

GOLDSMITH

THE PYRENEES HERITAGE PRESERVATION MAGAZINE



Threshing & Chaff Cutting in action at the 114th Lake Goldsmith Rally



Next Rally No 115 May 2 & 3 2020 at 1234 LAKE GOLDSMITH-CARNGHAM ROAD

LAKE GOLDSMITH. VIC.

Feature Theme:- Small Engines and Tractor pull

Edition 154 Dec 19/Feb 2020 Find us at- www.lakegoldsmithsteamrally.org.au





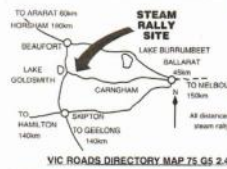
LAKE GOLDSMITH 115TH
STEAM AND VINTAGE
RALLY
2ND & 3RD MAY, 2020

Regular attractions include:

- 65 Display Sheds
- Steam & Oil Engines
- Steam Powered Shovels & Saw Mill
- Displays of Earthmoving, Cars, Motorcycles, Tractors & Trucks
- Radio Controlled Model Boats
- Attractions for Ladies & Children
- Blacksmithing
- Threshing
- On-site Catering

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Operating Dynamometer Truck used for tractor drawbar HP tests at the Werribee Tractor Testing Station

ADMISSION PRICE: • Adults \$15.00

• Children aged 5-16 \$5.00 • Exhibitors and Children under 5 free

For rally information contact: Trevor Ph: 0407 539 041 or Graeme Ph: (03) 9723 3310 Mob: 0418 388 149

www.lakegoldsmithsteamrally.org.au • PO Box 21 Beaufort 3373

Our Mission Statement

To foster, nurture, encourage and demonstrate technical, agricultural and life skills associated with the Industrial Era.

To provide a quality environment where these skills may be used to educate and entertain members and visitors.

To run two weekend rallies each year, and be available at convenient time for other interested groups or individuals.

To conserve and develop a heritage collection.

Find us on the net at:- www.lakegoldsmithsteamrally.org.au

Contact us at:- info@lakegoldsmithsteamrally.org.au or The Secretary P.O. Box 21 Beaufort 3373



Welcome to Goldsmith 154 December 2019

The 114th Rally was a great success. It gave our visitors and other exhibitors an insight into our rural life during harvest time. The power of steam was central to operate the plant, but handling the crop was dependent on the work of a team of helpers who did everything from making meals, handling bags of grain and bales of straw. For all the hard work involved by so many, the social joys of working in a team of neighbours working to their mutual benefit is something that is lost today.

Thanks to all who were involved in this working display, and in particular to the Scobie family who have kept the skills of their forebears alive, and in particular to Neville Scobie who provided their history which featured in the last magazine and the rally program.

Most readers will be aware of the Sandstone Estates in South Africa. The Stars of Sandstone events draw crowds from around the world to their shows that have a fantastic collection of railways, vintage rural and road transport displays with active air and military re-enactments. This Rally we had a visit from Wilfred Mole, a director of their Stars of Sandstone Machinery in action spectaculars, who was here to see the Melbourne Steam Traction Engine Clubs facilities at Scoresby and follow up with a trip to Ballarat and two days at the 114th Lake Goldsmith Rally.



MSTECs 12" Gauge railway is half the gauge of Sandstones substantial 24" railway system, Wilfred checks out the blacksmiths shop and talks to the Antique Caterpillar Machinery Collectors Chapter 19 in their base



shed at Lake Goldsmith on Saturday night. Thanks to Neil Clydesdale of ACMOC, Warwick Bryce from MSTEC and Geoff Hamilton from LGSPA, all of whom have visited the Stars of Sandstone, for their support during the rally, and to Glen Slocombe from William Adams for the group picture.

We hope that Wilfred and fellow enthusiast Mike Poffley enjoyed their time at the Lake Goldsmith Threshing & Chaff Cutting rally.

Note:- The February and August editions are email only.

They can be Download from:- www.lakegoldsmithsteamrally.org.au/magazine.html

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Chaff Cutting

A selection of travelling chaff cutters were on display around the grounds. The two single bag machines below were made in Ballarat by J^{as} Smith. These machines were powered by portable steam or IC engines. The sheaves of hay were hand fed into a feed chute and a power feed forced it into the cutter. The chopped chaff was elevated to the bag feeder where a screw auger compacted the chaff into a hemp bags before it was hand sewn to close it.



The machine (above left) was made in South Australia by Bagshaw & Sons. It was powered by its own unusual single cylinder engine. This 4 stroke engine had an exhaust port in the cylinder wall at the bottom of the stroke , similar to a two stroke engine. A conventional poppet valve was used to exhaust the residual gas which left at a lower temperature. The Inlet valve was atmospheric, and both valves had flat seats. Ignition was by battery or magneto and spark plug or an external hot tube could be used if it was fitted on top of the manifold.

The maker of the machine, (above right) is not known. The return feed elevator which returns oversized chaff to the feed chute is clearly visible in this photo.

There was a large collection of stationary chaff cutters around the site. In days gone by chaff cutters were common, frequently powered by the horse the chaff would feed.

THRESHING in 2019

The quadrangle was a hive of activity with threshing and baling action.



The sheaves, which had been harvested and stooked in preparation for the rally, were hand loaded from the back of the truck into the thresher which separated the grain from the straw. The grain was bagged at one end of the thresher, and the straw was



conveyed to a baler where it was pressed into bales and hand tied before it was discharged to be stacked. Both machines were separately powered by traction engines which in an earlier time would have towed these plants from farm to farm for the annual harvest.

