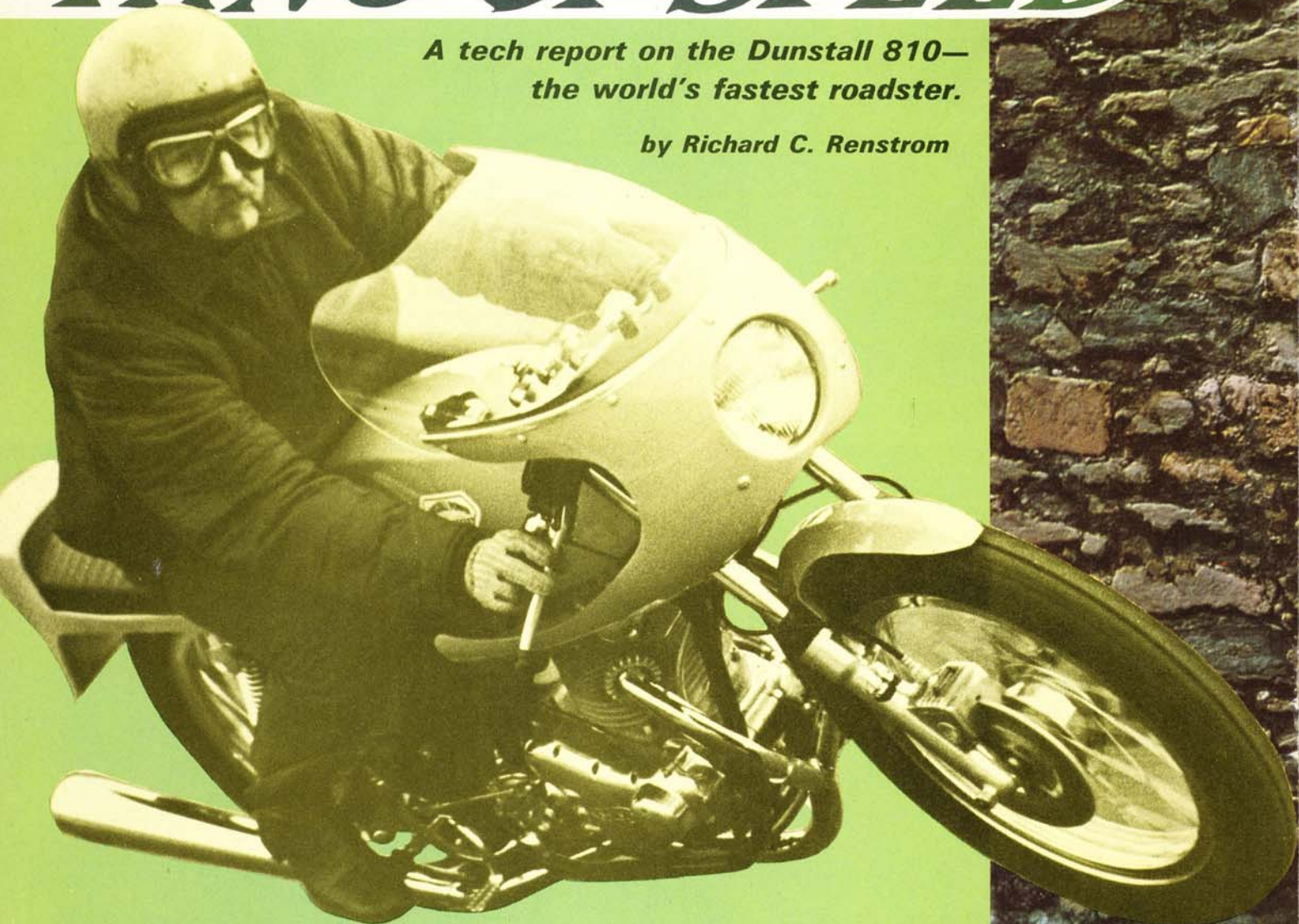


KING OF SPEED

*A tech report on the Dunstall 810—
the world's fastest roadster.*

by Richard C. Renstrom



The quickest way to get a lively argument going in your favorite bike shop or club these days is to start talking about which is truly the world's fastest over-the-counter street bike. Every year the subject gets a little tougher, with new and bigger models making their debut—along with fantastic claims in advertisements as to horsepower and speed.

