

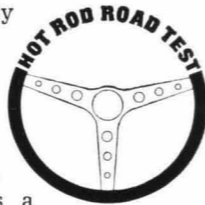
*Small-blocks are the way to go for a versatile drag, roundy-round and street vehicle. Boss 302s offer all three styles in one Mustang wrapper*

**By Steve Kelly** ■ Ford's Boss 302 Mustang is a real-life supercar in every sense. None of the "if you do this" or "after you add that" nonsense. It starts out good, and outclasses most of the world's big-engined muscle cars. The Boss 302 looks good, performs well and handles even better. It is a rival for the Chevy Z/28 (which the Mustang 302 was patterned after), and it's a very good competitor. The only thing that might allow Chevrolet to maintain a strong sales lead is the Boss 302's lack of availability. The two cars are surprisingly equal in almost every respect.

The Boss 302 concept is packaged around the standard fastback body. Manufacturer's curb weight is 3122 pounds, and our test car weighed 3485 lbs. wet. Front-to-rear weight relationship is 55% front, 45% rear, though the front end percentage goes up with the driver aboard by about three points. Still, this isn't bad. The 302 V8 is rated at 290 horsepower, which only hints at what really is buried in there. Only a 4-speed gearbox can be had in a Boss 302, but there are two different gear sets possible, and one is better than the other for street driving. A 3.50:1 rear axle is the base item, with a 3.91:1 possible from the factory. Either can be limited-slip-equipped, and both have a 9-inch-diameter ring gear. Externally there are enough markings on this car to magnetize friendly lawmen right off their freeway on-ramp perches

and hold their attention for many nervous miles; and coupled with attending high insurance rates, ownership of such a rewarding car can be discouraging. But the identity aspect has its good side also. It's pretty ego-satisfying and has a good "draw factor" for members of the opposite sex.

At Orange County International Raceway drag strip, the Boss 302 accomplished some pretty satisfying things. A rev limiter is standard on these cars to keep engine speed below 6200 rpm. Voltage flow to the ignition begins its reduction at about 5800 rpm. The four-bolt bottom end and forged steel crankshaft-equipped engine is good for upward of 7000 rpm in stock form. The regular Mustang V8 wiring loom is used, so it was an easy matter to disconnect the limiter and slip on the regular coil circuitry for our testing. The regular-hookup wire ends are simply taped over and left dangling near the coil. With warranties being the sticky things they are, discovery of a non-working limiter on a Boss 302 quite likely voids the guarantee on car and engine. Just remember, all we did was to tell you about it. Our first quarter-mile pass was worth 15.41 seconds. But then we found out the car has to be brought off the line at 3000



rpm and the clutch slipped slightly in order for the engine not to bog. This is with stock, F60-15 'glass-belted tires with 34 pounds air pressure. After we learned the start technique, the car ran a 14.80 e.t. with a speed of 96.35 mph. Next step involved a thorough cooling down, air-cleaner removal and plug change. Autolite AF 22s replaced the stock AF 32 firing pins.

Things perked up from this point on. The clutch was not showing any signs of fading after a half-dozen back-to-back runs, the Hurst T-handled shifter (standard goody) was moving from gear to gear with the greatest of ease, and we started out for nine or ten more runs. Elapsed times ranged from a high of 14.94 seconds (poor start), to a best of 14.639 seconds. Mike Jones, manager of OCIR, later on recorded a low e.t. of 14.621. Best speed was 97.50 mph. After nearly two dozen hard runs, not one part of the car showed signs of weakening. The clutch really took the beating, since it got a lot of slider action.

Shift points were set at 7000 rpm, or as close to that point as possible. Does that mean we blew the warranty? This particular car was equipped with a 2.32:1 low-gear transmission, and a 2.78:1 low-gear box would've helped the car's performance. The 2.32 four-speed has a 1.69 second gear and a 1.29 third-gear ratio. The 2.78 box has a 1.93:1 second and a 1.36 third gear. The 2.78 unit is supposed to be in all Boss 302s, but production shortages have forced installation of the 2.32 transmissions, which are generally reserved for the over-400-cubic-inch Fords. Low end is critical on the 302 because the maximum torque occurs within a very narrow range, between 4000 and 4500 rpm. Horsepower just doesn't seem to quit, so that's no problem once you're under way. With the lower 2.78 low gearing and the 3.91 axle, such as this car had, maximum torque would be reached much sooner at the initial acceleration stage, easing the burden of getting the car off the starting line. It would also make work easier for the semi-centrifugal clutch. The wide horsepower band allows — or necessitates — the driver to hold third gear to over 7000 rpm without losing power. We held it to the 7200-rpm marker usually, and this resulted in our lowest elapsed times. With the 3.91 gear, the Boss 302 breaks the e.t. light at 4800 rpm or thereabouts.