The October Goldsmith (No 153) covered life in these early days by Neville Scobie

who's forbears had operated these plants in the local districts near Dean, which is just East of Ballarat. The Scobie family have maintained the tradition of operating these



plants from there base at the Lake Goldsmith Rally Grounds, where their name can be seen on the engines powering the plant. Thanks to everyone involved in this display and the commentary on this early rural steam action.





Baling hay or straw with these early portable presses was a labour intensive process when it is compared to the later pick up balers towed behind tractors which lifted dry hay from the ground, compacted it, tied it with wire or twine and dumped it on the ground to be picked up later by another machine.

Here the straw was guided into the hopper by hand using a pitchfork, and the “Magpie” forced the top down while the lower press forced the front back to compress the block, while it also forced the previous block into the bale guide. To create some back pressure the top plate was tapered to the rear and fitted with springs. These springs could be adjusted to tighten the blocks before the bale twine was hand fed through grooves in a block of wood inserted between bales. When the twine appeared on the other side a second operator tied a knot in both twines. When the bale (a group of blocks) left the chute it expanded and tensioned the twines.

The separator blocks are clearly visible, and the nearside operator is feeding the twine while the far side operator watches for it to appear.

The picture on the right shows the spacer block with its feed grooves, and the top press is in the down position.

These displays are great to see, and they offer an insight into the hard work required by all involved.





On the road the Traction engine tows the thresher and its conveyor. In their working days all sorts of machinery would be included in the travelling plant.



From a later age this Sunshine combine harvester, complete with colour coordinated sun shade, bypassed the manual art of threshing. The grain was harvested and separated and stored in a bulk bin and the straw was blown out.

The hay press makes an easy load as it returns from the parade, still holding the last two bales to provide some back pressure for the next job. Which may be at the next rally in May 2020??





Some unusual Fords appeared at the Rally. This well turned out “T” provided comfortable stay over accommodation, while this rare survivor from 1934 provides an insight into how cars that had past the time as passenger transport were converted for



specialised transport, particularly in the late 1940's when new vehicles were almost impossible to obtain, and the better ones from the late 30's were used in WW2.

Vehicles from this era really should be preserved as they kept the nation on wheels



All Bren Gun Carriers were based on Fords Side Valve V8 Truck components, and this one was built by Ford in Sydney, and still has its original Ford name plate. In spite of a mixed past, where it was converted from its military role to a lever steered crawler with a Nash truck motor, it has survived and is well on its way back to its former glory. This was its first outing following an extensive ongoing rebuild by Warwick Bryce. The Ford Edsel below is another rare Ford.





The $\frac{3}{4}$ ton Dodge WC 51 (& WC52 if it had a winch, see www.robertsarmory.com for info and more) were introduced to replace the $\frac{1}{2}$ ton Dodge WC series produced from 1939 to 1942, with which they had a high parts interchange ability. Over 250 000 WC series were produced. Some were still in service with NATO until the late 1970's which says a lot for their reliability and effectiveness.

The WC series was developed by the Fargo division of Chrysler. In 1948 the WC series evolved into the similar looking M-37 which was used by all US Military Services and lasted in service into the 1980's.

This series was said to be one of the toughest and reliable military trucks ever built.

Also from Chrysler, this tourer from the 1920's is a good example of how the running boards were used to carry the comforts needed for a family picnic.

Great to see.



This Mini Mac Bulldog from Daylesford in central Victoria made an appearance at the rally.

Owner, Stefan Nechwatal, edits an e magazine for those who have an interest in all aspects of motoring. Google “ Western & Central Victoria Kar Kulture E-News” and get on board.

Thanks to Stefan for his support of our rally’s in his magazine, it is much appreciated. Ed.

There was a large collection of cars and trucks of all vintages at the rally. Below this Mk2 Sprite is a reminder of the days when Austin Healy’s were a common site on our roads, along with their counterparts from Triumph & MG. The vintage Vauxhall is a survivor from the time when sporting cars were large, comfortable and provided performance way beyond the family cars of the day. The rules of the day required that the driver



had to enter the car from the kerb side. To ensure that this happened there was no drivers door, and the gearstick and handbrake levers were on the drivers right, inside or outside the car, depending on the make. Apparently the rear passenger behind the driver was considered expendable by the powers that be, the passenger was provided with a door, and it was of the front opening style which became nicknamed “suicide doors” due to their apparent tendency to pull the young passengers from the car if the door was opened at speed. There were no restraining belts in use at the time. This was typical of all cars, not just Vauxhalls. This well presented car, with its polished aluminium body shows the style clearly.

The makers also provided, perhaps inadvertently, a very convenient umbrella stand.

These early Vauxhalls were one of the great cars of the day, and are still sought after.



This MANN Steam Wagon was mentioned a few editions back when it returned from New South Wales to its new home in Gippsland. It was great to see it at Lake Goldsmith. These steam wagons were unusual in that the Driver and Passenger (below) each had an easily accessible low mounted cabin.







The Mt Emu Sawmill was in action using a portable steam engine running on the edge flitches from the mill. This mill draws a lot of attention when it is in operation, and it has a double function providing milled timber for other projects.



The ACMOC Caterpillar group were busy in their sand box moving dirt from here to there and back again. Normally you expect a Cat to Meow but this lot really get to bark, and draw a lot of crowd pleasing attention while they do it. Their shed and the collection of early Caterpillar machinery is now a major feature at Lake Goldsmith



rally's. On a smaller scale this White 2270 snuck in with a scraper while this D4 below



had a bright and shiny one to match its own immaculate paintwork.



The next generation of Cat collectors is on the prowl, while this Cranvel and Oliver take time out.



A reminder of the “Italian Job” these genuine Mini’s were once everywhere, and it seems that a whole generation learned to drive in them, on the road & a lot on the



track, the trick driving by Paddie Hopkirk and his crew was a drawcard at any event.



