

Looking for a low-budget answer to Super Stock racing? Here's a bit about a little Plymouth prestidigitation... a bit of nut and bolt necromancy that went into the building of one of the most noted MoPars to ever put the hex on competition. And it's a "vintage" 1963 model. Explanation? Easy. It's that ol'...



FOR SALE: Brand new 1968 Super Stocker, complete with blueprinted engine, headers, slicks, hot ignition, etc. Set up for racing, \$5500. Financial position forces sale. Write: John Dough, Everywhere, U.S.A.

FOR SALE: Super Stock 1963 Plymouth, aluminum front end, Stage I wedge. Set up and ready to run, \$2000. Write: Buck Sdown, Economy, U.S.A.

BY TERRY COOK ■ In the market for a Super Stocker? You could pick up on one of Detroit's new ultra-performance machines for \$3500 to \$4000, and with another \$1500 for blueprinting, slicks, headers, etc., be in business. Perhaps, of course, you haven't got \$5500 on hand and don't want to go into debt like our friend in the ad did in order to go Super Stock racing. There is an alternative — that second ad. The whole ball of wax for \$2000. Interested?

It's obvious that the budget method for a competitive Super Stocker lies in purchasing a used, rather than new machine. Case in point, the 1963 Plymouth Savoy two-door sedan with the aluminum front fenders and hood package. The engine, Chrysler's Stage I 426 cubic inch wedge. The owner, 28-year-old Ron Mancini of Detroit. The results — four NHRA records, class wins at Bristol and Indy, runner-up at the Bristol Springnationals, semifinalist at both the Indy Nationals and Tulsa World Points Finals, Division III Points Champ, and a fantastic win-loss record. The topper? It all happened in one year of competition. Mancini's "old" Plymouth didn't grab the Super Stock Eliminator title at any of the "Big Four" NHRA meets, but it was ranked as a favorite by all competitors, as sub-record performance was "par" for this Plymouth. This budget, \$2000 car neatly tucked away a host of Super Stockers which cost more than twice that amount. Was it competitive? We hope to shout!

It all started back in 1963 when Dodge and Plymouth each made 110 cars available with the aluminum front end package and Stage I wedge engine. Of those 220 possible vehicles, there are still a few around, or you can convert a two-door over with the proper engine and front end parts.

Just one thing, NHRA updates their classes annually, and 1963 cars will not be allowed to run in Super Stock after 1968; they will run in the Stock classes. However, the year lies ahead and you've still got time to get a '63 together and go after your share of the bucks. If you're looking to the future with a budget in mind, how about a '64 or '65 MoPar, which are still good for two and three years of Super Stock competition, respectively? There are a host of variations which allow the Stage I Chrysler products to fit into different classes (see chart). Ron's personal suggestion is the low compression, 415-horse engine with aluminum front fenders and hood, tipping the scales at 3210 pounds for SS/DA.

Before we get down to brass tacks, here's a bit of background on the Mancini "clan." Ron owns and drives the car, works in the transmission laboratory at Chrysler Corporation, and is married and the proud father of four sons. "Uncle" Dan Mancini helps nephew Ron turn the wrenches, is the supervisor of Chrysler's Special Vehicles garage, and is a member of the Ramchargers club. Romeo Mancini, Ron's father, works at Chrysler Defense Engineering and helps out with the race car regularly. Last of all, Ron's kid brother Lou may graduate from "donkey" to driver, as he is a lightweight nearing license age. See what we meant by the Mancini "clan"?

And how do Mancini & Son, etc., go about their quarter-mile chores? Let's take a look. Getting technical, begin by inspecting the bare block for cracks in the main webs and steps in the main caps. Check the bore for deep scratches which may not come out. The idea is to have a good block before investing any money in machining. If the block passes inspection, begin by de-burring with a file, and don't overlook the top of the cylinder bores. After removing all plugs from the oil galleys, use a wire to verify clear passages which have been drilled all the way through. Inspect the freeze plugs and cam bearings for an indication of the engine's previous treatment before you discard them. Run a bottoming tap through all threaded holes and your block is ready for the machine work.



