


RAISING FUNDS FOR REPAIRS
 PLEASE HELP US GET OUR IRON LADY BACK ON THE RAILS

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For those that have donated or committed so far, thank you very much!

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2). CLASS 15F NO.2914 – PROJECT SUMMARY:

With all the fuss about the recent, very successful Open Day, and the Witbank Train, No.2914 had fallen into the background a bit. However, much work has quietly been done on the locomotive during the last few weeks. Following is a summary:

- The stepped rivets for the foundation ring have been removed – all the holes are clear and ready to be reamed.
- The left-over truncated stay-ends have been removed – all the stay holes are now clear and ready for reaming.
- The edges of the cut-out area in the firebox corner have been cleaned and dressed for welding.
- The corner patch has been forged-bent to shape and recertified as still metallurgically compliant after its heat-based treatment. The patch plate had been stamped too, so there can be no question as to its authentic certification!
- The various cracks in the foundation ring have been ground open and re-welded.
- The old, crumbly sealing putty has been ground away from the smokebox's front ring-flange.
- The actual smoke box barrel is not original. The 'new' rolled plates had been rolled skew in two planes. The closed barrel ends overlap the ring in the center and diverge from the ring at the top and the bottom. The smokebox front plate (and door assembly) cannot be bolted down flat, hence the need for a half-baked ☺ sealing compound.
- The chimney stack was found to be off-center and has since been removed. It will be put back on straight as per our 25NC – and hopefully with an equally dramatic improvement in performance, and possibly with smoke rings too!
- The chimney's port has been found to be severely cracked on one side and gouged on the other. As this is not a pressure vessel, this is not a specialized certified repair – it just needs grinding back and refilling with welding.
- Primer painting has started on the boiler barrel – using a matt black, epoxy-based heat resistant etching primer.
- Mike Thiel is converting the footplate & boiler cladding drawings into CAD, for laser cutting of new components.
- Quotations are underway for the full batch of new thermal lagging that required for the now-exposed boiler.
- As soon as the firebox corner is fitted, steel rod for the foundation ring rivets is to be ordered, as well as checker plate for the running boards, and steel bar to rebuild the crinoline cage upon which the cladding is suspended.

3). CLASS 15F 2914 – PREPARATION AND CLEANING:



B01 – A poor quality accident repair. Not only is the front cover plate distorted, but the smokebox's replacement barrel had been rolled skew. You can see how the lower flange protrudes. It is recessed again along the center line.



B02 - The exterior of the firebox corner that is under repair. All the truncated and offset rivets have been removed from the foundation ring and stay holes respectively. The holes just need their burrs reaming out and they are ready to go.



B03 – Because of yard work, an anxious looking Cousin Rob is rather behind schedule for the day. He is preparing for the daunting task of brushing that big boiler free of wire-brush dust and then to start painting.



B04 - That's me looking into the dark interior of the firebox, peeking in through a still-rough stay hole. I had passed the camera up through the cut-out in the ash pan and took a self-portrait, thanks to my camera's useful rotating display.



B05 - Training for the job of scrubbing circus elephants, Cousin Rob indulges in doing the easy-to-reach areas first. Note the very rare sight of a relatively new broom at the Reefsteamers depot! Brooms don't last very long here!



B06 - Here is the cut-out area in the firebox's lower corner, with the newly welded foundation ring as marked for crack detection. The new patch needs to be very carefully cut and dressed to custom-fit this hole as closely as possible.



B07 - A more general view of the repair area in the firebox corner, showing the cut out in the underlying ash pan hopper. Admittedly, it was a somewhat brutal way to do the work, but it has really eased access, especially if only one person is working on the job at a time.



B08 - By contrast, here is the opposite (LHS) corner in its original state. It has also been painted and dye-tested for cracks. (These are the known vulnerable spots in a Class 15F locomotive's firebox) Note the welded seam, and the foot brackets that support the fire grate runner rails.



B09 - Cousin Rob gets high up for some gravity-assisted sweeping of residual rust-buster dust and assorted bird scatter. Notice that this locomotive has a red-painted frame, which not inappropriate for a German-built machine.



