

# The Online Scott Newsletter No. 55



Lars Janssen racing his Scott

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**EJP**

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# Flywheel Endfloat

From: Lars Janssen  
Subject: Flywheel endfloat!

Hi Roger

I hope you are fine.

I race every year in Dijon and again the fastest :-) But now, my Flywheel axially left right a little movement. ( 1,2 mm ) is that normal ?

Best regards

Lars Janssen

Dear Lars

Axial movement which we call "End Float" is 0.2 to 0.4mm and we set to 0.3mm when building an engine

1.2 is definitely more than we would prefer as is the flywheel and crank assembly will move by this amount when the engine is running, then this movement will cause wear on the little end bushes of the connecting rods and the big end bearing rollers and bearing surfaces.

If your engine is working OK then I suggest you keep using it till the end of the season and then strip and rebuild as necessary, unless you have a problem before that time.

Can I ask if you can send a story about your Dijon experiences and any other events where you have used your Scott?

I would be very grateful to have this information and about you and your history with your Scott to feature in our newsletter.

It is very helpful to have features about spirited Scott riders such as yourself to give variety to our newsletter

Please do not be too modest

You are a great example to other owners  
I am near to finishing rebuilding my Scott but am waiting new  
headstock bearings and much looking forward to racing at Cadwell  
Park in June  
Kindest Regards Roger



## UE 7373



### **Radiators remembered.**

As I have related before, I bought my first Scott in 1967 after seeing mention of it in an article in the fondly remembered magazine “Motorcycle Sport” in 1965. It had been left for repair at the premises of Albert Renolds in Liverpool in 1941 by, as handed down lore reported, by a merchant seaman, who failed to return from a convoy to Murmansk.

The bike was, as far as I have been able to determine, an absolutely original 1929 model 500cc TT Replica, being registered in September 1928. With the passage of so many years and an indifferent memory, I cannot be absolutely sure of the order of events, but I will do my best and hope that you will bear with me.

Its first party trick was to break a crank, so this was the start of the crank saga that continues to this day. Having got a toolroom solution to this problem, let us move on.

When writing pieces like this, I confess to feeling a bit uncomfortable, as the last thing I want to do is to portray Scott ownership as an endless vale of tears. So to salve my conscience, I emphasise that a Scott in good working condition is a most excellent bike that brings great pleasure to its rider.

I suppose the fact is, that if it was not for such qualities, then owners would not persevere with such patience to solve such problems that may occur from a machine that has not had the benefit of appropriate care in its past.

I had met George Silk when he was working at Allen Cotterill's engine reconditioning company after finishing his apprenticeship with Tom Ward and George regaled me with the great thrills to be had from Vintage Racing. George's enthusiasm has always been infectious, so I resolved to give it a try, but before I could do this, I needed to be sure that the bike was sound.

One obvious problem was that there were a number of leaks from the radiator that needed a cure.

Before I go into the rather painful memories of that epic adventure, let me explain the construction of the original radiator, in case some readers are not familiar with this.

For the majority of the years of production, a radiator type known as a "Honeycomb" was used.

The core for the TT Replica radiator was made from approximately 1500 individual lengths of brass tube of diameter 0.312" and wall thickness 0.004". The length from memory was approximately 3 inches. Each of these tubes had been processed by pushing a ball into each end, so as to swell the end 5/16" of the tube so as to be 0.004" bigger in diameter than the middle original diameter.

If you stacked a number of these tubes together then the enlarged ends would result in a gap between the central sections of the tubes of 0.008". Please accept that many years have elapsed since I was involved with these problems, so if I am in error regarding the

sizes, then at least the principles are correct.

A block of these tubs was held together in a shape that is correct to make the required core and first the ends of this block was dipped into a shallow dish containing soldering flux.

Next the ends of the block was immersed in a shallow bath of molten solder both ends.

Next the brass casing was put round the core and soldered to it. I confess that I am not sure how they did this, but I was told that the soldering flux was necessary to ensure the block tubes were bonded together perfectly, but also that the brass casing with its brass tube core were subjected to some mild pickling to clean the surfaces so it would accept the final nickel plating.

