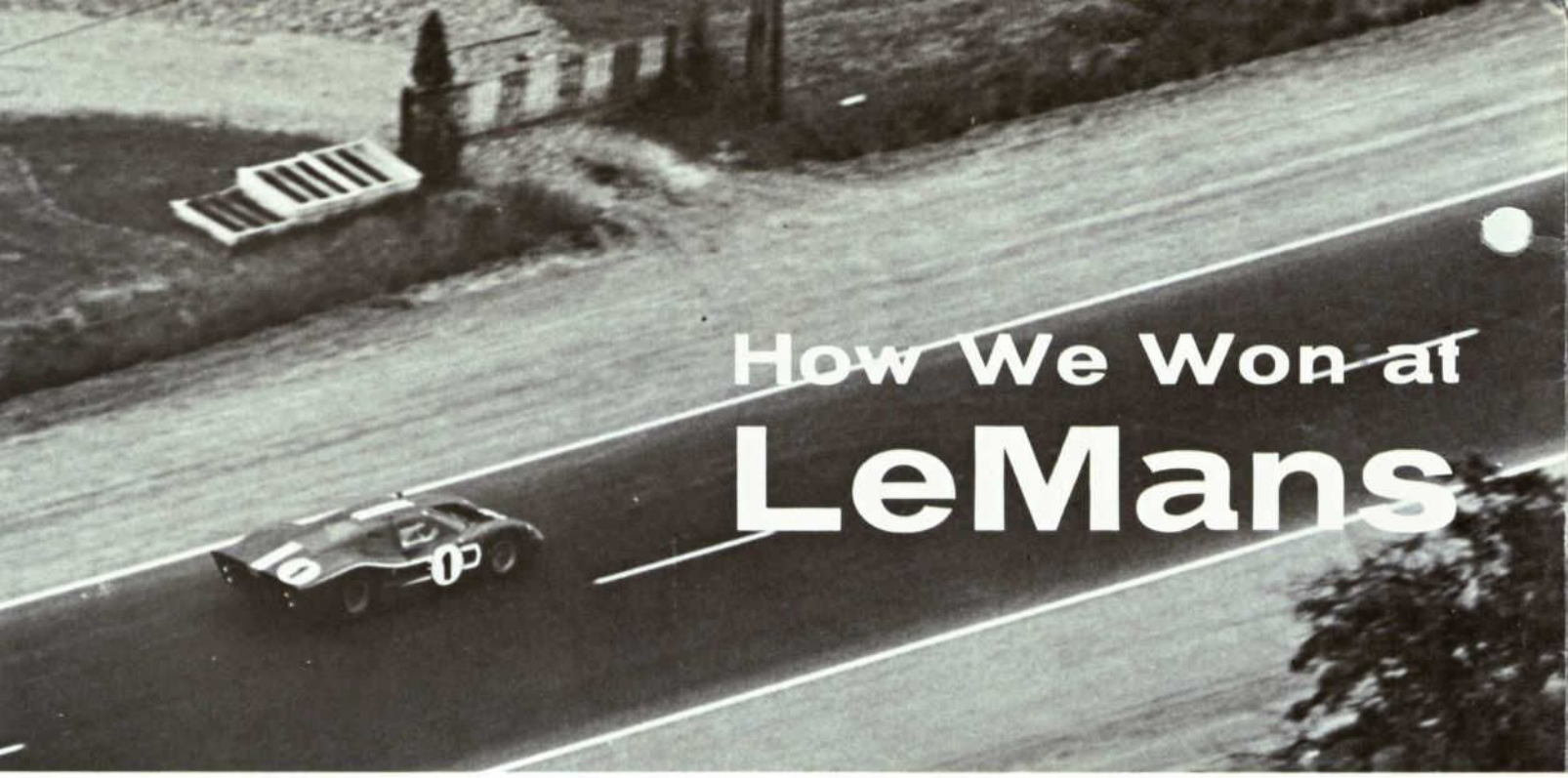
PUBLISHED FOR AUTOLITE REGISTERED DEALERS Autolite Ford

contact

Vol. 4, No. 5, 1967



How We Won at LeMans

The co-pilot of the winning Autolite-equipped Ford gives his own account of what it took to win the world's toughest road race

by Dan Gurney

THE 24 HOURS OF LEMANS is a very unusual race. Winning it, as happened this past June for A. J. Foyt, Ford and myself, is a tremendous thrill—and a job—unique in the world of international motor racing.

LeMans is the oldest and most prestigious of the handful of long-distance road races run each year throughout the world, primarily for prototype and Grand Touring automobiles. To boil it down, a Grand Touring car is a high performance car built on a production minimum which satisfies the FIA, or international rules. A prototype is much more of a one-of, all-out type vehicle which still conforms to certain regulations common to the GT cars—a sort of experimental GT car. In recent years, particularly since Ford began to concentrate on this type of racing, the speed capabilities and overall performance of the prototypes at LeMans have become downright breathtaking.

The LeMans course is more than eight miles to the lap and most of it extremely high speed. The Mulsanne Straight is the longest single stretch, although it is a mistake to think of Mulsanne in terms of the flat straightaways at a track such as Indianapolis. Mulsanne's three-odd miles are a narrow ribbon of road which rises and falls and follows a slightly angular course through rows of trees. It is not unusual to top 200 mph here, which can be quite an experience at night when you are running by headlights alone, often through mist and rain and in company with some of the smaller cars which may be traveling 100 mph slower.

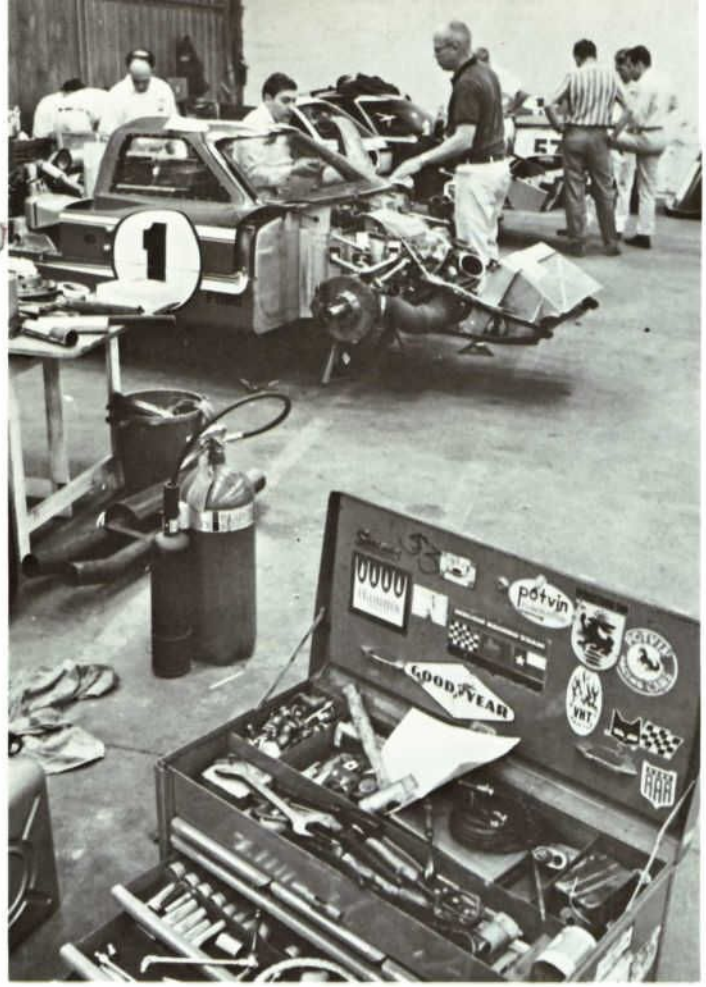
The LeMans course lies south of Paris, just outside the town of LeMans and much of it is made up of actual roads used by natives during the rest of the year. A full-fledged carnival, complete with neon signs and rides and booths, is pitched inside the course behind the pits and the total attendance each year is well over 100,000 for the race and attendant activities. I usually fly into Paris, rent a car and drive down. It's a beautiful trip, with the countryside in full bloom at that time of year.

