E VER since the Triumph Spitfire was released at an enthusiastic market at the 1962 Earls Court motor show, there have been persistent clamourings for more power and refinement. Having already noted that Triumph could squeeze a 6-cylinder engine into the basic Triumph Herald chassis, showing that similar “shoe-horn” jobs might be possible, and that the Spitfire has been raced and rallied in pretty coupé form, the project always seemed possible. Now, almost exactly four years later, comes the new Triumph GT6.

There is, indeed, a six-cylinder Triumph 2000 engine tucked into the basic Triumph Spitfire structure, but the new GT6’s design is really much more sophisticated than that. Its attractive, fast-back, coupé body style—flatteringly compared by some with the Jaguar E-type—is new, with a tastefully equipped interior and seats. There is an all-synchronesh gearbox and a larger, more robust differential and housing.

Naturally, the GT6 has a good power-to-weight ratio (112 b.h.p. per ton, unladen); even with its ultra-high axle ratio of 3-24 to 1, giving 20-l m.p.h. at 1,000 r.p.m. in top gear, it is expected to be livelier than its big brother, the TR4A, and certainly more economical. Though the GT6 is a well-equipped sporting car, it is surprising that a heater is still extra. Among other options are the smallest Laycock overdrive (which is specified with a 3-89 axle ratio) and wire wheels.

It is a tribute to the strength of the original Spitfire’s engineering that no changes have been necessary to the chassis frame for use in the GT6, apart from different mounting brackets for the six-cylinder engine and repositioned radiator. In fact, competition Spitfires have been run with considerably thinner frames with no ill-effects on roadholding or strength. As on the related Vitesse, the 6-cylinder engine is a tight fit under the bonnet. Its radiator is short and squat, being relatively much farther forward in the chassis than that of the Spitfire. The new gearbox is little bulkier, so no changes to body floor or gearbox tunnel have been necessary.

Apart from its raised compression ratio (9.5 instead of 9.4 to 1) the 1,998 c.c. engine is exactly the same as that fitted to the Triumph 2000. Power is increased from 90 to 96 b.h.p. (net) at 5,000 r.p.m. Closed circuit crankcase breathing, using a Smiths valve, is standard, in order to minimize the emission of hot oil fumes. To squeeze the six-cylinder engine into the Spitfire’s bonnet space, some accessories have had to be moved. The sump is like that of the Vitesse, the 6-bladed Vitesse cooling fan is mounted on the crankshaft pulley, and the dynamo is set a little lower. A chrome-plated rocker cover is standard. Despite the

**PRICES**

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<tr>
<th>Model</th>
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<tr>
<td>TRIUMPH GT6</td>
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There are new seats inside, a wood veneer facia and leather-trimmed steering wheel. Twin sun visors and a framed mirror are standard.
restricted air flow around the sump, an engine oil cooler has not been found necessary.

The closed circuit cooling system, with overflow bottle behind the radiator on the right, has a few special features resulting from a header tank lower than the cylinder head water level. There are two pipes from the thermostat housing to the radiator top tank; one includes the filler cap. An 8.5-in. dia. Borg and Beck diaphragm spring clutch transmits the drive. The all-synchronmesh gearbox, although making use of several well-proved Vitesse components, is a new design. A new casing has been developed to accommodate the rearranged gears and synchronmesh mechanism on bottom gear. On the Spitfire and Vitesse gearboxes, first gear and reverse are engaged by sliding the non-synchronized mainshaft gear into mesh with the appropriate train. On the new GT6, the first gear is in constant mesh, but free to rotate on the main shaft to which it is connected by the dog-teeth of the synchronmesh mechanism. Reverse is engaged by sliding the reverse idler into line with the reverse gears on the lay shaft and main shaft; the main shaft gear is part of the synchronmesh assembly for 1st and 2nd gears.

