

A little slicing here and there, and you can put V8 heads on six-bangers — either straight or V-type

Text and photos by John Thawley ■ The ingenious hot rodder is still around; he's just harder to find under that avalanche of readily available bolt-on goodies which are vacuum-packed and sold everywhere but the corner drug store. Here are a couple of examples which show the merits of thinking for yourself in an effort to gain some more horsepower. The first bit of "head surgery" is the handiwork of Brian Chuchua, major-domo of the Jeep world of Southern California. Realizing that the Jeep V6 once belonged to Buick and that many of the parts were interchangeable with the Buick V8, Brian went to work to determine the best parts-swapping route to more horsepower.

With a bit of measuring, it was determined that "the plan" was to take a pair of 340 Buick V8 heads, lock them in a mechanical hacksaw, and eliminate one combustion chamber. Seal off the hole with a piece of gasket material and a plate, reroute one oil line, and go racing.

A little slower, please? Okay. The heads on the 340-cubic-inch Buick V8 use an intake valve $\frac{1}{8}$ -inch larger than the V6,

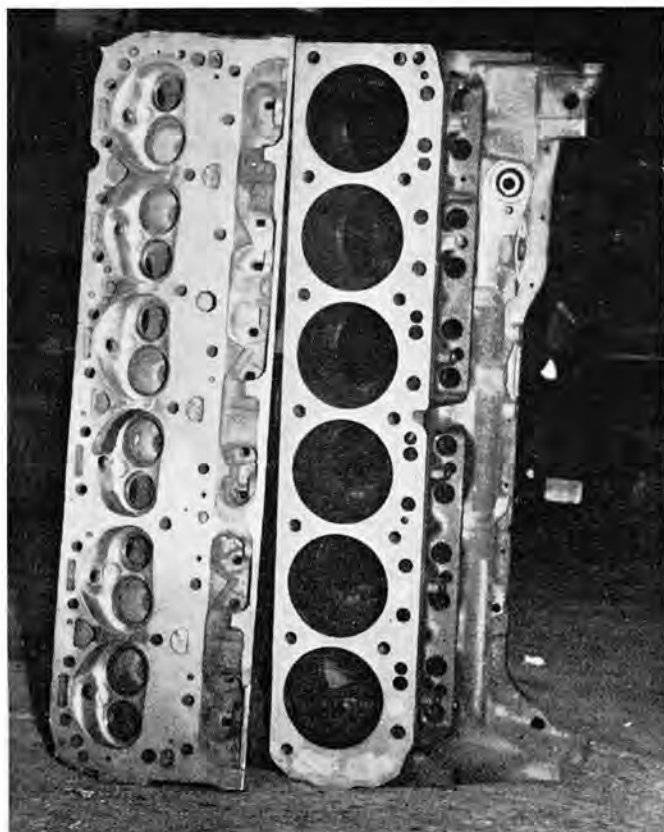
and the intake ports are $\frac{1}{4}$ -inch longer and $\frac{1}{8}$ -inch wider. Additionally, the 340 V8 pistons supply a compression ratio of 11-to-1, as compared with the pistons of the V6, which supply a compression ratio of 9-to-1.

So with the end combustion chamber cut from a pair of V8 heads, and a set of V8 pistons, you can pick up a gang of horsepower. Simply turn the heads over to a machine shop and have them hacksaw off the one chamber on each head. Fabricate a gasket and plate to make a water seal — Brian did this with a piece of $\frac{1}{8}$ -inch aluminum plate attached to the head with machine screws. On the passenger's side of the block, tap the front oil passage, install a $\frac{1}{8}$ -inch pipe fitting plug, and grind this flush with the deck surface.

