

For some reason, the scrap contractors are trying to cut strips out from the inside – but the stays have to be individually cut through. The Saturday morning shift had made the external cuts required to divide the firebox and post-combustion chamber assembly into quarters. (Pic S06 above) In the gamma-adjusted photo, you can just see the torch cuts across the fire box door and along the bottom of the post-combustion chamber. .

RIP.

I cannot emphasize quite enough...

**This locomotive was once reserved for preservation.**

Is this the same fate that awaits the reserved engines under reluctant storage at Millsite?

### **PROJECT - Hunslet Taylor Engine Reassembly :**

The lil' green critter's Gardner 6L series engine is coming back together and will soon be back on the frames, instead of a disemboweled monster lying pathetically upon its side. (Pic E01 below) The undignified position has proved to be useful though as both the top and the bottom of the engine are available for close-up inspection. The original problem that prompted the engine dismantling, being a leaking end plate tucked away impossibly out-of-reach between the two separate cylinder blocks, has been resolved. (Pic E02 below)

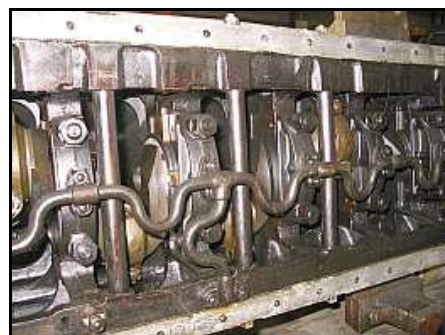
The crankcase interior and components turned out to be a lot cleaner than originally thought. (Judging by the muck found in the rocker chambers.) The big end bearing ends of the con-rods are too big to pass through the bores, so the pistons would have to be withdrawn through 'the basement.' So, the fully fitted oil pipe for the main bearings had to come off anyway. (Pic E03 above) It would have been removed anyway to clean the lubrication system. This awkward piston withdrawal method does have the advantage that you're not trying to pass the piston rings over a wear ridge that may have formed at the top of the bore.



E01 – With the six pistons hanging limp, the engine lies submissively on its side, waiting for a sump scratch, just after the covering tarpaulins have been removed at the start of the Saturday Depot Day..



E02 – The oval end plate where the original coolant leak was, has been resealed with a gasket and with sealant. Notice that the eight bolts are actually allen heads – totally impossible to undo with the two engine blocks standing end-to-end on the crank case with about a 4mm gap..



E03 – The oil distribution pipe for the main bearings. As the big ends are too big to pass through the cylinder bores, the pistons would need to come out though the crank case – so that obstructive pipe just had to go.

The cylinder bores were found to be in reasonable shape and didn't require honing, although the top area of the bores needed to be buffed off a little bit. (Pic E04 below) Being a diesel engine, with typically tall pistons, but UNtypically only having two compression rings, there's quite a large land between the top ring and the piston crown. (Pic E05 below) Furthermore this is a 'heron head' engine with the entire combustion chamber in a semi-hemispheric bowl inset into the pistons and the entire bore area is used as the 'squish zone.' Unlike more conventional diesel engines, and most petrol engines, there is a large part of the bore area that is 'unswept', that is, the piston rings don't contact it in service. (Pic E05 below) Andrew King rigged up a home made flapper wheel with a longitudinal cut down a shaft (with a hacksaw too!) and winding a reel of fine emery paper through the slot.

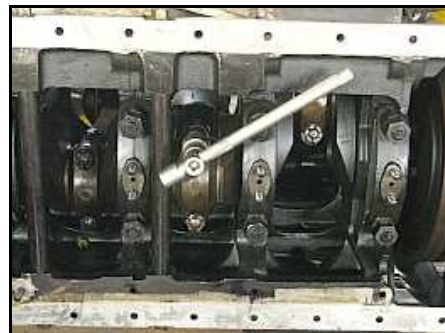
The big end bearing caps were taken off in turn and checked. They are plain steel-backed white-metal shell bearings as can be expected for an engine of this vintage. (Pic E06 below) There was no serious damage found – just wear and a few fine score marks. The pistons were removed with a few curse words as they had to be withdrawn past the naturally obstructive crankshaft journals. While the crankshaft was being rotated to suit, the other, loose, dangling pistons had to be held and guided through into the sleeve apertures as not to snag and crack their tilted skirts against the crankcase.