This year promises to be even more exciting than normal, since the Japanese seem to be caught up in the cubic inch craze that is sweeping the bike world. The Italians are also producing some fabulous big bikes, along with Germany and England. And then we can't forget about the good old U.S.A., with the new 1000cc Harley taking a back seat to few bikes anywhere.

The big problem with all this horsepower activity is that the bike you buy often doesn't run quite like the advertisements said it would. Another really

important drawback is that good handling often takes a terrible beating in the cubic inch race. True, these monster engines handle reasonably well in special frames with special wheels, brakes, shocks, and other parts in a super works road racing model, but these exotic rigs are always a far cry from what the man-on-the-street can buy.

An even more confusing situation exists with the popular international "production machine" races, where big 650-750cc "roadsters" are belted around the classic road racing courses by super stars at speeds not far below the pukka racers. Here again, the modifications that have been carried out often make these supposed "stock" bikes far removed from what you can actually buy at your local dealer's shop.

There is, however, one exception to this rather farcical situation, and that is the 1972 Dunstall Norton 810. This limited production bomb is genuinely



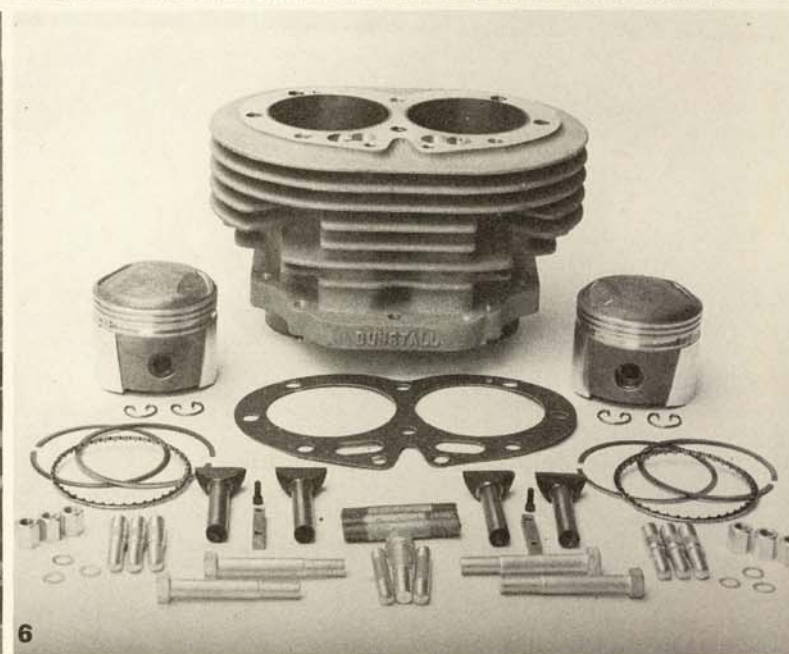
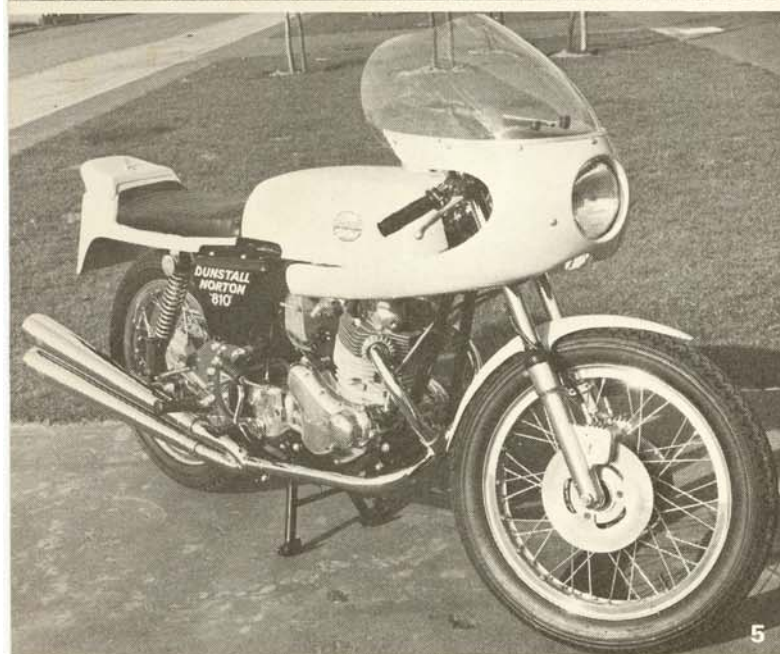
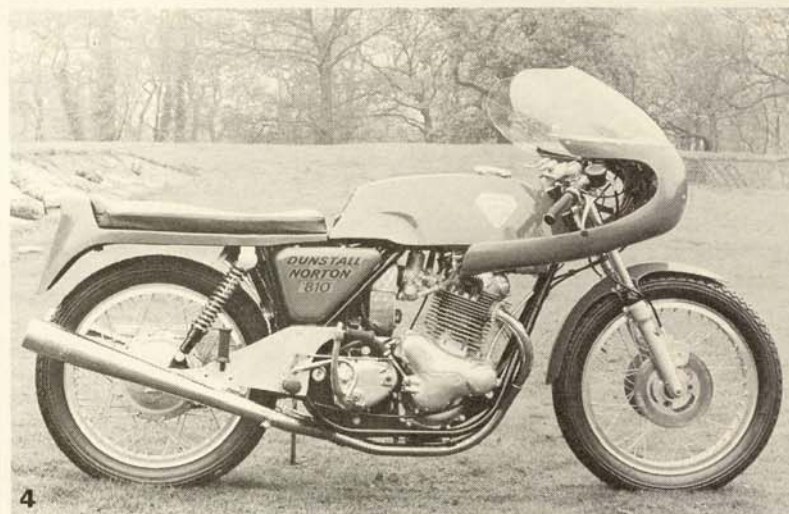
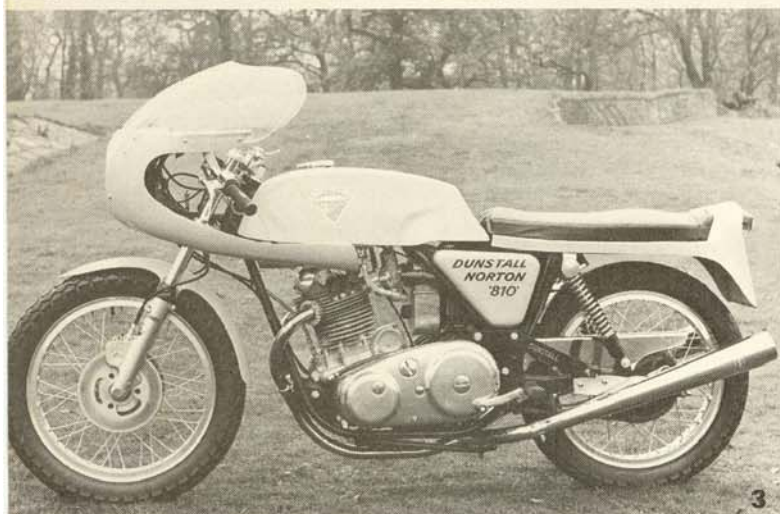
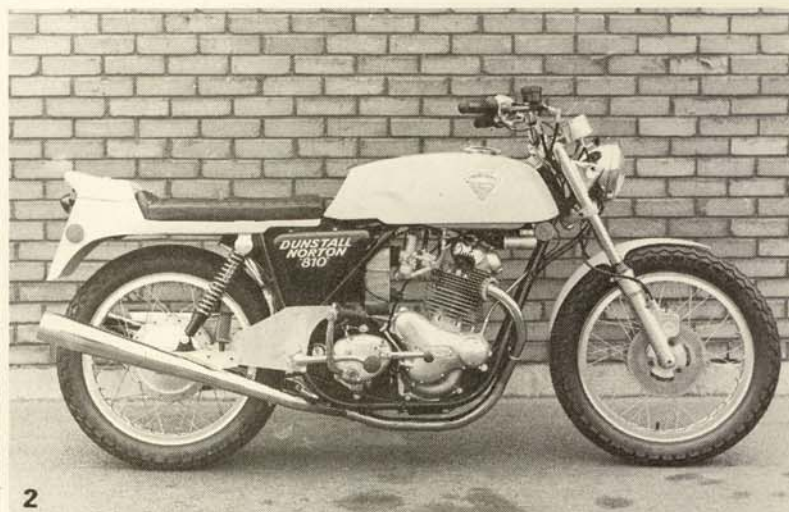
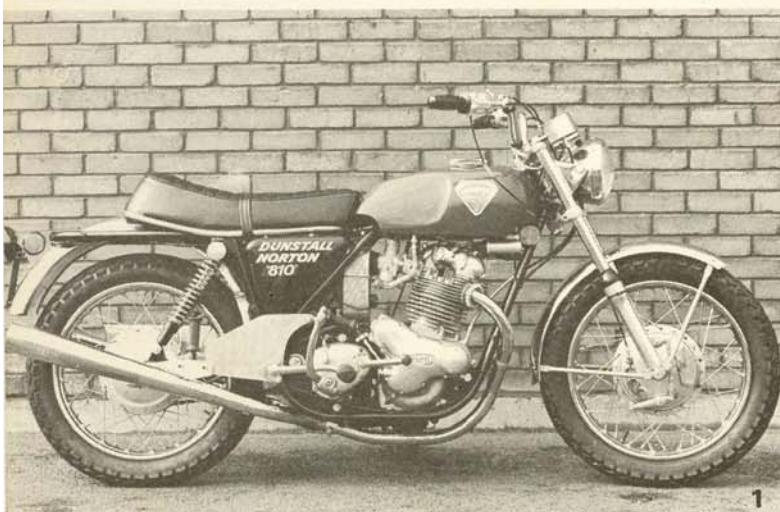
available to anyone who wishes to purchase one, and we can assure you that you will be king of the road on one of these beasts.

