

TAKE A BREATHER

(article taken from SOC UK magazine - written by Mike Allen)

There are four important breathers on the Stag, all of which need to be kept clear to avoid problems.

For a start, there is one on the fuel filler system. This is a pipe behind the right hand side trim in the boot leading off the filler cap, through a fuel filter, then under the boot floor to the underside of the car. This allows air to enter the tank as the fuel level goes down. If it is blocked (and the filler cap seal is working properly) a vacuum will be caused, preventing the fuel getting to the engine.

The ones on the gearboxes, both manual and automatic, can cause oil leakage if blocked. As the units heat up, the air and lubricants in them expand and if the mildly compressed air inside cannot escape as intended, it will force oil out wherever it otherwise can - usually via an oil seal or by displacing a gasket somewhere. On the auto boxes, this breathing is achieved via a long soft walled rubber pipe that runs from above the gearbox sump pan, up the dipstick tube, over the brake servo and ends up tucked into the inner wing! It is rather prone to falling off at the gearbox end as the pipe becomes hardened with age. Gearbox fluid on the garage floor is often a pointer to this but not much will come out as it is about at fluid level. There is usually enough spare to cut off the swollen end and replace it on the plastic fitting. It can just about be done with long fingers from under the car. Make sure it is not kinked anywhere, or tied too tightly to the dipstick/filler tube.

The manual box breather can only be got at by lowering the rear of the box as far as it will go and groping about in the muck on top with something like a pop rivet pin. It is a tiny hole drilled in the casting on top of the front end of the left-hand selector rod tube. Not too clever really and it will cause leaks if it is blocked, which it probably will be.

The differential also just has a hole, but it is larger, has a loose split pin in it and is pretty easy to get at, being part of the backplate casting and just above the top level of the rear support plate. Remove any dirt from the area and wiggle the pin to clear the hole. So many diffs seem to leak and I suspect a blockage here may well be the only reason in many cases.

Finally the engine: The crankcase breather is the hose at the back of the off side cam cover via a tee piece to each carburettor. These hoses should be quite clear inside and if they are showing signs of perishing, they should be replaced. A little oil in them is acceptable. When fitting new ones, the shorter one of them may need cutting a bit at the carb end to stop it fouling the throttle linkage.

There is also a gauze filter fitted inside the top of the cam cover, which should really be cleaned occasionally. This can only be done by removing the cover, flushing through with a suitable solvent then blowing dry. If it is clear it should be easy to blow down the pipe (via a suitable extension hose!) If it is badly blocked, it will be necessary to remove the cover holding the gauze in place by drilling out the spot welds. Then wash the gauze thoroughly, dry it and replace it, refitting the cover with pop rivets. Do **NOT** be tempted to leave it out. Oil thrown up by the camshaft will go straight down the pipes into the carburettors and could eventually drain the sump. I have seen it happen!

If all the pipes are clear there should be a slight **'suck'** from the carbs creating a slight vacuum in the crankcase whenever the engine is running. This allows the engine to collect any **'blow by'** from the piston rings. It can be tested by carefully lifting the oil filler cap at tickover, which should raise the engine speed. It may cause the engine to stall. For this reason the felt washer on the top of the dipstick should also be sound, as any air getting in here will have the same effect and make it impossible to get the carburation set correctly.

You can now breath out (or in!)