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LIMITED WARRANTY LIABILITY STATEMENT

Working with machinery and heavy equipment is inherently dangerous with significant risk of personal injury or even death. When a customer uses machinery and heavy equipment, the customer accepts the risk inherent in that use.

The Razor Back Retrofit Kit are aftermarket parts; they are not genuine original equipment manufacturer ("OEM") parts. The use of the Razor Back Retrofit Kit may impact the performance characteristics of or cause damage to the other systems of the equipment or vehicle. Except as described in this disclaimer, any such impact or damage is the sole responsibility of the customer and is not covered by this disclaimer.

It is the customer's sole responsibility to inspect and verify that the dimensions, specifications, and performance of the Razor Back Retrofit Kit and its parts and components are appropriate for the customer's use before any actual installation and/or use of the Razor Back Retrofit Kit. It is the customer's responsibility to inspect the Razor Back Retrofit Kit before installation for evidence of damage or defect. Improper installation can lead to personal injury or death, or property damage. Installation of the Razor Back Retrofit Kit should only be performed by qualified mechanics who are certified, authorized or otherwise expressly qualified to work on the vehicle and other equipment to be used with the Razor Back Retrofit Kit to service or maintain those vehicles and other equipment of their respective manufacturers. The customer is solely and completely responsible for determining whether its vehicle and equipment may be safely used with the Razor Back Retrofit Kit and that the vehicle and equipment are appropriate for this Razor Back Retrofit Kit and its parts and components. It is the customer's sole responsibility to ensure that the Razor Back Retrofit Kit and its parts and components are properly installed on their vehicle, including any modifications deemed necessary by the customer for the proper performance of the Razor Back Retrofit Kit.

Arctic Snow and Ice Control Products, LLC disclaims all liability for any special, direct, incidental or consequential damages, or any damages whatsoever, including, without limitation, the loss of life or limb, or damages due to bodily or personal injury, which may arise or result from the installation or use of the Razor Back Retrofit Kit. ANY DAMAGE RESULTING FROM A CUSTOMER'S INSTALLATION OR USE OF THE RAZOR BACK RETROFIT KIT AND ARCTIC SNOW AND ICE CONTROL PRODUCTS, LLC'S OTHER PRODUCTS AND PARTS IS NOT COVERED BY THIS LIMITED WARRANTY AND IS THE SOLE RESPONSIBILITY OF THE CUSTOMER. ONCE INSTALLED, THE ENTIRE RISK ARISING FROM OR OTHERWISE RELATED TO THE RAZOR BACK RETROFIT KIT OR OTHER PRODUCTS AND PARTS AND THEIR USE IS ASSUMED FULLY AND SOLELY BY THE CUSTOMER.

TO THE FULLEST EXTENT ALLOWED BY THE APPLICABLE STATE AND FEDERAL LAW, ARCTIC SNOW AND ICE CONTROL PRODUCTS, LLC DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, EVEN IF A PARTICULAR PURPOSE IS MENTIONED HEREIN.

Arctic Snow and Ice Control Products, LLC expressly disclaims all liability for direct, indirect, special, incidental or consequential damages, including but not limited to, damage or loss of property or equipment, loss of profits or revenue, cost of purchase or replacement of goods, or claims of customers of the purchaser that result from the use of its Razor Back Retrofit Kit, products and parts. In no event shall the liability of Arctic Snow and Ice Control Products, LLC, whether in tort, contract or otherwise, exceed the cost of the Razor Back Retrofit Kit or its part or component. However, the customer may have additional legal rights, which vary from state to state.





ARCTIC'S LIMITED 2 YEAR WARRANTY

What is Covered

This warranty covers defects in welds and workmanship, except as set forth below, from the date of purchase.

Who is Covered

The original purchaser from an authorized dealer.

What You Must Do For Warranty Service

During this period, the user is responsible for informing the Dealer/Distributor of any problem(s) within 10 days of the initial occurrence. The Dealer/Distributor must then notify the manufacturer by phone or e-mail.

Failure to fully complete the warranty registration form, with proof of purchase, within 30 days upon receipt of product will void warranty.

Register at:

What is Not Covered

This warranty does not cover:

- 1. Failure resulting from abuse
- 2. Improper service
- 3. Misuse
- 4. Negligence
- 5. Accidental impact
- 6. Improper operation
- 7. Any design modifications
- 8. Any use of 3rd party wear parts
- 9. Wear parts (shoes, hardware, cutting edges, polyblocks)
- 10. Corrosion
- 11. Injury / Death
- 12. Loss of revenue or profit

To be covered under Arctic's Limited 2 Year Warranty, it is *mandatory* that you register your Arctic RazorBack Retrofit Kit.

