



Technical Tips, Modifications & Questions

A Diff of a Difference

By Ian Hissey



When the XJS V12 was first released in 1975, it came with two transmission options, 4 speed manual or 3 speed auto with final drive 1:1, together with a diff ratio of 3.07. It was possible to have a 3.31 ratio in the manual gearbox version, however only 254 manual cars were built. In 3 speed auto form, the gearing was restricted resulting in high revs (3,000RPM) cruising down the freeway with resultant high fuel consumption.



In order to address the fuel consumption issue, in 1981 Jaguar released the XJS HE with May's designed cylinder heads to improve combustion efficiency, together with a 2.88 diff ratio to reduce revs and lower fuel consumption.

1983 saw the release of the 3.6 six cylinder engine with 5 speed gearbox and 3.54 diff ratio. This combination (4.0L released 1991) greatly improved the fuel consumption for the XJS, and in 1993 the 6.0L V12 was released with 4 speed auto with final drive 0.7 and 3.54 diff ratio, again improving fuel consumption for the V12.

The V12 4 speed auto and higher diff proved to be the best combination for the XJS, providing both improved acceleration times and economy - a combination that should have been in the car from the beginning **except for the intransience of British Leyland which thwarted Jaguar's plans.**

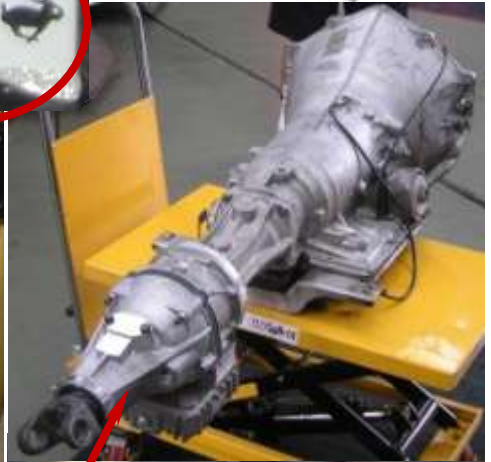
For owners of pre 93 XJS's, it is an easy matter to change the 3 speed to 4 speed auto gearbox, as I have covered in a previous article. With use of a 4 speed T700 gearbox, the diff ration can be changed to 3.54, giving the XJS considerable improvement in its performance, much more like originally envisaged!



This was my first modification 15 years ago, then to satisfy my desire for more performance, to launch the heavy XJS off the line and getting out of corners quicker, I changed the diff ratio to 4.27 - *now that did make a difference!*

Of course with this higher diff ratio also came higher cruising RPM's, so to bring the revs back to 2,000 at 100kph, (with torque converter locked up) I installed an overdrive unit with final drive 0.78 onto the back of the T700 gearbox with a manual switch, so I can flick in and out when I want acceleration or cruising.

In theory, I could do this on all 4 gears making it an 8 speed gearbox, but in practice only use it on 3rd and 4th.



Overdrive unit mounted on rear of T700

Overdrive unit installed in transmission tunnel



Shortened 600mm long tailshaft