It was explained to me that this “pickling” did cause some deterioration to the new brass tubes and thus resulted in the life of the radiator being a little reduced.

I explain this so I can point out that in the last 25 years or more, the specialists who make new radiators for Scotts, have made casings from a nickel based alloy called “German Silver” which polishes like plated nickel and so the finished radiator does not need pickling.

I am sure that the Birmingham Scott’s had modern car type cores to save the excessive labour time and expense of making the honeycomb type. Of course in the past, the wages of the working men was low, so this aspect of cost was not so significant.

So what about my experience?. Well the radiator of my Replica was leaking from many points, so I ordered 500 lengths of cut tube from Godfellow Metals in Ireland. I made a tool to enlarge the end sections of the tubs and then, after a clean, I gave the outer of the end enlarged section a thin coating of Fry’s Solder Paste. I bought two medium duty soldering irons and made new copper bits that would enter the enlarged end section of the tubes. Now we were ready to start replacing tubes. Selecting a tube with a leak, the bits of the soldering irons were inserted into each end and with a twist and a slight push, the tube came out of one end. Next a new tube was inserted until I had replaced about 350 tubes. Before I had

done this, I had made a punch to cut soft rubber slugs to blank off leaking tubes and had a good number of these in stock.

We now come to the fateful day when I had entered my first race event at Cadwell Park. It was in the early days of Vintage racing and we begged to have vintage races included in the programmes of other more established racing clubs. This particular "Invited Meeting" was run by "The British Formula Racing Club" which had been formed to provide affordable "Formula" classes. In this case BSA Bantams and 200cc Triumph Tiger Cubs. Later this club extended the principle to embrace "Production Racing" and I went on to race with this quite large racing club for many years with my 750 Laverda then one of the first 750 Ducati SS machines, both fully race kitted. This club was headed by husband and wife team, John and Joan Milligan. John was an ex RAF man from Ireland and met Joan who was a nurse when being treated for injuries to his leg in hospital.

I arrived at Cadwell Park with borrowed leathers from a friend of much greater stature, my fleecy lined road boots and gauntlet gloves. I had taken a plastic bottle of water to top up the Scott radiator, but as I had more than one of these identical bottles, I had taken the wrong one. The one I had taken contained some cleaning fluid so that after pouring some of this in, the poor old radiator leaked like a showerhead. I was mortified but to add to my agitation, the paddock tannoy was by now giving the announcement that this was the final call for practice for solos and if you had not practiced, you would not be allowed to race. In desperation I went down to the collecting area where John Milligan took one look at all the water cascading from my radiator and said "You can not go out like this, you will ruin your engine" He asked if I had raced at Cadwell before and I replied that this was to have been my first time. John then said that if I could get it fixed by lunchtime, he would see if he could get someone to show me the way round.

Back I went to my camping place and started fitting the rubber blanking slugs. Luckily, I had brought the punch, a hammer and a



sheet of the soft rubber. A good time was had punching out slugs on the top rail of a wooden fence till I reduced the leakage to a few spots. I cannot say that it was pretty, but it was holding water.

Come lunchtime I went down to the assembly area and reported to John. If I use the name John, instead of Mr Milligan, this is because I went on to race with them for years and was asked to be club President, which position I held until the club was dissolved many years later.