DO NOT FORGET TO REGISTER YOUR RAZORBACK RETROFIT KIT".





LIMITED 2 YEAR WARRANTY POLICY

Manufacturer warrants the RazorBack Retrofit Kit[™] to be free of defects of material and workmanship for a period of two (2) years from the date of delivery by the customer. During this period, the user is responsible for informing the Dealer/ Distributor of any problem(s) within 10 days of the problem(s). The Dealer/Distributor must then notify the manufacturer by phone or e-mail. (Failure to fully complete the warranty registration form, with proof of purchase, within 30 days upon receiving a new RazorBack Retrofit Kit[™] will void warranty.)

The manufacturer will not warranty any wear parts such as wear shoes, poly mounting blocks, torsion springs, hardware and cutting edges. Warranty excludes failure resulting from abusive, improper service, misuse, negligence, accidental impact, improper operation, any design modifications and/or the use of 3rd party wear parts, corrosion, injury and/or death, and loss of revenue or profit. The manufacturer will void all warranties specific or implied.

All claims must be discussed with an authorized representative of the manufacturer prior to any repairs, or warranty will be void. Recommended repairs and costs are to be discussed with and agreed upon in advance by manufacturer's representative. Repair or labor (at an agreed rate) will be performed by a manufacturer's specified dealer, and at a repair shop designated by the manufacturer. The repair or replaced product shall be guaranteed for the applicable warranty's remaining period. All shipping costs associated with any repairs are the customer's responsibility.

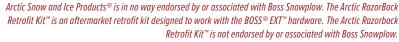




SAFETY PRECAUTIONS & WARNINGS

Safety decals must not be removed. If damaged, they must be replaced.

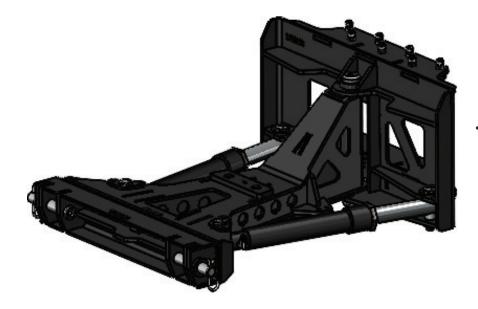






Snow & Ice Prodi

RAZORBACK RETROFIT A-FRAME KIT COMPONENTS



BOSS Style RetroFit A-Frame



1/4 NPT Female to -6 JIC Female Hydraulic Adapters x4

• 3/8 NPT Female to -6 JIC Female Hydraulic Adapters x2



 -6 Oring to -6 Oring Female 90 Degree Adapter



• 1/4 NPT to -6 JIC Fittings x2



BOSS Style Retrofit Valves x2



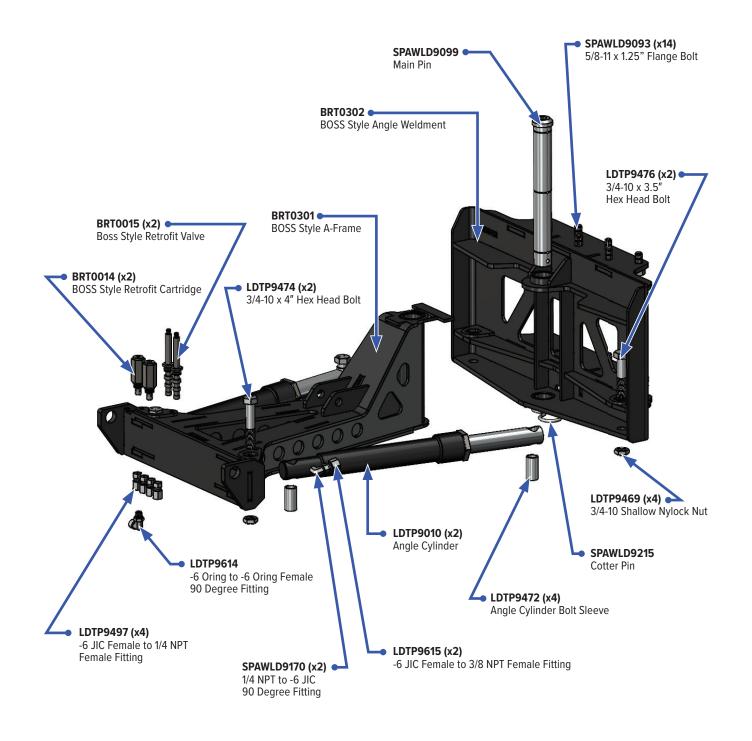
BOSS Style Retrofit Pressure Reliefs





A-FRAME PARTS LIST

RAZORBACK RETROFIT A-FRAME PARTS LIST







() Before you start the installation process:

