

RACE X

ALPHA

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RACE X INTERCOOLER
INSTALLATION INSTRUCTIONS



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These instructions are provided as a guide only as there are many variables that cannot be accounted for concerning your particular vehicle, including but not limited to model year differences, model differences, the presence of non-OEM parts, and modifications that may already be or were previously installed. A basic knowledge of automotive parts and systems is helpful but a better understanding of the parts and systems on your particular vehicle may be required.

If you have any questions or issues at any time during the installation of your AMS Performance product(s) please call us for technical assistance. The AMS Performance tech line can be reached during business hours at 847-709-0530 for AMS and Alpha Performance products only.

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Installation Instructions

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Model Years 2008-2011 Only

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Enjoy!



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RACE X INTERCOOLER

2017

Race X Intercooler Installation

Note: If upgrading from an Alpha Race Intercooler to the Race X, Skip steps 1 – 12, proceed to air duct modification for your year group.

1. Remove the intercoolers and front intercooler core support mount. Remove the old intercoolers setup.

1



The next several pictures will show the area of the intercooler support that will need to be cut out. Please review the pictures and notes before making any cuts to the support.

2. The upper center section of the support will be cut out. The cut piece is shown below.

2



3. See the areas noted in red in the next few pictures, these will be the cut lines. We found the best way to cut the support is with a large tooth air saw at low speed. The low speed will keep the material from melting back together when cutting and will leave cleaner lines. There will also be one area you will need to cut through a metal support.

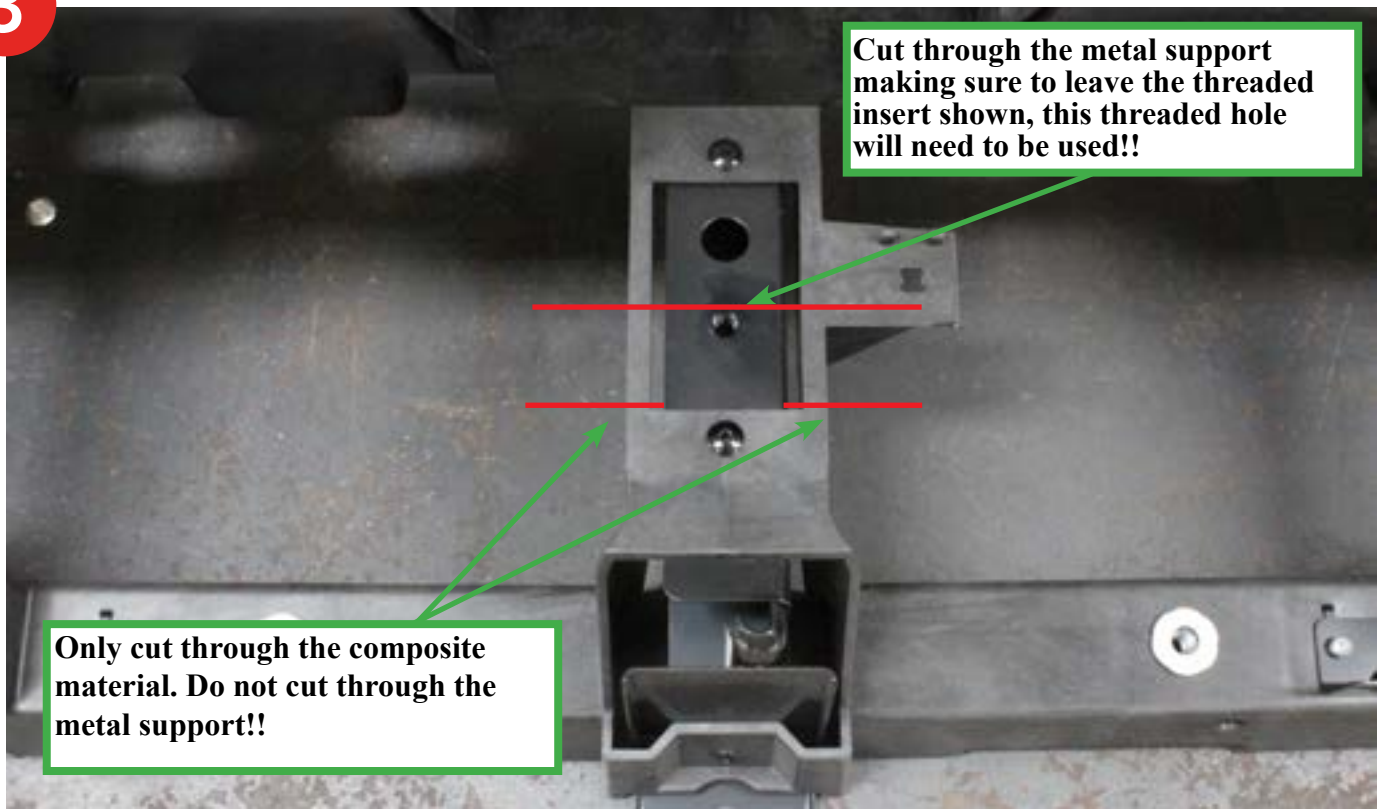
3



3

Cut through the metal support making sure to leave the threaded insert shown, this threaded hole will need to be used!!