John pointed to a rather battered BSA B40 440cc single cylinder bike leaning against the wall of the canteen. BSA had got this bike well sorted from its use on what we now call Moto Cross and they were a good performers. John brought a man from the canteen with old scuffed leathers and a grey beard. A flickering shadow of memory suggests the name Wilkinson, but his deeds were much more memorable than his name. "Follow me" he said. I will do one slow lap so you can see which way the corners go, then one lap at slow racing speed. Once on the circuit he sped off at breakneck speed, with me straining every nerve to try and keep him in sight. I would not have been surprised if my white knuckles were visible through my gloves. After about  $\frac{3}{4}$  of a circuit, I had come to the conclusion that he was trying to humiliate me as a punishment for John fetching him out of the canteen. It then occurred to me that the truth would soon be discovered when he started his second lap at "Slow Race Speed". He rounded the club hairpin and went into warp drive and disappeared round the next corner almost horizontally. By the time I reached that corner, he was gone, --- Vanished, --- Never to be seen again. Well, that put me in my place as the rank amateur I was. Did I go home now with tail between legs? No definitely not. If you are doing your best, then just enjoy it and try and learn. In the race I was third from last with a 350 Velo and a 1922 Martinside 680 side valve vee twin behind. I enjoyed it enormously and racing came to be a major part of my life even to now at the age of 75. I have never been a champion, but I used my engineering experience to make my bikes better than most and if I rode regularly, then little by little

I become more confident to crank the bike over harder in corners, so that in past times I did enjoy some success. Our next race meeting is in June 2016 at Cadwell Park, which is a special meeting to commemorate 50 years of Vintage Racing. I did not race last year after Steve Plater crashed my bike resulting in extensive and expensive damage. I am just awaiting new head bearings and I hope to get it rebuilt in time for a track practice session to sort out how the bike handles and hopefully regain a bit of confidence. I enjoy being out in the company of spirited riders, but I do not usually push the limits as much as years ago. The bones are softer and take longer to mend and I have only just managed to find a surgeon to fix the RH shoulder I damaged in 1975. Of course, if I had have been a champion, then it would have been plated and pinned in a trice.

But what of the radiator? Well, it was obvious that the whole core was badly eroded and that partial patching was a lost cause. I ordered a new radiator from a maker who still used brass casings. I decided to ask for a radiator without plating so as to retaining the tubes in strongest condition. It looks quite nice when polished and I think it an acceptable compromise.

The radiator on my racer came about when I was asked to do some work from a man who had been the manager of a POP group called Deep Purple. When I had done the work he asked if he could pay part in spares he had with his Scott. He invited me to spend a weekend with him in his large county house and look at his collection of vintage vehicles. I thought about this, but do not find great satisfaction looking at things I cannot afford. Far better to use my time to improve my bikes, or machine tools. Perhaps he was rich but felt isolated, in which case I would feel some sympathy, but, as they say, that was not my problem.

The moral of the story really is not to live with desperate hopes. If an original radiator has deteriorated to the point of frailty, then it will be the same all over and a replacement will be the only durable answer.

And so, in retrospect, if you can afford the price and the wait, then

a new radiator is best for originality.

