S&S® Off-Road Performance

S&S Cycle has long been the leading name in high performance products for American v-twins, but now S&S brings their vast knowledge of four-cycle engine technology to bear on the off-road performance market. The first products to be released are for the Polaris® Ranger RZR® and RZRS. Rest assured, there are more on the way!

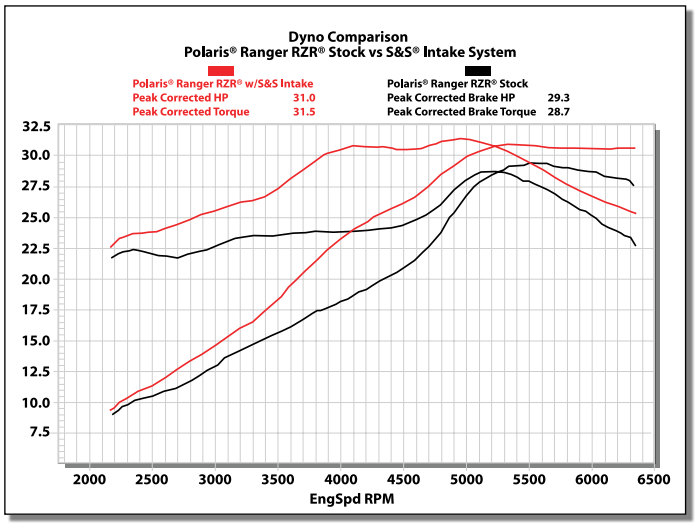
High Performance Intake for Polaris® Ranger RZR® and RZRS

S&S announces a new high performance intake system for Polaris Ranger RZR and RZRS vehicles. The system consists of an air box, tuned runner, a pre-filter, and filter. The S&S intake system replaces the stock intake with minor modifications to the vehicle's box. Flow bench tests show that the S&S intake flows 11% more air than the stock system. Installing the filter alone to a stock RZR or RZRS will produce 5 horsepower at 4000 rpm. See dyno chart. To make the most of the additional breathing capability of the S&S intake system, we recommend that it be used with the S&S exhaust system shown on page 2.

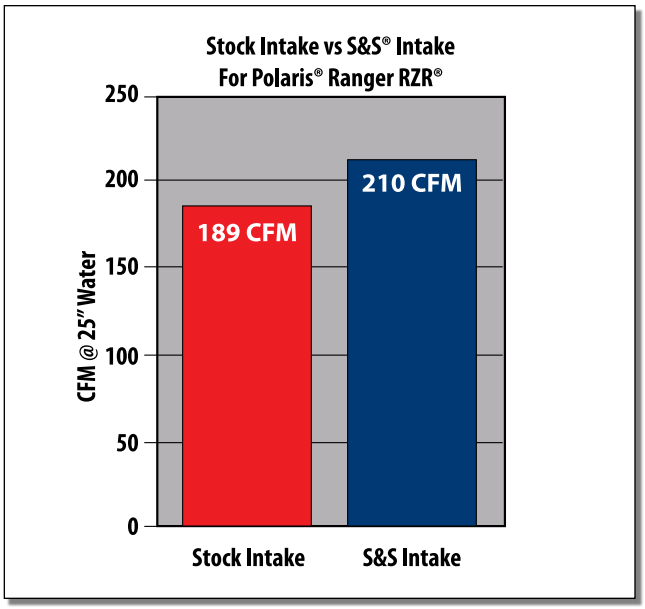
The air box is constructed of sturdy rotational molded high density polyethylene plastic, and fits up to the box of the RZR and RZRS with only minor modifications. A cutting template is included for easy installation. The air filter has a pleated gauze element that can be cleaned and re-oiled many times. The sealed system eliminates any stock filtering limitations., while the air box also features a pre-filter to trap the majority of the dirt before it gets to the filter. Installation of the S&S intake system can usually be done in about an hour.

S&S Performance Intake System for Ranger RZR® and RZRS

..... MSRP $360.45 **106-5012**



S&S Intake and Muffler installed on the Polaris® Ranger RZRS®



The S&S intake system flows 11% more air than the stock system. Tests were performed on a SuperFlow® SF-1020 flow bench at the S&S Product Development Facility in Viola, WI.