Synchronmesh is of the constant-speed type common to all Triumph models except the 1300; it should inherit the robust effectiveness of the previous designs. Ratios are very close, with bottom gear high at 8.66 to 1. The car is reputed to reach 46 m.p.h. in bottom, 68 m.p.h. in 2nd, and no less than 96 m.p.h. in third. This gearbox was first developed on prototype competition Spitfires during 1964 and 1965.

The Laycock overdrive, when specified, works on top and third; its function is cut out electrically on other gears by switches in the gearlever extension. Without overdrive, the rear axle ratio is 3.27 to 1, and with overdrive 3.89 to 1. This latter ratio was also first used on a competition car.

Though looking similar to those in other Triumphs, the differential is a new design. Changes have been made to accept the new high ratio, with 36 teeth on the crown wheel and 11 on the pinion; its output flanges are bigger and stronger than before, with ¾ in. dia. bolts attaching the half-shafts.

The familiar Triumph Spitfire-Herald-Vitesse suspension arrangements— coil springs and wishbones at the front, and swing axles plus transverse leaf spring at the rear—are retained, with detail changes to spring rates and damper settings. Either the disc wheels or optional wire wheels have 4.5-in. wide rims (1½ in. wider than the Spitfire), and 155-13in. Dunlop SP41 tyres are standard.

The brakes are much larger than the Spitfire's to match the great changes in performance. Much bigger front disc calipers and 8in. diameter rear drums...
The gearbox is special for the GT6 and based on rally car parts. Constant-load synchronmesh is used on all four forward speeds. The straight-cut reverse idler gear is on a third shaft behind the layshaft, and it is engaged with the straight-cut layshaft gear and the larger straight-cut gear on the mainshaft (shown in section).

**SPECIFICATION**

**ENGINE**
- Cylinders: 6, in line
- Cooling system: Water, pump, fan and thermostat
- Bore: 74.7mm (2.94in.)
- Stroke: 76.0mm (2.99in.)
- Displacement: 1,998 c.c. (123 cu. in.)
- Valve gear: Overhead, push-rods and rockers
- Compression ratio: 8.5:1
- Carburators: 2 Stromberg 150 CD
- Fuel pump: A.C. mechanical
- Oil filter: Full-flow, removable element
- Max. power: 95 h. p. (net) at 5,000 r.p.m.
- Max. torque: 117 lb. ft. (net) at 3,000 r.p.m.
- Max. b.m.p.: 148 p.s.i. at 3,000 r.p.m.

**TRANSMISSION**
- Clutch: Borg and Beck 8 in., diaphragm spring
- Gearbox: 4 speed, synchromesh
- Gear ratios: O/D Top: 0.80, Top: 1.00, O/D 2nd: 1.01, Third: 1.33, Second: 1.78; First: 2.65, Reverse: 3.10
- Final drive: Hypoid, 3.977 to 1; 3.89 to 1 with O/D

**CHASSIS AND BODY**
- Construction: Separate steel backbone chassis, welded body

**SUSPENSION**
- Front: Independent, coil springs, wishbones, anti-roll bar, telescopic dampers
- Rear: Independent, swing axles, transverse leaf spring, radius rods, telescopic dampers

**STEERING**
- Type: Allford and Alder, rack and pinion
- Turns lock-to-lock: 4.25
- Wheel dia.: 15in.

**BRAKES**
- Make and type: Girling, disc front, drum rear
- Servo: None
- Dimensions: F 9.7 in. dia.; R. 8 in. dia. 1.25in. calipers
- Sweep area: F 197 sq. in.; R. 63 sq. in. Total 260 sq. in. (966 sq. in. per tandem)

**WHEELS**
- Type: Pressed steel disc, 4 stud fixing 4-5/16in. wide rim. Optional wire spoke wheels
- Tyres: Dunlop SP41, 155-13in.

