

**1). A BIT OF DEPOT HISTORY:**



P001 - This photo presentation is about a special group of people called 'Reefsteamers.' They are unpaid volunteers who look after an old steam locomotive depot which now shelters a collection of steam locomotives and coaches. These photos outlines their history and their activities in the actual locomotive workshops and surroundings.



P002 - Germiston Steam Locomotive Depot – once a great cathedral of South African Railways steam at one of South Africa's largest railway junctions. Founded circa 1896, the depot still serves steam locomotives today, albeit on a much smaller scale. This was a classic busy night time Running Shed in what is now used as our Carriage Shed.



P003 - The Germiston Locomotive Depot was once the home to over 150 steam locomotives, with over 300 footplaters, not mention other crew members and admin staff. The great depot operated 24 hours a day and here you see a Class 15F passing the blow-down deflectors and ambling westwards to take a night train.



P004 - The locomotives were serviced, coaled, washed out and rostered here. Pictured is the boiler washout area. The locomotive boilers were washed out roughly once a week, the necessary steam and hot water being generated in a pair of locomotive boilers that were mounted within the shed on the left. (That boiler shed no longer exists today.)



P005 - As South Africa has no native oil reserves, our country was a mecca for steam up to the late 1980s. The infamous diesels were actually intended as a stop-gap before electrification, which took so long that the steamers remained in service far longer than was originally planned.



P006 - Towards the end of steam, more locomotives were assigned to specific crews. Unlike the anonymous, grimy 'pool' locomotives, many of the assigned machines were cleaned and looked after with fierce pride. Since scrapped, this is 15F 2922, hand-fired sister to our Class 15F 2914.



2). THE DECLINE OF STEAM AT GERMISTON:



P007 - The diesels began to move into steam's territory from 1987 – you can see them on specially raised servicing tracks at the rear of this picture. The use of steam traction was terminated here in late 1992. But the mechanically and electrically more complex diesels do not thrive in a steam environment and they were soon moved out anyway.



P008 - Many of the admin and training-related buildings were derelict or already demolished. The magnificent dual track coal stage was lost to scrapping in just two years and by then, these 'back' tracks were packed with retired steam locomotives also ready for the torch. Except the walls of the ash wagon pits, nothing you see here remains today.



P009 - Lines of redundant steam locomotives were cut up in various batches spanning over 10 years. There is about R350 000 worth of scrap metal in a single locomotive, so there is big money in this business. These sad and derelict Class 15F locomotives were the very last batch to be officially cut up by Transnet at Germiston in October 2008.



P010 - Being the last one in this particular batch, a now-tender-less Class 15F No.3020 awaits her final execution in the back-track death row with a harrowing view while her sister ahead of her is put to the torch. The locomotives are systematically cut into smaller pieces to facilitate lifting and transportation to the scrap yard and later, to the smelters.



P011 - Two weeks later, the same locomotive, Class 15F No.3020, had been viciously disembowelled, having lost the boiler, cab, smokebox, buffers and the running boards. No matter how derelict the locomotive was, it is always sad to see one of these brave old machines finally go down.



P012 - And at the end ... all that is left of a once proud and awe-inspiring machine, are a few untidy piles of brutally hacked-out metal set aside to be loaded by grapples into the scrap metal lorries.





P013 - The entire top of this locomotive's firebox has been cut away. It would be cut down to several; smaller sections on the ground. One gruesomely fascinating aspect of watching a locomotive being scrapped are the real life cross-sectional views which can be quite educational.



P014 - Due to their complexity and weight, the locomotive's cylinders are like the left-over toffees at the bottom of a tin of chocolates. We had several sets of abandoned cylinders lying around the depot for several years – each one a ferrous tombstone marking where a steam engine died.



P015 - It seemed as if the great running shed would simply host a dwindling number of scrap engines under the silent vault of its roof, the only movement being that of the pigeons and lizards. And when the last engine has finally been cut up, the steel girders and beams of the sheds would also go to feed the endlessly hungry arc furnaces.



P016 - With the rows of steam locomotives gone and even the interloping diesels later departing for their own purpose-made depot, the once-bustling workshops and forge had lost their basic reason for existence. They would soon be stripped of most of their machinery and tools, and left to stand silent and increasingly derelict.