Only cut through the composite material. Do not cut through the metal support!!



4. The final product is pictured below. Discard the center piece cut out from the main support.

4



6

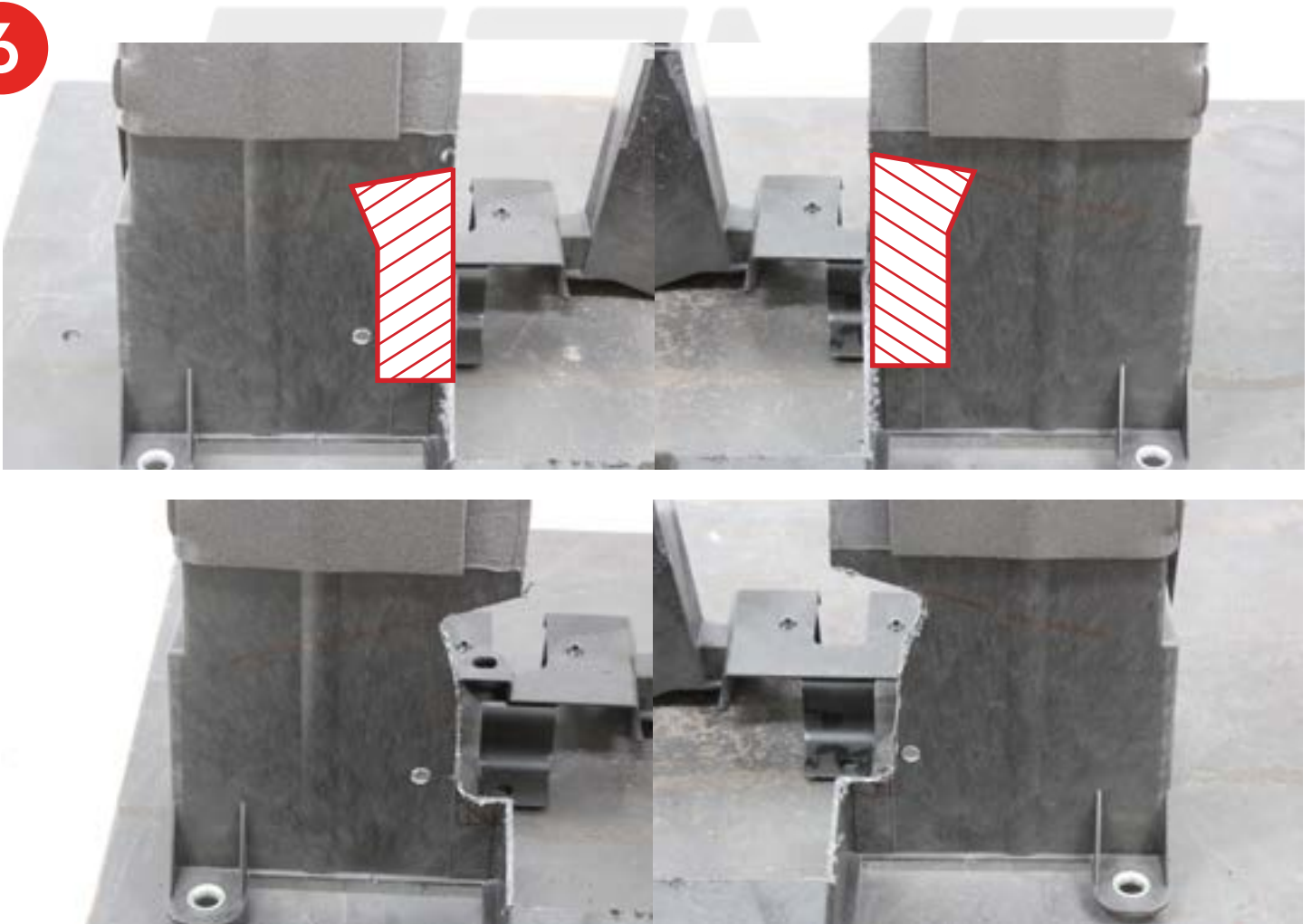
5. Reinstall the support loosely. Trace the frame rail on the bottom of the support as shown in the next few pictures marked in green. There is a small section that needs to be cut out to clear the intercooler outlet silicone.

5



6. Remove the support and highlight the marked area shown using your traces. This area needs to be cut out. The after pictures are also shown below.

