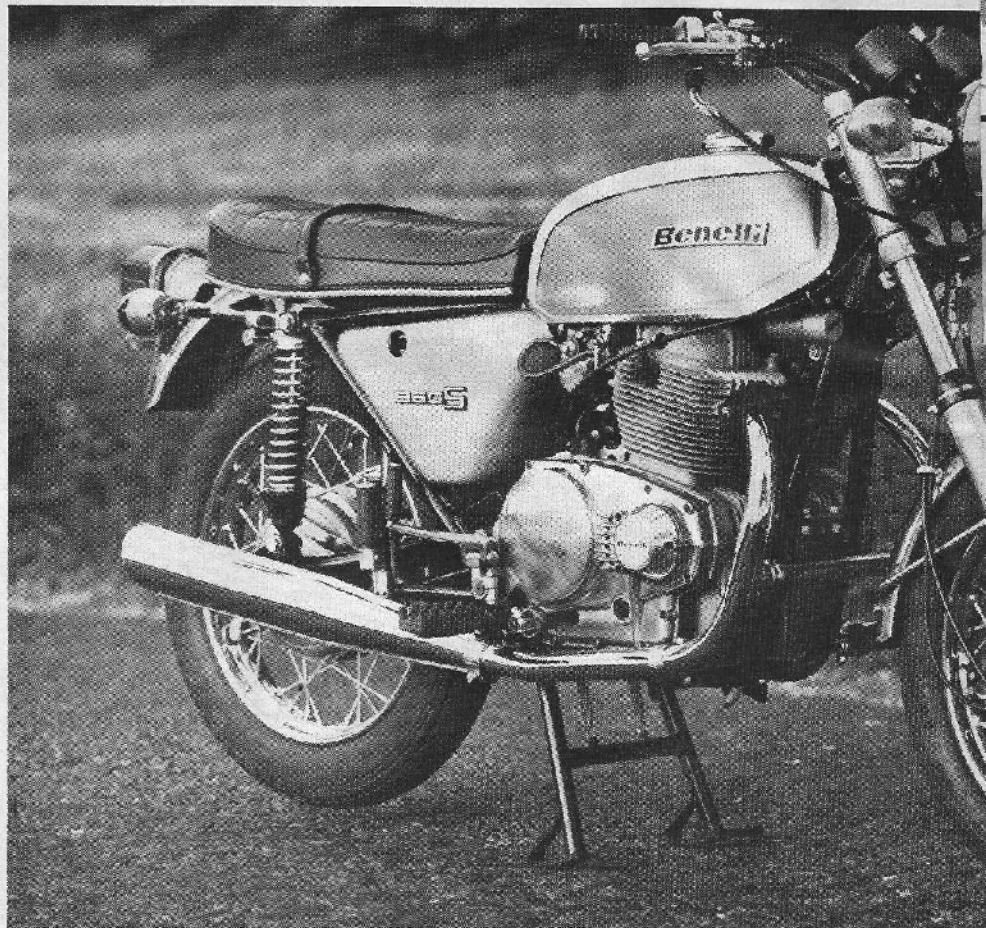
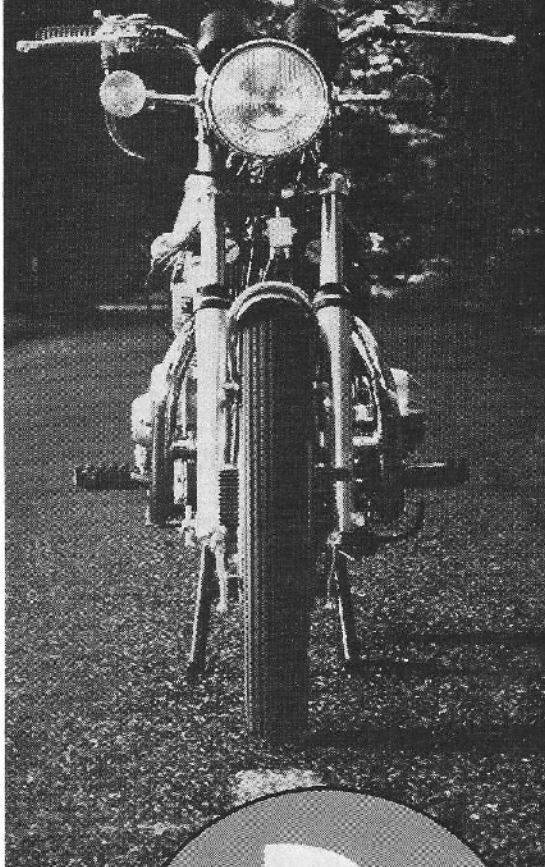


photography: Douglas Mellor



The 650 S is perfectly symmetrical and has very clean lines with a narrow stance, a situation multi's can't enjoy. Forks are by Marzocchi, rear shocks by Ceriani.