MANCINI MAGIC

When the Mancinis assembled their first engine for the car, in March of 1967, they chose not to go the overbore route, as Dan scrounged up a set of standard bore size ForgedTrues which were "laying around." For the '68 season, however, Ron purchased a new set of ForgedTrues, so went to the full .030 overbore. While some racers go to .028 and leave .002 for wear, the Mancini plan is .030, since the point at the top of the bore where the legality check is taken is untouched by the rings, thus does not wear. Install the pistons and rods in the block and check the deck heights. Try swapping the pistons around to get the best average, then go to the highest piston and determine how much of the head surface should be removed to get the minimum legal deck height. As for honing, the Mancinis like it rough, with a 120-degree crosshatch. The last step in block preparation prior to cleaning is to chamfer all tapped holes slightly with an oversize drill. There is no need to boil the block unless it is unduly grimy. Use kerosene, then Tide or similar detergent and warm water, and dry with a high pressure air hose to assure clean and dry passages.

Looking to the crankshaft, visually inspect the oil holes, use #400 and #600 sandpaper and rawhide strips, if the journals are scratched, to achieve a chrome-like finish. If unscratched, use the rawhide and #600 paper. Often a lot of "flogging" is required, but if you want to run the crank all season, it's worth the effort. Ron and Dan didn't balance the engine, but if you wish to spend the extra money and satisfy yourself, go ahead; it's a matter of personal preference. One simple way to check the crank for straightness is to place it in the block with all five mains tightened, without the rear seal. If you can't spin the crank over by hand, remove caps two, three and four and place a dial indicator on the center journal. If it is more than .003 out, it's bent. If it's less, but still hard to turn, have the block align bored. To check the thrust clearance of the crank, install only main cap number three, loosely. Shove the crank as far forward or back as it will go and insert a feeler gauge between the block and the crank throw. It should be

between .006 and .008 of an inch for proper clearance.

Assuming the crank checks out, we can move along to the bearings. Ron uses the standard 426 hemi main bearings with the wider groove for better oiling. The rod bearings are from a 440 GTX. The rods themselves are good Stage I items that have not had the pin pressed in and out too many times. They are de-burred and the pin is pressed into the rod, but floats in the piston. It's sort of a half-pressed, half-floating arrangement, with no bushing in the rod.

The ForgedTrue pistons are exact duplicates of the stock items, but here's a trick from the Mancinis. Hang the pistons with all arrows pointing to the rear, rather than towards the front as ForgedTrue recommends. This applies to both the ForgedTrues and the notched stockers. The results may be a bit louder, but it won't hurt the pistons, and will give you a few more horsepower. The rings — step seal dykes on top with production second rings — should be individually checked in the bores they will occupy. A mark of .014 to .016 is the gap to shoot for, and is critical. While the short block is together, check the lower end clearances with plastigauge: the mains should be between .002 and .003 of an inch; the rod bearings .0015 to .0025. Snug up the rod caps and, using a soft hammer and feeler gauge, check the rod side clearances; it should be about .018 of an inch.

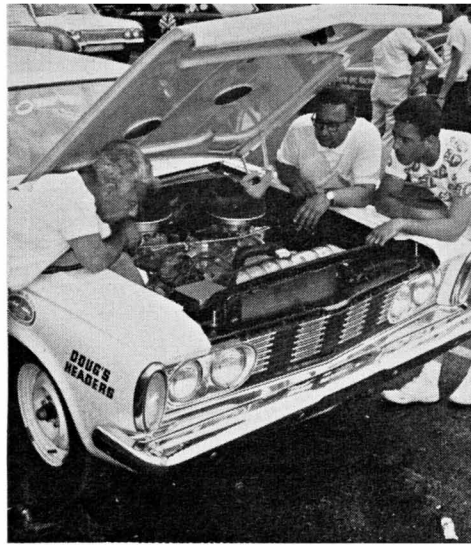
Following Chrysler Corporation's advice, the Mancinis went the Isky cam route. Grind is the flat tappet 1012-B at a 112-degree centerline. No advance or retard key is used, as Isky says maximum power is obtained "straight up." Standard cam bearings are used, and the cam bolt is secured with Loc-Tite and safety wire. One last tip; remember to double check TDC when degreasing in the camshaft.

