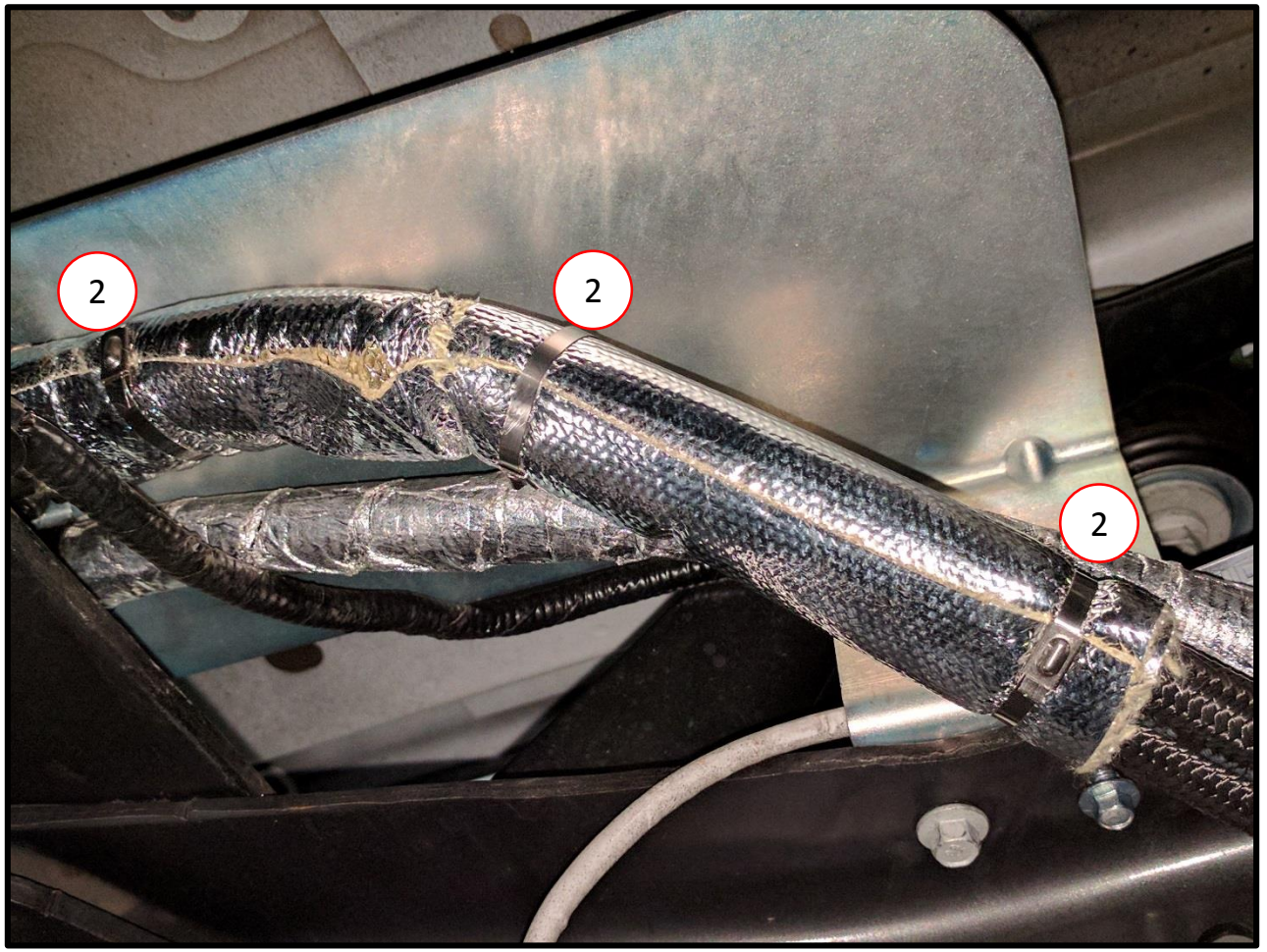
# TRANSFER AND FILL FUEL LINE HEAT WRAP INSTALLATION

ATTENTION

Dual Tanks

1. Install a heat sleeve (30-317-0100) foil side out onto the transfer and fill lines where they route above the exhaust by wrapping it around both lines and then using qty. 3 stainless steel zip ties (11-403-0022).
2. Zip tie the sleeve on each end and in the middle.



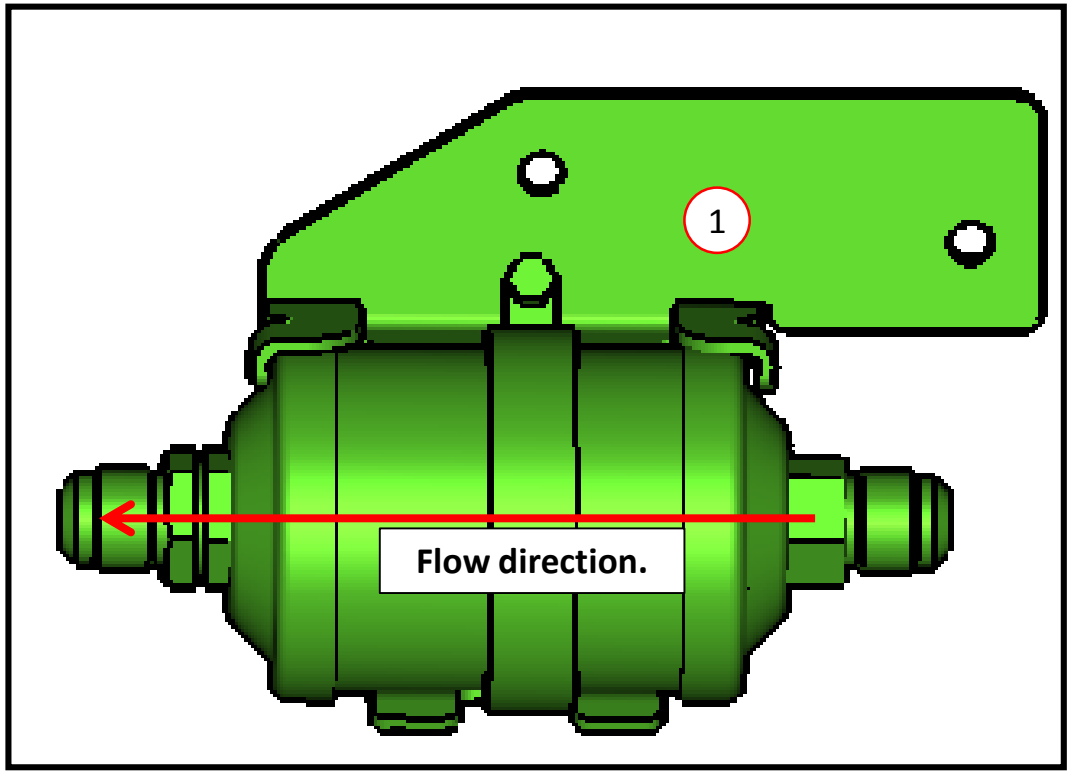



# ASSEMBLING THE FILL FILTER

ATTENTION

All Tanks

1. Assemble the fill filter (P11BB-9155-A) to the fill filter bracket (P11GD-10D220-BB) using a worm gear clamp (6P-300-52). Make sure that the fuel flow direction on the filter is oriented correctly as shown below. Tighten the clamp to secure the filter to the bracket.

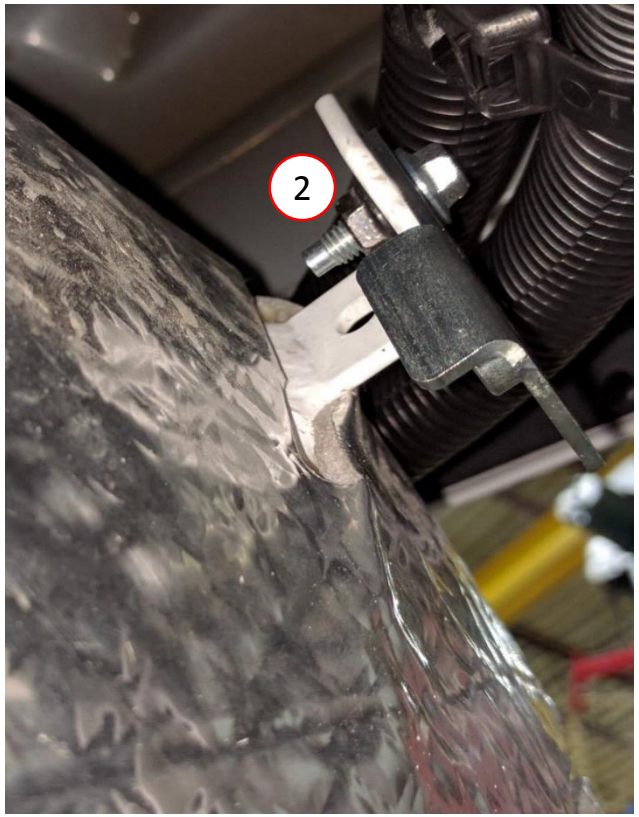


# ASSEMBLING THE OFFSET BRACKET

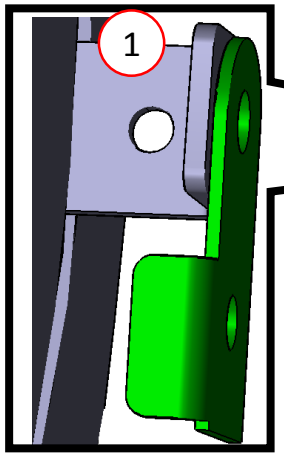
ATTENTION

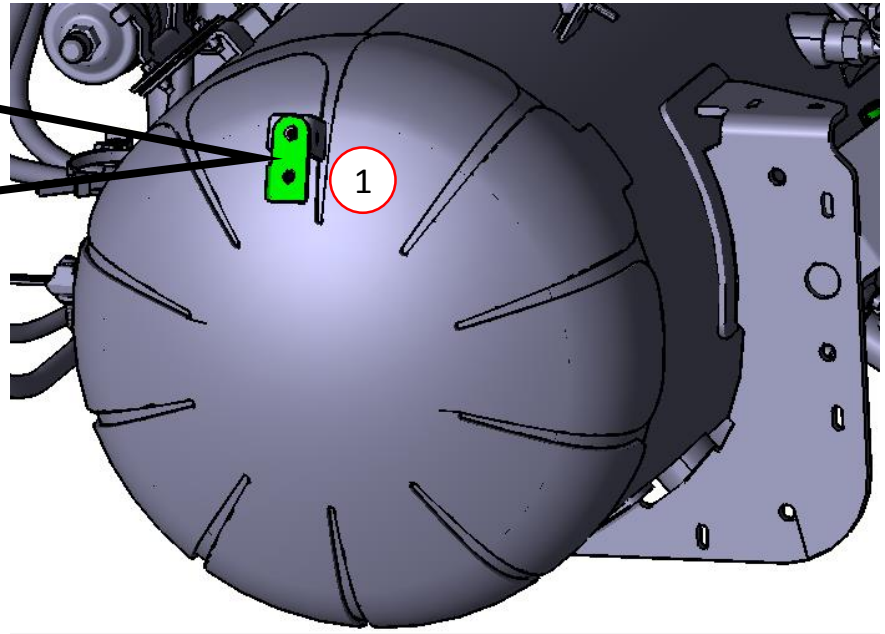
Tank B

1. Align bracket P16MB-03B001-A to tab on front of LH tank as shown.
2. Attach bracket to tank tab using M6x16 hex flange bolt and M6 nut. Torque to 8 -12 Nm.







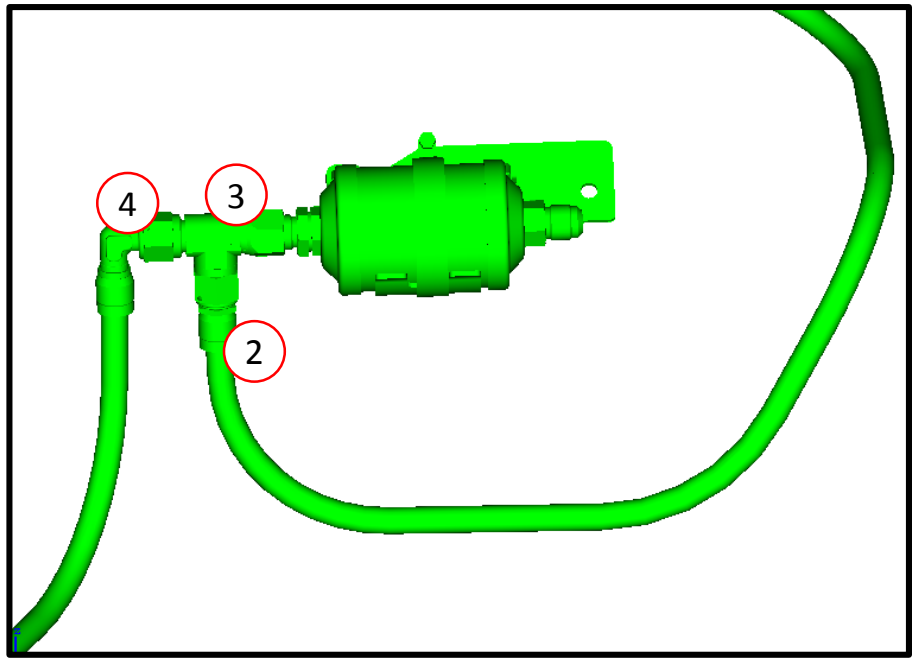
# ASSEMBLING THE FUEL FILL LINES AND FILTER ASSEMBLY

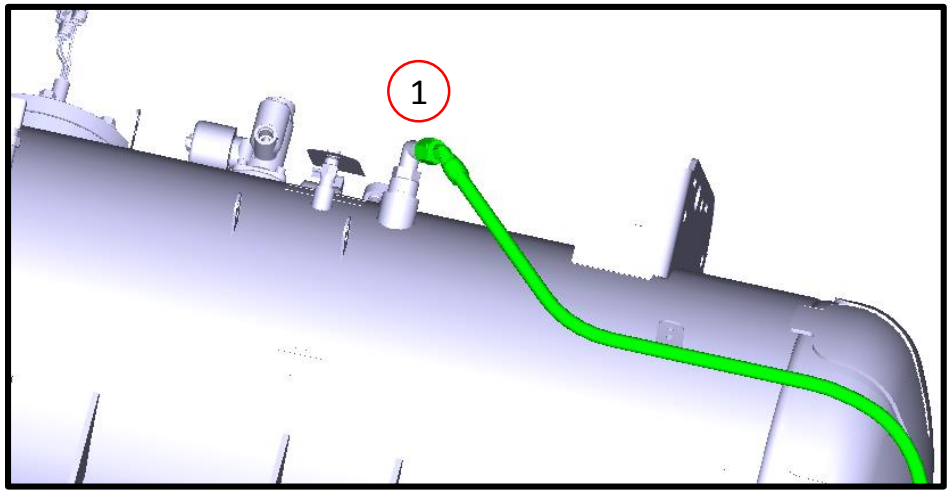
ATTENTION

Tank B

**NOTE: You must follow this sequence because you cannot torque the fittings on the left side of this assembly once its installed onto the tanks due to tool clearance.**

1. Route the fuel line (P-10D124-C-1353) around the front of the tank and thread the 45 degree end onto the OPD, hand tighten.
2. Install fuel fill line (P-10D124-C-1353) to the bottom of the “T” fitting, torque to 41-49 Nm.
3. Install the “T” fitting (11-126-0713) to the filter, torque to 53-61 Nm. Use a 2nd wrench to counter hold.
4. Install fuel fill line (P16FB-10D110-B), which is the line that has already been installed prior and routes from the RH tank to the LH tank, to the left end of the “T” fitting, make sure the elbow orientation matches the bottom of the “T” fitting. Torque to 41-49 Nm.



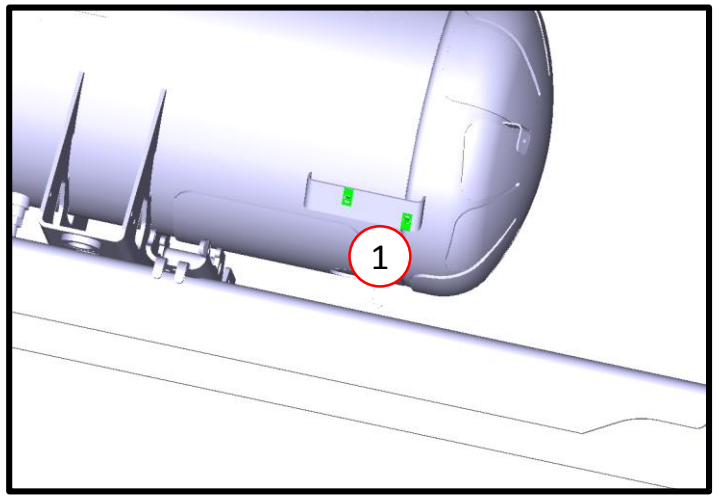



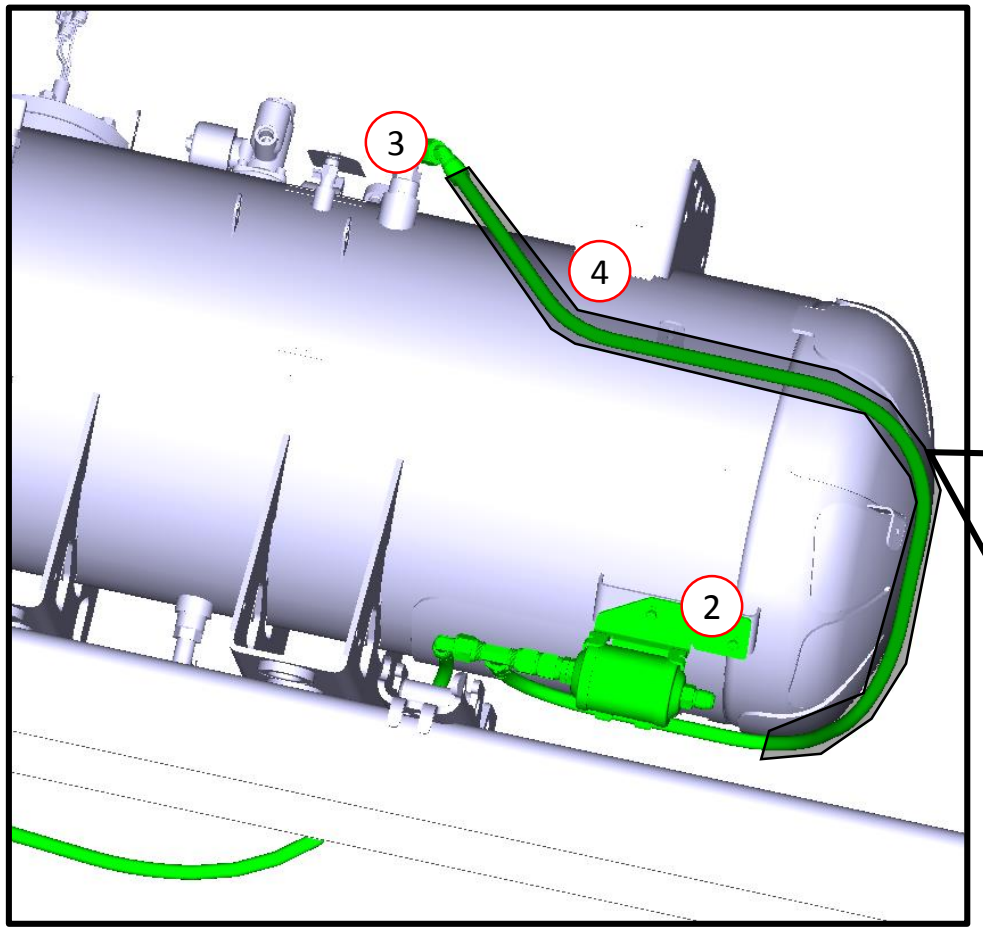
ATTENTION

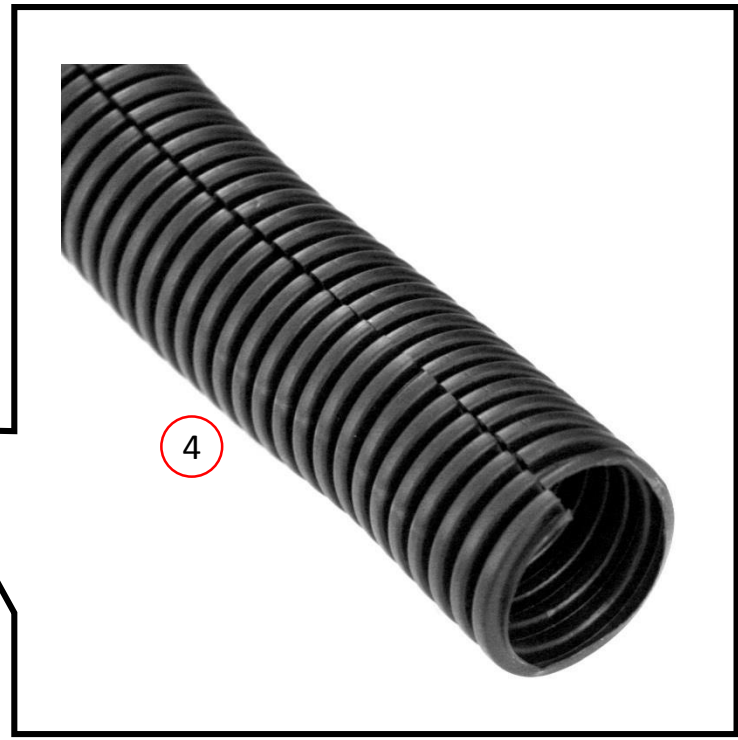
Tank B

# INSTALLING THE FUEL FILL LINES AND FILTER ASSEMBLY ON THE LH TANK

1. Install qty. 2 M6 J-Clips (W520822) on the LH fuel tank inboard filter mounting bracket.
2. Install the assembly on the LH tank filter bracket as shown using Qty. 2 M6x16 bolts into the J-clips you installed during step 1. Torque 8-12 Nm.
3. Torque the fuel line fitting at the OPD to 41-49 Nm.
4. Install Qty 1. 900mm long convolute on fill line starting at OPD.



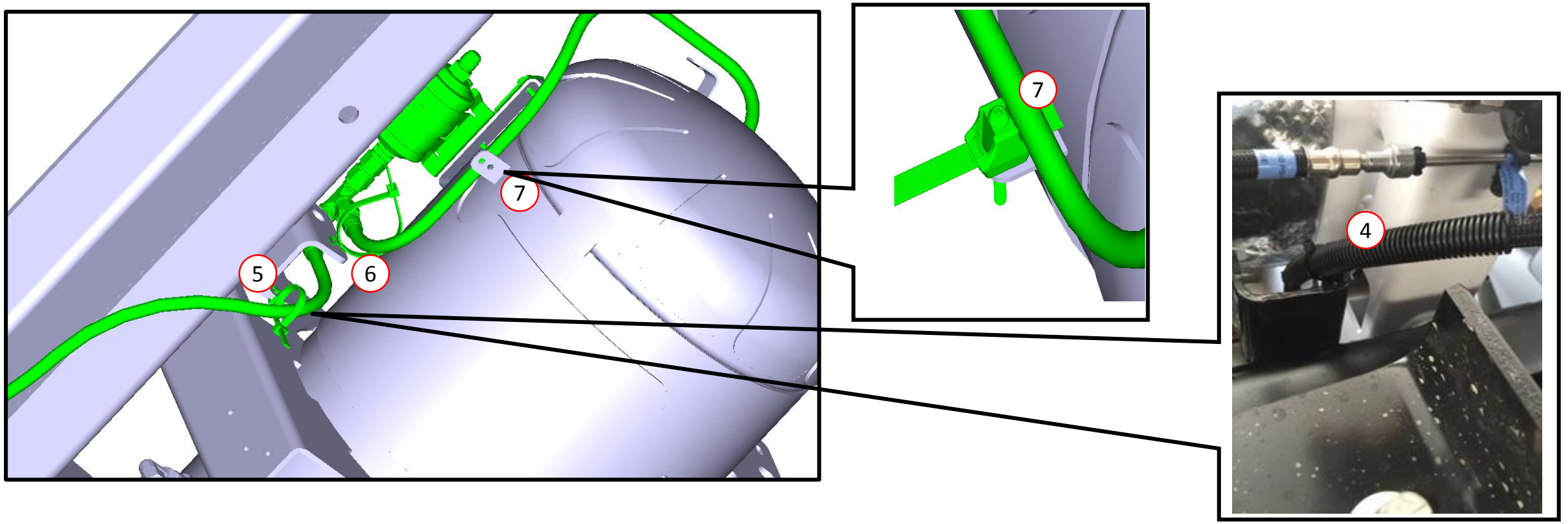



ATTENTION

Tank B

# INSTALLING THE FUEL FILL LINES AND FILTER ASSEMBLY ON THE LH TANK CONTINUED

5. Install qty. 1 piece of convolute (PLS-1-100-BLK-102) onto the fuel line that routes near the gasoline tank mounting bracket as shown.
6. Retain the fuel fill line (P16FB-10D110-B) to the bottom gasoline tank mounting bracket using a metal edge clip (11-056-0044) and zip tie (20-403-0003).
7. Retain the fuel fill line (P-10D124-C-1353) to the bottom gasoline tank mounting bracket using a metal edge clip (11-056-0044) and zip tie (20-403-0003).
8. Retain the fuel line to the tank tab using qty. 1 dual clamp zip tie, qty. 1 M6x30 SHCS bolt, and qty. 1 M6 nut on the outboard tank tab hole as shown.

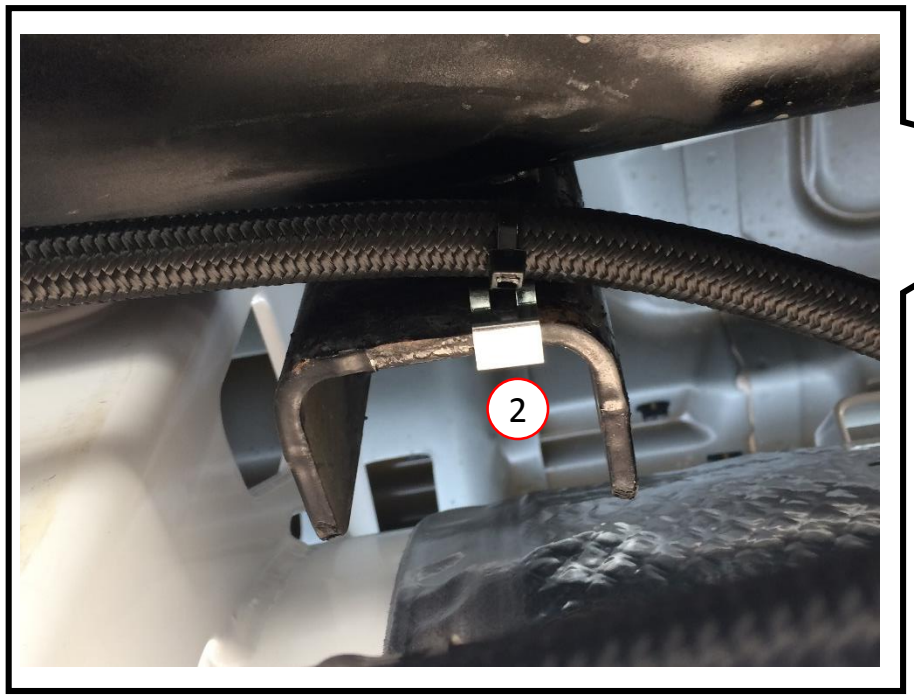


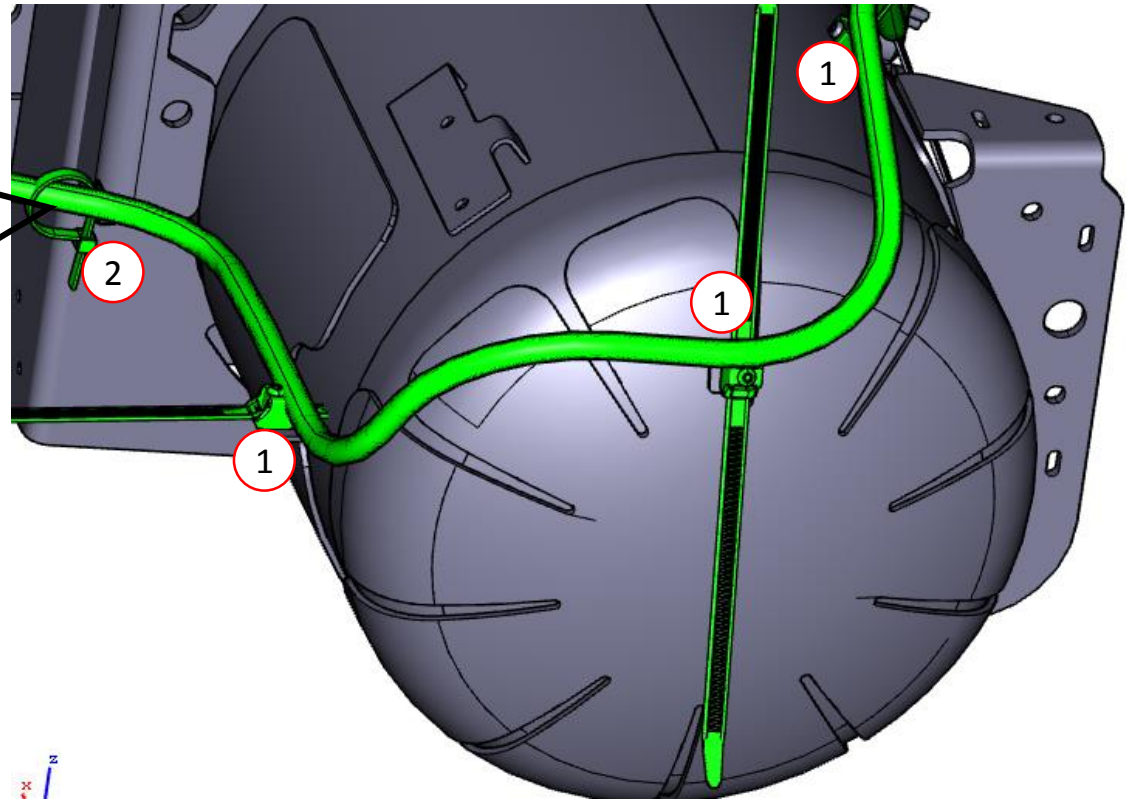
ATTENTION

Tank C (dual)

# ASSEMBLING THE FUEL FILL LINES AND FILTER ASSEMBLY

1. Route the fill line (P16FB-10D110-D) around the front of the tank using dual clamp ties, M6x30 button head screws and M6 nuts.
2. Attach edge clip zip tie (11-056-0044) to OEM gasoline bracket and retain to fill line. **Ensure line does not rub OEM bracket.**



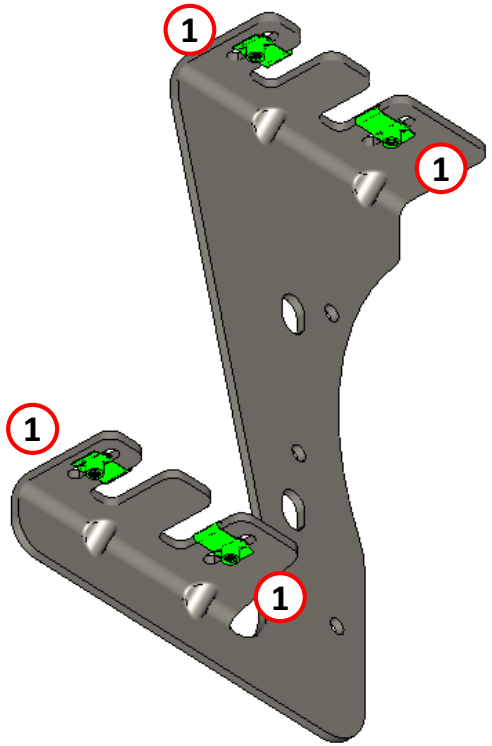
ATTENTION

Tank A

# PREPARING THE STEP BRACKETS

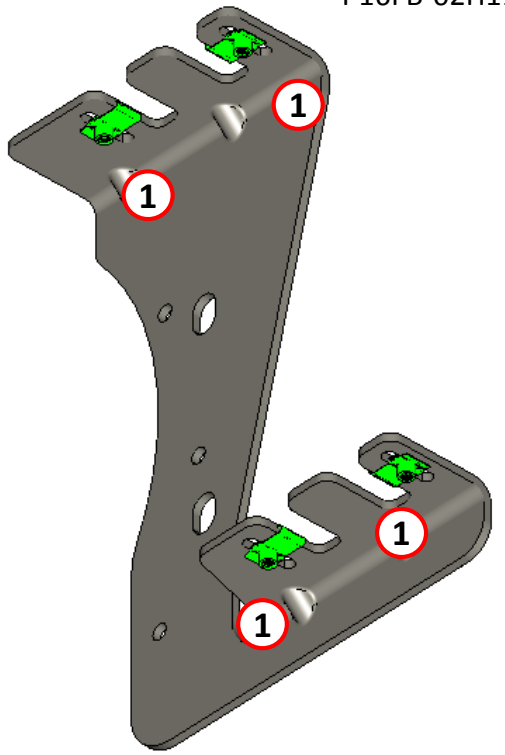
1. Attach an M8 J-clip on each slot on all step brackets as shown below. (4 j-clips per bracket)
2. Install Qty. 2 M6 J-clips on the top holes of the fill valve bracket as shown.

P16FB-02H110-A

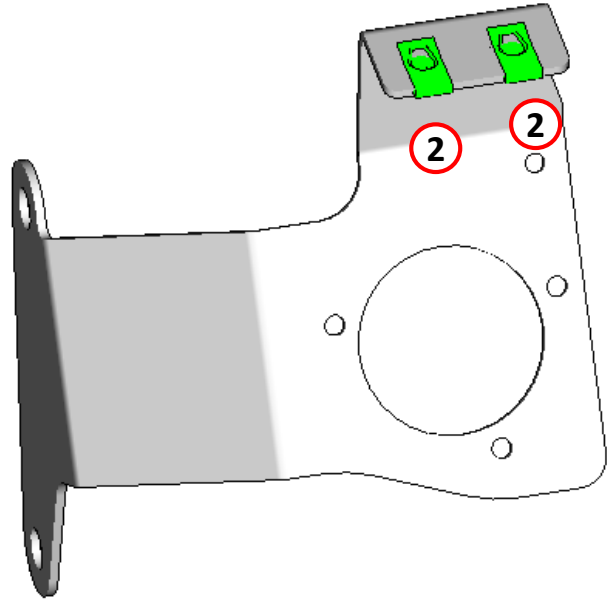



2x for Regular Cab (60 Gal)
1x for Crew, Super Cab

P16FB-02H110-B




1x for Regular Cab (50 Gal)
3x for Crew Cab
2x for Super Cab



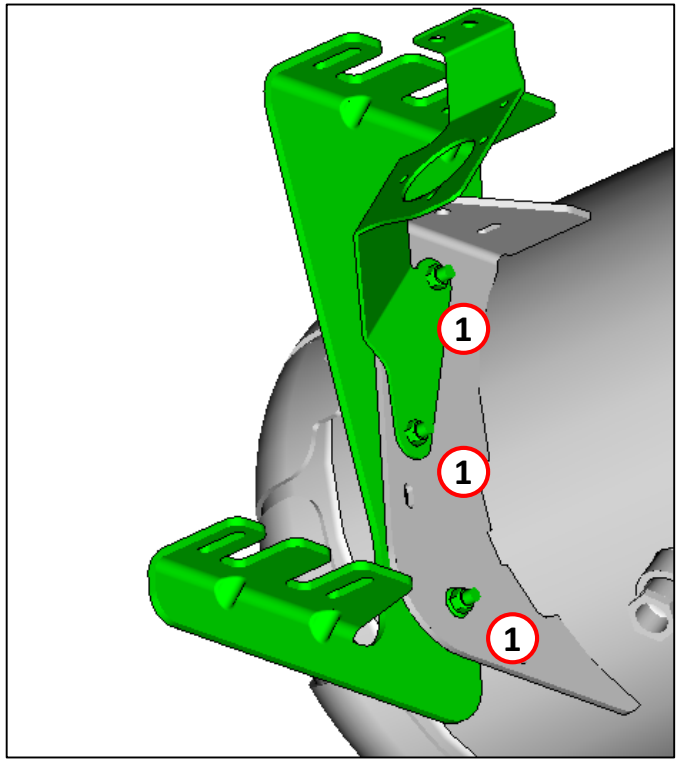
ATTENTION

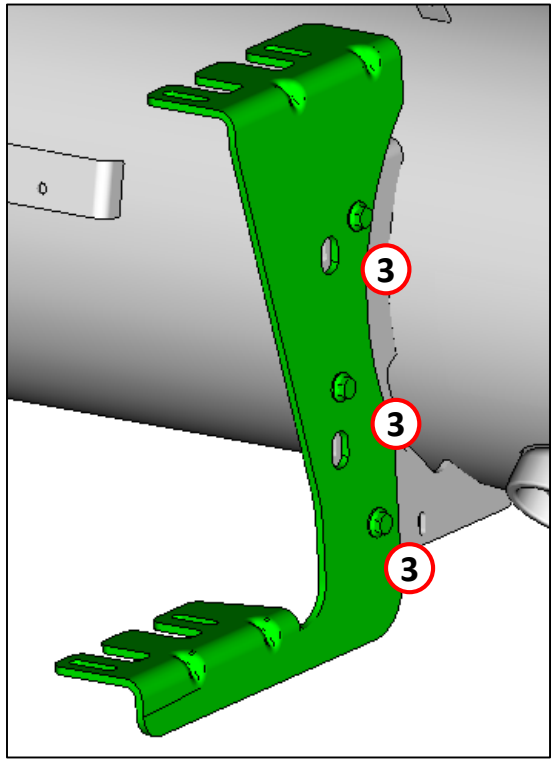
Tank A

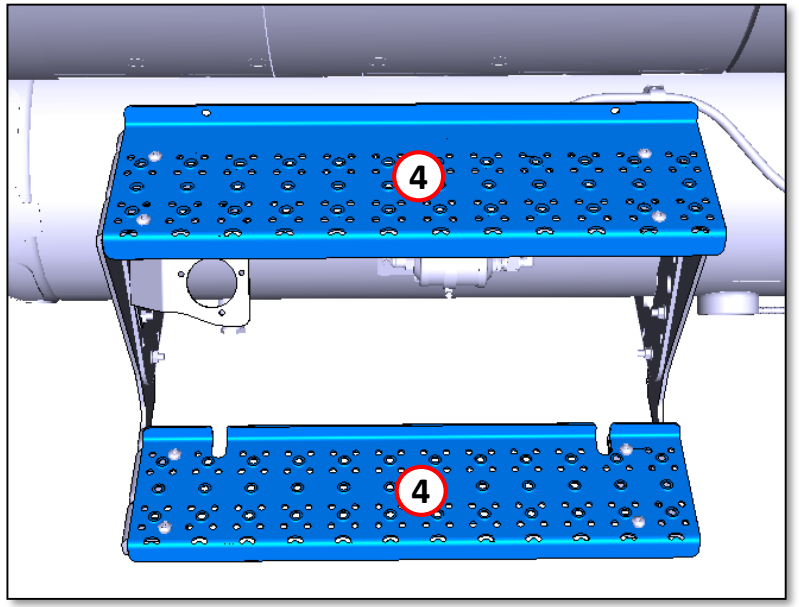
# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 50 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-B to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts. Torque fasteners to 40 – 55 Nm.
4. Lay step treads on LH Tank as shown below



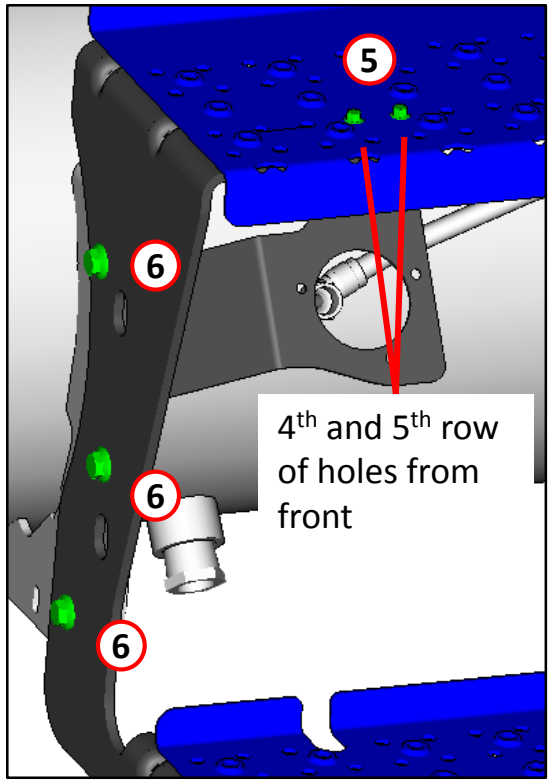



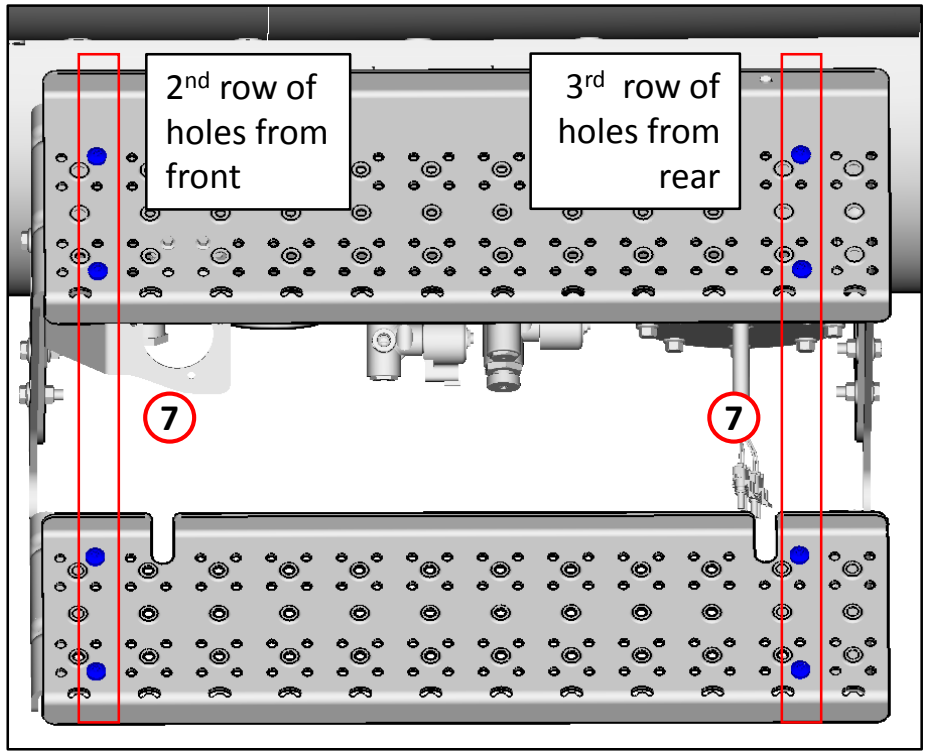
ATTENTION

Tank A

# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK CONTINUED

5. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
6. Torque the step bracket bolts to 40 – 55 Nm.
7. Attach the step treads to the step brackets reusing M8 button head bolts.
8. Torque all M8 bolts to 20 – 30 Nm.



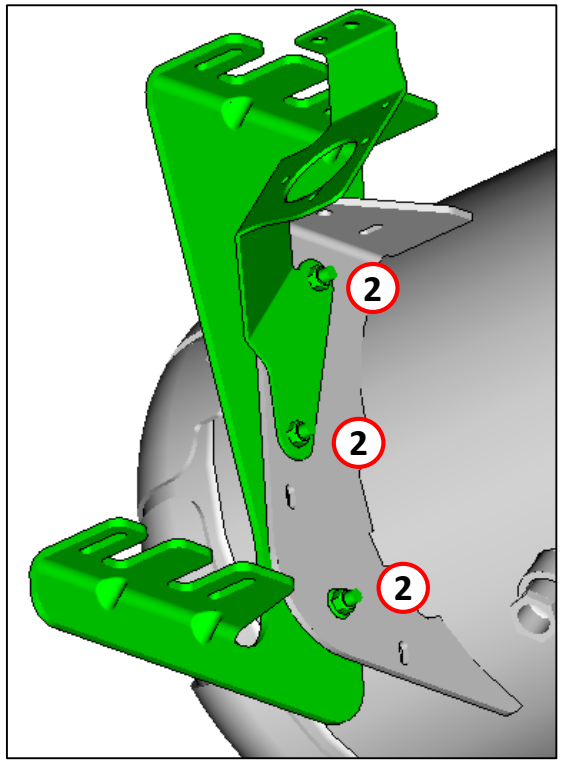
ATTENTION

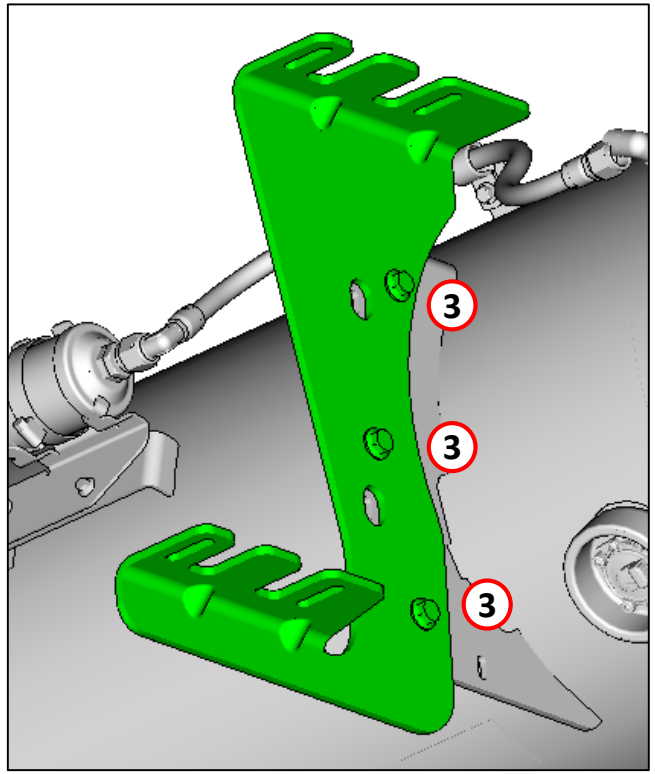
Tank A

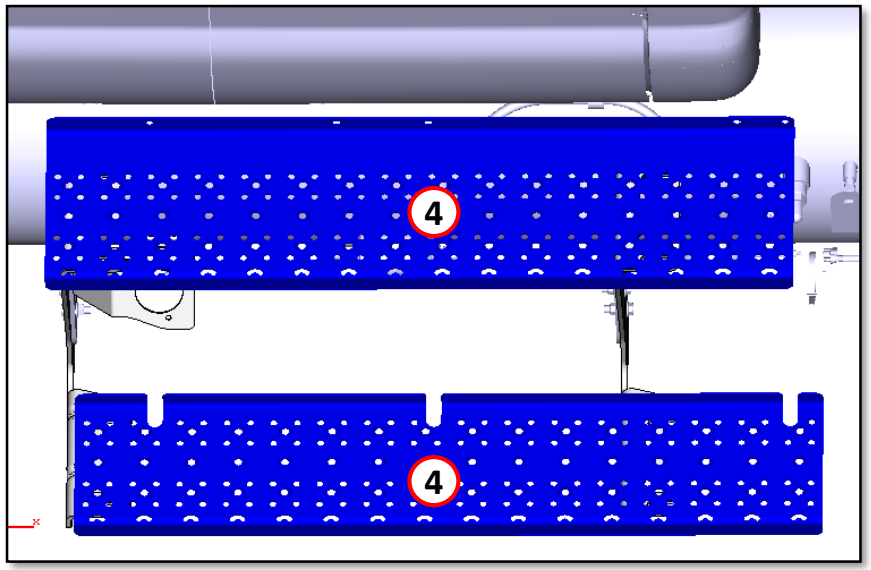
# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 60 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-B to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts. Torque fasteners to 40 – 55 Nm.
4. Lay step treads on LH Tank as shown below



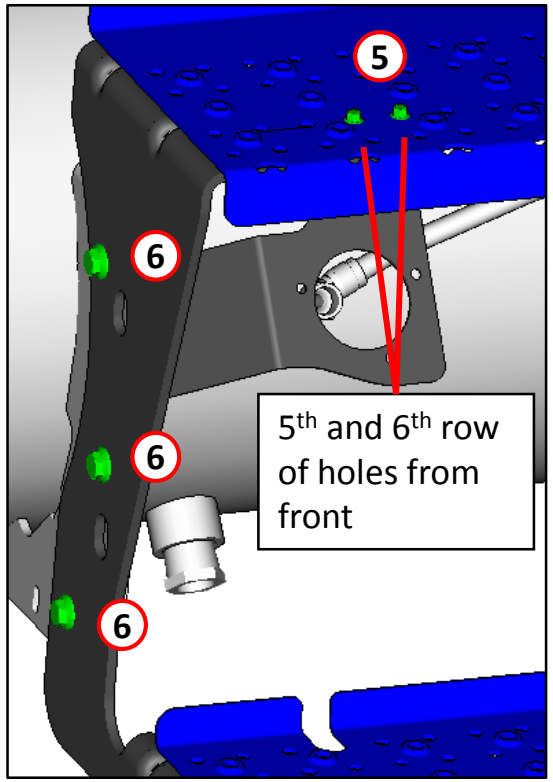



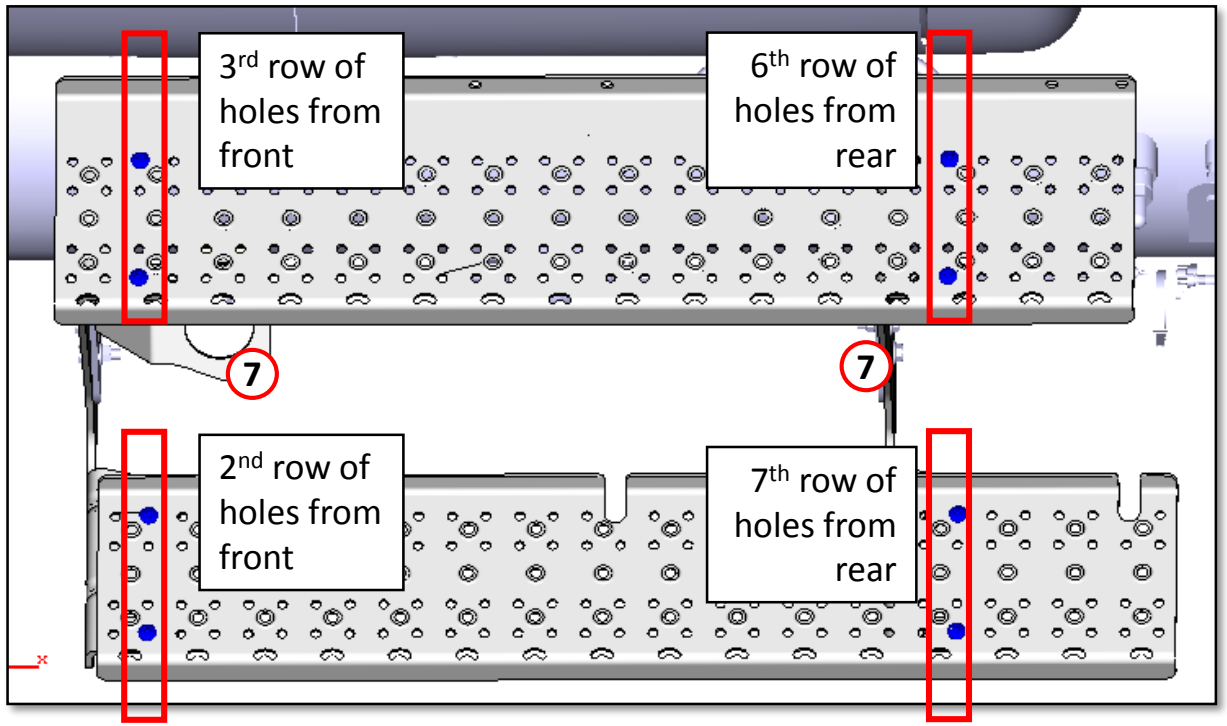
ATTENTION

Tank A

# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK CONTINUED

5. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
6. Torque the step bracket bolts to 40 – 55 Nm.
7. Attach the step treads to the step brackets reusing M8 button head bolts.
8. Torque all M8 bolts to 20 – 30 Nm.



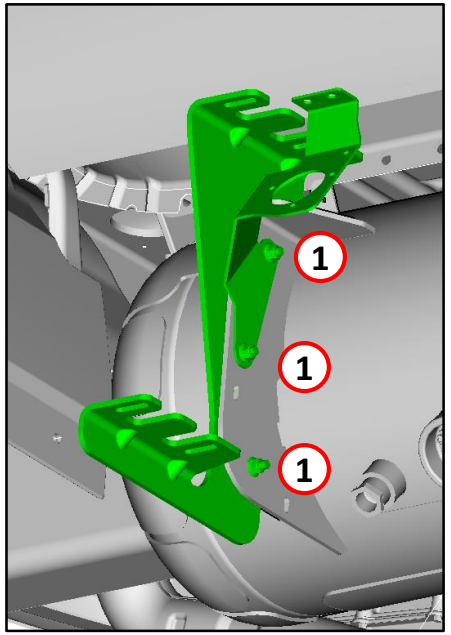



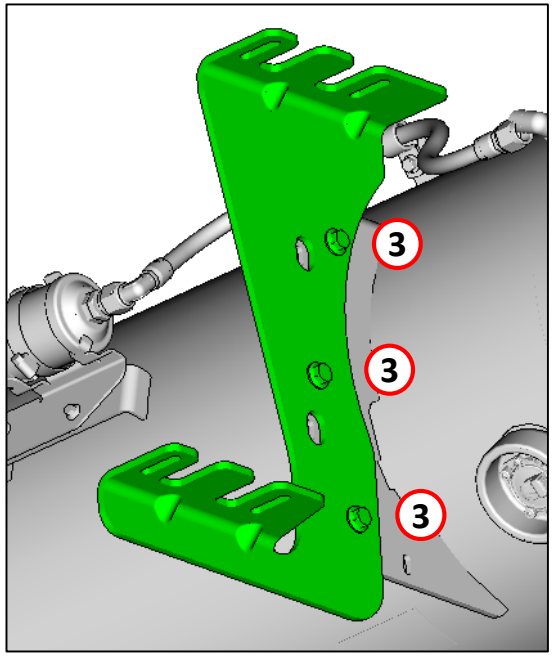
# INSTALLING THE STEPS – SUPER CAB

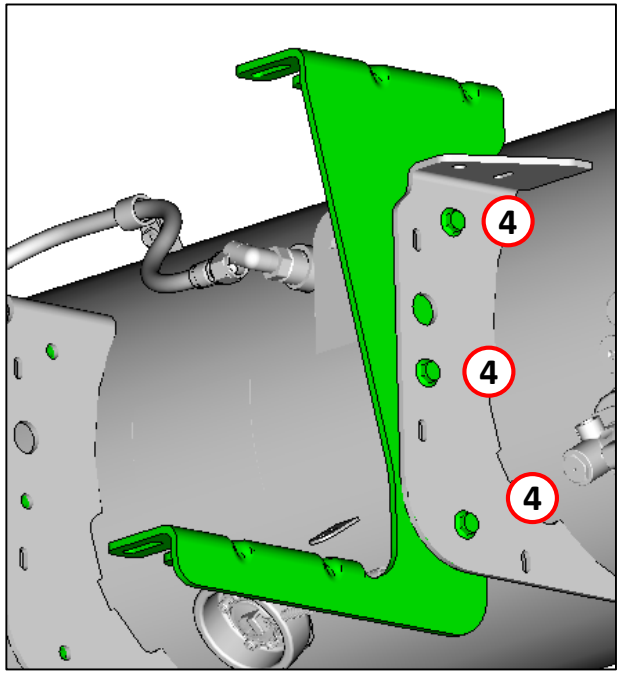
ATTENTION

Tank A

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-B to the Middle of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts. Torque fasteners to 40 – 55 Nm.
4. Attach step bracket P16FB-02H110-B to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts. Torque fasteners to 40 – 55 Nm.



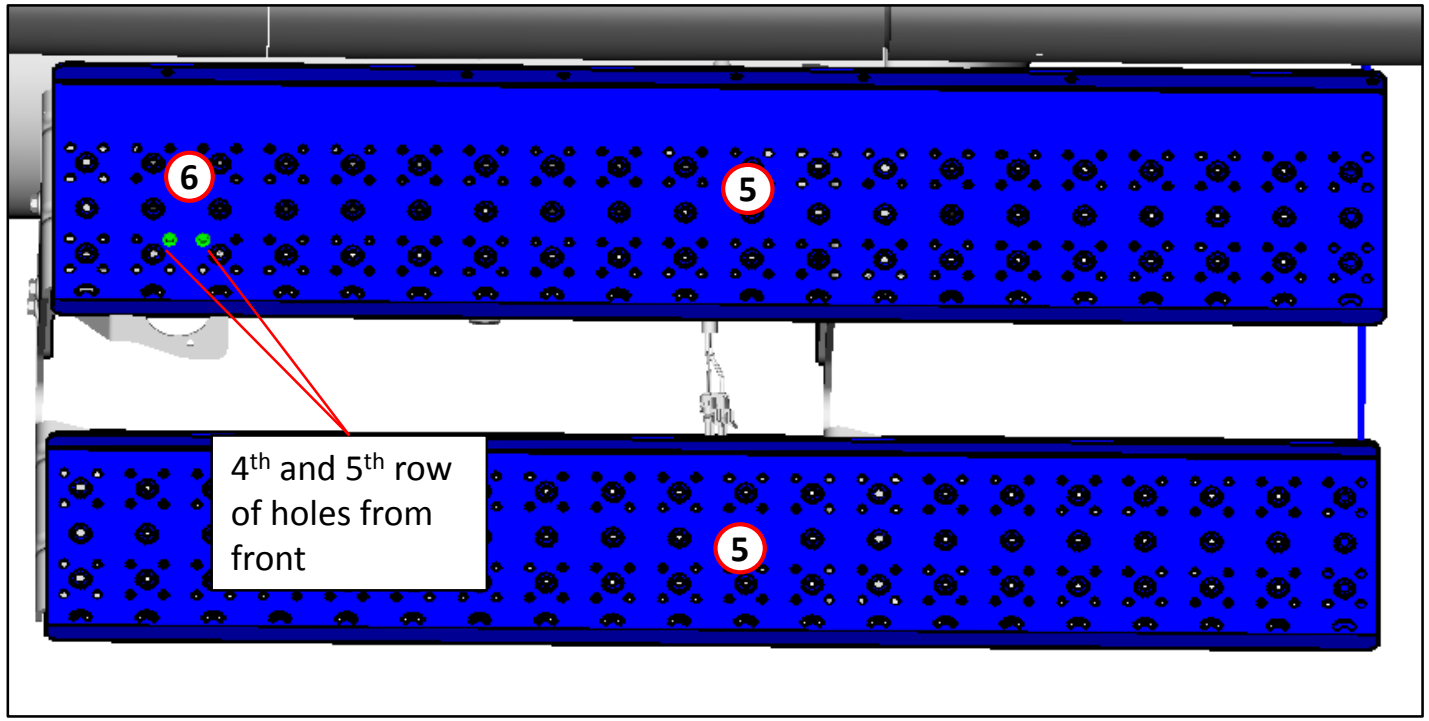



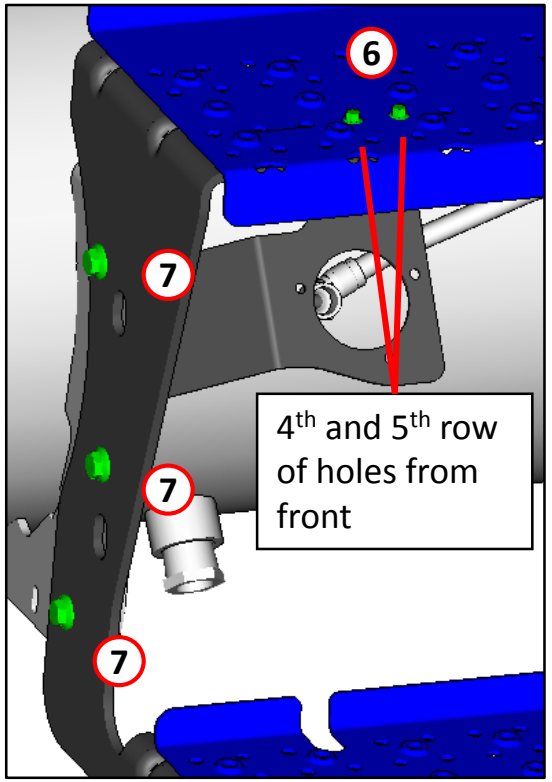
ATTENTION

Tank A

# INSTALLING THE STEPS – SUPER CAB CONTINUED

5. Lay the step treads on the LH tank as shown.
6. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
7. Torque the other three bolts holding the fill valve bracket to the tank to 40 – 55 Nm.