In all-out speed the Dunstall 810 has achieved 133 mph in absolutely stock and street legal trim, along with

a standing start quarter of 11.9 seconds. What the new Japanese bombs will do remains to be seen, but the only true production model I can think of which is in this speed class is the old 1000cc Vincent—and even the venerable V-twin had better be in a

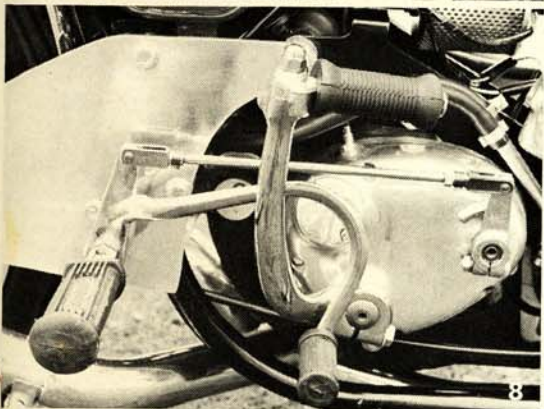
fine state of tune to achieve this kind of speed.

More important than the sheer speed of the Dunstall 810 is its fine handling and general roadability—especially at high speeds. The Dunstall has the brakes, tires, lighter weight,

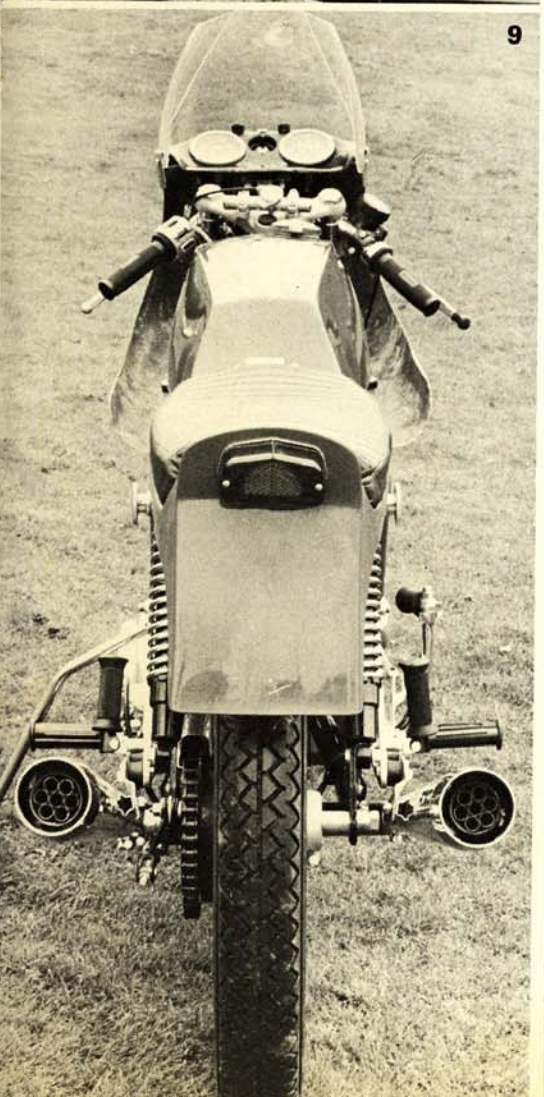




1- *The Dunstall "Sleeper" is an inexpensive approach to some real horsepower. The engine has received Paul's full 810cc treatment, while the chassis is a stock Commando. Price is \$1345.*



2- *The Dunstall "Sprint" is a lighter version with fiberglass fuel tank, seat, and front fender plus the tuned exhaust system. The disc brake is optional, and the price is \$1550.*



3- *The subject of this test report is a cool 133 mph roadster that comes with the disc brake and a 70 hp engine. The tires are 4.10 x 19 Dunlop TT 100s. The price is \$1800.*

4- *Designed for speed, the 810 comes with rear-set foot pegs, clip-on bars, and a GT seat. The weight is a little over 400 pounds. Notice how much cornering clearance is provided.*

5- *The GT fairing on the 810 provides protection from the blast of wind. This model has the balanced exhaust system with Paul's special silencers.*

6- *This is the kit that boosts a Norton to 810cc. The kit can be had separately for \$260. The fins are of alloy.*

7- *The famous Dunstall disc brake is a thing of beauty as well as power. All the components are produced especially for Paul. The use of two discs imparts equal torque to both fork legs—thus preventing twist.*

8- *High speed road work requires a more rearward seating position. The Dunstall setup uses big alloy plates and some linkages and wild levers to get the job done. Quality is excellent.*

9- *The Dunstall silencers are patented—emit more power with no increase in noise. Notice how compact and tucked in everything is.*

footpeg and handlebar positions, and ground clearance for really scratching around corners. This is where it beats out the other super bikes—you can use the speed and acceleration on a winding road and not just be limited to straight roads or a quarter-mile drag strip.

Proof of this is the production machine races in Europe. Dunstall Nortons have won their share, including the Isle of Man TT, and you can buy the Dunstall. You can't buy the works BSAs, Triumphs, Hondas, BMWs, Guzzis, and others, though, and that is the whole point about the Dunstall. While it may be that there are other bikes this year which will have more flat-out speed than Paul's 810, I am sure that the Dunstall would run away with any race which was limited to "honest" production models.

