PROJECT '47: PART TWO

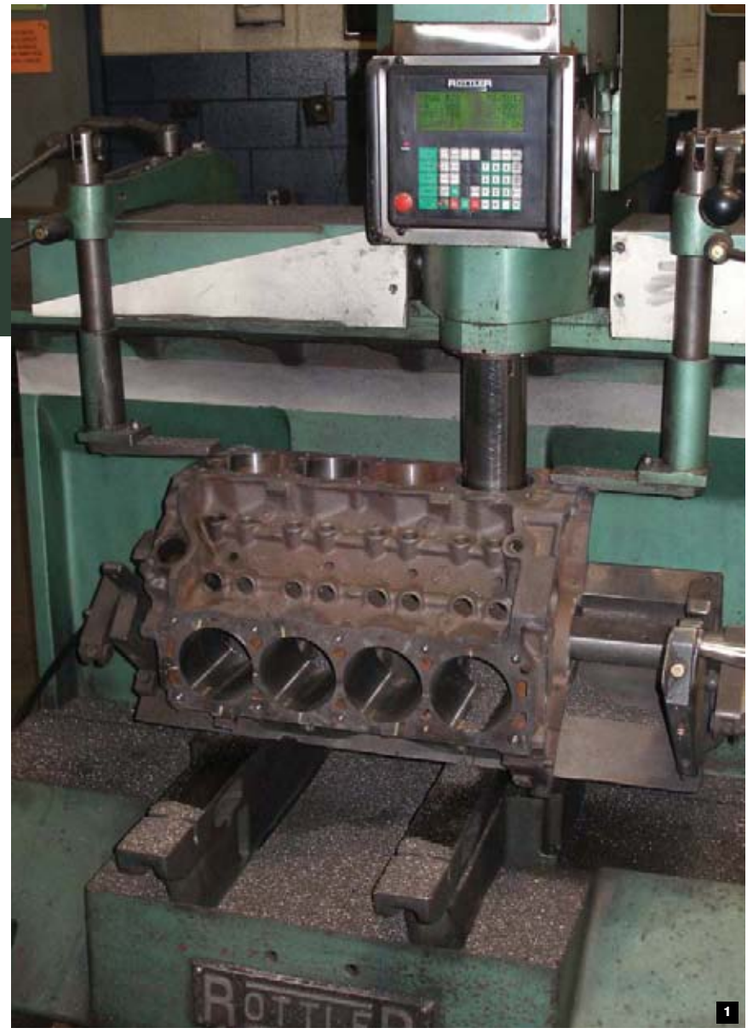
Chevs of the 40's Preps the Blueprint Engines 383 Stroker

Story by Josh Kaylor and Dan Burrill
Photography by Dan Burrill and Chevs of the 40's

Last month, we introduced the Street Rod Headquarters and Chevs of the 40's project '47 Chevrolet pickup. To quickly recap the build, owner Rob Logsdon purchased a well-worn '47 Chevrolet truck from a farmer's field for $100. From there, a Corvette C4 front and rear suspension were located for an additional $2500, and both the truck and the suspension components were then delivered to Time Machines Northwest.

Logsdon's concept for the pickup is to build the ultimate show truck to showcase many of the parts available for the very popular '47-'53 Chevy trucks. Since this will be the company truck, the plan was to use as many aftermarket components as possible to show fellow truckers what is available. To date, the truck has received the C4 Corvette front and rear suspension utilizing Flat Out Engineering components and a custom aluminum fuel tank. The chassis was powdercoated and features an impressive Blueprint Engines 383ci engine.

If you caught the completed chassis last month, you may have noticed the beautifully detailed small block sitting between the framerails. During the chassis build, Logsdon decided that the 383 Blueprint Engines stroker motor was the way to go, and as a direct retailer for Blueprint Engines, his decision was a no-brainer and made sense. After all, these engines are professionally hand-built and feature a 30-month, 50,000-mile warranty. The Blueprint 383 provides the Advanced Design pickup with nearly 400 hp and 442 lb-ft of torque, which is plenty of power for cruising, especially the fairgrounds.



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1 Starting with a clean and inspected block, the cylinder boring process is performed using a torque plate. This is how cylinder taper and ring ridge is removed from the block. Using a torque plate during the boring and honing process simulates the stress placed on the cylinders when the heads are bolted on.

During the engine build, Blueprint Engines took the time to photograph the machining process, as the company completely refurbished the Chevy four-bolt main block, machined and assembled it into a brand new horsepower monster (see sidebar for engine specs).