Performance Exhaust for Polaris® Ranger RZR® and RZRS

The new S&S exhaust system for Polaris Ranger RZR and RZRS is the perfect complement to the S&S intake system shown on the front page. The intake system can supply plenty of air, but the performance gains are limited if the engine can't make use of the extra air because of the restrictive stock exhaust. By the same token, a performance exhaust will not make as much power if the engine can't get sufficient air due to a restrictive intake system.

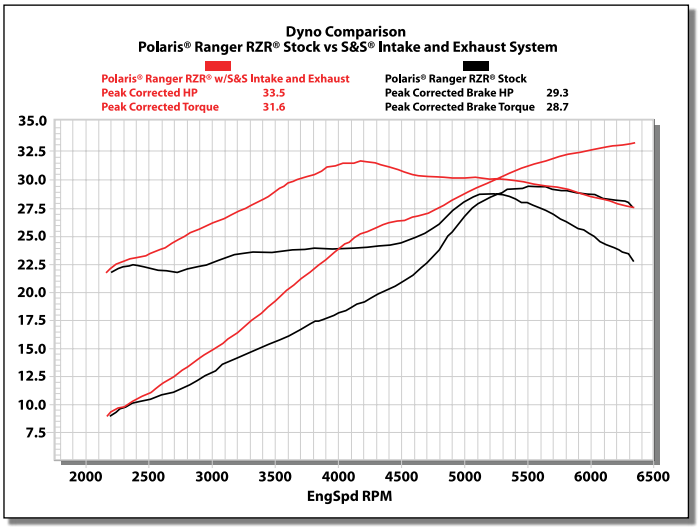
The S&S exhaust system consists of a header, mid-pipe and 5" diameter muffler. The all welded stainless steel construction makes these components virtually vibration proof. Components are held together with springs, facilitating quick and easy installation

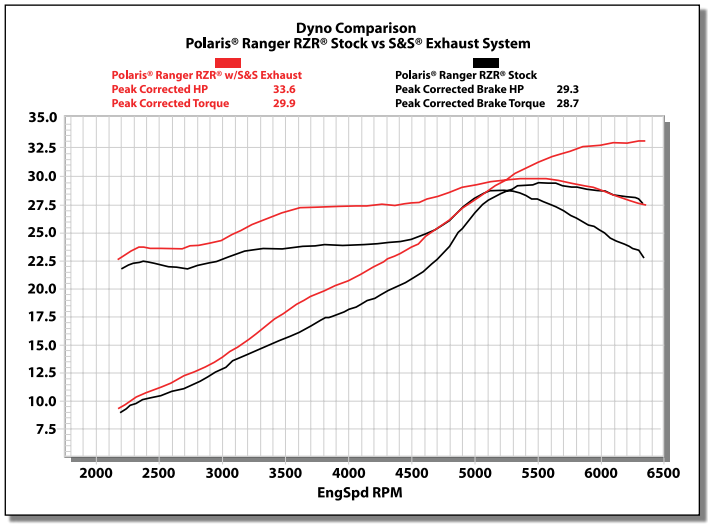
The design of the muffler does not use sound absorbing materials, relying instead on the exhaust path and chambering to control noise. That means that the muffler never needs to be repacked. That also means that performance and noise levels will not change over time. The muffler is designed with a billet aluminum end-cap, which holds the US Forestry Service approved spark arrestor in place.

On the subject of noise levels, the S&S exhaust system is quiet enough to ride on any trails in the continental United States with a maximum output of under 96 dB(A) per SAE J1287.

S&S Performance Exhaust System for Ranger RZR® and RZRS

.....MSRP $592.25 **106-5013**





High Compression Pistons For Polaris® Ranger RZR® and RZRS

High flowing intake and exhaust are certainly the first steps to take to improve the performance of any engine. The next step might be to raise the compression of the engine by installing a different piston. Pistons are available with 10.2:1, 11:1, and 12:1 compression, with stock heads. A special order part number is also available that allows customer to order pistons from 9.5:1 to 15:1 compression in quarter point increments. Allow one additional week for special orders. Piston part numbers are for one piston only. Rings, wristpin and clips are included. Two pistons are required per engine.

An increase in compression is generally accompanied by the installation of a more aggressive camshaft. The pistons are available now, which are intended for different applications. The first camshaft will work well on stock engines with performance intake and exhaust, and delivers the greatest performance increase between 3000-6500 rpm. The second camshaft will deliver the greatest gains between 5000-7000 rpm. Both cams are designed to work well in engines with higher compression ratios.

