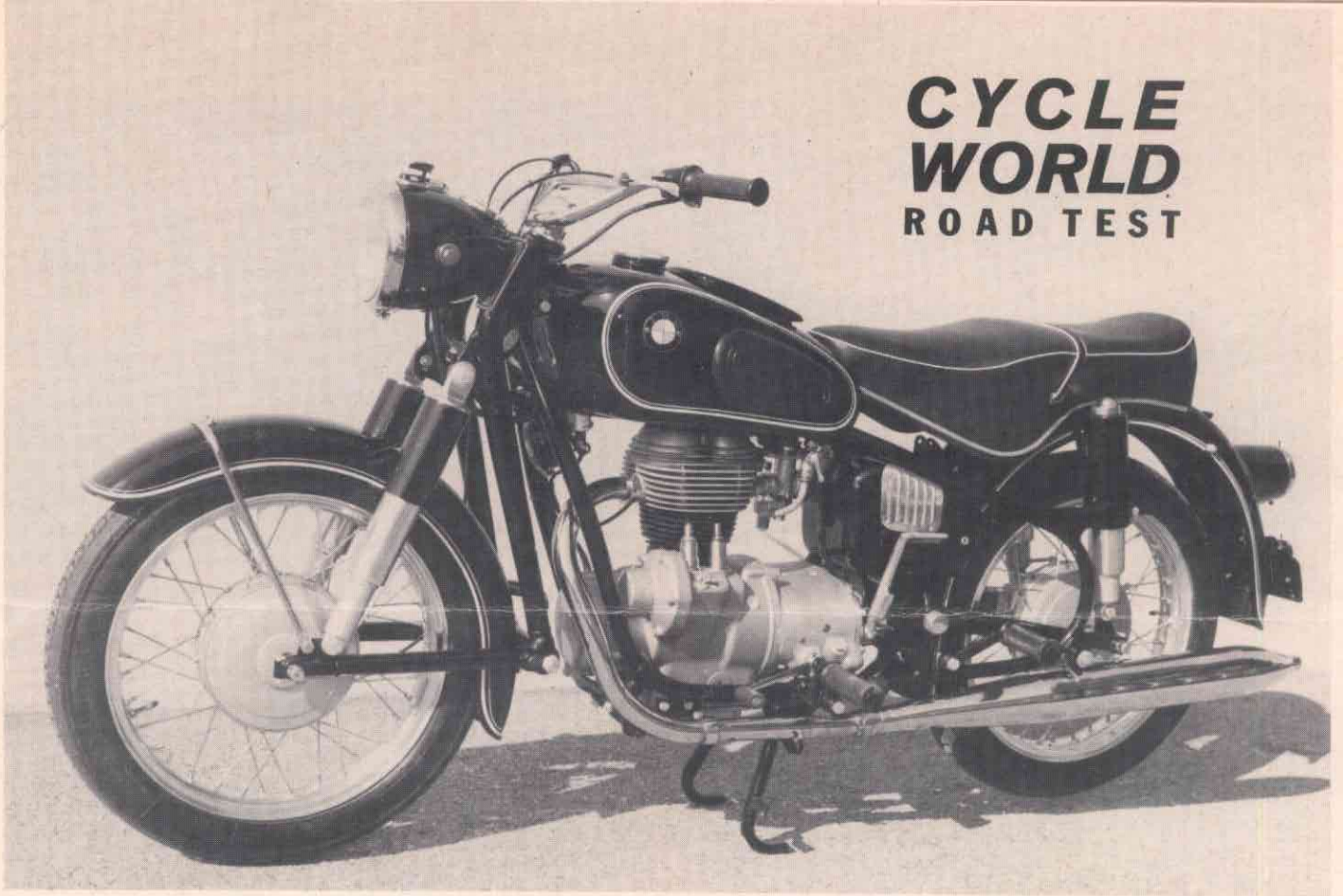


CYCLE WORLD ROAD TEST

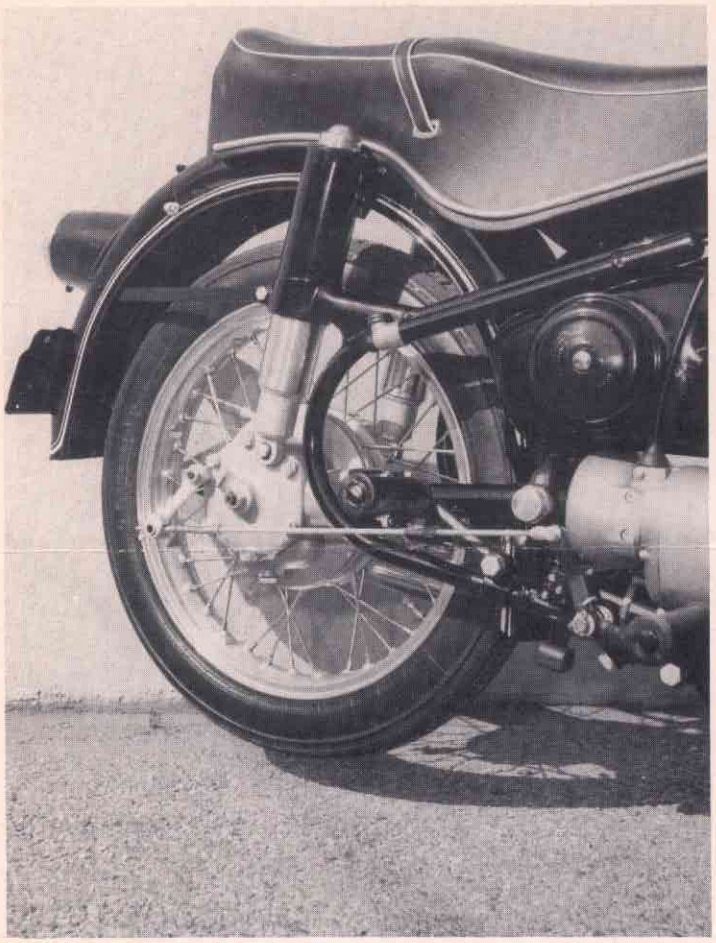
BMW R-27

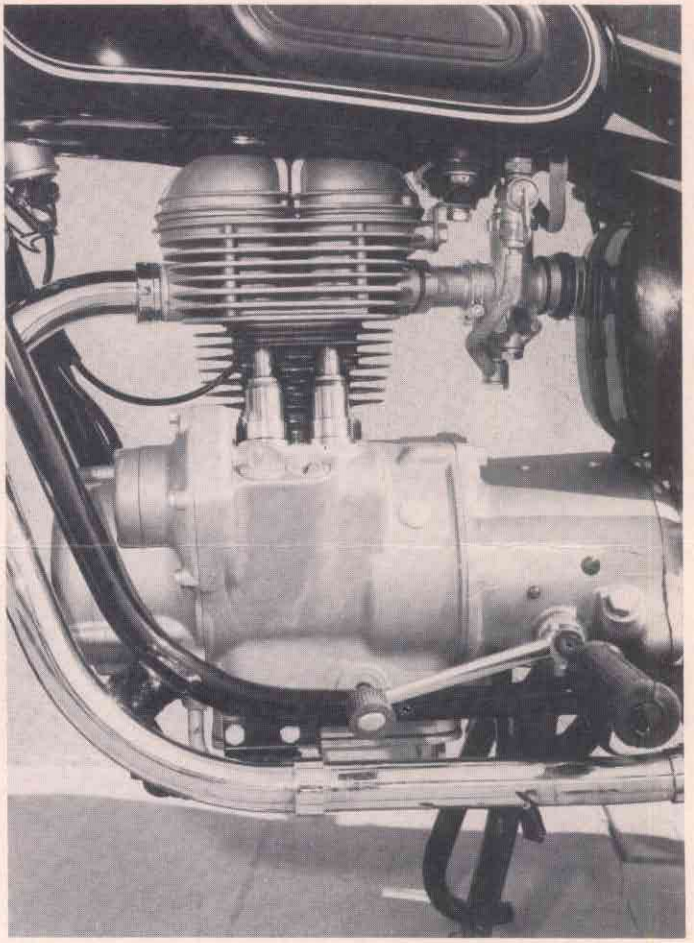
MOST MOTORCYCLISTS' interests are centered on the sporting aspects of the game, and if they do not race themselves, they at least follow racing closely, and indulge themselves in a bit of brisk riding, on pavement or back-country trails, whenever the opportunity presents itself. However, there is a second group that does not give a hoot for racing; they ask nothing more than to be allowed to ride gently along and enjoy the fresh air and scenery. The first, larger group may be found riding almost anything; the second will, more often than not, be riding a BMW.

