

1). LIGHTING UP 12AR 1535:

After several weeks of being awkwardly perched up on wooden blocks for a bogie axle repair, Class 12AR No.1535 'Susan' was finally steamed up for some action. We would be taking a rare Sunday run on the following day, to join in with the fun at Friends of the Rail's Open Day at Hermanstad. (We normally run on a Saturday) We were hoping to take both 15F No.3046 'Janine' and 12AR No.1535 'Susan' with us for a double-header. Unfortunately, lil' Susie developed an bad leak overnight at the front fusible plug, which was dripping copiously onto the fire arch. Thus, she had to be withdrawn for reliability reasons.

Although a plug leak itself has little effect on the operation of a working locomotive – if the lead core of the plug finally melts, it releases the boiler's steam in a fierce jet straight down onto the fire and the sudden roar scares the crew's underpants brown. The fusible plugs act as 'last chance' low-water level alarms. Their hollow cores are full of graded cast lead, which melt-out if the boiler's water level drops so low as to expose the top sheets of the firebox. (The crown sheets) With no water behind the horizontal plates to absorb the heat energy of the fire, the steel plates overheat, soften and buckle – within minutes on a really hot fire. Severe cases might result in boiler rupture.

For a loco crew to 'drop the plugs' through negligence is rightly considered to be a shameful thing. But sometimes the plugs can melt prematurely because of conditions that thermally isolate the lead from either the water or the steel plate. These can be worn threads, the wrong grade lead, poor casting or tinning, or scale in the boiler. (Dirty crown sheet.)

The plug will be withdrawn and checked before the next run. But the bugger with the fusible plugs is that they can only be tested under true working conditions with the boiler hot and pressurized – which is usually too late in most cases.



P01 - A bit closer to the ground now that the bogie has been re-installed, the 12AR No.1535 steams up behind the still-closed gates. As we had two blowers on the compressor, the draft was a bit diluted and the steam-up took a while.



P02 - It was a Busy Bennett in charge of lighting up TWO steam-powered clankers, as well as guiding a documentary photographer who is documenting our operation for Darling Lama Productions. (For a 'Meet South Africa' theme.)



P03 - Today's coal wasn't great – sullenly burning down to a dull clinkery powdery mass. This fire had burned down, but I don't generally don't interfere with another man's fire.



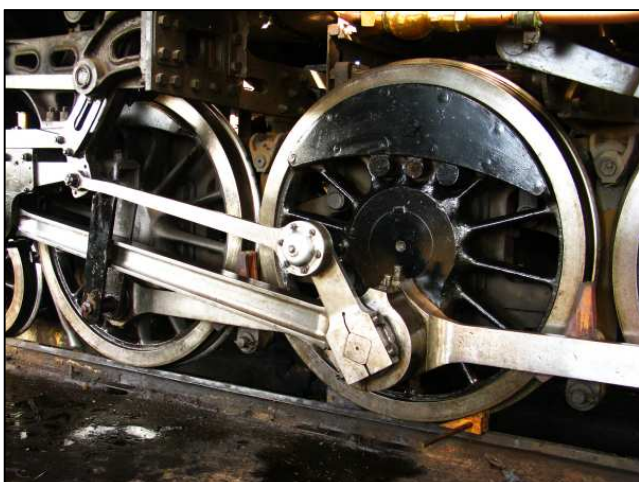
P04 - Once the fire is stable, there is little to do unless you want to load sand, trim coal and clean stuff. Thus, we see a Bennett-less cab while he is off doing PR-related stuff.



P05 - A rare picture of the authour who is usually BEHIND the camera. I haven't been available for Loco Minding recently due to erratic office work on weekends, so I thought I would get my hand back in and trim some coal forward.



P06 - A dirty Susie was treated to a good paraffin-assisted hand-cleaning by Moses, especially of the rods and wheels. Here he is cleaning Aidan McCarthy's mucky hand prints off the cow puncher – a easy job compared to those rods.



P07 - These are the rods on the Class 15F, which were cleaned earlier in the week. Our wheel rims are bare steel – it is the angle of the light that makes them look painted.



