SPEED WEEVIL

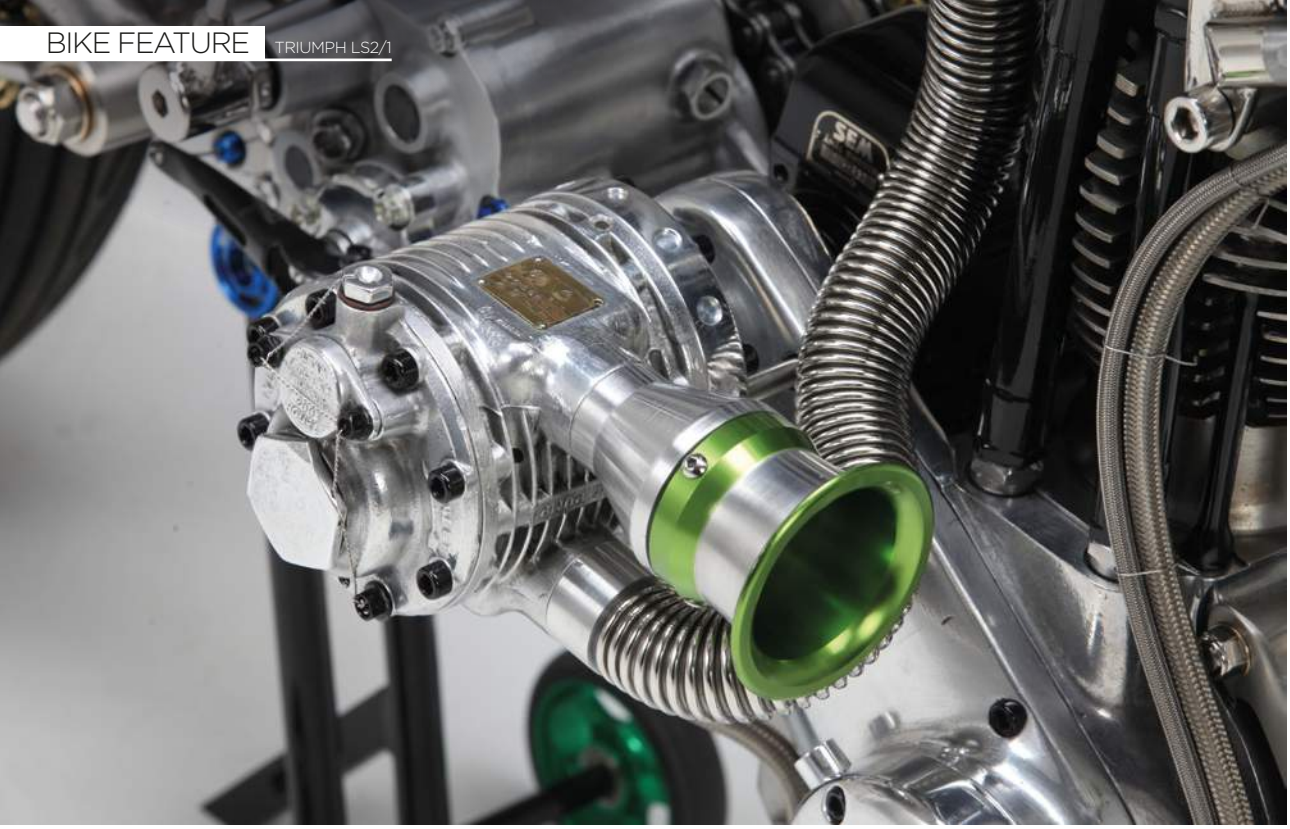
It was about mid-June last year, on my way to work, when I thought, 'We're going to Las Vegas and we're going to win.'

WORDS: PETE PEARSON **PHOTOS:** HORST ROSLER

This didn't come entirely out of the blue and I wouldn't be going to Sin City to risk everything on the poker tables or slot machines, but in a competition far more important to me: Artistry in Iron. Each year, Las Vegas Bike Week invites a handful of selected builders to take part in the Artistry in Iron Master Builders Championship. We were blown away that Rocket Bobs had been the first British builder to be invited to attend but it hadn't really sunk in and we didn't even know if we could do it. Las Vegas was a long way away and so was the contest. But that morning something clicked for me. I rang my wife (and the other half of Rocket Bobs) Lisa and said, "Plans have changed". We would go to Vegas, we would build something very special, we would aim to win. Oh, and we had three months in which to do it...