The reasons behind this are manifold, but the main factor appears to be that the BMW offers probably the best reliability of any motorcycle in the world, it is also one of the most comfortable. These are things that matter a great deal to the back-and-forth-to-work, touring-on-weekends type of rider.

We have already tested the "top" model in the BMW line: the R-69S; now it is the "economy" R-27's turn. This is the model purchased by those who want what a BMW has to offer, but cannot afford the rather expensive (about $1600) R-69S. Actually, the R-27 is not all that much less expensive than the R-69S flat-twin, and for a very good reason: virtually everything on the bike, excepting the engine, is the same.

The R-27's engine is a vertical single, with pushrod operated valves in a hemispherical combustion chamber.





There is nothing very exciting about this engine, but it does have some rather different features. For example: unlike most single-cylinder motorcycle engines, the crankshaft webs that hold the crankpin are not also flywheels; the flywheel bolts to one end of the crankshaft, just as in an automobile. There is, however, room for flywheels inside the crankcase, which is absolutely cavernous. Of course, part of the great bulk of the crankcase is due to the fact that the engine has wet-sump lubrication.

Another unusual feature is the engine mounting. BMW evidently feels that the vibrations from a single are incompatible with the rest of the machine, and while there is not much they can do to prevent the engine from vibrating, they have stopped these vibrations at the source by mounting the entire engine/transmission package on rubber blocks. This is not effective at all speeds (there is a lot of shaking at and immediately above idle) but when you get the engine cranked up to touring speed, very little vibration can be felt. The R-27 is, when the rev s are up, the smoothest of all the 250s we have tried.

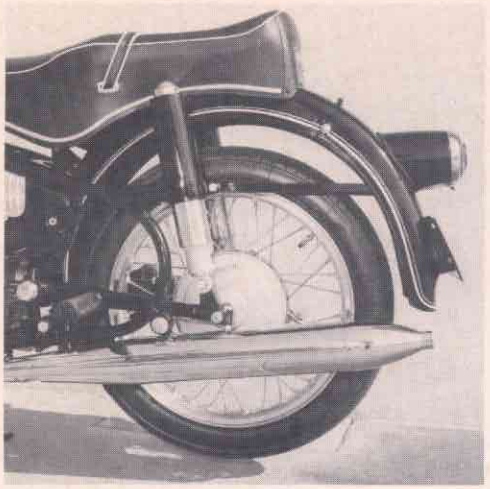
As in all BMW s, the R-27 is shaft driven, and so the engine and transmission are "sideways" as compared to the normal motorcycle layout. The clutch is a single dry-plate unit with a diaphragm-type spring under the pressure plate, and as it is bolted to the engine's external flywheel, it turns at engine speed. The diaphragm spring, incidentally, "over-centers" as the clutch is disengaged, so that pressure required at the lever is low.

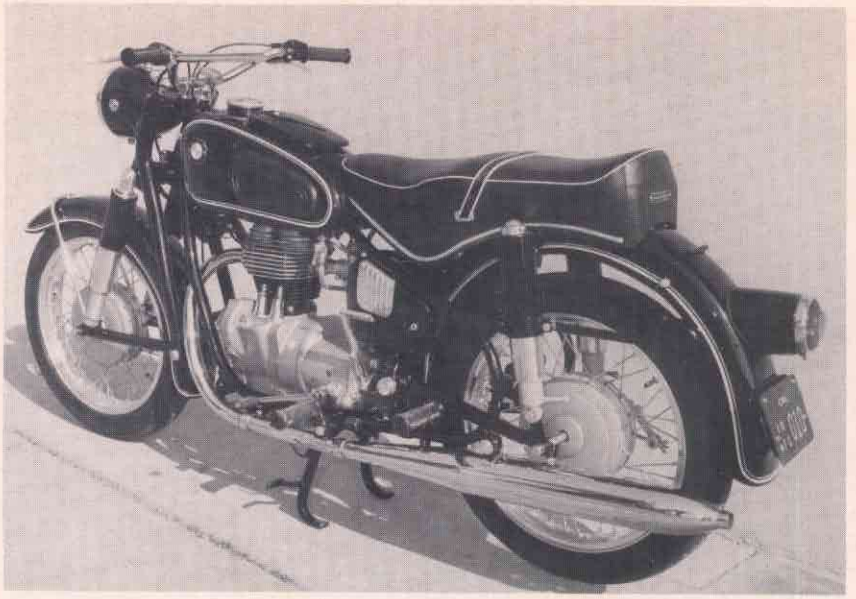
From the clutch, the drive goes to a shaft that carries a gear for transmitting drive to the transmission, and another gear for the kick-starter drive. Also mounted on this shaft is a torsional vibration damper. Next to this "idler" shaft is the transmission countershaft, and next to that is the mainshaft, which is hooked, at the back end, to the U-joint on the driveshaft. The driveshaft, of course, leads back to the spiral-bevel gears that turn the drive 90-degrees and feed it to the rear wheel. Thus, even in 4th gear, the drive passes through four shafts, and across three points of gear mesh.

