

FOUR ASSORTED MUSTANGS



One of the most controversial stories in the first issue of ROAD TEST was about the then-new Mustang in which we found several deficiencies along with a great many attractive features. The staff rightly opined that it would be a popular seller in spite of these negative values and we have kept a continuous check on it because of high public interest.

To date the magazine and staff members have owned six Mustangs: 1965 Six (170 cubic inch), 1965 V8, 1965 V8 High Performance, 1966 Six (200 cubic inch); 1966 V8 High Performance; 1966 Shelby GT-

350. This group of cars, in daily use, for the most part, has furnished a considerable accumulation of data and some rather firm convictions about their design, manufacture and performance which could not have been acquired with less familiarity.

An intriguing feature of the Mustang is that it can be almost anything you want. Ranging from the basic, lowest priced Six (around \$2,600) up to the Shelby GT-350 (around \$4,500), there is a near-infinite number of options or alterations which can be made to tailor it to your personal idea of cost and performance.

And, if Ford Motor Company can't supply what you want there are many independent manufacturers of speed equipment and accessories who will be glad to.

The four cars reviewed here are examples of this multiplicity of choice.

1: 1966 Six Cylinder, Automatic transmission, power steering, de Luxe interior. Basically suited to the person who wants Mustang styling but not necessarily outstanding acceleration or speed.

2: 1966 V8 (200 hp) Automatic transmission, power steering, Special Handling Package, disc brakes, air conditioning. Equipped in manner which seems to be preferred by the young executive who wants performance but insists on keeping the creature comforts in.

3: 1965 V8-HP (271 hp), four speed transmission, handling package, disc brakes, wide base alloy wheels. Set up by Dean Moon, this car represents the Mustang tailored for the knowledgeable car enthusiast who does not go so far as to compete in sporty-car events.

4: Shelby GT-350, V8, (306 hp) 4 speed gearbox, wide base 15" wheels, Pirelli Ciaturato tires, disc brakes, metallic rear brake linings, fast steering (manual), modified suspension front and rear, Koni shocks, competition fuel tank, plus special rally modifications. Strictly for the rally enthusiast or high speed touring in no-speed-limit countries.

MUSTANG SIX

This is our second six



Six cylinder Automatic. Zero to 60 mph: approximately 15 seconds. Fuel economy: 18-22 mpg. Price: \$2870.



V8 Automatic, 200 hp. Zero to 60 mph: approximately 12 seconds. Fuel economy: 16-20 mpg. Price: \$3,353.



V8 4-Speed, 271 hp (modified). Zero to 60: approximately 8.5 seconds. Fuel economy 15-17 mpg. Price: \$3,650 plus.



350-GT 4-Speed. Zero to 60 mph: Approximately 6.6 seconds. Fuel economy 12-14 mpg. Price: \$4,500 plus.

cylinder model and represents a great improvement over the 170 cubic inch engined 1965 model. As regular readers of ROAD TEST know, it was never a wholly satisfactory machine (see RT, July 1965) but after 25,000 miles we can report that it has not required any major repairs. Once the driver becomes used to the thumps, whines, growls and shakes plus the fact that the engine overheats when the air conditioner is used in hot weather, it isn't so bad.

Overall gas mileage has been close to 18 mpg for city and freeway driving. Long trip mileage has varied from 18.7 to 22, depending on whether the air conditioner drive belt was removed or not. The 170 cubic inch six just doesn't have the torque to cope with the air conditioner and we found that it was far better to free it up on long trips.

The 1966 model is down slightly from these mileages but to judge from the performance of the 1965, consumption will improve as the car grows older. This is also true of oil consumption. During the first 6,000 miles, the average was 1,500 miles per quart. Thereafter it used a negligible amount.

From its present indications the Six, driven in its normal manner, will have the advantage of about two mpg over the V8 automatic driven as its performance encourages one to drive.