P017 - The network of tracks stand silent and begin to succumb under the relentless hand of nature. Here, a tree is actually engulfing and lifting a long-disused buffer stop at the end of an abandoned storage track.



P018 - ...and the hard edges and rust flaked surfaces of the last few dead locomotives are gradually shrouded by a gentle cloak of soft green as the last memories of steam reluctantly fade away.



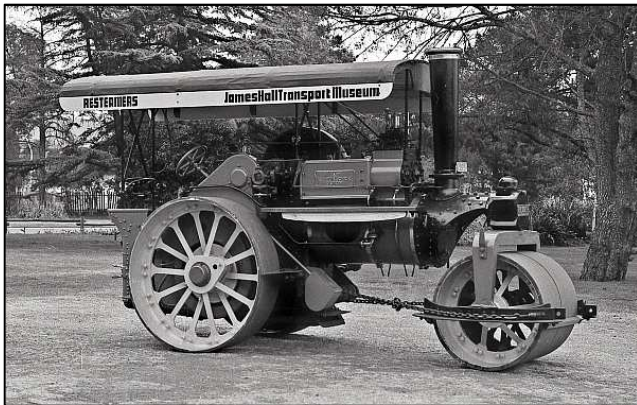
3). THE GENESIS OF REEFSTEAMERS:



P019 - There is something about these living machines that attracts people. Even kids all inherently like and draw steam trains. But there are a certain group of people for whom steam ignites such a passion within their souls that they will do whatever it takes to keep steam traction alive .



P020 - RESTEAMERS was a small group of steam enthusiasts concerned about the impending loss of steam at Germiston. They had just restored a steam road roller into service. They inaugurated REEFSTEAMERS on 17<sup>th</sup> August 1991 to try and save something for the future.



P021 - This is the Fowler Steam Roller No.19543 'Judy' that was restored by 'Resteamers' right before they got into the steam locomotive business! She was obtained in mid-1986 and restored in 1991. After living at the James Hall Museum of Transport for some years and then being moved, she is still in good condition at Sandstone Estates.



P022 - Steam preservation was already under way with the South African National Rail & Steam Museum (SANRASM) and the Railway Society of South Africa (RSSA) being major role players. The equipment and crews were still facilitated by Spoornet. This is then-still Spoornet-owned 12AR No.1535 running a mid-winter special from Springs.



P023 - It would be the dawning of a new era for the old depot that had finally come to the end of its working life. Reefsteamers initially leased the 15M Workshops and the pictured 'Top Shed.' Over time, they gradually leased more of the increasingly stripped and vandalized depot.



P024 - Thanks to the vision of those early pioneers and the hard work of many volunteers since, over 20 years after this depot had formally closed and well into the 21<sup>st</sup> century, it is still possible to see living, revenue earning full-sized steam locomotives in dramatic scenes such as these.



**4). THE SURVIVING DEPOT BUILDINGS:**



P025 - The core of this heritage steam operation is the original 15M Workshop. This is where the repairs and upgrades to the locomotives and other equipment are made. The workshop has 8 tracks and all of them are serviced via a gantry crane and a traverse wheel drop pit.



P026 - Most of our steam locomotive reside in the 15M workshop for repairs, restoration and upgrades. Reefsteamers prefers to run a steam locomotive on a four-month cycle then bring her down here for repairs, tests and upgrades while a sister engine takes her turn to do work.



P027 - In addition to the 15M workshop, the intermediate shed survived into preservation and is now used as our Running Shed. (Often called the 'Top Shed') This is where we keep the presently rostered engines for ease of access to the lubrication store and a clean set of inspection pits, as well as the ash pits and wash-down bowsers just outside.



P028 - The adopted Running Shed seen at night, ablaze with light. There is a locomotive within which is undergoing last minute repairs before running to Magaliesburg on the next day. The railways used to do boiler tube-related work here and washouts on the track out back. The basic longitudinal layout of the shed is ideal for the long tubes.



P029 - The single-track 'Top Shed' still gets to see a lot of action as our Running Shed. We normally have two locomotives parked up here. Here they undergo minor repairs and pre-run roadworthy checks, and their fires are usually lit up here as well. Pictured is our Class 15CA being steamed up for a relatively rare Sunday run.