**EQUIPMENT**
- Battery: 12-volt, 48-amp. hr.
- Generator: Lucas C460, 6.5k.
- Headlamps: Lucas 460-55-watt
- Reversing lamp: 2, standard
- Electric fuse: 3
- Screen wipers: Single-speed, self-parking
- Screen washer: Standard, manual plunger
- Interior heater: Extra, fresh air
- Safety belts: Extra, anchorage built-in
- Interior trim: Ambic seats, p.v.c. headlining
- Floor covering: Carpet
- Starting handle: No provision
- Jack: Screw pillar
- Jacking points: Under chassis
- Other bodies: None

**MAINTENANCE**
- Fuel tank: 9.75 Imp. gallons (no reserve).
- Cooling system: 11 lbs. (including heater).
- Engine sump: 8 lbs. (6.5 litres).
- Gearbox: SAE 10W40, SAE EP90 (SAE EP75 with O/D)
- Final drive: No change; check level every 12,000 miles
- Final drive: 1 pint SAE EP90. No change; check level every 12,000 miles
- Grease: 2 points every 6,000 miles
- Tyre pressures: 32-34 p.s.i.

**DIMENSIONS**
- Wheelbase: 66 in. (121cm)
- Track: front: 41 in. (104cm)
- Track: rear: 40 in. (101cm)
- Overall length: 126 in. (320cm)
- Overall width: 49 in. (125cm)
- Overall height (unladen): 38 in. (117cm)
- Ground clearance (lateral): 4 in. (10cm)
- Turning circle: 32 ft. (9.7m)
- Weight, unladen: 1,904lbs (865kg)

**PERFORMANCE DATA**
- Top gear: m.p.h. per 1,000 r.p.m. 20-15
- Maximum speed: 107 m.p.h.
- Maximum speed: 0-60 m.p.h. (0-96km) acceleration time 11.1 sec

Spare wheel is stowed under the floor of the rear compartment. The back door is held open by concealed torsion bars (instead of 7in. dia.) and brake swept area is up to 260 sq. in. against the Spitfire’s 199 sq. in.

**New fixed head coupé body**

Much of the GT6 “fast-back” coupé body is common with the Spitfire. Floor, scuttle, doors and most skin panels are identical. The bonnet has a new centre panel which includes a power-bulge to clear the long 6-cylinder engine, and louvres to allow hot air to get away from the restricted space under the bonnet.

Inside the car, instrument panel pressings have been re-arranged to support instruments in front of the driver’s eyes, and to form a backing for the full-width walnut dashboard. At the rear, the petrol tank is no longer above the rear suspension and holds 15gal more. The new tank fits into the nearside of the boot floor, with the spare wheel shifted sideways to lie alongside it. The full length fastback roof panel is based on a single steel pressing, from Pressed Steel, welded to the rear of the structure at the Standard-Triumph body-building subsidiary of Forward Radiator Ltd. Its large rear window is framed, hinged and doubles as a “boot lid.” Hinged at the top, it rises on torsion bar assistance.

Sensibly, there has been no attempt to include small, very occasional rear seats. A flat wood platform, covering the fuel tank and spare wheel, extends to the rear of the seats from the tail, and is fully carpeted. Tools and jack are stowed alongside the spare wheel under the cover. Luggage capacity is no less than 14-2 cu. ft. Valuables can be stored out of sight under the platform in small compartments just behind the seats.

The driving compartment is tastefully trimmed, reflecting the attention given to the rest of the car in preparation for its more expensive market. Clear, round instruments in the polished walnut facia are complemented by those ergonomically-styled Triumph 1300 switches and controls. The speedometer and matching rev-counter are directly in front of
TRIUMPH GT6 and VITESSE 2-litre

the driver's eyes, with a fuel gauge and water temperature gauge in the centre of the car. There is no oil pressure gauge nor an ammeter. Below the facia panel are parcel shelves on each side, and a grab handle in front of the passenger.

Pedals and steering column controls are just the same as on the Spitfire, with the familiar Triumph adjustable and collapsible steering column. New to the GT6 is the padded-leather-rim steering wheel. At 15in. dia. it is an inch smaller than the Spitfire's wheel, but this improvement is offset by the lower-gear ratio. Rack and pinion, with 4½ turns lock to lock: the lock is still a compact 25ft.

