

# "THEY MAY BE SLOW, BUT THEY SURE ARE UGLY"

## If you're up on racing but down on bucks, the old Olds may be your way to go

BY TERRY COOK □ Elsewhere in this issue we show you how to put a \$1000 preparation on your Street Hemi to make it a bomber in the top Stock class. Now we're going to swing to the opposite extreme and focus on some cars which seldom win headlines, but whose owners smile at the pay window, nevertheless — those stockers in the extreme bottom classes. Come with us now as we turn back the clock and analyze the early Oldsmobiles. Here, rather than showing you how to best spend that grand on prepping the Hemi in your late Dodge or Plymouth, we're going to show you how to build a complete race car from scratch, a potential National Record Holder, for under \$1000! Understandably you're not going to get mid-eleven-second elapsed times, but if you don't mind running in the fifteens . . . and sixteens . . . and winning, then the vintage Olds may be your schtick.

Essentially there are at least four or five engine-transmission-body combinations which currently fall, or "break," in an advantageous way in the three bottom classes, T/-, U/-, and V/Stock. Some of the better Olds' bets are:

- 1950 — "88" Holiday Deluxe Hardtop. With 135 hp, 303 cu. in. engine and Hydramatic transmission, it factors at 27.18, right near the V/S 27.00 break.
- 1950 — "88" Standard Station Wagon. With 135 hp, 303 cu. in. engine and three-speed stick, it factors at 27.96, a little high, but seems to do well in V/S class.
- 1950 — "76" Deluxe Hardtop. With six-cylinder body weight but with 135 hp, 303 cu. in. V-8 engine and three-speed stick, the car is near-perfect for U/S, as it factors at 25.07; class break is 25.00.
- 1952 — "Super 88" Club Sedan and "Super 88" Club Coupe. With 160 hp, 303 cu. in. engine and the dual range Hydramatic, the two body styles fall at 23.38 and 23.11, respectively, both near the 23.00 T/S break.

1954 — "98 Deluxe" Four Door Sedan. With 185 hp, 324 cu. in. engine, the car factors at 21.05, near the R/S break of 21.00; the only disadvantage is the selector-type manual transmission.

Across the country there are a number of devotees who derive great pleasure from shutting down the late-model clientele with these archaic old battle wagons. Names like Sam Stockwell from Michigan; Ted Rohde out of Oregon; the Pennsylvania Worrell brothers, Jack and Ken; Sonny Coulter of California; Canadian Bill Wells of Vancouver; "the guys" from Racing Head Service (Smeltnicks-McWhirter-Woodard) down in Tennessee; Sam Shinaberry from Indiana; Gene Norris of Florida, and Keith Berg, out of Alabama, are some of the super stars of the "slow car fleet." Of course, the name of the game has always been get to the finish line first. And under the handicap system, "cubic buck" big horsepower cars often find their match in the early Olds'. There's another bottom-of-the-alphabet guy out in California who currently holds three NHRA records with his Olds, is a veteran of dozens of major meets (including a phenomenal string of seven class wins at the Winternationals) and is responsible for some of the other good running T, U, & V class stock cars across the continent. His name is Keith Berg and he served as the information source for this piece, "The Old Olds Anthropologist" if you will. Through years of tinkering with archaic backdraft carburetors, spiring out hard to find hardware, and experimenting with venerable connecting rods, Berg has earned his Ph.D. on the Old Olds. Oh yes, one more thing, Keith works on a budget such that he uses his head gaskets five times over, and pays but \$7.50 for a complete set of rings. Get the picture? It's a low-buck operation, but the

results can be great; and if this type of operation suits you, here are some tips we picked up from "Dr." Berg.

Understandably, because of the vintage nature of most of the equipment you will be dealing with, most of the good OEM factory equipment is going to be cheap, but hard to locate. As an example, the most advantageous cylinder block to use is the 1949 variety with the steel retaining plate for the camshaft, rather than the spring loaded button; but, unfortunately, this block is "hen's teeth" rare. If you cannot locate one of these blocks, use any 1950 through 1953 casting, as they are all the same. Incidentally, the majority of this article deals with the 303-inch displacement engine of the 1949-'53 era, but most of the data can be directly applied to the 1954 and later 324 cube engines (for you "late-model" Olds lovers).

Begin the block preparation by having it boiled, then checking the casting for cracks. Check the main bearing bore (Keith claims he has yet to find one that required align boring), and have the decks cut a minimum amount so they are parallel to the crankshaft centerline. The block should be overbored .058" to retain .002" safety margin. The block should be deburred, washed thoroughly, and then any unmachined internal surfaces

should be painted with Rustoleum to seal in the foreign particles which did not wash out. It is a good practice to run a small brush through the oil passages to remove any possible obstructions. Keith likes to chamfer the head bolt holes, but definitely is opposed to chamfering the top edge of the bore. This is understandable because chamfering the bore amounts to a loss of cc's and is not taken into consideration by NHRA during a technical teardown. You must always bear in mind that you are working with an extremely low compression engine (the 1950, 135 hp engine is 7.25:1; 1951, 135 hp and 1952, 160 hp engines are 7.5:1), and as a result every cc is important. The last thing you do to the block in the way of preparation is to install new cam bearings.

There is no certain year crankshaft to search for, as they are all identical. Perhaps using a 324 crank would be the best plan (for all intents and purposes the 324 crank is identical to the 303), as the later crank will probably be in better shape. Try to keep away from cranks which have already been cut undersize. Keith sends all his cranks to Reath Automotive in Long Beach and has them checked for straightness, and straightened if need be. Also, Reath assures that the crankshafts have the correct stroke and index, and normally takes them to .010 undersize, taking the desired main bearing clearance of .0025 to .003" into consideration. In addition, all oil holes are chamfered .030" for increased lubrication. Keith likes the .010 under TRW Clevite 360-degree grooved bearings for the mains.