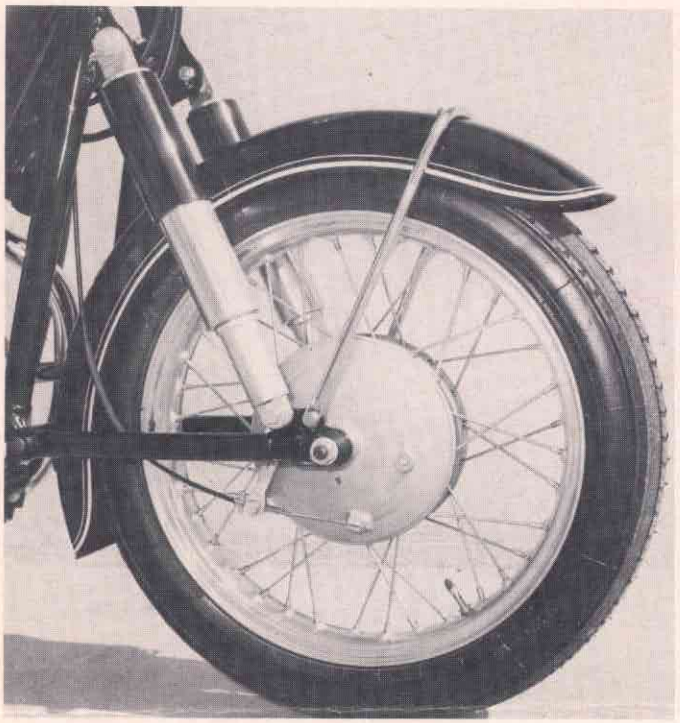
All of this whirling machinery can be felt very distinctly when making shifts. Every time you change gears, there is a pronounced clank as one set of fast-turning gears and shafts snatches another set up to speed. The same occurs during down-shifts, obviously, and this is made even more apparent by the engine's unwillingness to rev quickly. The engine carries a lot of flywheel, to smooth out power impulses, and this flywheel makes it quite impossible to blip the engine up to the higher rev s needed for a smooth down-shift. On the other hand, we must admit that the shifting requires little pressure on the lever, and it is all but impossible to miss a shift, either up or down. Neutral, so elusive on most motorcycles, was easily found and for those riders who wear very heavy boots or simply have no sense of "feel," a light (green) next to the speedometer winks on when neutral has been selected.

The flywheel we have been talking about makes the bike pleasant to ride in that it does smooth out the widely-spaced thumps from the R-27's single-cylinder engine, but it, in combination with a very "positive" clutch, made it somewhat difficult to make smooth shifts. The gears engage without any trouble (albeit with an audible clunk), but unless the rider waits, holding the clutch disengaged, until the engine speed drops a bit, the engagement of the clutch will snatch the whole bike forward. Naturally, most BMW riders do not make a habit of slam-bang shifting, so this peculiarity will not bother them much, if at all.

Because all of the motion is "sideways" in the BMW's innards, the kick-starter pedal swings outward from the side of the machine. This adds a lot of convenience when you want to start the bike while standing beside it, but if







the engine should stall while waiting for a traffic light, it becomes a distinct disadvantage. We suppose, with practice, one could learn to manipulate that sideways pedal while astride the bike; none of us ever became proficient at it.