Artistry in Iron is, in itself, actually a very small event, although part of a massive rally which takes over downtown Vegas each year. Just twenty of the world's top builders (that's how the organisers bill it, not me) are invited. They're not interested in making up numbers—they just want the best builders they can possibly attract. If people drop out before the show then so be it, there's no short list, no understudies, no-one waiting in the wings to fill a space. To me, it's the ultimate challenge in my profession and we had a 1-in-20 chance of taking the title. From there, I decided we would then try our luck at Custombike in Germany and the Motor Bike Expo where we would be up against far more machines.

In the Rocket Bobs' workshop happened to be a 1935 Triumph L2/1 engine, a rare little beast that we had been extremely lucky to find. One of two



built by the factory for the 1936 race season, it had behind it over 70 years of racing heritage and there's firm evidence to support the fact that, in 1939, it set the 250cc record at the legendary Brooklands race track with a speed of 97mph. Its last race had been as late as 2008 when it held its own against classic Jawas 350s and a field of larger capacity bikes.

It was also a choice that would surprise many people. Rocket Bobs builds Harley-Davidsons; we do a lot of work with Street Bobs and we've have a lot of success with Shovelheads and earlier Harleys. No-one would expect us to build a Triumph. However, it just seemed appropriate that the first British builder at Artistry in Iron should take not only a Triumph, but a classic all-British engine at that.

Work started that very morning when I mounted the engine on the jig. I set the ride height and then mounted on the jig one of our own stainless headstocks in order to give me the distance I needed from the engine, taking into account my plan to fit a turbo. Ah, I didn't mention the fact that I intended to run a supercharger at a crazy angle, did I?!

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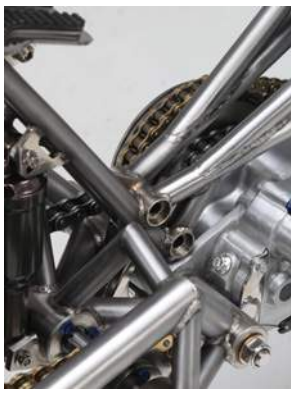
I had already acquired a 1965 NOS Japanese grass track racing gearbox. The mounting dimensions were identical to the crankcase dimensions of the engine, so an idea of twin oil tank engine plates made out of stainless proved perfect. It would also mean I could lend a more organic shape to the bike to counteract the frame which I planned to rely heavily on straight sections with variable angles to give as much emphasis as possible to the little engine at the heart of this build.

The choice of material for the frame was clear from the start. During the glory days of this engine, there was another machine whose very name still holds a magic: the Supermarine Spitfire fighter. The fuselages of Spitfires (and, for that matter, Hurricanes and Hawkers) were constructed in a British-only steel called T45 which is much easier to use than 4130 chrome moly and arguably stronger for the application I wanted. Because of the dimensions of the engine and the importance of scale with the components, we opted for 19mm 18-gauge T45.

The Triumph L2/1 engine is of a bolt through head design, and the little bike—the work of Val Page, one of the first motorcycles he would design for Triumph—was extremely advanced for its day as well as very strong. The downside was that it was also extremely expensive to produce, so it was manufactured for just eighteen months and the L2/1 went on, under Edward Turner's direction and modification, to eventually



become the much cheaper Tiger 70.

I wanted to design the frame around the engine to utilise the strength inherent in the design of the engine by making it a stress member. By now we had also set our sights on racing this bike at Bonneville salt flats, so I wanted to incorporate into the frame a system to allow easy breakdown of the entire motorcycle. Therefore the top engine plates and the lower oil tanks have 316 stainless slugs welded to them, precision milled to sleeve inside the T45 frame tube with further two 6.00mm holes precision bored in both the stainless slugs and the corresponding frame tubes. We then made Inconel pins at 5.99mm by 20.75mm with a 0.5mm groove in one end. This means the entire frame can be pinned together and held in place with just a single strand of lock wire, a design which, of course, relies upon complete accuracy. There is zero movement in any part of the frame. From the headstock I brought in a slight goose neck and brought the upper frame tubes back to the outer width of the engine before the rear frame tubes taper

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back in again to end up at a finite point just behind the gearbox. This gave me the perfect mounting point for the seat post and the insect-style waist that let me fabricate a completely grasshopper-inspired swinging arm.