The oil system consists of a deep sump pan with a single fixed pickup. Since the rpm's of an automatic don't exceed 6500, this system is sufficient. The home-built oil system uses a short threaded pipe, screwed into the block with a hose going down to the screened pickup residing at the right rear corner of the pan. Since the deep sump pan is used, no windage tray is employed. However, a small baffle at

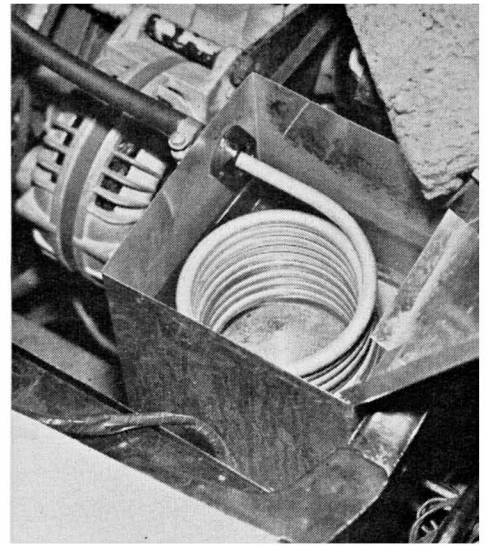
(continued on following page)

MANCINI MAGIC

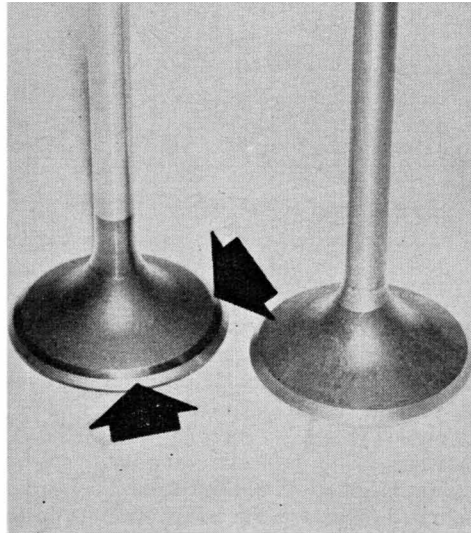
ABOVE LEFT — The Mancini "clan" gathers around for a conference. Ron's father, Romeo (left), and uncle Dan help serve up the wildest Plymouth 426 wedge in captivity.



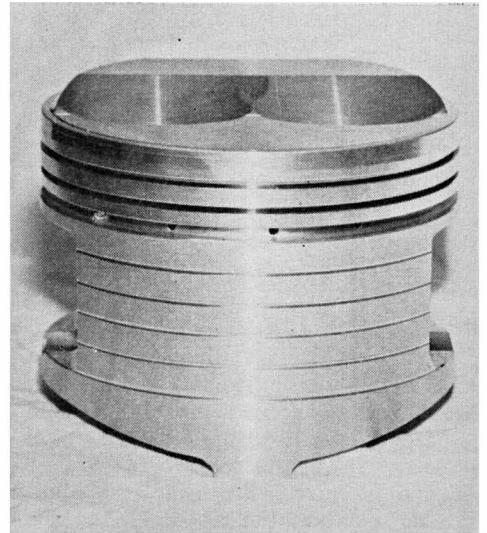
ABOVE RIGHT — One of the unique tricks on the car is this fuel line coolant can. Filled with water and ice, sponge is used to cool manifold between races. Neat?