Like most of the rest of the world's motorcycles, the R-27 has a swing-arm type rear suspension (the driveshaft housing is one of the "arms"), but it is virtually alone in employing an "Earles" type front suspension. This is, strictly speaking, another form of leading link suspension, but in the Earles fork, the links are very long arms, pivoted at a point just behind the front tire. This layout gives a nearly constant wheelbase, at the expense of small variations in trail, and as braking torque is fed into the suspension arms, the front end of the bike will not dip when the brake is applied. On the BMW, the arms have alternate pivot holes so that the trail can be reduced for sidecar work, and we suspect that this is why the Earles fork has been retained by BMW even though telescopic forks are proving to give superior road holding and handling.

The BMW's handling is exactly in keeping with the sort of motorcycle it is. You will notice that if hard cornering is attempted, the bike will surge softly up and down, which does little to help the rider maintain his "line." Stiffer suspension units would help this, obviously, and it is our opinion that a "cart-sprung" BMW would handle very well indeed. However, stiffening the suspension would also destroy what is a really marvelous ride, and the ride will appeal to the average BMW buyer a lot more than racing-type cornering. And, the BMW handles very well at normal touring speeds, which is really all that matters.

The bike's brakes are good by any standard. The brake drums are quite large, and of aluminum, and a minimum amount of pressure is required at the controls to get a maximum of braking effort. This is not to say that the same brakes would be perfect on a racing machine, but at the speeds of which the R-27 is capable, its brakes give most impressive results.

Hot or cold, the engine is easy to start. We had some difficulty in cold-starting until we learned the combination, which was a little "tickler" and very little throttle, but after the learning phase was past the bike proved to be quite willing to come to life.

With relatively high bars, and a low seat, the riding position was bolt-upright, which is just the thing for long-distance touring. All controls are well positioned, and the saddle is soft enough to allow a rider to spend a lot of time aboard the BMW without becoming unduly fatigued. This is fortunate, because the BMW, with its high tank capacity and low fuel consumption, will go a very long distance before it is necessary to stop. It is, in short, an ideal moderate-speed touring bike.

We have mentioned the impressive reliability of the BMW; that is something that cannot be seen, but is known as a result of long experience on the part of the fanatically-devoted group of BMW riders. What can be seen, by even those who do not know motorcycles, is that the BMW's finish is of the highest standard. Where there is paint, it is of uniformly high quality. The very little bit of brightwork on the bike is really bright, and experience indicates that it will remain bright through a lot of weathering. All of the bike's mechanical elements, and the suspension and frame, are extremely "substantial," and that accounts for the rather high curb weight – and a lot of its reliability.

We can go on to say that the R-27 will take a beating without complaint, although it is not really inended for that, and that the rider's enjoyment of breeze and scenery will not be disturbed by excessive vibration or exhaust noise (things that the sporting rider seems to enjoy more than air or scenery). There are a lot more points to cover, but it is really not necessary for us to do this: people who are not natural-born BMW riders will not care; and those who belong to the BMW cult already know. •

BMW R-27

SPECIFICATIONS

List Price	$850 (FOB Los Angeles)
Frame Type	tubular, two-loop
Suspension, front	leading link
Suspension, rear	swing arm
Tire size, front	3.25-18
Tire size, rear	3.25-18
Brake lining area, sq. in.	30.1
Engine type	single cyl, ohv
Bore & stroke	2.68 x 2.68
Displacement, cu. in.	14.95
Displacement, cu. cent.	245
Compression ratio	8.2:1
Bhp @ rpm	18 @ 7400
Carburetion	26mm (1.02") Bing
Ignition	battery and coil
Fuel capacity, gal.	4.0
Oil capacity, pts.	2.6
Oil System	wet sump
Starting system	kick

POWER TRANSMISSION

Clutch Type	single-disc, dry plate
Primary drive	gear
Final drive	shaft and bevel gears
Gear ratio, overall:1	
4th	6.40
3rd	8.49
2nd	12.56
1st	22.17

DIMENSIONS, IN.

