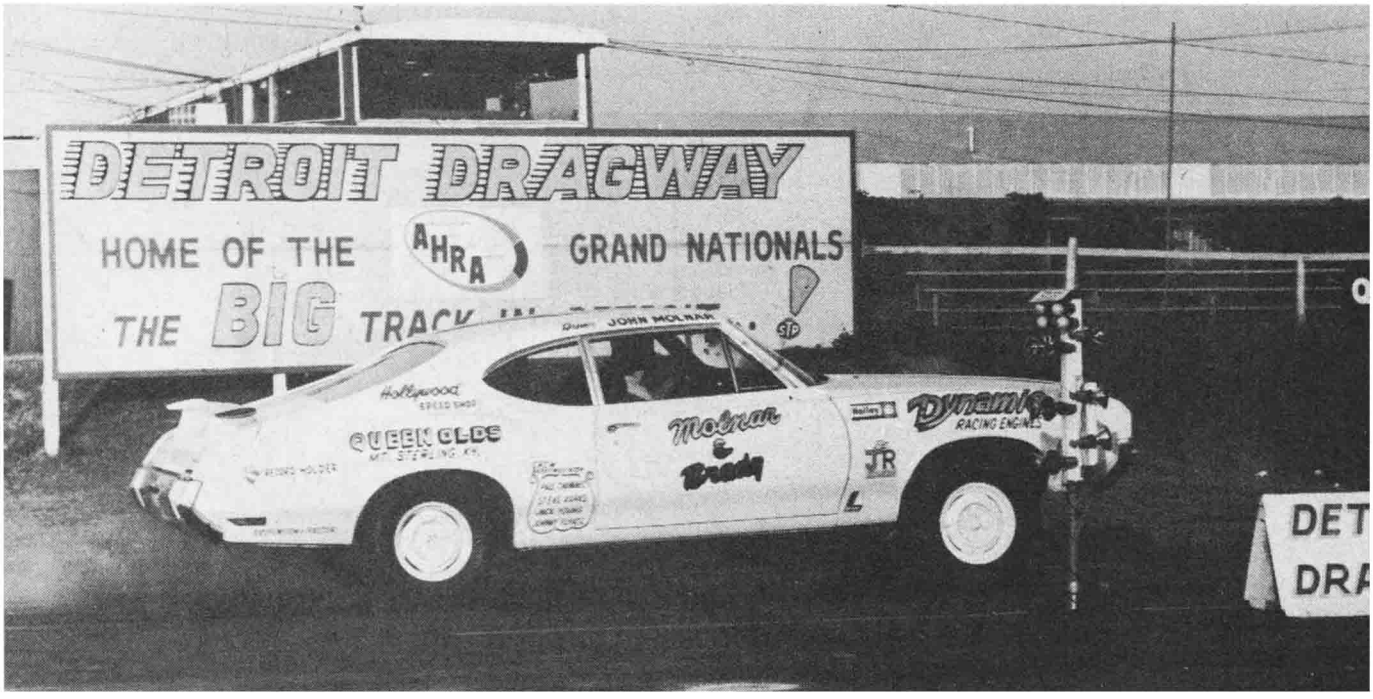
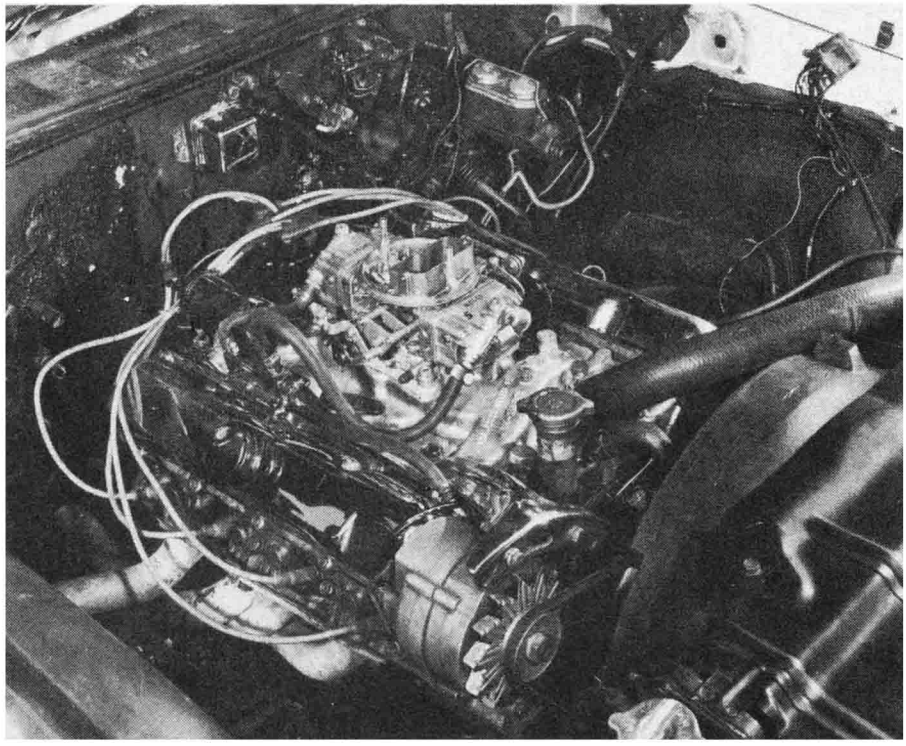
CLASS-IFIED OLDS

