



**PROJECT
RICKUKI**
PART 3

Shipshape?

Or blissful ignorance? Will honest truth hurt Scoop's cafe racer dreams?



It's a cool afternoon when engineer Rob and numpy Scoop plot up at Metal Malarkey Engineering on the edge of the Welsh Marches.

The rolling chassis is dragged from the back of the van by Rob as muggins here fannies about in the back of his car for the countless pieces of accumulated tat that actually comprise Project Rickuki. Staggering into Malcolm Shepherdson's workshop with boxes of parts, two partially assembled expansion chambers and assorted ephemera convinces me I've made the correct move. To attempt such a major exercise without proper resources and knowledge would be the work of a fool.

The bike is safely secured to a bike bench and Malcolm begins his meticulous examination in close detail.

Thankfully, we really do have ourselves a genuine period Rickman! It all looks pretty

much as it should and the only query to date is the rake of the front forks. The chassis appears to have been built with a 29° headstock angle which isn't normal. The best chassis geometry setup we can aim for is a headstock angle of 27° and four inches of trail which should deliver something pretty damn close to what was originally intended. Quite why there's a 29° rake no one really knows. Once again I'm glad we have an expert on board who proposes a fork length of 720mm, ground clearance set at 225mm and a rear shock length around 335mm.

Malcolm's colleague, Phil James, machines 40mm off the top of my GT750J forks and then recuts the necessary threads; this man is unquestionably a craftsman. With increased shock height at the rear (the unwanted Marcocchis are up for sale by the way) the seat rails will now lie horizontal thus negating any expensive cut, shut and welding of

headstock and frame tubes. Even in the best hands and in a frame jig there was a still a possibility of slight distortion when reworking the headstock angle of the frame. By going down this route we've actually saved a lot of hard work, effort and expenditure.

This might be the sort of stuff we could have found online, via a forum etc., but who's to say it would be right? Once again going to people who genuinely do this for a living means we're taking no chances, only reworking the running gear once and not making expensive mistakes. We also pick up on the fact that chain tension will be at its tightest when the engine sprocket, swingarm spindle and rear wheel spindle are all in line and ideally this should occur under normal load i.e. with rider's weight.

In the unloaded situation, when a straight line is drawn from the engine sprocket through the swinging arm spindle, it should



Checking fork rake and we found a lazy 29° – we want 27.



Engine space was checked.

lie about 25mm above the rear wheel spindle. As it stands we're actually running at around 60mm which is obviously not where we need to be. In order to reduce this glaring discrepancy there's now a need to rework the swinging arm pivot. The standard Rickman setup utilises eccentric round discs at the pivot shaft position for chain alignment purposes. Once again we're looking at making another decision. We could, theoretically, carry out a massive engineering programme and remount the pivot point and retain the eccentric adjuster system. However, Rob and I have no idea of what gearing the bike will be running and we'll probably need a lot more latitude in terms of chain adjustment than the meagre amount afforded by the original system. Therefore the pivot point will need to be lowered in the frame with a specially machined inset that will be welded into place.

Next up is the positioning of the engine; it's there or thereabouts but aesthetically at least leaves more than a little to be desired. If we acknowledge the fact that the frame was initially designed to take a Triumph pre-unit twin then it's obvious to even this klutz that there's going to be a lot of free space around the more compact Suzuki lump. Despite being physically smaller the T500 has a lot of mass to it; try picking one up if you don't believe me! There's a vast amount of metal spinning around inside and even with its original primitive rubber engine mounts the rocking

couples associated with a 180° twin can make their presence felt. Factor in the Rickman frame carried less weight hence less dampening mass and two things are apparent.

Firstly, the engine needs to be properly and securely mounted to minimise movement/vibration and, secondly, I'd like to see something other than a fist's worth of fresh air twist the down tube and the front of the engine. Once the reworked forks are back in the chassis and the bike is truly level the team confirm that the motor is horizontal to the lower frame rails but slightly out in the vertical plain. It's only out by a degree or so but now is the time to sort it; it will also mean the chain run will be bang on. Further examination reveals that the original rear mounts and engine brackets are not really suitable. The top rear mounts are doubled up and the bottom mounts are incorrectly positioned for the T500 motor.

So Malcolm and Phil recommend their removal and reworking of the corresponding frame tubes for new brackets. So everyone has another task to add to the list as they design and fabricate engine plates to suit, bolt to engine then utilise the new plates to position new brackets, tack, check and finally weld in place. Up at the front the original frame brackets are going to receive some trimming to facilitate a new set of mounts made from hand formed 8mm HE30 aluminium. These new brackets will fit in the inner faces of the

down tubes and comprise the only truly solid mounts of the entire operation.

We're cracking on now and the last major hurdle for this stage of the exercise is to work out how we mount a radiator. Bearing in mind the chassis was never designed for such unsightly encumbrances we obviously have something of a challenge on our hands. The rad has to be mounted so that it cannot interfere with either the turning circle of the bike or be hit by the wheel when the forks are on full compression. Sounds obvious and simple but the budget doesn't run to a specially built, handmade, curved alloy work of art. Lateral thought and a bit of luck see engineer Rob almost magically produce a Yamaha Thundercat unit that looks pretty much cock-on for the job. Malcolm and Rob offer it up and other than some bracketry issues and the odd inlet and outlet facing the wrong way it's a damn good match.

There's still a lot of basic stuff on the to do list. The expansion chambers have to be mounted to clear the Rickman chassis and the kick-starter, I need to source a fairing, a set of rear set footrests are required and we'll need to find a way to keep the back end up at the key 335mm Malcolm recommends. Onwards then as we have oh so much to be getting on with, but first big thank yous to Metal Malarkey Engineering (www.malarkeyengineering.co.uk) and engineer Rob! **cmm**



New engine brackets were required!



Phil removes 40mm of GT750 fork...



Checking for Rickuki radiator fit.