



Sealed for Life ZF 5HP 24 Gearboxes

Ian Hissey



X Type, S Type, XK & XJ

On our recent Wheels & Wings Tour to Wollongong, member John Moremon with his X350 suffered a number of instances where the gearbox went into “limp home mode”, causing undue embarrassment and quite a bit of angst.

Having delivered the car to a Jaguar dealer for checking, and being told after considerable expense that they couldn't find anything, raises the discussion of the inherent problem in these “sealed for life” 5 speed gearboxes.

The reality is that these gearboxes need to have their oil changed, at most before 80,000kms, and even as soon as 40,000kms depending on the type of use the vehicle gets. Many gearboxes that have reached 130,000kms and have had their oil changed, it comes out like treacle sludge — on the way to expensive damage to the internals of the gearbox.

On the 4WD X Type transfer case, the same applies, as these hold a very small amount of oil for their use.

Numerous articles have been written on this subject, the most authoritative in the Jaguar Enthusiast Club (UK) magazine, where Bob Bates and others have published articles, and owners have published letters describing their harrowing experiences.



I then did 200 miles on another journey and all was OK. The changes are smooth, gearbox is quiet and kickdown works and reverse engaged as it should.

The car has done 84,600 miles and the gearbox oil and filter was changed at 64,500.

Is it likely at this mileage that the gearbox is starting to fail or is it worth having the oil changed again to see if there's any improvement?

Steve Sparrow.

A David Marks Comments: The first question to ask is that if the gearbox oil has been changed, what oil was used? These gearboxes are not known for just throwing up limp home messages when cold but if the incorrect grade of oil was used, this might have something to do with it.

The oil should be Esso type LT 71141 and I don't know of an alternative of the same specification. This oil is expensive but it is crucial that the correct oil is always used.

It may also be that the oil level is now a fraction below what it should be. When the oil is at its coldest, the level falls to a point where the fault could be induced. Equally it may be none of the above and if this is the case, I think a scan is required in order to be able to offer more information.

