

**1). INTRODUCTION :**

Good progress is being made at the depot. The 'Locomotion Coach' is almost done in terms of running gear and services – just a surprise leaky water pressure tank holding up the works. The interior, of course, still needs to be refitted and the coach needs some Carriage n' Wagon service in terms of bearing, gangway and draft gear lubrication and settings. With the recent spring swaps, the coach now no longer slouches to the right and is at about the right height. It's nice to see a coach with good posture.

We are trying to organize matching paint for the half-complete Sandstone Day sitter and once that is done, we can start the long-term program of swapping one day-sitter coach out at a time for running gear service and much needed interior repairs. We are still struggling to find people who are willing to work on the coaches and would make an appeal once again for individuals to step forward. A lot of the work is light duty, half-day type stuff such as door latches and hinges. Engineering Manager, Andrew King, would be delighted to have your assistance.

We will ensure that we blow the track ganger's air horns to call you in for tea ☺ when you work out in the yard.

The converted works caboose is very nearly ready for service on the day trip trains – it just needs its inter-coach wiring to be done and some weatherproofing work is to be done on the gangway bellows. The Ford Industries generator is running and delivering power.

The Class 12AR No.1535 'Susan', which suffered a leaky flue, has been reassembled and will be put back into steam on Saturday 14th. Class 15F No.3046 'Janine', which has been handling the trains in the meantime, has been a 212 ton sweetie pie and has been running with minimal problems.

Steam preservation seems to attract people with ego or inferiority issues and Reefsteamers has a few in the ranks. One such individual maliciously reported us to the Rail Safety Regulator, claiming (in an exaggerated fashion) that we were running a locomotive with no brakes (15F 3046) and that the rolling stock was unroadworthy. This report ended up being a RSR site inspection and a full RSR inspection ensued on the claimed items. The reports turned out to be FALSE. The coaches are, in fact, in quite good condition with only one bogie's axles approaching its limits in terms of flange wear. Well done then, to our Carriage and Wagon specialist, Clifford Matthee. The 15F locomotive was also found to be in compliance and the only safety issue found on No.3046 'Janine' was the lack of warning stickers for overhead wires. RSR regulations say that such stickers or signs need to be posted on the tender ladder, and on the scuttle plate above the tender's coal gates. Well done, then, to the technical teams and also to Coen Pretorius who oversees our overall site and operational safety. (Andrew King oversees the workshop safety in particular.)

It's great to have a full sized depot at our disposal, but it does mean a lot more needs to be checked for safety compliance. So the report turned out to be good news for us.

We were mildly rebuked for the lack of PPE (Personal Protective Gear) of some people on the site. The people concerned were primarily the full time employees. But the volunteers need to be careful of their PPE gear as well. Remember that Reefsteamers will not accept liability should a member injure themselves.

Marketing continues to be a problem and we need to get our contacts out for marketing assistance. We do have an individual who is assisting with the bookings, but marketing is a full time job which requires energy and creativity. At present, marketing and the associated marketing materials are being handled by about 5 people, each of which have other portfolios at Reefsteamers and only one of which is retired. Without effective marketing, Reefsteamers will eventually wither on the vine and drop off, no matter how many locomotives we have in steam and to what extent we can do maintenance and fitting work.

A series of draft brochures for special trips have been issued and these are to be formalized for printing. We are going to be yet again asking for assistance from member in terms of publicity. These are long term brochures for the Cherry Festival, The New Year Train and the Easter Weekend Train for 2012.

Background work is continuing on the Sandstone Crane boiler but this will be the subject of a special report which will be primarily issued to Sandstone. But I've included a few pictures as a general update.

This report has photos from several weeks. Unfortunately, on the photogenic day that we put the superheaters back into the 12AR, all my camera battery-sets turned out to be discharged. I later discovered that I did, in fact, have two fully charged sets but each with a faulty cell – so the effect was of frequent dashes to the canteen for rapidly diminishing spare batteries from my kit bag. So I missed a lot of good picsbut such that I have, I'll share with you.

2). PROJECT - CLASS 12AR SUPERHEATERS AND FLUE :**BF01 – The patient.**

This plucky little shredder managed to get her train home with a flue that was blowing in up to three places and a super heater that was leaking as well. She had been noted to not be drafting too well and the driver (Shaun Ackerman) had reported an unnatural 'blowing noise' at the front end.

