

UP-TO-THE-MINUTE

SOUPING & SWAPPING GUIDE

ENGINES

50¢

PDC

1962 BY ALEX WALORDY AND THE EDITORS OF CARS

STEP-BY-STEP HOW-TO'S
CONNECTING RODS FOR HOT MILLS

ENGINE BALANCING

**STROKER CRANKS
& PISTONS**

MANY
MORE

TECH
ANALYSIS
OF ALL HOT
NEW ENGINES

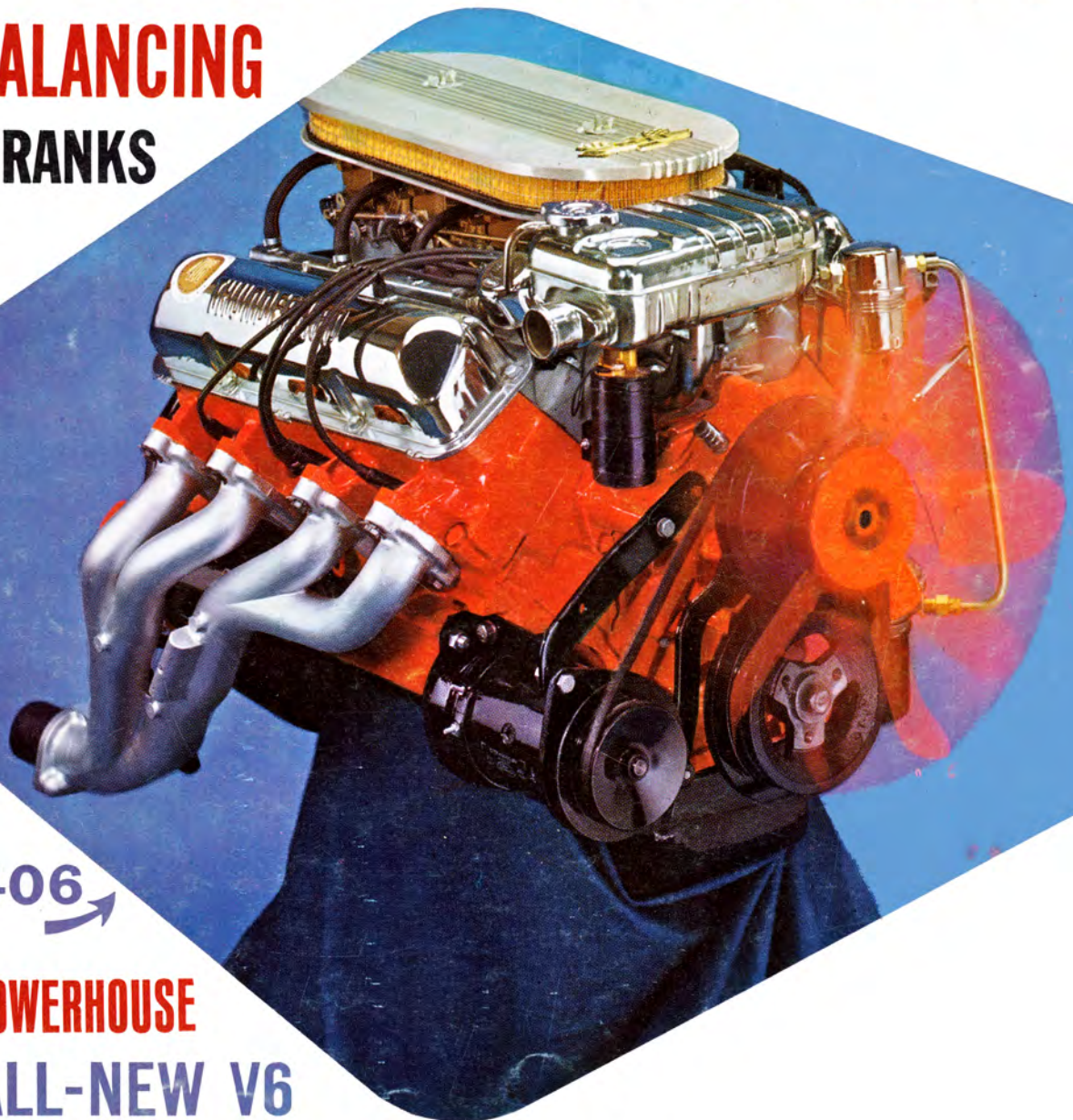
FORD'S 406
CUBE V8 →

CHEVY'S 409 POWERHOUSE

BUICK'S ALL-NEW V6

THE SLANT SIXES

AND OTHERS



editorial

EVERYONE from the Big Three down to the smallest speed shop has worked hard to produce winning engines for '62. Their new bags of tricks can help you uncork untapped potential in your own engine. Whether you go for Super Stockers or modest compacts, you'll find in these pages an array of the best ideas gathered from top notch builders.

Some car manufacturers started out by carefully observing AMA's ban on factory racing participation. Others flouted the agreement right from the beginning. This has led to widespread introduction of special equipment, all for the good of engine builders. Unfortunately, it has also resulted in special parts being offered to a select few in very limited quantities. The parts are official, and NHRA-sanctified, but try and buy them! At best this is an unhealthy situation which kills open competition and is detrimental to the very essence of hot rodding. Parts should be available and on dealers' shelves before they can be considered acceptable. All too many of these so-called "options" become available in time for big speed events, then quietly disappear from circulation. Withdrawal of official recognition of these "options" by hot rod associations would quickly cure the problem.