6



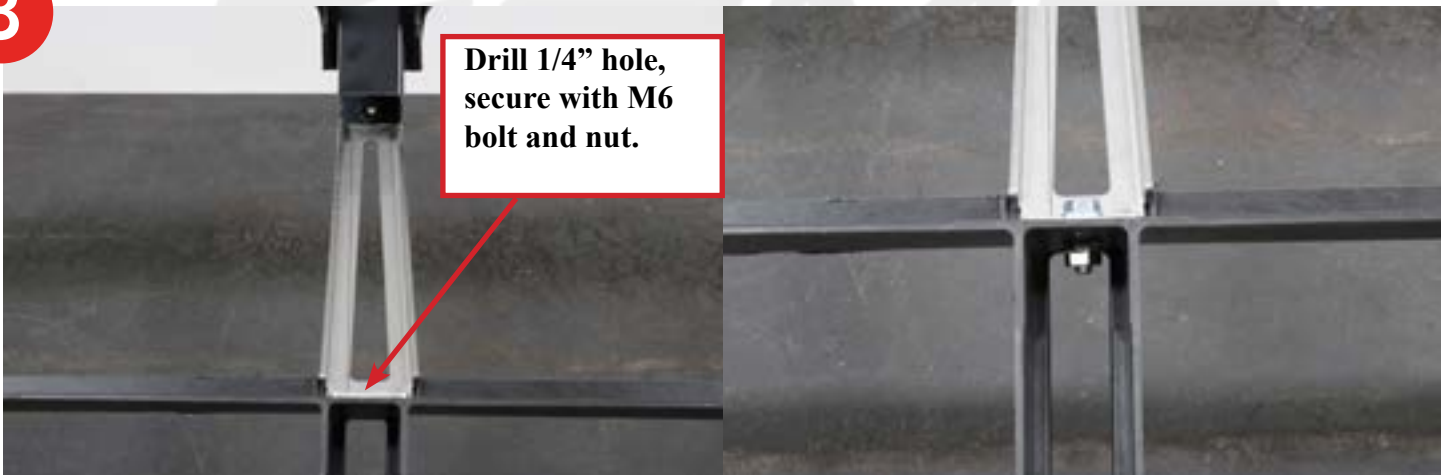
7. Clean and sand all the cut areas. This can be done with a sanding disc at low speed. A razor blade edge can also be used for finishing.

7

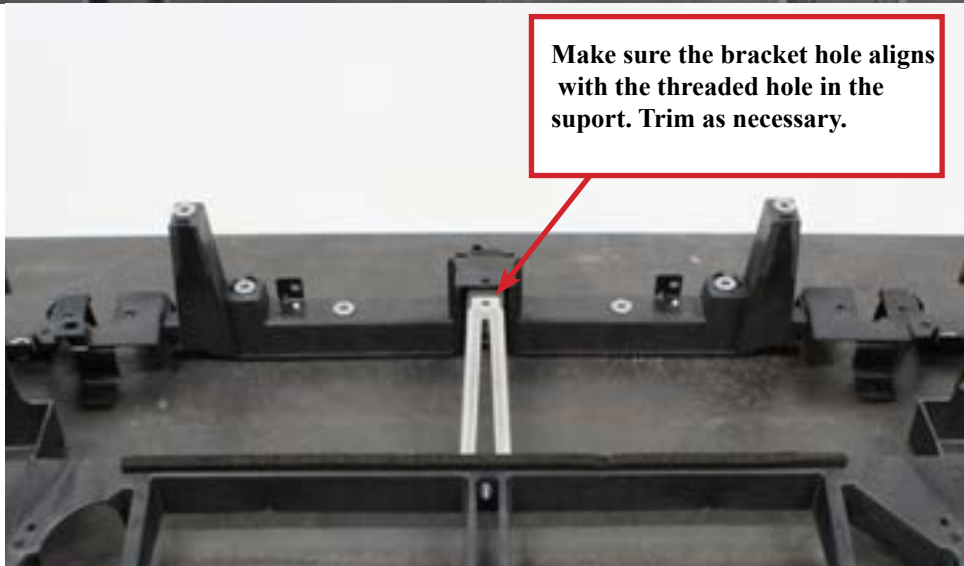


8. In the hardware kit, locate the stainless steel support bracket. Install the bracket as shown and mark the lower hole shown on the support. Drill a 1/4" hole here for attaching the bracket. Use a supplied M6 bolt and nut to secure the bracket. Make sure the upper hole of the bracket aligns with the support's threaded hole. Adjust and trim as necessary.

8



Make sure the bracket hole aligns with the threaded hole in the support. Trim as necessary.



8

9. Set the intercooler into place. Use the supplied six M8 bolts to secure the intercooler to the original lower mounts of the support.

9



10. In the hardware kit locate the two red support brackets. Install the brackets with the supplied M6 and M10 hardware. Leave loose for the moment as final adjustments will be made when installed on the car. Make sure the bracket with the small square cut hole is installed the right side / passenger side of the car. This hole is for the outside air temp sensor.

