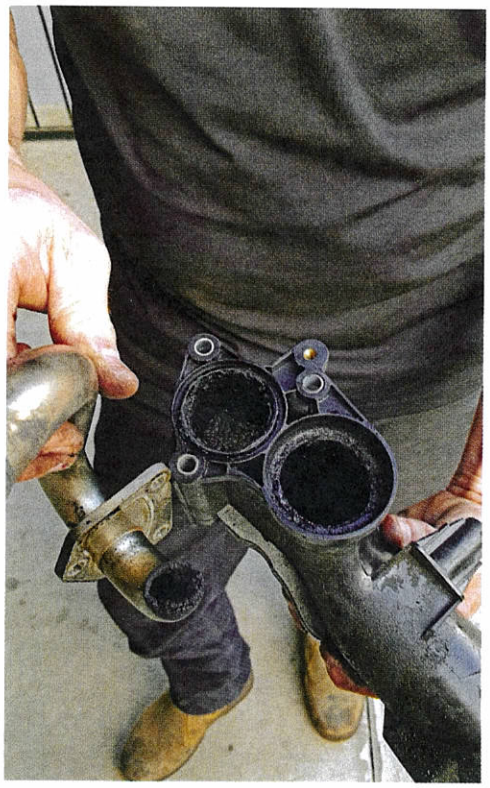
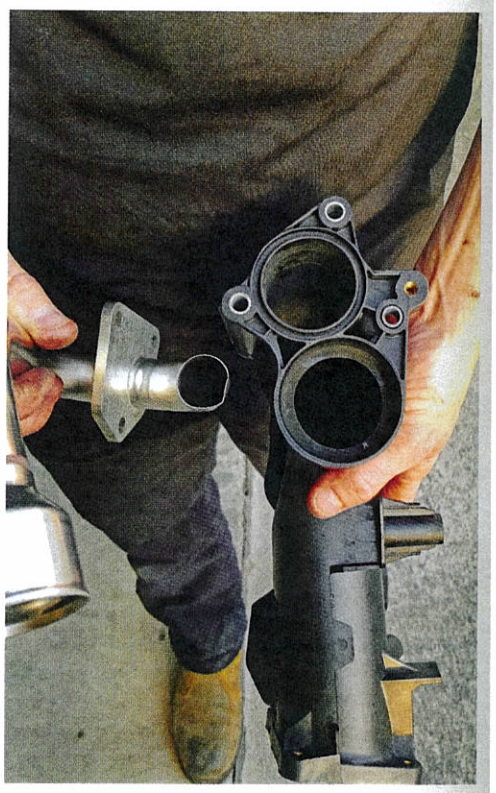
A GRAND MISSION: NEARLY TEN YEARS OLD AND FEELING SLUGGISH!

BY TODD AVERS
SEVEN SLOT OFFROAD





We look after all of the repairs on this 2006 WH Grand Cherokee Diesel with 275,000 kilometres on the clock that is owned by a long time Jeeper and now friend. I had been driving the Grand for a while to tow and move some vehicles around for the business and have since discovered a very large oil leak and also a major lack of power.

With the lack of power we noticed that the fuel usage was around the 17L/100km mixed cycle. We pulled it onto the hoist to investigate the oil leak and the fuel usage. We found so much oil it was amazing that the sump had any left after the service 5,000km ago. We tried to find the issue, but it was that wet with oil and fluid that we thought it was fuel at the time. So we lowered the hoist and took it to the wash bay for a good scrub and clean up.

