

PHOTOS BY GENE BOOTH, DENNIS SHATTUCK, FORD MOTOR CO.

# FORD 427 GALAXIE 500 XL

*This One Has More Muscles Than the Olympic Games!*

IF THE FORD Division wants to continue naming cars after equine types, as it did with the Mustang, we'll suggest it could label those big Fords equipped with the optional 427-cu. in. V-8 the "Percheron." It's a veritable draft horse of a car.

With its mandatory heavy-duty suspension options, stiff clutch and 4-speed manual shift transmission, performance axle ratio and without such refinements as power steering and power brakes, the biggest-engined Ford is not a car for the effete. Indeed, it's tailored to the tastes of the knowledgeable and muscular. If you don't have 'em before you drive it, you will before you've covered 1000 miles.

It's this muscular action of the 427 Ford that causes us to liken it to a Percheron. Like the draft horse, the Ford appears a bit clumsy and muscle-bound-awkward, that is until it is harnessed up to its assigned task. Then the true beauty of the beast shines forth. Like the Percheron, the 427 Ford is a "puller" without peer. But where the draft horse excels at merely moving heavy loads, the Ford is outstanding at moving that heavy load at an impressive rate of acceleration.

Now Ford will 427 equip any of its big car models (except station wagons), from the cheapest Custom 2-door sedan to the most expensive Galaxie 500 LTD. But the customer has to take the complete package: Ford calls it "mandatory options." In other words, Ford insists that the buyer of a 427-engined car get stronger brakes and suspension, frame, tires, radiator, battery and drive-train along with his 425-bhp motivator. The reason is simple: If you want that kind of power, you have to have the kind of car that can withstand its added stresses.

Basic to this package is the 427 engine, of course. This is the well-developed unit which forms the basis of Ford's dragstrip and track racing engines (see CL, March '64). Although not quite the same in some details, it gives the buyer a street engine he can live with, and yet will have the durability and performance of all but the finer-tuned racing engines. Differences between street and strip/track engines are in camshaft timing, port size and finish, intake manifold height and internal clearances.

Included in the package is Ford's own 4-speed all-synchromesh trans-

mission, which seems to have nearly perfect gear spacing for an on-the-street sort of car. First is neither too low nor too high; second can be used, if carefully, for starting up, yet is good for at least 80 mph; and third is a fine about-town or passing gear. Gear synchronization works well and shifting (if and when you want to) is marvelously easy. With up to 480 lb.-ft. of torque at the driver's disposal, however, shifting is not imperative. The car can be driven off from a stoplight using first and fourth, or second and fourth, or any other feasible combination. Despite the large venturi area in the 4-barrel carburetors, the "Percheron" will pull steadily, without fuss, from anything over 900 rpm.

A huge, stiff, Jack Armstrong type of clutch connects the gearbox to the engine and it, as much as anything else, gives the car its feeling of imperiousness. (A standard joke around the CL office is about the editor who got caught in stop-and-go traffic with one of these and had to pull out because of left leg fade.) The clutch is a good example of the heavy-duty equipment needed for a 427-cu. in. engine: It has a plate pressure of 2100 lb. per

sq. in., where the standard Ford 289-cu. in. V-8 has only 1269 psi; it is 11.5 in. in diameter, with 121 sq. in. effective area on the clutch facing, as compared with the 289's 10.4-in. diameter and 85.52 sq. in. Although it requires a heavy push on the pedal, this big clutch didn't slip during any of the acceleration runs and its engaging action was both smooth and entirely predictable.

Full-throttle accelerations with this bear are great fun . . . if you have a place like the new Carlsbad (Calif.) Raceway dragstrip on which to make them. This fine new drag racing plant, about 40 miles north of San Diego, has plenty of width and length for testing and racing cars and, being situated in a natural amphitheater, offers good visibility for all spectators. CL took to this venue for checking out the 427 Ford and found virtually ideal track surface conditions.

