

1). INTRODUCTION :

This report covers what turned out to be an unusual day. Class 12AR No.1535 'Susie' was lit up on schedule and started work an hour early, only to be failed in the afternoon with steam leaks at the superheater header. The loco lighting team was then assigned to the Class 15F No.3046 'Janine.' It was quite an experience for the learners and it was an interesting contrast between a 'modern' steam locomotive and one that is more vintage. (Albeit re-boilered.)

Unfortunately, when I'm actually busy and involved, the photographs become sporadic. It is one of the reasons why I eventually took on the role of the Depot Photographer – and I do enjoy it. It saves wear and tear on people's cameras too as the depot is not kind to optics and electronics. But sometimes it does get a bit 'samey' and a bit like an 'outsider's job' running around with a camera instead of actually doing things and mucking in. So today was a bit awkward from a photographic point of view, but I had a blast – even with lighting up two locomotives sequentially.

It is therapeutic too! I threw my back out on the previous Wednesday when my 'puter desk's chair skidded backwards as I was launching my rump for a coffee break. On Thursday and then Friday morning, I walked with the spinal column bow-stringed by muscle spasms and walked by hobbling along. I was nervous of the Saturday duty roster – but something clicked into place and I was quite happily walking around with 20 kilos of diesel fuel, climbing cab steps and otherwise chucking-chunks. So, if you have back trouble, don't waste your money on the doc. Rather come to the depot and work out the kinks. Dr. Gates will write-up a special back-strengthening program for you!

Other depot work for the day involved the fabrication of the vented doors for the donated generator within the Works Caboose. (The 'Hack Shack.') Said doors being a hefty but simple angle-iron frame and the door panels comprising of expanded steel. We learnt our lesson about engine ventilation in the old S&B van. In contrast to the S&B van installation, the 'new' generator is going to be run initially without ducting for the radiator. (If we can get away with it) On the plus side, the silencer is above the roof and the exhaust system is more compact with less heat radiating surface. The original double loading doors both need to have robust tie-backs and latches fitted, as the train will run with the doors open while the generator is running.

**P01 – Today's First Light-up.**

The venerable Class 12AR No:1535 'Susan' has been hooked up to plant power via the chimney stack, the interlocks thrown over, fusion cycle initiated and her mighty triple-expansion turbines are steadily spooling up! ☺

She had her front end reassembled during the week with the cracked petticoat being welded and spark arrestors being incidentally cleaned as they were being reinstalled. The resulting intact locomotive seemed to be fairly free-breathing but that was probably just psychological. (Or I've become used to certain moody, long-boilered 'F's')

I officially only had one fire-lighting trainee today, but quickly ended up with three little duckies imprinting on me. It was a good and sociable light-up day with all the supplies laid on and everyone mucking in. But the usual blower rings and pipes seem to have disappeared. We had to salvage this one from hanging forlornly next to the ash-pit.

**P02 – The Curse.**

It seems like The Curse may have broken, or perhaps just slipped on the camber a bit. Gates' Law of locomotive work indicates that the possibility of making a total ash-faced-arse out of yourself increases in exponential proportion to the number in your audience – and quadruples when you have a trainee. Add to that the fact that I'm not particularly good on the footplate myself (esp. fire-lighting) and the odds get distinctly dodgy!

This was Robert Cousins' (pictured) first time ever as a fire lighter and the process went well. Although we did end up doing two locos one after the other, he reported back that he thoroughly enjoyed his day, learnt a stack and that he is going to 'negotiate' his regular depot days with his girlfriend.

Being single does have its advantages. When I want to go to the depot ... I just go.

**P03 – Extra.**

These young 'uns came into the shed just after I'd sent compactly-built Robert into the firebox to extract the fluorescent work lamp that was still in there. The chap on the right is Victor, grandson of a now-deceased driver and has a basic knowledge of locomotive prep and what to do.

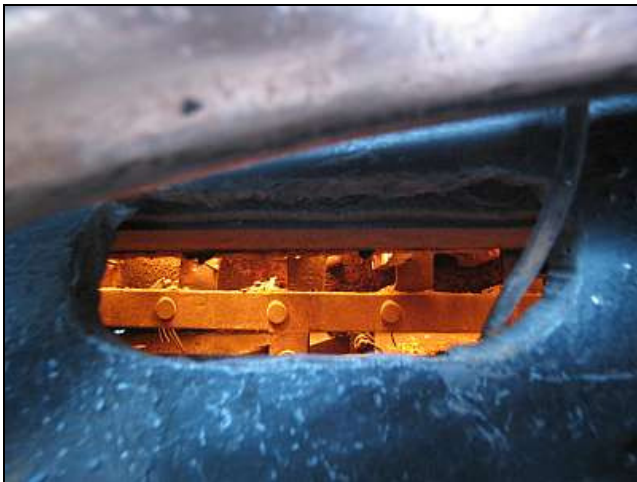
They quickly shoveled-in while Cousin Robert was placing the kindling wood and they had a lot of fun pushing the coal forward in the tender. They are still relatively clean in this picture. I was worried about 'The Curse' though – but it didn't fire. (Even when we found that the deflector plate has a broken stud and one nut appeared to be missing. Turns out it has 'always' been like that...)

