

## OILS an't OILS – Especially ATF oils

If your JAGUAR has a Borg Warner automatic transmission through to the BW66 in the Series 3 XJ6, it will likely stipulate an ATF type F or G (Ford M2C33-F or M2C33-G) This particular ATF is non friction modified and these transmissions were designed around this aspect. Whilst there are many recommendations to be found on the net (usually a good source of misinformation) and in magazines suggesting you may use the later Dexron type ATF's, this is not adviseable. They may both be red, have similar viscosity, oxidation and wear performance but the fundamental difference is that Dexron is friction modified as are all of the more modern fluids and this aspect is not beneficial to the performance and longevity of the clutch packs/bands in the older BW units. The friction modified fluid will perhaps give smoother changes but the resultant slip will lead to greater heat and the friction material on the clutch packs/band will be degraded. The BW66 in my own Series 3 has had only one minor overhaul (cost \$670, compare this to modern units) during its 308000km life and still performs fine, albeit I have only ever used the preferred ATF type F.

The ZF 4HP22/24 and 5HP24 as fitted to later Jaguars do not have any great problems with a reasonable range of fluids to suit, all modern transmission are designed around friction modified ATF's. The ATF range for the 5HP24 is however somewhat narrower with only ATF in the ZF 11B category suitable. Esso LT71141, Jaguar Part No JLM2039 is the recommended ATF. It is also apparent that these later transmissions are not really sealed for life, they benefit greatly from regular oil/filter changes at 80000 to 100,000 kms or at least 8 years. Once again great care in ensuring you have the correct ATF is essential.

Moving further on to the more modern and current Jaguars is where we strike a minefield, especially with the ZF6HP26 6 speed auto which is also fitted to Land Rovers, BMW, Hyundai (yes Hyundai, they have come a long way) Audi, Aston Martin, Maserati and Falcon/Territory.

Recommended ATF for these transmissions is ZF Lifeguard 6, Shell M1375.4 (Jaguar part no C2C8432) and Ford Mercon SP. You deviate from these recommendations at your peril, despite claims from some other Brands.

ZF Lifeguard 6 is a unique mineral/synthetic blend, low viscosity and very expensive (\$55/\$80 per litre) and is not listed with other ZF class 11A or 11B fluids which can be applied to the earlier ZF autos. It is possibly made by Shell for ZF.

Ford/Motorcraft has its own family of ATF, "Mercon" V, SP and LV and its noted that Mercon SP is recommended for the Falcon/Territory as is Shell M1375.4

Interesting points to note –

# None of the major Australian Oil Brands have an ATF recommendation for the ZF 6 speed including the Falcon/Territory. Shell overseas show a Shell Spirax S4 ATF which meets Mercon SP and Shell M1375.4 requirements, however the 2012 Shell Australia product guide has no ATF meeting these requirements, in fact their premium S5 ATF X specifically states it does not meet the low viscosity requirements of vehicles requiring Mercon SP or Shell M1375.4.

#Some of the minor oil brands indicate their multi-vehicle ATF's are suitable, however requirements met are often conflicting and viscosity specifications usually nowhere near that of ZF Lifeguard 6, Shell M1375.4 or Mercon SP. Also some brands indicate they meet the requirements of all three Mercon types, V, SP and LV yet the Motorcraft/Mercon website indicates the three types are not interchangeable with Mercon SP being only applicable to the ZF 6HP26 transmission.

#Basically the only ATF's to use in the ZF 6 speed auto are

ZF Lifeguard 6

Shell M1375.4 (Jaguar Part No C2C8432)

Mercon SP

All are low viscosity and in the range - KV @ 40c 27/28

KV @100c 5.5/6.5

Also interesting is that they are of a brown colour (not the usual red) leading many to believe their oil is dirty and contaminated badly when drained.

What can we conclude from all this – all our automatic transmissions from the early Borg Warner designs to the latest ZF's are designed around ATF containing specific characteristics (the B/W requires non friction ATF especially)

Our latest and greatest modern designs require an ATF package to meet their many specific design features (especially in regard to fuel economy and efficient performance) and to deviate from this specific ATF package may be to the detriment of performance and transmission longevity – stay with the correct ATF, read the fine print especially if going outside car/gearbox manufacturer recommendations.

For your JAGUAR use their recommendation.