For more information, log on to www.ss-offroad.com

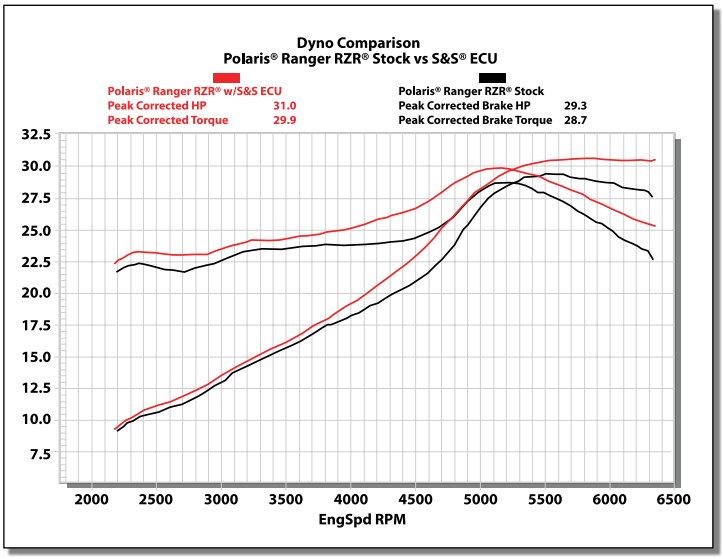
S&S High Compression Pistons for Polaris® Ranger RZR® 800		
Compression Ratio	**MSRP**	**Part Number**
10.2:1	**$135.96**	**106-5082**
12:1	**$163.77**	**106-5084**
Note : Part number and price is for one piston. Two are required per engine.		

S&S® OFF-ROAD PERFORMANCE

Performance ECU Replacement for Ranger RZR® and RZRS

6500 and 7000 ECU Rev. Limits Available

Although the S&S performance exhaust and intake can be safely used on a stock Ranger RZR without recalibrating the fuel injection system, for maximum performance, EFI calibration is recommended. If an S&S camshaft and/or high compression pistons are used EFI calibration is absolutely required. S&S offers pre-calibrated ECU's for use with each of our performance kits. ECU recalibration for stock ECU's or S&S ECU's is also available to make it easy to add components in stages and not have to purchase a new ECU each time. Service is available for stock Polaris ECU's. Allow 2 weeks for ECU recalibration.



S&S® ECU Selection for Polaris® Ranger RZR® 800 & RZRS 800		
Available in 6500 RPM & 7000 RPM Limits		
Configuration	**MSRP**	**Part Number**
Stock Vehicle	**$399.95**	**106-5995**
Recalibrate Stock/S&S ECU	**$150.00**	**106-5072**

New! Valve Train Kits for Polaris® Ranger RZR® and RZRS

Valve Train Kits for Polaris Ranger RZR and RZRS

What can you do to make the most of the S&S intake, exhaust system, and high compression pistons? Most likely, the next step is to install a high performance camshaft. That's why S&S now introduces two new valve train kits for Polaris Ranger RZR engines.

Instead of just selling a camshaft, we are offering complete valve train kits. That's because in order to install the cam and to achieve the power gains it is capable of, all the components in the kit are needed. The kits include an S&S camshaft, a set of S&S high performance hydraulic tappets, tappet alignment plates to keep the rollers aligned with the cam lobes, a set of pushrods, an S&S high performance valve spring kit, a pair of valve guide seals and assembly lube. S&S cams are manufactured in house with no core required! Valve train kits are available with two different cam grinds, in roller tappet versions.

Two Cam Grinds Available

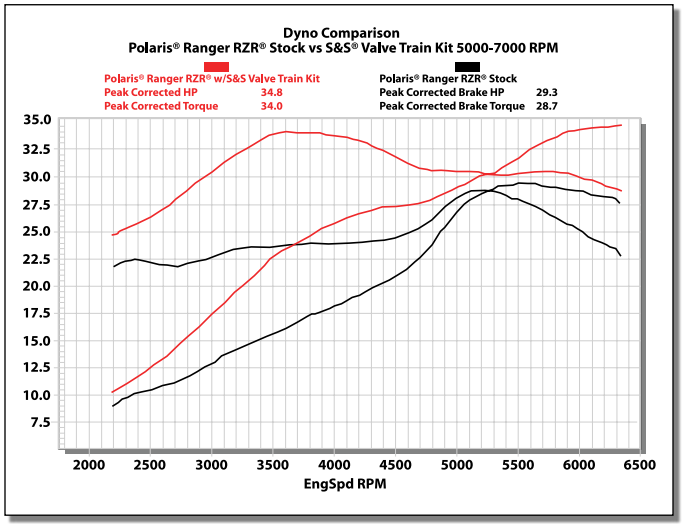
Two cam grinds are available. Both grinds have .475" lift, but with different valve timing. One grind yields the greatest gains between 3000 and 6500 rpm, and the other is designed for a higher rpm range of 5000 to 7000 rpm. S&S high performance cams are perfect for higher compression engines. Since the engine must be removed from the vehicle to install the cams we recommend that S&S high compression pistons be installed at the same time as the cams. Reprogramming the stock EFI module is also highly recommended, or better yet, a new S&S module can be purchased with the correct fuel and ignition curves installed.

