TRIUMPH

The most eagerly awaited 1951 Programme

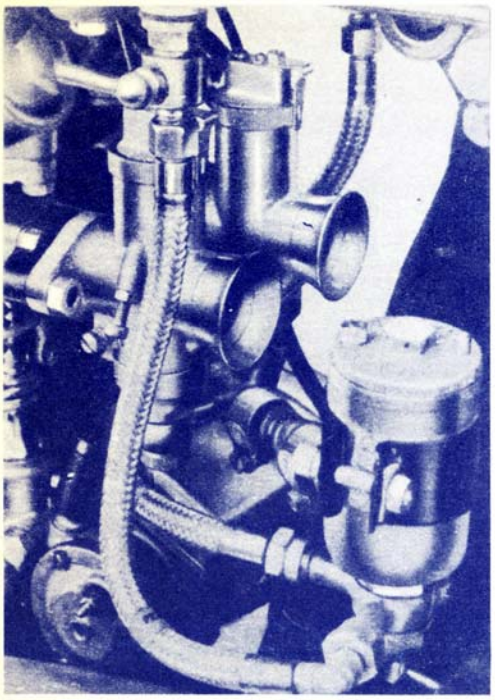
FIVE FAMOUS TWINS

TRIUMPH ENGINEERING CO. LTD., MERIDEN WORKS, ALLESLEY, COVENTRY.

Reprinted from THE MOTOR CYCLE

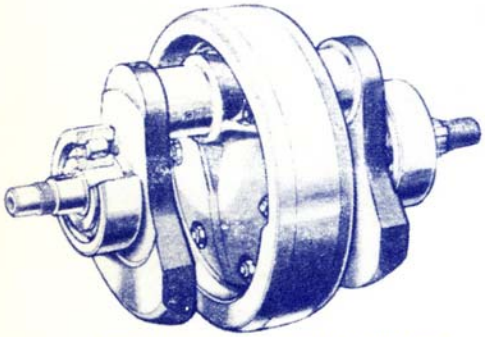
New Convertible Tiger 100 Triumph

Sets of Parts for Changing Standard Models into Road- or Short-track Racing Mounts Developing Even Greater Power than the Grand Prix Machines : Triumph Range for 1951

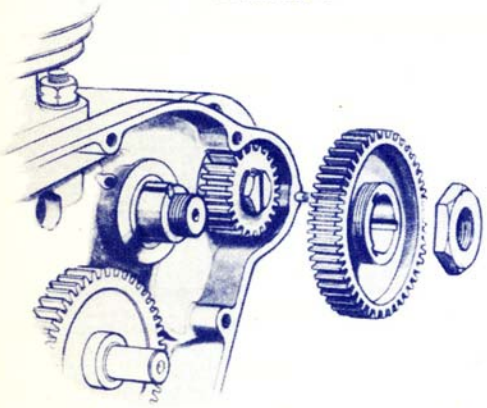


Twin mixing chambers and remote float chamber—the Amal part of the racing conversion set

BUY a Tiger 100; follow up by purchasing the conversion kit; then, assuming the *nous* and ability to carry out the instructions efficiently, there, on the starting grid, will be a road-racing motor cycle more powerful and more speedy than the 1950 Grand Prix model.



A roller bearing is now fitted on the timing side of the built-up crankshaft of the 500 and 650 c.c. engines



Three-keyway timing adjustment is provided in all engines

If, on the other hand, your pleasure is short-track racing, purchase the Trophy model plus the conversion kit—the Trophy engine is the same as the Tiger 100 engine except for its lower compression ratio.

This "Build your own racer!"—cheaper than for the now-to-be-obsolete Grand Prix model—is the most thrilling feature of the Triumph programme for 1951, and it constitutes a fresh policy with a unique appeal, but there is more to the new Triumph programme than this.

Five machines, all with vertical, parallel, twin-cylinder overhead-valve engines, comprise the official range. In addition, there is the 500 c.c. side-valve vertical twin which is being made for the services, but is not on the market for the general public. The five motor cycles are: The 350 c.c. 3T; 500 c.c. 5T Speed Twin; 500 c.c. Tiger 100 (the T.100); the trials-type 500 c.c. machine (Tr5 or Trophy model); and the 650 c.c. 6T Thunderbird.

All machines now have a more rigid, cast-iron front-brake drum—Meehanite, a high-tensile iron—which can be counted upon to retain concentricity and to result in efficient, progressive braking free from sponginess. Every model, too, is fitted with new-type petrol and oil filler caps; these are Ceandess products with a flush top (no split-pin to protrude) and, as in the past, double-cam operation. Third of the features common to the range is a Smiths speedometer head (in miles only) set so that it can be read more easily. These comprise the changes on the 350 c.c. 3T.

