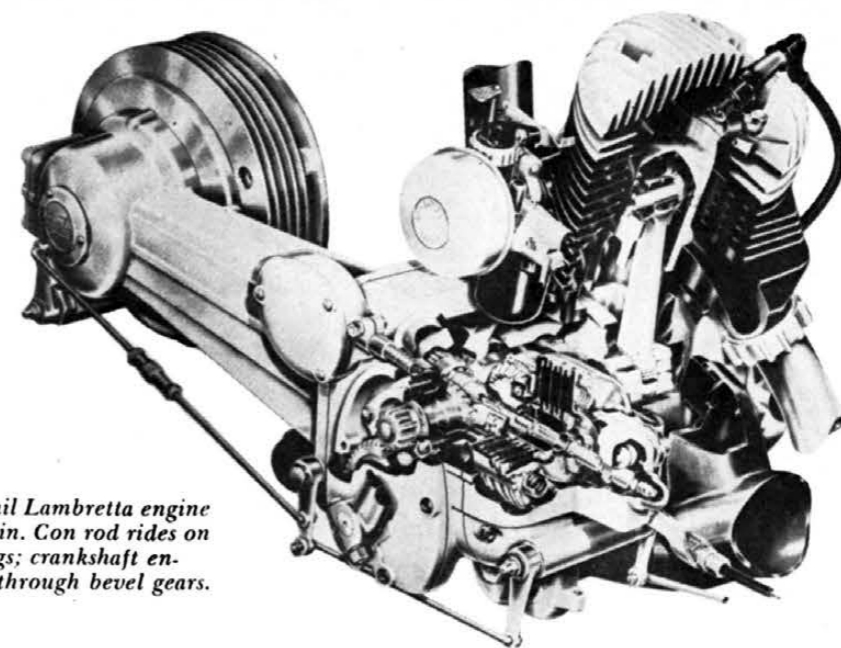




MOUNTAINEERING BY MOTOR SCOOTER

The 2000 mile jaunt from desert floor to mountaintop seemed no more of a problem than a quick chug from front door to market.

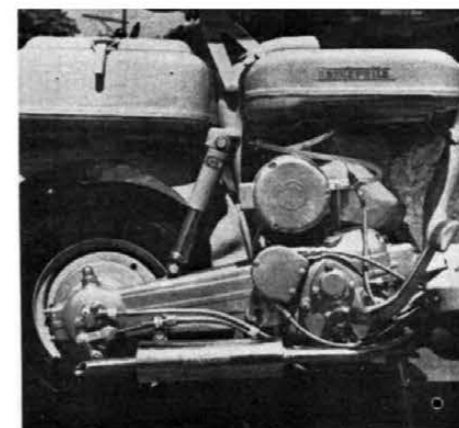
It was this rough terrain rather than fatigue or stall that finally stopped the Lambretta. Talus from this point on made mobility impossible.



Cutaway detail Lambretta engine and drive train. Con rod rides on roller bearings; crankshaft engages clutch through bevel gears.



Extra passenger is carried in tandem on back seat. Of course, it's better if the gal wears slacks.



Close-up of engine, drive and rear wheel unit. High gearing and wheel hop finally stopped the two seater.



Change of tires is easily accomplished due to split rim wheel which requires only the wrench supplied with bike.

BY GRIFF BORGESON

IT'S a rare motor sport enthusiast who doesn't have a latent, devilish desire to experiment with two-wheeled transportation. Generally the impulse is tempered by the knowledge that 'cycles of thoroughbred quality cost anywhere from \$800 on up — a lot to pay for the satisfaction of a whim. Obviously motor scooters are far more practical financially, but nearly everyone tends to regard them as barely one step beyond Junior's kiddie-car. This is a mistake. Over a period of several years, and through several stages of the machine's refinement, I have put a few thousand rugged miles on a Lambretta scooter, and I can testify that for go-anywhere ability, for the kind of engineering that proves the world's root-relationship to "ingenuity," and most of all, for real kicks, it's a hard one to beat.

I first became aware of the Lambretta, back in 1929, through reading the French, Italian, German and Swiss car publications. In these, I read, from time to time, accounts of a scooter that had been ridden from Paris to Tibet, from Milan to New Delhi, Rome to the Arctic Circle, Rheims to Rangoon, and from Algiers to Cape Town. Obviously, the machine that could do all this was no jangling gravel crusher hastily stamped out of old Coke signs. I investigated.