They suspected superheater trouble, especially as the noise picked up on an open regulator. (The superheaters are downstream from the regulator valves) It turns out that he was right. The super heater WAS making the noise. But the steam leaks from the failed flue were cancelling out the vacuum at the front end and thus reducing the fire draft.

Examining the running gear is Alan Lawton's dear old mum who had come for the cancelled day trip and ended up in the workshop with us instead. She was a really good sport and mucked right in – and it is easy to see where Alan gets his good nature from. (She makes excellent tea too!)

**B02 – Backstop.**

A full view of the vintage-looking rear tube plate with the replaced flue outlined in chalk in the top left corner. (This was designed in 1943 so it's not that old in loco terms.) Two tubes and another flue have been marked for beading. The old-fashioned narrow proportions of this firebox, especially when compared with the wider Wootten boxes of the F and 25, are obvious. Although our Class 12AR goes like the clappers, the old railway crews who drove the 12A's with their combustion chambers, considered the 12AR to be inferior after they were re-boilered.

Our Little Susie, as old fashioned as she is, has a fairly tolerant boiler. The 15F's and the 25, if they are lit-up too quickly, or hammered after going cold over night with a loco minder letting the fire die out too much - have a tendency to develop hot-toes on their fires and stretch their stays in the wide front corners – with subsequent leaks.

**BF03 – Front End.**

A remarkable shot considering I was reaching in past the petticoat and cramped on top of the table plate brace – the camera lens ended up going straight down the bore of the new flue. The apparent thickness of the flue's walls is not an optical illusion caused by the shiny edges. The new flue walls really are thicker than the originals and caused Peter Labuscagne to lose some sweat when he expanded the rear end during the week.

**BF04 – Loco Sinuses.**

Not much room in the smokebox! What is good news is that with the regular smokebox cleaning after every run, the wasting on the tube plate has been arrested. Originally it was thought this plate wouldn't be fit for another boiler cycle, but now it should last for another 3 year ticket, and with luck, possibly a subsequent one.

Yes - the petticoat is developing a nasty crack and will be welded before the front end is closed up.

**BF05 – Cavities.**

With cavities like these, you could be forgiven for thinking that we are running our boilers on sugar water! There were three of these corrosion pits, all of which had pin-holed through to the inner surface.

A problem with boiler flues is that the impinging jets of steam cut into the superheater elements. And leaking superheater elements within the flues can cut into the flues.

**BF06 – Boiler surprise!**

Here's another surprise. This flue had been double-safe ended. As they normally corrode towards the ends, and the ends are exposed to char cutting, a worn flue (or tube) can be salvaged by welding on a new section. It is unusual to see it done twice. But if the welds are done properly (Certified welder) and are close to the tube plate, although not ideal, this isn't really a problem.

**BF07 – Polishing Up.**

The superheater elements have all just been tested and Johann Breydenbach, one of a crew of three, is happily polishing off the surface rust from the bell ends. Johann had made arrangements to get a lift and come and fire the train today – but as the train was cancelled, he was quite content to get busy in the workshop instead.

It is remarkable that a superheater can be coupled to the header with a rounded bell coupling and remain leak-free without gaskets, olives, crush rings or such like. The elements themselves are also loosely braced and those two end pipes can be lifted semi-independently and can even rotate slightly given the length of the pipe work.

The loose fitting methodology seems flimsy but is actually clever design in its simplicity– the boiler can expand and contract slightly with the flues expanding around the relative position of the super heaters. A locomotive boiler expands back into the cab when it is hot, so the superheaters actually move away from the boiler backhead, relatively speaking.

**BF08 - Elemental.**

Seven superheater elements were removed in all – being one column of four and one column of three – from the two right-most sections of the superheater header. In a perfect world and with compact tooling, only two would need to be removed as the long necks of the lower rows block removal of those above them.

But while we were at it, the seven elements that could be removed without messing with the petticoat were taken out for ease of access and inspection. One of them was found to be leaking. Each element was visually inspected and also subjected to a portable hydraulic pressure test.

