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TRIUMPH'S BIG PERFORMER: 650 TROPHY SPORT**





TRIUMPH TR6R 650

TROPHY SPORTS

Forget the dreadful carburetor; Triumph's 1968 Trophy handles well, goes fast, runs sweetly and stops abruptly—an ideal general-purpose road bike.

The Triumph Engineering Company Limited of Coventry, England, produces a fine line of large-displacement British-type motorcycles, the finest of which is very probably shown on this month's cover. Not the quickest of the line (by a very slight margin), it is certainly the most manageable and the most durable. Our cover bike is the well-established Triumph Trophy, reworked and repainted for 1968. It has a single carburetor, a hot cam, and a brand new, highly effective front brake.

Now there actually used to be *three* single carburetor Triumph 650s. The mildest was a military and police model with much paneling and fender valencing and a heavier frame. Its compression ratio was around 6:1 (to run on any old gas the Army might find itself stuck with) and its cam-timing was ultra conservative—very much a utility mount and not generally available to the public. The next was the popular Triumph Thunderbird, which until very recently also bore the awkward but functional sheet metal bodywork-cum-rear-fender. This had a slightly higher compression ratio (7:5:1), a mild cam, and a claimed output of about 34 bhp. In 1966, the Thunderbird's homely rear fender was "modernized," but the bike had never sold well in an American market unreceptive to "utility" designs and has been discontinued by the U.S. distributors for 1968.

What remains for American buyers is the Trophy Sports with its Bonneville cam, 9:1 compression, and very persuasive 43 bhp. The Trophy has, in fact, everything good about the Bonneville (except the extra carburetor and 4 bhp) and none of the bad. The Bonneville is made for the purest street-sports buyer. It is a bit faster on the top end, but it gobbles a lot of gas, and is more temperamental than the Trophy. The Trophy has the Bonneville's low weight and slim styling, but also has some touches that make it, in our eyes, a much more serv-

iceable machine.

Theoretically (and for the most part in fact) a single carburetor model will deliver better performance at low-to-middle rpm than a twin carburetor model. It will be more tractable, more efficient, and less likely to choke on its own fuel supply when the throttle is yanked open. The Trophy has all these virtues and has long been preferred over the Bonneville by buyers who want good touring and about-town performance and who are willing to sacrifice a very slight amount of flat-out speed. We might point out that even those riders who buy for top end ("How fast will it go?"), very rarely use it—except those who ride in organized competition. The Trophy also has a larger gas tank than its big brother (3.5 gallons as opposed to 2.5), making it more practical even for urban riding.

We got our test bike all shiny and new, with barely a hundred miles on the odometer. When we picked it up at the Triumph Corporation in Towson, Maryland, Service Manager Rod Coates had just had it out for a test run. Funny business with the engine?, we thought, but no, it had only been put in proper tune. This was the first of the '68s to hit these shores, and we were happy to see that the brilliant Triumph blue had been saved for this model. Some silver paint and front-and-rear (amber and red) side reflectors were the only auspicious changes. Then we spotted that front brake with its *real* air scoops and air outlets and its precisely adjustable, twin-cam actuation. Triumph has long been among the performance leaders in large displacement motorcycles and, like its competitors, has long lacked adequate braking for the size and attainable speeds of its machines. Hoping the brake would work as well as it looked, we loaded up the machine and headed for New England to find some lightly traveled roads and bright scenery.

