LOTUS NOTES



THE OFFICIAL MAGAZINE OF LOTUS CLUB VICTORIA and LOTUS CLUB QUEENSLAND









- The Covid Cam
- An Interview with Anthony Musson Lotus Melbourne
- Driven Women at Targa High Country
- One of a kind? Lotus Elite Chassis No: 2001

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Lotus Notes Magazine Editorial

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Victoria ADDINGLightness

by Vicky Rowe

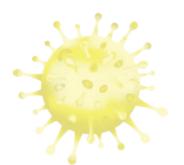
Most are eager for things to return to normal and at the time of writing everything was heading in the right direction. By now we will have enjoyed a much-awaited return to the roads on our June EMR. Despite having very little planned in terms of socialising, I'm sure everyone will have been happy to get out and catch up with Lotus friends, and thrilled with the engaging Gippsland roads.

We'll be back at the track on Sunday July 19th with the MSCA returning to their scheduled sprints at Sandown. The competition is now cancelled for 2020, but sprints will continue to be timed and I expect the competitive spirit of the drivers will endure. In line with social distancing rules the MSCA has transformed their processes. The upshot is that proceedings should be even more slick now that check-in and scrutineering processes are on-line. Or at least that's the plan.

We've held two more very successful virtual club meetings. During May we visited Neil Robert's garage to see and hear about his 23B tribute project. Then in June we visited Lotus Melbourne to learn about Mark O'Connor's career, see their Targa car project, and hear about what's happening in the world of Lotus. Thanks to our guests and to Peter Hill and Peter Murray who helped to deliver these sessions. We will hold a face to face club meeting soon, but don't be surprised to see more virtual meetings on occasion too.

If you're still a little reluctant to venture out now, then hopefully you'll be ready by October when LCV will be heading to the Victorian High Country. The weekend tour starts on the morning of Friday October 2. You can round off the weekend at Winton on the Monday following (October 5) if you want to join in on the Lotus Only Track Day (LOTD), run by Lotus Australia.

Expressions of interest for the LCV High country weekend are required now. Don't delay as spots are limited. Please see further contained within.



WELCOME

New Members

Simon Kerr

Queensland President's Report



by Steve Lennox

July, and the restrictions are lifting further and we, as a club, have started to get activities up and running. By the time you read this we would have had the DTC in modified format, plus a day run to the Scenic Rim, stopping at Lake Moogerah picnic area for our 'nostalgic' BYO picnic lunch. This too was run under a modified format to enable suitable social distancing and adhering to the limits on customers in coffee shops, etc.

Motorsport seems to be coming back online, with the tracks allowing events to be run if the events meet the current restrictions.

The Porsche Club are planning their ICC sprint event at Morgan Park for the 18th of July. Morgan Park B Series will commence with a postponed Round 3 on the 1st & 2nd of August. The Noosa Hillclimb has been rescheduled to 15th/16th August, with entries open now, check our events page on the website for details. Paul Stokell's Driving Events is also back hosting events.

Ken is in the process of planning the big overnight run or "Grand Tour" as we are thinking of calling it. Most likely dates are the October long weekend (3rd & 4th of October). We are also considering going on a longer tour and making it a 4-day, 3-night event, meaning those who work will only need to take the Friday (2nd October) off. This is a great event and I urge all those who enjoy driving to participate. We explore great driving roads, much further afield, and get to socialise in the evenings at our stopovers.

Lotus Club Queensland 25th Anniversary is this year and originally, we were looking at an event in June to coincide with the first meeting all those years ago. However, the plan is to take a 'rain check' and host an event later in the year when we can all get together.

Magazine content and stories are still coming through so please keep writing them. As we have no events to report in the magazine, I have been enjoying the member's content around their cars and some interesting member profiles. It has been very enjoyable reading. This edition we get to profile one of our members, please read on for John Lungren's profile.

The committee will keep you all posted on the possibility of monthly meetings returning, with a possible chance of us being able to host the August meeting.

Until next month...

Keep safe and enjoy the return to normal





I wonder how many members remember a particular Dinky or Matchbox car from their childhood. Lotus Club Victoria's Club President, Vicky Rowe, does — it was a Matchbox Lotus Europa with opening doors and lids. The seed had been planted, it lay dormant for many years but then a life changing event brought it, or at least Lotus, back into her life.

Vicky's partner Eddie had recovered from a serious illness when Vicky decided that it was time to reassess life and what they wanted from it. They shared a passion for cars so they decided to join a club and become involved. It's unlikely that, at that stage, they envisaged just how involved they would become. Vicky rang LCV Secretary, John King, who explained what the Lotus club was all about and suggested that the pair join the fun at Lotus 2009 at Beechworth. They did, with both of them running an RX7 at Winton and taking a trophy in the non-Lotus class. They loved the club, loved the cars, and loved talking to the enthusiastic and knowledgeable members.

Within a few months Vicky purchased a Series 1, 1998 Silver Elise which became the car that she and Eddie shared at events. Competition between them became fierce and the little car had a hard time. In 2011 a work transfer for Vicky saw the pair relocate to Perth. Vicky bought a supercharged Elise S Series III (2ZR), so now they had two cars to use in competition, and Vicky drove the chrome-orange Elise as her daily commuter car. At the same time their enthusiasm saw them fire up the Lotus club in WA (Club Lotus WA), transforming it into a very active club.

On the track Vicky saw first-hand how quick the Exiges were so she purchased one from a competitor and parted with the Elise S. Now there was a habit to feed, so when Vicky saw a Honda powered Series 1 Elise, all set up for the track, for sale in Sydney it was added to the collection, housed in Melbourne to be used for track days when on visits East. "I was really enjoying the motorsport at that time."

Now the couple and their three cars are back in Melbourne. Vicky is LCV Club President and Eddie is on the committee. I asked Vicky if she had a favourite out of the three cars.

"They're all very different. I love them all but for different reasons. The Exige is quite masculine. It's more of an event, in terms of driving. But now I am up against newer Exiges, and ones with big turbochargers, I don't get the trophies

I did in WA. Vicky competes in the Exige while Eddie runs the Honda-powered Elise.

Vicky tackled in the Targa High Country last year and loved it. She plans to do the event again in November this year (virus permitting). "If it wasn't so expensive, I'd do the whole championship."

What about the future? "Well I still haven't got a Europa. There's probably another Lotus to come at some stage. I made the mistake of selling one once. I won't make that mistake again. I'd like to own a classic. I'd definitely like to own an Elan."

As far as the club is concerned Vicky would like to create more of a volunteering culture, by breaking the work down into smaller chunks and making it easier for members to get involved. She believes that most people are happy to contribute. She would also like to see improvements in communication to ensure that the full spectrum of the diverse membership is covered. "The new website is a big step forward." Finally, she would like to see a national approach on some things. Perhaps another attempt at a national magazine.

With that amount of enthusiasm and commitment, the club is in good hands.

Member **Profile**

John Lungren

by John Barram

photos: John Lungren

John was born in Wollongong, south of Sydney, and also lived in Newcastle and the Western Suburbs of Sydney, before moving to Brisbane in about 1963 to run a business manufacturing industrial leather gloves and associated leather welding apparel. He spent a lot of time understanding and developing a more efficient manufacturing process, and developing faster sewing machines for making the gloves and, in time, the business was a success.

John made friends with a number of car enthusiasts after joining the QMSC Car Club which ran the Lakeside Motor Racing Circuit.