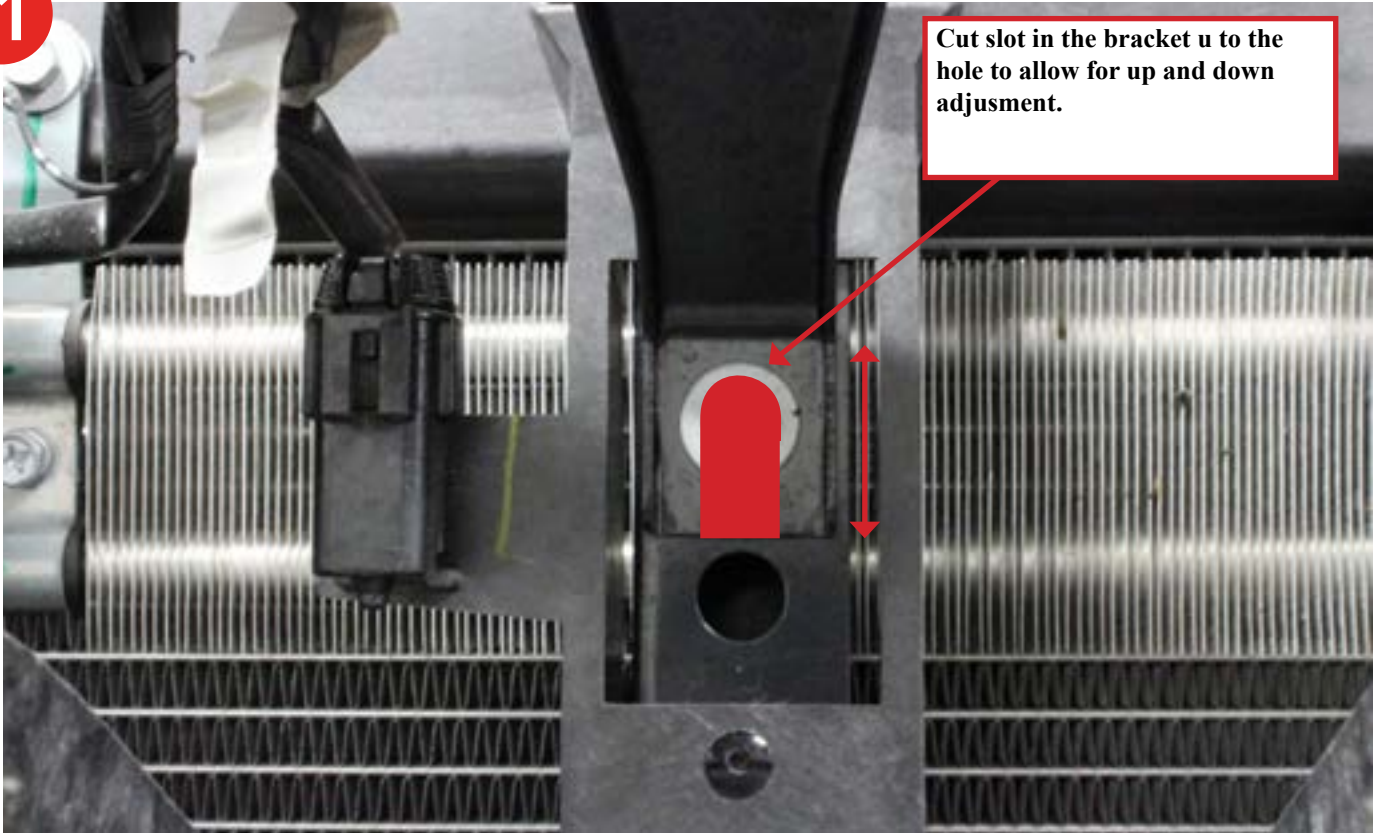
10



9

11. Reinstall the factory upper bumper support rail. Slightly trimming will need to be made to the center bolt hole. Cut a slot in the bracket allowing it to be adjusted upwards and downwards. This will be important for bumper alignment when final fitment is done.

11



10

2008-2011 Factory Air Duct Trimming

The next several steps are to show how to trim the air duct for the intercooler. The easiest way is to use a sharp razor blade. It will leave the cleanest cuts.