This time I had raced our own Eagle Formula I car in the Grand Prix of Holland at Zaandfort the weekend before LeMans and was scheduled to go straight to the Belgian Grand Prix at Spa-Francorchamps the weekend immediately after. But as I drove down, I had no trouble concentrating on the job at hand. I knew "A.J." and I had a very good chance to win and I knew how badly Ford wanted the race.

Had strong competition

The primary competition for Ford this year was Ferrari, which had dominated the race so singularly before Ford broke their spell in 1966. Also we couldn't discount the Chaparral, the Chevrolet-powered "flying wing" creation of Texan Jim Hall. Porsche had a handsome fleet of two-liter cars which can always be considered a darkhorse threat even against the larger prototypes, particularly in the event of bad weather. But most of the experts were looking for a Ford-Ferrari-Chaparral showdown.

The P4 which comprised Ferrari's chief weapon was a tremendous machine, the best car the Italian factory has thrown into long-distance racing in its history. Its predecessor, the P3, was nothing to scoff at, and there were several of those around too. The Chaparral looked better than ever



The Mk. IV, like the other Ford teams, was powered by a seven-liter, or 427-cubic-inch Ford engine, which pulled about 500 hp

A small bubble was added to the roof to provide more headroom

A full-fledged carnival, complete with neon signs, rides and booths, is pitched inside the course behind the pits. Total attendance at the race each year is well over 100,000

also, showing excellent speed in practice. Numerically, there were seven Ford team cars—four of the latest Mk. IVs and three Mk. IIBs—plus some privately entered GT40s, Mirages and even a Shelby Mustang. Ten Ferraris, including three factory cars, were on hand. Chaparral had two entries and Porsche, 10, five from the factory.

A team effort

When "A. J." and I arrived we went through the usual preliminary inspections and examinations, then settled down to making ourselves comfortable in our car, a beautiful red Mk. IV carrying the number "1". The Mk. IV is a dazzler. It is the product of extremely fine development—a remarkably comfortable car with remarkable handling qualities. It also is better streamlined than any car before it—even with the little bubble they had added to the roof of our car. At my 6′2″ it's a little hard for me to tuck my head inside, otherwise.

Carroll Shelby's veteran team prepared our Mk. IV and their good work was a real asset. Still, it's up to the drivers to tune themselves into the car, and a bit of vice versa. Twenty-four hours can be a long time. A. J. Foyt, of course, is one of this country's greatest drivers, but it was his first time at LeMans and my tenth. As "A.J." put it, "Dan, I'm a newcomer here. You take over and get the car adjusted from a handling standpoint." As a result, "A.J." did very little driving in practice. We talked over the car and the course at great length and when the race came, "A.J." came through with a fine performance.

Qualifying results, as is so often the case at LeMans, were no criterion of what was to happen in the race. I placed our car ninth—the lowest I've qualified for this race in a long time. The top 10 were Bruce McLaren's Ford, Phil Hill's Chaparral, Mario Andretti's Ford, Denny Hulme's Ford, the Fords of Hawkins and Gardner, the Ferraris of Parkes and Rodriquez, our Mk. IV and the Ferrari of Beurlys. We were having a problem which required

lots of work on the car and were not storming around for lap records each time out in practice. I felt it was up to me to set an example for "A.J." to prove we didn't have to be "hot dogs." We just wanted to win the race.

A big field

I started the car, running across the track from the traditional LeMans start with the 53 other drivers, each of whom had a co-driver watching anxiously from the pits. I got a fairly good jump, deciding not to buckle my harness until reaching the Mulsanne, which comes up soon after the start, as several drivers do. At the end of the first lap there were three Fords and a Ferrari ahead of me and I began to concentrate on our race plan.

The first couple hours you try to avoid trouble, setting a fair pace but making an effort to go a little slower than you feel you should. Then, gradually, you get smoother and smoother and begin to develop a feel for the car, the course and the race. Most important, by taking it easy at first you haven't taken anything out of the car. You are careful how you shift, you are careful not to slip the clutch and not to brake too hard. Then, after eight to 12 hours you evaluate the situation and invariably find that the complexion of the race has changed drastically. Many cars will have retired and you usually are in different company from the early stages. You really can't plan very far ahead because of this. In our case, the farther we got into the race, the more we backed off. As it happened, we took an early lead. We had good luck and although we were concentrating on being conservative, we just seemed to steadily stretch our lead.

LeMans is a different race to win. While you are not extending your car to its ultimate, you are trying to go as fast as possible. It requires long, steady concentration. *We never extended our car to its ultimate.* We developed a style. I've seen it proved over and over at this race. If you hustle, first thing you know you are going to have a long, unexpected pit stop and then the timing, the rhythm, is broken, and it's hard to get it back.

Encountered no trouble

It was an ideal race for us—not one long pit stop or any trouble of any kind. We found that the car would go almost as fast at half throttle as it would at full throttle and for the last few hours we never used full throttle—not coming off the corners or even on the Mulsanne Straight.

It was significant, I think, that besides winning overall we also won the Index of Thermal Efficiency, a formula based on mileage as related to engine size, which indicates how capable the car was and that we were doing the right things. Our Mk. IV, like the other team Fords, was powered by a seven-liter, or 427-cubic-inch Ford engine, pulling about 500 horsepower on one big four-barrel carburetor. The engine obviously owes its heritage to Ford's stock car racing history and that was a big plus factor.