Molnar and Brady build a super-sharp Olds that races in ten separate classes and wins!

BY ALEX WALORDY



John Molnar an AHRA record holder, has no trouble in the traction-action department, especially with 350 inches of Olds power backing him.



Rear stacks of Jr. headers exit through the fender wells to achieve equal lengths.

ACTIONS SPEAK LOUDER than words, and usually, an Oldsmobile winds up to be on the winning end of an argument. Naturally, as far as Molnar and Brady are concerned, Olds is the only way to go, and they speak from experience. They built one successful machine, ran it and ran it until Brady decided he was tired of racing for the used car department and switched to a new car —Oldsmobile, of course.

Detroit Dragway is Vance Brady's home base, and Vance is one of the more observant tech inspectors around—a go-getter whose long sun visor cap conceals a slightly receding hair line (I should talk). During the week, he teaches math and thermodynamics and the rest of the time he hones his teeth on the rule book. When he first started racing actively, it was the study of the rule book that led him to Oldsmobile when other people were still on the GTO bandwagon. It was the rule book again, plus a healthy knowledge of engines, that kept him from switching to the

bigger-inch Olds engines because of their long strokes. The '66 which John Molnar and Vance Brady campaigned had a four-inch stroke, but the next year the stock stroke was lengthened to 4¼ inches to cut down on emissions. None of this for Brady. Instead, he has gone to 350-cubic-inch power, housed in a 1970 vintage F-85 bought from sponsor Queen Olds out there in sharpshooter country, Mount Sterling, Kentucky.

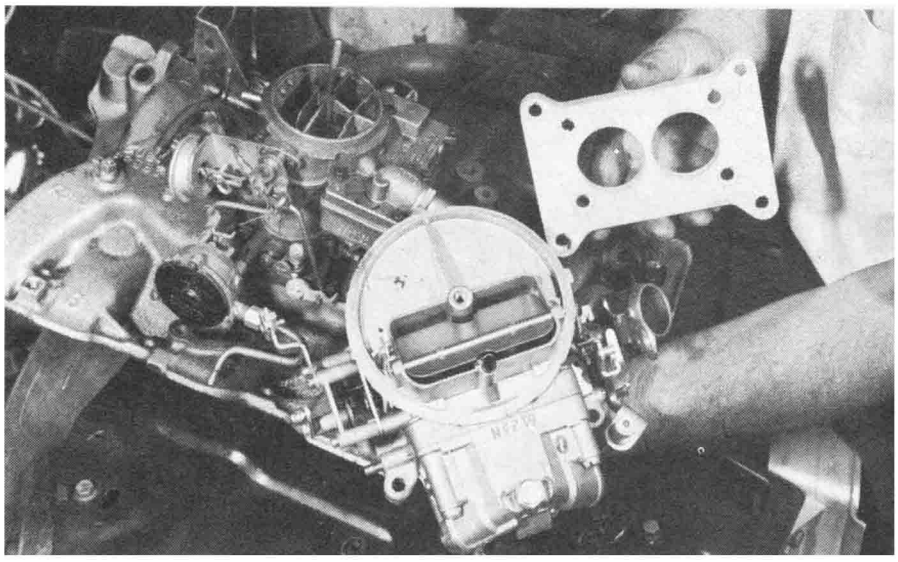
"What made you pick this car?" we asked Molnar. "It fits ten classes" he answered, adding "and we can win in most of them." What's more, he can cover the field in AHRA or NHRA, switching back and forth every week-end if need be. For instance, Brady can now go after NHRA point standings or AHRA money. Molnar has always been super sharp at the lights and tells us that it only takes him a couple of runs to get used to the car after changes in class.