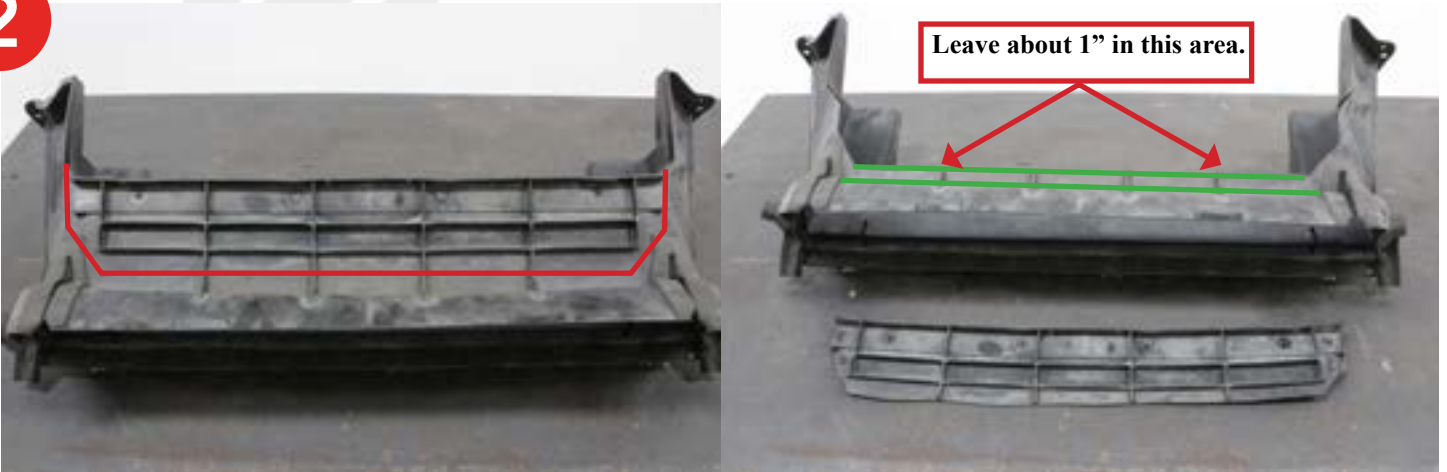
1. Remove the vertical metal support frame. Best way is to remove the rivets by stretching them with a pair of side cutters, then cutting off the back ends.

1

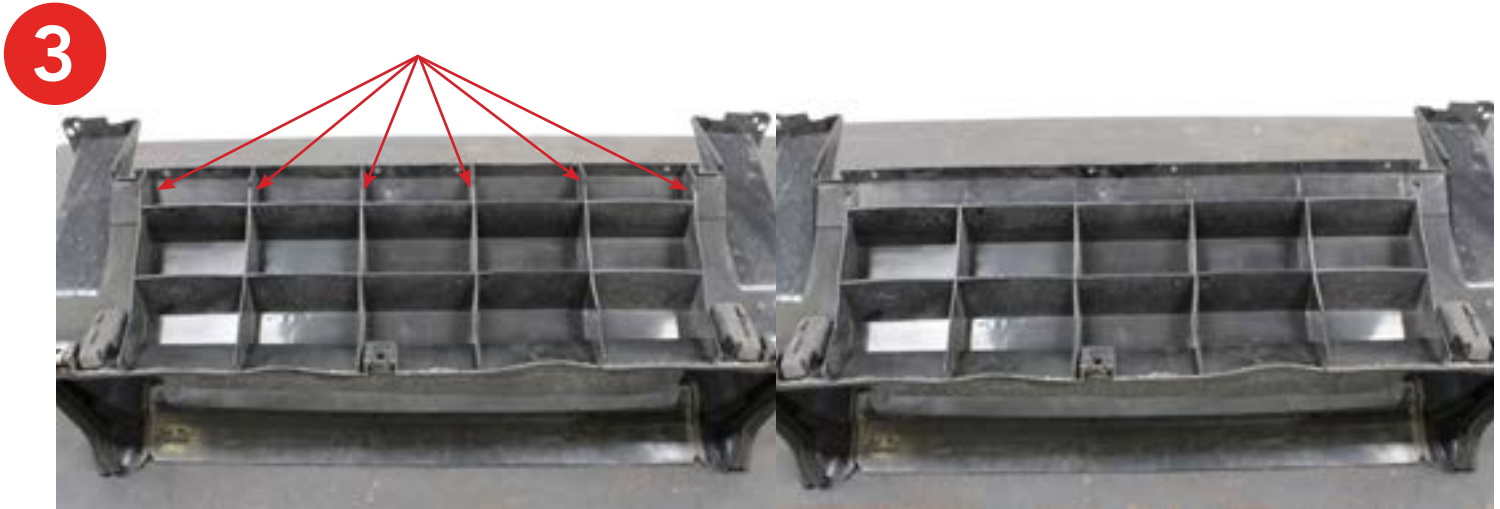


2. Trim the top section of the air duct as shown in the picture below. Make sure to leave about 1" at the area shown in the second picture.

