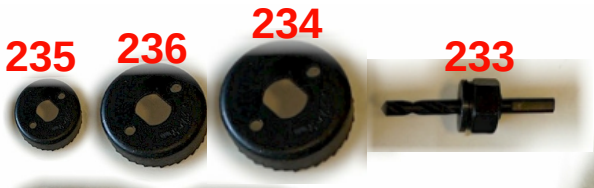
Can-Am Defender Heater Kit

ICCH-UD-C-CANDEF2020

1x 1 1/4" Hole Saw
1x 54mm Hole Saw
1x 3" Hole Saw
1x Pilot Bit



4x #16 Hose Clamps

6x #10 Hose Clamps

1x Blower Switch

1x 7/16" Washer

2x 5/16-18x5" Bolts

2x 5/16x18 Nuts

2x #10x1/2" Screws

Standard -15f of 5/8 Heater Hose

Max -18f of 5/8 Heater Hose

1x Pre-made Power Loom

2x 1/4-20x3/4" Bolts

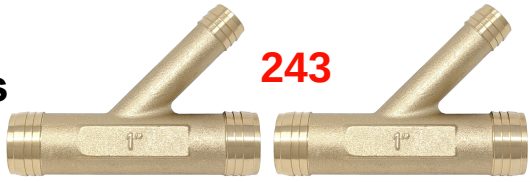
2x 1/4x20 Nuts

2x 1/4"-20 U-Nuts

8x 1/4" Push-Pins

1x 1 1/4" Gommets

2x 1" Brass Y's

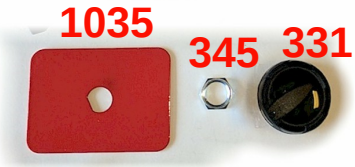


30 x 11" Zip Ties

1x Quick Connector
1x 1/4" Eye Terminal

1x 5/8 Shut Off Valve

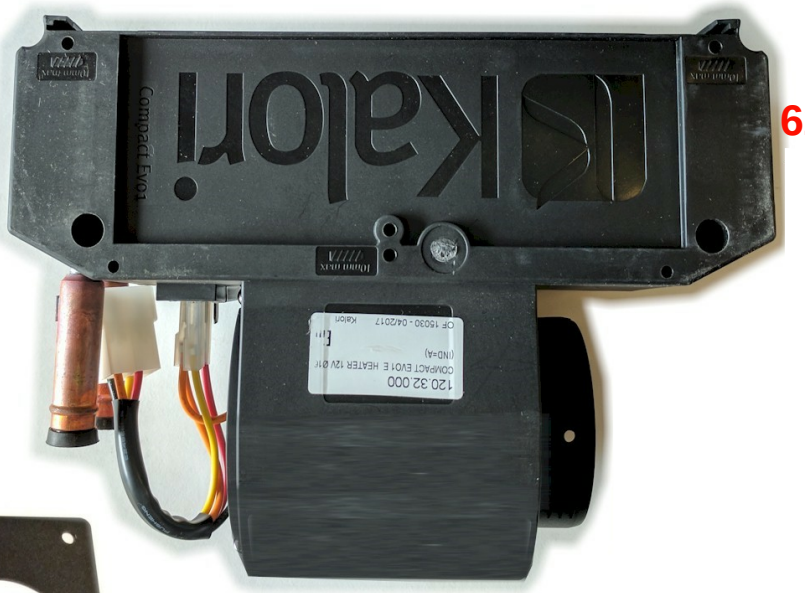
1x IC-SWBCRED Bezel, Switch Nut, 1x #2 Knob



MaxStat Option

1031

1x IC-CANDEFCVC
Center Vent Brkt



620

1x Heater Unit

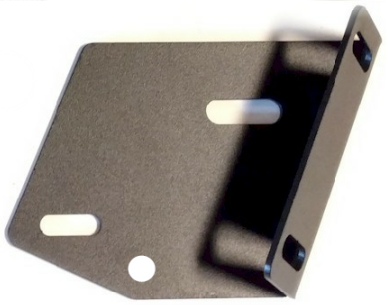
1001

1x IC-U3VBC
Left Vent Brkt

1032

1x IC-CANDEFRHLVBC
Right Vent Brkt

1x - Plastic Face Plate 1005P



1034-MODIFIED

1x IC-CANDEFMHB2C
Main Heater Brkt

1033

1x IC-CANDEFMHBC
Main Heater Brkt

3x 2" Y's

503

4x 3" Vents

502

2x 2" Vents

501

505

50" 2" Duct Hose
(compressed)

CanAm Defender 2020+ Ice Crusher Heater

Please read all instructions before beginning installation. It is easiest to physically split the instructions in two halves, one the text portion and the other the picture portion. It makes referring back and forth between the two much simpler.

When working on cooling systems always allow vehicles to cool to avoid being burned or scalded by hot coolant.

Always disconnect vehicles negative battery lead before working on electrical systems.

Please note: ***Before drilling*** any holes check area behind firewall/dash panels to make sure no damage or interference with equipment will occur by drilling holes and fitting of vents.

1. **Preparation**
    a. Remove the windshield, driver side door and passenger side door.
    b. Disconnect the negative battery terminal and secure the cable away from the terminal.
    c. Remove the driver and passenger headlight side plastic guards as shown in Figure 1. **Note:** There are two additional screws that must be removed from the reverse side of the plastic which are noted in Figure 1.
    d. Remove the driver and passenger wheel cowling as shown in Figure 2.
    e. Remove the lower center dash storage compartment molding and set aside as shown in Figure 3.
    f. Lift up the passenger and center seat to gain better access to the center tunnel cover. Remove the passenger side center tunnel cover as shown in Figure 4
    g. Remove the firewall cover plate as shown in Figure 5
    h. Pull the dash cluster forward as shown in Figure 6 and Figure 7.
    i. Remove driver side tip out cubby and surrounding plastic as shown in Figure 8 and Figure 9
    j. Remove the three Firewall screws on the driver side and two dash screws as shown in Figure 10

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2. Panel Modifications

Important Note & Tip for all hole saw holes: Do not allow the drill and hole saw to plunge through the plastic. Use a knife to remove any burrs created by the hole saw.

a. Using the Side Template, position the template as shown in Figure 11 (Passenger Side). Transfer the hole centers to the plastic, remove the template and use the included 3'' Hole Saw and Pilot Bit to drill two 3'' holes. Use a sharp razor blade to remove the remaining material until the hole matches the raised lip as shown in Figure 12. Repeat on the driver side plastic.

b. Using the Center Vent Template, position the template as shown in Figure 13. Use the 3'' Hole Saw and Pilot Bit to drill the 3'' holes. Use a sharp razor blade to remove the humps between the holes to create an oval shape. **NOTE: DO NOT allow the hole saw to pass through the plastic too far as there are wiring harnesses behind this area.**

c. Position the Defrost Templates as shown in Figure 14 behind the driver and passenger side cup holders. Position the 2'' Vent Templates so that the larger circle does not ride up on the radius of the dash. Transfer the hole centers on the template and drill using the included 2 1/8'' Hole Saw and Pilot Bit as shown in Figure 15. This hole may slightly trim the edge of the cup holder insert, use a razor blade to trim back and plastic bur created by the edge of the cup holder.

d. Use the included 1 ¼'' Hole Saw and Pilot bit to drill a hole generally centered on the round profile in the firewall visible from the passenger side wheel well looking up toward the center console as shown in Figure 16. Insert the included 1 ¼'' Rubber Grommet into the hole.

e. Using a razor blade, trim a 4'' piece of the sidewall plastic from the Lower Center Dash Storage Compartment as shown in Figure 17 and Figure 18. This will create additional space for duct hose to reach the foot vents.

f. Position the Shorter 3'' Vent Bracket on the Lower Center Dash Storage Compartment as shown in Figure 19. Measure 8.5'' inches to the right as shown. Hold the bracket approximately 1.5''-2.0'' up from the bottom edge. Mark the two holes and also trace the arc of the hole that overlaps the plastic. Use a ¼'' Drill bit to drill out the two holes. Use a razor blade to cut the arc as shown in Figure 20. Do not install the bracket at this point.

g. Position the Taller 3'' Vent Bracket on the Lower Center Dash Storage Compartment as shown in Figure 19. Position the bracket so that the arc of the 3'' opening does not overlap with the plastic. Transfer the two hole centers and rill using a ¼'' Drill Bit. Do not install the bracket at this point.

CanAm Defender 2020+ Ice Crusher Heater

3. **Duct Hose Routing and 5/8'' Coolant Hose Routing.**
    a. Using Figure 21 as a guide cut duct hoses to length. **Important Note: Lengths shown are measured in a compressed state. Measure and cut accordingly.**
    b. Take the 14" (Compressed) piece of 2" defrost duct hose and from the passenger side access hole, pass the hose through to the left side of UTV as shown in Figure 22. Use the opening created in the center vent area to help guide the hose. Pass the hose through the driver side access panel hole as shown in Figure 22. Attach the 2'' duct hose to one of the 2" Plastic Y fittings and secure it to the fitting using a zip tie. Attach the 2'' and 4'' piece of duct hose to the Plastic Y and secure using zip ties as shown in Figure 22. Allow the hose to hang out the access panel for now.
    c. From the driver side access panel, route the Blower Motor Wiring Harness included in the kit to the center vent area with the (4) female spade connectors (Red/Yellow/Orange/Blue) leading as shown in Figure 23. Pull the blue wire through to the center vent area and then route it through driver side drip hole so that it hangs down under the dash.
    d. Route the 8'' (Compressed) piece of 2'' defrost duct from the driver side access panel to the 3'' holes cut into the center vent area. Attach one of the 2'' Plastic Y's to the duct hose and secure it using a zip tie as shown in Figure 23. Attach two pieces of 2'' duct hose to the 2'' Plastic Y and secure using zip ties. Leave this hose in the center vent area for now.
    e. Route the 10'' (compressed) piece of 2'' defrost duct from left side of the steering column, up and behind the gauge cluster and down the right side of the steering column. Attach the remaining 2'' Plastic Y fitting to the hose and secure it using a zip tie. Attach the two remaining 4'' pieces of duct hose to the Plastic Y and secure using zip ties. Allow this hose to hang in place for now.
    f. Cut a 6 foot piece of 5/8'' Coolant Hose from the included roll of hose. From the passenger side wheel well, push all but approximately 2 feet of the hose through the 1 ¼'' Rubber Grommet so that it is routed behind the electric power steering pump. Route the hose along the firewall until it enters the open cavity as shown in Figure 24. **Note: lubricating the hose and rubber grommet with soapy water or windex will make this much easier.**
    g. Route the remaining 5/8'' Coolant Hose from driver side open cavity area following the 6 foot piece of hose along the firewall. Route this hose in front of the electric power steering motor and let the excess hose hang loosely in the center tunnel area for now. Leave equal amounts of hose remaining in the driver side open cavity area.
    h. Unlatch the two clips in the center tunnel to create room for the remaining 5/8'' Coolant Hose. Straighten out the harness shown in Figure 25 and zip tie it against the main harness as shown. Reposition the harness shown in Figure 26 to the side of the clip as shown.

CanAm Defender 2020+ Ice Crusher Heater

4. **Heater Mounting and Duct Hose Hookup**
    a. ~~Locate the Heater Face Plate (has three 50mm holes in it). Slide the Heater Face Plate into the slot on the front of the Heater Unit. Install two #10 sheet metal screws (larger of the two types of small screws) into the Heater Unit as shown in Figure 27.~~
    b. ~~Install the three 50mm Connectors using the six #8 sheet metal screws as shown in Figure 27.~~
    c. Attach the Main Heater Bracket (Right angle bracket) using two #10 sheet metal screws and the 5/16'' x 5'' Carriage Bolts and 5/16'' Serrated Flange nuts as shown in Figure 28.
    d. On the left side of the steering column sheet metal panel are a nut and a bolt. Loosen and remove the nut (leave it's mating bolt in place) and remove the Hex Bolt as shown in Figure 29
    e. Locate the remaining Heater Mounting Bracket (has a sharp bend). Press the ¼'' U-Nuts over the slotted holes as shown in Figure 30.
    f. Install the sharply bent bracket on to the steering column side plate so that the shorter Hex Bolt utilized the single bolt hole and the larger bolt uses the slotted hole that aligns once the bolt hole is pinned. You will not need the second slotted hole, it is used on pre-2020 vehicles. Reinstall the hardware as shown in Figure 31.
    g. Refer to Figure 32 for the next several steps. **Verify that rubber black shipping plugs are removed from the heater before performing this stuff:** Attach the wiring harness to the heater using the 4 pin white connector on the wiring harness, leave the black ground wire for now. Hold the Heater assembly up to the two 5/8'' heater hoses, place a #10 hose clamp over each hose and press them on to the copper lines avoiding any twists in the lines. It does not matter which hose connectors to which copper port as long as the hoses aren't twisted. Push the heater up toward the cavity but leave enough slack to access the 2'' Duct hoses.
    h. With the heater lifted up, attach the 4'' piece of duct hose that connects to the Defrost Vent ducting and attach it to the furthest back 50mm port on the heater. Secure the duct hose with a zip tie.
    i. Attach the Center Vent duct hose to the center 50mm port on the heater, secure using a zip tie.
    j. Push the heater assembly into the cavity (it may help to have someone else pulling back on the heater hoses as the heater is moved into position. It also is helpful to lubricate the hoses again so they move easily through the grommet.
    k. Position the heater over the two ¼'' U-Nuts and use the ¼'' Serrated Flange Bolts to attach the heater to the bracket.
    l. Attach the final duct hose that runs behind the gauge cluster to the remaining port, secure with a zip tie.

m. Hold the black ground wire up to the lower bolt on the steering column panel, cut the wire to length, crimp the ¼'' Ring Terminal on to the wire and use the lower bolt to secure the ground wire to the vehicle frame as shown in Figure 33

5. Coolant Hose Routing and Aluminum Y Attachment

a. Pull any slack out of the 5/8'' Coolant hose. Route the longer 5/8'' Hose in front of the electric power steering pump and follow the main OEM wiring harness bundle to the back of the vehicle. It may be necessary to remove the OEM rubber molded fitting that holds the wiring harness in place in order to fit tightly behind the firewall cover plate once it is reinstalled. Route the hose to the engine bay as shown in Figure 34, Figure 35, and Figure 36. Close latches once hose is in the engine bay. Use zip ties if needed to secure the hose.

b. Use Teflon Tape to wrap the threads of the 5/8'' Barb fitting. Install the Barb Fitting into the 1'' Aluminum. Tighten securely. Repeat same steps for second Y Fitting.

c. From the Passenger wheel well, either remove the lower radiator hose and drain the coolant into a clean bottle (it can be reused), or use hose clamps to pin off the bottom hose of the radiator. Remove approximately 5'' of the plastic hose guard on the lower hose. Mark of 1-1.5'' of straight hose as shown in Figure 37 and cut it out using a razor blade. Insert one of the aluminum Y's as shown Figure 37. Secure using two #16 Hose Clamps. Do not hook up the 5/8'' Coolant hose at this time.

d. In the engine bay, locate the vertical running coolant lines from the passenger's side as shown in Figure 38. It may be helpful to un-pin the tilt bed pneumatic cylinder to gain more access. Mark off 1''-1.5'' of hose (utilize hose clamps if possible to minimize coolant loss). Use a razor blade to remove the marked off hose. Insert the remaining '' Aluminum Y with the brass barb point downward as shown in Figure 39. Secure the 1'' Barb with #16 (larger) hose clamps. Do not connect the 5/8'' Hose at this point. NOTE: If a MaxStat has been purchased with the kit, install the MaxStat in place of this Aluminum Y. Follow the assembly instructions included with the MaxStat. Verify that the Maxstat is orientated with the Brass fitting on the highest side of the Maxstat when installed.

e. Please read and perform this step!! Prior to final hookup of the 5/8'' heater hoses, use the garden hose adapter that came in the kit to attach a garden hose to the 5/8'' heater hose. Place a bucket under one of the 5/8'' hoses and run water through the heater system for 30-60 seconds. It is important to wet the inner walls of the heater system. Performing this step will save you a great deal of frustration and make bleeding the system much easier. Allow any excess water to drain from the hoses.

f. With the heater system wetted, cut both 5/8'' Coolant hoses to length and attach them to the Aluminum Y's. Secure them with #10 (Smaller) hose clamps. Make sure there are no sharp bends in the 5/8'' hose. Secure the hose away from any hot, sharp or moving parts of the vehicle using zip ties.

g. From within the Passenger side wheel well, locate the 5/8'' coolant hose that leads to the firewall. Approximately half way between the firewall and Aluminum Y (Refer to

Figure 40), cut the hose and insert the Plastic Shutoff Valve. Secure the ends using #10 Hose Clamps.