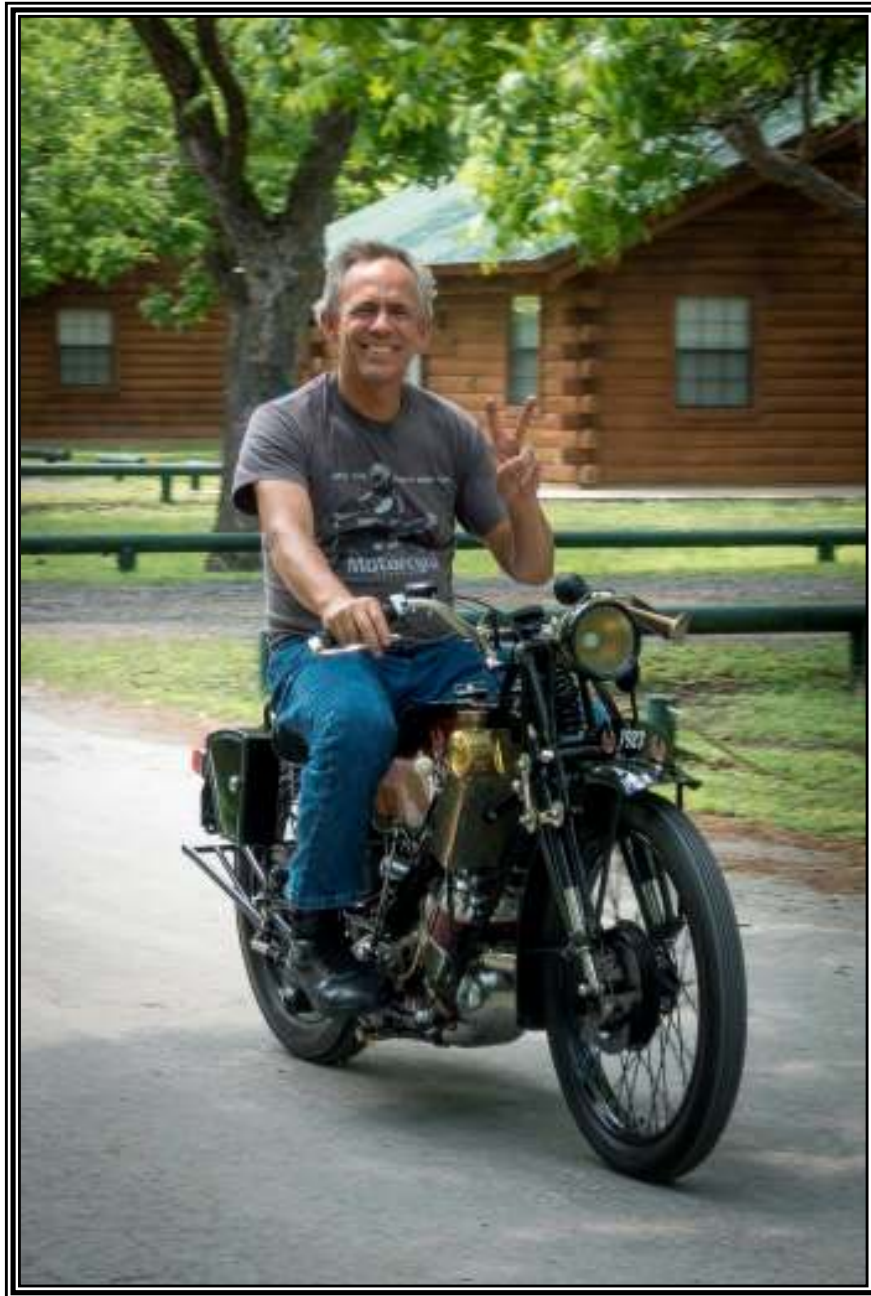
If you cannot afford that, then ask your nearest radiator rebuilder if he can put a modern car type core in your old case.

If you cannot get this done, then a radiator from a modern water-cooled bike could be adapted to keep you on the road till a more acceptable solution can be found.

One tip from me, I only support a radiator on the top two bolts running in rubber sleeves between rubber end pads. The bottom end is held in position by the short rubber water tube from the head or water jacket.



**With a happy rider!**



Hey Roger,  
I showed off the Scott at a joint Norton/Vincent meet in the Texas Hill Country last weekend. It was a big hit with the group! Here is a photo taken by a buddy when we took it off the trailer.  
**Mark Scott USA**

## More bits from the Moss Emporium



**Iron Barrels**



**Alloy barrel and bits**

# **Cadwell Report**

## **What was wrong with the bike Roger?**

I received a phone call yesterday and this was the question. I was a little taken aback and sorry that I had disappointed at least one visitor to the Cadwell Park Anniversary Event on June 24,25,26.

In case others feel the same, perhaps I should repeat my excuses and apologies to a wider readership.

It had taken me more than a year and £5000 expenditure, not counting my time to rebuild the bike.

The frame and forks were twisted, the tank damaged, the brake drums and wheel bearing bores were oval.

Then at the end, I had to grind out smaller bearings to replace the steering head bearings. Every bush in the forks were no longer in line with the bushes on the opposite side, so everything had to be re bushed and rebored in line. I had not ridden a bike in more than a year, so, in truth, I felt a bit “rusty”. I had entered the races on the Saturday and Sunday, but then asked Gerry Dain the BHR Secretary, if there was a chance of a ride on the Friday track day. I explained that I had new tyres that needed scrubbing in, especially if we had some rain. I had skimmed the brake drums and brakes so these needed bedding in and the fork friction discs were new and needed adjustment. Gerry said I could go out in a “Parade for racing bikes” but he wagged his finger in front of my nose and told me to remember it was a parade so no overtaking the travelling marshals.