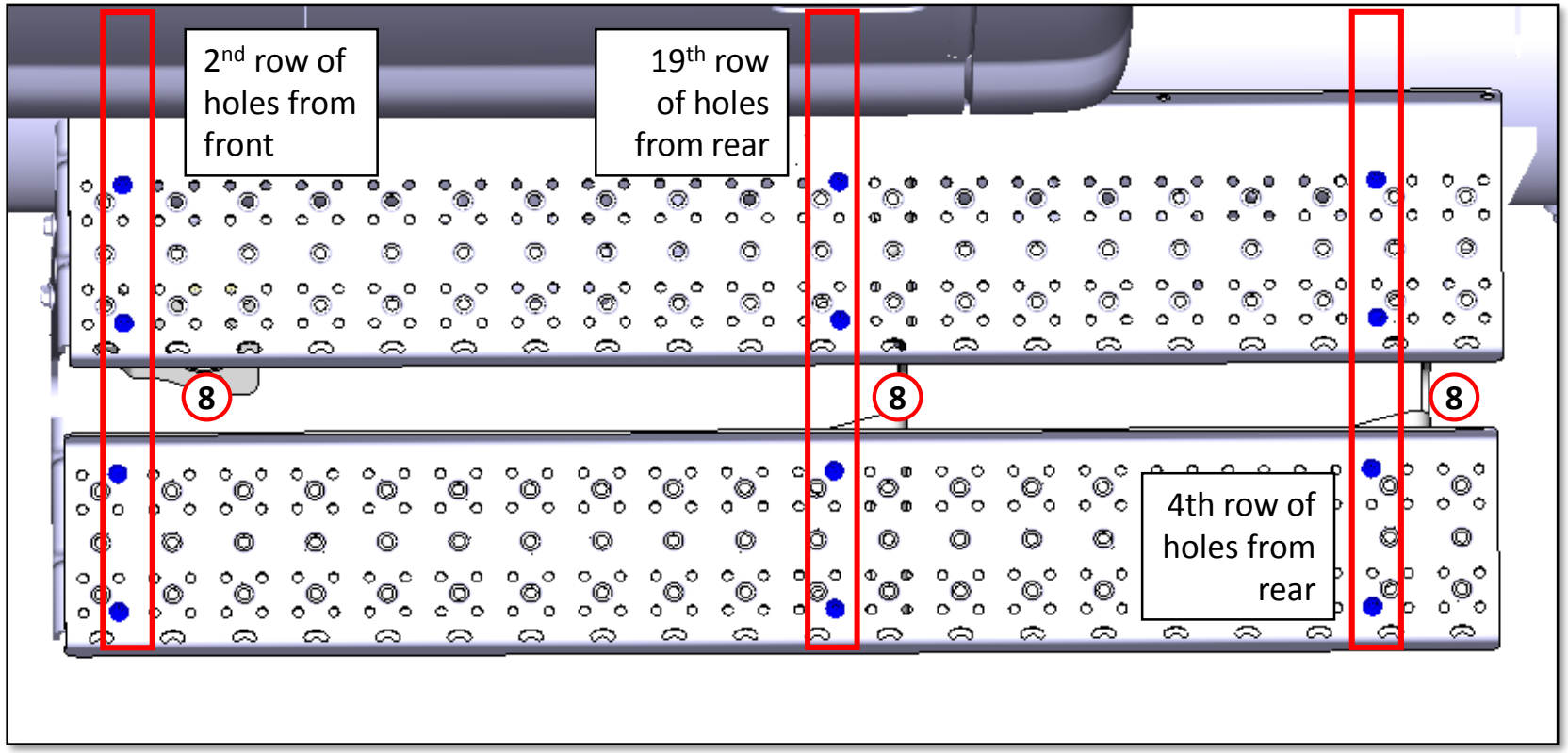



ATTENTION

Tank A

# INSTALLING THE STEPS – SUPER CAB CONTINUED

8. Attach the step treads to the step brackets reusing M8 button head bolts.
9. Torque all M8 bolts to 20 – 30 Nm.

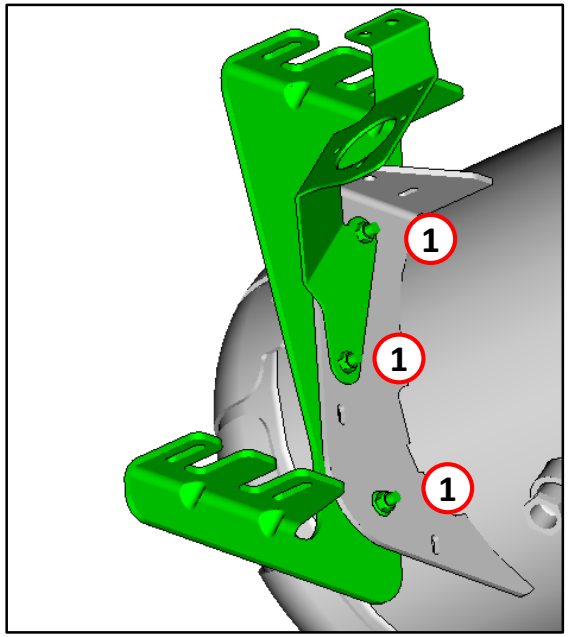


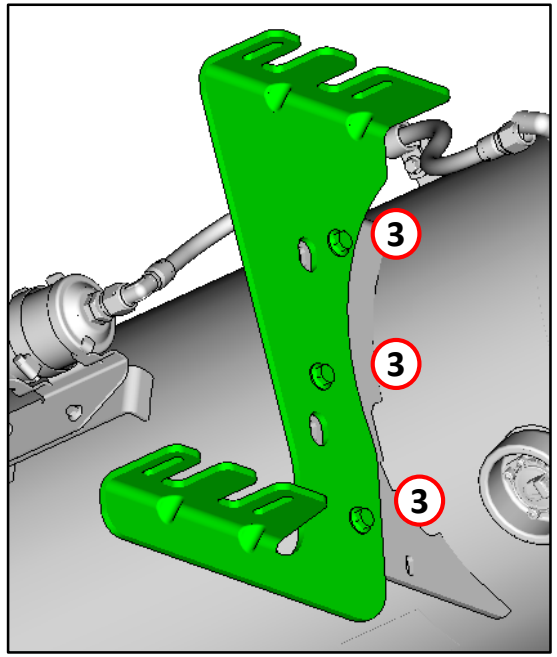
ATTENTION

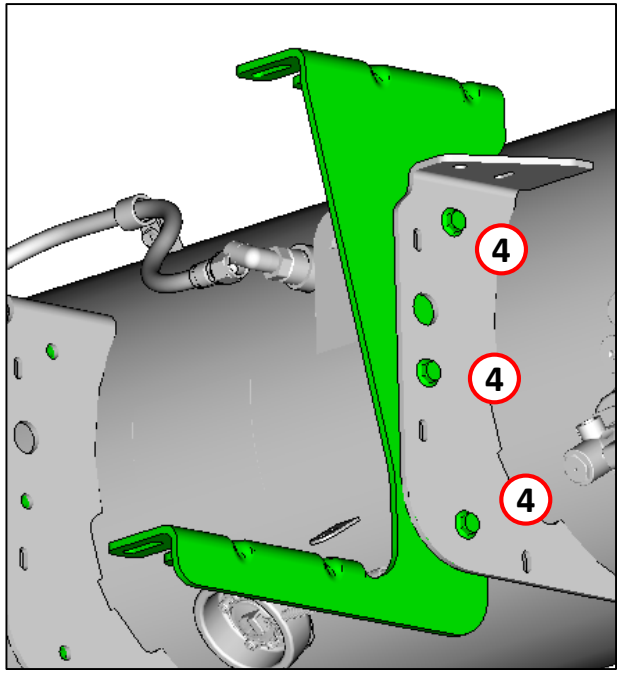
Tank A

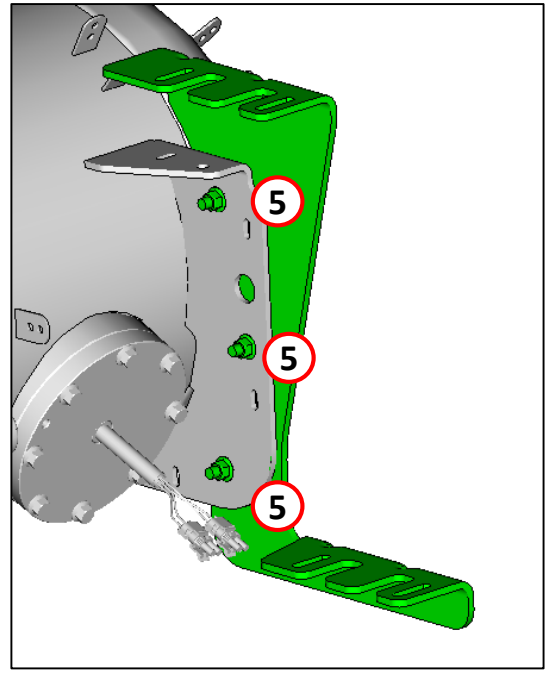
# INSTALLING THE STEPS – CREW CAB

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-B to the middle-Front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts. Torque fasteners to 40 – 55 Nm.
4. Attach step bracket P16FB-02H110-B to the middle-rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket. Torque fasteners to 40 – 55 Nm.
5. Attach step bracket P16FB-02H110-B to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket. Torque fasteners to 40 – 55 Nm.



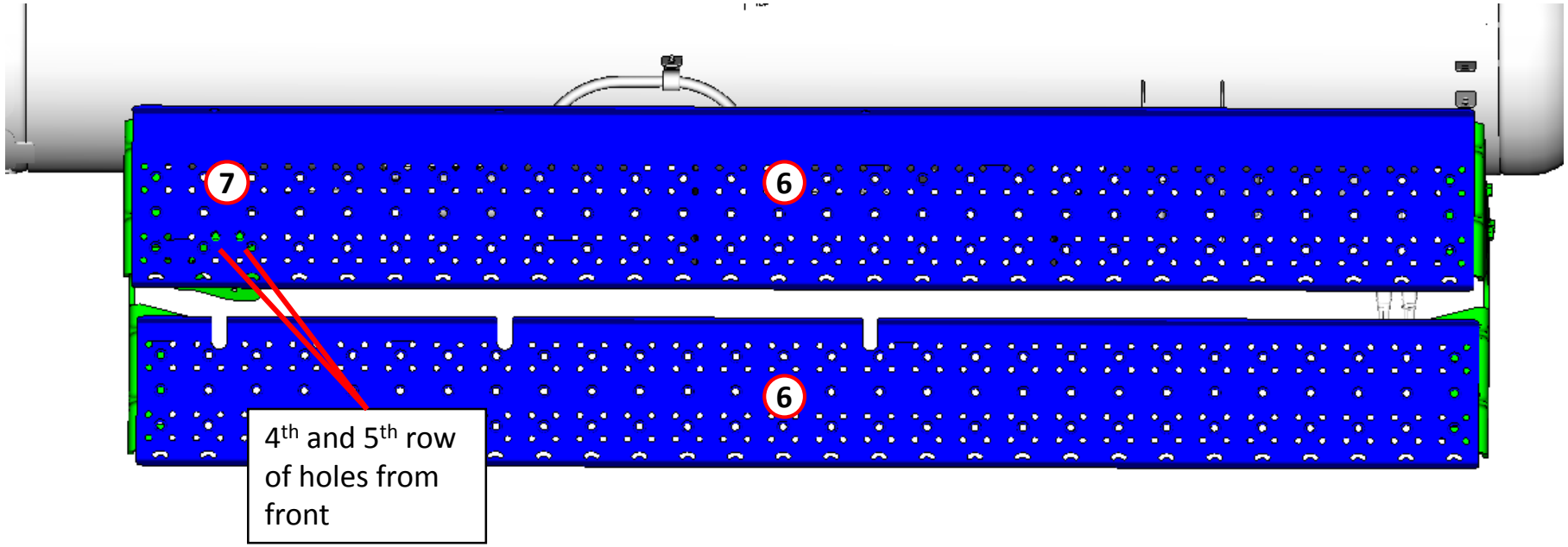



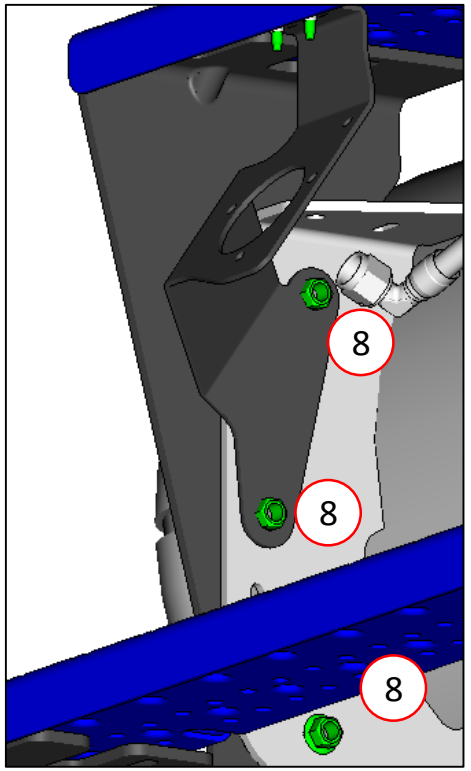
ATTENTION

Tank A

# INSTALLING THE STEPS – CREW CAB CONTINUED

6. Lay the step treads on the tank as shown.
7. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
8. Torque the other three bolts holding the fill valve bracket to the tank to 40 – 55 Nm.



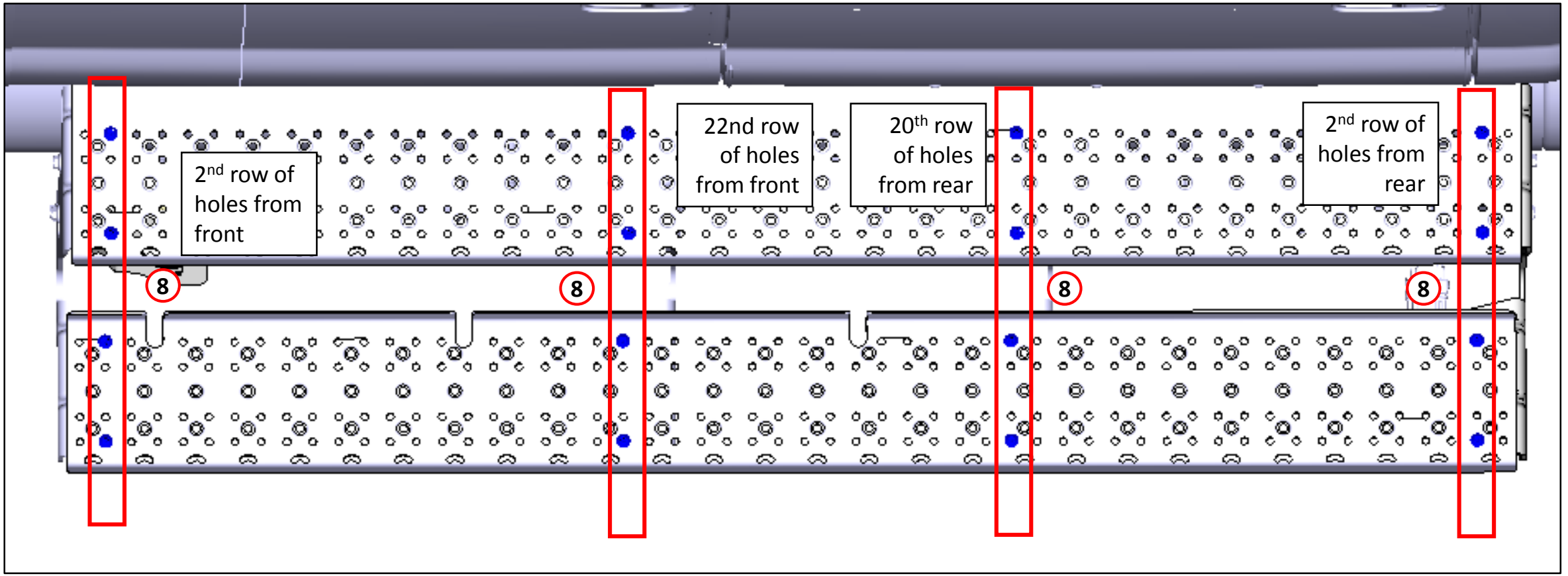



ATTENTION

Tank A

# INSTALLING THE STEPS – CREW CAB CONTINUED

7. Attach the step treads to the step brackets reusing M8 button head bolts.
8. Torque all M8 bolts to 20 – 30 Nm.

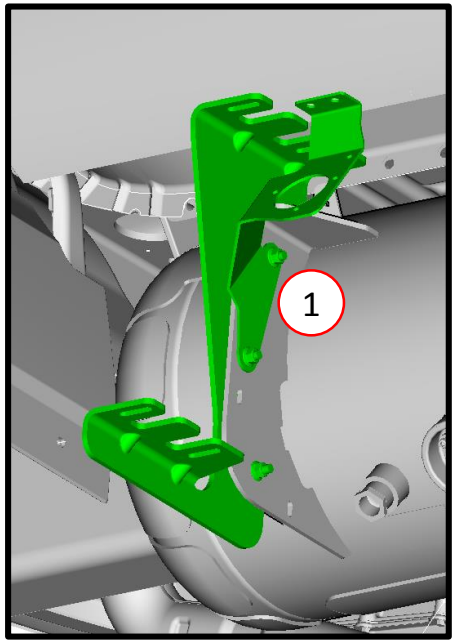


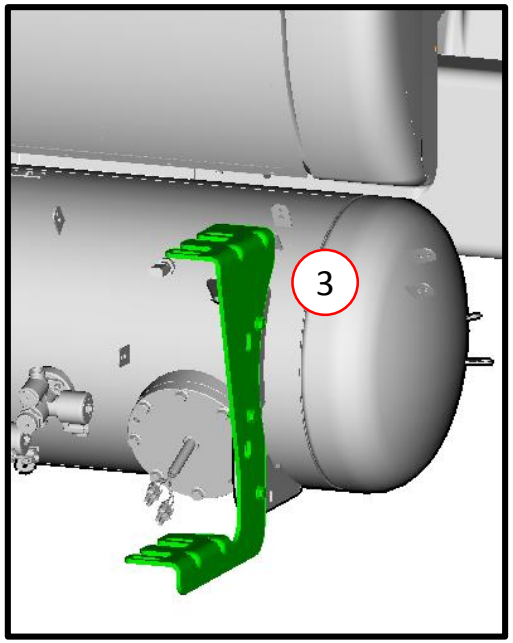
ATTENTION
Tank B
Tank C

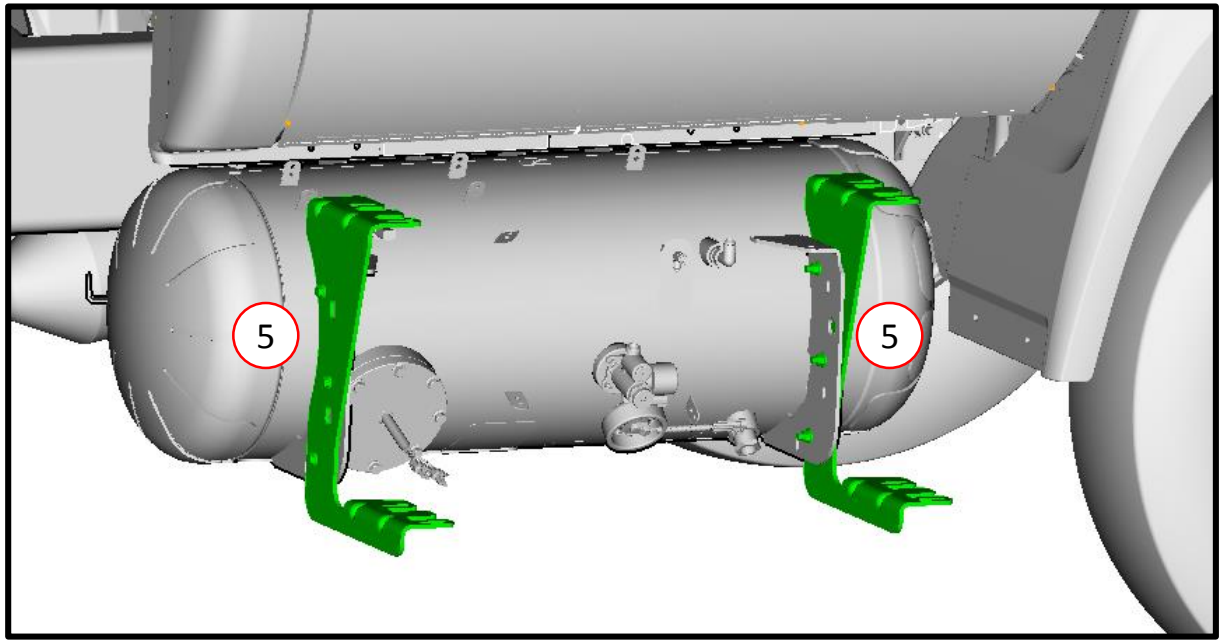
# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 50 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-B to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
4. Torque fasteners to 40 – 55 Nm.
5. Attach Qty. 2 step brackets P16FB-02H110-A to the RH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket.
6. Torque fasteners to 40 – 55 Nm.



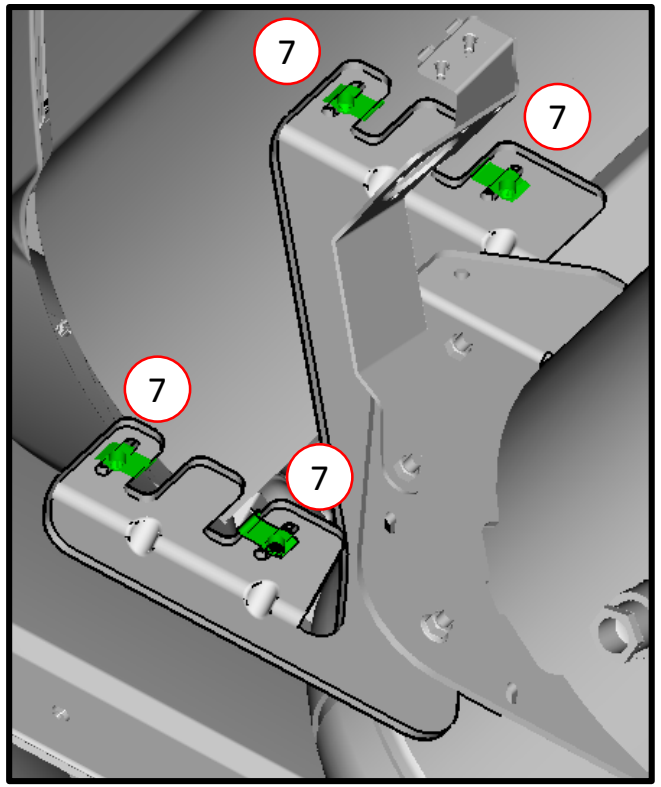



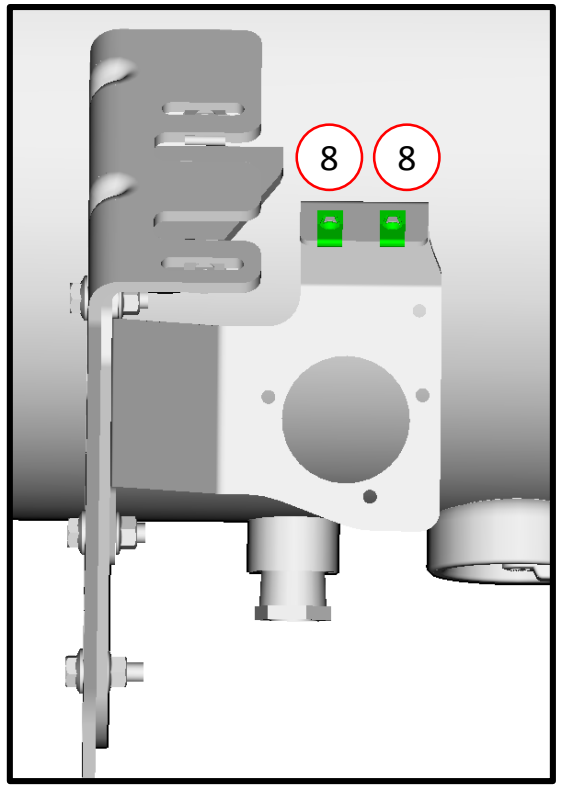



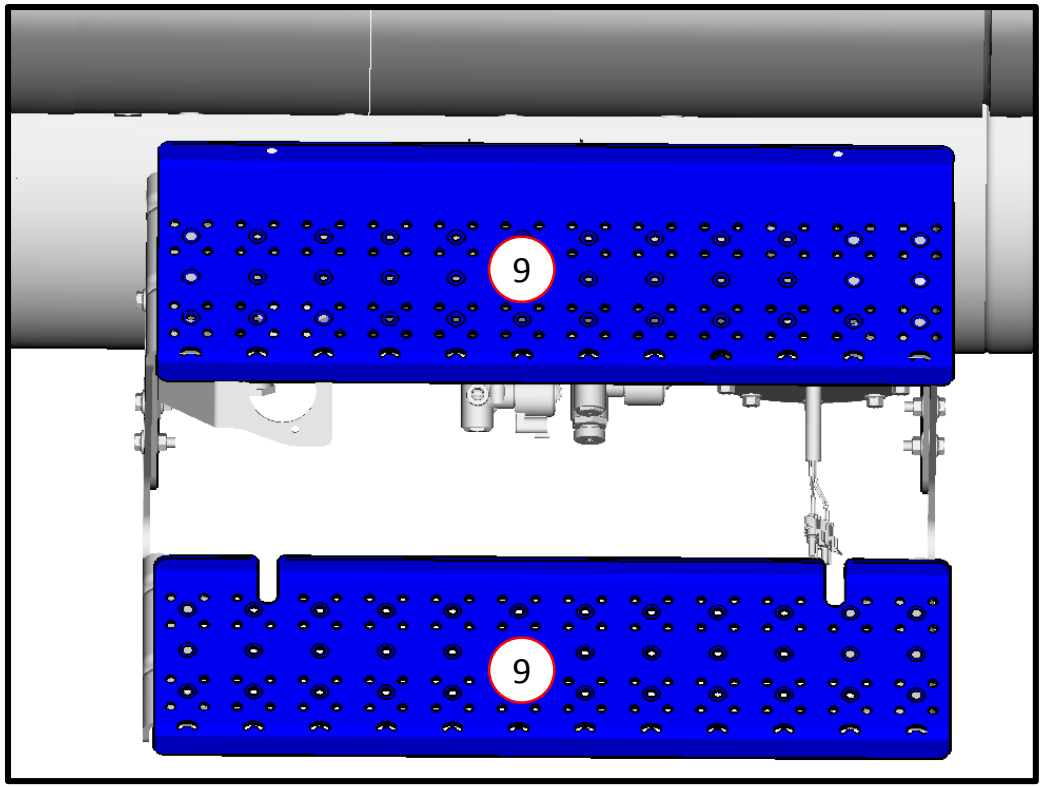
ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK CONTINUED

7. Attach an M8 J-clip on each slot on all step brackets as shown below. (4 j-clips per bracket)
8. Install Qty. 2 M6 J-clips on the top holes of the fill valve bracket as shown.
9. Lay step treads on LH tank as shown below.



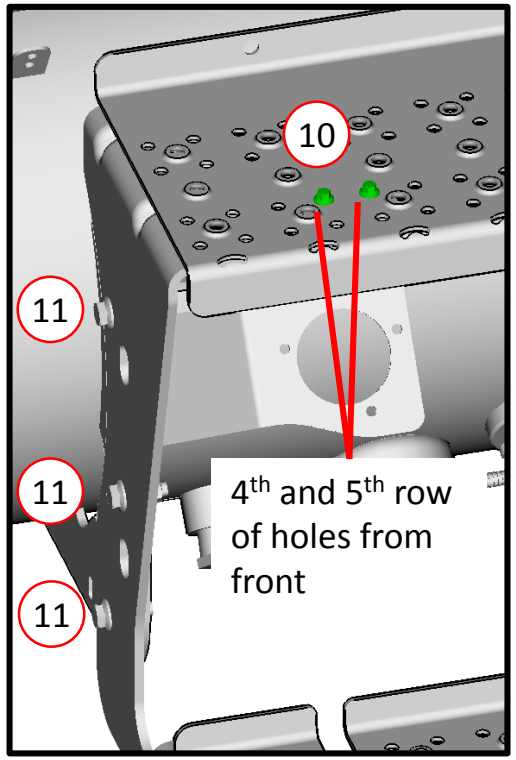



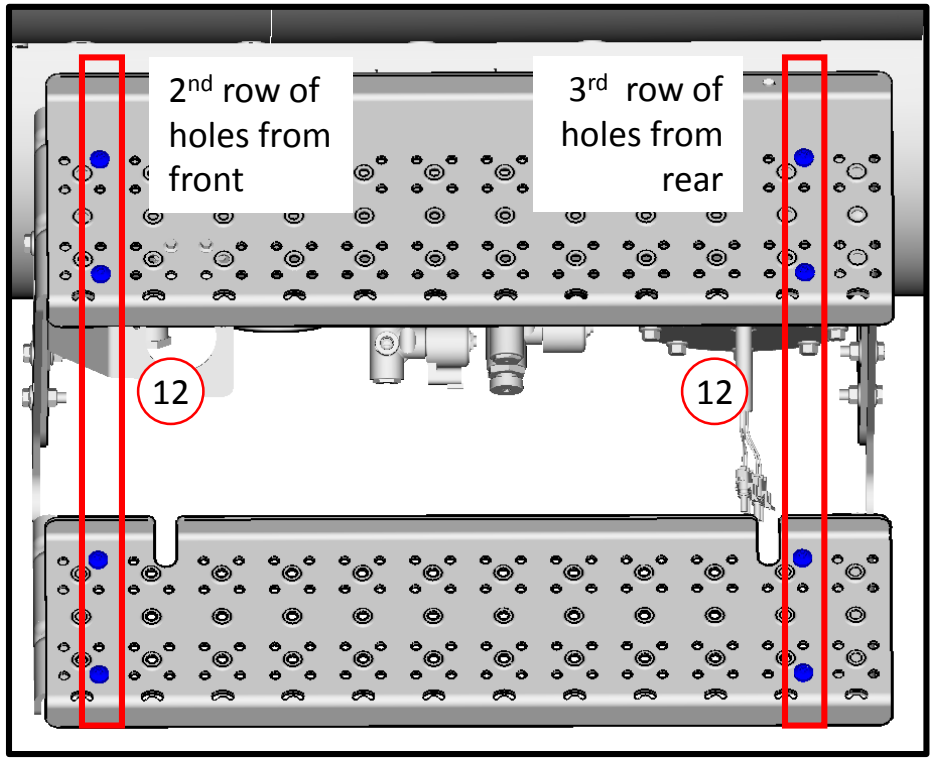



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK CONTINUED

10. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
11. Torque the step bracket bolts to 40 – 55 Nm.
12. Attach the step treads to the step brackets reusing M8 button head bolts.
13. Torque all M8 bolts to 20 – 30 Nm.

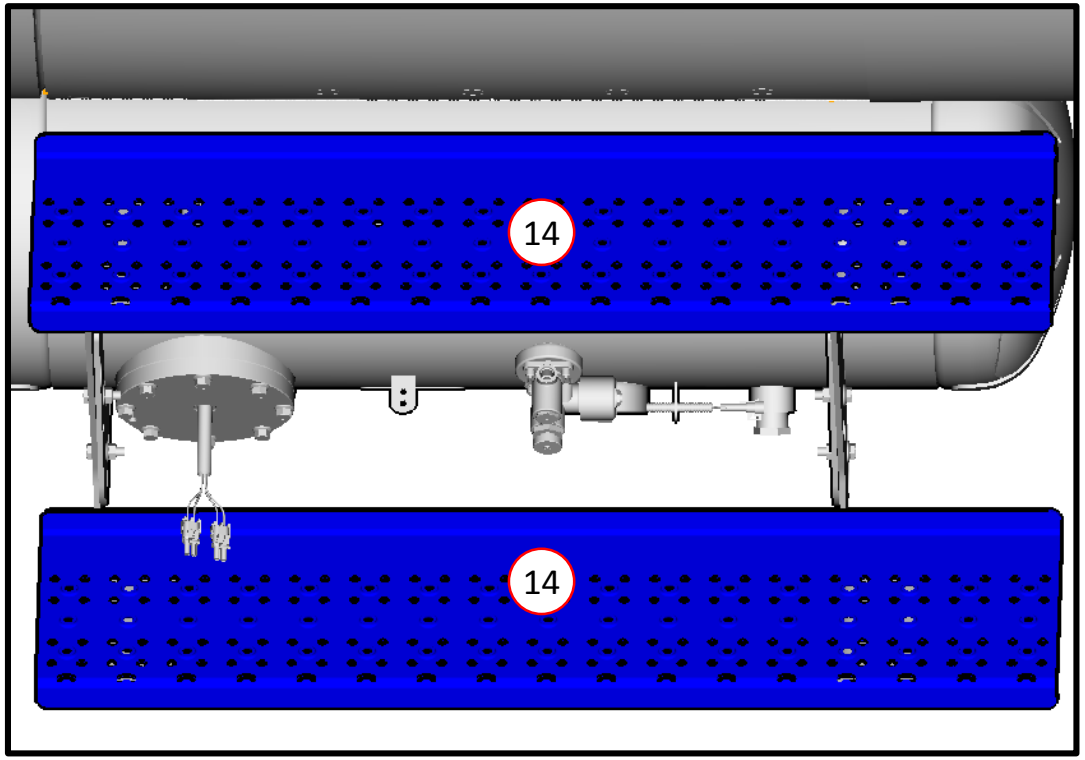


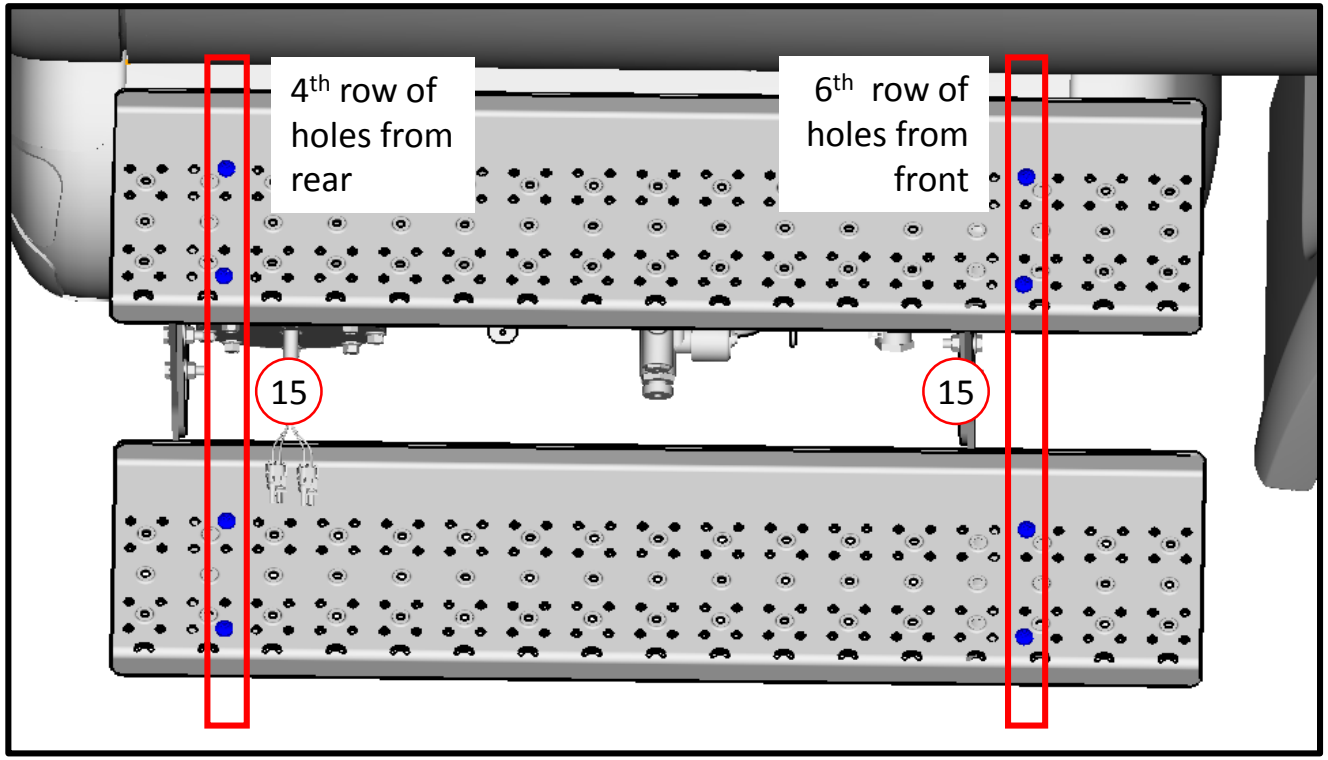



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 50 GALLON GASOLINE TANK CONTINUED

14. Lay step treads on RH tank as shown.
15. Attach the step treads to the step brackets reusing M8 button head bolts.
16. Torque all M8 bolts to 20 – 30 Nm.



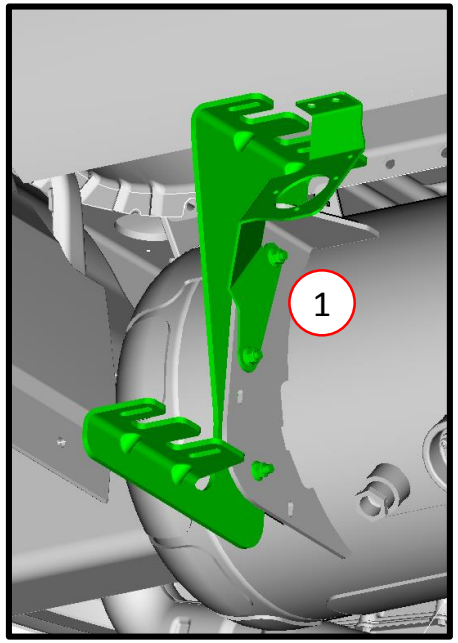



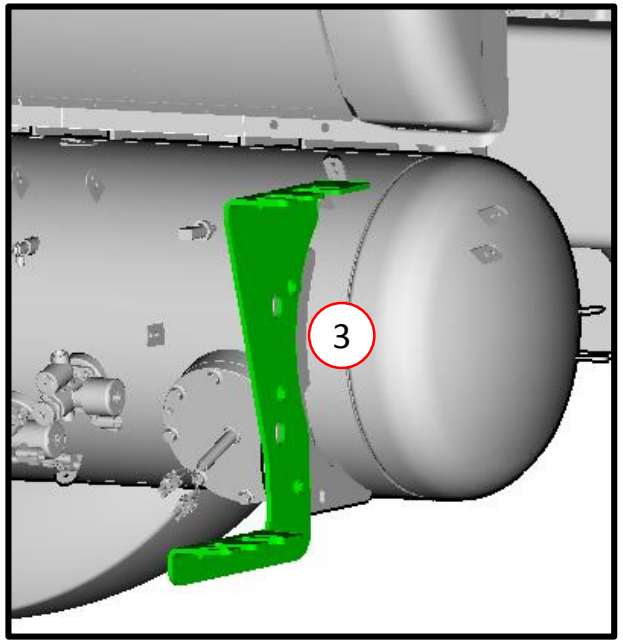
# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK

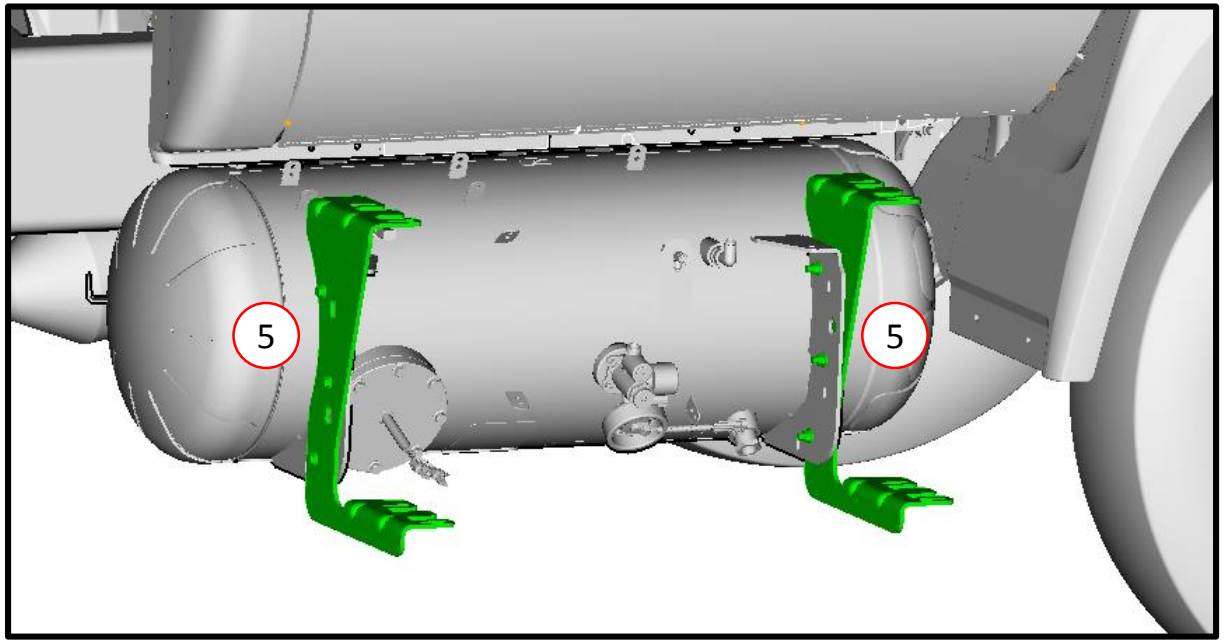
ATTENTION
Tank B
Tank C

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 60 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-A to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
4. Torque fasteners to 40 – 55 Nm.
5. Attach Qty. 2 step brackets P16FB-02H110-A to the RH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket.
6. Torque fasteners to 40 – 55 Nm.



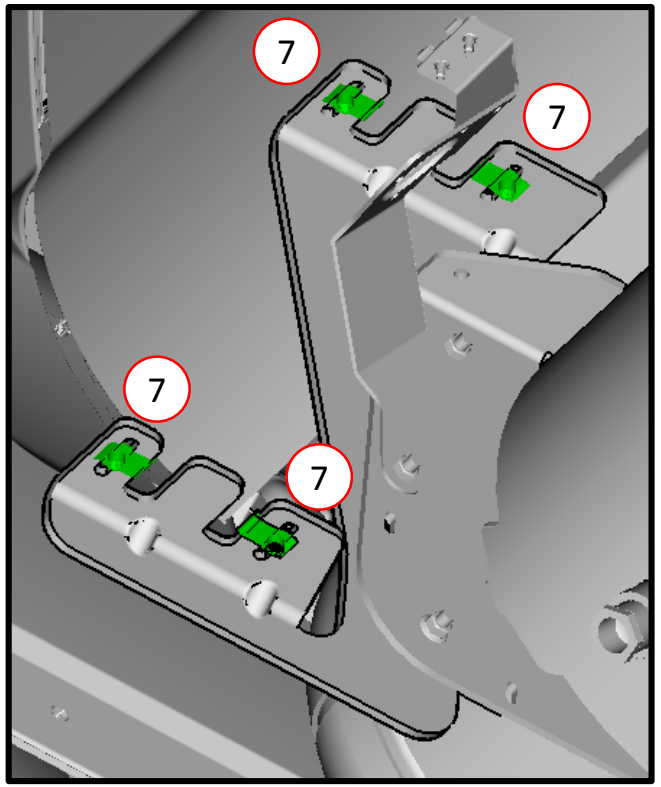



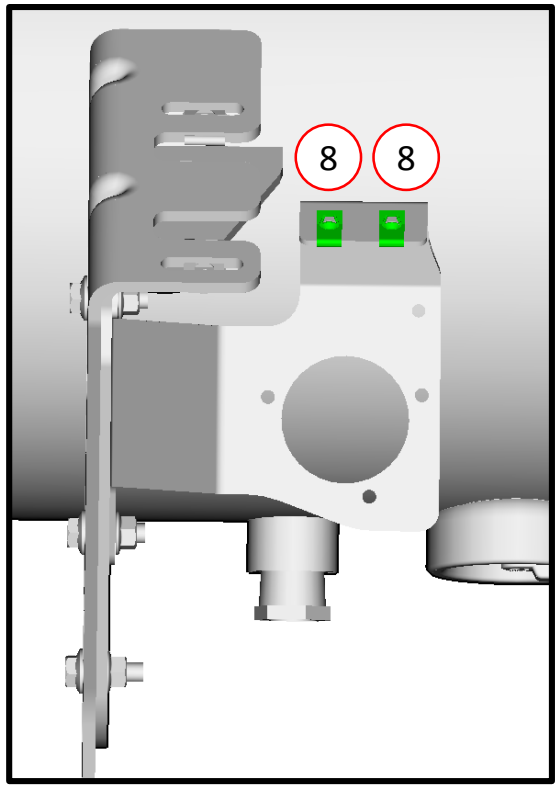



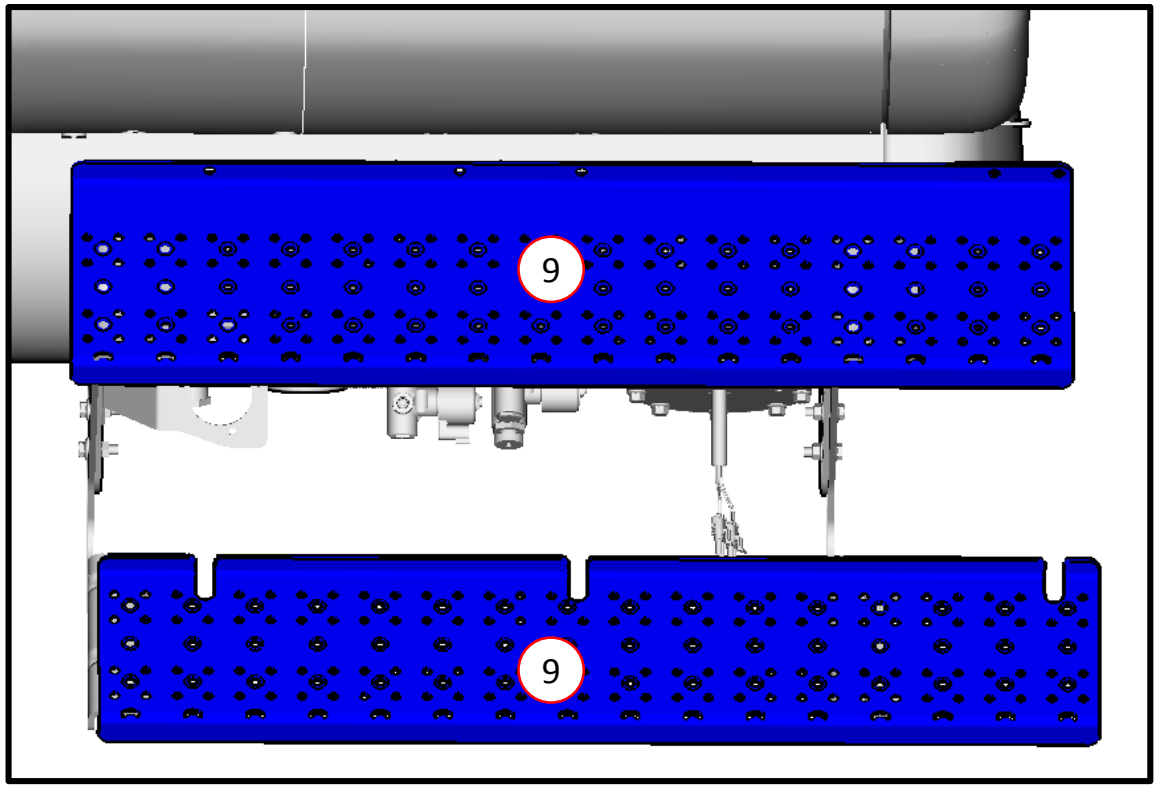
ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK CONTINUED

7. Attach an M8 J-clip on each slot on all step brackets as shown below. (4 j-clips per bracket)
8. Install Qty. 2 M6 J-clips on the top holes of the fill valve bracket as shown.
9. Lay step treads on LH tank as shown below.



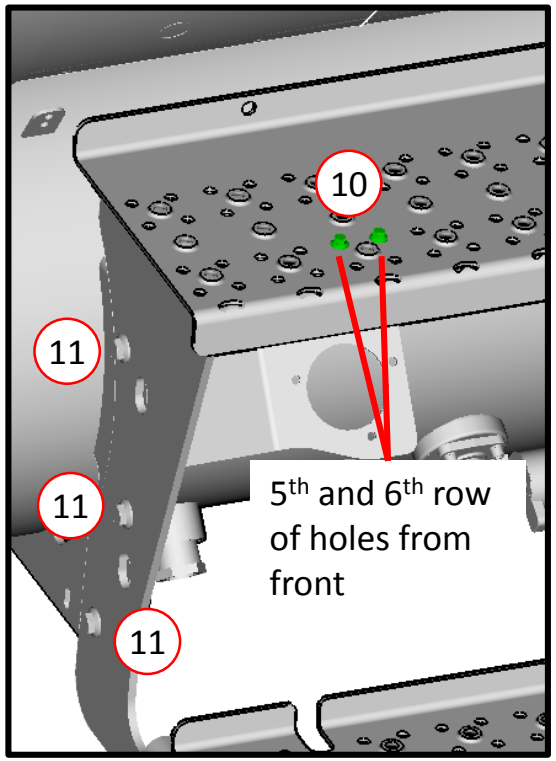



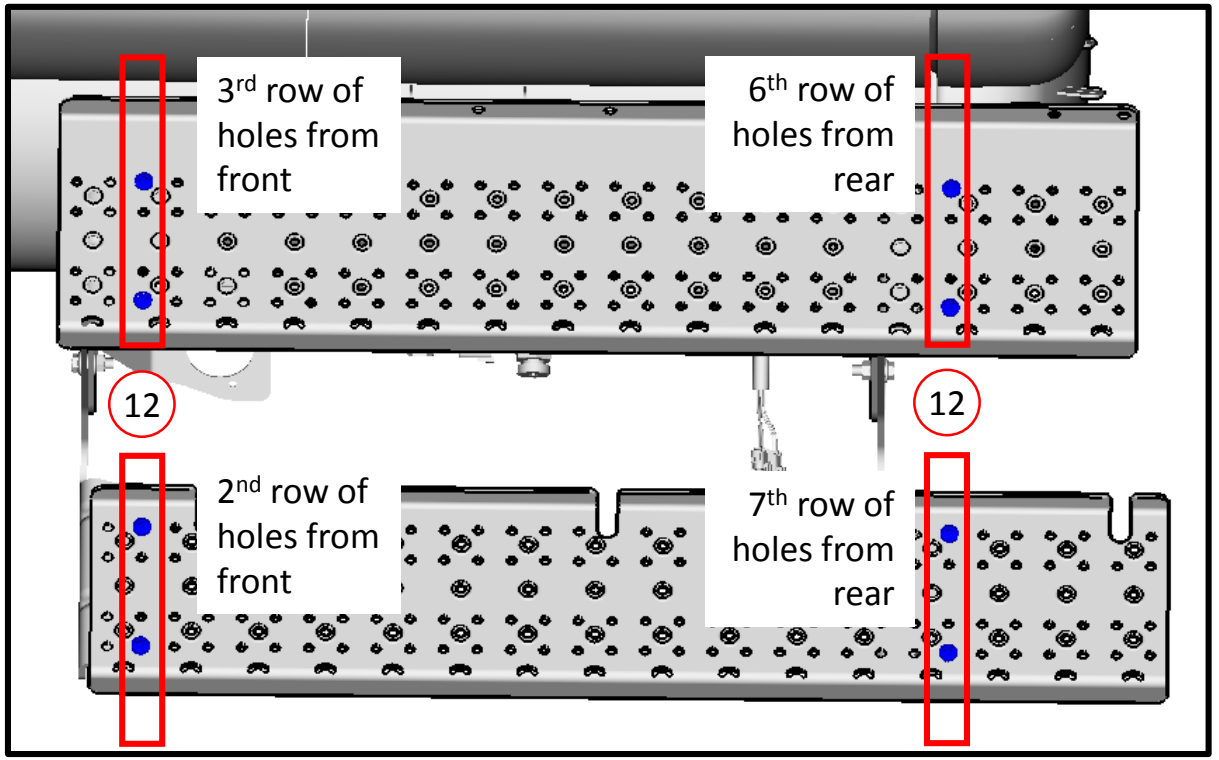



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK CONTINUED

10. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm.
11. Torque the step bracket bolts to 40 – 55 Nm.
12. Attach the step treads to the step brackets reusing M8 button head bolts.
13. Torque all M8 bolts to 20 – 30 Nm.

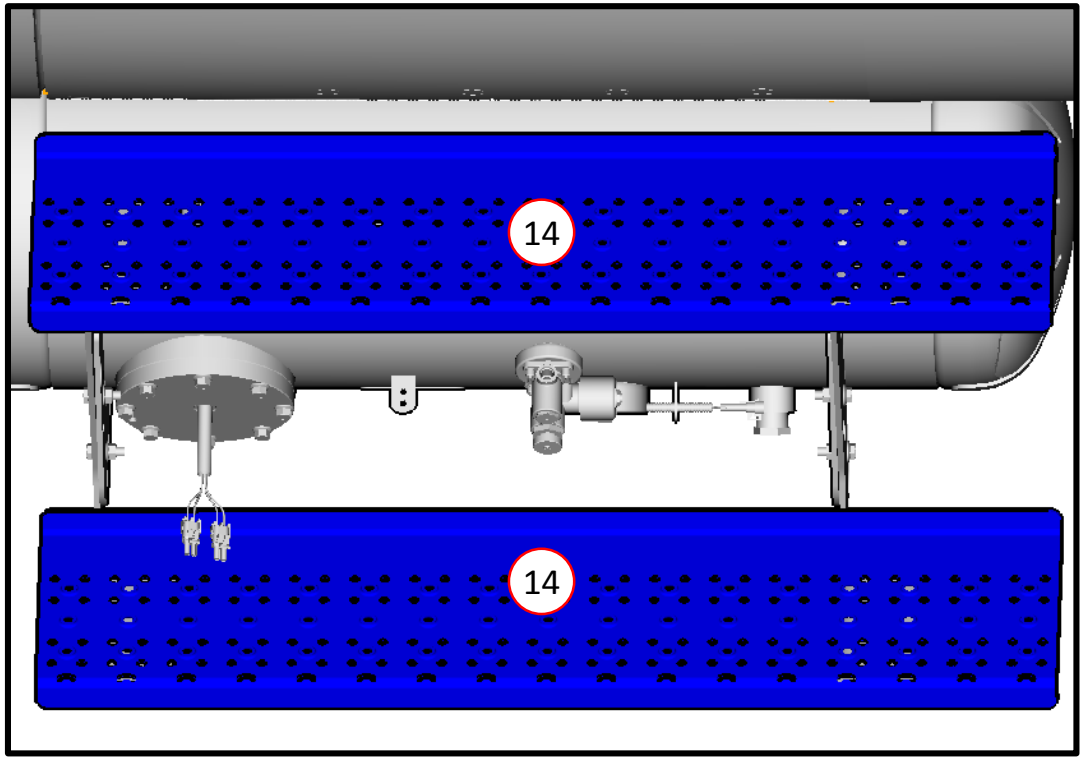


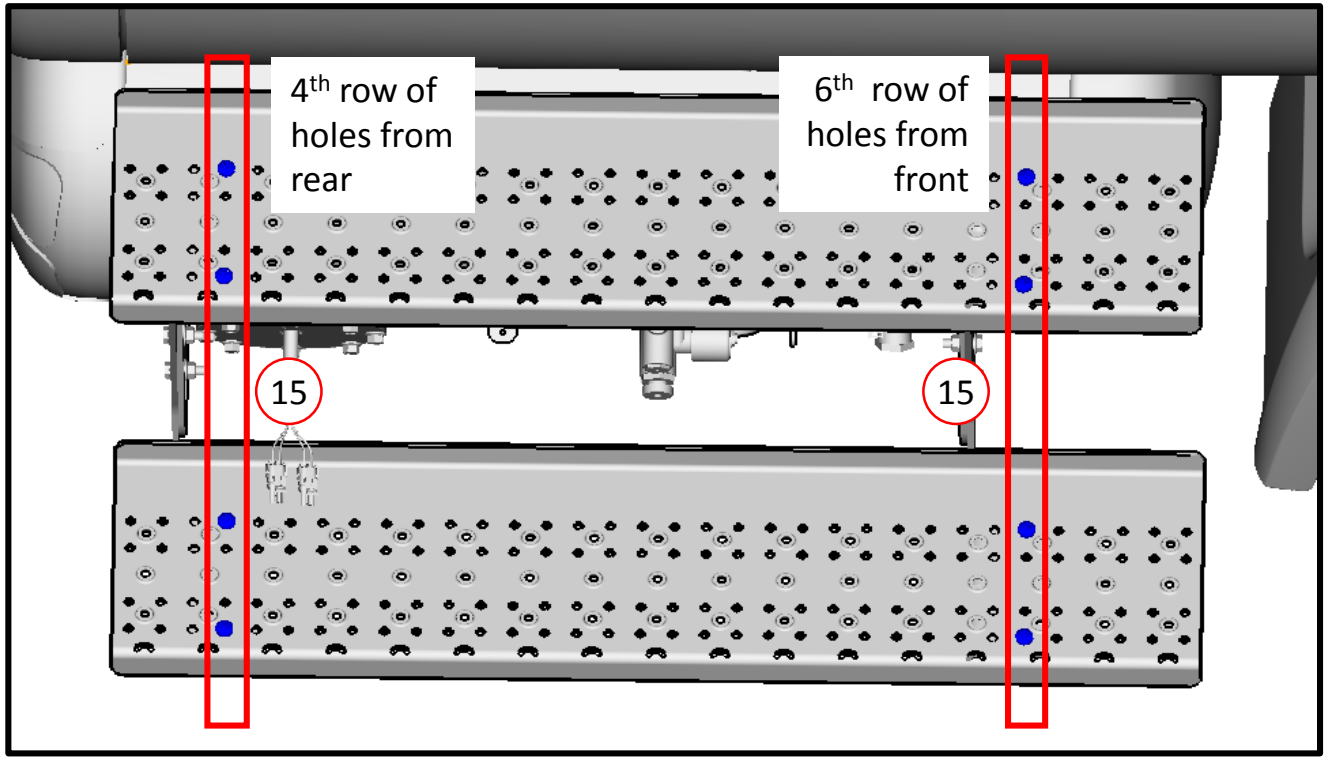



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – REGULAR CAB, 60 GALLON GASOLINE TANK CONTINUED

14. Lay step treads on RH tank as shown.
15. Attach the step treads to the step brackets reusing M8 button head bolts.
16. Torque all M8 bolts to 20 – 30 Nm.