6. **Final Wiring**
   a. Tip out the electrical panel found to the right of the key, locate the Black and Red wires coming from the cigarette lighter as shown in Figure 41. Using the Blue Insulation Displacement Crimp, attach the Blue power wire that was routed through the center dash to the red wire connected to the Cigarette lighter. It may be necessary to trim the wire to length prior to attaching it.
   b. Install the switch to the four female connectors following the pinout in Figure 42. Reconnect the negative battery terminal and test all three speeds of the fan switch. Replace the electrical panel.
7. **Vent Attachment & Reassembly (**Refer to Figure 43**)**
   a. Position the 2'' piece of duct hose that is on the driver side access hole through the 2'' defrost opening. Install a 2'' Vent over the hose, secure it with a zip tie and push the vent into place until it snaps securely. There is an anti-rotation notch on all the vents, it may be necessary to cut a very small 'V' shape in the plastic to fit the notch into.
   b. Perform the same operation on the passenger side defrost vent.
   c. Position the Center Vent Bracket over the center vent area. Place the 1035 Red backer bracket over the switch armature. Insert the switch into Center Vent Bracket. Secure the front side of the switch using the Low Profile Hex Nut. Press the plastic switch top on the switch armature.
   d. Pull the two pieces of the 2'' Duct Hose through the 3'' hole openings in the bracket. Install the 3'' Plastic Vents, secure using a zip tie and insert into the bracket until they snap securely into place. Position the Center Vent Bracket so that the front and rear flanges sit flush to the dash plastic. Mark the hole locations, use a ¼'' drill bit to drill out the hole locations. Position the bracket over the holes, use four ¼'' Plastic Push Pins to secure the bracket.
   e. Reinstall the Lower Center Dash Storage Compartment while routing the 2'' duct hose over the notch created earlier. Route the hose down the center opening and route the 2'' duct hose to the areas where the vent brackets will be installed.
   f. Route the 2'' Duct hose through the passenger side Lower Vent Bracket, install the 2'' Vent, secure using a zip tie. Secure the bracket using two of the plastic push pins.
   g. Perform the same operation for the remaining Vent Bracket.
   h. Reinstall the Firewall Cover Plate
   i. Reinstall the Drive Shaft Tunnel Cover
   j. Reinstall the screws removed from the driver side dash panel plastic.
   k. Reinstall Wheel Cowling Body Panels.
   l. Reinstall the Headlight Side Plastic Guards.
   m. Reinstall, doors, windows, and any other accessories removed.

8. **Bleeding**

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a. Refill the reservoir at the rear of the vehicle (if needed) using manufacturer approved coolant. Start the vehicle and run at a fast idle. Check for leaks and do not allow the vehicle to exceed 220 degree Fahrenheit.
b. Allow vehicle to cool and recheck cooling system level, fill as required. Refill cooling system as per manufacturer's procedure. Start and run the vehicle at a fast idle and run up to normal operating temperature. Check for leaks. Check heater operation. Allow vehicle to cool and recheck cooling system level, fill as required.
c. If the heater fails to blow hot/warm air once the vehicle is up to operating temperature, there may be an air lock in the heater unit. Temporarily block off the top/inlet radiator hose at the radiator. Start and run vehicle up to operating temperature. Feel the outlet/lower hose from heater until it feels hot. The heater now should be blowing hot/warm air. Remove clamp from radiator hose. The heater should continue to blow hot/warm air. This procedure may have to be repeated a few times to remove air from system. Allow vehicle to cool, restart the vehicle and run up to operating temperature, recheck heater operation. **Please note**: Heater output will be limited at idle, all testing should be done at a fast idle.

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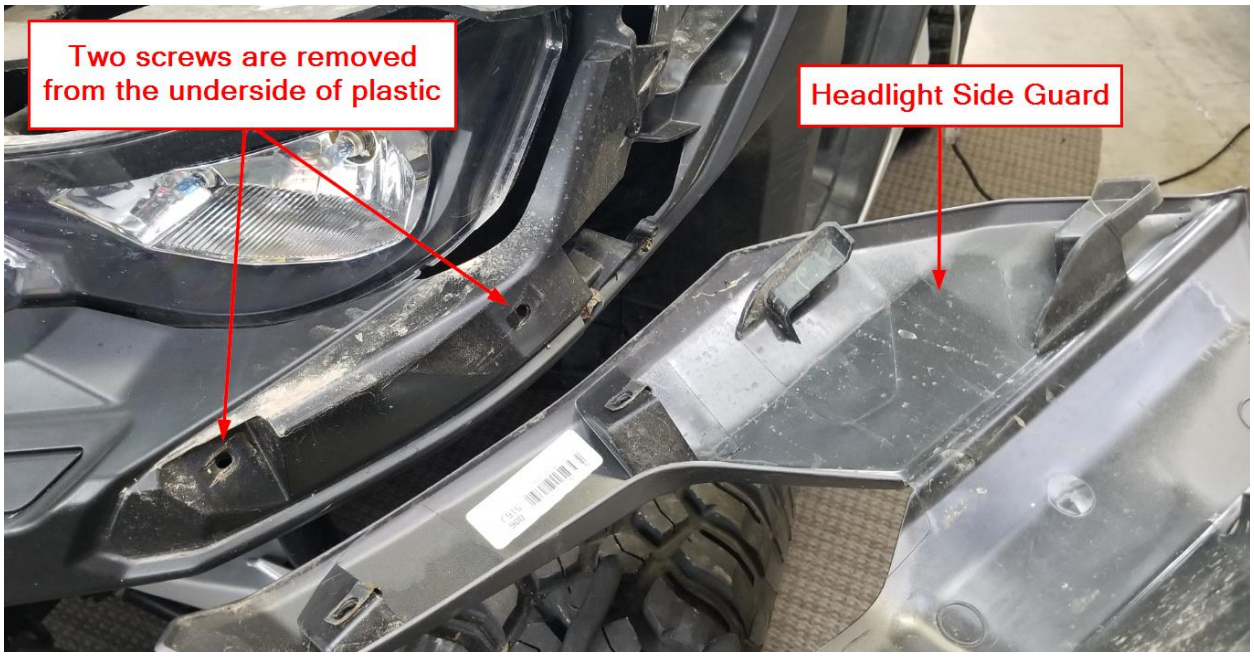

Figure 1

Figure 2

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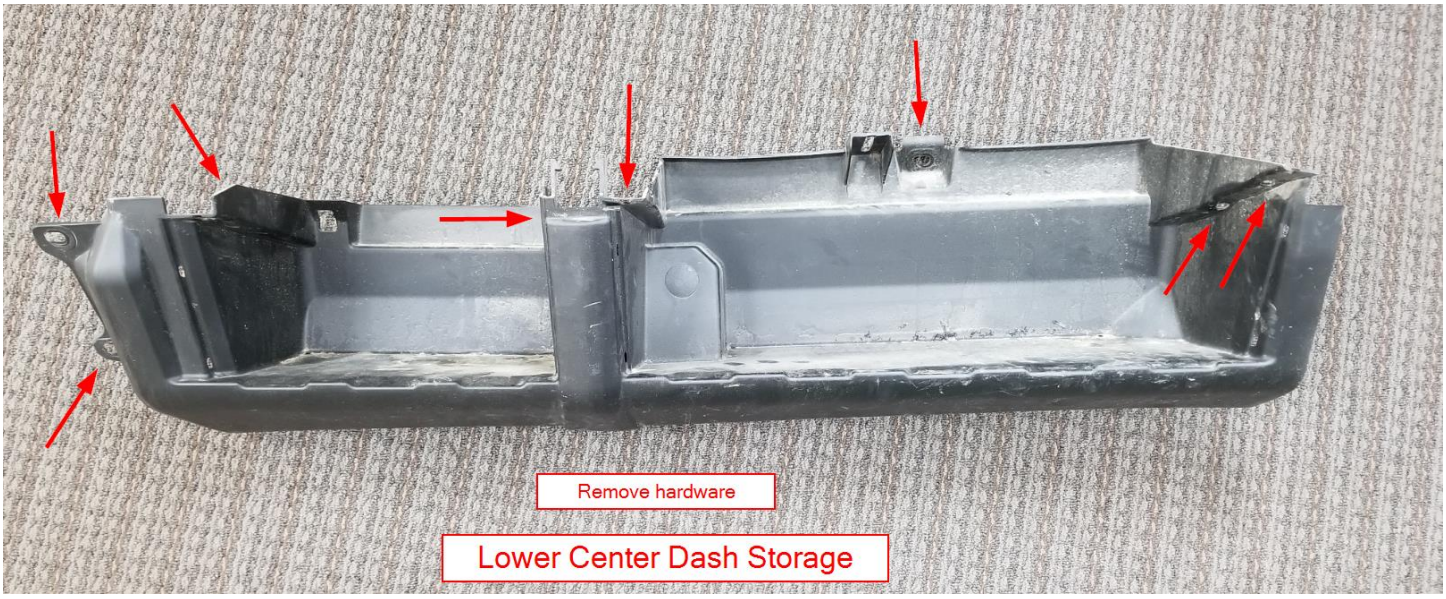

Figure 3

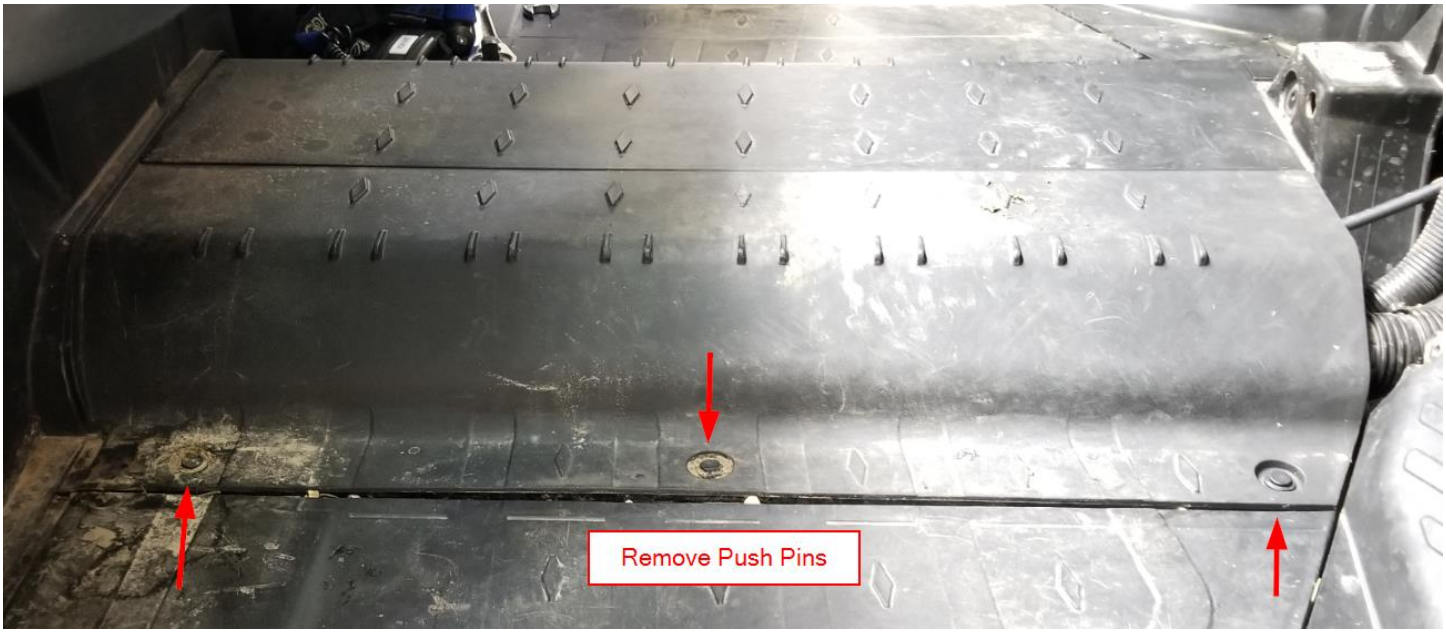

Figure 4

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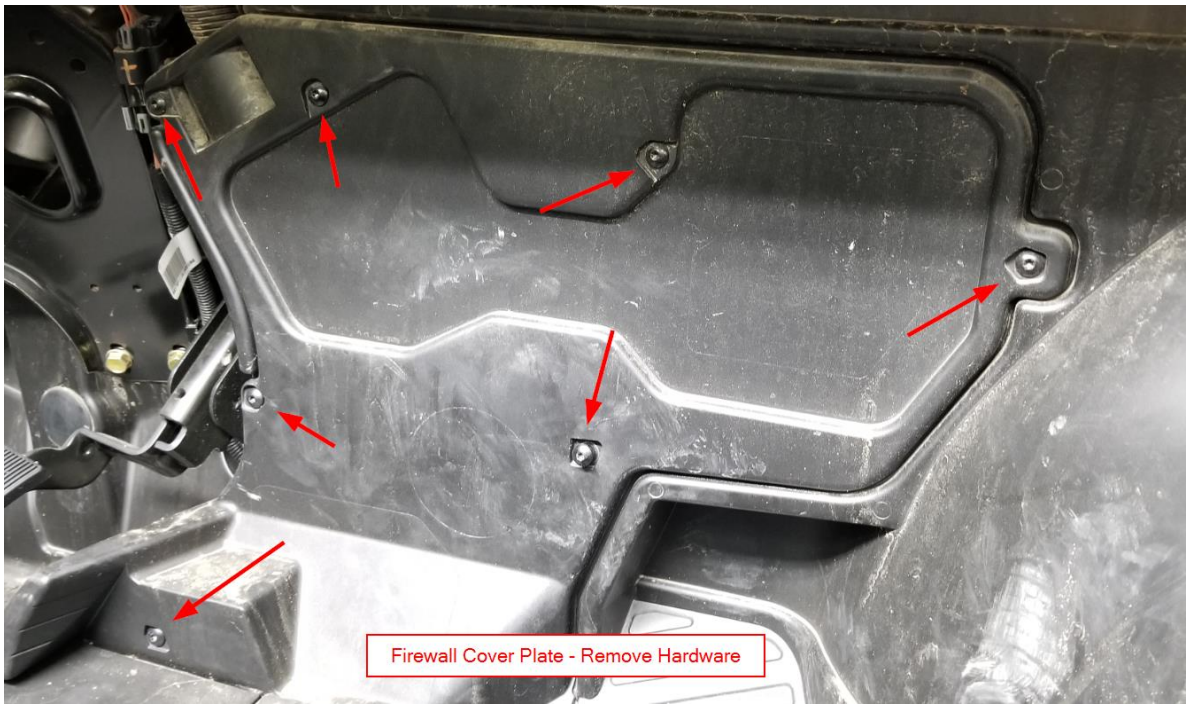