As far as connecting rods are concerned, stay away from the 1949 and early 1950 rifle-drilled rods (identified by an oil hole which runs the length of the rod from one journal to the other), as they have a tendency to crack. Also, Keith advises against using the 1949 Cadillac rods which are considerably lighter (4 ounces each, or about two pounds per set) than the Olds rods, have the same diameter big end, and will fit if White truck wrist pins are adapted. As it happens, however, these pins are heavy, and the Caddy rods are illegal in the Olds application for NHRA racing. The rods to use (1950-'56) are all identical, and, unfortunately, are a bit on the over-beefy side. They come stock from Lansing with a bushed top bearing, which helps simplify things when converting your setup over to full floating wrist pins. Strive for .0005 to .0007 pin to rod clearance. The rods you plan to use should be straightened and reconditioned to assure the correct center to center dimension. They should also be deburred and cleaned thoroughly, making sure the cam lubricating holes in the rods are clear. TRW Clevites are also recommended for the rod bearings. They are not grooved like the main bearing shells, but do have double oil holes 180 degrees apart. The optimum rod bearing clearance is .0025".

Pistons? Well, Keith prefers Jahns because he feels they are an extremely good quality budget piston. He uses their "J" cam ground flat top short skirt racing piston, and strives for .007" skirt to wall clearance. The floating, shortened Jahns pins are kept in place by Tru-arc retaining locks, which are installed with the eyes pointing down. Remember those \$7.50 rings? We weren't kidding! Berg likes the Pacific cast iron variety, with a .015" gap for the two compression rings. The oil ring combination consists of two rails and two expanders per groove; care should be taken to make sure they don't bind.

Down below in the oil system, you can forget the modifications. The stock pan is fine, and in addition to some Valvoline 30-weight racing oil and a Fram High Performance filter, all you need is a new stock oil pump. But don't install the high output pump, as the hydraulic lifters recover quicker with a relatively low oil pressure, around 50 p.s.i.

Since NHRA allows any ground camshaft that satisfies the stock lift, duration and overlap specifications, Berg likes to use the "plus area" regrind offered by Racing Head Service of Memphis. Keith currently uses their #2 grind straight up, but is about to try their #3, which is reportedly a "wild one." One tip in the cam department is to turn down the pin in the Olds cam so it will accept Chevy advance and retard buttons, as the only Olds button available is a six-degree number. It is advisable to use a new stock



timing chain and timing gears, along with stock unmodified hydraulic lifters and stock pushrods. If using the Racing Head Service #3 cam, the pushrods must be cut for cam clearance, as the valve settings will be .003 on the intake and .005 on the exhausts. In the 1951-'53 engines you can use pushrods from a 1957-'58 engine, as they fit, are solid, bigger in diameter, and let the lifter build up higher.

The early Oldsmobiles have a rather unique layout when it comes to gaskets and NHRA specifications. On these engines NHRA demands a cc volume of 99.34 on the 1950 heads, and 95.48 on the 1951-'52 heads; but it is not the usual chamber volume. Rather, the spec is a total volume including the chamber and the gasket, which can be achieved in any combination you prefer (e.g., no gasket and big chamber, medium-sized chamber with one gasket, severely cut head with small chamber and two gaskets atop each other, etc.). The gaskets are available in thicknesses from .030 to .088, but Berg suggests using the .050" thick Fel-Pro laminated asbestos

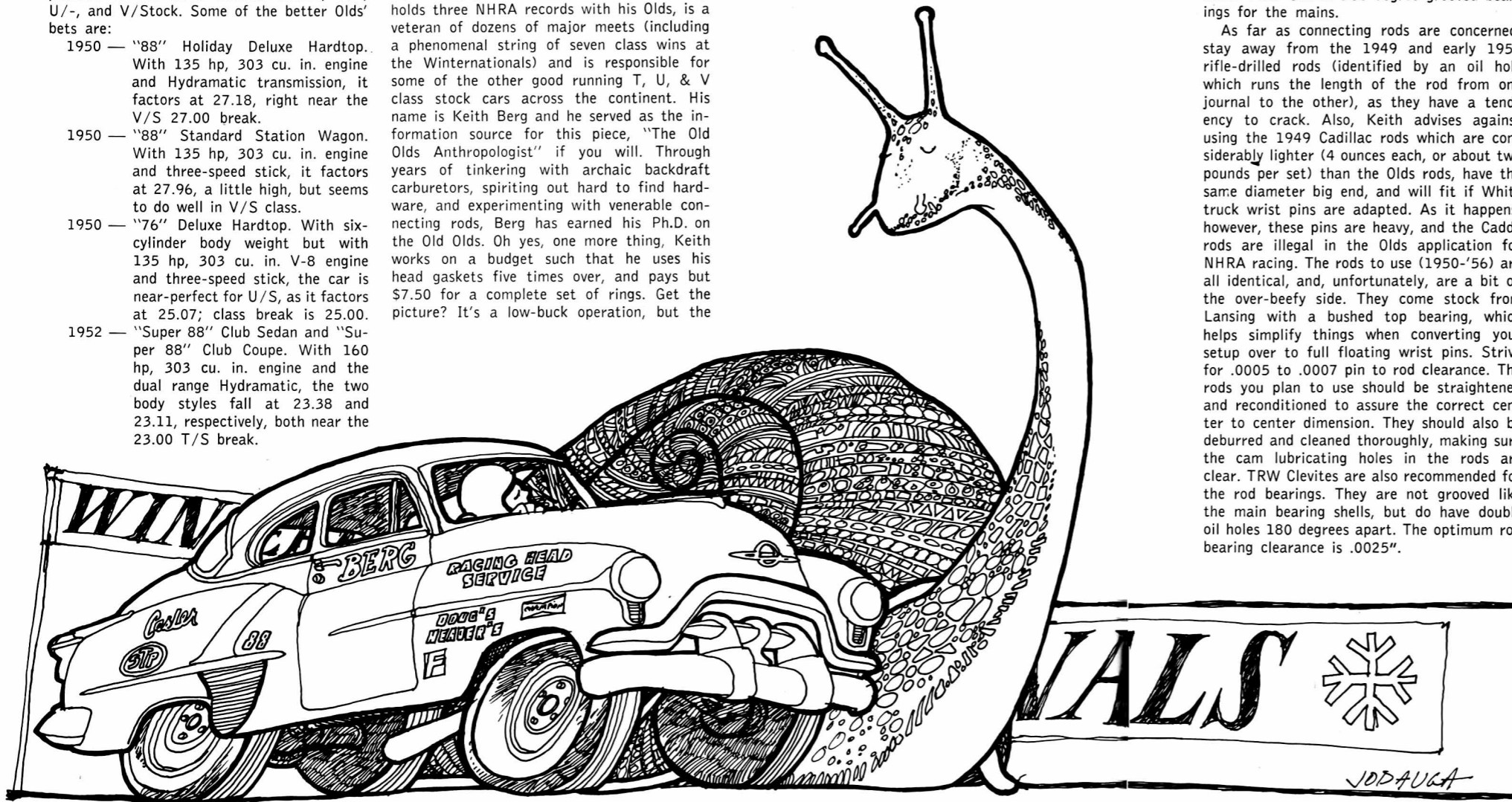
sandwich gasket. One trick to try is soaking the gaskets in hot water before applying them so they seat better. Spray on K&W copper sealant when installing them. Because the chambers are surrounded by O-rings built into the gasket, when you torque the heads down, all the water will squish out around the edge of the head, but none will get into the combustion chambers. As we said, Keith has used these gaskets as many as five times with no problem. If you happen to try the 1957-'58 J-2 Olds shimmed gasket, which fits, beware of the fact that it may leak water into the chambers over a period of time.

