

Carburettor Leaking.txt

lammy1

Joined: 19 Dec 2005
Posts: 18
Location: the Netherlands
Posted: Mon Jan 23, 2006 10:09 pm Post subject: Carburator leaking

Hello all,

Having just bought a Scott and now trying to get it running.
For now the main problem is that the carburator keeps leaking.
I have replaced all the rings and it keeps leaking a drop every second.

I haven't started it yet with such an amount off fuel leaking.
Further on the forum something is said that carbs are always leaking when standing.

What is true about that story?

thank you for your help

Frank
the Netherlands

See my Scott at www.scottin.nl

Back to top

Shaun Matthews

Joined: 31 May 2004
Posts: 29
Location: lincoln
Posted: Mon Jan 23, 2006 10:31 pm Post subject:

When the engine isn't running Scott carburettors drop at a rate of about 1 drop per second - that is how they are (as soon as the engine is running it stops due to vacuum) - The Amal TT on my 1932 Norton also does the same.

Do not worry about it - there will be plenty more to challenge you in the months to come but the pain is worth the gain.

1930 TT rep

Back to top

efr215

Joined: 06 Nov 2004
Posts: 80
Posted: Tue Jan 24, 2006 3:59 pm Post subject:

Carburettor Leaking.txt

I really can't say I much like the idea of dripping petrol, engine running or not, as much from a good engineering standpoint as safety! It may be a fact of life with the Scott but it ought not to be. Apart from the semi-downdraught, three point fixing design of the Scott's Amal carburettor body it is much the same animal under the skin as other Amals of the period fitted to other machines and none of the ones I've known on a variety of machinery had such a tendency.

I have beside me two 206/151 Amals one of which is an unused example and I can see four possible sources for a leakage.

(The bold italics indicate Amal's component names.)

The first two are the fibre washers fitted either side of the float chamber body banjo and held to the mixing chamber union nut by the float chamber holding bolt, but if I read Shaun correctly these have already been changed.

Next is the interface between the mixing chamber union nut, the mixing chamber body and the jet block. Under the jet block there should be a 'rubber' (?) sealing washer about 1mm thick but the jet block and the mixing chamber body are a metal to metal contact only and a thin flange at that. A further complication is a locating peg in the jet block which breaks the ring, it is just possible that petrol could creep past the mixing chamber body / mixing chamber union nut thread. There is a small undercut at the bottom of the jet block so a light smear of a low strength sealer such as "Plastic Gasket" or "Loctite Hydraulic Sealant" here might do the trick. Check the mating faces first for defects but take care not to block the two 3/32" port & starboard air holes as they do have a function.

The last possibility is fuel height, any engine, even at cranking speeds, is capable of lifting fuel to remarkable heights; certainly 2" is no problem. Given the design of the Amal it is hard to imagine getting the fuel level too low even if the opposite is not the case!

With the needle valve closed the top of the float should be, (give or take), 18mm (13/16") below the top of the float chamber body and the fuel level 34mm (1 3/8") below the top. This dimension puts the fuel level about 16mm (5/8") below the position of the two previously mentioned 3/32" holes in the jet block, so if fuel seeps out of these the level is surely too high and remember these holes are directly connected with the centre hole in the jet block. A simple test would be to insert very light spacers under the float needle circlip to see if there is any improvement!

The above dimensions were taken with the carburettor on the bench and I don't pretend to entirely understand the mind behind the Amal carburettor's workings, if any one with more ken cares to comment then I for one would welcome enlightenment.

And just in case any of you still think I have any sort of a clue about what's going on I did once sit on my old Comet nursing my right leg having just been raked by the kick-start when the brute kicked back and idly wondering where the heat haze rising around three gallons of freshly filled petrol tank was coming from...

Oh dear! A ball of flame where the carburettor is supposed to be!!! Frantic flapping with my old ex-WD Dispatch Riders gloves saved the day. What price to be 18 and indestructible, (and fireproof!), again, eh?

Back to top

lammy1

Joined: 19 Dec 2005

Posts: 18

Location: the Netherlands

Posted: Thu Jan 26, 2006 7:34 pm

Post subject:

@ efr

Wow that was a technical story.
I hope it explains much about the carbs to everybody

@ shaun

You were right, the carb stopped leaking when the engine is running.

Thank you all for your replies

Frank
the Netherlands

See my Scott at www.scottin.nl

Back to top

Stan Thomas

Joined: 01 Jun 2004

Posts: 78

Location: Stafford

Posted: Sun Jan 29, 2006 1:25 pm Post subject:

Carburetors should not leak.

Having reviewed your appraisal of the situation, I recommend the following.

Check the needle valve is seating properly, so that the fuel supply is cut off when the float chamber reaches the correct height.

Remove the top of the carb body and throttle/air slides complete.