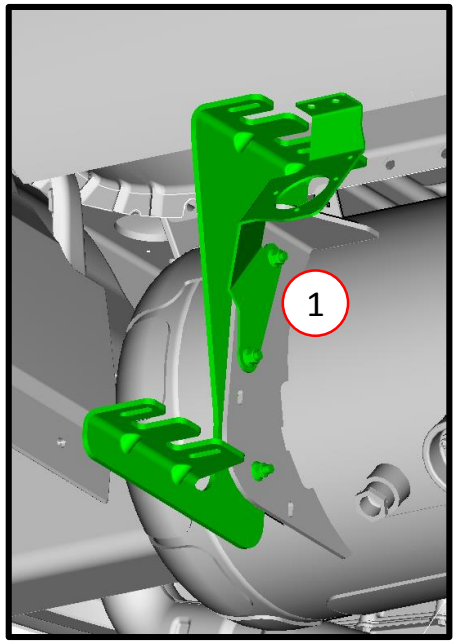



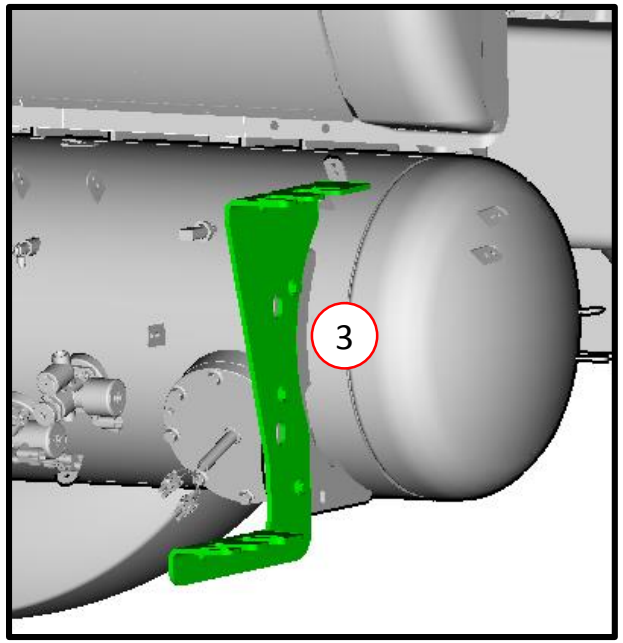
ATTENTION
Tank B
Tank C

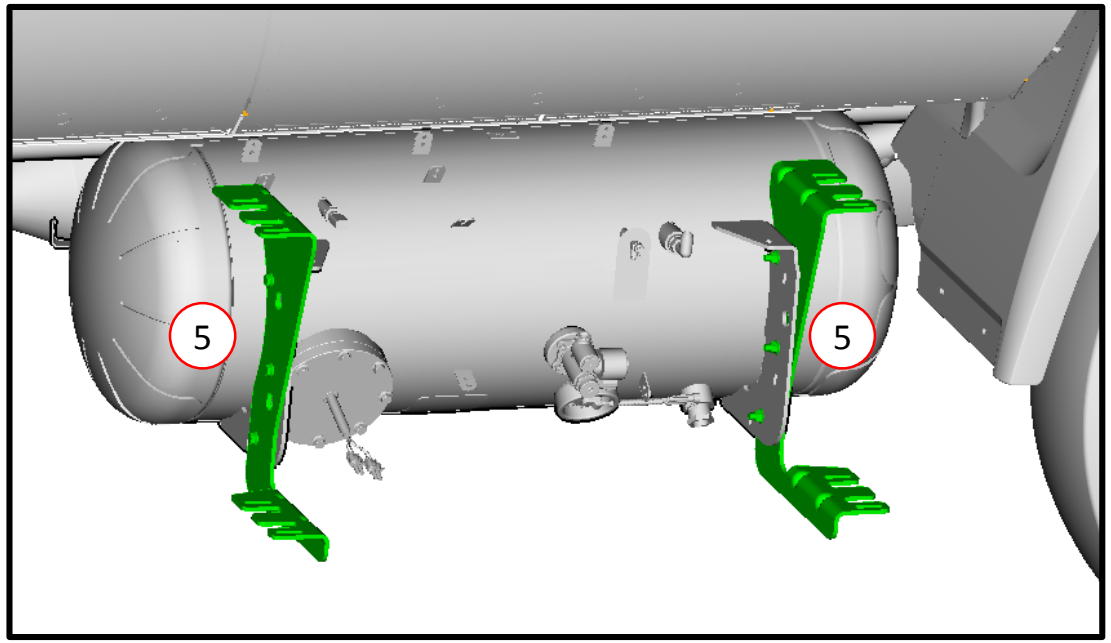
# INSTALLING THE STEPS – SUPER CAB

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 60 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-A to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
4. Torque fasteners to 40 – 55 Nm.
5. Attach step bracket P16FB-02H110-A to the front of the RH tank and P16FB-02H110-B to the rear of the RH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket.
6. Torque fasteners to 40 – 55 Nm.



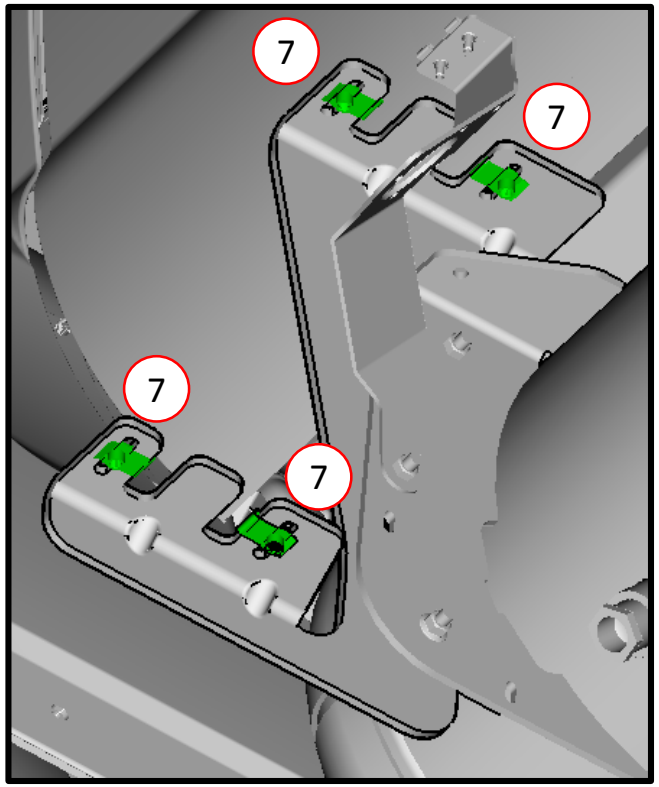



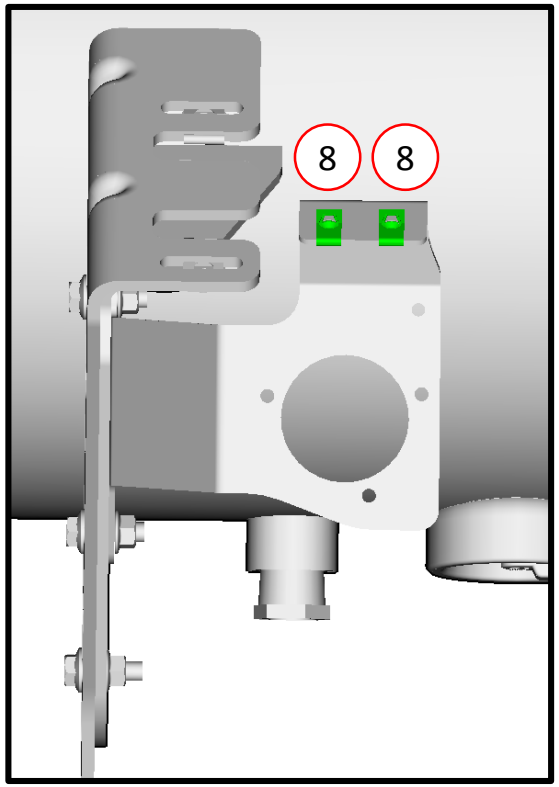



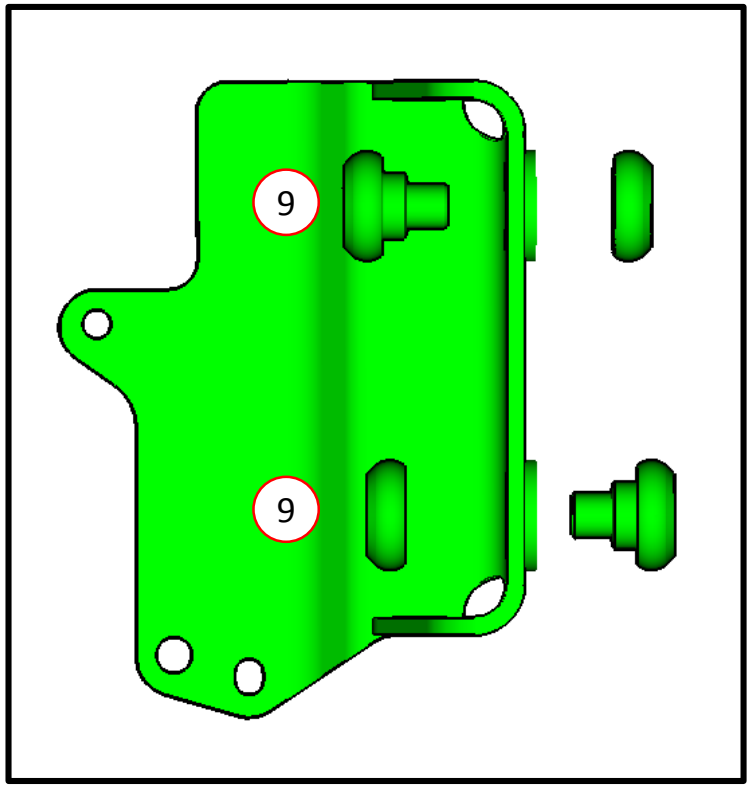
ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – SUPER CAB CONTINUED

7. Attach an M8 J-clip on each slot on all step brackets **except the rear RH step bracket** as shown below. (4 j-clips per bracket)
8. Install Qty. 2 M6 J-clips on the top holes of the fill valve bracket as shown.
9. Assemble Qty. 4 isolators and crush limiters onto the two step support brackets P16FB-02H110-D as shown. **NOTE THE CORRECT ORIENTATION OF THE COMPONENTS. THE BUSHING SIDE SHOULD BE ON THE FRAME SIDE ON THE BOTTOM POSITIONS AND AWAY FROM THE FRAME ON THE TOP POSITIONS.**



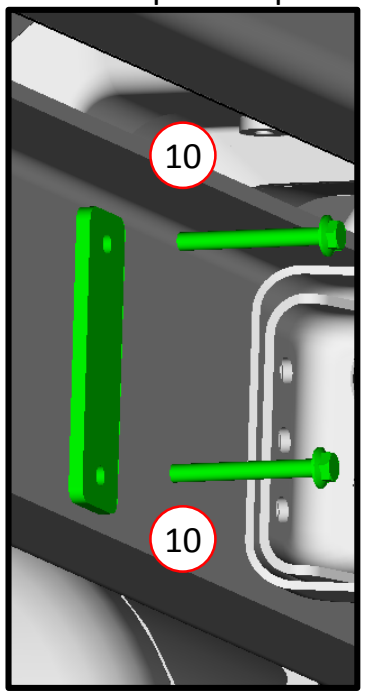



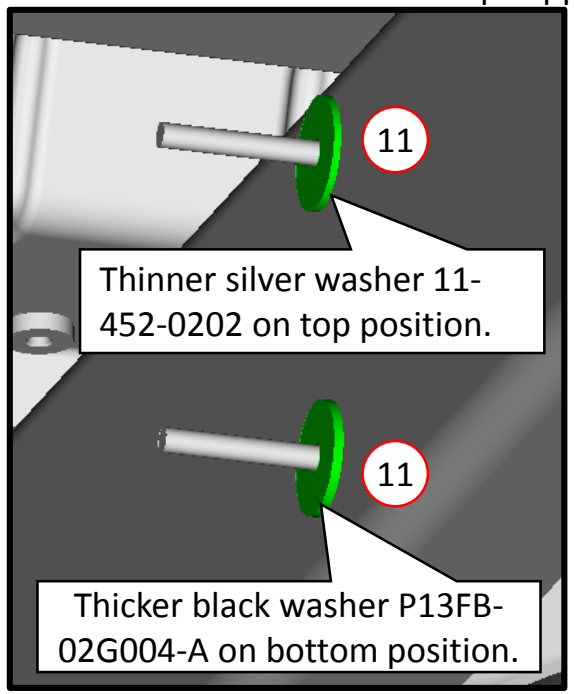



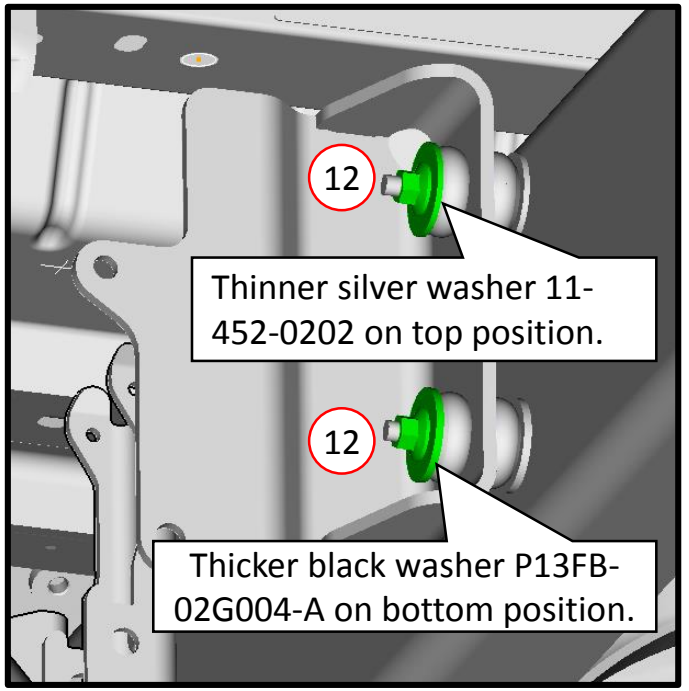
ATTENTION
Tank B
Tank C

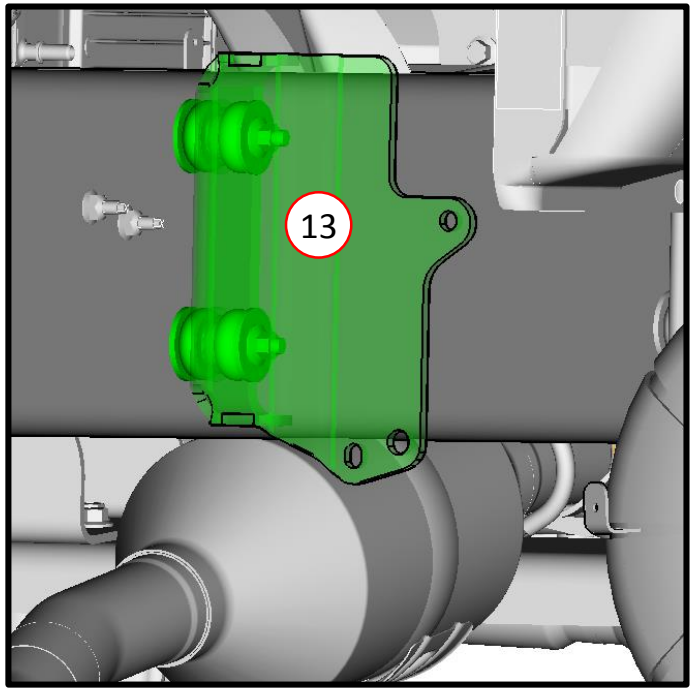
# INSTALLING THE STEPS – SUPER CAB CONTINUED

10. Identify the existing step mounting holes in the frame and assemble the doubler plate (P16FB-02G001-D) to the LH frame rail as shown below using Qty. 2 M12x1.75 flange head bolts.
11. Place snubbing washers as shown on the bolts that are sticking out through the frame. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.**
12. Attach the step support bracket to the LH frame rail using one thicker black snubbing washer, one thinner silver snubbing washer, and Qty. 2 M12x1.75 flange nuts as shown. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.** Torque to 80 – 90 Nm.
13. Repeat steps 10 to 12 on this slide to attach the step support bracket to the RH frame rail.



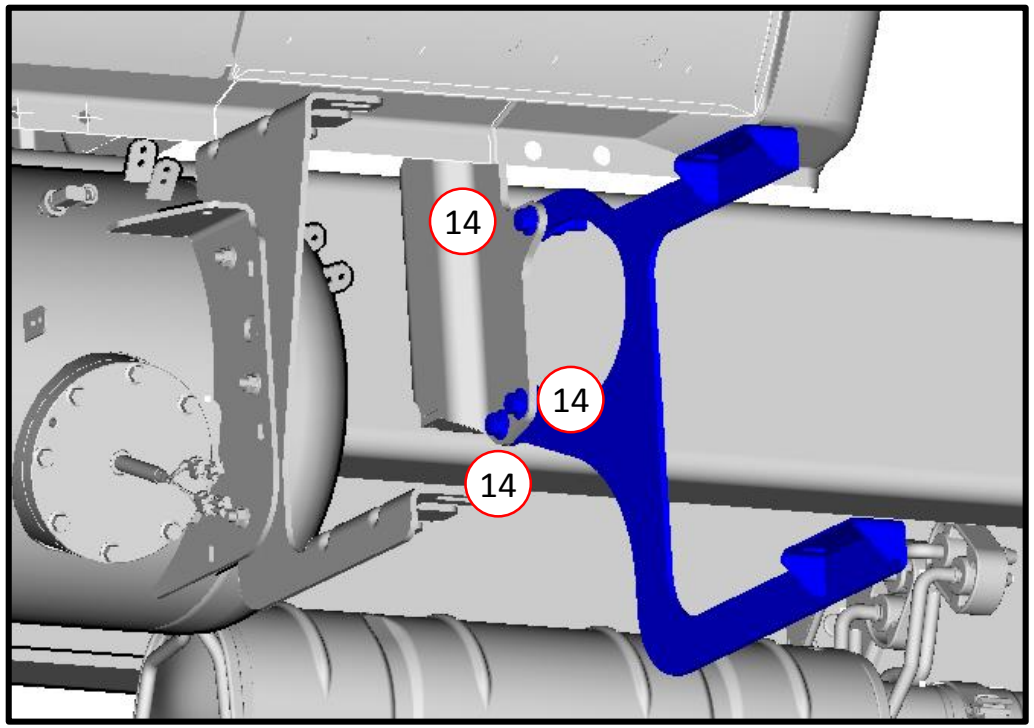



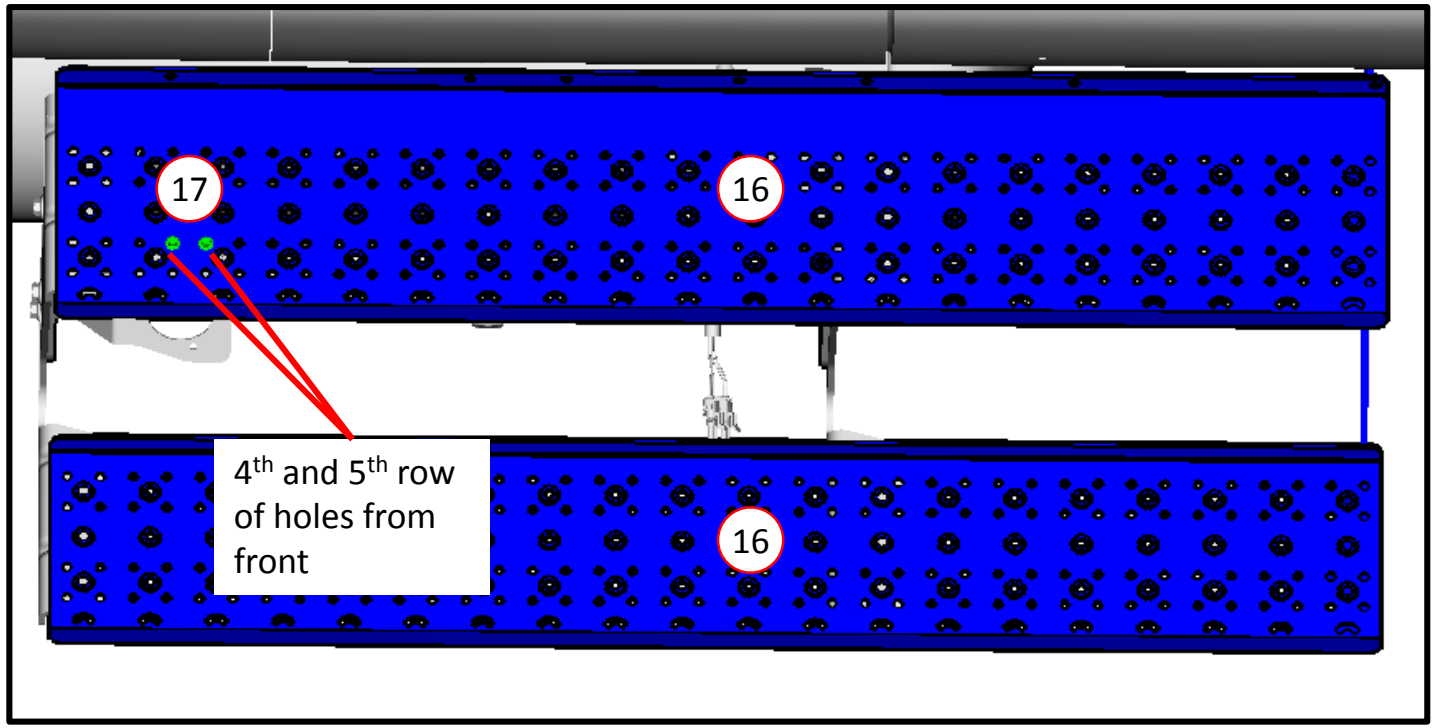



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – SUPER CAB CONTINUED

14. Attach the Ford step support bracket to the ROUSH step support bracket on the LH reusing Qty. 3 M14x45 flange head bolts as shown.
15. Torque to 110 – 155 Nm.
16. Lay the step treads on the LH tank as shown.
17. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm. Torque the other two bolts holding the fill valve bracket to the tank to 40 – 55 Nm.



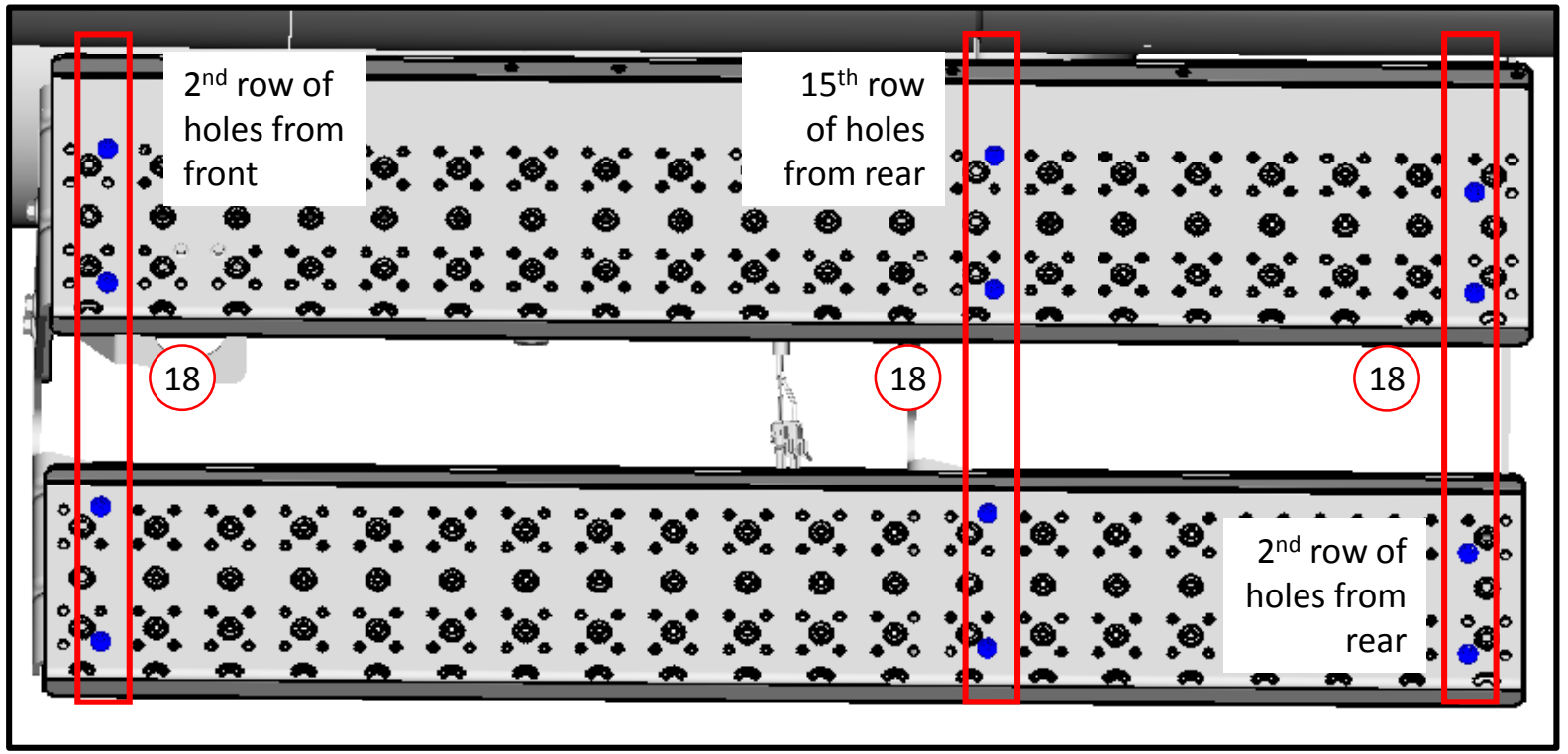


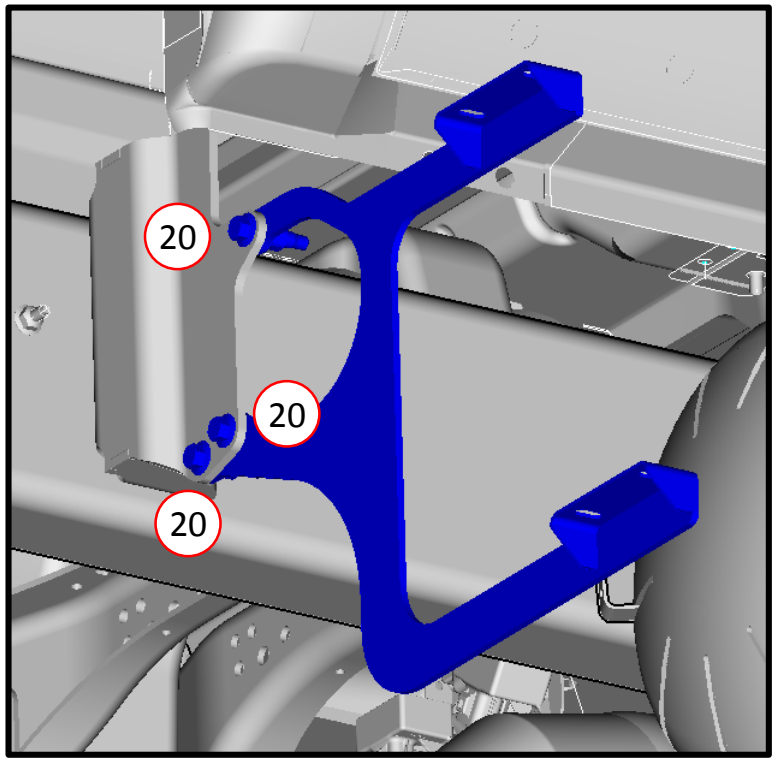

DISCARD REUSE NEW

ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – SUPER CAB CONTINUED

18. Attach the step treads to the step brackets reusing M8 button head bolts.
19. Torque all M8 bolts to 20 – 30 Nm.
20. Attach the Ford step support bracket to the ROUSH step support bracket on the RH reusing Qty. 3 M14x45 flange head bolts as shown.
21. Torque to 110 – 155 Nm.



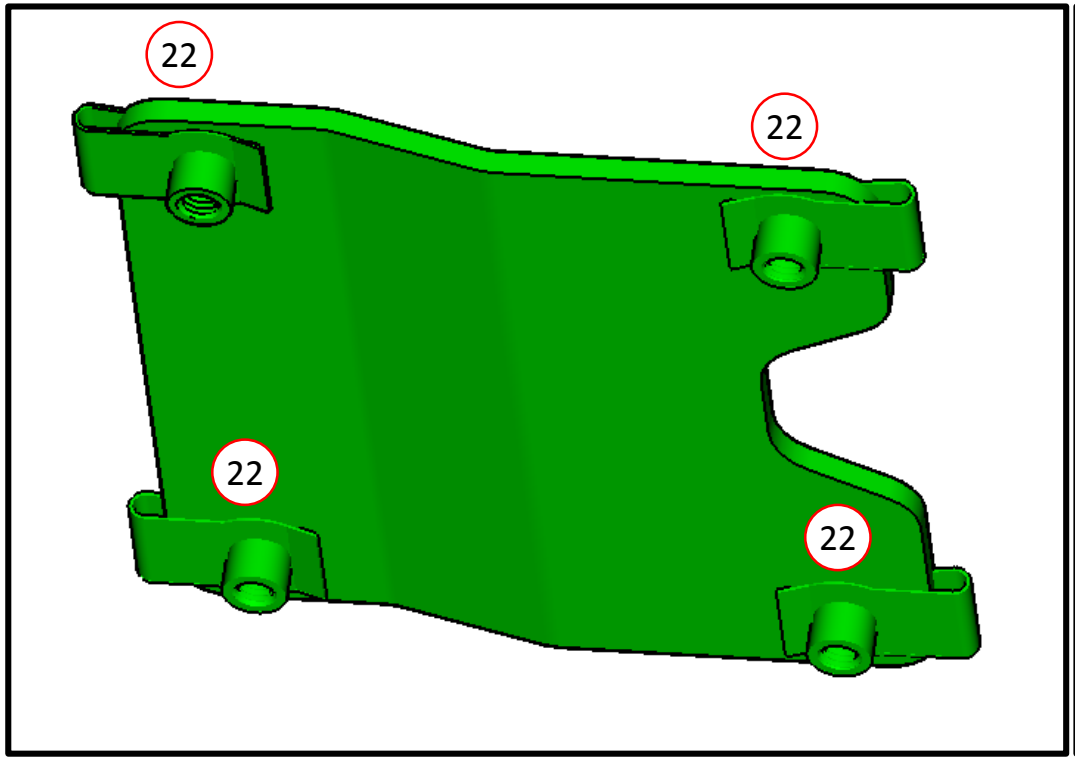


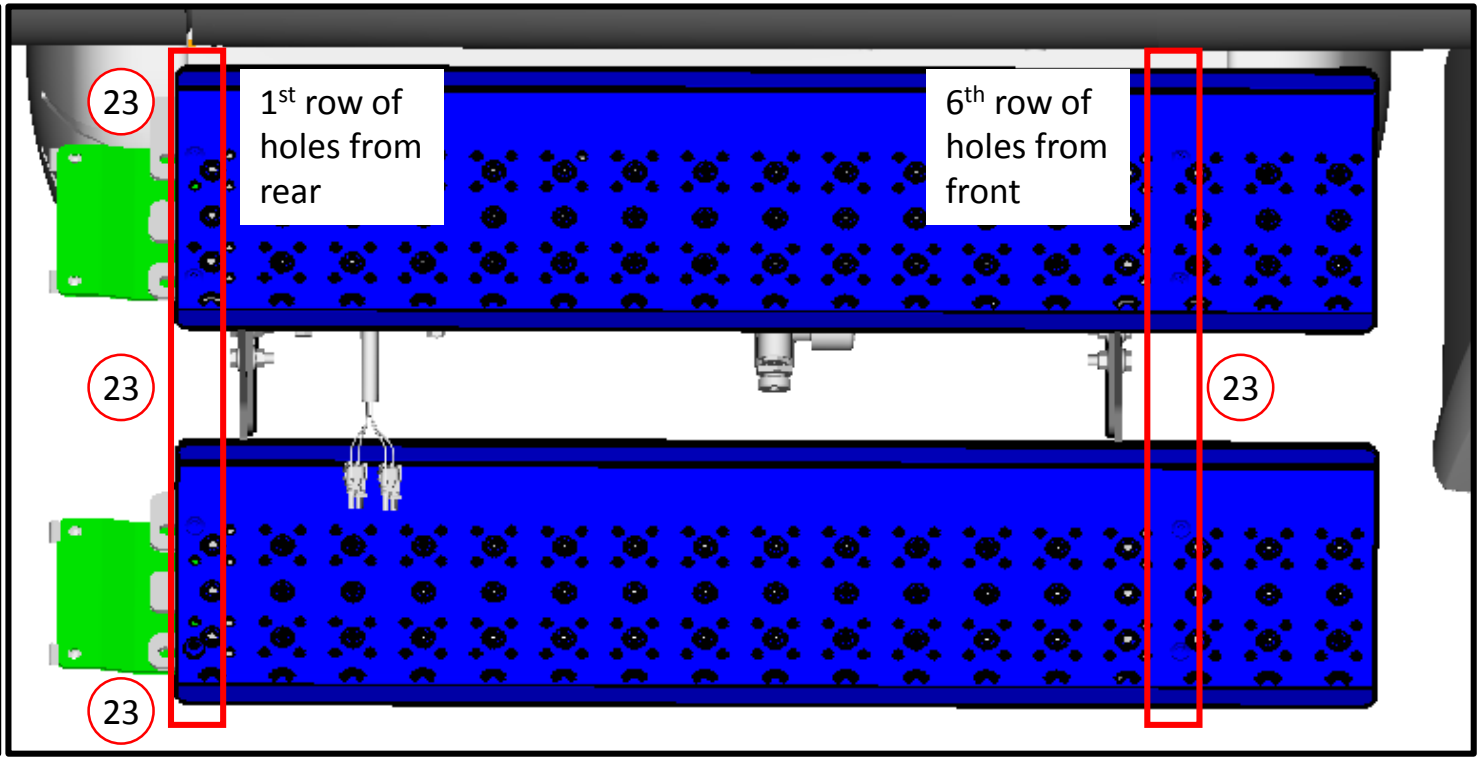

DISCARD REUSE NEW

ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – SUPER CAB CONTINUED

22. Attach an M8 J-clip on each hole of the two adaptor brackets (P16FB-02H110-C) as shown below. (4 j-clips per bracket)
23. Attach the forward step treads and two adaptor brackets to the step brackets reusing M8 button head bolts as shown.
24. Torque all M8 bolts to 20 – 30 Nm.

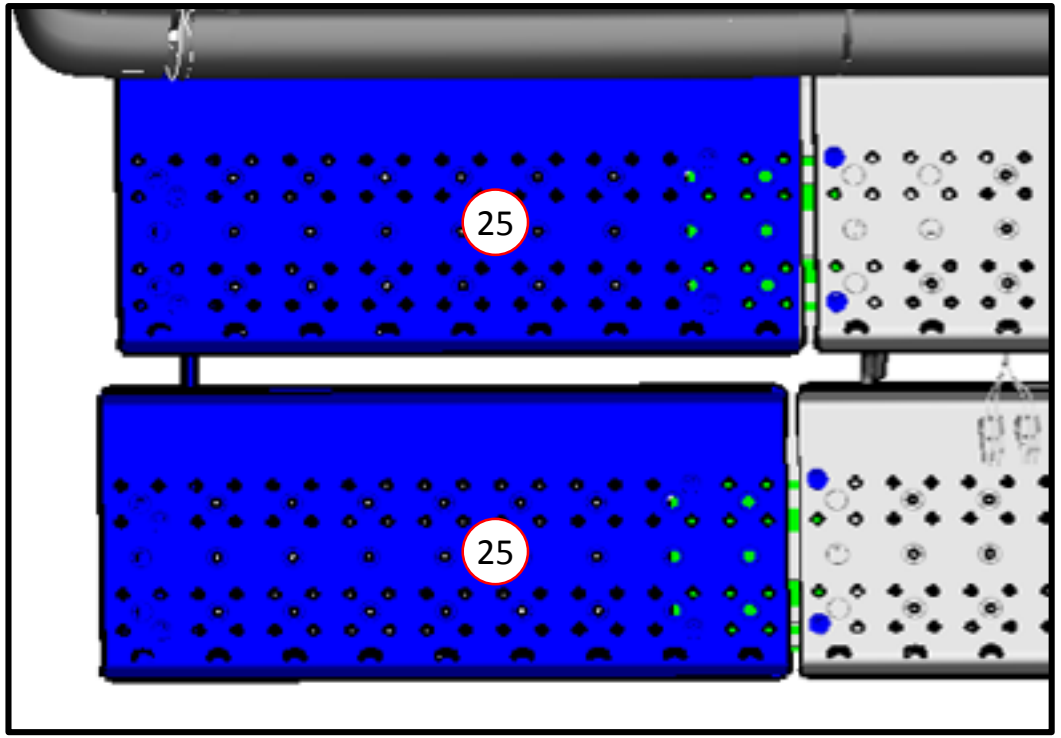


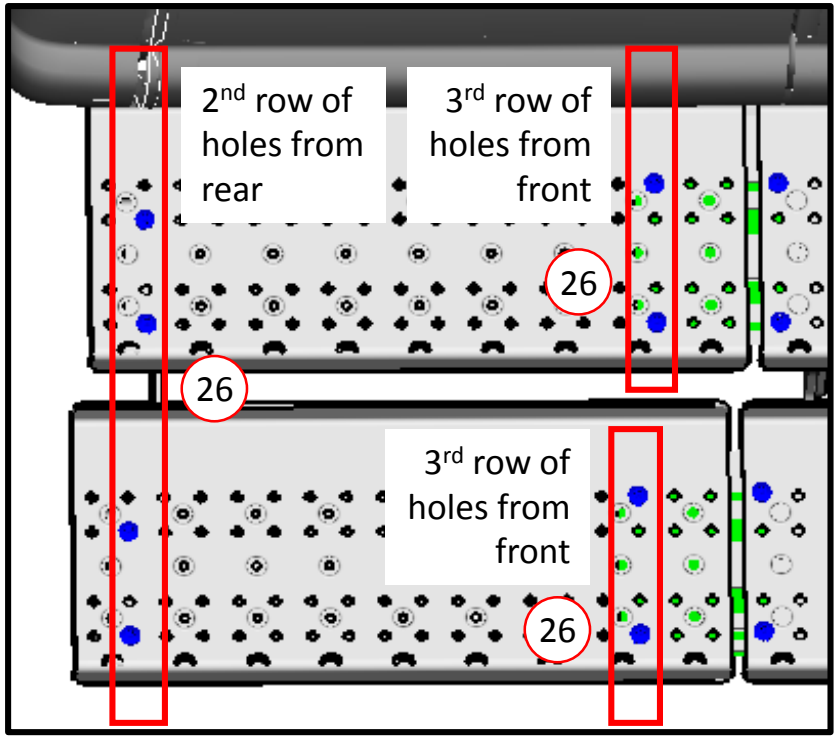



ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – SUPER CAB CONTINUED

25. Lay rear step treads on RH tank as shown.
26. Attach the step treads to the step brackets reusing M8 button head bolts.
27. Torque all M8 bolts to 20 – 30 Nm.



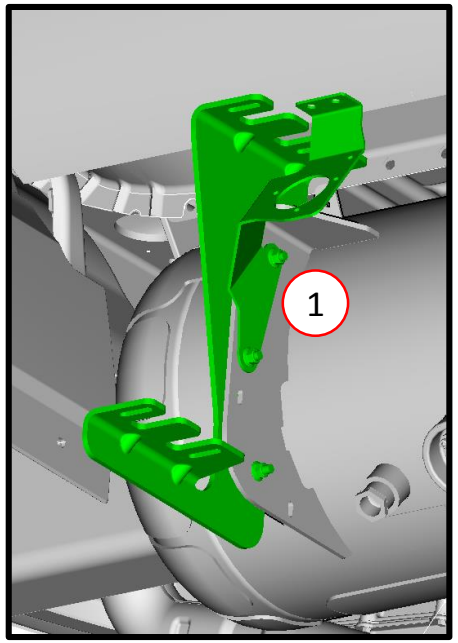

DISCARD REUSE NEW

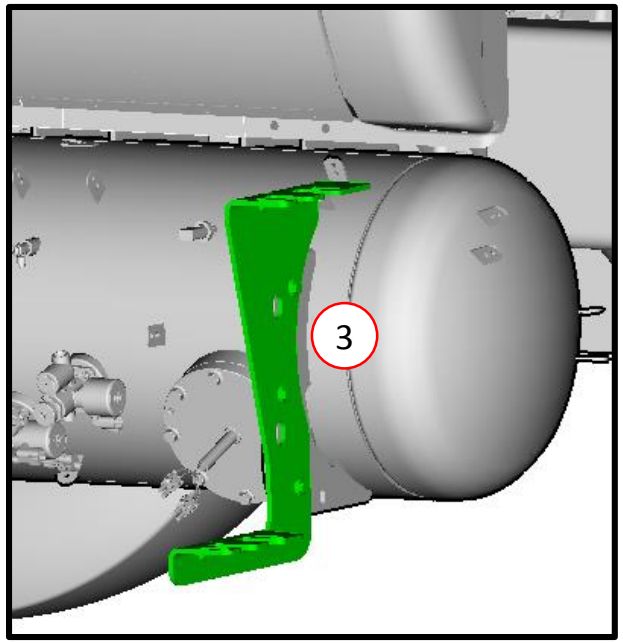
ATTENTION
Tank B
Tank C

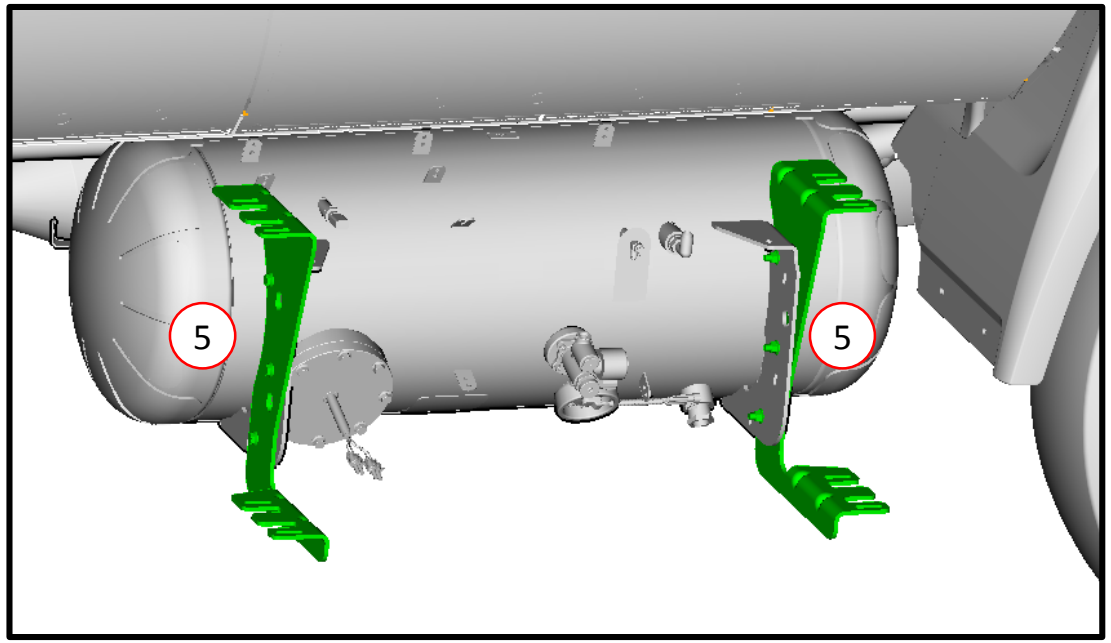
# INSTALLING THE STEPS – CREW CAB

**NOTE: THESE STEPS ARE FOR REGULAR CAB VEHICLES THAT CAME EQUIPPED WITH A 60 GALLON GASOLINE TANK.**

1. Attach step bracket P16FB-02H110-A and fill valve bracket P16FB-10D310-A to the front of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
2. Tighten fasteners so that brackets are flush but the fill valve bracket can still slide up and down.
3. Attach step bracket P16FB-02H110-A to the rear of the LH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts.
4. Torque fasteners to 40 – 55 Nm.
5. Attach step bracket P16FB-02H110-A to the front of the RH tank and P16FB-02H110-B to the rear of the RH tank using Qty. 3 M10x1.5x30 flange head bolts and M10x1.5 flange nuts for each bracket.
6. Torque fasteners to 40 – 55 Nm.



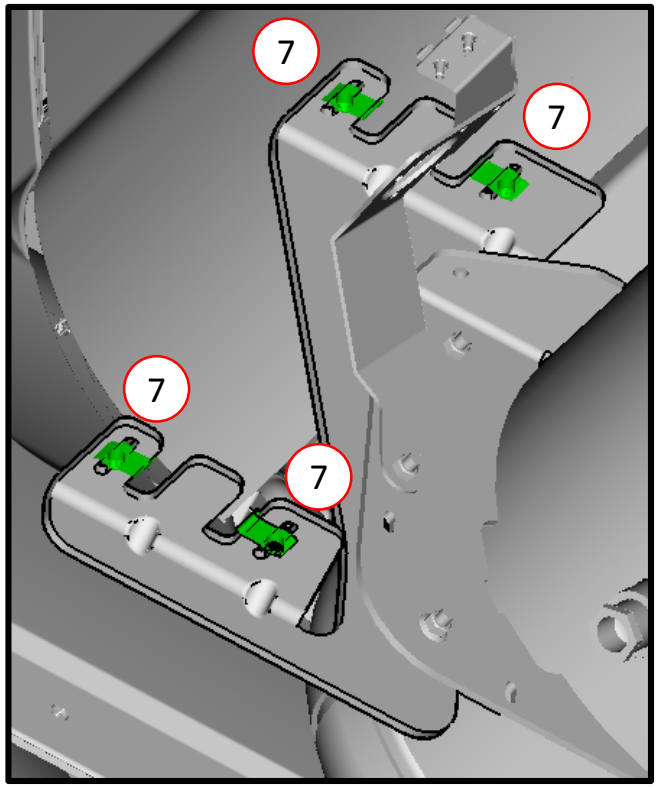



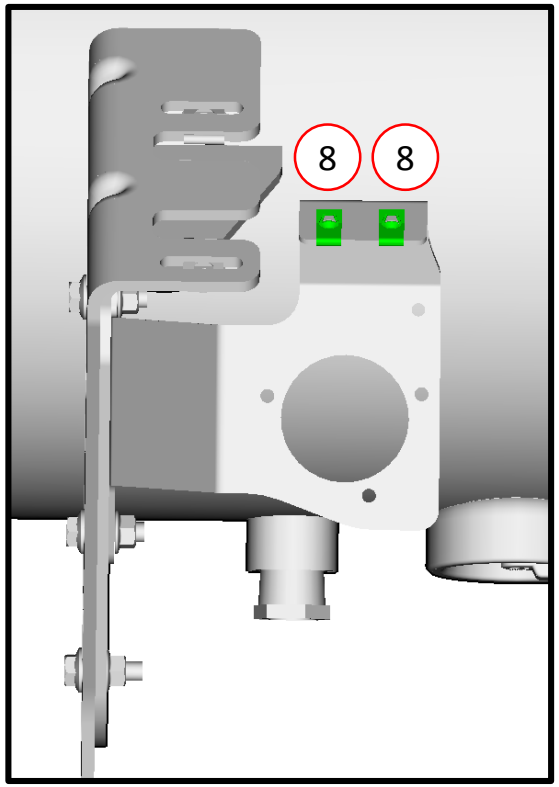



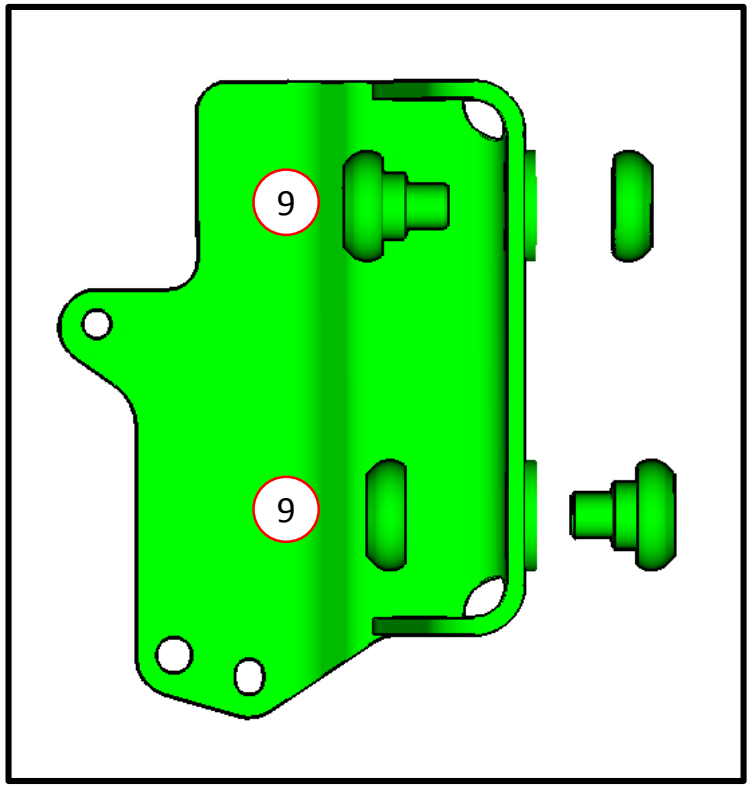
ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – CREW CAB CONTINUED

7. Attach an M8 J-clip on each slot on all step brackets **except the rear RH step bracket** as shown below. (4 j-clips per bracket)
8. Install Qty. 2 M6 J-clips on the top holes of the fill valve bracket as shown.
9. Assemble Qty. 8 isolators and crush limiters onto the four step support brackets P16FB-02H110-D and P16FB-02H110-E as shown. **NOTE THE CORRECT ORIENTATION OF THE COMPONENTS. THE BUSHING SIDE SHOULD BE ON THE FRAME SIDE ON THE BOTTOM POSITIONS AND AWAY FROM THE FRAME ON THE TOP POSITIONS.**



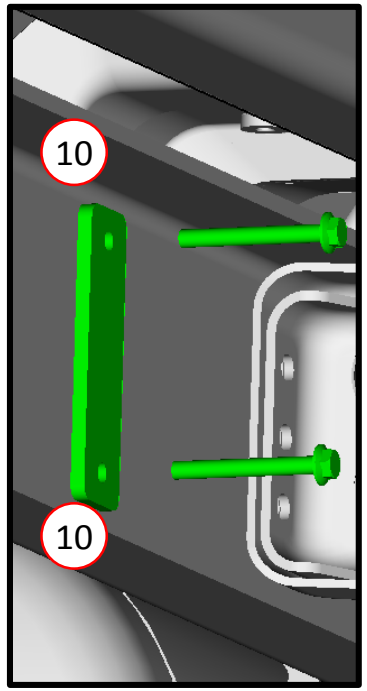



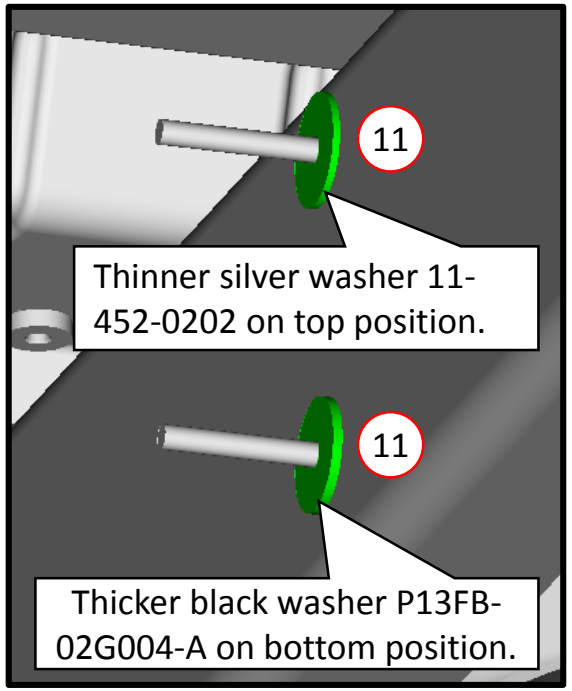



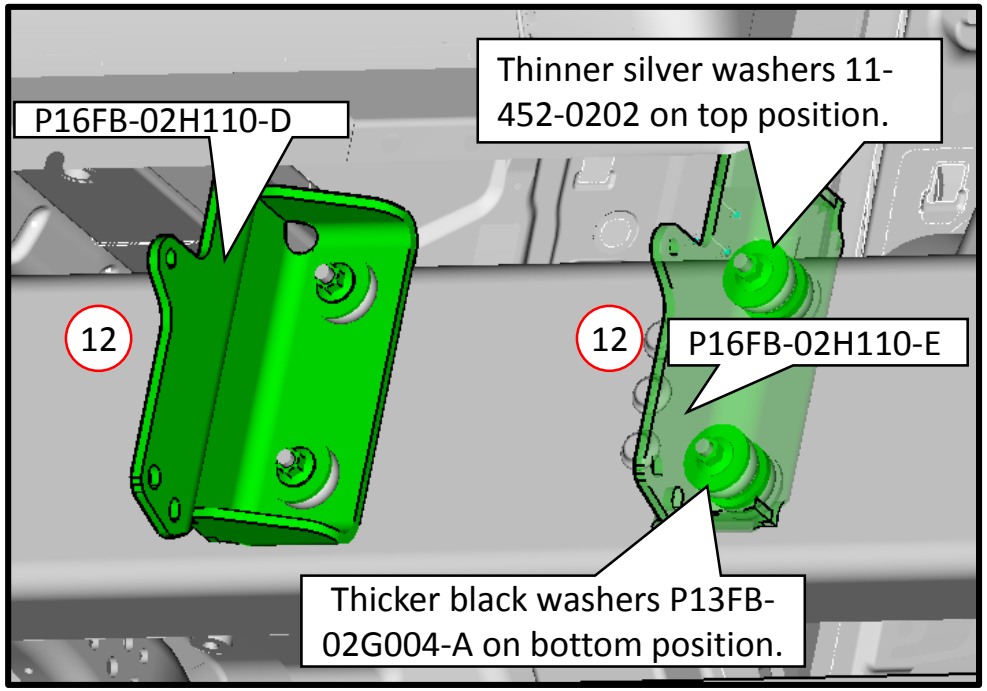
# INSTALLING THE STEPS – CREW CAB CONTINUED

ATTENTION
Tank B
Tank C

10. Identify the existing step mounting holes in the frame and assemble two doubler plates (P16FB-02G001-D) to the LH frame rail as shown below using Qty. 4 M12x1.75 flange head bolts.
11. Place snubbing washers as shown on the bolts that are sticking out through the frame. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.**
12. Attach the step support brackets P16FB-02H110-D and P16FB-02H110-E to the LH frame rail using two thicker black snubbing washers, two thinner silver snubbing washers, and Qty. 4 M12x1.75 flange nuts as shown. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.** Torque to 80 – 90 Nm.