P030 - Alongside the Running Shed, the water tower survived and is it is now one of the last few functioning steam locomotive water towers left in South Africa. This type is often called a 'parachute' tank.





P031 - Although the old water tower is fully functional, we prefer to fill our tenders with hose pipes and keep the water stored in the tower as an emergency reserve. On special occasions or when a speedy refill is vital, we still top up our tenders from the tower in the good old fashioned way.



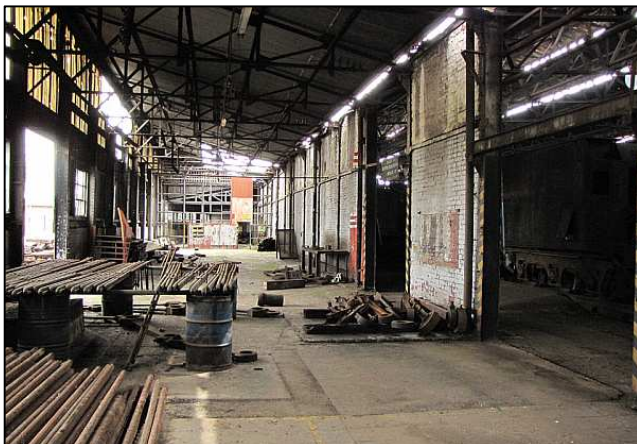
P032 - With the loss of the original elevated coal stage (Pic 008), Reefsteamers had to adapt an existing goods loading platform into a simple coaling dock. Here, the Class 12AR's tender is being filled with coal using the electric powered self-propelled 'Yumbo' grab.



P033 - The last of the core areas to be leased was the Goods Receiving Store. The depot had no road access in the railway days and all supplies came by rail. This store was a busy place. Next to our coal dock, this is now our spare parts and salvage store, now known as 'The Millsite Store' from where many of the parts were saved.



P034 - The great double barn of the old Running Shed was leased and preserved by Reefsteamers at a later stage. It is now used as our carriage and equipment storage shed. We also use it for long term storage of coaches and locomotives waiting for restoration.



P035 - This area used to be the forge and fabrication shop in the active steam days. It was stripped-out for scrap and suffered some fire damage before Reefsteamers' extended lease covered this complex. Thus, a lot of equipment and supplies were lost. It is mainly a store now, but with the adjoining track dedicated to coach repairs and rebuilds.



P036 - The boiler washout area was stripped and the steam plant removed, but several tracks, the dual-track canopy and the shell of the boiler heavy-repair shops survived. One of our long term goals is to convert this area into a working station platform for departures and a working steam museum.





P037 - The central loco staging yard survived intact, although an assortment of coaches, goods wagons and little diesel 'critters' now occupy the rails where the steam locomotives once roamed. This scene was captured from the steps that run up the side of the water tower. (Pic 031)



P038 - This is the Western Yard, which used to be the departure yard in the old days. (Pic 003) The majority of the old fittings, gantries and west-end water tower went for scrap long ago so there isn't much useful left here. We use the yard to assemble trains for departure and for storage.



P039 - We are constantly reclaiming the empty land and stabilizing the soil with grass and plantings. The club house hosts a colourful array of flowers. But the yard focusses on indigenous plants due to full-day exposure to sunlight. The aloes certainly like the crumbly ashy soil.



P040 - Seen in the process of being painted, this is the combination Shedman's Office and a library/archives room. The track just behind is the coach repair/storage track. This building might soon be converted to house delicate indoor exhibits for the Steam Museum.



P041 - The Reefsteamers formal club house was converted from one of two old ablution blocks. The other block was demolished and the broken bricks and tiles lazily dumped in nearby inspection pits – many remain there to this day.



P042 - This area was originally a set of stores alongside the workshops but was refitted as a club canteen, complete with cloak rooms and a fitted kitchen. The other clubhouse tends to be used for guests and more formal occasions.



**5). HOW SOME LOCOMOTIVES SURVIVED:**



P043 - All these old depot buildings would be merely empty industrial monuments if the grand old dames themselves could not be saved. But the eventual saving of the great steam machines was not very systematic and many have survived through a combination of luck and the actions of a few committed people, rather than organizational planning.



