

Carburettor Backfiring.txt

Erik

Joined: 10 May 2005

Posts: 89

Location: Moerdijk, The Netherlands

Posted: Sat Oct 29, 2005 8:00 pm Post subject: Explosions through carb going uphill or over 45 Mph

Hello,

Today the day had come for me to try out my 1927 Flying Squirrel for the first time since I went to England to pick up the bike. After working on it for three months everything seemed fine. The bike went well apart from some minor adjustments. Only when doing more than ca. 45 Mph or when going uphill (well, a bridge that is, the closest thing to a hill in Holland...) the bike started to backfire severely through the carb. When going downhill or after taking back throttle the bike soon acted normal. The petrol seems to be flowing pretty fast after disconnecting the fuel line. I have cleaned the carb completely before my testrun. Does anybody have an idea? Main jet? But why starving when going uphill???

I hope someone has a clue....

Erik

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Stan Thomas

Joined: 01 Jun 2004

Posts: 78

Location: Stafford

Posted: Sun Oct 30, 2005 9:08 am Post subject:

Hi Erik

Re your backfire through the carb.

Sounds like a bad case of a very weak mixture.

Assuming the bike starts O.K. then it does not appear to be air leaks at the joints or crankshaft packing glands etc.

Try checking the needle position - it should be the middle notch 9but it's not that critical. Also try closing the air lever when the backfire occurs and see if the rich mixture cures your problem.

I dont know what carb you have - but later 3 point fitting Amal ones with seperate float chambers meant you couldvary the fuel level. Start off by checking the float is at right-angles to the body.

Regards,

Stan Thomas.

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Ian Parsons

Joined: 10 Jun 2004

Posts: 31

Location: Northamptonshire

Posted: Sun Oct 30, 2005 9:12 am Post subject:

Have you checked your carburettor jets? which carburettor do you have fitted and are the jets as specified in "The Book of the Scott".

I would suggest that spitting back under load is an indication of mixture weakness or air leaks so also check carburettor and transfer port gaskets.

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Erik

Joined: 10 May 2005

Posts: 89

Location: Moerdijk, The Netherlands

Posted: Mon Oct 31, 2005 7:38 am Post subject:

Thanks for the replies!

My carb seems to be an Amal but fitted with a Binks floatchamber ?!? The float chamber seems to be fiddled with in the past but is mounted at a the correct angle.

The bike starts OK and there seem to be no leaks anywhere. when I bought the bike it also backfired heavily while idling... "It has always done so.." the previous owner told me "nothing to worry about"... I found out that his pilot air screw was almost completely screwed out. I adjusted it untill 1/2 turn out and that cured the backfiring, at least untill 45 mph.

I'll check the book of the Scott again but I think the version I have only states Binks jets.. Does anybody know the correct Amal sizes for my Scott (FZ engine)?

Another thing... the needlejet in my carb broke off while assembling some time ago. I swapped it for (a steel!) one of another Amal carb. It looked the same but when I wanted to buy a new one the guy told me that there were in fact 3 different sizes! The one that broke off did not have any number so does anybody know the correct type to fit? Could it be that the steel one I fitted is a 106?

I'll take the carb of tonight and inspect it a bit further...

Regards,
Erik

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Ian Parsons

Carburettor Backfiring.txt

Joined: 10 Jun 2004

Posts: 31

Location: Northamptonshire

Posted: Mon Oct 31, 2005 7:48 pm Post subject:

I have just checked the Book of the Scott and the records of what I have in my Scotts

Main Jet 170

Needle Jet 106

Needle No 6 in middle groove

Slide 3 1/2

I have used these settings in a DPZ engine, a PY engine and also a 498 late 2 speeder without any problems. They are the recommended settings. Late Binks float chambers are identical to Amal and if your Scott starts and idles easily then the float level will be correct. I set the ignition timing at 5/16inch BTDC at fully advanced.

Hope this helps.

