COMET IN action shows stability of the package despite the torque of the 427-cu. in. V-8 and the 4.56:1 gear ratio. This Comet A/FX, driven by Ronnie Sox, is identical to the Chrisman-Shrewsberry car.

COMET A/FX

427 cu. in. in a Lightweight Chassis Spells Action . . . If Only at the Dragstrip

DRAG RACING'S Factory Experimental class dates back only a year or two in temporal distance, yet it spans at least the equivalent of 10 years in automotive development as it applies to the No. 1 national (motor sport) pastime. An excellent example of this is the handful of special Comets which have been competing more or less regularly on the country's dragstrips during the 1964 season.

Ostensibly stock cars, these Comets have been specially re-designed and rebuilt to suit them to the peculiar, particular needs of short-distance sprint racing. Thus their mechanical relationship to the stock, out-of-the-showroom product is pretty remote, which is why the National Hot Rod Association and other drag-sanctioning bodies have relegated them to the special FX class. FX thus creates a place in the drag/stock spectrum where automobile manufacturers, or their subsidized teams, can unabashedly and unrestrainedly demonstrate their wildest combinations of engine and chassis.

The whole idea behind it all, of course, is to get a winner—or at least a car that will put up the fastest speed and shortest elapsed time of all the stock cars entered in a particular meet. The fastest stocker is naturally "King of the Mountain" even though as an FX-classer it isn't generally allowed to compete against the Super/-Stocks for the Stock Eliminator prizes. But, as somebody once said, "Fastest is always bestest!" and the resulting publicity is generally conceded to improve the "youth image" of the product line and boost sales of similar, if far more utilitarian, cars.

One of the more successful of the 1964 FXers is the Comet, which was conceived about the same time as the Ford Fairlane "Thunderbolt," (see March CL) and as with their parental products, these two special vehicles are very closely related. Only a handful of these Comets were put together (in the Ford Engineering shops) and then "sold" to selected private teams sponsored by Mercury dealers.

The West Coast representative is under the care and feeding of Jack Chrisman, longtime dragster designer/driver of formidable repute, and is operated out of the Sachs & Sons Lincoln-Mercury dealership in Downey (a suburb of Los Angeles). The regular driver is Bill Shrewsberry, a very fast hand with a 4-speed shift lever. At the time of this writing, Shrewsberry and this Comet had just captured both the national elapsed time (11.02 sec.) and top speed (128.04 mph) records.

The chassis is a Mercury Comet hardtop coupe with a great deal of hidden dissimilarity to the standard product. Perhaps the only readily visible clues to its true intent are the pair of nostrils at the forward edge of the hood, the special wheels and tires on which it stands and the lettering along its flanks. The casual observer wouldn't be able to detect the molded fiberglass front fenders, bumper, hood, doors and trunk lid. He wouldn't see, either, that the interior has no padding or sound-deadener. Nor would he see the special suspension, the 72-lb. battery in the trunk and the Corvette gearset in the transmission, all of which are necessary to suit a stock car for a shot at the A/FX winner's circle.

A good deal of the preparation lies within the realm of the chassis, and this takes two paths: First, to lighten it and thus achieve a better front-rear weight distribution: Second, to improve its reaction to torque and thrust loads. The extensive use of fiberglass paneling, light Plexiglass windows, plus aluminum inner paneling, drops the weight down to 3085 lb. (dry and without driver). Putting the big bus battery and a big spare tire (52 lb.) at the farthest rear point of the trunk and filling the fuel tank, then gives the rear a 49% loading—a pretty remarkable bit of shifting when we consider that the Comet Caliente tested last January had a curb weight of 3170 lb. and a distribution of 56.6/43.4% with the much-lighter Fairlane-series V-8 (the 427 is 660 lb.: the 289 is 485 lb.).

Rear axle driving loads are transferred to the chassis through a pair of torque reaction arms nearly 3 ft. long. These are special members, welded up into box section from steel plate, then welded to the axle housing and attached by a pivot bolt in front which allows them movement only in one plane (vertical) and makes no provision for absorbing the twisting motion which cornering forces would impart. These arms either help lift the front end, or pull down the rear end (either of which causes the center of gravity to pendulate toward the rear, thus shifting, momentarily, more weight onto the tires and improving traction). Springing is on the stiff side, to minimize undesirable reactions, and the car neither squats, leaps, lurches nor leans when full-throttle starts are made. Rear tires are full drag racing slicks, M&H built, 9.00-15 in. size.