They also frequented the 'Primitif' underground Coffee lounge, which was then the centre of the Brisbane Folk Music Scene in Queen Street (where he met his wife-to-be, Diana). Some of these new friends had started doing car club motorkhanas, sprints, etc. in Minis. John had a very tired 1962 Morris 850, a hand-me-down from his mother, which now sported wide wheels and a bigger carby. However, the Mini was soon well and truly worn out after lots of crazy driving and was taken off the road. John now wonders how he and his friends managed to get away with their antics on the

> road without hurting themselves. The Mini became the basis from which to build a proper race car for the track.

In 1969 one of John's mates was Chris Nixon, motoring journalist at the Courier Mail. He had bought a Lotus Super Seven, the ex-Arnold Ahrenfield race car from Sydney. It was straight off the race track, with a full race 1475 cc



John Lungren

engine, wide wheels with Dunlop racing tyres and little alloy doors, as required to race at the time. The only concession to the road was the refitting of the Lotus Seven windscreen, instead of a racing aero screen, and Chris was driving it on the road! He rang John and said "I've got something to show you", then went over one night to let John take it for a drive. As John says, he COULD NOT BELIEVE IT, a race car you could drive on the road. He had an enthusiastic (he says maybe over-enthusiastic) run around the suburbs, power sliding around corners and making a huge noise, enough to convince John that he just had to have one. The die was cast.

Around this time John and Diana had decided to get married so he needed a suitable family car, a Mini of course! So he bought a Mini Cooper at auction with worn out brakes and a very tired engine. A mate helped him rebuild the engine, using second-hand pistons to save money, and the car was finished the day before





the wedding. That car was then used on their honeymoon trip to Cairns and Dunk Island. John says the car ran well, it did not miss a beat, but it was soon black all over the back as it burned a lot of oil.

The racing Mini took a few years to construct as John built it to the exacting standards for which he has become known. Ultimately, it had a chopped top, gull wing doors and was extremely light, as he took the 'Chapman' philosophy of 'Just add lightness' to extremes. All the excess metal in the internal trim was cut out at night with an air chisel, making lots of noise. There were plenty of stones thrown on the roof by the neighbours, as well as visits from the city council to make sure it was only a hobby and not a business. The body metal that was left was then further reduced by drilling, or cut out with hole saws. The brake pedal had been drilled out to the point it had to be strengthened with a tube welded to it. The body was then aciddipped for more lightening, then given just one coat of etch primer and one BRG colour coat. The car was very light, so light that the rear wheels came off the ground under heavy braking, so it ran a brake booster on the front brakes only. John did a lot of research for his engine and achieved a motor which had as much power as one could get from an iron head A series motor. It was a very competitive car. He hillclimbed and circuit-raced the car from 1971 to 1977, when an off-track excursion at Surfers Paradise Raceway saw the mighty Mini badly bent.

In recent years the Mini has been passed on to Exige-owning Lotus Club member and Mini fanatic, Greg Coates, who had the car rebuilt and is running in historic racing.

About 1983 John bought the remains of a 1967, late series 2 Lotus Seven, SB2226, which had been in a road crash in Sydney. It came in a few cardboard boxes with a frame that was badly

bent, and it quickly became clear that there was going to be a lot of work involved in rebuildng this car, and progress slowed.

Another S2 Seven SB1567 became available in

Brisbane, a well-known car, which had been a race car its whole life, and was said to be driveable. John bought this car but when he got it home and had a closer look he could see that, when viewed from the front, the lower suspension arms were at different angles. Another twisted frame made it clear that this project also was going to be a big job.

Having been bitten by the Lotus bug, when the chance arrived John bought a 1968 Lotus Elan S3 SE. He enjoyed that car on the road for a period, but when he needed some cash for his business he advertised the car for sale in Brisbane for \$3500. When there were no takers in Brisbane he and Diana drove the car to Geoghegans in Sydney, where Pete paid a lot less then John was asking, but he took the plates off and they flew home to Brisbane.

With John's time well occupied with running a business, plus a move to a new home at Thornlands, the Seven restoration was on hold for some years. But he did now have a good workshop to work in. The 1967 car, registration TRU 07, was rebuilt as a road car but with many improvements. The frame was vastly strengthened, the engine was well developed and it had many weight saving parts. Every inch of the car was rebuilt to John's exacting standards and it was finished in polished aluminium and Vermillion Fire, the colour of the Chris Nixon car which had started the Seven love affair. The car was completed in time for its first public showing at the 1999 Lotus Clubs biennial gathering in South Australia. John was keen to give the car its first track outing there at the Lotus day at Mallala, but that was cut short when he had a problem with the tappets. Once home, they were promptly replaced with roller rockers.

Soon John was running the car in Historic hill climbs, Sprints and Regularity events at the HRCC race meetings, and he participated in all of the 'Speed On Tweed' events at Murwillumbah.

Within a few years I also had my green Seven finished and we have had many a competitive tussle since then.

As time went on John's health began to limit his competitive driving and this led to a decision to sell TRU 07. It was sold in 2014 to Exige owner Richard Coates, the father of Greg, who bought and repaired the race Mini.

By this time John had turned his attention to the second Super Seven. This car has a notable racing history and John chose to rebuild the car to how it was when it was raced by Barry Locke in 1967/68. That project was completed in about 2013 and John still retains the car.

In recent years John had a major role in the restoration of a S3 Seven, owned at that time by Jeff Thompson, which was completed in 2018. This car is now owned by Lotus Club Queensland member, Gary Wren, and won the best Lotus at the Club Concourse in 2019.

John has no further restorations planned... at the moment!



The Covid Cam

by Dick Reynolds

So we are all looking at isolation, can't drive the car without a valid excuse, and I'm on "Special Interest Plates". Daryl, Shane and Jon increasingly monstering my efforts on track!

Thinks to self "rip the engine out and do that cam replacement you've been dreaming of for ten years".

And that is exactly what's happened.

Here's the timeline:

Checked valve to piston clearances roughly and selected a Cosworth A3 grind.

10mm lift at valve, 47/83 83/47 timing giving 310 deg. duration. Rev range 4000 to 8000.

All depends on what's in the engine as to how effective this somewhat warm cam is!

Took the head off, oversize valves — like really oversize, double springs, beautifully ported. *Tick*.

Piston tops look like forged items and definitely 83.5mm bore. So solid 1700cc. *Tick*.

Took engine out, flipped over, bearings OK and rods 125 Twin Cam items. *Tick*.

Removed the flywheel, pressure plate and clutch — AP Racing clutch. Sadly decided to replace and had all manner of problems chasing bits. All set now with 170hp capability! *Tick*.

Removed old cam — BCF2 fast road cam badly timed! (110hp on a good day). Checks with Dyno Day 82.6hp at wheels.

Cam arrived, set up the dial gauge and found original TDC of crank out by about 2 to 4 degrees so couldn't time A3 at the required .087" (2.21mm) lift at TDC.

Duplex cam chain with Vernier adjustment arrived and set cam up at the precise timing. Installed home-made front cover hatch to allow adjustment of cam timing should I get it wrong or want to change it!

Did a "dry" assembly to check valve to piston clearance — 4mm! Plenty and room for a wilder lift at some later date.

Solid front pulley also arrived. This prevents pulley flying apart at high revs and is smaller diameter to slow water pump and reduce cavitation.