E04 – The carbon smeared unswept area of upper bores receive a good but gentle polishing with a home made flapper. This is the first cycle and you can already see the shine developing.



E05 – Here's a rather unusual valve pocket. You can see the carbon ring in the right most cylinder, which shows the position of the upper compression ring at Top Dead Center. The piston land actually 'covers' the valve pocket.



E06 – Having put the grunt on a bearing cap, the engine is about to be rotated and the crankshaft held locked for the next bolt.

After the upper big end bearing shell and the gudgeon pins were checked, the first batch of three pistons were handed to Aiden McCarthy for cleaning. He settled himself comfortably for a long and tedious job. (Pic E07 below) but also kept the Chief Engineer company as he started putting the front engine block back on. Andrew 'Noddy' King cleaned up the crank case and reinserted the separate push rod guides. It's been years since I've last worked on a pushrod motor and it was strange to see the camshaft tucked away down in the crank case and to think of these long push rods poking away at the rockers roosting up there in the attic.

The studs needed cleaning and their threads were lightly re-tapped. The gasket still had to be fed carefully over those long studs as not to snag and tear. Because it's a crank case gasket, it does not have the complication of sealing off the cooling water galleries. What was a remarkable luxury in this engine reassembly is that brand new sets of gaskets are still available for this engine that was built back in 1952, when the locomotive's bell was originally used to ward the dinosaurs off the track! This gasket was just withdrawn from a spare parts kit instead of being fabricated by hand ... which looked like cheating. Just way too easy...



E07 – Aiden settles down scraping the carbon deposits off the pistons while avoiding longitudinal grooving and scratching of the alloy material.



E08 – Freshly inserted crank case gasket. The pushrod guides have already been re-inserted. The object protruding into the left most cylinder is the exposed crank throw



E09 – The block's revenge. Those deeply insert mounting bolts don't allow sockets – open ended spanners had to be used, 16<sup>th</sup> of a turn at a time. This is when I chose to 'disappear.'

The engine block had its revenge though. The center four studs are deeply inset in cast channels that block the use of sockets. (Pic E09 above) It was a time consuming project to gently screw down the block evenly. Luckily the protruding cylinder sleeves 'pegged' into the crank case and helped to take up the weight as the bolts were snugged up. By the time the rear block was buttoned down and a raw-fingered Aiden had managed to clean the pistons, the evening was approaching. So the day's engine work ended with comparing the bearings and fiddling with the piston rings.

The following week's work started with yours truly cleaning the second set of three pistons as they were being removed. Tony 'Shakey' King initially joined us as well. He was helping to turn the crank and also as a torch holder, holding the beam at an angle against the bearing surfaces so as to highlight possible scratches and blemishes in the big end bearing shells. With 'Noddy' King and 'Shakey' King (unrelated) both on the job, I couldn't help but smile at the generic shell bearing manufacturer's brand. (Pic E10 below)

Initially, the piston cleaning was a scrape and then a sanding job, with great care not to make linear scratches in the alloy. But when doing the inset skirt areas around the gudgeon pins with the powered wire wheel, I discovered that the piston material is hard enough to withstand a good stiff power brushing. If I had put some light radial scratches in the gudgeon pin areas it wouldn't have affected the piston at all – so it was a good 'sacrificial' test area. But the grained surface came up flawlessly, so I put these three 108mm diameter bad boys to the wire. (Pic E11 below)

I was glad that Aiden McCarthy wasn't around to witness the job as he probably would have felt a bit sick to watch me do the work in a fifth of the time he took to do the job by hand. But it IS rare to be able to wire brush an alloy piston. One disadvantage of the power wire brushing was that the gudgeon pins dropped out and I lost the relationship between two of the pistons and their con rods. Luckily, in the cleaning process, the original finely stamped 'forward' arrows became visible in the piston crowns and by examining the installed pistons, 'Forward' matched up to the odd number stamped side of the connecting rods. Because there's very little play in the gudgeon pin bearings, fitting the pistons back to the rods was an exercise in patient wriggling to get the chamfers to match before the pin would slide in. (Pic E12 below.)