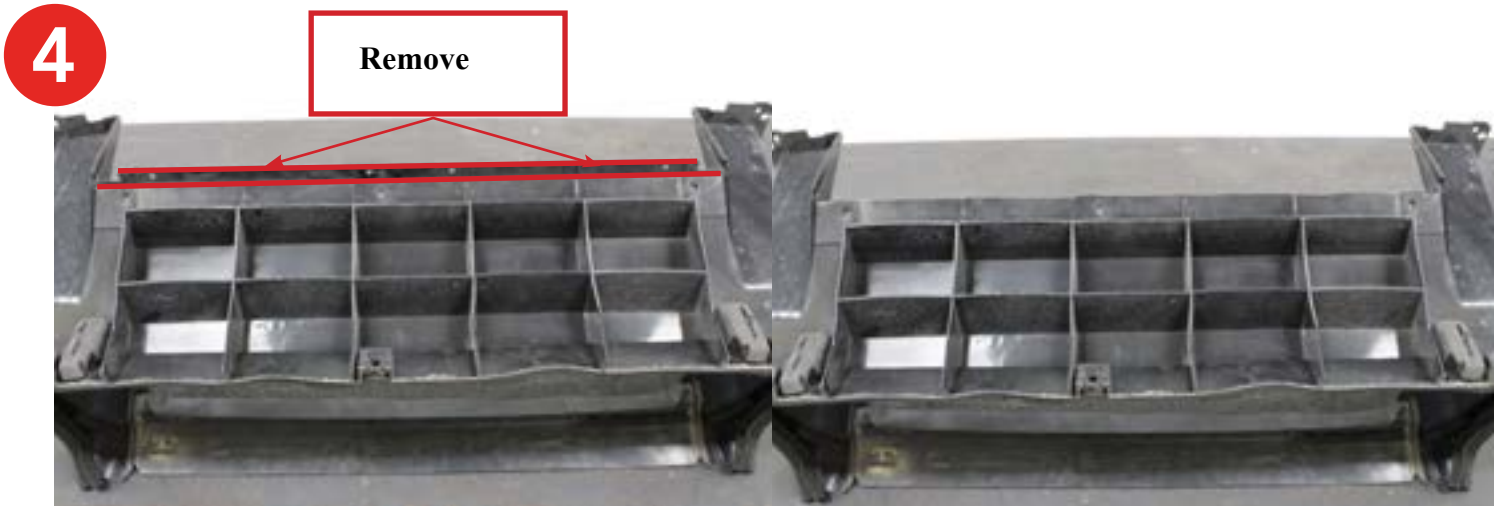
2



3. Remove the webbing as shown in the pictures below. The webbing needs to be removed so the duct will flex around the bottom the intercooler.



4. Trim the bottom edge off shown in the pictures below.



5. Next cut two slits in the lower part of the duct. No material will be removed in this step. The slits allow the duct to flex to a new profile. Only cut the area shown, do not over cut this area. Trimming in a later step may be needed.

5



6. Install the supplied side plates and factory lower lip support brackets. Use the supplied hardware to install the side plates. The side plate lower profile will push and form the lower part of the air duct downwards. Trim more if needed as down in step # 6 to get the plate and profile correct.

6



2012 + Factory Air Duct Trimming

The next several steps are to show how to trim the air duct for the intercooler. The easiest way is to use a sharp razor blade. It will leave the cleanest cuts.

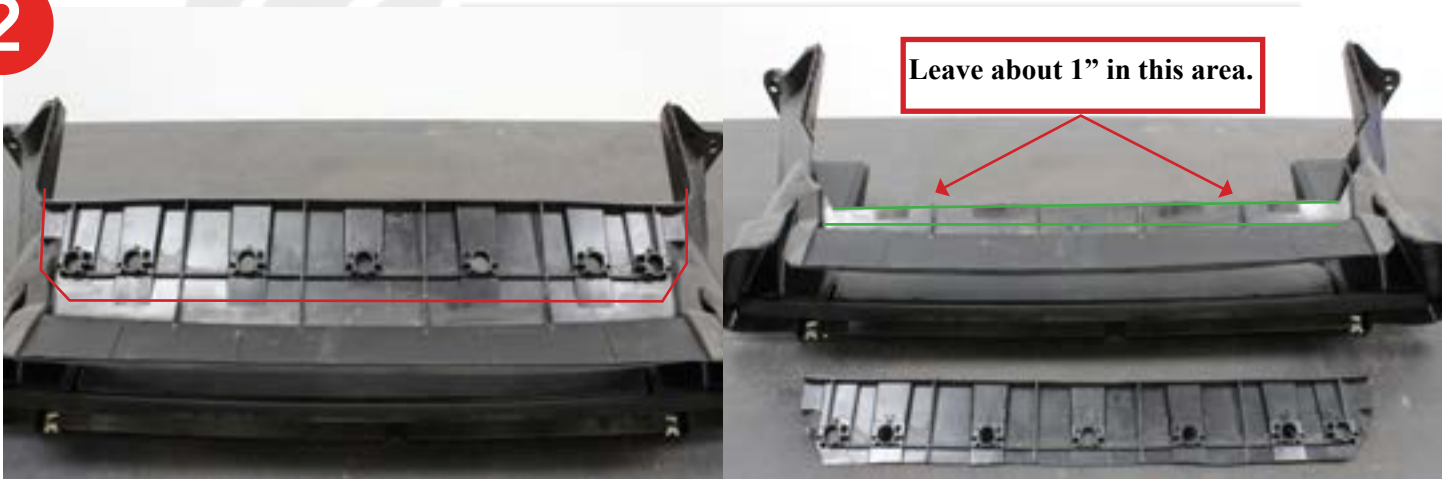
1. Remove the vertical metal support frame. Best way is to remove the rivets by stretching them with a pair of side cutters, then cutting off the back ends.