All new gaskets and followed the Wallage Kent Xflow book closely to re-assemble.

Assuming better breathing, installed 34mm chokes, 140 mains and 180 airs in DCOE Weber carburettors.

Put the completed engine back in car and set the ignition timing, primed the dry sump oil pump and re-filled the coolant.

Next step terrifying! You need to run the engine at no less than 2000rpm for 20 minutes to run the cam and followers in. Luckily, all went well and it's run in.

Took the car out for a run and it went very well, no revs over 4000. Appears the jetting won't be too far out.

Days later and a few runs around chasing various odds and sods like shorter fan belt etc. turned right out of Cannon Hill shops instead of left, entered the Gateway Bypass on-ramp and floored the pedal in third gear. Moment later the engine all but stopped — oh no! Looked down at instruments and realised I had hit the rev limiter.

Think this thing might have some poke!

Spent the next week solving little niggles like oil and water leaks and electrical glitches.

Now I'm sorting the tuning myself. Bit of plug analysis and getting the thing running sweetly.

Returns a day or two later!

Number one valve has half the lift it should and there's a big knock in the engine.

Looks like a second wave of repair.

Such is life.

I'll keep you posted.











An Interview with...

ANTHONY MUSSON Lotus Melbourne

Anthony joined the Simply Sports Cars team back in April. Based at Lotus Melbourne in Cremorne, he has been tasked to manage Lotus Vehicle Sales and Marketing for Victoria and Tasmania, as well as to support Lee and the management team in growing the national distribution business. So we thought we'd put Anthony in the Lotus hotseat with a few probing questions.

Q. What is your background in Automotive?

A. I've been working in Automotive for almost 20 years now. It has been quite a journey! I started as a sales trainee up in Sydney, and worked my way through various sales/sales management roles. I joined my first OEM as an Aftersales Business Development Manager, supporting dealers to grow their service and parts businesses. After that, I moved back across to Sales in a similar role, then into Retail Marketing, followed by Model Line Management. My previous role to Lotus was at Fiat Chrysler, leading Product Planning Strategy for Italian Brands — Alfa Romeo, Fiat, Abarth and Fiat Professional. So I've been fortunate to work across many areas of automotive.

Q. Which Brands have you worked for?

A. I started in retail sales with Honda and Renault. Later I moved to Volkswagen Commercial Vehicles, then Citroen. In OEM I worked initially for Peugeot, then Nissan for a short time, and after that, with Renault for seven years, Fiat Chrysler for three and now I find myself at Lotus. You can probably ascertain from that list that I enjoy working for brands that are European, and not exactly mainstream, at least in this country. Most of these brands also have a long and strong history and a motorsport pedigree. Both of which resonate strongly with me. I'm not a whitegoods kind of guy when it comes to cars. I'm fortunate to have had a passion for, or at the very least a strong interest in, the brands that I've worked with.

O. You mentioned motorsport, is that something which is also a passion?

A. I do really enjoy driving, and have managed to indulge in some club motorsport over the years. I raced karts for a couple of seasons many years ago. These days I have an early Clio Sport that is set up for track, and is really great fun. I've done mostly circuit sprints, through CSCA in NSW (I've been a member of LCA for many years), and then MSCA/AROCA/PIARC in Victoria. My kids are now at the age where weekend sport has become a big focus, so I haven't seen a lot of track time in the last few years. I was actually planning to change that situation in 2020 and get out for some track days, but then we had something called COVID-19 turn the world upside down.

O. Do you see yourself with a Lotus in the garage going forward?

A. They're certainly fantastic cars, and I'd love to own one. But you might have to ask the bank manager that question. She's very tight on the financial control!

Q. Do you have a favourite Lotus model?

A. When it comes to Lotus, I'm a bit of an Elise guy. And the S1 is definitely my favourite. So simple, so pure. And a beautiful design to look at. What more do you need? Mind you, the new Sport 220 and Cup 250 are both fantastic cars. The quality level of the current range is just so nice. I don't think people realise how far the product has come. And that open gear linkage! Just stunning!

Q. The automotive industry is going through a lot of change at the moment. What do you see as the future?

A. That's a good question. The push for electrification and autonomous driving is obviously strong. I think we will see these technologies evolve over the coming years, with more consumer choice. Cost is still a challenge as these technologies need to deliver a return on capital investment, so that does point to higher vehicle pricing for consumers. With all of this in mind, I believe that a sports car manufacturer such as Lotus has a strong future. Even if we move more towards subscription-based vehicle usage models going forward, there will still be a group of driving enthusiasts who want something special in the garage for those weekend backroad drives. I expect that Lotus will continue to be in a very good position to cater to this group of customers for years to come.





Driven women at Targa High Country

by Vicky Rowe

Many people would relish the opportunity to drive at break-neck speed on windy country roads closed to traffic, just for the thrill of it. But those that compete in tarmac rallying understand this is serious business. This challenging form of motorsport demands full attention of both driver and navigator, as they negotiate ribbons of bitumen laid across mountainous terrain, bordered by impervious trees, rock walls and perilous drops.

So why, back in November, did a bunch of largely inexperienced women participate in 2017's Targa High Country (THC)?

Mt Buller's ski resort awoke from its off-season reprieve, transformed into a high octane base camp for the three-day rally. The Targa Australia event included stages up and down the mountain, picturesque adventures around Whitfield, Jamieson, Alexandra and Lake Eildon areas, and extended as far as the busy little town of Euroa. There was even an exciting street stage in Mansfield, followed by a street display of the cars, allowing spectators an opportunity to get up close to cars and competitors.

Lotus Australia sought to rival Porsche with a strong Lotus presence, offering event support and accommodation packages. I jumped at the opportunity to join 25 other Lotus drivers for the event, after watching enviously from the side-lines the year before. I love driving hard at the track, but without rallying experience I dared not enter a competitive category, so it was a prudent decision to join more than half of the Lotus participants in the Targa Tour.



Targa Tour provides the perfect opportunity for those wanting a tarmac rally experience without the rigour and pressure of competition. You get to drive all the stages (designated sections) on closed roads, just like the competitors. There's no timing, no need for a roll cage and you can drive at your own pace up to a maximum of 130km/hr, which on these challenging roads is still plenty of thrill.

Lotus had a large enough contingent of Tour participants that it ran its own group, with a tour leader who led us through stages, between stages and generally tried to keep the group together. We rarely referred to the road book provided, other than to note "caution" points. Pace notes, normally relayed to the driver whilst driving, were not allowed. So that meant the 'mandatory' navigator, sitting in the passenger seat, had little to do other than enjoy the ride – a significant contrast to the heavy load carried by navigators in the competitive categories.





As overtaking was not allowed in Tour we sorted ourselves into a run order with go-hard fanatics to the front of the group, taking the pressure off those wanting a more leisurely drive. The ladies driving in our group appreciated being able to position themselves where they felt comfortable, whilst still challenging themselves.

I positioned myself towards the front, eager to keep pace with faster cars. My Series 1 Lotus Elise 'Ruby' is little, but no slouch. The suspension is hard, the race seats are snug and the limited slip differential chugs around corners at low speed, but she's gorgeous and wins my heart every time I drive her. It's a raw, visceral driving experience, that overloads the senses, yet inspires me with confidence. As with all Lotus, Ruby has a great chassis with a low centre of gravity, minimising roll and weight transfer — a great advantage on the twisty THC roads. Still, it was up to me to find ways through each corner while maintaining speed and keeping the car balanced, to look ahead and link consecutive bends into veritable straight lines and to be prepared for changing conditions.