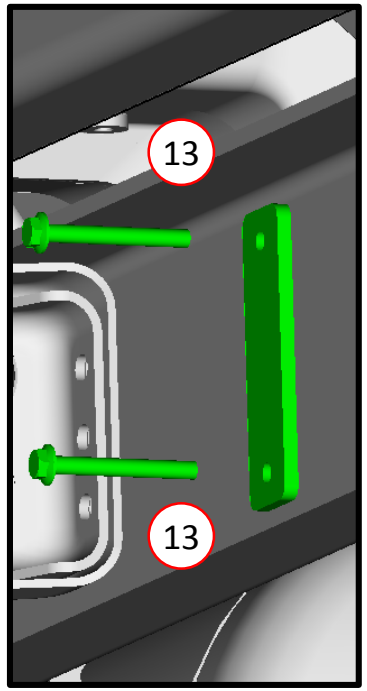



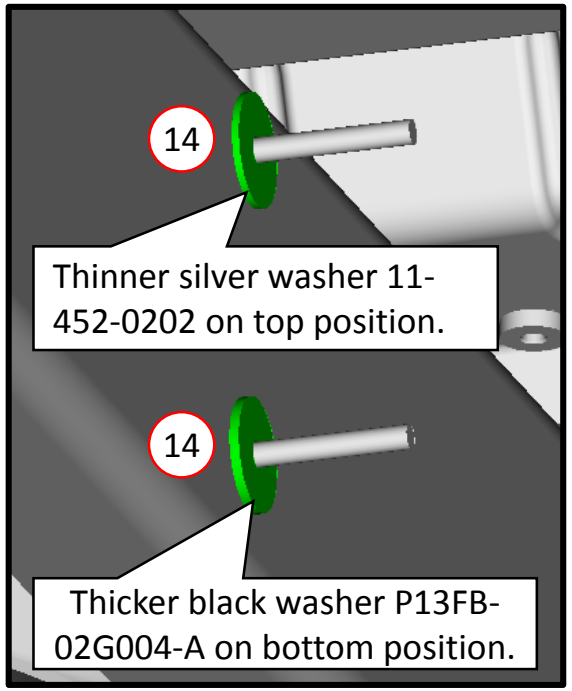

DISCARD REUSE NEW

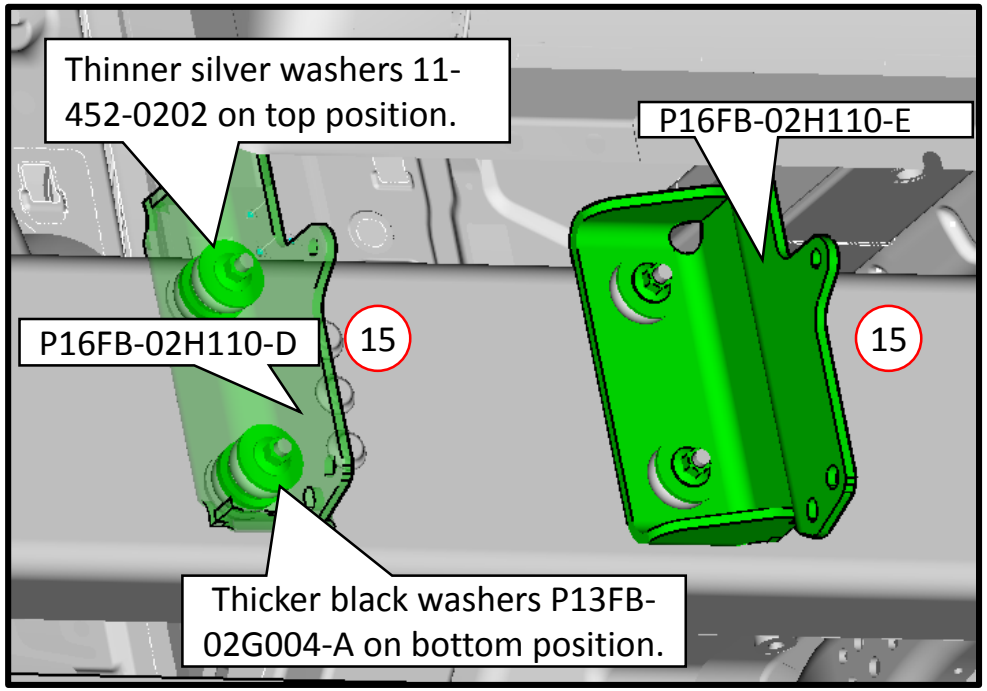
# INSTALLING THE STEPS – CREW CAB CONTINUED

ATTENTION
Tank B
Tank C

13. Identify the existing step mounting holes in the frame and assemble two doubler plates (P16FB-02G001-D) to the RH frame rail as shown below using Qty. 4 M12x1.75 flange head bolts.
14. Place snubbing washers as shown on the bolts that are sticking out through the frame. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.**
15. Attach the step support brackets P16FB-02H110-D and P16FB-02H110-E to the LH frame rail using two thicker black snubbing washers, two thinner silver snubbing washers, and Qty. 4 M12x1.75 flange nuts as shown. **NOTE THE CORRECT LOCATION OF THE COMPONENTS. THE THICKER BLACK WASHERS SHOULD BE ON THE BOTTOM POSITIONS AND THE THINNER SILVER WASHERS SHOULD BE ON THE TOP POSITION.** Torque to 80 – 90 Nm.



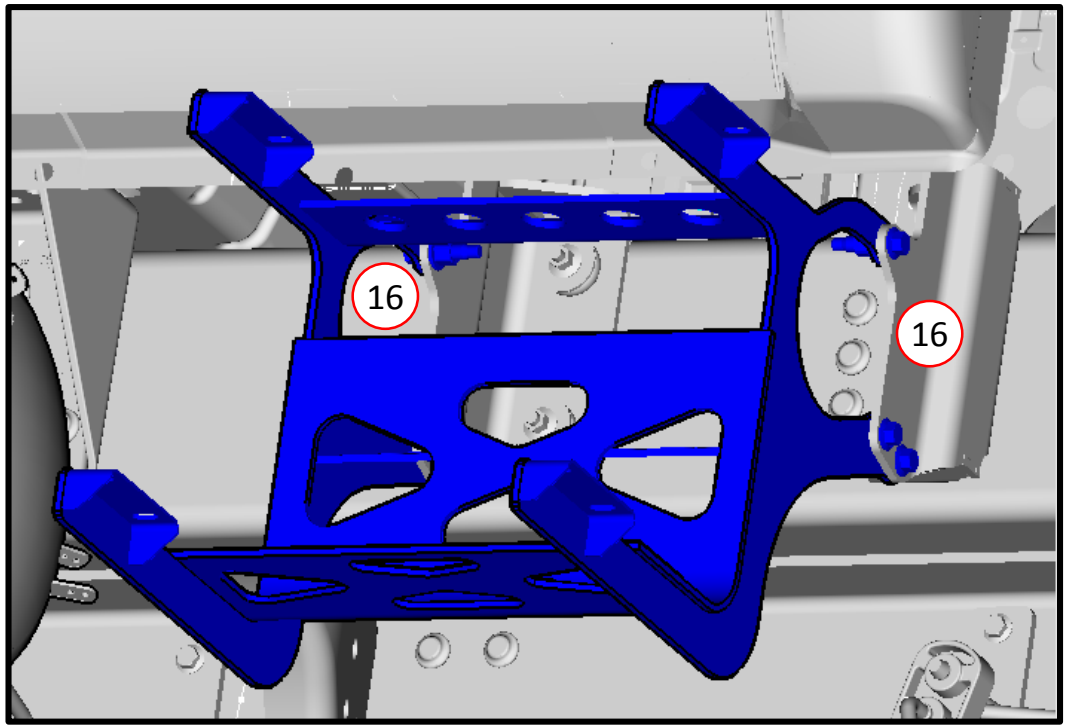


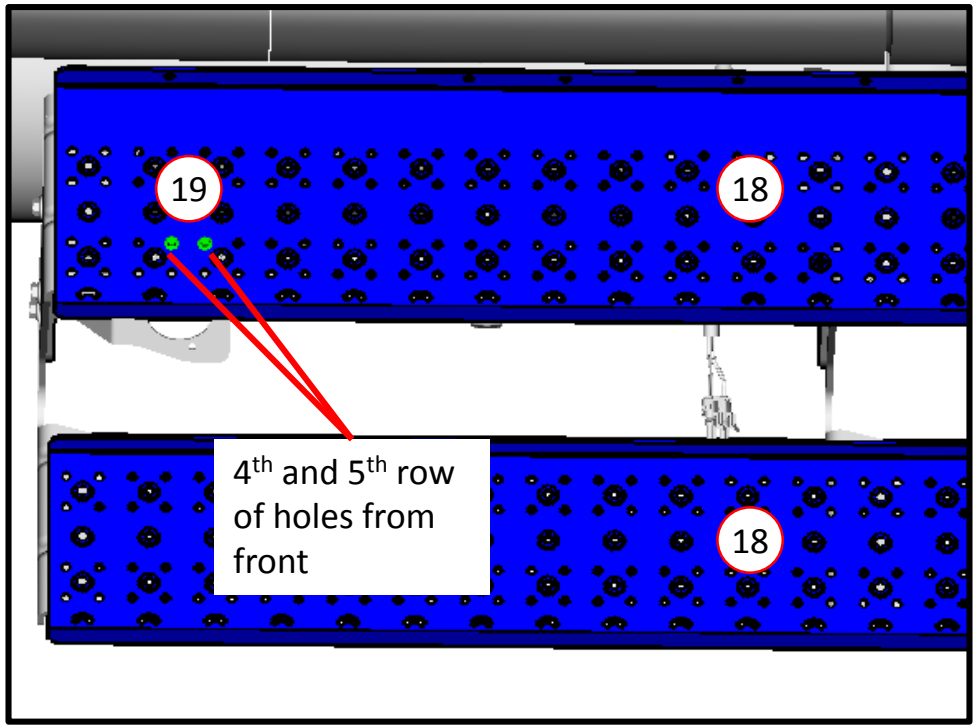

DISCARD REUSE NEW

# INSTALLING THE STEPS – CREW CAB CONTINUED

ATTENTION
Tank B
Tank C

16. Attach the Ford step support bracket to the ROUSH step support bracket on the LH reusing Qty. 6 M14x45 flange head bolts and Qty. 3 M14 flange nuts as shown.
17. Torque to 110 – 155 Nm.
18. Lay the step treads on the LH tank as shown.
19. Attach the fill valve bracket to the top step tread using two M6x20 bolts. Torque to 8 – 12 Nm. Torque the other two bolts holding the fill valve bracket to the tank to 40 – 55 Nm.



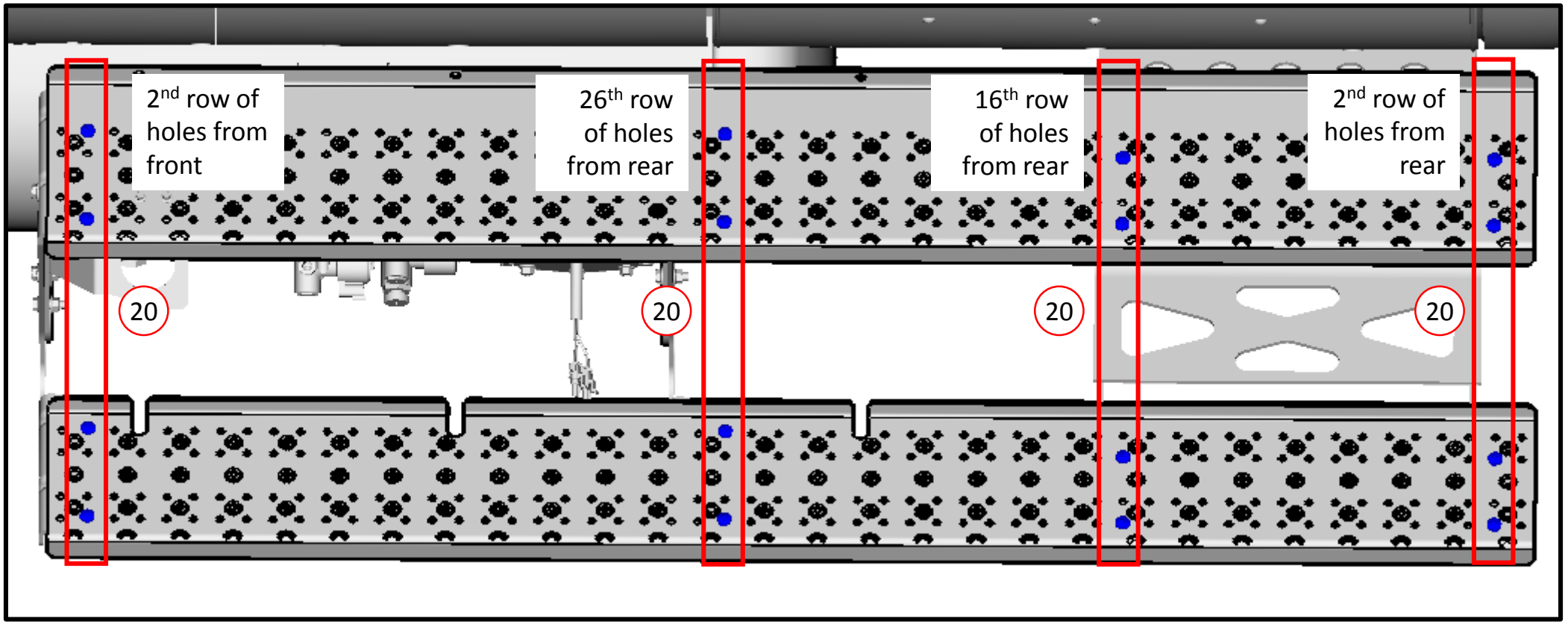



DISCARD REUSE NEW

ATTENTION
Tank B
Tank C

# INSTALLING THE STEPS – CREW CAB CONTINUED

20. Attach the step treads to the step brackets reusing M8 button head bolts.
21. Torque all M8 bolts to 20 – 30 Nm.



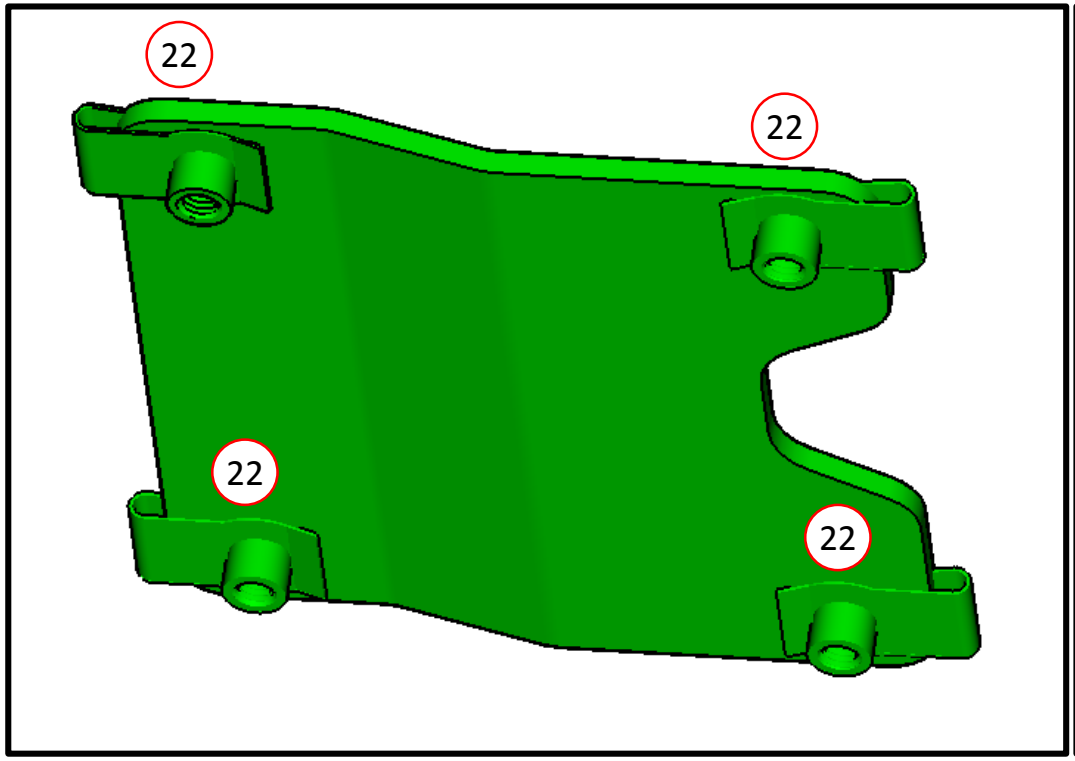


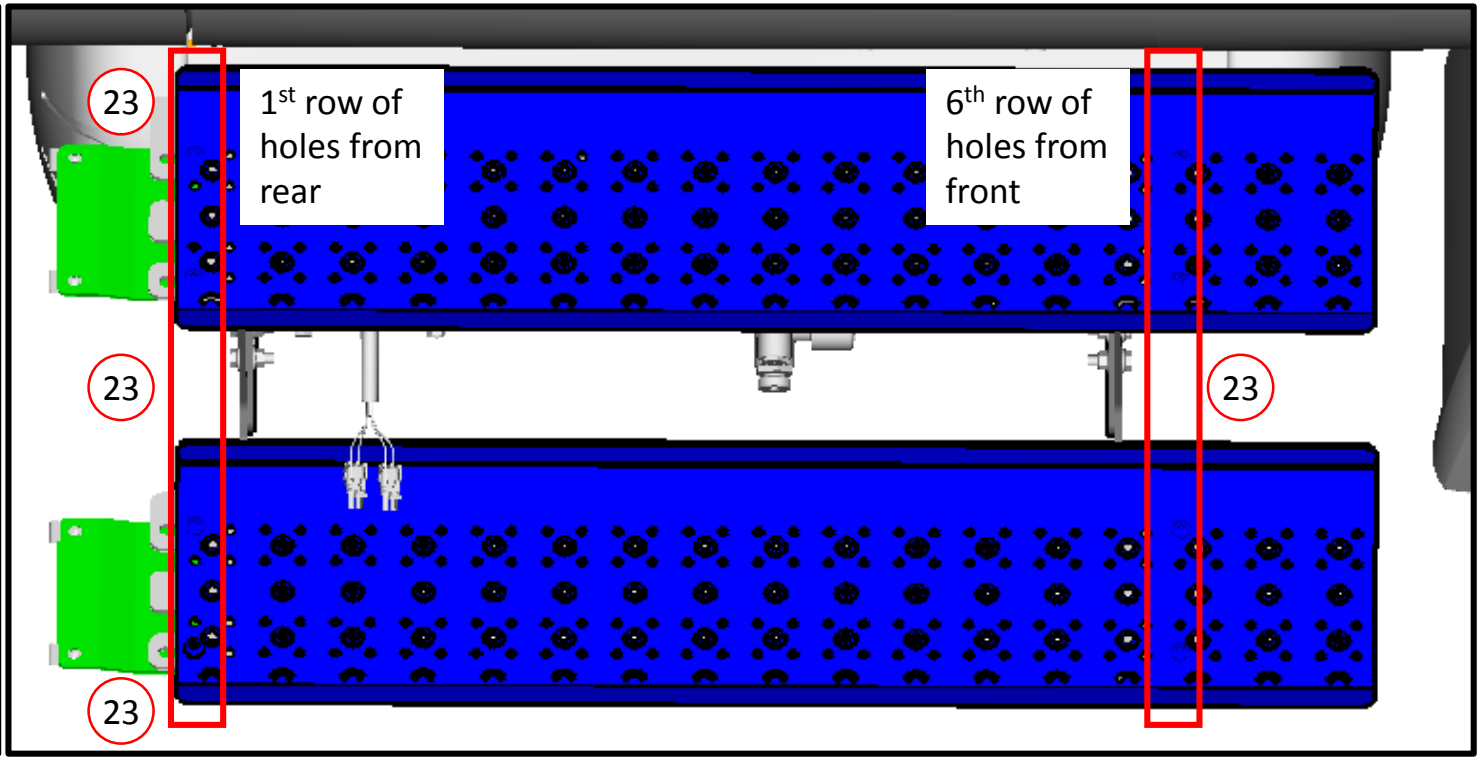

DISCARD REUSE NEW

# INSTALLING THE STEPS – CREW CAB CONTINUED

ATTENTION
Tank B
Tank C

22. Attach an M8 J-clip on each hole of the two adaptor brackets (P16FB-02H110-C) as shown below. (4 j-clips per bracket)
23. Attach the forward step treads and two adaptor brackets to the step brackets reusing M8 button head bolts as shown.
24. Torque all M8 bolts to 20 – 30 Nm.

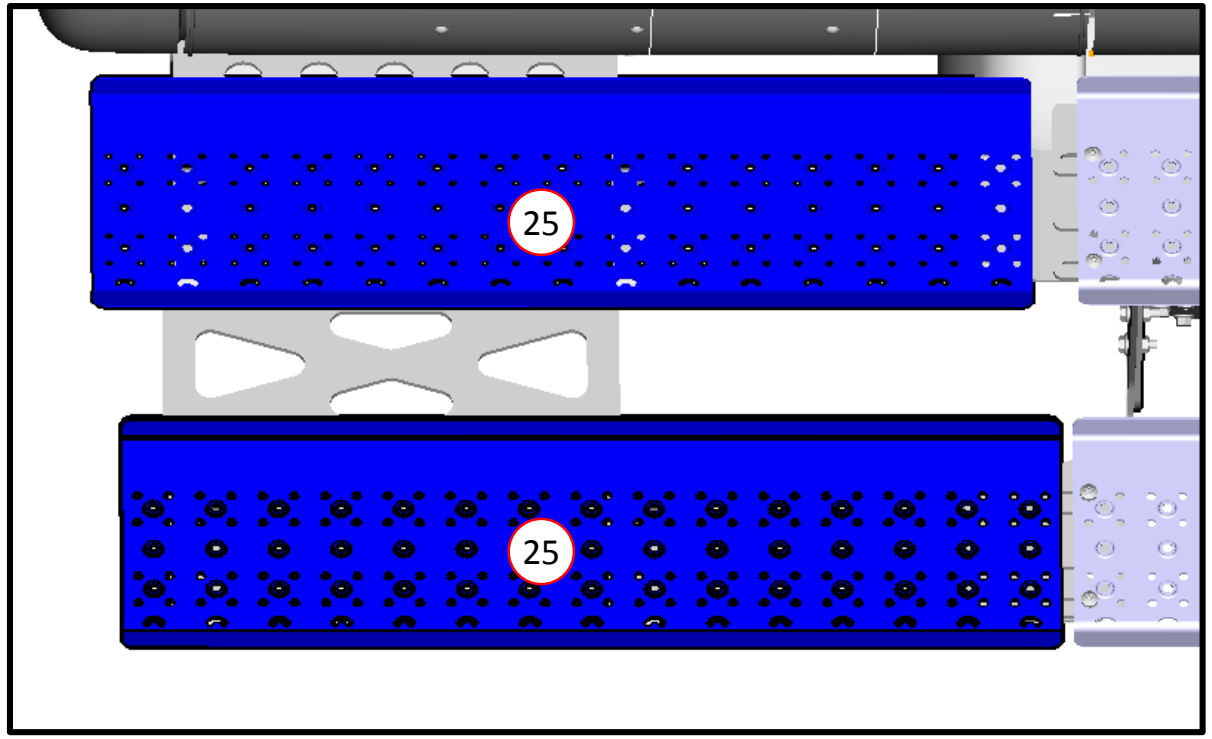


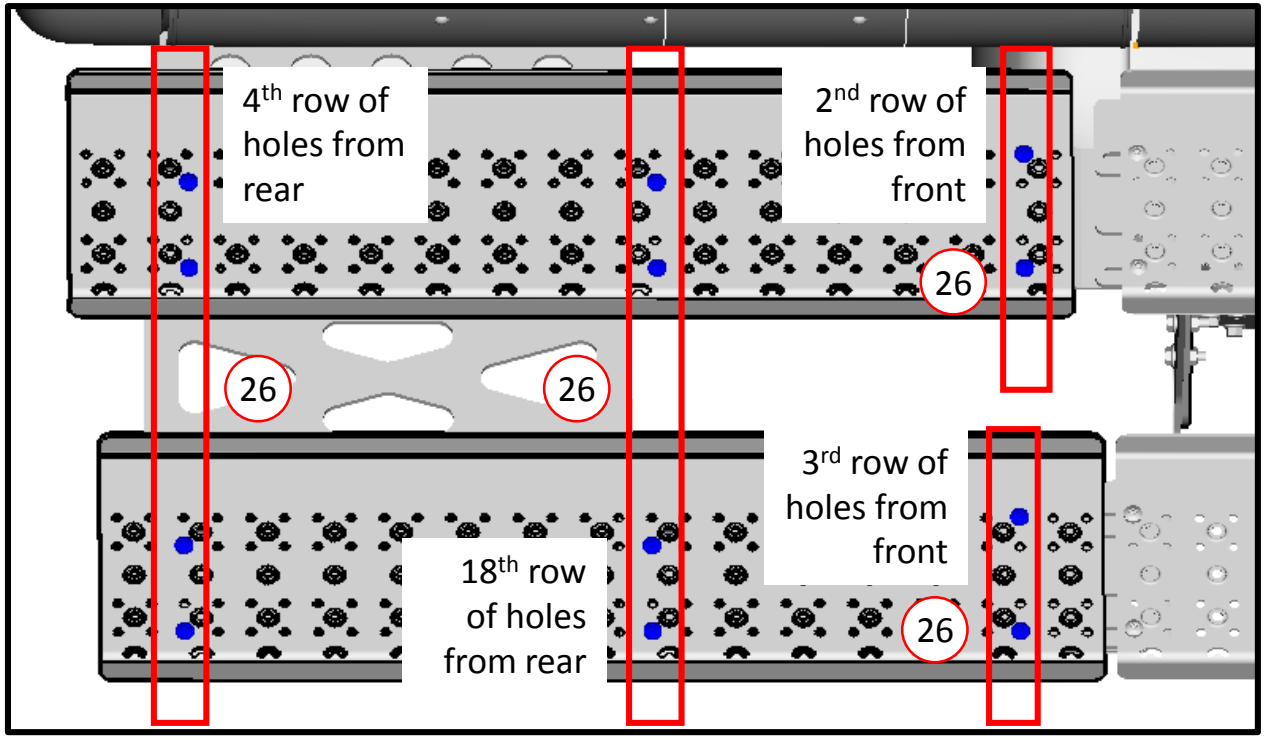



# INSTALLING THE STEPS – CREW CAB CONTINUED

ATTENTION
Tank B
Tank C

25. Lay rear step treads on RH tank as shown.
26. Attach the step treads to the step brackets reusing M8 button head bolts.
27. Torque all M8 bolts to 20 – 30 Nm.



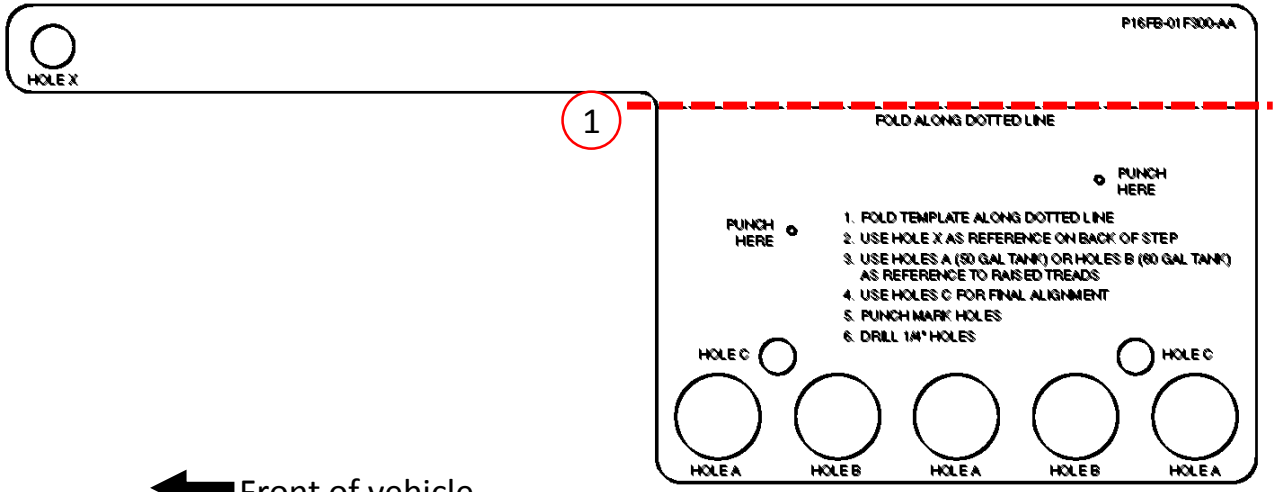



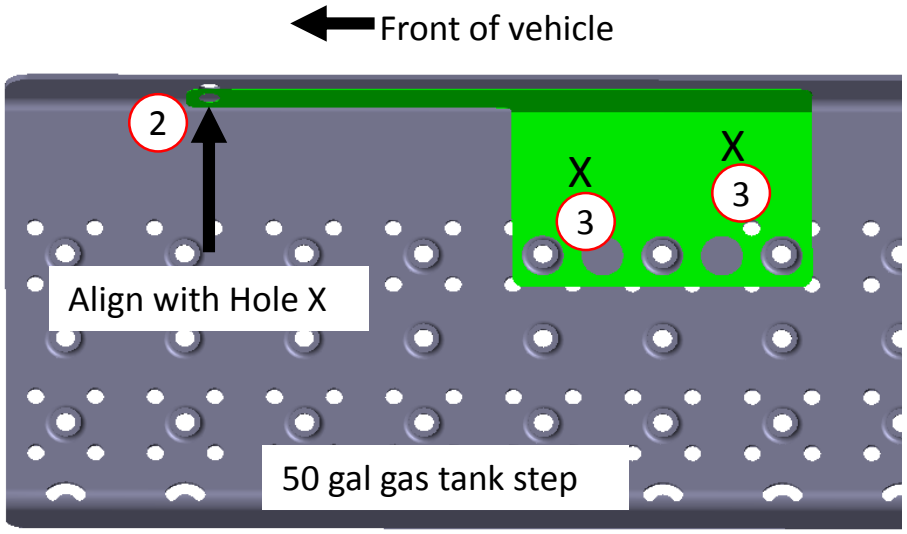
# PREPARING LH TOP STEP FOR FILL FILTER INSTALLATION

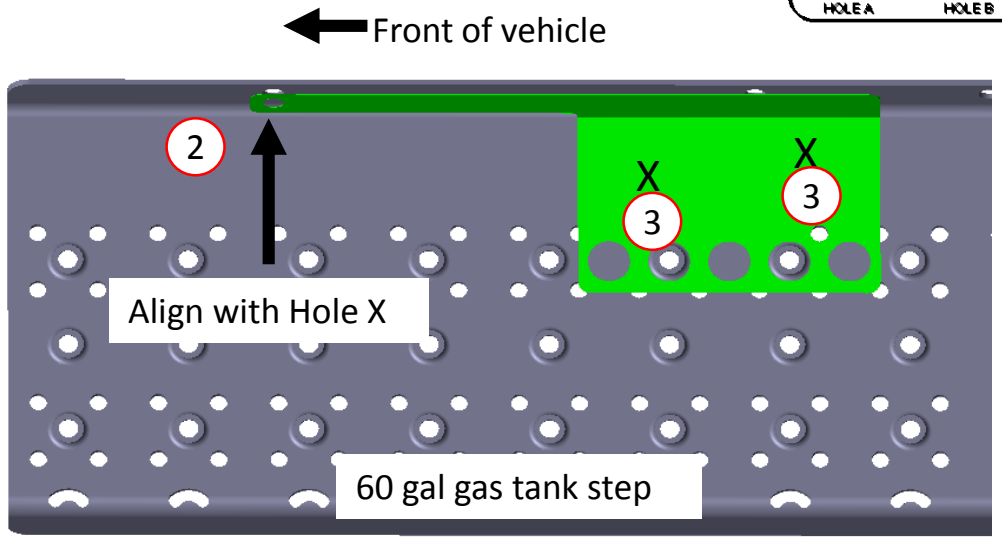
ATTENTION

Tank C

1. Fold filter template (P16FB-01F300-AA) along dotted line.
2. Align template using Hole X to driver's side top step with hole on back lip o
3. Punch mark two hole locations and then drill ¼" holes.



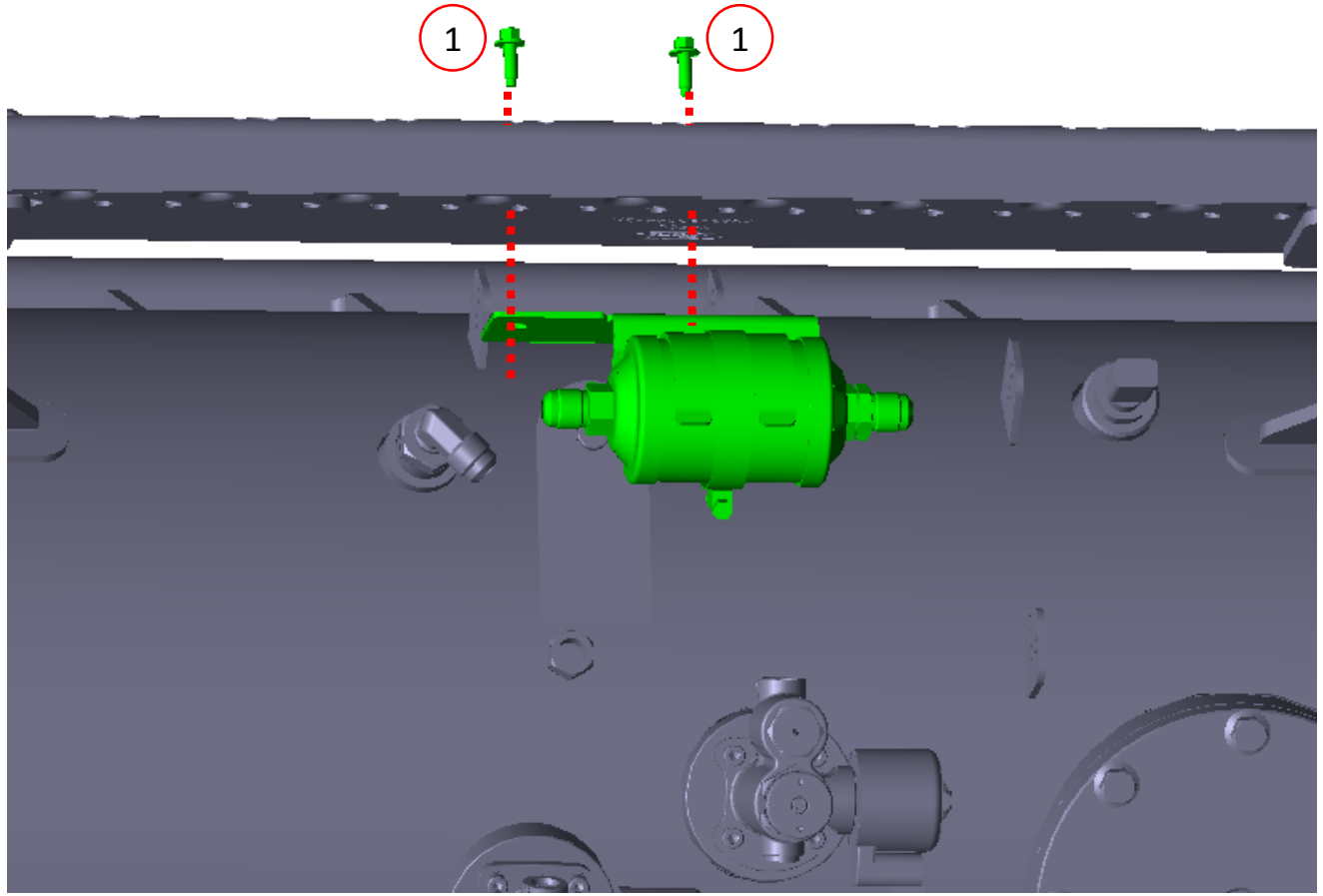



ATTENTION

Tank C

# ASSEMBLING THE FILL FILTER TO STEP

1. Assemble the fill filter assembly to driver's side top step (through two ¼" holes drilled with template earlier) using two M6x16 bolts and torque to 8-12 Nm.

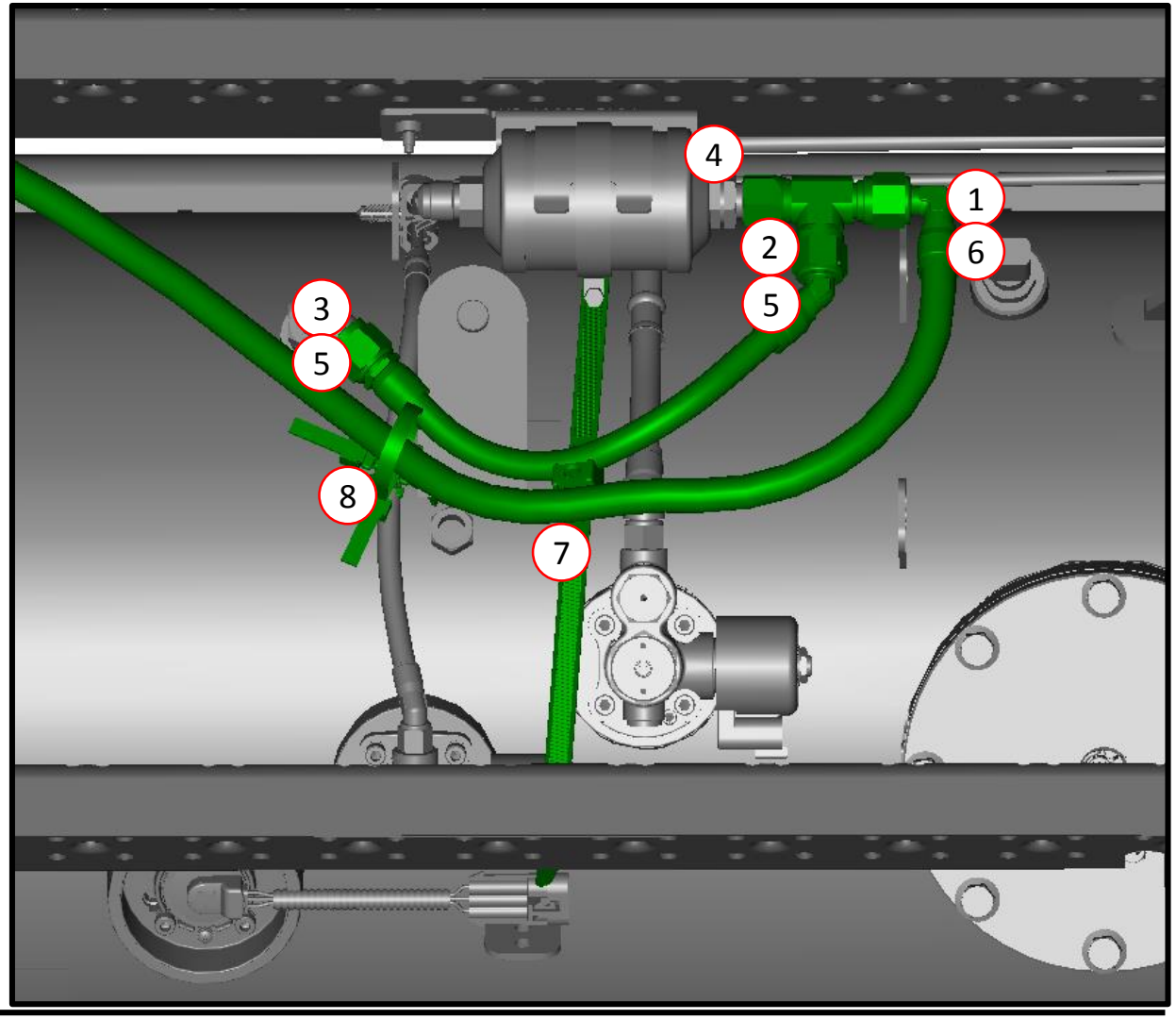


# ASSEMBLING THE FUEL FILL LINES AND FILTER ASSEMBLY

ATTENTION

Tank C (dual)

1. Thread the 90 degree fitting into “T” fitting, hand tighten.
2. Install fuel fill line (P-10D124-C-275) to the bottom of the “T” fitting.
3. Install fuel fill line (P-10D124-C-275) to OPD, hand tighten.
4. Install the “T” fitting to the filter, torque to 53-61 Nm. Use a 2nd wrench to counter hold.
5. Torque fuel fill line (P-10D124-C-275) at OPD and at “T” fitting to 41-49 Nm
6. Ensure fuel fill line (P16FB-10D110-D) elbow fitting matches the bottom of the “T” fitting and torque to 41-49 Nm.
7. Install dual clamp zip tie to keep spacing between P-10D124-C-275 and P16FB-10D110-D lines.
8. Install dual swivel spacer (151-06500) and Qty 2 zip ties (20-403-0003) to tank return line (P16FB-10R130-C) and tank fill line (P16FB-10D110-D) to keep lines from rubbing



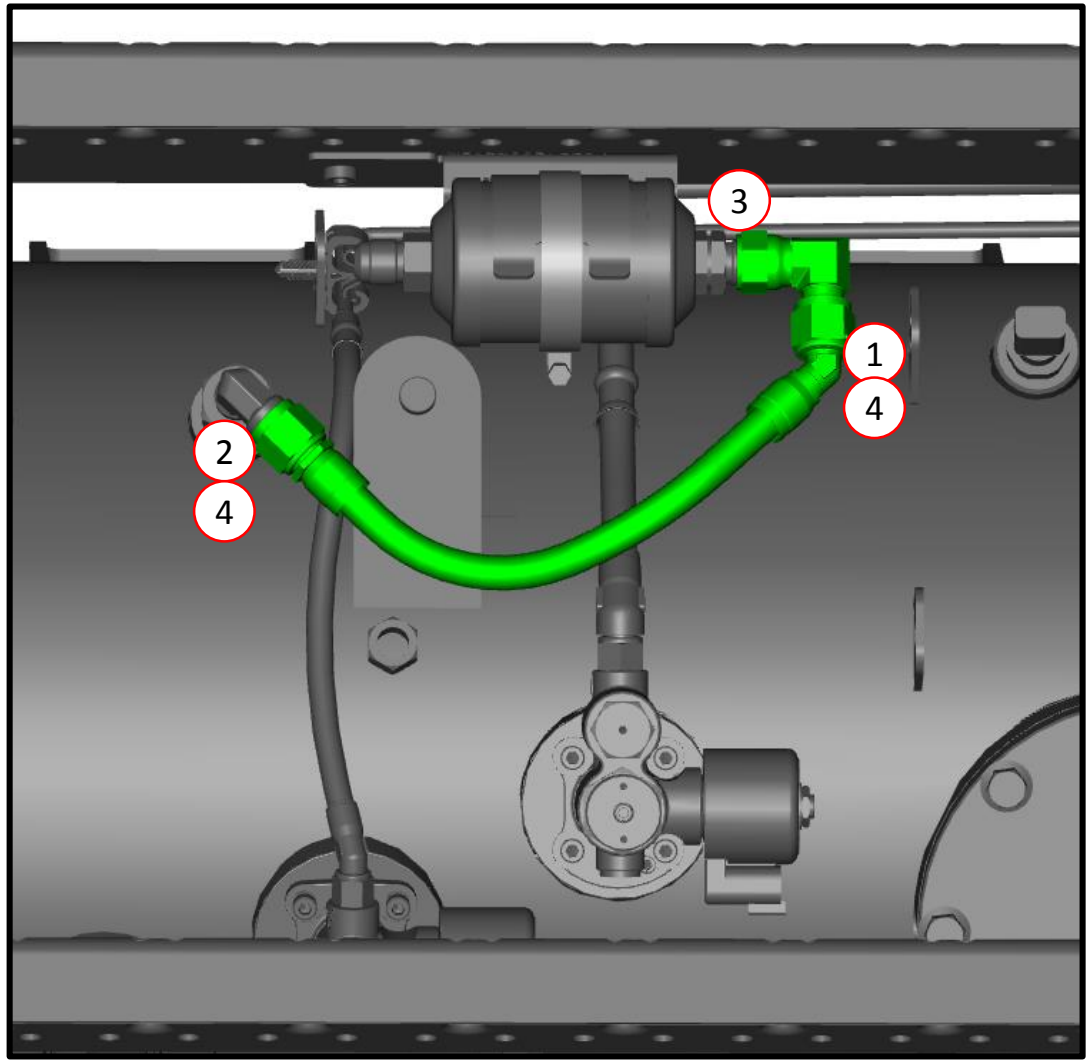

DISCARD REUSE NEW

# ASSEMBLING THE FUEL FILL LINES AND FILTER ASSEMBLY

ATTENTION

Tank C (single)

1. Install fuel fill line (P-10D124-C-275) to the bottom of the elbow (11-126-0721), hand tighten.
2. Install fuel fill line (P-10D124-C-275) to OPD, hand tighten.
3. Install the elbow to the filter, torque to 53-61 Nm. Use a 2nd wrench to counter hold.
4. Torque fuel fill line (P-10D124-C-275) at OPD and at elbow to 41-49 Nm

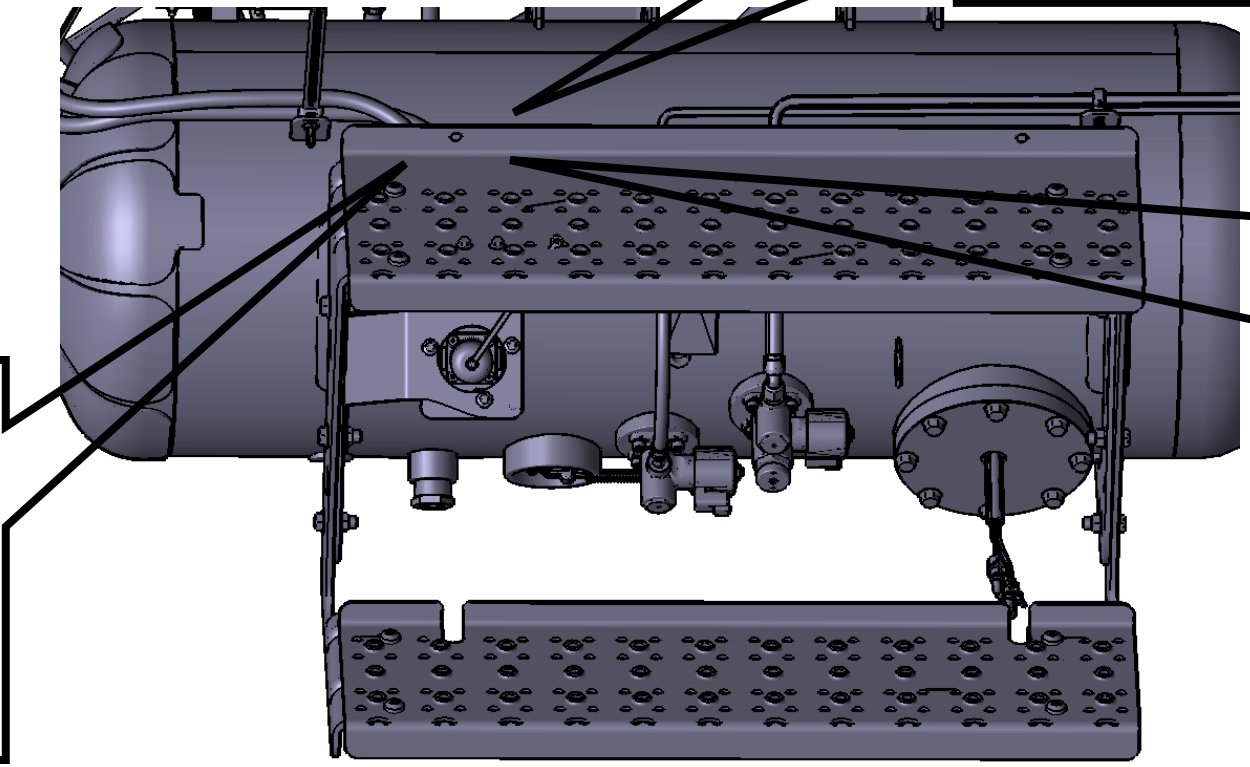


ATTENTION
Dual Tanks

# ASSEMBLING P-CLAMP TO LH STEP

1. Use p-clamp and M8x25 bolt and M8 nut to retain 10D121/10D124 line to back of step. Note orientation of p-clamp shown. Torque to 20 – 30 Nm.

Note: Short tank shown

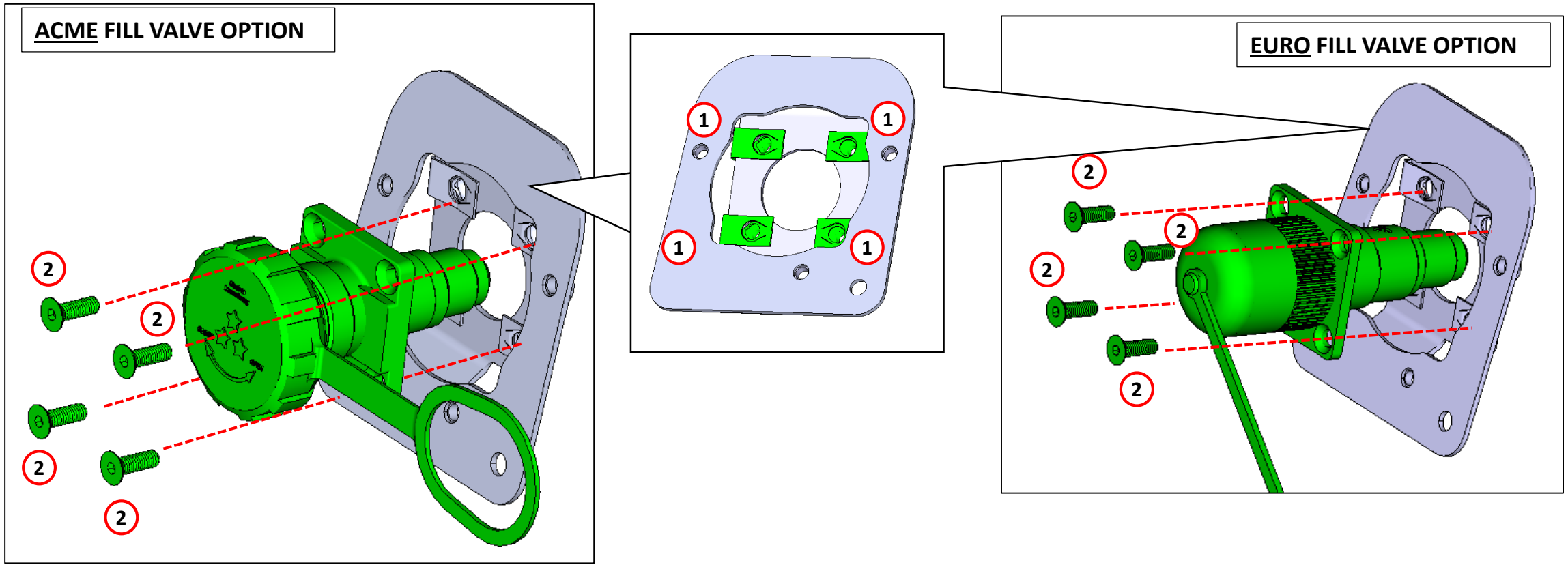


ATTENTION

All Tanks

# INSTALLING THE FILL VALVE

1. Attach Qty. 4 M5 J-clips (95210A130) to the Fill Valve bracket (P16MB-10D310-A).
2. Attach the Euro Valve (22-4945)  or ACME Valve (A13100005) to the bracket using Qty. 4 M5x16 Countersunk Socket Cap Screws. Torque the bolts to 5-7 Nm.



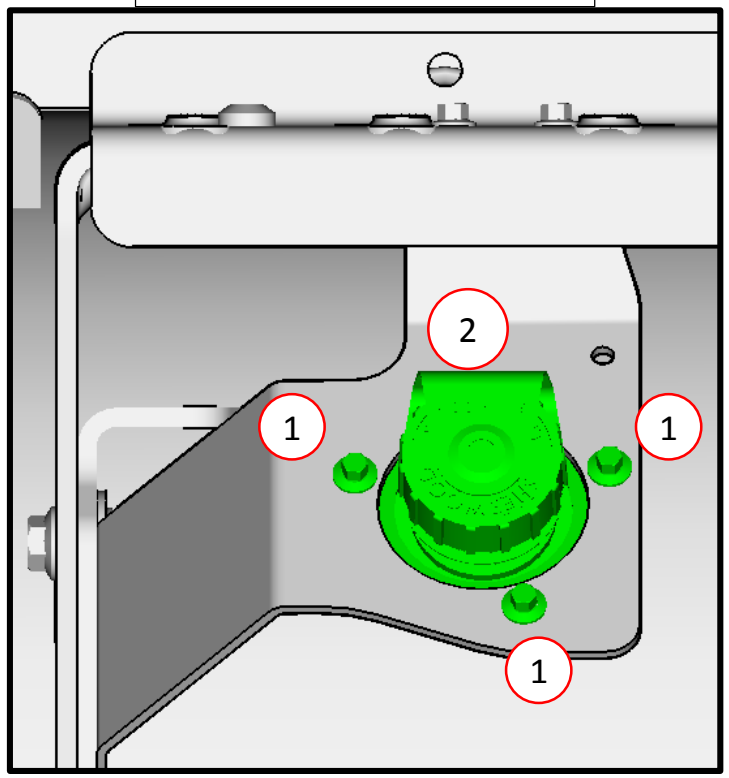
# INSTALLING THE FILL VALVE CONTINUED

ATTENTION

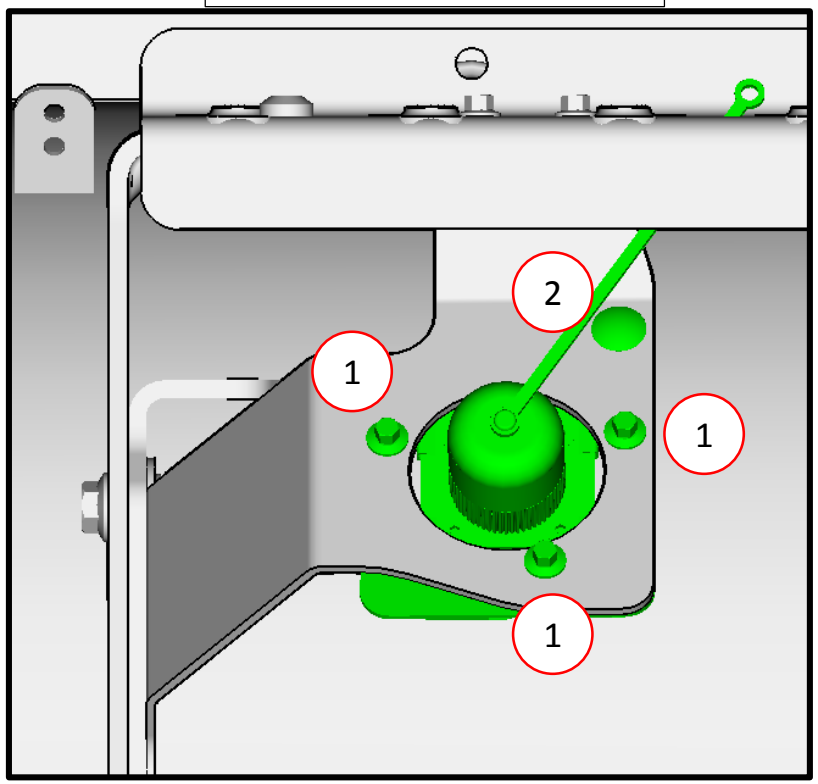
All Tanks

3. Install fuel fill valve assembly to the body mounting bracket using Qty. 3 M5x0.9x16 bolts. Torque the bolts to 5–7 Nm.
4. Thread on the Valve Dust Cover

**ACME FILL VALVE OPTION**




**EURO FILL VALVE OPTION**

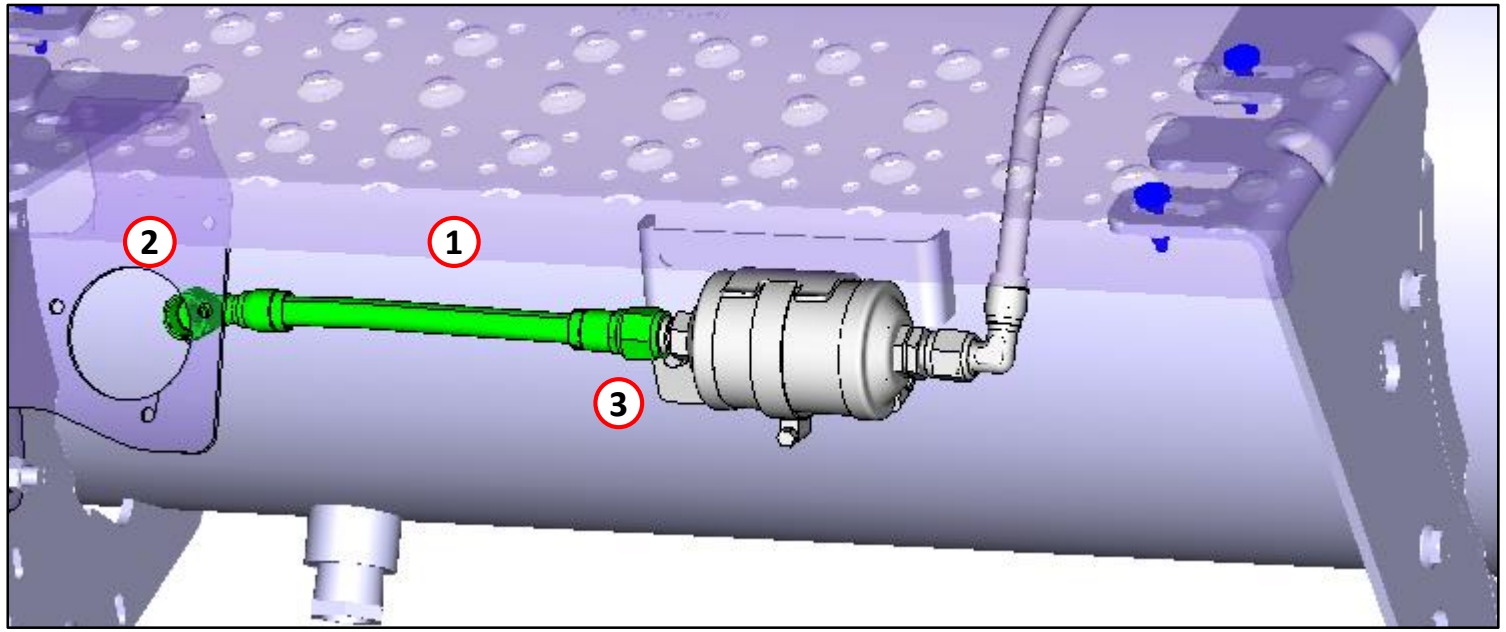


ATTENTION

Tank A

# INSTALLING THE FUEL FILL LINE

1. Install the fuel fill line (P-10D121-C-968) that routes from the fill valve to the fill filter.
2. Torque the fill valve side to 41-49 Nm.
3. Torque the filter side to 53-61 Nm.