Peter and Arthur Godden take the Ruston Hornsby Roller on a lap of the Parade accompanied by a pair of Sentinel “STEAM WAGGONS”







Minature Steam in action is always popular, particularly as these mobile machine can move around the site or stand as stationary displays with their steam in action at idle. They are popular with all ages, and the work to build them deserves admiration. Ed.





The Phoenix Shed always has a an excellent display of beautifully presented exhibits. From a working steam powered vintage printing press to a Ruston diesel generator plant and a myriad of other artefacts in between, there is something to please everyone. Ed.



The 2019 Tractor Trek

The Harry Ferguson Tractor Club held its annual tractor trek in the Lake goldsmith and Beaufort districts on the Friday before the rally. First call was to a presentation by



Goldwind on the status of the Windfarm. The trek then travelled to Stockyard hill along the South end of Lake Goldsmith, which looked at its best following recent rain, in spite





of dull weather. The convoy then drove to Beaufort at the clubs Goods Shed facility where Ron & Linda Harris provided morning tea for the crew.



The Trek then headed North through the forest towards musical gully and then headed back to the Rally grounds in the afternoon. These treks are popular with the entrants and they provide an attraction for the passing traffic and local residents. Ed.





Earlier on in April in edition 151 we featured a story that had started after the ABC series of Backroads featured Beaufort, and more to the point, John and Josh Franc in their Aveling & Porter steam roller. A budding 7 year old steam enthusiast, Freddie was watching and via a contact with Liza Robinson of the Beaufort Progress Association Freddie arrived in Beaufort and was treated to a special trip on the Steam Roller.

Freddie was back in Beaufort for the 114th Rally, and joined John and Josh on the roller, and for good measure he was Fireman on the Standard Sentinel Waggon which was also on a trip from Adelaide, with Bob Butrimis and Bruce Roberts. Thanks to all, and Freddie's return.





Prelude to a Rally, the John Norris Boiler house comes to life as the week long process to bring the Adelaide made Union Engineering boiler up to steam gets underway.

The crew take a break before they tackle the clean up and preparation needed to keep the show up to the standard that they have set. This rally the main boiler takes time out and



allows the new grate to be seen.

Don't miss the daily Boiler House tours. Ed.



LAKE GOLDSMITH 115TH STEAM AND VINTAGE RALLY

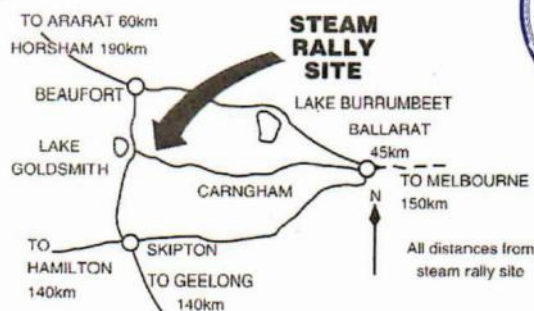
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VIC ROADS DIRECTORY MAP 75 G5 2.4

ADDITIONAL FEATURE

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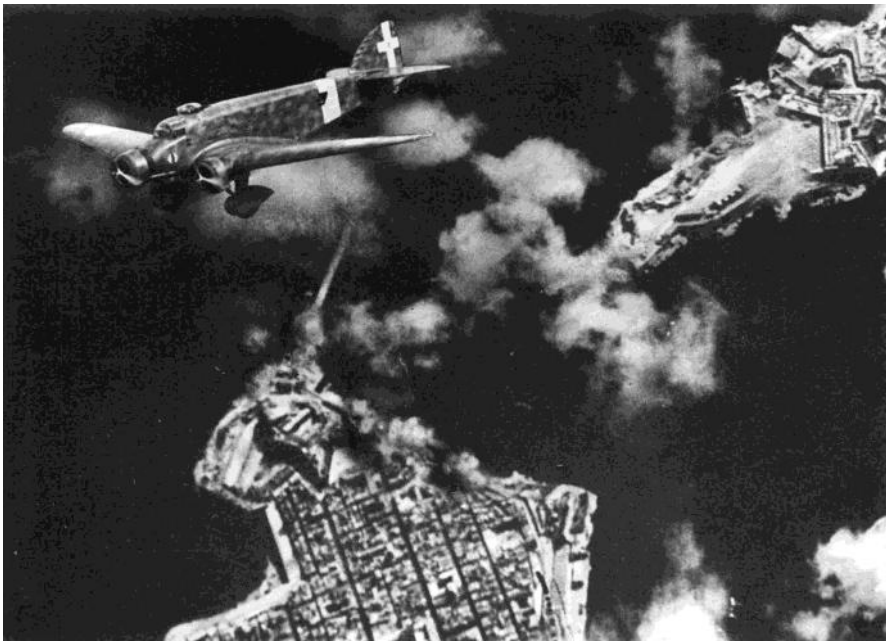
John Hili's Engine Museum

Luqa, Malta

We do not hear a lot about Malta of late, which is a surprise as much of our population has a Maltese heritage. For those not familiar with Malta it is a small group of three islands in the Mediterranean sea about 80KM South of Sicily.

A background search may be of interest, as Malta has had a continuous succession of events in its history, particularly in the last 1000 years.

It's strategic location, more or less midway between Italy and Africa one way, and Gibraltar and the Suez Canal the other, has ensured that it has played a major role in history from the Bronze Age, through the Egyptian's, Greeks, Romans, Crusaders and many others up to and including WW2 when it was a British colony and Naval base.



It was attacked by air by the Italian Air force, the Regia Aeronautica, within hours of Mussolini declaring war on Britain on June 10 1940, 15 days before France capitulated.