P044 - 'Susan,' our Class 12AR locomotive, was originally built as a coal haulage machine. Here, she is pictured hauling goods from the Wadeville shunts in her later days. This locomotive was lucky enough to be appointed as the Germiston station pilot and she was given special attention until about 1986, when her condition started to decline.



P045 - 12AR 'Susan' operated into the early preservation era, but was laid aside in exasperation after her operators could not solve persistent bogie springing problems and a malfunctioning power-reverser. 'Staged' locomotives are prime candidates for scrapping – but the early volunteers of Reefsteamers managed to solve the technical problems.



P046 - Now our 'Lil' Suzie' lives on to bring pleasure to the people of South Africa. Class 12AR No.1535 is now the very last Class 12AR in existence and she is also the 'old lady' of our depot, fast approaching 100 years old! She is the oldest locomotive in South Africa that is still hauling trains on an active main line.



P047 - Not all of Germiston's locomotives were so lucky as 'Susie'. The Class 12R No.1947 'Rosie' was kept in 'super-shine' condition as the prestige station pilot between 1974 and circa 1982. She was superseded by our 12AR 'Susan' and then placed upon a plinth in honour of her long service.



P048 - In March 1988, the plinthed 12R locomotive was still looking fairly sharp and you can see the pride that was taken in the plinth area and surroundings. These were the old crew administration buildings where the locomotive crews used to book on and off their duty shifts.





P049 - This section of the Germiston Shed became derelict by 1990. By 2003, the empty buildings had been stripped prior to their eventual demolition and the poor old 12R locomotive stranded out front was a bare, vandalized hulk. Today, this area is totally flat, serving as the members' parking area with only the track in the foreground surviving.



P050 - 'Rusty Rosie' was parked out of the way of the scrappers and itinerate metal thieves, but she was not moved undercover due to lack of space and time to prepare the locomotive for moving. She was eventually moved under cover in January 2008 to be prepared for inspective stripping.



P051 - This is what Rosie looks like today. She has been completely stripped down to be made ready for a thorough sand blasting. Once cleaned, the boiler plates will be X-rayed and thickness tested for assessment for restoration. Years of being parked in the weather has caused local rust pitting in the boiler. She might never run again if the boiler turns out to be unusable – but she is safe for now.



P052 - A happier story : Class 25NC No.3472 was actually rebuilt and customized at Germiston Depot by Spoonert personnel. She spent her last working years hauling the Trans Karoo and other long distance specials. Her last freight-hauling years were spent on the Mafeking line. Thanks to the special attention she got, this locomotive survived without ever becoming derelict.

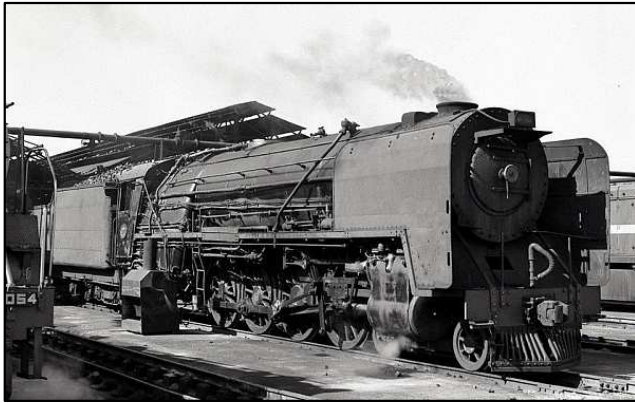


P053 - But later, Class 25NC No.3472 almost ended up permanently out of use anyway, due to a cracked safety valve saddle. Reefsteamers redesigned the saddle plate and arranged specialist welding work on the patch in 2006. Seen waiting before departure from our West Yard, 25NC No.3472 is a favourite engine for our long distance runs.



P054 - As you see, each one of our engines has a history and a story to tell. Class 25NC No.3472 has retained her extra brass work and all the customised stainless steel platework in the cab, as a reminder of the hard work and foresight of some of the Germiston Railway Men who refurbished this engine and set her aside for preservation.