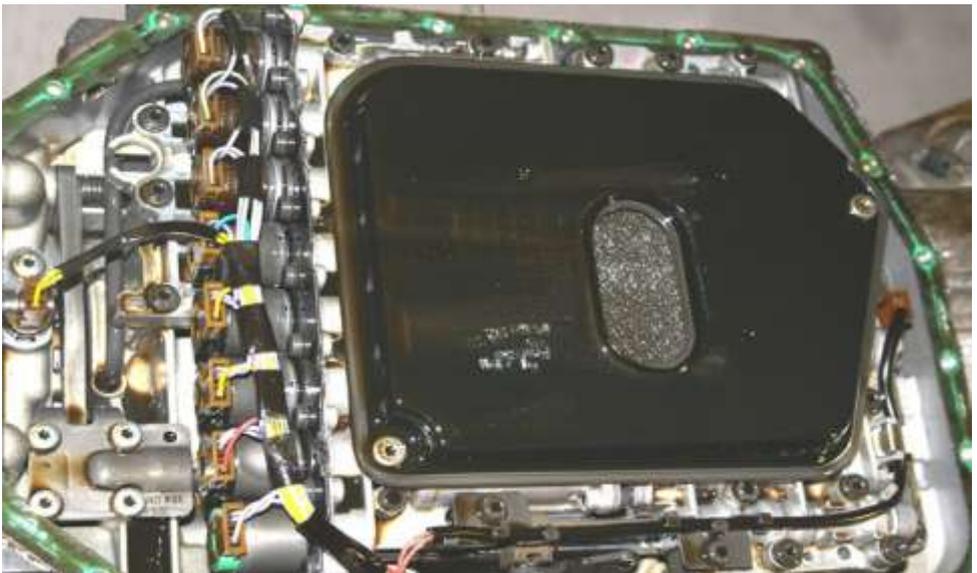




Sealed for Life Gearboxes —



Magnets showing amount of debris attached



Filter obviously never been changed

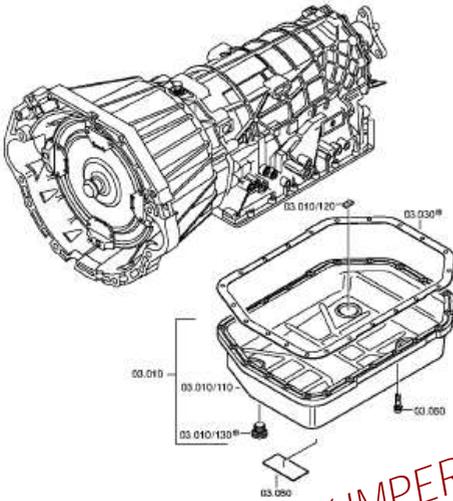


X Type, S Type, XK & XJ Models



Brett Thomas of Thomas Jaguar (who advertises in our magazine) holds in stock the special Esso LT 71141 oil, and has changed a number of our club member's cars, as well as rebuilding transmissions that haven't had oil changes.

Also Dennis Trigg of Triggs Motors (who advertises in our magazine) can look after members in the Toronto and Lake region.



Important Re-Filling Procedure

Now comes the matter of filling the gearbox with fresh oil. As mentioned above and continually re-emphasised, the oil that **MUST** be used is an Esso brand, Reference: LT71141. Approximately 7½ litres of oil are required to fill the gearbox and it is important that the car is on level ground **AND** that the gearbox is stone-cold for the filling. It is equally important that the oil is not allowed to rise above 50 degrees centigrade as it expands. The combined filler/level plug is situated to allow the fluid to overflow when the gearbox is full. But, to allow the gearbox to heat up expanding the oil, will mean that you will not be able to get the correct amount of oil in, inevitably leading to gearbox problems.

During this operation the engine must be running and the gears cycled whilst at idle, between Drive and Reverse rhythmically. That is not racing through them but steadily into and out of each gear, like completing a three point turn. The other aspect is that in the case of these gearboxes, the whole process is, by necessity, a two-man job.

Ensure you have everything to hand to avoid wasted time. You will need some type of efficient pump to insert the oil into the gearbox, something that will pump quickly enough to perform the operation within a reasonable time and be large enough to hold sufficient fluid for the whole operation at one go.

Filling is in two stages: Initially the gearbox can be filled to overflowing before the engine is switched on. Once the oil starts to overflow from the level plug, the car can be started and the gears should be cycled. At this point the oil will be drawn through the gearbox so more oil can be added.

Continue adding oil at this stage until it again overflows from the filler plug. At this point, with the engine running and gears still being cycled, fit the level filler plug. Now the engine can be turned off.

Don't leave the engine running for more than 3 to 4 minutes to prevent the gearbox overheating.

This is a very quick process that must be followed. Ideally it is then best to leave the car in its elevated position overnight to cool down completely so that next morning the level can be checked again.

To re-check follow the same procedure: in removing the combined filler/level plug with the engine running and the gears being cycled. If a small amount of oil is still coming out of the filler/level plug area, then the level is OK. If, however, no oil emerges, be prepared to inject more oil into the gearbox to get to this level. It is possible the gearbox could still take up to a litre of extra oil at this point dependent on how warm the gearbox got on the previous occasion so it is definitely worth rechecking.

It is **ABSOLUTELY IMPERATIVE** that you use the proper oil

Many of us will be aware of the particular problems that gearbox failures associated with S-type experience, especially with previously published in this magazine have debated the subject on many occasions, particularly regarding the effect of ignoring regular gearbox oil changes. Neglected maintenance leads to a sad trail of shattered gear trains, choked valve packs, worn clutches, seals and other major component parts. XK8 Forum Co-ordinator, Mike Horlor, gave an interesting opinion on such matters in the December 2009 issue of this magazine and Club

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