If you are using the RazorBack Retrofit Kit[™] with an existing plow, start on this page. If you are using a new BOSS[®] EXT[™] power box unit, skip to step 8. Follow the OE setup directions for setting truck mount height to ensure the plow's A-Frame will be level to ground

STEP 1

Begin disconnecting Hydraulic line on both wing cylinders





STEP 2

Unbolt wing hose clamps found on driver and passenger side.









STEP 3

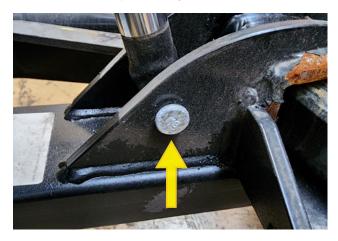
Disconnect angle cylinder hoses – both driver and passenger side.



You may have to loosen hose end on top of manifold to be able to twist hose.

STEP 4

Disconnect A-Frame pin for lift cylinder.







INSTALLING THE RAZORBACK RETROFIT KIT $\ensuremath{\mathsf{M}}$

STEP 5

Set OE plow jack on A-Frame to support plow. Once the OE plow jack is set use another jack to Support the back of the A-Frame – removing load from A-Frame mounting pins.





STEP 6

Once step 5 is complete locate and remove A-Frame mounting pins on driver and passenger sides.









STEP 7

Confirm that the power rack unit is no longer connected to the A-Frame and moldboard. Once confirming go ahead and separate units completely. The BOSS[®]EXT[™] A-Frame and moldboard are no longer needed.



STEP 8

Line up RazorBack moldboard and A-Frame in front of BOSS® EXT[™] Power Lift Rack. It is recommended using a jack to position frame. Start here if you are using a new BOSS® EXT[™] power rack. Ensure that the A-Frame is level with respect to the ground – adjust truck mount if needed. Be sure to follow OE frame adjustment procedure from BOSS®.



STEP 9

Align Arctic RazorBack Retrofit A-Frame mounting holes with Lift Rack Mounting holes. Use caution as this is a pinch point/cut hazard.







STEP 10

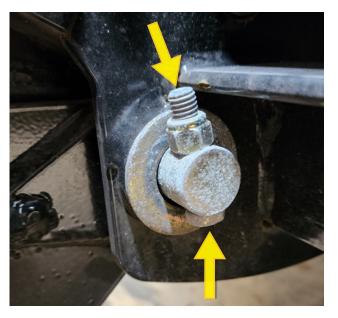
Once the mounting holes are aligned insert mounting pins outside-inward that were previously removed. Driver and passenger side.



STEP 11

Reinstall mounting pin hardware previously removed on driver and passenger side. Torque to spec and use Loctite.



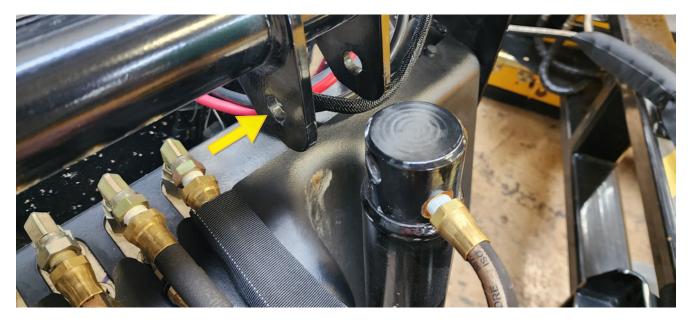






STEP 12

Remove top mounting pin for hydraulic lift cylinder on lift rack. Move cylinder away from rack.



STEP 13

Locate and unscrew the retaining press pins for pump cover on driver and passenger side.



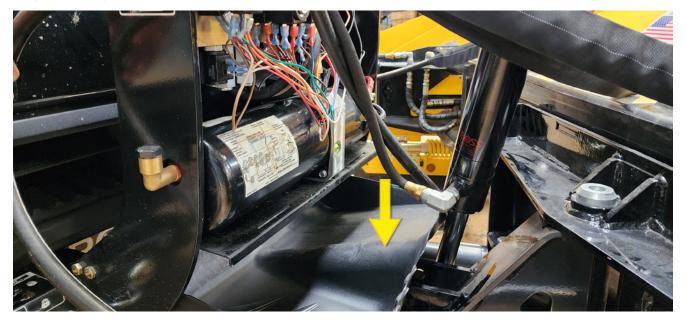






STEP 14

Pull plastic cover plate out and down.