This engine hurts for better exhausts. We're going to have the car back in a week or so, and then we'll be able to install a good set of equal-length headers, plus slicks, and give the engine a decent blessing. The solid lifters are factory-set at .025-inch, and they opened up slightly between the time we first got the car and the time it was returned. Richening the primaries of the 780-cfm Holley four-holer will also improve matters. Stock ignition has a total lead of 36°. We bumped this up three degrees on the crankshaft, but it isn't all working until 3300-3500 rpm stock. Lowering the curve so that full ignition lead is in by 2500-3000 rpm is recommended as one way to go quicker.

In comparable form, except with 4.56 gearing, our Z/28 test Camaro a year ago (January '69) ran a 14.34 e.t. with a speed of 101.35 mph. We think it very safe to forecast at least the same clocking by a 4.56:1-geared Boss 302. The ultimate potential of either small-block, Chevy or Ford, is nearly the same, though the Ford holds promise of a higher

*(Continued on following page)*



*Solid-lifter 302 V8 rivals most big-blocks for performance and versatility, both on and off the track. RPM limiter, standard on Boss Mustangs, is attached to left-fender inner panel. Underhood working room is not overly confining. BELOW — Front air dam is standard, and attractive wheel covers on 15-inch wheels are reminiscent of old '50 Merc caps. This high-speed road car could stand more lighting; '70 Mustangs have two less front headlights than the '69. BOTTOM — Boss striping is reflective when spotted by bright lights. Spoiler is part of the deal, but window slats cost extra. Entire panel is hinged to lift up for rear glass cleaning. Rear vision isn't hurt by their presence.*



*photography: Steve Kelly and Al Hall*



# A BOSS TO LIKE

horsepower figure. Torque output, however, might bring out the 302's weak point over the total operating range.

The Boss 302 is an exceptionally road-worthy piece of production-line car, again comparing almost straight across with the Z/28. It's definitely the best handling car Ford has ever built, and that alone makes this car worthwhile. The big tires, high-rate springs and shocks, front power-assisted disc brakes, and rear anti-sway bar do more than just beef up the cost. This car has good power steering, and the non-assisted standard steering is a quick-ratio design. The nice thing about all this is that the car doesn't ride at all bad on the street; yet it resists getting out of shape when pressed hard through a turn more than a new car dealer re-

ter displaces them to this position. It shouldn't happen on this car. The glove-box lamp doubles as an interior courtesy light, which really does make sense. More interior lighting sure wouldn't hurt. A poorly lit, all-black-interior car is worth next to nothing in the way of convenience at night. The high-back bucket seats are fitted with extra-charge, solenoid-operated seat back releases that unhitch the seat backs whenever the door is opened. They're not needed too much for passenger entry on a fastback Mustang, but nevertheless, they exhibit positive thinking.

Mileage on a car like this can't be considered one of its virtues. Figures ranged from just over 10 mpg to a high of better than 13.5. This isn't too devastating on a person's budget, but it is a long way from rivaling the Maverick.

Run-around-town driving is acceptable, but the Boss 302 will heat quickly in slow-moving traffic. The clutch has a soft pedal effort, but the suspended gas pedal can tire your right foot. I've noticed this often with overhung throttle pedals, and the reason for it is because they are mounted farther out from the firewall than those which are hinged to the floor. You have to kink your knee to operate the gas, which leads to discomfort. It's a bit noisy inside, but nothing about that is objectionable. Heavy undercoating isn't wasted on this car. Looking rearward through the back glass slats is no problem, and if you don't like them, they don't have to be ordered. The abbreviated trunk deserves the collapsible spare. The deck lid refuses to stay open when a spoiler is attached, its extra weight being too much for the stock torsion-bar spring assist. There's no excuse for someone within Ford Division not remedying this before offering it for sale. Street ride is stiff yet not objectionable, due to its overall value. The rear anti-sway bar could be reduced just slightly in diameter, which would get rid of the oversteer condition found during sharp maneuvers. We'd rather have oversteer than understeer, but cutting down the rear bar size might bring about neutral steering—the optimum condition.