The piston ring grooves were cleaned with bits of broken ring. It's not always a successful method as it's hard to get the ring to break at an acute angle and one has to be careful not to gauge the groove. With the crusted carbon gone, the grooves were cleaned by threading rough manila parcel string through them and using it like dental floss. Meanwhile, Andrew was walking the new piston rings into place – which he achieved without breaking a single ring, (Pic E13 below)



E10 – Considering the matching surnames of the pair who were working on the engine today, isn't this manufacturer's brand royally appropriate?



E11 – An almost completely cleaned piston contrasts with one in a just removed state. The surgically smooth finish should be worth a few extra Kilowatts at the flywheel I think.



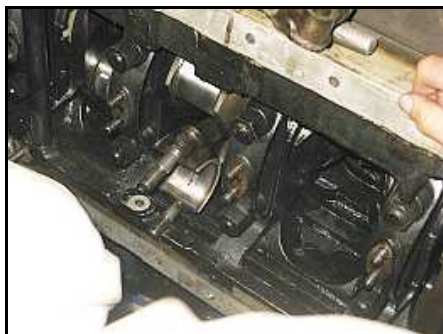
E12 – Installing the fully floating gudgeon pins.

With this parts matching drama going on at the bench, the bearing caps on the existing three installed pistons were re-installed. The pistons were reinstalled with the existing bearing caps in place, so if they took a knock during the awkward maneuvering, and during the chore of closing the piston rings to get them into the bores, it wouldn't be new parts getting damaged. (Pic E14 below) Because of the limited enclosed space, a piston ring compressor could not be used.

By this time, Andreas Matthee had come sniffing around for work after his successful solo locomotive fire lighting exercise. He was assigned to applying gentle traction to the undersides of the big end bearing, with a wooden hammer handle, as Andrew squeezed and wriggled the reluctant new piston rings into the bore. (Pic E15 below) As there are three rings to each of these pistons, the job had to be done three times each. It was a struggle to get those rings in without breaking them or twisting them. Andrew was working blind and directing the entire job by feel with his glasses sliding down his nose and no hands free to prop them back up again..



E13 – Inserting the new piston rings. The very wide top land meant extra care had to be taken in walking each ring down to their slot without snapping them. This is the top-most (easiest) compression ring going on. Note the massive fully braced construction of the piston skirt – typical of a diesel engine.



E14 – The old bearing shell is still in place as not to expose the new bearing shell and the connecting rod casting to knocks when getting the piston up past the crank.



E15 – I'm not the piston pusher, I'm the piston pusher's son! But I'll muck in pushing pistons when there's pushing to be done!

Andreas applies traction while Andrew (Working by feel and pulling the funniest faces) manipulates the piston rings

At this time the Reefsteamers Depot slipped into evening mode and we prepared to service and shunt with the Class 15CA. I abandoned the engine area to get some shunting pics and also to go and check out the progress of the Reclam scrapping currently done on site with a softer, mellower light. That meant I was walking around out back and also up by the main Germiston to Springs line. I was on loco minding duty that night, so I stayed on through the evening, taking the 15CA by the scruff of the smokebox and keeping her well in hand. Many of the Depot Gang had left at 4pm, and now the remainder were preparing to go out to a newly discovered Austrian Restaurant for the evening.

Andrew declined the social night out and stayed on working on the engine all by himself. He was working to a deadline with family coming out the following week. I had a locomotive to bunk up as I was given a hot boiler but a thin horse shoe of a fire. She'd also picked up a lot of airbourne dust on her newly polished surfaces, especially on the tender and so I had to give the engine a good hosing and a wipe down in the evening. Consequently, Mr. King worked on alone ... although I acknowledges his existence by supplying him with tea and proper Scottish shortbread biscuits that I had hidden from the rest of the ravening mob. (Served on the back of a clean wire brush handle.)

