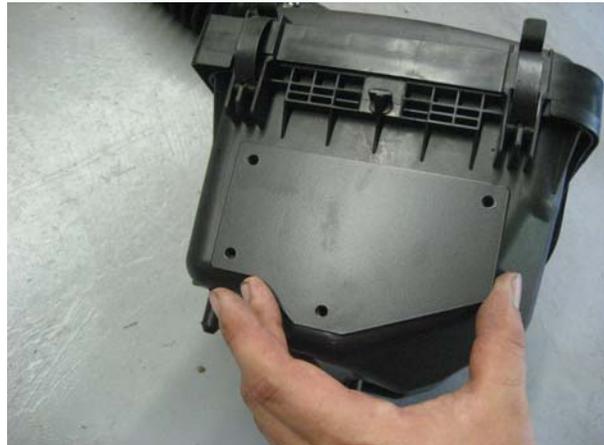




## River Raider 2007-2011 JK Expedition Snorkel System

Thank you for purchasing a River Raider product. Our goal is to provide a quality product that makes your jeep more capable, and your off-road experience more enjoyable.

Remove the factory air box from your jeep. Remove the intake tube from the factory air box. This will leave a plastic lip on the air box that needs to be trimmed flush with the air box surface as shown.



Take the supplied block off plate and position it over the factory intake hole. Drill the four holes and attach it to the air box with the supplied stainless steel hardware. We recommend using a healthy bead of 100% silicone to ensure a watertight seal between this block off plate and the air box. Next, install the new intake location on the other side of the air box as shown.



Trim the three plastic ribs on the side of the air box so that they are flush with the surface of the air box. Now take the supplied template marked "JK AIR BOX" and position it on the air box. This will show where to drill the 3" hole for the new intake. Now drill the three inch hole in the side of the air box and test fit the new intake bracket. Once it fits, drill the four mounting holes and attach with the supplied stainless steel hardware. We recommend using a healthy bead of 100% silicone to ensure a watertight seal between the air box and the intake bracket. For now, set the air box aside and we will come back to it later.

For the proper installation of this system, the battery location must be adjusted. At the rear of the factory battery tray, there are four plastic gussets that must be removed as shown. This will allow the installation of the new aluminum battery tray. It is attached with supplied stainless steel bolts, lock washers, and nuts. Position the aluminum battery tray with the bent tab upright, facing toward the engine. Leave approximately 3/8" between the plastic shield (that is between the engine and the battery) and the new

battery tray. Now drill the mounting holes down through the battery tray into the plastic below and attach with the supplied hardware. The factory battery hold down is re-used, however it must be drilled out to accept the supplied 3/8" carriage bolt and hardware.



Now turn your attention to a small unit positioned next to the battery tray that has several black airlines attached to it. We are going to lower this unit approximately one inch. Pull up on this unit and slide it off of its mounting post. With a utility knife, shave both sides of the mounting post to allow the unit to slide down further. You will also need to remove approximately one inch off the top of the mounting post. Now reinstall the unit at its new, lower location.



Remove the factory wiring harness from its post in the upper left-hand corner of the firewall. This will allow you to clearly see the area where the new intake will be routed through the firewall.

You will note that two metal studs will need to be removed in order to position the template properly. Grasp the studs firmly with a pair of vice-grips and gently rock them back and forth until they break free.

Next take the supplied metal template and position it in the upper left-hand corner of the jeeps firewall. Then trim the firewall insulation around the template. With the template in position drill the four 1/8" holes. Using two rivets at opposite corners of the template attach the template to the firewall.

Using your 3-1/4" hole-saw cut through the firewall using the template as a guide.

You will be cutting through several layers of metal, so take your time.

Once the hole has been cut, drill out the rivets holding the template in place and remove the template.

Take the supplied template marked “Cowl Template” and tape it to the Cowl as shown. Be sure that the template lines up with the vehicle body lines.



