



# FRONT DRIVE

Australia's National Magazine  
for Citroën Owners and Enthusiasts



**CITROËN CLASSIC OWNERS'  
CLUB OF AUSTRALIA**  
Australia's National Citroën Car Club

April/May 2023 Vol 46 No 6  
The 2CV's Diamond Jubilee

## Postal Address

CITROËN CLASSIC OWNERS' CLUB of AUSTRALIA Inc.

The address of the Club and this magazine is:

PO Box 52, Balwyn, Victoria, 3103.

The Club's website is:

[www.citroenclassic.org.au](http://www.citroenclassic.org.au)

Citroën Classic Owners' Club of Australia Inc. is a member of the Association of Motoring Clubs.

The views expressed in this publication are not necessarily those of CCOCA or its Committee. Neither CCOCA nor its Committee can accept any responsibility for any mechanical advice printed in, or adopted from this publication.

The Club cannot accept any responsibility for, or involvement in, any business relationship that may occur between an advertiser and a member of the Club.

## Life Members

The committee awards life membership to Club members in recognition of their contribution to, and support of, the Club. Life memberships have been awarded to:

Arthur and Nance Clarke	1984
Jack Weaver	1991
Peter Boyle	2003
Ted Cross	2012
Rob Little	2012
Sue Bryant	2017
Brian Wade	2017
Leigh Miles	2022

## Citroëning

Club Permit applications to VicRoads must be accompanied by a RWC [pre 1949 cars can be inspected by a Club Safety Officer], ownership validation and VicRoads forms endorsed by

the Club including financial validation. New Permit holders must supply the Club with approved photos, club permit number and expiry date. While Club permit renewals

can be done via the post CCOCA encourages you to do this via the internet and email. It is faster, simpler and safer than the post. Payment can also be completed via your VicRoads on-line account.

## Committee

President ~ Tim Cottrell  
0416 009 297 [M]

[president@citroenclassic.org.au](mailto:president@citroenclassic.org.au)

Secretary ~ Sue Bryant  
0412 518 849 [M]

[secretary@citroenclassic.org.au](mailto:secretary@citroenclassic.org.au)

Treasurer ~ Ian Macdermott  
0419 362 375 [M]

[treasurer@citroenclassic.org.au](mailto:treasurer@citroenclassic.org.au)

Activity Coordinator ~ Lee Dennes  
0438 286 181 [M]

[activities@citroenclassic.org.au](mailto:activities@citroenclassic.org.au)

Spare Parts Officer ~ Lance Wearne  
0424 054 724 [M]

[spareparts@citroenclassic.org.au](mailto:spareparts@citroenclassic.org.au)

Publication Editor ~ Leigh Miles  
No phone contact at present

[editor@citroenclassic.org.au](mailto:editor@citroenclassic.org.au)

Web Site Manager ~ Bruce Stringer  
0412 342 706 [M]

[websitemanager@citroenclassic.org.au](mailto:websitemanager@citroenclassic.org.au)

Committee Persons ~

Ted Cross [03] 9819 2208 [H]

Marg Towt 0408 373 181 [M]

Russell Wade 0401 859 704 [M]

## Membership

Annual Membership is \$35 and printed editions of 'Front Drive' are posted to Australian addresses for an additional \$45 per year.

## Meetings

Club meetings are held on the fourth Wednesday of every month [except December] at 7:30pm. The venue is the Frog Hollow Reserve Rooms, Fordham Ave., Camberwell.

## Support

Membership Secretary ~  
Ian Macdermott 0419 362 375 [M]  
[treasurer@citroenclassic.org.au](mailto:treasurer@citroenclassic.org.au)

Asset Custodians ~ Ted Cross  
Max Lewis

AOMC Liaison Officers ~  
Max Lewis 0458 993 771 [M]

Russell Wade [03] 9570 3486 [H]

Club Permit & Safety Officers ~

Ted Cross [03] 9819 2208 [H]

Philip Rogers [03] 5944 3091 [H]

Russell Wade [03] 9570 3486 [H]

Librarian ~ Max Lewis  
0458 993 771 [M]

[librarian@citroenclassic.org.au](mailto:librarian@citroenclassic.org.au)

Club Shop ~ Vacant  
[clubshop@citroenclassic.org.au](mailto:clubshop@citroenclassic.org.au)

ICCCR Representative ~  
Ted Cross [03] 9819 2208 [H]

## Cover Image

The cover image depicts the late Geoff Burford's 'Plum and Custard' 2CV. The image has been kindly supplied by his daughter, Tessa Burford.

## Deadline

The deadline for the next edition of 'Front Drive' is Sunday, 21 May and for 'démarrreur' it is Sunday, 23 April.

## Contents

ED SED	PAGE 4
A-TRACTIONS	PAGE 6
HIDDEN TREASURE	PAGE 14
YOU SED	PAGE 25
WHAT'S IN A NAME	PAGE 27
POLYMORPHIC FAMILY	PAGE 30
COMMITTEE REPORTS	PAGE 40
2CV FUEL FILTERS	PAGE 48
TOTALLY TRACTION	PAGE 53
SUPERCHARGING YOUR 2CV	PAGE 58
PAPYBUS OMNIBUS	PAGE 66

## Contributors

Contributors to this edition of 'Front Drive' include Thierry Astier, Chris Bailey, Christophe Bonnaud, Alan Brown, Bernard Canonne, Graeme Dennes, Max Lewis, Katel Riou and Julian Winn.

### SPARE PARTS & TOOLS

As you will be aware Lance is standing down as Spare Parts Officer at the AGM. Until his successor is elected we are not accepting new orders.

### CLUB SHOP

Club Shop is presently not operating. For further information please contact the Club's President.

### OTHER CLUBS

Vic [www.citcarclubvic.org.au](http://www.citcarclubvic.org.au)  
NSW [www.citroenclub.org.au](http://www.citroenclub.org.au)  
QLD [www.citroenclubqld.org](http://www.citroenclubqld.org)  
SA [www.clubcitroensa.com](http://www.clubcitroensa.com)  
WA [www.citroenwa.org.au](http://www.citroenwa.org.au)  
Tas [www.citroentas.org](http://www.citroentas.org)



**Ed Sed**

Welcome to April's 'Front Drive' and our celebration of the 75th birthday of the 2CV. Avid readers will know that not that long ago [March last year to be precise] we had a rather large edition of 'démarrreur' which had quite a 2CV focus. So, what to bring you this time around?

We start with a French article about the development and launch of the 2CV and an in depth review of a nicely patinaed 1951 example. Despite years of digging into articles about the 'tin snail' there was information in this article that was news to me.

Also from France we have an article that looks not just at the 2CV [in one of its final 'Special Edition' forms, the Cocorico] but also at her less-favourably viewed siblings the Dyane and Mehari.

But it is not just about what the French press have had



to say about this 'camel with wheels'. Graeme Dennes has supplied a fascinating article about the fuel filters for 2CVs. While I am no technical expert it seemed to me that a good deal of his advice can be related to any car with an in-line fuel filter.

Keeping your car going with a suitable fuel filter is good advice. But what about some advice to help make your 2CV perform better? That has to be music to any twin-cylinder owner. Julian Winn, a member of 2CV GB, has recently published his story of supercharging a 2CV for a mate. The objective was improved acceleration rather than a better outright top speed and the objective was achieved. Maybe a local member will feel inspired to adopt a similar approach. Let us know how it goes in the pages of your club magazine.

But it's not all 2CV. Max Lewis has been looking into the Citroen name. The eagle-eyed among you will note there are no dots above the 'e'. That's right. There is some suggestion that the dots only appeared when André added them himself when he enrolled at Lycée Condorcet!

Chris Bailey is with us with another 'Totally Traction' all about gearboxes and electronic ignition this time and Alan Brown with another slice of

French life. He makes the point that the links between France and Australia are older and stronger than you have previously believed.

Finally, and actually most importantly, we have the reports prepared by the members of the committee for the Annual General Meeting. This is being held on Wednesday, April 26 at the Club Rooms in Camberwell. While the lack of internet will mean members who are not in Melbourne will not be able to join us it is important

that you still make your voice heard by completing a proxy form which is on the Club's website.

For those in Melbourne, do come along. We have printed the reports here so you do not have to sit through lengthy speeches on the night.

Finally, we have more letters and emails from you to share in 'You Sed'.

Something for everyone? I hope so!

Leigh F Miles ~ Editor

**Looking Forward**

*Join us in the next 'démarrreur' as we investigate André Citroën's connections with Mors and look into Citroën's pre-Traction models*



Do you own a Traction Arrière, whether running or project, why not make a contribution and send it to Leigh Miles at [editor@citroendclassic.org.au](mailto:editor@citroendclassic.org.au) by Sunday, April 23. Got a picture that merits sharing? Send it as well.

## A-Tractions

*Please note: To book or RSVP for a CCOCA organised event you must register on line at the club's website. Do not contact the organiser to register your attendance.*

*In line with Government guidelines CCOCA no longer requires proof of vaccination if you attend events arranged by CCOCA. The requirements of other organizations is not impacted by this decision.*

*The Club strongly recommends wearing a mask in areas where you cannot maintain social distancing.*

### • April

#### Monthly Meeting: Annual General Meeting & Wine and Cheese

WHEN: Wednesday, 26 April

TIME: 19:30

WHERE: Frog Hollow  
Reserve, Fordham Ave.,  
Camberwell

COST: Free

BOOKINGS: Essential by  
Monday, 10 April

MORE INFO: Lee Dennes,  
[l.dennes@bigpond.net.au](mailto:l.dennes@bigpond.net.au)

DO NOT CONTACT LEE TO  
REGISTER! You must register/  
book via the CCOCA website  
<https://citroenclassic.org.au>

#### AGM BOOKING

Yes, it is that time of the year  
again ~ the Annual General  
Meeting is rolling around.