Initially Malta was defended by Gloster Sea Gladiators, obsolete biplanes, which had been left crated (as spare parts for carrier born aircraft) at the Naval Base. The Maltese Government had requested that, contrary to the military attitude at the time Malta could and

should be defended. By June 10, six Gladiators had been assembled and were based at the Fleet Air Arm's Hal Far air base on the South of the Island. For a few weeks these tiny outmoded but very manoeuvrable fighters held their own against the might of a modern airforce. Their story is an epic in the Siege of Malta which lasted until October 1942 when Kesselring recognised the superiority of the Maltese force,



which by that time had over 160 Spitfires on the Island, plus a lot of others from Beaufighters & Bombers to Wellingtons.

On June 19 the Gladiators were joined by 12 Fairy Swordfish Biplane Torpedo Bombers which gave them an offensive arm which had sunk an Italian Destroyer by the end of the month. In July they were joined by 4 Hurricanes, and in August 8 more.



Initially the Royal Navy allowed the RAF to use four Sea Gladiators, one for spares and three to fly, although six were assembled, two for the Fleet Air Arm. They were soon known locally as Faith, Hope & Charity.



The fuselage, (fitted with proper Gladiator two blade propeller in lieu of the 3 blade it had been assembled with from the parts boxes.) of Faith survives in the National War Museum at Fort St Elmo at the entrance to Grand Harbour and Valletta. Hope and Charity were lost at sea and a search is underway to find them. The sea around Malta must be littered with hundreds of

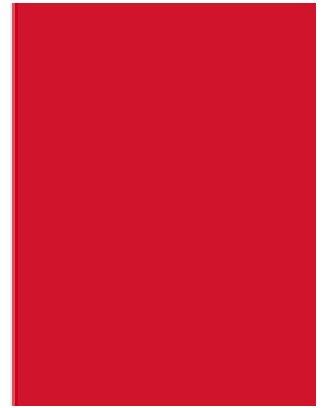
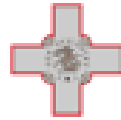
Ships, Boats and Planes from all sides, plus those lost through the millennia of its occupation and sieges.

Only rarely were three planes flyable, and only one pilot had had Gladiator training, and none had had battle experience, so it was a jump into the deep end. During the Siege of Malta, (which aimed to starve Malta and force it to surrender to the Axis Powers) there were over 3000 bombing raids on the Grand Harbour area alone. Malta was one of the most intensely bombed areas in WW2, with a total of 3343 recorded raids lasting 2357 hours dropping around 15000 tons of bombs.

After the siege, which lasted 2 years and five months (June 1940 to Nov 1942), ended the forces based on Malta went on the attack and 230 Axis ships were sunk in 164 days, the highest sinking rate by the allies in WW2. Rommel's comments were that—without Malta they could not hold Africa and a grateful Churchill described it as an unsinkable aircraft carrier.

The Axis was eventually defeated in North Africa in May 1943, and convoys could get to Malta which became a staging base for the invasion of Sicily.

On April 15 1942 King George VI awarded the people of Malta the George Cross, which is the civilian equivalent of the Military Victoria Cross. The George Cross is awarded “for acts of the greatest heroism or conspicuous courage in the face of extreme danger”. Malta is now an independent country within the Commonwealth, and the only nation to have received the award, which forms part of the nations flag.



With a combined area of only 316 Sq Km, and a then population around 270 000, 1581 were killed in raids, and 3780 were injured. 10 761 homes were destroyed or seriously damaged, forcing many to live underground.

The Allied losses on or near Malta were 2300 airmen and 5200 Navy and Merchant sailors were killed or wounded with the loss of 716 planes, 1 battleship, 2 aircraft carriers, 4 Cruisers, 19 Destroyers and 19 Submarines. Malta was saved from starvation when the convoys MW 14 to 18 got through from Port Said and arrived without loss as part of “Operation Portcullis” in December 1942.

Axis losses were 241 confirmed aircraft lost and 48 unconfirmed, and submarines based on Malta sunk 390 660 tons of shipping which crippled their African campaign.

WW2 was not the first siege of Malta, they have had quite a few in the past when the Islands were occupied by various countries from the Phoenicians to the Normans who took over around the time of the Crusades in 1090.

During the Crusades “The Order of Knights of the Hospital of St John of Jerusalem” had been formed as a Catholic Military Order to protect and care for pilgrims and others visiting Jerusalem where their ±2000 bed Hospital was based until 1291. They then moved to the Island of Rhodes following Military defeats. They stayed there until defeated by the Ottoman’s and moved to Malta in 1530 when the King of Spain granted them rights to a perpetual Fiefdom. In 1551 the Knights repelled a series of Otterman attacks, although the population of Gozo was captured and about 5000 were enslaved.

In 1565 the Otterman’s were back in force and the “Grand Siege of Malta” began. The Knights and Maltese hung on until reinforcements arrived and the siege was broken and the Otterman’s retired. The Knights reinforced the Island with Forts (and a large hospital that could care for around 2000 pa-



tients and was considered the best in Europe) which survived until 1798 when Napoleon invaded on his way to Egypt. The knights had to capitulate as their order forbade them to take up arms against other Christians, and the Tsar of Russia became their Grand Master when they were based at St Petersburg until 1802, (more about them soon).

In 1799 20 000 Maltese died when they revolted against the French. Malta became a British Protectorate while it was still part of the Kingdom of Sicily. The French surrendered in 1800 and Malta became a British Colony in 1830 and remained that way until the 1920's when Malta took on a degree of self government and became independent as a Constitutional Monarchy in 1964, and a Republic within the Commonwealth of Nations in 1974.

Malta became a member of the EU in 2003, and the RN Naval Base was closed in 1979.

