TIRED IRON

North Queensland Machinery Preservationists
NQMP Inc PO Box 11, DC AITKENVALE, TOWNSVILLE, QLD, 4814
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NEXT MEETING FRIDAY, 28th March at Ian Williams house 32 Bokirana cr Kirwan

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Good day fellow members, this is the quietest month for a long time no displays and nobody doing much work on engines.
Ian Williams has made a good start on his crane but has put it aside to work on his bath room.
Ian Matthews has put his Metiz & Weiss restoration on hold, just sits in his new room with the dog and admires his handy work.
Malcolm is still cleaning parts for the Howard tractor and has almost come to a stand still .
I turned up a part for a workmates fuel tank. The rest of the time I seem to be constantly mowing.
Stuart seems to be the only one that has achieved some thing, he has been restoring a 1950's vintage Victa. When he showed it to me it looked too good to mow the lawn. May be he’ll put some thing on paper.
As nobody has sent any articles for the newsletter, I’ll start my Novo story that I had been saving for later.

Keith

Coming Events
Inter club Rally in May at the Burdekin

Kool Fix

ELECTRICAL & REFRIGERATION
* Electrical Installation & Repairs
* Domestic Refrigeration & Air Conditioning
* Appliance Repairs

Trevor & Carol Philipson

For sale - Reconditioned caravan & camping fridges
All fridges sold with warranty Ph (07) 47798999
Some time ago I visited Ian Williams, he had just returned from picking up some engines that he had stored at his sisters place. He had several engines on the back of his ute and asked if I would like a couple that he did not want. They looked a sad lot as they had been under water, but the 1-½ hp Novo S took my eye, as it is an old and an unusual engine that was almost all there. It wasn’t long before Ian delivered them and I was putting oil down the plughole ready for storage.

A few weekends later Malcolm and Stuart helped me cement a strip down the back of my shed. We were sitting down recuperating when we had finished; pretty soon talk was centred on the new acquisition, the Novo.

One thing led to another and we were soon attacking it with spanners. We had to disconnect the big end to lift the cylinder and piston off but we could not get at one of the bolts. So we took the main bearing caps off to get a little bit of height to get at the last big end bolt.

While we were lifting the cylinder Stuart said I think the piston might come out. Malcolm and I just shook our heads, pistons don’t just come out, and especially one’s that have been under water. , But you guessed it, out slid the piston. Stuart gave a knowing smirk but I did not care the piston was out and in good order and so was the bore. The last big end bolt was still stubborn so the next day it was down to Super Cheap to buy a $4 set of AF spanners. I cut off about two inches off the ½” spanner, ground the ring pretty thin and was able to get the nut off. Four hours later the engine was completely stripped.

The water jacket was completely had it, and we were racking our brains on how to repair it. I suggest that a small gas cylinder would go close to being the right size, so we took some measurements and Stuart called into the dump on the way home, he was able to purchase one for two dollars. The 4-½ kg bottle was less than 5mm larger than the original and about 10mm longer; the shape was almost the same. The next task was to fit the gas bottle in place of the destroyed hopper, if I couldn’t achieve this; there wasn’t much point in doing any thing else to the engine.
The following weekend I cut the old hopper off with the angle grinder and then proceeded to cut the gas bottle to match, by the end of the weekend I had a fairly good fit.

The first Saturday that Ian Williams was available we went into work to braze the tank on to the cylinder. Now that I have cleaned the cylinder up it looks good, a bit of body fill in the seam around the middle and a coat of paint it will be hard to tell the difference.

Now that the hopper was finished the next major task was the crankshaft, it was pretty sad, extremely pitted and bent. So it was off to Repco, $120 and a few weeks later I had it back. They could not take out all the pits as they would have to remove too much metal also there was still a few thou woop in the shaft but both I could live with.

Now that the two major items were completed there was nothing to prevent me from completing restoration. As items were cleaned through the electrolysis bath I gave them a coat of primer. Governor items are still to be done. I will have to make new over sized shafts to take up the wear.

Next I turned my attention to the main bearings they would have to be replaced. I planned to make a dummy shaft and hold it in place while I poured the white metal in from each end. I must admit I was making it up as I progressed. It did not take long to manufacture the shaft although I agonised over dimensions, in the end I made it a few thou over size as there were 3mm of shims under the caps, so if it was loose I could remove shims. If I made it under size I thought I might have a lot of scraping to do to make it fit, any way if I am wrong it won’t be to hard to melt the bearings out and turn the dummy shaft accordingly.

With the shaft completed I turned up two collars to fit on the shaft with a grub screw. These collars allow the bearing to protrude about 5mm at each end. The shaft was placed on the old bearing to see how it would fit. After a few careful measurements I melted out the old white metal.

I bought some 3mm aluminium strip to hold the bearing cap the correct distance from the bottom bearing.

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I had no idea how I was going to hold the shaft central while I poured the bearings until Stuart came up with the suggestion of cutting slots in the collars and sliding the 3mm aluminium into the slots.

It worked perfect, the slots hold the shaft up off the bottom and with the shims pushed in hard against the shaft prevents side way movement. I checked the alignment and sealed up any openings with muffler putty, we were ready for the pour.

Ian and Stuart came round on a Saturday afternoon and we soon had the white metal ready to pour. Ian had the first try and he made it look easy, a bit of an anticlimax. So it was my go it went all right but I poured it a bit too slow, you can see a few ridges but I’ll do better next time.

After it set it was time dismantle it and check out the bearings. Bad luck the muffler putty ran in to the bearing creating a couple of holes in the bearings.

The holes weren’t very big and I was not going to worry about them, in the end I melted some white metal in a tablespoon and poured it in to the holes. The result was not too bad, but I finished it off with some rosin cored solder and an iron for cosmetic results.

The crankshaft was fitted and with a bit of scraping the result was good.

The end faces of the bearings were trued up by clamping a lathe tool onto the crank shaft with a hose clamp and revolving the shaft, the tool took a shave of white metal off and each revolution I tapped the tool with hammer it didn’t take long to face the bearings. I made the big end bearing the same way and soon had the engine together.

Keith

To be continued next month