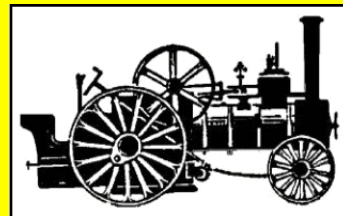


Issue 653 June 2025

A Wisp of **STEAM SUPREME**



Extracts from the Melbourne Steam Traction Engine Club Newsletter

Goldsmith's steam shovel operator Alice trying out ours for size . She is impressed with its condition and restoration and is keen to show us how to drive it .



**The Amazing DC 3
90 years of service
Plus Wang Airshow**



Building our P11 Loco



**Car Club Visits on
Steam Museum
open days**

Our Diesel Locomotive P11 "REG"

P11 coming down our back straight , it could be in country Victoria . Who would think it is our magnificent Scorseby Railway just 23 km from the center of Melbourne ?

MSTEC member Tony Zaia gives us the background of the build of this new club locomotive then goes on to describe the challenges of it's construction and commissioning

Tony writes - Our original Steam Club diesel outline locomotive Joy was built in 1961 and converted to electric transmission in 1975. It served the Steam Club as a strong and reliable loco for the weekly passenger trains, however a more suitable locomotive was required, that had space for the driver, fuel tank and battery.

For some time the V/Line P Class locomotive had been the most likely type to model. It had relatively simple body features and the classic V/Line cab. This class had handled the short haul regional passenger trains in Victoria in the 1980s and 1990s, so was a well-known local locomotive.

Geoff Lintott built the detailed bodywork and the included lights and fittings. From 2016 Geoff had been participating in the preliminary discussions.

Geoff's superb sheet metal work captures the P11 bodywork perfectly →

In April 2019 the proposed locomotive concept was put to the Committee so funding could be approved. The estimated build time was five years, including the allowance for delays.



The Committee approved the concept and considered it possible to build the locomotive in nine months, setting up a team with a degree of independence from normal club protocols. The Committee decided on hydraulic transmission, partly influenced by the possible use of a donated pump and motors.

An expected significant expenditure was the payment to an experienced model engineer to design and build the two bogies.

← ***A bogie complete with brakes , hydraulic motor and chain drive***



Jo Lloyd approached Knox Council for a grant of \$12,000 to pay for the bogies and a hydraulic pump.

The grant application process meant that purchase of material could not be done until the grant was approved. In the mean time Geoff Lintott did the scaling down from full size to slightly larger than ¼ scale, to match our carriages. Geoff was very experienced in the construction of the body & panels and the supporting chassis.

Geoff's cabin undergoing a trial fit to the chassis. →



He also completed the painting of the locomotive.

Tony goes on to write I joined the project when the chassis was being built. A work area had been reserved at the back of Bay 5.

← *The very start of the chassis set up in a work area in the back of bay 5 a storage area.*



Peter Lynch, Brad Hector and I were involved in cutting square tubing for the strengthening the main chassis.

Strengthening members were added to transfer the coupling and bogey loads to the ladder frame. →

This work followed Geoff's scaled down drawings. He had a good understanding of the items to be mounted during construction.

This picture shows the construction stage nearly completed. With the bogeys on, engine and cooling system in and the hydraulic system plumbed up Phil Randall, Tony Zaia and Peter Lynch do the first start up. Having the loco up on chocks to their great satisfaction they watched the wheels going round. Warwick pic Aug 2021



The cab layout was developed during the early stages. Special attention was paid to the seat height, the positions of the control panel, forward/reverse lever and hand brake needed to be decided to suit a whole range of drivers. The control panel & wiring of the loco was started by Suresh Kumara colleague of Peter Lynch. Things were progressing well

until the world was hit by the Covid pandemic and the related social lock down, during that time Peter Lynch would arrange a time & place to meet up with Suresh to work out the electric circuitry.

Peter Lynch stepped aside from leading the project and Phil Randall was approached to take over which he did. Suresh also left the project due to family commitments. Phil asked me if I would take over the completion of the electrics. It was a challenge for me, requiring lots of hours at night working out relay logic circuitry for operation of our locomotive.