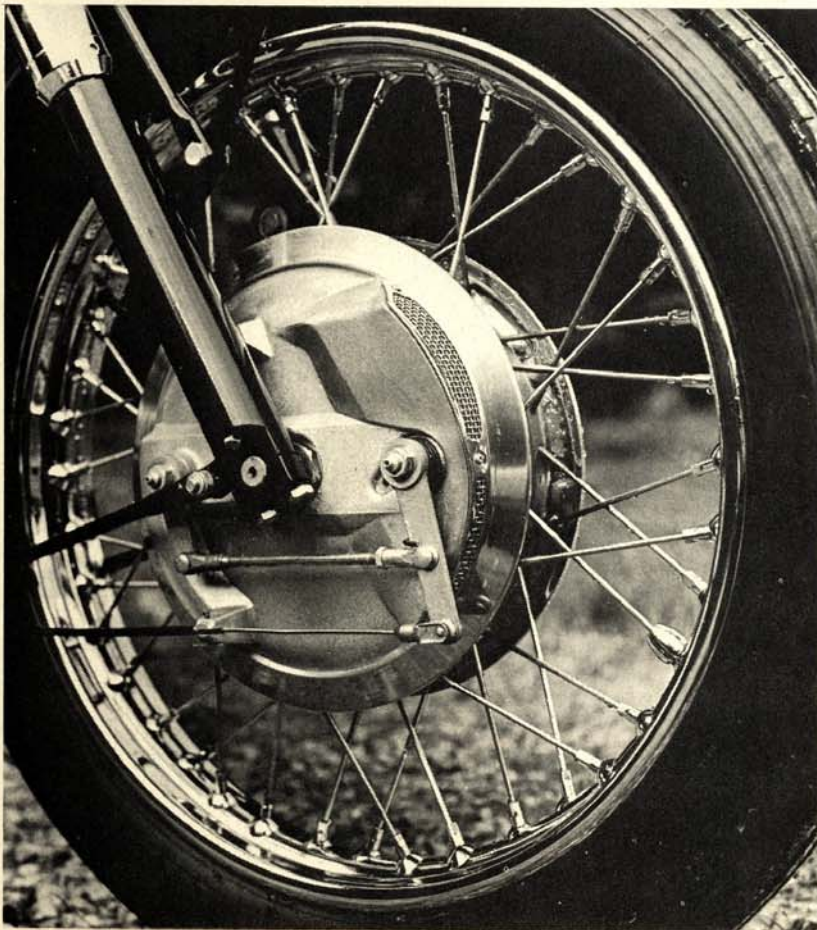
Road testing soon confirmed that Triumph has at last found the combination for an ideal all-purpose road sports motorcycle. Acceleration, handling and braking were all excellent. The Triumph Trophy took to the road with the zeal of a playful puppy after the neighbor's cat. We rode the Trophy hard and utterly without sympathy for its internal parts, yet nothing complained and nothing gave up. On stretches of winding country road we were able to throw the machine back and forth for left- and righthanders with great confidence. The machine reacted beautifully, and lost only the tips of its footpegs and a millimeter or so of the sidestand.

Riding in town was a different matter, for then we found a small but significant flaw in the beast. The carburetor, Amal's much ballyhooed concentric-bowl model, proved something less than a success in low to moderate range riding. This concentric-bowl carburetor has been in development for many years and *still* fails to do its job. The Japanese perfected the concentric-bowl concept long before Amal began to fumble with it. A float chamber concentric with the mainjet pickup orifice promises to maintain constant pressure and hence fuel supply at that orifice no matter what the angle of carburetor deflection. In effect, braking or accelerating hard, or climbing and descending steep grades etc. will not effect mixture ratio and hence power output. Alas, the Amal (latest series "900") just doesn't work satisfactorily.

At moderate in-town speeds in third or fourth gear there was an annoying surge and then back-off in power delivery. At times the engine would choke or grumble from fuel starvation or flooding. At other times, when idling at a smooth and even tickover, the engine would abruptly die outright. Then during low-speed threading through heavy traffic, stop-and-go, the carburetor would overheat. A rider who whipped open the



Legendary parcel grid still captures the hearts of Triumph stylists, who redeem themselves only by clean, and functional layout.