Pure Stock in either AHRA or NHRA is a bit slow for Molnar's blood. In the next one up, K/Optional in AHRA, Molnar promptly established a new 13.47 record and, of course, runs under it at will. Closest equivalent to that in NHRA is L/Stock with a slightly lower 12.97 record and here, too, Molnar experiences no trouble at all. This is a class where the 350-cubic-inch Olds is rated at 250 horsepower and receives a cast-iron manifold and a Rochester two-barrel. To make it put out power, the Rochester was richened up quite a bit—so much so that it would barely idle. On the other hand, at the top end it puts out all kinds of horsepower. During the AHRA Grand Nationals in Detroit, the Olds posted 100.20 miles per hour and then promptly backed it up with a 103 using a last-minute-assembly non-blueprinted engine. Brady considers the Rochester as an interesting beginning for the two-barrel performance.

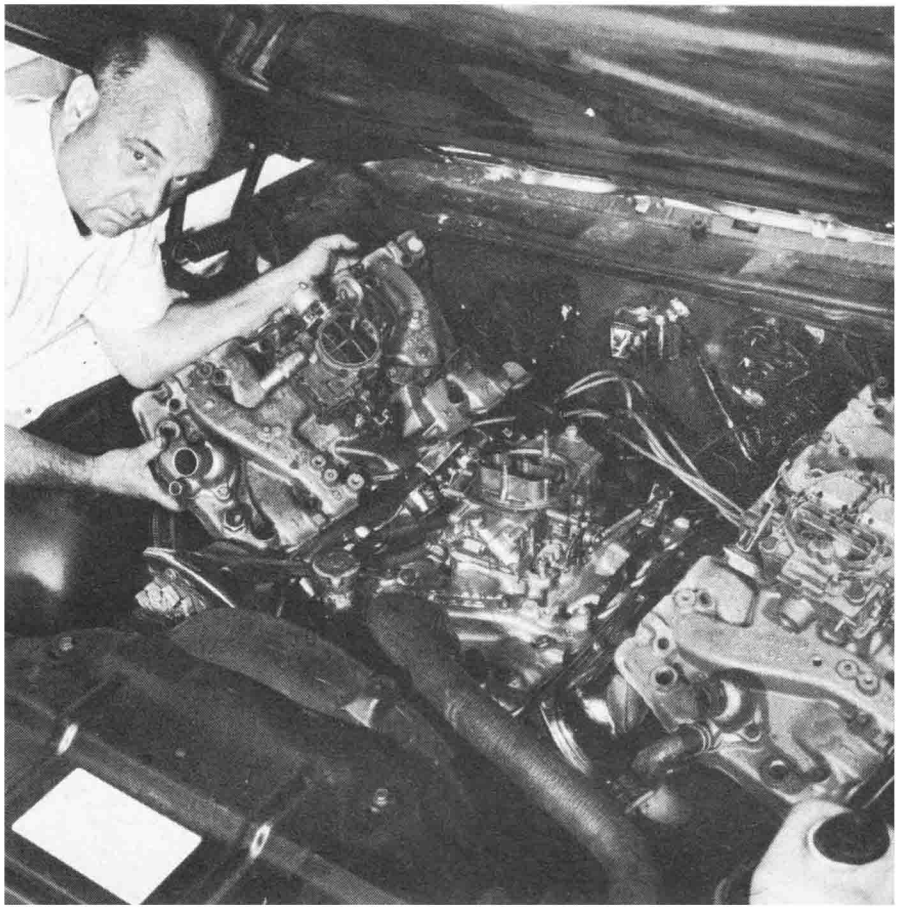
Molnar, incidentally, told us of a neat pet gimmick of his when he wants to put down a good mile per hour without lowering the record out of hand. As soon as the lights come down, he breaks the beam, takes his sweet time and then leaves, earning a fabulously slow et while posting a true mile per hour.