There are two different types of cylinder heads in the early Olds line: the 1949-'50 models came with wedge chambers, while the 1951-'53 engines were equipped with oval-shaped combustion chambers. Keith prefers the wedge chamber because he feels it has a performance advantage over the oval configuration, and this factor should be taken into consideration if you are planning on going the early Olds route. In any case, install new valve guides (of oilite bronze, made by R.M.C.) in such a way that the minimum amount of guide hangs down into the port, allowing maximum air flow. Keith also prefers R.M.C. valves with flash-chromed stems. To equalize the chambers and achieve the minimum volume, Berg shoots for 84.6 cc's in the 1950 heads when using the aforementioned .050 gaskets, and 77.0 cc's in the 1951-'52 heads with a .066 gasket.

Further suggested head modifications include filling the heat riser chamber with fire brick cement, as well as checking the springs for the correct tension. Take caution to make sure the harmonic shim is installed in the spring during checking so you get an accurate reading. Tension specs are as follows: for 1949-'51 springs, the reading should be 67 pounds closed at a height of 1.777 inches; the 1952 spring specs are 95 pounds closed at 1.829 inches, and 163 pounds open at a height of 1.463 inches. Howard Racing Cams manufactures a very high quality outer spring for the 1952-'53 Oldsmobiles, but you must remember to discard the inner spring if you use them. Don't sink the valves when equalizing the chambers if you can possibly avoid doing so, but it is a good idea to cut the valve stems so the tops are perfectly even when installed. Keith uses M/T chrome moly rocker shafts, which are nice but not a strict necessity. Rocker arms come in two ratios: the 1949-'51 rockers (GM555716) have a 1.5:1 ratio, while the 1952 and later rockers (GM561585) have a 1.8:1 ratio. The idea of putting the late rockers on the early engine will boost the lift from .333" to a whopping .400" without a cam change, but is rather illegal.

NHRA is concise as far as intake manifold modifications are concerned . . . no modifications are permitted. Be that as it may, a slim assortment of manifolds is to be found in the early Olds fraternity. The 1949-'50 engine has a three-inch natural ram atop it, the 1951 manifold comes only in a low profile two-barrel variety, and the 1952-'53 vintage offers a selection of two- or four-barrel single-carb manifolds. Incidentally, the 1952-'53 four-barrel manifold fits the 1951 engine and is permitted in NHRA competition. The power steering mount atop the manifold makes for a nice, sturdy (and legal) generator mount.

Carburetors for the Olds seem straight  
(continued on page 73)



# "THEY MAY BE SLOW, BUT THEY SURE ARE UGLY"

## If you're up on racing but down on bucks, the old Olds may be your way to go

BY TERRY COOK □ Elsewhere in this issue we show you how to put a \$1000 preparation on your Street Hemi to make it a bomber in the top Stock class. Now we're going to swing to the opposite extreme and focus on some cars which seldom win headlines, but whose owners smile at the pay window, nevertheless — those stockers in the extreme bottom classes. Come with us now as we turn back the clock and analyze the early Oldsmobiles. Here, rather than showing you how to best spend that grand on prepping the Hemi in your late Dodge or Plymouth, we're going to show you how to build a complete race car from scratch, a potential National Record Holder, for under \$1000! Understandably you're not going to get mid-eleven-second elapsed times, but if you don't mind running in the fifteens . . . and sixteens . . . and winning, then the vintage Olds may be your schtick.

Essentially there are at least four or five engine-transmission-body combinations which currently fall, or "break," in an advantageous position in the three bottom classes, T/-, U/-, and V/Stock. Some of the better Olds' bets are:

- 1950 — "88" Holiday Deluxe Hardtop. With 135 hp, 303 cu. in. engine and Hydramatic transmission, it factors at 27.18, right near the V/S 27.00 break.
- 1950 — "88" Standard Station Wagon. With 135 hp, 303 cu. in. engine and three-speed stick, it factors at 27.96, a little high, but seems to do well in V/S class.
- 1950 — "76" Deluxe Hardtop. With six-cylinder body weight but with 135 hp, 303 cu. in. V-8 engine and three-speed stick, the car is near-perfect for U/S, as it factors at 25.07; class break is 25.00.
- 1952 — "Super 88" Club Sedan and "Super 88" Club Coupe. With 160 hp, 303 cu. in. engine and the dual range Hydramatic, the two body styles fall at 23.38 and 23.11, respectively, both near the 23.00 T/S break.