All the bigger engines now have a roller bearing on the timing side of the ingenious built-up crankshaft in place of the previously standard ball bearing. In addition to this, the Speed Twin, the fast, yet supple 500 c.c. twin-cylinder mount, has the same improvements as the 3T, plus the incorporation of the Grand Prix, racing-type-engine connecting rod. This light-alloy rod of great strength and rigidity is henceforth standard on all the larger models. The lusty, lively 650 c.c. Thunderbird also continues, in the main, unchanged except for the improvements just described and for a new finish—a polychromatic blue.

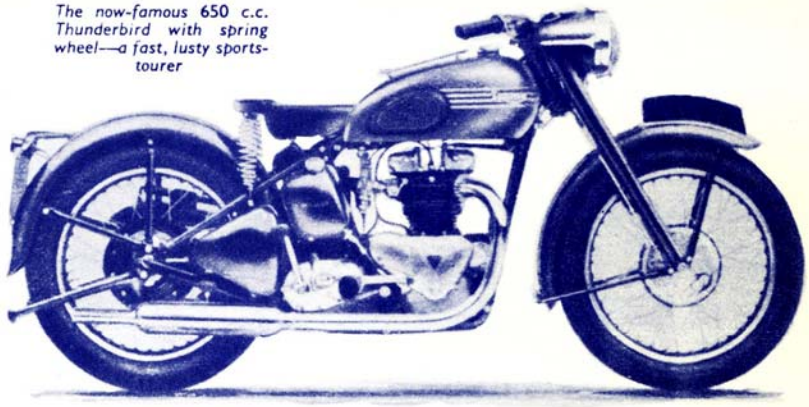
Among minor changes for 1951 are the adoption of Bundy flared unions on oil pipes (no soldered-on nipples), springs of reduced rate and lighter initial operation on all five-plate clutches, a tail lamp with a larger lens, and the balancing of 64 per cent of the reciprocating masses in the case of the 500 and 650 c.c. engines.

Close-pitch Fins

Pulling, it is stated, 33 brake horse power on Great Britain's low-quality, pool petrol, the new 500 c.c. Tiger 100 is claimed to be a 100 m.p.h. motor cycle—even on this fuel—assuming riding ability and the appropriate racing posture. A big change lies in the adoption of die-cast aluminium-alloy cylinders and cylinder heads. Die-cast, the metal is remarkably dense; indeed, such is the density that the weight of the compact-looking head casting of the new Tiger 100 is the same as that of the massive-appearance Grand Prix head casting.

A very noticeable feature of the new heads and barrels is their close-pitch radiating fins. Whereas with a sand casting the minimum pitch of the fins is about 11/32in, and ⅜in is usual, it is possible with die castings to go down to ¼in, as on the Tiger 100. This, it is said, has been

The now-famous 650 c.c. Thunderbird with spring wheel—a fast, lusty sports-tourer



found to be most desirable; there is maximum cooling area and, with the high conductivity of the dense material, much cooler running. The fins need not be of gigantic size; on the barrels they vary in depth from about ½in to a maximum of approximately 1¼in. An interesting point is that Triumphs, after all their tests and years of experience, have reverted to the shape and proportion of the finning of the original Speed Twin introduced for 1938.

The valve seats are of cast-iron—Meehanite series—cast-in. The cast-iron cylinder liners are pressed-in, but are not intended to be replaced inasmuch as they are honed after being pressed-in—honed in order to eliminate distortion. In distant countries, no doubt the liners *will* be replaced when wear dictates, but the liners should be honed after being fitted.

In order to compensate for cylinder and cylinder-head expansion, the push-rods are now made of Duralumin. These operate large valves; the exhaust valves have a 1 5/16in head diameter and the inlets, 1 7/16in. Tappet guides are of light alloy—indeed, what with aluminium for cylinder barrels, heads, crankcase, connecting-rods and pistons, there is now comparatively little steel and cast-iron! Pistons, as standard, give a compression ratio of 7.7 to 1. Manually operated advance-and-retard is fitted to this model.

Twin-seat Standard

Other features of the Tiger 100 are provision for a revmeter drive (the head fits in the instrument nacelle in place of the speedometer head); the standardization of the Triumph Twin-seat; 1¾in-diameter exhaust pipes specially braced to the engine mounting (thus providing the rigid mounting desirable with a light-alloy head casting, any movement tending to cause chafing); and a finish in silver sheen, black and chromium—the petrol tank has a styling band with black inserts and silver name. Gear ratios are 5.0, 5.95, 8.45 and 12.2 to 1.