Tony Zaia

December 2021 was the Great moment when the locomotive did its first run. Although still in a semi finished state it successfully completed its first lap of our 1 km track. With a feelings of elation it was craned back to the workshop for finishing off.

Editors Note

Its is a tremendous achievement when something as complex as this goes first time.

Tony is being a bit too modest about his part in the locomotive build. With most of the rest of the team dispersing over the next few months for various good reasons Tony was left with the teething problems.

One of the most niggling was difficulties starting the engine from cold. When we got it there was no glow plug control circuit or "throttle" control of any kind. We believe it came from a refrigeration truck so must have had some sort of automatic starting system. Tony sorted out a fool proof glow plug timer but starting was still hard and usually gave several stalls. Eventually it was discovered the maximum fuel stop on the pump rack had been wound back to a very small quantity for some unknown reason. Once reset to sensible settings all

the starting difficulties disappeared. Another niggling teething problem that Tony sorted out was locking up and skipping of the wheels just as the loco rolled to a stop. It transpired the hydraulic pump prevents oil flow through the wheel motors when in the neutral position effectively locking them up and popping the relief valves. Again Tony's determination got to the bottom of this payed off by coming up with a cross line solenoid valve that opens the motor circuit when the control lever is in neutral allowing the train to gently glide to a stop. (the equivalent of pushing the clutch on a manual car as you come to a stop. Simple in hind sight. ! Another more subtle one was whipping of the drive chains under certain conditions as though the motors were fighting each other which should not be possible as they are in parallel. I do not how he came up with the solution but it was as simple as ensuring the hydraulic lines to the motors both had the same length hoses and numbers of bends.

Great credit must go to everyone but Tony in particular for his persistence and determination that has given us such a magnificent powerful reliable and easy to drive locomotive. Ed

With a little bit of arm twisting Tony has given us a bit of his background

Hi Warwick, My ground before starting on (P11) project in 2019.

I was a service technician with the company Davey Water products for 13 years my roll was to repair pool pumps, water pressure systems & spa controller meaning the electronic controller that make pumps & heater air blower ranging from 1.5 Watts up to 6 kWatts.

I am qualified as electronic technician with certificate of diploma of electronic engineering.

I also have worked as electrical fitter & automotive electric repair for many years in various company's.

I have years of knowledge with relay logic systems. Tony,

So with P11 now commissioned and all that are left to do are couple of updates to the operating manual Tony has been made official Custodian of the locomotive. If you are interested it's technical details, want to congratulate him on a job well done or get involved in its running you know who to talk to Ed.

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Snapped at our Scorseby Picnic. Officially the last McDonald tractor ever made. Note the full rego.

Made by Chris McDonald, grandson of AH, about 20 years ago incorporating an SP I McDonald engine.

At the time Neil McDonald, son of AH, held the Tractor Number register so he added this build to it then officially closed the register which formally makes this the last McDonald tractor.

Melbourne's

GOONEY

Bird



Passengers boarding for their return flight to Essendon Melbourne after the Ballarat show

Warwick Writes *I always found the DC-3 aeroplane a completely fascinating piece of machinery so when I heard one would be giving joy flights at the Ballarat Heritage festival I just had to go .*

It is mind boggling how something as complicated and revolutionary as a large aeroplane designed as long ago as 1935 , only 30 years after the Wright brothers first flight , can still be flying commercially in significant numbers today . All are at least 80 years old now which is totally unpredicted for any piece of machinery let alone something as complicated as a large multi engined passenger plane .

Today most DC 3's in revenue service are run by small operators as cargo aircraft but also include passenger services on short routes with small strips which are not viable for modern jets for example supplying Antarctic bases and mining sites Other applications include shuttling , sight seeing , aerial spraying and skydiving.

The DC-3 is no toy with a 29 m wing span , all riveted aluminium construction and powered by 2 radial Pratt & Whitney air-cooled piston engines, of 1,200 hp (890 kW) each of 1830 cu in displacement . The DC 3 s have a top speed around 320 kmh , can carry nearly 3 tonnes of freight or 28 passengers .