Sixes with the basic three-speed or four-speed manual transmission are extremely rare and ROAD TEST has not been able to

gather enough statistical data to indicate whether there is any economy advantage in shifting for yourself. We doubt it. The Ford three-speed automatic is a pretty efficient box with well-chosen ratios and the final drive ratio (2.83-1) with the automatic is matched fairly to peak torque vs. cruising speed. Moreover, the automatic, which costs about \$175 as an option, brings \$150 over the manual three speed from the used car appraiser at your friendly Ford dealership.

Power steering in this car is a concession to the woman driver. The Six is 250 pounds lighter than the V8 and some 200 pounds of this is removed from the front wheel burden, so it isn't unpleasant with manual steering (which also deletes another 28 pounds). When resale time comes, power steering is worth an extra \$100 and it only costs \$85, so why not make \$15?

Lighter though it may be than the V8, the Six is not so much lighter that its 120 horsepower will make it a ball of fire in performance. Acceleration rate is comparable to that of the Falcon, Chevy II or Rambler American with similar engines. The Mustang fastback weighs only 20 pounds less than the Falcon 200 cubic inch six 2-door club coupe, a fact which surprises almost everybody. The 7 main bearing engine is highly reliable and notably smooth. However, the man who assented to installing a multi-blade fan instead of increasing the radiator capacity won't get any vote of confidence from ROAD TEST. (V8-engined cars have 15-quart capacity cooling systems and the Sixes only 9.5-quart.) With a larger radiator the Six could use a viscous-hub fan and lower the noise level inside the car by about 40% in addition to picking up a few horsepower. At 70 mph conversation is a bit strained because of the fan-created roar . . . which is not true in the stock V8.

The de luxe interior includes simulated wood paneling, simulated wood-rim steering wheel and embossed vinyl upholstery. In the case of this Six, the optional center console was installed. Taking these benefits one at a time: The paneling is superior to that in some competitive makes, such as Pontiac, at least as far as ROAD TEST is concerned because it shows no inclination to peel off. The steering wheel intrigues everybody at first and satisfies some wholly. However, according to some members of the staff, after a couple of hours of driving it begins to seem awkward and not as comfortable as the regular wheel. The upholstery is attractive in its running horse motif but it seems likely that after a long, hot ride you might have a Mustang embossed on your back. The console has no compartment in it and its chief function, aside from decoration, seems to be to provide another bit of chrome which can dazzle you when the sun is right.

When delivered, this car was in pretty good shape. Only the sticking right door and a hard-to close deck



Four Mustangs at same speed in same corner at Willow Springs Raceway exhibit different handling characteristics. Six has more roll but less understeer than 1966 V8. Moontang's wider base wheels make it more neutral. Shelby 350 is loafing through turn where others are working.

lid marred perfection. In spite of greatly increased production, Mustang quality control seems to be higher this year.

In summary; the Six is smooth; has adequate performance for non-sporty driving; can be expected to be relatively trouble free and more economical than the eight and is just as much of a Mustang as the others as far as your neighbors will be concerned. You can save about \$250 by selecting it instead of the basic V8. But, you'll have to endure a higher noise level at highway speeds.

MUSTANG V8, 200

This is the big seller of the nation's most sensational seller, so it deserves a close scrutiny.

The advantages of the 200 hp V8 Mustang over the Six is in noticeably better performance—as regards acceleration and top speed. But, and this is an important factor, it doesn't handle as well—which shoots it down right there. Our experience with the early V8, which we found to require special shock absorbers before it was at all roadable, indicated that the car needed stiffer suspension. Having bought another 1965 with the optional Special Handling Package, we wouldn't consider the standard V8 in 1966 without the same equipment and we wouldn't recommend it to anyone.

The special handling package is a matter of \$30 and must come on all cars equipped with disc brakes anyway, so there is no excuse for not including it in your order.

Drum brake capacity on the V8 is increased over the Six by almost 20% through the use of larger shoes but effectiveness is reduced by increased weight transfer to the front wheels.