After receiving the Blueprint small block, Chevs of the 40's quickly began assembling the top end of the engine before paint to trial fit the aftermarket components to ensure proper fitment. Rather than try to piece together a drive system, Logsdon decided to use a Billet Specialties Tru Trac. The Tru Trac will provide the truck with the needed accessories as well as all the brackets and pulleys, plus it looks great and dresses up the front of the engine.

Street Rod Headquarters then tackled the fuel delivery system. Blueprint Engines offers only a single four-barrel combination, but Logsdon decided to swap out the single carb for the Barry Grant Six Shooter. The Six Shooter package is comprised of an aluminum intake that mounts three 250cfm Barry Grant carbs designed with the center carb being the primary carb. The front and rear carbs are operated via progressive linkage. After bolting on the fuel delivery system, the last thing left was the addition of the Sanderson block hugger headers and the 4L60E transmission.

Before installing the engine and transmission, the entire engine was stripped of all its accessories and painted a light silver to match the framerails. When dry, the crew at Time Machines Northwest reassembled the engine and bolted on the transmission and installed the assembly into the freshly powdercoated framerails. With the chassis and drivetrain complete, we now move on next issue to cover the sheetmetal and body restoration, as Time Machines Northwest works its magic on this time-worn pickup body. For now, follow along as Blueprint Engines builds a 383 stroker from the ground up. **TB**

Block
Four-bolt main block
Square and parallel decked
Align-honed main bearing bore
Cylinders honed on computer controlled machine to within .0002 straightness and roundness
Cylinders are sonic tested for thickness

Rotating Assembly
New SCAT cast crankshaft
New SCAT I-beam rods
Keith Black Hypereutetic pistons
Hastings Moly rings
Balanced rotating assembly
Melling high-volume oil pump
Flat tappet hydraulic lifter camshaft
Heavy-duty double roller timing set

Cylinder Heads
New Dart aluminum cylinder heads
1.437 diameter valve springs
Hardened retainers and springs
2.02 swirl polished intake valves
1.60 swirl polished exhaust valves
Hardened pushrods

Sources

Barry Grant Inc.
Dept. TB
1450 McDonald Rd.
Dahlonega, GA 30533
706/864-8544
www.barrygrant.com

Billet Specialties Inc.
Dept. TB
500 Shawmut Ave.
La Grange, IL 60526
800/245-5382
www.billetspecialties.com

Blueprint Engines
Dept. TB
800/483-4263
www.blueprintengines.com

Chevs of the 40's
Dept. TB
1605 NE 112th St.
Vancouver, WA 98686
800/999-2438
www.chevsofthe40s.com

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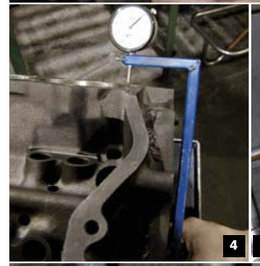
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2 After the machining process, the block is then pressure-checked to ensure there are no weak spots or cracks, as part of the sonic testing of cylinder wall thickness. **3** Decking of the block is where the deck surfaces on all Blueprint blocks are machined to ensure a leak-free seal for the cylinder heads. **4** Measuring of the deck height is part of the blueprinting process, this procedure checks the distance from the crank centerline to the top of the deck (head surface). It is checked at different locations—front and rear—on the deck surface to ensure it is parallel to the crank centerline. **5-7** After boring, each cylinder hole in the block is honed to achieve the final finish and size for each cylinder. The proper finish and straight hole will allow the piston rings to seat correctly and the engine to seal properly.


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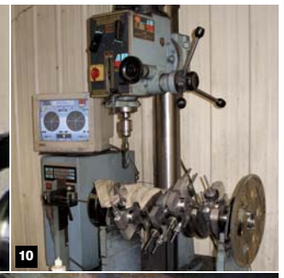
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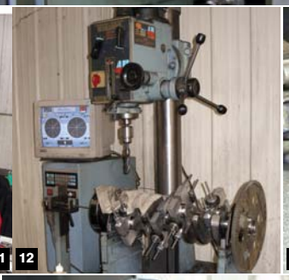
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8-12 All Blueprint engines use a balanced rotating assembly. The rods and crank are spun balanced to within 2 grams. This ensures smooth, vibration-free performance throughout the rpm band. This is also a good source of free horsepower. **13-14** Heating the connecting rods allows the installation of the pistons and wrist pins without distorting the connecting rod. **15** Another part of the blueprinting process is checking piston-to-deck height clearance. This step is critical in checking compression ratio and ensuring proper rod stroke. **16-18** Next, Blueprint cuts the valve seats on the cylinder head. All Blueprint engines use a multi-angle cut valve seat. This ensures maximum performance and allows for proper valve seating. **19** During the initial build, most Blueprint engines use a performance dual-plane aluminum intake manifold. **20** All Blueprint engines use either polished aluminum valve covers or plated steel valve covers. **21-22** Here are the assembled short blocks ready for paint. After assembly of the short block, the engine receives a coat of black engine enamel. Other colors are available upon request.