The Lambretta factory in Milan sent me bales of literature about the little two-wheeler and as years went by kept me posted on the progress of its design and distribution. In 1954, they began shipping machines to the U. S., and somewhat diffidently, I made a suggestion. Would they, I asked, let me give the Lambretta an ultimate-type road test—from the lowest point in the U. S., at Bad Water, Death Valley, to as high as I could get in the towering White Mountain range near Bishop, California? The factory people were not only willing but downright enthusiastic. They let me use a brand new machine, answered every technical question in minute detail, and even shipped me a special Dell'Orto carburetor with variable mixture control for use over extreme altitude ranges.

It takes a good thousand miles of use to limber up a Lambretta to the point where maximum revs can be reached with ease, and every 50 miles makes a big difference in its strength, smoothness and silence. I broke the machine in through Beverly Hills traffic and on cow-trails and foot-paths in the meandering Santa Monica range. When 500 miles showed on the odometer, I lit out for Bad Water.

From Beverly Hills to Bad Water to Bishop was easy. The

Lambretta's ride on pavement was ideal. But I learned that the machine is best suited to unhurried transportation. Up to 35 mph it felt wonderful. Beyond that it felt insecure. It uses 4.00 x 8 tires and its center of gravity is very close to the ground; the hubs are just eight inches from the road. The small tires make small patches of contact with the road and the low CG makes it respond very sensitively to any passing crosswind. You learn to sense these responses early and not to overestimate the tire adhesion. You learn to make haste slowly.

Still, the 2000 miles and the better than 4000 ft. rise in elevation from the desert to Bishop were no more of a problem for the Lambretta than a quick chug from front door to supermarket. But from here on it was going to be tough. Bishop lies at 4147 feet, in the approximate middle of the Owens River Valley. The Sierra Nevada, heavily timbered and heavily populated in the summer with campers and sportsmen, forms the skyline to the west. To the east looms the equally high White Mountain range. These are desert mountains. They get little snow, have little timber and water, no tourist traffic and no Forest Rangers to ask what

the hell you're doing up there on a motor scooter. I headed into the Whites for first-day reconnaissance.

The quick way to the top of White Mountain Peak, 14,242 feet up, covers just 38.5 miles, the worst of it being between about 6000 and 10,000 feet, on a very rough trail that hangs more or less vertically on one of the walls of Silver Canyon. This canyon would have been an inspiration to Doré when he was illustrating Dante's "Inferno." The desolation is total: the scale overwhelming.

It was the middle of August, and only a few patches of snow remained on the high peak that I hoped to reach. The climb up the canyon begins at about 4500 feet and it follows the water-course for a couple of miles before it lights off across the faces of mountains. I had to ford the stream repeatedly and although the water came over the floorboard many times, it never affected the Lambretta's well-shielded ignition. I made good time up the twisting, strewn trail, and the needle on the Taylor pocket altimeter marched steadily past 5000, 6000 and 7000 feet. But at 7800 I found the Lambretta's Achilles' heel.

It happened about half way up a 3000 foot long, 20 percent grade that was littered with sharp shreds of loose rock. The



The watercourse at Silver Canyon had to be forded many times during trip. To find limit, SGI's chief tester made 10 passes before ignition quit.

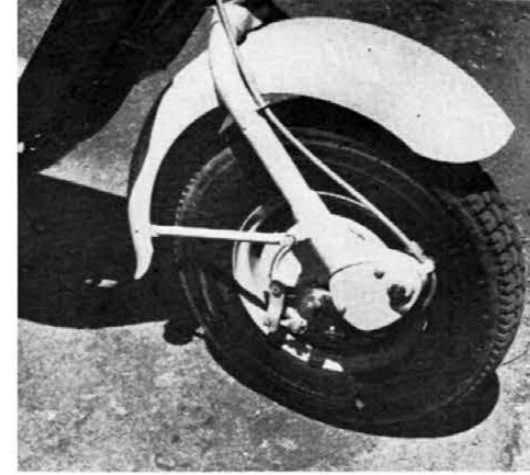
machine had plenty of power as long as the engine was revving high. But this made the rear wheel rev high too, and the wheel kept breaking loose and hopping on the slippery surface. I'd back off on the throttle to avoid over-revving, but between this and the wheel hop the engine would stall within a few feet.