Discs are absolutely mandatory as far as the staff of this magazine is concerned. At that, the Six still establishes a superior deceleration rate on its initial stops from 70 mph with 27 ft./sec² compared with a maximum of 25 ft./sec² posted by the V8. This is due, of course, to the better weight distribution of the six which tends to decrease the onset of rear wheel lock up . . . the limiting factor in deceleration with these cars. In repeated panic stops and in flooded streets the discs proved to be much superior, naturally.

The weight distribution factor is strictly responsible for the stock V8's inferior handling in comparison with the Six. However, measures can be taken to improve it beyond those which can be carried out in the Six.

The V8 has five-bolt wheels with 5 inch rims on which can be mounted 7.35 x 14 tires. The Six has four-bolt 4½ inch rims that will only take the standard 6.95 size. You can get 100 level Nylon or 120 level red-strip Nylon optional 6.95 tires from your Ford dealer when you order, but the extra tread width (almost a half inch) on the fatter tires is a much better buy for handling.



Air conditioning unit and floor-shift for automatic eliminate center of front seat as adult passenger spot.



Unyielding, sharp edged padding for top of Mustang dash is poor design feature, offers an unnecessary hazard.



Disc brakes, available again on Mustang after being discontinued early in model year, are highly satisfactory.

For what it is worth, the tires which came with this particular Mustang were B. F. Goodrich and exhibited far poorer traction in the wet than the Firestones on the Six. Heavy rain also proved that a single-speed wiper is not the answer. Although the 2-speed is listed separately as an option, and is being included as "standard equipment" on some vehicles, you can't get it on the Mustang without buying the whole "visibility group" (\$30) which includes an inside-outside mirror of dubious value. Better to take the mirror and ignore it, we now feel.

The new optional bench seat with the folding center armrest was specified for this car. However, carrying three adults in the front of a Mustang isn't really practical so aside from the armrest its value is *comme-ci, comme-ca*. A long trip in the back seat is, to say the least, not something to look forward to either. Interestingly enough, in the wonderful world of options, the extra-cost bench seat (\$25) cannot be had with the de luxe interior decor group.

Instrumentation is improved in the '66 by virtue of the fact that an ammeter and an oil pressure gage are used, rather than warning lights. Still, the sharp-edged "padded dash" is as sharp-edged as ever and constitutes a hazard in our opinion. The seat rake is adjustable (by screw), which is not the case with many cars and can be made more comfortable for the outside driver. (No six-way power seats for Mustang buckaroos.)

You can expect around 17 mpg in the long run if you aren't a leadfoot. Use of the air conditioner brings this down a couple of mpg during hot weather but the engine has no problems in coping with the load.

This car was delivered in good condition with the exception that the padded vinyl top had been polished with the rest of the paint which left it a trifle murky. It has developed a creak in the right door and a slight whine in the rear axle but no major problems seem in the offing. To judge by experience with 1965s, there will be low upkeep if nothing has turned up in the first five thousand miles.

MOON-MODIFIED V8-H.P.

Engine options available for the Mustang above those discussed include a 225 hp and a 271 hp V8. These are 289 cubic inch displacement, the same as the base V8 with some hotrod techniques applied: longer cam timing, larger carburetors, more compression, etc. The 225 costs a little over \$50 above the 200 but the High Performance 271 calls for a whopping \$330 more, or, figured in with the GT equipment group is \$275 more (the GT group adds \$151 to the base price).

Many knowledgeable owners prefer to make their own modifications and put the nearly \$500 difference toward some proprietary items to improve handling and performance. One of the magazine's 1965 Mustang's was sold to Bill Eggleston, a friend of staff



Substitution of Moon quick-fill gas cap for stock Mustang cap ended thefts of this attractive item.



Moontang owner Bill Eggleston checks tread depth. Tire mileage has been excellent.