1



2. Trim the top section of the air duct as shown in the picture below. Make sure to leave about 1" at the area shown in the second picture.

2



3. Cut and remove the lower mounts. Make sure to cut them off as flush as possible to the air duct.

3



4. Trim off as much of the webbing under the duct as shown. This will allow the duct to flex around the intercooler.

4



5. Trim off the bottom section of the lower air duct up to the rivets as shown

5



6. Next cut 2 slits in the lower part of the duct. No material will be removed in this step. The slits allow the duct to flex to a new profile. Only cut the area shown, do not over cut this area. Trimming in a later step may be needed.

6



7. Install the supplied side plates and factory lower lip support brackets. Use the supplied hardware to install the side plates. The side plate lower profile will push and form the lower part of the air duct downwards. Trim more if needed as down in step # 7 to get the plate and profile correct

7



8. Use the supplied foam strip and apply it to the bottom of the duct shown. Skip the area in the center shown.

8



Install the air duct to the core support

1. Install the duct to the intercooler support using the supplied m6 bolts and nuts in the original holes where the factory rivets were removed.

1



2. Reinstall the core support and intercooler assembly back onto the car. It can be permanently installed. Make sure to lift the intercooler support as high as it will go before tightening. The weight of the intercooler will pull down on everything slightly. If this is not done, the bumper and hood alignment will be off.

AMS
PERFORMANCE

Crash Beam Trimming and Patch Panel Install

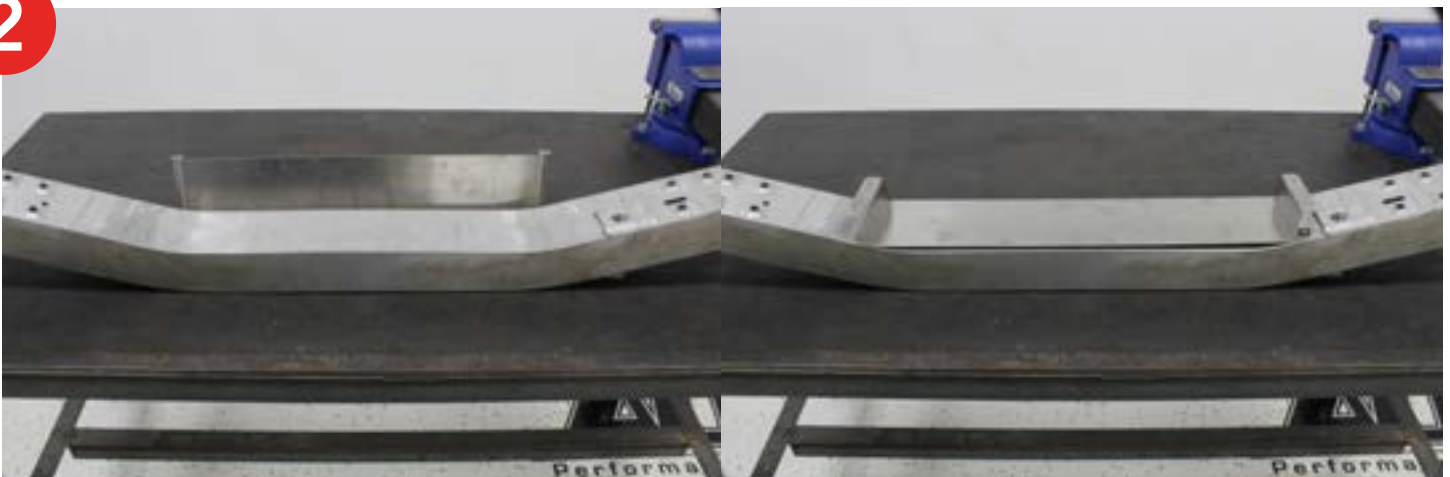
1. The factory aluminum crash beam needs to be trimmed to clear the new larger intercooler core. There are many ways that this can be done and is up to end user to install. We have supplied a patch panel to cover up the cutout section of the crash beam and is only to block air from escaping from the extruded beam and is not a structural support. The next steps are a basic guide line of how to cut and fit the panel. Measuring and double checking is extremely important. Cut only what is needed. Over cutting will cause the patch panel to not fit correctly.

1



2. Start by placing the patch panel over the rear of the crash beam and marking it. Make sure it is centered on the beam.

2



3. Set the panel on the top and bottom of the beam and mark it. Use a straight edge to draw the final lines.

3



4. Set the crash beam in front of the intercooler installed on the vehicle to make sure your marks are correct.

4



5. Cut the crash beam. Continue to cut and fit until the patch panel fits perfectly into the crash beam. Use any means to fit the panel, (band Saw, cutoff wheel, mill). The panel will need a little manipulation around the extruded sections of the beam as they are not flat.