I tried several techniques to get up this long grade. When I slipped the clutch with the engine revving high there'd be a good torque with low revs at the rear wheel. But after three 20 foot advances the little multiple-disc clutch froze solid; fortunately, it snapped back to normal in about 10 minutes. I let half the air out of the rear tire to get more traction, but this resulted in ripping the valve stem from the tube of a very nice Pirelli; fortunately, again, the machine was equipped with a handy continental-type spare. I knew, from having toted passengers on the tandem seat, that the machine pulled best with a heavy load at the rear. I considered piling rocks on the luggage rack, but rejected the idea: the rear end was hopping too badly.

The one remaining alternative, aside from putting the machine on my back, was to walk it up the grade. But this, I discovered, had to be done at a speed that was closer to a trot than a walk. And gamboling uphill at 8000 feet while steering and supporting a 200 pound machine was a job for a brace of Himalayan Sherpas, not for me. I abandoned the Silver Canyon approach to the peak.

The next day I decided to explore the Lambretta's high-

The Lambretta's front running gear is suspended by coil spring contained at the bottom of the fork.



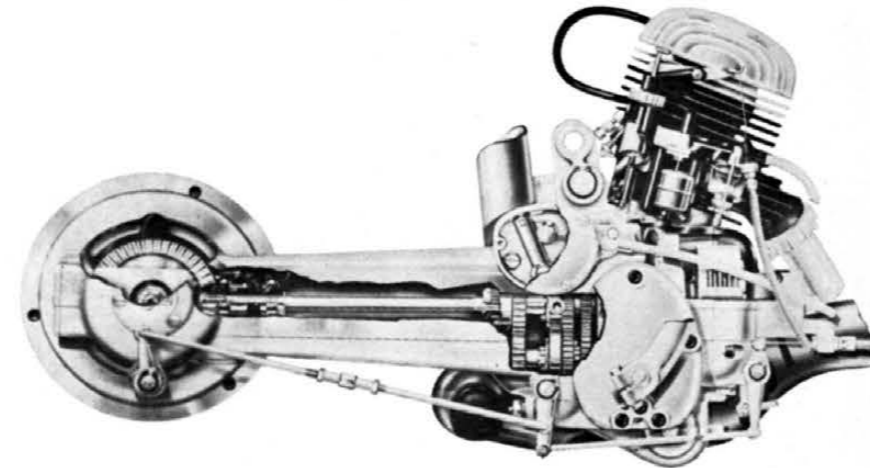
Typical group of Lambrettisti on tour of Alpine passes. Paris-Tibet, Rheims-Rangoon, Algiers-Cape Town, are among successful trips.



Wheel-hop and gearing on the twenty percent grade made it necessary for the bike to be portaged by jeep over the pass.



Lambretta trucks are used throughout the world. Here one of the species, loaded with cargo, begins a long climb through an Alpine pass.



Power train detail. Drive shaft doubles as a torsion bar, and cushions various moving parts against sudden changes in load. Bearings are mostly rollers.

altitude limitations under less severe conditions. Before starting out I removed the head gasket to gain a little compression and took off the muffler to shed its back pressure. This time I headed west, up the Pine Creek Canyon road into the Sierra Nevada and toward the headquarters of the world's highest tungsten mine, 7600 feet up. The road was steep and tortuous but it was paved. The Lambretta was able to get reasonable traction and it flew up the mountain to the mine office. When I arrived the men in the office dropped what they were doing, stared, and came out incredulously to look at the machine. Hill-climbing cycles had been seen here, they told me, but never a scooter.

Beyond the office a gravel road climbs steeply to the diggings higher up. At 8200, I was stopped by blasting operations and had to turn back. The descent to the floor of the Owens Valley impressed me with the wonderful virtues of the Lambretta's brakes. Front and rear the ferrous metal drums are bonded to deeply finned light-alloy mufflers. The little machine made in the shadow of the Alps scampered down from that granite vastness in top gear. Just a touch on the brakes was all it took to cope safely with the countless downhill curves, and there was never a trace of fade.