Although we continued to build our lead during the night (the race starts at 4 p.m. on a Saturday and ends at 4 p.m. on Sunday), by daylight the Ferrari threat was still very much alive. Chaparral had run into trouble, but as dawn broke it was Ford, Ferrari, Ferrari, Ford. And no matter how far ahead you are at any time, you still must be running at 4 p.m. Sunday to win LeMans.

As it turned out, when Foyt brought the car across the finish line and stopped by the pits to pick me up for our ride to Victory Lane, that was still the order, although our winning average speed, 135.4 mph for the 24 hours, had broken the old record by some 10 miles per hour. Also, we were a healthy four laps—more than 33 miles—ahead of the runner-up Ferrari. I will be very surprised if that record is broken very soon. For one thing, we had exceptional weather during the entire race—no rain at all—which is exceptional at LeMans.

When we realized it was over and we had won and they began bringing out the traditional champagne, it was a tremendous thrill for "A.J." and me and, I'm sure, for Ford. Many of the writers immediately pointed out it was the first all-American (drivers and car maker) LeMans victory and that made me particularly proud.

The Mk. IV's winning average speed, 135.4 for the 24 hours, broke the old record by some 10 mph. And it finished four laps ahead

It certainly proved that Ford—and Autolite—have what it takes. No matter how you slice it, Ford's know-how, technology, development, durability and performance at LeMans was a good illustration of American industry's way of going about such a thing. American passenger cars are very trouble-free in general. And Ford used the same sort of methods to insure that its LeMans cars were just as trouble-free. I will always remember it as a great tribute to the American way.

(Fourth in a series)

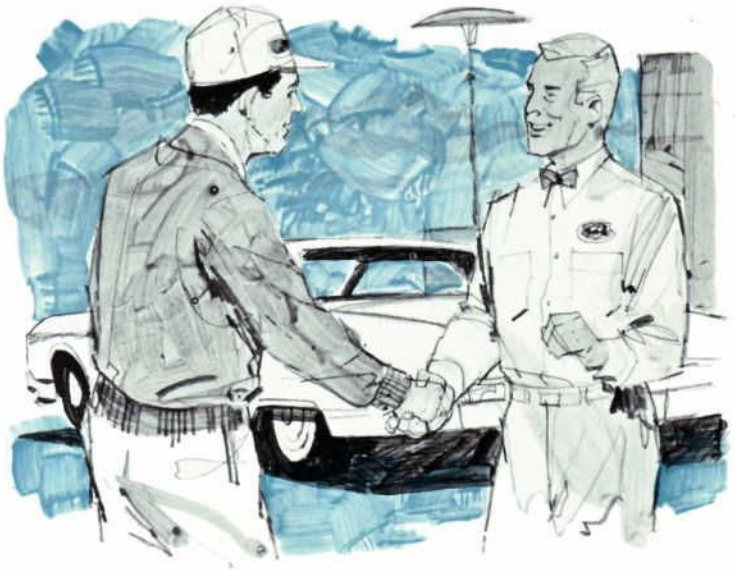
How to Get the Most from Your Men

by John B. Shields

AS A BUSINESSMAN, you have an endless job in motivating your employees to produce maximum effort. The final result: a successful, prosperous business for you and satisfaction for everyone who works for you.

Motivation is vitally important because you have made an investment in time and money in each of your employees. This is an investment that can be repaid only by your making money on *each* man's work. You can do this if you know how to make your employees *want* to be top performers.

It is important that you understand just what a man wants from his job. Most bosses say "money", and leave it at that. Strangely, or maybe not so strangely, money often is way down on the list. A recent survey by a midwestern university found most employers felt money was the most important thing on an employee's mind. The same survey, however, found money actually in *fifth* place in the workers' desires.



What employees really want

According to the survey, employees who produce at a high level desire the following satisfactions from their work, in the order given:

1. Full appreciation for work done
2. Feeling in on, or a part of things
3. Sympathy and help, with personal problems
4. Job security
5. A good income
6. Work that is interesting
7. Promotion and growth opportunities
8. Loyalty from the boss
9. Good working conditions
10. Tactful disciplining

There are two basic types of motivation: financial and non-financial. An entire chapter could be written on financial incentives and we will cover this subject later. Let's spend the rest of this installment, however, by seeing how you can motivate your men through non-financial means, and learn how you can build their morale so they *and* your business offer the finest service to your customers.

Ways to motivate

Certainly the first rule is the "golden" one. It's been with us a long time and will stay around even longer. So, always treat your employees the way *you* would want to be treated.

The balance of the guidelines are simply common-sense approaches that we all know, but unfortunately forget in the rush and pressures of our everyday business. Let's look at some:

1. Praise when praise is due and make certain it is given in public. You make a man feel good when you praise him in front of his co-workers or your customers. If his wife drives by to pick him up, compliment him—in her presence —on something he has done.

2. Correct him privately. Nothing irritates an employee more than being made to look foolish in front of others. He'll never forgive you. If there's reason to criticize, make certain you have all the facts before you start.

3. Don't play favorites by giving all the good jobs to one or two men. Share the better with the less desirable ones. Show too that you can handle any job that you ask your men to do.

4. If a man errs, be patient. Try to help him improve. Only when he is absolutely hopeless should you let him go. Then you will be doing him a favor by suggesting he get into some other line of work.

5. Set a good example. If *you* break rules, your men will think the rules weren't important in the first place. Because your business is a relatively small, compact oper-

ation, you should be a leader and expect your men to perform as you do.

6. Make your men feel they are part of the team. Inform them of at least some part of the inner workings of your business. Remember, once they know how profitable your business really is, they'll lose the false idea that a boss makes "a mint" on each employee. They also will be more likely to take care of tools—and plug other areas of potential profit leaks.

7. Be concerned about each man as an individual. Show an interest in his interests. Ask about the son in service or the daughter in school. Send flowers or a get well card to an employee or a member of his family who is ill. Never shut your eyes or ears to the personal problems of your men. Your knowledge or experience may help solve their problems and gain their eternal gratitude.

8. Be ready to provide training and knowledge whenever a man needs help. See that your men receive information on new products, cars and sales promotions.

One good way to accomplish this is to hold staff meetings. Talk over your problems with your men and tell them about quotas, products and services you want pushed. Make every employee feel he is a *producing* part of your team. Some dealers make these meetings out of the ordinary by holding them at a restaurant, coffee shop, or in their homes. They may serve beer and pretzels, coffee and doughnuts, or a full meal.

9. Encourage your men to think of ideas to help the business. Listen to them no matter how unsound these suggestions might appear. Explain diplomatically why the idea can or cannot be used and encourage your men to keep thinking up new ones. You even may want to reward employees for them.

10. Protect your employee if a customer abuses him. Find out what happened and say that you'll correct the man if he is to blame, but correct in private. If the customer is wrong, explain your policy as tactfully as possible.

11. Try to avoid any misunderstandings among your employees or between any of them and yourself. Build up the idea of teamwork.