BELOW LEFT — Controversy arose over "undercut" valves, which were actually only trued up in seat area, as shown, with a second cut. Ron changed the valves, then reset record.



BELOW RIGHT — Originally, stock bore size 13½:1 Forged-True pistons were used, then cut down to 11:1 for a class change. Ron bought a set of .030 over ForgedTrues for 1968.



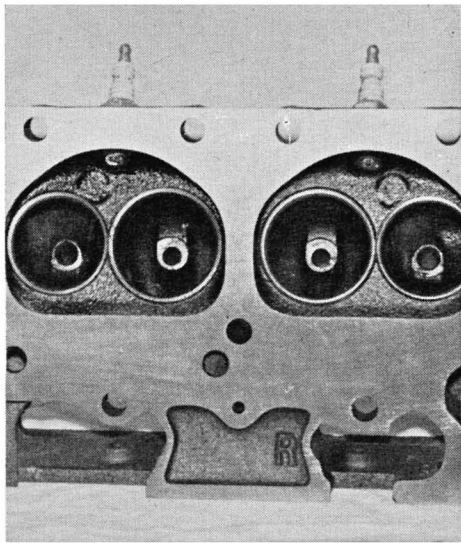
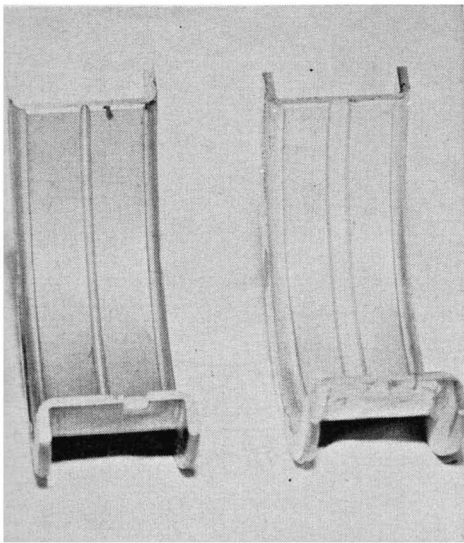
the front of the pan helps keep the oil where it belongs, in the sump.

As for the cylinder heads, Jess Parrot of Detroit did the valve job, which turned out to be highly controversial. Ron's Plymouth accumulated a wealth of points in the NHRA chase, but when he arrived at an eastern track for the NHRA record runs, he was immediately protested. Basically this happened because an "identical" machine, which Bill Jenkins had prepped, couldn't run as quick; therefore, Ron's car "had to be" illegal. Teardown revealed everything legal, but the manner in which Parrot had dressed the valves was questioned. The minute cut which Jess used to true up the seat on the valve was stretched to being "vast undercutting," and all Ron's points were removed. When NHRA looked into the matter later, they restored his points, but for the sake of controversy disallowed any further modifications of this "hairline" nature (see accompanying photo for a further explanation of the "undercutting" furor). Incidentally, at a later NHRA record meet, Ron arrived with the engine apart in "basket case" condition. It was inspected, and then, under the watchful eye of the tech officials, Ron assembled it and went out and broke his own record. Altogether, Ron's engine and car were inspected in depth six different times by the NHRA tech men, and the only point questioned was the valve dressing at that one eastern strip.

Other pertinent data concerning the heads is as follows: intake seats .060 to .085 at 45 degrees; exhausts .040 to .060 at 45 degrees; street hemi valve springs and dampeners,