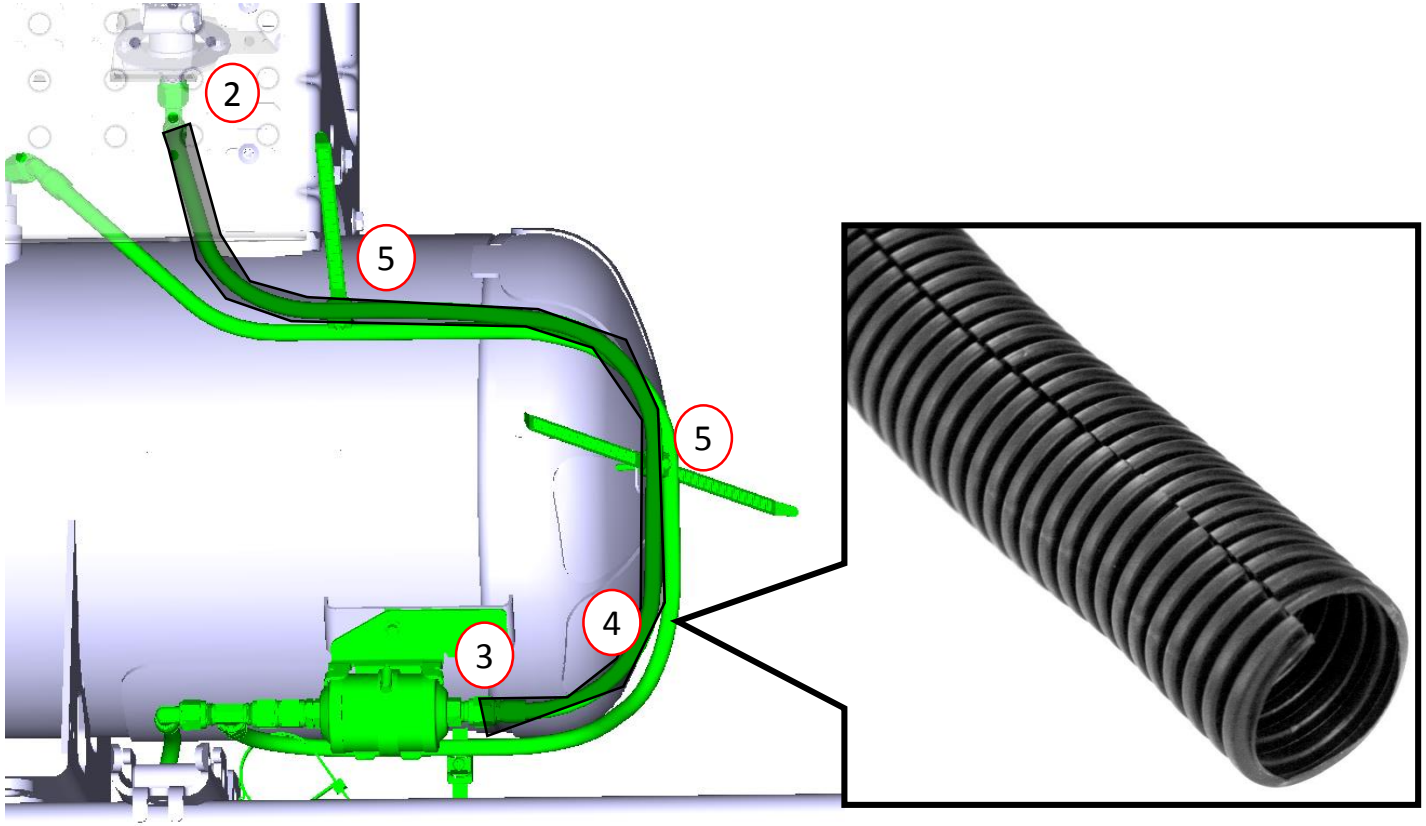


ATTENTION

Tank B

# INSTALLING THE FUEL FILL LINE

1. Install the fuel fill line (P-10D121-C-968) that routes from the fill valve to the fill filter.
2. Torque the fill valve side to 41-49 Nm.
3. Torque the filter side to 53-61 Nm.
4. Install Qty 1. 900mm long convolute over fill line
5. Retain both fill lines to the tank tabs as shown using qty. 2 dual clamp zip ties, qty. 2 M6x30 SHCS bolts, and qty. 2 M6 nuts.

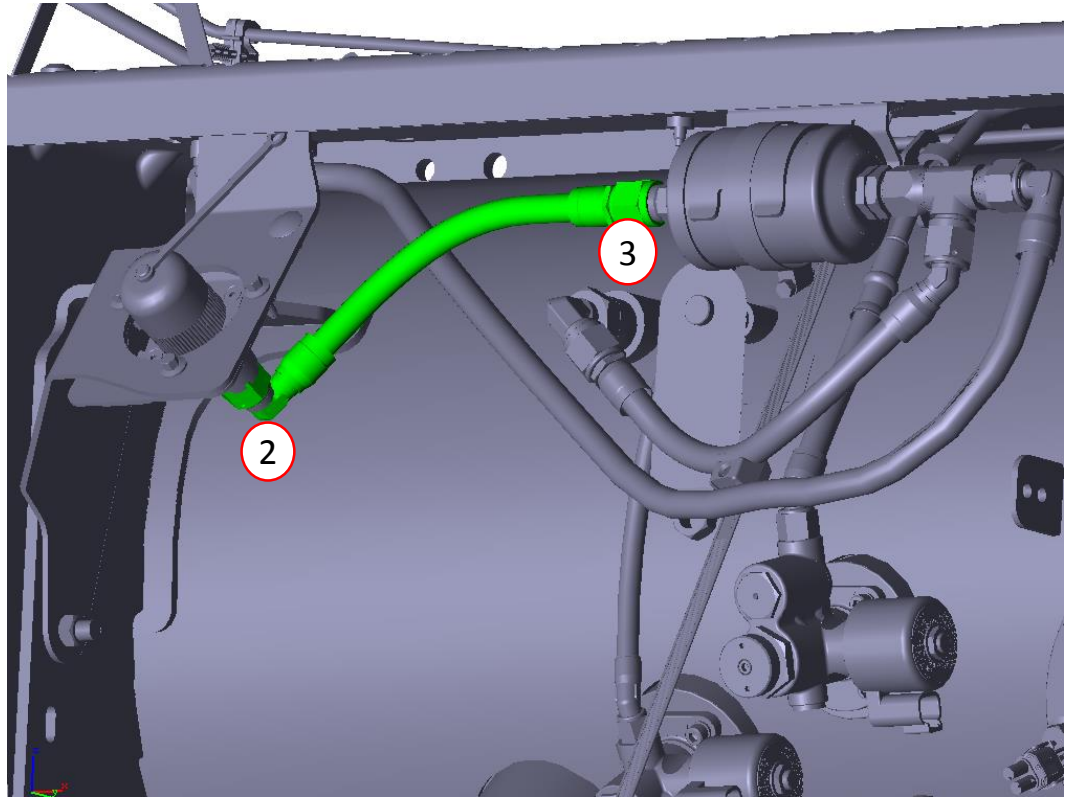


ATTENTION

Tank C

# INSTALLING THE FUEL FILL LINE

1. Install the fuel fill line (P-10D121-C-241) that routes from the fill valve to the fill filter.
2. Torque the fill valve side to 41-49 Nm.
3. Torque the filter side to 53-61 Nm.



ATTENTION

All Tanks

# INSTALLING THE WIRING HARNESSES – COMPONENT OVERVIEW

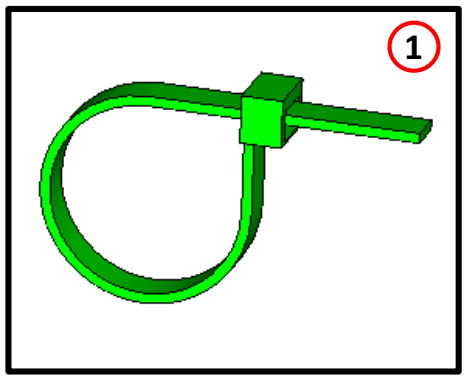
The following instructions are for installing propane kit harnesses:

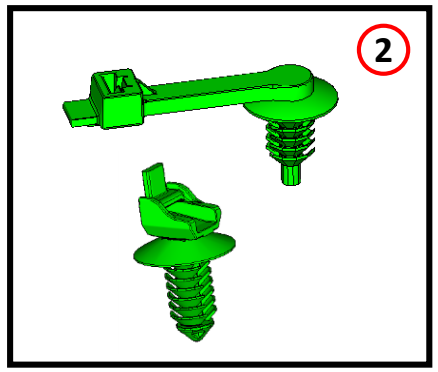
1. P16FB-18B100-A CAN harness
2. P16FB-18A100-A Under hood harness (short/medium tanks)
3. P16FB-18A100-B Under hood harness (single long tank)
4. P16FB-18K377-B/D Left propane tank harness
5. P16FB-18K377-C/E Right propane tank harness

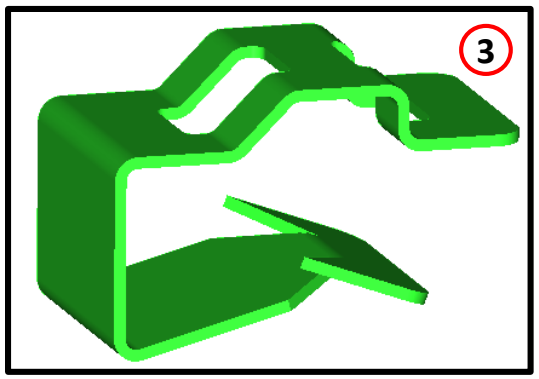
***** READ BEFORE STARTING THE INSTALLATION *****

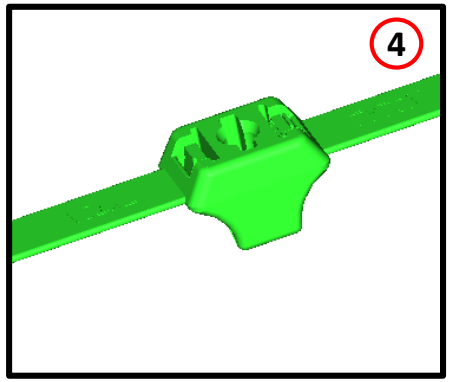
There are 4 types of retainers in the Electrical Kit to retain harnesses.

1. Tie-straps (20-403-0003) are typically used to retain to the OEM harness. These tie-straps are also used to retain the propane tank harness to the propane fuel tank.
2. Use fir-tree clips (126-03504) to retain Under hood harness to engine compartment near fuel rail solenoids.
3. Metal edge clips (11-056-0044) are used on right propane tank harness.
4. Butterfly tie-straps are used to retain harness above fuel lines along cross-member.
5. Stud grip zip tie (157-00083)
6. Stud grip zip tie (11-403-0025)





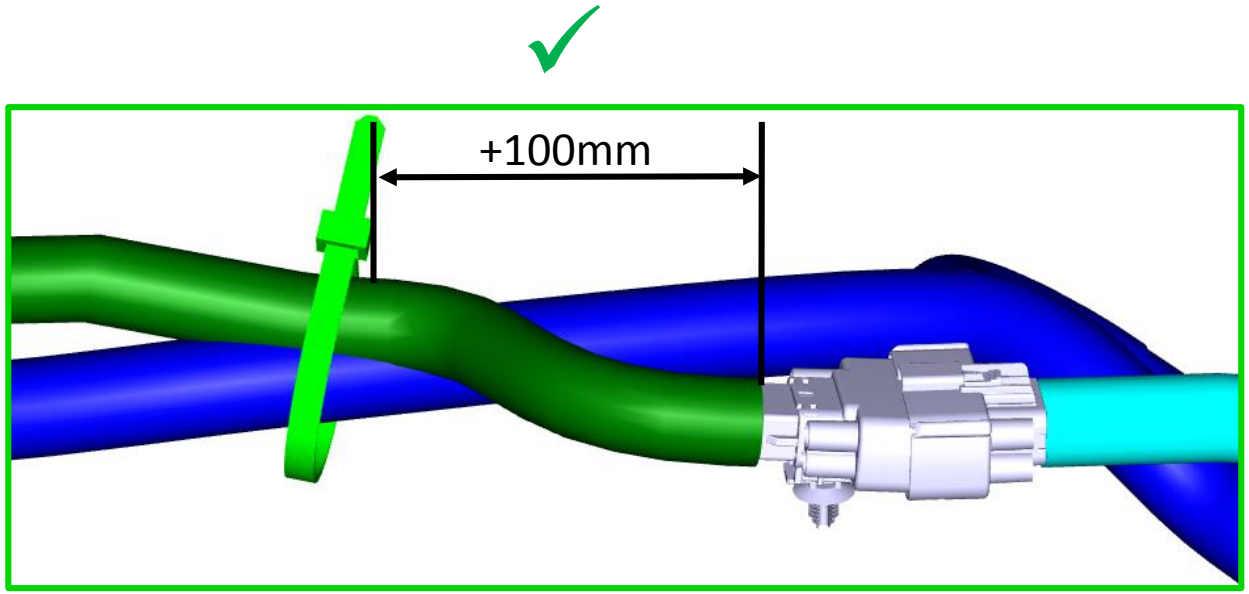
ATTENTION

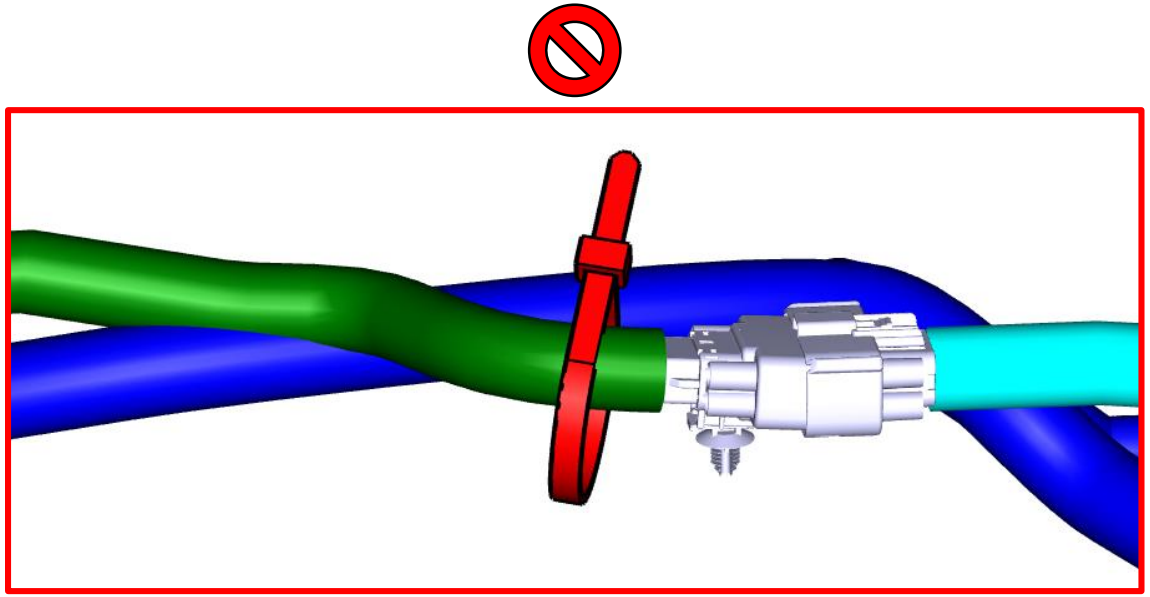
All Tanks

# INSTALLING THE WIRING HARNESSES – COMPONENT OVERVIEW

The following instructions are for installing propane kit harnesses:

1. When retaining the electrical harness keep a space of 100mm (4 inches) between the zip-tie and the nearest connector on the harness. This prevents unwanted stress as the wires enter the connector cavities.

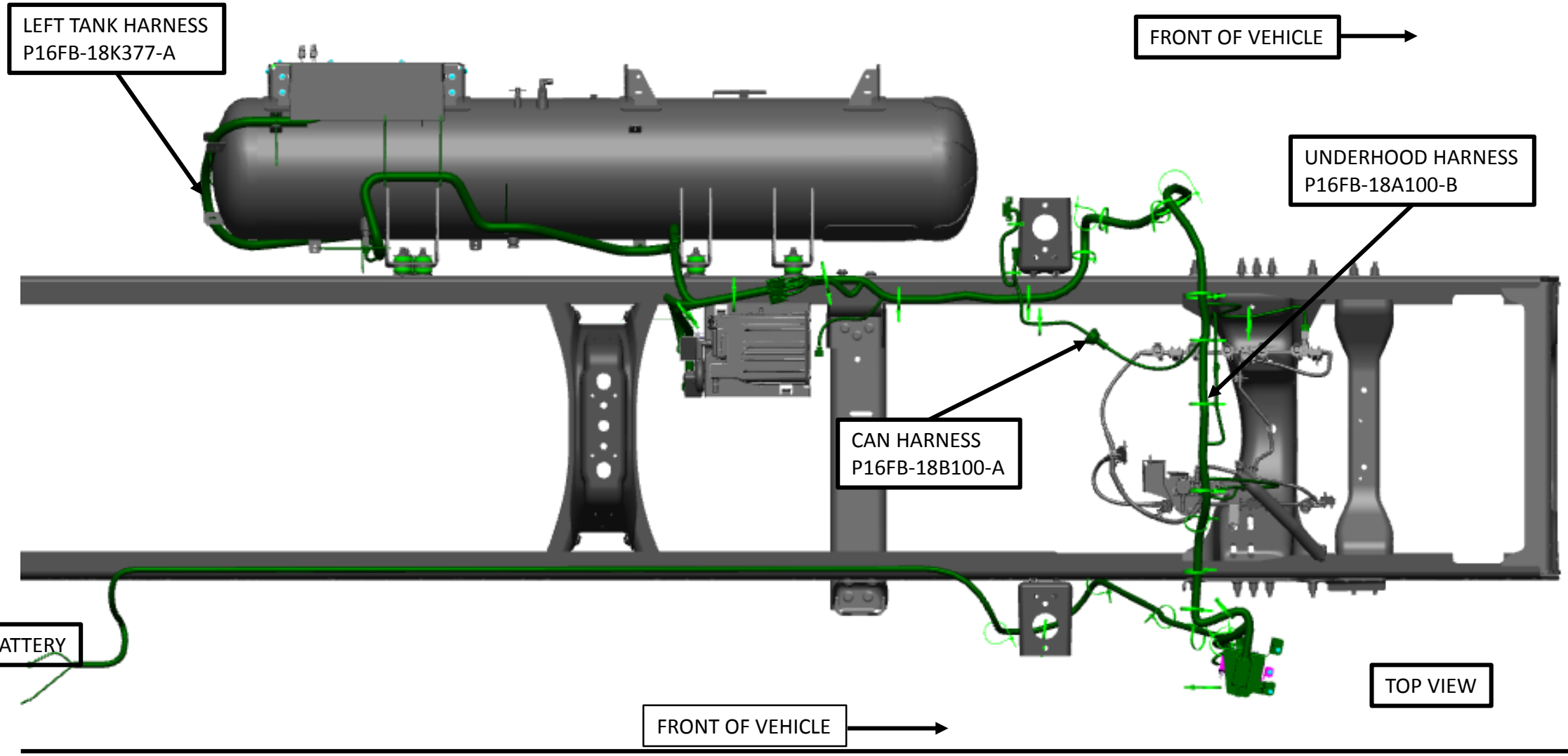


# INSTALLING THE WIRING HARNESSES – SINGLE LONG TANK WIRING OVERVIEW

ATTENTION

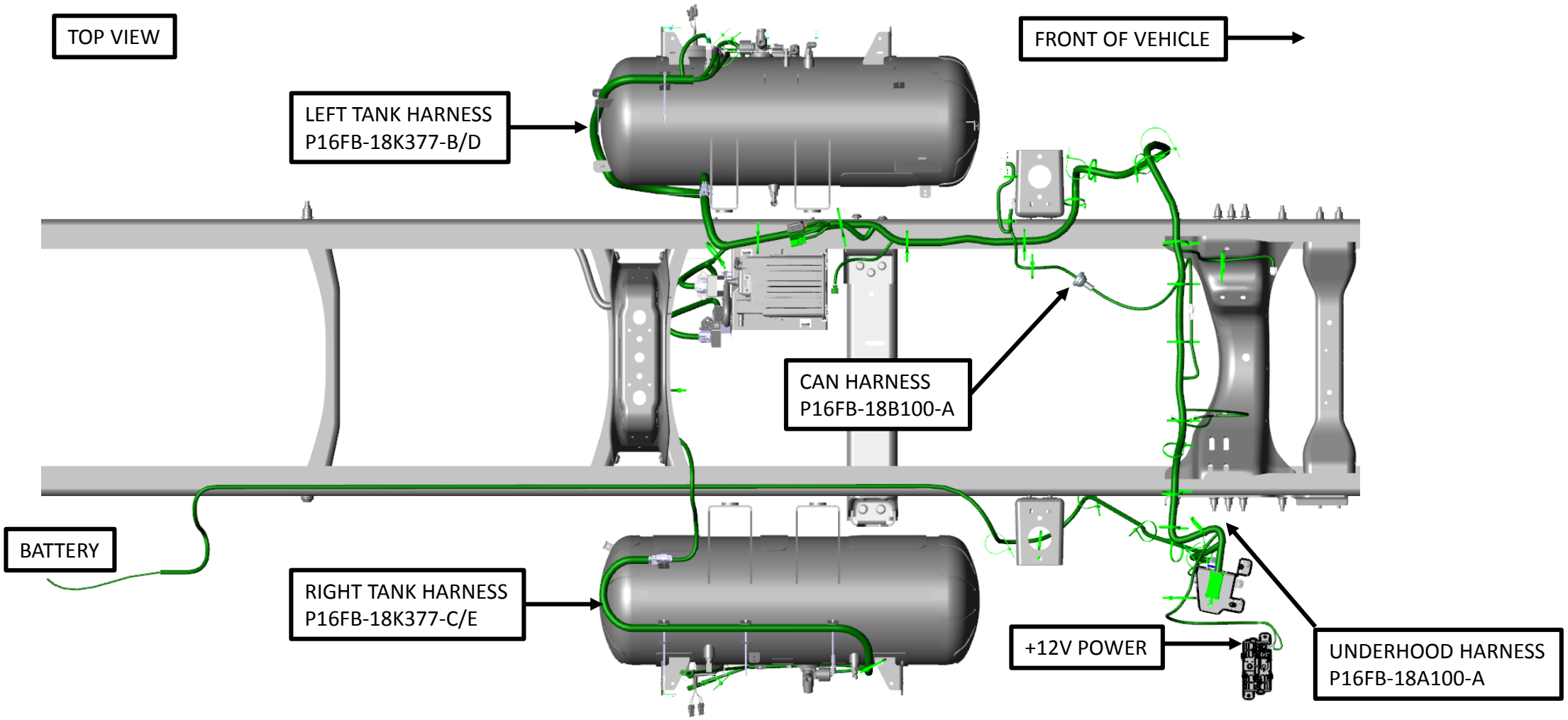
Tank A




DISCARD REUSE NEW

# INSTALLING THE WIRING HARNESSES – SHORT/MEDIUM TANK WIRING OVERVIEW

ATTENTION
Dual Tanks

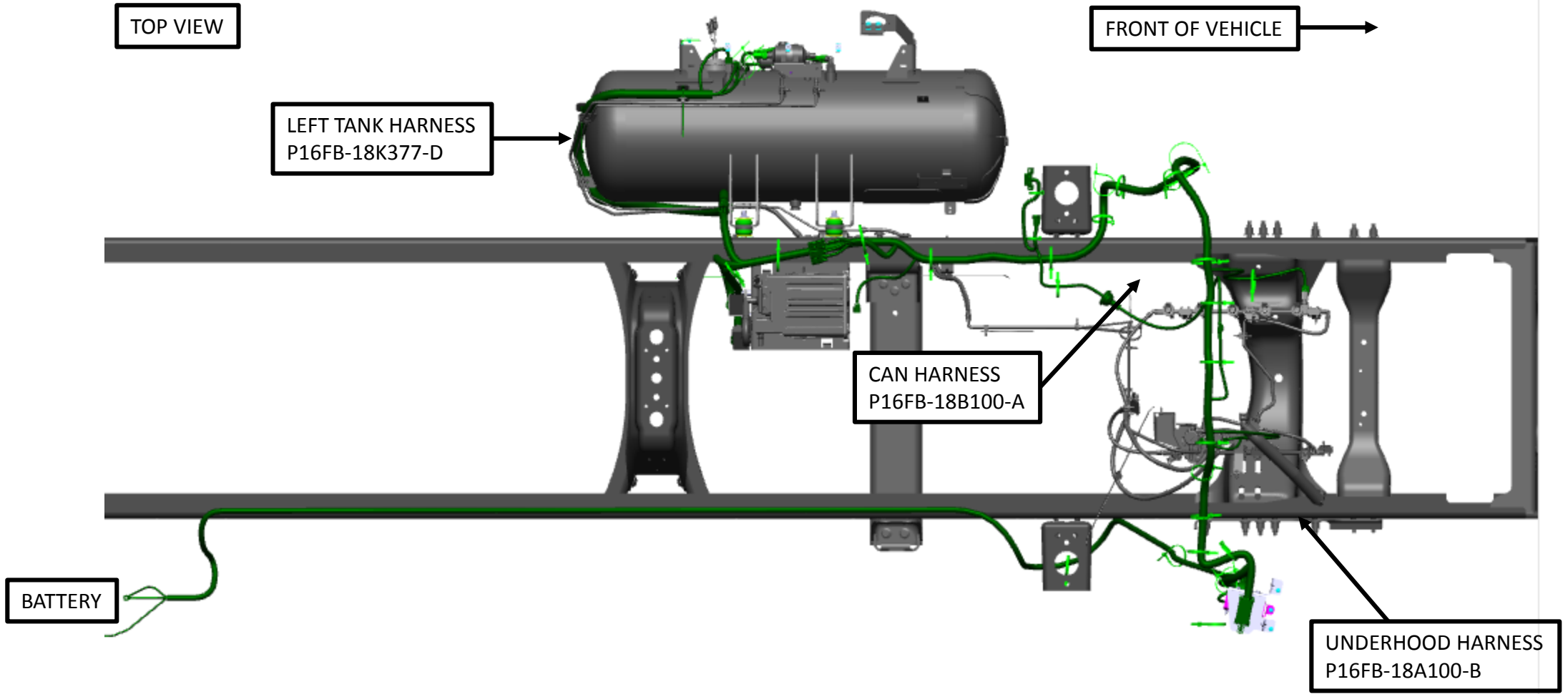



DISCARD REUSE NEW

# INSTALLING THE WIRING HARNESSES – SINGLE MEDIUM TANK WIRING OVERVIEW

ATTENTION

Tank C-LH

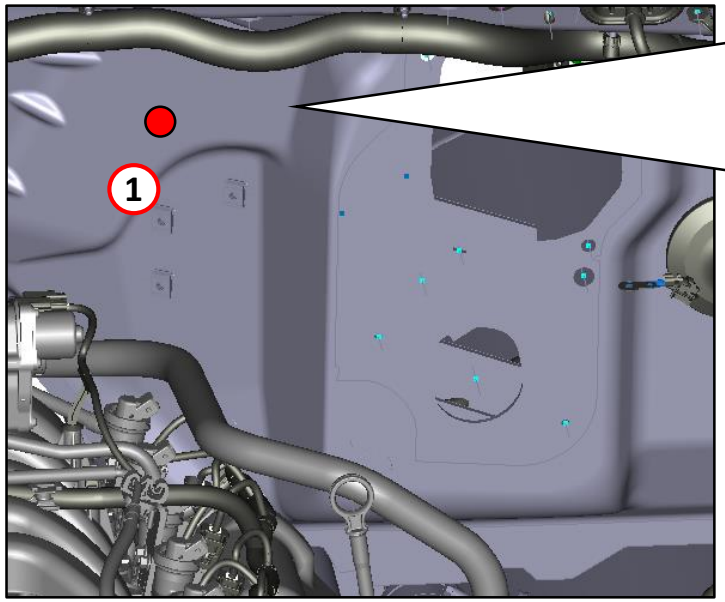


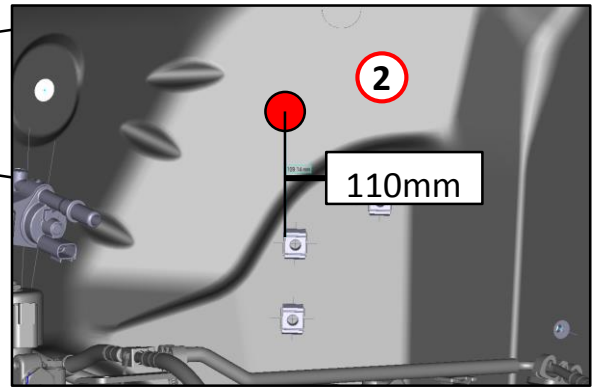
ATTENTION

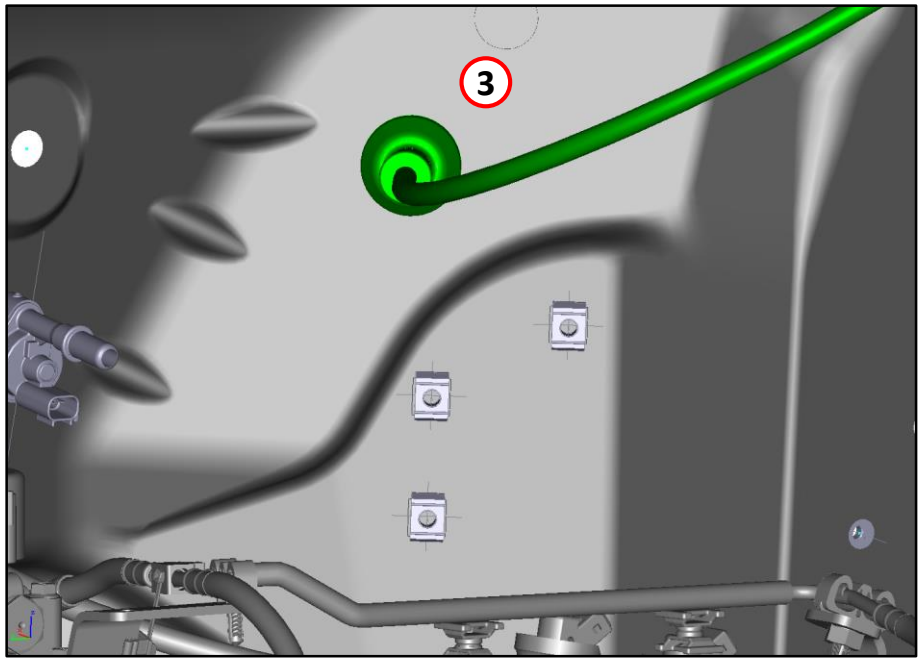
All Tanks

# INSTALLING THE CAN HARNESS

1. Mark the location to cut a 35mm hole in bulkhead. The center of the hole is 110mm above the left accelerator pedal mounting location.
2. Cut the hole using a step drill bit, to 35mm in diameter (SAE std. size = 1-3/8”). Deburr and spray undercoating to the bare metal.
3. From the vehicle’s interior, properly seat the grommet into the 35mm hole.



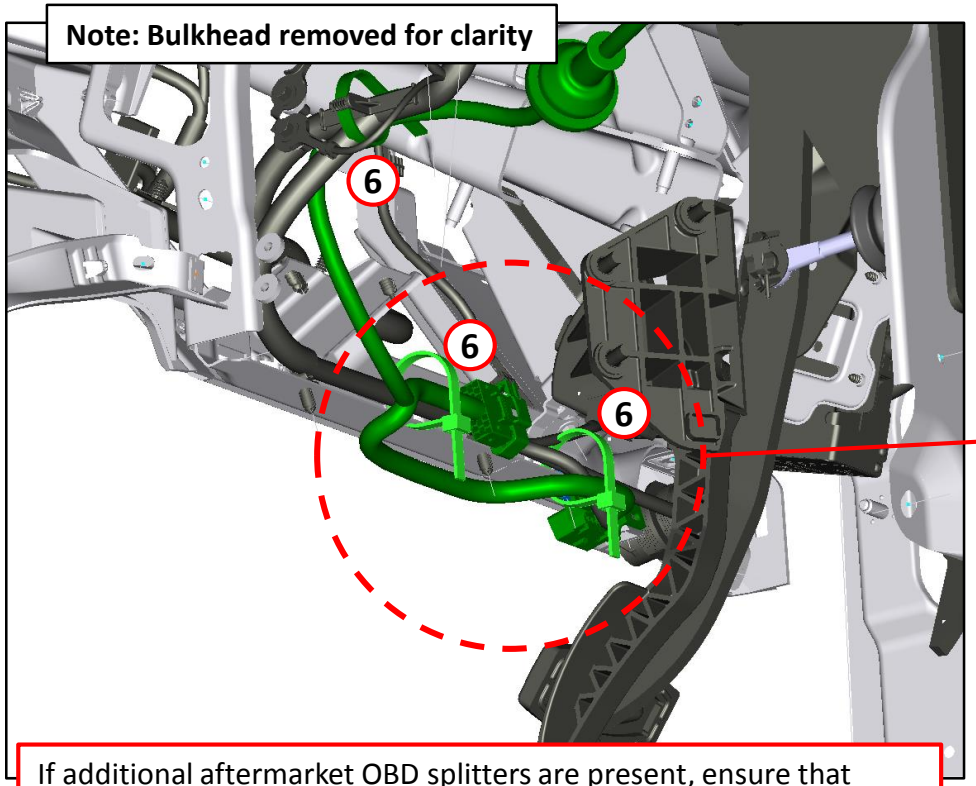



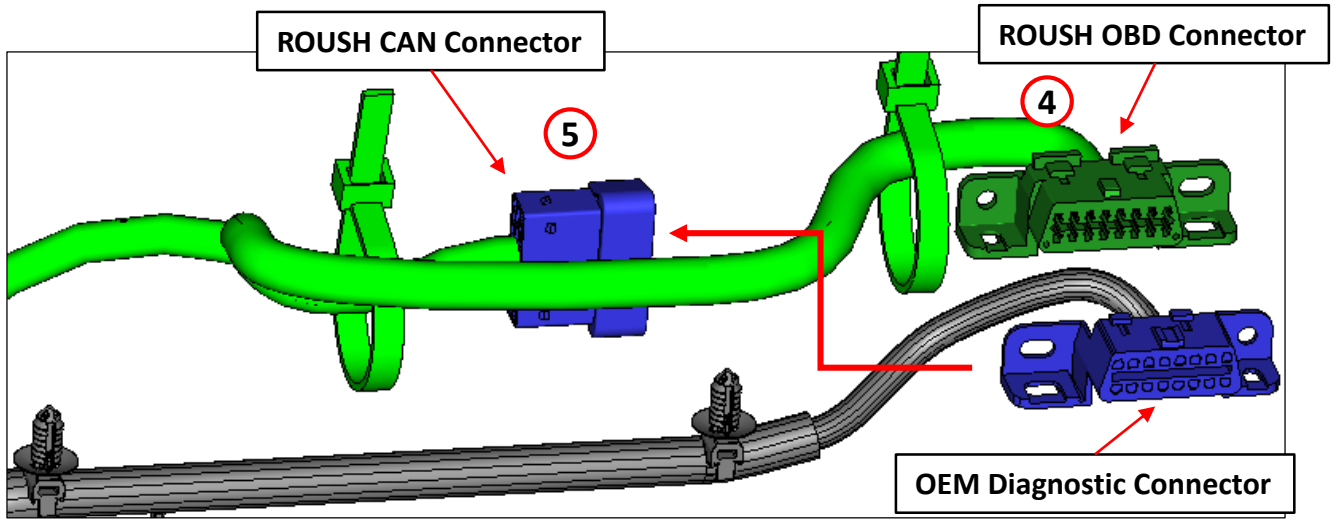
ATTENTION

All Tanks

# INSTALLING THE CAN HARNESS CONTINUED

4. Replace the OEM diagnostic connector by reusing the OEM hardware and mount the ROUSH OBD connector.
5. Connect the OEM diagnostic connector into the ROUSH CAN Connector and properly engage the connector lock. See below for proper locking procedure.
6. Route and retain the CAN harness to the OEM harness as shown.



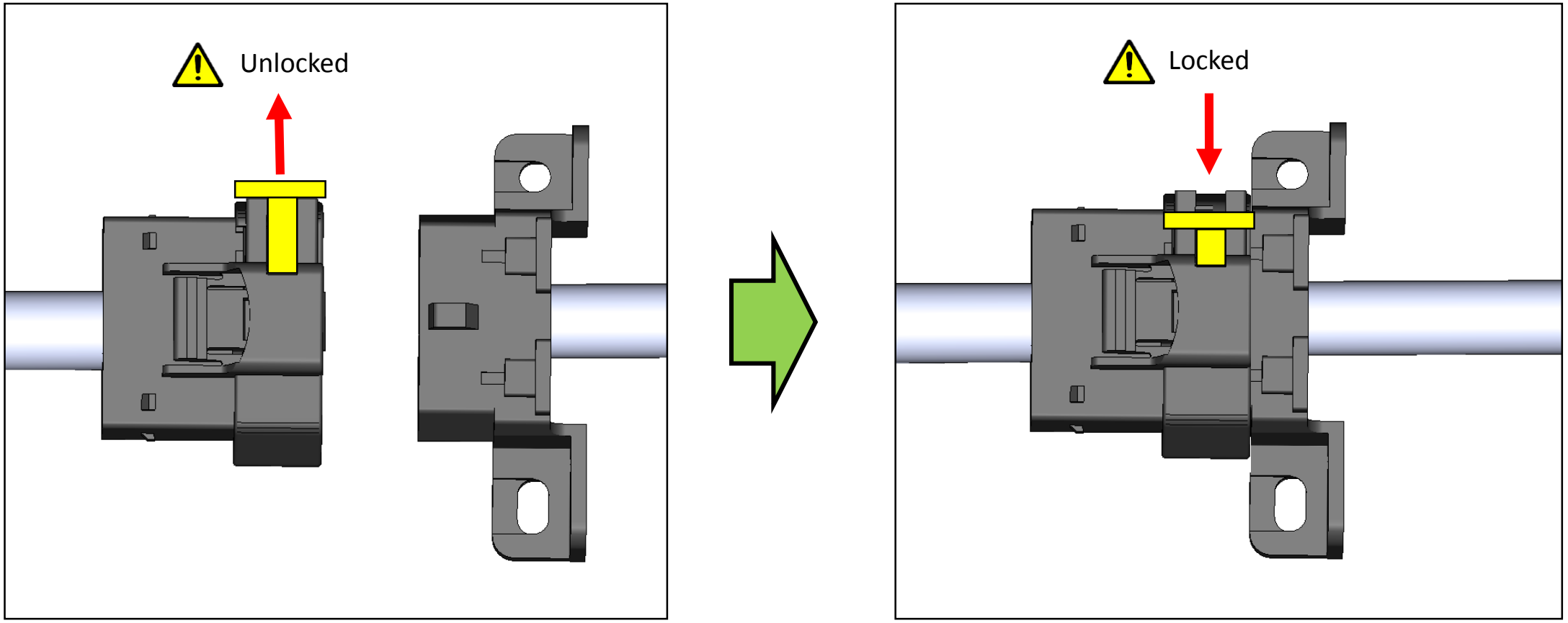




If additional aftermarket OBD splitters are present, ensure that ROUSH connector is connected to OEM DLC (OBD Connector).

ATTENTION

All Tanks

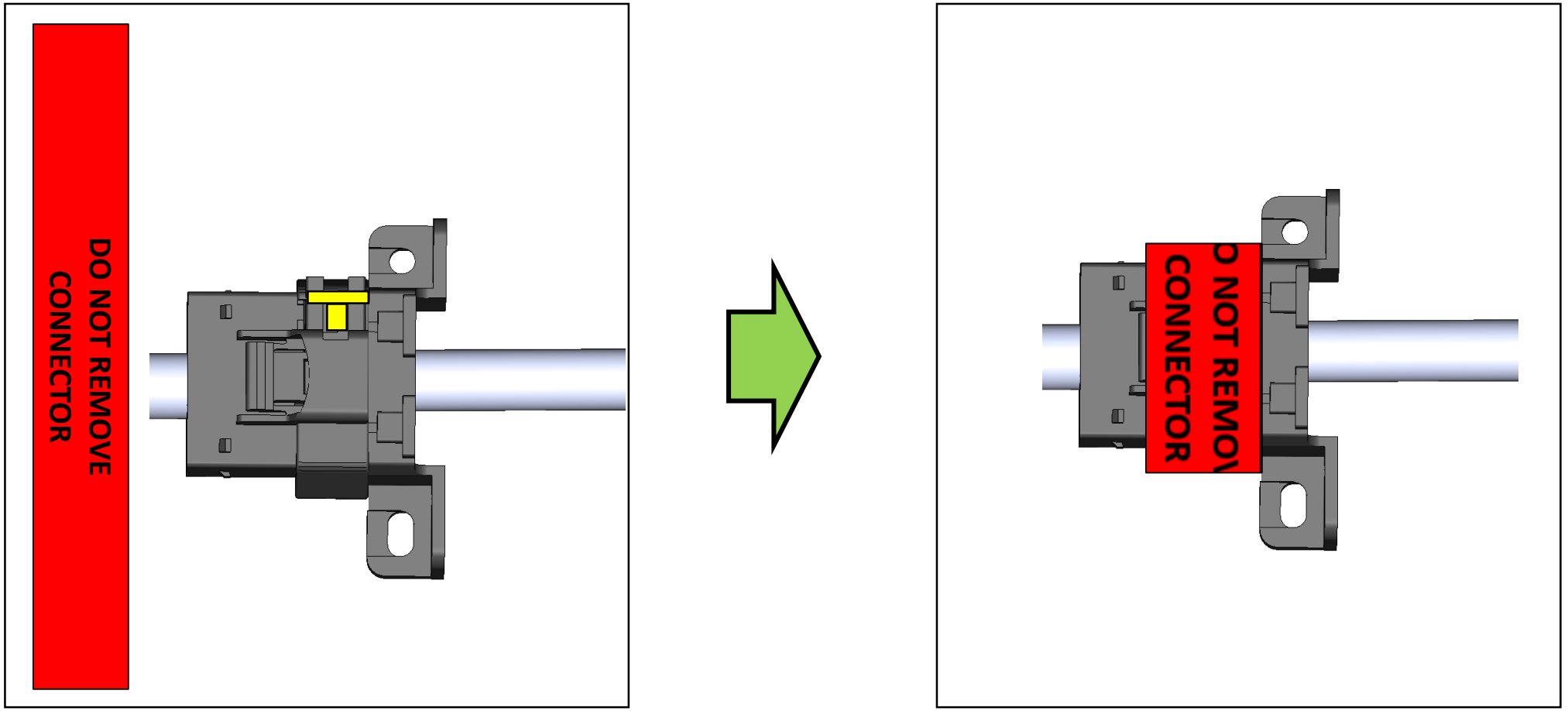
# NOTE: ENSURE THAT THE CAN HARNESS IS LOCKED AS SHOWN IN THE IMAGES BELOW



ATTENTION

All Tanks

# APPLY LABEL TO RCT CAN HARNESS

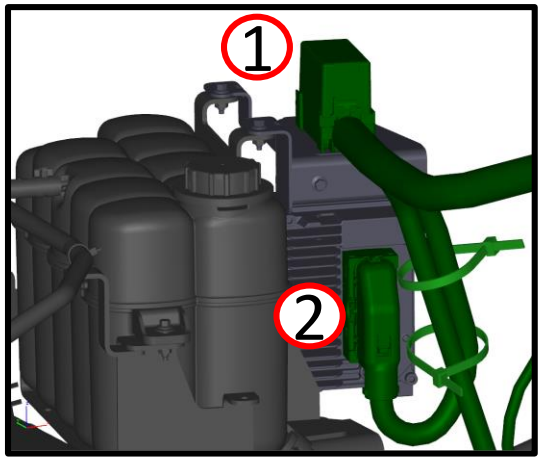


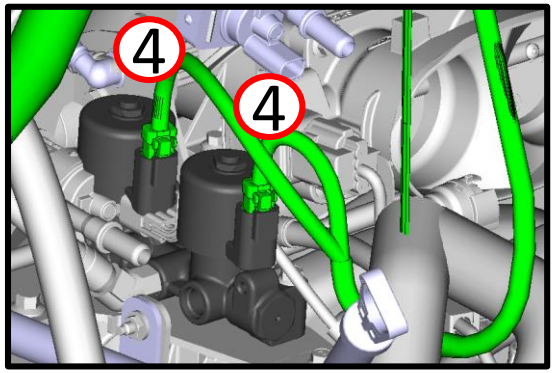
ATTENTION

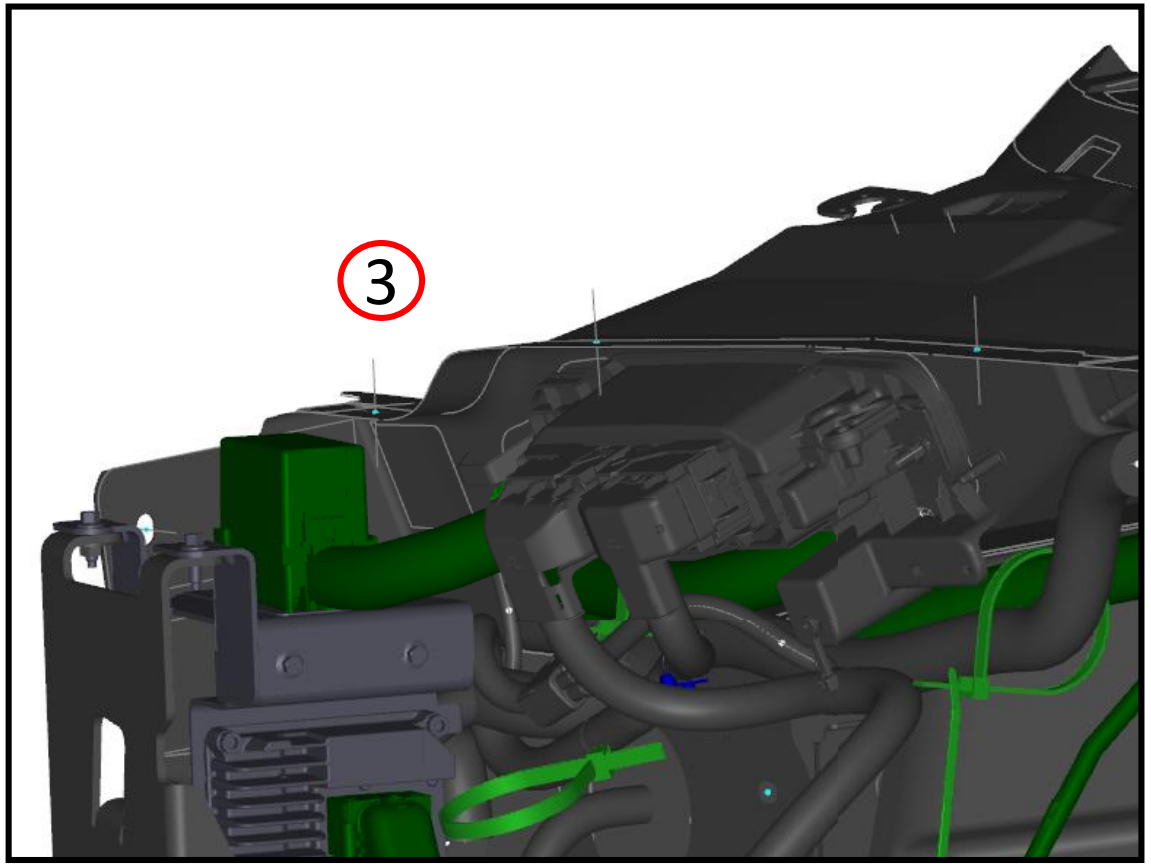
All Tanks

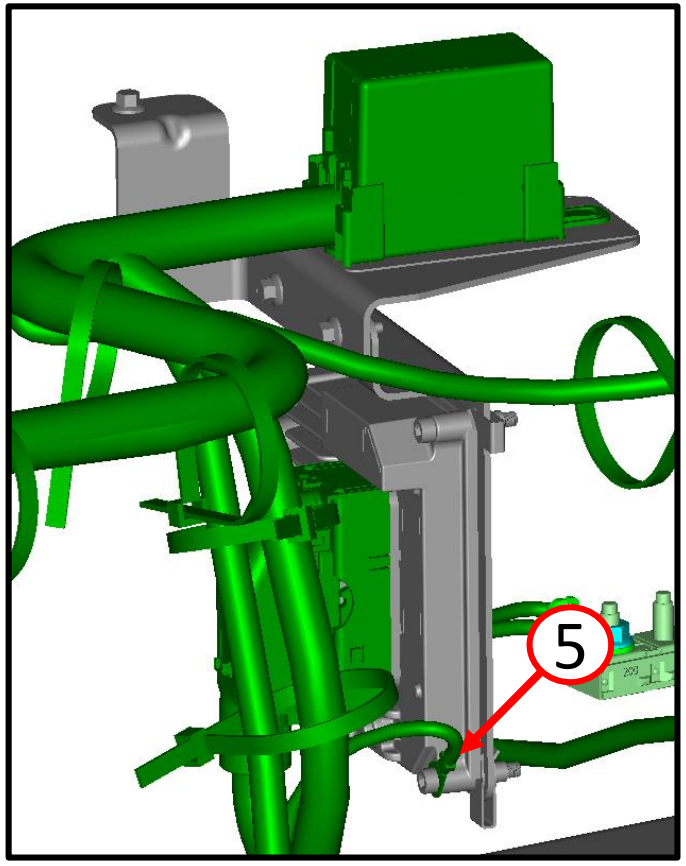
# INSTALLING THE UNDERHOOD HARNESS

1. Mount relay center above SRM.
2. Connect SRM and lock connector.
3. Position the ROUSH harness below the vehicle PCM and retain to OEM cowl harness as shown.
4. Connect solenoids at FRPCM (black connector to front supply solenoid).
5. Secure the ground signal eyelet to the SRM housing at bottom as shown.



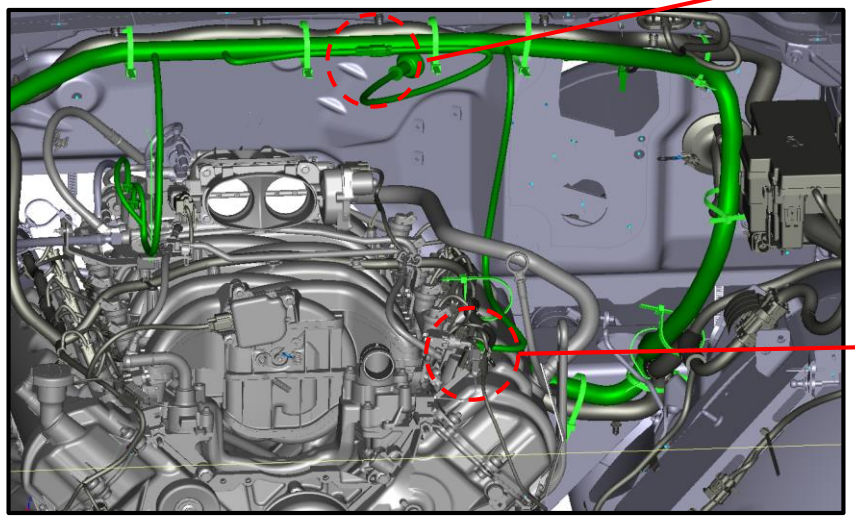

DISCARD REUSE NEW

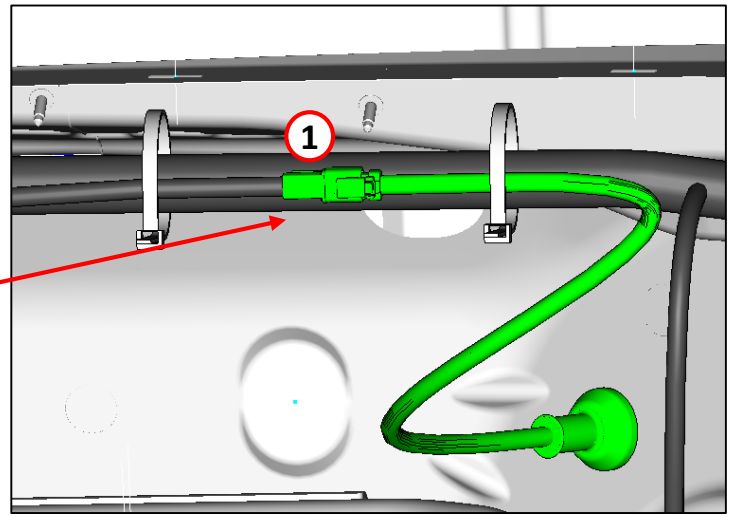
ATTENTION

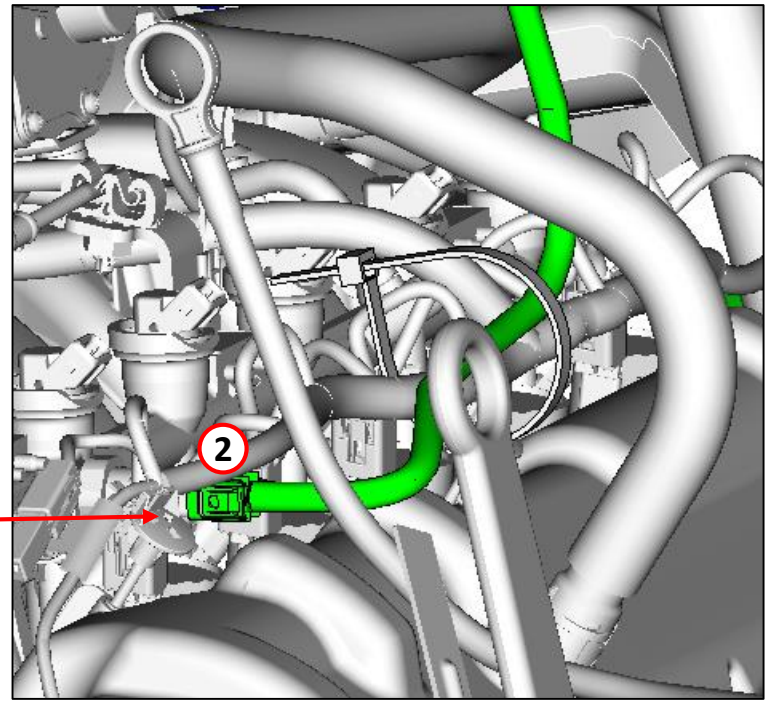
All Tanks

# INSTALLING THE UNDERHOOD HARNESS CONTINUED

1. Connect CAN harness inline connector and retain to main bundle.
2. Connect FPTS at fuel injector rail. Leave slack between harness main bundle and OEM engine harness for engine roll.