On the long Jamieson stage, where the road seemed to be perpetually twisting, I caught a glimpse of the road ahead. Instantly recognising the opportunity my foot squeezed the accelerator, but nothing was straight on that remarkable piece of road. Beneath the squiggly double lines the surface warped, drooped and rolled, so I held on tight, adrenaline pumping. I felt a heady mix of relief and exhilaration by the end of that treacherous stage, satisfied with what I had achieved.

Spread over hundreds of kilometres, the stages were largely devoid of spectators, other than the ever-smiling army of officials at either end. On Saturday though, the streets of Mansfield were closed off and the crowds rolled in, creating a carnival like atmosphere.

Conscious of the audience watching we commenced the street stage. The turns came quickly, so I was weaving from side to side, trying to survey the course at pace. A big bump in the road threw us up in the air momentarily and the crowd roared with approval as we were dumped back onto the course. By now we were in giggles and hopelessly out of our depth, yet the crowd cheered us on. On a high, we rode the wave of excitement through to the end of the stage.

We were ushered to park up for the street display, in amongst the competition cars, drivers and navigators, all eager to show off their cars and share their experience. Beaming faces, full of awe and inspiration, spectators took full advantage to admire, learn, and even sit in the cars. I was chuffed to be involved and to be rubbing shoulders with some very accomplished drivers and navigators, including driving legend Jim Richards and his long-time navigator Barry Oliver, who have competed together as a team in more than 75 rallies over more than 25 years.



(>DRIVEN WOMEN AT TARGA HIGH COUNTRY)



I looked around and was delighted to see quite a few women competitors. Rallying, like other forms of motorsport, is dominated by men. In this case about 25 per cent of the navigators were women, performing arguably the most difficult and certainly the most important role in the car. There was only one female competitive driver.

While other sports seem to be closing the gap, motorsport still appears to have a veritable chasm. If the growing number of young girls getting exposure stick at it then potentially we'll start to see a shift. There's no obvious physiological barrier and no competitive divide, so on paper this appears to be the ultimate opportunity for equality. Yet even at grass root level the participation rate is quite low. I'm curious to understand why, in our modern era, there are so few women getting involved.

There's a part of me that thinks it's harder for women to do this sort of thing. Wanting to counter my own beliefs I took to the track in my mid-forties. First time, with no experience and no skill. I was terrified. I didn't think I could do it. I didn't think I belonged.

Do men have an advantage because they're naturally more competitive, aggressive, confident or less risk averse? Or is it because they were exposed at a young age to go-karting and paddock bashing and encouraged to emulate a gazillion racing heroes?

I was eager to hear the views of the ladies participating in THC. They all expressed how much they enjoyed the Targa experience, the social aspects, the cars, excitement of the stages and the camaraderie shared. However, when I asked if they wanted to drive next time I heard the ever-familiar self-deprecating sentiments. We see ourselves as different to men, lacking confidence, self-belief and bravery.

Maria explained how she'd always enjoyed driving but didn't think she could do motorsport. "I'm not the most confident person and have probably missed out on a lot of experiences because of that" she said. She has only recently summoned the courage to try a few

track days and taken some tuition. Not wanting to rush it, Maria shared the driving with her husband in the Tour group, tackling a few of the stages until she'd had enough.

Mel has navigated at THC a couple of times but has plans to take control of the steering wheel next year. As she put it "I like being challenged beyond my comfort zone". But she indicated that building her confidence by participating in track days and taking tuition was necessary before she swapped seats.

Women like Mel and Maria tend to be cautious, not wanting to push too hard too soon. They're patient, willing to learn and look for feedback before taking the next step. Whereas I've seen men venture out onto the track for the first time, pushing hard and taking risks almost instantly. There's this innate confidence in their own ability, driving as if they already have all the skills, making it look easy by comparison.

I recently watched a program about a controversial experiment at a primary school on the Isle of Wight. Dr Javid Abdelmoneim wanted to see if he could alter disparities between children's confidence and abilities, removing anything that indicated a difference between gender. Something that really struck me was that these kids, even at the young age of seven, already held very strong views on their roles and the expectations placed on them as male and female. This program demonstrated that we still have entrenched views resulting in a bombardment of gender specific influences from the moment we're born: pink and blue, dresses and pants, dolls and trucks, traditions, titles, what's on the telly, what we say and how we say it. Does this help to explain why women would rather go shopping than go to the track?

Then there's the experiments by psychologist Annette Henderson, to see if babies were treated differently according to their gender. It indicated that mothers underestimate their baby daughter's abilities. Are we unintentionally limiting our daughters future full potential?

No matter the cause, if you want to break the shackles of fear and self-constraint, motorsport is a tonic we can all benefit from. But we can't do it from the sidelines. We need to be in the driver's seat, developing skills, accumulating experience and building confidence. You'll find welcoming clubs all over the country, offering opportunities for motorsport newbies. There's even motorsport development programs targeted specifically at women.

Not sure you're ready for anything like that? Then Targa Tour is a great taster. I recommend you register your interest with Gemma, as she'll be trying to organise a less intimidating, all-girl Tour group.

Gemma@simplysportscasrs.com

So take your car, take a girlfriend and take a sense of adventure. As Maria so rightly put it, "Life's too short to let a lack of confidence get in the way of enjoying life to the full". Go for it ladies!





Random, Glorious Two-wheeled Run

story & photos: Vyvyan Black

So the pandemic's on, I have my Lotus in lockdown at the shop and Steve Lennox suggests a run up the mountain at a respectable hour on a Friday morning.

So I think "Get on yer bike, mate," which is exactly what I do.

You see, just before Covid hit, I was in need of a bit of transportation as the Plus 2 was waylaid. I've always wanted to get on a motorbike again but the missus wouldn't allow it. A motorbike, I thought, would be a great solution and take the pressure off the Lotus as an everyday driver — which it had been for the last year or so — and would solve the issue of what car to get as a backup. Money being an issue, I just didn't fancy a clone s**tbox, and I could just as easily end up with an unreliable one at that.

But two things happened since the first thoughts of getting a bike implanted themselves in my consciousness:

Number 1:

No more missus around to hound me!

Number 2:

I would soon be moving into an apartment close to town — no double garage there, a bike would be ideal. And so it was.

Okay, I say "yes" to the drive, and hop on the Honda.

Oh what fun! Yes the Glorious run is just that, glorious in the Lotus.

So, I hear you thinking to yourself, "What's it like to ride the ridge on two wheels?"

And the answer is that it's great, but you know what? As much as I love getting around on my Rebel it's just not the same as in a Lotus. So I like to think I'm getting the best of both worlds – the Lotus for handling, agility and comfort, and the bike for visceral immersion and thrilling acceleration.

You'll see from the pics that there were only a few of us — Steve in his oh-so-pretty Europa, Daryl Wilson in his lovely Caterham, Shane Murphy in his stunning Seven, and a couple of non-Club members in some old red thing ... now what was it called again? Yes, a Ferrari Testarossa, owned by Todd Maunder.