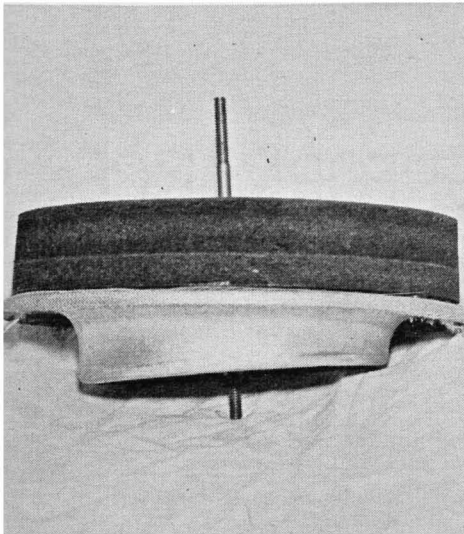
and standard maximum performance steel retainers. Ron and Dan recommend Perfect Circle Teflon valve seals on the intakes. Valve lash is .028 on the intakes, .032 on the exhausts, both set cold. It should be noted that there are no more Stage I heads available, but NHRA allows Stage II and III heads to be cut to Stage I specs. Make sure that de-burring removes any sharp edges on the heads.

The manifold employed on Ron's car is the standard short ram unit from Chrysler with AFB 3447 four-barrel carbs. Make sure you check the jets with a drill bit to assure they are the correct size. Another controversy arose during the season over the carburetors, as one well-known eastern Super Stock racer offered to buy them on the spot, as he felt they were either highly trick or slightly illegal (although the NHRA inspection included teardown of the carbs and found them legal in all respects). The Mancinis chose not to sell the AFB's until the price got high enough to warrant a profit, at which time they would have sold them and purchased another pair of stock AFB's. Concerning the manifold, it had matched ports and was double checked for leaks. Ron pointed out a few quick tips which MoPar racers should use: (1) check the stud which runs down the center of the manifold and holds the carburetor bell crank, as a leak may develop there; (2) coat the rings with lubriplate to solve leakage around the six plugs which offer access to bolting the manifold down; and (3) if you put the head gaskets on without end gaskets, you should have enough room to get a "spongy" gasket in. One last point: watch for elongated bolt holes. The idea here is to elimi-



ABOVE LEFT — Standard hemi main bearings replace the wedge bearings because of the wider groove for improved oiling. The mains should have .002-.003 of an inch clearance.

ABOVE RIGHT — The Stage II cylinder heads are de-burred and then receive the cc'ing treatment. Jess Parrot of Detroit is responsible for the precise valve job and head work.



BELOW LEFT — Another way to take advantage of little things is checking to see that angle of air entrance horn is correct. Foam rubber should fit snugly against hood for cool air.

BELOW RIGHT — Ron's younger brother Lou is but another member of the clan. Nearing driving age, lighter Lou may get a shot at the wheel of the "Magic '63."

1963 DODGE-PLYMOUTH ENGINE/CHASSIS VARIATIONS

CLASS (Under 1968 NHRA Rules)	ENGINE Stage I wedge	CHASSIS
SS/C or SS/CA	13½:1 compression 425 horsepower	2-door sedan with aluminum front end
SS/D or SS/DA	11:1 compression 415 horsepower	2-door sedan with aluminum front end
SS/D or SS/DA	13½:1 compression 425 horsepower	2-door sedan with steel front end
SS/E or SS/EA	11:1 compression 415 horsepower	station wagon with steel front end

Note: The wagon with 425 horsepower engine can run in A/S or A/SA class if seven-inch tires and stock camshaft are used.

nate any vacuum leaks which may develop in the manifold, thus assuring maximum power.

Another simple trick which makes the difference between record holders and "also-rans" concerns the air horns. Since it is virtually impossible to get the stock air cleaner base for the car, use bell-mouth-shaped horns with sponge filling the gap between the hood and the horn. The top of the sponge should line up with the angle of the hood so cold air is drawn into the engine, rather than letting warm air from the engine compartment get sucked into the carbs. The distributor is the standard maximum performance

hemi or wedge Prestolite transistor ignition with short-arm points to prevent float. Ron took the centrifugal advance springs out and put the unit on a Sun machine, checking the dwell at 40 to 41 degrees. Use the heat-sinc, along with a good grade of wire — like Packard 440 — soldered at both ends. Keep wires five and seven away from each other, as they fire close in the order. Plugs are Champions, either J86Y's, J61Y's, or J63Y's. Headers are Doug's with a three-inch diameter, 12-inch-long collector.