Going up in class, the Molnar-Brady machine can run either I/Stock or H/Stock. I/Stock calls for the same hood as the two-barrel, a mild cam, and a cast-iron intake manifold. You also have to run the heads with the smaller intake valves. The record for I/Stock is 12.40. On the other hand, with H/Stock the record is 12.38 within two hundredths, and yet you are allowed to run a Ram Air hood, an aluminum intake manifold and a four-barrel. Naturally, H/Stock is the class. On the AHRA side of the ledger, the identical car fitted with a Holley four-barrel with a dual squirter winds up in G2 while the big Holley two-barrel gets into G3. In other words, you can just about play tunes with class selections and hopelessly confuse the competition as to your intentions. Incidentally, in two-barrel regular-fuel form, the Olds 350 is just about what you will be racing in '71 in the stock classes.

When you race an engine that is short of cubic inches and carburetor cfm, the little tricks can become mighty important. For instance, to retain an ample fuel delivery at the top end without going over-rich in the



John is always experimenting—now he's changing from Rochester to a Holley two-barrel jug.

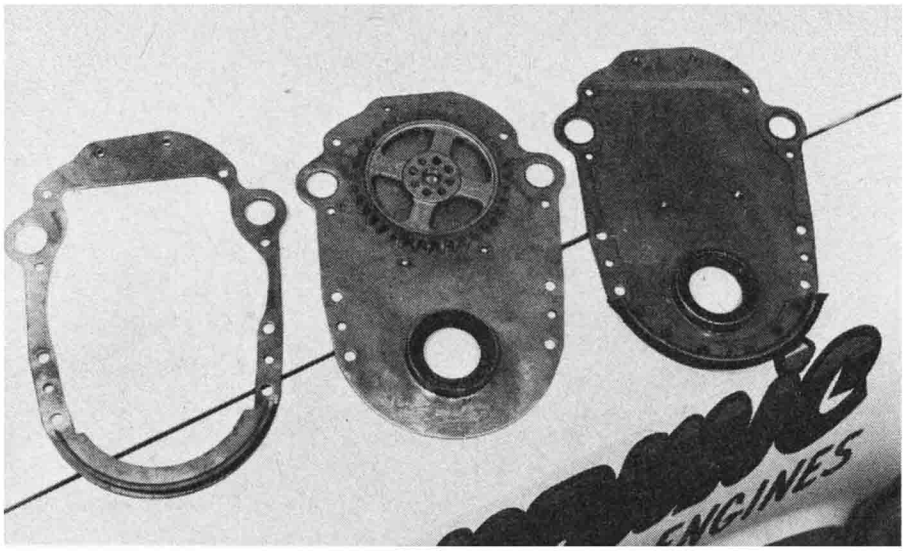


The Olds 350 offers a choice of aluminum or iron manifolds. Aluminum manifold and Holley are tops.

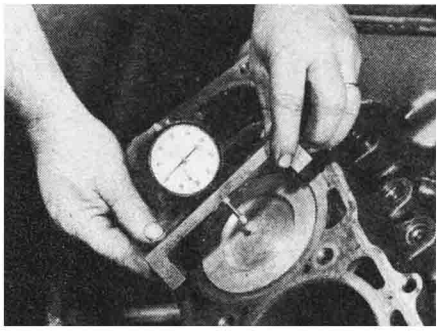
mid-range, Brady added a special vent tube leading to the fuel bowl. The bevel at the end of this vent tube does nothing. On the other hand, at top rpm, air velocity is high enough to impact against the vent tube and pressurize the fuel bowl, thus richening the mixture. Other tricks which Brady is a little more reticent to reveal involve a high-flow two-barrel Holley and a Rochester that has no spring on the air valve and uses squirters like a Holley. It may sound confusing, but the end result is very simple. Molnar stuffs his foot in it and drives around the car in the other lane.

Vance Brady is a man of many talents who can machine almost anything he sets his mind on. However, when it comes to doing engine blueprinting, he promptly delivered the block and crank to Jim Cavallaro's Dynamic Engine Service in Detroit. Normal line-boring, decking and honing followed. In went goodies such as a crank indexed by Moldex, which was then Tuftrided and polished. Bearing clearances are standard—.0025. Since stock Olds rods don't stretch like the aluminum ones, the engine can be built to closer compression tolerances. Incidentally, Ford wrist pins have the same length and diameter as the Olds but offer considerable weight saving. After losing a couple of True Arcs last year and gouging the cylinder walls with the wrist pins, Brady and Molnar switched to Spiralock pin retainers. Completing the short block is a set of Venolia pistons with chrome top rings and cast-iron second rings.