Pratt & Whitney 14 cylinder petrol engine Imperial War Museum pic →



How the plane came about is a fascinating story in itself .

In the early 1930's the opportunity was seen for fast comfortable passenger air services across the United States as the alternative was rail which was not to most people's liking . One of the early players was [United Airlines](#) who started having great success with the new streamlined all metal Boeing Model 247 . Now other competing airlines wanted similar planes but Boeing , who was affiliated with United, would not sell them to anyone else .

In desperation [TWA](#) (Trans Continental and Western air) twisted the arm of Douglas Air Company of Santa Monica Ca to build them a similar competing prototype which became know as the DC -1 . This proved successful so soon evolved into the production version designated DC 2 and it soon became obvious this was the way to go so they insisted Douglas give then exclusive rights. [American Airlines](#) then approached Douglas to built a stretched and widener version of the DC -2 to accommodate sleeper births for overnight flights across America . After much negotiation they agreed and what morphed into the DC 3 when fitted fully with seats was born . Now what goes around comes around and when [United Airlines](#) saw what a

vastly superior aircraft the DC 3 was they switched camps and became Douglas's second customer and the DC-3 business was up and running . Over the next 2 years over 30 airlines took up the DC 3 with a total of just over 600 being built.

With the advent of WW 2 things soon changed and with the great need for troop and cargo transport various military version were put into volume mass production post haste under various name such as Dakota , C -47 , Skytrain etc . Over 16,000 were built in the USA with another 5000 spread between Russia and Japan . Production abruptly stopped at the end of the war in 1945 .



← *Surplus planes on Clark Field , Philippines after the war .*

Many were subsequently converted to civilian use including Melbourne's Gooney Bird . It is a military one as evidenced by the double opening cargo door .

Today it is estimated over 100 are still flying commercially. About 1/3 have had the radial piston engines replaced by turbo props for greater power and reliability and other upgrades extending their service life almost indefinitely

Thinking back the real attraction of the DC 3 for me was my father's stories of his time in New Guinea during WW 2 when in charge of despatching stores by DC 3 to jungle strips in the Owen Stanley's . This sometimes involved landing on strips normally too short that had been hewn out of the side of a mountain , The up hill gradient bringing the plane to a stop before it hit the cliff . Like wise on take off the downwards slope assisting the build up off speed such that as the plane flopped over the precipice enough air was caught to start flying . Normally strips of at least 616 m are required and a take off speed of above 157 kmh Wiki



Dropping supplies to troops in the New Guineas mountainous highlands ↑

This was also not fool proof as only about 20 % were retrieved. The rest either being smashed to pieces, could not be found or got to by the Japs first . There is no doubt the DC 3 played a pivotal role in the outcome of WW2 .

← *Wounded in a bit of shade waiting evacuation by a C 47 from a New Guinea jungle strip . Both photos Jungle Warfare with the Australian Army in the South West Pacific*



A ride in the DC 3

They were fully booked the first day so I had to return to Ballarat on the Sunday which was far better weather anyway .

The most obvious thing about the plane is it is a tail dragger meaning there

was only a couple of steps to get up into the door which is right down the back down but this meant a steep climb up the aisle between the seats to get to the front .

The next impression there is hardly any room inside , only just enough stand up straight and then walk sideways up the aisle between the 2 rows of second hand airliner seats . Once seated it was noticed the tiny windows are so low you have to almost lay down to see out of them .

Pretty cosy inside →



Once buckled up time to start the engines , no fuss , they had been run earlier in the day so after winding over a few blades to clear any oil from the bottom cylinders contact and they bust into life at a steady fast idle to warm up .

It was then taxi out to the runway and line up . Gentle application of throttles and we trundled down the tarmac and in no time the tail was up, which it normally wants to do itself anyway at about 100 kmh. By now the engines were enjoying themselves as only big radials can , no exhaust rackets or tooth rattling vibrations as the ground dropped away . We were soon cruising at a couple of hundred km/ hr.