# BENELLI TORNADO

\$2000 worth of Italian sex appeal

Anyone who really enjoys motorcycling can afford to appreciate a sophisticated techno-prodigy of Pesaro, Italy. Especially if you dwell in close proximity to that "rare breed," the Benelli dealer. To obtain a 650cc Tornado "S" from its U.S. importer, Cosmopolitan Motors, Halboro, Pa., make your dealer an offer he can't refuse.

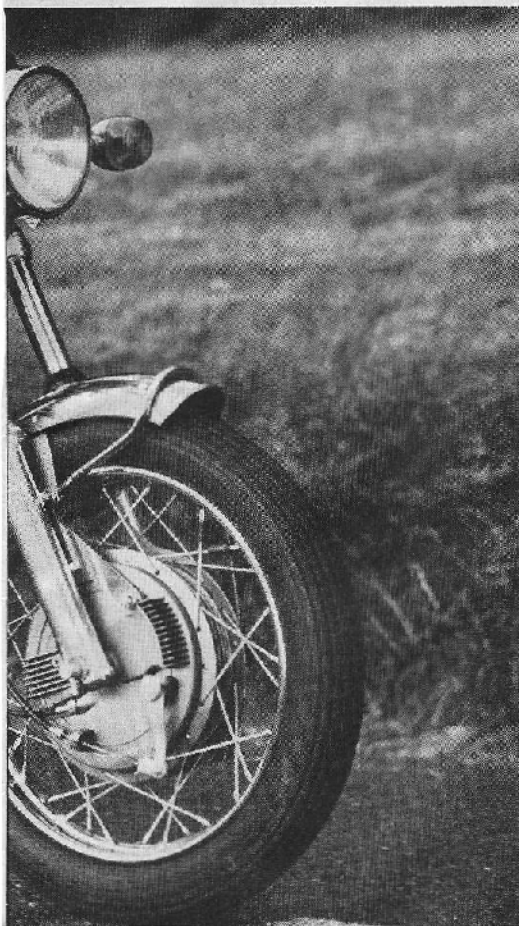
Benelli primarily manufactures minibikes and small displacement woods bikes. The 650's production is limited for U.S. distribution; they don't come cheap. Dealer retail is about \$2,000, and four represent a whole bunch for a dealer to see in a season.

MCW contacted Wally Allen, sales manager of Cosmopolitan Motors, who was gracious enough to do most of the

pre-test leg work. Wally briefed us about a few characteristic traits of the Benelli Tornado. Above all, he stressed that Benellis are by nature "Cold Blooded," which was consistently true throughout our test.

Starting is a two hand operation. Key-on, choke lever full on, the left must press the starter button while our right hand nursed the throttle, to bring the Benelli to life. Once fired up, the choke should be worked off gradually as the bike warms up.

Astride the Benelli we noted that the double tube cradle frame is low slung; later the saddle height measured 34 inches. The seat is tapered, firmly padded, with enough room to carry a maga-



The engine sits low to the ground cradled by twin front downtubes. Note balance pipe between exhausts.

Kick starter works only from a dead horizontal position down.

much fun playing "find-me-if-you-can" with the horn. Once found, though, it gave a healthy hoot.

The technicians back in Pesaro constructed this sophisticated piece of equipment to sustain itself over long miles of high speed, highway traveling. This is clearly evident, in the performance of the 5-speed gearbox. First gear is very low for lumbering through rush hour traffic and the remaining four gears are spread out evenly over a power band which delivers about 50 HP at 6900 rpm's. Contrary to Italian egomaniacs who were quoted 57HP at 7400 rpm.

At expressway speeds of 60mph, the Veglia tachometer registered 3500rpm, and at 70mph the rpm's increased only by 700. We were amazed that engine vibration was negligible. With such low rpm/mph, fifth gear would seem more applicable at only unlawful rates of speed. California speed maniacs take note.

The crank cases are split horizontally, which simplifies repair work and effectively eliminates oil leakage, an infamous trait in the vertically split cases of British twins. Any crankshaft repair work involves unbolting the engine from the frame, then turning it upside down to remove the bottom half case. The crank has five main bearings and four flywheels, each part matched to the next at clearances of 200th of an inch.