I had three rides and the first two were very restrained, but come the third, I was behind a marshal on his modern Ducati and

through his yellow jacket, I could see the number 33 on his leathers. This was Mike Powell who is a top rider and as I closed to him, he went faster. So, we had a game with him teasing me to see how fast I could go both out of corners and on straights. I did give it all I dare and the adrenaline and fear, causes a dry mouth. Dry, I felt the skin would crack if I talked, which as many of you might have found out to your cost, might be a mercy!

How did it go?, well the engine went just fine, started well and gave good power and revved with power to 5100 rpm. which is about 1500 more than usual. The only mods I had done was to thin the transfer bridges and run on Avgas. The four speed Scott type gearbox (With Moss internal mods) was as sweet as a nut and a pleasure to use. Certainly better than a Triumph box which are one of the best. Otherwise the front brake was not good enough and the fork dampers were not doing their job, so going through “Charlies” bend, where it had thrown off Steve Plater, and the “Gooseneck”, when you were laid over on a slightly bumpy track, the forks were bobbing up and down like a “YoYo”. This is not restful. I came to a decision that I had gone to the meeting for my own pleasure and I would ride at that speed and in that manner that I enjoyed and not a white knuckle ride.

In some races I rode in company with Alan and Simon Lewis on their Triumph 500cc twins. These are quite quick and no doubt have the same bits in as the one I used to ride. My Scott was faster down the straights, but with brakes and fork damping under par, I was not coming out of the corners as fast as I would normally.

I enjoyed my rides and I especially enjoyed meeting so many old friends. I suppose the killer instinct fades a bit as we get older and I am 75 with an artificial right shoulder. In past years, I have been quite successful on my Scott. Most of this was down to making an engine that was more powerful than normal and a modicum of spirited determination to make the best use of what abilities I had

been born with. I am not and never have been, a second Paul Dobbs, who showed quite clearly what a truly talented and spirited rider could do with my bike.

There are several good riders who have asked me if they could ride my bike, but Marina was very unhappy at the damage and cost of repairing after Plater's crash. Marina has urged me not to loan out the bike again but to just keep it for my enjoyment in my late years and not to feel a responsibility to attain race success to satisfy others. That is exactly what I did, and I suppose as I get the bike handling better sorted and ride more often, I will get faster, but the objective at my time of life, is to enjoy myself. So I hope those who hoped for better will be understanding and I am sorry for any disappointment.

Well that gives you the bones of the story, so perhaps I can now put the above into some perspective.

Some year's back, Titch Allen used to visit me regularly. Titch had been a lifelong fan of Scotts and objectively, as he had experience of a variety of vintage motorcycles, as a tester for a magazine and a man dedicated to vintage motorcycles, we can accept that his regard and respect for Scotts was earned by the divers qualities of the marque. I make this proposition to suggest that his advice or observations might have been worth listening to.

On one visit, I was relating the story of riding Clive Waye's racer that was ridden by Chris Williams. As I have told this story before, those who know it might do well to skip the next section.

### **Riding the Waye Scott**

In late summer 1987 and I found myself at Cadwell at a VMCC race meeting. The bike was displaying the start of a tank slapper through Coppice and got very unstable coming off Charlie's bend.



Either I was a coward, or my bike did not handle like most other racers. I had the distinct impression that if I pushed it any further, it would spit me off. I had had anxiety going through Coppice corner for years. Coppice is an uphill left-hand corner with a tendency to be bumpy. I would add here that several years later, Bill Swallow got in trouble on it here and when he returned to the paddock, he told me that he had found the limit of the bikes handling.