It is always fun to have train-loving youngsters around as they have that spark of excitement, enthusiasm and wonder that those of us who regularly work with the engines tend to lose, or even become a bit cynical about the old clankers.

**P04 – Confidence.**

Confidence is ... not using ALL the kindling for the first attempt at lighting up. This was strange stuff as it wasn't the usual axe-hacked sleeper wood or 'bosveldt stokkies' but rather, broken-up pieces of furniture and structures. The generally soft wood ignited well and combined with the diesel fuel I'd brought in instead of paraffin, we had our fire off to a merrily blazing start! We were putting coal on within ½ hour as the soft wood burnt down quickly. The 41sq. foot firebox of the Class 12AR drafts well on 'ground air.'

There were some heavy curved pieces amongst the firewood and I couldn't figure out what they were. Oom Attie put me straight in the late afternoon. They were the curved cab-roof braces of scrapped locomotives and I felt rather bad. But I suppose it is a good way for the last bits of dead locomotives to go... but it is still a bit like using your deceased Granny's preserved foot as a door stopper.

**P05 – Aqlow and showing.**

You can tell when a locomotive's fire has burnt through by checking out the rocking grates through the air slots. This one, viewed through one of the inconveniently small air holes of the Class 12AR, is doing quite nicely, thank you very much.

It is always a wonder that the grates don't melt or fuse, but the induced draft passing upward through the fire has a cooling effect.

**P06 – Proud Loco Lighter.**

Mr. Cousins was a good sport. Lighting a loco isn't much work after the fire has been heaped before the first spread. He helped with the cleaning, and I then sent him out along the footways to oil the regulator links and the reach rods. He even did the cross shaft on the backhead.

Being of lithe build, he fits easily through the narrow fireman's footway door with ease. I can squeeze through, once I suck the generously assigned padding in. We need to preserve the lean figures of those that still have them.

**P07 – Laid Aside.**

Little Susie was in steam and climbing at 400kPA at 3pm from a 9:45 light-up, so ... not too bad. Shaun Ackerman took over to shunt one hour early, as we still needed to get the lumbering great, cold 15F out of the way and coal up. Madame 'F' was in the doorway while the 12AR was in the back end of the shed where she had been worked on. The Tea Trolley was between them – where it had been used to hold the superheater elements.

After the final Acker-powered brew up, the fire seemed very sluggish and wasn't beating so well to the full-forward gear draft. I got grumped-at a bit for using the blower at stand still. We must have made about five attempts to couple up to the 15F with the battered 'tea trolley' wagon coupled between us, boiler at 850kPA but not really getting anywhere with the extra steam consumption and no draft.

But the sluggish firebox wasn't just my imagination or 'scratch' techniques, as driver Ackerman could soon hear a hollow sounding roar in the firebox – only when he opened the regulator. (Which indicates the problem is downstream from the regulator valve chest.)

Turns out that there is a steam leak at the superheater header and it is very likely one of the ball-ended couplings that hadn't been centralized properly before the clamp was tightened. Sometimes the ball-ended couplings hang up on their imperfections and don't quite snug down to establish a firm steam-tight seal. Thus, a workshop assembly error rather than a failure on the locomotive's part.

The grand old girl was by no means crippled and was able to get the 15F No.3046 and the tea trolley alongside the Forge House and to back off, so Attie could pick them up and shunt them alongside with the diesel shunter.

A steam leak in the super heater header area tends to 'fill up' the vacuum created by the exhaust steam jetting up half-venturi arrangement of the chimney's petticoat within the smokebox. The reduced vacuum means a reduced quantity of air pulled through the flues n' tubes, and in consequence, less air being pulled through the firebox. A steam locomotive relies heavily on the positive feedback loop of the blast gear pulling extra oxygen through the fire to produce power on demand. In motor car terms, it would be equivalent to an exhaust manifold leak up-steam from the turbo-charger, reducing the power of the engine because of the reduction in maximum boost.