ODDS & 50DS

Pelican Société

FIRST TIME IN HISTORY WE CAN SAVE THE **HUMAN RACE BY LAYING** IN FRONT OF THE T.V. AND DOING NOTHING **LETS NOT** SCREW THIS UP

water police recent support to allow skippers to inspect their moored yachts meant that I was able to break out the Lotus for a quick and direct run to Hastings Jetty.

very few people and cars about and the Pelikan Société restaurant shut, meant the "Locals" in name-sake now have a free-and-easy time to meander about at leisure. This Local very curious and admiring the Lotus visiting his neighbourhood.

Sean Hamilton.

Lotus Cortina race car

This was the quickest Lotus Cortina in Australia around 2012. Driven by Scott Fleming and owned by John Gilfillan.

He started from the rear of the field and was leading the race by lap 3. At that time it owed him \$250,000. He replaced the engine twice a year and they cost

him around \$30,000 each.

I spoke with John and he told me the car was doing 9,000 rpm at the end of the straight at lakeside that weekend. Turn up the sound and have a listen.

it goes for 8 minutes.

Click on this link:





For Elise owners



https://car-recalls.eu/recall/lotus-elise-2012-2019/

Lotus Esprit cardboard cut-out

I did check, but has anyone built this yet?



https://www.lotuscars.com/build-esprit-s1/

From the Archives

1973-1980

A compilation of disparate snippets from old Club publications and records

by Peter Murray

It seems there was an attempt to start a Lotus Club in Melbourne around 1969 but it failed to become established.

Club Lotus Australia (CLA) started in NSW around April 1973, and a Lotus club was also formed in Victoria by Peter Jones, who was later recorded as Chairman of CLA Victorian chapter.

By 1974 the Victorian chapter of CLA had 19 paid up members including three of LCV's current membership — Rex Colliver, George Fishlock and lain Palmer. The CLA foolscap size roneoed newsletter was started. Reports from Victoria and, from 1976, for Queensland were often sparse and usually very brief — a paragraph or three at best.

At a Victorian club event to Sovereign Hill in 1975 four Elan +2, one Elan coupe, three Europa, one Escort and one Dino were counted in the car park. [Ed. that's about 50% of the then membership.] The club's application to join MSCA was accepted. A slide night (remember them?) was a flop as only one member remembered to bring his slides.

In October John Barram founded the Queensland chapter of CLA.

For the year 1975/76 the Queensland member numbers of 19 included current LCQ members John Barram, Russell Carter, Alan Telfer and Craig Wilson.

In 1976 member subscriptions were set at \$10 per annum. Events foreshadowed in Victoria included a March Labour Day weekend at Lake Tyers for water skiing, a guest speaker talk by Frank Gardiner in April, a snow trip in July, a flying day at Lilydale in September and a visit to Chateau Tahbilk in October.

In 1976 the first Queensland report covered the first concours / hillclimb three states meeting in Tamworth.

A CLA member, John Low-Shiang is reported as having the first glass fibre car (Europa) with an amateur mobile radio installed. This was later contradicted by a Tasmanian former Elite (Type 14) owner — see *Lotus Notes* September 2016 about the Elite that Tasmanian Eric Baynes owned circa 1973 as reported in *Lotus Notes* September 2015 commencing at page 30.

The 1976 June newsletter reported that a run to Grafton by Queensland members saw a Ferrari towed back to Grafton by a Europa. (How good is that!).

The November 1977 newsletter recorded a Queensland economy run with John Barram achieving the best miles per gallon. Craig Wilson was recorded as having an accident in his Elan, en-route to Sydney, when the steering column pulled out of the steering rack universal joint. Later speculation suggested an alloy UJ clamp may have been the culprit.

In December 1977 a Type 14 Elite, is listed as recently restored and for sale for \$10,000. The club had an exhibit at the Melbourne Motor Show with two Europa on the stand, one belonging to current LCQ member Barry McInnes. The newsletter recorded it was considered to be the best club stand, well presented and manned.

The newsletter also recorded some spectator comments:

"It's a Lotus Europa Series Eleven" (ie S2); "It is a Lotus Eureka"; It is a Lotus Eurora"; "It is probably Swiss or something"; and "Is Lotus made by Ford?"



Barry's Europa at the show stand

Barry has confirmed it was his car and sent the photo (above). He said "I sold the Europa on to a Doctor here in Queensland who took it to Medical school to show off and, one-byone, the entire faculty sat on the bonnet for photographs — numerous cracks ensued. Not much later the Doctor came to see me — he had washed the air filter in petrol, started the engine, fire ensued, and then he drowned everything in dry powder...what a mess! The car moved on to a couple of young guys here in Queensland and their plans for it were such that I took no further interest. Only 3—4 years ago I saw a story in the Lotus Notes magazine about somebody in NSW (I think around Singleton or

possibly Newcastle) who had a 10 year gap in his car's history — it was my old car."
[Ed: Yes lain Palmer and I learned of this Europa when we stopped at Muswellbrook en-route to Queensland for Lotus 2011. The owner, Geoff Budden later contributed to an article about the car in the July 2011 Lotus Notes (see page 20 of that issue)].



The same car over 30 years later

In 1978 a Progressive Dinner is listed as one monthly event (remember them?).

Rex Colliver continues his frequent motorsport successes in hillclimb and sprints in his Type 47 and later Elan S3. Club meetings are held at the Carlton Social Club which became too expensive.

1979 saw the CLA newsletter move to yellow paper in lieu of white which gave much better legibility to the roneoed newsletter.

Victorian club meetings shifted to Alvie Hall in Mount Waverley.

A 100km Treasure Hunt was listed as a Victorian club event.

Club subscriptions were raised to \$15 per annum.

Mention is made that Craig Wilson is engaged to Carolyn Bulmer – "the reason for his frequent quiet trips to Sydney".

In the March 1980 newsletter Adrien Schagen writes that a Lotus Elite (Type 14), the Dr Bates Elite and the first sold in Australia, has surfaced in Melbourne.

[Ed. This is Peter Murray's Elite but he has never found the owner(s) of the car during the fifteen years 1965—1980 despite scouring Australia and contacting all prior owners of Elites and relevant car clubs in Australia.]



Ladies and Germs, who here has Corona Fatigue? We have all been affected to one degree or another. So with tongue firmly lodged in cheek here is my list of those in our community who would seem to have not suffered too badly from our current predicament and form the silver lining of a very dark and slow moving cloud.

The beneficiaries of Covid 19.

DOGS

Faithful Fido has put up with a hurried walk before and after work, and has been largely stuck at home on its own most of its life. Now, absent Master is at home all the time tapping away at some box. But he gets bored quickly, so now, instead of a quick walk we take nice runs in the park on our own and play lots of fetch indoors when we get back. Oh, and I get to help him with his work when he gets stuck! Added bonus: The cat seems quite pissed off at these new arrangements.

ZOO KEEPERS

So to get your dream job at a Zoo you need a few PhDs in zoology, a strong back and be happy to earn the minimum wage for the rest of your career. You do this because you love animals/reptiles/birds with a passion. The down-side is you have to put up with thousands of inquisitive and sometimes ignorant crowds throwing bits of chocolate bar to your prized Amazonian tree lizard. Well guess what? You have hit Nivarna. Now for the foreseeable future it's just you and your beloved tree lizard, to enjoy in quiet and crowdless peace.