Oom Attie, nearest to the camera, wasn't a part of the crew but kept us entertained with his heckling and shameless flirting with Alan's mother. I was wondering what Alan would feel like having to call Oom Attie, 'Dad.' ☺

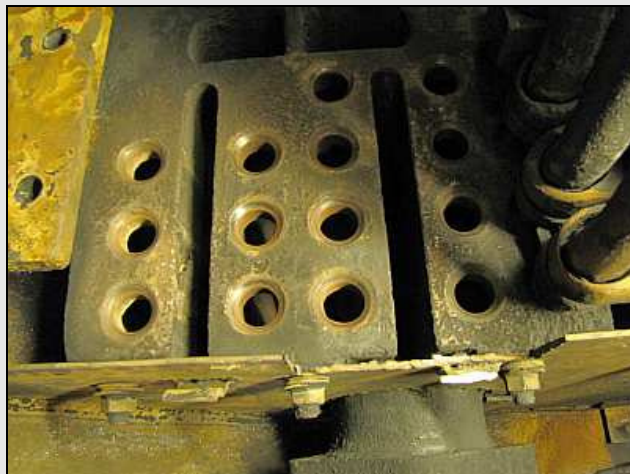
(And Elize would then be his step-sister ... how schweet!)

**BF09 – The overhead grip.**

With Peter Labuscagne putting the screw onto the headers, the element gang lift the first of their loads. The short necks in Alan's hands (rear) indicating that these go in the top row. This one seemed heavier than it should and then the fellows realized that it was still full of rust tainted water from the hydraulic test! Alan got the slops!

That's Robbie in the middle and Johann B on the buffer.

Notice that whoever painted the black etching primer on the smokebox cover plate wasn't able (or willing) to get behind the headlamp – which normally resides on that bracket. Incidentally, the etching primer is working brilliantly on pre-prepared surfaces (15F) and is to be our new standard – down with the labour-intensive and slippery graphite paint!

**BF10 – The header box.**

Here is an unusual picture, looking up vertically into the header into which the superheater elements are fitted. The outer column (left) has 3 sets of 2 paired holes while the inner set has four. (Front of loco is bottom of pic.)

The strange square-lobed shape of the header serves two purposes. Firstly the cast-in slots and walls help to strengthen the casting. But the primary purpose of the slots is to accept the t-heads of the super heater clamping bolts (shown in the next photo.) The protruding threads of which protrude downwards through the slots for tightening. It is a simple but ingenious system which allows for wide tolerance and flexibility. The downside that a failure in an element in a top row of flues, requires that all the elements in the flues below need to be removed.

**BF11 – Header Bolts.**

These are the clamp bolts for the super heaters, with their distinctive club-hammer shaped heads. They are inserted into the lobe slots and then rotated 90 degrees, almost like a bayonet bulb. I know where number seven went... ☺ but I'll keep the blackmail on the driver concerned for when it can be of useful profit for me. ☺

Stray superheater header bolts are very useful as baulks at the table pre-feed chamber of an automatic stoker. They also come in handy as little mallets to 'percussively persuade' the shallow lobes of stubborn turret valve wheels. They also work as extension levers for stubborn spoked valve wheels and to start stiff club handles on over-packed injector water valves.

**BF12 – Elemental.**

Here you can see the tee-headed bolts having just been fitted on the Class 15F No.3052 'Avril' in October 2010. While the pipe clamps are plain rectangles here, the principle is exactly the same. Notice that the threads have been properly 'copper-slipped.'

Here too, the awkward stacked nature of a typical locomotive superheater array is easily seen. A failure in an upper flue required removal of all the elements in the column below. You can actually see the short necks of the top-most element just entering their flue.

3). HOW TO BRING UP KIDS :**GB01 – Looking in.**

I was already comfortably settled on my hams within the 12AR's firebox and was quietly taking pictures of the tube plate, when 'Smudge' Ackerman clambered up to give his tyke, Gabriel, a tour of the cab. Gabe spent the afternoon with us.

Thus, here is a very clean and cheerful looking 'Smudge' checking out the rear tube plate and the new flue, illuminated by a big fluorescent lamp lying on the upper face of the fire arch.

**GB02 – A 100W smile and check out the dimples!**

How nice to be 8 years old and able to stand within the confines of a real firebox. He was thrilled to do it too!

Before any smart-arses try to look clever and start to complain (you know who you are) the little guy had safety gear on, including a properly adjusted hard hat (His Uncle Patrick's hat) and was not allowed anywhere in the workshops or on the locos without supervision. It was quite fun having a little fellow with us.

**GB03 – Practical Lessons.**

Shaun explains how a firebox works while Gabe gets a close up look. As Shaun wasn't yet dressed in depot-duffs, he wasn't going to climb in. Gabe is not unfamiliar with the concept of a firebox as he frequently gets 'cab rides' and sometimes fires on the wonderful miniature engines of the RSME in Florida.

