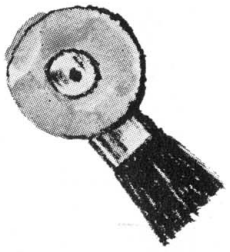
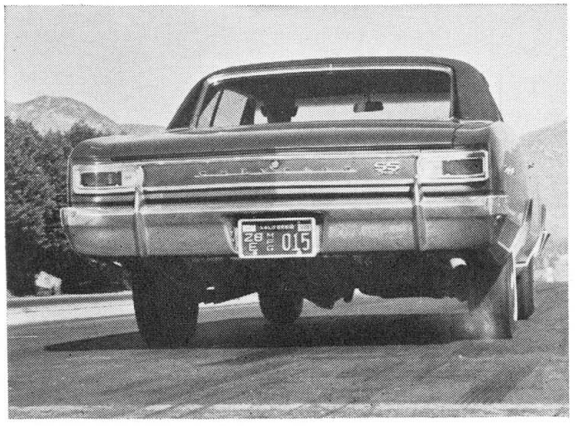
Tale of a Chevelle



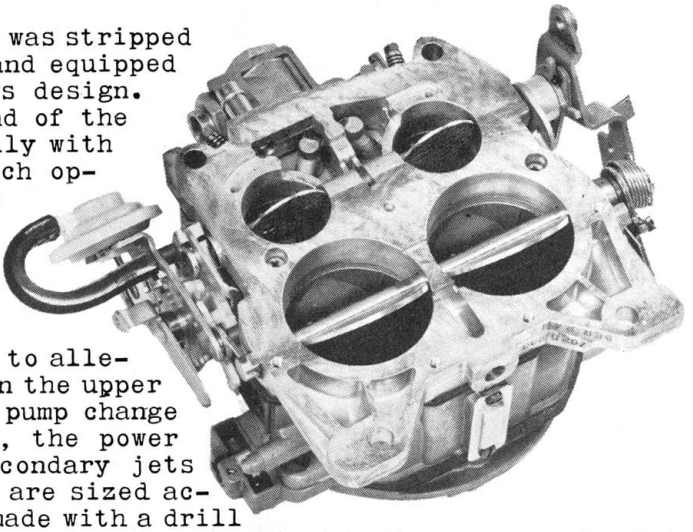
As a follow up to the HRM road test on the same car, here are a few tips on how to drop a second off the e.t. and up the mph by 8 as we present the SS Chevelle; revisited

by Jim McFarland



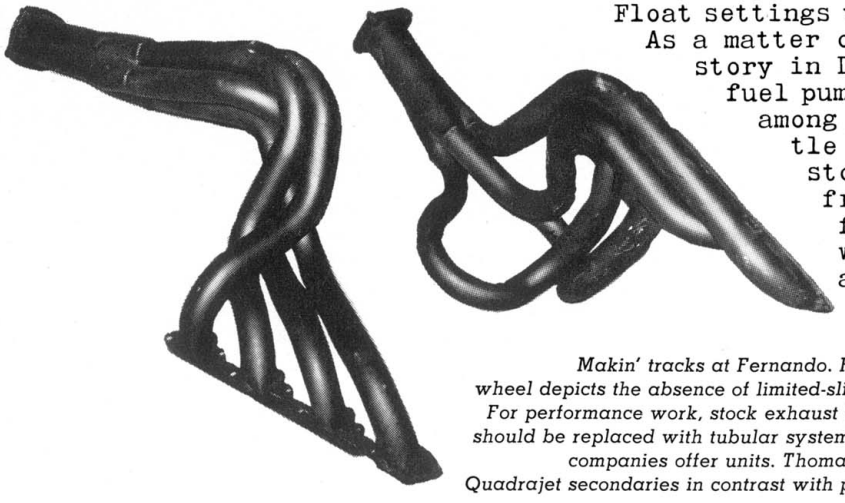
While continuing their attempt to maintain a non-racing image, Chevrolet Division of GM persists in flaunting the ghost of the "283 era" in the minds and eyes of the consuming public. The 396 seems destined to add to this store. Whereas the double 4-bbl, hard-lifter version of the 'Vette 283 in '57 shot gallons of adrenalin into the collective "arms" of performance factory automobiles, the 396 and its attending options may conceivably help fill the long-standing void between then and now. If for no other reason than the fact that the market for whom the 396-equipped Chevelles are intended may engage in the rationalization of what Chevy was and what they'd now like it to be, the Chevelles should sell by the basketful. With all this in mind, and a disappointing road test timing slip e.t. of 15.78 seconds (92 mph) staring back from the desk top, we decided to see if a few quick and dirty changes to the little SS would help establish the link between '57 and '66.

For the first trick out of the hat, the engine was stripped of its strangling stock exhaust manifolding and equipped with a set of tubing of a recent Bill Thomas design. The piping in this system roams the front end of the car rather freely, but can be used successfully with or without power equipment. On occasion, such optional pieces can jam the logs when one begins fit-up of a non-stock exhaust system. While the wrench-work over the tube pipes unfolded, it was decided that by blocking the heat passages to the carb base and "fattening" the jets a bit, a denser and greater volume of mixture could be fed into the engine to alleviate some of the starving that was apparent in the upper rpm range during the road test runs. (A fuel pump change would also have helped.) In the carburetor, the power (primary) jetting was opened .002-inch. Secondary jets were punched .003-inch. Although Holley jets are sized according to flow rates, both alterations were made with a drill bit since no Holley pills were available to us at the time. As we said, these were intended to be somewhat quick and dirty switches with as little fancy equipment or parts as possible.