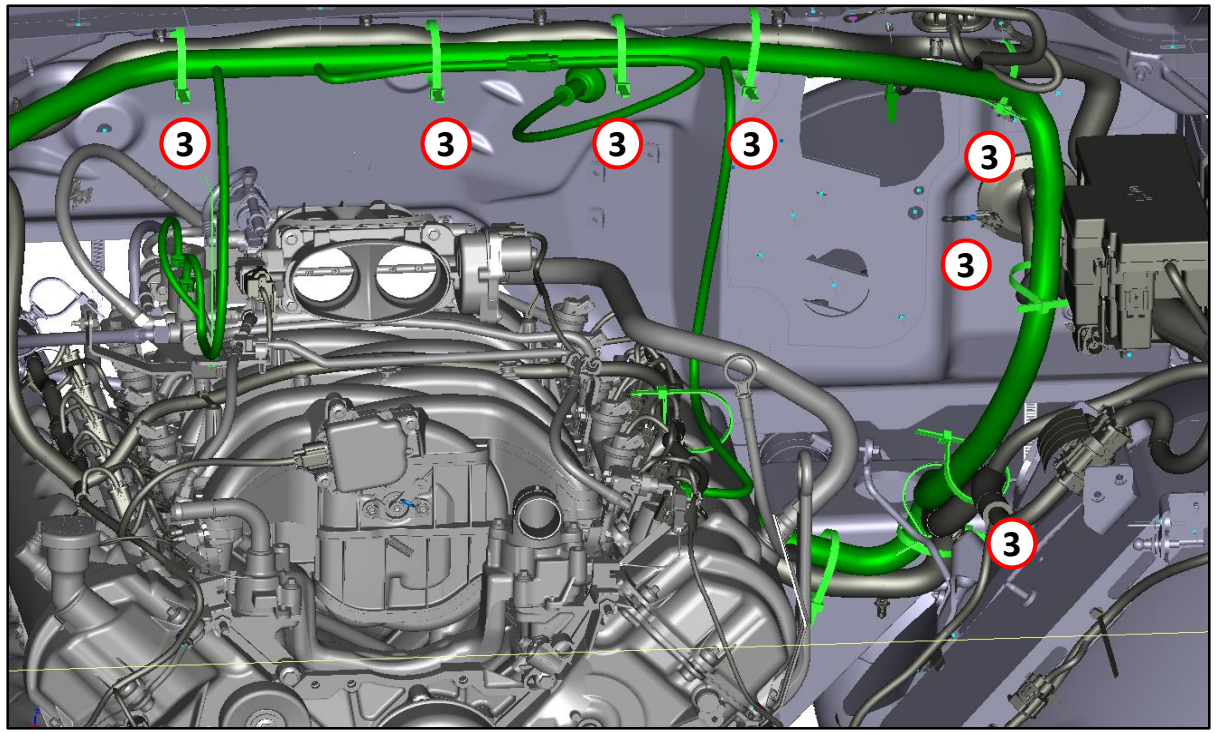



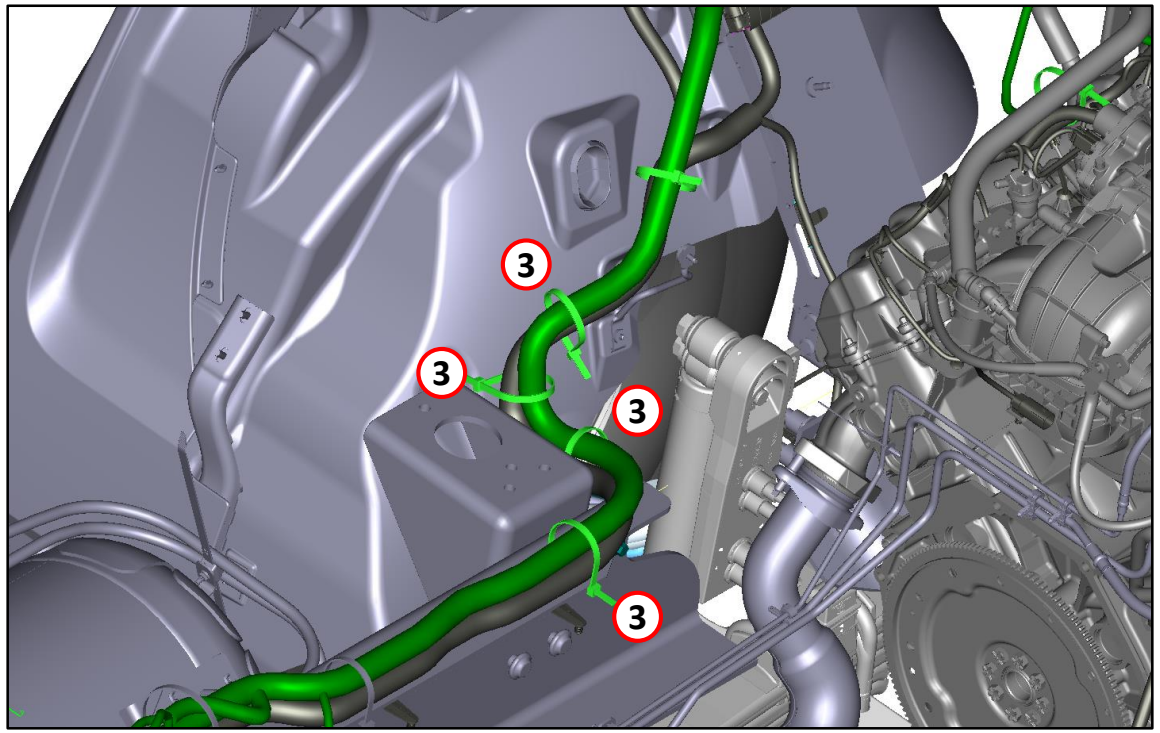
ATTENTION

All Tanks

# INSTALLING THE UNDERHOOD HARNESS CONTINUED

3. Continue routing harness along the LH-side engine compartment and retain using zip ties as shown.



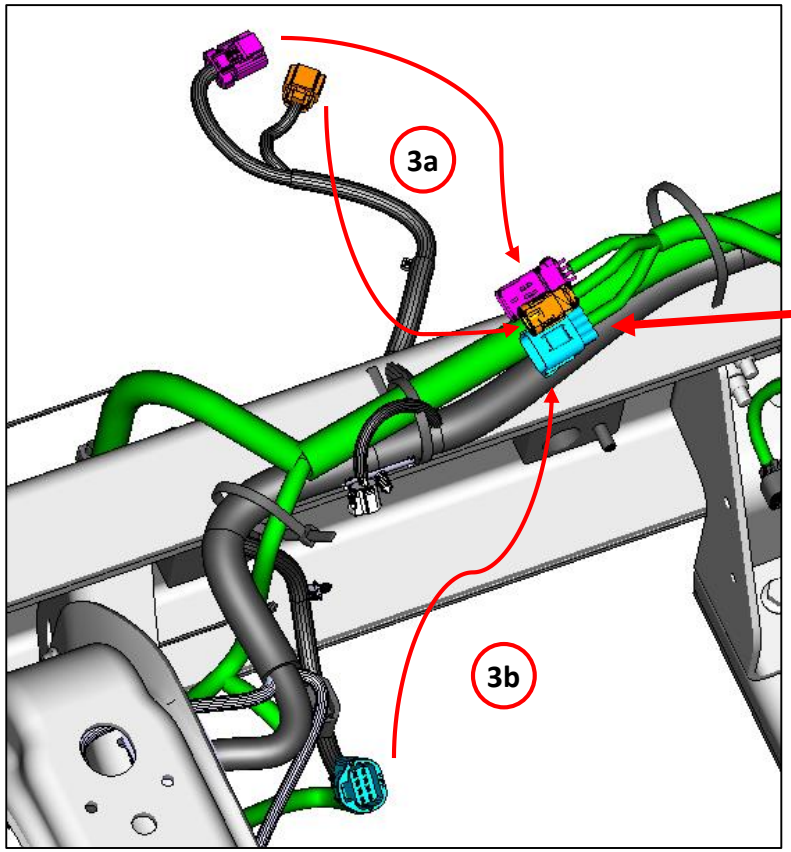



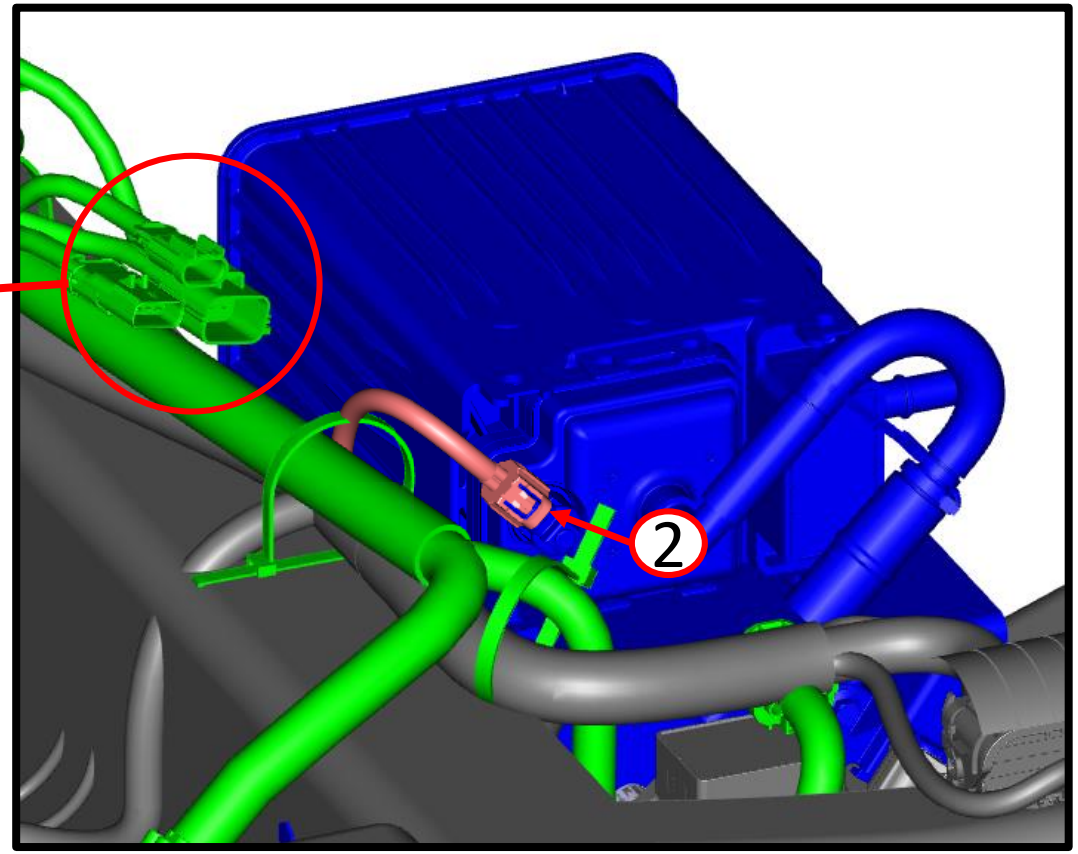
ATTENTION

All Tanks

# INSTALLING THE UNDERHOOD HARNESS CONTINUED

1. Continue routing harness and retain as shown.
2. Position OEM harness clear from obstructions to ensure that the connector takeout maintains slack to avoid stress.
3. There are three connectors along frame for connecting to the OEM harness. Make these connections now.
   a) From OEM fuel pump #1 and #2
   b) From OEM EFPR



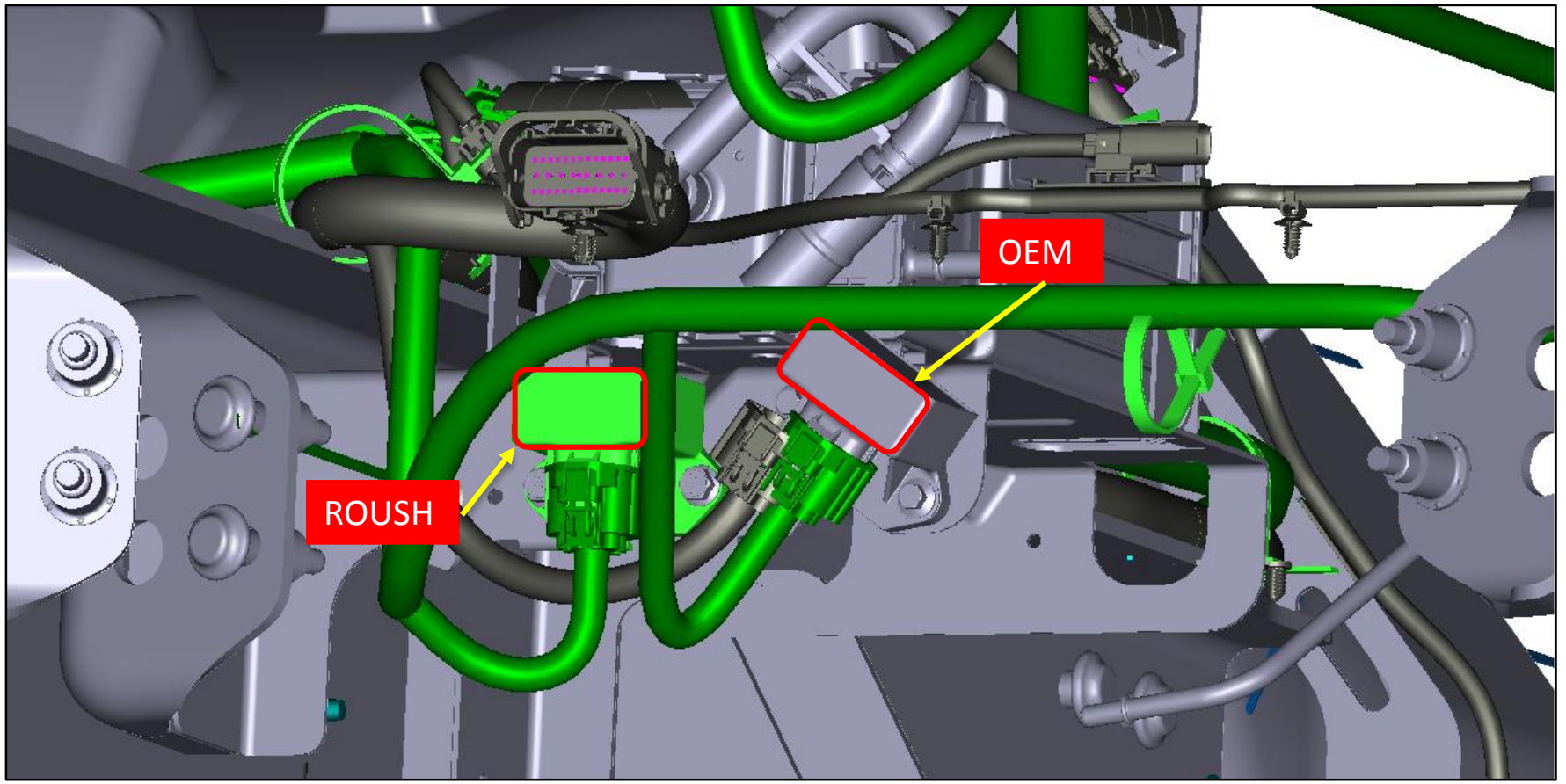



ATTENTION

Tank A

# INSTALLING THE UNDERHOOD HARNESS CONTINUED

1. Connect the harness to the fuel pump relays (the cross-member is not shown here to clearly show the fuel pump relay connections).

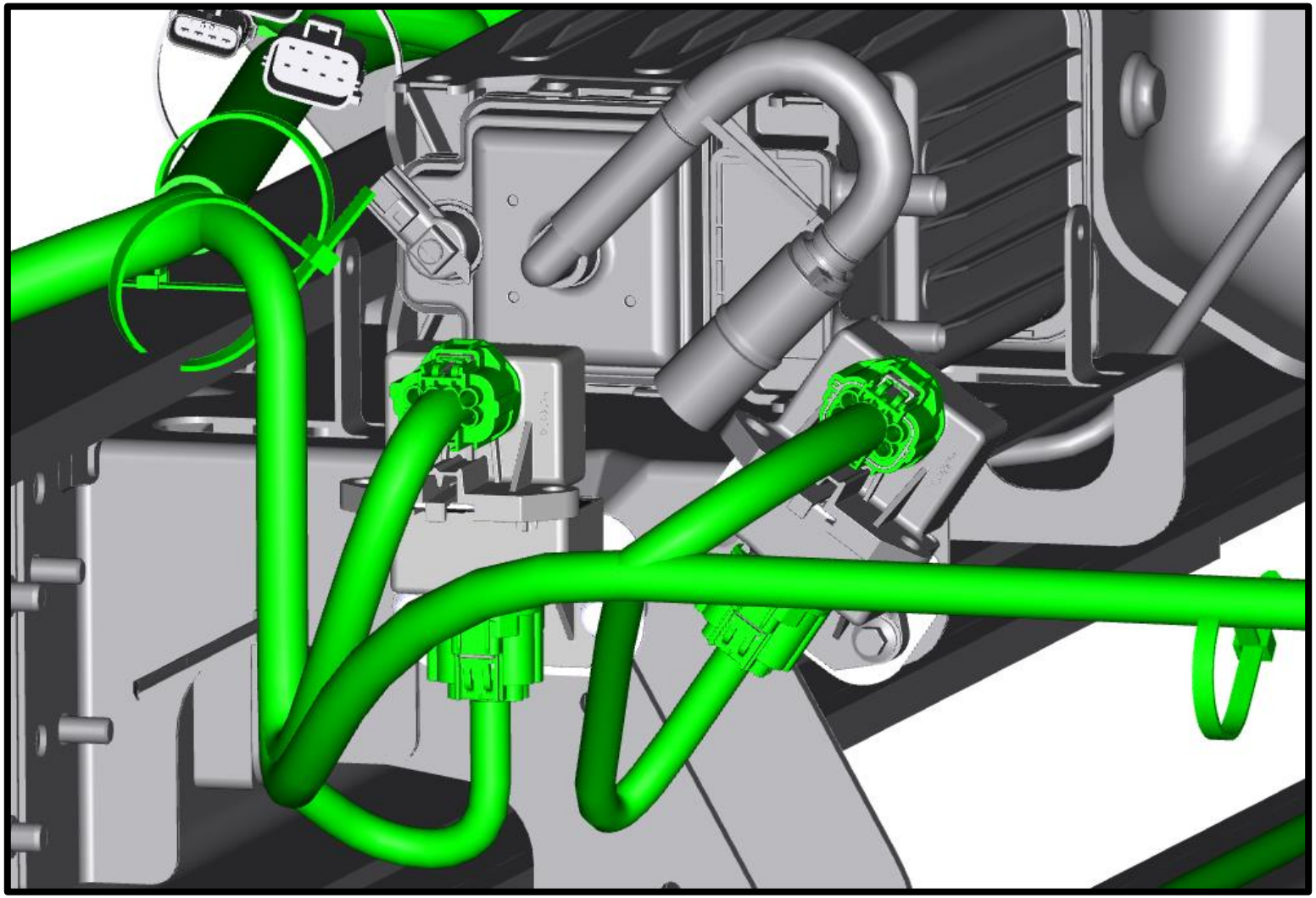


ATTENTION

Dual Tanks

# INSTALLING THE REAR FRAME HARNESS

1. Connect the harness to the fuel pump relays (the cross-member is not shown here to clearly show the fuel pump relay connections).



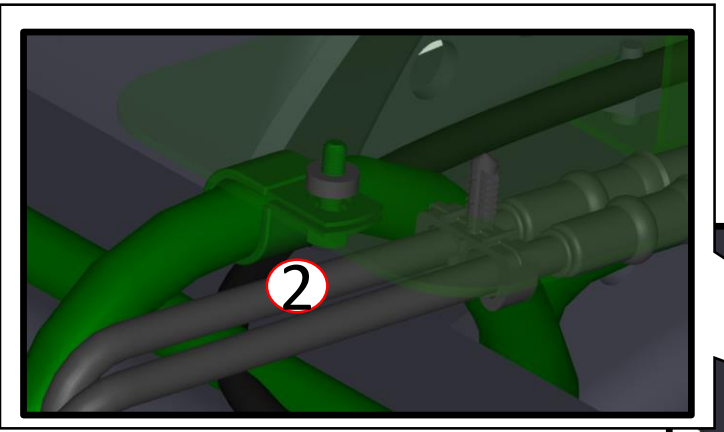
ATTENTION

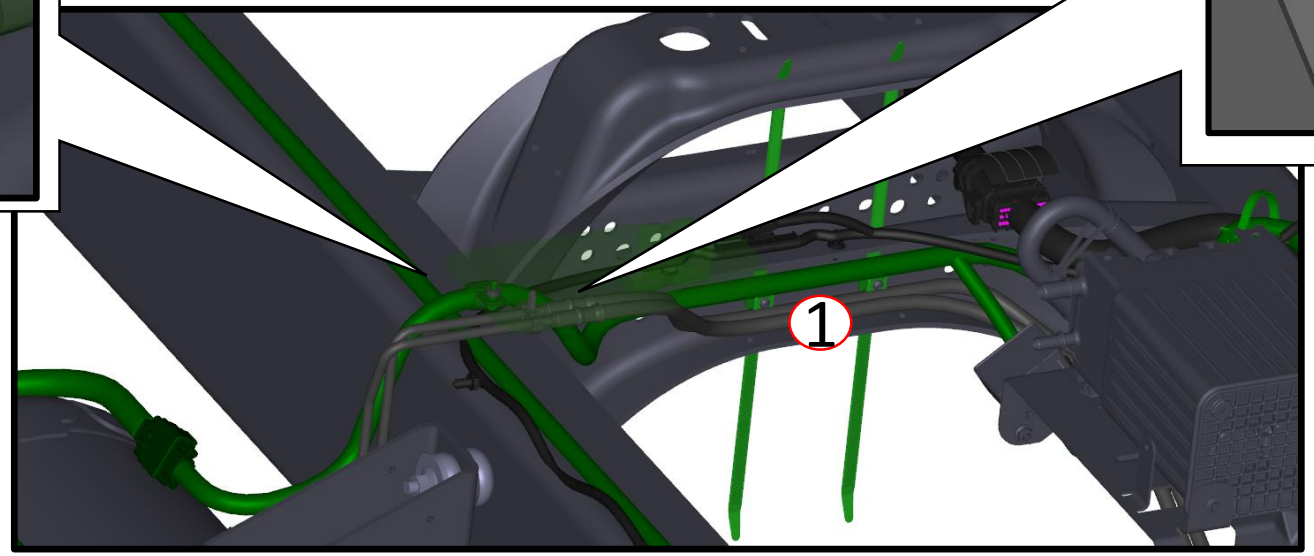
Dual Tanks

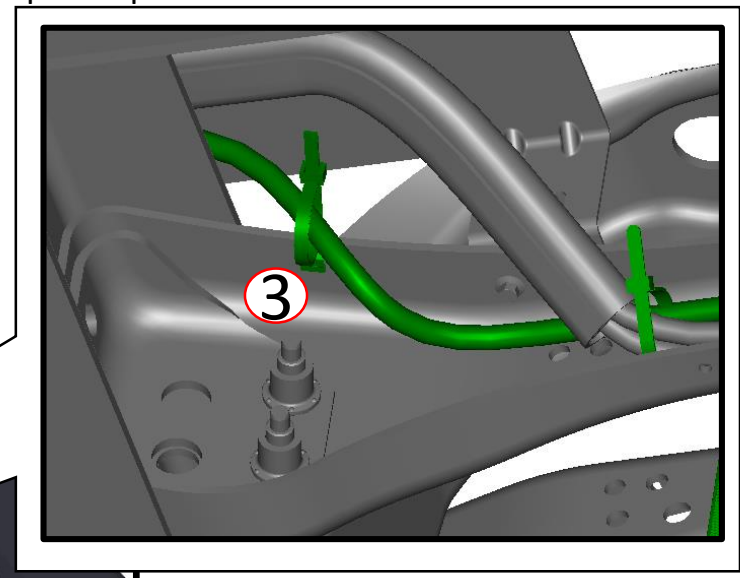
# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. Secure the harness along the cross-member to the **top** position of the butterfly tie-straps. Tighten the strap and the retain the zip ties to the cross member using qty. 2 M6x45 SHCS bolts and qty. 2 M6 flange head lock nuts (grey color) .
2. Route the remainder of the harness over the right frame rail to reach the fuel tank. Secure the harness using the p-clamp and M6x16 bolt in the bracket as shown. Torque 8-12 Nm.
3. Fasten edge clip (11-056-0044) and zip tie to crossmember and secure to wire harness

**NOTE: Secure harness to butterfly tie-straps before securing tie-strap to frame.**



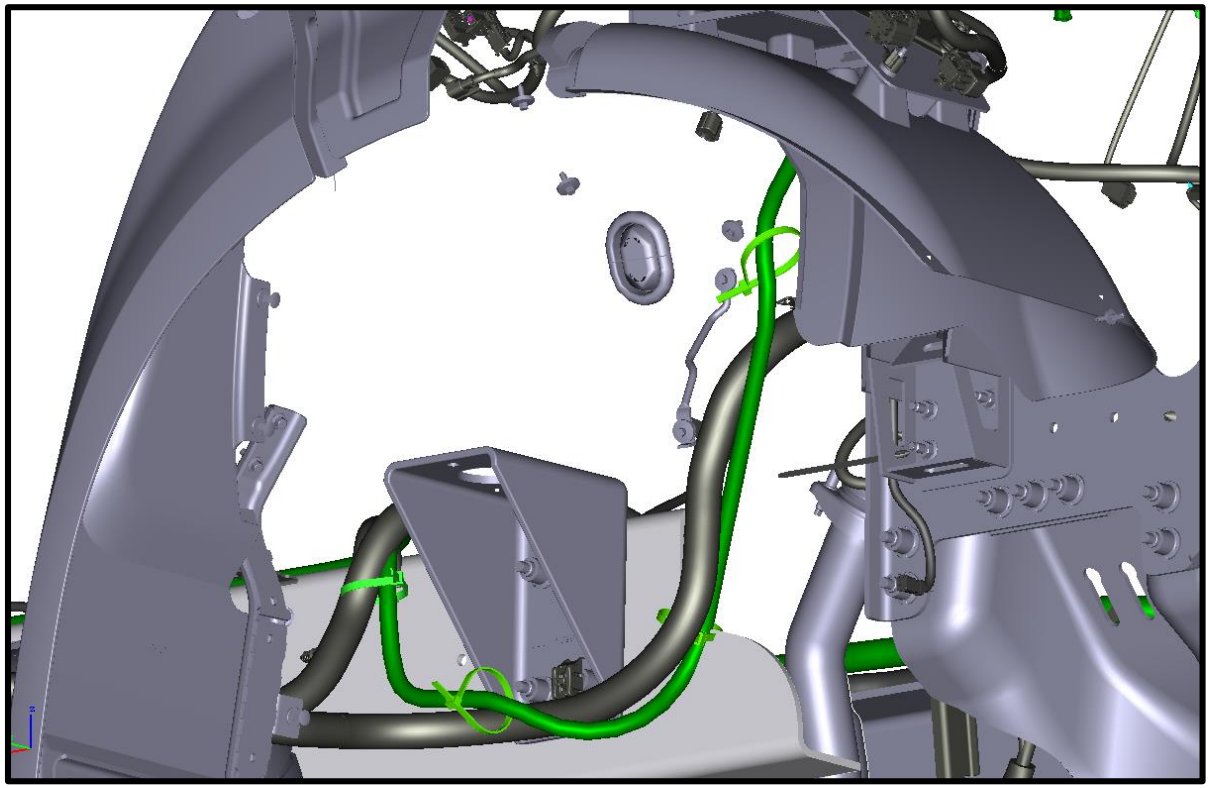



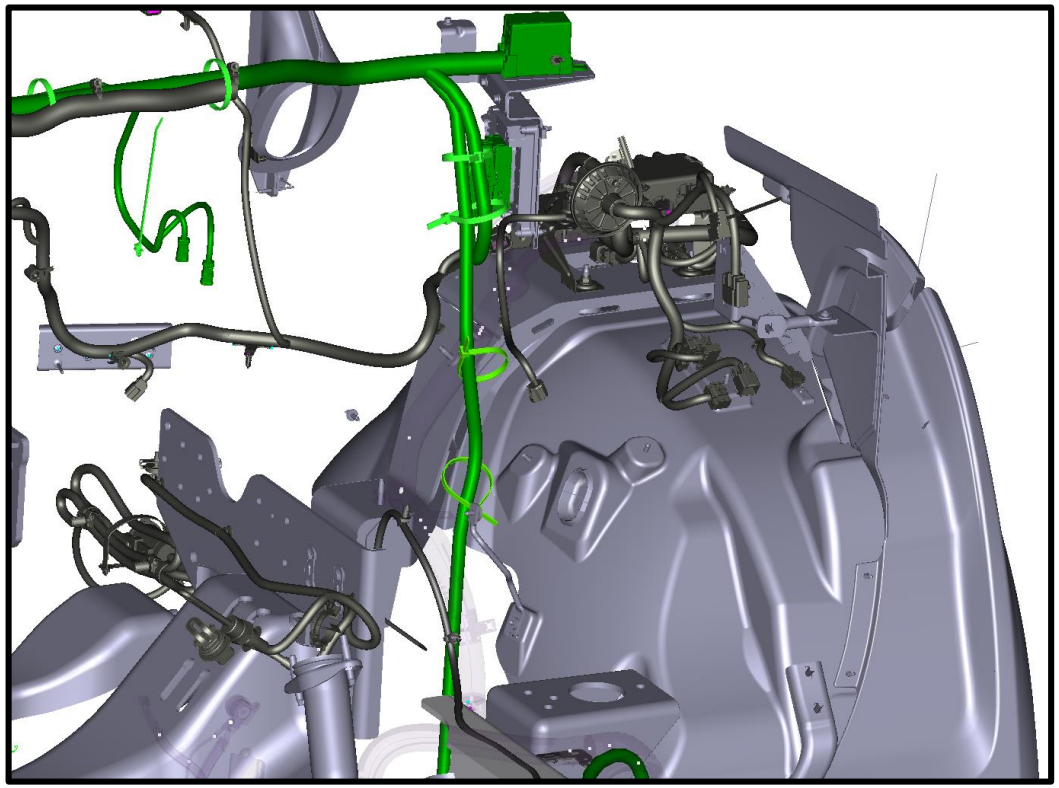
# INSTALLING THE REAR FRAME HARNESS CONTINUED

ATTENTION

All Tanks

1. For applications where batteries mounted within reach of the RCT harness route the harness along the OEM harness from RH engine compartment and secure using tie straps.
2. Continue routing the remainder of the harness along the right frame rail and secure along OEM battery cables.



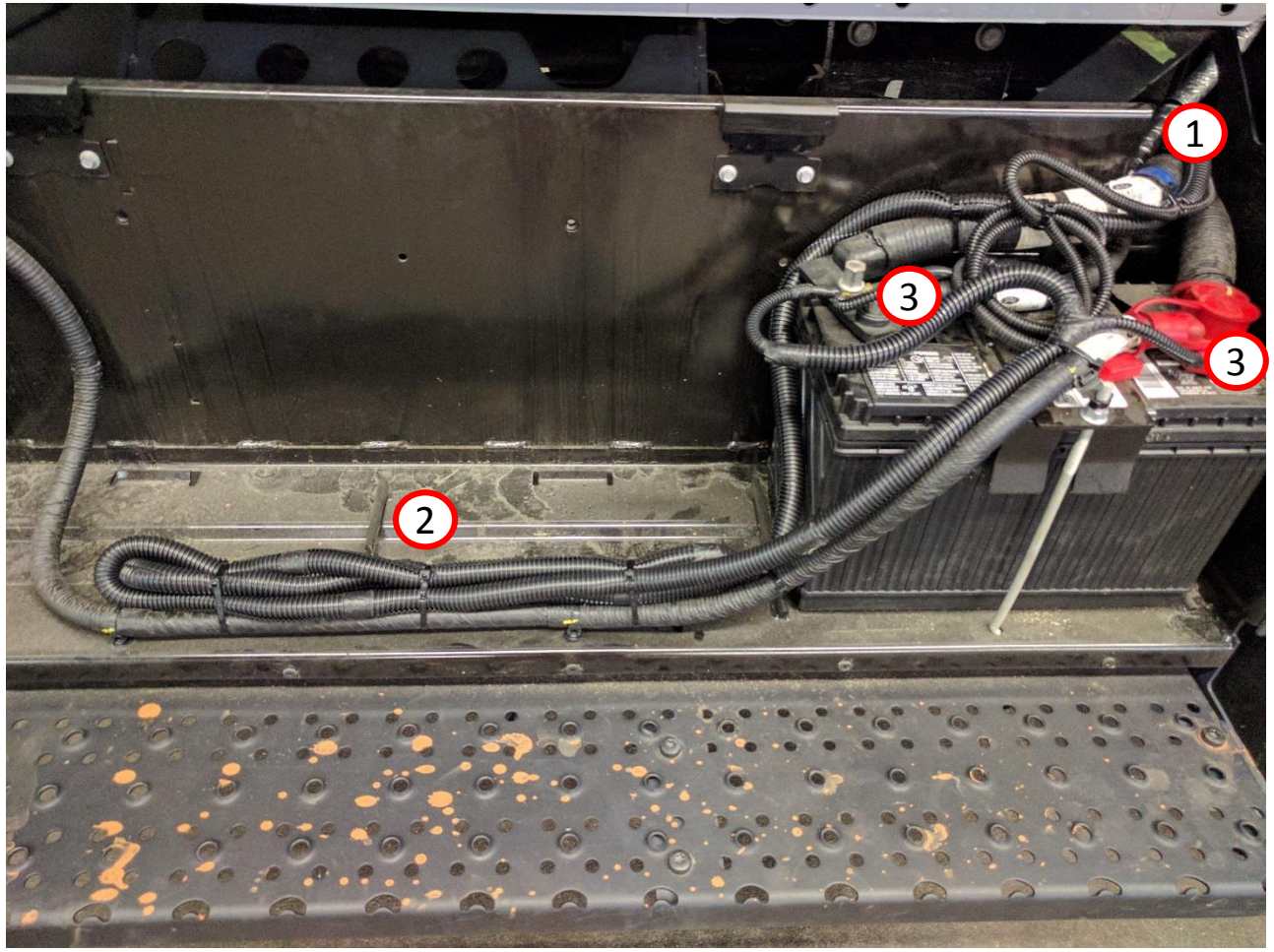


ATTENTION

Single Tanks

# INSTALLING THE REAR FRAME HARNESS CONTINUED

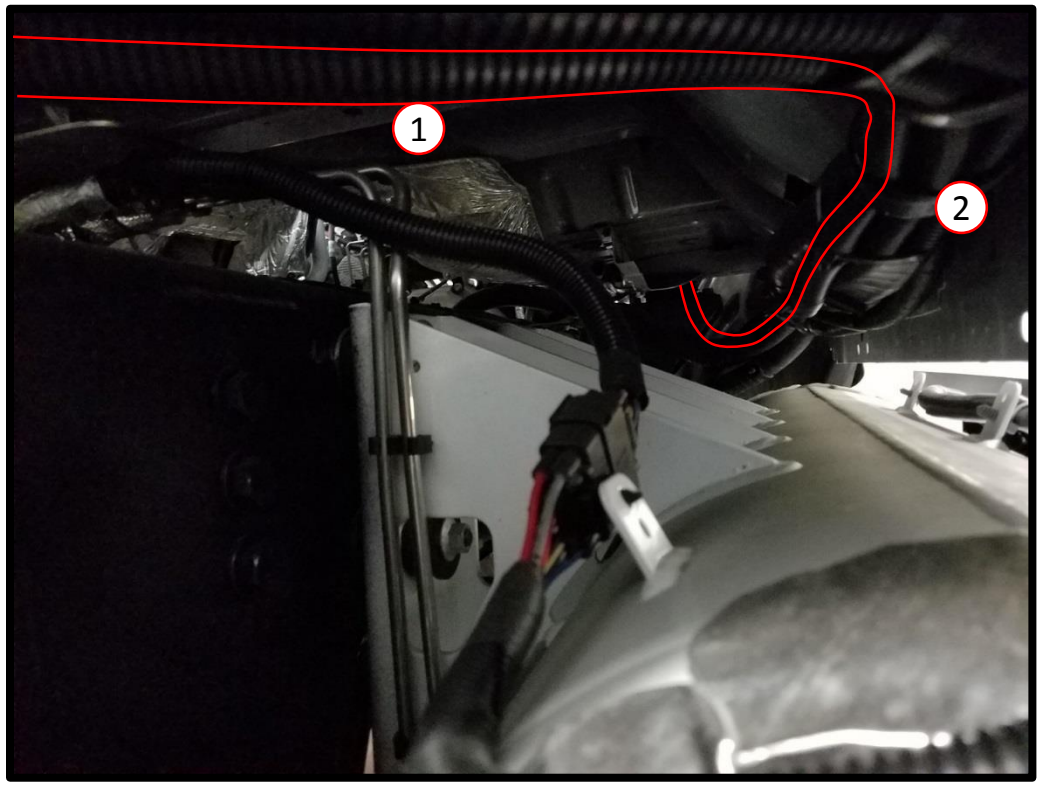
1. Route the harness along the OEM harness on top of RH frame rail, zip tie to OEM harness
2. Bundle any excess harness length and secure with tie-straps
3. Eyelets for battery termination need to end in the battery tray

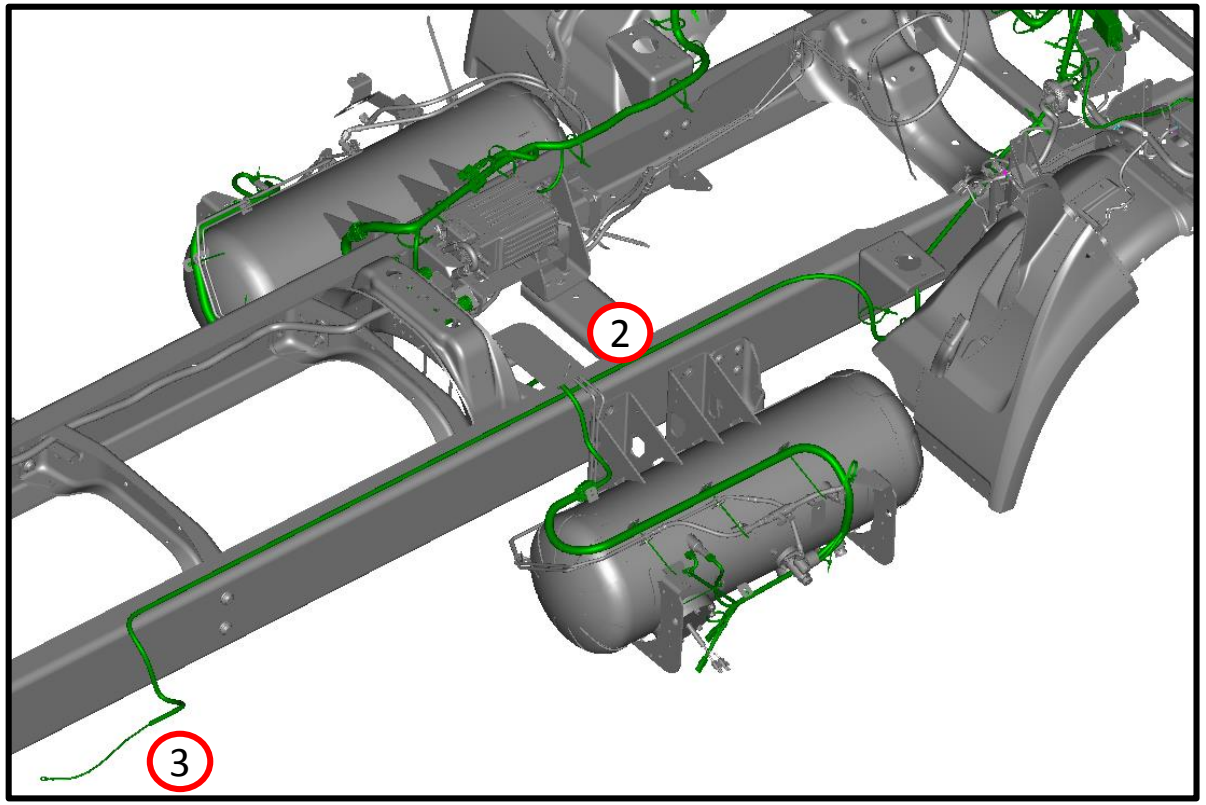


# INSTALLING THE REAR FRAME HARNESS CONTINUED

ATTENTION
Tank B
Tank C

1. Route the RCT harness along the right side between the cab and the tank.
2. Zip tie the harness to the bundle of cables shown and attach into p-clamps holding the bundle in place.
3. Route ground wire to relocated battery compartment. Bundle any excess harness length and secure with tie-straps.



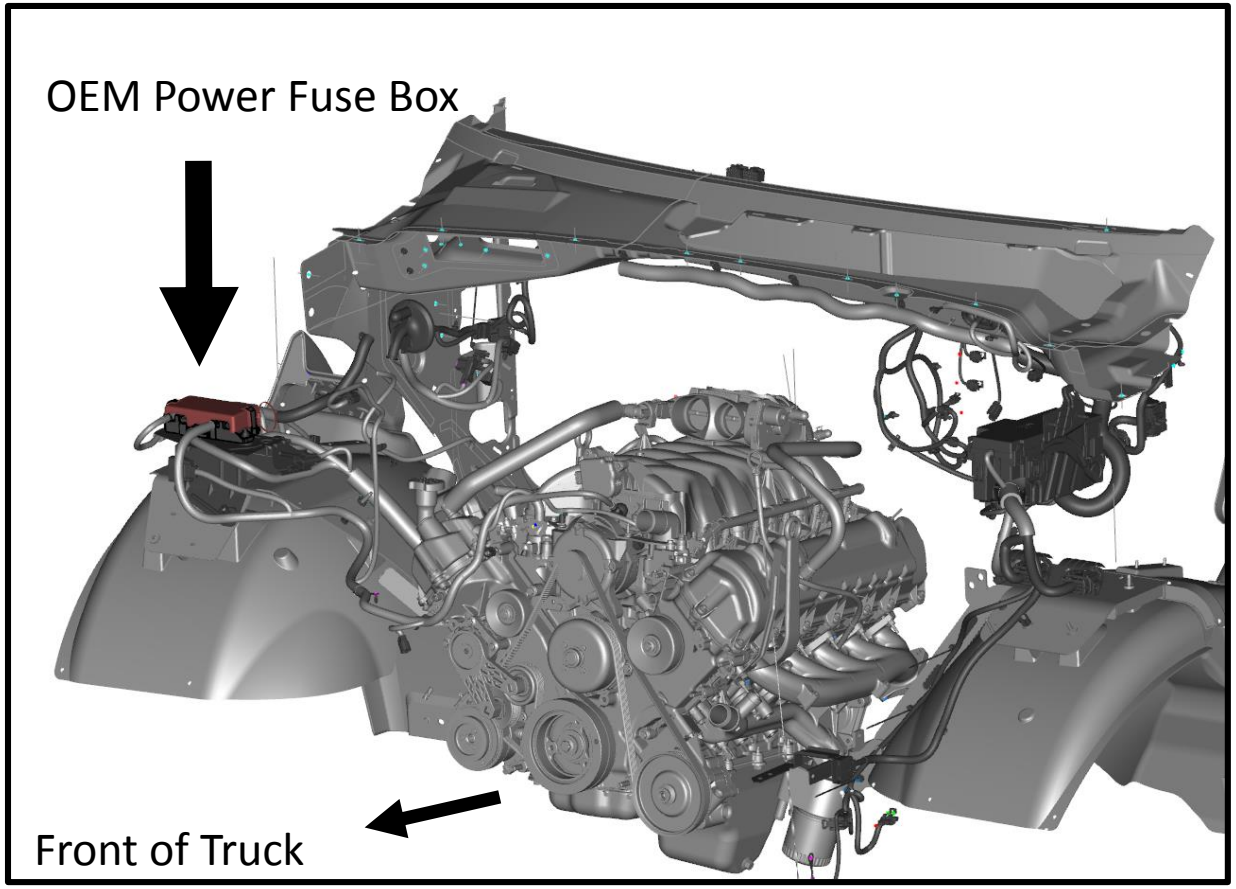



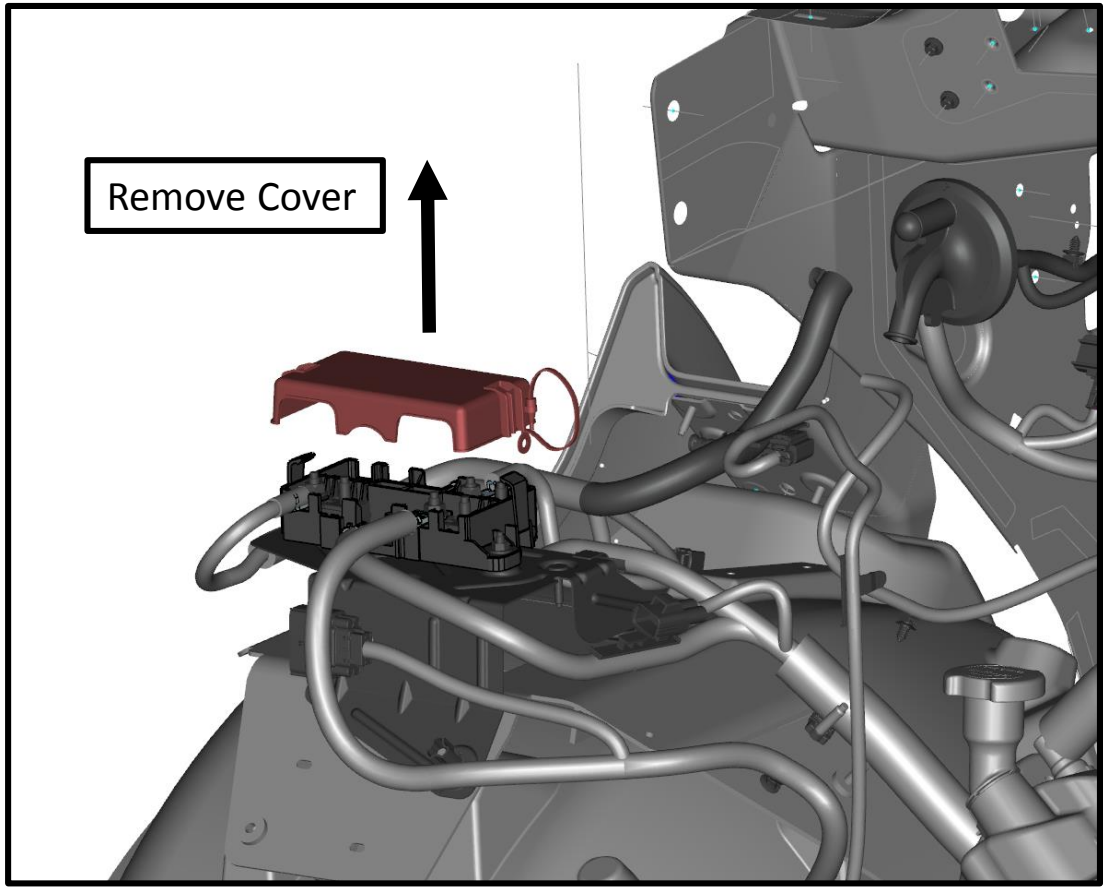
ATTENTION

Dual Tanks

# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. For applications where batteries are mounted out of reach for the RCT harness connect to battery power and ground under hood.
2. Locate the OEM Power Fuse Box above the right front tire.
3. Remove the cover to the OEM Power Fuse Box and set it aside.



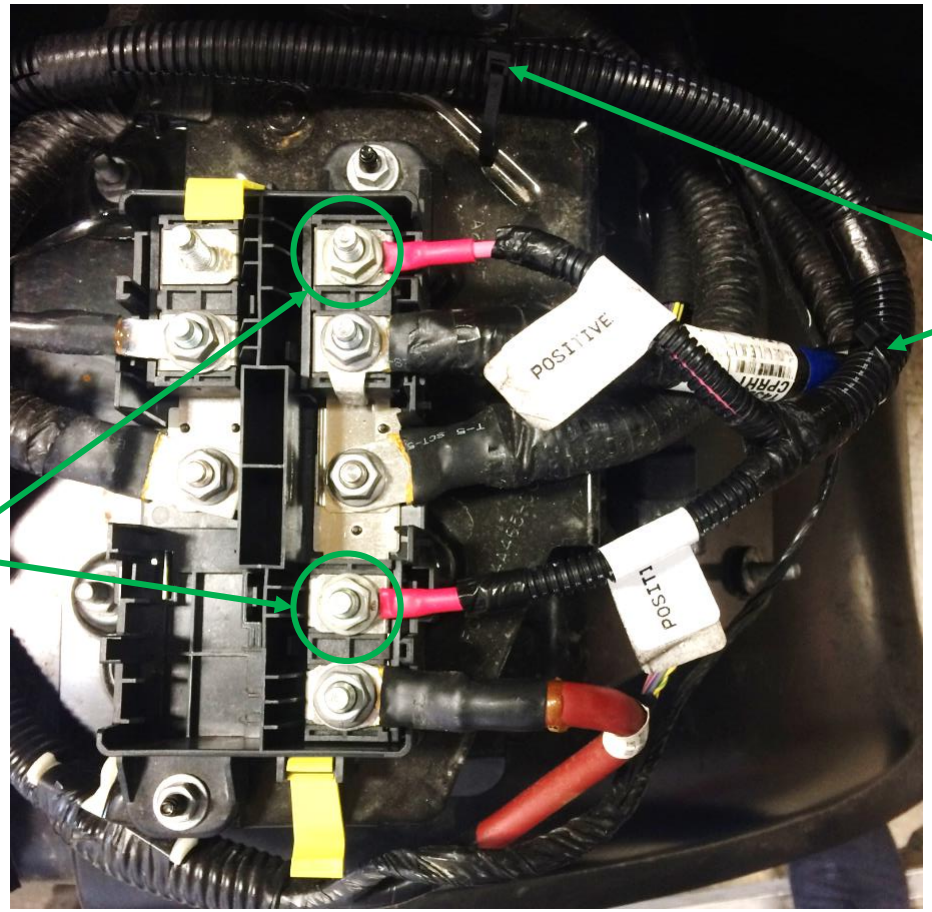



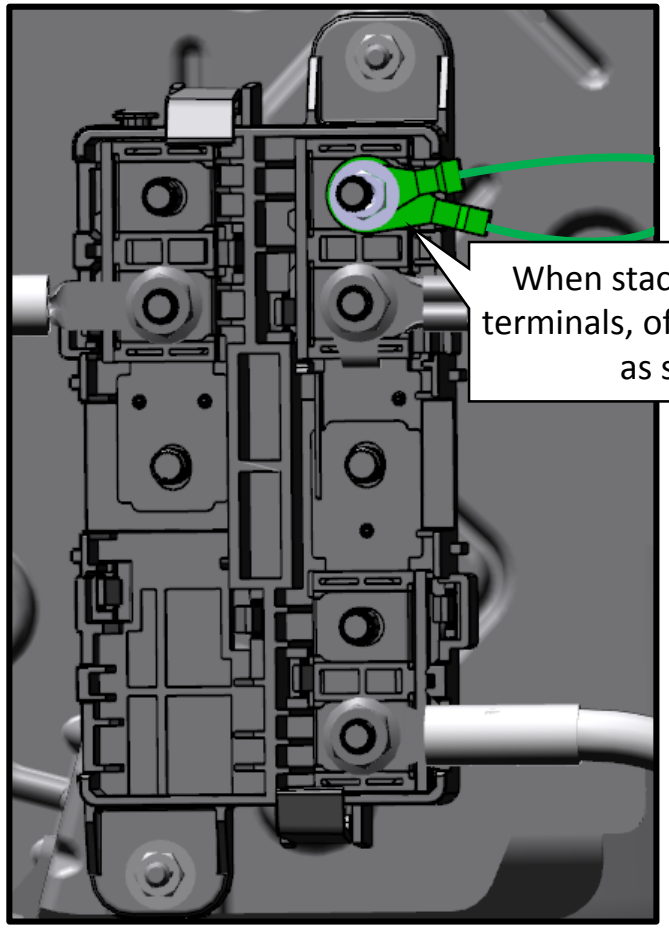
ATTENTION

Dual Tanks

# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. Connect the RCT under hood harness Positive wires to the OEM power fuse box using the supplied M8 x 1.25 fastener then torque to 5 Nm and secure with zip-ties as shown
   - Reinstall the OEM cover onto Power Fuse Box



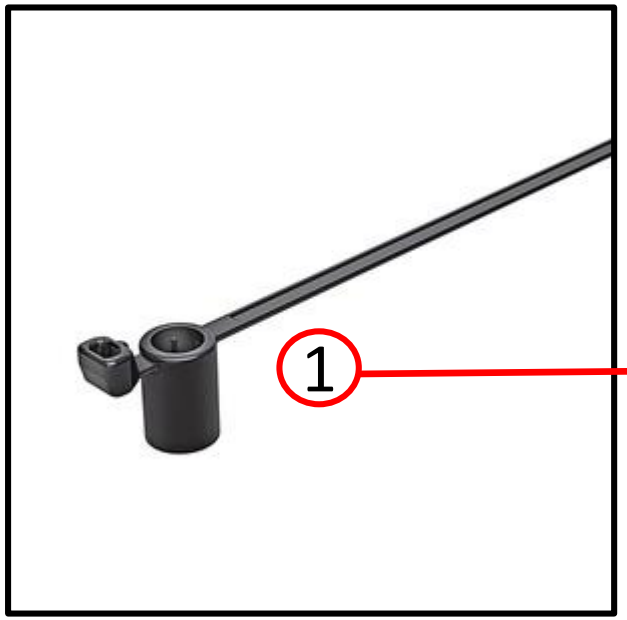



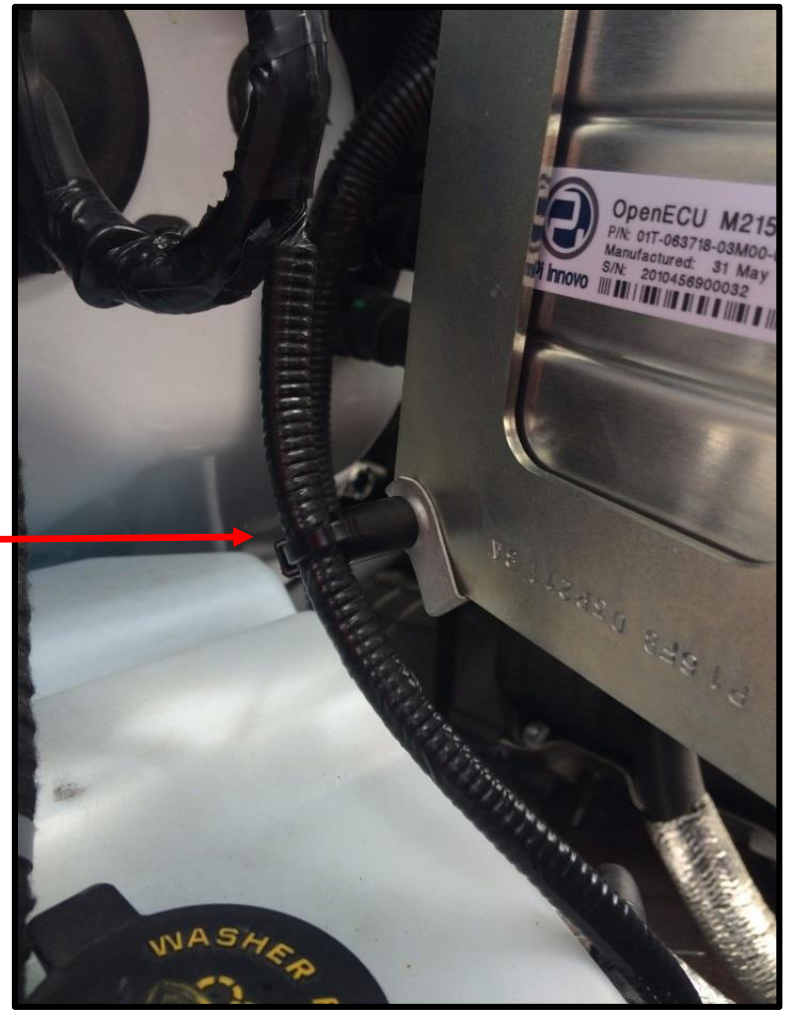
ATTENTION

All Tanks

# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. Install RCT stud grip zip-tie (PN: 157-00083) at SRM to retain OEM harness.