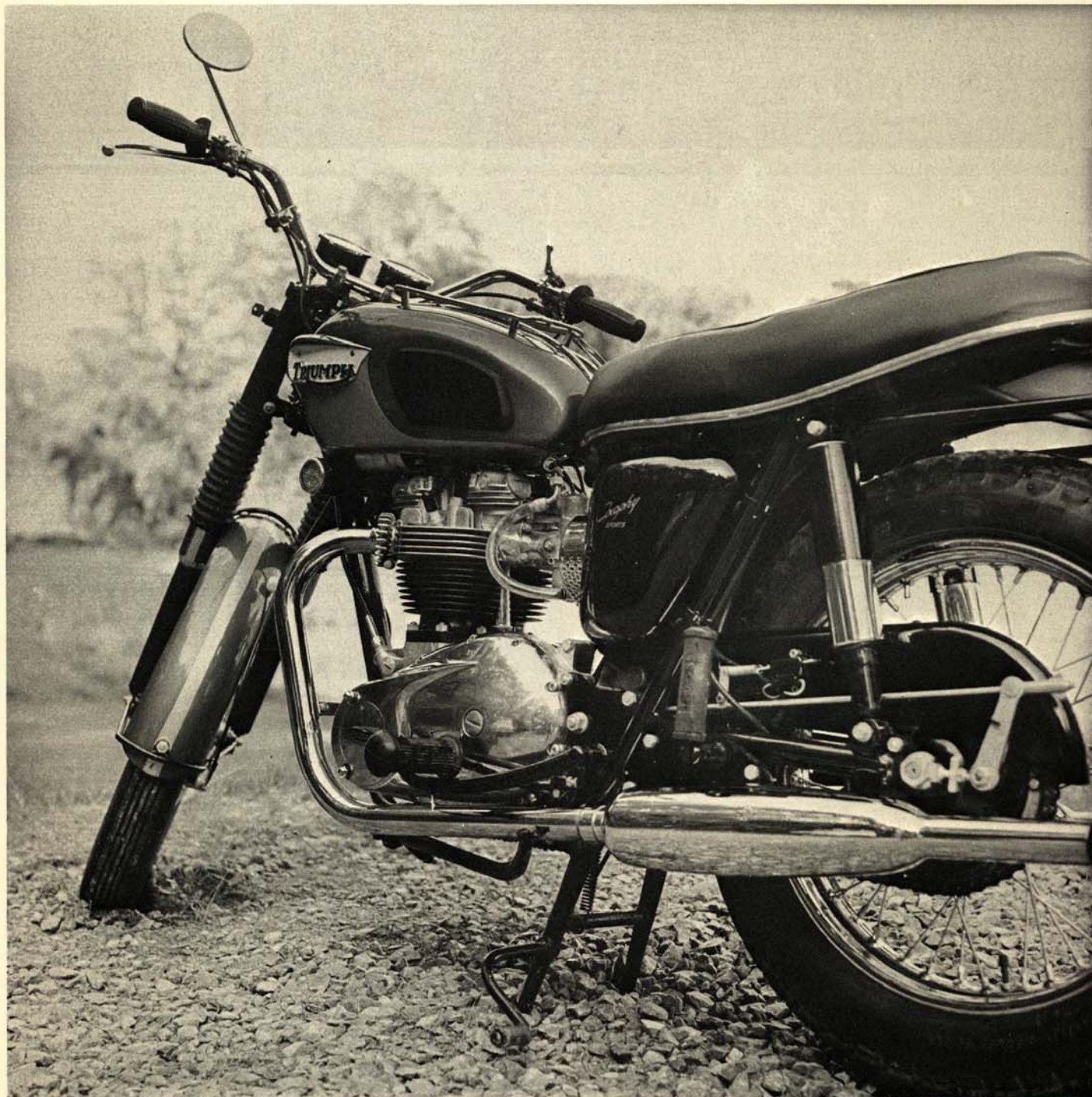
Late in coming but finally equal to Triumph performance is the new 8 inch dia. twin-cam front stopper.

throttle to take advantage of a break in traffic would suddenly have to deal with a stuck throttle slide, seized by thermal expansion. This meant either no acceleration, or acceleration that couldn't be stopped. In heavy traffic, this can be—shall we say—a thrilling experience. Our recommendation to Triumph buyers who encounter this problem: fit a 30mm Japanese carburetor, or buy one of the old Amal monoblocs. Eventually, we hope, Amal will sort out or sell out its brainchild.

Our other complaints about the bike are mostly of the nitty-gritty sort. The Trophy, similar to nearly every other motorcycle sold these days, provides for a very erect sitting position—fine for posing pretty girls but uncomfortable at speeds over 40 mph. If you like to cruise at the sustained high speeds of which this magnificent machine is capable, you must either fit a windshield, fit lower bars, or hunch against the wind with your arms crooked at an awkward angle. Touring riders will probably prefer a windshield or fairing, but hard-riding sporting style riders will find that low, flat, English-type handlebars (not clip-ons) make for better high-speed weight distribution and a happier man-machine control combination.

We didn't like the corny, garish hub plates on the Trophy's front wheel that give a distant viewer the impression of an enormous front stopper. As we have said, the brake is a very fine one, with a generous eight-inch drum completely adequate to its task. Triumph might argue the hub plates are heat dissipators or drum stiffeners, but in fact they're just flashy pizzazz with no functional value, and a detriment to a bike that functions so well. The air inlet and outlet vents on the brake, incidentally, were only partially opened. For touring this is fine as brake life is extended: the scoops ingest less grit and water to wear away the mechanism or rust bearings and other steel parts. For all-out racing, the vents can be fully opened with a drill, file or milling machine to provide maximum cooling. A last complaint is directed at Triumph's time-proven package rack fitted to the gas tank. Very few of us have ever seen a package attached to this little annoyance, and though riders don't ride much flat on the tank, it would be nice to know you had the option without getting a bellyful of dress-down chrome.

The technical aspects of the Triumph engine are much rehearsed, its having been around in various states of evolution for many years. A first-rate powerplant, it is generally strong and reliable, with a high power-to-weight-and-size ratio, and an excellent reputation for performance. A four-stroke vertical twin, it epitomizes the so-called



"British Twin"—parallel cylinders with overhead valve actuation by pushrods and gear-driven camshafts mounted high in the cases. The crankshaft is a bolt-up unit with a single, central flywheel and two mainbearings at the outer ends. The crank journals are positioned together (pistons rise and fall simultaneously, cylinders fire alternately) and plain automotive-type shell bearings are used at the lower ends.

