



EDELBROCK E-FORCE RPM SUPERCHARGED SMALL BLOCK CHEVROLET CRATE ENGINES Part #46500, 46501, 46700 GENERAL INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before beginning this installation. If you have any questions, please call our **Technical Hotline at: 1-800-416-8628**, 7:00 am - 5:00 pm, Pacific Standard Time, Monday through Friday.

IMPORTANT NOTE: Proper installation is the responsibility of the installer. Improper installation will void your warranty and may result in poor performance and engine or vehicle damage.

IMPORTANT: This instruction sheet provides general installation guidelines which can affect your warranty. Read it carefully. It is not our intent to cover each detail of installation here as the procedures are vehicle specific. We want to caution you that installing an engine is a complicated procedure that requires a good general knowledge of automotive mechanics. It is a good idea to refer to the factory service manual for your vehicle. If you are not confident that you can complete the engine installation successfully, we suggest you consider having it installed by an experienced mechanic.

CAUTION: This engine is NOT INTENDED for marine use.

DESCRIPTION: Your new E-Force RPM supercharged crate engine is assembled using all new parts. The short block is from General Motors and Edelbrock Power Package components and an Edelbrock E-Force Supercharger Kit have been installed by trained technicians at Edelbrock. The engine has an operating range from 1500 to 6500 rpm, and a torque converter with a stall speed of 1800 to 2200 rpm is recommended. Use of a torque converter with a stall speed greater than recommended can cause significant power loss and damage to various drivetrain components. Engines 46500 & 46501 feature a supercharger kit for standard v-belt drive accessories. Engine 46700 features a supercharger kit designed for use with Billet Specialties' Tru-Trac pulley system. **An accessory drive belt is NOT INCLUDED** in this application. Depending upon the accessories being used (a/c, power steering, etc), you will need to select a proper belt. In our testing, a 13/16" wide x 94.5" long belt (Goodyear Gatorback #4060945 or NAPA #25-060938) fit appropriately when using all accessories (alternator, air conditioning, and power steering). See provided Supercharger Kit installation instructions for more details.

INSTALLATION NOTES: There is no oil in your engine. E-Force Supercharged engines use a right side dipstick only. Remove any paint from engine mount bosses, cylinder block to clutch housing or transmission mounting surface, and crankshaft flange before installing engine.

ENGINE OIL: Your engine is supplied with Edelbrock Break-In Oil in the crate. Before starting engine, you will need to prime the oil system. **Do not turn engine over with starter motor for priming.** You will need to mark distributor, as it comes preset on #1 cylinder. Then, remove and use a priming tool to turn pump shaft. This tool can be purchased at your Speed Shop. Change the engine oil no more than 300 miles after break-in. **Vic Edelbrock** recommends Edelbrock Zinc Enhanced 10w40 motor oil (#1073 1qt.; #1083 case of 12 qts.) to be used with this engine in most climates to provide the necessary wear protection that is no longer found in most conventional oils. This special formulation has been developed specifically to enhance the longevity and performance of both classic and modern V8 engines.

THROTTLE BRACKETS: Due to the design of the supercharged engine, stock Chevrolet throttle brackets will not fit. Use a bracket designed to mount to the rear bolts of the carburetor.

EXHAUST SYSTEMS: It is to your advantage to install headers and a good free flowing muffler system. E-Force RPM Supercharged engines must use headers and a free-flowing muffler system.

FLYWHEELS AND FLEXPLATES: E-Force RPM engines use special flexplates or flywheels for one-piece seal engines (late model type). See below for other applicable GM flexplates or flywheels.