There is more to an engine than bolting on factory parts, special as they may be. Balancing, boring, stroking, clearancing and reworking the oil systems are but a few of the steps that lie between an engine off the dealer's floor and a really hot powerplant. Each of the operations requires a specialist, but knowing the details will save you money and help with the planning. The '62 ENGINE BOOK provides many of the finer points on these subjects.

So far, the big engines have reigned supreme and are raking in all the trophies. However, watch for changing trends: Compacts have become available in increasing amounts, both new and used. Compacts in some instances offer better handling and roadability and less dead weight to drag around. The very newest engines are all in the compact field. The 225 cubic inch Buick aluminum V8 and the new, precision-cast, Ford 221 cubic inch V8 shape up as top contenders for "specials" as well as compacts. The 225 cubic inch Slant Six has already proven itself as top soup-up material. Low displacements and high efficiencies will account for many class wins during the racing year.

Trying to fit more inches into an engine has always been a favorite pastime among top me-

chanics. Four-inch strokers for Chevies can produce over 400 cubic inches. How about 467 cubic inches from a 283 block? Yes, it has been done this year. You can also transform the little Buick Special and its 215 cubic inches into a 286 cubic inch powerplant good for almost a horsepower-per-cubic-inch at a total weight of well under 400 pounds, complete with clutch and all accessories. The point is that to win you must outthink and outwork the opposition.

A prime requirement for a winning car is that it finish. This seems elementary, but all too many rodders believe in pushing things to the outer limit. Result: Cylinder walls that are wafer-thin, and buckle under pressure. Instead of gaining a little, they lose a lot. The same applies to gears. If a mild grind is all right, people think that a super awful awful must be better, especially if it sells for the same money, but this isn't necessarily the case. Build it fast, yes, but build it so that it stays together.

The Magnaflux people have, for years, offered a service which has remained virtually unknown to rodders. By using a special electronic probe, they can tell you within thousandths of an inch how thick a bore is at any given point. This is more than enough to take the guesswork out of using the boring bar. After calibrating his instrument on any open section of the block, such as a coolant passage, the Magnaflux operator passes the probe along the cylinder wall and obtains a reading of wall thickness. He can also spot a weak or excessively thin spot that would cause the boring bar to go through.

Don't kid yourself about Detroit engineers. Some of them are as sharp or sharper than any hot rodding expert and many run some pretty hot machinery of their own. However, what they design is bound by a number of outside factors. First on the list is cost. Even special equipment must often be designed to fit existing production machinery. This is the reason for many speed equipment items, made by specialty houses, being okayed as production equipment. Tooling costs, by Detroit standards, would simply be prohibitive. Another problem is what happens under warranty service when special equipment reaches the less initiated playboy; obviously an engine souped to the limit is not going to last as long as a staple production item.

As a result, several manufacturers have made this equipment available only to proven competition people. As you can see, there are at least two sides to the special parts story.

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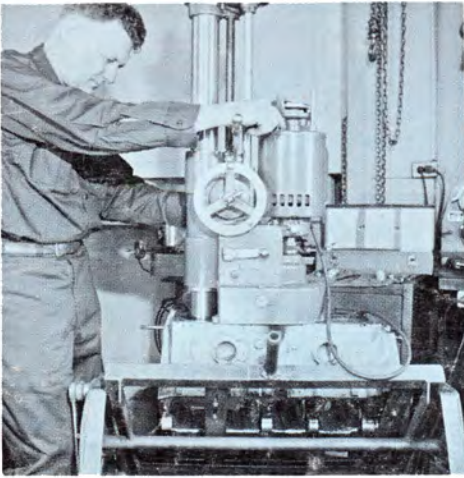
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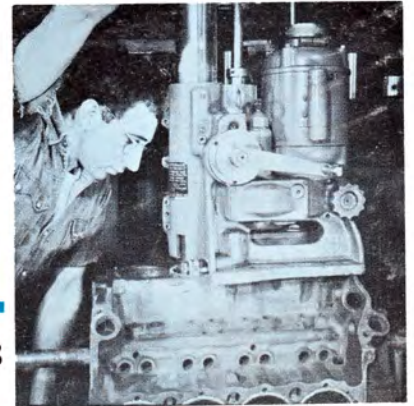
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523 CUBES FROM A 389 PONTIAC

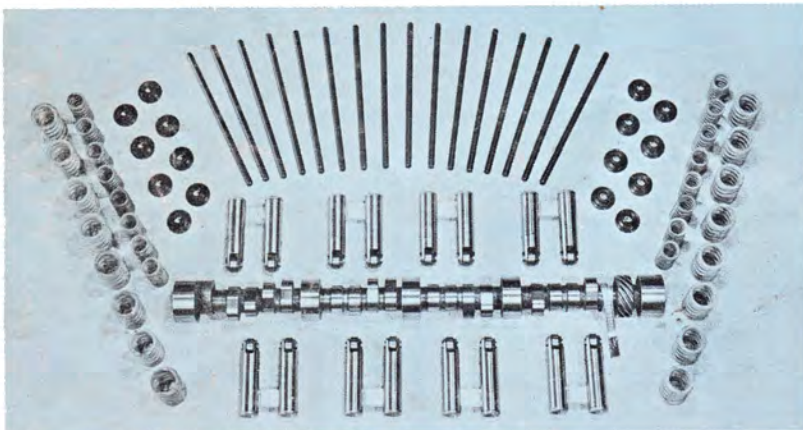
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SLEEVE A 283 CHEVY TO 467 CU. IN.

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PLUS . . . SPECIAL BONUS



YOUR GUIDE TO SOUPING

THE STEPS, THE EQUIPMENT
AND WHERE TO GET IT!

see page 4

ENGINES

1962 LATEST AND BEST IN HOW-TO'S

all NEW material by the editors of CARS