As the transmission sat so tightly to the engine and I needed to run a 5.5-inch rear rim with a race slick, there was no option but to incorporate a jackshaft 100mm behind the swinging arm pivot. This jackshaft is held by three bearing enclosures, each enclosure housing four high speed bearings. Utilising a jackshaft also meant the insect-like feel of the swinging arm could be maximised by the necessary tubular bracing surrounding the bearing housings.

Up front it had long been a desire of mine to run a girder set up with an internal spring in a headstock, which meant no steering stem and that obviously introduced a whole host of design issues. It's a part that I have been working on for two years prior to *Speed Weevil* but, as Harleys tend to tip the scale at around 600lbs, I could never get the correct design compact enough to work with our normal builds. *Speed Weevil* is a mere 150lbs and an 80kg spring was designed and made for us to fit inside the Rocket Bobs headstock. The girder itself is made from streamline section 4130 aerotube and, despite the front tyre being a 120/70 as there are no brakes on the front, we managed to keep the whole front fork extremely narrow and on point.

I'd seen quite a few weevils in my searches on Google (don't ask what I was searching for!) and my favourite was a crazy little red bug with a high gloss black front thing sticking out of its head with ⊗

WE ARE NOW CHASING THE RECORD AT BONNEVILLE FOR VINTAGE, AIR COOLED, 250, BLOWN, ALCOHOL, UNFAIRED...

its mouth on the end. I looked at our Weevil for some time and decided that it should remain raw for two reasons; firstly to honour the engine, and secondly to allow the different shades of gradations of metal working and welding to show. However, I thought I'd incorporate emerald greens and cobalt blues through spot anodising on certain bolts and flanges. With that in mind, I also decided to go with a high gloss black front end—the only paint on the bike. It was also important that the greens and the blues from front to back of the bike were a variety of shades. You only find uniformity in manmade items and that leads to a product looking plastic or sterile. I'm a firm believer in a more organic approach to design.

So now, as well as the title in Vegas, we'd decided that we were chasing the record at Bonneville for vintage, air cooled, 250, blown, alcohol, unfaired. The figure stands at 61.894 mph. Bear in mind that *this* engine had already been clocked in 1939 at 97 mph. But, with the increased altitude at Bonneville, I thought it would be wiser to give the little engine a bit of help. So we mounted the turbo very close to the exhaust port and while that's spooling up we fitted a supercharger direct driven off the magneto gear.

The turbo was a snowmobile unit from eBay and all we did was to strip it and machine every single part off it that we could, reengineering the exhaust ports and redesigning the cold air intake. The turbo feeds directly into the first plenum chamber

inside the fuel tank underneath the filler cap and the supercharger is from a Spitfire shot down over the Mediterranean in 1942. Two of these mini compressors were fitted to the ends of the cam shafts on the V12 Merlin engine; we bought both units and made a good one out of the pair and it's the perfect size and displacement to help the little Triumph get rolling. It feeds the second plenum chamber inside the fuel tank with the variable waste gate plumbed into the bridge between the two plenums. Both plenums are actuated by pressure release valves, while also inside the tank is a honeycomb of stainless steel with cold air tube passing through. This is to use the fuel on board as an intercooler. Furthermore, the base of the fuel tank (a highly modified Ironhead tank) is structural for lateral loads on the frame with an extreme outrigger fuel tap feeding the downdraft Yoshimura carb.

That's pretty much what *Speed Weevil* is, although it's always difficult trying to explain a bike like this. Lisa and I would like to thank many of our friends including Gil Wyborn, Steve Tawton and Mark Nadin whose help and support went above and beyond, and Artistry in Iron which was incredible and where the British contingent made the whole show such a memorable experience for us.

And yes, in case you've missed the coverage, we went to Las Vegas and *Speed Weevil* won Artistry in Iron and then it went on to win Best Engineering at Custombike Germany and Best in Show at Motor Bike Expo Verona. That's more or less where we came in ... except, of course, for Bonneville. There this little Triumph will come full circle, out racing—albeit in a very different guise—just as it was eighty years ago. ⊗

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Rocket Bobs' *Speed Weevil* Triumph


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