

Untitled

Erik

Joined: 10 May 2005

Posts: 410

Location: Moerdijk, The Netherlands

Posted: Fri Nov 09, 2007 7:47 am Post subject: Exhaust gas temperature

Hey guys,

Does any of you by any chance know the exhaust gas temperature (EGT) from a Scott? I am looking for a durable way to make the exhaust of my two speeder black... Personally I think a nice black exhaust without blisters and rust can really make a two speeder!

I have tried heat resistant paint (up to 600 C) and stove polish but both will not last very long.

In the past I have had several expansion exhausts powdercoated. This holds well on the expansion part but not on the downpipe. At that point it will blister at the first ride. This was all standard 200 C powdercoat.

Nowadays there is also a 500 C powdercoat. This is advertised for use on stoves, manifolds and exhausts. But even at 500 C I wonder if this will hold.

An other alternative is a ceramic coating. This will stand heat up to 1050 C and this should be enough. Downside is the this process is very expensive and the finished coating is very hard and thus volnorable to impact from street gravel etc.

So, any ideas on this subject?

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Ian Parsons

Joined: 10 Jun 2004

Posts: 64

Location: Northamptonshire

Posted: Fri Nov 09, 2007 8:44 am Post subject:

When I rebuilt my 2 Speeder 13 years ago I had the downpipe and transverse box made in stainless steel. I then treated this with Sperex. It has come off the downpipe but at least stainless does not rust and it changes to a dark colour over tthe years. [/img]

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Erik

Joined: 10 May 2005

Posts: 410

Location: Moerdijk, The Netherlands

Posted: Fri Nov 09, 2007 8:57 am Post subject:

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I used VHT paint (much like Sperex) but this also does not hold.
A friend had a EGT meter on his classic Vespa scooter during some track sessions
and at about 3 inches from the cylinder this still measured 700 C....

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efr215

Joined: 06 Nov 2004

Posts: 215

Location: Leigh-on-sea, Essex

Posted: Sat Nov 10, 2007 1:04 pm Post subject:

Back in my 'yoof' when I worked for the same firm as Lofty Avis I recall that he had the front half of his pipes given some kind of "alumised" treatment, (sprayed on?). It resulted in a matt white finish that looked tidy, was cheaper than a re-chrome job and stayed on well. I don't recall it being affected by exhaust heat but was prey to discolouration from road dirt and had to be repeated from time to time for appearances sake.

Now all that was the best part of 40 years ago and my memory 'aint wot it used to be, (in truth it never was), also being quite senior in the Company he had a fine contempt for all apprentices and 'specially for one riding a Vincent! Furthermore, back then, greasy 'orrible apprentice oiks only spoke to the bosses when spoken to, as a result I never got much information but maybe someone else knows/recalls more about the process?

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Roy Fisher

Joined: 25 Apr 2006

Posts: 27

Location: Coventry

Posted: Sat Nov 10, 2007 6:53 pm Post subject:

I'm in the same situation with my 1927 Flyer which has a similar exhaust system. I was planning to use 'SMC / Techline black satin' which I found via Google. Claimed to be resistant to 2000c it appears to be a paint on ceramic coating, not cheap at £26.89 for 4 oz. Available from '<http://www.rust.co.uk/hightempcoatings.cfm>'. I haven't purchased it yet but will provide feed back when I've done so and come to some sort of conclusion (unless anyone beats me to it!).

Roy Fisher

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wilfried

Joined: 29 Aug 2004

Posts: 7

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Location: Austria, near Lake Constanze

Posted: Sun Nov 11, 2007 12:27 pm Post subject:

After a long rest I suck out the black oil-petrol from the wells in the crankcase. I use this fluid on a cleaning rag to "clean" the transferbox every time I drain the wells. My transferbox looks always perfect black as this fluids burns in and is very resistable.

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Roger Moss

Joined: 31 May 2004

Posts: 369

Location: Leicester UK

Posted: Sun Nov 25, 2007 3:02 pm Post subject: Oil finish

Interesting comment from wilfried which reminds me of the traditional method of treating frying pans before the advent of ptfе coatings. wipe round with oil and then put on the stove till it baked on. Do it another couple of times and you had a hard black surface. You can now fry perfectly well, but when finished, just wipe out rather than wash.

For a short period in my life I had an isolated cottage that had not changed from the mid 1800's, ie, no electricity, running water or sanitation. Cooking on an ancient range with old iron pans.