I had a window seat over the wing that also put me in charge of the emergency exit , an opening about as big as a dog kennel door out onto the wing . Imagine the scramble it had to be used . We flew at 3000 foot that put us about 1000 foot above the ground giving a good perspective but still able to see detail below . At Snake Valley we turned West that took us over Goldsmith rally



grounds where it really hit home just how many wind generators there are in the district .

Up to Beaufort then East along the range and back to Ballarat then just wafted down and made a gentle landing at remarkably low speed . All so easy .

← ***No cockpit door and you could go up and talk to the pilot during or after the flight Remember those days ?***

The cockpit controls are completely manual , no auto pilot or hydraulic servos on the controls just pulleys and wires. This was evident in flight as the plane sort of wafted gently left and right and rolled slightly in level flight . Not really noticeable unless you sighted along the wing as the pilot was in direct control via the seat of his pants . One of the secrets of its appeal and long service life .

Not exhilarating as an aerobatic flight in a Harvard or exposed to the elements , noise and oil as in a Tiger moth just getting the job done with a minimum of fuss and maximum safety in a machine designed 90 years ago and has been in continuous revenue earning service for the last 80 years .

There is nothing else like a Gooney Bird in the world !

Warwick Bryce

Acknowledgment to Mike Falls of Melbourne's Gooney Bird

What is a Gooney Bird . Google does not seem to know but many think it might be derogative.

I understand it is a type of Albatross and with a wing span of up to 11 feet is the largest and most majestic flying bird in the world . It is capable of staying in the air for extended periods and regarded as a good omen by sailors .

When I asked the Lady sitting in the seat next to me why she was taking the flight . She answered When I saw the plane sitting on the ground I thought it was the most beautiful thing I have seen so just had to have a flight.

Who do you want to believe ?

SS SS SS SS SS SS SS SS SS SS SS SS SS

Super Axe's Super Chainsaw

David Burder of Whitlands , the maker of our clubs new woodsplitter , had his super chainsaw on display at the recent Wangaratta Fly In and Machinery Show .

It's power plant is a Holden 253 V8 engine with a 1:1 right angle drive where the gearbox would mount driving an oversize 3/4 inch pitch harvester saw chain Obviously too heavy to manhandle it is mounted in a special cradle holding a suitable oversize log . It is not being something you could run with the public around but you can Google it to see a 550 mm hardwood log sliced off in only a 2.4 seconds .





Car Club Visits *Chris Glasscock's overview shows how the visiting Triumphs' filled up our lakeside area .*

It seems this area is getting increasingly appealing to our visitors with its established trees , picnic tables and the proximity to the lake with it's reeds and ducks . We need to ensure it retains this appeal. Chris Glasscock photo

Triumph Visit this run day . Triumph kicked off in 1923 and were soon producing small numbers of better class cars and motorcycles changing to armaments in WW2 until their Coventry factory was decimated by bombing . What was left was bought by the Standard Motor company in 1945 and resurrected . Consequently the company soon had a diverse range of cars from the economy models under the Standard banner and sports and luxury cars under Triumph. Their successful TR series of sports cars came out in 1953 and survived the Leyland take over in 1960 carrying on till 1984 when absorbed into the Austin Rover group and ultimately BMW .

They had some interesting and good technology such as fuel injection , aluminium multi valve heads and overhead camshafts and even a V8 in the TR 8 at the pinnacle of their model range Unfortunately they suffered quality problems from factory disruptions and lack of development which created a reputation for unreliability . These days this level of sophistication is common stuff and Triumph enthusiasts understand how, with correct serving and maintenance these short comings can be alleviated and subsequently get good runs from their cars.

Anyway as I was getting my old Chev out just to add some balance to their display when someone vaguely familiar walked up and greeted me . It transpired he was Stu Smith a colleague from Holden 20 years ago who had bought his Triumph along for the show . Curious to see what he had we tootled over to the cars in my Chev to find one of the Triumphs surrounded with admirers . One official who had been looking for Stu rushed up. It seem his car had just won a major award !

Stu's TR 7 Triumph was the center of attention when we got back

Stu was chuffed to get a Best Runner Up trophy for his Triumph

That made Stu's day as well as being mightily impressed by what we had achieved at the Steam Museum , particularly with the preservation of large machinery including the Willans which Ian Malcolm ran for him and the Steam Shovel and Walking drag line not to mention the Lyttelton engine room . Just shows what a wonderful set up we have .