The Annual General Meet-

ing has a reputation for being  
boring, but this year it will be  
especially streamlined as all the  
Committee Reports will have  
been published in the April edi-  
tion of 'Front Drive'. So no need  
to sit and listen to the Commit-  
tee drone on. Questions from  
the floor are, of course, encour-  
aged!

Every year the Committee  
exhorts you to come along  
to this important event, and  
almost every year we manage  
to have sufficient members at-  
tend to assure us of a quorum.  
Remember, if we do not get a  
quorum, we simply have to go  
through the whole thing again.  
So, please make the effort to  
come along.

#### VOLUNTEER!

Have you thought of standing  
for Committee?



All  
Committee  
positions  
are 'up for  
grabs'. A link  
to the Nomination Form will be  
sent to you shortly.

On a personal note from the  
Editor, being on the Committee  
is not an onerous job ~ Com-  
mittee meetings occur once a  
month and often finish in just  
over an hour. The Club can only  
continue to prosper if the mem-  
bers take up the challenge of  
making the Club what you want  
it to be. Nomination forms can  
be found on the website as well:  
<https://citroenclassic.org.au>

#### AGM NOMINATION



#### VOTE!

Voting for the 2023/2024 Com-  
mittee is a very important  
right you have as a member of  
CCOCA. So, come along and  
make sure you have your input.

If you cannot come on the night  
be sure to complete a proxy,  
which can be found online at  
<https://citroenclassic.org.au>

#### AGM PROXY



After the AGM is finished we will  
enjoy some wine and cheese.  
[Please drink responsibly].

#### Florence Thomson Tour

WHEN: Friday, 28 to  
Sunday, 30 April

WHERE: Based around  
Wangaratta

MORE INFO: [florencethomson-  
tour@gmail.com](mailto:florencethomson-tour@gmail.com)

The Florence Thomson Tour  
is proudly brought to you by  
the Association of Motoring  
Clubs [AOMC] on behalf of the  
RACV. The Tour celebrates the  
pioneering spirit and contribu-  
tion of Women to Australian  
motoring. So, ladies, please put  
the date in your diary so you  
don't miss out.

### • May

#### Combined CCOCA/CCCV Concours

WHEN: Sunday, 7 May

TIME: Display cars from 08:30

General admission from 10:00

WHERE: Rippon Lea Estate,





## A-Tractions

192 Hotham St., Elsternwick  
 COST: Free [see details below]  
 BOOKINGS: Not required  
 BRING: Everything for a picnic  
 MORE INFO: Ted Cross,  
 [03] 9803 2208  
[info@123goloans.com.au](mailto:info@123goloans.com.au)

The garden and the mansion of this National Trust property will provide a great backdrop to our magnificent vehicles.

Admission: Entry for the driver and a single passenger in a car being displayed will be free. Those not displaying a car, and additional passengers in display cars, will pay the normal admission fee.

Adults	\$15
Concession	\$12
Children [3-15]	\$9

Free admission for National Trust members and free garden admission for residents of Glen

Eira and City of Port Philip [refer to Rippon Lea website for details: <https://www.ripponleaestate.com.au/>]  
[RIPPON LEA WEBSITE](https://www.ripponleaestate.com.au/)



Arrival Time: It is a requirement of Rippon Lea that all display cars must arrive on site between 08:30 and 09:30. No cars will be admitted after 09:30. Cars will be able to depart from 14:00. Feel free to explore the grounds throughout the day. Mansion entry is only available by organized tour which can be booked on the day.

The first 50 display cars will receive sandwiches and coffee at no cost courtesy of Rippon Lea. Spruce up your car to be in the running for a prize or just come along and enjoy the day, all cars welcome from shining garage princesses to everyday drivers to restoration projects. Bring along your family and friends and make a day of it. We look forward to seeing you there.

### Monthly Meeting: Guest Speaker: Robin Bowles

WHEN: Wednesday, 24 May  
 TIME: 19:30

WHERE: Frog Hollow Reserve Rooms, Fordham Ave., Camberwell

COST: Free

BOOKINGS: Essential for catering by Monday, 22 May

BRING: A good listening ear

MORE INFO: Helen Cross,  
[crossfam@ozemail.com.au](mailto:crossfam@ozemail.com.au)  
 [03] 9819 2208

DO NOT CALL HELEN TO REGISTER! You must register/book via the CCOCA website <https://citroenclassic.org.au>



### MAY BOOKING

Australia's True Crime Queen! Author Robin Bowles is widely acclaimed as Australia's True Crime Queen. With a huge collection of her books receiving rave reviews and millions of copies sold, her writing is riveting, her investigative skills second to none.

Visit her website to read more about Robin and after doing so you will surely wish to attend this evening.

<https://www.robinbowles.com.au/>

### ROBIN BOWLES WEBSITE

And don't forget, Max Lewis will be there with a great selection of books from the Club's library.

### 46th Historic Winton

WHEN: Saturday 27 and Sunday 28 May

TIME: From 08:00

WHERE: Winton Motor



**A-Tractions****Chit Chat Tuesday**

WHEN: 1st Tuesday  
4 April,  
2 May,  
6 June  
10:00

WHERE: Laneway Espresso  
Café, Dromana

COST: Cheap Eats

BOOKING: Not required

CONTACT: Warwick Spinaze  
0407 016 719

Laneway Espresso Café, next door to the Dromana Hotel, 167 Nepean H'way, Dromana. Easy to find, under-cover seating if weather wet. This is a low-key 'DIY' event for like-minded Citroën owners to meet and chat.



**SPECIALISTS IN SUPPLY  
OF UNIQUE AND  
HARD TO FIND TYRES**



**STUCKEY  
TYRE  
SERVICE**

RACING SINCE 1972



828 Sydney Road Brunswick Victoria 3056 Phone (03) 9386 5331 [www.stuckey.com.au](http://www.stuckey.com.au)



Raceway, 41 Fox St., Winton

COST: Adults from \$40  
under 18: free

BOOKINGS: Preferred

BRING: Everything for a great day out

MORE INFO: Leanne Cutler  
[pr@historicwinton.org](mailto:pr@historicwinton.org) or  
0400 790 060.

The 46th Historic Winton car and motorcycle event will be held in its usual spectacular style with races, car park displays and marketplace of motoring and biking-related goods as well as delicious food.

Organised by the Austin 7 Club Inc, President Len Kerwood said that Historic Winton will once again see competitors, motor enthusiasts and motorsport fans flock to Winton Motor Raceway for this Australia's most popular and iconic historic motorsport event.

Check the website for more details: <https://www.historicwinton.org/>  
[WINTON WEBSITE](https://www.historicwinton.org/)

## • June

**OzTraction 2023 ~  
Swan Hill**

WHEN: Friday, 2 to Sunday,  
5 June

WHERE: Swan Hill, Victoria

COST: \$225per person

BOOKINGS: Essential by  
Monday, 8 May

BRING: Everything for a great Citroën weekend

MORE INFO: Lee Dennes,  
[l.dennes@bigpond.net.au](mailto:l.dennes@bigpond.net.au)

DO NOT CALL LEE TO REGISTER! You must register/book via the CCOCA website <https://citroenclassic.org.au>





## A-Tractions

### OZTRACTION '23 BOOKING

Please Note: This is NOT the June King's Birthday Long Weekend!

Your \$225 cost includes two lunches, three dinners and a cruise on the PS Pyap. In addition there will be a Show & Shine, an Observation Run and a scenic drive.

You may also be interested in some optional extras: the Heartbeat of the Murray Laser Spectacular at the Pioneer Village, the Lake Boga Flying Boat Museum and a final breakfast gathering on the Monday morning. [The Lake Boga Flying Boat Museum is a personal favourite of your Editor! Ed.]

#### ACCOMMODATION

Do not book your accommodation on-line as we have secured an excellent discounted rate. Both recommended motels will offer us Queen Rooms at \$145 and will hold rooms for us until May 8.

Mention you are with the Citroën group to access this rate. Be sure you ask about the cancellation policy and the availability of breakfast, if you require it.

- Comfort Inn Lady Augusta, 375 Campbell St., Swan Hill [03] 5032 9677. Laura and Geoffrey.
- Burke and Wills Motor Inn, 370 Campbell St., Swan Hill. [03] 5032 9788. Wendy and Geoff.

Further details of the Club's pre-



mier weekend away will be available closer to the event date. Remember as well, any refund due to you cancelling will be entirely at the discretion of the organizers.

### Battle of Waterloo

WHEN: Sunday, 18 June  
TIME: 10:30 for 11:00 departure

FROM: Stamford Hotel, cnr Wellington and Stud Rds  
TO: Cardinia Reservoir, Duffy's Rd., Emerald [off Wellington Rd.]

