

Engine RPM.txt

Paul Wilson

Joined: 30 May 2004

Posts: 64

Location: Gloucestershire, UK

Posted: Tue Jan 03, 2006 9:34 pm Post subject: what rpm from a 1929 500 cc scott flying squirrel ?

Hi Ross,

There were at least four engine models for the 1929 - here are some approximate peak power figures listed in an old copy of the club Magazine (August 1965) but I cannot vouch for their accuracy:

596cc Power Plus (long stroke engine): 28bhp @ 5500rpm

498cc Power Plus (long stroke engine): 24bhp @ 5500 rpm

596cc Tourer (short stroke engine): 20bhp @ 5000rpm

498cc Tourer (short stroke engine): 17bhp @ 4500rpm

I was told several years ago that 5000 rpm should not be exceeded as it drastically reduced crank life.

I've posted your question and my reply above on the Club's web forum as there may be some more knowledgeable folks out there who can comment further,

Regards,

Paul Wilson

----- Original Message -----

From: Ross

To: webmaster@scottownersclub.org

Sent: Monday, December 26, 2005 11:54 PM

Subject: Can anyone tell me what rpm a 1929 500 cc scott flying squirrel turned out?

Hello, I am doing some research. I am trying to find what rpm the 1929 scott flying squirrel turned out. Can anybody help? Thanks, Ross Nilsson

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Roger Moss

Joined: 31 May 2004

Posts: 242

Location: Leicester UK

Posted: Wed Jan 04, 2006 2:20 pm Post subject: Power and revs

Power figures quoted are fiction, but rev safe limit of 5000 is about correct for standard long stroke cranks.

I once had my REP on an inertia dyno, the accuracy of which I cannot vouch. Ted Parkin has UE 7373 now and it had a lot of work done that certainly would not be economic for the works to do. It recorded 27 bhp and my estimate was that it would do about 95 mph.

A rolling road inertia dyno is not a good test for a Scott, which is why I use Dave Holmes water brake H&F dyno. In this case you can hold each selected rev at full throttle and balance the dyno to it in equilibrium.

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A fully gas flowed engine with siamese open pipe will get up to about 26 / 27 bhp between 2000 rpm and 4500 rpm. It is this spread of power that is so special on a Scott.

If a resonant pipe is fitted then expect another 8 / 10 bhp

My best estimate of the output of a standard 600 LS Scott engine with unmodified breathing and standard exhaust would be 18 / 19 bhp

I heard that the factory wrote a bhp figure on the documentation that would please the owner. I have not checked the speedos but remember they were obliged to be within 5% at 30 mph but only within 10% otherwise.

I would expect a 500LS to give 15 / 16 and a 600 SS about the same

However, the torque figures are much higher than you would normally expect and it is this that makes them so special.

If you have loads of torque, you can gear up and get all the performance you want without over revving the engine.

All I do is to make them breath a little better and LEAVE THE EXHAUST AND TRANSFER PORTS ALONE!!!

So many engines have been ruined by altering these.

You can see BHP and torque graph in Yowl Dec 05

Happy New Year All

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Ian Parsons

Joined: 10 Jun 2004

Posts: 31

Location: Northamptonshire

Posted: wed Jan 18, 2006 6:46 pm Post subject:

I would question Roger's comments on Scott's published power outputs being fiction and his estimates. I have drawn a graph of a number of motorcycle power outputs and the mean maximum speeds given in the motorcycle press road tests. Most of this information is from tests in the '50's and '60's. If you accept that the frontal area of most bikes with a rider is similar and that they are correctly geared then there is a very good correlation between power and maximum speed. From this you can determine the approximate power of a bike from its max speed or vice versa.

If I could work out how to insert an Excel graph I would include it here.

However here is some data from the graph

33bhp 95mph
30bhp 90mph
24 bhp 80mph
20bhp 75mph

I have been timed at the following speeds on Scotts at the end of a SS kilo

498 Short Stroke Flyer 72mph
The same bike with a DPZ engine 84mph
596 Sprint Special 94mph

This would imply that Scott's published power figures are quite realistic and possibly they have a slightly lower frontal area than the average bike of the post war years.

I await further comments with interest. I am certain that quite a few Scotts with 596 RY or PY engines are good for the low to mid 90's

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Roger Moss

Joined: 31 May 2004

Posts: 242

Location: Leicester UK

Posted: Thu Jan 19, 2006 7:39 pm Post subject: Power output

When I see the output figures claimed for the various Scott models by the factory and contemporary press, please excuse me if I find it difficult to reconcile these claims with what I have personally seen on test and ridden in competition. Before full dyno testing, I was warned that I might be disappointed by lower output figures than I had hoped for, as great pains had been taken in the pursuit of accuracy. My opinions are based relative to the results of several such dyno sessions.

An example from this dyno was that a well tuned late velo 350 KTT racer would make 32 bhp. My bike made 35.4, but with a very flat power curve and very high torque from low revs. I would not usually rev to 5500 as it is not helpful, you just change gear instead. I realise that 35.4 bhp does not sound much, but then that is what the machine indicated.

I taxed my racer for the road so I could demonstrate in fact not fancy. For roadster engines, our first priority is durability. After this we do not really tune engines in the normal sense, but just help them to breathe more deeply. To quote an old saying, "Are we comparing apples with apples?"

Very Kind and Respectful Regards
Roger

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Roger Moss

Joined: 31 May 2004

Posts: 242

Location: Leicester UK

Posted: Sat Jan 21, 2006 12:57 am Post subject: Dyno readings

I thought to put things a little more in context, I would add that one of my treasured bikes is a MM which was made by a small firm in Bologna Italy in 1955. It is only a 250, but is a single OHC genuine works racer, being one of five built for the Milan Tarranto type long distance race series on public roads, which were banned after a Merc left the road and ploughed into spectators in the 1957 Mille Mille, which was the car equivalent.

I have a works spec sheet with this bike and it is in first class order.

27 bhp is a figure that resonates with me, as firstly my old TT rep recorded that figure on an inertia dyno. Please note that this was not the H&F water brake dyno used for all other tests, so a question mark must be put over the figures relative to each dyno.

I then have a 1951 Douglas 90 Plus with an all alloy motor which was an entry in the 1951 Junior Amateur Clubmans TT. It too is in good order and was supposed to put out 27 bhp. We must allow that Douglas, as far as I understand, tested the engine output only and without transmission.

The MM spec sheet claims also 27 bhp for the output of this 250 racer.

On the road, I would estimate the TT Replica in tuned state to do about 95 mph.

I would estimate the Douglas 90 Plus to do about 86 and I would estimate the MM

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to do about 93.

The MM was put on the H&F water brake and it gave the output as 17 bhp not 27 bhp. I was initially disappointed, but the bike rides beautifully and is well fast enough for today's roads. If I really want more, I have a 350 Yam YPVS and an 800 Honda VFR, so I am spoilt for choice really.

If we consider these values, then either Dave Holmes dyno, on which I have based my estimates in good faith, is reading drastically low, or other figures are correspondingly high. If the former is the truth, then I could reasonably consider that the 35.5 bhp figure recorded from my Scott racer, should be revised upwards considerably, as this figure is double the output recorded from the MM. Perhaps in the coming year I might seek out a seasoned Scott owner who would give it a road test rather than a race rider who has never ridden a Scott before. In this way we could get a more balanced comparison.

Please accept that I have absolutely no wish to be critical of the power output of the Scott. They are fine bikes and I would not have spent 35 years making incremental modifications without I was absolutely dedicated to the marque.