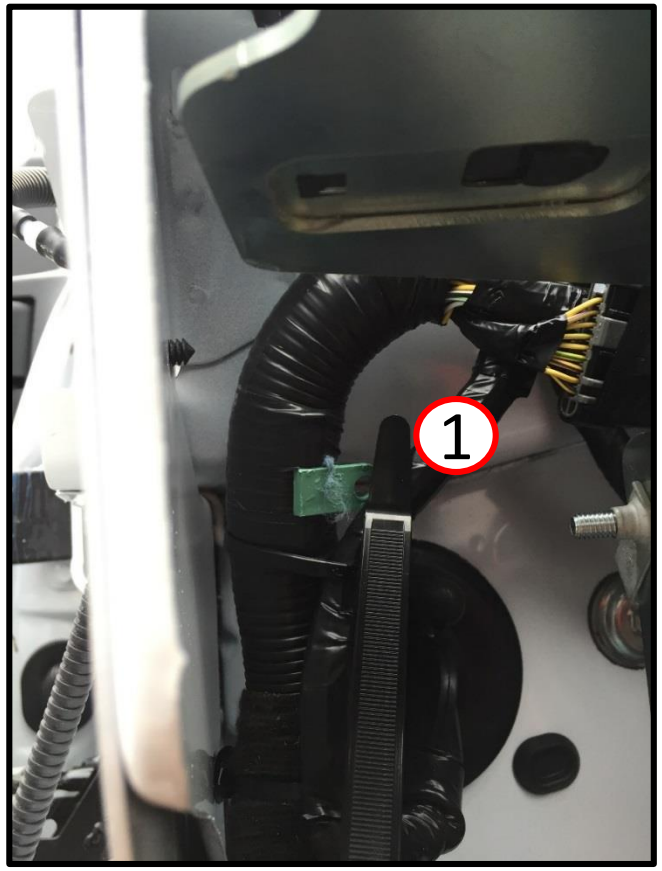



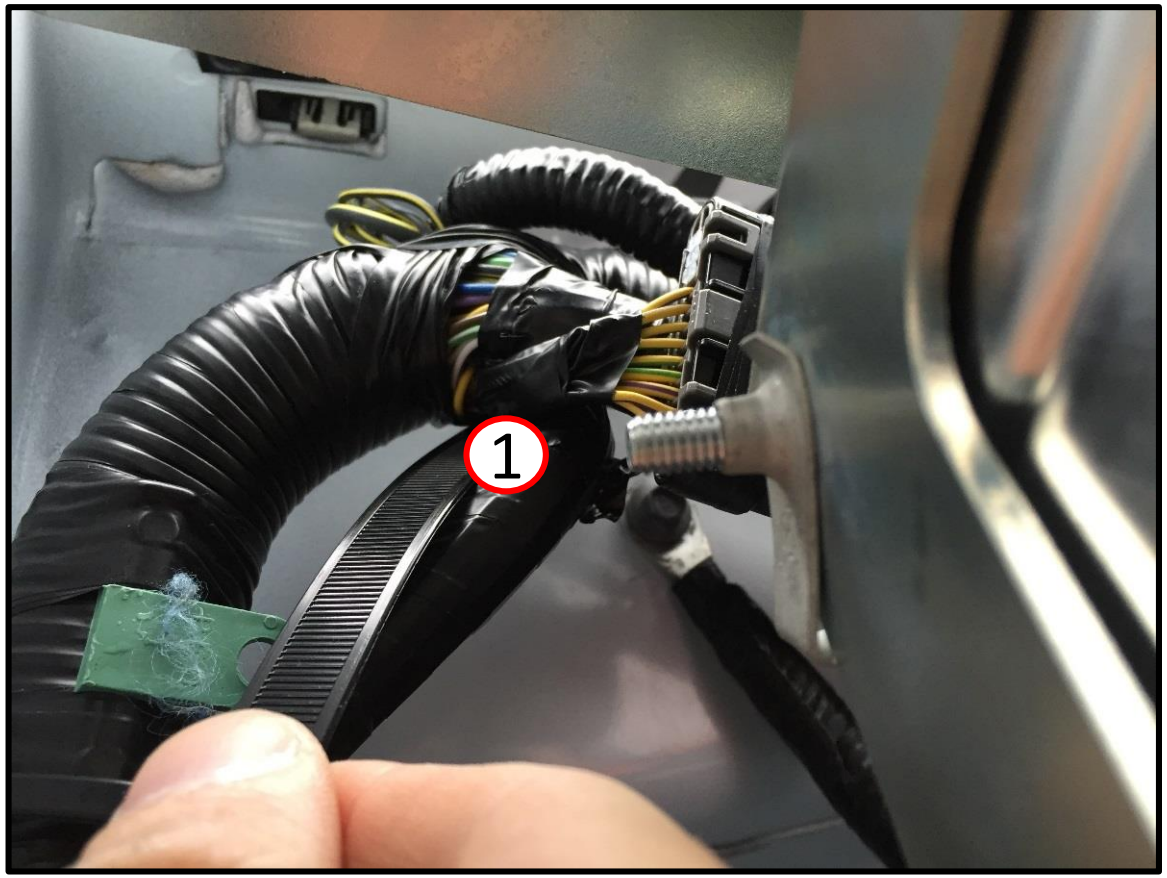
ATTENTION

All Tanks

# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. Feed zip tie through Y opening in harness



# INSTALLING THE REAR FRAME HARNESS CONTINUED

ATTENTION

All Tanks

1. Attach zip tie to stud, pull tight and trim excess length

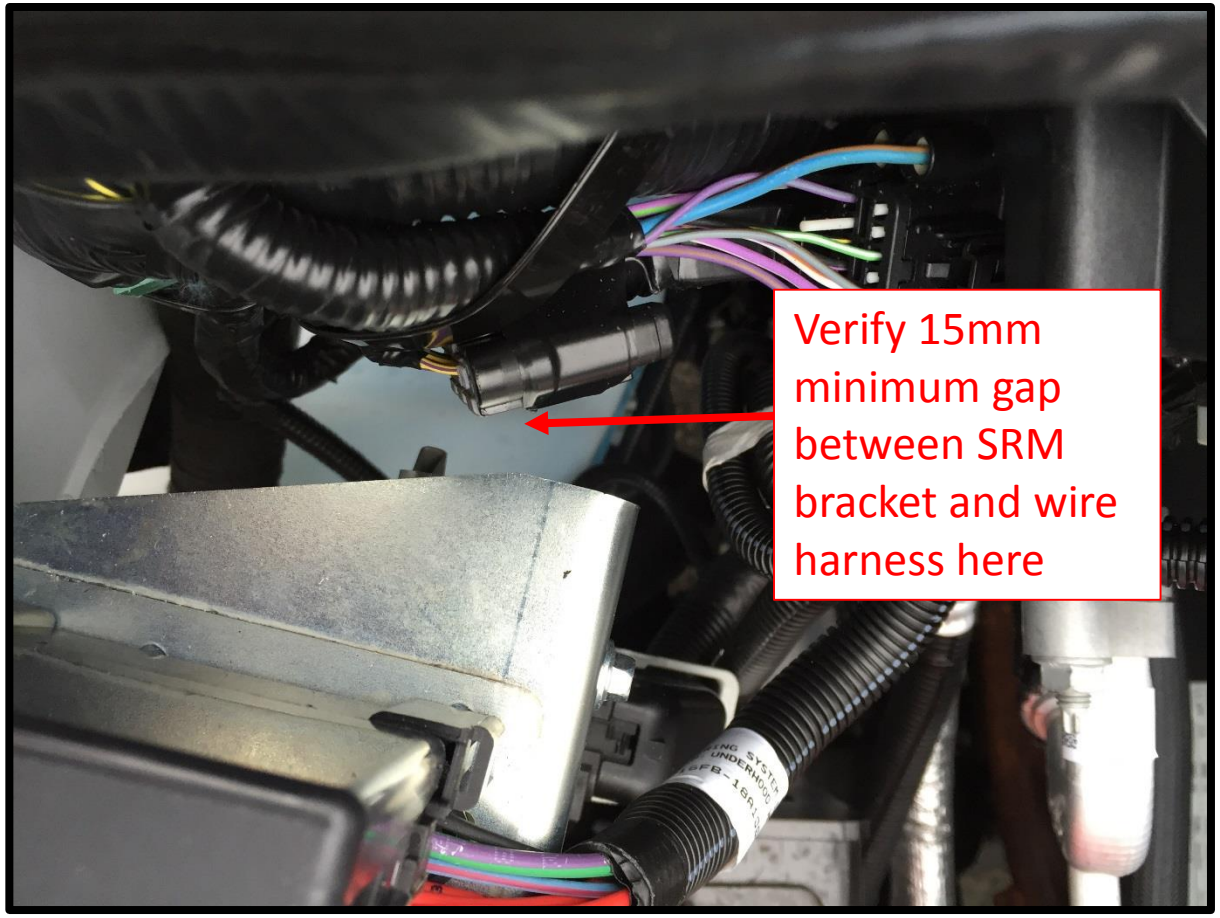
# INSTALLING THE REAR FRAME HARNESS CONTINUED

ATTENTION

All Tanks

1. Verify installation as shown below

Before

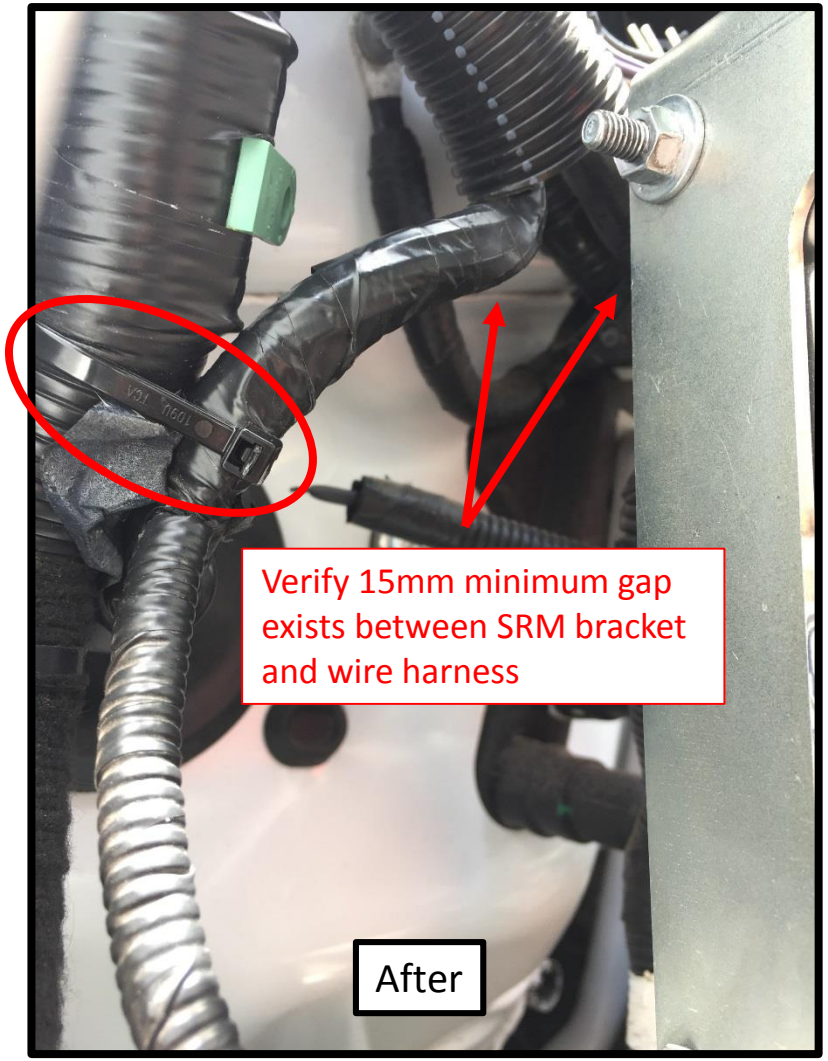



After

# INSTALLING THE REAR FRAME HARNESS CONTINUED

1. Retain harness using zip tie (20-403-0003) away from SRM bracket

# INSTALLING THE REAR FRAME HARNESS CONTINUED

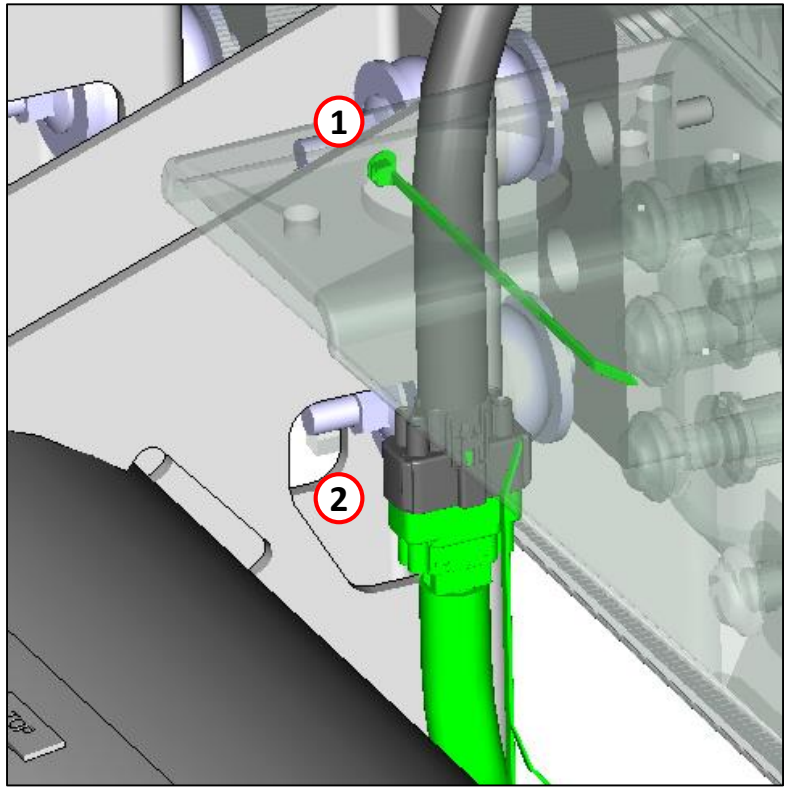



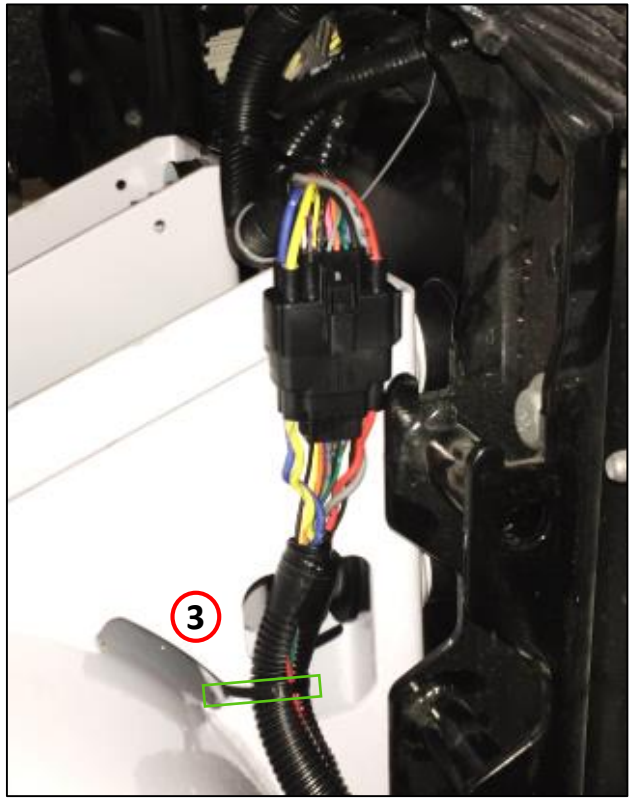
ATTENTION

Tank A

# INSTALLING THE LEFT HAND TANK HARNESS

1. Route harness and retain to propane tank as shown.
2. Connect tank harness to under hood harness.
3. Secure lower tank harness to tank mount with a zip tie as shown



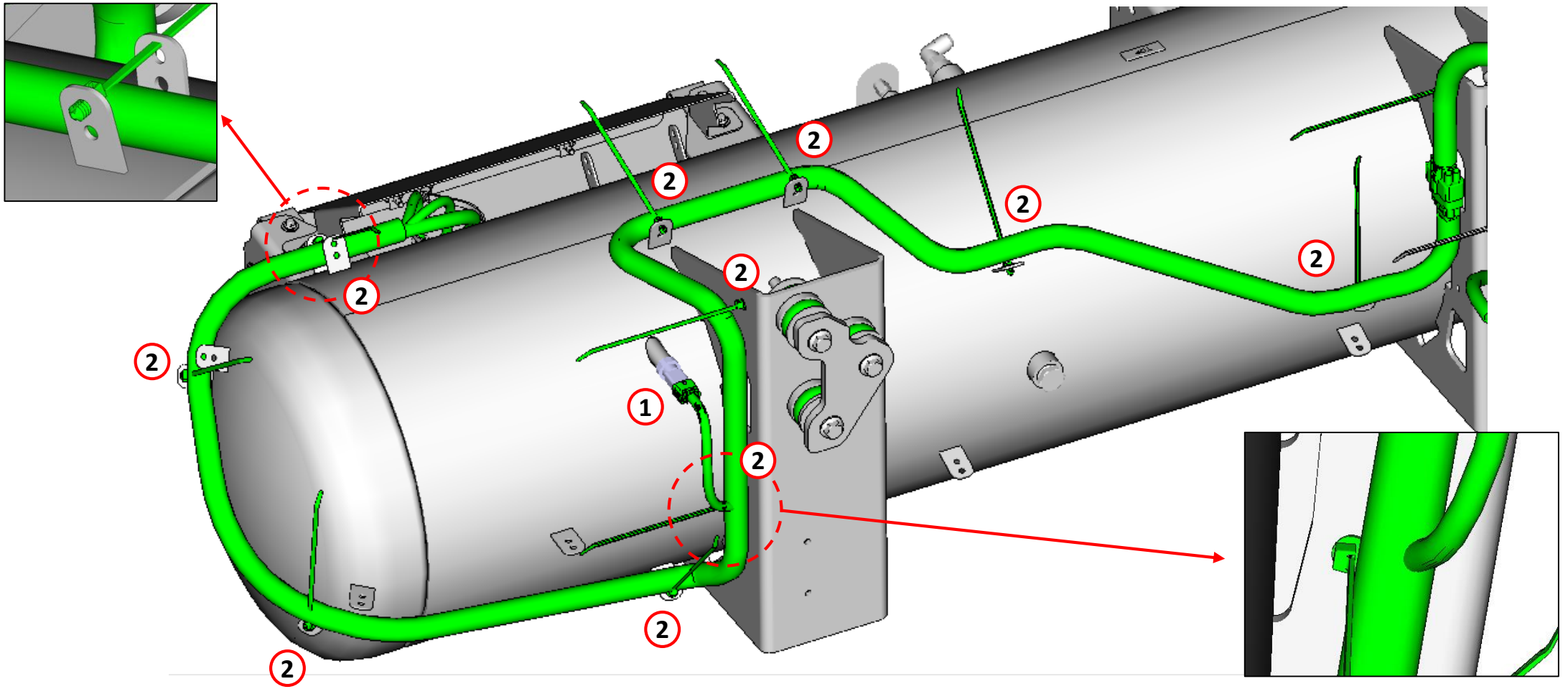
ATTENTION

Tank A

# INSTALLING THE LEFT HAND TANK HARNESS

1. Connect the Fuel Pressure and temperature sensor
2. Secure tank harness to the tank as shown.

   Note: For mounting to tabs, use the outer tab holes to secure the harness.

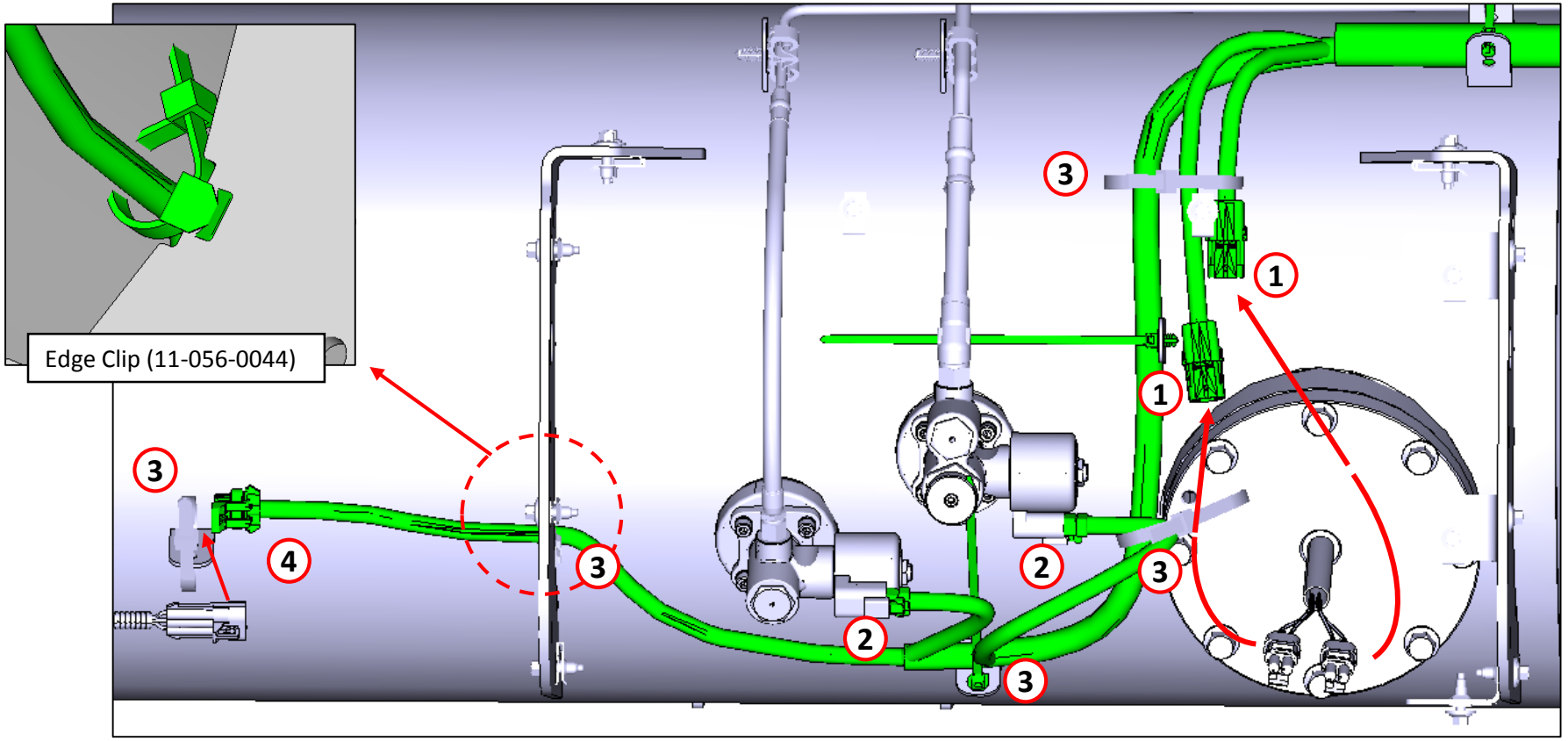


ATTENTION

Tank A

# INSTALLING THE TANK HARNESS CONTINUED

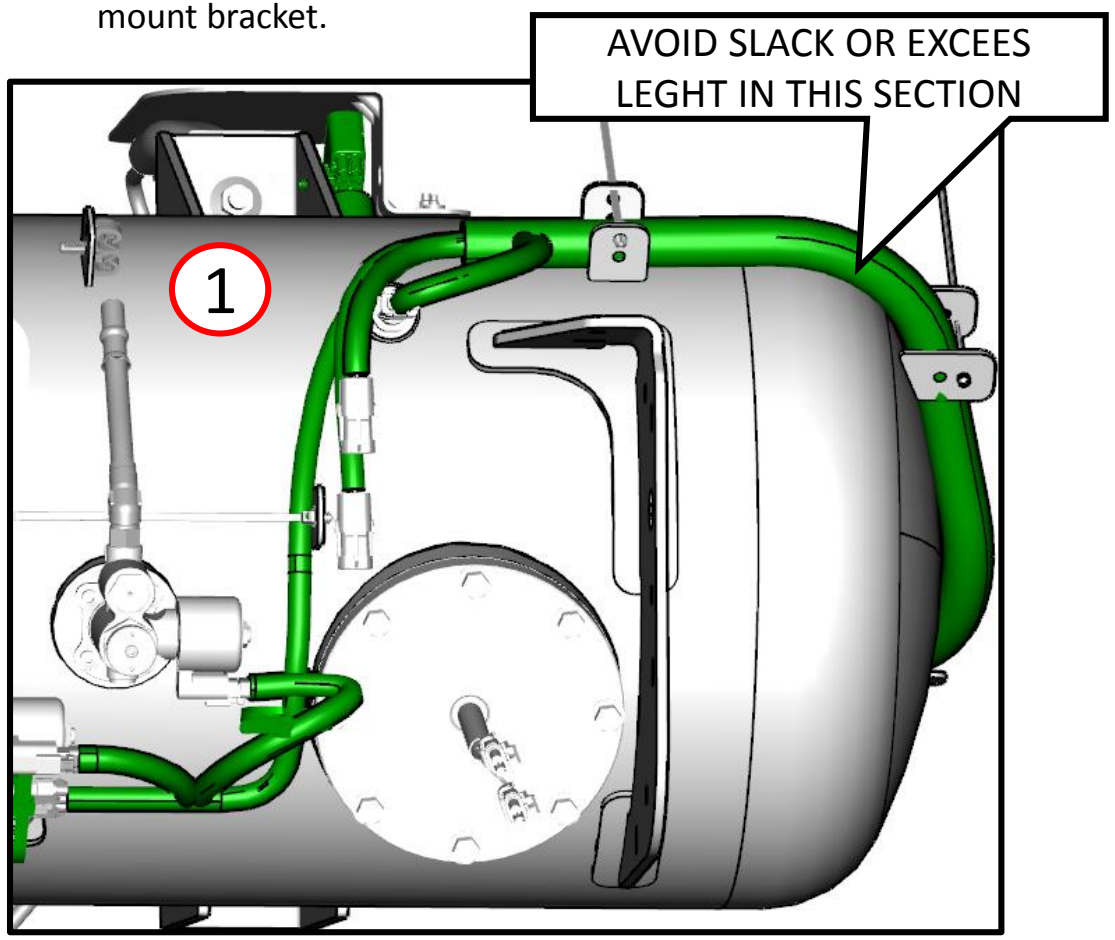
1. Connect fuel pumps and retain to harness with tie strap.
2. Connect tank solenoids (black connector on supply solenoid closest to tank access cover).
3. Route harness and retain to propane tank as shown.
4. Connect fuel level sending unit and retain with tie strap.

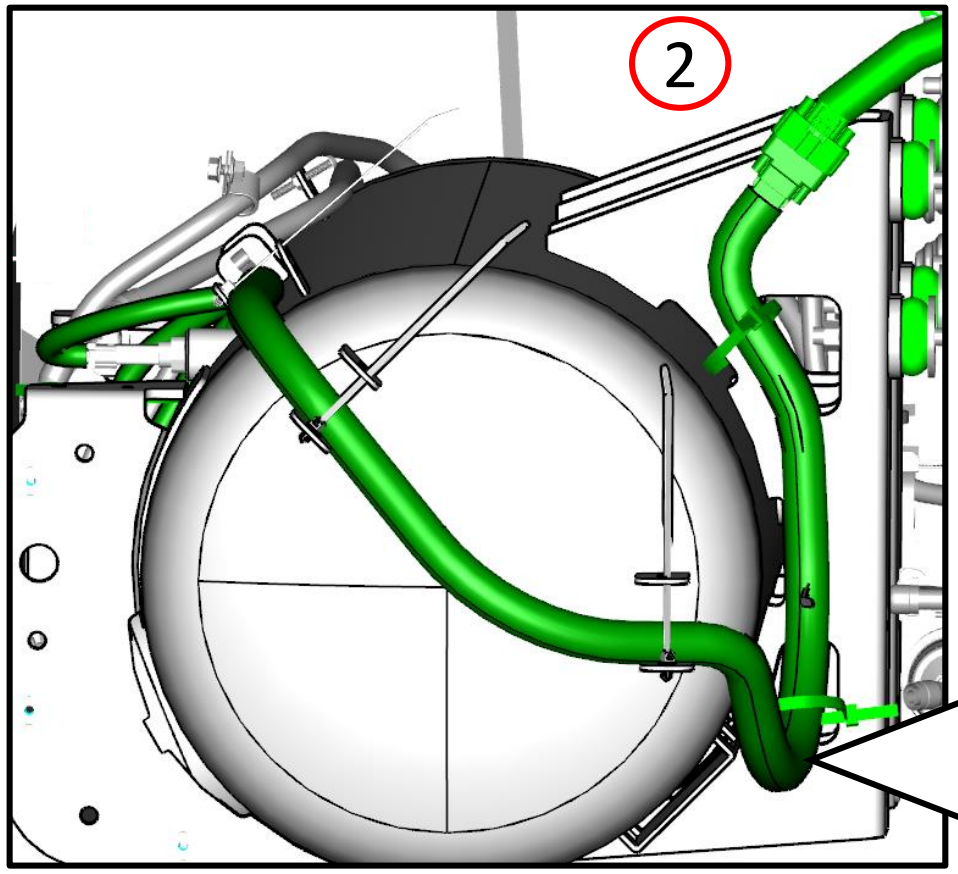


ATTENTION
Tank B-LH
Tank C-LH

# INSTALLING THE LEFT HAND TANK HARNESS

1. Route harness and retain to propane tank as shown. Avoid slack between tank tabs.
2. Zip-tie the harness along the tank mount bracket. Connect tank harness to under hood harness. Secure the connector into the tank mount bracket.



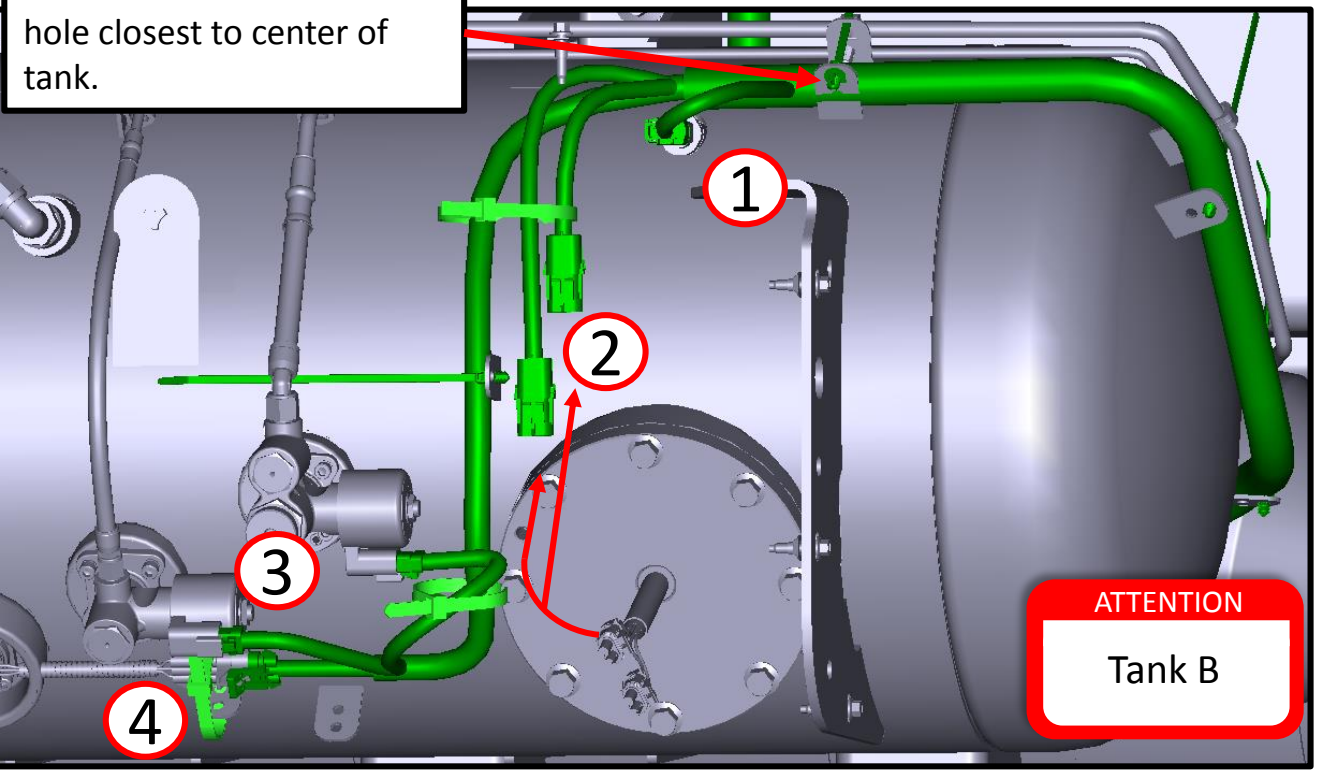



# INSTALLING THE LEFT HAND TANK HARNESS CONTINUED

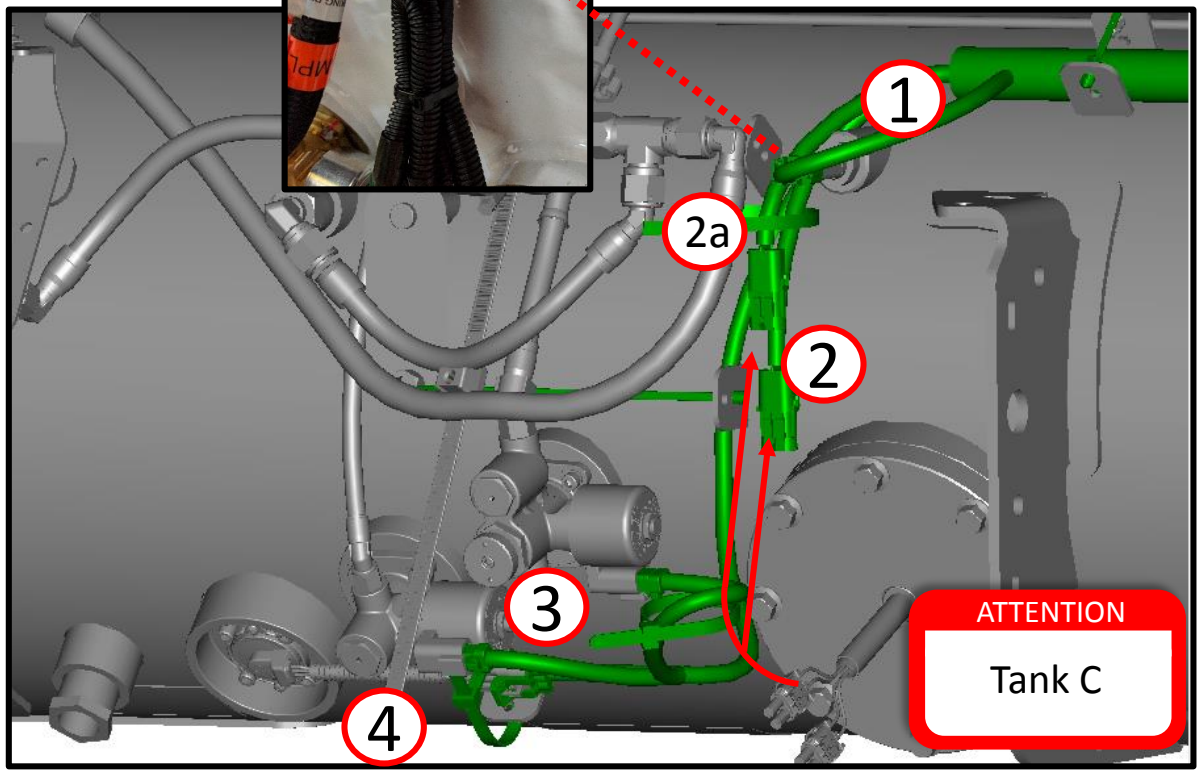
ATTENTION
Tank B-LH
Tank C-LH

1. Connect tank pressure and temperature sensor.
2. Connect fuel pumps and retain to harness with tie strap.
   a) Medium tanks only: retain wire harness to tank tab and away from filter tee
3. Connect tank solenoids (black connector on supply solenoid closest to tank access cover).
4. Connect fuel level sending unit and retain with tie strap.
5. Route harness and retain to propane tank as shown.

Position this fir-tree on tab hole closest to center of tank.




Medium tanks: ensure gap between filter tee and wire harness

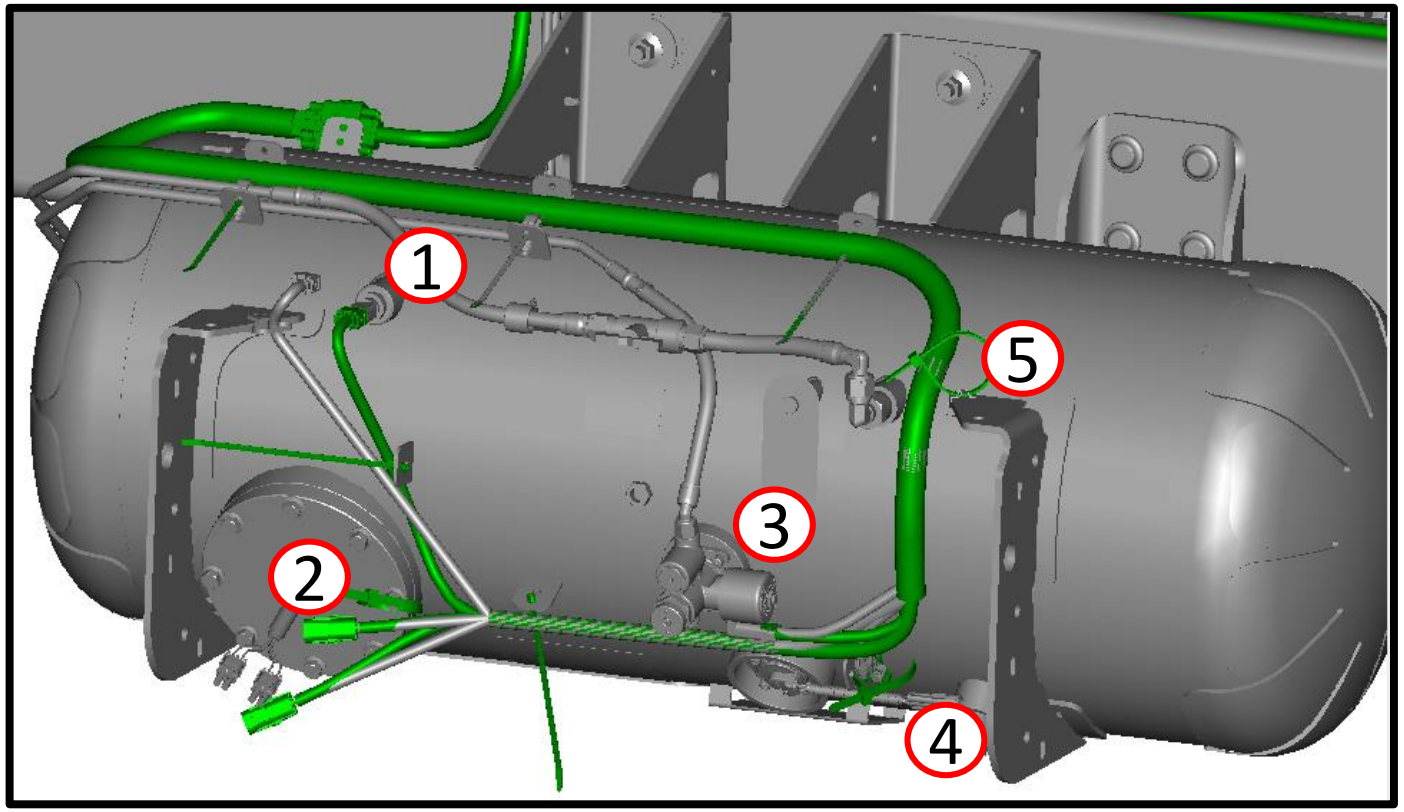


ATTENTION
Tank B-RH
Tank C-RH

# INSTALLING THE RIGHT HAND TANK HARNESS

1. Connect tank pressure and temperature sensor.
2. Connect fuel pumps and retain to harness with tie strap.
3. Connect tank solenoid.
4. Connect fuel level sending unit and retain with tie strap.
5. Route harness and retain to propane tank as shown. Use metal edge clip on forward step mount.

Note: Short tank shown

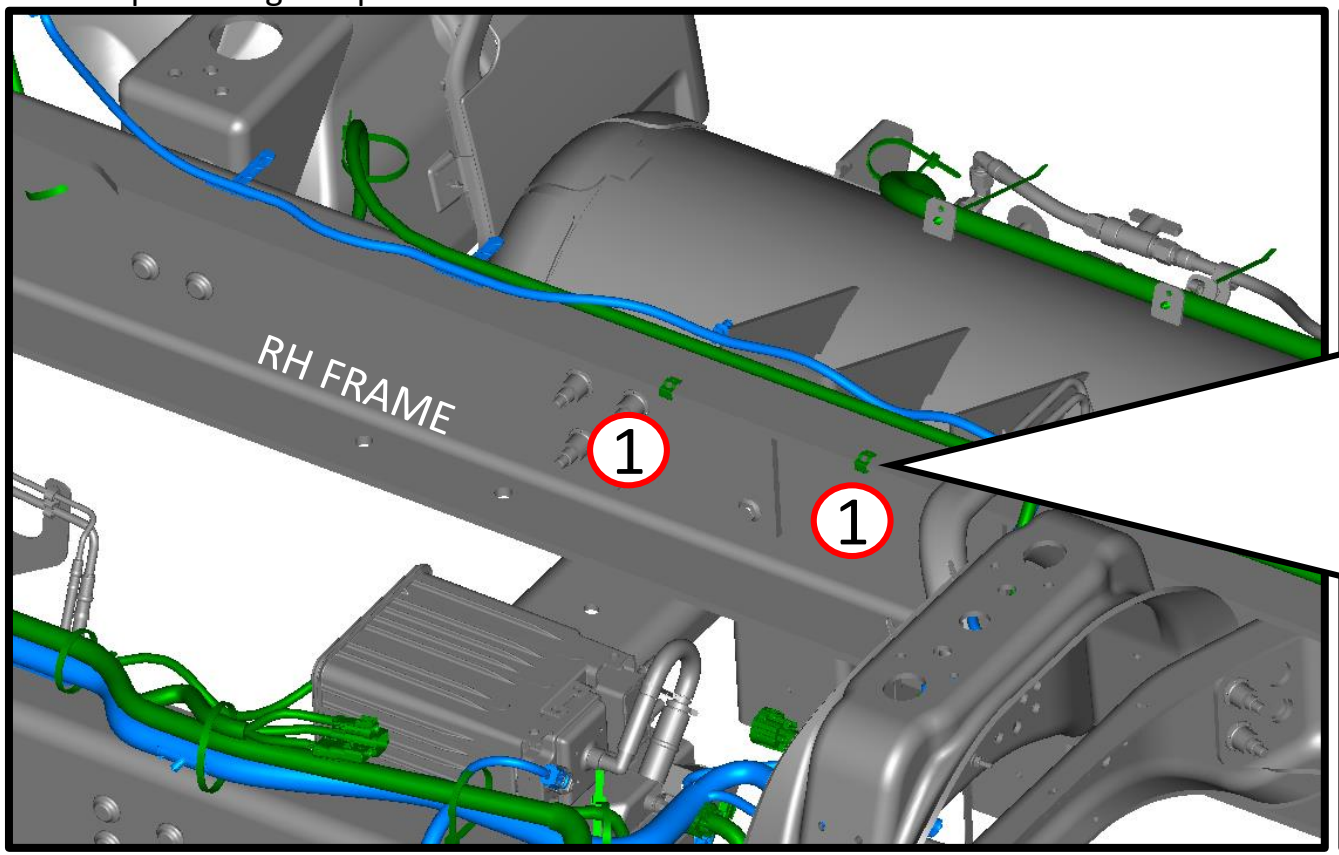


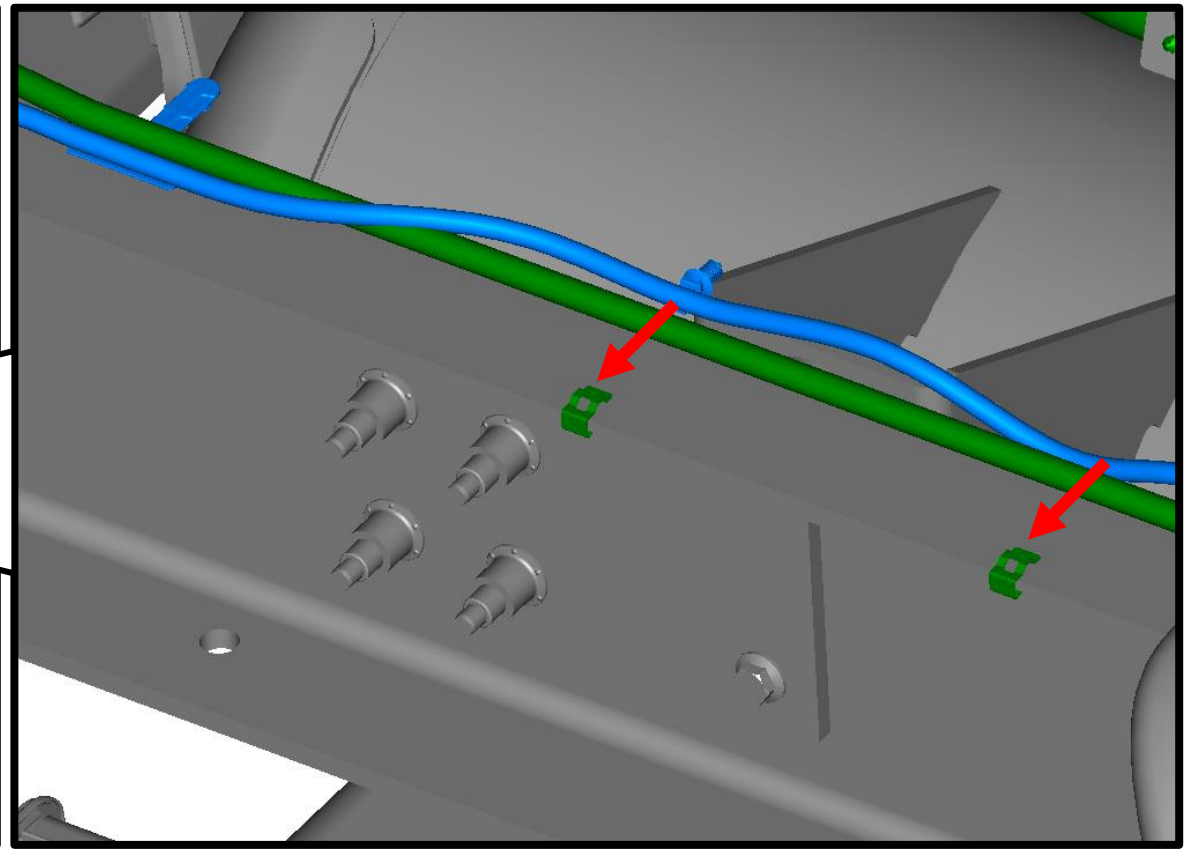
ATTENTION

Dual Tanks

# FINAL ELECTRICAL CONNECTIONS

1. Install metal edge clips (11-056-0044) on the Right Hand Frame rail to secure the OEM harness in the two locations shown using supplied zip-ties (20-403-0003).
2. Secure any modified power cables to the cab to prevent the cables from resting on the propane tank. Keep the cables clear of sharp edges and any heat producing components.



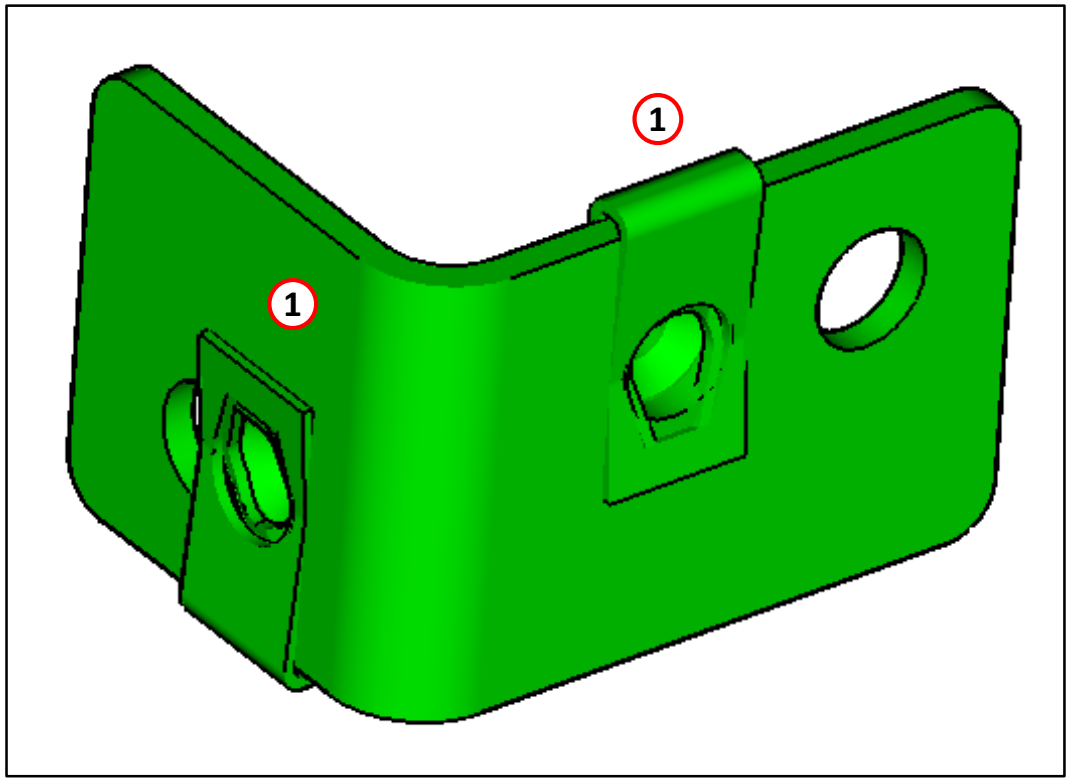



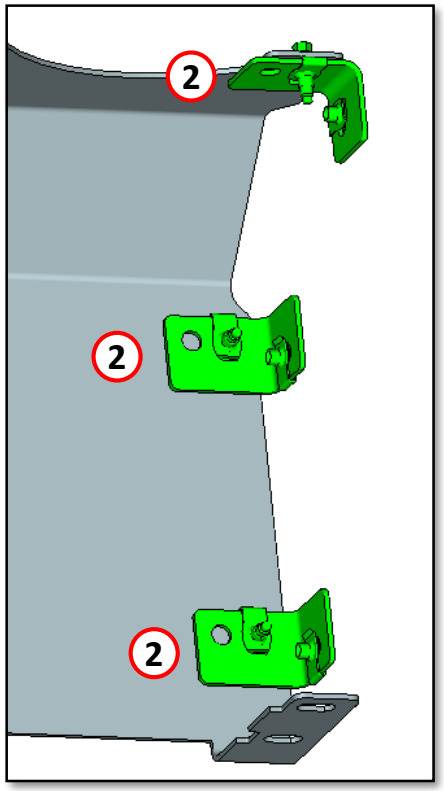
# INSTALLING VALVE GUARD

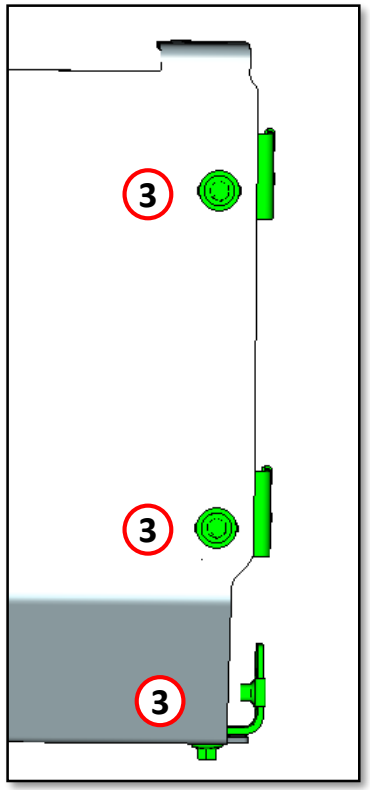
ATTENTION

Tank A

1. Attach 2 M6 J-clips to 3 valve guard L-brackets (P16FB-10A160-E). **<u>One J-clip on the slot and one J-clip on the hole closest to the bend as shown below</u>**.
2. Attach the 3 L-brackets to the valve guard (P16FB-10A160-C) using 3 M6x1x20 flange head bolts with an M6 washer.
3. Tighten the bolts so that the faces of the L-brackets are perpendicular to the ground plane but so that the brackets can still slide left and right when pulled.



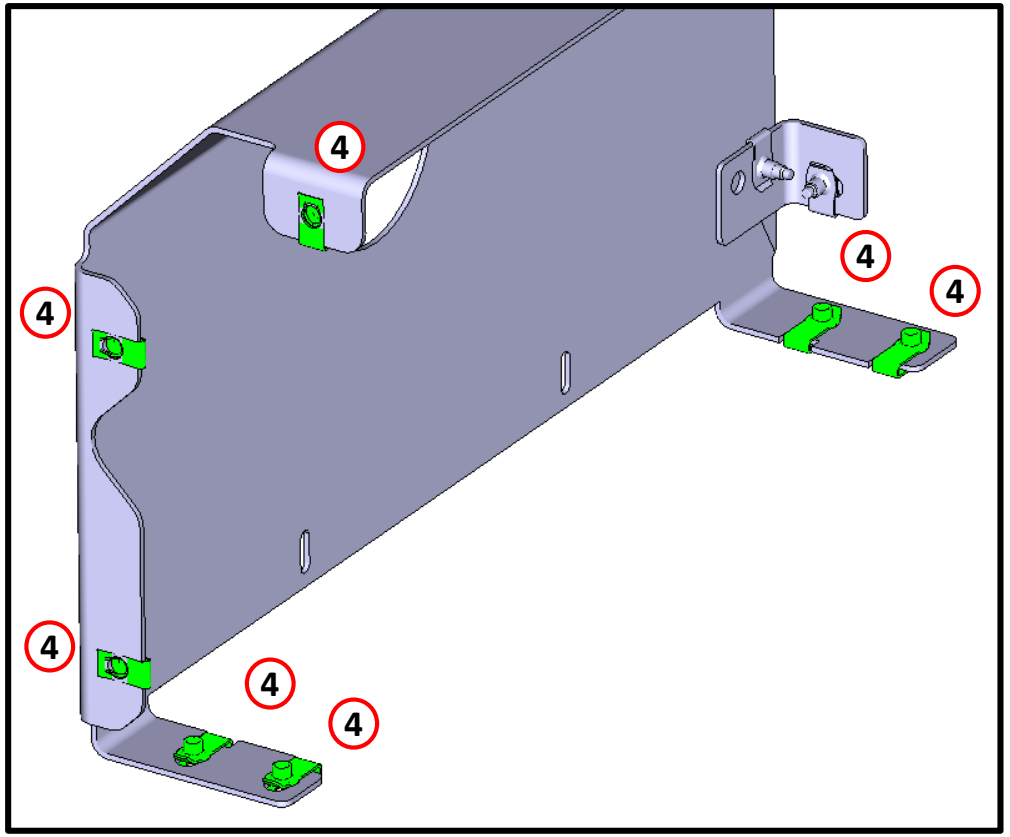



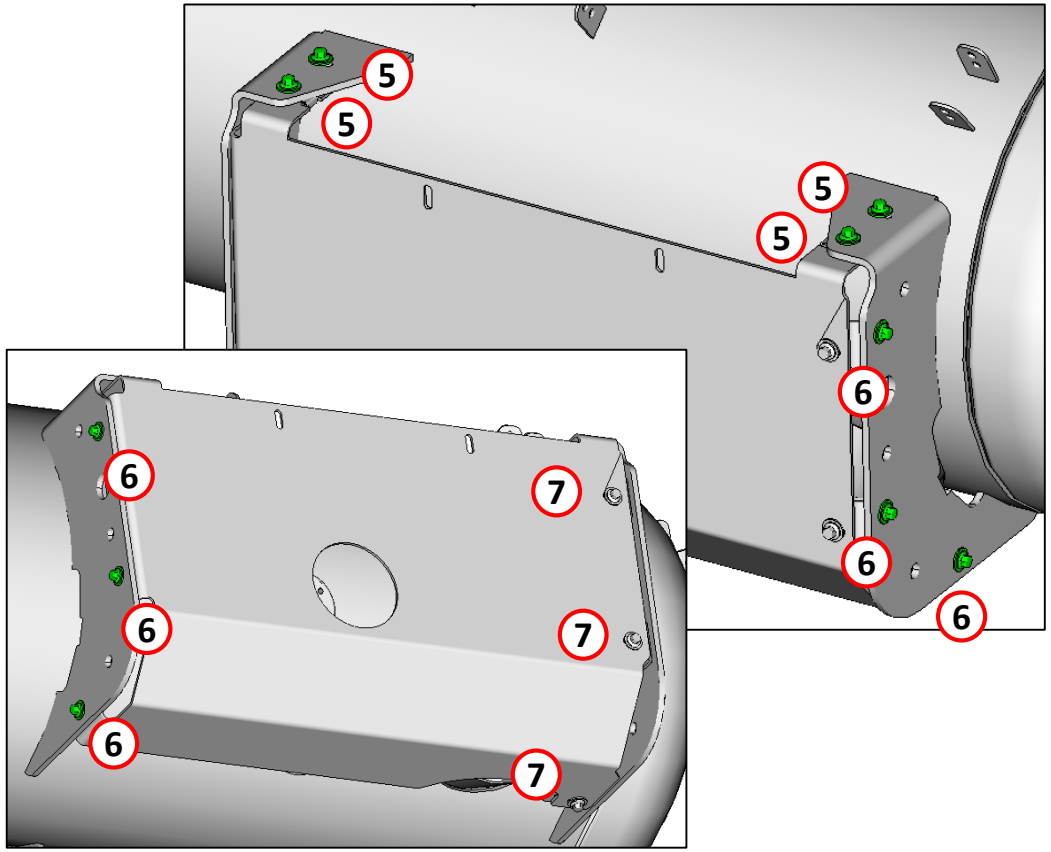
ATTENTION

Tank A

# INSTALLING THE VALVE GUARD CONTINUED

4. Install Qty. 7 M6 J-clips in the open slots and holes on the lower valve guard (P16FB-10A160-A).
5. Attach the top surface of the valve guard to the top surface of the tank supports using M6x1x20 flange head bolts with M6 washers as shown below.
6. Attach the side fasteners to the tank supports using M6x1x20 flange head bolts with M6 washers as shown
7. **Torque ALL fasteners to 10 – 12 Nm, ensuring that the valve guard is as far forward as possible and is flush with the tank bracket on the front side.**



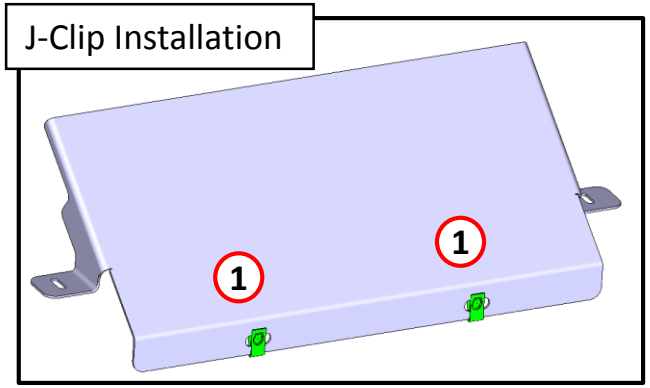
ATTENTION

Tank A

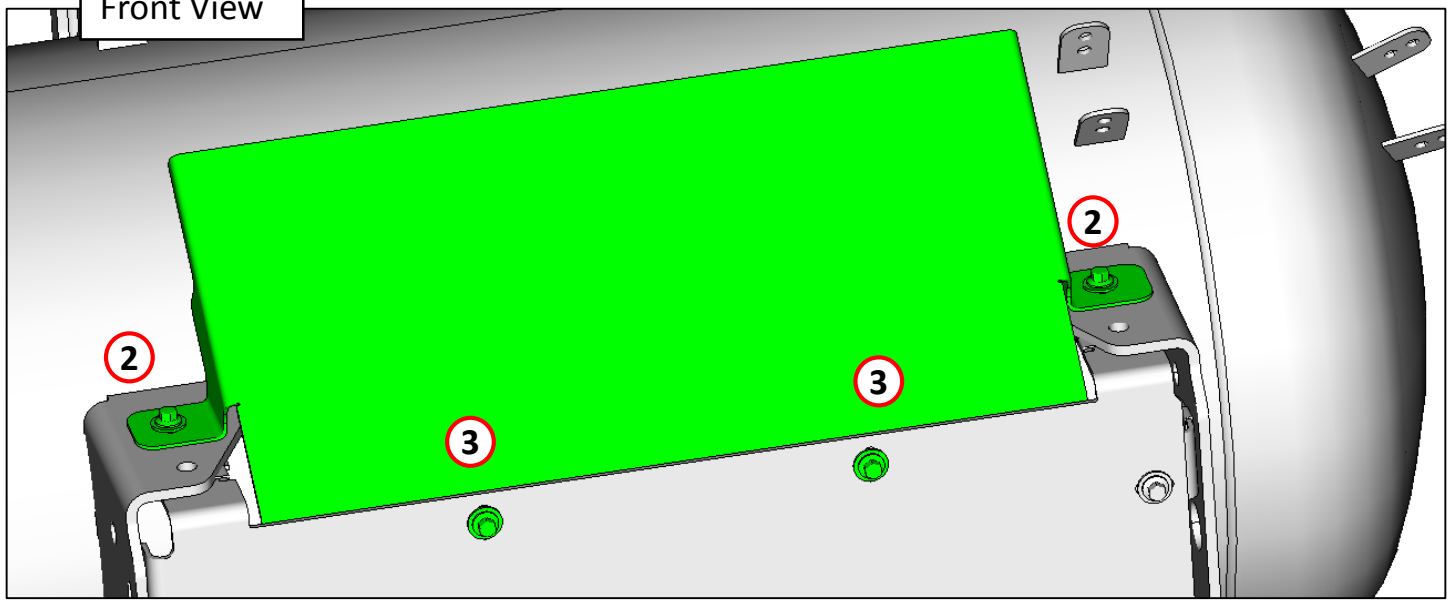
# INSTALLING THE VALVE GUARD UPPER

1. Install the two J-Clips to the upper valve guard as shown
2. Lay the top mounts on the tank brackets and start the Qty: 2 M6 fasteners with Qty: 2 M6 washers by hand, threading through the previously attached lower valve guard J-clips.
3. Using M6 Fasteners on top of M6 washers, thread the lower fasteners by hand, through the lower valve guard.
4. **Torque fasteners to 10 – 12 Nm while making sure that the valve guard is as far forward as possible and is flush with the tank bracket on the top side.**

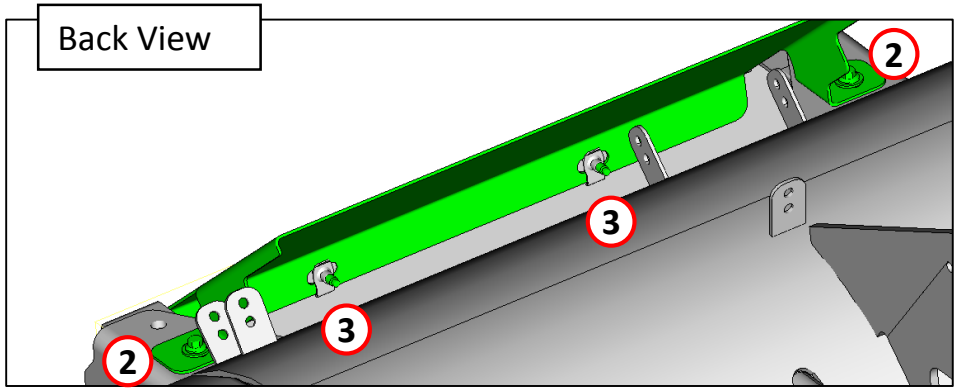
J-Clip Installation




Front View



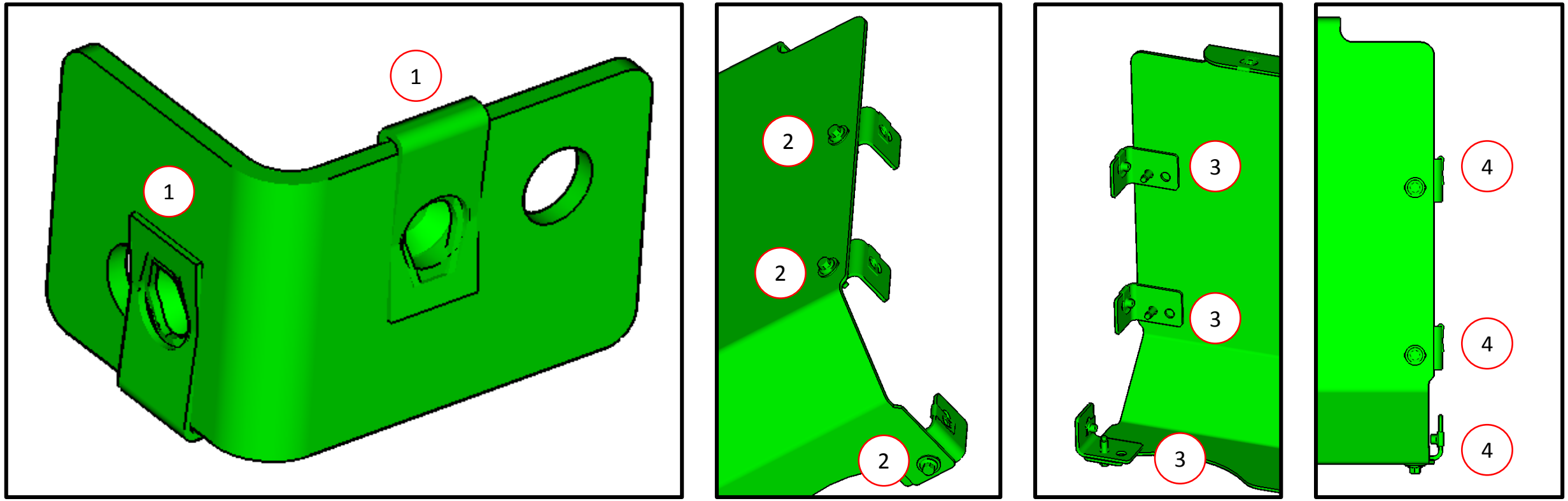

Back View



# INSTALLING THE VALVE GUARDS – LEFT HAND

ATTENTION
Tank B
Tank C

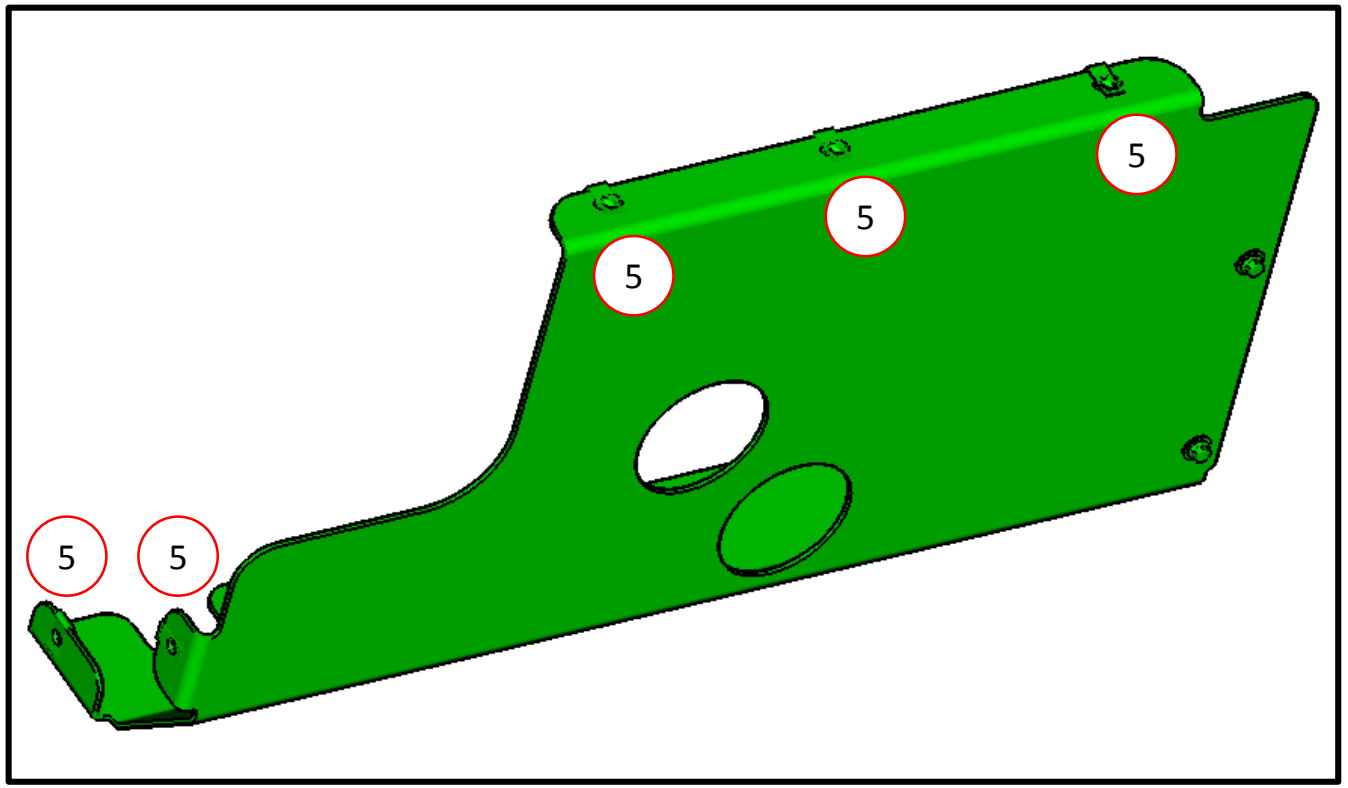
1. Attach 2 M6 J-clips to 3 valve guard L-brackets (P16FB-10A160-E). **One J-clip on the slot and one J-clip on the hole closest from the bend as shown below**.
2. Attach the 3 L-brackets to the left hand valve guard (P16FB-10A160-C) using 3 M6x1x20 flange head bolts with an M6 washer.
3. **The bolt should go through the hole closest to the bend as shown below**.
4. Tighten the bolts so that the faces of the L-brackets are perpendicular to the ground plane but so that the brackets can still slide left and right when pulled.

