

EXHAUSTIVE R

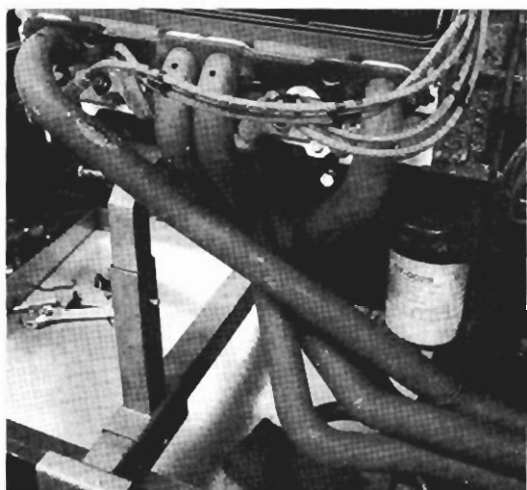
Putting Theory to the Test

We imagined keyboards clicking furiously; e-mails shooting in from around the globe lambasting us for preaching the science of exhaust technology without providing cold,

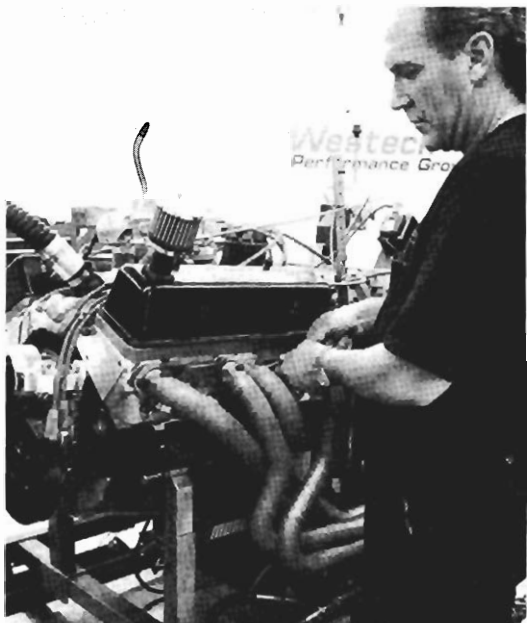
BY TERRY MCGEAN

hard evidence from the real world. The thought motivated us and the premise was clear: take a garden-variety performance engine, outfit it with several sets of headers, and chart the results. Any tuning changes necessitated by the header change would be duly noted.

It should surprise no one that we used a small-block Chevrolet for its popularity and because of the vast assortment of pipes available for it. Ours was a typical recipe: 355 cubes, 9:1 compression, aluminum 23-degree Trick Flow heads with 2.02/1.60-inch valves, and a Comp Cams Magnum 286 flat-tappet hydraulic cam (236/236 degrees at 0.050-inch lift, 0.490/0.490-inch lift, 110-degree lobe center). For this comparison test, the engine would be fed by an Edelbrock Performer



We began our comparison with the smallest tube design. Hooker's 1½-inch headers are a popular entry level offering and are well suited to a mild small-block. The rule of thumb dictates a header with a primary tube size no smaller than the exhaust valve seat, and even with the "small" headers, our test engine's 1.60-inch exhaust valves were already smaller than the 1.625-inch primary tubes. The peak horsepower figure of 397.2 at 5,700 rpm and 419.9 lb-ft of torque at 4,300 rpm represented a healthy baseline for the test.



Hooker Super Competition headers have 1½-inch primaries and, despite their larger tubes, are easy to bolt to the engine, though fitting them in an engine bay would likely be more difficult than the 1½-inch header. The Super Comps are classified as good street/strip headers for a mild small-block, offering an excellent compromise between standard tubes and race designs. In theory, these headers should have been larger than our engine would have liked, but they gave favorable response, showing gains in horsepower and torque for the entire tested curve (3,000-6,000 rpm), with peaks of 405.6 hp at 5,800 and 422 lb-ft at 4,300 rpm.