When one pokes his toes into the carburetors of a 427, he must be prepared for the resultant action. If he shoves too far down on the throttle, his acceleration time soars in a cloud of tire-smoke. If he's too timid, the engine tends to boggle at lower rpm and the car sort of limps off the starting line. If he holds his toes just right, catches 3500-4000 rpm on the tachometer and feathers the clutch so that power is fed gently to the rear wheels, he comes scrabbling off the starting line like a Super/Stock champion. And, even with the normal street-type tires the 427 Ford comes equipped with, he'll clip off consistently under-15 sec. quarter-mile times.

In this day of the under-12 sec.

Super/Stockers, a 15 sec. quarter-mile might not look too impressive. However, if we stop to consider that the car tested was in street trim, with no special tuning or equipment, those times are pretty outstanding. Of course, wide slick-tread tires, higher tire pressures, less restrictive mufflers, more spark advance and a lot less weight would help to improve the acceleration times, but then it wouldn't be an off-the-shelf production model anymore, either.

Car Life's testers made half a dozen runs through the measured quarter-mile and recorded a best elapsed time of 14.9 sec., a worst of 15.3 sec. These, too, were made with a loosened rear suspension strut and fractured shock absorbers, which undoubtedly cost us a fraction or two on our elapsed times. These two weaknesses showed up in the preliminary run, but weren't repaired until after the final runs were finished. The strut, the upper one which prevents the axle from rotating under drive and brake torque, connects to the frame bracket by a rubber-bushed pivot bolt. Somehow this bolt worked loose and the resulting axle rotation bent the shock absorbers. No other damage was done, despite the overloads imposed on other rear suspension components and drive-train universal joints and bearings. Repair was effected by simply replacing bolt, nut and shock absorbers.

Ostensibly, the 3-link system of rear axle location which Ford adapted for its coil spring suspension should give greater and more accurate rear axle control over the previously used parallel-leaf spring, Hotchkiss drive arrangement. And we found this to be true, at

least before the upper control arm loosened. If there are undesirable steering or reaction effects from Ford's new system, we have yet to find them.

Belting the 427 Ford over an open stretch of highway more nearly reveals its true character than a few all-on acceleration runs at the dragstrip. It is here that the driver learns the car's only major vices are that it steers too slowly and handles a bit too heavily to really be a "sporting" type of vehicle. The handling, with the HD suspension, is good, and somewhat better than that of a softer normal suspension car, but lacks the proper front-to-rear weight balance necessary to get really good control over a high-speed vehicle. The result is that the 427 Ford understeers to the point where it almost plows on sharp, slow turns. The situation can be improved slightly by airing up the front tires to 32 psi, while leaving the rears at 26 psi, but the problem goes deeper than that—to the 55.3/44.7% weight distribution.

Steering, as mentioned earlier, is manual for all 427-equipped cars. The power option is not offered, presumably because high engine rpm and hydraulic pumps are not compatible (although other manufacturers have seemingly worked out a satisfactory solution). Ford's power steering carries an overall ratio of 17:1, where its manual steering is 30.9:1. The manual steering is necessarily slow because of the more than a ton of car weight pressing down on the front wheels. But it imposes a penalty on the driver in that the power and speed potential of the car can get him into trouble a lot faster than he can steer out of it.



Another part of the 427's mandatory option list is the wider, tougher HD brake lining: You get better brakes whether you want them or not. They *are* better, too. Comparing them with the brakes on the Galaxie LTD (Dec. '64 CL) we found that the 427 brakes stopped better, at 20 ft./sec./sec. rates, as compared with 17 for the LTD, and that they resisted fade longer. Where the LTD exhibited some alarming skidding tendencies, the 427 did not. In fact, it wasn't until the fourth consecutive maximum-rate stop from 80

mph that we managed to fade them. Although these represent some improvement over the standard brakes, we'd still prefer to see Ford offer the Thunderbird's new front disc brakes as at least an option on all the larger cars, and made mandatory on 427s. Unfortunately, Ford and Thunderbird front wheel spindles are not interchangeable so swapping drums for a disc system at the dealer or owner level is not practical.