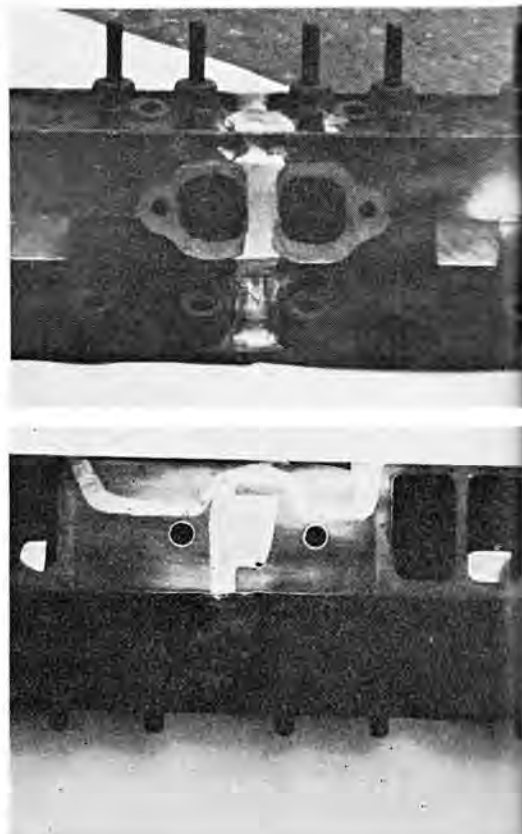
Drill and tap two holes inside the lifter gallery in order to route oil from the front of the block to the rear. Using the V6 valve covers as templates, drill and tap the V8 heads for the V6 valve cover bolt pattern.

How much does this relatively simple modification help performance? By using just the V8 heads (and not the pistons),

HEAD SURGERY



When the job is done, the Chevy V8 heads on the six-banger appear normal. Don't be misled — this is no job for the casual engine builder. Notice how holes in block must be plugged. Bolt pattern of head is used. Construction shots show how brass is flowed in to make the joint. Seam could also be arced. Pushrods will now hang outboard of the engine block, which means special side cover and valve cover must be fabricated. Intake system must now be made. Injectors or sidedraft Webers would be the natural choice here. Magneto drive must also be made up and can be driven from crank's nose.



one Jeep that we know of went from a best e.t. of 14.40 to 13.60 and from 89 to 101 miles per hour. Best of all was the fact that it passed AHRA tech—since the rule allowed the use of a stock head but failed to specify how much of a stock head. At any rate, this works, and there are a number of Jeep owners who are happy with the combination. The last time we saw Chuchua, he was looking at a 340 V8 crank—trying to figure out how to cut it down to V6 size, since the V8 has ¼-inch more stroke than the V6.

The second operation is far more involved. Kay Sissell—the current and perennial NHRA e.t. record holder with his E/A Competition Eliminator roadster—is the man behind this surgery, which involves putting two small-block Chevrolet heads on a Chevy six. Kay has not yet completed his work on the installation, but he has helped some Canadian competitors along with the same modification, and they report that the combination works like “Jack the Bear.” Apparently, if Kay wants to hold onto the record, he’d better get double busy.