COST: Free  
BOOKINGS: Essential to Paul Buck

BRING: Everything for a picnic  
MORE INFO: Paul Buck, 0412 627 711

The BMC Leyland Car Club have invited CCOCA and CCCV to join them for a picnic lunch and get together at Cardinia Reservoir.

After such a success last year with our joint outing with the BMC Leyland Club we promised to do something again this year. This time we are off to Cardinia Reservoir. There are on-site BBQ facilities available as well.



## Hidden Treasure

### 1951 2CV: *It Smells of Gold*

It's not a Citroën, it's a Michelin. It smells of the Auvergne! This comment was made on the Citroën stand in 1948\* and it is easy to smile at it. At 65 years old, our 2CV smells of patina and gives us the opportunity to delve, in an unusual way, into the history of its birth.

On 22 August 1939, Marcel Michelin, the Director of Research, wrote to Pierre-Jules Boulanger from Clermont Ferrand. For more than four years, the French tyre company had saved Citroën from bankruptcy and sent Pierre-Jules Boulanger, the 'grey' man in reference to his suits, always im-

cably tailored in this soulless shade, to its head. 'The two TPV cars ['tout petite voiture', the future 2CV, editor's note] are in service and will do the planned tyre tests', wrote Marcel Michelin at the time. 'I took the opportunity to present them to the boss. He was greatly impressed by the excellence of the suspension and amused by all the rather special body-work solutions. All in all, he was very pleased and concluded by saying that he would like to

see it on the road already.

This wish was dashed a few days later by the mobilisation. France and England declared war on Germany on 3 September 1939 and the TPV programme was put on hold. However, only six days later, in a new letter, Marcel Michelin tells the same Pierre-Jules Boulanger that 'I took advantage of the fact that our TPV were available to use one of them to do my daily rounds... Finally, I gave up using it every day because I don't pass unnoticed enough! It is frightening to see this car, especially at the moment, because people thought here in Clermont that I was trying out a new self-propelled gun.'

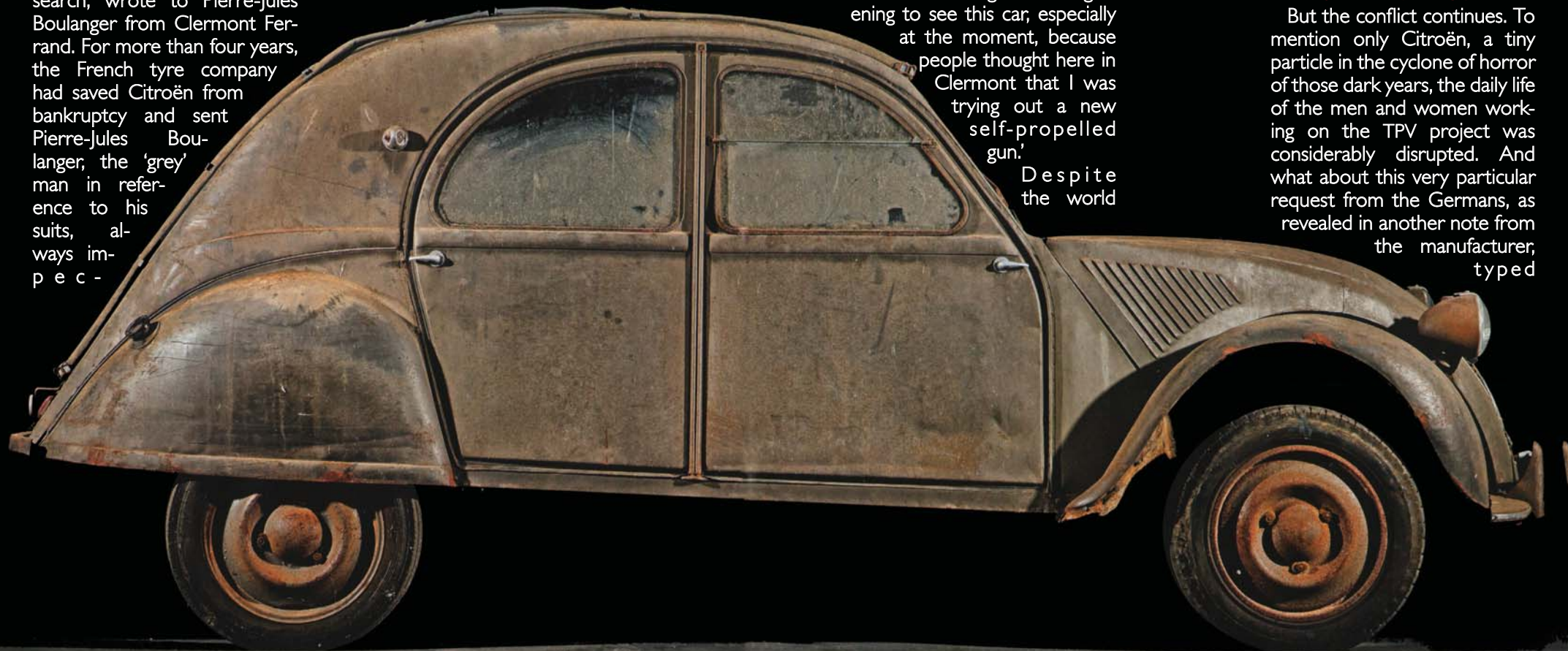
Despite the world

conflict, the TPV evolved from day to day, even when the worst happened, such as the bombing of the Citroën factory in Javel and the design office in the summer of 1940.

A disaster recounted in this note dated 5 August: 'All the tracings were destroyed during the bombing. All the blueprints [technical drawings, editor's note] that we were able to recover were sent to Clermont. The future 2CV becomes an Auvergne car!'

### *The Führer Wants to See It!*

But the conflict continues. To mention only Citroën, a tiny particle in the cyclone of horror of those dark years, the daily life of the men and women working on the TPV project was considerably disrupted. And what about this very particular request from the Germans, as revealed in another note from the manufacturer, typed

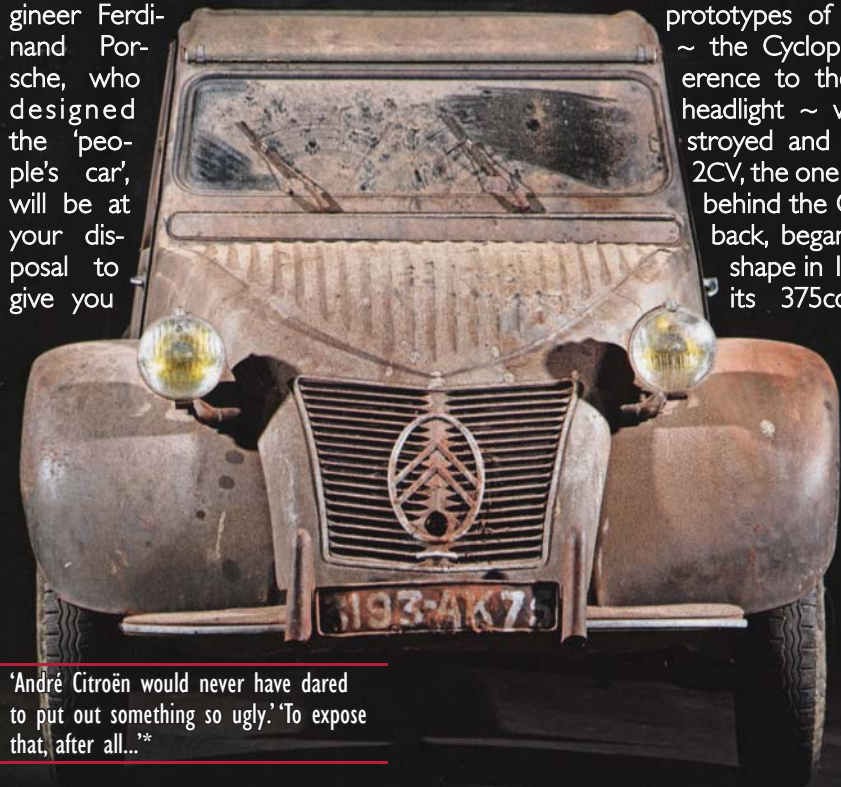




## Hidden Treasure

on 26 December 1944, which reads as follows 'In July 1940, several missions of German engineers came to examine the TPV. This is one of the reasons why we completely rebuilt the car during the war, hiding it from the Germans. As a result of these visits, they asked us to give them three examples. In support of their request, they argued: 'These cars will only be shown to the Führer and his staff: they will not be shown to the German car manufacturers: you will receive a 'people's car' in exchange and you can do what you like with it. The engineer Ferdinand Porsche, who designed the 'people's car', will be at your disposal to give you

all technical information concerning this car. We refused categorically. Within a year, the Germans came on the offensive six times, sometimes with threats. The hardest offensive was led by General von Schnell, who was at that time Goering's deputy for automobiles. We never gave in. The last demonstration was the following: a 'people's car' arrived in Javel. We immediately gave orders that it should be covered with a padlocked tarpaulin and that no one should look at it. In view of our attitude the Germans took their car back. The pre-war prototypes of the TPV ~ the Cyclops, in reference to their single headlight ~ were destroyed and the new 2CV, the one designed behind the Germans' back, began to take shape in 1944 with its 375cc engine



'André Citroën would never have dared to put out something so ugly.' 'To expose that, after all...'

designed by Walter Becchia.