On my third day in Bishop I tried another approach to White Mountain Peak, via Westgard Pass (about 50 miles south of the peak) and a trail that follows the summit of the range. This time I got to 10,600 feet before I ran into



Driver's view of the Lambretta shows the lack of instruments except for speedometer and odometer.

PERFORMANCE

ACCELERATION:	seconds
From zero to 20 mph	4.0
30 mph	18.9
40 mph	28.2
Standing 1/4 mile	

SPEED RANGES IN GEARS:	mph
I	20
II	30
III (top speed)	52

SPEEDOMETER CORRECTION:
None; speedometer accurate.

FUEL CONSUMPTION:
Average driving 110 to 150 mpg

SPECIFICATIONS

CHASSIS:	
Wheelbase	50 ins.
Suspension, front	Coil spring.
Suspension, rear	Torsion bar.
Shock absorbers	Double-acting telescopic at rear.
Brake type	Mechanical; finned aluminum drums.
Brake lining area	15.7 sq. ins.
Tire size	4.00 x 8

GENERAL:
Weight, test machine 208 lbs.
Fuel capacity 1.9 gals.

RATING FACTORS:	
Bhp per cu. in.67
Bhp per sq. in. piston area	1.52
Lbs. per bhp (test machine)	34.7
Piston speed at 60 mph	2283 fpm
Piston speed at max. bhp	1807 fpm
Brake lining area per ton	151 sq. ins.

Motor Scooter

(Continued from page 48)

the kind of situation that had stopped me a couple of days before: a long, steep, rocky grade, too many revs at the rear wheel, and wheel-hop. I thought a lot about those guys who had gotten to Tibet, and really felt for them.

By this time I was determined to conquer the mountain if I had to do it with a Cat 'dozer. I enlisted the aid of California Division of Highways engineer Dick Chaney, a former foot-mountaineer who now climbs by four-wheel-drive jeep. He agreed to portage the Lambretta on the jeep over the stretches it couldn't pull. Together we made it to 13,250—as high as a land vehicle can go on the peak. The last 1000 feet or so rises at a steep angle and is covered with gigantic boulders that the weather has wrenched from the body of the mountain. A few horse-men have been to the top. So have a pair of zealous motorcyclists who took their machine apart and carried it to

the summit, reassembled it and took pictures of it there.

At 13,250, the Lambretta scooted among the blocks of talus with almost as much pep as it had at sea level. The air was thin, cold, clear; the view spectacular. From here you look down on the Sierra Nevada range to the west across the Owens Valley—down on the range's last surviving glaciers slowly carving their granite amphitheaters. Here there is no litter of empty beer cans and almost no life—just an occasional eagle, a mountain bluebird, big deer in the distance and friendly, curious marmots.

REPORT TO MILAN

Naturally, I reported to Milan on the White Mountain caper. I told the factory people what had stopped the machine, suggested that lower gearing and stiffer rear suspension could enable the Lambretta to put most of the country's pack trains out of the horse and mule business. The Lambretta I used obviously was equal to anything on pavement. Better geared and snubbed it could be the answer to many outdoorsmen's prayers.

And this is precisely what today's Lambretta, the 150, is, and the factory achieved the effect without changing

the gear ratios. The new machine has 6, rather than 5 bhp. It has a husky telescopic shock absorber on the rear suspension to control the rear-wheel hop among other things. It's a more forceful machine, but the added urge goes to pulling power rather than to speed. The 20 percent increase is almost entirely channeled into better low-speed torque by maintaining peak revs at the original level. My impression after riding the 150 is that the few limitations of the earlier models have been eliminated. There is one exception: the front suspension is still on the soft side—not just for cross-country work but for bumpy pavement as well. While the rear-wheel is smooth and almost vibrationless, the front wheel still bottoms too easily. However, I can't wait to go mountaineering again the easy way, by Lambretta.

The new 150 differs hardly at all in basic layout from the original 125 invented at the end of World War II by Ferdinand Innocenti and developed by engineer Pier Luigi Torre. But a close examination of the seven or eight Lambretta models that have appeared since 1947 shows that each part of the vehicle has undergone constant refinement. It is no more than just to call today's 150 a jewel of design and workmanship.

Griff Borgeson

beat the parking problem!

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