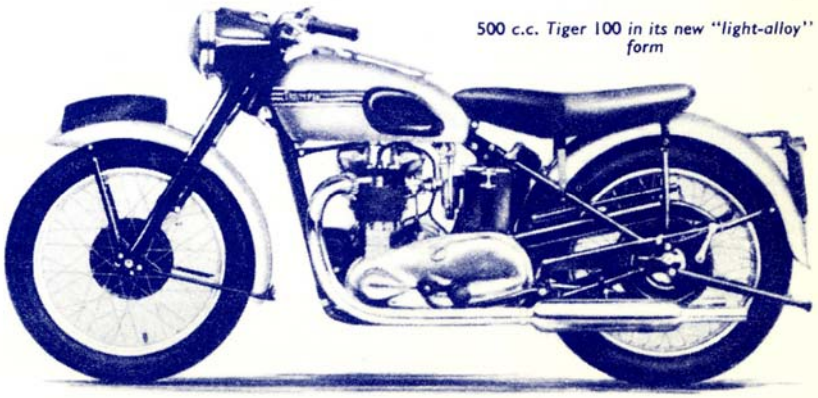
The rear frame provides accommodation for rearwardly set footrests and brake pedal. Attachment is also provided on the frame for fitting a one-gallon oil-tank for racing purposes.

Such is the new Tiger 100. It is not available in racing form. Those who desire to have it as a full-blooded racing mount must convert it. The packaged racing-conversion kit costs £35 complete with book of instructions and advice.

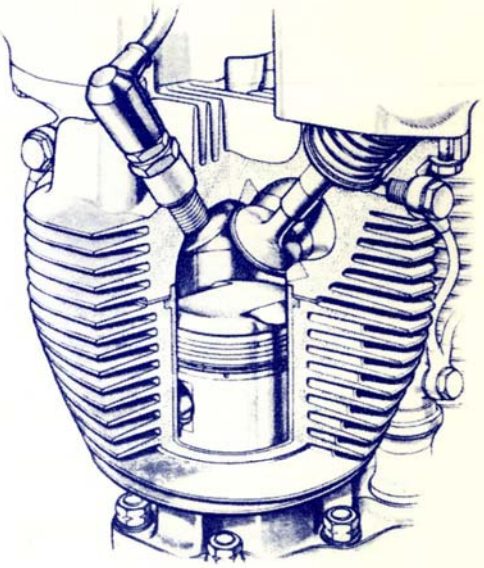
This kit comes under 15 headings. First there are the pistons, with a choice of pistons (one set complete) giving compression ratios suitable for pool petrol, petrol-benzole, or alcohol. Next comes the racing camshaft ("vernier"-type—three key-way—timing wheels enabling accurate setting of the timing are standard on all models for 1951). To line up with the special cams are racing valve-springs—chrome-vanadium wire wound into springs after tempering (for reliability). Linked with "breathing" are the twin mixing chambers, with their manifold and their single, remote float chamber, and megaphone exhausts with the optimum size exhaust pipes—1½in diameter in place of the standard 1¾in.

Other items in the package are revmeter with drive and fittings, folding footrest assembly, a racing handlebar (1in fittings), one-gallon oil-tank with pipes, petrol pipes, cables and junction box for the dual mixing-chamber carburettor, folding kick-starter pedal, short brake rod, complete conversion gasket set, and racing front number plate for nacelle aperture.

Also available on demand are close-ratio gears, straight-through exhaust pipe extensions, and a range of engine sprockets. Owners are left to find their own special equipment such as racing tyres, chains and plugs.



500 c.c. Tiger 100 in its new "light-alloy" form

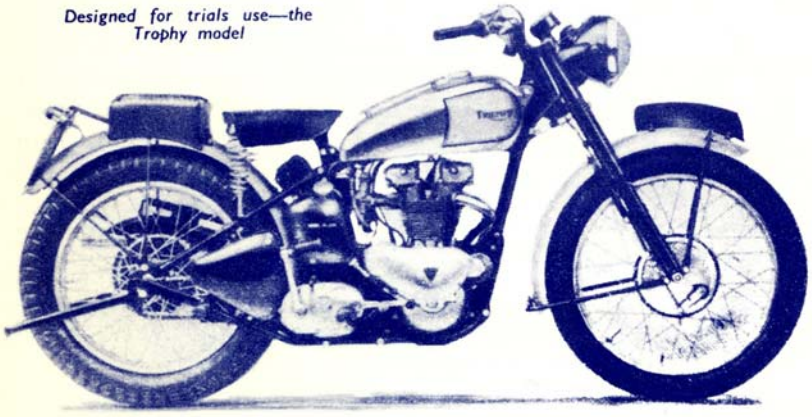


New die-cast cylinder and cylinder head of the Tiger 100. Note the liner forming the spigot, the vertical anti-ring web, and the close-pitch fins

As stated at the outset, the 500 c.c. Trophy model is also convertible into a racing mount. The engine is precisely similar to the Tiger 100, except that it has pistons which give a 6 to 1 compression ratio (T.100, 7.7 to 1). Thus it, too, can be equally potent—a racing mount developing over 40 b.h.p.