Figure 5

Figure 6

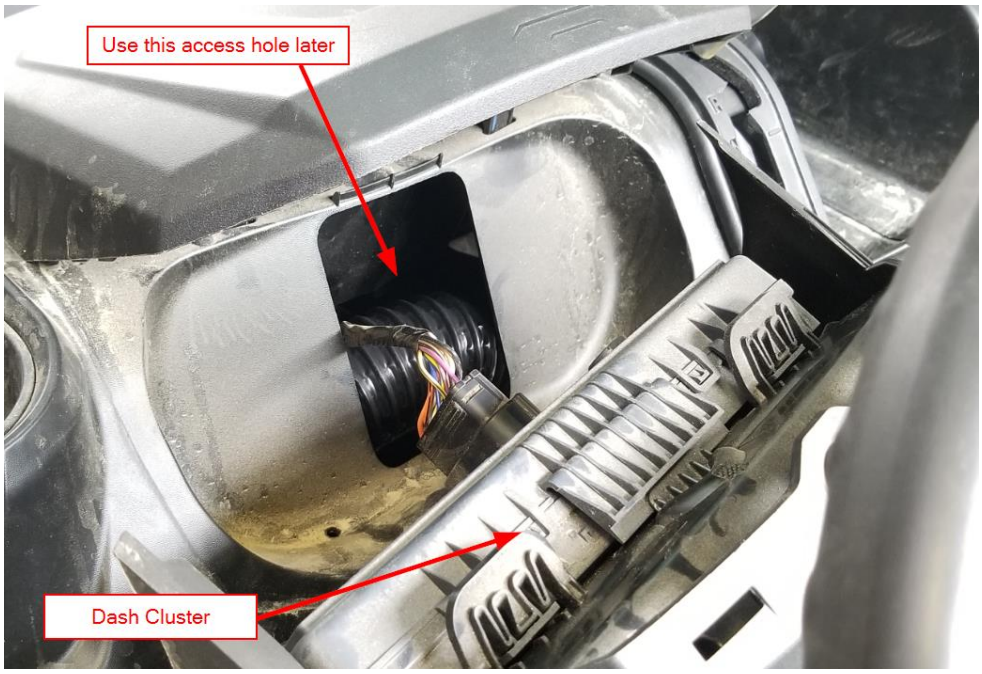

Figure 7

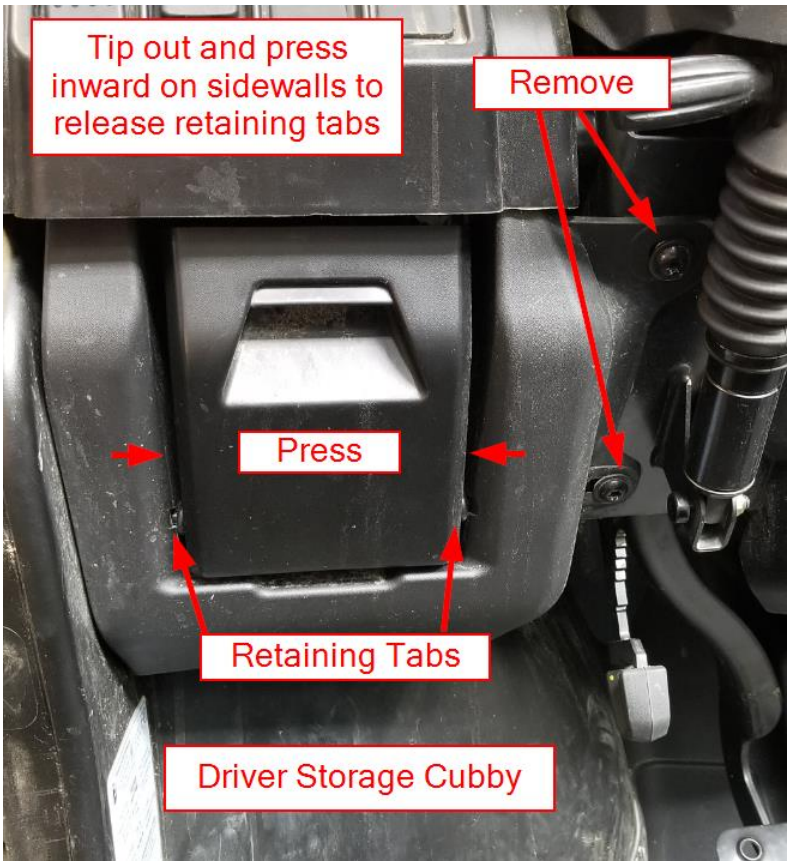

Figure 8

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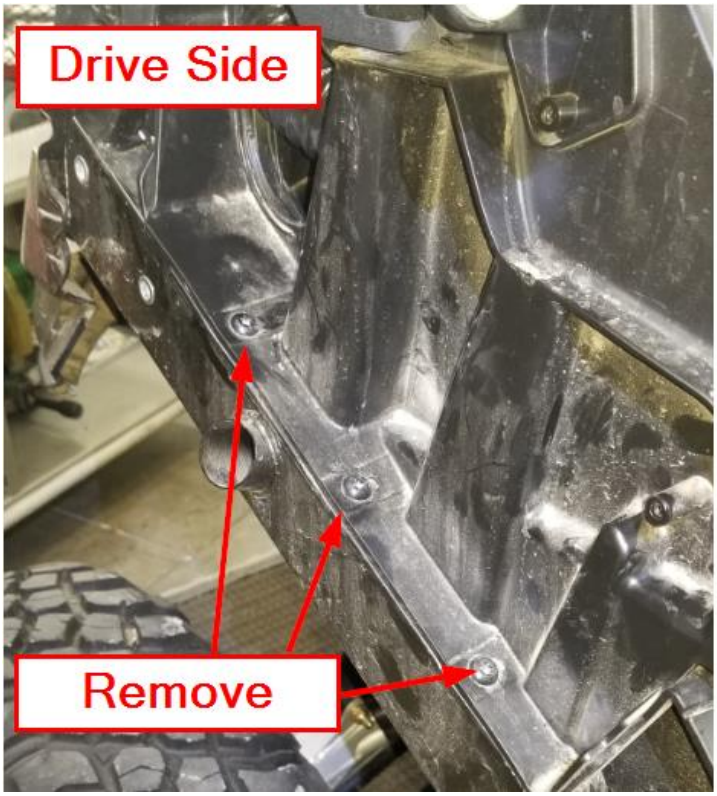
Figure 9



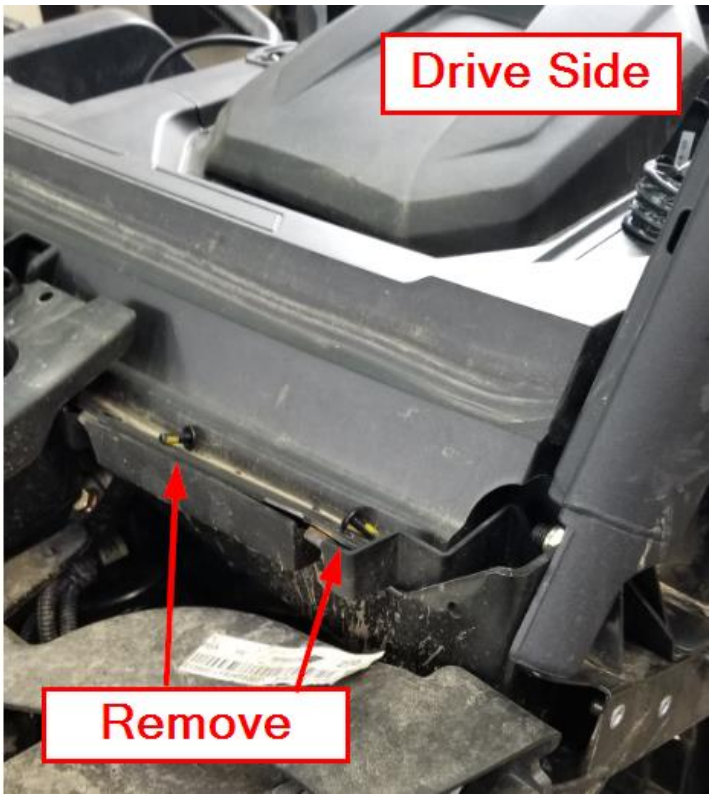


Figure 10

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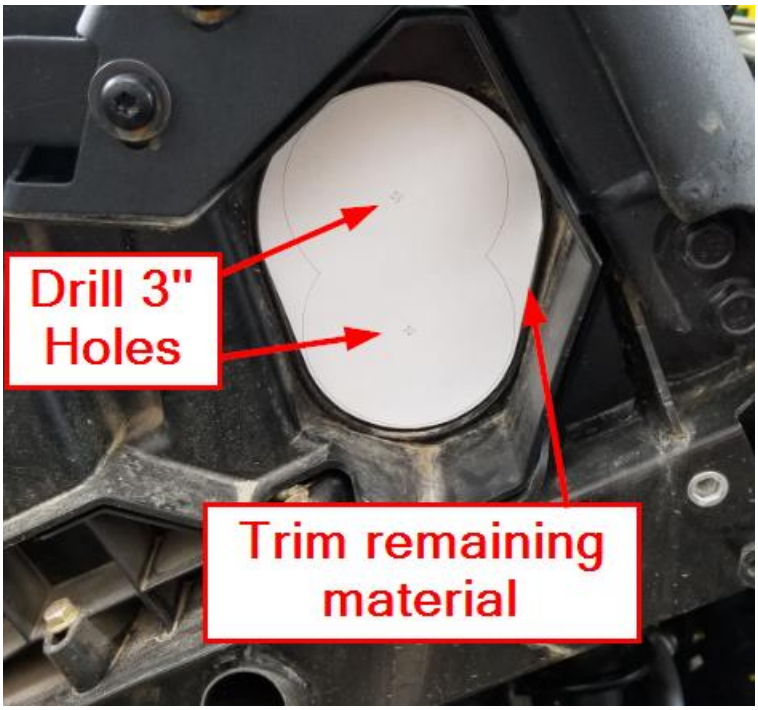

Figure 11

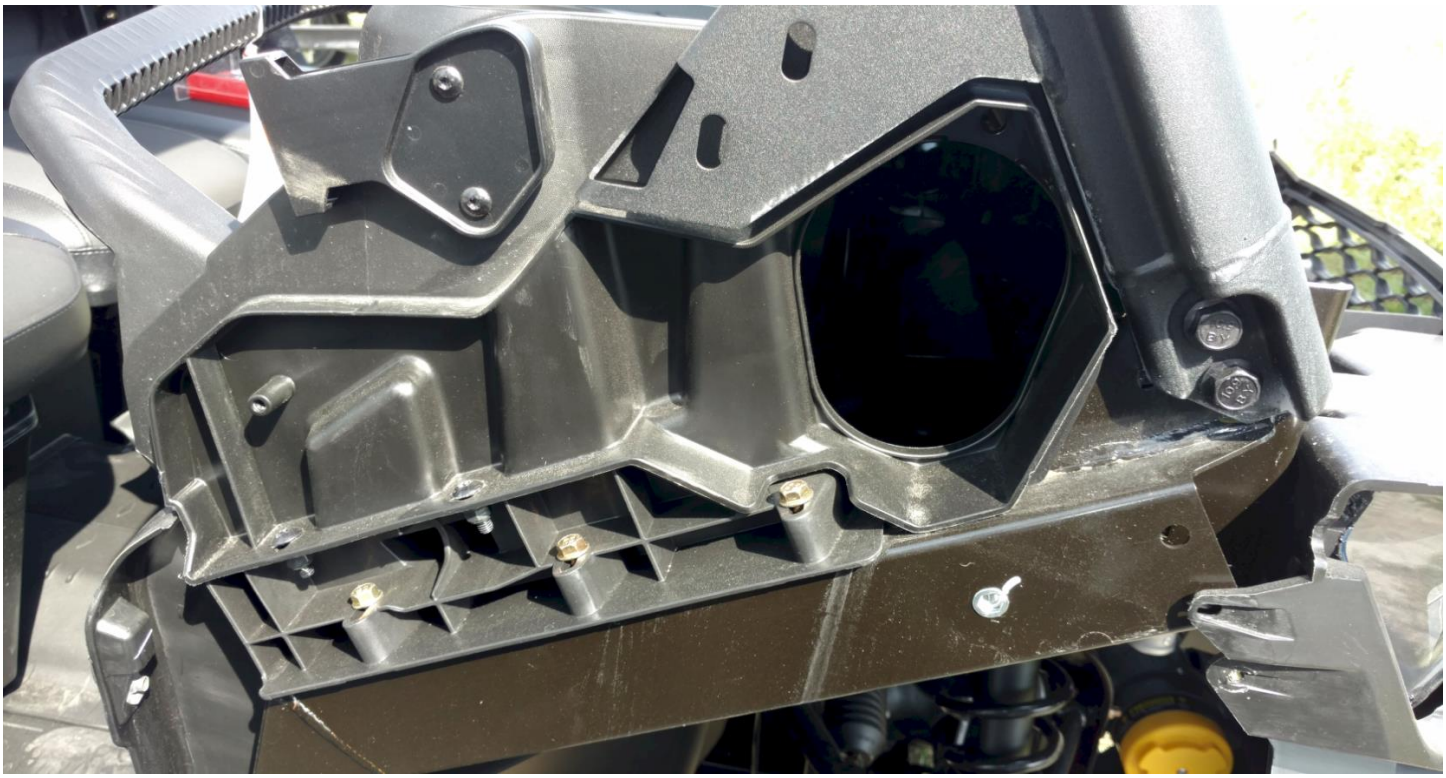

Figure 12

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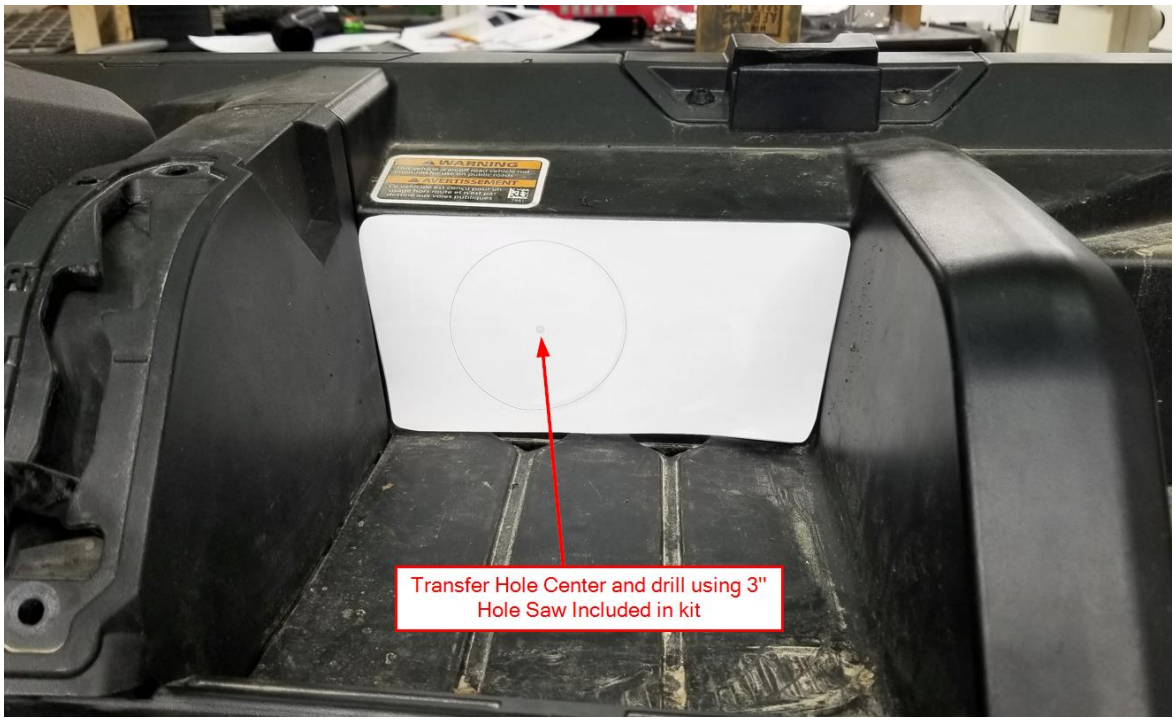

Figure 13

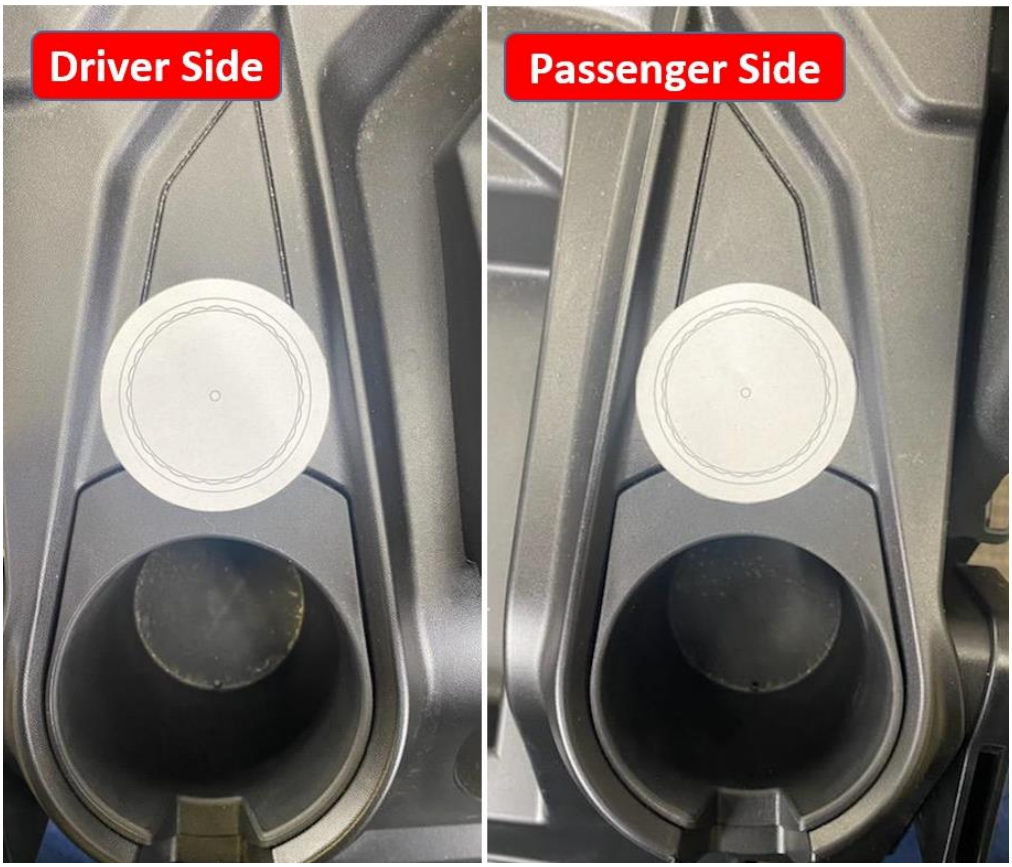

Figure 14

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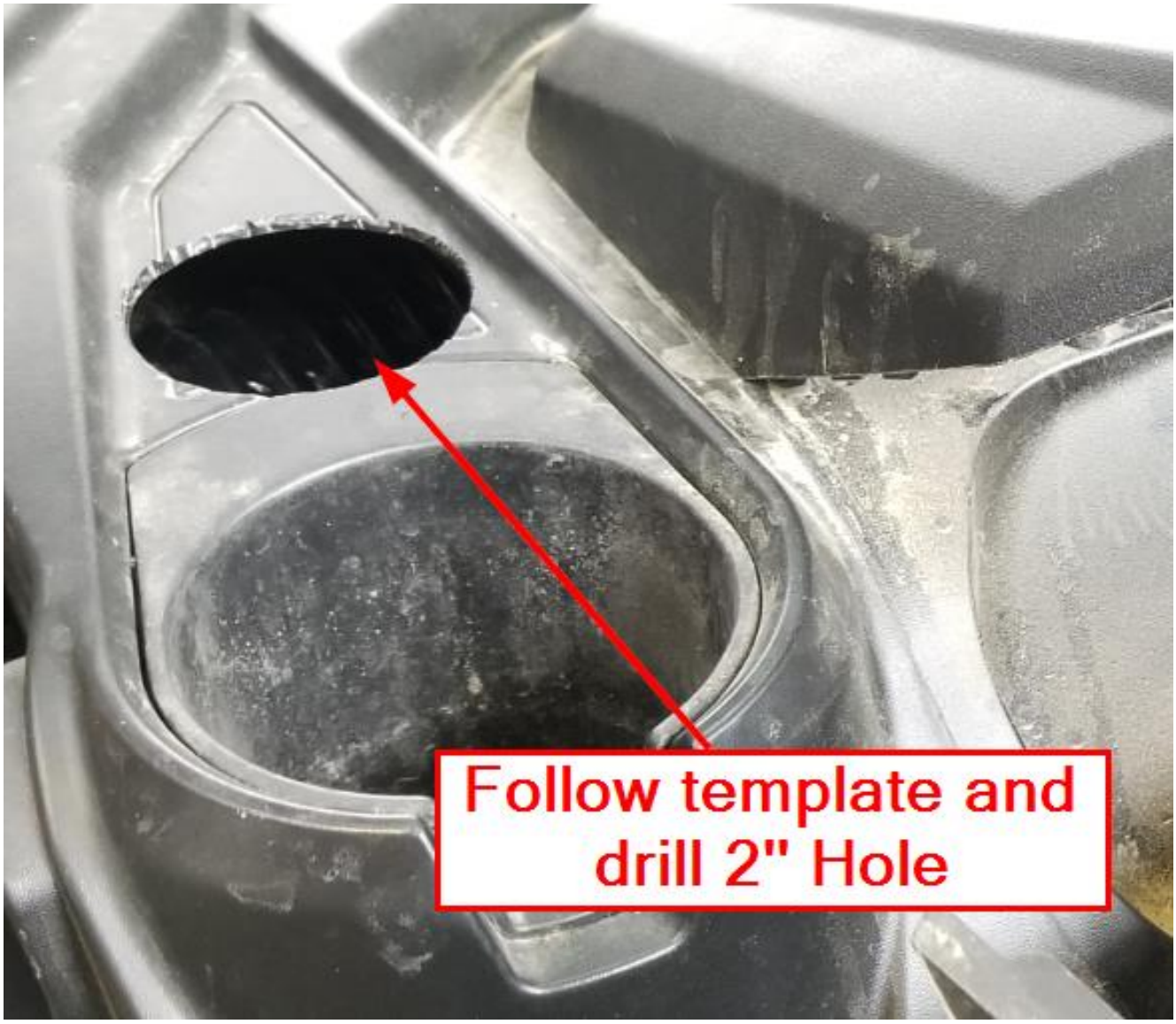