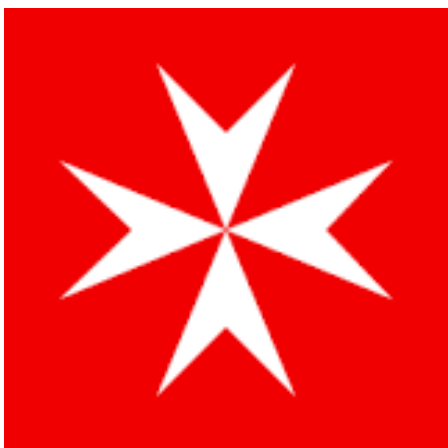
Back to the Knights of St John.

The move to Malta, and the Protestant Reformation in Europe affected the financial support they received from Western Countries. In Britain they lost their properties when Henry VIII dissolved the Monasteries, although they were not outlawed, but survived in others. In 1834 the order was centred in Rome, and it is better known as "The Sovereign Military Order of Malta". Today the Order has a Mission in Malta where it has a 99 year lease over the upper level of the Fort St. Angelo which had been built by their predecessors nearly 500 years ago.



The Order has 13 500 members, 80 000 volunteers, 42 000 medical personnel dedicated to the care of the poor, the sick, the elderly, the disabled and homeless and all of those who suffer, particularly the victims of armed conflict and natural disasters. It is active in over 100 countries and has an annual budget of over 1.5 Billion Euros.

It has its own flag (right) and is recognised as a Nation State although it has no country of its own.



The symbol of the Maltese Cross was first used by the order in the tenth century, and has stayed with them ever since. It has also become a symbol closely associated with Malta. In addition to its use by many Maltese groups, RAF Squadron 1435, whose forebears started out with the 4 Sea Gladiators adopted it as their insignia when they reformed as a night fighter unit there at Luqabase.



The original Squadron was disbanded in Italy after WW2, but it was reformed in 1988 and based at the Falkland Islands as Flight 1435. The Maltese Cross and Falcon survived on their Modern Jets, a tribute to their origins and the Hal Far air field which as part of the Royal Navy's Fleet Air Arm was named HMS Falcon.

The names Faith, Hope & Charity survive as F, H, C, (& D for Desperation) talecodes above the insignia.



Back to Britain, the order had a spasmodic existence until the 1820's when the French Knights offered their British supporters Knighthoods irrespective of their protestant following. The Knights of Malta agreed, but the English Knights confined their activities to charity. They set up the St John Ambulance Brigade in 1877, and opened an eye hospital in Jerusalem in 1882 and their order was recognised by Queen Victoria in 1888.

Today they operate in over 30 countries including Australia where they are active in all states, including Victoria (since 1883), where as a trusted response unit of Ambulance Victoria their 2000 plus volunteers attend over 4000 events each year, including on occasions the Lake Goldsmith Rallies where they are the backbone of support for those who from time to time have need their skills.

The historic ties of the St Johns Ambulance Australia go back to John the Baptist whose name their forebears adopted, and their charitable works go back a thousand years when they built Hospitals for those of all creeds who were in need, Their Maltese Cross is a reminder of the challenges that they survived in the past.



The medical rooms (below right) are located in the North West corner of the founders building.

This passage started out as a background to John Hili's Engine Museum in Malta. I had no idea how the familiar Maltese Cross tied us back to Malta, and their incredible history.



I hope that this diversion held some interest, and that our tie with the St John Ambulance continues into the future.

Now to Johns Museum.

We can start with John's :-

Letter from Malta!

I am John Hili from the small island of Malta (20 miles x 8 miles) with a population of 460,000 inhabitants.

There are three engine collectors including me all over 70 years of age one is 86!!!! Now there is a hand full of young collectors with a couple of engines each I hope they keep going!!!

I have been collecting engines for the last 40 years I have a collection of about 130 engines including 7 steam engines. I have also two Avelling- Barford DX8 diesel rollers of 1942. Being an engineer by trade I collect and restore engines to save them for posterity not for just having a number. All the engines I have collected came from Malta and sister island Gozo (8 miles x 8 miles)

The oldest engine in my collection is a hot bulb Alf Dougill and sons Leeds it dates from 1896. Malta having been a British colony for 180 years engines found here are prevalently British like Lister, Petter, Crossley, Blackstone and Rustons!

At the moment I am restoring an Avon Dragsaw of 1943 it is the only one in Malta, it was abandoned in a field for many years and the owner did not want to sell!! After he passed



away I bought it of his sons. Attached are some photos of before and after it is in



the final finishing stage. To see some of my engines go to [Youtube](#) and write [johnhilimalta](#) account. John

Before and after the Avon dragsaw with its Bradford Motor was well on the way to completion when the pictures



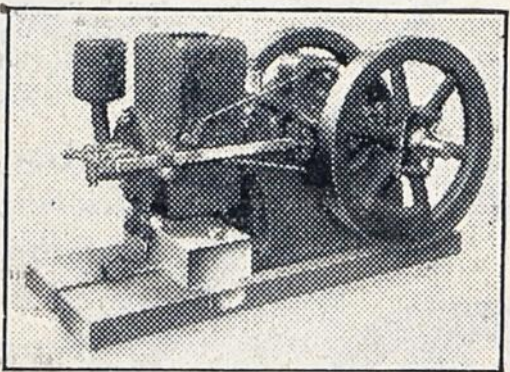
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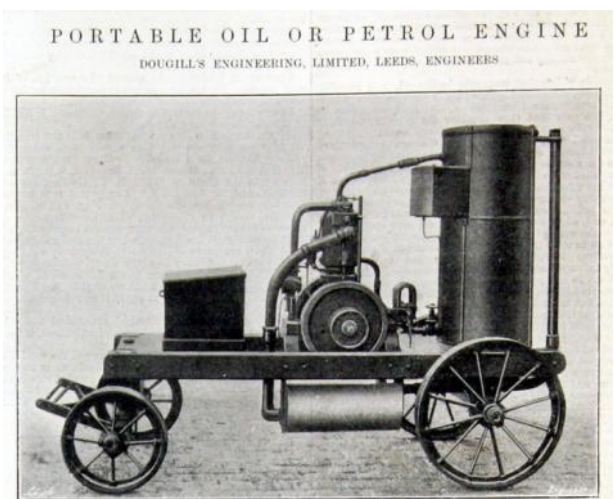
above and left were taken. The parallelogram saw linkage seems to keep the saw cut motion parallel and eliminate the more common rocking motion. The timber lever can hold the blade in a park position above the work log that it is attached too with spikes and a ratchet locked chain.

