XKE Brake Upgrade using Volvo Calipers and the Drilled Split-caliper single-line method

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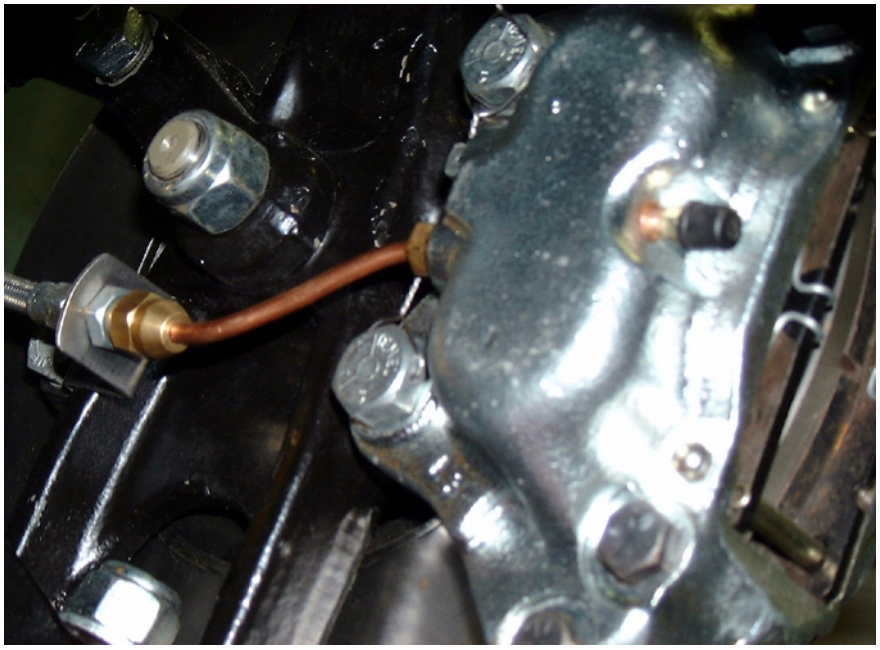
I had a need to do something with the brakes on my S1 XKE. I looked into the Coopercraft brake system, but, according to their web site costs are £465 +shipping about $650. There are other brake systems on the market including Wilwood and Zeus, and I should think the prices would be similar. I decided to try doing the conversion using the Volvo brakes I had heard about. It worked well and I don't think you would have to be a genius to work out how much of a saving can be made. Although there is some sorting out to do using the Volvo system it is still advantageous.

For quite some time now there has been a discussion about not splitting callipers for any reason, i.e. ease of rebuilding, thorough cleaning, etc. I cannot fully understand the logic behind it. As long as you replace the bolts and torque up (I also used Loctite) I cannot see a problem. There are some small 'O' rings that seal the ports. I suppose it also depends on the type of calliper, these Volvo callipers are a standard metal to metal with the oil ring sealing.

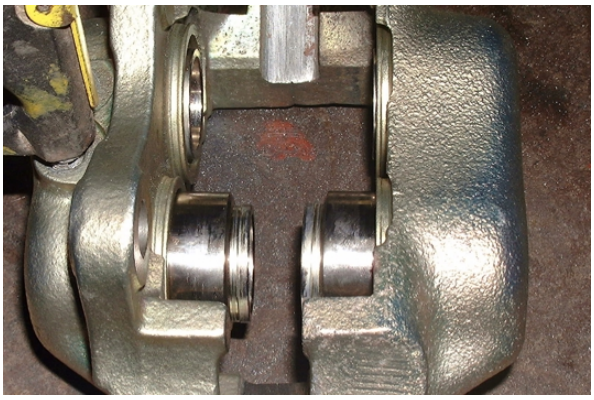
I am a mechanical engineer, just for info I work on jet engines and power turbines. If there where a good mechanical reason for not splitting the calliper then I wouldn't do it. I think a lot written about brakes is folklore, people will not touch brakes simply because they are afraid of the consequences. The faces of the calliper are machined flat, as long as the matched pair are reunited, there really shouldn't be a problem.

I initially intended to use the original bracket on the car to attach the three way “T” connector and then run the copper pipes from it. I looked at the various ways of attaching the connector so the solid copper brake pipes would look all right. One will have to be longer because of the configuration of the tee piece. I did look round for a 'Y' piece but couldn't find one. There are two possible methods illustrated in the other articles. You will have to figure out which is the best method and which looks the best given the run of the pipe. I tried fitting them with the tee piece and thought it looked unsightly and completely ruined the look.

So,because I saw no reason not to, I decided to split the calliper and drill it. What follows are a series of photos of the process.