Figure 15

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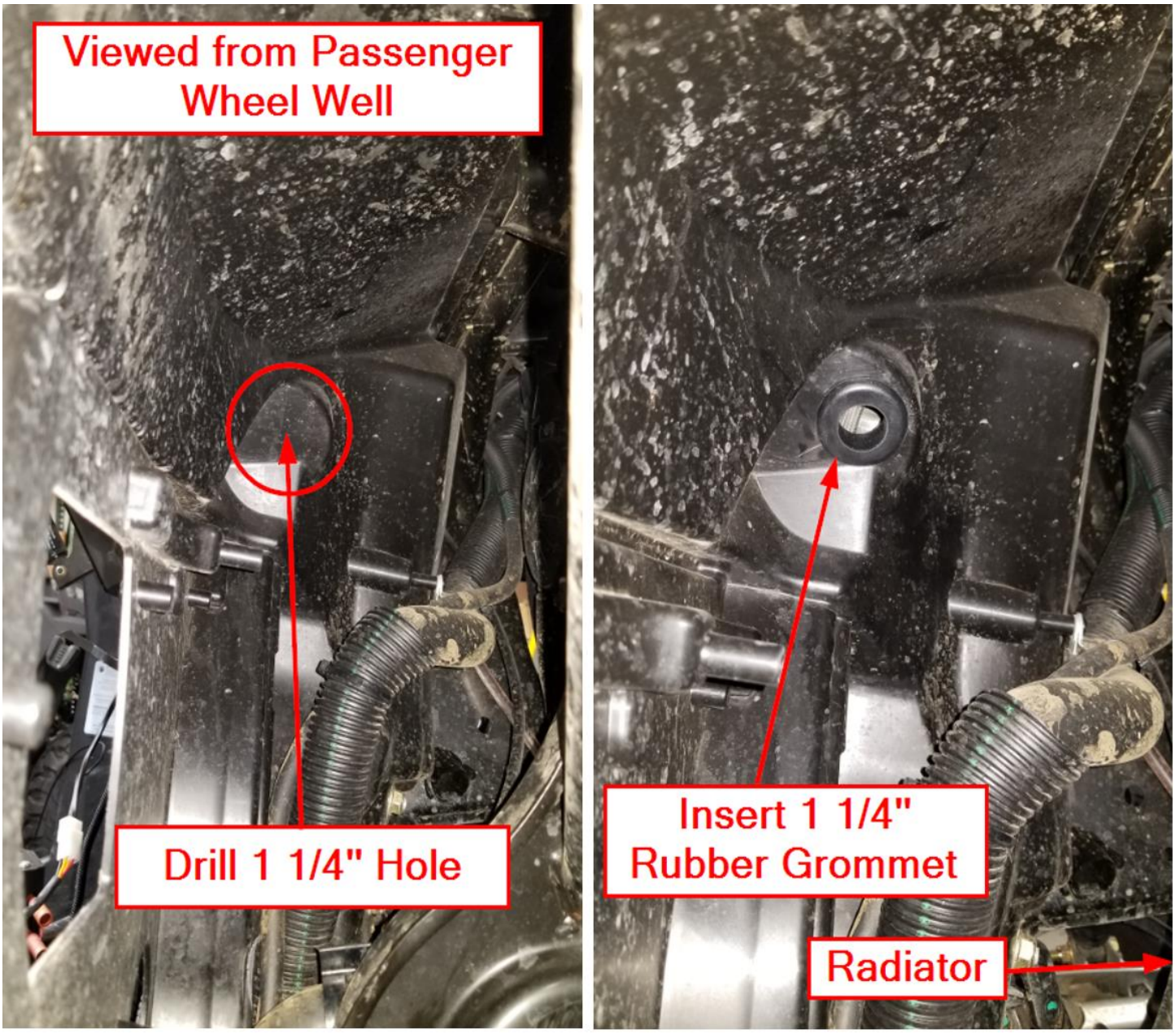

Figure 16

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Figure 17

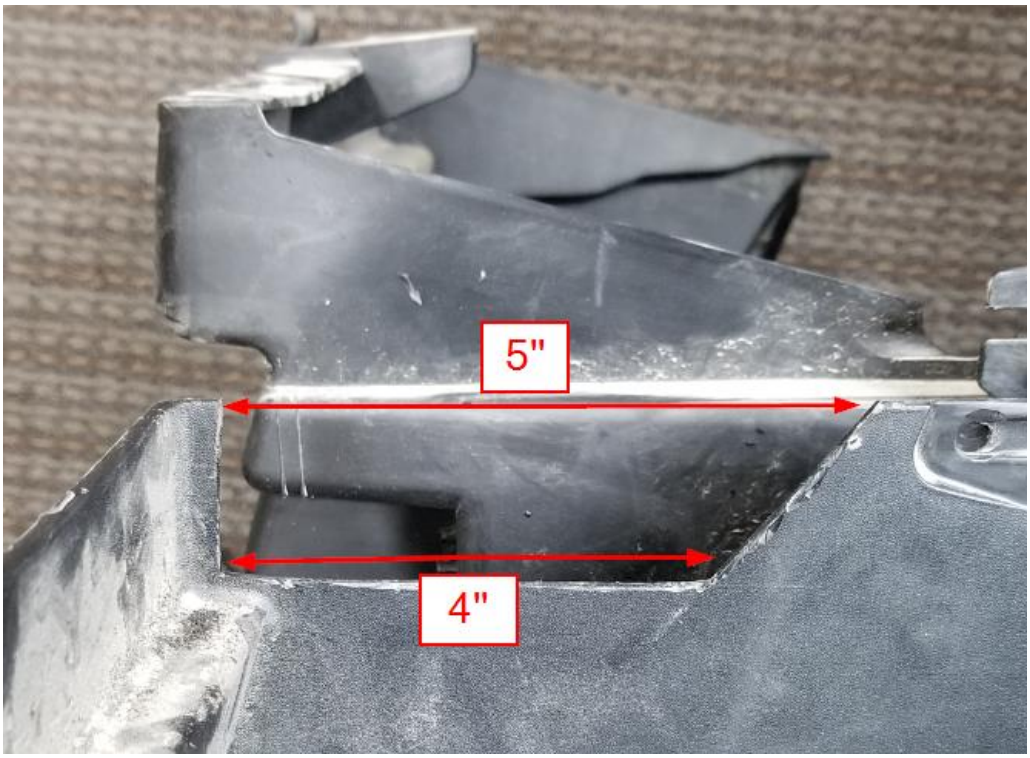

Figure 18

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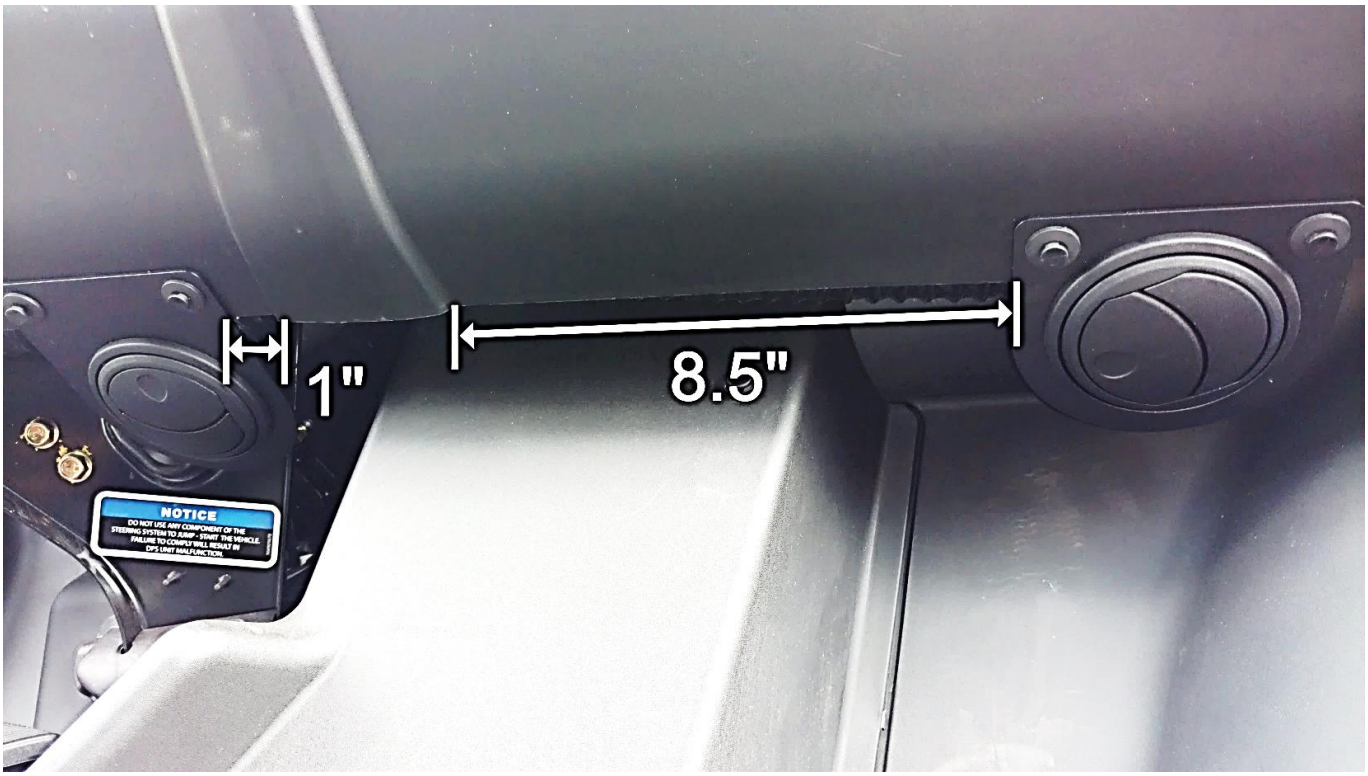

Figure 19

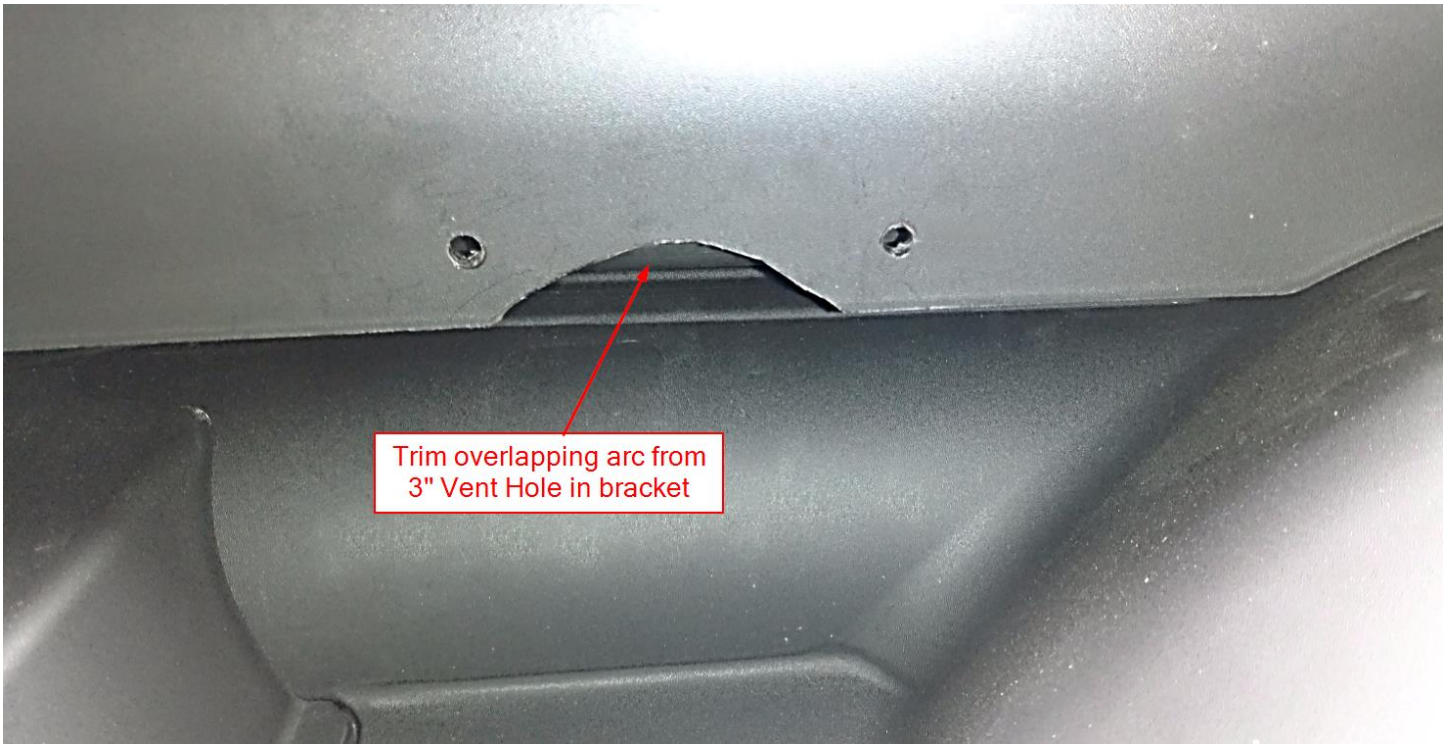

Figure 20

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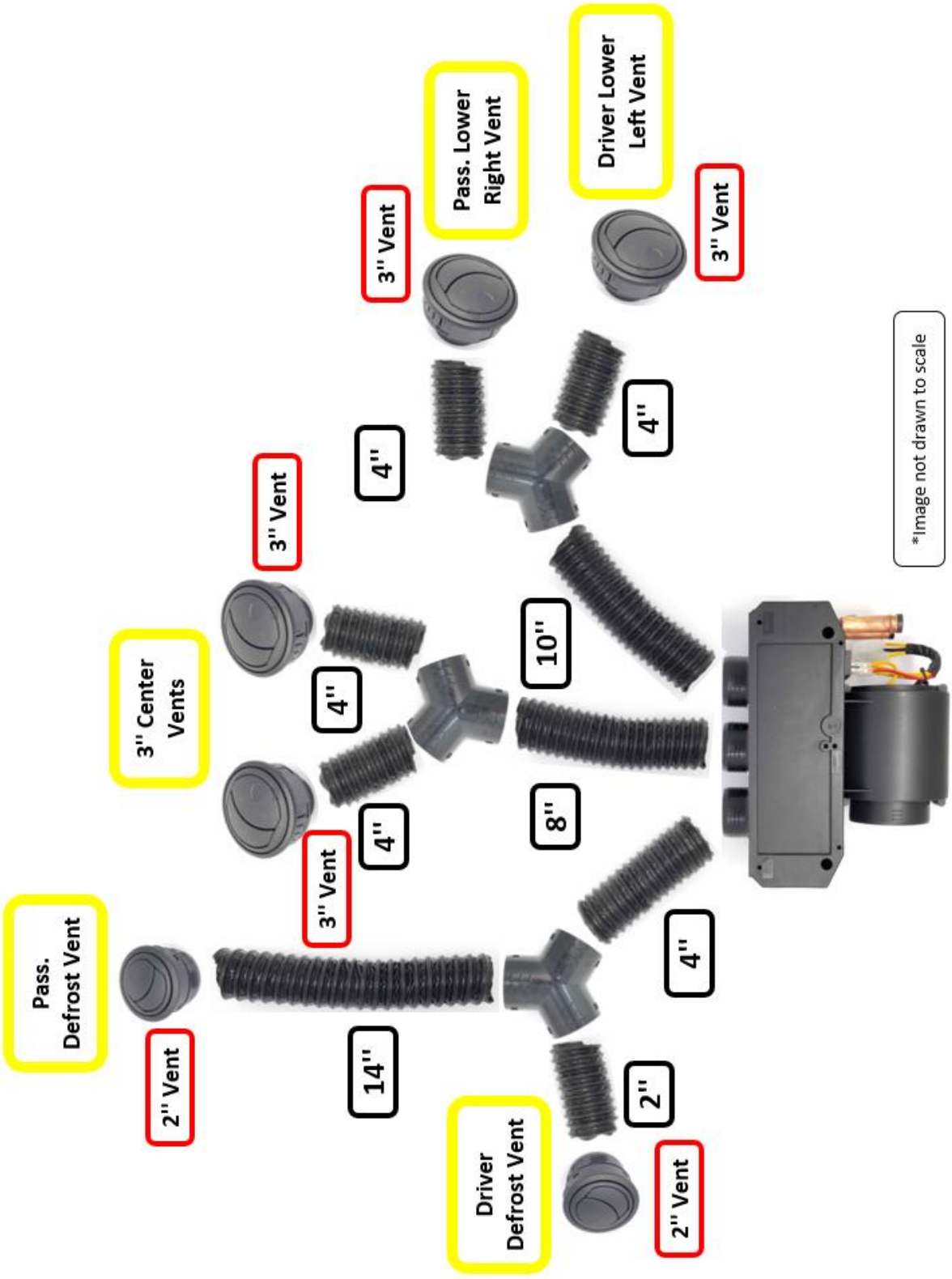