The drive could be disengaged for starting, or for servicing the blade for service.

The engine seems to be a later model than the brochure above. There are quite a few Bradford stationary engines around but the saw is not so common.



John's 1896 Alf Dougill engine is an impressive sight in action after 120 years of action. It



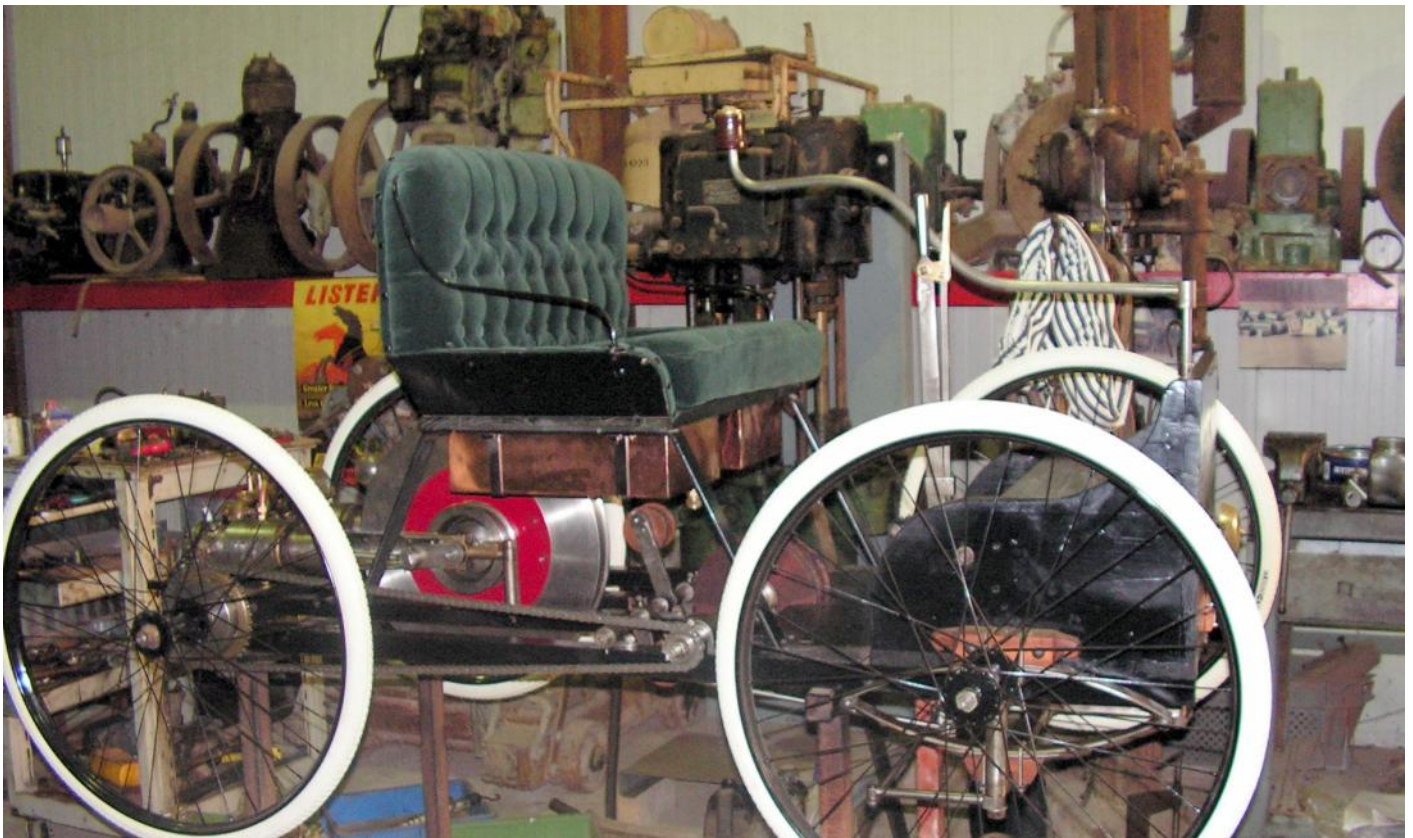


is difficult to get information for this engine, but the brochure on the right shows a later engine made when the company name had changed to Dougill's Engineering Limited in Leeds. Alfreds son later worked for Wolsey. Dougill produced cars under the name of Frick using DeDion engines after 1900 but did not survive for long

John's **YOUTUBE** account **johnhilimalta** is worth a look. There are a lot of engines in action including the 1936 4 cylinder Fairbanks Morse on the left above. John's 1935 Petter-Fielding above centre, and the 1946 Blackstone EPV4 on the right can also be seen on the YouTube clips. Ed.