If the new Dunstall 810 is, therefore, the most potent performer out on the road, what makes it so good? What does Paul do to improve on what is already an exceptionally good bike in the Norton Commando?

To begin with, Paul's technicians remove the engine from the frame and make many modifications. Improved performance and reliability are the goals, and both goals are achieved. To accomplish this, Paul makes some major changes in the design—all of which have been proven after years of research on the race tracks of England.

Dunstall begins his work on the lower end, paying special attention to everything fitting well and being in perfect alignment. The lubrication system also receives some attention, since this has been found to be the most important item in obtaining reliability at high speeds.

Next comes the big alloy cylinder, which uses a pair of 76mm bore pistons to get the 810ccs. The pistons have a 10.0 to 1 compression ratio, and they are of spun cast alloy to obtain a low expansion rate. Paul then re-shapes the combustion chambers to obtain the best shape for high speed combustion.

Work then begins on the inlet tracts, which are enlarged to 1¼" in place of the original 1-3/16" size. Larger 1⅝" intake valves replace the original 1½" valves, and the valve angle is changed from 28° to 26½° in the process. The exhaust ports also receive a careful re-shaping, and then all the ports are polished to a mirror finish.






The valve train is then lightened by using lighter cam followers, and better valve control is obtained by using dual-rate springs. Reliability is enhanced by installing special bronze valve guides plus a pressure oil line

continued on page 104

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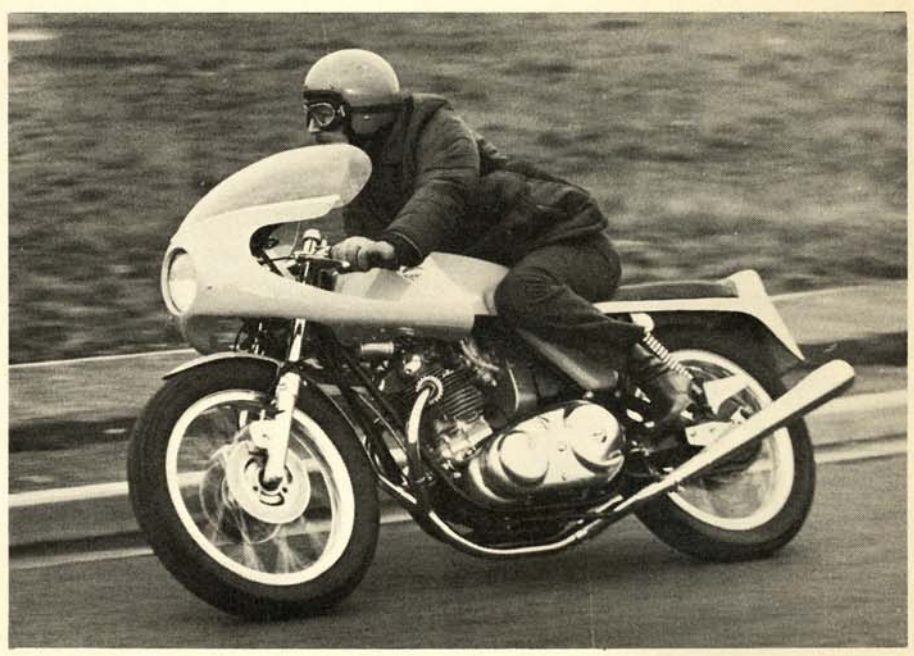


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KING OF SPEED

continued
to the rockers. This is topped off with a pair of large 32mm Amal concentric type carburetors.

All of this work raises the stock Commando's output to 68 hp at 7000 rpm in 750cc trim and to 70 hp in the 810cc size. The gain in peak horsepower is not nearly so important as the increase in low speed power, and Paul tells us that his latest 810cc bomb will trickle through traffic in a remarkably docile manner.