Figure 21

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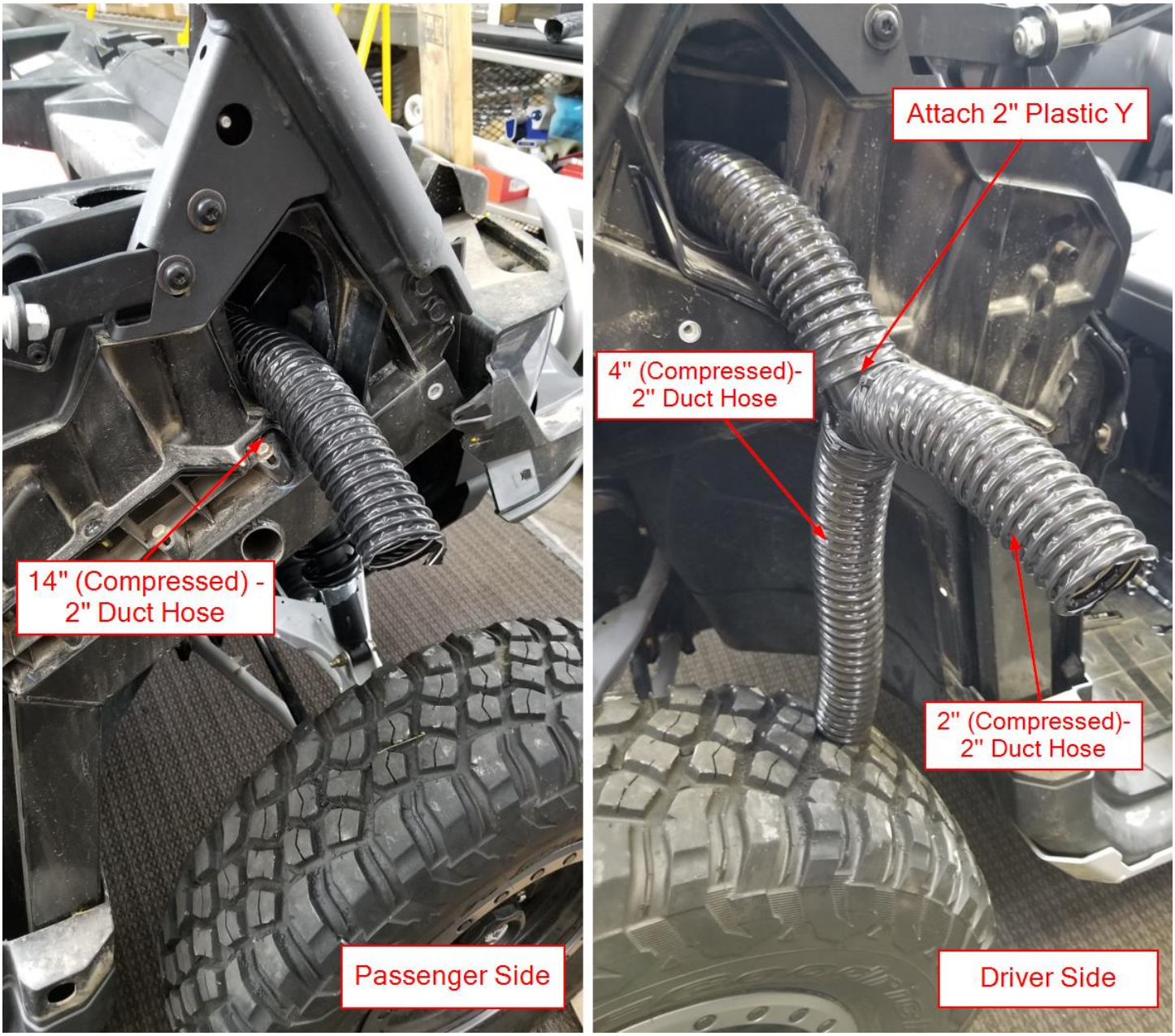

Figure 22

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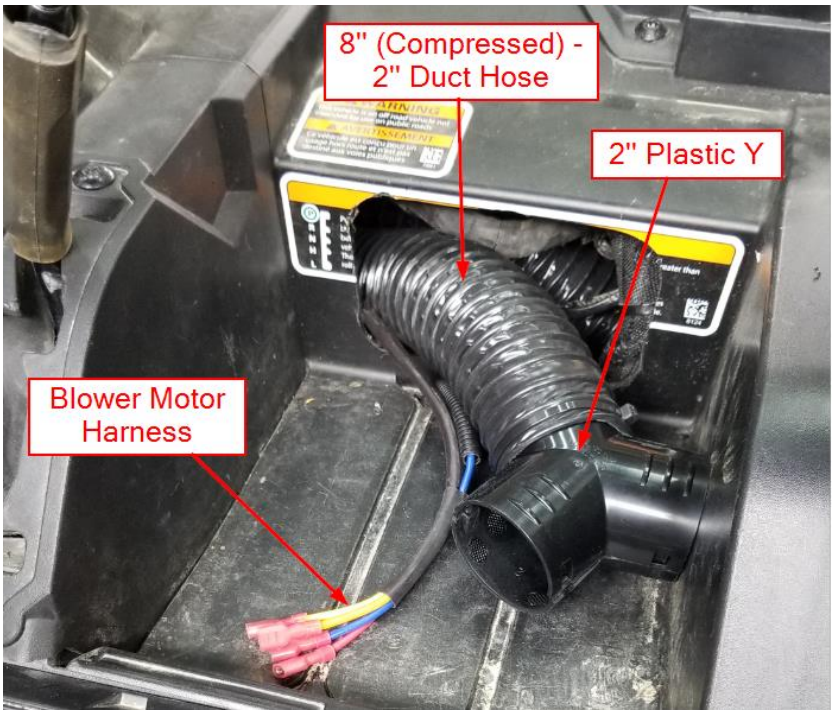
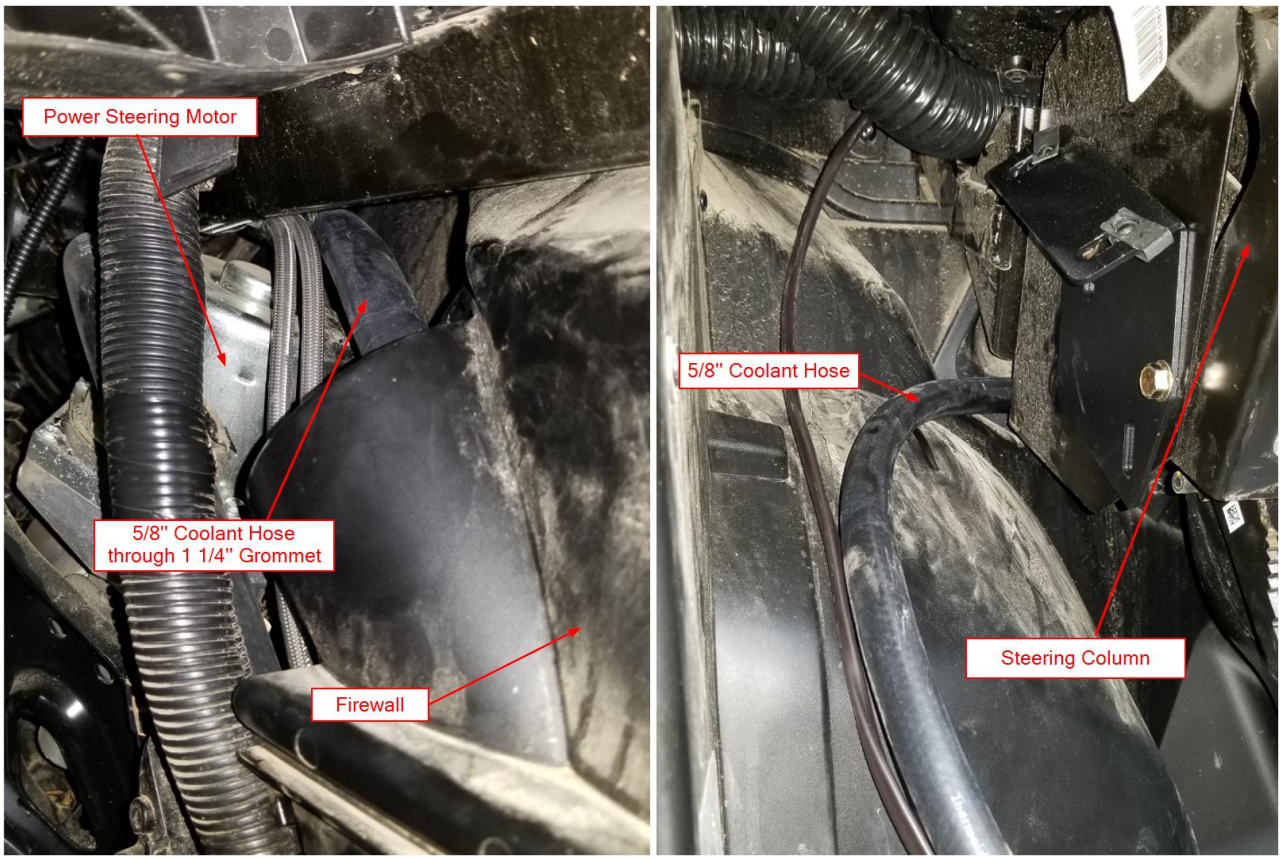


Figure 23



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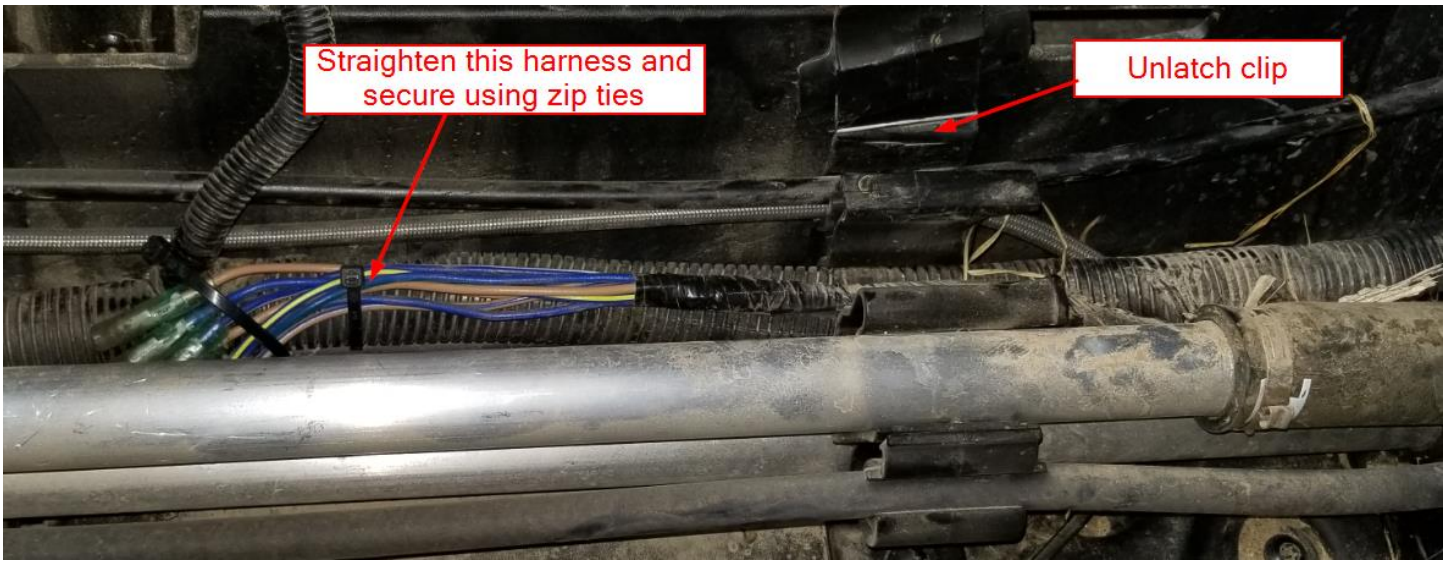

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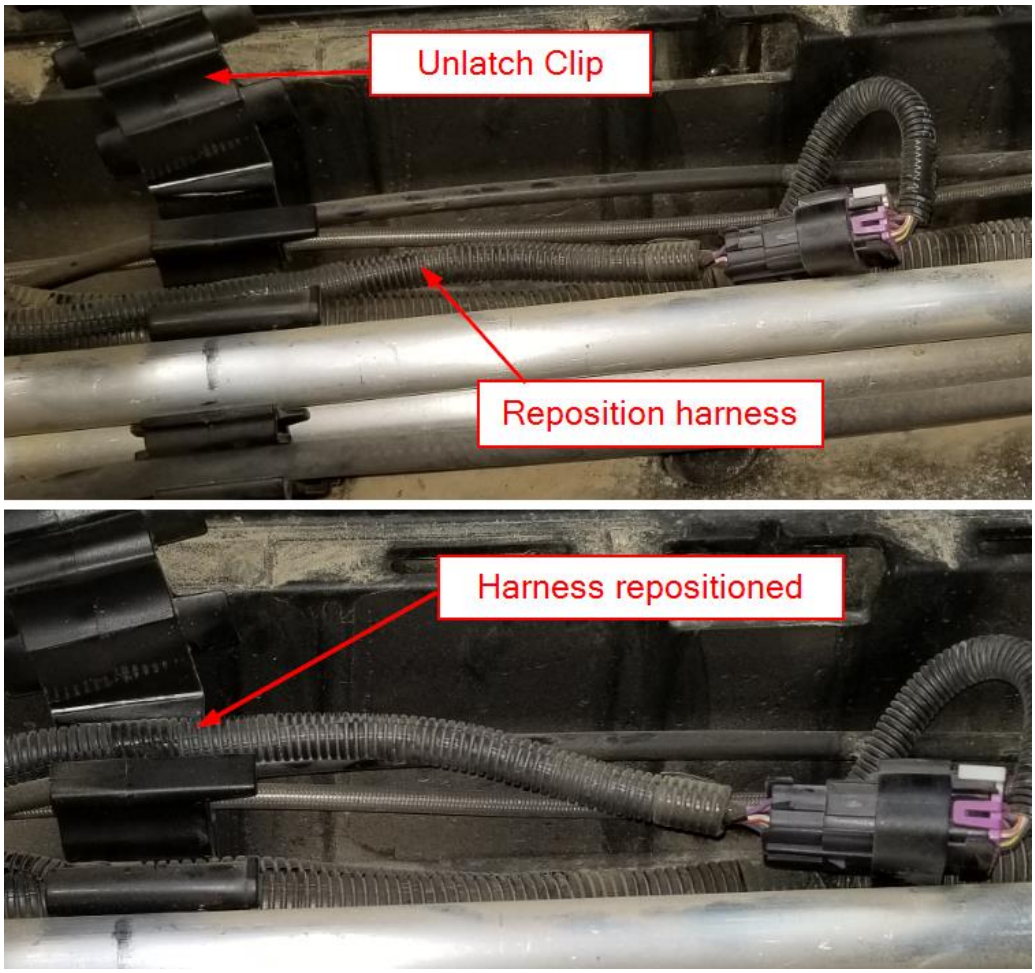