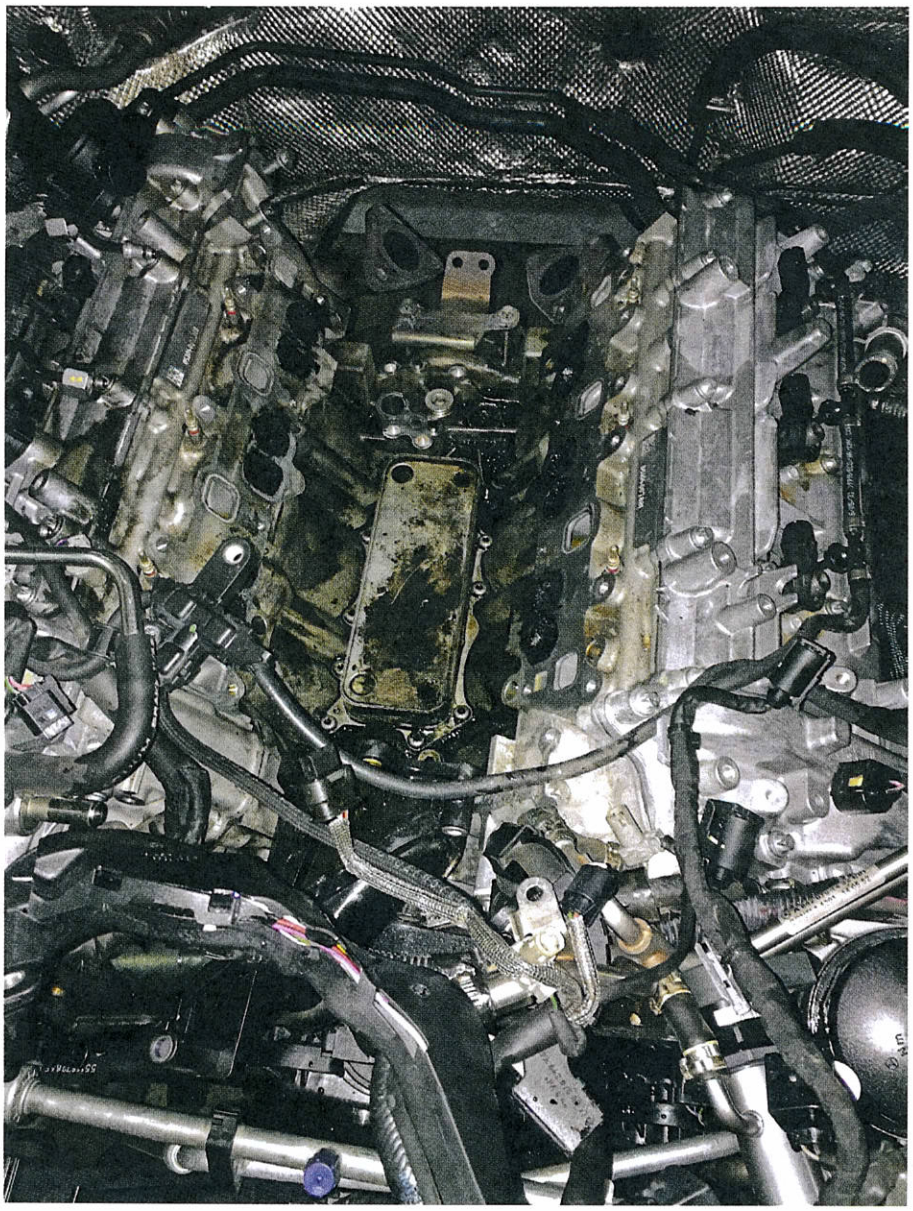
I drove the Grand for about 15km after the clean and then raised it on the hoist again. We discovered the oil was like a running river out of the centre of the engine under the turbo and exhaust. We tried to find the source, but still could not clearly see it.

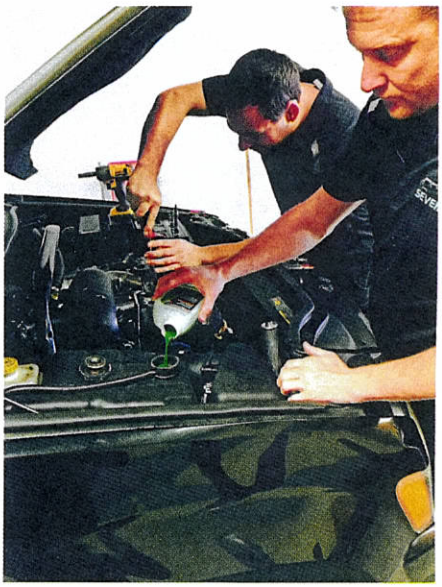
So the mammoth job began. To find the source of the oil leak, we had to remove the turbo, which on a diesel V6 Grand the gearbox has to be removed.