With the template in place, mark the center of the 3-1/4” hole that you are about to cut with a center punch. Now, using a 3-1/4” hole saw, carefully cut the hole in the cowl. You will be cutting through several layers of metal. Take your time to insure a clean and accurate cut.

De-burr, clean and paint all freshly cut bare metal edges to prevent rust.

Now remove the bolt on cowl section by first removing the windshield wiper arms, and then unbolt the passenger side A-pillar base cowl section by removing the two bolts under the cowl. Gently pull this section of the cowl outward exposing the inner cowl.

Remove the rubber factory patch that covers the hole into the cabin air box.



Now it's time to install the firewall intake bracket. Run a bead of 100% black silicone on the backside of the firewall intake bracket and position it on the firewall. Proceed to rivet the firewall intake bracket in place with four stainless steel rivets.



Take the supplied 90° Rubber elbow and one stainless steel hose clamp and insert them down through the opening in the cowl. Secure them to the backside of the firewall intake bracket. Be sure to position the elbow so that it lines up with the hole that has been cut in the top of the cowl.

Then secure the elbow to the firewall intake bracket by fully tightening the hose clamp. Lay the A-pillar cowl section back in place and test fit the cowl snorkel intake unit to insure proper alignment.

Now re-seal the cowl by covering the hole into the cabin air-box with the provided adhesive mat. Press firmly in place to insure a good seal around the edges and up to the rubber elbow.

Next put a hose clamp over the exposed end of the rubber 90 and re-bolt the A-pillar cowl section and the rest of the cowl back in place.



Now take the supplied rubber gasket and fit it onto the lower portion of the cowl snorkel unit and insert the cowl snorkel unit through the cowl into the rubber 90. Position it so that it fits the contour of the cowl. Once in position proceed to drill the eight 1/8" holes into the cowl and attach with the supplied stainless steel rivets. Take your time and do a nice job.

Now fully tighten the hose clamp under the cowl by accessing it through the front of the cowl. The snorkel cap can now be installed. Holes can be drilled and it can be riveted in place at the desired height.

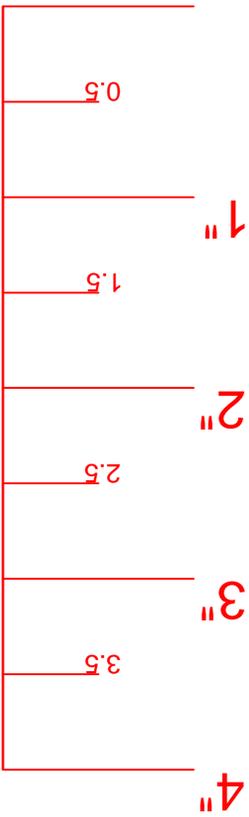
Reinstall the battery in its new location, making sure to secure it with the factory hold down. Reinstall the factory air box and route the new intake hose along the battery, then turn and go over top of the unit that we lowered, and then over to the top of the factory air box as shown. Use one of the aluminum connectors, the supplied 90 degree elbow, and the hose clamps to connect the intake hose to the top of the air box.



Loosen the factory air intake hose at the throttle body and turn the hose counterclockwise facing down toward the new intake location. Use the second supplied 90 degree elbow, the aluminum connector with the rubber spacer (the end of the tube with the spacer connects to the throttle body hose), and the hose clamps to attach to the new intake location. Make sure all of your connections are sealed tight and that the four factory holes in the bottom of the air box are sealed with silicon for a good air tight installation. The factory air box has three mounting holes that may also be filled with silicon to ensure a water tight seal.



Congratulations on successfully installing your new River Raider Expedition Snorkel! Remember, the installation of this snorkel does not turn your jeep into a submarine. High water crossings are dangerous and can cause damage to other mechanical and electrical components of your jeep unless necessary precautions have been taken. It is the installers' responsibility to ensure that this intake system is installed correctly and sealed to function properly.



To ensure proper template scale please use a ruler and make sure this is exactly 4" long.