Figure 26

CanAm Defender 2020+ Ice Crusher Heater

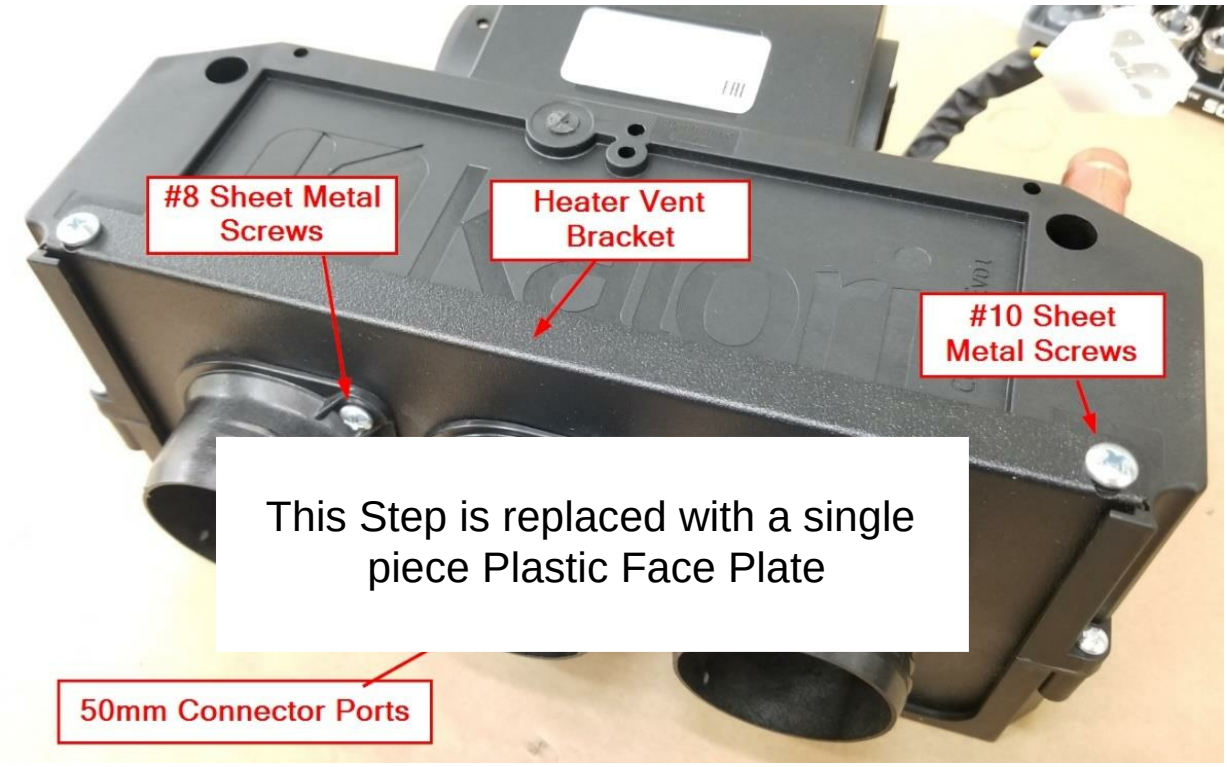


Figure 27

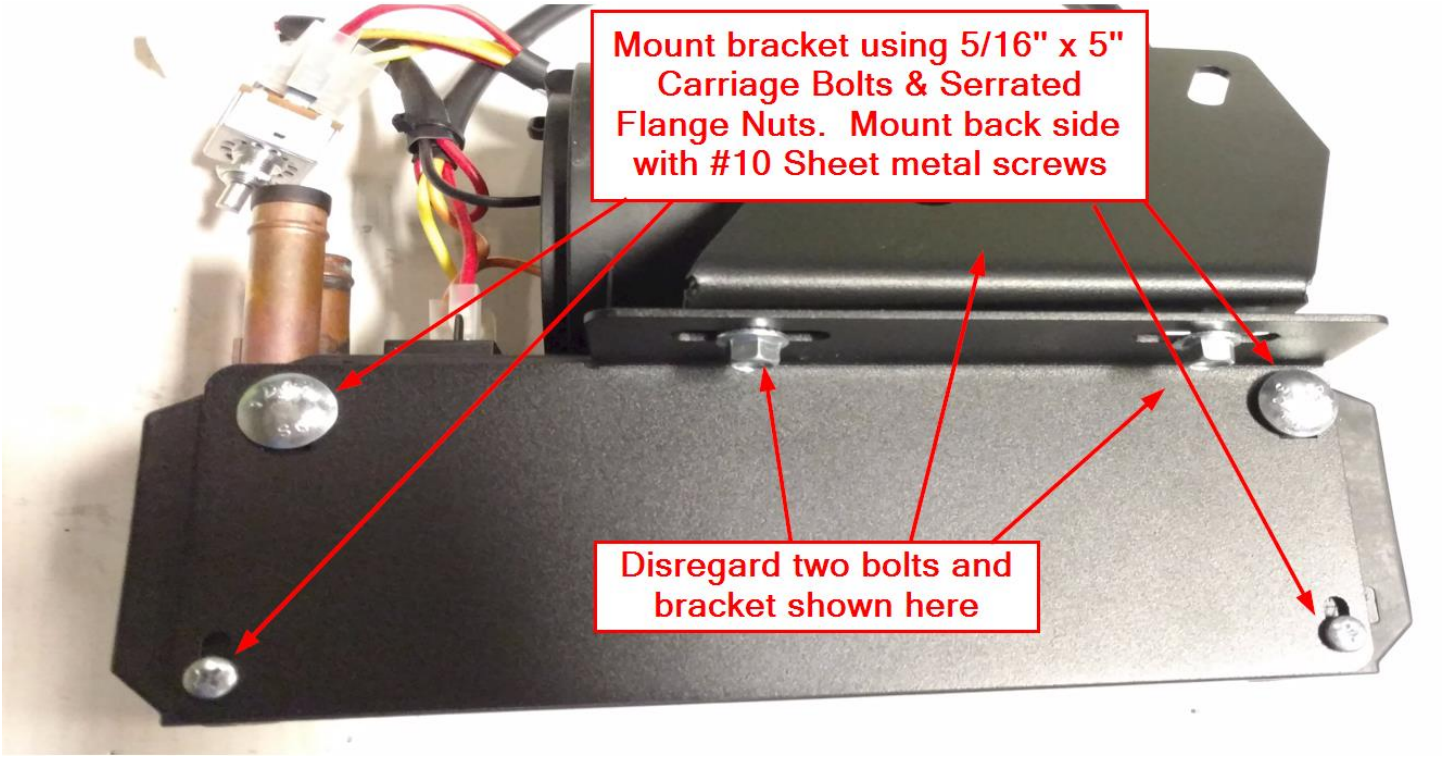


Figure 28

CanAm Defender 2020+ Ice Crusher Heater

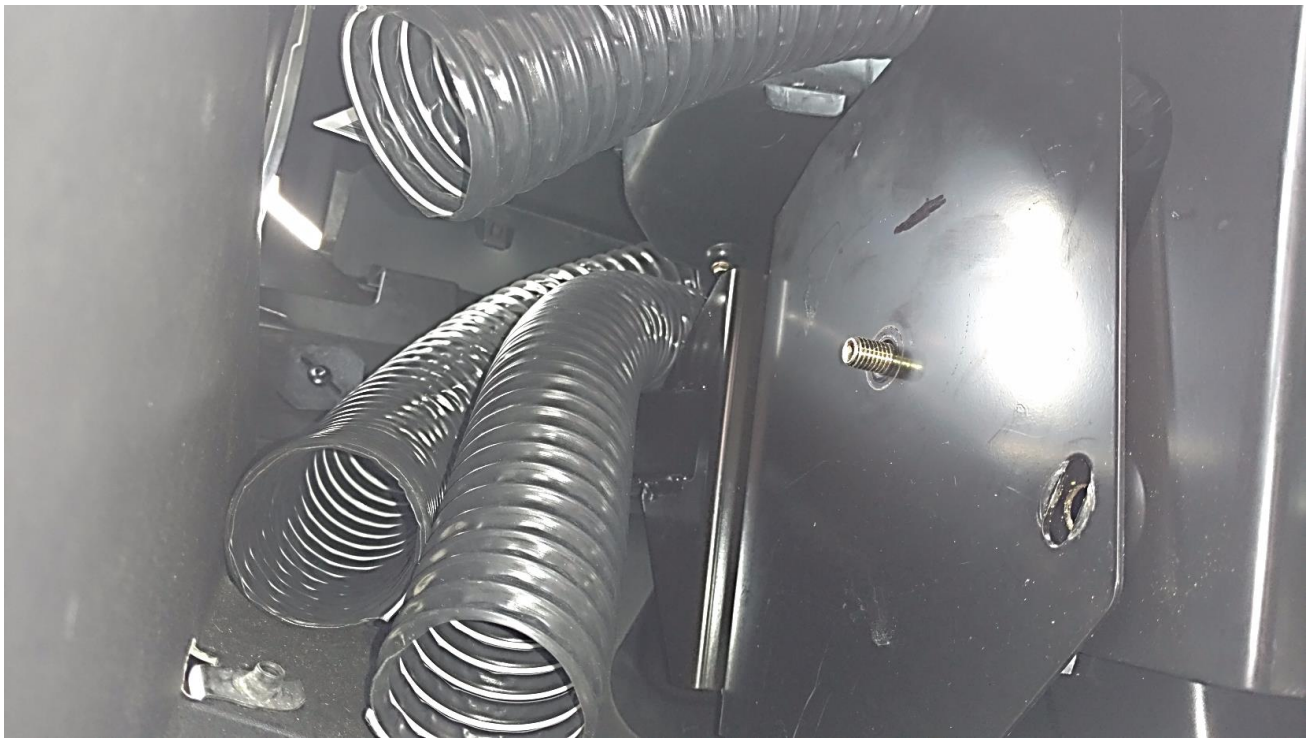


Figure 29

Figure 30

CanAm Defender 2020+ Ice Crusher Heater

Figure 31

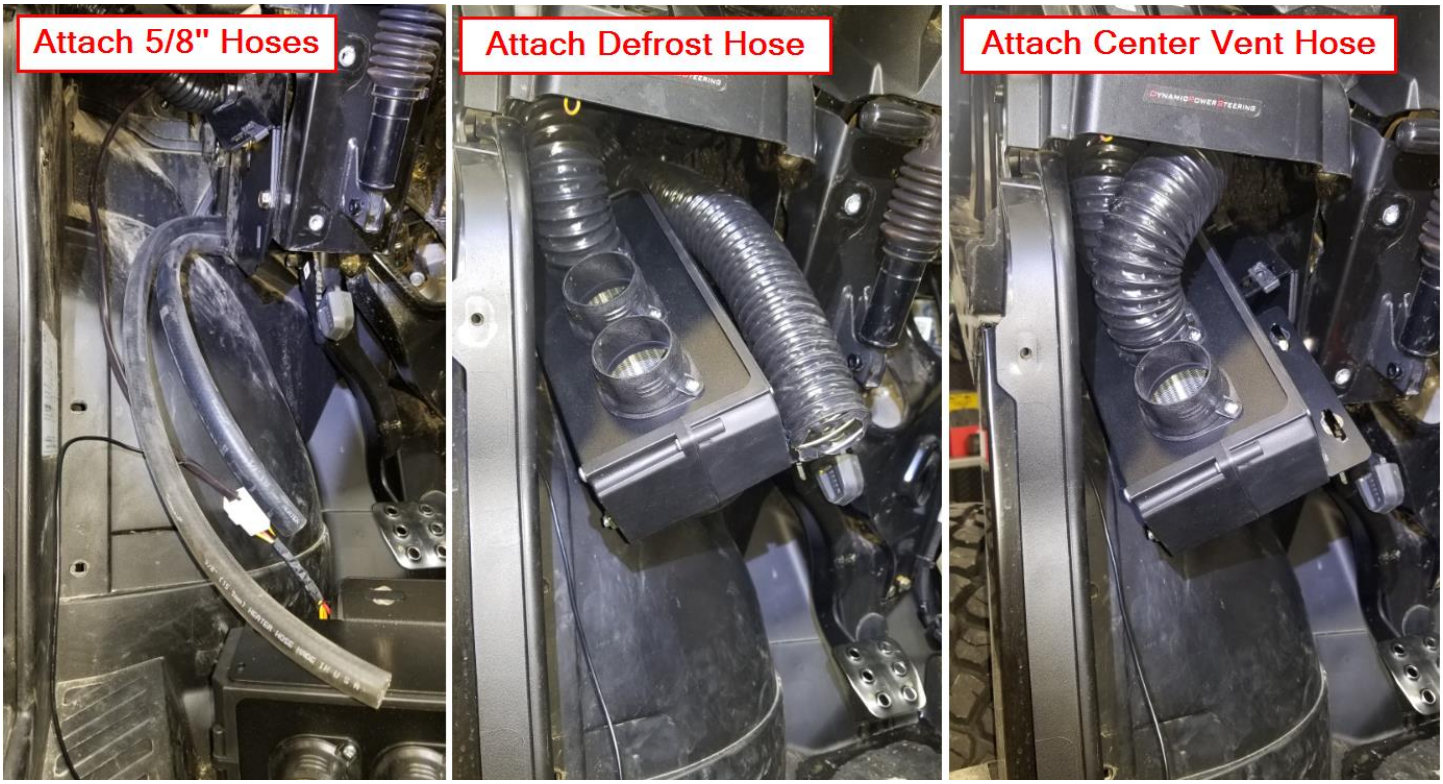
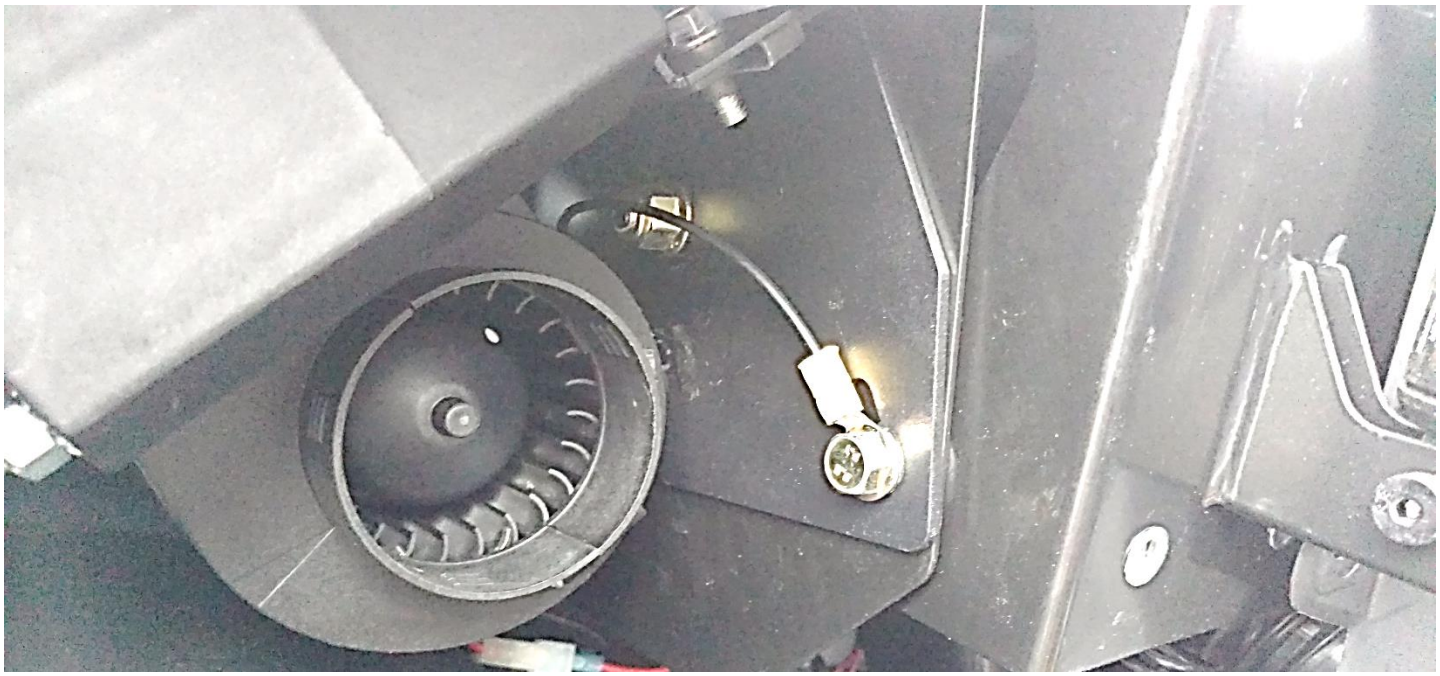