The Chrisman Comet's best times were done with a set of 4.56:1 gears in the locking differential. These, with the 9.00-15 slicks, give 18.9 mph/1000 engine rpm and would appear to be the best compromise. Later runs at Riverside International Raceway (where these tests were done) with 4.89:1 gears and 10.00-15 slicks, to get a better bite on a "looser" track, failed to match the potential available with the 4.56s, although Shrewsberry defeated Don Nicholson in an identical Comet to win the A/FX class in the HRM Championship Drag Meet (Shrewsberry's time was 11.70 sec., 122.11 mph).

Consistency is the keynote to Shrewsberry's shift-lever handling; he gets just what he wants out of the car and its engine on every run. Normally he shifts at 6500 rpm; if extended, he ups the points as far as 7000 rpm. His shifts are made without clutch and without releasing pressure on the throttle pedal—i.e., true speed-shifts.

It's a credit, too, that the transmission withstands such brutal treatment. The Warner Gear T-10 case is equipped with the special "aircraft steel" drag racing gears developed a year or so back in the Corvette ratios of 2.20:1 first, 1.64 second, 1.28 third. Shrewsberry claims he has never broken the transmission. ▶

RESTYLED HOOD scoops have increased performance of the dragstrip Comet, evidently by providing a better airflow to the dual Holley carburetors. Bumper is fiberglass.

READY FOR a charge down the dragstrip, the Chrisman-Shrewsberry Comet has a power loading of 8.06 lb./bhp. Back window is glass, others are light plastic.

DENNIS SHATTUCK PHOTOS

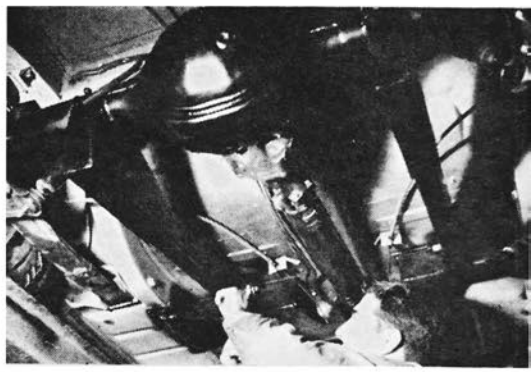
COMET A/FX

THE 427 is a shoehorn fit in a Comet.

The clutch, however, is something else again. It must be handled with care as too much slipping causes it to burn and disintegrate. Unfortunately, FX regulations are such that a special dragging clutch cannot be used, unless it is a cataloged item (which it isn't for the Comet). In fact, the CL testers (oh, infamy) put an end to the test session by trying to make a fast start in third gear (we thought it was first) and demolishing the disc. Shrewsberry, on full-race starts, "pops" the clutch so that the tires do the slipping, rather than that frail clutch disc.

The engine is the 1964 Ford/Mercury 427-cu. in. drag racing package announced (March CL) and made available around the first of the year. It is not the vaunted "7000 rpm kit" engine used for NASCAR oval track racing, although the valves from this kit are utilized. Drag racing does not require the longevity that track racing does, so the newer crankshaft is not needed in the drag cars. Chrisman feels that they could go to 8000 rpm with the kit but that going about 7000 for shift points brings the next gear up too far above the torque peak to improve the acceleration.

These new valves have hollow stems and a thin, flexible head with a very narrow seat. The intake valve is a high temperature alloy and the underside of the valve head is swirl-polished to improve airflow in the area of the throat. Exhaust valves are also hollow stemmed with narrow seats and flexible heads. Additionally, the exhaust stems are filled with sodium-mercury salt to help conduct heat away from the head of the valve.

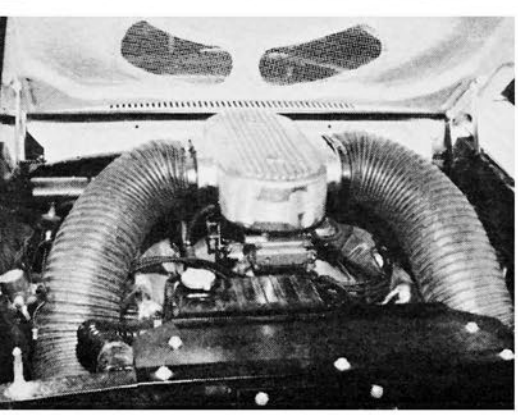


TRACTION arms transfer drive thrust to chassis, stabilize acceleration.