*The all conquering Waye/ Williams Scott*

Having regularly watched Chris Williams ride the Waye bike through Coppice with a stability and nonchalance that, to me, verged on the insulting, I decided to ask Chris if he would have a ride on my bike and give me any suggestions. Chris agreed and asked if I wished a ride on Clive Waye's bike. After explaining that I had had no thoughts of this, I accepted gratefully. So it was that Chris was on about the second row of the grid on my bike and I was on the Waye bike on the fourth row. At that time we were using what we called "The Club Circuit" which was about half the length of the full circuit. Maybe it was cheaper to hire and it certainly needed less voluntary track safety marshals to fill the fewer positions. The start was very close to a hairpin bend, so riders tended to get bunched up here and minor collisions were always a hazard. I decided that as I was on a bike that was not mine, it would be unfair to get in the middle of the pack at this corner, so I took the bike to the back of the grid.

Down went the flag, it was a push start and the engine started and surprised me by giving out a sort of low growling sound, like you would imagine from a diesel. It rumbled off and I found myself waiting behind the pack to get a space to go round Coppice. Finally a gap opened on the RH or outside of this LH bend, which I would normally avoid, as it was bumpier. Now we entered the stuff of dreams, I do not know if you have experienced this sensation, or have just seen it depicted in Hollywood movies. This is when everything, or in this case other riders, goes into slow motion and I floated by as in a dream sequence. There was no bucking about, as I was used to, in fact it was unreal! My mind went back to seeing Chris Williams float through this corner over the years, with the nonchalance of Granny going on her old pushbike down to the village newsagent on a Sunday morning to fetch her newspaper. This vision so seized me that I roared at the top of my voice, "The man is a fraud, Granny could win on this thing". The bike floated through the corners with, to all intents and

purposes, no discernible input from the rider so that within a lap, I found myself sitting behind Chris, who in all fairness was leading, with only 2/3 throttle. I shouted out, "Come on Chris, they will be all over us in a minute" and fell to thinking that it did not seem decent to pass him on his own bike. I was so convinced that to stay at this modest speed would see us overtaken before long that I gave it a whiff of gas and passed Chris. I tell you honestly, that I did not push it. I just kept up a brisk steady pace that was reasonable to use on a bike I was riding for the first time. I took the chequered flag and went back to the paddock. No sooner had I stopped than Clive Waye ran up with a stopwatch in his hand. "Do you know that you just lapped at within two tenths of a second of the fastest time Chris has ever done at Cadwell on your first ride. I replied that the bike was a dream to ride and must be the nicest handling bike I had ever ridden. I might add that that opinion remains valid to this day.

Chris Williams came in on my bike and after he got off, I asked him if he had any advice. He said "You are having to ride that bike far too hard, but if we had your engine and gearbox in our bike, nobody would catch us, even the modern bikes. I was a younger man then and riding more regularly with more confidence, so I won the second race with a comfortable margin. This was captured on a long video film of this VMCC race meeting, which on consideration would be good to have transferred to digital form, as, as years pass, it becomes quite an interesting historical archive



*Alison Hunt on the MGP Scott with Honda Radiators*

Back to Titch Allen. I related my difficulties with the handling of my bike and asked his advice. He thought for a minute, then said, If you take a bike that has a good reputation for handling, like a Velocette, stand it by the kerb, hold the bars, put your foot on the footrest and push, you will see it flex. A rigid bike needs to be able to flex to handle on corners. He went on to say that speedway bike frames lose their flexibility over time, so when this happens, a top rider throws it away and fits a new one.

It does make some sense for a rigid bike, whereas a bike with suspension mostly needs more rigidity as the suspension copes with vertical loads, but not perhaps torsional loads.

If anyone has experience in these matters, I/we would very much welcome your input.

The truth of the matter is that I had Spondon Engineering make a frame that is basically a top diamond with the engine slung underneath. We have to remove or substitute the Scott bottom rail, as this can dig into the track on corners with painful results. To add to the problem, my home made brakes are on a very wide and strong spoke base, so that someone recently remarked that they looked like they had been made for grass track sidecar racing.

I did visit Clive Waye when he was alive and measure up his bike. In all physical aspects it was almost identical, but the flexibility must have been much different. We make these decisions in life and we cannot expect to get everything correct. I doubt the necessity of earning a living will allow me enough slack to try rebuilding the bike with a new chassis and wheels, so I must ride it within its handling limit and be satisfied.