Additions to 1965 HP V8 by owner include Moon tachometer mounted on steering column. Car has been used as rolling test bed for speed equipment.

member Dean Moon who heads one of the country's largest speed equipment firms. Moon has used Eggleston's car as a rolling test bed for numerous carburetor, ignition and camshaft experiments seeking maximum output with tractability. The "Moontang" as the bright yellow machine has been dubbed, is in daily service as drive-to-work car and now has 30,000 miles on the odometer.

With the presently installed Potvin camshaft, the Moontang 289 delivers 285 horsepower but has no objectionable idling or low speed characteristics. It is smoother and has better low end torque than the GT-350 which gets its peak 329 lb./ft. of torque at 4,200 rpm. The Moon modified engine is comparable to the regular 271 in its streetability. The 4-speed gearbox in the Eggleston car is a Ford design with slightly different gear ratios than the Warner T-10 in the Shelby version. The HP Mustang has 3.50-1 final drive ratio, the 350-GT runs 3.89s. The combination being run in each car is near-ideal.

A marked improvement over the car's original handling was obtained by merely mounting Keystone wheels with six inch rims which adds quite a bit of base to the tires. Tire wear has been good, with an estimated 5,000 miles left on the original tread.

The only problems encountered in more than a year of vigorous driving have been a bent clutch release lever and a noisy bearing in the transmission.

SHELBY GT-350

Modifications made to the fastback Mustang by Carroll Shelby's organization include almost everything but the sheetmetal . . . and even the hood hasn't been untouched; it is fiberglass. The engine has individual-pipe headers, open exhaust, hi-rise manifold, Holley 4-barrel carburetor, extra capacity sump and dress-up rocker covers to distinguish it from the production model. Suspension has been changed in several details such as: moving the inner anchorage of the front upper control arm down to raise the front roll center; substitution of a one-inch stabilizer bar for the stock .84 inch; mounting torque-reaction arms at the rear, using Koni adjustable shocks all around along with 6" rims and 7.75 x 15 Goodyear Blue Dot tires. A heavy-duty limited slip differential is used; metallic rear brake linings are fitted and the power steering gear ratio is used without power assist. An instrument cluster is mounted on the dash. Distinguishing stripes, wood rimmed wheel, etc. are dress-up items. A 35 gallon fuel tank and electric pump are available for the competition-minded.

This is basically the car bought by staff photographer Bob McKay who participates in several international type rallies each year. His analysis of the car is that it is strictly for such a purpose; that it is too heavy in steering effort and too stiff in suspension to be acceptable as an every day street machine except for "the absolute nut." As a GT car and rally material, it is something else. His story follows.



Rear seat space in Shelby 350 is usurped by spare tire moved from luggage compartment to make room for big tank.



Fiberglass hood on 350 is secured by pin-lock of type used on racing cars. Scoop is functional, stripes cost extra.



Straight-through mufflers and short exhaust pipes ending in front of rear wheels are part of Shelby package.



Braking action of Mustangs with three different suspensions and weight distributions shows considerable variation. Six has better deceleration rate on first stop than V8, but V8's disc brakes are better when hot or wet. GT car showed highest deceleration rate and best balance between front and rear braking power.

THE MUSTANG GT-350 AS A RALLY CAR

By
Bob McKay

Although the emphasis in rallies today is more and more on regularity and accurate navigation, there are still a few events in which the car and the driver are put to a real test. You might easily win a typical SCCA rally in an old Hudson with the right navigator and equipment, but the high speed, late-penalty type of rally such as the 24-Hour go in Mexico calls for a real GT-prepared automobile. Having participated in this International event in 1963 (driving a Corvette), I knew that my Buick Riviera wasn't exactly the vehicle to enter in the Class A Gran Turismo category.