FORD QUADRICYCLE REPLICA

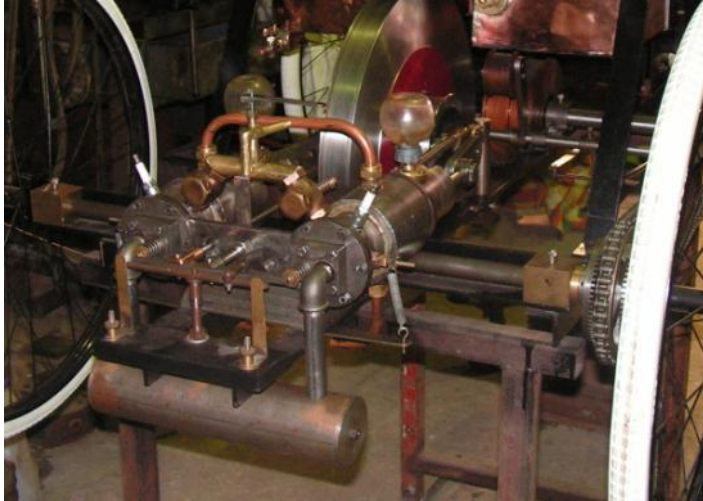
Amongst the engines in Johns collection there is a working replica of Henry Fords first quadricycle. This project took 3 years to complete. In addition to the youtube features, John's Quad, and the individual parts, can be seen on the Dave Dunlavy Quadricycle



website. go to <https://dunlavy.us/quad/index.html> then select "Other peoples cars" and then select **John Hili's Quad (Malta)**. Drawings were not available for all of

the parts, so much had to be made by measurement and reference, this included making all of the patterns for the castings. The car can be seen below in John's workshop, surrounded by his engine collection

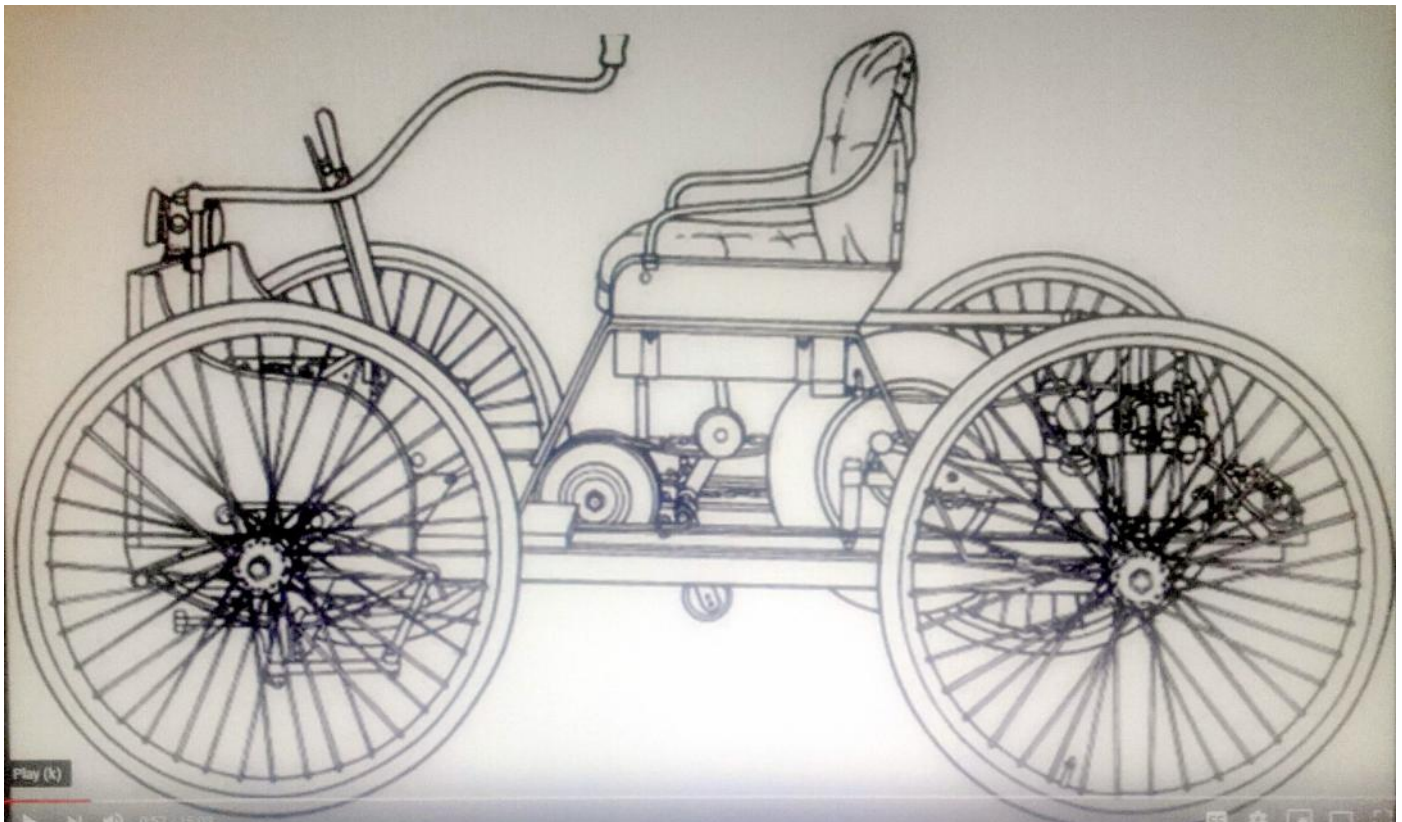
The pincushion style seat is a sign of the



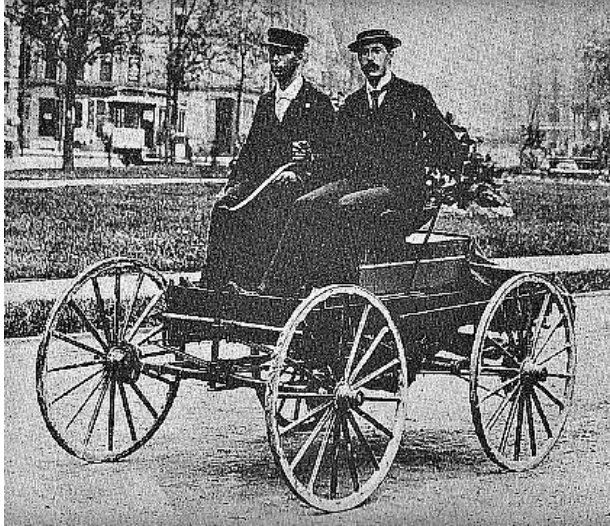
horseless carriage era, and the 28" bicycle wheels were an adaption of the bicycles of the period,

The full elliptic springs on the front axle are short and allow the vertical steering column to rise and fall with the axle with minimum bump induced steer.