12. Take full responsibility for being boss. While you can and must delegate authority to others, *only you* must keep full responsibility for your subordinates' actions.

Proper supervision is a pay-off function for your business. Once every man is working at full potential, every day of the year, you can't help but succeed. Your business will profit and your manpower team will permit you to spend more time in other activities.

Autolite's on the Move

The following remarks are from a speech prepared for Mr. Henry Ford II at the dedication of the new Autolite-Ford parts depot at Carrollton, Texas, July 31, 1967.

"This depot is important because its purpose is to improve service for owners of Ford products. I don't need to tell you that automotive service does need improving. You know that from your own experience. We know it too. We know that car owners want better service. We believe they deserve better service. And we are doing everything we can to help . . . provide the best, and fastest and most efficient service possible.

"Two of the main requirements for this kind of service are ready availability of quality parts and well-trained automotive technicians. This new parts depot will provide both for the Dallas area. Since 1965, we have added more than a million-and-a-half square feet of floor space to Ford parts depots across the country at a cost of more than $30 million. This three-year program has increased our depot space by one-quarter, and we are now working on plans to add roughly the same amount of space in the next two to three years.

"The expansion of our parts depots is essential for several reasons. First, is the continuing growth in the number of Ford cars and trucks on the road, and the resulting increase in the need for replacement parts. In the area served by the Dallas Depot, for example, we expect to increase our parts sales by 75 percent in the next 10 years.

"A second reason is the growing variety and complexity of our vehicles. Ten years ago, we had to stock less than 90,000 different parts in our depots. Today we need room for nearly 180,000 different parts—twice as many.

"On top of these reasons is our determination to make Ford quality parts available to our dealers and other service shops faster than ever before. This depot and 25 others throughout the country are now able to fill the great majority of parts orders overnight.

"To help us deliver parts still faster and at lower cost, we are rapidly automating our parts distribution network. By 1969, the whole network will be tied into a nationwide computer system."

Worth Repeating— Worth Remembering

Autolite's Auto-Chair . . . the most unusual and most effective shock absorber demonstrator unit in the industry, now easier than ever to obtain from your Autolite supplier. It is shown here as it will look in your place of business. No gimmick, the Auto-Chair is a simple, honest demonstration of the difference between worn shocks and new ones. One chair is equipped with a worn-out shock —quite a letdown when you sit down. The other is cushioned with a new Auto-Flex heavy-duty shock absorber. All a customer has to do is relax in this chair, and he virtually sells himself on Autolite. *You'll* relax too when your sales increase.

Also Available

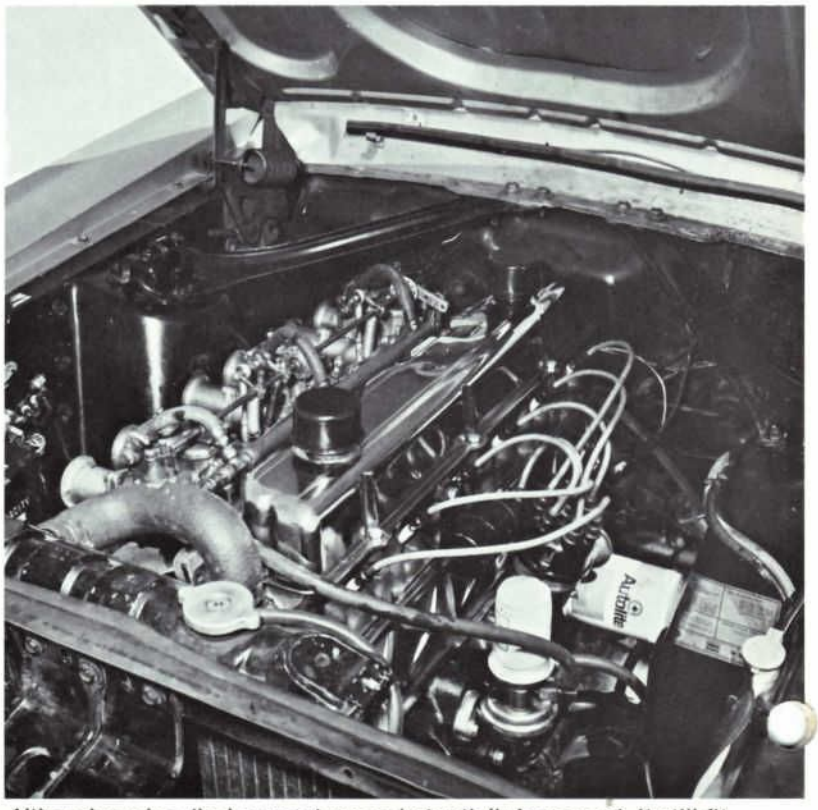
Autolite Racing Jackets . . . identical to those worn by A. J. Foyt and Mario Andretti in the winner's circle following their respective victories in the 1967 Indianapolis and Daytona "500's". And you now can get them at a special low price to help sell Autolite shock absorbers.

Join the winning Autolite team. Ask your distributor for details of these exciting offers . . . a double-barreled promotion blockbuster, exclusively yours from Autolite-Ford.

Veteran California hot rodder, Ak Miller, and the 1967 Mustang fastback he prepared. Among other things, Miller wanted to explore the potential of Ford's latest seven-main-bearing Six through special camshaft, increased compression ratio and unusual carburetion