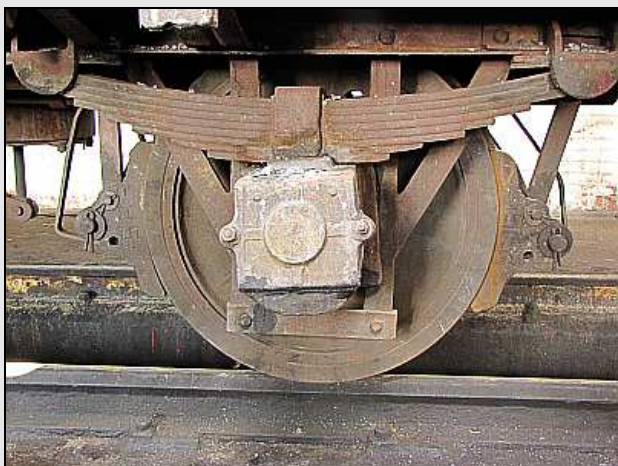
The little guy looked nervous. He was feeling uneasy with the cold rocking grates shifting slightly under his feet, as they normally do. I suppose the movement feels a lot more intimidating with small footprints.

**GB04 – Cable Trap.**

Finally I finally have concrete proof that the firebox cable-trap phenomenon is not just my imagination. The cable always gets wrapped around your feet. Size is obviously not a factor.

Actually, having The Squirt with us was useful. He is small enough to get under the smokebox table plate with ease and we sent him in a few times to retrieve tools and nuts that had been dropped.

Thus, lend us your kids on weekends. We can get them out of your hair and put them to productive work inside fireboxes, smoke boxes, under the grates, up the ash pan chutes and of course, in between the narrow frames of a typical 3ft6in gauge loco.

4). MISC : (AKA BITS N' BORBS)**M01 – Bogie Detail :**

Some bogie detail on the 'Tea Trolley' currently carrying 12AR boiler bits in the top shed. Fit for high speed service on the Orange Express ... not. This is a sprung railway axle at its very simplest. Our humble tea trolley wagon is probably one of the few full sized 4-wheel wagons still in service and it has hand-operated pin-down type brakes.

Interestingly enough, it is still fitted with a matching pair of 'Alliance Couplers' – and can this be used with normal SAR knuckle couplers as well as link and pin, even with home-made variety of link bars, chains and slings.

Although you can't see it in this picture, some wit has scribed in 'TFR' onto the axle box covers.

**M02 – Winging the Wiring.**

It's always a bit strange to see fresh, clean wiring with stripped copper-bright ends on the typically crusty undercarriage of a coach. This is the contactor for 'Locomotion's' new water delivery pump – since wired up and tested.

Our coach water pumps are operated by pressure switches. The initial pressure is provided by that of the pressure tank itself, provided of course, that the non-return valve doesn't leak.

The sharp clack of the contactor and the buzzing whirr of the pump is a characteristic sound of our coaches while at bay in a station, especially on the long distance trains when one walks along the train on the track-side level.

**M03 – Bowl Bowl.**

The restaurant coach, 'Locomotion's' two toilet compartments are completely plumbed in and functional. Some cleaning and painting is still required.

Unfortunately, when the pressure tank reached full pressure while the plumbing test was underway, the rust and layers of paint holding the water in blew out and the previously-patched tank end leaked like a shower rose.

Since this picture was taken, Locomotion's pressure tank has been dropped and a spare tank salvaged from the derelict restaurant coach 'Kariega.' The pipes don't quite match but that ain't nuthin' to steam train mechanics.

**M04 – Spares.**

We have enough plumbing spares for two complete toilet compartments – as the two toilets at the other (bar) end are to be converted into a store and a kitchenette.

The quadrant panels that enclose the corner sinks, in particular, are rare items.

The scat pipe standing vertically in the corner has an extra luxury feature. It has an extra collar at the discharge end from when the Locomotion Coach was plinched and the drain pipes connected to a water-bourne sewerage system.

**M05 – Not a spotty-potty.**

Reefsteamers is in the gradual process of converting the coach toilets to domestic plastic type toilet seats. We did try wooden seats for a while. They definitely looked more homely on a clinical stainless-steel pan and were warmer to plant tushees on. But they proved fragile with the joints in the laminated wood fracturing under lipodexrous passengers, as the SAR toilet bowls are narrower than the domestic type. The fat would literally hit the pan with the extra stress at the seat overhangs.

