

WELCOME TO OUR WINTER 2013 NEWSLETTER

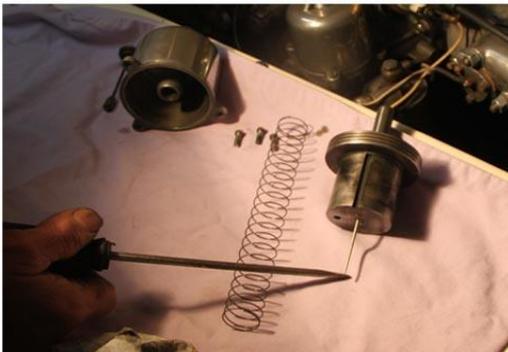


BETTER BREATHING

Lift the bonnet (hood) on any current car you are greeted by a big plastic cover over the engine. Lift an XK bonnet and two magnificent polished camshaft cam covers plus shiny SU carburettor dashpots bring a smile to your face - that is unless you've got Webers. To me this is just as much part of the car's beauty as the external curves of the bodywork.

Carburettors, as aesthetically satisfying as they may be, are now a thing of the past. The last cars to have them were built at the end of the 90s and today you need to be a computer whizz kid rather than a mechanic to adjust any of the fuel settings on a modern vehicle. However, the noble SU that graced the inlet manifolds of Jaguars for many decades was like a musical instrument, and above all it was very simple and eminently tuneable. It's the SU that I am mainly going to talk about.

The SU's history goes back to Herbert Skinner's patent of 1905. Skinner's family were in the leather trade – in fact some of you may remember Lilley and Skinner the shoe shops that the family was involved in. The name SU stands for Skinner's Union but although the first carburettor they made featured a leather diaphragm, it worked on the same principle as all later variants; a piston replacing the flexible leather diaphragm early on in its development.



Without going into too much detail, the SU works by its dashpot piston being drawn up by the suction from the engine. This piston has a tapered needle attached to it that sits in a tube (main jet) with fuel in it. The faster the engine runs, the greater the suction, the higher the piston lifts, more air and fuel are supplied to the engine and the more power it develops. This is all controlled by the accelerator pedal, which opens and closes a 'butterfly' flap in each carburettor body. The power of any engine depends on the amount of air/fuel mixture

burning in each cylinder. The more you can get in, the more power you get out. To do this you have three options:

1. Fit bigger carburettors (SUs come in different sizes measured according to the diameter of their bore)
2. Fit a different jet and/or needle (very limited improvement potential)
3. Fit more carburettors

4. Supercharge or turbocharge (but we won't talk about that now)

First let's talk about the carburettors that were factory fitted to XKs. The earliest 120 models had two 1¾ inch SUs with tall 'chimney pot' dashpots and from April 1950 versions with shorter dashpots were fitted. The first OTS models had no air filters and subsequently pancake filters were fitted, with ducting to a remote filter being used on coupe models. These early carbs were designated H6 and later versions graced 140s. In 1952, C-types were fitted with two 2 in sandcast H8 SUs and these were later offered as a factory option on 140s. For this conversion, the inlet manifold was simply a standard item with the porting enlarged to 2 in. Various variations in inlet manifold and filters were used, including differences between Left and Right Hand Drive models. There were also several variations on the starting carburettors, their fitment and location.



The 150 was fitted with HD6 (D for diaphragm) 1¾ inch SUs, and again a different manifold. The 150 S had three HD8, 2 in SUs (the 3.8 litre engine was later fitted in the E-type). Both 1¾ and 2 in SUs have the same mounting flange dimensions. The 150 S had the gold coloured 'straight port' cylinder head with a unique inlet manifold. I should add here that when Jaguar fitted larger or extra carburettors they also did other modifications including fitting different camshafts, increasing the compression ratio and other work,

so bear in mind that there may be further power improvements possible for your car. I haven't talked about the various cylinder heads here but if you want to know more look at the Winter 2011 Newsletter, which you will find by clicking in the column to the left.

So let's look at how you make your XK breathe a bit better. Earlier I mentioned changing the jet and needle. This is a very limited option; the jet sizes suitable for a Jaguar are limited to .100 or .125 in, but there are a vast number of needles available. If changing jets and/or needles, get professional advice or the chances are you will get the wrong parts and the engine will not run right, muck up your fuel consumption or even damage the engine. Also, you are unlikely to get any really noticeable difference in performance from changing needles or jets but these items do wear so a carburettor rebuild, which includes replacing them, is worthwhile in many cases and may make the engine run smoother and use less fuel.



