

# 1 Engine

The four-cylinder wet liner engine used in the TR4 is a remarkable piece of engineering, with so many diverse applications. It was used as a stationary engine to power sawmills, another version was used in the little grey Ferguson tractor, and Morgan, Swallow, Peerless, and a number of other car manufacturers also used it in their own sports cars. It can trace its ancestry back to the 2088cc Standard Triumph Roadster of 1948/49 (known as the 'Bergerac' car from the TV detective series), but its better known application was in the Standard Vanguard series of saloon cars and light commercial vehicles.

The TR4 used the 2138cc engine from the TR3A, but it was possible to order the smaller 1991cc unit which would still enable

it to compete in the under-2-litre classes. Its cast iron block was fitted with three main bearings, and had a single duplex chain-driven camshaft operating eight pushrods,



**1.1: The TR's four-cylinder wet liner engine.**

topped off with a cast iron cylinder head with two valves per cylinder.

The flat-bottomed sump was a rather basic pressed steel affair, and housed the oil pickup and pump. The chromium-plated valve cover was also a pressed steel item, and fitted with a wire mesh 'push on' breather oil filler cap.



**1.2: The nearside of the engine bay. Note the later style oil filler cap.**



**1.3: A view of the engine bay from the offside. Note the twin SU carburetors.**

## 11 Wheels & tyres

While the former TR3 used 4.0 x 15in wheels, both the TR4 and TR4A had slightly wider 4.5 x 15in diameter steel wheels. Early wheels featured a riveted construction, while later ones had the rims welded to the centres.

Usually painted silver or aluminium in colour by the factory, one of the author's own TR4's wheels were actually painted in, what was thought to be, either Velasquez Cream or Spa White. It has not been possible to verify if alternative body-coloured wheels could be ordered from the factory, but Triumph and its



**11.1: This TR4A has the wider 5.5in TR6 steel wheels with a 'bling ring' chrome finisher.**

dealer network could be very accommodating when they wanted to be. Today, while original painted steel wheels seem to be a rare sight on TRs, it is not uncommon to see cars with wheels painted in other colours. Steel wheels were fitted with a knock-on chrome hub cap retained by three pegs set into the wheel centre. The centre of the hub cap sported Triumph's 'world' logo, which was bolted through the centre of the wheel trim, and is often now missing, probably as a result of re-chroming the hub cap. However, replacements are readily available online.

As the steel wheels were only painted, rust can be a problem if left unchecked, but shot blasting and powder coating will rectify that. What is harder to rectify is a buckled wheel rim caused by kerbing. A buckled rim can cause steering vibration, and wheels should be checked on both sides for damage.

Rim construction of TR steel wheels can be either riveted or welded. The photo in Fig 11.3 shows a riveted rim that was on the author's own TR4. On the outside it looked a perfectly good wheel, but, as the picture shows, it's very rusty on the inside of the wheel. This just goes to show that it's worthwhile taking the wheels off your car every so often to give them a good clean, if only to protect them from rust.



**11.2: A standard TR4 wheel, complete with chrome hub cap with the Triumph 'world' logo in the centre.**



**12.2: Often overlooked, the earth strap is a vital bit of the TR's electrics.**

terminal covers to keep dirt away and make it easy to identify which terminal is which. It would be all too easy for someone to try to jump start your car, not realising it had a positive earth!

When buying a replacement battery its worth noting the position of the terminal posts. A lot of modern batteries seem to have these at the back of the battery rather than at the front, and that can make fitting it more difficult.

Another problem that is often overlooked is the condition of the earth strap. On the TR4, the earth is carried down to the chassis from the front plate of the engine. The bolts securing it to the engine and the chassis should be kept clean, and check that there isn't any paint where the strap makes contact. Experience has shown that after a rebuild and respray, a poor earth connection here can confound you if you experience difficulty in starting your car.

Finally, do make sure that the battery is kept secure at all times. The angle bracket provided does a good job on a standard

size battery, but modern smaller batteries may be more difficult to secure. The fitment of a plastic battery box is always a good idea as is to clearly mark the battery terminals, red for positive and black or yellow for negative.

### 2 Jump leads and trickle charging

Cars that don't get a lot of use tend to have weak batteries, and may require a jump start from another car or the use of a portable starter pack to get it going. Good quality jump leads are hard to find but are easily identified by their relatively heavy weight. The thin wire leads that often come with some of the emergency packs sold at retail outlets are not really strong enough.

When jump starting from another car, make sure that the leads are fitted correctly, and that the cable clamps don't touch any other part of either car's engine or bodywork. Remember, TR4s were positively earthed!

With the rescue car's engine running it should now be possible to start your own car. The rescue car should be revved up to

**12.3: Use heavy-duty jump leads, and keep a trickle charger nearby if you don't use the car all the time.**





**13.7:** Early TR4 bucket seats were carried over from the TR3.



**13.8:** This is a very neat installation of inertia reel seatbelts on a TR4. The wheelarch mounting is a later fixing point.



**13.9:** The TR4A featured restyled seats with greater padding – but are they more comfortable?

be allowed to dry thoroughly. If badly stained they can be cleaned with warm soapy water, but if they become frayed at all they must be replaced.

Compared to other contemporary makes of sports car, TR seats were considered very comfortable. The

4A's seats are said to be a great improvement over the earlier TR4, although the author favours the early TR4 bucket seat. While the bucket seats use TR3-style seat runners, the later styles use an 'H' frame seat base that allows for fore and aft adjustment. While all types benefit from regular lubrication of the runners, the later 'H' frames are much easier to lubricate, though care should be taken not to spoil the carpet. Apart from the usual tears and splits that come with frequent use, TR seats generally stand up well over time. The early TR4 has a separate removable seat made up of springs and stuffed with horse hair. The springs can break and the seat pan can be devoured by rust. A good

## 16 Competition & modifications



**16.1: The author's much modified racing TR4.**

From the very outset of the TR range of sports cars, competition has been the order of the day. This was especially true of TRs in rallying in the 1950s and '60s. During the early and mid 1960s when the TR4 was in production, the car was used for rallying by the works teams, and it was very popular in the USA on the race circuits too. The TR4 owner can therefore look back and reflect upon a very good competition heritage.



**16.2: 4VC, one of the works rally cars from 1962.**



**16.3: The workshop at Racetorations specialises in tuning TRs for fast road and competition work.**