P08 - This is a side view of the new extended injector water kick-lever, (Fireman's Side) which is now hand-operated. The pedestal plate will be painted black in a week or two. The lever originally protruded from the hole in the floor.



P09 - This is what the fireman would see if he looks down between his knees. ('Off' position.) The lever can now be operated with the stronger, more coordinated right hand. This new arrangement is gonna be great for the guys with big feet that battle with the original floor-mounted levers.



P10 - This is the new valve at the other end of the shaft. It operates with a smooth positive action but does need some strength to operate. Apart from reducing distraction for the Fireman, we estimate a saving of eliminating about 4500 litres of 'dribble water' from the overflows in a typical day.



P11 - As seen on the 15F locomotive later that night, this is the constant dribble that we are trying to eliminate. This looks artistic and is a part of the 'living ambiviance' that a steam locomotive has – but it is wasteful of resources.



P12 - Susie the 12AR was treated to extra oil. The slide bars are being 'sauced' after the bogie boxes had been topped up. The bogie crown boxes, like any wick system, deliver oil continuously and this one would run overnight.



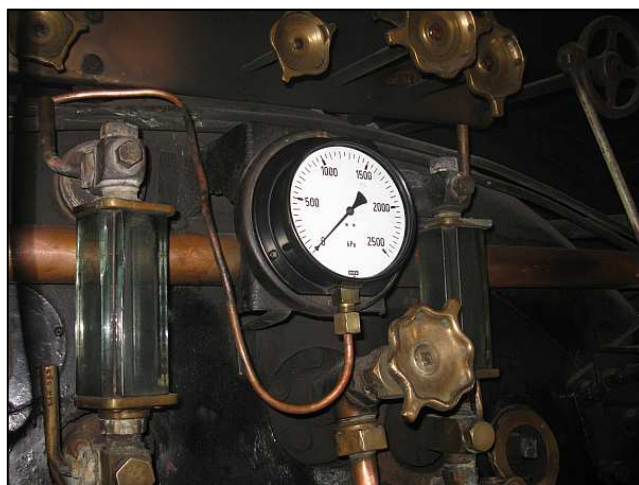
P13 - A new pressure gauge was fitted to the 12AR, but it first needed a matching ferrule on the small bore piping. Shaun ponders whether bopping dear old James on the noggin (with a hide-faced mallet) will increase production.



P14 - Seen after the pipe had been threaded through the cab's spectacle plate, this is the new ferrule that was machined out and then brazed onto the copper piping. Ten points for remembering to put the nut on before brazing!



P15 - The copper piping needed to be annealed once it had been removed, to avoid it fracturing when being manually bent into place again. Simply put, annealing is the process of heating to glow and then cooling. Copper can either be slow-cooled in air or salt or fast-cooled by water, brine or oil. Water is naturally the cleanest method for fast quenching.



P16 - A new pressure gauge installation on a slowly warming boiler. We were battling to get new brass-cased gauges and imported gauges are expensive. The black gauge will do the job just fine. The Safety Valve blow-off line would be drawn in a little later, according to the 12AR boiler logs. (This boiler is slightly de-rated from standard.)



P17 - Sans fuel gauge or sight glass, 'Andrew' the Hunslet tends to be run until he croaks. They caught the level in time. Big Bennett is siphoning diesel into the bulkhead tank while Driver Attie (L) and Shunter Cliffie (R) wait for their steel pony to be 'water' before starting the day's shunting.



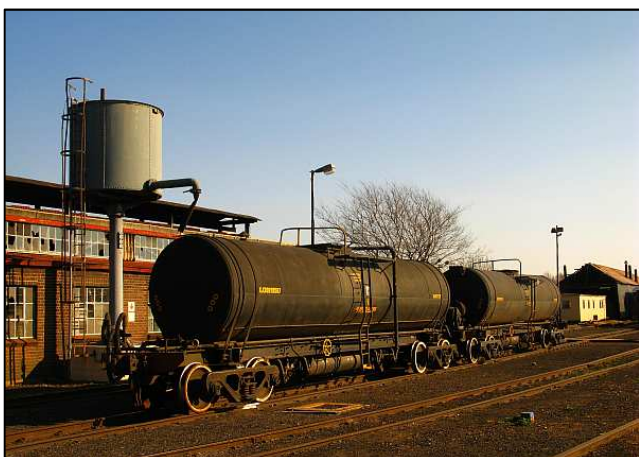
P18 - Captain Curly is doing a similar operation to top up the generator diesel fuel tank in the S&B van. With young Jeandre being busy and away at the SANRASM closure project, a lot of his usual weekday loco and train preparation tasks needed to be done by the weekend volunteers.