Mustang vs the Salt Flats

The interior was pretty much stock, except for the roll bar



Although engine displacement was substantially increased, it still fit

CHEVROLET kill Ford

Miller's Mustang was officially clocked at 148.670 mph

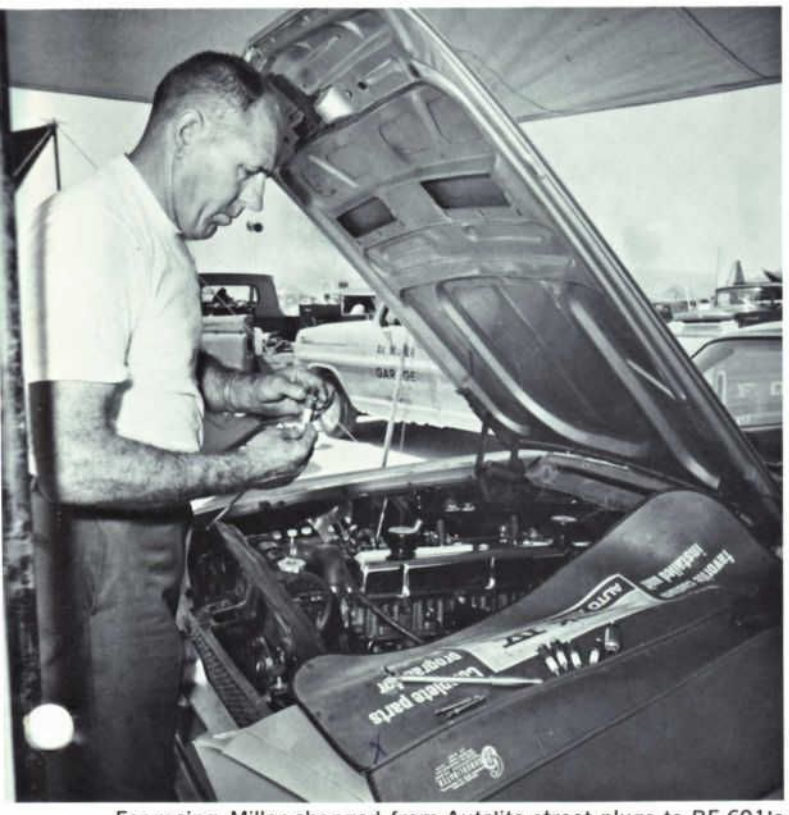
by Wayne Thoms

THE NAME OF THE GAME is flat-out, straight-line speed . . . and for some 150 entrants in the annual Bonneville National Speed Trials along Utah's famed salt flats, speed can range from less than 100 to well above 300 miles per hour for cars whose drivers race against the clock over the glittery crystalline surface.

The reason for the speed spread: there are classes (93 in all) for virtually any car which can pass the rigid safety inspection. Streamliners, open-wheeled "lakesters", competition coupes, roadsters of varying shapes and sizes, sedans, sports cars, grand touring cars and production cars all compete in areas designed to give an equal break according to engine size and shape of body, whether or not the car is supercharged, and whether it burns gasoline or special fuel mixtures. The event is considered by the experts to be hot rodding's ultimate, a chance for drivers and car builders to determine exactly how fast a car will go given a minimum of two miles in which to accelerate before reaching the timing traps.

Other facets too

However, not all the speed efforts are aimed at the superspectacular. Some are directed at satisfying a car owner's technical curiosity and turn out to be as fascinating as the 300-mph streamliner runs. A case in point during the 1967 event: the utterly stock-appearing six-cylinder 1967 fastback Mustang prepared, entered and driven by veteran California hot rodder Ak Miller. Miller, who divides his time between garage owner and performance advisor for the Ford Motor Company, wanted to learn several things, one of them to explore the potential of Ford's latest series seven-main-bearing Six via the hot rodder's route—special camshaft, increased compression ratio, and unusual carburetion.



For racing, Miller changed from Autolite street plugs to BF 601's

This was not the normal Mustang Six he chose. Rather it was the 240-cubic-inch engine which is standard on big Fords, and Miller also wanted to know how much trouble it would be to make it fit the Mustang's engine compartment . . . of interest to him because he had been told by factory engineers that there was insufficient hood clearance to make the engine swap practical. He further wanted to know how well the engine would take the strain of the hop-up changes he had planned and still be a suitable vehicle for the street. In short, performance expert Miller was taking a busman's holiday at Bonneville in August with his Autolite-equipped Mustang.

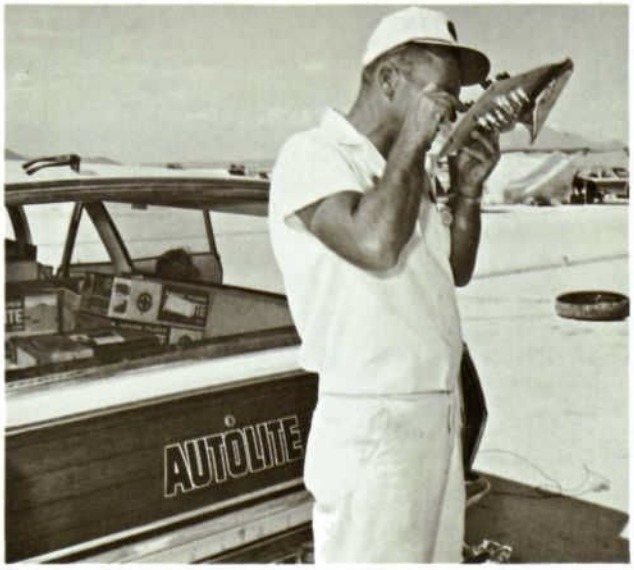
Ak predicted 150 mph from modifications deliberately kept low key—within the practical limitations of driving the car on the street. Indeed, he drove the Mustang 700 miles each way from southern California to the salt flats and return, maintaining a high-speed cruise through Nevada (where there is no speed limit) and pulling 16-17 miles-per-gallon fuel economy.

What he did

His modifications began with installation of a heavy-duty truck camshaft and connecting rods, which automatically boosted engine displacement to 300 cubic inches. Special pistons (Triplex autothermic) raised compression ratio to 12-to-1, while new and slightly larger valves provided better breathing. Valve springs and retainers came from a 427 Ford engine, and an Iskenderian camshaft just slightly above stock specifications completed the internal package.

On the outside he solved his clearance problem by installing three Weber 45mm side-draft carburetors, adapting them to an intake manifold of his own fabrication.

Actual engine fit, said Miller, was not a serious difficulty. He had to build two forward engine mount brackets, use a clutch lever assembly from a 390 Mustang, and install a 289 radiator for optimum cooling, nothing any hot rod-oriented car enthusiast would find out of the ordinary. Considering the car's new speed potential, Miller added a larger



Autolite field representative Art Chrisman was on hand to consult with any contestant about the correct heat range of spark plugs

Above right: an exceptionally pretty streamliner gets ready for run against the clock. Right: strange-looking vehicles are a common sight during Speed Week

front stabilizer bar plus heavy-duty Autolite shock absorbers front and rear, thereby improving handling without seriously affecting highway ride.

In line with anticipated horsepower improvement, he added an 8¾-inch-diameter Ford differential, stronger than that used on the Mustang. Gearset was chosen with a 3-to-1 ratio, useful for top-speed performance, and usable in traffic via a four-speed transmission.

Under 3,000 lbs.

The new package weighed in with a curb weight of 2,960 pounds compared to the stock Mustang's original 2,740. Part of this increase, said Miller, was due to the husky roll bar he built for personal protection.

After his ride to Bonneville Miller changed to specially designed Firestone racing tires, 6.70 x 15 rear, 5.50 x 15 front, switched from the standard street plugs to BF 601 racing, drove to the starting line and recorded 143 mph.

During the days of Speed Week which followed, he worked the speed up slowly, juggling carburetion, super-tuning within the limits of the few modifications he had made. The engine had recorded 220 horsepower at the rear wheels on the shop dynamometer, and the speed area in which he was operating convinced Miller that engine output must be in the vicinity of 350 horses.

There was, he said, little doubt that 150 mph would be attained. But it was not to be. As the week passed, speed gains became more limited. Ultimately Ak got the speed to an officially clocked 148.670 mph . . . not quite what he had hoped for, but very close and more than respectable for a street-capable Six in a completely stock body. The change from race car back to highway machine was accomplished by simply replacing the spark plugs, adding air cleaners and bolting the muffler back in place.