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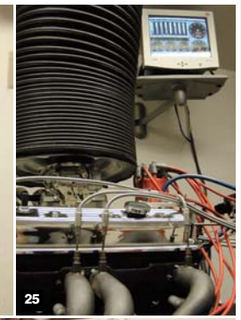
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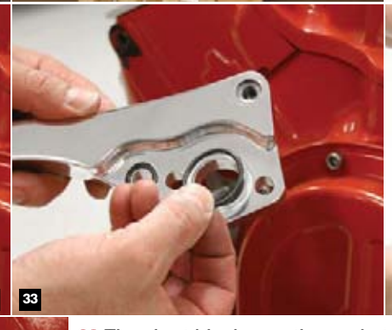
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23 The short blocks are then spin-tested to ensure proper operation of all rotating components. **24-26** Every Blueprint engine is dyno tested to ensure proper operation and establish horsepower and torque figures. **27** The finished engines are lined up waiting to go on the dyno. **28-29** Once on the dyno, final checks are made and the horsepower and torque figures are recorded and the engine is prepared for shipping. **30** Blueprint Engines has 11 warehouses with finished engines available for immediate delivery once an order is placed. **31-32** When the engine arrived at Chevs of the 40's / Street Rod Headquarters, we did a trial fit of the new Billet Specialties serpentine belt Tru Trac system that starts with installing the mounting studs. **33-35** Next comes the compressor and the alternator brackets.


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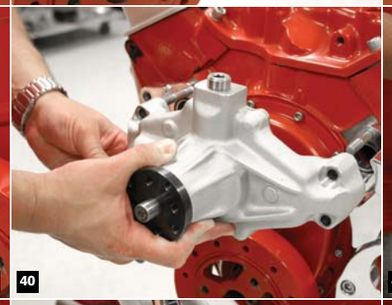
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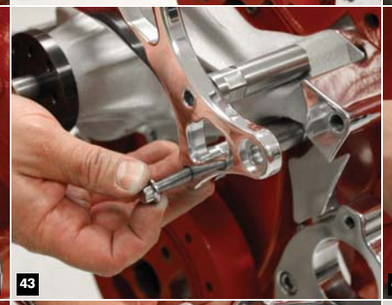
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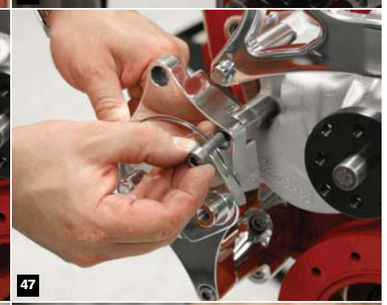
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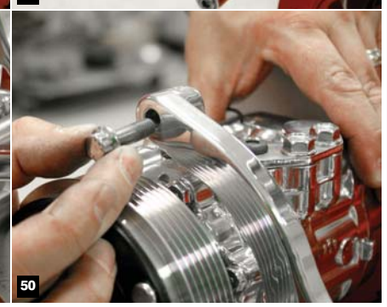
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36-38 The power steering bracket is next. **39** Then, the installers are ready for the tensioner support bracket. **40-42** They install the water pump and spacer nuts. **43-45** Here, the bridge bracket is installed. **46-47** Then, they installed the belt tensioner. **48** Next comes the power steering pump, pulley and alternator. **49-50** The A/C compressor is installed.


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51-52 The crankshaft pulley is then installed. **53** The water pump pulley is bolted up. **54** Finally, the compressor clutch cover is installed. **55-58** The serpentine belt and tensioner pulley are installed, and the belt is routed according to instruction. This is an important step. **59** The A/C compressor manifold is bolted into position. **60** The intake manifold was replaced with a Barry Grant Triple-D Induction Six Shooter aluminum manifold and a Six Shooter three-deuce carburetor system designed specifically for the small-block Chevy. **61-62** Once satisfied that everything fit as intended, it was all removed, and the engine prepped, taped and painted silver to match the chassis. With that done, it was all put back together and the engine was mounted in the chassis. Sanderson headers complete the package.

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