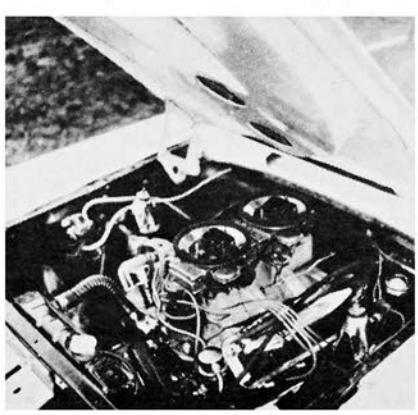
A late change in the intake system has added 2-3 mph to his top speed and Chrisman's car was one of the first Comets to have this. Previously, intake air was funneled back through flexible tubing from duct openings which replaced the inner pair of headlights in the grille. These fed air into a cast aluminum

PROFILE OF a winner: From the doorhandles forward, all the body panels (except the main structure) are molded from fiberglass. Big spare, heavyweight muffler and huge bus battery help shift the weight toward the rear.

OLD INTAKE system had central plenum fed by ducts from "punched-out" headlights.



NEW DUCTS are molded to underside of hood, feed directly into the dual carburetors.



BUS BATTERY in trunk concentrates 72 lb. more weight on the rear tires.

plenum over the twin carburetors, probably at a slight pressure whenever the car was moving. Now, two long scoops project forward to the leading edge of the hood where they appear to be "nostrils." These ducts are formed of fiberglass on the underside of the hood and channel directly into the carburetor throats.

Driving this bear is both easy and difficult. Any good driver with dragging experience can rip off a few heart-stopping, ear-rending quarters, but it takes a highly-practiced specialist to knock off those tenth-seconds which mean the difference between victory and defeat. With Shrewsberry driving and a CL tester in the non-padded passenger seat, we managed to record a best quarter of 12 sec. on our stop watches (without passenger and with electronic dragstrip timing the e.t. would obviously have to improve). With the CL testers at the wheel, the time dropped to nearly 13 sec.!

Traction, even on "Six-Grand-and-Banzai" starts, is excellent and wheelspin is easily controllable by the throttle. At high speed, the car is directionally stable, at least enough for this sort of work, and gives no tremors or nervousness to the driver. As we said, it's pretty easy to drive if you're not up against Nicholson or Shrewsberry for the A/FX championship.

The only unfortunate part of the 427 Comet situation is that they aren't available to the non-dealer-connected enthusiast. We think that Mercury could sell at least the 50 required to put them into the Super/Stock category, even at the high cost of such specially built racing cars, and then the competition really would get interesting. ■

CAR LIFE ROAD TEST

1964 MERCURY Comet A/FX

SPECIFICATIONS

List price	$2364
Price, as tested	n.a.
Curb weight, lb	3085
Test weight	3425
distribution, %	51/49
Tire size	5.90-15/9.00-15
Tire capacity, lb	n.a.
Brake swept area	251.3
Engine type	V-8, ohv
Bore & stroke	4.235 x 3.784
Displacement, cu. in	427
Compression ratio	11.5
Carburetion	2 x 4
Bhp @ rpm	425 @ 6000
equivalent mph	113
Torque, lb.-ft.	480 @ 3700
equivalent mph	70

DIMENSIONS

Wheelbase, in.	112.0
Tread, f & r	55.6/56.0
Overall length, in	195.1
width	71.4
height	53.6
equivalent vol, cu. ft.	20.0
Frontal area, sq. ft	21.3
Ground clearance, in.	5.5
Steering ratio, o/a	27.0
turns, lock to lock	4.6
turning circle, ft.	40
Hip room, front	2 x 22
Hip room, rear	56.5
Pedal to seat back, max.	43
Floor to ground	11.5
Luggage vol, cu. ft.	15.5
Fuel tank capacity, gal.	20

EXTRA-COST OPTIONS

8V-427 engine, 4-speed transmission; fiberglass hood, fenders & trunk lid, aluminum bumper & trim, special drag racing suspension.

GEAR RATIOS

4th (1.00) overall	4.57
3rd (1.28)	5.84
2nd (1.64)	7.48
1st (2.20)	10.04

CALCULATED DATA

Lb/bhp (test wt)	8.06
Cu. ft/ton mile	229
Mph/1000 rpm	18.9
Engine revs/mile	3170
Piston travel, ft/mile	1998
Car Life wear index	63.4

SPEEDOMETER ERROR

30 mph, actual	n.a.
60 mph	n.a.
90 mph	n.a.

FUEL CONSUMPTION

Normal range, mpg	n.a.

PERFORMANCE

Top speed (7000), mph	133
Shifts, @ mph (manual)	
3rd (6500)	96
2nd (6500)	75
1st (6500)	56
Total drag at 60 mph, lb.	130

ACCELERATION

0-40 mph, sec.	2.3
0-50	3.2
0-60	4.2
0-70	5.6
0-80	6.8
0-100	9.4
0-130	14.0
Standing ¼ mile, sec	12.0
speed at end, mph	121