Many of the day sitters still have the spring-loaded oval seats in speckled grey. These are comfy for the 'pax' – but as they gradually fail, we'll be going for domestics.

**M06 –Plumb Leaky.**

Actually, the water was spilt during pipe work. The west end of the UV-embrittled water main has been replaced and the various tee-offs were fitted with new clamp-on tees, like the one seen here.

As we receive more donations for the water mains, the rest of the pipe-work will gradually be replaced.

Andrew King reports that several thousand rand's worth of re-usable pipe clamps and patches were salvaged from the old pipe.

**M07 – This space to let.**

The gaunt looking boiler platform of Sandstone's steam crane. The future boiler of course, is the red article in the following pic. Unlike our 35 ton Booth Rodley steam crane, this one's operator cab is along the flanks on the side. Like the American camel-back locomotives of old, the fireman worked on his own at the rear platform. Or the operator would take a short scramble to his boiler.

We have plans for this crane – to assist in our track work program and to also assist in storing of SANRASM locomotives when they eventually arrive.

**M08 – Red Hot Pepper Pot.**

Here's a replacement boiler for Uncle Wilfred's Crane. It has been filled with water for testing and leaks copiously at the foundation ring just from gravity – not because of rust, but because of poor riveting. Before pressure testing can take place, all the foundation ring rivets need to be replaced. Many of the heads actually stand a bit proud.

It doesn't look like much progress has been made- but a lot has been happening. We've been getting stock to make the unusually long rivets which pass right through the water spaces. A die block has been machined and a tup has been fitted to our 50 ton press. We'll make our own rivets. The rivet holes all need to be reamed out and a suitable reamer had to be procured to replace one that 'took a walk' earlier, and the worn reamer itself had to be sharpened up.

5). REFLECTIONS:



R01 – Deadline.

Ex-Tweefontien Colliery GMAM abandoned on a siding at the REGM recovery operation. Long since having gone to the great railway in the sky.



R02 – Treasured survivor.

Worth fighting for, don't you think?

Quite a contrast.



R03 – Planes and Trains.

Class 15F No.3046 'Janine' steams gently at the drain cocks while the compulsory brake tests are being done. Notice the aeroplane in flight above the shed roof's peak?



R04- Stokermotion.

Shrouding the cab in steam, Fireman Andreas Matthee leans on the stoker as he catches up on a late start. The locomotive had to be shunted and coaled in the morning as there was miscommunication the night before and we didn't have a driver to move the loco to the coal dock for us.



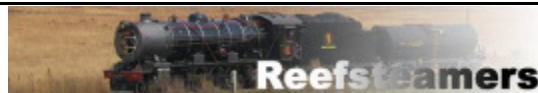
R05 – Movin' orf.

Class 15F No.3046 'Janine' is my least favourite of all of the Reefsteamers locomotives. I haven't peed on her wheels yet, but that day is coming. But even I have to admit that she makes a fine sight pulling towards the gates.



R06 - Coachies

Leaning into the mellow light, my two fave coachies greet me in passing. The one with the backlit freshly-dyed hair is 'Dysie' and the other one, wearing her trademark purple or lavender accessories or clothing, is the 'Smidge.'

**R07 – Strutting her stuff.**

This was a bit of a slippery start – getting those coaches moving on a curve on winter-dewed rails. But Chris Saayman slapped the slips, and fireman Andreas Matthee didn't get to watch his new fire go straight up the stack.

Technically this is a bad photo as the locomotive's front and the coaches are in shadow. But I always love how steam locomotives often provide their own backdrops, and 'Janine' is framing her shadowed face beautifully with that condensate steam.

**R08 – Westbound.**

Westbound under the eastern sun, the coaches are lit a bit strangely with my camera at high shutter speed. (0.025sec) In my 4 years at Reefsteamers, this is the first time I'd ever taken an eastward photo at this spot. You can just see 'Smudge' and 'Noddy' behind the cantenary mast.

Note the ridge on the right-side rail. That's the derailer, which is interlocked to the points via remote rodding. The derailer automatically comes on when the points are set straight – as they are by default.



This Depot Report was compiled by Lee D. Gates on behalf of Reefsteamers
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