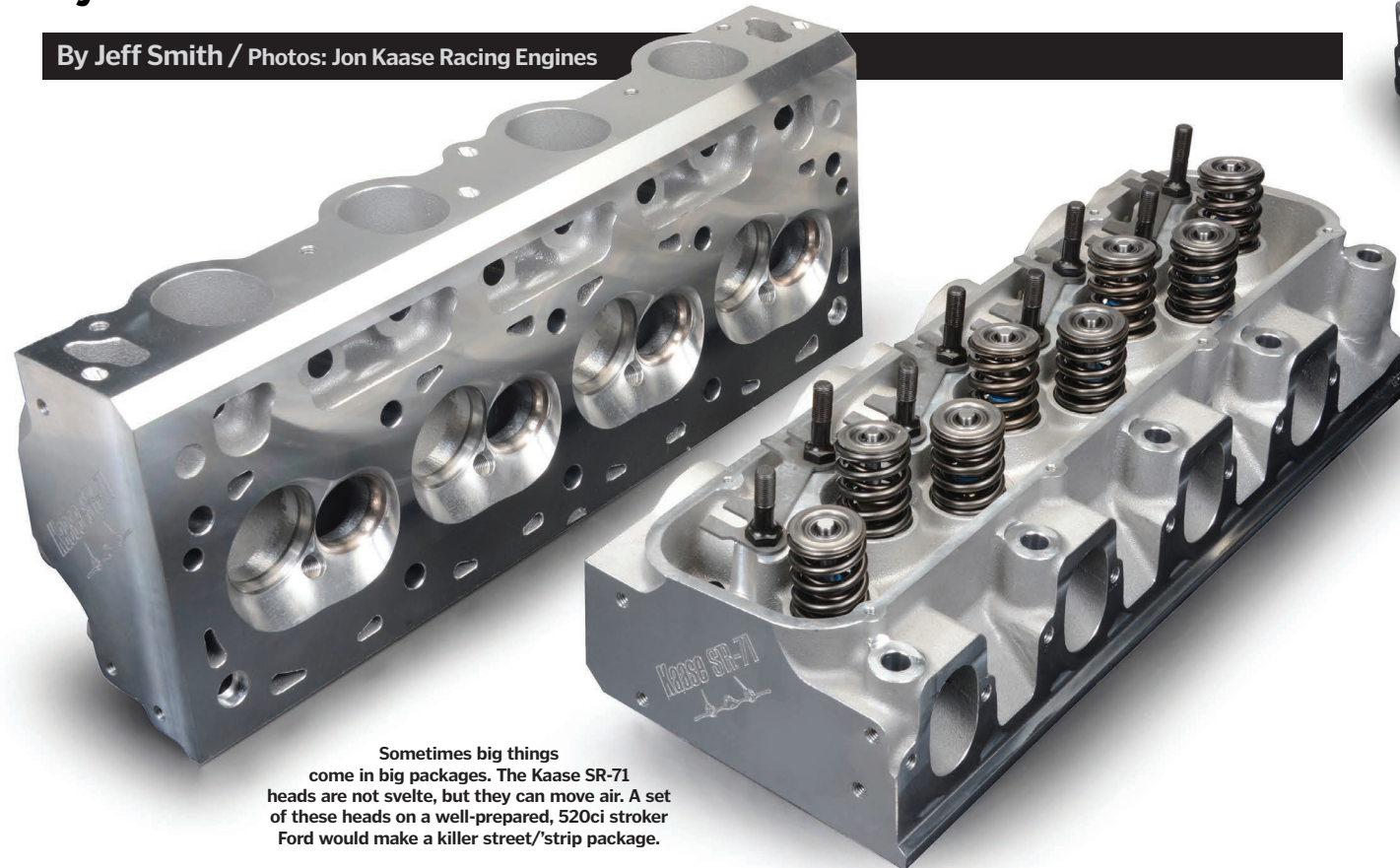


BIG BOSS

Kaase Raises the Bar With New SR-71 Big-Block Ford Cylinder Heads

By Jeff Smith / Photos: Jon Kaase Racing Engines



Sometimes big things come in big packages. The Kaase SR-71 heads are not svelte, but they can move air. A set of these heads on a well-prepared, 520ci stroker Ford would make a killer street/strip package.