The transmission is a TorqueFlite for a maximum performance "B"-type engine with manually operated valve body and street hemi converter. A deep pan with baffle is used for the same reason it is on the engine, to limit the sloshing of fluid during acceleration and deceleration. Incidentally, Ron builds his own transmissions on his own time, and also does much work for other racers (like Sox & Martin), since automatics are his specialty.

The front suspension is standard other than the fact that the torsion bars were rotated three turns to raise the car and get it level. Don't go too far on the torsion bars, however, as it might bottom out on the upward travel during racing. Try to get the largest diameter, yet skinniest, front tires you can find, like 6.70 x 15's, 7.10 x 15's, or 6.50 x 16's. Inflate them to 50 pounds to eliminate rolling resistance. Use good tie rod ends, standard shocks, and get a top notch front end alignment.

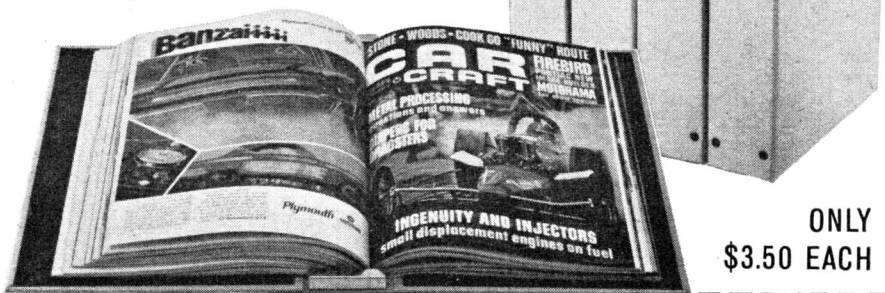
The rear suspension uses '63 Super Stock springs, since the front half of the spring is a lot stronger, thus doesn't

(continued on page 72)

START YOUR OWN CAR CRAFT REFERENCE LIBRARY TODAY!

Use these handsome binders to protect every issue of CAR CRAFT for future reference!

Durable hard cover—gold stamped title on leatherette, front and spine—each binder securely locks 12 issues into a permanent reference book.



ONLY
\$3.50 EACH

CAR CRAFT Magazine

CC368

5916 Hollywood Blvd., Los Angeles, California 90028.

**ORDER
YOURS
TODAY**

Enclosed is \$_____. Please send me postpaid,
_____ Binders at \$3.50 each. (Each binder holds
one complete volume—12 issues.)

name _____

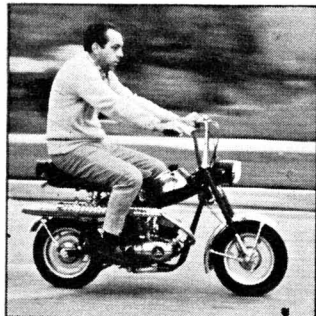
street _____

city _____ state _____ zip _____



MIGHTY-BIKE!

... IN A COMPLETE LINE OF CUSTOMIZED ACCESSORIES
(including mirrors, windshields, luggage racks, saddle bags
... and everything else you can think of)



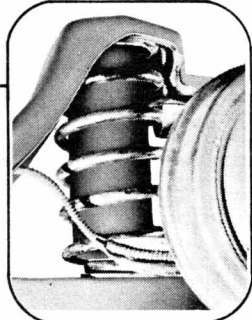
- ... IN PERFORMANCE**
- *world's champion 5 HP 50 cc 2-cycle GARELLI Engine
 - *4-speed foot-controlled transmission
 - *high-acceleration 55 mph speed
 - *up to 225 mpg economy (2 1/2 gal. tank)
 - *real "big bike" steering & handling
 - *dynamically balanced 98-lb body

- ... IN STYLE**
- *authentic mini-gag wheels
 - *high-rise chrome exhaust pipe & heat shield
 - *chrome fenders, tanks, & tool box
 - *over-sized foam-padded double seat
 - *fold-away Moto-Cross foot pegs
 - *Candy Apple burgundy or midnight black color