B10 - A closer look at the start of the priming job. Even though the loose rust has gone, the aged surfaces are still a bit pitted. This requires tedious pushing strokes of the paint brush to fill all those vulnerable holes with primer.



B11 - Hott-Nutts Hoddi gets a start on the priming job while waiting to serve his turn as fireman on the retrieval move of the Great Race Train, due to return on that Saturday evening. This was about 9pm.



B12 - These caps will also need to be de-rusted and painted - it is gonna be a nasty job with all of those crevices and valleys! But we'll do this AFTER the boiler tests, as the primer coat may mask small gravity-fed leaks.

4). CLASS 12AR NO.1535 'SUSAN' - BOILER TUBE WORK:



T01 – Sir Robert Topham Hatt! Even with the table plate and the blast basket removed, and the blower ring safely plugged by Robbie's jeans-clad gluteus maximi, there isn't much room to sit straight in the smokebox.



T02 – A front view of the work area. The visible boiler tube is the No.8 tube that cannot be fitted until a built-up hole in the rear tube plate has been checked by the boiler inspector, and permitted to be used, repaired or patched.



T03 – A general view of the work area. At the time, the Hunslet Diesel, waiting for jackshaft repair quotes, is still balanced over an open wheel pit, hence the marker tape.



T04 – Swakhart (Left) and Hott-Nutts insert a tube expander to start installing the first of the seven new boiler tubes that they would put in this day.



T05 – These are the crushed remains of old copper ferrules, which are used to seal the rear ends of the tubes at the firebox end. You can see that they protruded from the tubeplate when those old tubes were originally installed.

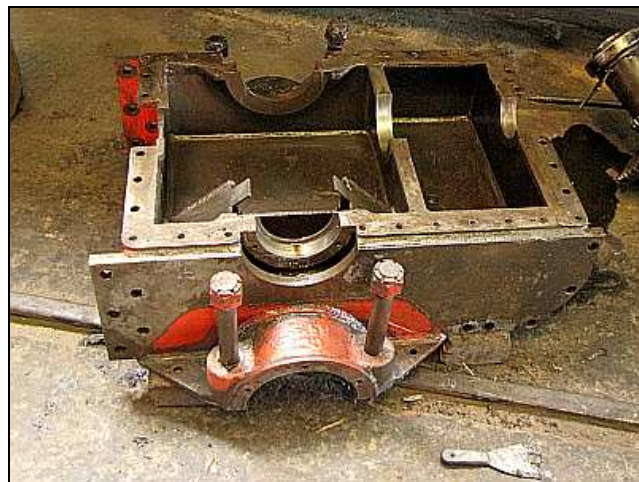


T06 – Three cramped Reefsteamers in the smoke box with Robbie still performing his official designated role as blast pipe plug and tool handler! We later put tube No.8 away before its unsupported length got bent by a careless hoof.

5). ONE POORLY LITTLE HUNSLET:



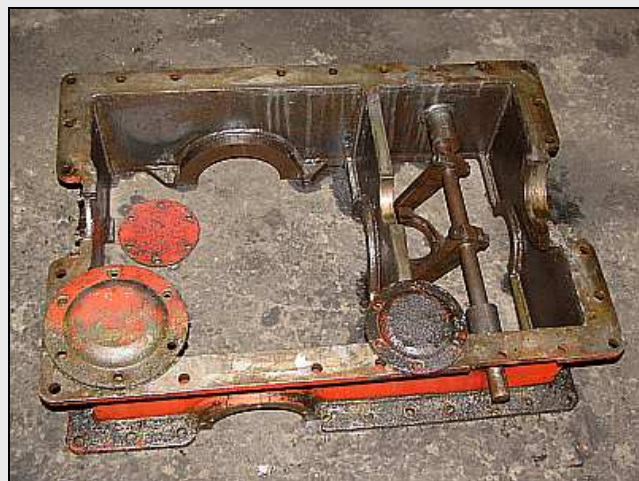
H01 – Still awaiting quotes for the required jackshaft repairs, 'Andrew' the Hunslet remains balanced on an I-beam for gearbox replacement. Notice that the removable bridge rails have been re-inserted under the rear wheels.