Andrew managed to get the last three pistons in and without breaking any rings. The big end bearing caps were tightened up and the oil distribution pipe was refitted. He was planning to have a go at re-fitting the sump but had had enough for the day and simply masked the oily interior with sheets of newspaper taped to the flanges ; before walking out into the yard at approximately 9pm and doing road worthy checks on the waiting coaches and filling in the various forms for the following day's train. A long day for Chief Engineer King and an even longer day for yours truly.

At the start of Saturday 6<sup>th</sup> September, the diesel engine had progressed with one half being loosely tiled with the as yet unbolted rocker cover and the other half being up to block height. (Pic E16 below) The sump pan was re-installed the previous Sunday. Mounting the rear cylinder head went with little problems but some parts had to be 'borrowed' from the front half of the engine to complete the assembly. One of the valve springs was found to be weak and was replaced, and two cylinder head studs were damaged. A pushrod was found to be damaged as well. So, disappointingly, the front cylinder head couldn't go back on until new studs can be made and a replacement valve spring obtained.

Andrew started his day's work with an inspection of the assembled rocker chamber and a bit more cleaning. This fascinating vintage push-rod engine has a surprisingly complicated 'attic'. (Pic E18 below) There are three rocker shafts in-line, one for each cylinder. There is also a decompression shaft that lifts the inlet valves slightly when starting the engine, to ease the compression load on the starter. The diesel injectors are also fitted through the rocker chamber and very unusually, their pipes are routed to the pump via notches cut into flanges of the aluminium rocker cover lids.

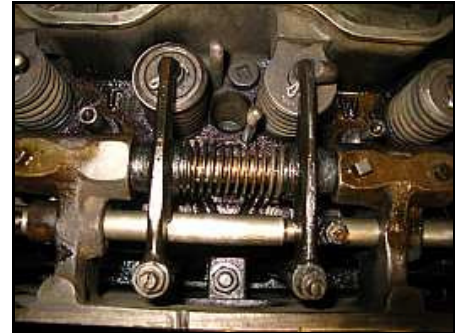


E16 – The engine is coming back together. One cylinder head has been installed with all valves, rockers and the decompression shaft. The sump has also been re-installed.



E17 – Top dead center. In practise, the induction air would swirl inwards in a toroidal pattern. (it is, colourfully, 'called 'squish') When the injector fires, right into the center of the cupped piston crown, the atomized fuel is well mixed into the rapidly heating and very turbulent air.

Notice how the inlet valve cut out (the larger one at 10 o'clock) doesn't quite line up with the pocket in the bore ... I wonder if these pistons are original to this engine?



E18 – A rather complicated top end for a 1952 year engine. The light coloured shaft is the decompression shaft and carries three shallow cam-ground grooves actuating small adjustable bolts on each rocker – the extra bolt on the right rocker is clearly seen.

The rocker shaft is actually in three pieces – you can see the three square shanked locating bolts on the bearing pedestals. Injectors not installed yet.

The recesses for the fuel injector bodies were cleaned quite carefully, being natural dirt traps. Then the injectors were installed and their saddles tightened down. You can clearly see the injector's pocket between the valve springs in Pic E18. (Above) Care was taken with this as to not cock or distort the injectors, and to not damage the fine threads for the piping.

While Andrew was doing the top end, new Reefsteamers member Lucas Dreyer was doing 'all over.' He was tasked to cleaning the engine parts in paraffin and wire brushing the more stubborn dirt off. He took a while to get set up with the drum ends used as drip trays already being full of sludge, muck and old paraffin. He eventually set up a three-tub work station with a miraculously full gallon can of paraffin and set to with a will with this humble but important job.

He wire brushed the mucky or crusty parts, such as the rockers and the exhaust stack clapper. But he was enjoying the job so much that he ended up power brushing almost every part except for the pushrods. These rods are worth mentioning, being strange, featureless dome headed rods of light alloy. They engage with deep hemispheric indents in the tappets and cups on the rockers. They are designed to be weaker than the rockers or the valves, so should the timing gear fail, the timing chain breaks say, when the pistons hit the valves, it is the relatively cheap and easy to replace pushrod that bends first.



E19 – The diesel injectors have been installed and clamped down. The diesel fuel piping actually couples to the threaded clamp and not to the injector itself.