The Cadwell weekend was a real pleasure with Richard Tann organising a Scott Club tent, which had up to ten bikes on it, possibly making it the biggest one make display. Our new YOWL Editor Kevin Bayliss came down from Scotland and, with Alan Noakes, gave help and encouragement to Richard, who had problems with getting his head gasket to hold the rather high compression he was attempting to impose on it. My old friend Rob Collet was there with his Scott Norton with his old colleague Ted Snook who had worked on two-stroke development with Joe Ehrlich. Our Newsletter Editor Ted Parkin did an epic journey from the Moray Firth with his partner Alison and brought his racer and my old 1928 TT Replica, which must be amongst the most original bikes of that era to survive unaltered. So many interesting and knowledgeable people, The whole event was a rare treat!

**Roger Moss**

## Ted's Cadders Report

After a bit of a rush getting the MGP Scott ready for Cadwell and fitting a couple of Honda radiators Alison and I arrived just after midnight to a wet and windy race circuit. No chance of course trying to find Roger Moss in the melee at this hour so Ali took the front seats of the van and I burrowed into the back between the racer and the TT Rep.



Now. Let me tell you that there wasn't a lot of room and after trying for a couple of hours to fitfully sleep, occasionally getting a

Scott footrest pushing near ones sphincter I decided that I had had quite enough of that!!!!

So, in the downpour I, quietly as possible, removed both bikes and at last stretched out on the mattress to sleep undisturbed till around 7am. Wot Larks Eh!!!!!!!!!!!!!!

We woke to major movement around the paddock. Found Roger and asked when scrutineering started. "About an hour ago" was the reply. So I took the TT Rep and Ali the racer to the bay. It was a bit of a rush and indeed Ali did not have time to dress as she would have liked. We sailed through scrutineering as a result!!! Must remember that trick in future but it probably only works if you are an attractive woman.....

On to the parades.....

First the TT Rep. I had done quite a bit of work on the motor so was quite interested to see the result. It started easily and off we went onto the track. HMMMMM a little more vibration than usual but as I had not been on the bike for a while decided to carry on for a few laps... Not bad but a tad noisy?

Oops!!!!!!!!!!

Coming down Mansfield it hesitated and I whipped the clutch in fast. Cruising to a stop by a fortuitously placed marshal. The engine freed off easily but we had to be rescued. Unfortunately, unbeknown to me, a rider had come off by the bottom of the mountain and the parade was red flagged.

Having no way of contacting Ali it did occur to me that she might had thought that I was the cause of the red flag!!!!!!!!!!

However, we arrived back in the paddock and UE was put aside and the MGP racer was set up for the later ride...

Off we zoomed at the back of the field... Now this was a lot better!!!!!! Roger rode the bike a couple of years ago at Cadwell and made some sensible suggestions re gearing, brakes etc.

All these had been attended to and the bike was a dream!!!! Handled round the chicanes and bends with a twitch of the arse. Brakes were not bad. Could do with more work. But the motor was a revelation!!!!!!!!!!!! Power came from low revs with a mighty push... I had neglected to take off the rev counter stop pin so had no way of knowing what the revs were so as the vibration climbed I knocked it off a bit.

After a couple of laps I was really in the groove and enjoying it immensely. However, I had fitted a couple of split Honda radiators to get the bike to Cadders so did not push things and returned to the paddock in high spirits. A good check of the engine. Plugs. Oil. Water etc showed that all was fine although a proper radiator was going to be a priority.

We had a great time and returned to Inverness tired but high on the experience..I stripped the TT Rep engine and found that my gudgeon pin spacers had been hitting the crankcase stuffer blocks. So back to the Moss emporium it went for surgery.. All my fault!!!!!!!!!!!!!!

I am looking at parading the racer at the Bob Mac Memorial in mid July for another thrash!!!! **Wot Larks Indeed!!!!!!**

**Ted Parkin**





*The latest incarnation (sans Honda radiators) of the  
MGP Scott*