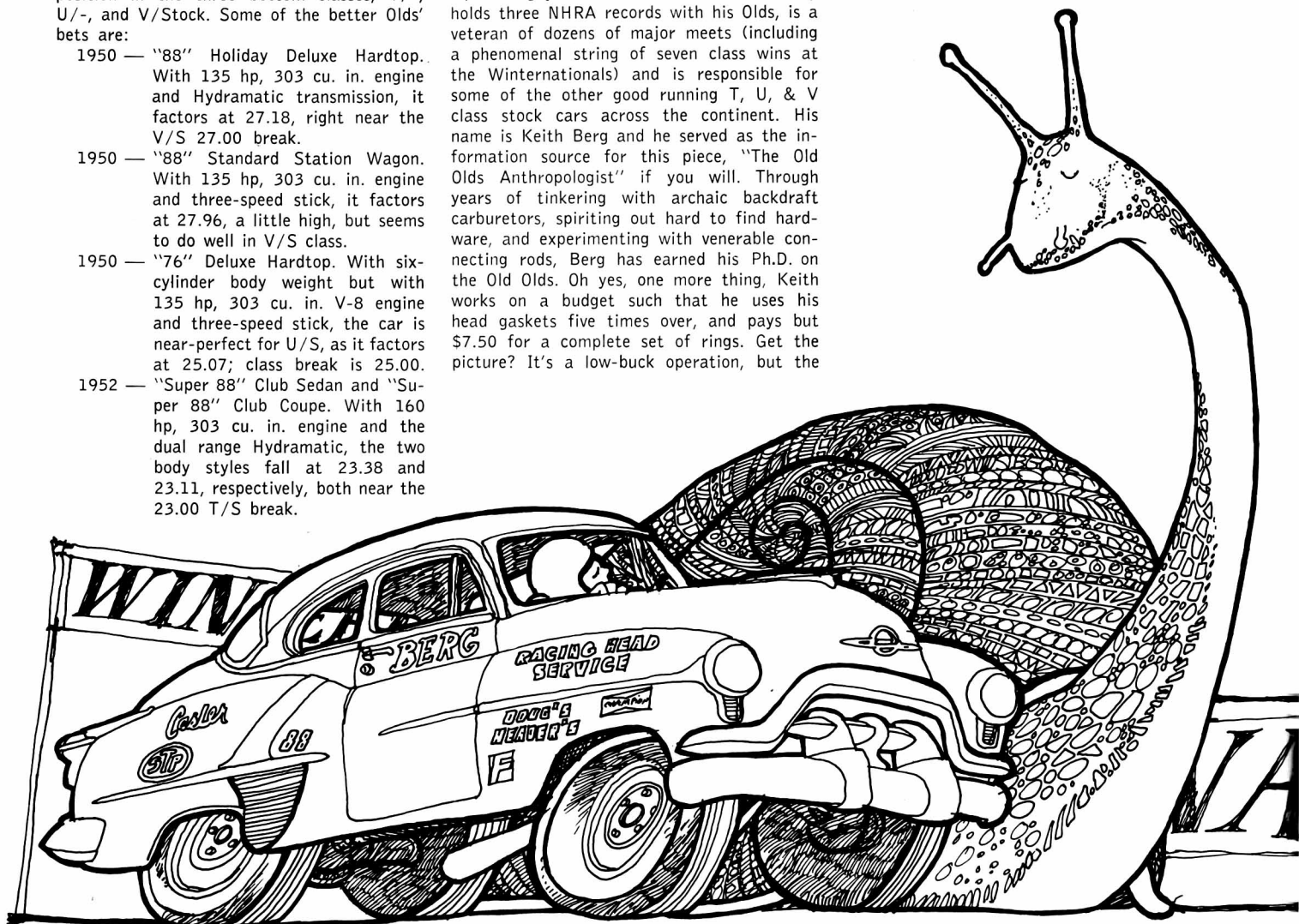
1954 — "98 Deluxe" Four Door Sedan. With 185 hp, 324 cu. in. engine, the car factors at 21.05, near the R/S break of 21.00; the only disadvantage is the selector-type manual transmission.

Across the country there are a number of devotees who derive great pleasure from shutting down the late-model clientele with these archaic old battle wagons. Names like Sam Stockwell from Michigan; Ted Rohde out of Oregon; the Pennsylvania Worrell brothers, Jack and Ken; Sonny Coulter of California; Canadian Bill Wells of Vancouver; "the guys" from Racing Head Service (Smeltnicks-McWhirter-Woodard) down in Tennessee; Sam Shinaberry from Indiana; Gene Norris of Florida, and Keith Hodges, out of Alabama, are some of the super stars of the "slow car fleet." Of course, the name of the game has always been get to the finish line first. And under the handicap system, "cubic buck" big horsepower cars often find their match in the early Olds'. There's another bottom-of-the-alphabet guy out in California who currently holds three NHRA records with his Olds, is a veteran of dozens of major meets (including a phenomenal string of seven class wins at the Winternationals) and is responsible for some of the other good running T, U, & V class stock cars across the continent. His name is Keith Berg and he served as the information source for this piece, "The Old Olds Anthropologist" if you will. Through years of tinkering with archaic backdraft carburetors, spiriting out hard to find hardware, and experimenting with venerable connecting rods, Berg has earned his Ph.D. on the Old Olds. Oh yes, one more thing, Keith works on a budget such that he uses his head gaskets five times over, and pays but \$7.50 for a complete set of rings. Get the picture? It's a low-buck operation, but the

results can be great; and if this type of operation suits you, here are some tips we picked up from "Dr." Berg.

Understandably, because of the vintage nature of most of the equipment you will be dealing with, most of the good OEM factory equipment is going to be cheap, but hard to locate. As an example, the most advantageous cylinder block to use is the 1949 variety with the steel retaining plate for the camshaft, rather than the spring loaded button; but, unfortunately, this block is "hen's teeth" rare. If you cannot locate one of these blocks, use any 1950 through 1953 casting, as they are all the same. Incidentally, the majority of this article deals with the 303-inch displacement engine of the 1949-'53 era, but most of the data can be directly applied to the 1954 and later 324 cube engines (for you "late-model" Olds lovers).

Begin the block preparation by having it boiled, then checking the casting for cracks. Check the main bearing bore (Keith claims he has yet to find one that required align boring), and have the decks cut a minimum amount so they are parallel to the crankshaft centerline. The block should be overbored .058" to retain .002" safety margin. The block should be deburred, washed thoroughly, and then any unmachined internal surfaces



should be painted with Rustoleum to seal in the foreign particles which did not wash out. It is a good practice to run a small brush through the oil passages to remove any possible obstructions. Keith likes to chamfer the head bolt holes, but definitely is opposed to chamfering the top edge of the bore. This is understandable because chamfering the bore amounts to a loss of cc's and is not taken into consideration by NHRA during a technical teardown. You must always bear in mind that you are working with an extremely low compression engine (the 1950, 135 hp engine is 7.25:1; 1951, 135 hp and 1952, 160 hp engines are 7.5:1), and as a result every cc is important. The last thing you do to the block in the way of preparation is to install new cam bearings.