The now-famous Triumph spring wheel is an optional extra on all models. Prices, as will be seen from the list set out below, remain as for 1950 notwithstanding the improvements. Makers of this fascinating range are the Triumph Engineering Co., Ltd., Meriden Works, Allesley, Coventry, England.

Designed for trials use—the Trophy model

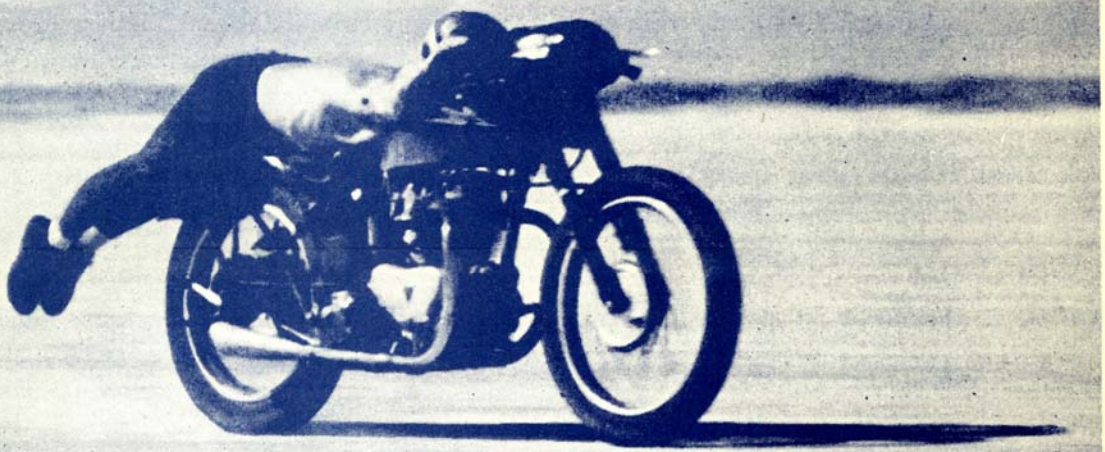


6T, 649c.c. Thunderbird ... ...
5T, 498 c.c. Speed Twin ... ...
T.100, 498 c.c. Tiger "100" ...
Tr5, 498 c.c. Trophy ... ...
3T, 349 c.c. de luxe ... ...

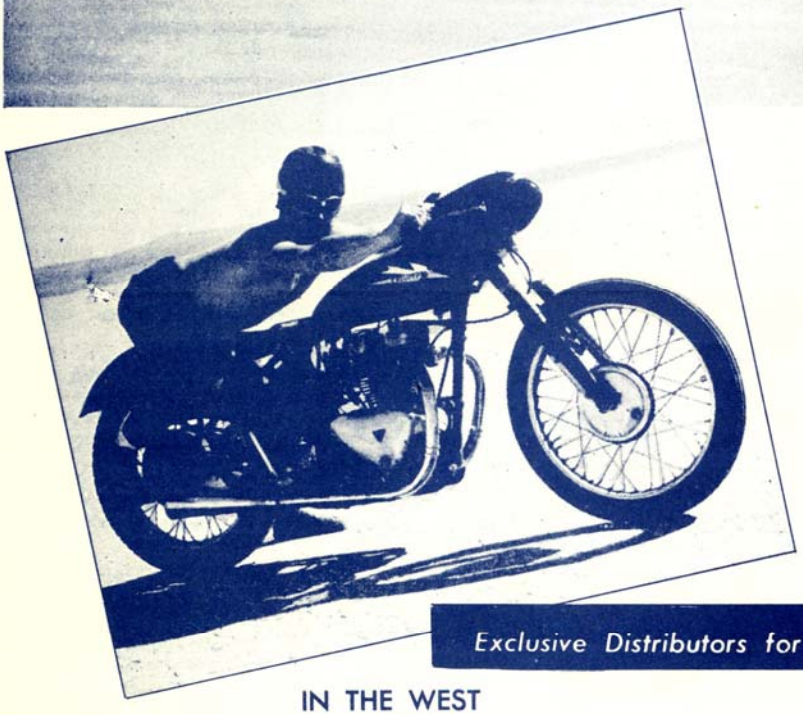
Extras (when ordered with new machine)

Spring Wheel ... ...
Prop-stand ... ...
Pillion rests ... ...
Pillion seat ... ...
Twin-seat (standard on T.100 only) ... ...

TRIUMPH THUNDERBIRD SETS RECORD



135.84 mph



BOBBY TURNER BURNS UP ROSAMOND DRY LAKE COURSE!

Motorcyclists will be interested to know that this fine record was made on a motorcycle which was, with only a few minor changes, a regular stock model. Dual manifold, Triumph Grand Prix cams, and 13-1 Triumph pistons were used. All work was done in Johnson Motors own shop by Cal Makela and Don Ayriss.

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