P19 - This unusual move was to fill up a tanker for each the two locomotives that we planned to run the following day. They were parked in fire hose reach opposite a water bowser, rather than being shunted for the water tower.



P20 - Driver Attie (L) is no longer employed full time by Reefsteamers as his 74-odd years have finally caught up with him. After several months of absence due to not receiving messages, he is now back with us as a volunteer on light duties and at ground level only.



P21 - The two tankers are awaiting one of the young 'uns to clamber up the ladders and get the fire hose into the hatch. Note the scotch block at the wheel. They are vital on this deceptively slightly sloped yard but are now mandatory for all locations and shunting moves, 'flat track' or otherwise.



P22 - The coal smoke shows another one of those missed Jeandre jobs ... getting the various oils and greases ready. The oil bottles usually get left on the engine after use but they can be moved at any time. Both locos needed oil and we needed extra for run-in lube on the new bogie bearings.



P23 - Dawie Viljoen was abundantly treated to the scent of half-burnt coal while sorting out a motley selection of shims to adjust the right side crosshead slides.



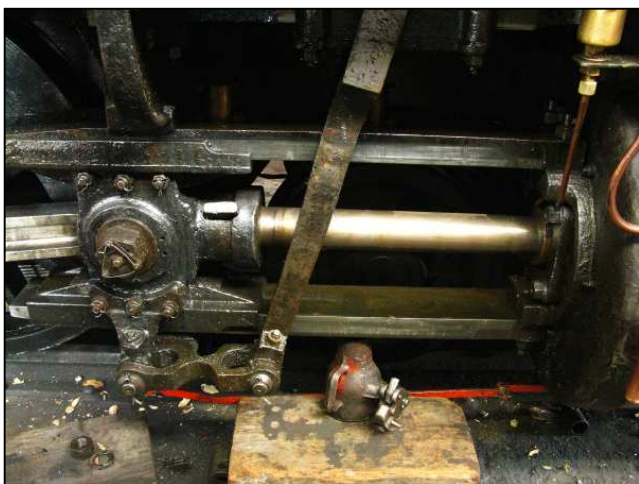
P24 - Ryan James (L), a producer from Darling Lama Productions, absolutely loved the smoky atmosphere and was amazed at the size of the locos. Here he gets some facts from today's double-Fire Lighter, Simon Bennett.



P25 - A happy, relaxed James Thomson enjoys the scenes from within the 12AR's cab. (It does seem a bit odd seeing him away from the lathe.) Simon Bennett was hoicking chunks o' carbon at the time, so this shot took some timing!



P26 - Wearing a classic 'Paddy Cap' and with his ample breadbasket almost touching the reverser, James really looks the part as he poses with the controls. The loco was not yet in steam and was safely in mid-gear for the photo.



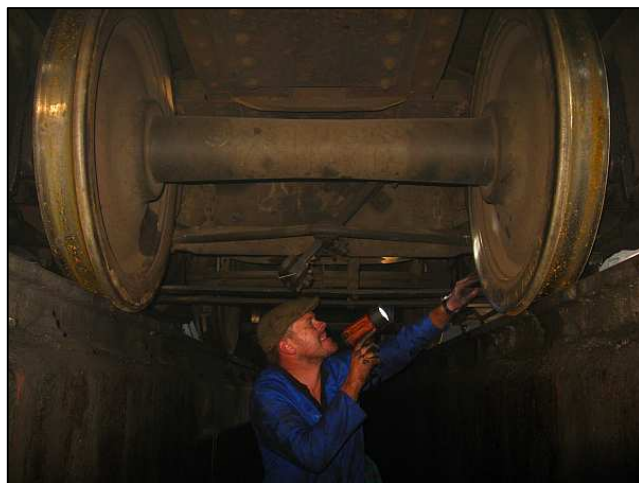
P27 - The recently repaired crosshead slide bars on the right side had settled into service on their shims and needed to be adjusted slightly to remove about 0.6mm of clearance. Note the supporting jack under the bottom bar.