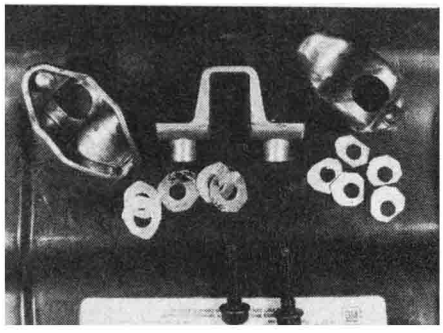
Normally, thinkers who are long on theory become too impatient with the little things. Not Brady. He details a car right into the winner's circle. For instance, after lowering the pan a couple of inches to get the crank out of the oil, he doesn't just extend the pump pick-up tube. Instead, he brought down the entire pump by using longer bolts and a two-inch spacer block. To gain the extra pump shaft length, two shafts are welded end to end on a jig that holds them in line. It's far superior to a long pick-up which is frail, subject to vibrations and air leaks. Most people are content with adding shims behind an oil-pressure relief spring. Brady, on the other hand, drilled an extra hole and brought the spring retaining pin further down. Oil pressure is kept at 60 pounds, thanks to some Valvoline 40-weight oil. However, to improve on oil flow at the main bearings, the oil galleries are carefully matched to the holes drilled in the bearings.



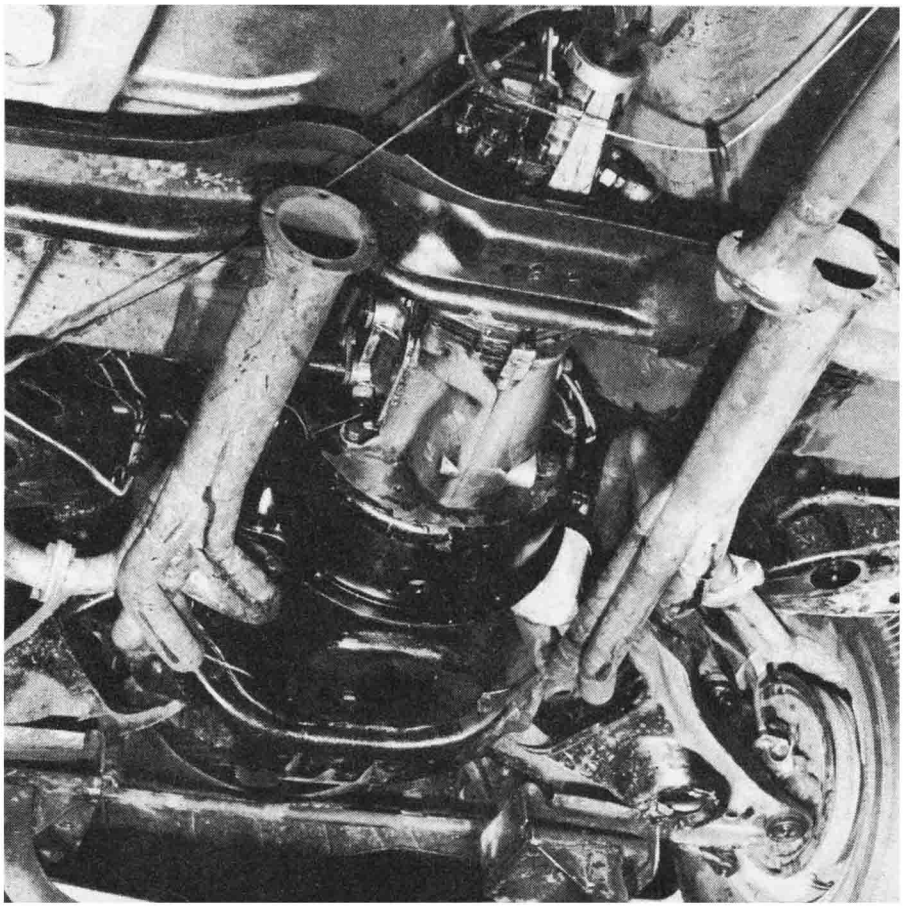
An eight-position vernier cam gear eliminates bushings and offers a strong, reliable drive.



