



# Performance Quest Is a Supercharger Right for Your Corvette!

A supercharger is an air compressor that increases the pressure or density of air supplied to an internal combustion engine. This gives each intake cycle of the engine more oxygen, letting it burn more fuel and do more work, thus increasing power. Power for the supercharger can be provided mechanically by means of a belt, gear, shaft, or chain connected to the engine's crankshaft.

Almost every automotive enthusiast is on the quest for more power and better performance. That's especially true of most Corvette owners. It's important to first understand your engine to ensure that you make the right choice for your Corvette performance upgrade.

## ENGINE BASICS – GETTING TO KNOW YOUR STOCK CORVETTE

Internal combustion engines that are used in modern cars are fueled by two chemicals: gasoline and oxygen. For an engine to run the most efficiently, a specific ratio of gasoline to oxygen is necessary to efficiently burn the fuel in the combustion chamber. This is called the stoichiometric ratio, which is 14.7 parts oxygen to 1 part gasoline, or a 14.7:1 ratio. With that concept in mind, the science behind engine performance is to add more fuel to the engine. Simply put, more fuel means a bigger explosion, which equals more power. There is a catch: In order to add more fuel, there must also be more air. There are products available to naturally add air to your engine, such as cold air intakes and high performance air filters. These are designed to bring in more oxygen by allowing the filter to flow more freely or by using colder air that is denser and therefore has more oxygen in the air mixture.

However, there comes a point at which you cannot naturally aspirate any more oxygen into your engine. That means there is also a limit to how much fuel we can dump into the combustion





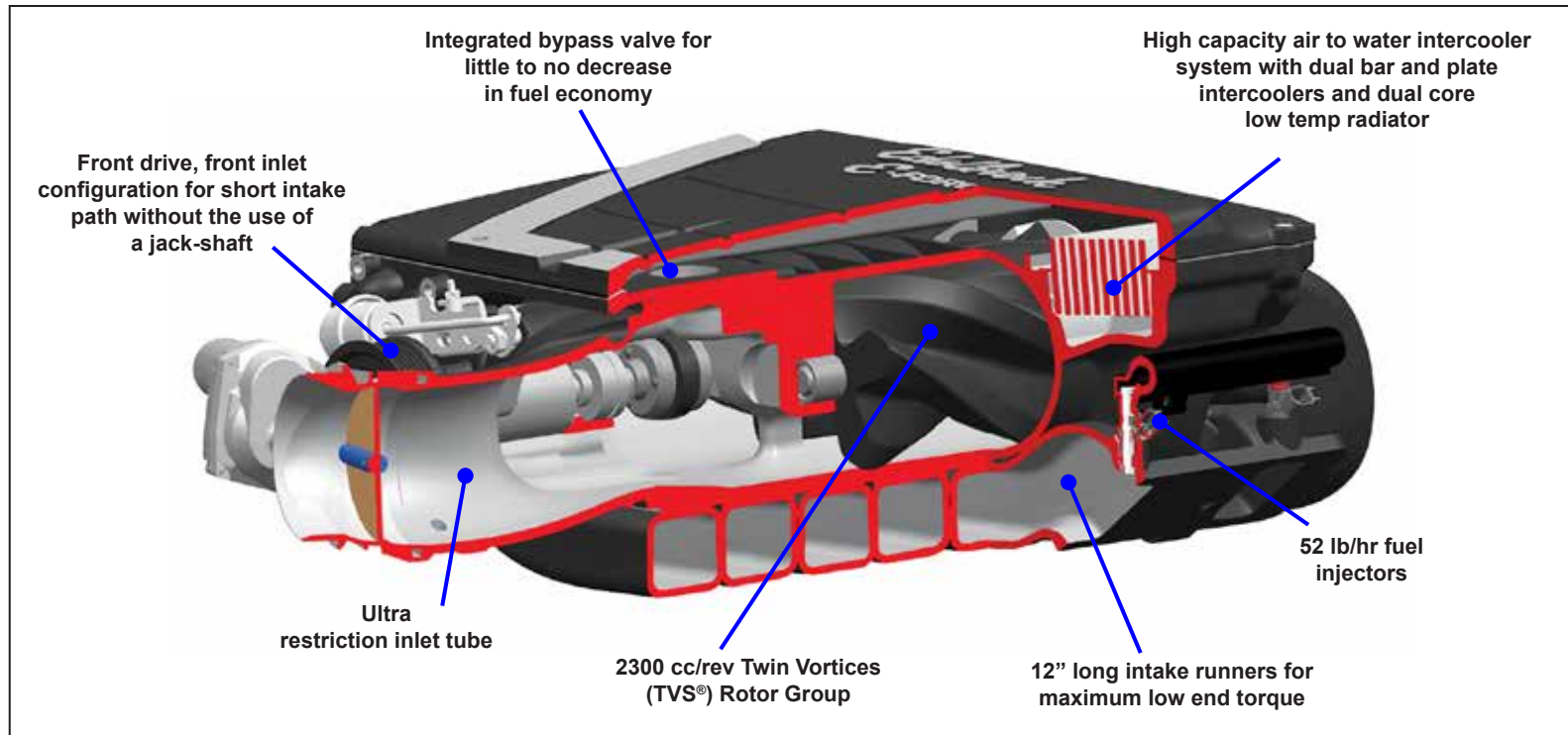
chamber of the car. The next step is to force air into the engine, so that we can further increase the amount of fuel to the engine.