Of special interest is the fact that Autolite's field representative, Art Chrisman, an ex-Bonneville competitor in his own right, was on hand throughout the week, consulting not only with Miller about correct heat range of spark plugs for engine, but with any contestant who desired help. *By week end, Autolite decals and spark plugs were installed on more than 90 percent of the cars competing, an outstanding endorsement from the cream of America's hot rodders who value performance above all else.*


Get a watch like A. J. Foyt received for winning the 1967 Indy "500" with
Autolite
SPARK PLUGS
AUTOLITE
Ask your Autolite supplier for details
Competition II
17 JEWELS SELF WINDING
WED 3
Designed and Engineered by Benrus
Form No. M 2041

To one of the world's most famous maestros, the sound of a 200-mph hydroplane is . . .

The Sweetest Music This Side of Heaven

Starting modestly with a 24-ft. inboard that had a top speed of 30 mph, Guy Lombardo built a second career in one of the world's most hazardous sports, climaxed with his victory in the 1946 Gold Cup Races

by Guy Lombardo

A DECADE HAS PASSED since I quit speedboat racing but—if you'll forgive the expression—"the sweetest music this side of heaven", in my opinion, is still the purring of a smooth-running motorboat. I've slowed down to the cabin cruiser class lately, but I stay close to the racing scene by making exhibition runs and handing out cups to winners.

I've taken a lot of kidding over the years that my interest in boating overshadows my devotion to music and producing. But no matter what my agent says, I never really neglected my band for boats, although back in 1948 the gang couldn't understand why we had to go all the way from New York to Los Angeles for a single booking for two weeks . . . until they learned I'd entered my speedboat at Salton Sea, the salt water lake near Palm Springs. Every year in mid-September, I'd get a booking at the Statler Hotel in Washington in order to enter the President's Cup Race on the Potomac. It got so the boys in the band began reading the sports pages instead of *Billboard* or *Variety* (show business trade papers) to get a line on our itinerary! They knew that wherever a regatta or sweepstakes was scheduled, we'd likely be booked or billeted nearby.

Off to New York

I've loved boats all my life. When I was growing up in London, Ontario, the big name in motorboat racing was Gar Wood. He was a national sports figure in the United States and he was my idol. London is about 100 miles from Detroit and I used to go down there to see him race for the Gold Cup on the Detroit River. When I decided to set out on my own, I moved to New York City. Most show business people make their way to New York eventually because that's the big time, the big apple. Well, *I* moved to New York partly to be near the water so I could have a runabout. It was a 24-ft. inboard with a top speed of 30 mph. Later I got a 40-mph boat and was pretty content until the day I saw the three-point suspension boat on display at the Toronto (Canada) Fair. That's when the racing bug really bit me. The lure was a 225-cubic-inch hydroplane, a popular class in those days. It was 18 feet long and was equipped with a stock engine.

It took me awhile to learn the various racing techniques. In 1940 at Lake Hopatcong, N. J., I was raring to go . . . and as green as grass. I couldn't handle the "flying start" technique then and got left at the post several times. This made me mad. So I went to Red Bank, N. J., for the National Sweeps and practiced my starts all week. When racetime came, I didn't win, but I finally began to *act* like a pro.

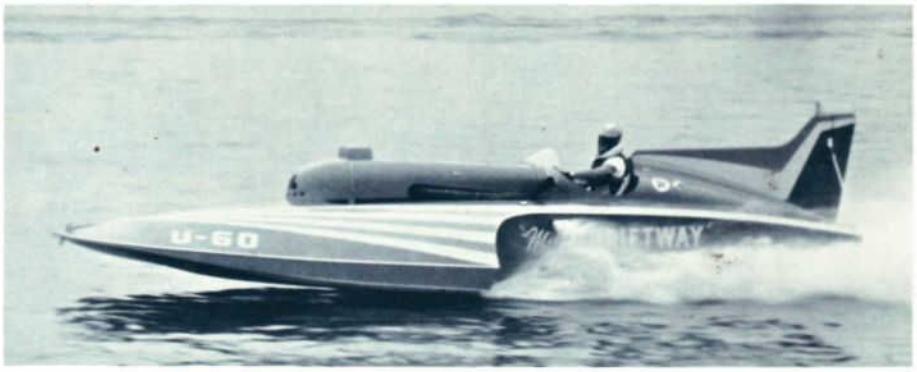
The happiest day of my life came in 1946 when I won the Gold Cup on the Detroit River, the same race and place where I watched my idol, Gar Wood. I averaged 79.878 mph in *Tempo VI,* a boat I had bought from Z. G. Simmons, the mattress man, who'd previously raced it under the name, *My Sin.*

There are other prestige events, but the Gold Cup is the "Kentucky Derby" of speedboat racing. You have to complete three 30-mile heats in one afternoon with the best time for the 90 miles. Physically, it's a mighty rough race, far more so than, say, The President's Cup or the Red Bank Sweepstakes. These are two-day affairs in which you may change engines overnight, and gain an advantage through the special abilities of your mechanics.

I went on to win a number of trophies and became one of the group that started the craze for more and more horsepower, more and more speed. But now I've changed my tune and advocate limiting the "unlimiteds". The big jobs are not safe anymore. At 170 mph, a boat becomes airborne with only its propeller in the water. It can become uncontrollable and easily flip over. Also, water and wind conditions can change while you're racing. A 160-mph average may be fine for the first lap but suicidal by the third or fourth laps. What more testimony do you need than the deaths of Chuck Thompson, Ronnie Musson, Rex Manchester, Don Wilson and Donald Campbell . . . all skilled drivers who were killed in 1966? Campbell was trying to reach 300 mph!

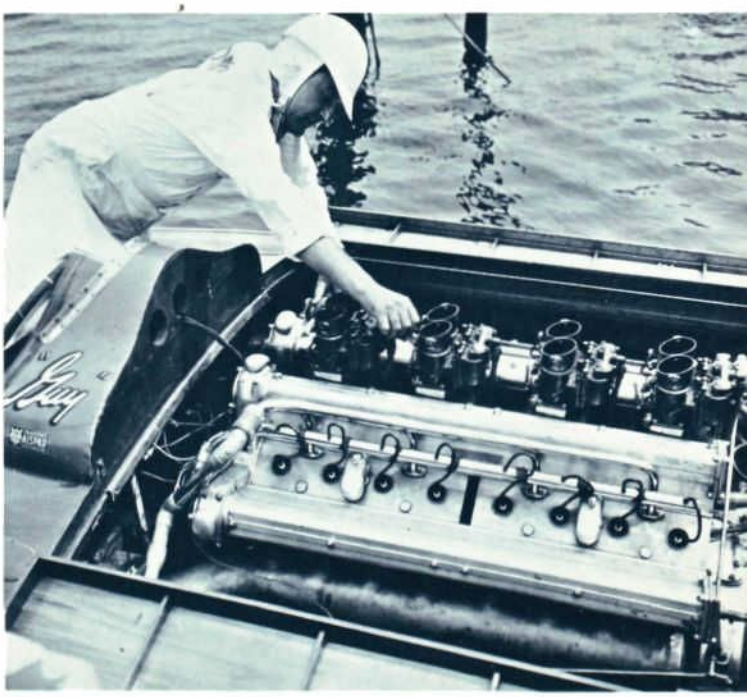
A limit should be placed on horsepower, I think, perhaps at 1,000. This would mean a boat could run at 150 mph or so and probably a little faster on the straightaway. In 1948, I installed an engine in *Tempo VI* that was capable