Approximately 95% of the route of the IX RALLY INTERNACIONAL DE LAS 24 HORAS is over mountain roads. Altitudes range from sea level to 11,000 feet and, while it is all paved, the highway system can't be compared to anything the domestic driver encounters except in some parts of the Appalachians. There is every expectation that bad weather will be encountered and the fact that the event is run at high speed

over open roads where people and animals move at a slow pace, makes additional demands on the car. What is needed, in short, is an honest full-bore GT machine — if you are going for Class A. There are smaller-classification vehicles eminently suited to this terrain and these road conditions, but the real challenge is in the top category where entrants are allowed only 22 hours to complete the rally as against 26 for the small cars.

This situation calls for something on the order of the Corvette, Ferrari or Aston Martin. I'd had considerable experience with the 'Vette, in the 24 Horas and the 2,000 mile Rally Centro-America-Mexico, (which I co-drove with O'Ce Ritch in 1962), and was tempted to buy another for this event. But, having read a great deal about the Shelby-350 Mustang, I decided to try it. I did, liked it and made arrangements to take delivery on one from Lew Spencer's High Performance Motors in Los Angeles.

There are a number of characteristics of the car which are evident only under the stresses of many miles of competition driving and practice. These conditions are hard to impose artificially and, like a sail-



Driver Bob McKay and navigator Paul Martel led Class A GT category and held First Overall spot for 14 hours of 24 Hr. Rally.



Mustang 350 was first tested on "Mil Cumbres" (Thousand Peaks) section of rally route where road is never straight for as much as 100 yards.



Interested spectators of rally practice trip question owner McKay about technical details of Shelby 350-GT.



Although well suited to open-road, high speed travel, 350 is annoying to drive in crowded streets such as this, in Guadalajara.



Roads are paved throughout Mexico but can change abruptly from wide highway to narrow lanes over ancient stone bridges.

ing vessel, the only way to find out if it can sail around the Horn is to go round the Horn. The biggest apparent item in the GT's favor is its modified suspension which makes it a handy thing to haul around mountain roads. Some of the options, such as the big fuel tank, are also bonuses for the serious rallyist. There are also only a few deficiencies (which can be corrected at relatively small cost). Therefore, it forms a good basic package at a fair initial price.

No production car has sufficient headlamp intensity to permit the sort of driving called for in the all-up rally, so my first move was to install Marchal Optique lamps in the place of the regular sealed beams. These lights fan out enough to illuminate the verge of the road but carry for several hundred yards. They will get by for highway use in the United States if used on low beam only. On high beam they'll blind any oncoming motorist. These lamps would probably be sufficient for domestic road conditions, but in Mexico or Central America, the prevalence of cattle, ambling pedestrians carrying huge loads and slow-moving carts makes even more illumination necessary. I mounted two Marchal Quartz-Iodine long distance lights in the grille opening. These lamps are usable only where there is no oncoming traffic to worry about. The combination was tremendous and enabled us to drive flat to the boards during the darkness. The only addition I'd make would be to add two fog lamps mounted as low to the road as possible. During the foggy stretches we were somewhat dazzled by the reflected candlepower.

My first get-acquainted drive with the car convinced me that it needs even more rubber to take advantage of the suspension. A set of 15" x 6" Cragar Super Sport wheels was fitted and I chose Pirelli Cinturato tires because my navigator Paul Martel, (a Frenchman living in Mexico), wrote me to: ". . . be sure we have tires for the raining roads . . ." My past experience with Cinturatos showed that they will stick well in the wet and yet live under the scrubbing they get from volcanic rock roads. The Cragar wheels, in addition to improving the looks of the car a great deal, are beautifully balanced and are held to close tolerances on run-out and roundness. These items are a wise investment for the competition minded. I switched back to the original Blue Dots for occasional street use but they are badly checked and cracked in 4,000 miles.

