



EDELBROCK/MUSI BIG BLOCK CHEVROLET CRATE ENGINE

555 C.I.D., 91 Octane
Part #49555 & #46555

GENERAL INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before beginning this installation. If you do not feel comfortable performing this installation, it is recommended to have the installation completed by a qualified mechanic. 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. ENGINE IS COVERED BY A 2-YEAR, UNLIMITED MILE WARRANTY. SEE SUPPLIED WARRANTY PAPERWORK FOR DETAILS.

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 Edelbrock/Musi crate engine is assembled using all new parts. The short block is from Pat Musi Performance, and Edelbrock Victor series components have been installed by trained technicians. The Edelbrock/Musi engine has an operating range from 1500 to 6500 rpm, and a torque converter with a stall speed of 2000 to 2500 rpm is recommended for street use. Use of a torque converter with a stall speed greater than recommended can cause significant power loss and damage to various drivetrain components.

INSTALLATION NOTES: **There is no oil in your engine.** The dipstick is included with the supplied oil pan. 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.

FLYWHEELS AND FLEXPLATES: Your Edelbrock/Musi engine is internally (neutral) balanced. Manual transmission applications should use a high performance, SFI certified, aluminum or steel flywheel. Automatic transmission applications should use a high performance, SFI certified flexplate.

EXHAUST SYSTEMS: It is to your advantage to install headers and a good free flowing muffler system. The Edelbrock/Musi engine must use headers and a free-flowing muffler system. **The CNC machined Victor cylinder heads feature exhaust ports that are raised .750" higher than stock. In some applications, this feature may require the use of custom headers for proper chassis clearance.**

THROTTLE BRACKETS: Due to the design of Victor intake manifolds, stock Chevrolet throttle brackets will not fit. Depending on the application, an aftermarket linkage assembly or throttle bracket may be required.

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, along with new belts and hoses. Check all grounds and fluid levels. Spark plug recommendation is Champion RC-12YC or equivalent. Your MSD ignition comes with a preset advance curve and will work with an initial setting of 10 to 12 degrees (36° total timing is recommended). Check MSD instruction sheet for other options and also distributor hook up. Check carburetor/EFI instruction sheet for hook ups and owner's manual for tuning tips. This engine requires **91 octane fuel**. In some cases, it may be necessary to plug the vacuum advance from the distributor to the carburetor/throttle body, to prevent detonation. Remember to save all paperwork that you receive with your engine for future reference.

ENGINE AND CAMSHAFT RUN-IN: Edelbrock/Musi engines use a roller camshaft, and do NOT require a camshaft run-in procedure.

NOTICE

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

SPECIFICATIONS

Item	Description
Crate Engine Part No	49555 (46555*)
Horsepower	650 (675)
Torque (ft./lbs.)	650
Bore x Stroke	4.560" x 4.250"
Compression Ratio	10.0:1
Block	New Dart Big M
Crank	Scat 4340 Steel
Rods	Scat H-Beam
Piston	SRP Forged
Intake Manifold	Edelbrock Victor Jr. 454-R #2902 (#29025*)
Carburetor (Throttle Body*)	Edelbrock Thunder Series AVS #1812 (#39783*)
Cylinder Heads	Edelbrock Victor 24° #77429 <i>A356 T-6 Aluminum</i> <i>340cc Intake runner / 128cc (Raised) Exhaust Runner</i> <i>119cc Combustion Chamber</i> <i>Stainless steel 2.30" Intake / 1.90" Exhaust Valves</i>
Camshaft	Edelbrock Late Model RPM #2264 <i>.632" Intake / .648" Exhaust Lift @ Valve</i> <i>247° Intake / 258° Exhaust Duration @ .050" Lift</i> <i>112° Lobe Separation Angle</i>
Pushrods	Manley Hardened Steel
Rocker Arms	Crane Roller 1.7:1 Ratio
Hydraulic Roller Lifters	Edelbrock #97443
Timing Chain	Edelbrock #7816
Timing Chain Cover	Edelbrock #4241
Oil Pan	Moroso #20401
Oil Pump	Moroso #22185
Distributor	MSD Pro Billet #8360 (Mallory EFI*)
Valve Covers & Breather	Custom Engraved Black Finish
(Fuel Pump*)	(Edelbrock #1790*)
(Fuel Pressure Regulator*)	(Edelbrock #1729 Pre-set to 50 psi*)
(Fuel Injectors*)	(60 lbs/hr Edelbrock #3867*)

*EFI engine components and specifications are italicized and parenthesized where necessary.



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