

By **KEN GROSS** *AutoWeek* | Updated: 08/08/07, 1:23 pm et

Seventy-five years ago, Henry Ford made automotive history by introducing an affordable V8 engine in the low-priced field. Legend has it, Mr. Ford hated Chevrolet, so he refused to have anything to do with six-cylinder engines. With all of its 16 valves located in the V8's block, the cylinder heads are flat as a pancake, hence the nickname "flathead." At its launch in 1932, with 65 hp (Chevy's six had 60 hp), Ford's 221-cid V8 made national headlines, but it was initially plagued by overheating, lubrication and reliability issues.

Other V8s of the day, usually constructed with separately cast cylinders, were not cost-efficient to build. Ford insisted on simplicity, with a one-piece block and integral cylinders. To achieve that goal, foundrymen at the giant Rouge plant had to work with some 54 cores for each new block. They had to be precisely fitted into molds before the molten iron could be poured, and 3,000 blocks per day could roll off the lines.

Unlike Cadillac's flathead V8s, in which the exhaust passages exited atop the block, adjacent to the intake manifold, Ford's design ran exhaust passages through the block, ensuring a constant supply of intense heat just where it wasn't wanted—in the engine's coolant. Henry Ford liked his engines to warm up quickly in the Michigan winters, but it was not a plus in hot weather.

Steadily improved through 1953, with millions produced, the flathead achieved acceptable reliability. Ford solved most of the flathead's ills over time, upgrading ignition, redesigning water pumps, refining carburetion and boosting displacement—to 239 cid and on to 255 cid in the '49-53 Mercury. But cooling problems persisted, especially vapor lock in summer.

From the beginning, hot rodders loved this relatively simple engine. Hundreds of manufacturers offered speed equipment for flatheads. Bored and stroked, with wilder camshafts and multiple carburetors, hot flatheads ruled street and strip until the mid-'50s, even holding their own against bigger, heavier Cadillac and Chrysler overhead-valve designs. Ford Motor Company introduced its own Y-block OHV V8 in 1954; a year later, the all-new, lightweight, high-winding Chevy small-block V8 was the handwriting on the wall.

By the early 1960s, the flathead was a nostalgic curio, but the story doesn't end there. Mark Kirby, a talented machinist, started his career at General Motors' HydraMatic, then worked for transmission whiz Doug Nash. When he rebuilt the engine in his '47 Ford, Kirby became certain he could drastically improve Henry Ford's venerable power plant to rival modern overhead-valve engines.

Using a flow bench to optimize and reshape the flathead's narrow intake passages, Kirby and induction expert Paul Schalk experimented with valve sizes and angles. Kirby developed a full-flow oiling system, improved head studs and then designed his own manifolds, camshafts and finned, high-compression cylinder heads.

Kirby's flatheads weren't teakettles. He insisted old blocks had to be perfectly clean. He's found original core sand in used blocks. "You've got to get that stuff out before you can ever hope to run cool," he advises. Kirby uses modern ARP fasteners to screw cylinder heads tightly to the blocks. "If you have slightest leak, and you overtighten the heads on old-style studs, it'll boil." Careful machining, head and block decking and meticulous port matching help, too.

Kirby initially built reliable bone stock engines for Early Ford V8 Club members. But his specialty became nostalgia hot-rod motors, topped with venerated go-fast goodies from Sharp, Eddie Meyer, Thickstun and Grancor. Kirby's biggest seller was a 276-cid or 286-cid flathead with "three deuces, a lumpy idle cam, electronic ignition and lots of polish. It runs cool, looks great, puts out 160 to 180 hp," he claims, "and has as much torque as a 350-cid [ohv Chevy] small-block."

His most frequent customers are "baby boomers who've made it; they're reliving their childhoods in the hot rods they always wanted." Kirby's clientele includes TV and movie star Tim Allen and Crain Communications chairman Keith Crain. "The flathead was the first mass-produced high-performance V8," Kirby cheerfully reminds anyone who questions why an "obsolete" engine last mass-produced in this country 54 years ago still has any relevance. "These modular motors today," he says with a snort, "you have to be an electrical genius to change 'em. But anybody can hop up a flathead."

A few years ago, Kirby got in early on a remarkable stash of new and used, carefully maintained flathead engines. Commissioned by the French military for four-wheel-drive vehicles, these blocks were improved with thicker decks and stronger internals, but they suffered from reduced intake and exhaust ports, (for higher torque to power a 4wd army truck). Though the French blocks weren't ideal, enthusiasts quickly bought them up. Kirby began thinking about designing an entirely new flathead, incorporating everything he'd learned.

He was sidelined with a heart condition in 2000. After recovering, he teamed up with Jon Hall from Shadow Rods in Saginaw, Michigan, and created an all-new flathead block that resembles Henry Ford's old boiler but improves on it in every way ([www.motorcityspeedequipment.com](http://www.motorcityspeedequipment.com)). The born-again flatty comes standard with a 3.5-inch bore and eighth-inch-thick cylinder walls, with insert sleeves. Pre-clearanced for crankshafts up to four and three-eighths inches, the born-again flathead permits displacements up to 339 cid. Henry Ford's original plans for the engine were long gone, so a top-tier Detroit foundry had to reverse-engineer an old block to figure out how to cast the new ones.

This new flathead boasts oversized valves, permanent pressed-in valve guides, modern mushroom lifters and a reinforced lower end with bigger webs. The bell housing accepts adapters for popular four- and five-speeds, many automatics, even early Ford gearboxes. Updated Ford-style water pumps and an MSD electronic distributor fit perfectly on the 8BA-style front.

Best of all, this new block looks basically stock, so it can be used by restorers or rodders. Kirby anticipates a 300-hp street engine with 375 lb-ft of torque. There's no official price yet, but it's anticipated a complete, ready-to-run crate motor, with Motor City's finned heads and Kirby's own high-rise intake, plus a trick alternator (it resembles an old Ford generator), will be about \$12,000. Last January, Kirby fired up his first completed engine at the Grand National Roadster Show in Pomona. Honestly, some of the older guys


were in tears.

Eat your hearts out, Chevy guys, the flathead is back!

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⊕ZOOM

Henry tinkers with his mystical motor.

Ford's  
Fabulous  
Flathead

The  
engine  
that  
just  
won't  
die