Brady made his own deck height checking stand.



Home-made shims yield positive lash adjustments.



Slick-shifted crash box is operated by heavy-duty Olds linkage. Steel bushings replace nylon.

Molnar is a great believer in leaving with his foot flat on the floor and Brady, in turn, tailors the car to the track for this type of departure by working with the cam, advancing or retarding it. Pulling a stock timing case cover time and time again is quite a hassle especially when you take into account that the Olds cover has a retaining lip for the oil pan seal. Vance mills out the insides of one Olds cover and machines the lip off another one. The combination of the two covers allow him to reach the timing gears without disturbing the oil pan gasket.

Eight holes carefully machined in a camshaft timing gear offer an accurate vernier action for advancing or retarding the cam, with each hole good for a degree and a half change. In addition to working with cam timing—advancing the cam increases the bottom end—changes in valve lash also have a favorable effect. For instance, an increase in clearance does the same thing as using a milder cam by reducing the number of degrees during which the valve stays open.

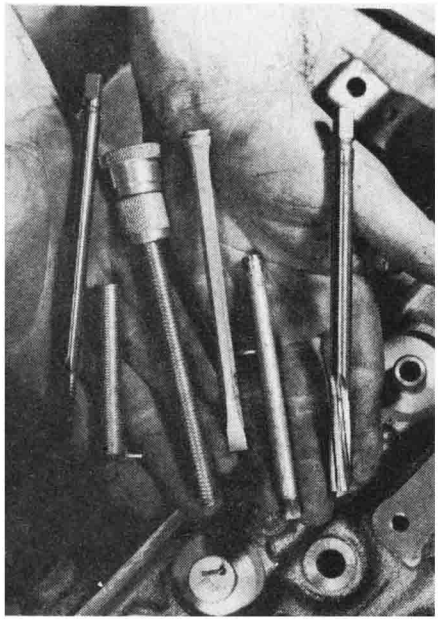
Another major area for gaining top end or mid-range, lies in tuning the headers. Vance has experimented with standard 1⅞-inch Junior headers as well as with a set that has two-inch stacks. To gain even runner lengths, one branch on each side comes through the fender wells and then rejoins the other three at the collector.

The standard Olds distributor works quite well providing you take the trouble to add a set of Mallory 102X points which are good for 8000 rpm. Timing is moderate, with 12 degrees in the distributor and a 36-degree total advance at 2000 rpm. Needless to say, vacuum advance is no longer used.

Brady does his own cylinder heads and has more equipment in the two-car garage back of his house than most professional shops. Naturally, any good valve job begins at the guides. You can't expect it to be any other way because all cutting operations plus the centering of the valve and valve seat all depend on an accurate guide. As the racing season progresses, any wear in the guide hurts the oil control as well as valve seating. In an Olds, as in most heads, the guides are cast integrally with the head. When they wear you can ream them to the next oversize and go to an oversize valve stem. But this adds weight, and so most people prefer to knurl the guide. Brady goes a step further and drills out the guide, then taps it with a threading device. Next, he installs Bronzewell inserts (a continuous coil of a hard bronze wire that threads into the guide.) After the insert is installed, it is actually expanded into the head by a mandrel

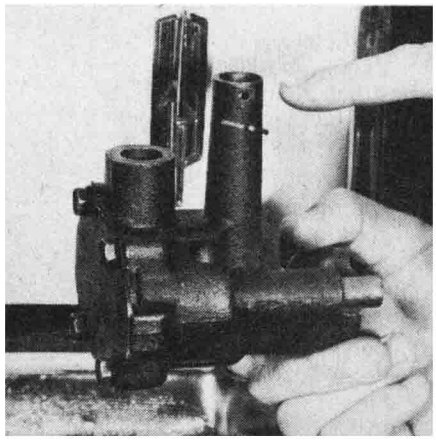
(Continued on page 68)

Air Lifts' pressure is changed with outside valves.



Bronze wall guide installations require complex tools.

Aluminum cover increases Olds rear's capacity. Canadian Chevy rear uses 5.38's!



Brady lowers pressure spring retaining hole.

mirror—a major safety advance. When I finally tested a car with this mirror, it promptly fell off and gashed a piece out of my leg.