Wheelbase	54.3
Saddle height	30.2
Saddle width	14.0
Foot-peg height	10.5
Ground clearance	4.5
Curb weight, lbs.	360

PERFORMANCE

Practical maximum speed (after 1/2-mile run)	
Max. speed in gears @ 7400 rpm	
4th	84
3rd	63
2nd	42
1st	24
Mph per 1000 rpm, top gear	11.3

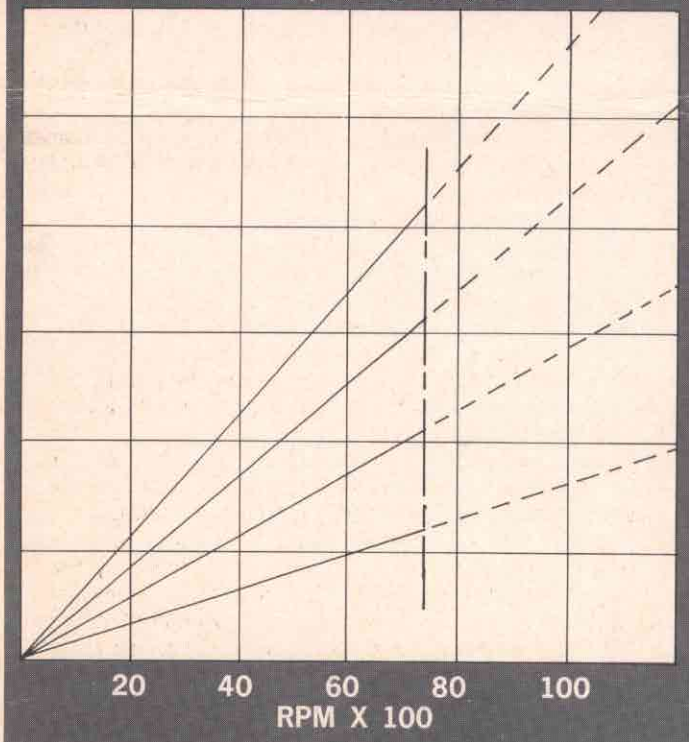
SPEEDOMETER ERROR

30 mph, actual	28.6
50	48.2
70	66.7

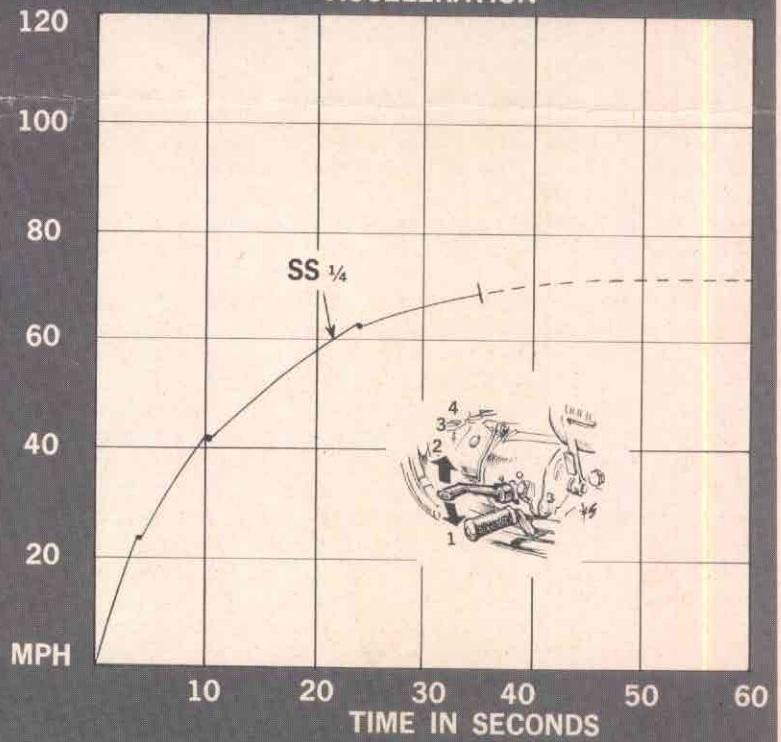
ACCELERATION

0-30 mph, sec.	6.1
0-40	9.3
0-50	15.1
0-60	21.5
0-70	38.0
0-80	
0-90	
0-100	
Standing 1/4 mile	21.5
speed reached	60

ENGINE / ROAD SPEED



ACCELERATION



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