Diverse line up of Triumphs on display Len Brighton pic

The first car , a real head turner would be a 1946 Triumph 1800 Roadster

Around the Club Continued





Welcome Alice We had an unexpected visitor to the club on the May RunDay , Alice, who some of our members will know from their last visit to Goldsmith . Yes their lady Steam Shovel driver . Now ours is the sister to the G.S. one so when she found out about it she was very interested and just had to see it . On the other hand we were having a bit of trouble working out the run of some of the steam and water pipes and understanding the controls so her visit was a win / win . Alice was very impressed with the condition of ours and the standard of restoration as well as giving us a few clues about setting it up and helping with a bit of painting . The outcome was I think we have got a new member Welcome Alice.

Goldsmith Rally was another good one with the weather gods shining meant good crowds particularly on the Saturday with a number of MSTEC members making the pilgrimage. For several of them the opportunity was taken to have a close look at their Steam Shovel and seeing their interest Alice gave them a cabin ride which made their day and subsequently they invited her to Scoresey.

There is always something new at Goldsmith , one that did not go unnoticed was Harry Harris has just got another noise maker to complement his 2 stroke opposed piston Commer Knock engine . This time a V12 air cooled Duetz. → Wait till he hears what a 2 stroke Foden Diesel with its tuned exhaust manifold sounds like.

Shed wise there is always something going on and
Shed 40 A has got everyone intrigued ↓



← Kids flocking to see what is going on in the old Bookar Steam Shed . There seems to be geese pigeons and bantams . All well behaved but quite noisy enjoying a day out amongst the vintage machinery and household displays . Certainly a draw card for young and old . ↓



Shed 80 is now just about emptied out and one of the first new displays is at least a 100 year old . A Ward Capstan lathe ←

A 1923 ad . →



Wangaratta Fly In and Vintage Machinery Show

This bi annual show was a beauty the great variety meant it had something for everybody but not too much of anything.

Robin Gibbs was there with his Sentinel Steam Waggon and being on pneumatics instead of solids was roaded in from Markwood in not too much time at all.

The Historic Commercial Vehicle Club was well represented as this is the Wangaratta Branches main event . Of course being an agricultural district stationary engines and tractors were well represented . There was a strong Historic Military presence with several camps , vehicles including and a Bren gun carrier plus Stuart tank on a transporter from Seymour .

The local car and motorbike clubs where there in force as well .

Very early vintage belt drive motorbikes were not much more than converted push bikes



This tidy Holden HK Kingswood had one of my fuel injected V8 engines fitted.

The most amazing thing though was the historic aeroplane fly in . Not surprising though the old Drage Museum hanger is now home to one of the leading vintage war bird restoration concerns Precision Airmotive .

Amongst the display was this P51 Kittyhawk , Australia's mainstay in WW2 fighters. Internet pic mine did not come out .



I was disappointed to see they had taken off the fuel injection and fitted a carby






*Judy Pay's T 28 Trojan from Tyabb
A 1950's USA air force radial engined trainer also used by the Navy on carriers .
Popular as a warbird. Wiki*

The most exotic plane was this German Focke—Wolfe F W 190 the only one in the southern hemisphere.
After the show it was pushed back into Precision Air motive's Workshop specialist restorer of WW 2 aircraft Warwick photo



Whorouly man Doug Hamilton had his P51 Mustang and his Harvard at the fly in .
While not an airshow at various times through out the day most of the planes got flown with several impromptu and most amazing aerobatics being performed. Put it in your calendar for 2027

			SEATING 5A
Aircraft	Depart	Return	Hangar 5 228 Wirraway Rd, Essendon Fields, VIC
DC-3	Ballarat	Ballarat	
Arrival: 12.00PM	Depart: 12.30PM	Arrival: 1.00PM	

**Warwicks
DC 3
Ticket**

A couple of very tidy Landcruisers our President photographed at the Dandenong Valley Car Club visit to the National Steam Center