H02 – The main enclosure of the stripped-down gearbox with the distinctive saddle caps for the jackshaft bearings. The box had to be literally scraped clean of the silvery plastecine-like residue of oil and finely-ground gear teeth.



H03 – A selection of shafts. Left is the old reversing shaft (With one bevel gear previously removed and oil dippers added) ; center is the two-speed counter shaft + dog clutch set ; right is the input shaft with a fixed two-pinion cluster.



H04 – The sub-enclosure with the selector fork and annular thrust ring still in place. The input from the engine comes from the upper right. The frame shows evidence of being fabricated, rather than cast and machined.



H05 – The lowest enclosure, with an integral sump and oil pan, is now miraculously free from silver-coloured sludge. Note the labyrinth seals for the jackshaft bearings.



H06 – A genuine mixed-up tub of bolts – irresistibly reminding me of a certain clapped-out old anvil of a Reefsteamers locomotive. Now which one would that be?

6). AN AFTERNOON OF SHUNTING:



U01 - A proper choice assortment of coaches, including the somewhat battered sow-bellied power-van of the Shongololo Express, and 'Dusty' the Cimpcor coach. (2nd from the rear.)



U02 – Class 15F 'J9' is laying down a dense, smoky 'rainbow' over the lead coach. She has a shunting-thickened fire with a thin layer of new coal on top and the blower isn't turned on – hence the lazy brown smoke.



U03 - A yard shunter with a long-range tender? With 2 trains out for the day, this project was underway to sort out the yard, put the unusable items to one side, put wooden coaches under cover and try to clear some more lines.



U04 – Wheels of Steel at front-dead-center. Notice that the curved expansion link is vertical. (She is also a hair off mid gear.) That vertical position is one of the check points for valve gear geometry when building a model live steamer.



U05 – Members of the 'Splinter Fleet' are being moved to covered storage to arrest further decay. We have decided to retain them for use with our old 10th Class. (One Day.)



U06 - A 15F on a flatbed – almost! This is 15F No.3042, being retained for spares and a decent boiler. This poor old loco is the very last survivor of the Germiston scrap lines.



U07 – No.3046 'Janine' is backing into the Eastern Yard with Shunter Jeremy Wood hanging on centrally for a ride.



U08 – We trundle past the filled-in remains of the turntable. The turntable was sized for the 7th class locomotives and was filled in when the big bruisers took over the shunts.



U09 - His name is 'The Mini Mienie' and he's as crazy as a one-eyed fruitbat stoked on meths. But at least he's happy. He had been tending to this locomotive for 10 days already, lighting, cleaning and loco minding - as well as doing his depot duties. He still had another night and day ahead.



U10 – And HIS name is 'Dr. Smudge'. Driver 'Smudge' Ackerman looks back for instructions - with a healthy coating of particulate carbon deposits forming in the air intake ducts.



U11 – Firing with your tongue sticking out improves the accuracy of the aim! For The Mini Mienie, this is a totally unconscious reaction. He is firing a bit awkwardly here – the ashy, built-up firebed is already almost up to the spreader table and is throwing the trajectory angles off.



U12 - Coaled up for the day. As the loco hadn't run on the main, the coal hadn't settled and interlocked, and was still easy to move. I don't think they got past the second slide in the stoker trough. The oxide paint in the coal bunker is still holding up well after roughly two years of service.



U13 - Little Josh Wood has a go at feeding the beast. This cotter pin-sized steam enthusiast has learnt a surprising amount about steam locomotives. But this firing job still defeats him on the 'mechanicals', as his heart is bigger than his stature.



U14 – Yet another mother's son that we have ruined! This steam loco-crazy boytjie trims coal for fun! He hops over the scuttle board with the loco at stand still and the driver in conference. (If we were using the mechanical stoker, we would NOT have let him into the render, I mean, tender.)



U15 - Uncle Wilfred's Ore hoppers parked in the old loading siding. The tracks had previously been disabled by cutting and bending a piece away. Our guys cut the bent piece out and re-welded it. The wagons went in jumping with a cloud of dust n' splinters, but they made it! Note the tail marker!