P28 - 'Swak Hart' inadvertently looks a bit grim as he holds up a shim sideways for the camera. They are usually rectangular plates of various thicknesses with two holes in them and they increase the spacing between the slide bar and the hangars. (More shims – closer clearances.)



P29 - Smudge wisely did an early road-worthy on the 12AR. Here he is under the cab and using a flashlight to re-check the tightness of the bi-eared collars for the recently fitted water transfer hoses, and then the ballpeen on the elbow bolts.



P30 - Although he was facing the prospect of another late night, he wasn't TOO grumpy ... yet. This is just the 'Concentrating Face.' The hand brake had been just wound back to facilitate checking of the brake hangars and beams.



P31 - Although this photo is a bit dark n' blurred, it shows the new extended injector kick lever being operated for the very first time under steam. And it was done by a Bennett!



P32 - The 12-bucket finally moved out at about 6:30 after an extended time of standing and blowing through the open cocks to warm up the winter-chilled cylinders.



P33 - Here she is, out in the cold at last, but at least on all of her fourteen feet once more.



P34 - They had stopped a bit too far back and dropped some kibble onto the walkways. A quick nudge and prep for fire cleaning could begin while Driver Smudge uses the bowser hose to wash down the steel plate walkway.



P35 - Reefsteamers – Yeah, that's us.



P36 - In spite of Simon deliberately 'capping' the hot boiler by running the left injector to spray down the cab and backhead BEFORE cleaning the fire, she still popped-off. Obviously excited to be in steam once more.



P37 - With the night getting on, S & S changed their minds about a full fire cleaning session and simply did a quick shake to knock the loose ash out. With the old fire still intact, she was blowing again on the way to the coal dock.



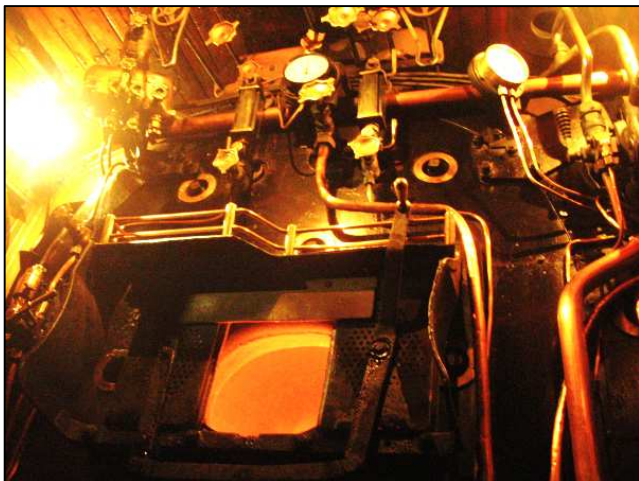
P38 - Aidan battles to connect the 3-phase 'extension cord' as the rubber weather seals go stiff in the cold weather. The grab's heavy electrical cord is now a plug-in, as it has been stolen several times. We lock it away between uses.



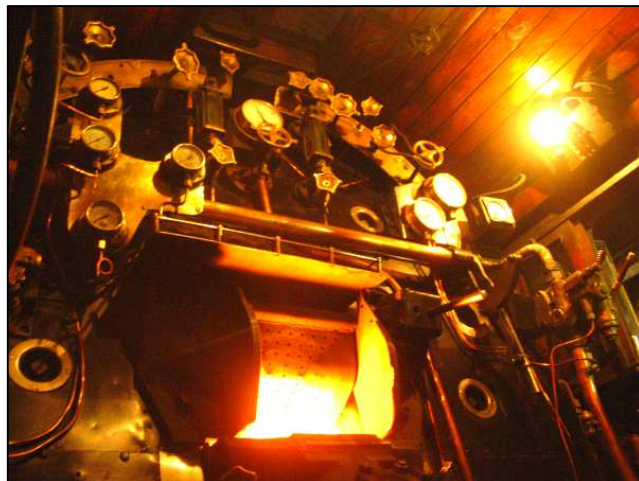
P39 - Here we are! Approaching the coal dock. The Yumbo grab was unusually far forward as we are scraping up the coaly crumbs. It meant the locomotive would be awkwardly standing between the gates for coaling.



