

An annoying XJS oil leak fixed

My 1990, XJ-S has had an annoying oil leak from when I bought it two years ago and it has been getting slightly worse over time. The car is fitted with the 3.6 litre straight 6, AJ6 engine.

Just beneath the oil filter on these engines is a horizontal ledge where the base of the block joins the sump. On my car, oil would build up on this ledge and overspill down the side and across the bottom of the sump making a general mess of everything down there. Initially I thought it was a simple matter of tightening the oil filter but this made no difference.

A leaking rear crankshaft seal was initially suspected for the mess over the bottom of the sump but this did not seem to be leaking once all the grunge had been cleaned off. A slight leak from the off-side rear corner of the rocker cover allowed oil to drip down the back of the block and across the bottom of the sump. This, was then thought to be the culprit and replacement of the gasket fixed the rear block leak but did not stop a film of oil building up on the base of the sump so it was back to the leak on the engine nearside beneath the oil filter.

Thank goodness for the various XJ forums. It seems that this is a common XJ-40 problem because of the construction of the oil filter housing. This whole assembly is illustrated in Figure 1 below.

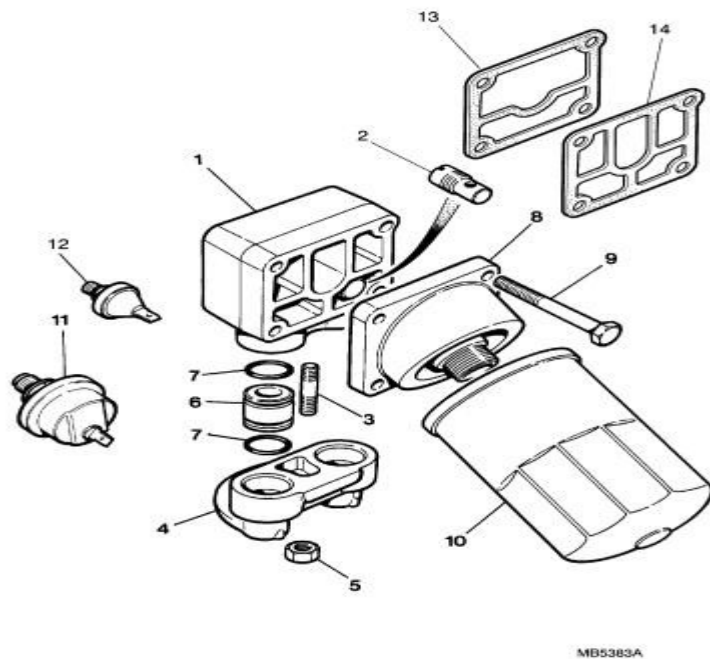


Figure 1: Detail of oil filter assembly

There are two gaskets between the oil filter housing and the cylinder block (items 13 & 14 in Figure 1) but careful examination showed they were not leaking. On cars with an oil cooler there are two hoses that originate from the base of the connecting block (item 1 of Figure 1); one is the feed to the cooler and the other is the return. When an oil cooler was not fitted, as with my car, then the hoses are replaced with a short aluminium "U" bend assembly (item 4 of Figure 1) that link the oil cooler outlet / inlets to keep the oil circulating through the engine. The oil tightness of the arrangement depends on two short metal collars with a rubber "O" ring seal at the top and bottom of each (items 6 and 7 of Figure 1).

Figure 2 shows the whole oil filter to block assembly and the oil cooler “bypass” items (4, 6 & 7 of Figure 1 are on the far right).



Figure 2: Oil filter to block assembly (thanks to Lawrence for the pic.)

The detail of the two short metal collars are shown in Figure 3.



Figure 3: Detail of metal sealing collars and “O” rings (thanks to Lawrence for the pic.)

With time, the “O” rings harden and no longer provide an effective seal allowing oil to escape the unit. The aluminium “U” bend assembly is held to the base of the oil filter connecting block by a single 13 mm nut (item 5 of Figure 1). I managed to remove this nut from above by reaching under the oil filter and working by feel – even managed this with the oil filter in place. You will need a deeply cranked ring spanner or long reach socket with a ¼” drive as a standard ½” socket assembly will not get in-between the two bowls of the “U” bend assembly.

The “O” rings on my car were so brittle that they just broke into pieces as I tried to lever them off the metal collars. New ones were supplied overnight by Britcar Parts at a £1 each (Part No. CAC 5118) and, with plenty of oil, easily slipped into place. Reassembly is a reverse of the strip down.

Instant success; I now had a nice dry sump with no oil leaks from the oil filter assembly. An additional benefit related to the oil pressure build up from a cold start. I have not conducted any measured tests but I am quite sure that the oil pressure now builds up much more quickly after a cold start. Presumably the previous leak would partially empty the oil filter and connecting block assembly meaning that pressure would be low until both were replenished with oil.

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