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Paul Wilson

Joined: 30 May 2004

Posts: 64

Location: Gloucestershire, UK

Posted: Mon Oct 31, 2005 9:14 pm Post subject:

Erik,

My FY engined Flyer had a spitting back problem which was due to weak mixture at partial throttle openings and very noticeable when retarding the ignition slightly (to climb hills under load etc.).

I've managed to improve things by trying carburettor slides with different cutaways. A No. 3 cutaway completely cured the spitting back but made the engine 'chug' (or 4-stroke) when cruising. A No. 4 cutaway made the engine very crisp but the spitting back occurred when retarding the ignition or when throttling off after accelerating. Turned out that a no. 3 1/2 was the best compromise to prevent spitting back and a reasonably smooth engine at cruising speeds. I am now running a 190 main jet after having a minor engine seizure on a 180 jet after a prolonged, flat out hill climb. I do use oil drippers to the main bearings and 50:1 petroil mix in the fuel much to the horror of some Scott riders (it doesn't smoke !). My timing is set as per Ian Parson's details above.

Good luck, these things can be sorted,

Paul

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Erik

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Joined: 10 May 2005

Posts: 89

Location: Moerdijk, The Netherlands

Posted: Tue Nov 01, 2005 8:41 am Post subject:

Thanks guys!

I will inspect my carb this week (did not have time yesterday..). Next weekend there is a rather big autojumble and I think I'll be able to find everything there to make my carb to standard spec. I'll post my findings here!

One question still concerning the pilot screw: how many turns out is a good starting point?

Thanks!

Erik

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Stan Thomas

Joined: 01 Jun 2004

Posts: 78

Location: Stafford

Posted: Fri Nov 04, 2005 10:37 am Post subject:

Hi Erik,

The pilot screw only controls the mixture up to about one eighth throttle, and is difficult to set anyway being two stroke.

However, one and a half to one and three quarter turns out would be an average, normal setting.

From what I read, I think your problem might be fuel height, given it appears your carb appears to be made up of odd pieces.

Regards,

Stan Thomas.

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Erik

Joined: 10 May 2005

Posts: 89

Location: Moerdijk, The Netherlands

Posted: Mon Nov 07, 2005 6:09 pm Post subject:

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Update!

Last weekend I disassembled the carb and here is what I found:

- mainjet 170
- slide 6/3
- needle 6, in the second groove from the top
- needle jet without any number
- float passage to carb 90% blocked with dirt...

So at the autojumble I bought a 106 needle jet and I put the needle up one groove. I cleaned the carb and assembled it with new gaskets. I flattened the flange on a piece of glas with some wet sandingpaper. I did not alter the float as it did not look quite as fiddled with as I remembered it. The float is Binks but I cannot make out if the carb is an Amal or a Binks. On my other bike the 276 carb has markings on it saying it is a 276 but I cannot identify this carb. It looks like the the Amal 76 design with 3 stud flange and 4 airholes at the base.

After assembling I put the carb back on the bike with a (new) air screw at 1,5 turn out and started the bike. It started right away but also started backfiring at once. I poured in some extra petrol in the tank (I had some troubles with a leaking tap and therefore only had very little petrol in it) and it seemed to run better. Advancing the ignition also seemed to prevent the banging. I also noticed the the petrol tap on my bike is in the RH side, behind the oiltap. My float is at the RH side too. On almost all pictures I've seen sofar the tap always is located on the LH side. Does that make any difference? The petrol seems to flow all the same...

Later this week I'll take the bike for a spin to see how it behaves under load.

That's all for now..

Erik

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Erik

Joined: 10 May 2005

Posts: 89

Location: Moerdijk, The Netherlands

Posted: Tue Nov 08, 2005 3:28 pm Post subject:

Another update...

I just took the Scott for longer spin. what a thrill to ride!!! The smile is still glued to my face...

But back to my problem.. The spitting back is completely cured except when idling. The airscrew is only 1/2 turn out but it still does not seem to get enough petrol. Playing with the choke only helps a bit. while riding at speed (fully advanced, airslide fully open) there is no problem at all.

If it was a modern carb I would say that the pilot jet is to small but as this carb does not have one I'm not sure how to cure it... Any ideas???

Best wishes,
Erik

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