**P08 – Evening 'Light-down'.**

It would have been impractical to try and fire Susie on the following day with a smokebox full of leaking steam. Apart from the power loss, sustained running with a leaking joint will soon cause the jets of escaping steam to cut into the joint's surfaces and then necessitate more serious repair and some associated grumpiness from the Chief Injector.

It was discussed briefly whether we should work on a hot engine. (The GMAM No.4079 'Lyndie Lou' once had a fire dropped and her fusible plugs worked on in a freshly-hot firebox and then re-lit during a fire lighting operation.)

Nah... and I don't really blame them.

It was then decided to hook up to the front end of Class 15F 'Janine', bunt her into the coal dock, fill 'er up and then light 'er up for the following day's trip instead. The 12AR still had some light duty work to do as the Hack-Shack and the Locomotion Coach needed some shunting to test their draft gear and the gangway buffers in the last of the rapidly dimming daylight.

After minding the engine while she was being coaled up, I got gently booted off the footplate and told to go light the 15F, and Honeyball got to fire the wheezing 12AR around the loop. (He was originally rostered to run the coal grab.) Naturally I wasn't too impressed but also not farked out – just one of those things. If steam locomotives were clean, clinical and started at the touch of a button, where would the challenge be?

Madame 12AR was left on the ash-pits overnight after her fires were dropped and would be shunted out the way on the morning. The chaps wanted to get the 15F lit up at about 4:30 and have the boiler warm for Andreas Matthee's arrival at 8pm.



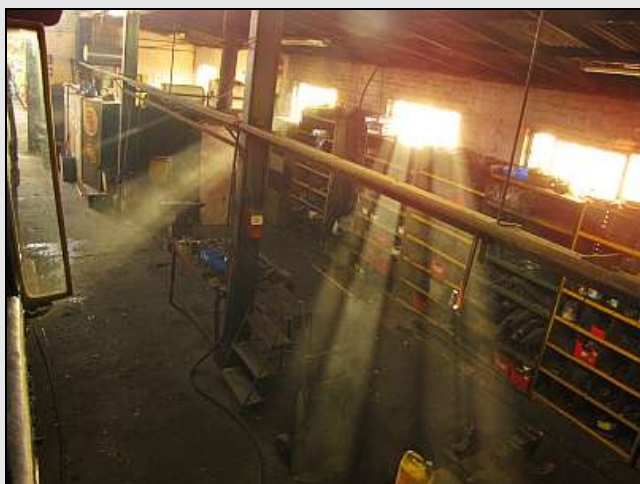
P09 – 2nd Polish.

The loco lighting team, plus Attie, set to their surprise extra work in good spirits even though the day was getting long. We actually had Janine's fire lit up by 4:45 – it literally took less than 15 minutes. Compressor was already running, blower ring available and we even had spare wood.



P10 – Conference.

A quick conference about today's issues and where to find locomotive-sized aspirins. This motley crew comprises of (Left to Right) Robbie Davis-Hannibal, Attie de Neckertjops, Shaun Ackerman, Peter Labuscagne (with the graffiti can), Andrew King and Alan Lawton.



P11 – Sunbeams.

I'd be in for a long night. Transnet-employed Andreas Matthee was the duty loco minder but had gotten tied up with testing work for Transnet. (The earth return currents from the Gautrain are interfering with the Transnet signaling system.) Andreas would only be on duty for 8pm although his dad, Cliffie, volunteered to come and tend the loco from 6pm onwards, 6pm being the normal duty time.

I wasn't fussed and just calmly wrote the night off.

15F No.3046 Janine's fire caught quite quickly with the soft wood that was all that we had left and needed to be fed quickly with coal before the wood burnt out. Luckily we timed it right, and with decent coal too, and thus no diesel-fueled cheating was required.

Peter had overfilled the boiler from its originally empty state and it was half way up the glasses at cold. By the time she was in steam, the water had expanded right above the top nut. It made for a slow rise in pressure but she had all night to raise steam.



P12- Yikes.

Er....Yee-ah. There is just a bit more brass, bronze and copper on a mechanically stoked engine. Class 15F 'Janine' didn't get as good a clean-up as the 12AR at the end of the long day. Even I was feeling a bit intimidated by that tall, wide boiler backhead after looking at the relatively petite rear end of Susie's boiler.

Actually, that cab was filthy and I'd love to know what sort of orgy the previous footplate grunts were having in there.

Notice the mucky hand prints on the steam oil bottle.

If you look at the glasses, you can see the water level on the left side. Because of the photographic angle and the refraction in the shatter shield, it looks a bit higher than it really is. I normally light boilers ¼ full above the base-nut. You'll see the water level better in the next picture.