E20 – Lucas Dreyer gets into the parts cleaning business while the Chief Engineer works in the background. Lucas is actually cleaning a pushrod in this pic.



E21 – The newly cleaned and rather strange looking and feeling lightweight push rods. The missing rod number 6 is the faulty rod.

The engine may have to stand for a few weeks as the Chief Engineer has visiting family to attend to. But the engine cannot progress until the two broken studs, the damaged rocker and the scrapped valve spring's replacements are obtained anyway. However, if the parts can be sourced and we have enough hands on the deck, engine reassembly will continue, and there's work to be done within the engine bay, on the radiator and the engine hood itself.



E21 – The cylinder head gets an afternoon bath. Notice how the larger inlet valves, naturally cooled by the induction mixture, came up shiny without brushing. You can see the fuel injector holes right between each set of valves.



E22 - This photo shows the relative size of this engine and torque converter assembly..

**PROJECTS : Sandstone Coach Fitting :**

The Sandstone Coach No.25163, which is a 1972 UCW Class H-2 3<sup>rd</sup> Class Day-Sitter has been undoing a thorough interior strip down, re-spray and refit, with meticulous attention to detail. Many of our own Reefsteamers coach interiors have been a bit spoilt by years of careless removing and refitting of hardware, and clumsy, unmasked paint work. This coach is coming up like new.

The interior fittings, right down to the aluminium strip beading, the lighting channels, the door hardware and even the roof vents, had all been carefully removed. (Pic C01 below) The temptation is always there to just lever them away from their panels, especially with the SAR-speciality seized countersunk Phillips screws where you have to chisel years of embedded dirt out of the screw slots before one can even engage the screw driver. Shaun Ackerman did the strip down and on occasion he used a low-gear power drill to remove stubborn screws – and chewed up a few bits in the process. Only a few of the more stubborn full lengthed aluminium trims got bent – but they can be straightened again. (Care was taken not to twist or graunch them.) In any case, about 50m length of various sections of brand new anodized aluminium have been purchased at a cost of R1500 to replace damaged or missing sections. (Pic C02 below) These channels not only tidy up the gaps between the panels but also hold the panel edges to the coach's frame work.



C01 – Doesn't look like much does it? But look carefully and you'll notice that all these coach parts are clean, straight and reusable.



C02 – Fresh stock aluminium bar and angle waiting to be measured and cut to fit.



C03 – A recently cleaned and overhauled slam latch gleams in my hands as the stripped down doors themselves strike the eye in clean white primer paint.

All of the door latches were dismantled, repaired, lubricated and reassembled, with bent latches straightened and missing or broken springs replaced. (Pic C03 above) We are currently on a drive to make sure all the latches work on all the exterior doors of all our in-service coaches. Lex and Wilhelm Wehmeyer have been replacing and repairing latches on the running coach fleet.

But many of the door related faults that the Wehmeyer brothers have found are because the doors themselves are warped, or of the wrong size or thickness, or the door frames are bent – not single afternoon jobs for repair. The general idea is that once the two Sandstone day-sitter coaches are in service, we'll pull out one or maybe two (depending on passenger loadings) of the running coaches in rotation and when they come in for painting, repairs and re-flooring, the doors will be fixed up as well.

Two intact toilets were recovered from the spares stock. (Pic C04 below) This coach needs to run soon and there's no time to mess around with dicky flap valves and wobbly linkages. These toilets are of the more modern, rounder type and can be used with a domestic toilet seat and lid set, which adds a little more homely touch. Although it was initially discussed to only install two toilets, all four toilet compartments are to be brought back into service. The toilets were installed temporarily to check the fit of the discharge pipes. Remember that the bogies of these coaches are of the older riveted fully elliptic spring bar frame type, as opposed to the coil spring equipped bogies of the more modern coaches. The pipes have to fit around the bogies and discharge to the outside. The pipes need to clear the bogie for rotation and care needs to be taken that the discharge doesn't get onto the bearing boxes and the bearing covers.