Float settings were run stock, as was the fuel pump. As a matter of clarification, the Smokey Yunick story in Dec. '65 HRM gave a part number for fuel pumps that has been causing some dismay among parts buyers. We're including a little list of 396/427 fuel pumps, both stock and high-performance designs, from which you can choose to meet added fuel delivery requirements. These are working parts numbers and should be at your friendly dealer's store.*

(Continued on page 102)



Makin' tracks at Fernando. Right rear wheel depicts the absence of limited-slip carrier. For performance work, stock exhaust gatherers should be replaced with tubular system. Several companies offer units. Thomas' shown. Quadrajet secondaries in contrast with primaries.

*Year	Engine	Part Number
'65-'66	396/427 Passenger	6415961
'65	396 Corvette	6415962
'66	427 Corvette	6416245
'66	427 Passenger	6416459

Tale of a Chevelle

continued from page 64

The centrifugal advance was snubbed down to 10° (full centrifugal advance at 3000 crank rpm), a lead of 18° was locked in at the damper for a total of 38°, and with a set of 7-inch-cap Casler 7.50 x 14 skins in the trunk and a tire pressure gauge in our overalls pocket, E. Dahlquist and I headed for L.A.'s San Fernando Raceway.

In the interest of comparison, we began the runs with a closed exhaust system and street tires—28 pounds in each rear boot. As anticipated, the 396 by now had much more than ample 2000-3500 rpm torque, and wheelspin was in far more evidence than when the engine was in road test form. Elapsed time average was 15.86 for three passes. The "slicks," at a pressure of 32 pounds each, dropped the time to a 14.88 average for a pair of runs, and by opening the headers and lowering the pressure to 26 r. rear and 32 l. rear, a best of 14.61 seconds (100.33 mph) came back on the timing card. However, before you reach for the record sheet and begin discounting the possibilities of this newest GM combination, let us point out a few pertinent bits of information.

Our "test" car was carrying 3.73 rear cogs. Options in this category run 3.73, 4.10, and 4.56, the latter two being made available in Positraction units which, incidentally, our car was without. Valve lash remained "factory," not touched up by running adjusting nuts ⅛-inch beyond the point that silences clatter on each rocker arm. This is common practice for extending lifter pump-up rpm to allow engine speeds to approach more closely the

(Continued on page 104)

Tale of a Chevelle

continued

recommended red line of 6200-6300 rpm. Specs on the 'shaft for the RPO-L34 engine run as follows: Lift at the valve with zero lash is .4614-inch; intake opens 58° BTDC and closes 102° ABDC; exhaust opens 106° BBDC and closes 54° ATDC; total duration is 340° (although it doesn't sound that long). This cam with proper lifter adjustment and spring pressures of 94-106 pounds seated and 303-327 pounds open for both intake and exhaust valves should allow you an easy reach beyond the 5200 rpm shift points used in our performance tests.

Clutch action was adequate even after the heat buildup of repeated power shifts, although wheelspin prevented any "dumped clutch" starts. The disc in the clutch assembly of the RPO-L34 is torsionally damped with the customary small coil springs and has an overall diameter of 11 inches. This with the inner diameter of 6.5 inches puts 61.9 square inches of facing material on the flywheel. By way of contrast, the 327, 4-speed Chevelles have slightly less disc/'wheel contact area at 53.4 square inches. The 396 clutch pushes a total spring load of 2300-2600 pounds in conjunction with the centrifugal diaphragm plate. With a little more tire and a bit lower gear, you might want a slightly stiffer clutch—maybe.

The efforts we extended were, by design, moderated to point up the latent possibilities of this combination of engine and car. (An e.t. cut of 1.25 seconds was made by our few alterations.) For strip use, the stock carburetor (model #3874898 Holley in this instance) with its

(Continued on page 106)

TALE OF A CHEVELLE

continued

1.562-inch primary and secondary throttle bores could be jetted more favorably – something you'll most likely want to investigate. For better total economy (our mileage ran a rough 11-13 mpg overall, strip and street), you might check out the possibility of installing a Rochester Quadrajet (1.38-inch primaries and 2.25 secondaries) and attending manifold. You'll certainly expose more secondary throttle-bore area to the engine than with the Holley, and the smaller primaries will keep the mixture velocity up during the lower speed ranges and should produce improvements in your mileage both to and from the strip. Improve it where you can. These healthy performance engines can require frequent "feeding" to stay alive.

The Chevelle SS isn't a lightweight car. At least not by current standards where even drivers often take on the appearance of racehorse jockeys. But by considering its 3800-pound curb weight, the fact that our "changes" were comparatively slight, and the performance possibilities that lie dormant in optional equipment, chassis setting and blueprint operations, you may feel you'd like to take a crack at the current NHRA e.t. mark of 12.73 seconds. Whether you do or not, you'll enjoy the overall vigor of the car. We certainly did. ■■

"Do you fellows do valve jobs?"