P055 - Not all engines that have some special history got special treatment. Our Class 15F No.3046 is known for having hauled the Royal train in 1947 and is one of the few locomotives officially named by South African Railways. Regardless, she was just another grimy goods train pluggie parked in the Western Departure Yard in the 1980s.



P056 - The loco from the left, Class 15F No.3046, was the first locomotive officially allocated to Reefsteamers for restoration in the now-preserved 15M workshops. It was quite a major project for such a new group to take on!



P057 - Class 15F No.3046 was taking too long to restore and had to be stored while other locomotives could be repaired as to start earning revenue for the then-young Reefsteamers Group. The 15F 3046 restoration project recommenced in August 2009 and finally the first Reefsteamers 'resto' project was back on the high irons.



P058 - The Class 15F No.3046 received her current name 'Janine' on 26 August 2010. The young girl in the foreground, the daughter of one of our volunteer firemen, is the original 'Janine' after whom the locomotive is named. (You can see the name plate that was blanked out for the naming ceremony.)



P059 - The steam workshops at Millsite Depot (Krugersdorp) only closed a few years after the Germiston Depot closed in 1992, so several locomotives were based there for preservation. Some of them, such as Class 15F No.2914, made their way BACK to Germiston after Millsite closed to steam. The pictured Class 15CA No.2056 is one of several locomotives that eventually moved to us.



P060 - Not all our locomotives came from the Railways. We also have several privately owned locomotive entrusted to our care too, including this amazing double-jointed machine seen flexing her back on a tight curve. This is the GMA/M Garratt No.4079 'Lyndie Lou' which is owned by Sandstone Estates and one of only two GMA/Ms still operable in South Africa.





P061 - When we took over the Garratt, both Bissell trucks were unable to swivel for curved track, and the wheel flanges had thus been ground to knife points. The Bissell frames were rebuilt with Vesconite sheeting, based on our successful experience with Vesconite bearings – making this the first time this had ever been done on a Garratt.



P062 - One of South Africa's most famous 15Fs is the 15F No.3052 'Avril', belonging to the world-renowned wildlife artist and conservationist, David Shepherd OBE. He's the gent seen standing next to his own engine in 2008. 15F 'Avril' is another example of a privately owned locomotive in our care on trust from the Sandstone Heritage Trust.



P063 - In Oct 2007, a then-newly recertified 15F No.3052 'Avril' made an epic journey from her original home in Ficksburg to live at Germiston. She was also hauling a Class 25NC (No.3488 Enchantress) a Class DE2 diesel and 4 coaches that had been purchased from mine service.



P064 - This 1951-built 100HP diesel shunting locomotive was donated to us by Federated Timbers and is the only locomotive actually owned by Reefsteamers. Here he is seen in his original, faded colours and shunting TWO steam locomotives – a load over 15 times his weight.



P065 - By 2013, the Shunter's gearbox, diesel engine, jackshaft and couplings rods has all been removed and overhauled. For the gearbox and drive line work, it was definitely an as-you-go type of job as we had neither drawings or documents to work with.



P066 - This tough little shunter has been named 'Andrew', after a certain equally-tough little Yorkshireman. He looks great in a fresh paint job after an engine and gearbox overhaul.



**6). THE MACHINE SHOPS:**



P067 - The main machine shop of the 15M shed survived from the old days, with just the loss of a large vertical boring mill before the stripping and scrapping was officially stopped there. Our locomotives can thus be repaired with some of the same machinery with which they were repaired in railways service.



P068 - The surviving workshop is a major asset for Reefsteamers. Most of the machines that survived were in worn condition and with the electrical power disconnected. We are gradually restoring them all to operation and also bringing in surviving machines from other areas of the depot for convenience of access and wiring.



P069 - This is the surviving vertical boring mill, which is still fully functional. This is considered to be a medium sized machine and we have used it to machine brand new bronze bushes for our engines. (Amongst other items.)



P070 - The two radial arm drills are fully functional. This one has a lower table and a recess pit placed so that long objects like shafts can protrude into the ground.



P071 - This Thule reciprocating shaper is being used to cut a perfectly straight edge onto a battered steel plate. We have two of these machines, most often used for machining items such as planar bearings and crosshead slides.