The extra work of removing all the interior trim and fittings in the toilet compartments much reduced the masking required for spray painting of the undercoat. But there was still a surprising amount of masking to be done – much of it awkward with rounded, deeply inset edges. (Pic C05 below) The coach vestibules, gangways and toilets were spray painted in white primer before the rest of the coach, while the removed gangway and toilet compartment doors were spray painted outside. The vestibule doors, albeit stripped, were left on their hinges.



C04 – Two spare toilets with working flap valves and intact drop pipes wait for test installation to check the fit. Note the angled discharge pipes. The originals go into the spares stock.



C05 – A toilet brush's eye-view of a masked toilet compartment. The still decent looking aluminium panel trimmings in the toilet compartments is to be painted over – which gives a cleaner look and eliminates unhygienic crevices in the walls.



C06 – A quick snap of Dr. Smudge Ackerman in his surgeon's whites. I was highly suspicious of that loaded spray gun pointing my way ... because ... sometimes ... The Smudge just can't help himself. (He was a good boy for this shot though.)

The toilet compartments have been painted sheen white, as have all the ceiling linings. There will be no more dingy toilets on our trains, thank you very much. (Pic C08 below) The spray painting was done with a proper protective suit, goggles and a face mask throughout the entire coach (Pic C06 above) but especially in the confined spaces of the toilets and the vestibules. It's the only time you'll ever see a Reefsteamer wearing white!



C07 – What these sarcophagic toilet compartments looked like when the long sealed up doors were first opened. After cleaning, the dust lifted easily enough. However, the streaks and stains on the compartment walls just would not shift.



C08 – What a comparison! A gleaming white toilet compartment with a temporarily fitted and seated toilet. Luckily, the flooring in these compartments is still in good shape. (Because they were sealed up and out of use.)



C09 – Grubby paint, yellowed laminates and a chemically stained ceiling. It looks as if the door closer had been 'repaired' and the hinges rubbed against the ceiling and someone used strong solvents to try to clean up, damaging the laminates.

The toilet hardware was temporarily installed during the week, including the pedals and the discharge pipes. However, the water lines and the coupling between the plumbing and the bowl still need to be procured and fitted. It has been decided to stick to the more recent stainless steel toilets which have holes and mounting areas for toilet seats. You can see the results in Pic C08 above, in gleaming white and with a friendly domesticated toilet seat cover too. We did buy a batch of good looking varnished wooden toilet seats for our coaches in time for the Dave Rogers Tour of 2007. We seem to have, er, hefty passengers on board our trains at times and those seats didn't survive – some of them splitting in half on the splined glued joints. I don't even wanna know where the splinters went. These seats should be more robust and semi-flexible.

It probably sounds like I'm harpic, er, harping on the topic of the rail-bourne thunder pots, but if you have 75 plus passengers on a rollicking, rolling coach and the toilets don't work ... it could get a bit nasty.

The coach received its top coat during the last week of August, after the under coat was allowed to have several days to dry and cure properly. The coach No.25206 was pretty bad in the vestibules (Pic C09 above) but the sister day-sitter No. 25163 was almost as dingy. The vestibules have been spray painted 'Zirconium' brown and have had their aluminium trims strips fitted. It looks much more attractive than it sounds ... check out the sharp looking results in Pics C10 and C11 below.



C10 – A freshly painted coach vestibule. Note a typical Dr. 'Smudge' Ackerman touch... the brass brake vacuum gauge had been polished before refitting. The 2-leaf gangway doors are still missing in this picture.



C11 – Details. The aluminium needs to be polished and the window needs a good clean. But notice that original style bilingual 'door leaning' decals have been re-applied, the latch is perfectly straight and all the aluminium is present.

Interestingly, the early-70's UCW style water dispenser has been reinstalled although for the sake of hygiene, the original chained metal communal cups have been omitted.



C12 – The two tone paint job for the walls. The entire ceiling is still to be painted white in this pic – but the curved quarter panels just above the luggage racks show just how dirty this coach's laminates actually were.

(The floor is bare marine ply in this picture.)

Pic C12 shows a shot of the painted coach interior masked off to do the ceiling lining and the quarter boards. A purist might complain that we are removing the original SAR finish and colours. And so we are and without apology. The Reefsteamers have tried both mechanical and chemical methods of cleaning the 20-30 year old laminated boards without ruining the finish and it has proven to be impossible.