E-FORCE RPM SUPERCHARGED ENGINES USE FLEXPLATES OR FLYWHEELS FOR ONE-PIECE CRANKSEAL ENGINES

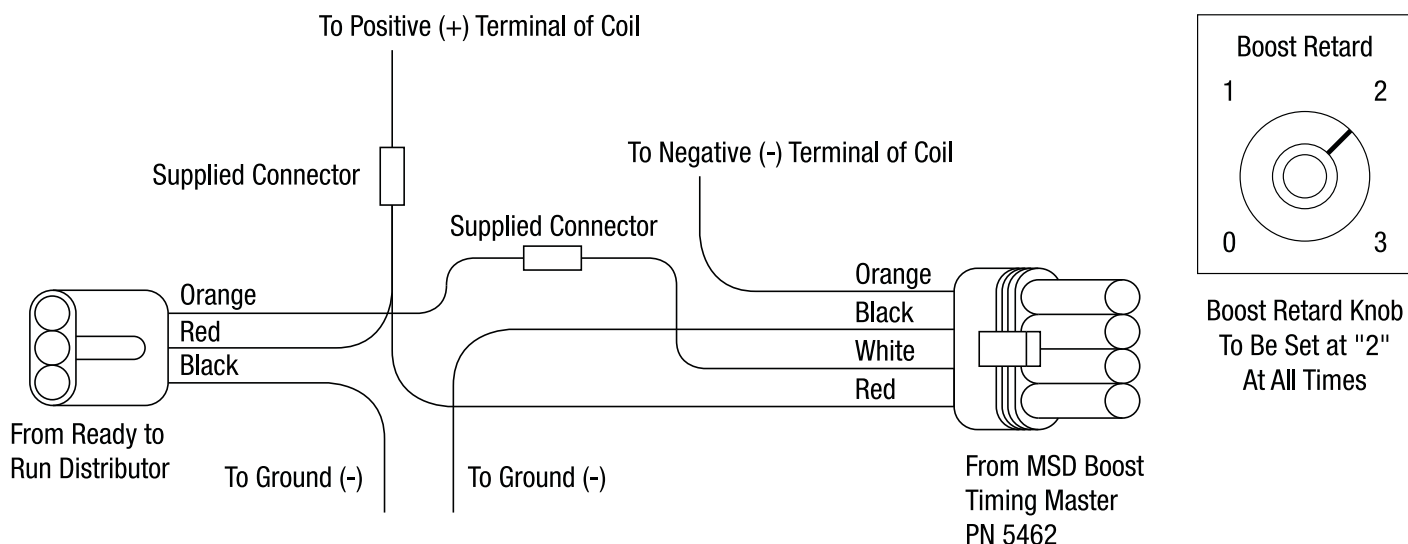
Flex Plates:

GM Part Numbers	Outside Diameter	Converter Bolt Pattern	Starter Ring Gear Tooth
14088761	14"	10.75, 11.50	168

Flywheels:

GM Part Numbers	Outside Diameter	Clutch Bolt Pattern	Starter Ring Gear Tooth
14088650	12 3/4"	10.4	153
10105832	14"	11.0, 11.85	168

BOOST AND IGNITION TIMING: Supercharged engines require the total timing to be reduced as compared to a naturally aspirated engine. The general rule of thumb is to retard timing by two degrees (2°) per pound of boost pressure. The E-Force RPM Supercharged engine is designed to run at approximately 5 lbs. of boost. This would indicate that you retard total timing by 10°. Doing so however, could cause hard starting problems unless the advance curve is adjusted to allow you to run a normal initial timing setting. Initial timing should be set between 10°-14° before TDC (typically). The supplied MSD distributor comes with a preset advance curve with an initial setting of 10 to 12 degrees and approximately 36 degrees total timing. Edelbrock recommends the use of a boost dependent timing retard device with the E-Force RPM crate engine. We recommend the MSD Boost Timing Master (MSD Part #5462) which is included with your engine. This kit will allow you to run a typical advance curve for optimal performance under all conditions, in or out of boost. See the diagram below for proper connection of the Timing Master to distributor. Refer to the supplied MSD instruction sheets for other options and also distributor hook up. If the supercharger is producing less than 4-5 psi of boost, it may be necessary to tighten the sneeze valve (the large nut mounted on a spring, located at the rear of the supercharger). Use caution when adjusting this valve, as overtightening it may result in engine damage in the event of a backfire. The factory setting is to tighten the nut until 1-1/2 to 2 threads are visible at the end of the stud.



NOTE: The included MSD Boost Timing Master is pre-set for the E-Force RPM Supercharged crate engine at 2° of timing retard per pound of boost. The knob should not be adjusted to any other setting except "2".

FINAL NOTES: Install the engine assembly reversing the steps taken to remove the engine and accessories. When in doubt, refer to the factory manual. We recommend a 50-50 mix of coolant and water. We recommend a new thermostat of 160 to 180 degrees fahrenheit, along with new belts and hoses. Check all grounds and fluid levels. Spark plug recommendation is Champion RC-9YC or equivalent. Check carburetor instruction sheet for hook ups and owner's manual for tuning tips. E-Force RPM Supercharged engines require **91 octane fuel**. In some cases, it may be necessary to plug the vacuum advance from the distributor to the carburetor, to prevent detonation.

ENGINE AND CAMSHAFT RUN-IN: E-Force RPM Supercharged engines use a roller camshaft, and do NOT require a run-in procedure.

NOTE: The rotor assembly used in this supercharger includes a thin coating that may erode over time due to fuel exposure. This is completely normal and not a cause for concern.

NOTICE

**TO PROPERLY PROTECT YOUR INVESTMENT, YOU MUST SEND IN YOUR WARRANTY INFORMATION.
WARRANTY PAPERWORK IS SUPPLIED IN YOUR KIT.**



**Edelbrock LLC • 2700 California St. • Torrance, CA 90503
Tech Line: 1-800-416-8628 • Office Line: 310-781-2222**