Even if you're not an aviation fan, everyone knows the SR-71: the U.S. reconnaissance jet that flies higher and faster than just about anything short of a moon shot. Jon Kaase didn't choose this name for his new big-block Ford cylinder head just because it sounded cool. This cylinder head is that good. Kaase (pronounced *Kah-zee*) is a soft-spoken guy; he'd rather let his accomplishments make statements loud enough to be heard over the exhaust note that emanates from behind the dyno doors at Jon Kaase Racing Engines (JKRE).

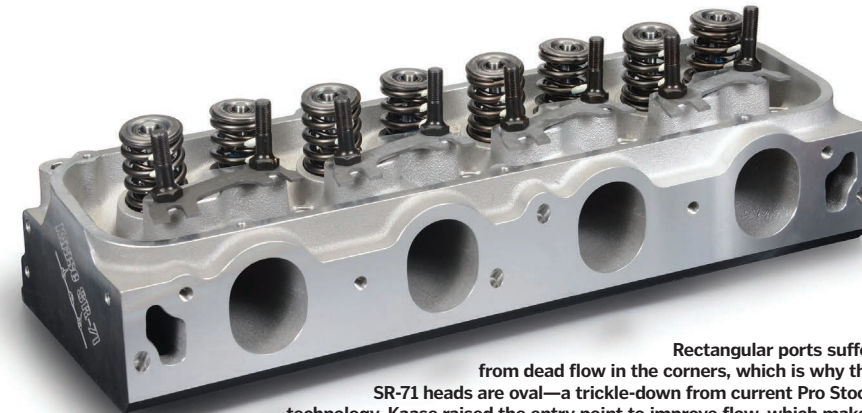
This is not Kaase's first 429/460 wedge shot. In fact, if you count his first cylinder-head deal with Ford Racing, this would be his third time around. His previous P-51 effort (do you sense an aviation theme here?) is no slouch,

but Kaase knew it left opportunities on the table. While custom valve angles and raised intake ports will instantly improve flow, those approaches are best left to race engines, because they also demand custom piston valve reliefs along with one-off intake and exhaust flanges that won't sell in the street market. So the 2.375- and 1.760-inch stainless-steel intake and exhaust valves are locked in with CHE bronze guides at the Super Cobra Jet angles in a 70cc chamber. But that left plenty of room for some port magic.

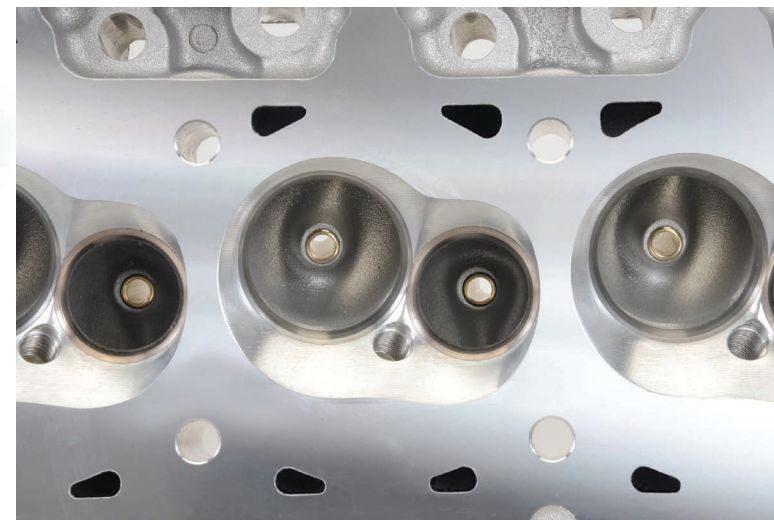
A tall, short-side radius is one key to improved intake port flow, so Kaase raised the floor entry and the roof as much as possible, making the bowl entry area tall. This meant moving water jackets, but that's the beauty of designing a whole new head. The

intake ports are also raised to improve the entry angle to the valve, but the SR-71 retains the stock Super Cobra Jet intake mounting pattern by widening the heads slightly. The stock Ford valve-cover pattern is retained, although it has been tweaked slightly to improve exhaust valvespring clearance.