- ... IN SAFETY**
- *heavy-duty front & rear internal brakes
 - *extra-strong double-tube cradle frame
 - *reinforced fold-lock handle bars
 - *U.S. Approved 2-beam headlamps & tail light
 - *exclusive failure-proof lighting circuit
 - *extra-powerful electric horn

P.A.T. INC., WAREHOUSE DISTR. FOR BRONCCO-CYCLES
1233 W. 15th St. Long Beach, Calif. 90813 432-8935

Lower e.t.'s Are In The Bag



When you install a set of Air Lift Air Springs you get better traction because you use ALL the POWER through BOTH rear wheels. You jack weight, traction and power where you need it... so you can accelerate with real authority. There's an Air Lift Kit for any car... install 'em in less than an hour and the cost is less than \$50.00. You'll find Air Lift Air Springs on top winners in all classes from A/FX through P/S. Champions like Schartman, Kahl, Nicholson, Proffitt and hundreds more of racing's great names run Air Lift Air Springs for positive traction control and to Put Power On The Pavement... e.t. improvement of 5 tenths reported with no other changes. At your speed shop now.

Get full details in New Performance Products Catalog, sent with decal only 25¢. Air Lift T-Shirt (size please) \$1.75, includes decal and catalog.



AIR LIFT COMPANY

Performance Products Division
P.O. Box 449 H 2710 Snow Road Lansing, Michigan 48902
phone 517/482-1378

In Canada: 18 Hook Avenue
Toronto 9, Ontario

MANCINI MAGIC

(Continued from page 29)

wrap up. Larger shocks prevent wheel hop, and the pinion snubber is set up a quarter of an inch away from the floor (don't pre-load it against the floor). Fuel pump is a Stewart Warner electrical unit located at the tank. Tires are Goodyear 8.90 x 15's, with the D-3 compound, on a 5 1/2- or 6-inch rim, inflated to 12 pounds. It's important to put four screws into the bead of the rear tires, equally spaced around the rim. Use a good quality inner tube. The recommended end play within the rear axle housing (.010) is important to prevent brake drag during a run.

Originally, Ron's Plymouth ran the 13 1/2 :1 compression, 425-horsepower version of the Stage I engine and competed in SS/BA class (1967 rules). He currently holds both ends of the record in that class at 11.55-123.11, and managed a best of 11.23-126 during the season. About mid-year, Dan and Ron decided to move down and try SS/CA class; so they removed the pistons, milled them down to the 11:1 specs, and competed the remainder of the year with the 415-horsepower version of the engine. Results were amazing: they set the NHRA record at 11.60-120.96 and managed a best of 11.27-123 mph. By comparing times you can see that the car has more potential in SS/CA class than in SS/BA. The 1968 NHRA classifications will move the car down one letter, placing the 425-horsepower version in SS/CA, and the 415 version in SS/DA. Actually, it's the same class with the same competition—just a different letter designation.

Just how dependable was the "old" Stage I engine? Originally put together in March of 1967, the short block is still together and was only partially disassembled once—for the piston milling for class change. Ron checked the bearings twice and hasn't changed them yet. The heads were off a few times for NHRA inspections, but required no maintenance. I guess you could call that dependable.

In closing, let's talk about the price schedule of the budget Super Stocker. Ron and Dan explain that you can find a basic car for \$500 to \$750, the transmission for about \$200, and the engine for about \$1000. Assuming you shop around for the best prices on parts and pieces, the cam and kit, slicks and headers shouldn't total too much. As an example of the "shop around" philosophy, Ron managed to get the car painted (white) for \$20, while the lettering cost another \$35. Although that "ad" and \$2000 price don't refer to Ron's car, which, incidentally, is for sale to the highest bidder, it does refer to the price neighborhood you can work in when building up a duplicate. Who was it that said Super Stock racing was only for the factory-backed? ©