THE QUEEN

Her Royal Highness passed retirement age several decades ago. An old frail lady who, up till a few months ago, was blasting around the UK doing half a dozen events a day, making chit chat with people she will never meet again, and listening to Prime Ministers droning on about the latest fight in the sand pit. She has been doing this virtually non-stop for the last 70 years. Now finally she gets to have a well-deserved rest, put her feet up and listen to Radio 4 by the fire, interrupted only by the occasional non-pc rant from her barking mad husband.

NEW YEAR BABIES

Most of the world's population is to some degree house-bound. Boredom kicks in fairly quickly. What is fun to do indoors with your wife once you have completed all the jigsaws, lost at Monopoly and done all the DIY jobs around the house? I predict a severe shortage of beds in hospital maternity wings at the end of year as the fruits of boredom pop out to say hi.



BREXIT DEBATE

This is more one for the Poms. Up until earlier this year the UK papers and online news outlets were in a constant info loop on Brexit good, Brexit bad. How will Brexit affect your goldfish? Can we still go on holiday to Europe? Will the French stop saying nasty things about us? It was the single most important topic dominating every conversation and news outlet. Not so important now is it?! A healthy dose of perspective has arrived.





TOILET PAPER MAKERS

Why? What is it about humans that, when they get worried and fearful, their first thought is about the well-being of their arse and they start binge buying? It's a virus that effects the LUNGS Dude! Your arse is likely to keep working just fine. Anyway, the toilet paper makers aren't complaining.

OLD BLOKES WITH OLD CARS

So, you're housebound. You have done all the odd jobs around the house, your wife has politely declined the alternative jigsaw activity alluded to earlier. Well there is nothing else to do but take one for your community. Fully self-isolate in the garage for the next three months and attempt to get the handbrake on the Lotus working properly.

And finally...

CITY DRIVING

So the other day I had to drop Mrs A off at the doctor.

Down Sydney Road along Royal Parade and into the city. Half a dozen cars to contend with.

Something that used to take 40 minutes was done in 20. Driving in the city is what it was like 20 years ago and the whole aggro level seems to have gone. Oh, and an added bonus, petrol is now well below a dollar. When did that happen last?







One of a kind?

Lotus Elite Chassis No: 2001

compiled by Peter Murray with Ian Henderson & Spencer Harrison

There are a few unusual Lotus Elites around the world which have been modified and developed long after they left the factory, including a "fastback" Elite, a Rover V8 powered Elite, and several privately built twin cam Elites.

However, there is only one which was built at the Lotus factory in 1967 — maybe with Colin Chapman's blessing — powered by a Lotus Ford Twin Cam engine.

David Lazenby, who had joined Lotus as a mechanic in 1959 and went on to be the Chief Mechanic for Jim Clark's F1 and Indianapolis cars, including Clark's win at the 1965 Indianapolis 500, was promoted in 1968 to Manager of Lotus Components. The new position entitled him to a company car and he sought Chapman's permission to take one of the leftover Lotus Elite bodyshells, that was lying in the field at the old Cheshunt factory, and built it up with a twin cam engine.

This car has been reported to be fitted with an Elan gearbox, a shorter propshaft, Series 2 suspension but stiffer Series 1 springs and shockers, a dual braking system and 13 inch spoked wheels. The interior was fitted with Elan seats and, as there were no stainless bumpers left, the car was said to be fitted with fibreglass replicas. In 2020 it is clear that they were aluminium bumpers.

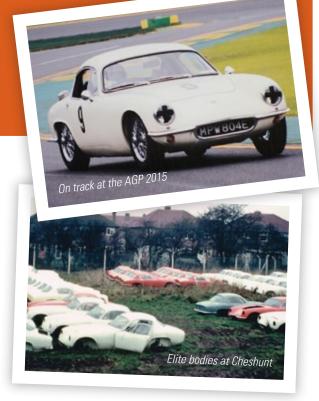
The English CAR magazine persuaded Lazenby to loan them the car in 1968 for a road test and, whilst acknowledging that there was still further development work to be carried out, the report was enthusiastic about the car's performance, handling and roadholding. The car had reportedly covered some 15.000 miles at the time of the test and Nick Brittan. the tester, also commented that the handbrake didn't work, there was an alarming leak of oil fumes into the cabin, there

was limited foot room around the floor mounted clutch and brake pedals, and the car was noisy and needed better soundproofing. He concluded the report by saying that Lotus would build more twin cam engine cars, in batches of five, to order. This may have furthered the rumours circulating that Lotus intended to dispose of the leftover Elite shells by fitting twin cam engines. Well, unsurprisingly, that never happened as the foreshadowed price would have made them more expensive than an Elan.

Lazenby left Lotus in late 1968 to establish his own business, David Lazenby & Company Ltd. which later, after a capital injection, became

Hawke Racing, building Formula Ford race cars. The twin cam Elite was sold and remained in the UK with two subsequent owners before going to Sweden around 1984/5. Then around 1990, while owned by Brian Stutz, it relocated to Switzerland. In 2006 Peter Harburg, a Queenslander, purchased the car and brought it to Australia. He took it to the 2007 Elite 50th Anniversary event at Wakefield Park where it created much interest.

As a young lad, current owner lan Henderson remembers being entranced by the Elites in John Roxburgh's garage in Elsternwick. Roxburgh had been appointed Lotus agent by Derek Jolly in 1961.





hoto @ Derek E. Jolly





lan's first car was an MG TC which he purchased in 1961 when he got his licence – he still drives it regularly. He saw a few more Elites in later years including a yellow one at Classic Adelaide 2001. He was keen to buy it but the car went to Queensland. Fast forward a few more years and he learned that Peter Harburg had started to sell some of his extensive car collection. Ian knew Peter through their mutual love of Porsche, saw the Lazenby Elite, and had to have it, so a deal was imminent.

lan bought the car in 2014 and has used it fairly regularly. He too was disturbed by the fumes which seeped into the cabin from the engine bay and his mechanic, Spencer Harrison, built a box in the engine bay to cover the floor-mounted pedals, as the original brush closures, fitted on the firewall, were ineffective in preventing fume seepage. Spencer also re-routed the oil breather pipe from directly in front of the pedal box to the passenger side of the car. The result is a much more enjoyable car to drive.

Other work has included a new twin master cylinder and brake pads, and the addition of tow-hooks when the car was displayed, and participated, in the on-track historic car demonstration at the 2015 Australian Grand Prix.

So, what's the car like? The twin cam engine is much more flexible than the standard Climax, pulling smoothly through all gears. There is not as much road noise from the engine, gearbox or differential and there is less suspension noise, at least during our short drive around

suburban streets. Unsurprisingly, after some fifty years the car is no longer concours standard, but still very presentable. The speedometer is now in km/h and the odometer shows 5,135 kms(?), presumably changed when the car went to Sweden or Switzerland. The dash is vinyl-covered, rather than painted black, and the inner roof is cloth-covered in lieu of the paint finish on original production Elites.

A surprise was the original fitment of a radio, since removed as it no longer worked. Given how quiet the car was on the road maybe you would be able to hear radio broadcasts, a luxury not afforded in a Climax engine Elite.

The car is now fitted with 15" wheels which returns the car to "standard" ride height and better able to clear council speed humps in our brief local drive.

lan loves the car and enjoyed driving it on the track at the AGP and subsequently on Victorian country roads. But he concedes an Elite is not enjoyable in mid-summer when the slick aerodynamics and close confines of the cabin mean not a lot of air circulates around the driver, so it is a veritable sauna on wheels.