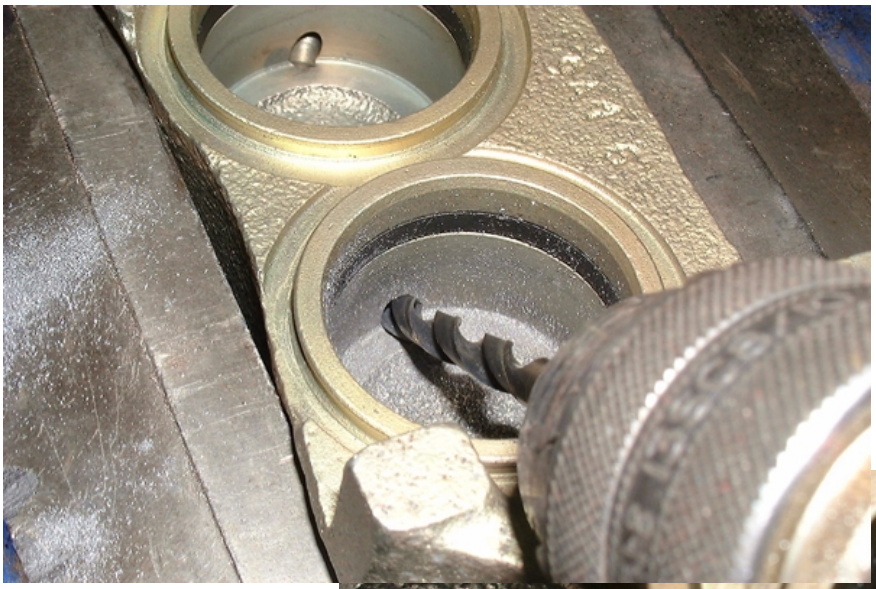
This method enables a single line connection for the fluid to the caliper. I think this is much neater.



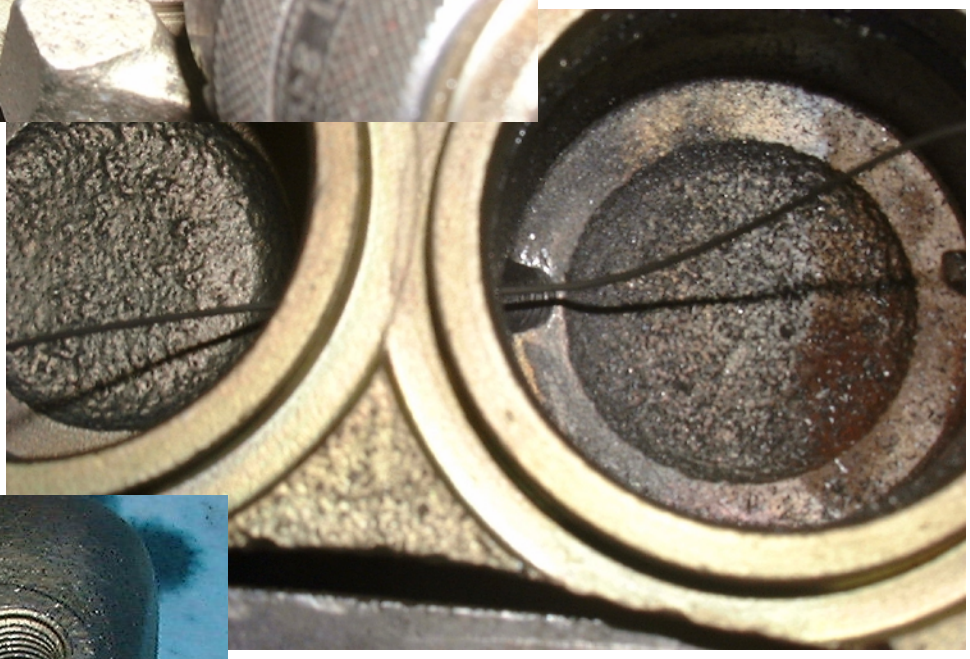
This is the whole caliper before taking it apart. Note the air-gun nozzle feeding air into the lower port on the far left to blow the pistons out.

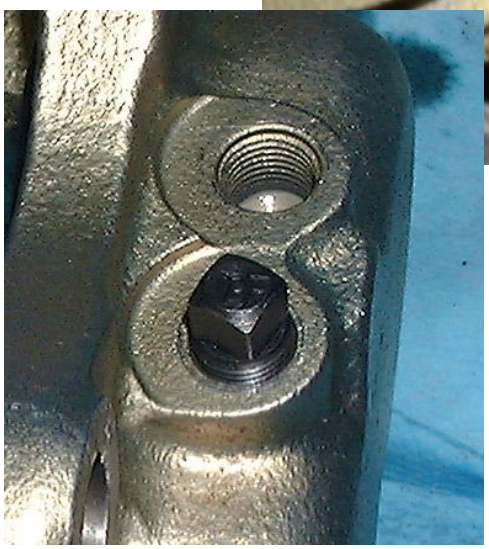
This is what the Girling made Volvo caliper looks like with the seals and pistons removed.

And here is what it looks like after splitting the halves. Note the sealing “O” rings on the lower half.



These two pictures show the point of drilling on one side of the caliper wall (drill through both walls equally) and a wire passed through the drilled hole to illustrate that the hole goes completely through.





This is a close up of one of the blanking plugs in the hole where one of the fluid lines would have gone when used on the Volvo.

A tip when using the flaring tool, make sure you cut the pipe square and there are no burrs in the pipe. The wheel type pipe cutter is best rather than a hack saw.

The reduction of the rotor is a straight forward machining job and should take no more than 5 minutes per rotor, including setting up.

There are no problems that I am aware of with the standard Jaguar wire wheels, they clear adequately. My car is a '61 3.8 so it doesn't have the dirt shields, I think you may have to trim the shields to suit, you may also have to do this with the Wilwoods or similar.