Figure 32



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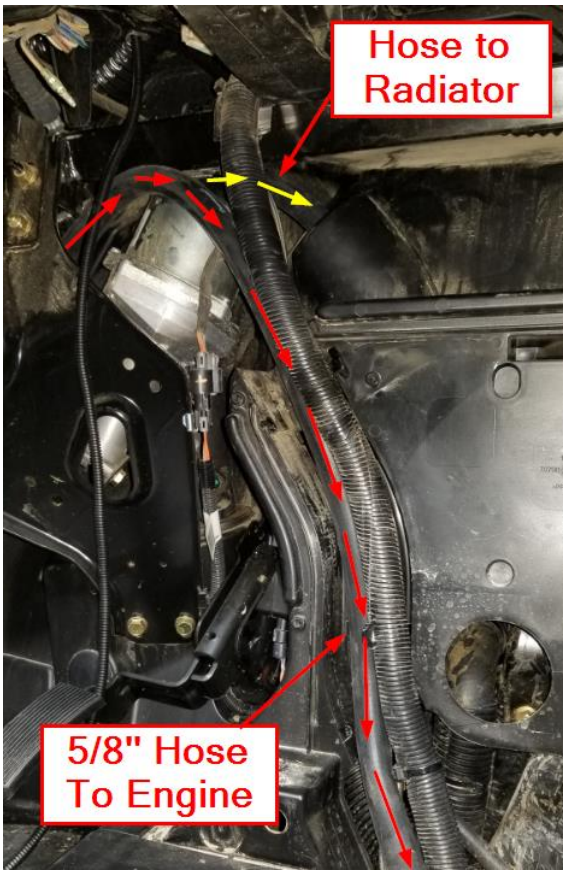
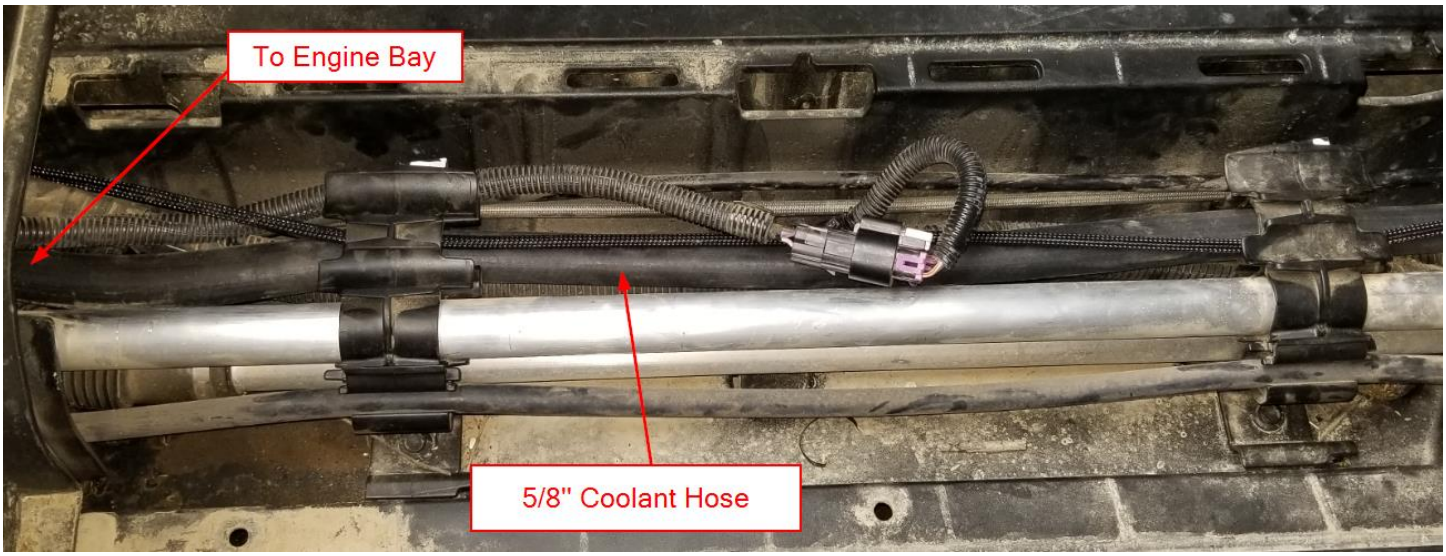


Figure 34

CanAm Defender 2020+ Ice Crusher Heater



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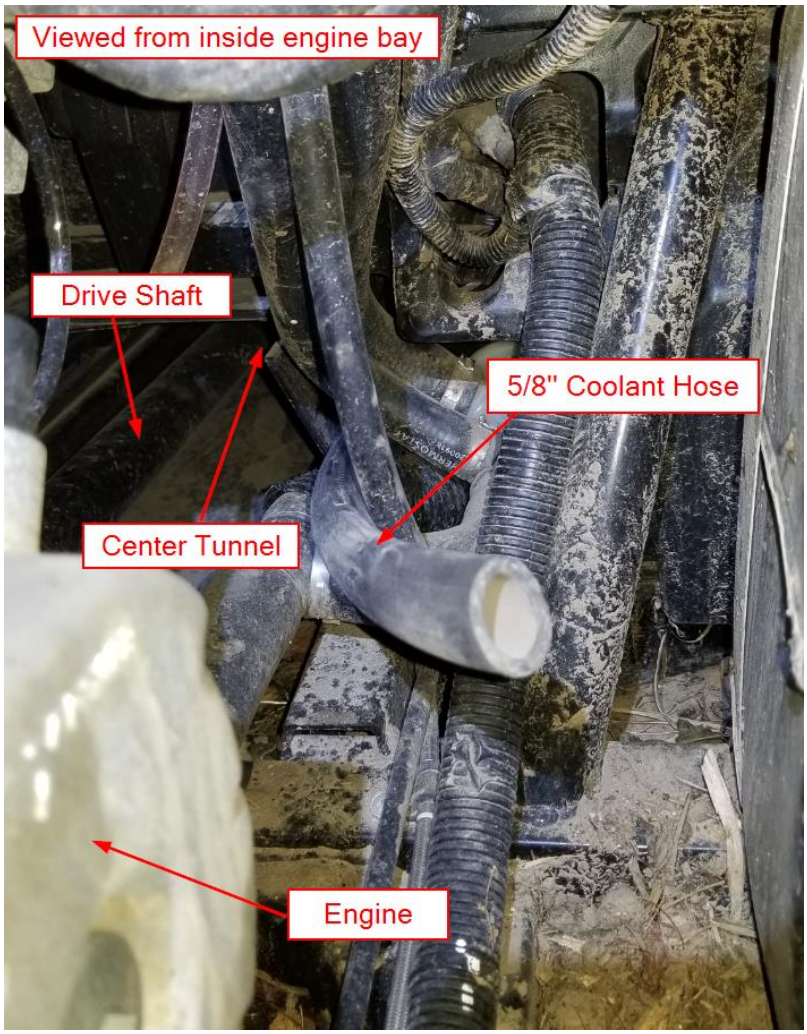


Figure 36

CanAm Defender 2020+ Ice Crusher Heater

Figure 37

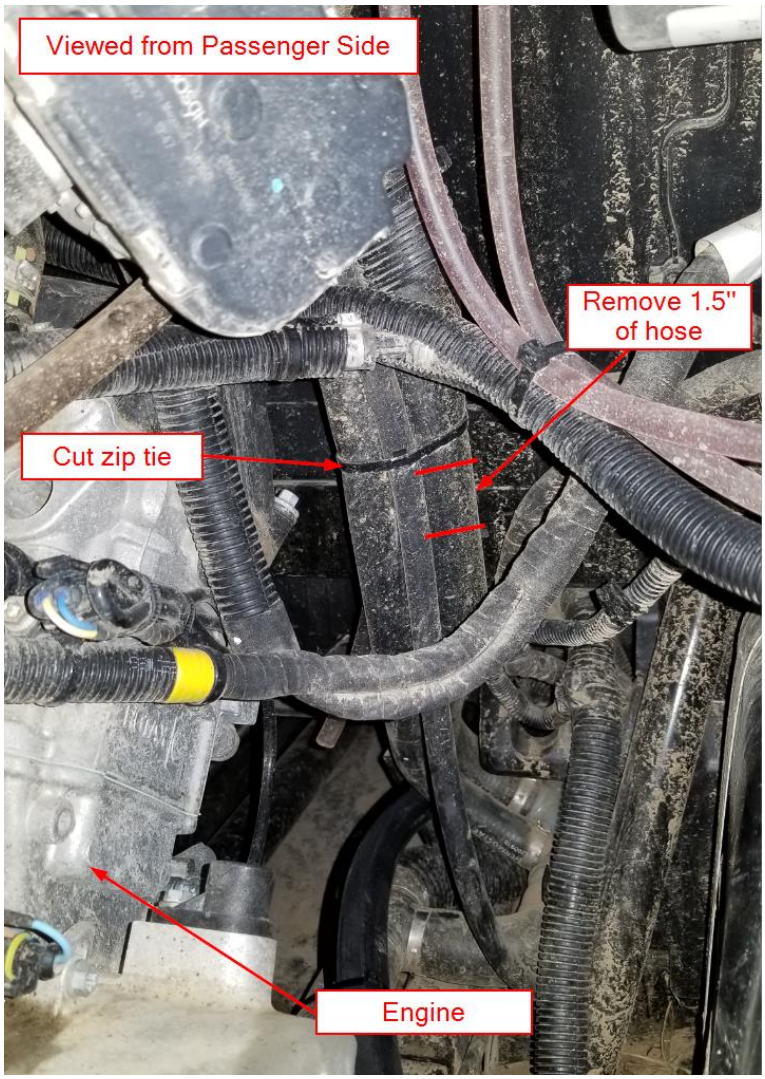


Figure 38

CanAm Defender 2020+ Ice Crusher Heater

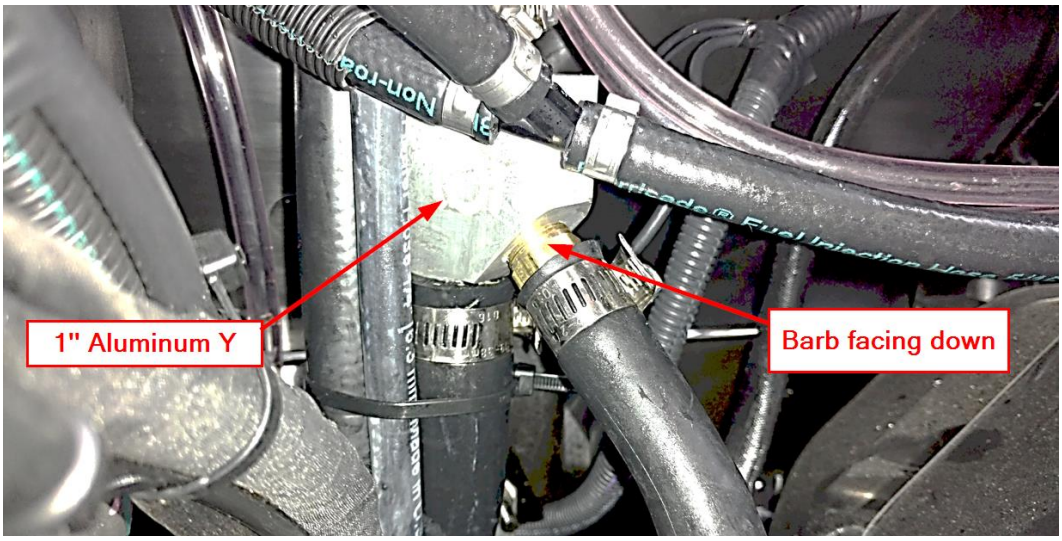


Figure 39

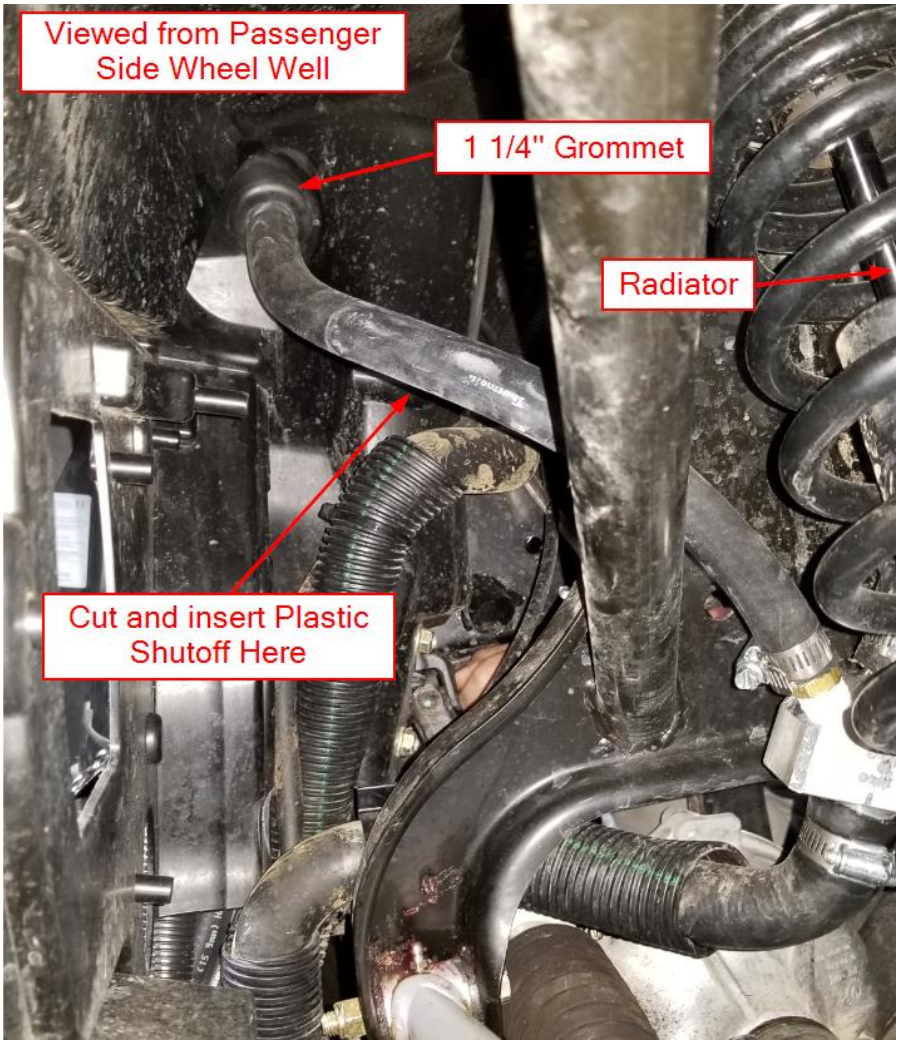


Figure 40

CanAm Defender 2020+ Ice Crusher Heater

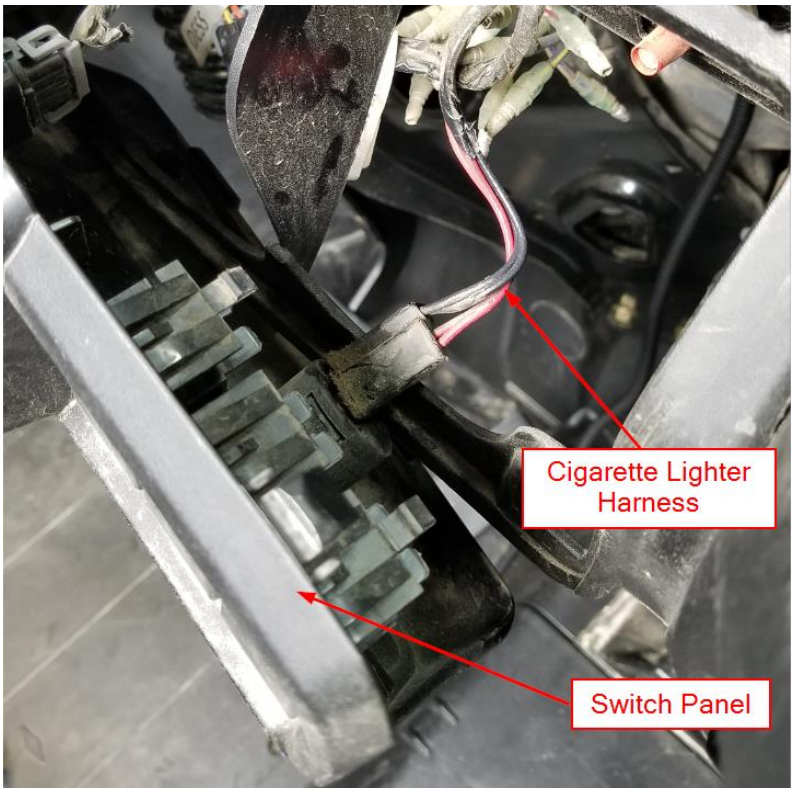


Figure 41

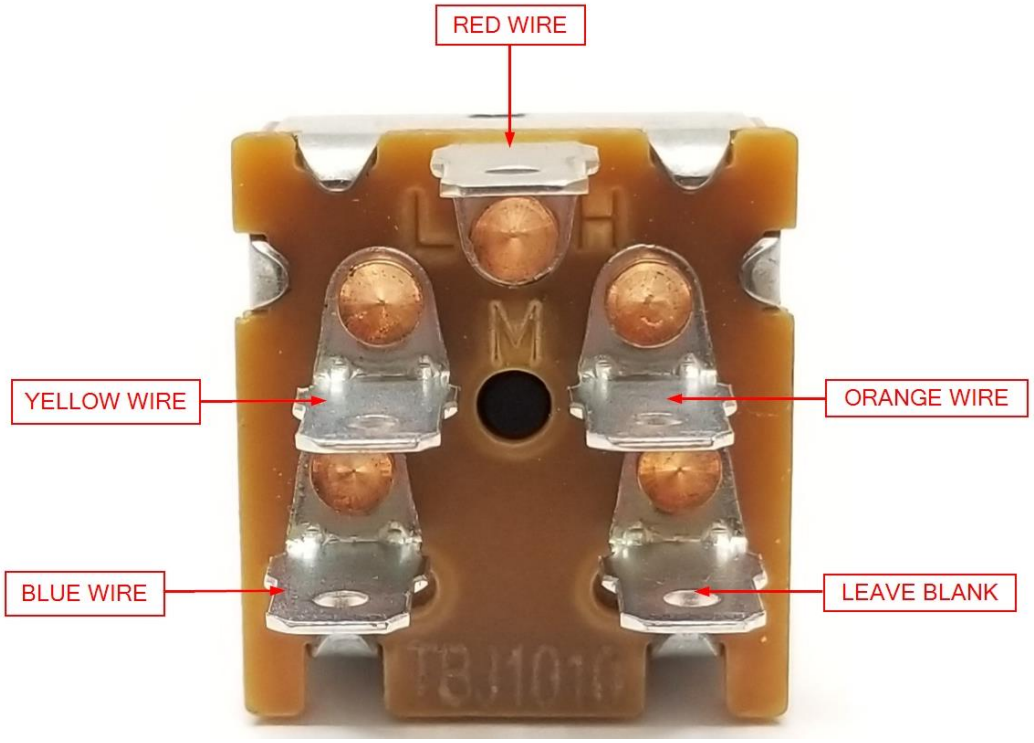


Figure 42

CanAm Defender 2020+ Ice Crusher Heater

Figure 43

HEATER WARRANTY – utvheaters.com and coupersproducts.com

***Coupersproducts.com/UTV Heaters.com Heater Warranty. 3 Year/36 Month Limited Warranty**

UTV Heaters warrants your Ice Crusher UTV Heater System to be free from defects in material and craftsmanship under normal use and service by the original consumer purchaser (end user) for a period of Three (3) year from the date of purchase on all components including electrical components. The warranty is null and void if the system has been damaged by accident, improper installation, unreasonable use, lack of proper maintenance, unauthorized repairs or modifications, or causes not arising from defects in materials and craftsmanship.