6. Once the patch panel fits into bumper support correctly secure it by either welding or using the supplied rivets. If using the supplied welding, use a 3/16" drill bit for the supplied rivets.

6



7. Install the crash beam once complete.

7



8. Adjust the intercooler upper brackets if need be. The entire intercooler support can also be moved around to center the cutout area on the intercooler if need be.

Final Assembly

1. Locate the upper air block off plate. It will have five small 1/8" holes across the top for mounting. Fit the plate to the top of the crash beam and secure it using the supplied 1/8" rivets.

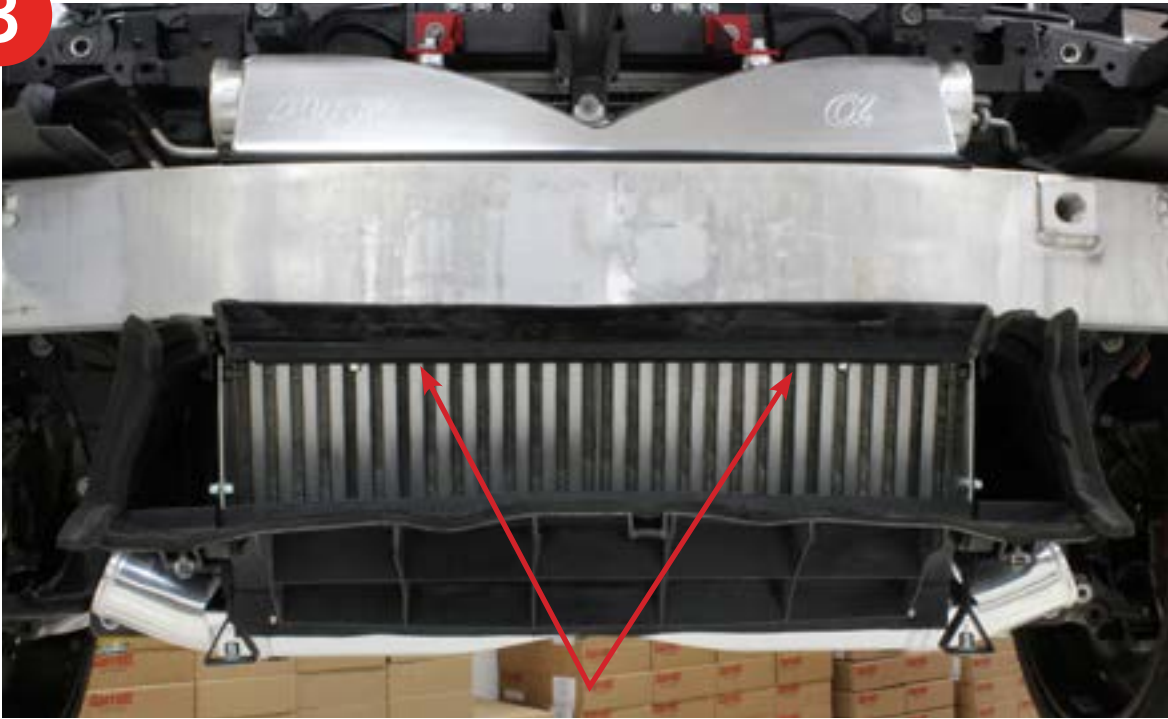
1



2. Install the factory hardware in the outside holes of the lower lip support brackets. Line up where the inside holes are on the plastic air duct and drill a 1/4" where the mark is. Locate the lower plate air duct plate. It will have two 1/4" holes and a small bend. Install the plate with the hardware shown below in the order shown. The bend will be facing towards the intercooler and pointing upwards. Order (Bolt, Plate, Air Duct, Washer, Spacer, then bolted into the core support)

2



3

3. Locate two small aluminum horn brackets. Remove the factory bracket off the back of the horns. Using the original hardware, install the new brackets leaving them loose for final adjustment. The horns do have different tones and have to be installed on the original sides. Install the horns and bend the brackets as necessary for fitment.

- a.** Alternative fitment is too flip the horn side to side. They will fit better and will not require any bending of the bracket for fitment. However, the power wire that feeds both horns will need to be flipped so the correct horn is actuated when used. Both power wires are green and are easily switched in the harness just under the right side headlight using 2 butt connectors. The picture below shows the horns installed flipped side to side.

3a**23**

4. Intercooler installation is complete, install the desired intercooler piping. Intercooler outlet silicone has been provided. These silicone couplers end up in the factory intercooler outlet location so Alpha IC Piping kit or any alternative kits may be used.

5. Intercooler inlet silicone and jumpers has also been included if the factory S couplers are being used. The Alpha X line of turbo kits already provides a full 3” kit to the inlet of the intercooler.

Enjoy. _____