I'll probably go to the '72 car introductions, if I'm invited after writing this. But what I'd like to hear about when I go is what the company has done in the past year—not to build newer cars—but to build better ones. That will be the biggest automotive news in years. And it will *really be new.*

SLIPPERY

(continued from page 48)

will find a complete blueprinting job by Jim Cavalaro of Diamond Racing Engines in Detroit. In addition to line-boring and decking, the block is also deburred and painted both inside and out. A stock truck crank is ground .010 under on the rods and mains. Chevy 302 rods straight out of a Z-28 are polished and rounded at all corners. To cap it off, you will find some Develco rod bolts and copper plating rather than bushings at the pin ends of the rods. The idea is to keep maximum rod wall thickness instead of boring out to make room for the bushing. Lightweight Venolia pistons with Teflon buttons and a Z28 oil pan and pump complete the short block.

The Lakewood bell housing encloses a 40-pound flywheel drilled to accept either a 10½ or an 11-inch clutch. After weathering a round of clutch problems, Gilbert now runs a Hayes pressure plate and a solid disc. However, the engagements are a bit harsh and he is planning to switch back to a Hayes spring hub disc.

The Camaro alternates between a rock crusher M22 transmission and a Mopar box. The Mopar is a big, heavy-duty unit which, together with an adapter, weighs 50 pounds more than the M22. Unfortunately, it had lost fourth at the time we shot our pictures and Gilbert was back to running the Chevy, which is standing up quite well. By way of telling you how closely the weight is trimmed on this Camaro, the extra 50 pounds of the Mopar box had to be made up by reinstalling the rear seat. A large removable cover in the floor pan speeds up the transmission changes so that they can be made between rounds if need be. Since Gilbert is a good-sized guy who can throw shifts as hard as anyone, he doesn't need much leverage and opted for a Corvette shift tower, rather than one from a Camaro, so as to gain a shorter throw.

Even the Chevy 12-bolt axle didn't stand up too well to the new-found engine power. After a siege of broken spider gears and ring tears, a switch was made to a ¾-ton Chevy truck rear of '63 vintage. This rear is a full 150 pounds heavier than Chevy's 12-bolt job but is considered unbreakable. One bit of advice Jim gave us was to get the ¾-ton rear from a pick-up rather than from a van to get the benefit of lighter, smaller brakes. Dimensions taken from the previous axle location were used as a guide in aligning the new one. You could probably manufacture a new set of spring pads but Gilbert simply salvaged some from a '68 Camaro, welded them in and added tie-down straps that go around the top of the housing and also brace the pad.

Midland Tool milled out a set of steel wedges from flat stock. These are inserted between the Lakewood traction bars and the spring pads to nose up the bumpers at the end of the bars. On the right side, contact occurs right from the start and at the left there is only an eighth-inch wind-up space. Now he gets immediate preload on take-off and yet there isn't enough difference between the two bars to pull the car sideways during shifts. Multi-leaf Camaro springs replace the single leaf ones, but the Mr. Gasket 50-50 shocks are mounted in the stock position, in front of the axle, rather than staggered as in later Camaros.

The ¾-ton rear has a different bolt pattern than stock Chevy and Gilbert wound up having to make his own wheels. Truck centers were cut down on a brake-drum lathe to form a press fit in 7-inch Corvette rims. After aligning the centers to the right offset inside the rim, the wheels are welded on both sides. A brake drum lathe, incidentally, proved handy for machining and aligning the wheels. Add to this a set of 11.00/15 M&H's with soft compound or similar-sized Goodyears. Either way, Gilbert smokes them to a quick win.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (Act of October 23, 1962; Section 4369, Title 39, United States Code)

1. Date of filing: October 1, 1970.
2. Title of publication: SPEED & SUPERCAR
3. Frequency of issue: Bi-monthly.
4. Location of known office of publication (Street, city, county, state, zip code): 1560 Broadway, New York, New York 10036.
5. Location of the headquarters or general business offices of the publishers (not printers): 1560 Broadway, New York, New York 10036.
6. Names and addresses of publisher, editor, and managing editor: Publisher (Name and address) Irwin Stein Walter Zacharius Magnum Royal Publications, 1560 Broadway, New York, New York 10036. Editor (Name and address) Martyn L. Schorr (Address above). Managing Editor (Name and address) Alan Root, (Address above).
7. Owner (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and address of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given): Magnum Royal Publications Inc., 1560 Broadway, New York, New York 10036. Magnum Communications Corp., 1560 Broadway, New York, New York 10036.
8. Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities (if there are none, so state: None.
9. For completion by nonprofit organizations authorized to mail at special rates (Section 132.122, Postal Manual). The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes: Have not changed during preceding 12 months.