New replacements are not available and 2<sup>nd</sup> hand spares recovered from other equally well-used coaches are likely to be an equally grotty condition. Years of grime and the nicotine of cigarette smoke have taken their toll. Also, the hard laminates on these panels do oxidize over time and turn yellow – and no amount of elbow grease will remove that.

So, it's been decided to smarten up our coaches with decent interior paint jobs. This way, it is also possible to fill in and patch up holes left behind when fittings have been removed or roughly modified – whereas it is quite hard to make an invisible patch in a laminated board. With spare paint, a hole can be plated or puttied in, sanded down and simply repainted. The 2 Sandstone Day-sitters are to be the test coaches for the new colour scheme. If the paint scheme is well liked, and proves to be practical in terms of cleaning and patching, all of our coaches are to gradually be cleaned and painted like these. The brown was selected as a neutral colour. The darker brown under the window sills will obviously not show dirt as much. (Pic C14 below)



C13 – Courtesy of high-mileage Sandstone Coach No.25206, the tired original Union Carriage and Wagon SAR laminates after 30 years plus of service. The rough looking 'skirting' is actually the under plating of the original steam heating pipes, which have been removed.



C14 – The new two tone paint scheme and the polished heater covers show to advantage here. The seats were fitted over the new flooring the previous day. Plans are underway to make Velcro-fastened slip-on padded covers for those hard-back seat shells.



C15 – Painted coach parts after primer coat application. In the foreground are supports for the central lighting strips and the background are the four (non original) coach door closers.

The coach interior is almost finished with the various painted parts (Pic C15 above) being refitted. The central lighting strip has since been reinstalled and the lights reassembled. (Pic C16 below) Reefsteamers electrician Fred Sewell went once through the strip to restore the lights back to operation. The old tube connectors can be finicky when removed and reinserted at a slightly different alignment. The painted lighting strip looks sharp in Pic C16. (Below)



C16 – The painted ceiling having the converted 220V fluorescent lights re-fitted. Notice that the channels and support saddles for the lights and their lenses have been painted separately to match the ceiling.



C17 – A newly laid vinyl floor in the currently unpainted coach No.25206. The seams are all heat closed and notice how the edges neatly wrap up into the open heater channels, The steam heating pipe is still in place in this photo

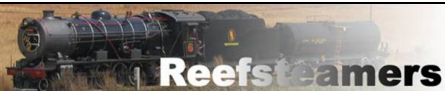


C18 – The free-form heat formed skirting wrapped around the circular section corners in the vestibule and forming a great water seal. The skirting on the green panel wasn't quite glued properly, but if Reefsteamers can fix locomotives, they can certainly glue a bit of vinyl flooring!

All the circular ceiling vents were removed without damage and were straightened and polished. They will have been re-inserted with new countersunk screws by the time you read this. Unlike the lights, they have been kept in their natural stainless steel colour.

The flooring has since been completely re-laid in both coaches with Markey Supoerflex™ vinyl sheeting, with about 40 sq. meters used for each coach. The marine ply flooring itself was sanded down to provide a smooth surface for the adhesive. Fortunately, because of the drier weather conditions of the eastern Free State from whence we fetched the coaches, and the four 'Sandstone coaches' being properly stored under cover by the Sandstone Heritage Trust, the exposed flooring wasn't badly swelled or rotted by water ingress. So far, only sections of the vestibule floors of Coach 25163 had to be replaced. (Good on you, Wilfred Mole!)

This vinyl sheet material, called 'Marley 'Super-Flex'™ is applied with adhesive and the separate strips are fused together with heat. The seams remain visible as smoothly cambered indents but without open gaps and corners that can get picked and lift. (Pic C17 above) This material needs to be waxed every 6-12 months while the more conventional sheets need constant polishing. In the future, shallow scratches and lifted areas can be repaired by gentle application of heat. Strips of this material were heated and when softened, were formed around the short panels and awkward curved corners within the vestibules. (Pic C18 above) They now form easily repairable single piece waterproof mouldings which should extend the life of the flooring.