Dry everything thoroughly, and turn on the petrol - observing if fuel creeps out of the jet orifice. The fuel level should be about one millimetre below the top of the jet orifice.

Sounds to me you have one of two problems - either the needle valve is not seating allowing fuel level in the float chamber to rise beyond the pre-determined height, or the fuel level is too high even with the level correct in the float chamber.

Stan Thomas.

Back to top

efr215

Joined: 06 Nov 2004

Posts: 80

Posted: Sun Jan 29, 2006 6:19 pm Post subject:

Carburettor Leaking.txt

I entirely endorse everything Stan says, although I'm not entirely comfortable with the 1mm fuel height, its right at the maximum I'd have thought. I'd be more comfortable if it was rather lower but then Stan knows the Scott whereas I've only a pile of bits although I have spent years doing cruel R&D things to all sorts of machinery. Well that's my excuse...

The only thing I'd add is to check the weight of the float, it should be 14 grammes, and the float plus needle should weigh 18 grammes. Check the size of the float too, (well you never know!); it should be 40mm diameter x 32mm long. Look for any float repairs, solder is heavy stuff, shake it, see if it rattles; a small increase in weight will make a difference in fuel height although not as big a one as you might think. If there is a sizeable dent in the float make sure it goes to the top on reassembly where the loss of volume will have no effect.

While you are at it I suppose you'd better check the dimension of the float needle too, from the top of the circlip to the tip of the point should be not less than 28mm. If it's shorter it will have a direct 1:1 effect on the fuel height, a much greater effect than, say, a minor weight increase.

Finally make sure the float bowl is set dead vertical to give what is after all a pretty crude engineering solution the best chance of working, frankly with all the vibrations of a running engine it never ceases to amaze me that the system works as well as it does.

Back to top

BRIAN MARSHALL

Joined: 31 May 2004

Posts: 50

Location: East Midlands, U.K.

Posted: Thu Feb 09, 2006 7:24 pm Post subject: Carburettor leaks

The Amal carb on Scotts is set at 38degrees which is probably steeper than any other application that I can think of, and the simple answer is that the petrol level in a "tickled" float chamber is higher than the level of the primary airway, so it runs out of there until the engine starts and then stops when the fuel level drops down to its normal running level. It,s as simple as that and normal behaviour!! Good Scotting.

Back to top

lammy1

Joined: 19 Dec 2005

Posts: 18

Location: the Netherlands

Posted: Sun Feb 12, 2006 10:51 pm Post subject:

Yesterday I was again fiddling with my carb because I wanted to know where and why it leaked.

The petrol is coming out off the carb throug a little hole on the opposite side off the lowest screw on the carb.

Then I opened my float chamber and discovered that the needlepoint is in very worse shape.

Carburettor Leaking.txt

It hasn't got a point any more. (no it wasn't turned upside down)
So the float chamber doesn't close the petrol flow when the level is reached.

So my question is were can i obtain a new needle?

thanks

Frank
the Netherlands

See my Scott at www.scottin.nl

Back to top

dave bushell

Joined: 09 Jun 2004

Posts: 112

Location: Caterham, Surrey

Posted: Mon Feb 13, 2006 5:14 pm Post subject: Float needle

Hi Frank

Yes you can. Contact

Surrey Cycles

Surrey House

Elmbridge Road

Cranleigh

Surrey GU6 8NW

UK

Tel number 01483 272328

email surreycycles@fsbdial.co.uk

Regards

Dave

Back to top

lammy1

Joined: 19 Dec 2005

Posts: 18

Location: the Netherlands

Posted: Fri Mar 10, 2006 5:02 pm Post subject:

@ all

who has an spare needle and want it to sell?

The guys from surreycycles didn't have one.

Or does any body know the dimensions off the needle so I can make one.

thanks

Frank
the netherlands

See my Scott at www.scottin.nl

Carburettor Leaking.txt

Back to top

Jan Buchwald

Joined: 31 May 2004

Posts: 65

Location: Danmark

Posted: Fri Mar 10, 2006 7:20 pm Post subject:

Sharpen it and put a shim under the lock ring so that the float height is the same

1956 Birmingham Scott, frame no. S 1060

Back to top

efr215

Joined: 06 Nov 2004

Posts: 80

Posted: Fri Mar 10, 2006 7:55 pm Post subject:

These dimensions are taken from a new, (never fitted) Scott/Amal carburettor.

Needle dimensions

Diameter 0.105" 2,7mm

Overall length 2.930" 74,35mm

Needle tip to spring clip groove 1.095" 27,80mm

Spring clip groove width 0.025" 0,65mm

Groove depth 0.015" 0,04mm

Groove core 0.075" 1,8mm

Point length 0.185" 4,7mm

Point angle 30 degrees

The hole you mention has a twin on the other side, I just knew you needed to know that!

Anyone know how to do colums on this site? Grrrrrrr!!!