10. EXTENT AND NATURE OF CIRCULATION	No. Copies Each Issue During Preceding 12 Months	Single Issue Nearest To Filing Date
A. TOTAL NO. COPIES PRINTED (Net Press Run)	176,718	182,670
B. PAID CIRCULATION		
1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	173,565	179,170
2. MAIL SUBSCRIPTIONS	92	93
C. TOTAL PAID CIRCULATION	173,657	179,263
D. FREE DISTRIBUTION (including samples) BY MAIL, CARRIER OR OTHER MEANS	1,463	1,475
E. TOTAL DISTRIBUTION (Sum of C & D)	175,120	180,738
F. OFFICE USE, LEFT-OVER, UNACCOUNTED, SPOILED AFTER PRINTING	1,598	1,932
G. TOTAL (Sum of E & F—should equal net press run shown in A)	176,718	182,670

I certify that the statements made by me above are correct and complete.

WALTER ZACHARIUS

(Signature of editor, publisher, business manager, or owner)

CLASS-IFIED OLDS

(continued from page 42)

and then reamed to size. Spaces between the coils on the Bronzewell form a series of oil pockets that contribute to sealing and lubrication. In fact, they work so well in that respect that Brady omits oil seals on the exhause side. Faster shifts begin with a Hurst stick and some Hurst steel bushings to replace the nylon ones. The rest of the linkage is made up of heavy-duty Oldsmobile pieces. Grinding longer ramps into the shift detents makes for smoother and faster shifts. Another step in this same direction was to remove the blocker rings from all gears except first. The transmission, however, is not slick-shifted and all the teeth in the sliding sleeves are retained for strength.

The rear axle is a standard Olds unit with 5.0-to-1 gears. A Canadian Olds, Chevy-type-rear that will fit allows a wider gear selection such as a 5.13 or a 5.38 but this has not been necessary to date. That intriguing Olds aluminum cover on the rear axle proved to have more than just a dress-up value—it holds an extra pound of grease and helps the rear run cooler. Rear suspension work includes a pair of Air Lift bags and separate lines extend from each bag to a convenient valve and filler point at the side of the car. The pressure changes are handy in getting the car back to the straight and narrow, when it shows signs of pulling to either side. Both Molnar

and Brady tell us that the tires handle much better at the top end when the car is trimmed that way than by trying to straighten it with unequal tire pressures. Some interesting experimenting has been done with a traction bar complete with rubber bumper and all, which is bolted on to the center of the rear axle alongside the housing and bears against the floor pan. Being centrally located, this traction bar resists wind-up with cranking more load to the right or left of the car and making it steer.

In AHRA G2 class you can run any tire size, and so Brady mounted some nine-inch Goodyears on seven-inch rims. The K/O class calls for an eight-inch maximum and for NHRA, he is limited to seven inches. Going to a wider tire on narrow rims bulged out the center of the tread, so full-width contact was restored by switching from six-inch to seven-inch rims. Up front, extra coasting time through the lights is gained by a set of big Stahl tires.

Seeing Molnar get off the line is an eye-popping experience because you never know if he is going to smoke out, drive out, or wheelie, and he does all three with equal facility. He did switch from the light flywheel he had originally installed to a Schiefer 40-pound steel flywheel and uses this in combination with a Line Lock. He pulls up, stages and starts winding up while the staging lights are still on. By the time the Christmas tree works down, the back wheels are beginning to spin and smoke, and then everything is *go*.

COOL IT!

(continued from page 22)

be much air flow available at this point, so a separate motor-driven rotary blower and sheet metal ducting are provided to feed a blast of cool air through the radiator! It might seem like a complicated and expensive answer to rear axle lubricant cooling. But the Holman & Moody system has proved more effective and reliable than most simplified systems. It drops rear axle lube temps around 100 degrees, and rarely fails. Some teams have tried to simplify this installation by putting the radiator up in the back of the body where it can get some air flow from the open windows of the car. But this isn't as efficient as having the separate motor-driven blower to feed the air.

Separate cooling of transmission lubricant on stock cars, both NASCAR and Trans-Am, is not widespread yet. Transmission oil