He drew up the plans for a new air-cooled block ~ no longer water-cooled as on the pre-war prototypes ~ in barely a week. It is this small engine that powers our 2CV type A pictured in these pages. It was replaced in 1954 on the 2CV AZ by a more efficient 425cc brother in arms. Slightly more efficient...

However, the liberation of France did not yet correspond to the liberation of the 2CV project. It still needed a second headlight, a starter, a heater, the inertia dampers for its incredible suspensions and... marketing. Two years later, in 1947, work was still in progress and the outline of a communication plan was even being drawn up. Pierre-Jules Boulanger wanted to target the first examples of his 2CV to customers of modest means: 'Farmers, winegrowers, haberdashery representatives, midwives, market women, bakers, butchers, veterinarians, smokers, pig farmers, tractor repairers, tobacconists, travelling salesmen, clog makers' and of course, 'the priests'!

After thirteen years of research, studies, doubts and genius, the little Citroën is finally going to be unveiled to the general public. It was at the 35th Paris Motor Show, on 7 October 1948. Pierre-Jules Boulanger presented his baby to



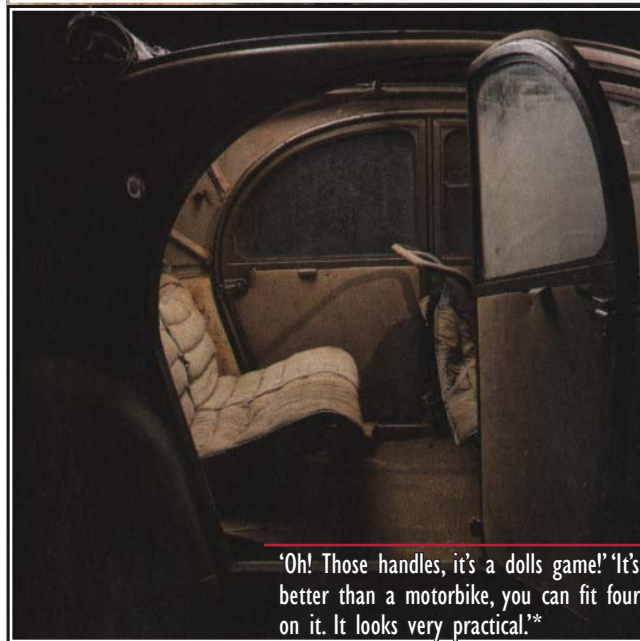


## Hidden Treasure

President Vincent Auriol and Citroën took advantage of this first public exhibition to carry out an opinion poll where, according to the report, 'the opinions most frequently referred to the shape of the car'. The style of the 2CV was designed by Flaminio Bertoni, who had already designed the Traction

in 1934 and who came up with many ideas for the future VGD, which would become the DS in October 1955.

In 1948, the public's reactions to the new little Citroën 2CV were, for the most part, appalling to its designers: 'It's awful', 'This car is ridiculous', 'It's uglier than the Renault', 'It's not a car,



it's a swing', 'It's a sardine can', 'A gust of wind and the car disappears', 'You're going to need pedals to move forward', 'It's a bluff with this 2CV engine', 'This dashboard looks petty', 'The handles are really flimsy, it's Auvergne's work'. Fortunately, other observers are more accurate: 'Here is a company that has understood that it is necessary to produce a car for the new poor', 'We can say what we want, as long as Citroën produces this, we can trust it'. Like this nurse who travelled 600kilometres in three stages and three days [!] after receiving one of the first cars, and who did not hesitate to send a letter to Citroën on 30 January 1950: 'For more than three weeks, I have been wanting to tell you about my real amazement at the revelation of the unsuspected qualities of your Citroën 2CV... We were used to making this journey in a big car, and I can tell you quite sincerely that we were much less tired this time, because the suspension of your car is a real revelation'.

Few owners of the early 2CVs were able to enjoy the pleasure of driving them. In its technical memorandum No425 for 1949 ~ the first year of the 2CV A's marketing ~ production is estimated at... one unit in 1948, then 924 between 1949 and the beginning of 1950, rising to 7,100

*'Oh! Those handles, it's a dolls game!' 'It's better than a motorbike, you can fit four on it. It looks very practical.'\**

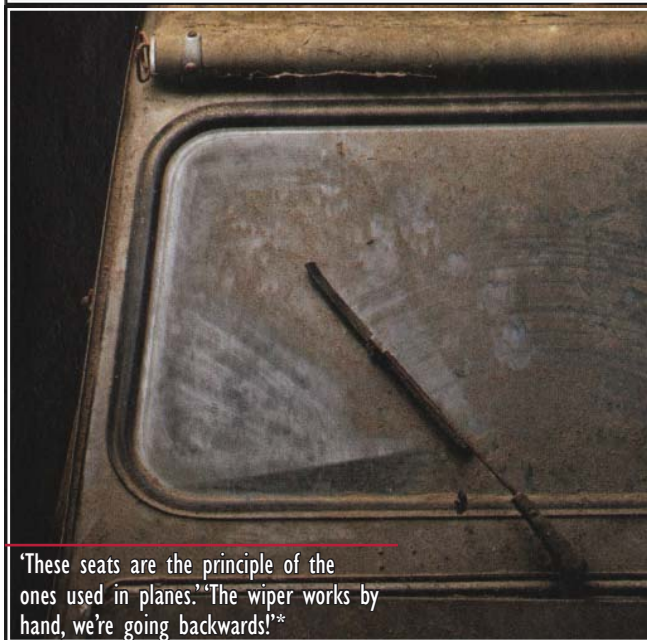


## Hidden Treasure

between the end of 1950 and the beginning of 1951, 21,850 at the end of 1951, 4,150 for the 1953 model year, and finally the apotheosis in 1954 with an estimated 150,000 units thanks to the arrival of the more powerful AZ type.

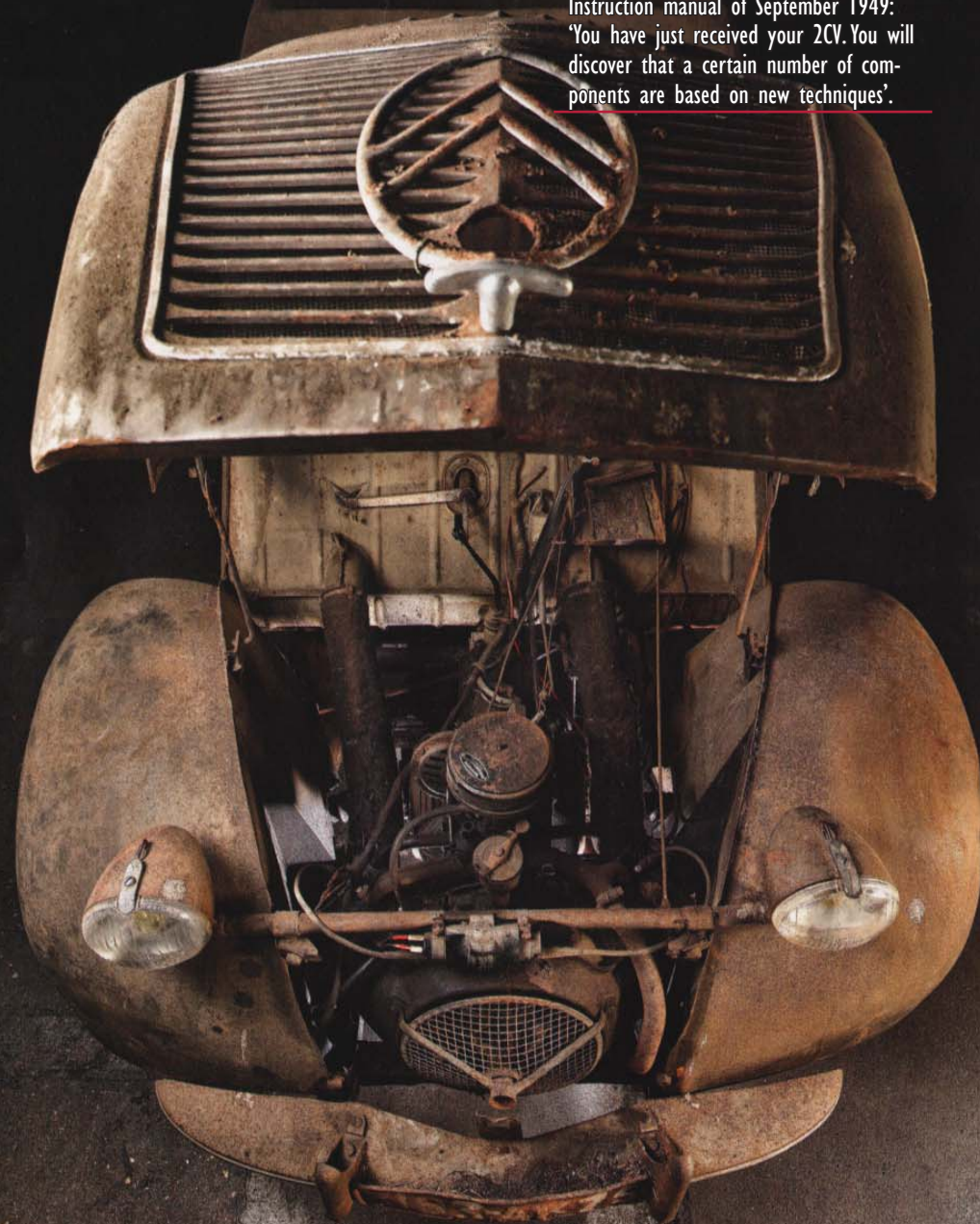
The child who was denigrated at birth quickly became the darling of his parents. And also of its customers, like this venerable shoemaker who wrote to the parent company on 3 January 1950 openly criticising many points that needed to be corrected, but who ended his letter with these words: 'I don't need to tell you that all of the above is strictly confidential and that I declare myself to be very happy with my car to all the people who ask me about it. Firstly to avoid harming the activity of your agent in Bégard, who is also my friend, and secondly because I am convinced that you will do what is necessary to remedy these inconveniences, as I myself am convinced of the superiority of Citroën's manufacture and of the need for a tune-up for any new model that is released'.