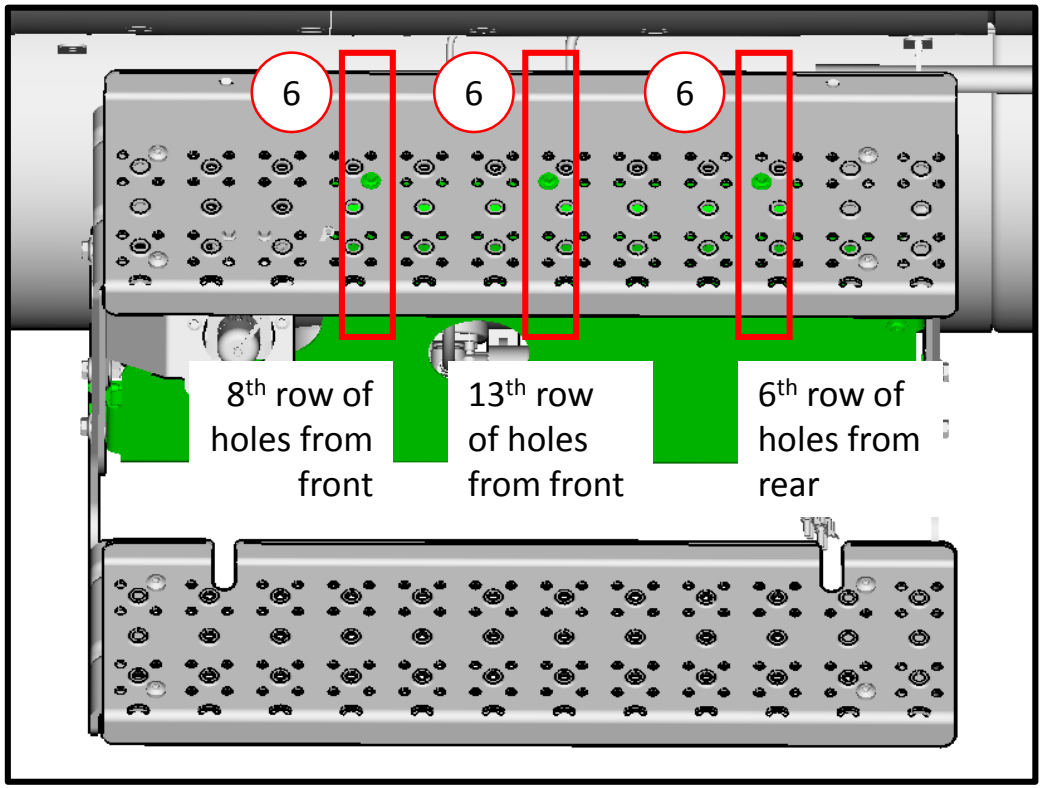


ATTENTION
Tank B
Tank C

# INSTALLING THE VALVE GUARDS – LEFT HAND CONTINUED

5. Install Qty. 5 M6 J-clips in the open slots and holes on the left hand valve guard (P16FB-10A160-C).
6. Attach the top surface of the valve guard assembly to the left hand step tread using M6x1x20 flange head bolts with M6 washers as shown below.
7. **Torque fasteners to 10 – 12 Nm while making sure that the valve guard is as far forward as possible and is flush with the tank bracket on the front side.**

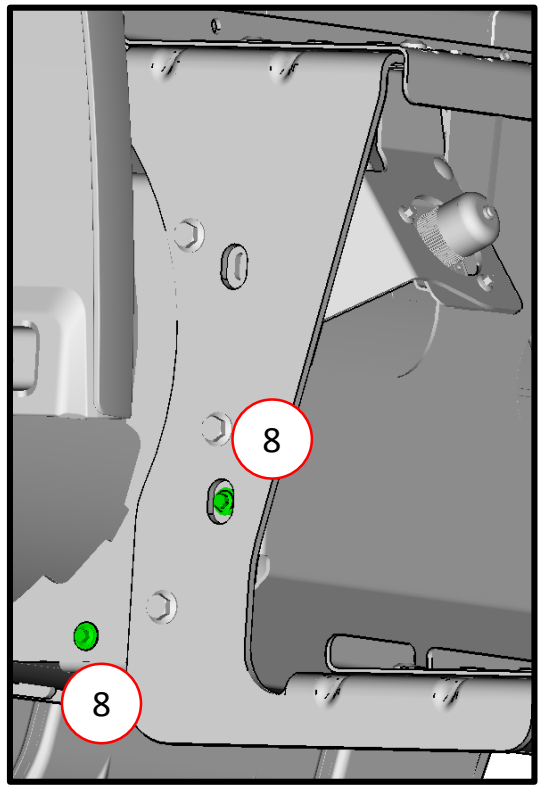


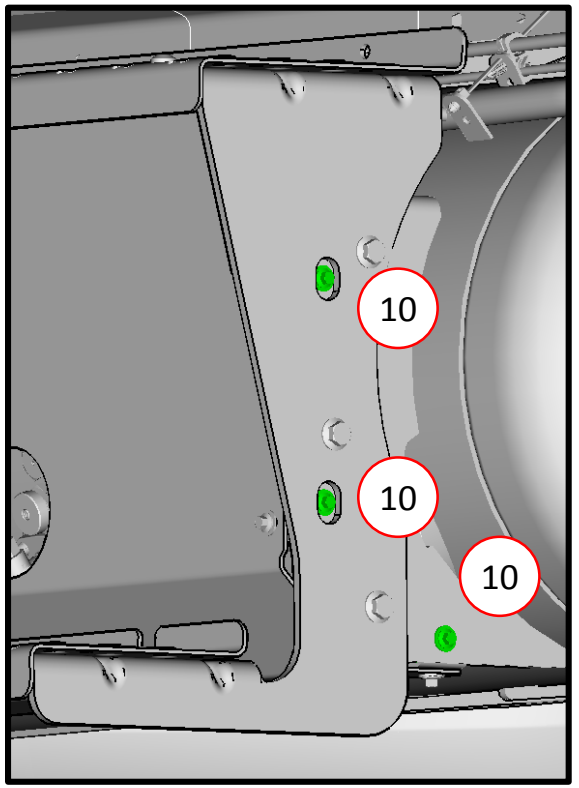



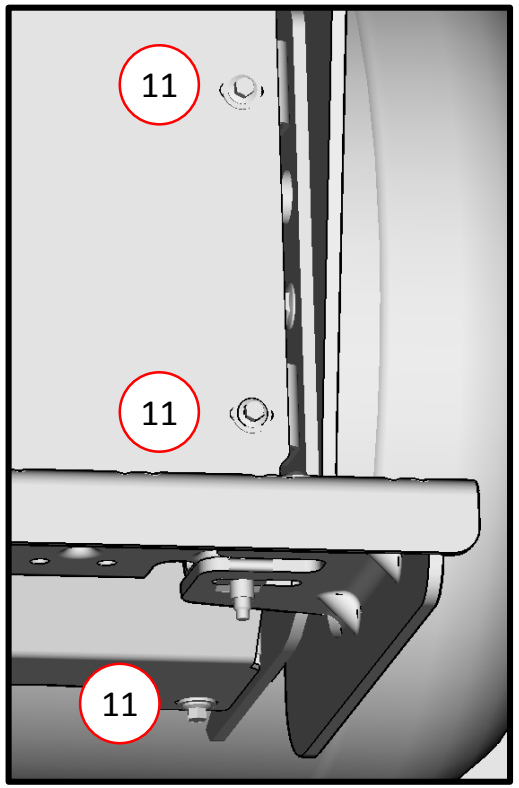
# INSTALLING THE VALVE GUARDS – LEFT HAND CONTINUED

ATTENTION
Tank B
Tank C

8. Use 2 M6x1x20 flange head bolts with M6 washers to fasten the valve guard to the tank bracket at the front as shown below. Torque to 10 – 12 Nm.
9. Use 3 M6x1x20 flange head bolts with M6 washers to fasten the valve guard L-brackets to the tank bracket at the rear as shown below.
10. **Torque fasteners to 10 – 12 Nm while making sure that the L-brackets are as far rear as possible and are flush with the tank bracket. If the L-bracket does not slide then loosen the bolts on the valve guard side as needed before torquing.**
11. Torque the 3 M6 bolts holding the L-brackets to the valve guard to 10 – 12 Nm.



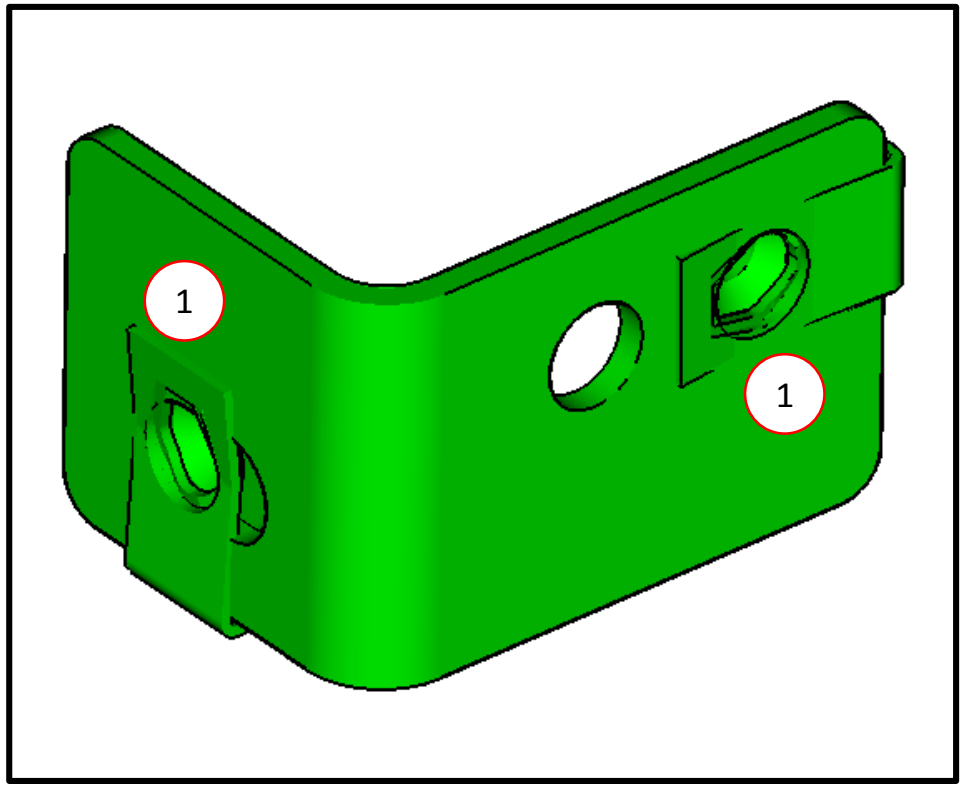



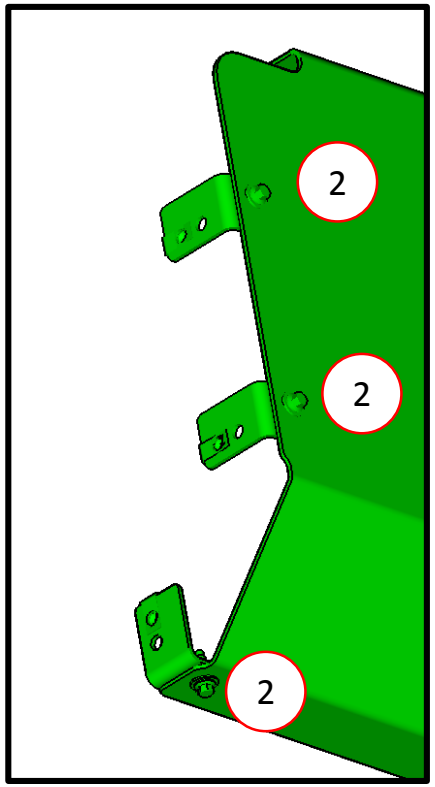



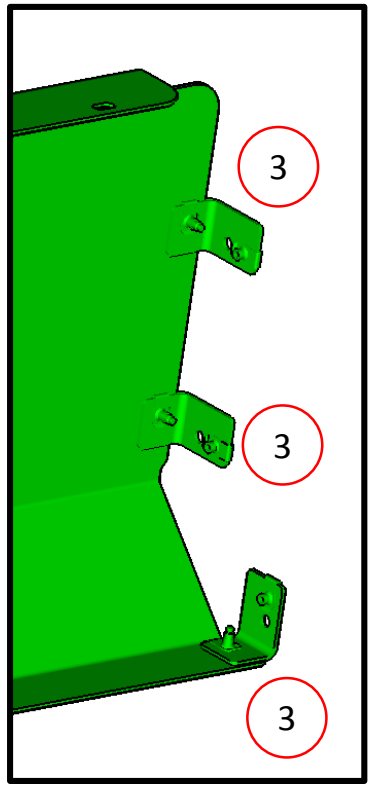
# INSTALLING THE VALVE GUARDS – RIGHT HAND

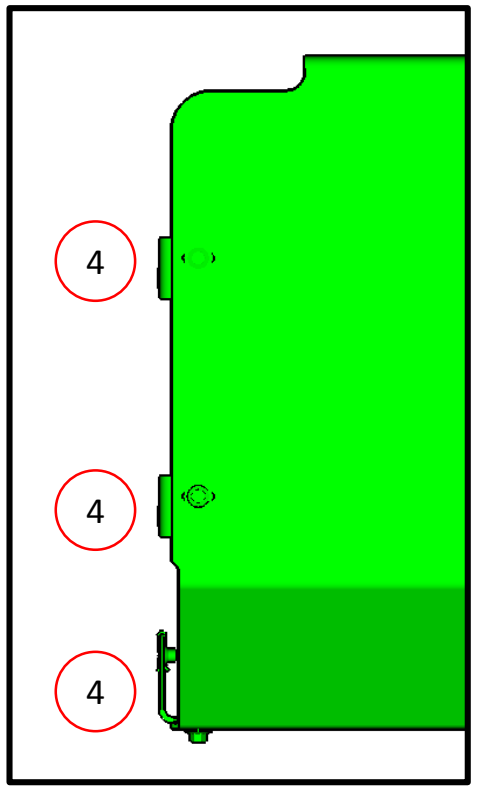
ATTENTION
Tank B
Tank C

1. Attach 2 M6 J-clips to 3 valve guard L-brackets (P16FB-10A160-E). **One J-clip on the slot and one J-clip on the hole farthest from the bend as shown below**.
2. Attach the 3 L-brackets to the right hand valve guard (P16FB-10A160-D) using 3 M6x1x20 flange head bolts with an M6 washer.
3. **The bolt should go through the slot as shown below**.
4. Tighten the bolts so that the faces of the L-brackets are perpendicular to the ground plane but so that the brackets can still slide left and right when pulled.



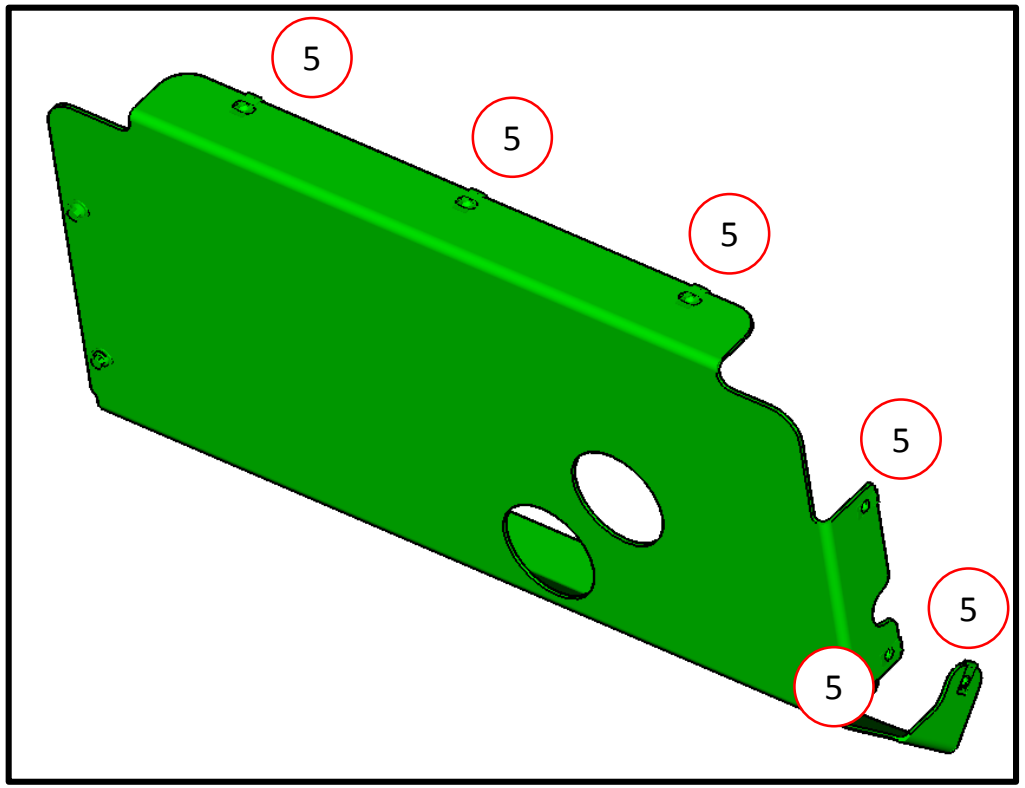



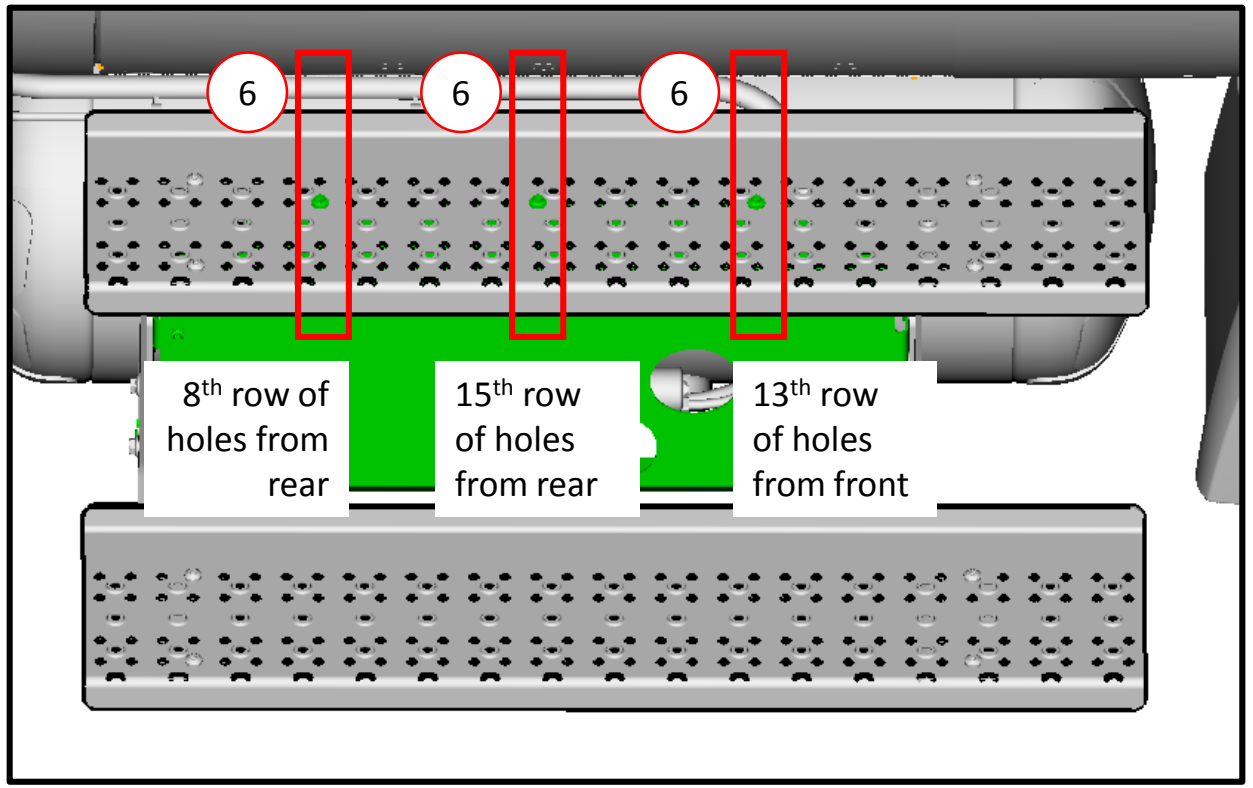



# INSTALLING THE VALVE GUARDS – RIGHT HAND CONTINUED

ATTENTION
Tank B
Tank C

5. Install Qty. 6 M6 J-clips in the open slots and holes on the right hand valve guard (P16FB-10A160-D).
6. Attach the top surface of the valve guard assembly to the left hand step tread using M6x1x20 flange head bolts with M6 washers as shown below.
7. **Torque fasteners to 10 – 12 Nm while making sure that the valve guard is as far forward as possible and is flush with the tank bracket on the front side.**

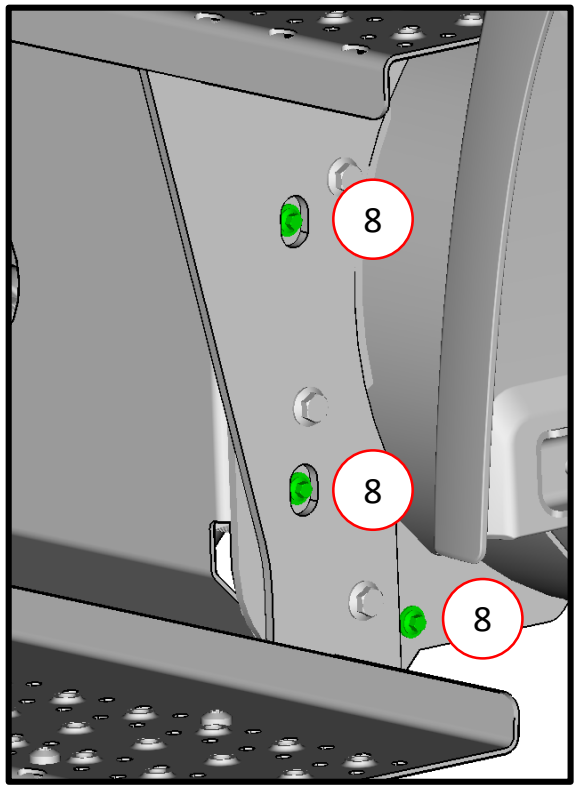


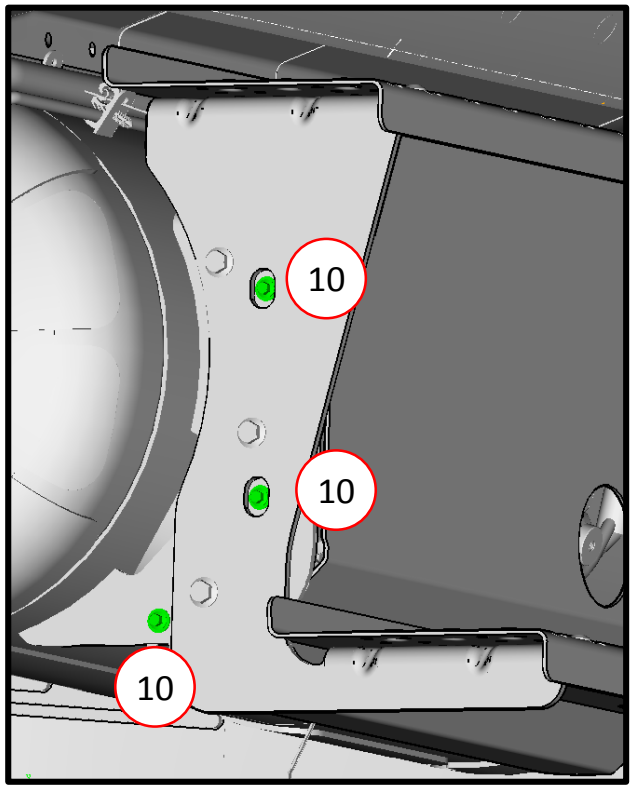



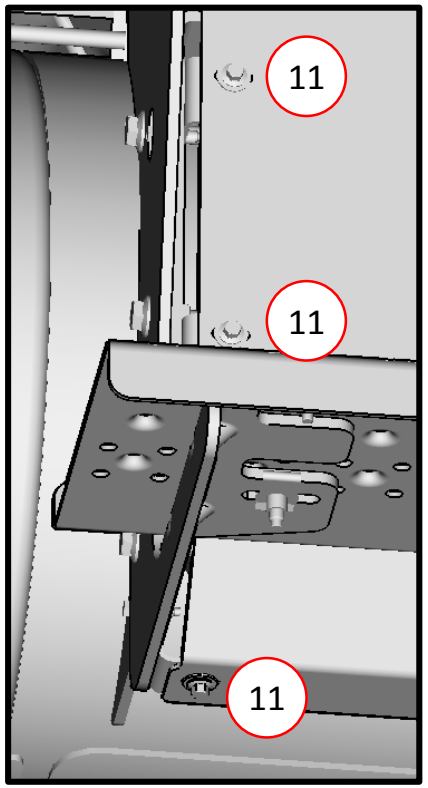
ATTENTION
Tank B
Tank C

# INSTALLING THE VALVE GUARDS – RIGHT HAND CONTINUED

8. Use 3 M6x1x20 flange head bolts with M6 washers to fasten the valve guard to the tank bracket at the front as shown below. Torque to 10 – 12 Nm.
9. Use 3 M6x1x20 flange head bolts with M6 washers to fasten the valve guard L-brackets to the tank bracket at the rear as shown below.
10. **Torque fasteners to 10 – 12 Nm while making sure that the L-brackets are as far rear as possible and are flush with the tank bracket. If the L-bracket does not slide then loosen the bolts on the valve guard side as needed before torquing.**
11. Torque the 3 M6 bolts holding the L-brackets to the valve guard to 10 – 12 Nm.



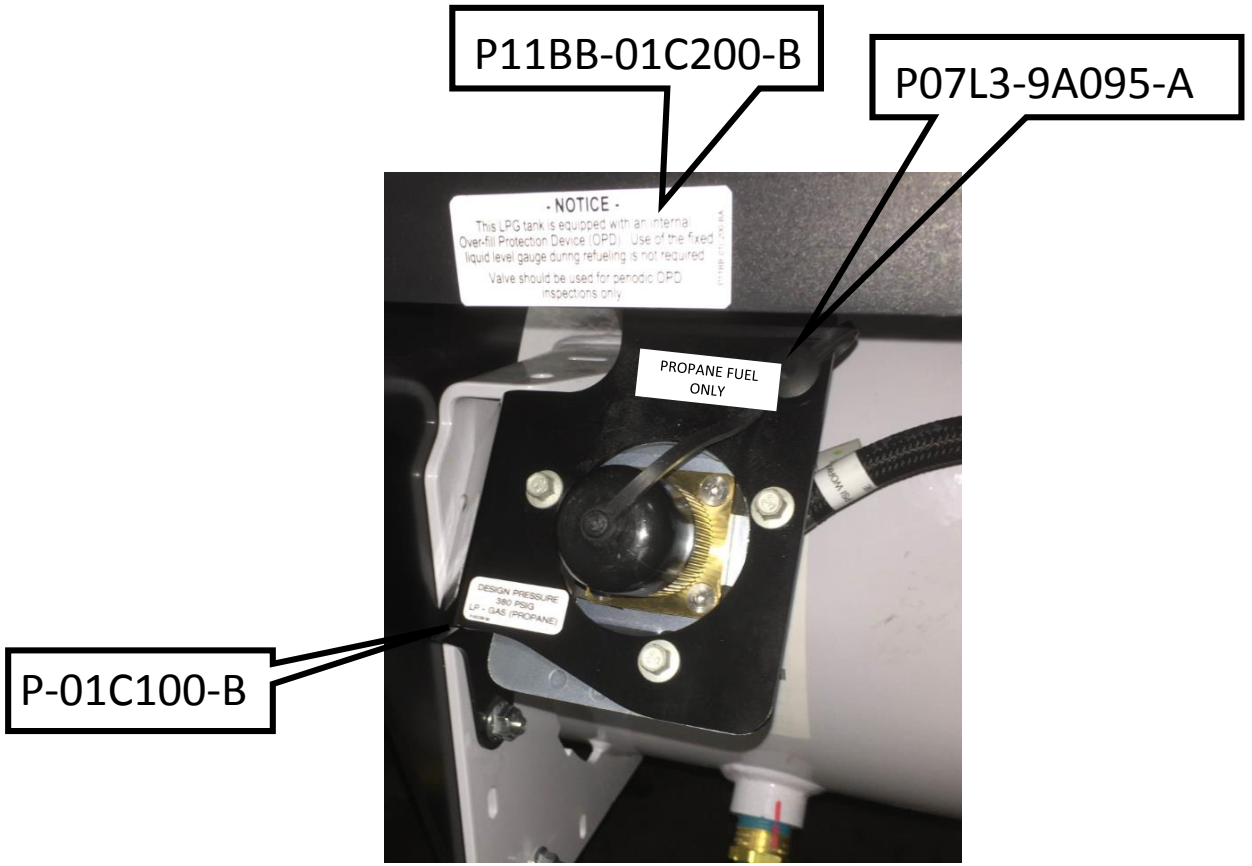



ATTENTION

Tank A

# INSTALLING BADGES AND LABELS

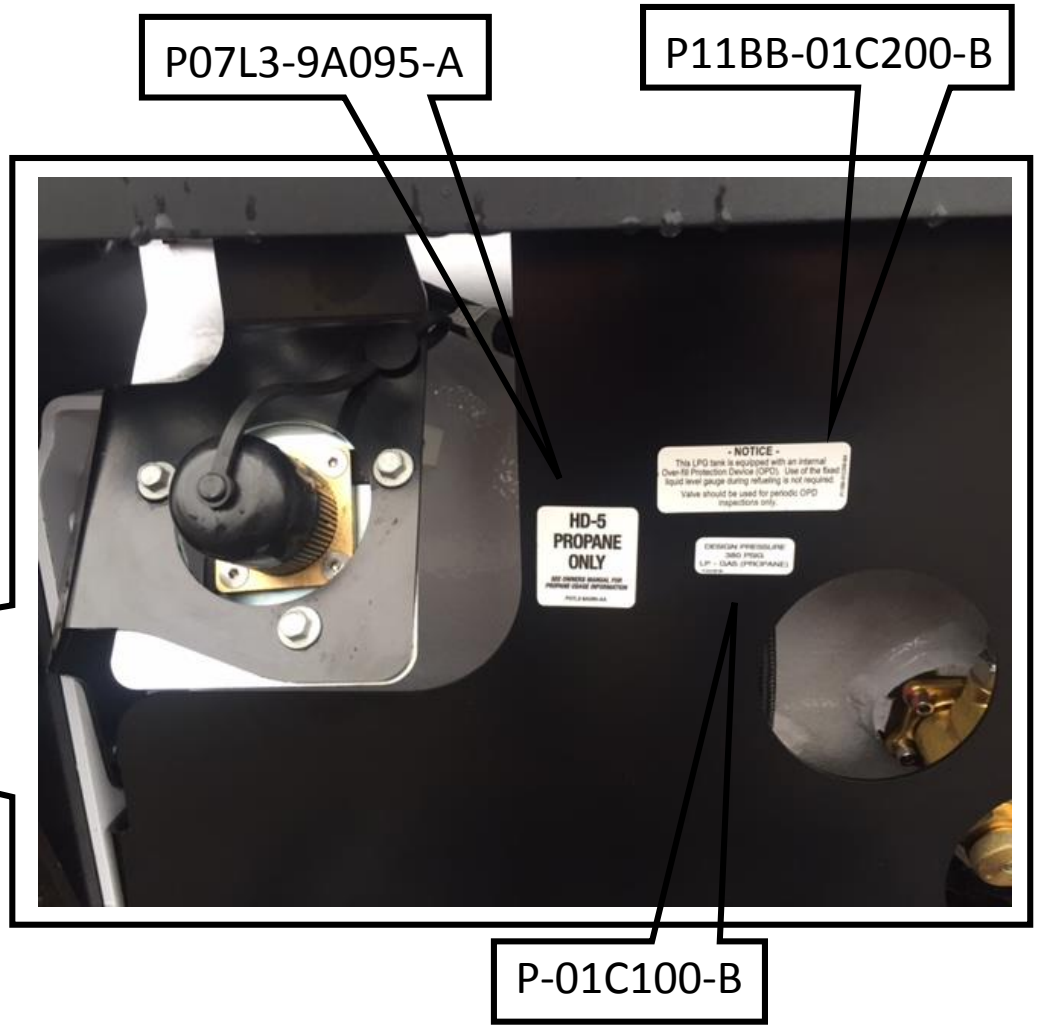
1. Clean and dry all surfaces before applying new self-adhesive badges and labels. All labels are found in hardware kit P16FB-LABELS-AA.
2. Apply labels in locations shown



ATTENTION
Tank B
Tank C

# INSTALLING BADGES AND LABELS

1. Clean and dry all surfaces before applying new self-adhesive badges and labels.
2. Install labels on valve guard cover next to fill valve as shown below.

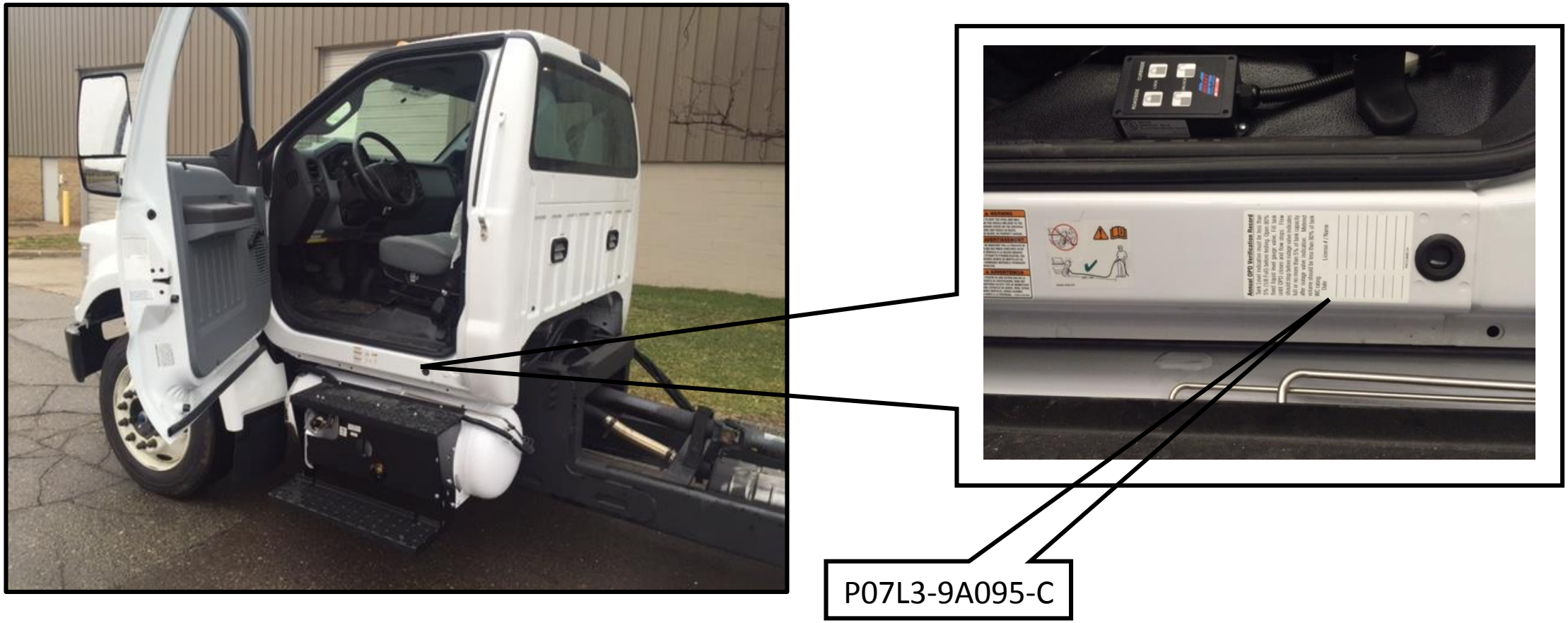


ATTENTION

All Tanks

# INSTALLING BADGES AND LABELS CONTINUED

3. The annual OPD verification record label is installed on the drivers side door wall as shown below.

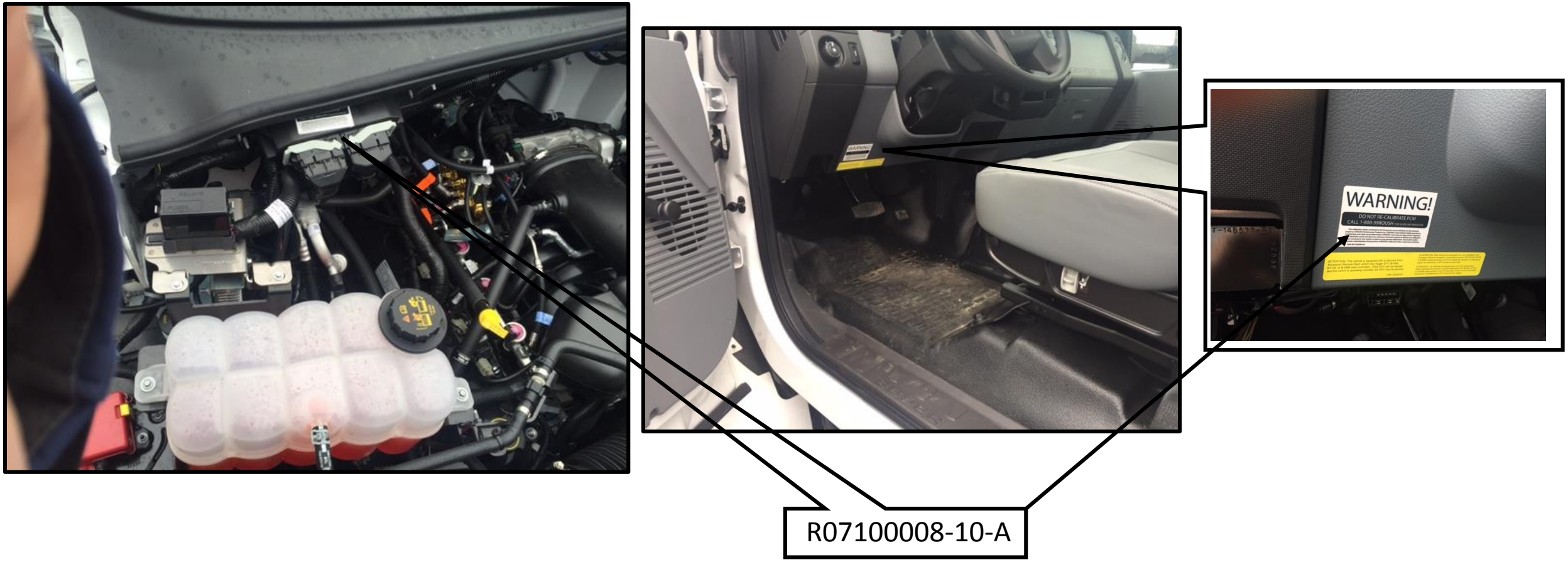


# INSTALLING BADGES AND LABELS CONTINUED

ATTENTION

All Tanks

4. The PCM tamper labels (R07100008-10-A) are installed under hood on the passenger side firewall on the OEM PCM as shown below. The second PCM tamper label is installed on the dash below the steering wheel as shown below.

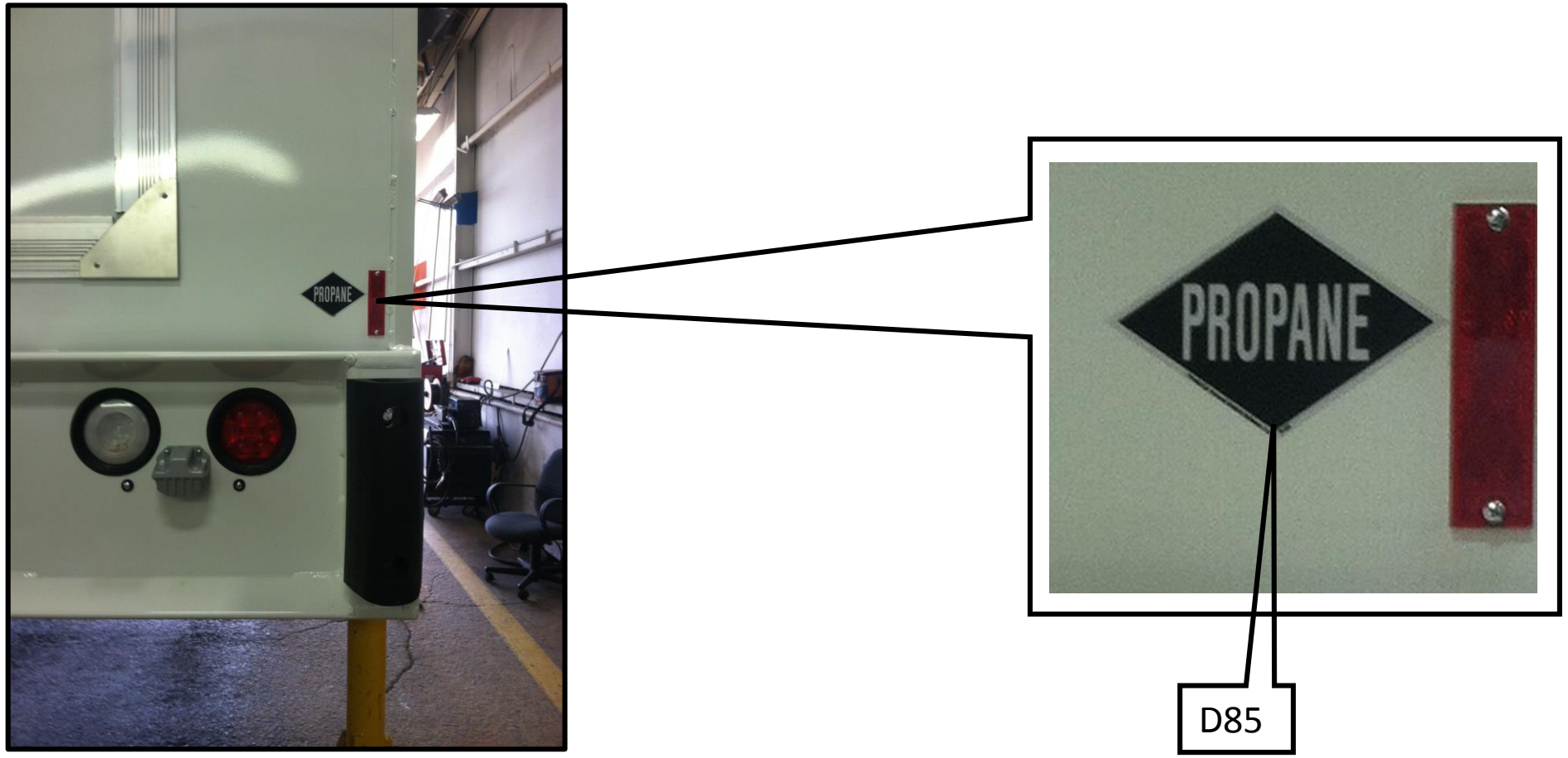


ATTENTION

All Tanks

# INSTALLING BADGES AND LABELS CONTINUED

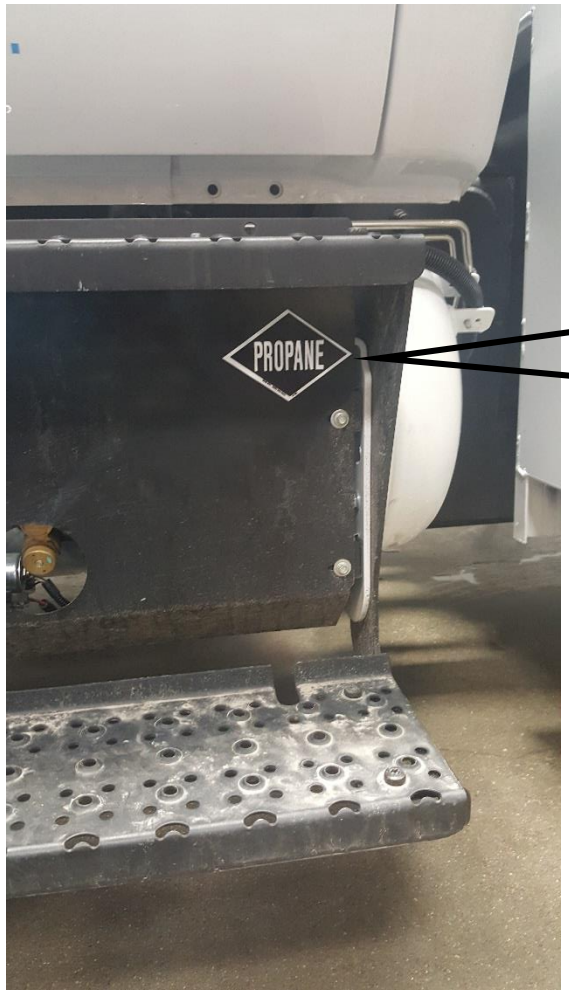
7. The diamond propane label D85 is installed on the rear of the vehicle as shown below.

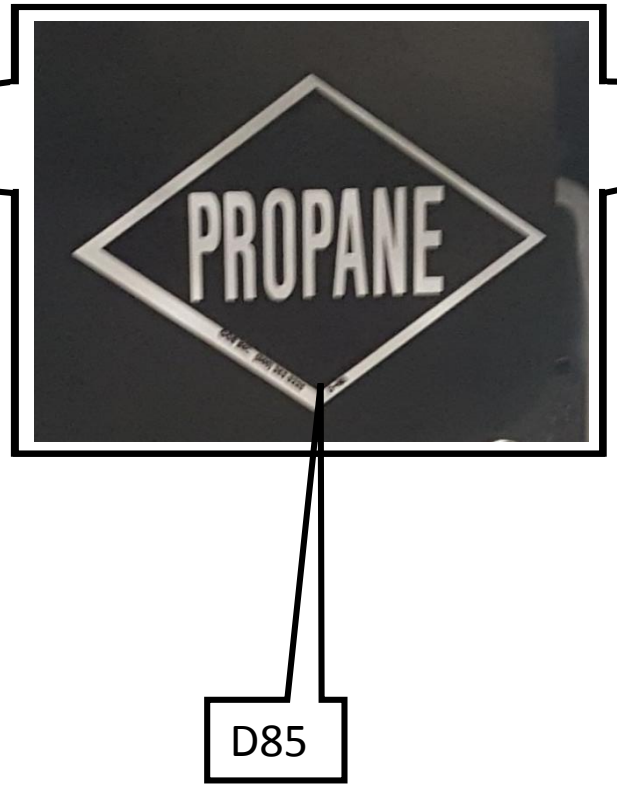


ATTENTION

All Tanks

8. The diamond propane label D85 is installed on both tanks. On drivers side tank, install label on top RH corner of valve guard and on passenger's side tank, install label on top LH corner of valve guard.



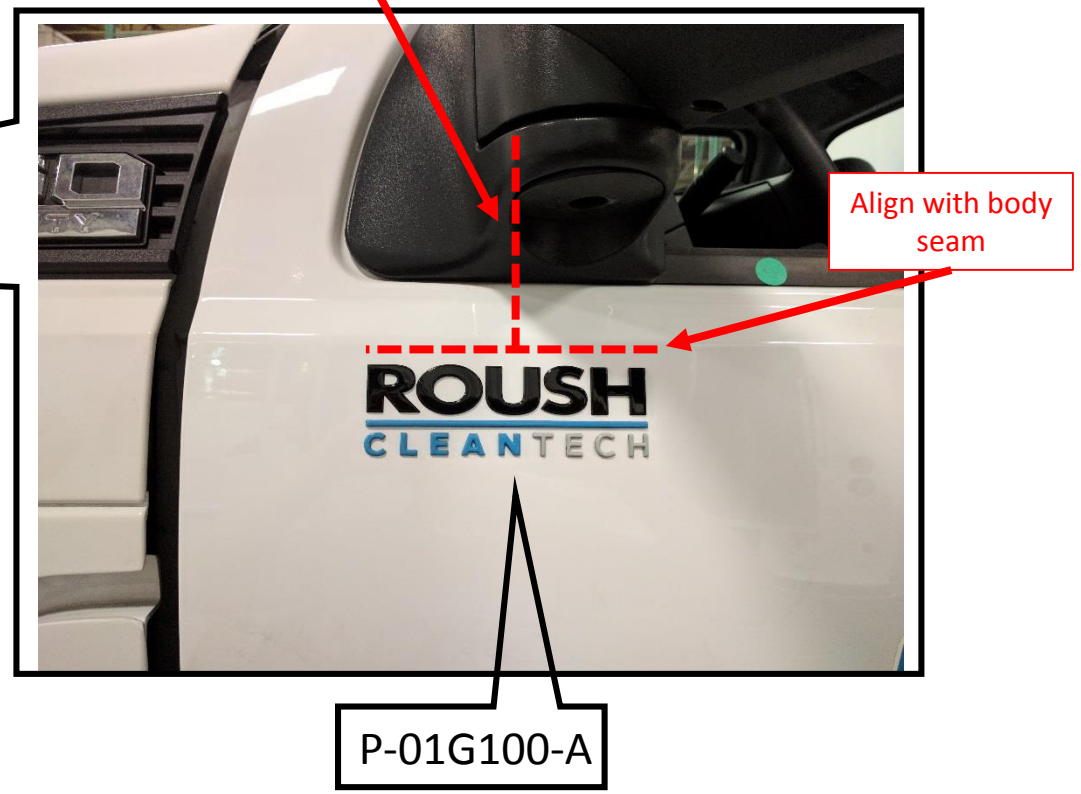




ATTENTION

All Tanks

# INSTALLING BADGES AND LABELS CONTINUED

9. The Roush CleanTech badge P-01G100-A is installed on the drivers side door as shown below.

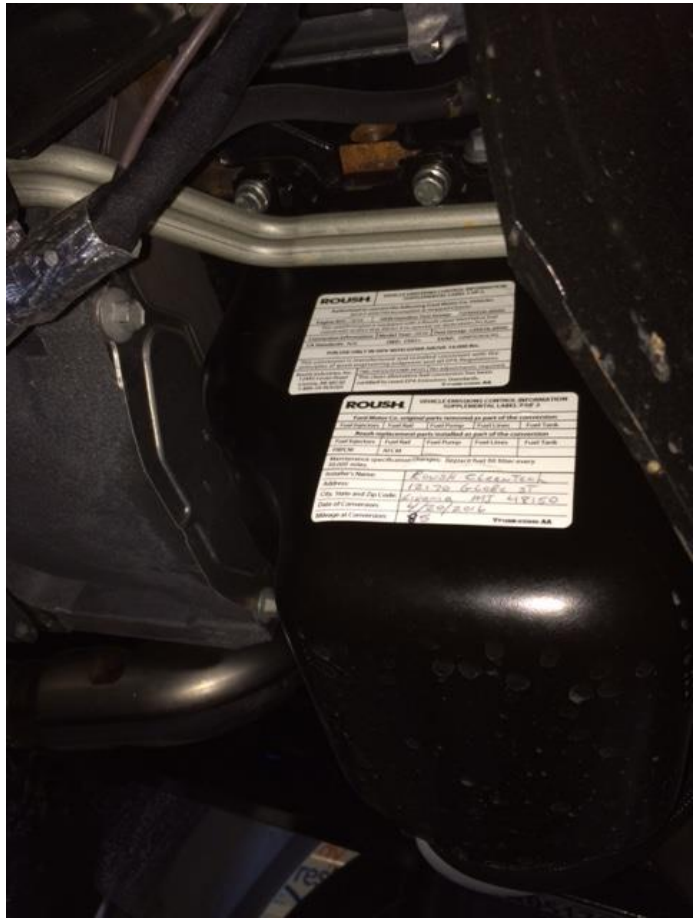



ATTENTION

All Tanks

# INSTALLING BADGES AND LABELS CONTINUED

10. The vehicle emission control information labels (VECIs) are installed as shown below. One set installs underneath the vehicle on the passenger side of the oil pan. The other set installs on the hood cowl just above the washer fluid bottle under the hood.




ATTENTION

All Tanks

# COMPLETING THE KIT INSTALLATION

1. Reinstall the drivers side front fender and wheel well liner.
2. Install vehicle battery and connect positive and negative terminals. Tighten to 8–12 Nm.
3. Connect MAF sensor.
4. Perform system leak check of fuel lines.

# Release Revision History

| | | |
|---|---|---|
| -CA | Initial Release | 3/17/17 |
| -CB | Added Single 51” | 6/7/2017 |
| -CC | Pg 28 - SRM j-clip replaced by a nut at one location<br>Pg 38 – added retention clips from engine line to heater hose and vapor line to heater hose<br>Pg141 – Updated wiring layout for dual tank application, showing power wire going to PDB<br>Pg 158 – Use two power posts for the 2 power wires on the underhood harness instead of stacking onto 1.<br>Pg163 and 164 – updated pictures for better clarity of zip tie to Ford harness, pulled away from SRM bracket. Added min clearance of 15mm. | 7/7/2017 |
| -CD | Removed auxiliary A/C clutch signal monitor section from this manual. For auxiliary A/C detail see P-01F001-C | 8/23/2017 |