There is no certain year crankshaft to search for, as they are all identical. Perhaps using a 324 crank would be the best plan (for all intents and purposes the 324 crank is identical to the 303), as the later crank will probably be in better shape. Try to keep away from cranks which have already been cut undersize. Keith sends all his cranks to Reath Automotive in Long Beach and has them checked for straightness, and straightened if need be. Also, Reath assures that the crankshafts have the correct stroke and index, and normally takes them to .010 undersize, taking the desired main bearing clearance of .0025 to .003" into consideration. In addition, all oil holes are chamfered .030" for increased lubrication. Keith likes the .010 under TRW Clevite 360-degree grooved bearings for the mains.

As far as connecting rods are concerned, stay away from the 1949 and early 1950 rifle-drilled rods (identified by an oil hole which runs the length of the rod from one journal to the other), as they have a tendency to crack. Also, Keith advises against using the 1949 Cadillac rods which are considerably lighter (4 ounces each, or about two pounds per set) than the Olds rods, have the same diameter big end, and will fit if White truck wrist pins are adapted. As it happens, however, these pins are heavy, and the Caddy rods are illegal in the Olds application for NHRA racing. The rods to use (1950-'56) are all identical, and, unfortunately, are a bit on the over-beefy side. They come stock from Lansing with a bushed top bearing, which helps simplify things when converting your setup over to full floating wrist pins. Strive for .0005 to .0007 pin to rod clearance. The rods you plan to use should be straightened and reconditioned to assure the correct center to center dimension. They should also be deburred and cleaned thoroughly, making sure the cam lubricating holes in the rods are clear. TRW Clevites are also recommended for the rod bearings. They are not grooved like the main bearing shells, but do have double oil holes 180 degrees apart. The optimum rod bearing clearance is .0025".

Pistons? Well, Keith prefers Jahns because he feels they are an extremely good quality budget piston. He uses their "J" cam ground flat top short skirt racing piston, and strives for .007" skirt to wall clearance. The floating, shortened Jahns pins are kept in place by Tru-arc retaining locks, which are installed with the eyes pointing down. Remember those \$7.50 rings? We weren't kidding! Berg likes the Pacific cast iron variety, with a .015" gap for the two compression rings. The oil ring combination consists of two rails and two expanders per groove; care should be taken to make sure they don't bind.

Down below in the oil system, you can forget the modifications. The stock pan is fine, and in addition to some Valvoline 30-weight racing oil and a Fram High Performance filter, all you need is a new stock oil pump. But don't install the high output pump, as the hydraulic lifters recover quicker with a relatively low oil pressure, around 50 p.s.i.

Since NHRA allows any reground camshaft that satisfies the stock lift, duration and overlap specifications, Berg likes to use the "plus area" regrind offered by Racing Head Service of Memphis. Keith currently uses their #2 grind straight up, but is about to try their #3, which is reportedly a "wild one." One tip in the cam department is to turn down the pin in the Olds cam so it will accept Chevy advance and retard buttons, as the only Olds button available is a six-degree number. It is advisable to use a new stock

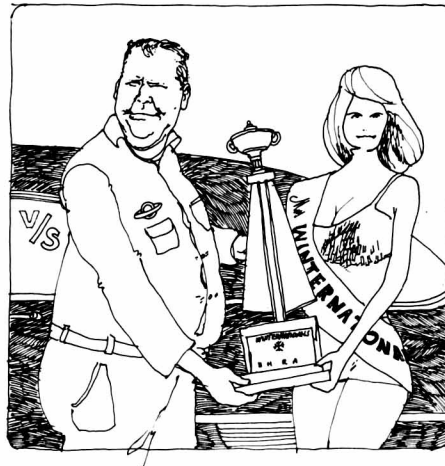
sandwich gasket. One trick to try is soaking the gaskets in hot water before applying them so they seat better. Spray on K&W copper sealant when installing them. Because the chambers are surrounded by O-rings built into the gasket, when you torque the heads down, all the water will squish out around the edge of the head, but none will get into the combustion chambers. As we said, Keith has used these gaskets as many as five times with no problem. If you happen to try the 1957-'58 J-2 Olds shimmed gasket, which fits, beware of the fact that it may leak water into the chambers over a period of time.

There are two different types of cylinder heads in the early Olds line: the 1949-'50 models came with wedge chambers, while the 1951-'53 engines were equipped with oval-shaped combustion chambers. Keith prefers the wedge chamber because he feels it has a performance advantage over the oval configuration, and this factor should be taken into consideration if you are planning on going the early Olds route. In any case, install new valve guides (of oilite bronze, made by R.M.C.) in such a way that the minimum amount of guide hangs down into the port, allowing maximum air flow. Keith also prefers R.M.C. valves with flash-chromed stems. To equalize the chambers and achieve the minimum volume, Berg shoots for 84.6 cc's in the 1950 heads when using the aforementioned .050 gaskets, and 77.0 cc's in the 1951-'52 heads with a .066 gasket.

Further suggested head modifications include filling the heat riser chamber with fire brick cement, as well as checking the springs for the correct tension. Take caution to make sure the harmonic shim is installed in the spring during checking so you get an accurate reading. Tension specs are as follows: for 1949-'51 springs, the reading should be 67 pounds closed at a height of 1.777 inches; the 1952 spring specs are 95 pounds closed at 1.829 inches, and 163 pounds open at a height of 1.463 inches. Howard Racing Cams manufactures a very high quality outer spring for the 1952-'53 Oldsmobiles, but you must remember to discard the inner spring if you use them. Don't sink the valves when equalizing the chambers if you can possibly avoid doing so, but it is a good idea to cut the valve stems so the tops are perfectly even when installed. Keith uses M/T chrome moly rocker shafts, which are nice but not a strict necessity. Rocker arms come in two ratios: the 1949-'51 rockers (GM555716) have a 1.5:1 ratio, while the 1952 and later rockers (GM561585) have a 1.8:1 ratio. The idea of putting the late rockers on the early engine will boost the lift from .333" to a whopping .400" without a cam change, but is rather illegal.