The 2CV was a success only a few months after its launch. Its national production in the Levallois factory was obviously not enough, especially as Citroën had international plans for its little star. The Belgian factory in Forest and the English factory



'These seats are the principle of the ones used in planes.' 'The wiper works by hand, we're going backwards!'

Instruction manual of September 1949: 'You have just received your 2CV. You will discover that a certain number of components are based on new techniques'.





## Hidden Treasure

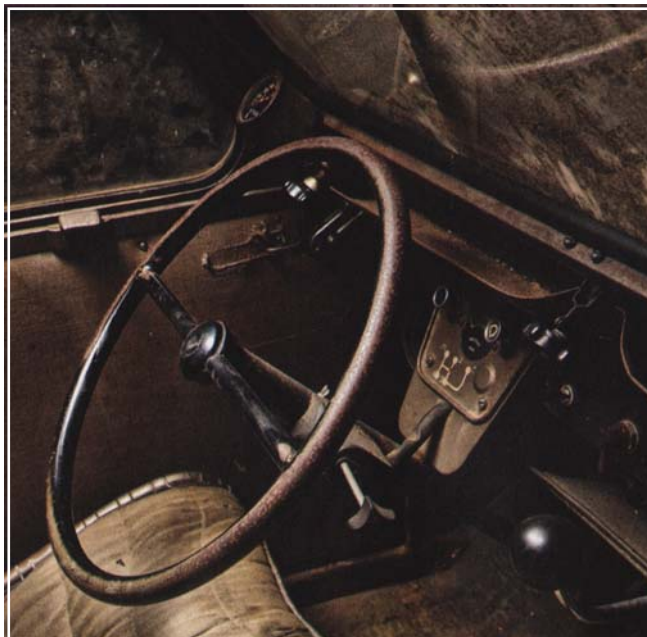
in Slough allowed the 2CV to travel to almost every corner of the blue planet, including Brazil, Alaska, the Belgian Congo and even the United States... [oh, and of course Australia. Ed.]. It was produced until 1988 in France and until 1990 in Portugal.

When the curtain came down on its 42-year career, some old-timers have not forgotten Pierre-Jules Boulanger's note of 23 May 1938, which outlined the TPV project from the very beginning of the studies: 'The TPV is a four-seater bicycle, waterproof and dustproof, and travelling at 60/65 km/h in a straight line on a flat road. It should be bought by a worker and therefore not be expensive. It must last 50,000km without having to replace any parts'. Could the 'boss' have imagined that Citroën would produce more than five million units of his 'four-seater bicycle', all models combined?

\* The quotes from the opinion poll were taken from 7 to 17 October 1948 by Citroën on the stand at the Salon de l'Auto. They were published in 'Les dossiers documentaires du Conservatoire Citroën: de la TPV à la 2CV'.

### How Much is That Car in the Window?

On 22 September 1949, Citroën sent out a circular to its dealers with the following in-



formation on the selling price of the 2CV:

- Retail price of the 2CV: 220,000fr.
- Fixed dealer discount: 20,000fr.
- Dealer price: 204,580fr.
- Deposit on order: 30,000fr.
- Shipping costs: to be invoiced to the customer without any surcharge.

At the same time, Citroën marketed its 'II Légère' saloon at 391,000fr, its 'II Normale' at 418,000fr and its prestigious

six-cylinder '15-6' at 580,000fr.

### The 2CV in 20 Key Dates

- 1948 [Thursday 7 October]: Presentation at the Paris Motor Show.
- 1949 July: Production begins in Levallois, only in grey.
- 1951: The 2CV AU van appears.
- 1953: New grille without oval around the chevrons.
- 1954: New 425cc engine on the 2CV AZ.
- 1956: Large rear window.
- 1958: 2CV Sahara twin



"What did they think of when they put the canvas in the back? It's child's play to lift it and steal the luggage!"\*



# Hidden Treasure

## TECHNICAL SPECIFICATIONS

### 1949 CITROËN 2CV A

#### ENGINE

Cylinders	2 horizontally opposed
Bore×stroke	62×62
Displacement	375cc
Fiscal power	2CV
'Real' horsepower	9 [SAE]@3,500rpm
Other details	Two-bearing crankshaft. Tappet and rocker arm operated valves. Fan forced air-cooling. Battery ignition, coil and switch, but no distributor.
Fuel	Solex 22 ZACI carburettor
Transmission	Front wheel drive, 3-speed gearbox plus overdrive 4th and reverse
Clutch	Dry plate, single finger

#### BODY & SUSPENSION

Steering	Rack and pinion, housed in the front axle tube, controlled by a master cylinder
Suspension	Four independent wheels with front/rear interaction. One inertia damper per wheel. Damping by four friction dampers
Brakes	Drums on all four wheels
Tyres	Michelin Pilote 125×400 with inner tube

#### DIMENSIONS & PERFORMANCE

Length	3.78m
Width	1.48m
Height	1.60m
Wheelbase	2.40m
Track [F/R]	1.26/1.26m
Weight	494kg in running order, 281kg on the front wheels
Max speed	65kph
Fuel capacity	20litres
Fuel consumption	4.5L/100km

engine and rear trunk door on the AZL type.

- 1959: The 2CV is also available in Glacier blue ac606 alongside grey.
- 1960: New grille and Embrun green colour.
- 1963: 18hp power and AZAM luxury version.
- 1964: The front doors open in the 'right' direction.
- 1965: The third side window appears.
- 1970: 2CV4 of 425cc and 2CV6 of 602cc.
- 1974: Plastic grille and rectangular headlights.
- 1975: The 2CV Spéciale loses its third window and gets its round headlights back.
- 1976: 2CV Spot special series in orange and white.
- 1980: Special series that goes into production in 1981: the 2CV Charleston.
- 1986: Cocorico special series.
- 1988: Production in France ends in February.
- 1990: The last 2CV leaves the Portuguese factory in Mangualde on 27 July at 4pm...

The end!

This article was written by Christophe Bonnaud and the pictures were taken by Bernard Canonne. It first appeared in the French magazine 'Retroviseur' in February, 2017. It was translated by the editor with the assistance of [www.DeepL.com/Translator](http://www.DeepL.com/Translator) [free version]



## You Sed

The March edition of 'démarreur' clearly was of interest to a number of our members. I received short [but positive] emails from six members.

First back to me was Tim Arndt, from the UK who wrote: *Hello Leigh!*

*Thanks, again, for another excellent & informative issue ~ and for including my XM ramblings, too.*

*Regarding the Rover P6 v Citroën DS comparison, perhaps a follow-up item could be produced to show just how similarly built the two cars are, with all their bolt-on panels being fitted to an inner frame? Not to mention the similar massive rubber mountings for their front & rear screens!*

*The article regarding the new C5 X struck a chord with me. I've recently had many chances to view one at my local Citroën dealer while doing all the necessary paperwork to trade-in my white 2019 C5 Aircross SUV [1.5ltr diesel, manual] for a copper-coloured 2021 C4 Coupe SUV [1.2ltr turbo petrol, 8-speed auto]. It reminds me a lot of the XM... See some pictures attached.*

*Keep up the excellent work!*

*Tim Arndt*

Garth Foxwell [Vic] also sent a note which included a couple of photos of Mick Stupka's racing Traction. Somewhere in the depths of my mind I seem to recall that this is the car which used to



## You Sed



be raced by Jack Weaver... but I could be totally off beam on that. As we discovered last month, the history of Citroën racing here is not well documented.

Wayne Lotherington [Vic] simply said 'Merci. C'est fantastique!'

Peter Riggall, who wrote the P6 vs DS article to which Tim referred also penned a quick email.

A bumper edition Leigh. WOW. This is going to keep me off the streets for a while. Great job on my article. A fellow member has rung me already re. it. It looks great. Thanks.

Cheers, Peter:

The last note was from Dave Wheeler [ACT] who was very pleased with the Peter Damman feature. He wrote: Goodday Leigh,



Thanks for the fascinating article on Peter Damman.

Regards,  
Dave

I am gratified to hear that there is a level of interest in the Peter Damman feature as I am currently hard at work on a similar article describing the Traction racing successes of Don Wright and the current whereabouts of his car.

Leigh F Miles.

Source: anyauto.com.au

## What's in a Name?

Always a fascinating subject or how the name Citroën came to be.

The name Citroën has always been a subject of discussion and really started with a customer schiacking my recently purchased Traction roadster of Vietnamese heritage. 'It's a lemon', he kept saying. This was getting under my skin but as he was a customer I did not want to argue the point so I let it be.