### Rev Up the Power

When air intakes and special filters aren't enough, you have two commonly used options to choose from. One option is a **TURBOCHARGER**, where a turbine is engineered to use the power from the exhaust flow to push air into the intake. The second option is a **SUPERCHARGER**. A supercharger uses the same theory as the turbocharger, except instead of being powered by the exhaust; it is driven by the crankshaft pulley. Each of these systems, as well as their designs, has seen a long debate on their efficiency due to the fact that power is consumed from the engine in order to produce more power.

Superchargers have long been the choice of racers, as they allow you to tune your car to run on a high oxygen-to-gasoline ratio. However, until the introduction of computer technology, they weren't practical for street cars. Now that Superchargers are computer controlled, drivers can enjoy all the benefits of a Supercharger with on demand power without sacrificing the characteristics of your daily driver.

The E-Force Supercharger is a great example of bringing racing technology to everyday use. Designed specifically to add power to your street car, the E-Force gives you all the heart-pumping power of a racecar while retaining the daily driver attributes of your favorite 2005-2015 Corvette. In fact, depending on your driving habits, it may be possible to see fuel mileage gains. Although there are many great superchargers on the market, we're going to feature the Edelbrock E-Force because of its user friendly features.





## How It Works

The supercharger assembly has been integrated into the intake manifold for a seamless design with minimal components, eliminating the possibility of vacuum leaks between gasket surfaces. Edelbrock's inverted supercharger assembly is uniquely oriented, allowing for an incredible amount of intake runner length for maximizing low end torque. An integrated bypass valve helps eliminate parasitic loss under light throttle for improved mileage potential. E-Force Superchargers feature the most unique and efficient inlet configuration on the market.

## It's this easy

What is really involved in equipping your Corvette with an E-Force Supercharger? Put away your old school thoughts of body modifications, cutting holes in your hood, or buying a new custom hood. The new technology from Edelbrock has brought us a Supercharger that can be bolted on with little to no modifications to your stock Corvette.

The best part is, you don't need a lot of extras when you get an E-Force Supercharger! If you want to be super prepared, we recommend a couple jugs of [antifreeze](#) and [spark plugs](#) with a colder heat range. Other than that, everything you need is supplied by Edelbrock in the box.

Keep in mind that item is that it goes truck freight on a pallet. This means it cannot be delivered via semi truck to just anywhere. The good news is that this item is shipped free of charge to any business address within the continental United States. This could be up to a \$500 savings depending on where you are located.

Not to worry; your Corvette will NOT be in pieces for days on end. An experienced shop can bolt up an E-Force in as little as 8 to 10 hours. These shops can take your car to the next level by tuning your Corvette on a dyno to get the most out of your Supercharger.