The floor is completely carpeted, and the carpet extends under the carpet kick strip at the bases. Excellent, well-shaped seats are special for the GT6; they have bucketed back rests, and thigh supports on their outer edges: inboard the tunnel is padded. There is an arm rest between the seats, from which the handbrake sprouts: unlike competitive models this arm rest does not contain storage space. Seat belts are optional, but mountings are built in. Survivors are standard equipment (optional on the Spitfire). The doors have swivelling front quarterlights, with their frames acting as channels for the curved glass window. Behind the doors, rear quarter windows can be latched open to encourage through ventilation.

Electrically, there is little new, though a negative-earth system is adopted, and twin reversing lamps are standard. A courtesy lamp is housed on the luggage door hinge panel housing; it is operated by either passenger door or luggage door being opened.

Brief driving impressions

ANY driver expecting the GT6 to be similar to the Spitfire would be pleasantly surprised: the GT6 is much quieter and faster than the Spitfire, yet much more refined and somehow "tamer" than the TR4A. In other words, the GT6 has a character all of its own.

Inside the car, one looks out along a long bonnet with a "power-bulge" down the middle, and hot-air louvres on each side of the left-hand headlight. The driving position is similar, with the same structural problem of providing enough leg room for tall chaps between the rear bulkhead and the pedals.

The lustily-tuned 6-cylinder engine is completely smooth, and well shielded: on the move there is little more than a well-bred purr from under the bonnet, with no sign of temperament or sports tuning.

On smooth roads, even the handling reminds one of an E-type. The rack

and pinion steering is low geared so quite a lot of wheel-twirling is needed to hustle the little car around twisting lanes. Damper settings are definitely softer than those of the Spitfire, no doubt to provide a "boulevard" ride favoured by the Americans.

The new gear ratios are delightful and performance, as expected, quite exhilarating. With the optional overdrive fitted, and a lower back axle, one has-in effect-a 5-speed gearbox (overdrive 3rd is just the same as direct top), all synchronized, and all close together. In this set-up, bottom gear is good for at least 35 m.p.h. and second up to 55 m.p.h., so overdrive and top gears are unused when "rallying" off the main road. Even so, overdrive top will pull from less than 30 m.p.h. if one is feeling lazy.

In a way, this smooth power delivery is deceptive; there's so little fuss and mechanical commotion that one is tempted to rush into corners much quicker than intended; the good handling and splendid brakes take care of all indiscretions, with the car feeling very well balanced at all times.

With so much performance at such a reasonable cost, we can foresee long waiting lists long before home allocations begin in six months time; only the twin bogeys of insurance and the credit squeeze will hold back the customers then.

Vitesse 2-litre

THI: same engine as in the new Triumph GT6 is also fitted now to the Triumph Vitesse together with the new, all-synchronmesh gearbox, optional overdrive, and sturdier rear axle. With or without overdrive, the axle ratio is 3.89 to 1.

To deal with the much improved performance, the 2-litre Vitesse has been given the GT6's bigger front disc calipers, raising the total swept area from 207 to 260 sq. in. There have been minor changes to damper settings, and 4½ wheel rims are now standard, instead of the former 3½; rims of the Obviously model. Either Goodyear G8 or Dunlop C41 tyres are fitted.

Externally, the new car has discreet little "2-litre" badges in the centre of the grille, on the bonnet sides above the catches and at the rear on the boot lid. A reversing lamp is operated automatically by the gear lever.

Inside the car, the TR4A steering wheel is now fitted (previously the wheel was like that of the Herald), and the seats have been revised for better support.

Triumph claim that the new car can accelerate from rest to 60 m.p.h. in 12.5 sec (the 1.565c. version took 13.5 sec on test), and has a 100 m.p.h. maximum speed (against 90 m.p.h. for the previous version).

Prices are up by £68 for the saloon and £61 for the convertible.