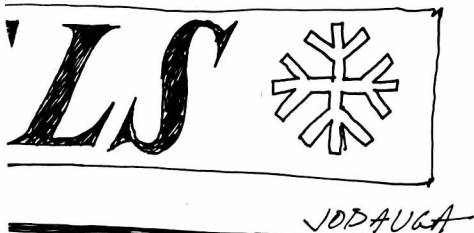
NHRA is concise as far as intake manifold modifications are concerned . . . no modifications are permitted. Be that as it may, a slim assortment of manifolds is to be found in the early Olds fraternity. The 1949-'50 engine has a three-inch natural ram atop it, the 1951 manifold comes only in a low profile two-barrel variety, and the 1952-'53 vintage offers a selection of two- or four-barrel single-carb manifolds. Incidentally, the 1952-'53 four-barrel manifold fits the 1951 engine and is permitted in NHRA competition. The power steering mount atop the manifold makes for a nice, sturdy (and legal) generator mount.

Carburetors for the Olds seem straight  
(continued on page 73)



timing chain and timing gears, along with stock unmodified hydraulic lifters and stock pushrods. If using the Racing Head Service #3 cam, the pushrods must be cut for cam clearance, as the valve settings will be .003 on the intake and .005 on the exhausts. In the 1951-'53 engines you can use pushrods from a 1957-'58 engine, as they fit, are solid, bigger in diameter, and let the lifter build up higher.

The early Oldsmobiles have a rather unique layout when it comes to gaskets and NHRA specifications. On these engines NHRA demands a cc volume of 99.34 on the 1950 heads, and 95.48 on the 1951-'52 heads; but it is not the usual chamber volume. Rather, the spec is a total volume including the chamber and the gasket, which can be achieved in any combination you prefer (e.g., no gasket and big chamber, medium-sized chamber with one gasket, severely cut head with small chamber and two gaskets atop each other, etc.). The gaskets are available in thicknesses from .030 to .088, but Berg suggests using the .050" thick Fel-Pro laminated asbestos



# Here are some coincidences that happened in 1968.

(Some of the winners who used Stewart-Warner tachs.)

## NHRA SPRINGNATIONALS

Ron Garey  
Stock Eliminator  
John Dianna  
Stock Runner-up

## NHRA NATIONALS

David Koffel  
Street Runner-up  
Wally Booth  
Super Stock Runner-up

## NHRA WORLD FINALS

David Boertman  
Stock Eliminator

## NHRA WORLD CHAMPIONSHIP SERIES EVENTS

Dud Arraud  
Albert Branham  
Bugeson-Weddle-Dixon  
Gene Brown  
Roger Caster  
Carroll Caudle  
Dick Chase  
Jim Clarke  
Sam Cunningham  
Jim Cypert  
Etter & McRea  
Paul Flanders  
Gary Glove  
Marlin Goff  
Don Grother  
Al Guerre  
John Hagen  
Bill Ireland  
Rod Kister  
Pete Kost  
John Livingston  
Ramon Lowe  
Dean Lowry  
John McLaughlen  
Ken McLellan  
Miller & Baker  
Bill Parlam  
Joe Smith  
Ed Terry  
Edgar Thomas  
Jim Waibel  
Dave Wren  
Williard Wright  
John Yurkiw

## AHRA GRAND NATIONALS CHAMPIONSHIP

Bob Coble  
Super Stock Eliminator

## AHRA SPRINGNATIONALS CHAMPIONSHIP

Shay Nichols  
Top Stock Eliminator  
Ancil Cline  
Middle Stock Eliminator

## AHRA NATIONAL CHAMPIONSHIP

Lawrence Little  
Top Stock Runner-up

## AHRA WORLD CHAMPIONSHIP

Jesse Shrader  
Middle Stock Runner-up

## AHRA WORLD POINTS FINALE

Herb McCandless  
Super Stock Eliminator  
Preston Honea  
Super Stock Runner-up  
Robert Shaw  
Little Stock Eliminator

## NASCAR DARLINGTON REBEL 400

David Pearson, 1st Place Winner  
Darel Dierenger, 2nd Place Winner  
Richard Petty, 3rd Place Winner

## NASCAR CHARLOTTE WORLD 600

Buddy Baker, 1st Place Winner

## NASCAR CHARLOTTE NATIONAL 500

Charlie Glotzback, 1st Place Winner  
Paul Goldsmith, 2nd Place Winner

## NASCAR ROCKINGHAM AMERICAN 500

Richard Petty, 1st Place Winner  
David Pearson, 2nd Place Winner  
Lee Roy Yarborough, 3rd Place Winner

## INDIANAPOLIS 500

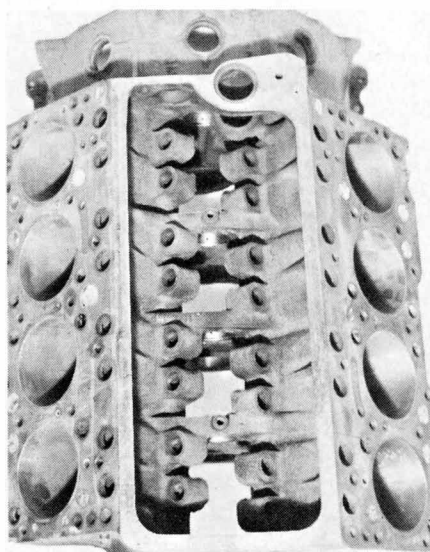
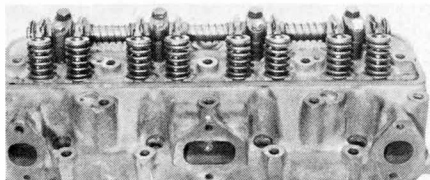
Of 33 starters, 26 used Stewart-Warner instruments. Eight of those were among the top 10 finishers, including Bobby Unser, winner and Billy Vukovich, rookie of the year.



## EARLY OLDS

(continued from page 35)

from the Mesozoic era. On the 1949-'50 models, you have a choice of the Carter WGD backdraft (118-66) or the Rochester backdraft (D07002570), which Keith prefers but whose modifications he is rather reluctant to chat about. For the 1951 engines, the Carter two-barrel downdraft may not be as advantageous as using the later four-barrel, as we have previously mentioned. The Rochester four-barrel (700 4800) or the Carter 9325 four-barrel can be used on the 1952 engines, and Keith prefers the latter because of its giant 1 1/16-inch venturis (both primaries and secondaries).



Keith prefers the 1949-'50 cylinder head with the wedge combustion chamber to the 1951-'53 oval chambered heads. The best cylinder block to find is the '49 vintage, as it features a steel retaining plate for the cam. Otherwise, use a '50-'53 block.