Are you a do-it-yourself-kind of person? Looking for some quality [father-son time](#), or bonding with your buddies in the garage. No reason to be scared of this project! Edelbrock provides step-by-step instructions with photography to

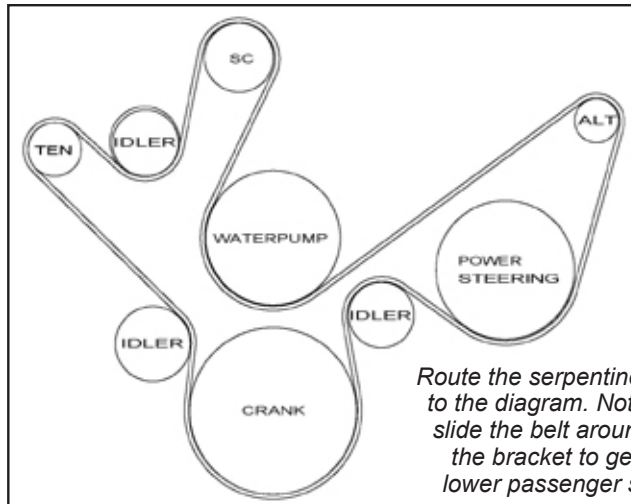
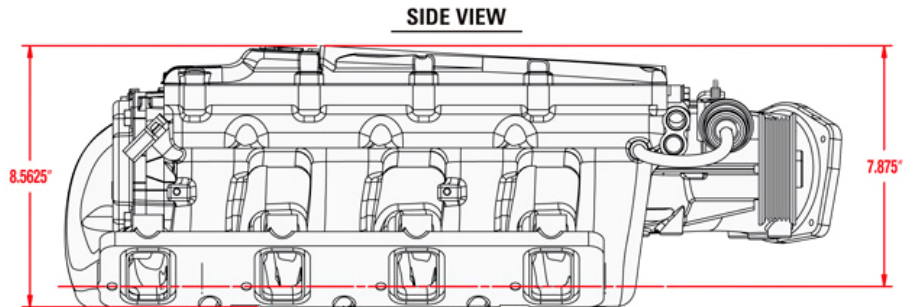
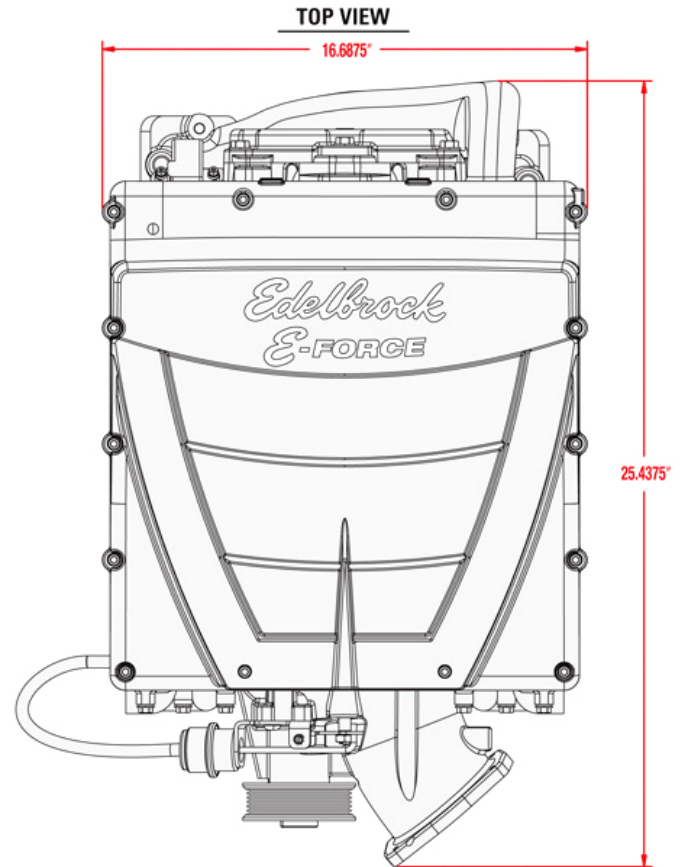
### IMPORTANT MEASUREMENTS: HOOD CLEARANCE SPECIFICATIONS FOR EDELBROCK UNIVERSAL E-FORCE SUPERCHARGERS

To ensure adequate hood clearance, check the height and length of your E-Force Supercharger prior to purchase. Lengths are from the throttle body flange to the rear of the supercharger.