This did start a slow but inexorable quest to track down how a lemon became our beloved Citroën.

I have to go back in time to André's great, great grandfather Jacob born 1750. Jacob appears to have no surname or maybe there was but I can't find it. But we do know he was of Dutch origin and probably domiciled in Amsterdam. I am using a bit of logic here as it is not stated where Jacob was born and died.

The next name of note in the family tree is Jacob's son Roelof... b. 1780 d. 1814. A short life of just 34 years in which Roelof earned his living as an itinerant seller of oranges, lemons and other exotic citrus fruits imported from the Dutch col-

André Citroën with his Italian born wife [Georgina Bingen] and their two children, Jacqueline and Bernard at Deauville.





## What's in a Name?

onies and wheeled about Amsterdam on a barrow. This note of the city named here led me to my logic noted above. John Reynolds whose two books [see footnote] describes Roelof as the acknowledged founder of the Citroën dynasty. It was during Roelof's life time that the origin of the surname Citroën came about as the Netherlands [Holland if you like or prefer] was under the rule of the French and as the French liked people to have a surname they insisted through their heavy hand of a conqueror that citizens took a patronym.

To be honest, I had to scurry off to Google to find out what this word meant. It is an appellation relating to your background in whatever venture you happened to be in. So without ado, Roelof called himself Roelof Lemoenman. Basically Lemonman.

Yes we are getting there... smith, cooper, archer, turner and yes Lewis.

As a quick aside the name Lewis refers to the lifting device used by stone masons to lift those huge blocks of stone. Lewis is also the appellation given then to the first son of a stone mason.

Next in the line of succession is Berend Lemoenman, André's grandfather b. 1808, d. 1895 [all this time he and most of his family lived in the Netherlands] and this is where, in Berend's

time, name changes came thick and fast. Berend had no intention of becoming a barrow boy. Rather he found his calling as a pedlar selling trinkets and such.

It is worthwhile here to mention that the dynasty was of Jewish persuasion, so Berend's vocation mirrored the way of life of European Jewry.

In 1813 Berend married a Dutch woman, Netle Rooseboom. One the 14 children she bore [of which 12 survived] was the next direct family member Lévie. Yes folks, somewhere in my research of John Reynold's two books a somewhat inaccurate date is made. Berend had a few numbers on himself and as such over time he changed his name to Bernard Citron which he felt that it was a more genteel moniker. This is good as we have now come upon where we want to end up. A further name change as when he left this mortal coil he was known as Louis-Bernard Citroen [without the tréma... the French name for the german umlaut/English \*\*\*\*\*], so we will stick with tréma.

So throughout Berend's life he always hankered after a name which would ring bells with the upper crust of Amsterdam. Not a bad thing if you wish to securely set the direction for the Citroën dynasty.

So Berend started life as Lemoenman... then Citron and then

Citroen [without the tréma]

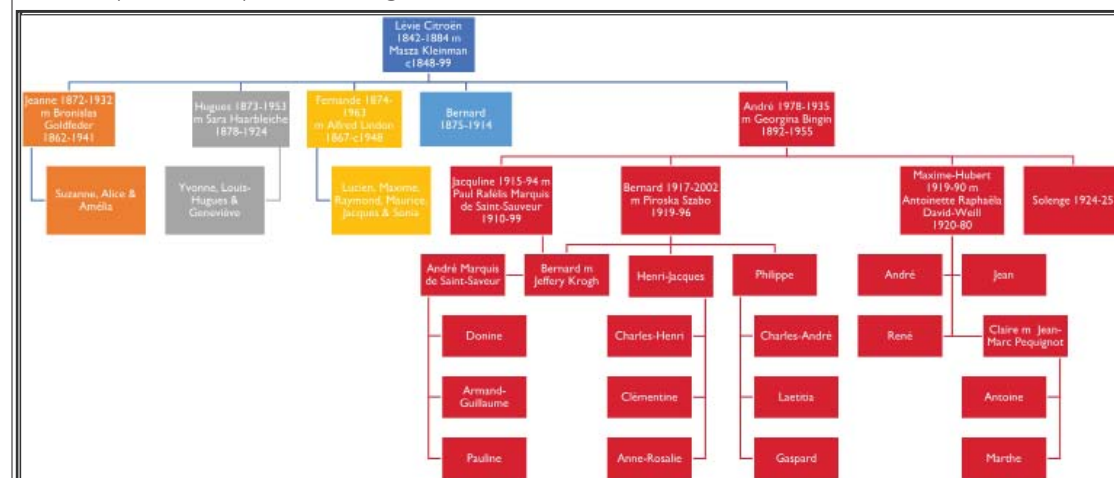
Next along is André's father; Lévie b.1842 d.1884. Lévie left Amsterdam and arrived in Paris sometime in the mid-late 1800's. There he continued in the diamond game. Lévie married Masza Amalia Kleinman... a Polish Jewess who gave birth to two boys... Fernande and André [actually André-Gustave just to throw in an added spice to what we all thought was just plain ol' André... not so. Fernande was to perish during the Great War].

Ed: Lévie made some unfortunate investments over the years, including an a highly risky South African diamond mine. The shares proved worthless and while the family was not ruined but the risk of bankruptcy weighed heavily on him. He attempted suicide and was subsequently carefully watched by his family. He managed to

thwart this surveillance and on September 16, 1884 at 3am he threw himself out of a window. He broke his thighs and spine and despite the care of a local doctor he died later that morning. André was six years old.

In and around this time... I cant pinpoint the date Lévie put the tréma into his surname and it became Citroën. And so, from that time on Citroën has stayed steadfast to this umpteenth appellation roll call. André went on to become what we know as perhaps the greatest automotive czar of his times.

Ed: Other sources suggest it was André himself who may have been the first to include the tréma. André entered the Lycée Condorcet, under the name Citroën. This is, apparently, the first time that a tréma appeared on the e. Max Lewis





## Polymorphic Family

The 2CV is like a pig: everything is good! Rather than settling for a 'stupidly' standard version, why not turn to the more offbeat offshoot of this vast family? The proof is in the pudding...

Pierre Boulanger would nev-

er have recovered. The fussy CEO of Citroën who championed and personified the TPV project, which became the 2CV, was probably far from imagining that people could be so infatuated with his car. She who intended to embody the notion of a tool and a strictly utilitar-

ian transport vehicle! Over the years, Madame Deuche has become more and more frivolous and unbridled, a change of direction that was completely foreign at the beginning, at a time when her initiator spoke of her as follows: 'The 2CV is not a car for young men...'

### *Dyane, The Name of an Unloved Car*

During the period that interests us, the former ugly duckling was in the middle of a post-Sixties revolution. Citroën even attempted to duplicate its favourite vehicle with the thinly veiled matricide that was the Dyane.





## Polymorphic Family



The original idea behind the AY project was to try to move on to something a little more modern and civilised. With, oh sacrilege, the help of the Panhard defector, the stylist Louis Bionier, to try to dress up the narrow platform of the car at a lower cost but, as far as possible, in the taste of the day.

Thus was born the Dyane, which remains without doubt the most unloved offspring of the Deuche family, at least among the models duly produced by the brand with the chevrons.

Think about it: angular and sharp features, a hatchback, sliding windows, headlights embedded in the wings... A little more and it could have been called 'Quatrelle', like the disgraceful modernised Renault copy! In fact, because it failed to bury grandmother 2CV, which came out of the hospital stronger than ever in 1970 with its '4' and '6' variants, the Dyane has forever gained the status of the 'Iznogoud' [Think about it. Ed.] of the Citroën family: the car that tried to supplant a myth without really succeeding.

It has to be said that Javel missed its launch remarkably well, with an initial range that was too spartan and whose sparse engine did not help to distinguish itself.

In short, after an early but probably already too late up-

grade, sister Dyane was quickly repudiated by all, even by its manufacturer, who forgot about it in the catalogue, only deigning to provide it with a few significant improvements every two or three years, above all to reduce costs by standardising parts with the queen 2CV.

The latter nevertheless embraced some of these improvements, such as the 'large' 25-litre tank, the soft top that opened from the inside and the ashtray!

*Mehari, it is Forbidden to Forbid*

The Dyane was buried in July 1983 without any fanfare on the European markets, although it was a very honourable success for such an unloved model [1.5million units produced], including sudden and unexpected breakthroughs, notably in Italy and Iran.

And don't forget the legacy of the Acadiane, a more contemporary utility vehicle than the old 2CV van, and above all of a more mischievous sibling, the Mehari. The Mehari was originally a leisure car based on the technical specifications of the Dyane and not the Deuche, and its first catalogues made no secret of the fact.

However, the Mehari has a history all its own, with a very singular path. Indeed, a rare phenomenon, its birth owes nothing to Citroën's legendary



# Polymorphic Family



design office, since it is a project issued by the Société d'études et d'applications de brevets [SEAB], based in Villejuif [94] and a specialist in thermoformed plastics since the post-war period, of which it was one of the precursors.

At the end of the 1960s, the head of SEAB, Roland de la Poype, and his teams designed a project for a vehicle that was half leisure and half utility, re-using the platform of the 2CV, adorned with a tubular lattice that received body panels in ribbed ABS [acrylonitrile butadiene styrene]. Presented to Pierre Bercot, the CEO of Citroën, the project was adopted by the brand, which decided to put it into production, albeit with a few modifications, and to introduce it into its catalogue.