I didn't have adequate time to check the car out before leaving Los Angeles for Mexico City, so I drove it to Tucson, trailered it from there to Zamorra and drove in through the **Mil Cumbres**, ("Thousand Peaks"), section which was to be part of the Rally route. Here I discovered that hard cornering, rally style, produced some nerve-shattering thuds, grinding noises and whumps from the rear axle. On examining it in Mexico City I found that the trailing arms were fouling the remnants of the rebound-cushion bracket which had been torched off during the suspension

modification process. We did some more flame-cutting, frame-pounding and ground off part of a bolt head and managed to cure the clearance problem.

Aside from having carried a good supply of the wrong heat range spark plugs, there were no other obvious foul ups. If I had been a bit more thorough in my under-car examination, I might have found the assembly miscue which put us out of the rally while leading, however.

In re-locating the battery to the rear compartment, a long cable is required. In this particular GT-350, the cable was draped over the frame and not clipped, or given extra wrapping where it went from the frame to the compartment. The cable, swinging and flopping as we pounded over the rough roads, eventually frayed and shorted, causing the fire which ended our ride.

Prior to this occurrence, though, the GT-350 proved that it is a great rally car.

After leaving the start at **Ciudad Satillite**, suburb of Mexico City, the Mustang's superior acceleration, brakes and cornering ability let us gobble up the narrow, 2-lane highway at a great rate. We could pass several cars at a time and safely make maneuvers which less agile automobiles simply couldn't match. On the initial stretch we quickly moved past the Pontiac GTO which had started 2 minutes ahead and repeatedly demonstrated that the GT-350 could outperform it on any type of road. (We were back and forth often because of intermittent regularity zones which placed us at the 2-minute interval again.)

The road from Mexico City to Tamazunchale, (where it seems there isn't a single stretch of straight road 100 yards in length), was built for the 350. I have never been so confident, or had such precise controllability, in a car on this type of road before. The fact that we could drive extremely fast through here enabled Paul to con us through the regularity runs with ease.

As an indication of the rate at which we travelled, we covered a section of highway in 4½ hours which took me almost 10 hours last summer in my Riviera.

Through the first 14 hours of the rally the car went superbly in driving rain and blackest night and I feel that we would have held onto First Overall (all the other Class A GT cars had retired) if it hadn't been for the shorted battery cable. However, that's rallying. We proved the essential worth of the car by taking it around the Horn.

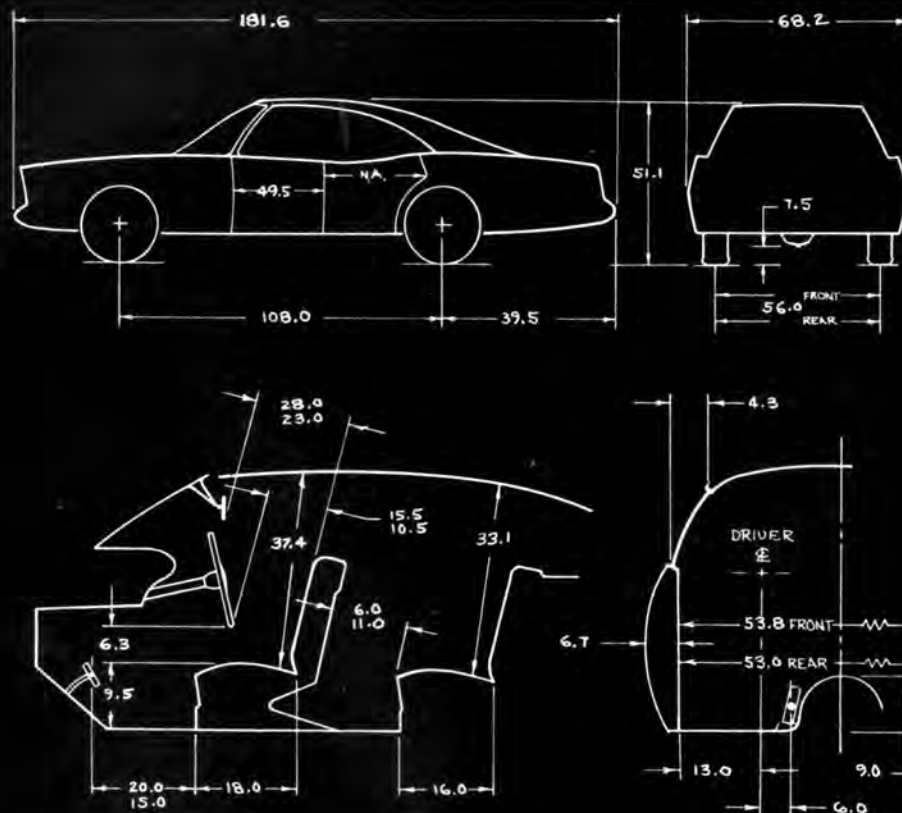
If you aren't a hot-blooded rallyist willing to put up with discomforts, forget it. There are some things about the 350 that you won't appreciate and even some which I intend to change before my next event. (The quick-fill gas cap, for one. It does not seal completely and you have to live on a mixture of air and gas fumes.) But, as an enthusiast, you'll have a hard time to find a big GT machine which will perform as this one does for this kind of money.