To two generations of Americans, the name "Guy Lombardo" means "dance music"



Miss Thriftway, driven here by Danny Foster, was a frequent and worthy competitor

This is the boat and driver that captured the 1946 Gold Cup Races on the Detroit River



The maestro tunes up the 16-cylinder *Tempo VI* prior to a practice run

of 110 to 130 mph on the straightaway, and ran it that way until 1950. The following year, the craze for more speed began in earnest. Better hulls were built, balance was improved and we were soon up to 200 mph. In recent years unlimited racing has become very commercial, backed by businesses with unlimited bankrolls. It's no longer an amateur sport. First place often is worth up to $20,000, with $2,000 going to the boat owner and driver just for appearing. It has become a dog-eat-dog business with some engines producing up to 2,000 horsepower through use of fuel injection and other devices. But so much for the "unlimiteds".

Anyone can race

Boat racing, of course, is not all big engines and cold professionalism. There are plenty of races for so-called "family boats," and they're going on all the time in most sections of the country. Many of these boats are built in the basement or the backyard by dad and son. You can buy a kit with materials and instructions for building the hull and almost any junk yard has an engine that can be reconditioned. For the smaller classes, you can put a 135-cubic-inch engine in a 14-ft. boat, a 91-cubic-incher into an 11-ft. hull, or an engine of 280 cubic inches into a 16-ft. craft. The American Power Boat Association in Detroit publishes a rule book, instruction pamphlets and bulletins about various racing classes.

Years ago, boat racing was something a fellow dreamed about, mostly. It was a luxury sport—out of the average man's reach. Hull prices were prohibitive, maintenance costs worse. Only a specialist could cope with the complex marine racing engines. And that was only part of the expense in the past. You were considered a pirate unless you flew the flag of an ultra-exclusive yacht club. But now, like I said, there's a racer to fit every pocketbook. If the sport appeals to you, seek the advice of an experienced boat owner or a reputable dealer to select the combination that's right for you. Buying a boat to race is like finding a wife. Choose wisely and she'll be good-looking, trustworthy, easy to handle, geared to your budget and able to take you home when the going is rough.

Service Topics

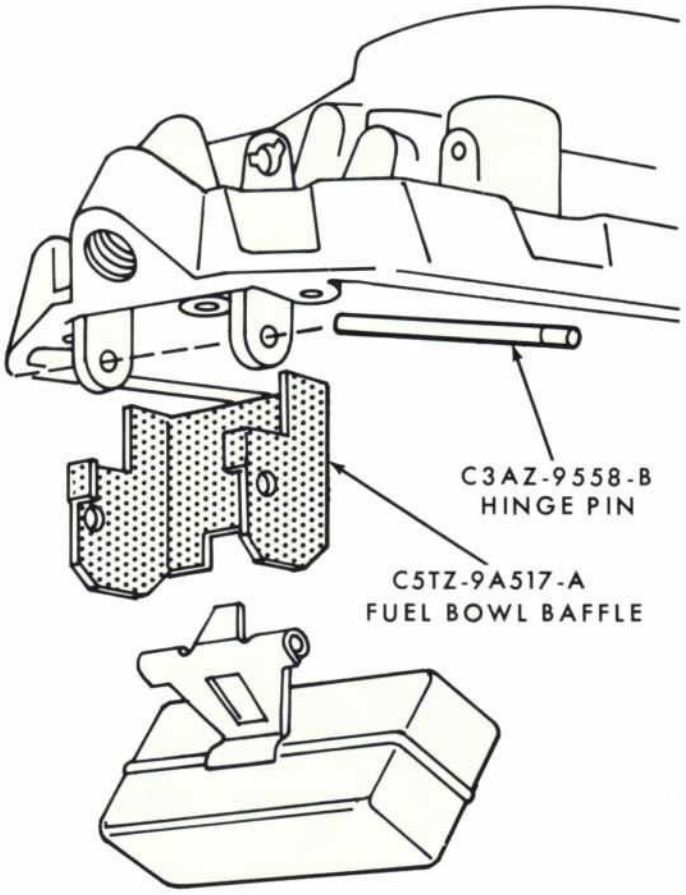


FIG. 1

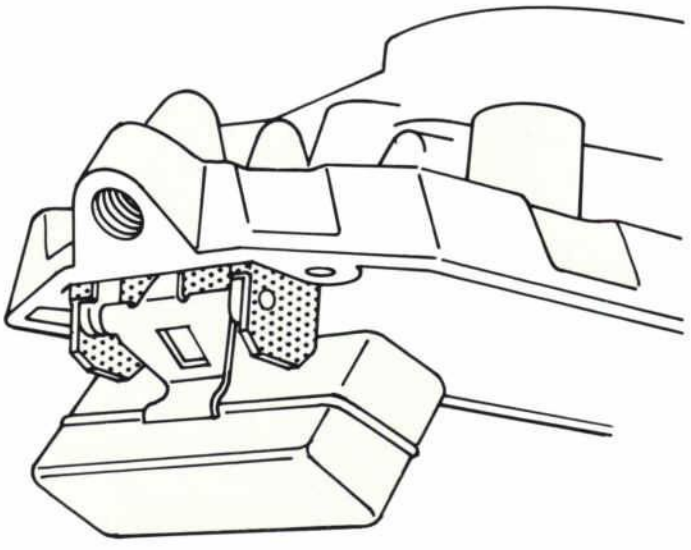


FIG. 2

Hard Starting, Driveaway Stumble and/or Stall

All 1965-1966 CID Econoline Vehicles

To correct these problems, the following rework is recommended:

- Install a 1967 Carter fuel pump (C5US-9350-C) if unit is not so equipped;
- Install a new fuel filter (C5UZ-9155-A) if unit is not so equipped (identified by number C5UE-9155-A4 stamped on side);
- Install an anti-foam baffle screen (C5TZ9A517-A) and hinge pin (C3AZ9558-B) in the carburetor if unit is not so equipped. See Fig. 1 and Fig. 2;
- Adjust the carburetor float level to 1$\frac{3}{32}$" after installing the baffle screen, and check for sufficient clearance between the float hinge and the side supports to assure free movement;
- Install a 1966-type fuel line (C6A9369-A) which is routed from the fuel pump over the rocker arm cover to the fuel filter on the carburetor, if not so equipped;
- Adjust the ignition initial timing and engine idle speed to specifications.