The fixed rear axle and differential assembly are rigidly attached to the chassis.



The cylinder head has the exhaust valves which appear to be operated by a single push/pull rod, and the original ignition used a battery and Coil timed by a contact breaker on the top of the piston. The drawing below gives the general arrangement of the major components. The clutch operates by tensioning one of 2 flat belts, pushing down on the top of one or pulling up on the other. There are very few of these replicas in existence , and building one is a major achievement.



Before we leave Johns project it may be worth having a look at Henry Fords original. Later he brought the original for \$65 and it now sits in the Ford Museum at Greenfield Village near



Dearborn Michigan USA.



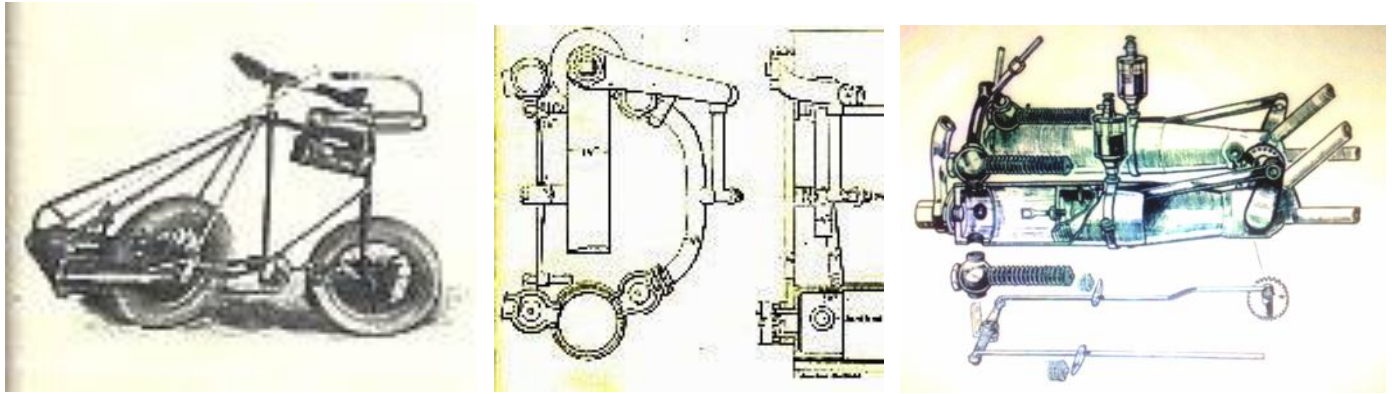
Before building the Quadricycle Henry Ford had experimented with steam and electric ve-



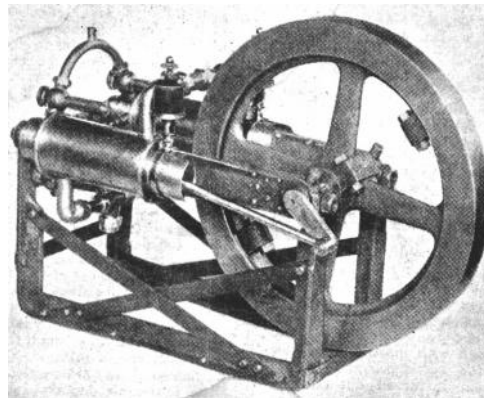
hicles and decided that steam was not practical for light vehicles, and that battery electric vehicles were limited, which made internal combustion his choice at the time.

His colleague Charles King built a powered buggy, (left) which he drove a few months before Henry's Quadricycle appeared on the roads of Detroit on the 4th of June 1896.

Henry Ford was employed by Edison Electric at the time, and his car was built in a

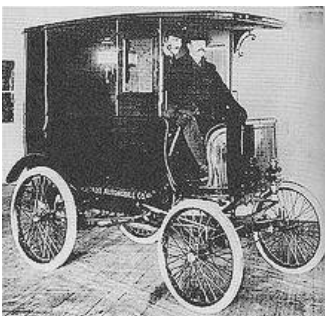


shed (above & left) at t Bagley Avenue Detroit. he rear of his home at 58



The Quadricycle was sold later in the year for \$200. Henry persevered with improving his designs and had trouble with backers who wanted to release undeveloped vehicles.

The motor is similar to the Kane Pennington engine which was described in the Nov.1st 1895 edition of American Machinist magazine. Initially the engine had been designed by Edward Pennington in Indiana for motorcycle use (a word that he is credited with inventing). Thomas Kane from Detroit took over the rights.



The motorcycle design in the drawing above appears to be a generalised concept only. Using the crankshaft as the rear axle and the tyre as the flywheel creates some limitations.

The car was a different set up, and whilst some features seem shared, Ford seems to have come up with some novel



changes, particularly the double diameter Fly-wheel that provide the high and low speeds. Reversing the engine installation certainly improved accessibility. Fords beam front axle & steering freed up space and simplified steering with the tiller. Ed.



Beaufort 2020



Queen's Birthday

Sat June 6 & Sun June 7

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More information in the April Magazine or at www.lakegoldsmithsteamrally.org
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