P072 - One of two hydraulic presses is being used to press a steel bar 3/4 inch thick to form a drilling jig. This is the 'small' package press intended for drive wheel coupling rod work. The bigger one can exert a pressure of 50 tons.





P073 - A view from the corner of the machine shop. Reefsteamers has three lathes of which two are operable. The big lathe was donated to us and is an 8-ton Dean Smith unit. We have plans to raise the check and tail stock by about 4 inches to increase the lathe's capacity.



P074 - The old steam hammer in the forge house is still intact and could be restored. We have left it alone as an iron monument as to what once happened here. This open area might become a social or dining area for the future Museum with the hammer and forges as décor items.



P075 - Although the original Forge Workshop was lost to scrap when the Depot first closed, there is still a working coal-burning forge in our Running Shed. More than just a 'braai', it is lined with refractory bricks and has a compressed air supply. Here, it is being stoked to heat up and soften large-bore copper piping for ease of bending.



P076 - With some irony, the surviving forge's AREA is still often used as a braai area in the Top Shed. Here, the fellows socialize and await a typically simple boerewors roll supper with a locomotive waiting in-steam in the background. These steam-heads were preparing FOUR locomotives to run for a Depot Open Day the following day.



P077 - We have a couple of anvils to go with the forges. Here the reversing lever belonging to prestige Class 15F No.3052 'Avril' is being heated and straightened before having its Johnson Bar style ratchet rods fitted.

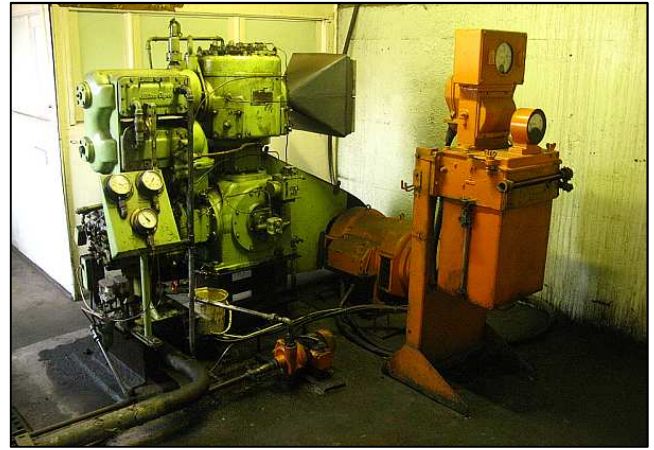


P078 - Anvils and forges aside, our guys do SO love playing with fire! The acetylene torch often comes into play for cutting away rusted fittings, bolts and rivets. Here, a rusted bracket is being removed from the firebox foundation ring for our Class 15F 2914 firebox repair project.





P079 - Some of the cutting torch work is surprisingly delicate. Here, a neat hole is being cut into two sheets of corrosion resistant steel. This would eventually become the 'table plate' which directs the flow of hot gasses. The project was to rebuild the smokebox gear for the Class 12AR locomotive during her last boiler certification in 2013.



P080 - Reefsteamers maintains and runs this elderly Atlas Copco compressor. The Steam Loco Depot was originally supplied with compressed air from a large central plant located off the steam depot site. This compressor was installed into a chemical store by volunteers and connected up to the surviving comp. air piping from the other end.



P081 - Along with the air compressor is a range of air wrenches, powered wire brushes, several pneumatic jacks and pneumatic guns. This one is being used to wrap over the ends of new boiler tubes in the Class 12AR's firebox, a process colloquially known as 'beading.'



P082 - Also running on our air supply, the manually-traversed gantry crane has also survived into preservation. It serves all eight tracks of the 15M shops and extends into the wheel lathe house. Its main purpose was to hoist and traverse locomotive axles to the wheel lathe for machining.



P083 - Here is an end view of the pneumatic gantry crane fulfilling a role very close to its original purpose. It is seen being used to traverse an axle for the Class 25NC's tender. The rails on the crane are recycled light-weight rails that were originally rolled in 1885 – predating the depot itself.



P084 - The old fitter's shop has been put back into service to get the tools, small supplies, fasteners and workbenches all back into one location. It still needs a lot of work on the lights and the leaking roof.