I was fortunate to be able to view the underside of the car whilst on the hoist. The rear suspension and differential mount arrangements are standard Series 2 Elite format except for cover plates over the trailing arm mount points. The front end of the undertray has a few extra holes to enable access to gearbox and engine drain plugs and, like the rear suspension, the front suspension is also standard S2.

In the engine bay you will find a standard Lotus Components ID plate, a Bristol bodyshell number plate in the usual position and a separate Lotus Components plate engraved with the bodyshell, engine and English registration numbers. The original UK registration plate is still on the air intake grille.

So, is this one of a kind? Well, maybe not.



Photo © Steve Oom

Further reading

Dennis Ortenburger's three books on the Lotus Elite.

Magazine articles featuring this Elite:

1968 January CAR 1968 March Modern Motor 1980 August Collector's Car 1981 April Collector's Car 1995 July Classic & Sports Car Cover photo and road test Road test

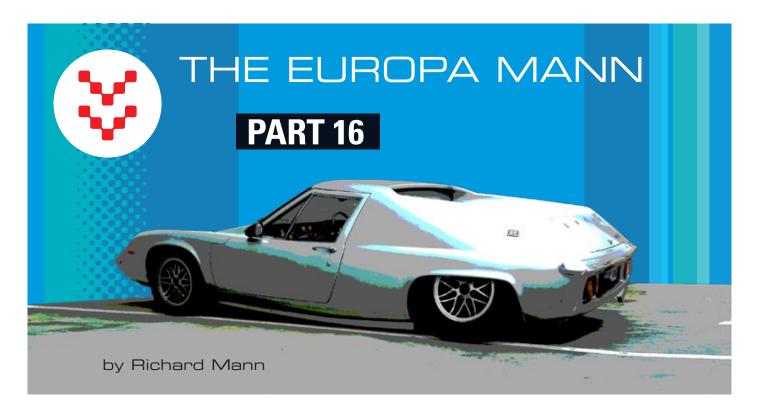
Cover photo

Photo inside rear cover

Cover photo & drive impressions

at 50th Anniversary





"It's not a real Lotus because it doesn't have a real Lotus engine".

The Europa was much maligned when it was first announced in late 1966, because it didn't have the famous Lotus Twin Cam engine, or "Twink" as I like to call it. No-one seems to care these days that Lotus has run Toyota engines for many years. The Europa did however, have a rather nifty Renault engine and transaxle, which helped Chapman's team create a proper mid-engine road car. This French power train unit was frowned upon by some of the pommy stalwarts. "It's just not pucker" they grumbled.

The original Europa engine was based on the 1470cc Renault 16TL engine, producing a stonking 55hp in TL form. It was introduced in 1965. Let's do a quick comparison. The basis of the Twink is the ubiquitous Mk 1 Cortina 1500. It produced 61hp from 1498cc and featured cast iron block, cast iron head and non-cross flow cylinder head arrangement, with a 5 main bearing crank. The Renault block and head were a similar configuration to the Cortina BUT were cast in aluminium, making the engine significantly lighter. The Twink head applied to the much-modified Ford bottom end,

resulted in 105hp or thereabouts, but no such upgrade was available for the Renault. However, Renault had built a cooking version of this 1470cc engine by applying 10.25:1 pistons, bigger valves, double valve springs, and a hotter cam. The horsepower jump was not as significant as the Twink, but it did produce 82hp and redlined at something like 7200rpm. Interestingly this engine was specified briefly in the Alpine Renault A110, and was the motive power behind the MerCruiser 80 inboard/outboard marine drive system. There's a fun fact I bet you didn't know!

The Renault 16TS was a popular car in Australia, and an abundant supply of parts were available, because the car was assembled in Heidelberg, Melbourne.

What the 16TS provided was a cross flow engine of 1565cc and 82 horsepower, but more torque, PLUS POTENTIAL. These engines quickly found their way into Europas, and someone locally started to cast copies of the R12 Gordini intake manifolds for twin side draft Webers. With a set of extractors, a bit of cam, and shaving of the head, a respectable 120hp gave the Europa a decent amount of poke.









When I bought my first Europa in 1987, it had a cross flow 16TS engine which I kept modifying until it had a spec which I guess produced 120-130hp. I always wanted to go for more grunt, but high compression pistons were not available at the time, and I was not prepared to pay for specially made pistons.

I subsequently built a few big bore engines, but could not get the compression ratio much above 10:1. Now a company called Mecaparts in France supply all sorts of goodies to drain your wallet and make your Renault engine wear out a whole lot guicker. The nice high-domed forged pistons they make require a bit of head tweaking. I use modelling clay, which is placed in the combustion chamber. When the piston rises it hits the clay and indicates the area that needs to be reworked.

In 1971 Alpine famously won the Monte Carlo rally 1-2-3 in the A110, using good old R16 cross flow engines. In 1973 they repeated the 1-2-3 Monte Carlo result and went on to win the World Rally Championship outright, beating Porsche, Lancia and Ford. Now that's decent pedigree!

The 1565cc block found in your regular Renault 16TS engine is visually identical on the outside to the block fitted to a Europa, except internally you get a longer stroke crank, and bigger bores. Some nice after-market domed pistons slot right in, and then with the head it is simple to do a "porting" job. The Renault cross flow head has angled valves, and as such breathes every bit as well as a twin cam engine. Bigger intake valves are regularly available, and I fit improved outer springs to allow a few more revs. With such high piston domes, a bit of fettling is required to the heads "squish" area and I have a few of my own tweaks to improve gas flow. Forged rods are now readily available for these engines and are very reasonably priced as well.

Bung in a cam and bolt on your Twin 45DCOE, and you're looking at something like 150hp in your sub 700kg car. That's spirited performance for a 50-year-old road car.

What you end up with is an engine that is less than half the cost to build when compared to a Lotus twink, it's lighter, simpler, and easier to maintain, and it revs! What's not to love?

Such an engine is now sitting in David's red Europa. He and his son joined me in my shed to slot in the new donk. It is patiently waiting for restrictions to lift, then it will be back on the road in no time.







Mathilde

The story of how not to restore a 1902 Dutch barge

by Matthew Arnold

CHAPTER 4: HOW to MAKE a BARGE GO FORWARD, BACKWARD and TURN

Dear Readers, so, after lots of time and money we had turned the rusty colander we bought into a vessel that was capable of keeping water out from above and below. Now it was time to do a couple of other useful things like making it go forwards, backwards and steer from side to side.

The forward and backward bit was considered the easy bit. Now Mathilde had a "working engine" when we bought her. It was a 2 cylinder Industrie, an old, very old, beast that had propelled Mathilde for the previous 100 years (approximately) and was semi-entombed in grease and bilge water.

The starting procedure was pretty simple:

- 1 Get a heavy duty propane torch, the sort of one you see road crews melting bitumen with. Apply the torch to each of the cylinder heads for about 15 minutes to get them nice and toasty.
- **2** Fire up an air compressor and get a few hundred cubic feet of air up to about 100 psi.
- **3** Find a large metal bar and wind the flywheel around to its firing position. Top tip: remember to take the bar out before going to the next step.
- 4 Step back, pray and open up the air line.
- **5** What happens then is a cacophony of noise, fire and smoke followed by a bang, bang, bang, puff, puff, pssh, then silence.
- **6** Repeat the above several times and eventually with luck the beast would splutter to life. Sometimes it would rotate clockwise, sometimes anticlockwise, it wasn't fussy either way.
- 7 It only had one speed, flat out at about 200 rpm. Then you raced up to the wheelhouse before it died, shoved a large lever and crunched the gearbox to engage the prop shaft and off you went. Any time you needed to slow down, like approaching a lock, the engine would stop. It just didn't do idle. Oh, and it used about a litre of diesel per kilometre.