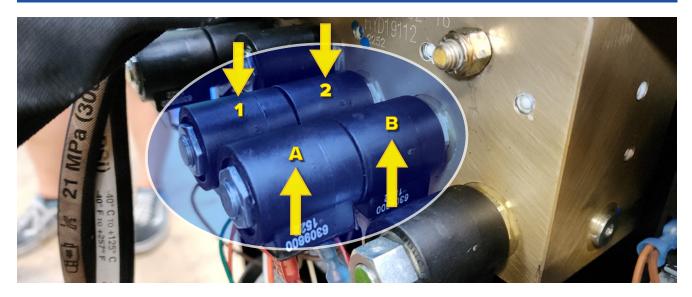


STEP 15

On the front of the valve block locate the two valve & solenoid packs pictured below. *Point of view is facing from driver side toward passenger side of truck in photo.



Note position of packs "1 & 2" and "A & B". Marking them will be useful to avoid mistakes in following steps.







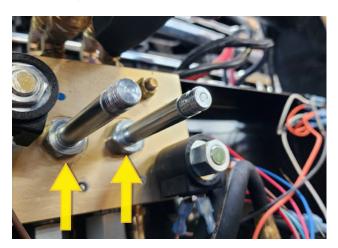
STEP 16

Loosen and remove the nut holding the solenoid packs on the valve body's one set at a time. Pull solenoids away from manifold to remove them from valve. Note the spacer/ washer between each set.



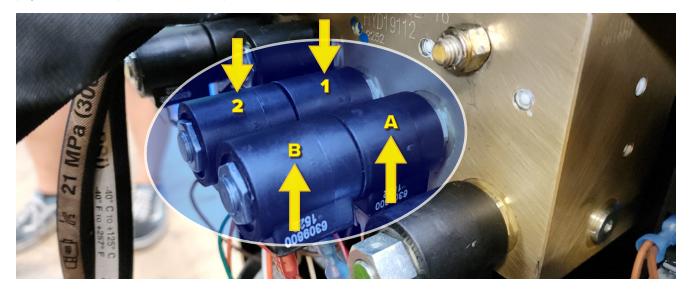
STEP 17

Washing the valve block and drying it is recommended before removing valves. It is important that contaminants do not get into the block or on the new valves. The solenoids are now removed from valve posts. *There is a spacer/ washer between the two solenoids on each post that must be reinstalled. You will now unthread/remove the valves and install Arctic provided valves. *See arrows*



STEP 18

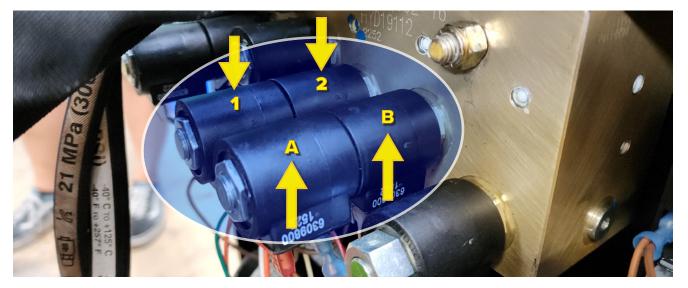
Swap position of solenoid packs"1 & 2" and "A & B" front to back to achieve new arrangement pictured below. "2 & 1" and "B & A" Reference original position of solenoids from step 15. Remember to reinstall the spacer/washer between solenoids. See next page for direct comparison between step 15 & 18.



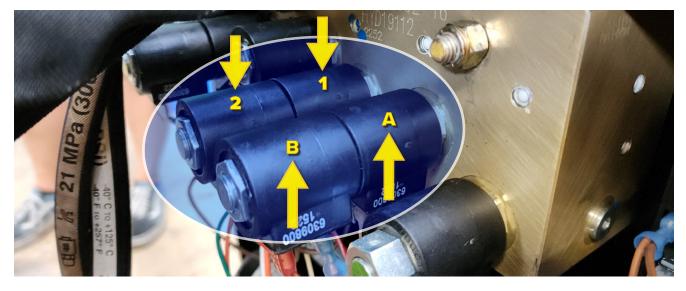




OE ARRANGEMENNT



ARCTIC ARRANGEMENNT







INSTALLING THE RAZORBACK RETROFIT KIT

STEP 19

Looking below the valve block you will locate a pair of pressure relief cartridges – only touch these. Swap out with the Arctic replacements provided. Be sure to keep contaminants out of the block and off the replacement pressure reliefs during this process. Hold off putting the pump cover plate back on at this time.