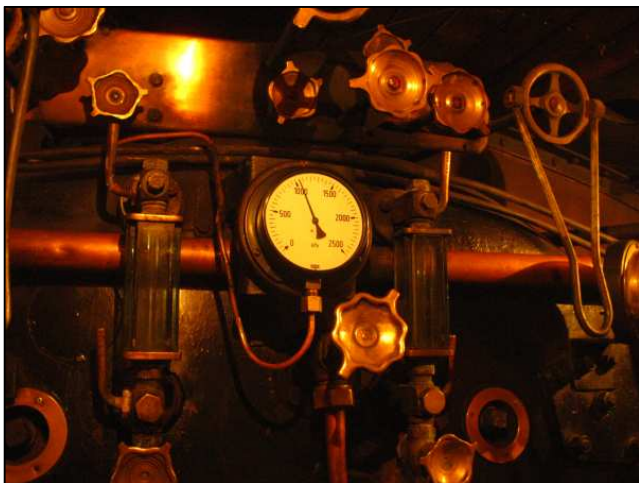
P40 - The first part of the coal loading process. Proceedings were later interrupted by the grab going dead – luckily with the scoop higher than the tender so the loco could still get out. It turned out to be a loose line connector.



P41 - Class 12AR boiler backhead through a rather narrow camera lens.



P42 - By comparison, here is most of the boiler backhead on the Class 15F 3046. This coaling and turning of this particular locomotive finished at about 10:50 that night.



P43 - The new boiler pressure gauge in service. This one is only metric, and has a higher scale (2500 kPa) than the originals, which makes the readings less granular. The needle will never go past vertical before the safeties lift.



P44 - We used some of our freshly-boiled steam to get the two newly filled water tankers coupled to the back of the usual day train. As we would be running tender-first North East, this end of the train would become the front.



P45 - We would be taking one of our DZ gondola wagons with us to swap for a similar vehicle from Friends of the Rail. Their version would have the 'new' axles for the 25NC 3472 already preloaded. (Thanks, guys!)



P46 - While we had a vacuum-braked steam loco hooked on the train, we took the opportunity to do a quick (and cold) check of the brakes, although the official vacuum test would still be done in the morning. Gordon is using a mini-crow bar to tighten up the adjustable main pull rod under a coach.



P47 - One of Reefsteamers' few concessions to the 21st century. We wimp-out and cook on gas! We had too many stomachs in the vicinity to cook wops on a coal shovel.



P48 - Sitting on the 'Klien Forge' anvil in true pixie style and with a 'smoke on', a tired, cold Gordon wants his supper! And then a coffee ... and then his bed. In that order.



P49 - Drawn in by the scent, the hyenas are already sniffing around for the kill. Ackerman was pestering me to do the braai but I essentially told them to get knotted and I was out chasing kettles in the darkness. Duty loco minder Cousin Rob took over at about 8pm .. he had nothing else to do!



P50 - Bennett Junior stayed away from the braai operations and had strategically bagged one of the warmest seats in the house the cab of an under-cover 15F locomotive approaching high steam. We did eventually lure him down with the promise of a warm worsie roll.



P51 - Alone in a dark yard, she's about ready to go and would be parked here for the tender loving care of Cousin Rob. She's dunbopped – but our night shift was only halfway through as we still needed to get the 15F roadworthied, turned and coaled-up for the morning.



P52 - I thought I better include at least one picture of Class 15F No.666 'Janine', otherwise she will get me back during the next loco minding session. The 15F light-up pics will be going up on FaceBook during the week. Check in on <https://www.facebook.com/groups/reefsteamers/>