See any issues with this Dear Readers?

So, a modern engine was required. But how big? The power requirement was dictated by the need to be able to maintain a speed of 13 km/hour. This was because, if you want the vessel to be certified to travel on the inland rivers of Europe, the vessel needs to be able to make headway against the river tides which can run at up to 12 km/hour.

So, I asked the simple question, how much horsepower do we need to make 13 km/hr? I put this question a hundred times to a hundred people in a hundred different ways and got 100x100x100 answers. Clearly, no one had a clue.

Enter my new friend Fergal McCool. Yes, Dear Readers, that really is his name. A young Irishman, who, by the tender age of 30, managed to acquire two or three PhDs from Cambridge, a boxing Blue, a beautiful wife and an air of humble invincibility. I hated him immediately.

Anyway, one day I was explaining my dilemma to him.

"So, you want to know how much power is required to go 13 km/hour?"

"Yep."

"Well, marine craft usually measure speed in knots."

"Knot really the issue, Fergal."

My elegant pun was lost on him.

"Well, you will need to build a fluid dynamic model to calculate that."

"Sorry I missed that class at school."

"Do you have the exact dimensions of the hull, the propeller and its mass?"

"I do."

Well then it's easy."

"Really?"

"To be sure. Just give me the data and I'll figure something out. Oh, but it will have to be next week as this week I am perfecting my perpetual motion machine."

Next week he floated in with his lap-top and pressed a button. On the screen I saw a render of Mathilde's hull with water flows around it and rows of numbers collapsing down the screen.

"So, assuming, a clean hull, you need 62.5 horsepower to do 13 km/hr, about 200 hp to do 15 Km/h and about 1000 hp to do 18."

"How did you do that?" I asked, somewhat bewildered.

"Ah Matty, it's easy if you know how."

What can I say - a legend.

So, armed with that invaluable knowledge we bought a 120 HP DAF diesel that had a number of useful little features like a modern starter motor, a throttle that actually allowed you to change speed and an electrically actuated gearbox that eliminated the need for a mechanical connection.

The old engine was pulled out and donated to a vintage engine museum, where it could be properly appreciated, and in went something from the 21st century.

So, we had got the forward and backward thing happening. Next was the side-to-side thing.

Dear Readers, early on in the restoration we had pulled out the original steering system. It worked on the basis of two large chains connected to either side of the rudder, and which then looped and meandered, via numerous pulleys, to the steering wheel. You then heaved on the wheel with a large degree of force and it would reluctantly pull the rudder one way or the other.

"You don't want this old shit" my grumpy builder said. "You need to put in a hydraulic system." For once I immediately agreed.

"Is it easy to put in a hydraulic system?"

"Oui, pas de problem."

Fast forward a few years and it's now time to address the steering issue.

I ask the builder, "OK, so what are we going to do to install the steering?"

"Well, we will just hang a hydraulic ram off the stern and connect it perpendicular to the rudder."

"So you want to put a great big two metre long ram off the back of the boat to act as a bumper bar for anything coming from behind?"

"Oui."

"Non. What other ideas do you have?"

"None."

"Great."



So, it was up to me to come up with something that would work but also look half decent. I fairly quickly came up with the idea of welding a sprocket into the rudder, which would connect to a rotary hydraulic motor via a chain and allow the rudder to swing 180 degrees. That bit was relatively simply. But how much power do I need? How strong do the sprockets and chains need to be?

I rang Fergal again. He was no help. He was in the Middle East negotiating a lasting peace accord with the Palestinians and Israelis. Sorry mate, a bit busy at the moment.

So it was just me and my old physics books. The key issue was how much torque was needed to deflect the rudder. I rang up a few marine engineers but they were not really interested unless you were building an aircraft carrier or equivalent. I did all sorts of calculations and was getting nowhere quickly.

Then, Dear Readers, I had a brain wave. How have I measured torque before? Duh, with a torque wrench. So, I headed off and borrowed the biggest torque wrench I could find from a truck mechanic. I welded a socket onto the top of the rudder. Then, checking all the barge ropes were tight, I fired up the engine, engaged forward and set the throttle to full. Then, with the grumpy builder, we heaved on the torque wrench to and fro, swinging the rudder from side to side against the flow of water from the propeller. After several cycles we then read the maximum readings off the torque wrench and job done. Maximum torque load determined. Well I had no real idea if this was an accurate test or not but it was the best I could think up.

What followed was a pretty frustrating exercise in sourcing exactly what I needed dimensionally and deciphering inconsistent units terminology and measurement basis. I ended up with this one company in England that could supply everything. Bad choice. Unknown to me the company was in the process of going broke and by the time the components had arrived and I needed some things changed there was just me and the answering machine. Bummer. So much for the five-year guarantee.

On the flip side, at the same time, I managed to buy a beautiful vintage bronze binnacle. That's the thing that houses the steering wheel and steering mechanisms on large boats. It was salvaged from a submerged wreck but, despite being underwater for several years, looked completely undamaged. I also sourced a lovely wooden steering wheel from another old barge.



(>> MATHILDE: THE STORY OF HOW NOT TO RESTORE A 1902 DUTCH BARGE)

So, lots of hydraulic pipe fluid and metal turning later we had a completely modern hydraulic system hiding inside a vintage exterior.



Now it was crunch time. Would the hydraulic unit be powerful enough? Would it be too powerful and just snap the chains or bend the sprockets? Nothing else for it, so with a nervous sweat I started the engine, engaged the propeller and spun the wheel. By magic the rudder proceeded to serenely wave from port to starboard and back again. More power. Still OK. Maximum power and with ropes straining and the canal boiling below the rudder it did exactly what it was supposed to do. Hallelujah!

Next month, Dear Readers, follow me on a woodwork adventure — building a wheelhouse that is supposed to keep warm air in, cold rain out. Oh, and just for fun, also goes up and down.

Until then happy motoring.

POSTSCRIPT TO THE ABOVE ARTICLE:

After the new engine had sat idle for two years, we finally got all the other systems working so we could conduct an official speed and manoeuvrability test and get Mathilde certified. On a sunny, summer morning last year, with engine warmed up and an empty deep river ahead of us, we opened her up and in no time, at 3/4 throttle just as Fergal calculated, we hit 13 km/ hour. We swung her around at a junction and off we went back up. Job done!





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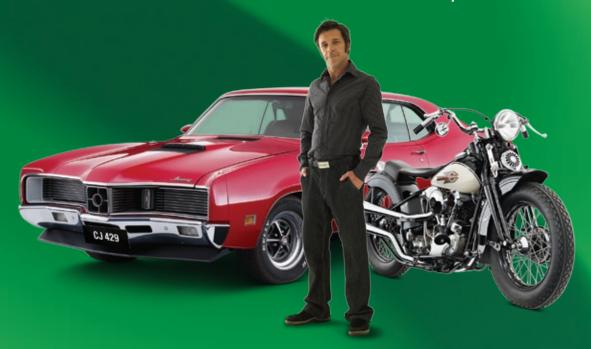
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