

# USING LARGE QUANTITIES OF OIL

It is not unusual for our engines to use as much as 85 miles to the pint and yet be in perfectly serviceable condition. The cause is not as might be supposed; Pistons Rings, but oil going past the valve stem seals. R-R engines used a seal made of asbestos string impregnated with Russian Tallow and it is squashed against the valve stem at the top of the guide by the cover it fits under. Pressure from the centre spring holds it in place until it eventually wears away. If they are in perfect condition the engine will do several hundred miles to a pint but as they deteriorate oil consumption increases.



Picture shows Payen Seal HR336 GM Europe (4 in pack) Cut off the bit below the spring

Large quantities of oil going down valve guides is not a good thing and it is a nuisance to have to keep topping the engine up when you are on holiday or whatever.

There is a relatively simple solution and that is to fit more modern valve stem seals from a “Cam in Head” Vauxhall engine of the early eighties. These fit at the top of the valve stem just under the collets and require no modifications to the car at all. They do not clip to the top of the valve guide they just remain at the top of the stem and deflect the main flow of oil from the rocker arm away from the guide. According to those that have

used them for a few years, oil consumption can drop to 2000 miles per pint!

It is possible to remove the valve springs with the cylinder head on the car, there is even an R-R tool to hold the valve closed if you can find one, but most people make their own. All you need to do is hold the inlet valve closed, take out the pushrods and lift the rockers out of the way and then, using a couple of suitable levers (I used two screwdrivers), press down on the spring cap and remove the collets and then lift off both valve springs and fit the new seal over the valve stem. The new seal will need its spring removed and the bottom cutting off with a scalpel so the overall height is not greater than 0.424”. Re-



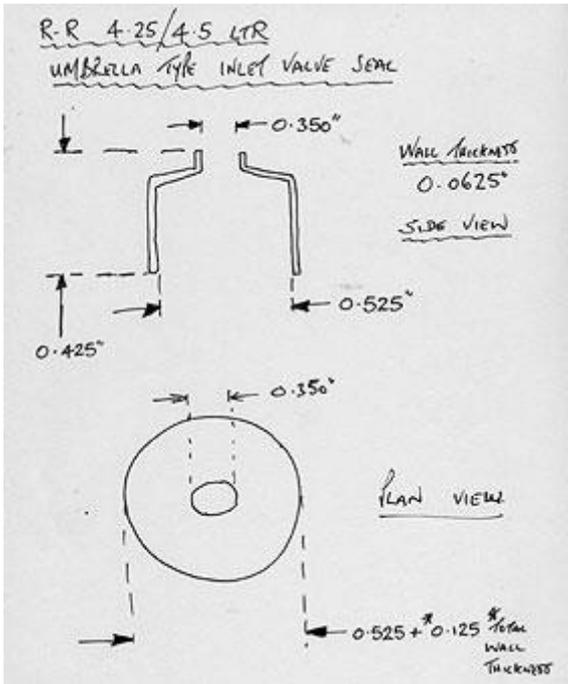
assemble with care and you will be back on the road in a few hours.



Pictures of tool for holding inlet valve shut. It screws into plug-hole and pulls up against inlet valve. Moles grips hold shaft while springs are removed and seal fitted.

There is a tool that will make the job easier and it is available from [www.sears.com](http://www.sears.com), its part number is 00947704000 but they only ship within the USA so you may need help to get one if you in another country

Drawing showing required dimensions of suitable seal.



When I rebuilt JTM50 nearly 17,000 miles ago I fitted new original type, waxed string, Valve Stem Seals. and until recently they controlled oil consumption adequately. However for the last few thousand miles an increasing amount of smoke has been coming out of the exhaust, culminating in clouds of the stuff being clearly visible in the rear view mirror as I accelerated away from the bottom of steep hills. The car still used very little oil on long Motorway journeys but it was a different story when I was driving up and down the steep hills of the Stroud Valleys.

I decided that I'd better remove the valve springs and examine the valve stem seals. The umbrella seals that I'd previously fitted were fine but the seals themselves were in a very poor state, only about 20% of the original string remained and none of the Russian Tallow that bonded them together. Richard Treacy and Bill Coburn had been telling me for some time that this would happen but I don't like changing any aspect of my car from the original R-R

specification without good reason and Norman Geeson has had no trouble with his.

Richard Treacy had very kindly sent me a conversion kit that he's put together and that is now being sold by Introcar. It comprises of a set of modern synthetic seals that press over the top of the guide and are used on the latest V8s and spacers to replace the part of the "Top hat" that keeps the inner valve spring in proper compression. You can see these in the accompanying illustrations.

The tools that you'll need to do the job are shown in the pictures and comprise of something to hold the Valve shut. In my case I've removed the ceramic part of an old spark plug, drilled the body so the hole has parallel sides and then pressed a length of brass bar into it and drilled a 1/4" hole through the middle, then I slid a piece of 1/4" steel rod through it and bent it as shown in the picture. To drive on the seal I've used an old gudgeon pin and the spring compressor is available from most Automotive Tool Suppliers. I've found it best to modify it so both legs are the same length as it's easiest to lift off the plate the springs sit on as well.

The result is a miraculous transformation, because the modern seals keep the oil in the guide and don't allow the engine to draw air oil through the guide when it can't get it from the Carburetors, the smoking has stopped the engine ticks over like a Steam powered job and it pulls from 8-10 mph cleanly in top gear!

As I've already said I'm not keen on modifying anything without good reason but in this case I think this is a good idea because the old seals simply don't last long enough. The Australians reckon about 10,000.