## Off the Beaten Track

The 'Dyane 6 Mehari' was born and went on to have a great career for a car of this type, its production lasting almost twenty years [1968-1987], with nearly 150,000 units sold.

With a not really elegant but very nice face thanks to its bright colours, this car presented in May 1968 [it's not made up!] was adopted by beachgoers, fishermen and sailors, craftsmen, gendarmes and soldiers, but also lovers of sunshine and adventures off the beaten track, to the point that

none of its rivals managed to contest its popularity, especially not the sad Renault Rodeo. Even Citroën did not really succeed, although some see the recent C3 Pluriel as a sort of late descendant. [pulling a long bow in the eyes of your editor: Ed.]

Cheerful, colourful and playful, the Mehari is a very special creature in the company's catalogue, having itself given birth to its 'cult' variant, the confidential four-wheel drive model.

This time, it was an abject failure, due to a price that was frankly unfriendly, even for the accountants of the Grande Mulette, while the flat-twin was beginning to prove too 'short' to have to carry the kilos and friction of all the additional transmission.

All this did not detract from the Mehari's fine image, however, and it provided a welcome addition of unbridled kitsch and inventiveness at precisely the time when the in-house twin-cylinder family needed it.

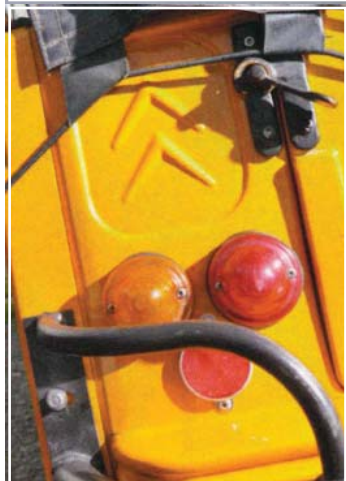
## Auntie Deuche Fights Back

What about the 2CV? Well, the proverbial four-wheeled scooter started its final stretch in Olympic form, no less.

Reinvigorated by the effective technical update of the '4' and '6', it saw its sales rise significantly, to the point of flirting in 1974 with its best scores of the previous decade. Then, after a



# Polymorphic Family



final rebound two years later, the car fell below 1,00,000 units per year from 1980. However, the doyenne of French production remained alive, even if its flashes of brilliance became rarer.

With the help of a young stylist, Serge Gevin, the grandmother seems to have found the solution: limited series, a sort of automotive Botox.

After the trial run of the Spot in 1976, her final decade began with the thundering Charleston, whose amusing two-tone cut-out saw her dressed as a vamp of the Roaring Twenties that she had never experienced. In this way, its gradual and programmed withdrawal ~ the closure of the old Levallois factory being ratified in 1988 ~ is cushioned and softened with the help of colourful variations, most of them quite spectacular: France 3, 007, Dolly and finally Cocorico.

The last special series offered on the French market, this one was not very successful, as it was supposed to commemorate the participation of our football team in the 1986 World Cup, but was released in October, three months after the team's elimination in the semi-final against Germany...

Moreover, the very patriotic and showy decoration was not necessarily to everyone's taste, and the thousand examples

took a few months to be sold out.

No matter, the 2CV has become a myth, and can afford anything, to the point that its exile in Portugal from February 1988, then its demise in the guilty indifference of the PSA pundits never altered its formidable love rating.

Today, it is still the tree that hides the forest, with very often prices to match, to the point that one can ask oneself if our modest Deuche is still a car intended for amateurs and collectors without money. They would be well advised to consider the fate of the ungrateful Dyane, which is still available at very low prices.

## For all Tastes

Forget for a moment about its bumpy features, because it still has some solid assets compared with its elder sister: a more generous glass surface, a hatchback that is more convenient than the narrow boot door of the 2CV, doors that are more watertight at high [!] speeds, better designed ventilation, and 'subtly' more modern equipment [door pockets and armrests...]. As a bonus, it is also a little faster, which is the price of a more favourable driving style. And it has lost none of the 'lagaffesque' fantasy of its elder sister, nor even the brilliant bonnet that the Ami 8 disdains. It is enough to reconsider



## Polymorphic Family

the Dyane 6 that your ageless neighbour keeps near the boiler!

In the case of the Mehari, the atmosphere remains, for my taste, synonymous with sea spray, landing nets and aquatic lapping. As a bonus, its more or less waterproof and theoretically removable cover [be prepared for the weather if you really want to drive in the open air!] will bring back memories of the wilderness campsites of your youth. A car that also requires a certain physical flexibility to adapt to its indescribable driving position, with its pedals too far back and its almost horizontal steering wheel! However, a rejuvenation cure is priceless, and it is easy to be seduced by this big Playskool atmosphere, even if it is accompanied by a reduced top speed and an infernal din launched in full banter...

As for the 2CV Cocorico, it would be a lie to say that we no longer recognise it. Its decorum is undoubtedly not the most discreet, but everyone is free to appreciate it or not. Because it remains, until the end of the wheels, equal to itself: endearing in the devil, authentic and unique, even if its current prices tend to move it away from what was its original public.

### Buying Guide

For the three models presented, the most recent speci-

mens are the best equipped for everyday use: warning from the end of 1974, disc brakes [front] from model year 1978 [Dyane and Mehari] and 1982 [2CV], three-point seatbelts with retractor [Dyane/2CV] or two-point from 1978 [Mehari], laminated windscreen on 2CV and Mehari in July 1983... In the case of the Dyane and 2CV, except in special cases, prefer the '6' versions to the '4' and 'Special', their 602cc engine being much better adapted to today's traffic.

### For all Budgets

The choice between these three cars is a matter of taste and budget: a beautiful Dyane can still be found for €2,000 ~ when the smallest correct 2CV demands more than €3,000. Rarer and more 'exotic', the Mehari is becoming difficult to find in satisfactory condition under €5,000, bearing in mind that the lesser-known variants are sold for much more: Caban and Beige Opale [Dyane], Spot, Charleston, 007, France 3, Dolly, Cocorico [2CV], 4x4 and Azur [Mehari]. Not to mention those specific to a particular export market.

### Express Check-Up

For the 2CV and Dyane, the main enemy is corrosion, especially of the body: it is essential to check the condition of the front floor [especially the junc-

tion with the dashboard], the windscreen and the air vent surround on the 2CV, and the boot floor, without neglecting to look at the appearance of the chassis side members.

The Mehari is obviously more spared, but apart from the weaknesses of ABS [discolouration, hardening and breakage with age], one should pay attention to the ageing of the platform. If necessary, there is no shortage of remanufactured, galvanised chassis.

The mechanics are generally easy to maintain and parts are available in abundance, but the flat-twin often tires after 100,000km [blue smoke with the wear of the segmentation, oil leaks...], gearbox and clutch having a comparable endurance.

Lastly, the 'finish' is only an illusion, and it is not always easy to find the exact trim corresponding to the year and the colour.

### Our Good Addresses

#### CLUBS AND FORUMS

- Dyane Club de France: <http://dyanecub.free.fr>
- Mehari Club de France: [www.meharicubdefrance.com](http://www.meharicubdefrance.com)
- Association des 2CV Clubs de France: [www.asso2cvc/ubsfrance.org](http://www.asso2cvc/ubsfrance.org) Maintenance and parts
- Mehari Côte d'Azur: [www.mcda.com](http://www.mcda.com)

- Mehari 2CV evasion: [www.meharievasion.com](http://www.meharievasion.com)
- 2CV and derivatives passion: [www.2cvc.com](http://www.2cvc.com)
- Mehari Club de Cassis: [www.meharicub.com](http://www.meharicub.com)
- Retro Design: <http://retro.design.free.fr>

#### A LITTLE READING

- La Citroën 2CV de mon père, Antoine Demetz, ETAI
- La Citroën Dyane de mon père, Benoît Meurie, ETAI
- Le guide de la Mehari, Jean-Marie Defrance, ETAI

### 5 Reasons to be Tempted

- Living legends [2CV and Mehari].
- Driving sensations
- Easy and inexpensive to run
- Swinging comfort
- Full-on road holding!

### 5 Reasons to Think Twice

- Lives in the shadow of the 2CV [Dyane]
- Excessive dimensions [Mehari]
- Impossible driving position [Mehari]
- Does not like the highways
- Finish? What are you talking about?

This article was first published in the French magazine 'Young-timers' in February 2014. It was written by Thierry Astier with photographs taken by Katel Riou. It was translated by the Editor with the help of [www.DeepL.com/Translator](http://www.DeepL.com/Translator) [free version].



## Committee Reports

### President

I want to take this opportunity to deeply thank all members of committee for their energetic and knowledgeable contributions to our club in the past year. Our committee's efforts have been everywhere evident – in publication, on-line and in person at events. On behalf of all members, we thank you!

CCOCA brings us all inspired conversation, the opportunity to share the stories of our cars ~ our members' toil and pleasure in their restoration, maintenance and enjoyment, and friendship. We often say that, at the end of the day, it's 'about the people'. This sentiment is certainly true in my experience, and this has been deepened for me by my time on committee.

The membership of CCOCA has helped me to enjoy my classic Citroëns with enhanced knowledge, awareness of safety, improved preservation of the classic features of our unique,



inspired and genuinely innovative cars in an world that is so often pecuniary and disposable. Perhaps the legacy of our classic Citroëns helps us have hope for an automotive future that can write humanity and imagination into the equation – one can dream!

