



*Motor stripped ready for the crankshaft to be removed*



*A badly worn camshaft bearing*



*The rear main bearing cap was good to reuse*



*Bellhousing and other parts cleaned for refitting*



*New lifters being fitted*



*Manifolds, bellhousing and clutch fitted to motor and Travis prepares the motor to be lifted into the engine bay*

can have the grille and radiator removed and the camshaft can be removed from the front of the motor. Second choice is to remove the motor from the Jeep and then remove the camshaft. This CJ7 has a WARN M8274-50 high mount and custom bars meaning extra work to remove the grille. With an easy access engine bay and minimal engine accessories we opted to remove the engine and continue our surgery on the engine stand.

The camshaft was removed to discover a very worn number three exhaust lobe. The sump was now removed to inspect the cam, main and big end bearings. Main and big end bearings looked good but the camshaft bearings were worn and can only be replaced with standard size bearings. That's another job for a specialized engine machine shop. They have the right tools to knock out the old cam bearings, refit and line bore check them. Only problem is they need a bare block so the rest of the motor had to be stripped. This gave us a chance to inspect the rings/pistons and bores by eye, and they were all fine. Ideally when you go this far you would replace the

rings and bearings but the cost adds up and after consultation with the owner we were instructed to refit the original rings and bearings.

With the motor back from the machine shop we were able to reassemble it on the motor stand. First the cam and then the lifters, crankshaft, pistons, then the head and on with the sump using a one piece early 4.0L gasket and the rocker cover, an alloy unit in this case. The 258 Jeep motor had a plastic rocker cover from 1982 to 1985 and they were legendary for warping and leaking. Many after market companies make an alloy replacement cover and this motor fortunately had one.

Finally, on with the fly wheel, clutch assembly and on with the bell housing ready to be bolted to the transmission.

The EFI manifold is customized to fit the older head and fits up nicely with the last of the new gasket kit. The 258 and the 4.0L motor have a lot of similarities, the lifters, sump, timing case, timing set etc are all identical and you can even interchange cranks to stroke a 4.0L with the 258 crank. The bolt pattern is the same too as we proved recently changing

in a 2000 TJ NV3550 5 speed into a very similar CJ. We'll write that surgery up another day.

The transmission had a little input shaft leak and at this point it's easy to lift the transfer case and the transmission out as one for a quick once over. We found another little issue with the shift rail when we looked down the shifter turret. The top of the box was removed to refit the shifter rail with some healthier parts.

With the gearbox and transfer case ready we fitted the motor back into the CJ, primed the oil pump by turning the motor over by hand with a fresh 5.7 litres of oil and filter and we'll be running in the cam as soon as it fires. The motor was fired up and run at 1500/2000 rpm for ten minutes or so to run in the cam followed by an oil and filter change as the assembly lube used on the cam and lifters etc will have washed into the engine oil and any metal filings should be caught in the new filter. A test drive of the CJ for any problems and back to the customer who's been with out his baby for three weeks.

JAA



*Motor back in the Jeep*



*Travis at work*



*Getting close, radiator to be fitted next*