The 427's chassis is the same in general specification as that of other big

Ford series cars, but differs in some details. For instance, the anti-roll bar used under the 427 front measures 0.88-in. diameter where that for other V-8s is 0.69. Too, the 427 has stiffer springing, with a ride rate of 120 lb.-in. rather than 105 lb.-in. at the front wheels, and 125 vs. 110 at the rear. Shock absorber capacity and calibration is also changed to meet these stiffer characteristics and the result is a firm, stable ride just a shade harsher than that of the normal model Fords, but a whole lot more comforting to the driver's peace of

# FORD 427 GALAXIE 500 XL



mind. There's something satisfying and confidence inspiring about a car that does not lurch and sway over normal highway undulations.

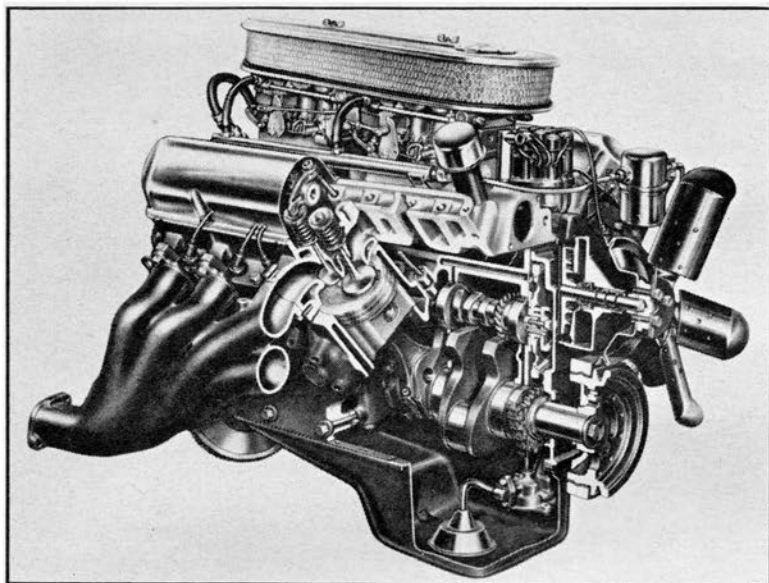
As described in earlier issues of *Car Life*, the '65 Ford uses a perimeter frame with a semi-unit body and 4-coil suspension. The live rear axle is located by three parallel, horizontal links and one transverse track rod. The front wheels are independent in action, but conventional in geometry and layout. Rubber-bushed drag struts from the front frame horns steady the beam-

shaped lower control arms, giving slight fore/aft cushioning.

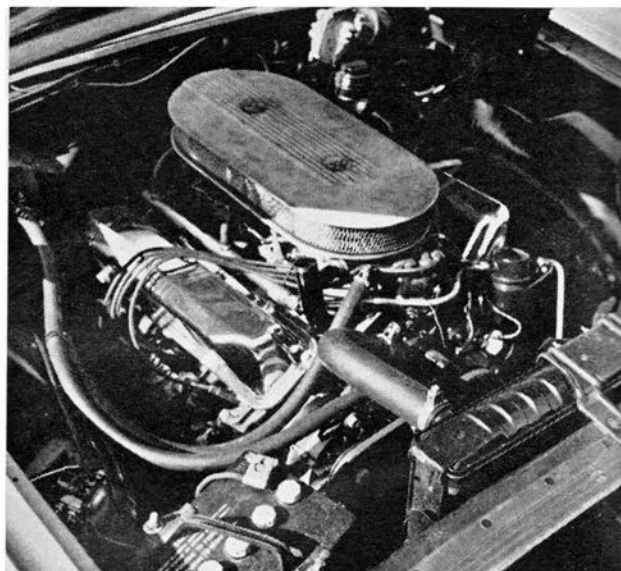
The frame itself is a resilient structure of two parallel beams which lay under the sills of the body and connect to front and rear suspension carrying members through welded-up torque boxes. On 427-equipped cars, a heavy-duty frame is used, which slightly reduces flexibility. This unit has box-section main beams and slightly heavier plating in the torque box areas. This frame is also used under convertibles and hardtops, and for trailer-hauling.