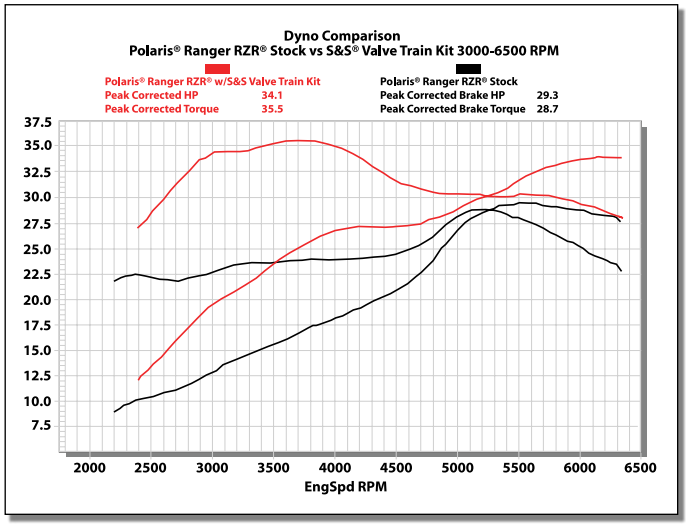
S&S® valve train kits for Polaris® Ranger RZR® and RZRS contain all components needed to install the camshaft to achieve its full performance potential. Does not include engine gaskets.

Cam kits will include:

- billet camshaft
- tappets
- pushrods
- tappet alignment plates
- valve springs
- top & bottom collars
- valve seals
- assembly lube

S&S Valve Train Kits For Polaris® Ranger RZR®		
Cam Style	**MSRP**	**Part Number**
3000-6500 RPM, Roller Tappet	**$597.40**	**106-5282**
5000-7000 RPM, Roller Tappet	**$597.40**	**106-5283**





S&S® Cycle and Proven Performance®

Proven Performance is not just a motto here at S&S Cycle. It is a registered trademark of S&S Cycle, and it is also the way we do business. Before we will sell any product, it must be proven that it is worthy of the S&S brand. Riders of American v-twin motorcycles have long known that they can use S&S products with confidence. Those who may not be as familiar with S&S, should know that the S&S reputation has been built over the last 50 years through continuous innovation using the latest technology, and through adherence to high standards of quality, reliability, and performance.

When it comes to proving performance, the dynamometer settles all bets. It's one thing to talk about what's in a motor, but if you can't show more power on the dyno, you're just blowing smoke. At S&S we take power very seriously. If our components don't make more power, we won't sell them. That's why we use a number of different dynos, in addition to racing, to validate our products.

The Ranger RZR® presented some special challenges on the chassis dyno. The Polaris Variable Transmission (PVT) drive made chassis dyno measurements erratic. Up to 7 horsepower variations were noted on the chassis dyno on consecutive runs with no changes to the engine under test. In addition tire design, tire pressure, and the manner in which the vehicle is attached to the dyno are critical factors in repeatability of results on a chassis dyno. For that reason, we used our eddy current engine dyno for our initial development work. The direct coupling from the crankshaft to the dyno eliminated all these sources of variation. Later we found that chassis dyno numbers could be made more repeatable by locking the drive clutch in high gear to eliminate the variations caused by the drive as it changes gear ratios. The dyno charts shown in this flyer are from the chassis dyno. It is always best to compare results of tests performed on the same dynamometer to eliminate variations in calibration and technique.

The chassis dyno provides a convenient way for our technicians to evaluate modifications to an engine installed in a vehicle. However, to get repeatable results the drive clutch had to be locked in high gear to avoid variations as the PVT changed gear ratios. This makes it somewhat difficult to use a chassis dyno in the field