John Deere 620 Orchard Tractor

Report and pictures by Chris Wilson

Some years ago, as reported in a previous newsletter, an Avontuur farmer, Jimmy Zondagh, sent two orchard model John Deere tractors to Sandstone. One, a Model A, was returned fully restored, and in return the other, a 620, was to form part of the Sandstones collection. It remained now to bring this 620 into first class condition; and this is being carried out at Lionsriver, KZN. As with the "A", the comprehensive streamlined panels are mostly all present, although needing extensive panel beating.

Upon removal, several unexpected problems were discovered. Firstly the engine was seized – which proved to be from water ingress years ago. This of course can be highly destructive, and was unexpected as the exhaust, through which water usually enters an abandoned tractor engine exits sideways, not vertically. Since the carburetor was badly corroded as well water must have found its way in through the inlet system.

The cylinder bores, rusted but salvageable.

There was no way of removing the pistons conventionally, so the block was removed from the crankcase and stood vertically. Diesel was poured onto the piston tops and left for a couple of weeks. Slight diesel leakage eventually past the pistons indicated some possibility of pounding the pistons out backwards; and this was achieved with a wooden stake and 14lb hammer. While the bore was not too badly rusted and responded to a good honing, disaster was again encountered when examining the pistons.

Initially the forcefully removed pistons looked good – but closer examination showed broken ring lands disguised by hard carbon deposits.

Obviously at some stage the top rings had broken for whatever reason – but the engine had gone on being used for long after, and the top piston lands had been completely eroded away, through to the crown in places. This was not immediately apparent as the erosion had been filled in with hard carbon – which had probably created enough compression to keep the engine running! It had been expected that new rings would be necessary, but pistons? No good used ones were available, new from John Deere were no longer supplied and even the aftermarket suppliers in the US didn't list them. There is in Merrivale, near Pietermarizburg, a first class welding business, Euroweld. They took the pistons, welded them and re-cut the grooves.

The pistons repaired with new rings awaiting assembly and the stripped water pump in background.

Now, with new rings, assembly could begin. Although the valves were badly rusted there was enough “meat” to re-cut them as well as the seats in the head, and a pressure test showed no other damage. A major internal and external clean-up and inspection of the whole tractor showed a healthy transmission, at least. Clutch & brakes, par for the course, were badly worn, but relatively easily overhauled. Steering woes were similarly repaired with a new bearing in the steering box.

The old carb was pretty much beyond repair, and a good used was taken and overhauled, care being taken to open up all the tiny internal galleries and nozzles to ensure smooth running.

The starter also was in need of overhaul, and this was sublet to vintage electrical experts Mason Auto. The radiator had just a small leak, easily repaired, and the water pump had to be stripped and a new seal fitted. The ignition system needed only a good set of points to give a good spark

Now the big moment – would she run? After a couple of electrical setbacks she did indeed fire, and after some initial smoking and missing and carb tuning, settled down to the even beat normal to all the numbered series JD’s with twin barreled carbs. What a relief!

While the panels have been expertly repaired and painted, it remains to paint the tractor and assemble the whole. At the beginning, a reasonably good external condition, and a fresh coat of paint had deceptively indicated a sound tractor. One should not be deceived by a coat of paint!

The 620 after its first test run