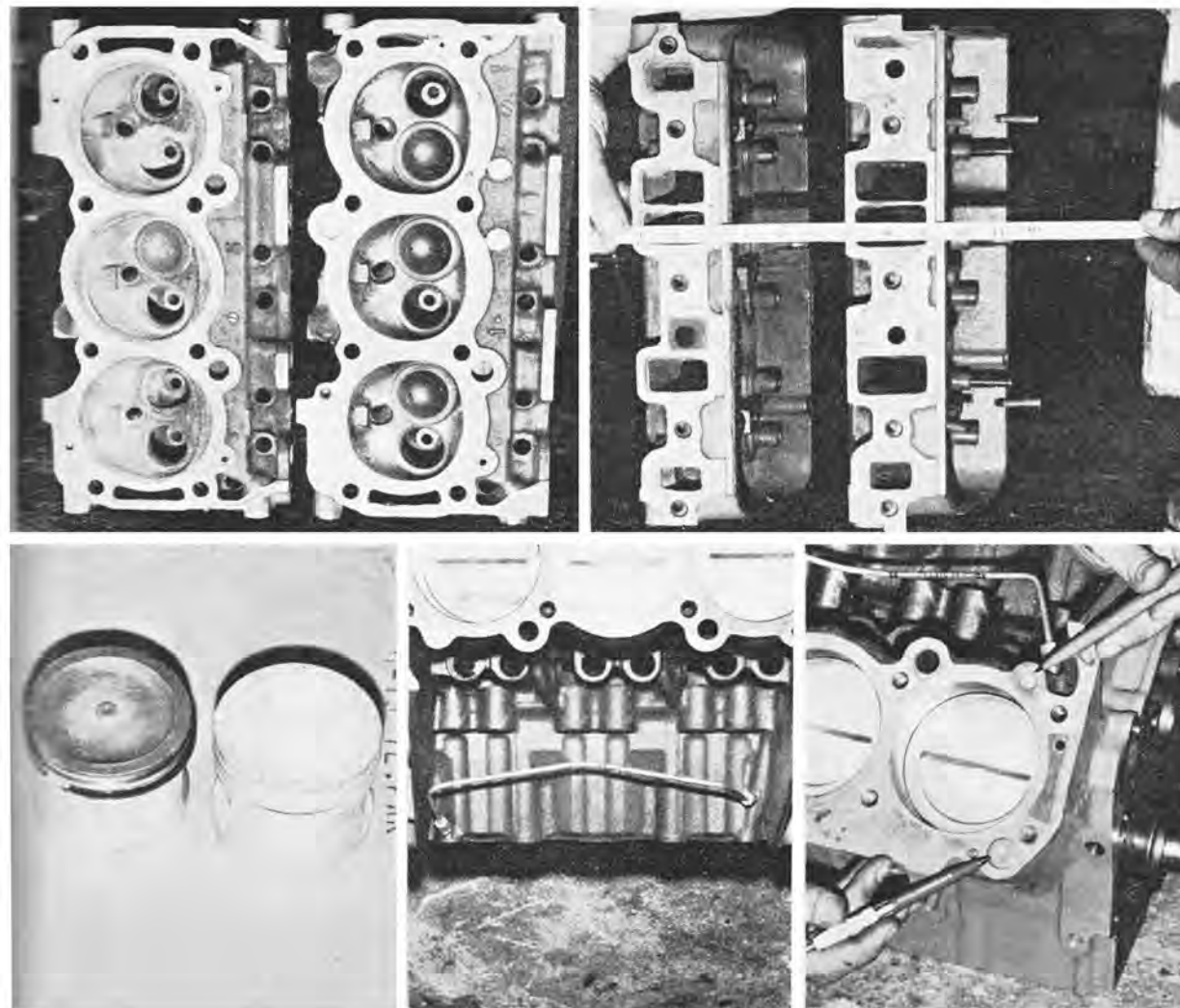
Any of the Chevy six blocks from 194 inches on up may be used, and any of the small-block Chevy V8 heads may be used. First off, there are some holes which need to be brazed up in the block; the water return holes on the left side of the block get plugged, since some new bolts will pass this way, and we don’t need any weak areas to be used to tie down increased horsepower.

The heads may be sliced two different ways. Kay reports the Canadians took one chamber from each head and then

had the pieces arced together. The Sissell head is fabricated by slicing the tip end from one head and two chambers from another and joining them by furnace brazing. Only time will tell if one method is better than the other. During the joining process, the two parts must be held together in rigid alignment, and for this you’ll have to fabricate an alignment fixture. Kay reports that a cut of less than .005-inch was needed to true up the surface of the fabricated head after joining the two pieces.

Special side covers must be fabricated, since the pushrods will hang out of the hole now covered by the stock Chevy six side cover. The pushrods for this engine must also be made up—no big deal, but this is something you should know. A valve cover must also be fabricated, since the Chevy six cover won’t fit. Injectors or an intake manifold must be fabricated, along with a “one off” set of headers. Because of manifold interference, the mag must be driven off the end of the crank and, to retain the right-hand drive common to most mags, the unit must be set at 90 degrees to the crankshaft—more fabrication. One of the easier, but necessary, tasks is that of using the new head as a drill jig and redrilling the block for the V8 head pattern.

About now you’re probably wondering if the end result is worth all the trouble. This is questionable, since you certainly wouldn’t go to all this bother for a street engine with just an occasional blast at competition. But for a competition engine with a National Record at stake . . . ■ ■



Larger valves and ports from V8 head are readily apparent in comparison shots. Notice how the aluminum plate has been sandwiched between head and the end sliced from the V8 head. Thus the V6 valve cover fits, and the finished job has a factory appearance. While the engine is torn down, V8 pistons could be installed for more compression. Note the difference in the dish. V8 piston is on the right. The installation of the oil line is a must. This is done on the right side of the block only. Notice also where the block must be plugged in order for water passages to mate. Performance climbs rapidly due to the deeper breathing provided through larger valves and larger intake ports. V6 exhaust system bolts right on.