Unless you have them, going from two 1¾ in to two 2 in SUs, with the enlargement of the inlet manifold ports, is the first step. This is relatively easy and cost effective. However remember that any tuning will increase the stresses in the engine so be cautious if your engine is a bit tired.

The next stage is to fit three SUs 'à la' 150 S or E-type. This starts to get complicated because, as I mentioned, the cylinder head on the original three carb cars was the gold 'straight port' version with manifolding to suit. Not only that, on 120s and 140s there is insufficient room for this conversion, so a lot of work is needed to

shoehorn in the conversion, and alterations are further required for many other items to make it all fit and work. The good news though is that we produce a special Broad Sport manifold that allows a triple SU conversion on earlier, 'B-type' cylinder heads. There are other variations using straight port heads from 240 and 340 saloons and a few other odd options but I don't plan to go into them.

The final and some would say ultimate conversion is to fit three twin choke Weber DCOE carburettors. Just the sound of the air being sucked through the bell mouths of these carburettors is enough to make most men go weak at the knees. This conversion requires special manifolding of course and these are available for both types of head discussed. Unlike SUs, which basically only vary in choke size with a choice of jet, needle and dashpot spring, the Weber has a mass of different jets, choke tubes and other parts that must be correct if the set-up is to work properly. They also come in different sizes and variants so caveat emptor, particularly if buying on eBay or at an autojumble. Your bargain buy could end up costing a lot more than going to a specialist in the first place.



Going to three SUs and in particular three Webers is going to increase the fuel consumption and that means the fuel pump working harder. Fitting a high pressure pump is the answer. Lastly, tempting as it is to have bell mouth intakes sticking out of your carburetors, if that is your choice, at least fit ones with metal gauze over them to reduce the rubbish that gets sucked into the engine.

I know you will say, 'He would say that wouldn't he', but if you are considering doing a carb swop please give me a call first. I have seen too many XK owners ending up either with something that does not work properly or they pay out a lot more than they would have done if they had come to me in the first place. Please have a look at our Broad Sport XK Selection catalogue which may give you some more ideas.

Guy Broad

BUILDING ON SUCCESS AT FENDER-BROAD CLASSIC CARS



Since our last update, many changes have taken place at Fender-Broad. The largest of these has been relocation to our new premises in Bristol. It boasts 3,000 sq. ft. of showroom space and 5,000 sq. ft. of heated, well lit workshop facilities. It gives us the opportunity to take on a diverse range of vehicles for restoration, sale or maintenance. It also places us in the unique position of being able to offer a warranty on our classic cars.

Our new address is Glenfrome House, Eastgate Road, Bristol, BS5 6XX, which is close to Junction 2 of the M32, just north of the city centre.

So far this month we've had marques such as Bristol, Alvis, Jaguar, MG and of course Triumph pass through our workshops and back into the hands of both new and existing owners. Specialising in a wide spectrum of classic and sports cars allows us to carry the Fender-Broad name and Guy's association further afield into other marques whilst still maintaining the quality that is synonymous with the company.

We decided that the best way to showcase our new home was to hold an open day. The 29th of September saw the sun shining and a turnout of over 100 classic car enthusiasts in a fantastic mixture of machinery. AC Ace's and Jaguar XK's were complemented by post vintage specials and European exotica. It was great to see such an eclectic mix of cars but also to have the support of the local classic car community (not to mention those who had travelled from further afield).



One of the highlights of the day was the brace of Bristol Fighters that we had on display. We are quickly becoming the go to Fighter specialists and these super rare cars certainly caused a stir with our visitors.



As our business grows we're very keen not to alienate the enthusiast and those of us who are just starting out on their classic car journey. This is why we operate what we like to call a 'kettles on' culture. We all have fond memories of popping round to a friend's garage for a cup of tea, a chat and a good nose around. For us that's equally as important to maintain as the cars themselves. If you find yourself in

the area then why not hold us to our word and pop in for a cup of tea, a chat and a good nose around. The kettle is on.