Free-roaming cattle, lumbering buses and omnipresent road construction were hazards to rallyists who traveled at high speed on roads filled with normal traffic. Rally was excellent test of Mustang which McKay rates as admirably suited to purpose.



McKay shows Rally official broken battery cable which caused Mustang to retire. Shorted-out cable started fire adjacent to fuel tank, caused considerable excitement.



SPECIFICATIONS

Curb weight 2856 (8-H.T.)	Steering, turns	Std. ratios,
Weight dist. 56/44	Manual 4.64	4th
Brake type drum	Power 3.73	3rd 1.00:1
Swept area, sq. in. 212	Turning circle 41.2	2nd 1.83:1
Brake type drum	Clutch dia. (6)8.5	1st 3.29:1
Swept area, sq. in. 251	Clutch dia. (8-2V)9.0	Automatic:
Brake type disc/drum	Clutch dia. (8-4V)10.0	Drive 1.00:1
Swept area, sq. in. 330	Clutch dia. (8-HP)10.4	Drive 1.46:1
Tire size 7.75 x 14		Low/drive 2.46:1
Optional transmissions:		Differentials:
200-6 1.00:1	V-8 2V 1.00:1	(6) 3.20:1
4th 1.00:1	V-8 HP 1.00:1	(6) 2.83:1
3rd 1.41:1	350 GT 1.00:1	(8-2V) 2.80:1
2nd 2.21:1		(8-4V) 3.00:1
1st 3.16:1		(8-HP) 3.50:1

ENGINE	
Type	6 cyl ohv
Bore	3.684
Stroke	3.13
Disp. cu. in.	200
Comp. ratio	9.2:1
BHP @ rpm	120 @ 4400
Torque @ rpm	190 @ 2400

ENGINE	
Type	90° V-8 ohv
Bore	4.005
Stroke	2.87
Disp. cu. in.	289
Comp. ratio	9.3:1
BHP @ rpm	200 @ 4400
Torque @ rpm	282 @ 2400

ENGINE	
Type	90° V-8 ohv
Bore	4.005
Stroke	2.87
Disp. cu. in.	289
Comp. ratio	10.1:1
BHP @ rpm	225 @ 4800
Torque @ rpm	305 @ 3200

ENGINE	
Type	90° V-8 ohv HP
Bore	4.005
Stroke	2.87
Disp. cu. in.	289
Comp. ratio	10.5:1
BHP @ rpm	271 @ 6000
Torque @ rpm	312 @ 3400

ENGINE	
Type	90° V-8 ohv 350 GT
Bore	4.005
Stroke	2.87
Disp. cu. in.	289
Comp. ratio	11.5:1
BHP @ rpm	306 @ 6000
Torque @ rpm	329 @ 4200