**P13 – Marked test cocks.**

Peter and Attie couldn't get the test cock drains to close, even with Attie standing outside and watching the drain pipes. A locomotive's test cock drains are plug valves and don't have 'stops.' They can be turned endlessly. On a pressurized boiler, they are easy to seat as you will see the water distinctively rise up within the glass tube when the valve is closed. On a cold boiler like this, you can only see by watching the discharge (or lack of) at the drain pipes.

Peter eventually lost his rag and sprayed the handles with white paint to indicate the approximate 'off' position.

**P14 – The squeeze.**

Lappies has recently brought a scooter to save fuel and to reduce the strain on his aging Honda sedan. He was quite proud of being able to ride the little machine down the various ramps and conveniently right into his workshop in the morning.

He had reckoned without an occupied Receiving Track though and here he is providing some amusement as he tried to squeeze past the head-ached 12AR. It's not so easy to wheel a wide bodied two-wheeler along!

**P15 – Show time!**

There were, of course, lots of inevitable comments about 'popping wheelies' and roaring off. This is actually a nifty little machine – beautifully decked out in chrome over the natty red and black paintwork. It reminded me of the progeny of a Harley Davison that got away and sneakily bred with a Vespa scooter.

I wouldn't be too keen to run those plump, pristine whitewalls over the depot grounds though.

I was impressed with Peter. Being a serious sort of person, he doesn't have the type of personality that likes being the center of good natured jibing and ribbing, especially with a large audience. And you can see that everyone is having a great chuckle. But he took it in good spirit.

**P16 – Smudge-lock.**

I didn't know what would be funnier : To see the scooter hang up with the surprise load on the luggage carrier, or to see the luggage carrier come off in The Smudge's hand – or to see The Smudge go skating along his breastbone and piling up at the first rail crossing.

Option 1 took place. In fact, Option One took place three times. Even the security guard who ambled by with the gate keys had a laugh and 'Noddy' King had snorted something through his nasal cavities by the looks of it.

**P17 – Finishing 'orf.**

These youngsters missed out on the two-wheeled razzing as they were concentrating on a certain big ferrous lump in the recesses of the boiler house. Victor finishes up by wiping the cab number plate Spoorie style, from the cab instead of trackside. This dude is 18 years old, mad on steam trains and has recently just got his car driver's license. And he's built to be a fireman too.

We will have to see if we can snag 'im.

By the way, before anyone comments – RS locomotive crews are not required to wear hard hats unless overhead or workshop work is taking place in the vicinity of the locomotive.

**P18 – Tightening the barrels.**

As I duckie-waddle up under the 'F' to take a picture of the brake adjustment, I get a typically unintelligible Yorkshireman grunt. But at least I found my absentee firelighter. He was grubbing around under the loco instead of ON the loco. Oh well – at least he was having fun.

Cousin Rob is busy tightening up the barrels on the brake rods to take up the clearances left by the gradually wearing brake shoes. Not adjusting the brakes eventually causes the locomotive's vacuum cylinder (2 on this machine) to top-out before the brakes are fully applied. (The pistons within contact the vacuum pan cover.)

This isn't a repair, just a normal road worthy check.

**P19 – Tender back.**

Just past 6pm on a pleasantly cool high veldt winter's evening. I am standing with my head against the 15F's cow catcher and tagging the monolithic form of the Class 12AR's tender.

I found my fire-lighter playing truant under the loco, but Shedman Ackerman couldn't find HIS fire lighter (me) down in front of the cow-paster – and promptly spread the fire himself. The fire was able to be spread less than 1 ½ hours after lighting so the loco was doing well.



The fire spreading turned out to be a bit premature, but just a little later, I rolled the lumpy fire out to a hot horseshoe shape and from then on, the temp raised steadily. Because of the over-full boiler, it wasn't at all quick but we had the whole night ahead of us.

**P20 – Steam Up!**

The overnight bake-head, Andreas, eventually only arrived at 10:15pm so it was a late night handover, although good old Cliffie kept me company through the night. I wouldn't let him fire though, for fear of him over-straining his fused back on the low scrape-plate and then firing over the obnoxiously intrusive stoker tunnel.

The steam was off the pin by about 8:45pm – 4 1/2 hours after lighting, with frequent but light coal-spreads. That's about 5 hours to raise steam which is about right with the boiler now chock-full of freshly expanded water. I chose not to drain any water, as it would act as a thermal reserve for Andreas through the coming night.

I was quite relieved to finally get home after a long but interesting day on two footplates, I can tell you. ☺

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