U16 - Right away, mate! We are off forward, through the gates and to back up along road No.8 to fetch the coal grab wagon to assist with some spare wheels. Shunting is unnecessarily difficult here - but the tracks were designed as a locomotive depot, not a proper shunting yard as such.



U17 – A sunset-coated Janine is poodling forward through the Western Gates with Jeremy Wood moving forward to throw the point tumbler over for the backing move.



U18 – Backing through the last open road for one of the last shunting moves before picking up the coal grab wagon, and then a cup of tea to wash the coal down before sunset.

7). LAAT DIE YSTER-R-R-R WIELE ROL!:

But nobody sez that they have to be attached to a locomotive!



W01 – During the yard clean-up project, a spare set of 15F driver axles needed to be moved to allow access to this wooden-bodied coach. The tread beams are a bit weak here, so we were reluctant to bring a heavy locomotive in.



W02 – Two people moving a multi-ton wheel set uphill shows the foundational principle upon which all railways depend – the matching track and wheels are there to consistently reduce friction, as well as providing guidance.



W03 – The game plan was to shunt the wheels out with a loose cable sling around the axles and tied to a coupler. Alan (Left) has a scotch to retain the wheels on the slope. The further axle is the heaviest, being the main driver.



W04 – The last of the three axles at this end of the coach are moved. You can clearly see the 90 degree orientation of the crank pins. But you will also notice that the counterweights are not symmetrical to the crank pins.



W05 – While rolling the last set, the fellows changed their minds about the slinging and decided to instead place the axles on the concrete slab in the background. But they needed to clear the pits because of the hoisting involved.



W06 – Scotches rule! How's this for a compact 0-6-0 wheelbase? Once the first and second set were scotched, the heavier driving axle was allowed to roll back. The axles telescoped together but still managed to stay on the rails!



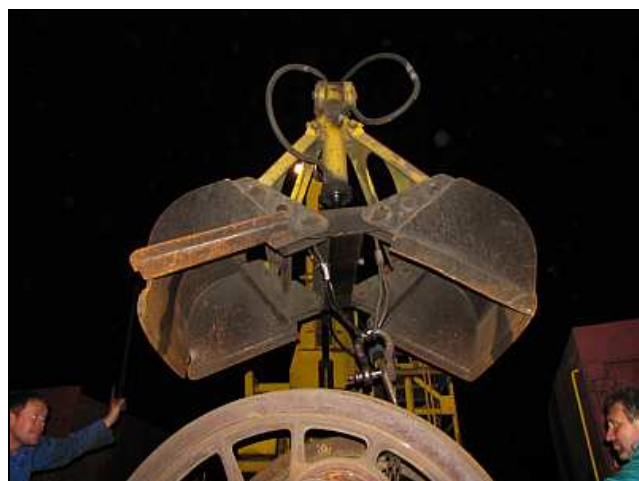
W07 – The grab wagon has been placed into position and under a rapidly darkening sky, 'Big Robbie' lowers the boom. The idea would be to suspend the axles and use a shunting move to skate them to the planned location.



W08 – With a standard, twirling, upward pointing finger, Dr. Smudge signals Robbie to take the first lift. He is also very carefully holding the spider hooks in engagement without getting his fingers nipped in between loading surfaces.



W09 – A picture taken later for the 2nd axle shows the very useful octopus-chain that we were using as a two-hook lift with the hooks interlocking in pairs on either side. It also provided flexibility for the axles to find their own balance.



W10 - A view up into the open bucket shows a wire rope sling around the grab's mandible beam. This arrangement also lifts the load a few extra inches when the grab bucket is closed and squeezes the tensed wire rope sling closed.



W11 – Perhaps the trickiest part of the operation would be the initial lift with the weighty load swinging to find its own center. The grab and boom gear was operating at close to capacity and the hard-to-modulate valves would cause the load to pendulum. Everyone is standing safely clear!