The body connects to this frame on six rubber mounts (three per side) and these let the frame flex and absorb road and drive-train vibrations without transmitting them to the body. Even with the solid-lifter 427 thrumming up high rpm under the hood, little sensation other than forward thrusting of the whole car reaches the driver or passenger. Only the tachometer tells what the engine is doing, but such an instrument isn't included in the 427 package.

Instrumentation is in the contemporary mode; that is, it has warning lights

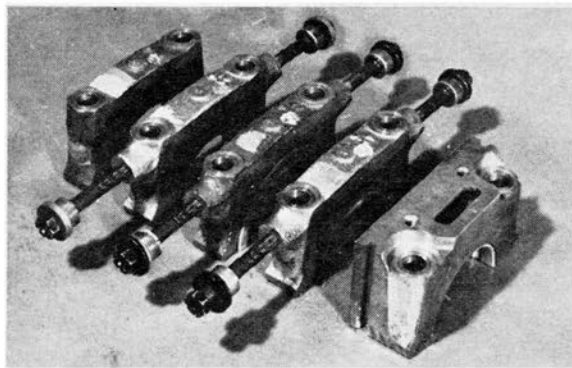


**CUTAWAY** of Ford's High Performance 427, in its two 4-barrel variation. Special headers, intake manifold, high compression help it develop impressive horsepower.

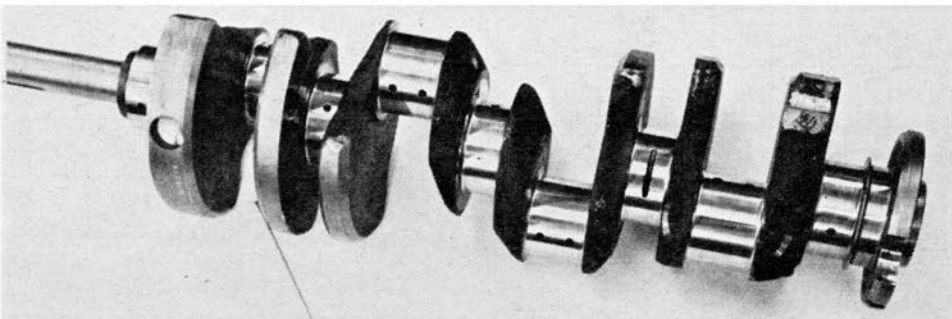


**CHROMED** rocker covers and special low-restriction air cleaner are part of the 427 engine package.

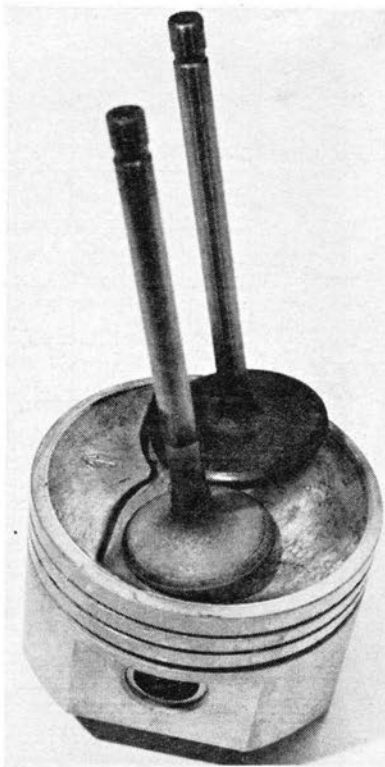
**CROSS-bolting** main bearing caps strengthens lower portion of engine, "rigidizes" crank.



**CRANKSHAFT CHANGES** for increased high rpm durability of 427s included cross-drilling of crankpins and main journals, spacing main journal oil holes 180° apart.



**HIGH** compression pistons require indentations for valve clearance.



# GALAXIE 500 XL

for oil pressure and generator, and indicators for fuel supply and coolant temperature. With an investment of nearly \$600 in the 427 package, the buyer ought to get such necessary (at least for

this type of car) items as a prominently mounted tachometer and complete set of calibrated instruments; perhaps even instruments with warning lights.