Ford has done their best possible job in coming up with a perfectly suited muscle car that fits street and racing conditions without great amounts of change being required for the transition. And the job is a good one. What problems there are would not be enough to keep me from buying this car. Disconnecting the limiter is easy, making it run fast is just about as easy, and liking the car is not a tough problem at all. ■ ■

## VEHICLE

Ford Mustang Boss 302 fastback coupe

### PRICE

Base	\$3757.00
As Tested	\$3928.00

### ENGINE

Type	90° V8, OHV
Cylinders	8
Bore & stroke	4.002 x 3.00 in.
Displacement	302 cu. in.
Compression ratio	10.5:1
Horsepower	290 @ 5800 rpm
Torque	290 lbs.-ft. @ 4300 rpm
Valves: Intake	2.190-in. dia.
Exhaust	1.710-in. dia.
Camshaft: Lift	.519-in.
	intake & exhaust
Duration	290°
	intake & exhaust
Overlap	76°
Exhaust	Dual, pair of two-
	passage reverse-flow mufflers
	and one lateral-mounted
	reverse-flow muffler.
	2.50-in.-dia. main pipe;
	2.25-in.-dia. tailpipe

### TRANSMISSION

Type	4-speed all-synchro forward
	gears, floor-mounted Hurst shifter
Ratios: 1st	2.32:1
2nd	1.69:1
3rd	1.29:1
4th	1.00:1
Clutch	Semi-centrifugal, single-disc.
	11.0-inch outside diameter;
	10.4 x 5.875-in. outside and inside
	diameter of clutch lining.
	1692-lb. spring load

### DIFFERENTIAL

Type	Straddle-mounted pinion type,
	semi-floating. Induction hardened
	axles; pressed steel removable carrier
Ring gear diameter	9.0 in.

### BRAKES

Type	Front caliper disc and rear
	duo-servo drum with integral
	power assist
Dimensions	11.3-in.-dia. front rotor;
	10.0-in. rear drum
Total swept area	505.8 sq. in.
	front & rear
Total effective area	186.6 sq. in.
Percent brake effectiveness, front	63%

### SUSPENSION

Front	Independent. Single lateral
	arm with drag strut. Coil springs;
	shocks mounted above upper arm
Rear	Hotchkiss drive design.
	Semi-elliptical, 4-leaf,
	53-in. x 2.50-in. springs
Shocks	Gabriel direct-acting tube type.
	1.3116-in.-dia. piston.
	Staggered in rear
Stabilizer: Front	Link type, carbon
	steel, .85-in. dia.
	Rear Link type, .687-in. dia.
Spring rates: Front	350 lbs. per in.
	Rear 150 lbs. per in.
Tires	F60-15 fiberglass-belted
Wheel rim width	7.0 in.
Steering:	
Type	Recirculating ball and nut with
	linkage power assist (manual
	steering standard)
Gear ratio	16.0:1
Overall ratio	20.32:1
Turning circle	37.6 ft., curb to curb
Wheel diameter	16.0 in.
Turns lock to lock	3.74
(Note: Same specs apply to both manual and power steering)	

### PERFORMANCE

Standing-start quarter-mile (best)	14.621 seconds, 97.50 mph
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### FUEL CONSUMPTION

Best reading	13.52 mpg
Poorest	10.12 mpr
Average	12.13 mpg
Recommended fuel	Premium

### DIMENSIONS

Wheelbase	108 in.
Front track	59.5 in.
Rear track	59.5 in.
Overall height	50.4 in.
Overall width	71.8 in.
Overall length	187.4 in.
Shipping weight	3122 lb.
Test weight	3485 lb.
Body/frame construction	Unitized
Fuel tank capacity	22 gal.
	(20 gal., Calif.-sold cars)



Hurst T-handled shifter comes with stock 4-speed. Interior is spartan but not uncomfortable. More gauges are needed.

sists calling himself the "world's smallest." Now that's self-explanatory.

Braking, steering and riding are solid reactions within the Boss 302. Every piece fits as it should and not one rattle or squeak made itself known. The regular Mustang steering wheel used in the Boss doesn't fit the picture. It's not wood (which is okay), but the rim is too thin and your fingers wrap around and dig into the palms of your hands while you're grasping the tiller. This is a consistent gripe we have with auto makers. Hope someone is listening.

Driving comfort is great for almost everyone under 6-foot 6 inches tall, and the back seat hardly counts. A cluster of four gauge-filled pods faces the driver from the dash, but the right kind of gauges aren't included. Oil pressure is relegated to warning-light form: the alternator is also telltale. The tachome-