STEP 20

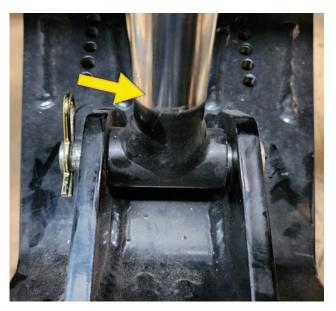
Reinstall the top of lift cylinder to lift rack with lift cylinder mounting pin & cotter pin.



STEP 21

Reinstall lower mounting pin to secure the lift cylinder to the Arctic RazorBack Retrofit Kit A-Frame. Reinstall cotter pin.









STEP 22

Remove lower lift cylinder fitting/hose and install Arctic provided inline 90-degree elbow to hose. Tighten after the new hose and fitting assembly has been threaded into lower cylinder port.





STEP 23

Install existing OE driver side angle cylinder hose to Arctic provided cylinder and in line hose adapter *(left photo)*. Repeat for passenger side *(right photo)*.





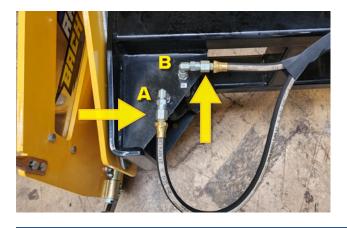




INSTALLING THE RAZORBACK RETROFIT KIT

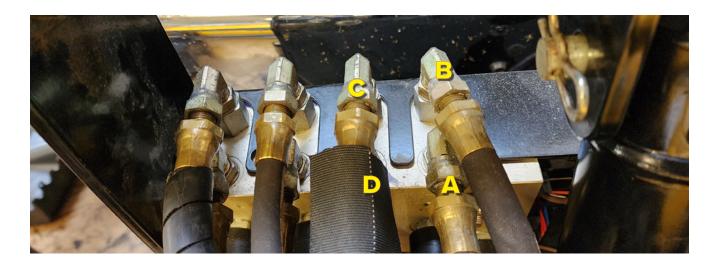
STEP 24

Locate and remove fitting cap. Install Arctic provided MPT to JIC line adapter. *(See Arrows)* Reinstall driver and passenger side wing cylinder hoses. Pay attention to hose configuration. The longer hose attaches to the *"A"* port and the shorter hose attaches to the *"B"* port. Passenger side: The Short hose to *"C"* port and longer hose to *"D"* port.





Note: The OE arrangement on the manifold may need to be changed. Ensure the lines on the OE manifold pictured below are arranged to match the RazorBack "A" to "A", "B" to "B", "C" to "C", "D" to "D" from previous photos in step 24 above.



Line "A" will go to port "A" on the RazorBack. This is the longer line.

Line "B" will go to port "B" on the RazorBack. This is the shorter line.

Line "C" will go to port "C" on the RazoBack. This is the shorter line.

Line "D" will go to port "D" on the RazorBack. This is the longer line. "D" is below line "C" in picture above.





STEP 25

Secure the wing hoses to the frame with provided zip ties. Locate hooks located on top of each side of the frame.





Note for slow lifting or lift issues after Razorback Retrofit installation. Due to uncommon inconsistencies we have experienced with the pressure relief valve for the hydraulic pump motor it may become necessary to adjust it back within factory specifications. Please see OEM owner's manual for further details for potential adjustments.

STEP 26

Check fluid level for pump and replace lost fluid to proper operating level as necessary.

STEP 27

Go through steps 1-25 again to ensure everything has been done per the instructions.

STEP 28

Be sure to clear the area of personnel or objects that will be in the movement path of plow before using unit. Power up unit and run to inspect for possible leaks – inspecting the unit with the plow on the ground. Remedy any leaks as needed. There is going to be a lot of slop or slack *(undesired movement/actions of the plow)* as air is moved out of the system through use. Use caution when working the air out of the system.

STEP 29

Check fluid level once again. Refill as needed. Reinstall power unit cover plate with retaining pins from step 13.

STEP 30

Continue to check and refill fluid as the plow works air of out the system. It is recommended to attach and detach RazorBack with wings in rearward position. See photo below. The OE jack is no longer needed.