The frame and forks on Paul's bike are stock Commando parts, since these are of an exceptionally good design. The front binder, however, is quite a bit different, since it is a twin-disc setup that really hauls things up in great style. The standard Commando drum brake with a twin leading shoe setup is available, of course, but the big dual disc brake is recommended to match the speed of the new 810.

The Dunstall disc brake was designed especially for bikes and uses many Lockheed parts. The swept area is 122 square inches, which is half again as large as a BSA, Triumph, or Norton drum brake. It is also a great deal lighter, as well as offering a powerful yet progressive action. Super speed—super brake!

Another Dunstall extra is his Power Street Exhaust system, which was designed on a computer to give more power with no increase in the exhaust noise level. The setup consists of two header pipes which blend into one large pipe beneath the engine, which in turn divides back into two pipes for the pair of decibel silencers.

These silencers consist of a long shallow megaphone, which has a computer designed sound wave dif-

The Dunstall 810 Mk II is set up for ultra-fast road work with a fairing, rear-set pegs, and the disc brake. The handling is unexcelled on a winding road and speeds of over 130 mph are possible in street-legal trim.

fuser to break up the sound waves. On full throttle acceleration the units emit only 90 decibels of sound, yet they provide a great boost in power. A stock Commando with this exhaust system recorded a five mile jump in top speed plus a 1.15 second improvement in the quarter-mile, which is pretty remarkable.

From here on Paul branches out, with his bikes falling in three basic types. The "Sleeper" has a standard Commando chassis with the Dunstall engine modifications and exhaust system, while the "Tourer" has a large alloy or fiberglass fuel tank, special seat with a toolbox, luggage rack and saddlebags, and a fiberglass or alloy front fender. The "Sprinter" is a light and trim model with a fiberglass tank in 3.0 or 5.0 gallon size, GT seat, choice of handlebars and fairing, alloy wheelrims, alloy or fiberglass front fender, and choice of gearing.

The ultimate road burner is the 810 model set up for some real speed. A buyer can select a great number of options with his 810, which allows an enthusiast to design his bike for his particular use. Paul recommends a 4.84 to 1 gear ratio for lots of acceleration along with a 115 mph top end, while a 4.56 to 1 ratio gives a 123 mph speed with only a small sacrifice in acceleration. With the 4.38 ratio the speed rises to 125 mph, while the 4.15 to 1 ratio gives 133 mph. The use of a dolphin style fairing should raise the speed even

more, providing the gearing is raised to compensate for the reduced air drag.

A test ride on the 810 is a real thrill to anyone who appreciates fine and fast motorbikes. Paul shods his 810 with Dunlop 4.10 x 19 inch TT 100 tires, which provide tremendous traction for cornering and braking. The bike is set up for high speed roadwork, which means that it has clip-on bars, a small head fairing, and rear set footpegs plus the rearward brake and shifting linkages.

The bike feels low and compact as you climb aboard, and the tucked-in riding position feels like a natural for high speeds. About town the 400 pound weight and low handlebar setup feel rather awkward and top heavy, but a tweak of that mighty throttle soon puts things in perspective.

Compared to previous Dunstall 750s, the new 810 seems to have a great deal more flexibility. The engine is remarkably tractable at low speeds, although it is still a very spirited power plant!

The most persistent theme of the 810 is the acceleration, which is unbelievable for a street legal road bike. At the drag strip on a 4.84 to 1 top

cog we found that six grand and a dropped clutch lever produced violent wheelspins and a long strip of black rubber—along with a cool 11.9 second quarter-mile time.

The next impression is of the sheer speed, which is in the road racing class. With a tall 4.15 top cog the bike will accelerate like a rocket from any road speed, and 100 mph can be passed so fast that it is frightening. The cruising speeds are also unreal, with 60 per showing only 3200 revs on the clock and 100 per showing only 5400 revs. The bike feels like it would cruise all day at 100 mph—courage and the law permitting!

