the header tube enlarges, it enables the exhaust gases to expand more readily, and pressure drops. By stepping the tubes in sequence, the gases are unable to return to the smaller tube, thus thwarting reversion. Our step headers began with a small 1½-inch tube, stepping only once to 1⅝-inch. The extra small primary is intended to boost velocity, offering more scavenging than the typical 1⅝-inch header that would normally be used in the same application. However, our testing showed no gain over standard 1⅝-inch tubes, though later analysis pointed to a testing flaw: We began our dyno pulls at 3,000 rpm, and the benefits of the step design would have probably showed up down low. The fact that the step headers, with the smaller 1½-inch primary tubes, didn't diminish power supports this theory.

Up to this point, all headers had been tested with an exhaust system consisting of straight pipes and three-chamber Flowmaster mufflers, so we took the opportunity to test exhaust crossover tubes while we were at it. First, the engine was outfitted with the 1⅝-inch headers, to replicate a typical street car, and then an H-pipe was installed ahead of the mufflers. Peak torque jumped from 419 to 427 lb-ft, while the horsepower peak rose from 397 to 399. The X-pipe is manufactured by Dr. Gas, and ours came from Spin Tech Performance Mufflers in Riverside, California. Spin Tech manufactures its own high-flow mufflers for street and race applications, as well as distributing other performance exhaust components. The X-pipe system fabbed for us by Spin Tech cost a touch of horsepower on top, but added a bunch down low. At 3,000 rpm, horsepower went from 219 to 231 while torque zoomed from 384 to 404 lb-ft. In applications where constant high rpm operation is the norm, like circle-track racing, the X-pipe shines. Some engine builders have told us the scavenging increased so much with the X that cam profiling had to be adjusted to reduce overlap. The exhaust note also changes noticeably to a higher