UTV Heaters obligation under this warranty are limited to repair of the product at UTV Heaters production facility, or the replacement of the product at UTV Heaters option and at UTV Heaters expense. Any expense involved *in the removal, reinstallation, or transportation of the product is **not** covered by this warranty.* Prior to return of any product to UTV Heaters, customer must contact UTV Heaters customer service, (802) 294-0016, utvheaters@gmail.com, and obtain a Return Authorization Number. This number must be marked on exterior of carton for easy identification. Warranty product received at UTV Heaters without a Return Authorization Number may be returned at expense of sender.

Postage must be prepaid, and the original dated proof-of-purchase must be confirmed or provided. UTV Heaters will not be liable for any damages sustained in transport due to improper packaging or handling. The acceptance by UTV
HEATER WARRANTY – utvheaters.com and coupersproducts.com

CanAm Defender 2020+ Ice Crusher Heater

***Couper's Products/UTV Heaters.com Heater Warranty. 3 Year/36 Month Limited Warranty**

Couper's Products warrants your UTV Heater System to be free from defects in material and craftsmanship under normal use and service by the original consumer purchaser (end user) for a period of Three (3) year from the date of purchase on all components except electrical components including but not limited to, motor, switch, wiring and resistor. Electrical components are warranted to be free from defects in material and craftsmanship under normal use and service by the original consumer purchaser for a period of One (1) year from the date of purchase. The warranty is null and void if the system has been damaged by accident, improper installation, unreasonable use, lack of proper maintenance, unauthorized repairs or modifications, or causes not arising from defects in materials and craftsmanship.

Couper's Products obligation under this warranty are limited to repair of the product at Couper's Products production facility, or the replacement of the product at Couper's Products option and at Couper's Products expense. Any expense involved *in the removal, reinstallation, or transportation of the product is **not** covered by this warranty.* Prior to return of any product to Couper's Products customer must contact Couper's Products customer service, (802) 294 0016, and obtain a Return Authorization Number. This number must be marked on exterior of carton for easy identification. Warranty product received at Couper's Products without a Return Authorization Number may be returned at expense of sender.

Postage must be prepaid, and the original dated proof-of-purchase must be included. Couper's Products will not be liable for any damages sustained in transport due to improper packaging or handling. The acceptance by Couper's Products of any product returned shall not be deemed as an admission that the product is defective or in any violation of any warranty.

This warranty is Couper's Products only express warranty of this product. We reserve the right to make changes to products and policy that are in the best interest of Couper's Products. No implied warranty shall extend beyond One (1) or Three (3) year period from the date of the original consumer (end user) purchase. Couper's Products will not be liable for any damages, for loss of use of this product, nor for any consequential damages, costs or expenses.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights not mentioned here that vary from state to state.

After receiving a Return Authorization Number send defective product to:

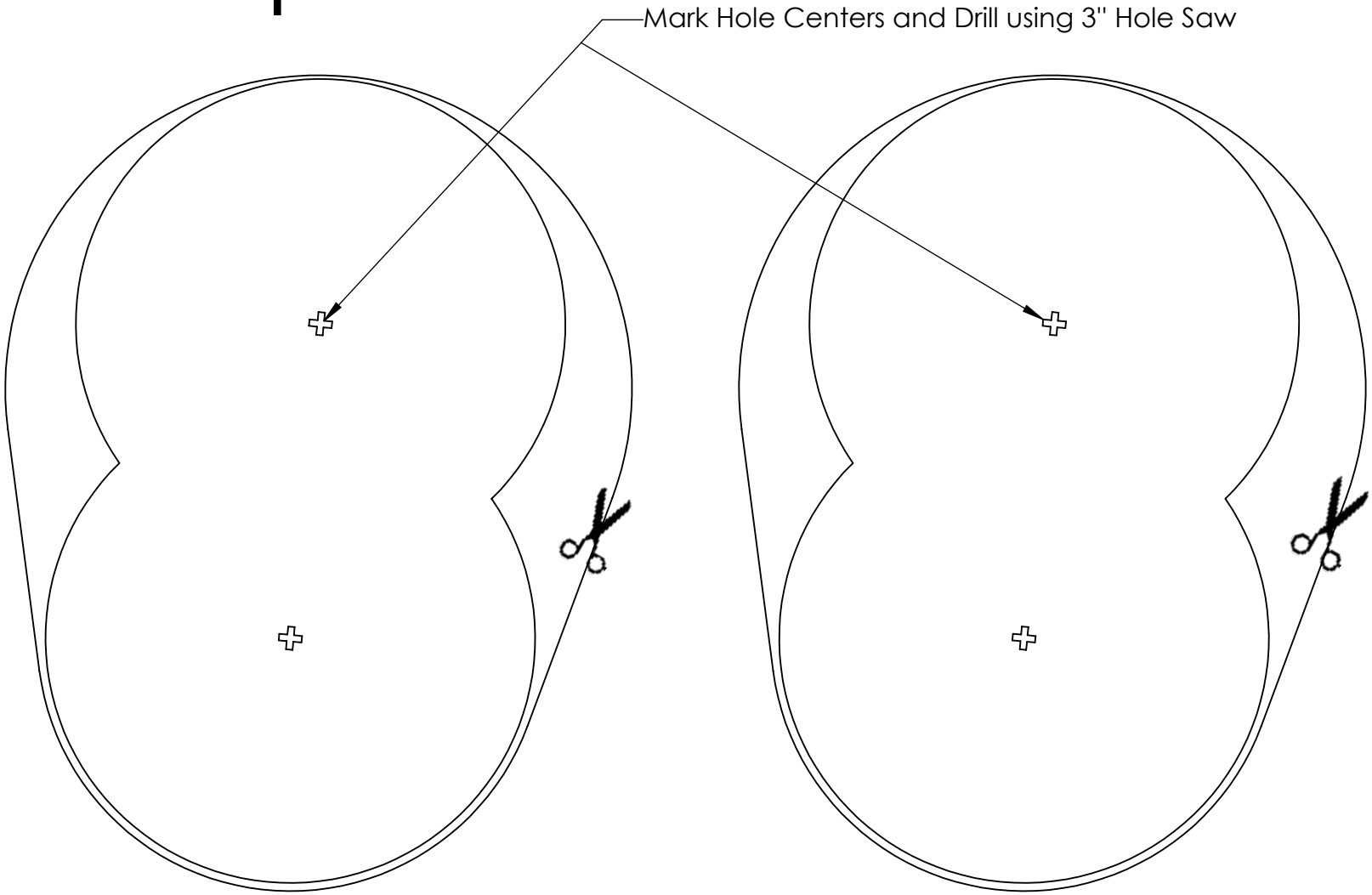
Couper's Products

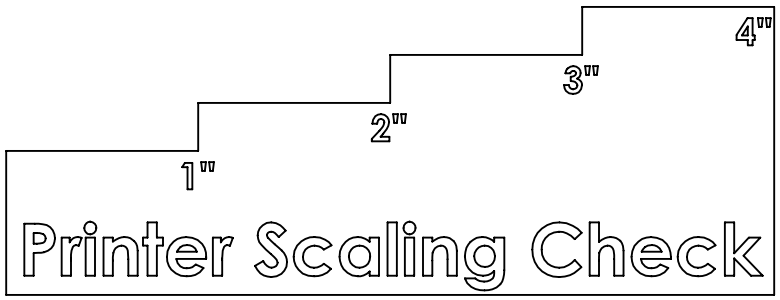
Attn: Warranty

23001 Industrial Blvd

Rogers, Minnesota, 55374

Side Template

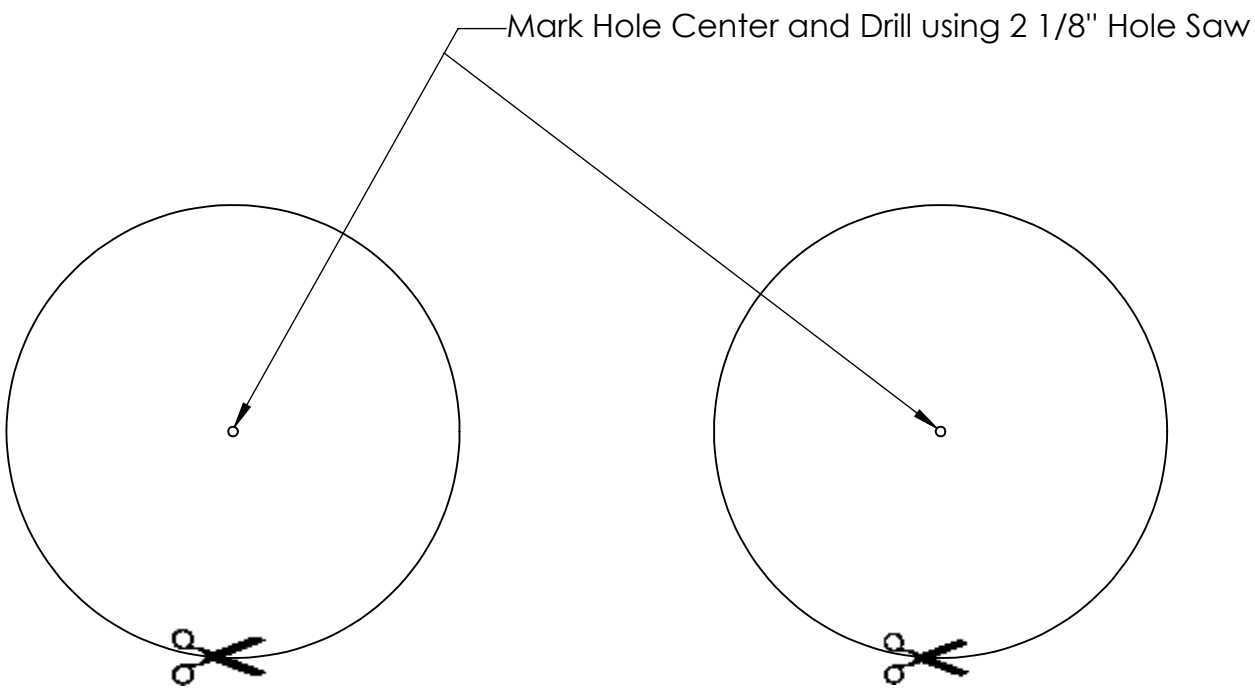


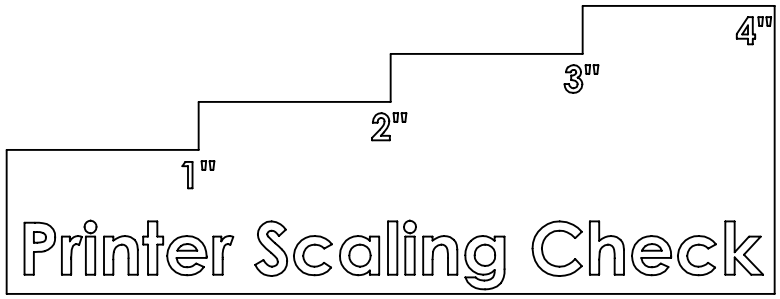


Use Scaling Checker to confirm 1:1 printing

Cut outside profile of each template. Place one on the driver side and one on passenger side according to Figure 11

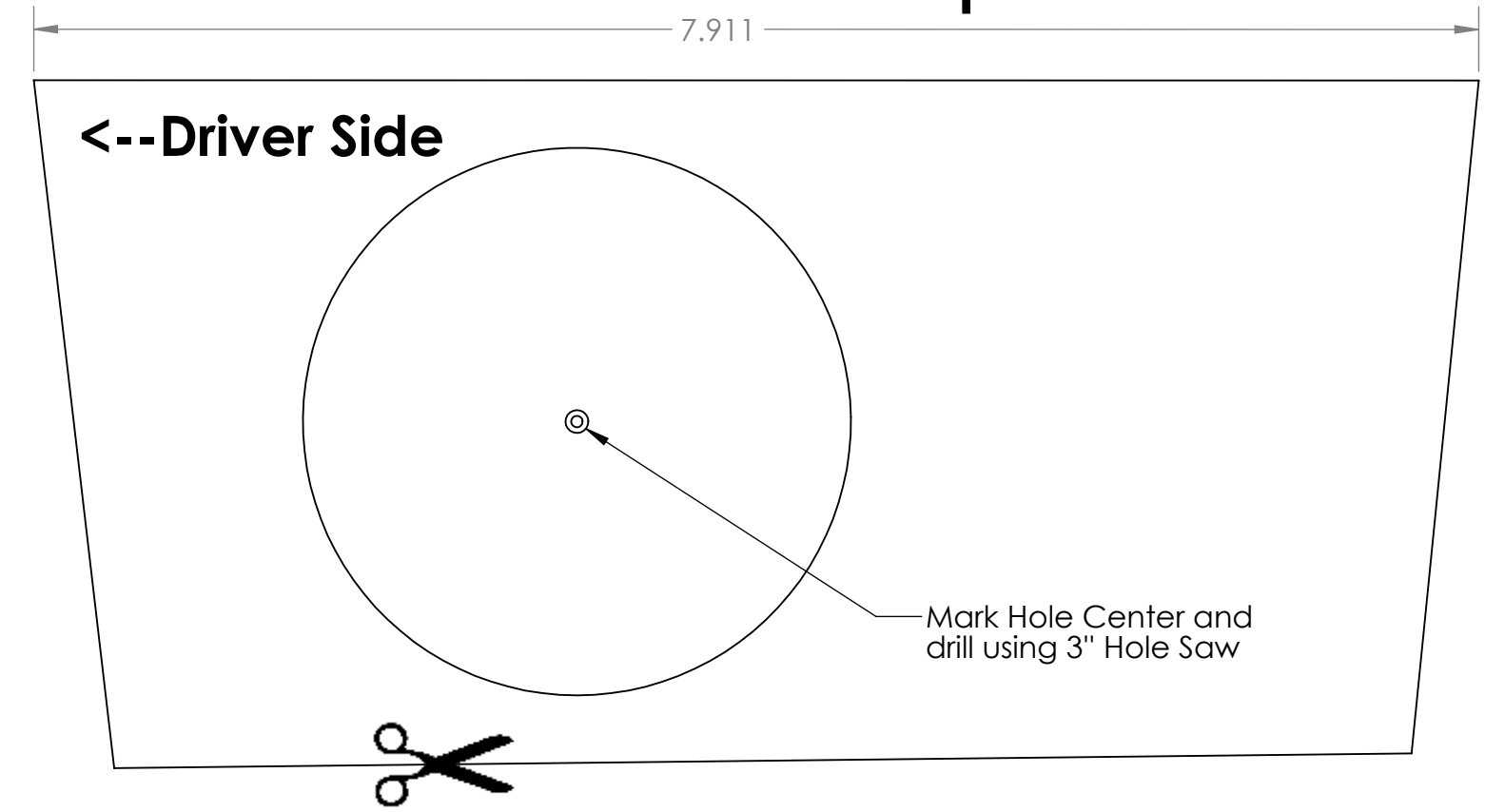
2" Vent Template

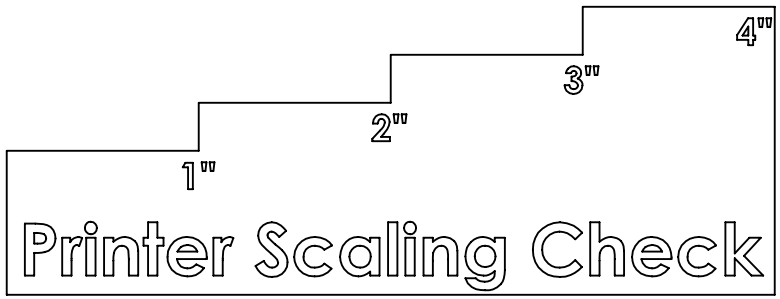




Measure the Printer Scaling Check to verify images are printed to 1:1 scale

Center Vent Template





Use Scaling Checker to verify 1:1 Printing

Cut out template and place it on center dash back wall as shown in instructions. Drill using 3" Hole Saw.