At the left side of the crank, a sprocket and double-row primary chain take the drive to the clutch housing on the transmission mainshaft. Crank rotation marks are now also visible from this side

through a hole in the primary cover. Strobe-light illumination of these marks allows for precise ignition timing. Ignition points, newly provided in completely independent pairs, can be adjusted individually at the right end of the crank.

The exhaust cam gear, besides driving the breaker-point assembly, also drives the tachometer. The intake cam gear also drives a plunger-type oil pump with two bores. One bore pumps out or scavenges the crankcase, returning the oil to a rear mounted oil tank. The other bore provides positive feed to the crankshaft mainbearings, lower ends and exhaust cam.

In unit with the crankcase is Triumph's four-speed gearbox. The Trophy comes with gear ratios well spaced for general road work, but close-ratio racing combinations are available as well as wide-ratio trials or enduro combinations. In fact, a very charming characteristic of the Triumph organization is that it builds strong engines readily amenable to modification and it will sell you many of the performance goodies right off the parts shelf if you decide to go that route.

The Triumph's frame is a sturdy, two-piece affair with a medium-large section backbone, and a large single downtube that forks below the engine. The bolt-on

TRIUMPH 650 *Continued*

rear section continues the engine cradle up to the rear-suspension units and has a seat rail that loops completely around the seat, tying in at the elbow in the backbone tube. Compared to most of its competitors, the Triumph frame is light and strong, lending to an overall machine weight of less than 400 pounds.

The electrics on our test Trophy are said to be strung together by a new wiring loom, but we failed to notice any great improvement. Power for spark and accessories is generated by a largish 120-watt alternator and ignition is by battery-and-coil. An interesting new diode-heat-sink-voltage-control hangs on the front of the bike under the headlamp. The bulk of these components were manufactured by Joseph Lucas Limited of Birmingham, the merits of whose products are well chronicled in our Service Tips department.

As is customary for our testing procedure, we took the gleaming new Triumph Trophy out to the race track for a final wringing out and timing. Our trip reconfirmed the fine road handling qualities of the machine, including its slight vibration at higher rpm, but none in the frequency ranges that resonate with the human nervous system. That front brake offers very sensitive control and you can decelerate with hideous suddenness, holding the brake just firmly enough to keep the tire howling—just before lock-up and skidding. The brake will lock up the front wheel if you overdo it, a characteristic that we like, but one that advises new owners to very cautious experimentation. Now with its 19-inch front rim and 4-inch section rear tire, the Triumph stands tall. Cranking hard into a corner leaves you feeling that you're out at the end of a very long limb.

And standing still, astride the seat, you can barely reach the ground.

Overall height in no way mars the fine, clean and spare lines of the Triumph, nor does it seem to cost anything in performance. On the quarter mile, we zapped through the traps at 93 mph in 14.2 seconds. And that, friends, is very fast for any production bike, much less a single-carb "tourer." The plain truth is we like the Triumph Trophy motorcycle. We like it because it does well what it was made to do. The price is \$1280 plus taxes and charges and Triumph Corp. says that the recent devaluation of the pound won't change the U.S. price. If you like the Trophy as much as we did, we suggest you discuss that price funny business with your friendly neighborhood dealer. Already a good buy, the Triumph Trophy might well be the bargain of your motorcycling life. ©



TRIUMPH 650 TROPHY SPORTS

Price, suggested retail	East coast, POE \$1280
Tire, front	3.25 in. x 19 in.
rear	4.00 in. x 18 in.
Brakes, front	Twin leading shoe 8 in. x 1.625 in.
rear	Single leading shoe 7 in. x 1.125 in.
Brake swept area	65.79 sq. in.
Specific brake loading	8.59 lb/sq. in.
Engine type	Four stroke twin
Bore and stroke	2.795 in. x 3.228 in., 71 mm x 82 mm
Piston displacement	40 cu. in., 649 cc
Compression ratio	9:1
Carburetion	30 mm, Amal concentric
Air filtration	Paper element
Ignition	Battery and coil
Bhp @ rpm	43 @ 6500
Mph/1000 rpm, top gear	15.77
Fuel capacity	3.5 gal.
Oil capacity	6 pt.
Lighting	Alternator 12v, 120 watts
Battery	12v, 8 ah
Gear ratios, overall	(1) 11.8 (2) 8.17
.	(3) 5.76 (4) 4.84
Wheelbase	55 in.
Seat height	31.2 in.
Ground clearance6 in.
Curb weight	390 lb.
Test weight	565 lb.
Instruments	Speedometer, tachometer, ammeter
0-60 mph	5.9 seconds
Standing start ¼ mile	14.2 seconds—92.1 mph
Top speed	103 mph