The job sequence is a bit awkward for the unpainted coach No.25206, (1971 UCW Class H-2 3<sup>rd</sup> Day-Sitter) as the flooring will need to be masked when the coach is painted, whereas the floors of the first coach were already stripped back and paint splats didn't matter. The Reefsteamers who have seen these two old 70's era day-sitter coaches beginning their fourth life in fine aesthetic style, are looking forward to seeing all the Reefsteamers coaches looking like this!

### **Project : Depot improvements : :**

The long awaited window replacement project has begun. There are about 680 windows in the Top Shed and the 8-track workshop and every single one of them is to be worked on. Fred Sewell did the original job of measuring and procuring the window glass. It's been waiting in the parts shed for a few weeks. We have a mixture of contractors and some of the paid staff doing window work, and picking up some overtime in the process.

The broken panes are being removed first and being replaced with fresh, clear new panes of glass. When this is done, the existing intact but very dirty window panes will be removed, cleaned and then re-installed with fresh putty. (Pic G01 below) So at the end of this project, every single window pane will have been serviced.



G01 – Three stages of work. The broken glass has been removed first and the empty frames are having new glass fitted. Then the existing, dirty glass will be removed, the glass cleaned and remounted in the frames with fresh putty.



G02 – The Top Shed looks a bit gap toothed in the last light of the day – but look how shiny the new clean windows are in the clearstory rows.

The project started in the yard facing wall of the Top Shed with all the broken glass taken out. The out facing clearstory has already been closed in and when the above pictures were taken, the entire outer wall was being started from the cloak \ washroom end first. On the 13 September, the cycle started with the larger window panes for the east facing wall of the workshop. It's going to be cramped work for the staff as these windows are shaded with long corrugated iron awnings at 45 degrees – awkward to get to the top panes.

PTO

**Pictures from around our Steam Depot :**



M01 – A graceful Dawie Skywalker crosses the freestanding front shunter handrail pole of his 117 ton adversary with his lethal PVC light sabre.

He just ... breaks out sometimes...



M02 – A 'full house' for lunch – the busy gobbling and smacking sounds reminded me of a bubbling, weeping gland packing on a Hadfield Reverser's power cylinder. Today's van Dyk menu = boerewors, pap, spicy sauce, BBQ chicken wings and home made hot corn bread.



M03 – Edward 'Half Jack' Card (left) and Sakkie 'Sakana' Kekana (right) knock off at 10am this Saturday morning. Sakkie looks cheerful enough in spite of the surprise job of having to change out two leaking fusible plugs before Andreas could start the fire lighting on the Class 15CA No.2056.



M04 – For our overseas friends ... South Africans are funny creatures and quite willingly eat this stuff that looks like resin-impregnated dog putty. This is 'droe wors' (literally translated 'dried sausage') and it tastes much better than it looks. Andre van Dyk gets good deals on typically more-ish preserved meats and that has really helped to boost his popularity amongst the trainees on the footplate!



M05 – Our shed and footplate teams run on biccies and are lubed with tea. Shaun Ackerman gets the first dig at a brand new bumper box of assorted biscuits while Aiden McCarthy looks on and whimpers soulfully.

The Jammy Dodgers lasted, about three minutes...



M06 – 'The Cute Chairman', Elize Lubbe (Right), gets to tighten up a brass union, while her sister, Alet ('The other Elize') is bringing up a screwdriver to make appropriate 'screw loose' gestures. Alet is our invisible but hard working Club Secretary and Financials Person. She also hires and runs 'Kango', the Reefsteamers kitchen car, on our day trains.



M07 – A steam locomotive love bite. Our Class 15CA can run so hot that even the radiant heat from the firebox can scorch the skin. A week recently, Michael Thiel got over affectionately nibbled while trying to fire coal into the back right corner of the firebox.



M08 – A pair of new nail-polish PINK hard hats for two of our favourite girls.



M09 – Reefsteamers master machinist James Thomson receives a gentle heavenly benediction as he walks wearily along the long aisle through the still active main-line locomotive workshop.

- Lee Gates -