Benelli people, no doubt, had squeaked engines 'a plenty, testing tolerances of the crankshaft, cylinders, and pistons to produce a 650cc touring bike with cruise comfort as a first priority. The Tornado of '73 is by no means a stormy, rattling wobbler. The cylinders are special aluminum alloy with screws machine seated through the finning to cut vibration. The triple ringed pistons also have special steel band inserts which are effective to control uneven

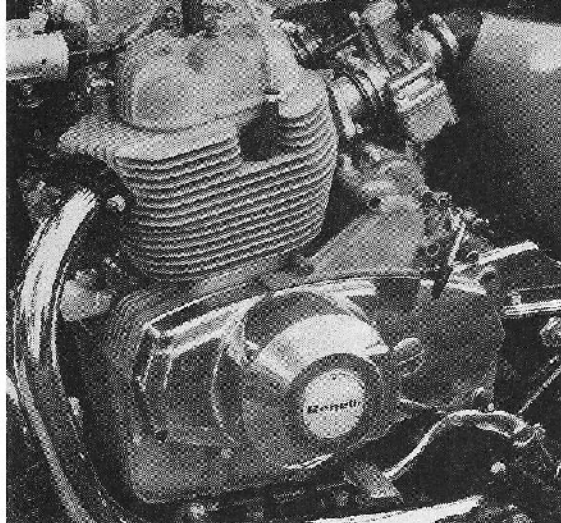
## "S" ROAD TEST

MCW's road tester get ready to take off. Power of the Tornado is satisfying, but it's no road burner. This "sport" version of last year's model was evidently hampered by even more weight.

zine "lense" with all his trick equipment.

The handlebars are inordinately narrow for a touring bike, but a good note for tucking in at high speeds. We find that the throttle, clutch and front brake levers demand an extra measure of manual dexterity for smooth operation. A Benelli 650's turn signals, horn and dip switch are incorporated in a little magic box mounted opposite the starter button and choke lever, by the left hand grip. In a few tight situations it wasn't





The engine here, besides showing the usual amount of road test grime, displays a very solid and unified design with external oil lines not to be found. Electric starter hides under the bulge.

Without a doubt the Benelli 650 is the best handling machine in its class. A rider new to the Tornado soon settles down to precise tracking and great straight line stability.



## BENELLI TORNADO "S"

piston expansion due to heat and any possible vibration by-product.

The LaFranconi tuned exhaust system emitted an urgent whirring tone reminiscent of a Ferrari's low to high key exhaust notes.

Handling characteristics are the tell-tale to quality workmanship. Benelli utilizes the finest products of its country; they spare no expense. The Marzocchi forks predate Ceranni in design and damping performance quality. The rear shocks are three way adjustable Ceranni. Together, the shocks and forks make this 480 pounds of motorcycle a touring rider's delight.

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Pirelli tires are mounted on all steel Beretta rims with a 3.50 x 18-inch rib type on the front and a 4.00 x 18 inch universal in the rear. These products are known for quality and durability for over the road use.

The Benelli carried its test rider over the roughest of roads in inordinately smooth fashion. The Grimeca brakes performed adequately during the test. However, we found that in a panic stop situation, should it occur, it is extremely important that both brakes be applied simultaneously. The front brake with 230mm of braking diameter is the strongest of the two; the rear has only 200mm of braking surface and when applied independently in a scary situation you may unload. So use both brakes all the time.

An extra measure of metatarsal extension was necessary to handle the gear shift lever. When it could be reached, the gear shift pattern was one up, and step down to upshift. Italians must think everyone else in the world is grossly oversized; because all handlebar and foot lever accoutrements are just out of reach for the average rider.

The clutch operated smoothly for shifting, but once in a while, the clutch cable would pop out of its fitting on a lever which goes into the gearbox. We suspected the cable would slip out of its fitting during a gear change. Curiously, we traced the problem to the calf muscle of our test riders left leg: its gentle pressure managed to free the cable. The lever fitting should be hook shaped instead of a spring loaded U-seat.

The electrics are supplied by Bosch and with the recent addition of electric starting, powered by a 12V, 15 amp/-hour battery has added from 50 to 60 lbs. of weight, which is well worth the weight for the enjoyment of fast starts.

The 650 Benelli is certainly "rare bird". Its sophistication as well as sundry short comings require that the owner 'know what he is about'.

If you've a mind to break away from the Japanese product and the Benelli price tag doesn't make you shiver, give your local dealer a call or better still stop in and see the Tornado "S". Take your check book along just in case; the bike might be there long enough for you to make two trips.