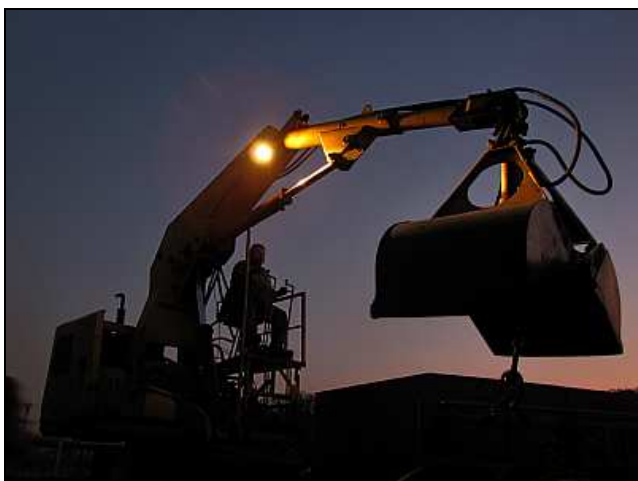
W12 – Wheels aloft! (2nd axle) Robbie had to slew the grab in discrete steps to avoid the load swaying at the end of the swing. He also kept the load as close to the ground as possible, in case the grab wagon started to overbalance. Yes, we did some top-soil ploughing with these wheels!



W13 – With the wheels safely snugged in against the grab wagon (without too much bashing) the whole lot is shunted backwards to get the side-slung wheels onto the concrete slab in the background. That is 15F No.3046 in the shot.



W14 – With the first axle safely scotched, 'Big Robbie' is coming back for seconds. He is one of our regular grab operators, but usually operates the Yumbo grab. His hoisting skills were tested here and he did a great job!



W15 – Robbie dives for the second lift and it is really getting dark. We were waiting for news of the then VERY late Witbank Marathon train. Driver 'Smudge' Ackerman was already bugging me for some more tea – I swear he has a bladder like the bilge tanks of the Torrey Canyon! ☺



W16 – Efficiency! Two axles safely 'scotched' and out of the way of our rails on a previously unused slab of concrete. It also means that the wheels won't sink into the soil under their weight over time – especially after a good thunderstorm. I always find the skinny spokes remarkable!



W17 – The last axle, being the main driving axle, also had the biggest and heaviest counterweights. This, the 3rd load, was slung up extra close for this lift but it still snagged on the end of the concrete slab and caused some sweat!



W18 – The last move is nicely backlit by the steam beyond the two axles already parked. The fellows were clearing the snag as the dragging driver axle was putting a lot of traverse stress on the coal grab's boom gear and slew ring.

8). AROUND THE DEPOT:



M01 – I am definitely a late bloomer. I am 43 yrs old and this is the very first braai that I had lit up and cooked on from scratch. Never any prior need as there is always an Ackerman, Mienie, Cousins, Lawton, etc in close proximity!



M02 – Beware of moving trains! So watch where you are walking, Cousins, instead of keeping a suspicious eye on the innocent photographer! (In reality, the loco was safely at the other end of the yard.)



M03 – The tin worms never sleep... Steam locos are very vulnerable to rust starting behind their boiler cladding, as that surface cannot be reached for painting once installed, and the thermal lagging retains water if drenched.



M04 – Two snooze coaches enjoy a late afternoon sleeper ... or should that be the other way around? What encouraged the afternoon shunting was the extra track freed up by the then-absent day sitter train. (Witbank)



M05 – A ferrous version of apple bobbing. The scrap bin was to be moved from where it was put away for the recent Open Day. By the way, if you have any scrap metal items ready for disposal, we won't mind if you 'skip' it.



M06 – Alan reconnects the coal grab's starting battery after they changed their mind about not using the grab. The batteries on our equipment are removed after use to discourage theft and also to allow for bench charging.



M07 – The last project of the day was to load up the access steps – which had to be gripped by the hand rails to get enough clearance. We have decided to put the steps aside to be scrapped as they are heavy to handle and are a risk in terms of clearances between the tracks.



M08 – It's past 9pm and Josh n' The Mini Mienie are STILL at it! Notice the little guy's boots – they were quite a rare find as they are genuine steel-capped safety shoes at a diminutive size 3. Josh is also emulating his mentor – the tongue comes out when the brain cells start to fire in synch! He's about to squeakily 'chew me out' as he hates being photographed!



This Depot Report was compiled by Mr. Lee D. Gates on behalf of Reefsteamers Association NPC.
For observations, corrections and suggestions – email me at documenter@reefsteamers.com

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