Perhaps this is a small item to criti-

cize in the overall evaluation. However, we think it points up one factor about the 427 Ford: Why didn't the product planners carry things just a step further and make a really sophisticated "Total Performance" sort of car—one with quick ratio power-assisted steering, a power-assisted clutch and, most of all, power-assisted disc brakes? With all the power available in that 427 engine, Ford easily could tap off enough hydraulic and/or vacuum pressure to make this the "Executive's Hot Rod" of 'em all. ■

## CAR LIFE ROAD TEST

### 1965 FORD Galaxie 500-XL 427

#### SPECIFICATIONS

|                             |             |
|-----------------------------|-------------|
| List price                  | \$3088      |
| Price, as tested            | 4275        |
| Curb weight, lb.            | 4096        |
| Test weight                 | 4426        |
| distribution, %             | 55.3/44.7   |
| Tire size                   | 8.15-15     |
| Tire capacity, lb. @ 24 psi | 4720        |
| Brake swept area            | 365         |
| Engine type                 | V-8, ohv    |
| Bore & stroke               | 4.23 x 3.78 |
| Displacement, cu. in.       | 427         |
| Compression ratio           | 11.1        |
| Carburetion                 | 2 x 4       |
| Bhp @ rpm                   | 425 @ 6000  |
| equivalent mph              | 136         |
| Torque, lb.-ft.             | 480 @ 3700  |
| equivalent mph              | 84          |

#### EXTRA-COST OPTIONS

427 V-8 package, am/fm radio, wsw tires, tinted windshield, w.s. washers, smog control device.

#### DIMENSIONS

|                          |        |
|--------------------------|--------|
| Wheelbase, in.           | 119.0  |
| Tread, f & r             | 62.0   |
| Overall length, in.      | 210.0  |
| width                    | 77.3   |
| height                   | 54.7   |
| equivalent vol., cu. ft. | 513    |
| Frontal area, sq. ft.    | 23.4   |
| Ground clearance, in.    | 5.9    |
| Steering ratio, o/a      | 30.9   |
| turns, lock to lock      | 5.75   |
| turning circle, ft.      | 41.0   |
| Hip room, front          | 2 x 21 |
| Hip room, rear           | 61.6   |
| Pedal to seat back, max. | 44.0   |
| Floor to ground          | 10.4   |
| Luggage vol., cu. ft.    | 19.1   |
| Fuel tank capacity, gal. | 20.0   |

#### GEAR RATIOS

|                    |      |
|--------------------|------|
| 4th (1.00) overall | 3.50 |
| 3rd (1.29)         | 4.52 |
| 2nd (1.69)         | 5.92 |
| 1st (2.32)         | 8.12 |



#### CALCULATED DATA

|                         |       |
|-------------------------|-------|
| Lb./bhp (test wt.)      | 10.4  |
| Cu. ft./ton mile        | 147.5 |
| Mph/1000 rpm            | 22.7  |
| Engine revs./mile       | 2640  |
| Piston travel, ft./mile | 1665  |
| Car Life wear index     | 43.8  |

#### PERFORMANCE

|                           |     |
|---------------------------|-----|
| Top speed (6000), mph     | 136 |
| Shifts, @ mph (manual)    |     |
| 3rd (6000)                | 106 |
| 2nd (6000)                | 81  |
| 1st (6000)                | 59  |
| Total drag at 60 mph, lb. | 168 |

#### SPEEDOMETER ERROR

|                |      |
|----------------|------|
| 30 mph, actual | 30.0 |
| 60 mph         | 60.8 |
| 90 mph         | 94.7 |

#### FUEL CONSUMPTION

|                   |      |
|-------------------|------|
| Normal range, mpg | 9-12 |
|-------------------|------|

#### ACCELERATION

|                      |      |
|----------------------|------|
| 0-40 mph, sec        | 2.3  |
| 0-50                 | 3.3  |
| 0-60                 | 4.8  |
| 0-70                 | 6.8  |
| 0-80                 | 9.2  |
| 0-100                | 15.8 |
| 0-120                | 30.5 |
| Standing ¼ mile, sec | 14.9 |
| speed at end, mph    | 97   |