Kind Regards Roger

Rebuilding and upgrading of Scott and Silk power and transmission units. New enhanced replica Scott engines. Special manufacture Scott technical info at our website www.mossengineering.co.uk

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Erik

Joined: 10 May 2005

Posts: 410

Location: Moerdijk, The Netherlands

Posted: Mon Nov 26, 2007 9:08 am Post subject:

I received an email from Mike Fennell with some pictures of Lofty's aluminium coating. I have taken the liberty to post them here. Might be usefull in this discussion.

And this is the message Mike send me:

Erik : "efr215" commented on Lofty Avis' "aluminised" exhaust - and here it is !

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I re-imported his '49 FS - the Smokeless Special - from Canada a few years ago. There was a silver coating on the exhaust pipe, just as efr215 describes. It looks for all the world like freshly applied silver paint and I don't know how much mileage it has seen. Although I have done only a few miles since acquiring it the appearance of the coating has not changed in colour at all, so it can't be plain old paint obviously. We do know that he did at least 25,000 miles in Canada in the period 1967-70 roughly - unless he had it re-coated in that time it's an impressive mileage.

There is rust underneath it, as you can see, and some flaking, as well as evidence of welded repairs. I picked off a flake, in the name of scientific research, and although it certainly isn't paint I am unable to identify it. I don't doubt the old rust bugs would undermine it all eventually. I don't know if "Smokey" Spooner could shed any further light as he was a buddy of Lofty's at the time.

Regards Mike Fennell

As to my own exhaust, I have sent it off to be ceramically coated. This should hold to 1050 degrees C and that should be enough.

I will post a picture in the forum when I get it back.

Cheers,
Erik

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Roy Fisher

Joined: 25 Apr 2006

Posts: 27

Location: Coventry

Posted: Mon Nov 26, 2007 12:14 pm Post subject:

Roger's comments on this subject gave me another thought. Does anyone remember 'ZEBO' the black graphite based polish sold for burnishing iron fireplaces / ranges. Apparently this is no longer available but an alternative is - "Stovex" available from http://www.materials4diy.co.uk/metal-polish_19_1.htm?ukclass.

Might be worth a try?

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Erik

Joined: 10 May 2005

Posts: 410

Location: Moerdijk, The Netherlands

Posted: Mon Nov 26, 2007 12:23 pm Post subject:

I have tried stove polish on my exhaust. This works quite well but is not petrol resistant. And it will not hold for very long so you would have to repeat it occasionally.

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But it was my second best option. And much cheaper than the ceramic coating!

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efr215

Joined: 06 Nov 2004

Posts: 215

Location: Leigh-on-sea, Essex

Posted: Mon Nov 26, 2007 3:37 pm Post subject:

Firstly remember that my memories of Lofty's machine date back to the late '50's and as I rarely remember these days what is on the other side of the goldfish bowl my recollections might be a bit, well, vague. . .

However, my recollection is that when newly done the finish was a stark matt white, after all this time, distance travelled including swimming the Atlantic twice, I'd doubt there is any of the stuff left on the pipes.

If any one wants to try the "Zebo" polish and you live near a canal chat up the narrowboat owners, look for a "Traditional" boat with a properly dressed boatman's cabin, lots of the owners have iron stoves and ovens that they black-lead and may be able to point you in the right direction for a supply.

Regarding the exhaust gas temperatures question, there is a difference between "heat" and "temperature" although the two words are casually interchanged. The exhaust gasses are certainly hot but because they are relatively diffuse they do not carry a lot of heat energy for a given volume.

What is probably of more interest in this instance is the resulting temperature due to the transfer of heat from the exhaust gasses to the exhaust system the temperature of which is in turn controlled by losses due to airflow, radiation etc. On a test bed a high performance 4stroke engine can easily make the pipes glow very bright red, (950°C). On-the-road conditions, airflow and more modest power demands, will result in a temperature much lower, I'd guess it'd be something like 700°C as a top figure. So why do these heat resisting paints and preparations seem fail to live up to their claims? Lab testing is one thing, the real world can be quite another, watch with a jaundiced eye some of those TV ads. for female unctons, you'll get the idea. Surface preparation is critical, (immediate coating after sand blasting is the best bet), cyclic expansion & contraction of the pipes will stress the key between coating and pipe and you can add a pretty hostile working environment too. No wonder it comes off!