Big vertical twins will always vibrate some due to their basic design, but the long stroking Dunstall 810 seems quite smooth to us. Perhaps we were so frightened by the way the speed builds up that we forgot to notice, but it does seem like a very smooth engine.

The handling was the third thing that impressed us. About town the 810 seemed rather clumsy and much too fast for the slow cars in front of us. Once out on the road the bike came into its own, though, and we felt like Giacomo Agostini as we heeled and swooped through a series

of 80-90 mph bends in the road. Not quite as nimble as say a Velocette Thruxton, but stable and very sure feeling on even the roughest of roads. I am sure the matched Girling racing shocks have something to do with this outstanding roadability. Perhaps the best way to describe the handling is to say that jumping off the Dunstall and onto your favorite showroom special is like going from a Ferrari to a softly sprung Buick or Cadillac. Your favorite over-the-counter beast might be luxurious and pretty darned fast, but it would be no match for a Dunstall 810 down a winding stretch of country lane!

The brakes on the 810 are also impressive, with the front double disc binder providing a fade free performance from the ultra-high speeds the big twin is capable of. At 70 mph, for instance, the stopping distance of a Commando with the disc brake is 50% less than the stock Norton component, and at higher speeds the difference is even greater. The brake costs \$295 if ordered separately, but if you order your bike with this brake it will add only \$160 to the cost of the bike. In our opinion, this is money well spent.

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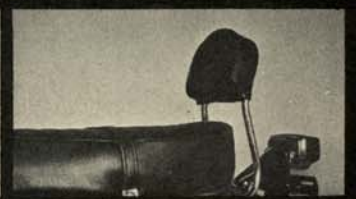
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life just isn't worth living until you have a Dunstall 810. What is it going to cost, how long will it take to get it, and how do you go about ordering one?

Probably the best thing to do is to sit down and write Paul at 156 Well Hall Road in London S.E. 9, England, and tell him what you are going to use the bike for. It is nice to send along a \$2.00 international stamp certificate, which will cover Paul's costs in sending you his attractive brochure. Paul will also produce a bike "on paper" to your specifications, and a price will be included in his reply.

The cost is not going to be cheap by any means, yet for what you are getting I feel it is a real bargain compared to a standard "super bike." The 810 model in this report would set you back a cool \$1770 bill, and it has the disc brake and all the other Dunstall goodies. In addition to this, you will have to cover the cost of crating, insurance, and sea freight, which will run about \$110 to the east coast and \$145 to the west coast. Then you will have to go through an import agent, who will handle the customs and get the bike on a truck to your doorstep. There is also the possibility that the Norton factory may raise the price of Commandos to Paul, which could push the price up even more.

The final tab will probably come out at a little over \$2000, which is only a few hundred bucks above many of the super bikes. What you get will run the wheels off any of the others, though, especially if you consider "total" performance down a winding road. There is no doubt whatsoever in my mind that Paul's wares would dominate a road race limited to honest production models we can actually buy.

At present, you can figure on a short wait to get a Dunstall—something like four weeks in the winter and up to ten weeks in the summer. Paul requires a 50% deposit with an order, with the final balance due before shipment. I might mention that Paul believes mightily in customer satisfaction, and he tells me that an increasing share of his business is coming from America.

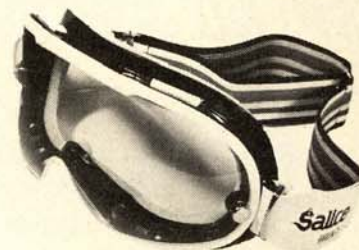
Is it a shrewd move? I think so—at least to those who would appreciate the quality and sheer ability the 810 possesses. Properly cared for, a Dunstall should last for years and provide the ultimate in owner satisfaction to those who love to play road racer on weekends. It also must be the most snobbish thing to own on two wheels these days—at least to those with enough knowledge to understand what is involved. **CG**

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