Battery Charging

All Vehicles

Charging system failures occasionally are due to burned out alternator diodes. The principal cause of this is reverse polarity. To prevent this, the battery must be separated from the vehicle electrical system while the battery is being charged. This can be accomplished by disconnecting the battery ground cable at the battery before connecting the battery charger. See vehicle shop manual for the proper charging rate.

Engine Skip or Roughness During No-Load Operation at Above Normal Curb Idle Speeds

All Engines With Vacuum Advance Distributors

This condition is "normal". It occurs only during free engine operation in the off idle to 1,200-rpm range and is caused by the abnormally high spark advance resulting from the high manifold vacuum produced by the unnatural operating conditions of the engine. *In essence, a higher degree of spark advance is obtainable when operating the engine with "no load" in the off idle range than is possible at the same speed with the engine loaded. This is true in any internal combustion engine equipped with a centrifugal-vacuum spark advance distributor and results from the particular advance curve and initial ignition timing for the engine.*

A quick way to verify this is to momentarily disconnect the distributor vacuum line at the distributor (plug the line while it is being disconnected). An immediate cessation of the roughness in the engine should be apparent even though the engine speed is maintained.

Obviously, make no attempt to eliminate the engine roughness by modifying the engine or components. Also, before undertaking any extensive diagnosis, make the test described above. If the engine roughness smooths out, there is nothing wrong. If, however, roughness is still apparent, further diagnosis procedures are indicated.

Engine Surge

1967 Ford Truck, 352-2V Base, Automatic or Standard Transmission

To correct this on above engines equipped with Autolite 2100 C7TZ-9510-D or A carburetors, first replace the spacer-to-manifold gasket with a C7AZ-9447-C spacer-to-manifold gasket (see Fig. 3). To accomplish this:

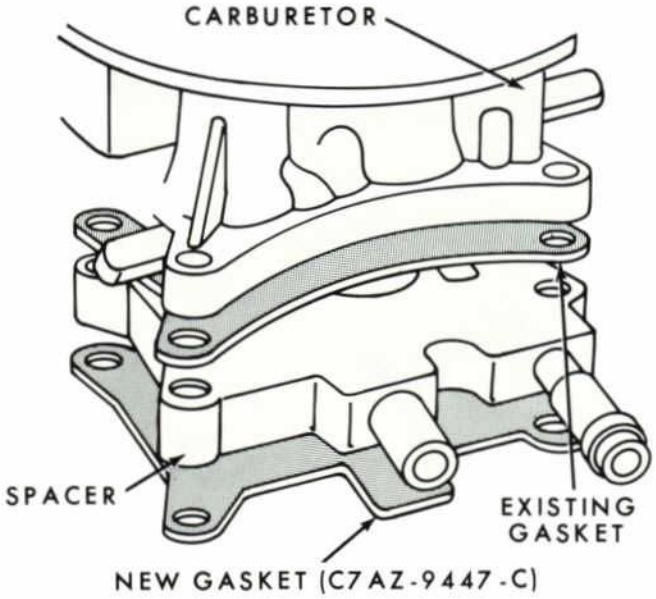


FIG. 3

- Remove carburetor;
- Remove the spacer;
- Clean the old gasket from the gasket surface of the intake manifold and spacer;
- Position the new spacer-to-manifold gasket (C7AZ-9447-C) on the manifold;
- Reinstall the spacer, the carburetor-to-spacer gasket, and the carburetor;
- Adjust the idle mixture and speed screws for optimum idle.

If road testing at this point still exhibits a surge, replace the existing main metering jets with jets one size larger (in extreme conditions, it may be necessary to increase the jet *two* sizes). To accomplish this:

- Remove the carburetor air horn and gasket;
- Remove the float, float shaft, retainer and needle from the fuel bowl;
- Remove the main metering jets;
- Install the replacement main metering jets.

Carb. No.	Transmission	Orig. Main Metering Jet	One Size Larger	Two Sizes Larger	Float Setting (Wet)
C7TZ-9510-A	Automatic	51-F	52-F	53-F	7/8
C7TZ-9510-D	Standard	51-F	52-F	53-F	29/32

- Reinstall the float, float shaft and inlet needle into the fuel bowl. Make sure the retainer is in the groove of the fuel inlet seat;
- Adjust the float setting (wet) to level specified above;
- Reinstall the air horn and air horn gasket;
- Adjust the idle mixture and speed screws for optimum idle.

IMCO Exhaust Emission System Identification Decal

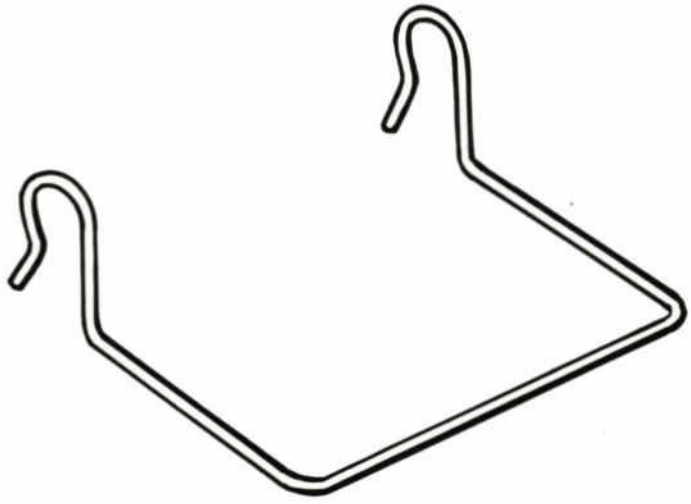
All Ford Motor Company Engines So Equipped

Since April 3, 1967, an identification decal denoting the presence of an IMCO Exhaust Emission Control System has been placed at the rear of the rocker arm cover (6-cylinder) and on the RH rocker cover (8-cylinder) of all engines having this system.

Float Shaft Retainer Breakage

Occasionally the float shaft retainer contained in model 2100 and 4100 Autolite carburetor repair kits breaks after installation. See Fig. 4. It is bright plated, resembling nickel or chrome. Should this occur, replace it with a phosphate-coated (black-colored) retainer or use the retainer from the carburetor being repaired.

Repair kits that have been assembled since approximately May 1, 1967, have the proper retainer in them.



RETAINER - FLOAT SHAFT
C1AZ-9599-A OR C7AZ-9599-B

FIG. 4

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see page 7

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Direct all correspondence to: Editor, Contact Magazine
Box 3000, Livonia, Mich. 48151

Produced by Autolite-Ford Parts Division, Ford Motor Company.

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Printed in U.S.A.