Additional bolt-on accessories such as ignition (stock distributor with 12-degree curve and a total advance of 36 degrees which comes in at 2600 rpm, used in conjunction with a Mallory transformer), plugs (Champion J4J's), and headers (Doug's 42-inch individuals, with 13-inch extensions for four-barrel carb applications) complete the engine picture. Essentially the engine should run in the neighborhood of \$650 including all parts, pieces, and specialty labor that must be farmed out (such as crank work, boring, boiling, and balancing, the latter of which was handled by Bill Hitchcock of Long Beach).

(continued on page 74)

# CROWER Monarch STREET/STRIP CAM THE BIG ONE



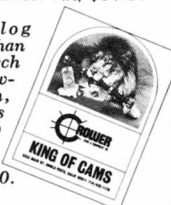
ONLY \$57.50

With a Genuine Crower Monarch street/strip cam you get BIG CAM performance through the entire RPM range. You get power at low end, mid range and on the top end. No flat spots . . . no mid-range power loss and no falling off at the top.

Crower Monarch Cams are race engineered by the cam grinder who grinds cams for the world's fastest cars and boats. The Monarch has the same engineering, is ground on the same machines, by the same technicians who grind the cams for Garlits, Kalitta, Prudhomme and most of racing's top money winners. A Crower Monarch Cam will give you flashing power but your car will be streetable. Has slight lumpy idle but your car will be easy to start. Every Crower Monarch Cam is guaranteed for two full years when installed with a Monarch Cam Kit. Guaranteed to 'degree in' within plus or minus 1° when installed on stock timing marks (eliminates costly installation procedures). Available at your dealer now in your choice of Hydraulic or Solid Lifter Grind, only \$57.50 list price.

Monarch Cam Kits Available In Solid or Hydraulic Lifter, kit has everything you need to supplement your Monarch Cam Performance. You get Racing Lifters, Keepers, Racing Springs, Retainers, Shims, Cam Lube, Timing Tag, Decals and Installation Instructions. Solid Lifter Kit, \$69.00. Hydraulic Lifter Kit, \$84.00

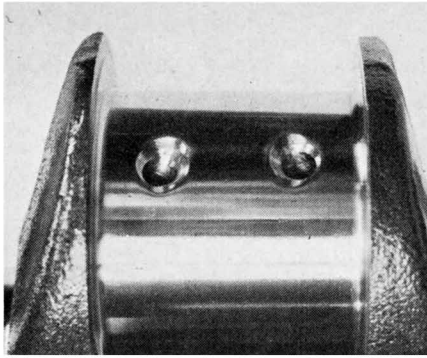
1968 Crower Catalog Ready Now. Bigger than ever, crammed with tech info on camshafts, Crowerglide super clutch, Crower Injection. Has complete details on how to install a cam. Sent with decals and 2 Iron-On transfers, \$1.00.



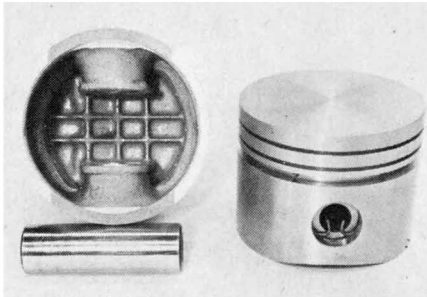
CROWER CAMS & EQUIPMENT CO.  
3333 Main Street, Desk No. 16  
Chula Vista, Calif. 92011  
phone 714/422-1178

## EARLY OLDS

(continued from page 73)

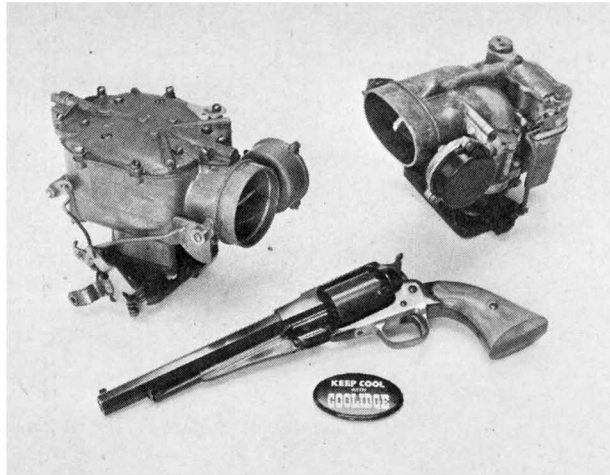


In addition to straightening crank and cutting journals .010 under, Reath put an approximate .030 chamfer in oil holes.

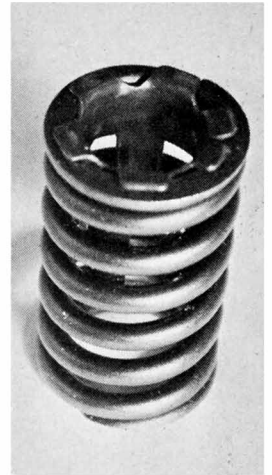


Jahns cast pistons are used because of their good quality for low price. Note how Tru-Arcs are put in with eyes down.

PHOTOS BY TERRY COOK



We're not trying to tell you these backdraft carburetors are old, but . . . Carter WGD 118-66 at right and Rochester D07002570 were found in a pyramid on a recent dig.



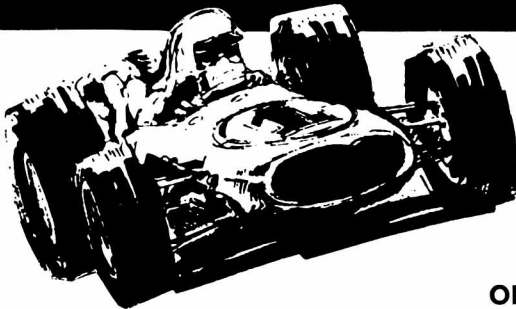
Be sure to include the harmonic shim in top of spring for tension check.

