



TRs – The Knowledge

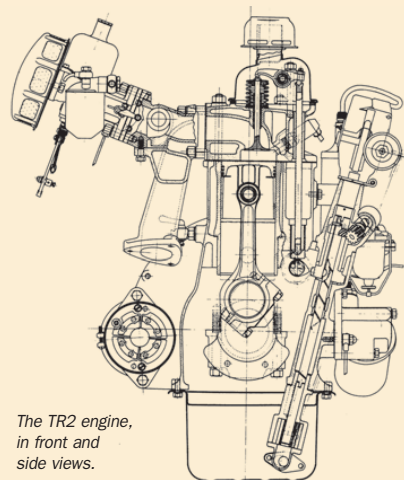
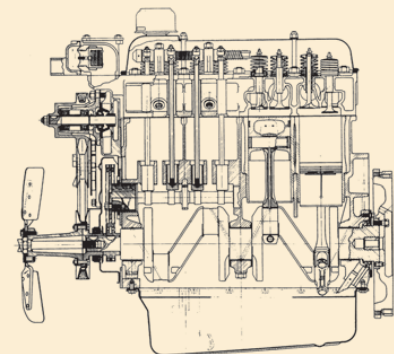
the Who, What, When, Where and Why of TR Lore

The TR story is a very complicated one, mixing technology with personalities, finance and a fair measure of politics over a twenty nine-year period. To tell it properly, however, this story can be broken down into easy-to-understand subjects. Written especially with new TR Register members in mind, here is everything that you wanted to know about your TR, in an easy-to-read format. Written by Hon. President Graham Robson, who was there at the time, we cover all the basics of TR lore.

Here are the stories of the cars, their engines, the factories, the bosses, the designers, and all the important events – plus, of course, some of the disasters and successes. Collect these easy-to-read Chapters and you'll have your own personal TR history, one that you will never see in the shops – or on the Internet.

'The Knowledge' will be published in seven parts, only in TR Action:

Part 1 – The cars; Part 2 – The designers; Part 3 – The engines; Part 4 – The factories; Part 5 – The decision makers; Part 6 – TR 'firsts'; Part 7 – Successes – and disasters



The TR2 engine, in front and side views.

Part 3: The Engines

Although the major part of this survey covers the engines that powered Triumph TR sports cars, I have also noted where, and when, they originated. I have also noted the cars that preceded the TRs themselves.

The origins of the first TR engine, the legendary 'wet-liner' four-cylinder power unit, lie in the Standard Vanguard and the Ferguson tractor programmes of the late 1940s. I ought to make it clear, though, that these two engines were very different – for the tractor had an entirely different and more robust cylinder block, the better to support the front axle of the tractor itself. If you don't believe this, have a look at one of the many T20 'Grey Fergie' tractors which have been preserved, and sometimes even attend our meetings. Apart from their obvious robust strength, the secret was that this engine had the 'wet-liner' layout, where replacement cylinder liners could be slipped in and out of the cast iron cylinder block, which made this a remarkable easy engine to rebuild and modify. Although all such engines shared the same cylinder stroke – 92mm – over the years there was a wide variety of different liners and cylinder bore dimensions as follows:

76mm

Used in the Standard Ensign (1,670cc)

80mm

That of the prototype Standard Vanguard (1,850cc)

83mm

As used in TR2 to TR4 types

85mm

As used in the Standard Vanguard production car (2,088cc)

86mm

As used in TR3A, TR4 and TR4A types, plus some Vanguards

87mm

As used in some Ferguson tractors (2,188cc)

- and, as far as I know, the largest and more modern after-market liner is:

89mm

For sports/tune-up conversions (2,289cc)

All such engines shared the same basic type of cast iron cylinder head, with inlet and exhaust ports exiting the head on the right side of the car. A different, cross-flow, head was developed in the early 1950s, but although pictures of it exist, it was never put on sale.

This is how the 'wet-liner' engine was used in 'our' TRs:

20TS

The original sports car, the prototype that would become the TR2, was shown in October 1952, with a twin-SU 75bhp/1,991cc engine. This was an improvement on the 71bhp/2,088cc engine, which had been seen on the TRX prototype of 1950-1951, but it was still not ready for sale in that form. The 1,991cc capacity was chosen to bring the car within the 2-litre class for motorsport events. The 20TS (in later years, sometimes wrongly called 'TR1') did not go on sale, and soon evolved into the TR2 of 1953.

TR2

Much development work went into improving the engine before production began. A fascinating survey in *The Autocar* of 8 April 1955 tells the whole story. As a result, it went on sale with a very robust, and amazingly fuel-efficient, 90bhp rating. Although this derivative of the engine was not used in any other Triumph, it was used in the Morgan Plus 4 of the period.

TR3

Early TR3s used virtually the same engine as that of the TR2, but with 95bhp. Then there was an interim 'Le Mans type' head fitted, and from mid-1956 (see Bill Piggott's books for details) a new type of high-port cylinder head was finalised. This helped produce 100bhp, which became the standard rating until 1962. At this time, incidentally, a 90bhp/twin-SU/2,088cc version of this engine was used in the Standard Vanguard Sportsman, but this had a unique type of inlet manifold and different detailing.