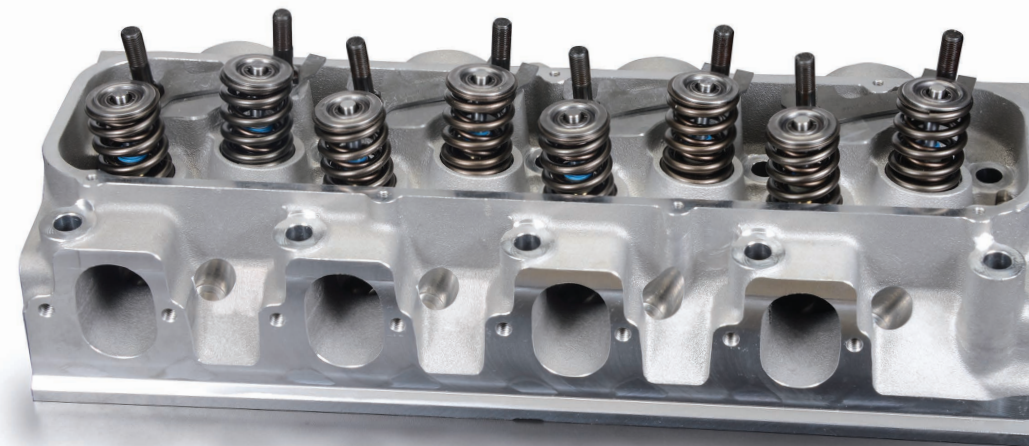
The SR-71 heads are completely in-house machined on Kaase's Hurco five-axis CNC machine and offer what JKRE calls "ported as-cast" with flow numbers exceeding 400 cfm on the intake side. Kaase doesn't place much emphasis on flow-bench numbers. His racing-engine experience has proved that as flow numbers get larger, they also quickly become misleading. He prefers to rely on horsepower and torque dyno numbers.



Rectangular ports suffer from dead flow in the corners, which is why the SR-71 heads are oval—a trickle-down from current Pro Stock technology. Kaase raised the entry point to improve flow, which makes the heads a little wide but allows using a Super Cobra Jet pattern intake.



The 2.375- and 1.76-inch stainless valves are huge to take advantage of the superior Kaase port designs. Also note the more centralized spark-plug location. As chamber design and plug location improve, this reduces the amount of ignition lead required.



The exhaust ports retain the stock Ford pattern and location, and the SR-71 heads will be offered with dual springs for either hydraulic roller or mechanical roller camshafts. The mechanical roller heads will come with Manley NexTek dual springs with a seat load of 235 pounds at 1.950-inch installed height.

ON THE DYNO

RPM	TQ	HP
6,400	899	1,095
6,600	894	1,123
6,800	870	1,126
7,000	874	1,164
7,200	864	1,184
7,400	854	1,203
7,600	833	1,205
7,800	811	1,205
8,000	804	1,224

To prove the point, on one of JKRE's 598ci shop engines, a set of these SR-71 heads pushed the horsepower peak to 1,224 hp at 8,000 rpm. These are serious normally aspirated wedge engine power numbers. This could put a conservative 520ci big-block stroker easily at 750 hp on pump gas. What this really shows is that these new heads can flow some serious air. If you go the SR-71 route, plan on also investing in bigger tires. 🏁



Just so there's no confusion, Kaase mills his SR-71 logo right into the end of the head.

→SOURCE

Jon Kaase Racing Engines; 770/ 307-0241; JonKaaseRacingEngines.com