Additional expenses which will be incurred are the cost of the car (\$10 to \$50 if you scratch around), a Schiefer clutch and Hurst Line-Loc and shifter combination (if utilizing a three-speed), a 4.30 or 4.56 Twin-Pull Positraction unit (Auburn Manufacturing, Auburn, Indiana), plus a set of 8.50 x 14 Good-years. A tip for three-speed manual transmission users: replacing the brass shifting boot with one machined of steel is a necessity. For hydramatic users, Keith feels that racing with a cold

hydro takes an automatic .10-second off your e.t., so don't let the car sit with the engine shut off for extended periods of time just prior to an important race (but keep the manifold iced). Keith also feels that excessive beefing of the hydro can be detrimental to performance, because the engine has such a low horsepower output. (Note: B&M Automotive of Hydro-Stick fame reports that as long as the main line oil pressure of the transmission is not adjusted too high,

(continued on page 76)

# SPEREX



FLAMEPROOF  
COATINGS



**BELIEVE IT !!**

**ONLY SPEREX VHT IS THE PROVEN PERFORMER.**

If you're not using VHT on your headers . . . you're wasting your time and your money. **NOW** at all speed and auto shops. If your dealer hasn't got it, tell us, **BUT GET IT!!!**  
For complete catalog and name of your nearest dealer send \$1.00

**SPEREX CORPORATION**

2239 Pontius Avenue Los Angeles, California 90064

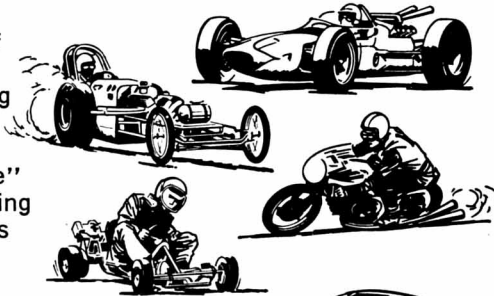
(213) 478-1541

Send self-addressed stamped envelope for free VHT decals.

# RAYBESTOS MAKES THE DIFFERENCE



The most complete line of high-performance pads. Sets for every major racing disc brake assembly. They practically end rotor scoring, give "straight line" stops, and safe, sure braking at any speed. Good brakes will help you win.



**Wins at INDY "500", LE MANS, SEBRING, TRENTON, LANGHORNE, MILWAUKEE, PHOENIX, HOOSIER 100**



HERE ARE 17 OF THE 39 RAYBESTOS HIGH-PERFORMANCE PADS  
(F—Front R—Rear E—Early L—Late)

Make, Year, Model	Raybestos Part No.	List Price Per Pad
Alfa-Romeo, 1966-62 Giulia Sprint, Spyder (F)	ST-724	\$8.35
Airheart, 1-23/32" Button for Cars, Karts, Motorcycles and 1/2 Midgets	ST-1	2.40
Austin Healey, 1967-66L, Sprite MK. IV (F)	ST-745	5.05
Cobra, 1965-63 (R)	ST-721	5.60
Cobra, 1963 (To Ch. CSX 2125) (F)	ST-705	9.75
Cobra, 1965-63 (From Ch. CSX 2126) (F)	ST-719	7.50
Corvette, 1968-65 (F or R)	ST-727	9.95
Halibrand, Spot "Championship" Brake	ST-4	2.65
Jaguar, 1966-64 4.2 Litre "E" Type (F or R)	ST-717	7.60
Lotus, 1966-64L Elan Series 2 (R)	ST-708	5.05
Lotus, 1965-63 Super Seven (F)	ST-707	6.20
Lotus, 1966-64L Elan Series 2 (F)	ST-754	5.60
M.G., 1967-63 M.G., Midget, M.G. 1100 (F)	ST-745	5.05
Mini-Cooper "S", 1966-64 All (F)	ST-747	5.55
Mustang, 1967-65 (Opt'l F)	ST-730	9.00
Porsche, 1966-63 901, GT 904, 911, 912 (R)	ST-735	4.15
Porsche, 1966-64 901, GT 904, 911, 912 (F)	ST-736	4.15
Shelby, 1967-66 Mustang G.T. 350	ST-730	9.00
Triumph, 1966-61 Herald, Spitfire (F)	ST-723	5.20
Triumph, 1967-66 GT-6 (F)	ST-719	7.50

If the pads you need are not listed here, send 50c for catalog that gives complete information on the Raybestos high-performance line.

**HOW TO ORDER** Be sure to specify the number of pads by part number. Send check or money order to Racing Department, Raybestos Division, P.O. Box 1021, Bridgeport, Conn. 06601. NOTE: Add \$1 per 4-piece set for postage and handling east of Mississippi, \$2 west of Mississippi River.

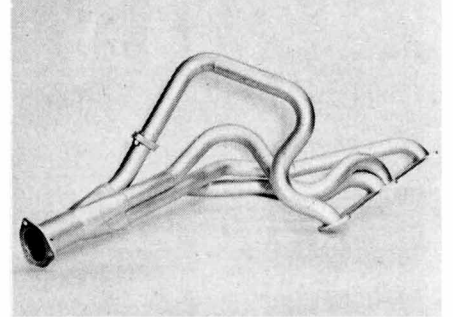


**BRAKE LININGS — BRAKE PARTS — BRAKE FLUID**  
RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.

## EARLY OLDS

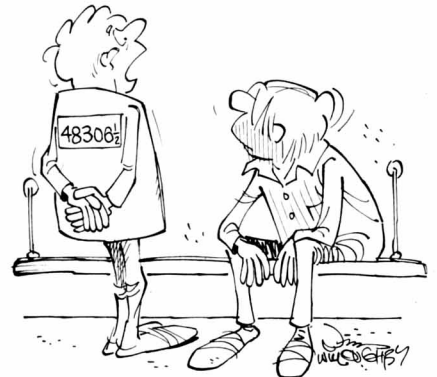
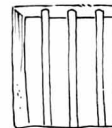
(continued from page 74)

that this "choking" of the engine will not be a factor, regardless of the low hp output). One last bit of advice: Keith feels that perfect front end alignment and wheel balancing is important, because, on the low power Olds, every little bit helps.



Headers are Doug's 42-inch individuals, which Keith recommends. Currently, Doug is the only old Olds header builder.

So that's about it. Excluding your own labor, you can build yourself a winning race car for under \$1000, even a potential NHRA record holder. The important thing is to watch your pennies and spend your money wisely. Fifteen-second elapsed times may not make your hair stand on end, but the whole idea is to go racing to win, something many faster car owners fail to do. Yes, the "old Olds" may be rather slow by modern day standards, but after you look at it for a while, it's not really so ugly... it's almost homely.



"Everyone is out grabbin' up old vintage bodies. But the one I grabbed up was parked at the corner of Spring and Main!"