We quickly removed both drive shafts, the transfer case and then the auto. Now with a clear view of all the exhaust and EGR pipe work we worked on removing the turbo. While we had it out we were replacing all of the gaskets which is normal, but the last person that had worked on the Jeep used all the old gaskets which caused an exhaust leak.

Lowering the hoist we removed the last of the turbo bolts and then the turbo to find the leak at the oil feed/return housing where a steel gasket sat. There are four bolts that hold the housing to the engine, which were loose. We cleaned out the valley of the engine and the front drain hole, which is where the oil is meant to travel if a leak happens. This hole travels through a casing in the block and exits behind the a/c compressor. We replaced all the gaskets and moved to getting the turbo back on and the drivetrain back in to place. As the customer tows his Jeep Wrangler with this Jeep we thought it was time we did a full service on the auto, transfer and diffs to make sure all was in perfect order.

After another good wash down I





continued to drive the Grand for a few days and noticed some small drops of oil on the garage floor overnight. I first thought it was the old oil still coming out of hard to reach area, so we had some time the next afternoon to double check and found we still had a leak. It was nowhere near the amount of the last oil river, nonetheless we still had a problem and I was determined to get to the root of it.

We looked up and found that our cleaning of the front oil drain had worked and we had oil leaking from behind of the A/C compressor and also a small amount over the bell housing but this was very watery and a part clear fluid. Again being very hard to see we removed the fuel filter to get a better view and found water and oil mixed in the valley.

I was not sure if it was water from the last wash down, but we noticed that the coolant level had dropped after our last check. So we decided we had to pressure test the cooling system to see what would show up. After an hour on test we saw a lot of water pushing into the valley around the oil cooler. So up on the hoist again, for the drive train and turbo to be removed.

This time it was a bit more involved with the two joint intake manifolds being removed as well. First step was to remove the throttle body and spacer intake tube and silencer, then unbolt the fuel rails and lines and remove them over the engine wiring loom and swirl motor. Under the left side intake is the EGR cooler so the water pipes have to be released and removed.

When we looked into the EGR cooler we found the blockage of 275,000km of soot and on further inspection the intake runner butterflies were all blocked and full of sludge (found the lack of power and high fuel issue). With all the intake system in the hot wash for a good clean and inspection we moved to the coolant/oil leak.

Unbolting the oil cooler plate in the bottom of the valley we found the two seals at each end of the cooler were split and leaking. Each end has water and oil running through them for enter and exit of fluid to the engine block. We cleaned up the coolant/oil mess that was in the valley, pressure tested the cooler and replaced the seals and put it back into place.

With the intakes a lot cleaner we found that the butterflies could now open and close fully. So it was on with

new gaskets and swirl motor clips to fit them back into place. With all of the upper engine and wiring back in place we moved to refitting the turbo and gearbox then draining and replacing the engine oil which as we suspected was 25% water in the sump due to the cooler and oil seals being disturbed.

After fresh oil and filter, new coolant and a good system bleed, the Grand was ready for a good wash down and test run. We drove it for a week and found that the power was back and the oil leak was sorted.

As for the sludge and soot build up in the intake, this is caused by the EGR air heating up the oil that passes through the PCV system and clogging the intake manifold. To prevent this we have fitted a catch can in the system before it is released into the intake pipe after the turbo.

We are going to have a look in the intake system after a few thousand kilometres to see if the catch can is making a difference and keeping the vital entry to the engine clean and in good working condition.