Edelbrock Products  
are manufactured  
in the USA for  
unsurpassed quality.



HEIGHT FROM CRANK  
CENTER LINE TO THE TOP  
OF THE SUPERCHARGER  
HOUSING: 19.54"



Route the serpentine belt according to the diagram. Note that you must slide the belt around the bottom of the bracket to get the belt on the lower passenger side idler pulley.



illustrate exactly what needs to be done to eliminate all questions. Want to read this procedure before you decide to make a purchase, lost your originals, or just want extra copies? We include a [PDF of the instructions](#) on every Supercharger product page. Just click on the instructions tab to download the PDF and print the instructions, or keep them saved digitally for quick reference.

When the installation is complete, your Supercharger will fit under the hood of your Corvette like it was designed by the factory to be there. You can cruise through town without even noticing a difference. It will not be until you open the throttle that you will notice that extra kick of power. At this point, the new programming will kick in and your additional horsepower will come to life.

### Bang for Your Buck

The investment in Supercharger can be a big step. However, when we break down what you're actually getting for your money, the horsepower-to-dollar ratio is in your Corvette's favor to go with a Supercharger. For example, a typical performance upgrade such as a cat-back exhaust can cost between \$900 and \$3,000 and return you around 5% to 15% more horsepower. The E-Force is capable of producing 150% more on demand horsepower.

	Supercharger	Cat-Back Exhaust	Cold Air Intake	Turbocharger	High Flow Air Filter	Headers	Camshaft	Ratio Rockers
Estimated Horsepower Gain	165	20	15	200	2	25	40	12
Dollars per Horsepower	\$48.00	\$90.00	\$20.00	\$62.50	\$0.04	\$60.00	\$7.50	\$54.17
Average Cost	\$8,000.00	\$1,800.00	\$300.00	\$12,500.00	\$50.00	\$1,500.00	\$300.00	\$649.99

### Warranty

The good news is Edelbrock warrants each new Supercharger kit to be free from defects in both workmanship and material for three years from the date of purchase. It does however only cover the Supercharger itself and not any labor or costs related to the installation. Often the question is raised if installing this product voids factory warranties. The official answer would be yes, your factory warranty is not valid after a Supercharger is installed. The real question is, what is the likelihood that you'll use the factory warranty? Typically, it expires without being used. When interviewing Edelbrock's sales managers, they stated that they don't recall ever seeing an engine failure with their supercharger installed that had a voided warranty. For additional peace of mind, Edelbrock offers a supplemental warranty program that will cover your vehicle, beyond what your factory warranty offered.





### Street Legal and Environmentally Friendly

Worried about harming the environment? How about passing Emissions? Staying legal and protecting the environment are not issues when installing a E-Force. The E-Force is 50-state legal. Edelbrock received a blanket Executive Order (E.O.) number (D-215-85) from the California Air Resources Board (C.A.R.B.) for all E-Force Supercharger Systems granting an exemption from the prohibitions of Section 27156 of the California Vehicle Code thereby making these systems completely street legal.

So if more power is what you're after, the E-Force Supercharger is a great way to get hard-hitting power when you want it and keep the daily drive when you don't.



### Dry Sump

It is crucial when selecting your supercharger that you determine whether your car came with a wet sump engine or dry sump engine. If you own a C6 Z06 or ZR1 your car came with a dry sump engine. C6 Grand Sports had dry sumps. If you have a C7 with the Z51 package you will also have a dry sump engine. To determine if your car has a dry sump check to see if your Corvette has an oil tank on the passenger side near the firewall. If your Corvette's oil fill is through an oil fill tube into the valve cover, then your Corvette has a wet sump engine.

**A:** Air inlet to dry sump (front), **B:** Valve covers to dry sump (rear), **C:** PCV to fitting on bottom of air inlet, behind throttle body, **D:** Auxiliary hose & tee fitting: From auxiliary dry sump tank to "B" hose.