I have a strong professional interest in education, and members can be sure that I take every opportunity to instil the above ideas in our young people. My students have always loved my classic Citroëns, and have been fascinated by them... this is what our cars can do.

Please consider involvement in event organisation, committee membership or simply coming along to share the classic Citroen experience at an event throughout 2023 and beyond, I hope to greet you in my '57 Slough DSI9 before long!  
Tim Cottrell ~ President

### Secretary

2022/23 has been a more normal year for CCOCA and



the community at large, with the restrictions imposed on us by the pandemic now mainly in the past. We have held eleven committee meetings this year, each of them via the medium of Zoom. While I personally miss in-person meetings, the technology does enable us to meet without anyone having to drive for hours to get together and we are a geographically diverse group. It is currently our intent to continue meeting via Zoom, meaning those living outside Melbourne can be on committee and fully participate.

My main role on the committee is to co-ordinate meetings, issue agendas, take and issue minutes and keep track of all the incoming and outgoing correspondence. Most correspondence is now via email so we only receive a few magazines and VicRoads renewal forms via post.

I would like to thank Ted Cross for his assistance with collecting post and administering the VicRoads Club Permit system for me, his help has been appreciated.

Susan Bryant ~ Secretary.

### Treasurer

The club recorded a loss of just under \$4,000 for the 2022-23 year. Coincidentally, this was almost exactly the total of the final bills for our rebranding project begun in 2021-22. Therefore, on a 'business as usual' basis we virtually broke even.

Overall the club remains in a sound financial position. However there are a few areas where we need to be vigilant so that we can continue to maintain the balance between operating as a not-for-profit club and not making significant losses.

Some members have expressed the view that we should include a printed magazine with our membership fee. We aim to provide low cost membership for those people who are happy to receive an electronic copy of the magazine, and offer a printed magazine, at cost, to those members who prefer it. On top of the standard \$35 membership fee, the additional annual subscription charge for members who prefer printed copies of Front Drive is currently \$45. The real cost of providing the printed versions of Front Drive has actually been about \$56. We have put in steps to reduce the weight of paper used [which will reduce the cost of both printing and postage], and carefully manage the number of pages in each





## Committee Reports

### Citroën Classic Owners Club of Australia Profit & Loss 1 March 2022 to 28 February 2023

	2022-23	2021-22
<b>Income</b>		
Membership Subs	\$ 8,830.00	2,765.00
General Activities	\$ 3,095.23	
CCOCA/CCCV Bastille Day function	\$ 2,478.97	4,755.00
CITIN surplus	\$ 1,293.00	
Printed Front Drive subscriptions	\$ 1,935.00	1,478.50
OzTraction	\$ 10,500.00	
Front Drive Advertising	\$ 320.00	450.00
Donations to CCOCA	\$ 14.87	3.80
Club Shop Sales	\$ 627.00	271.25
Spare Parts Sales	\$ 16,097.05	18,528.61
Spare Parts Freight	\$ 1,027.55	838.78
Interest Income	\$ 56.40	113.64
<b>Total Income</b>	<b>\$44,982.07</b>	<b>30,497.58</b>
<b>Expenses</b>		
General Activities	\$ 5,979.27	1,256.70
OzTraction	\$ 9,683.29	21.00
CCOCA/CCCV Bastille Day function	\$ 2,721.85	4,696.80
CITIN expenses	\$ 60.00	25.00
Sponsorship & Gifts	\$	104.40
Front Drive Printing	\$ 2,330.35	2,035.00
Front Drive Postage	\$ 927.45	621.05
Postage & Mail Box	\$ 139.00	173.00
Stationery	\$	
Computer & Internet	\$ 1,551.58	1,778.71
Insurance	\$ 2,350.24	2,237.29
AOMC Fees	\$ 250.00	250.00
Corporate Affairs Fees	\$ 61.20	60.10
Miscellaneous [Club rebranding]	\$ 3,873.77	6,569.85
Furniture & Equipment	\$ 37.10	
Bank & Merchant Fees [Bendigo Bank]	\$ 263.29	212.25
Stripe and Paypal fees	\$ 601.80	412.46
Spare Parts Purchased	\$ 16,021.29	12,820.37
Spare Parts Stock Take Adjustment & Revaluation	\$ 935.01	4,627.04
Spare Parts Postage & Freight	\$ 1,172.24	574.67
<b>Total Expenses</b>	<b>\$48,958.73</b>	<b>38,475.69</b>
<b>Net Profit / Loss</b>	<b>\$-3,976.66</b>	<b>-7,978.11</b>

### Balance Sheet As of 28th February 2023

	28-Feb-23	28-Feb-22
<b>Assets</b>		
General Cheque Account	\$ 15,151.10	4,371.59
Spare Parts Cheque Account	\$ 9,008.23	8,451.12
ING Investment Account	\$ -	13,424.58
Bendigo Bank Term Deposit	\$ 40,168.57	40,104.66
Prepaid deposit for Bastille Day lunch 2023	\$ 500.00	
Unpaid Spare Parts Sales invoices	\$ -	
Stock ~ Spare Parts	\$ 21,161.48	22,189.09
Stock & Cash on Hand ~ Club Shop	\$ 70.75	695.75
Furniture and Fittings	\$ 3,701.16	3,701.16
<b>Total Assets</b>	<b>\$89,761.29</b>	<b>92,937.95</b>
<b>Liabilities</b>		
Prepaid Membership Fees	\$ 2,450.00	2,450.00
Prepaid Event Receipts	\$ 1,800.00	1,000.00
Power Steering Unit Deposits	\$ -	
<b>Total Liabilities</b>	<b>\$ 4,250.00</b>	<b>3,450.00</b>
<b>Net Assets</b>	<b>\$85,511.29</b>	<b>89,487.95</b>
<b>Equity</b>		
Retained Member Funds	\$ 89,487.95	97,466.06
Current Earnings	\$ -3,976.66	-7,978.11
<b>Total Equity</b>	<b>\$85,511.29</b>	<b>89,487.95</b>

edition. We believe we can still produce a high quality magazine for our current subscription charge, until either the printer or Australia Post increase their charges. If all members were to receive a printed copy of the magazine as part of their membership, our annual fee would have to be in the range of \$80 - \$100, which is about what other car clubs who include a printed magazine charge.

We have done another small adjustment to the valuation of

spare parts held in stock. This is likely to be an ongoing task, as we reduce stocks of slow moving parts, and see price changes of more commonly required parts come through from suppliers.

The cost of insurance increased by about 50% in 2021-22, and there was a smaller increase in 2022-23. In attempting to deal with this, we have been unable to obtain quotations from anyone apart from our current insurers. It appears that oth-



## Committee Reports

er car clubs are in a similar situation. We will continue to see what we can do to minimise the cost of our insurance premiums, but at the moment it seems we just have to pay up.

Ian Macdermott ~ Treasurer

*Activities Coordinator*



Unfortunately, at the time the deadline our Activities Coordinator, Lee Dennes, was in hospital in Adelaide with a broken leg. She will, we are sure provide a report at the AGM.

*Spare Parts Officer*

As this is my last AGM as the Spare Parts Officer my report will be short and attempt to broadly summarise my time in the position. Final figures concerning the 'parts' will be presented to the committee once I have completed the stock take prior to handing over to the new incumbent.

Part sales for 2023 thus far totalled \$1,284.95 from 11 different invoices to members. Some invoice and payments are still

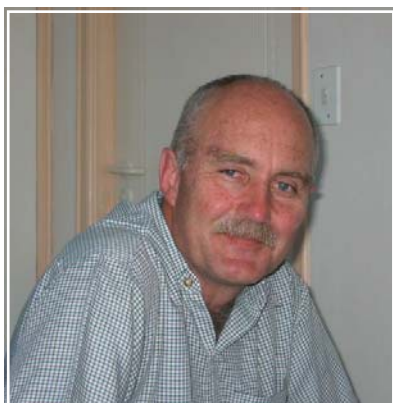
pending. Additionally there are also outstanding orders which I will finalise in consultation with my replacement.

Since my commencement in the role we have averaged sales between \$13,000-15,000pa. Some years sales touched \$20,000 with other years only reaching around the \$11,000 mark.

Estimates I have made therefore puts total sales over the 10 and a bit years at around \$120,000-140,000. What our total outgoings were is hard to say. During this period I must have written up over 650 individual invoices to members.

All of this goes to show that the spare parts service offered to members by CCOCA is a really valued service that has been used by many a member.

Members from far and wide have ordered parts. From the Northern Territory to Tasmania and as people from as far away as the Netherlands have bought



Traction parts from CCOCA.

As I bid farewell from the committee I wish the club strength in numbers and I must say the 'Spare Parts Officer' has brought me a lot of joy and knowledge concerning the [in my opinion] iconic Traction!

Last but not least thank you for all the good memories and discussions about Traction even though the majority of these were over the phone.

Lance Wearne ~

Spare Parts Officer

*Publication Editor*

I am not quite sure how it happened, but here I am writing my Editor's Annual Report [about Volume 46] in the last edition of the volume. So, to talk about Volume 46 [which at the time of writing is incomplete] is difficult.



So, I will report instead on the last 12 months of magazines.

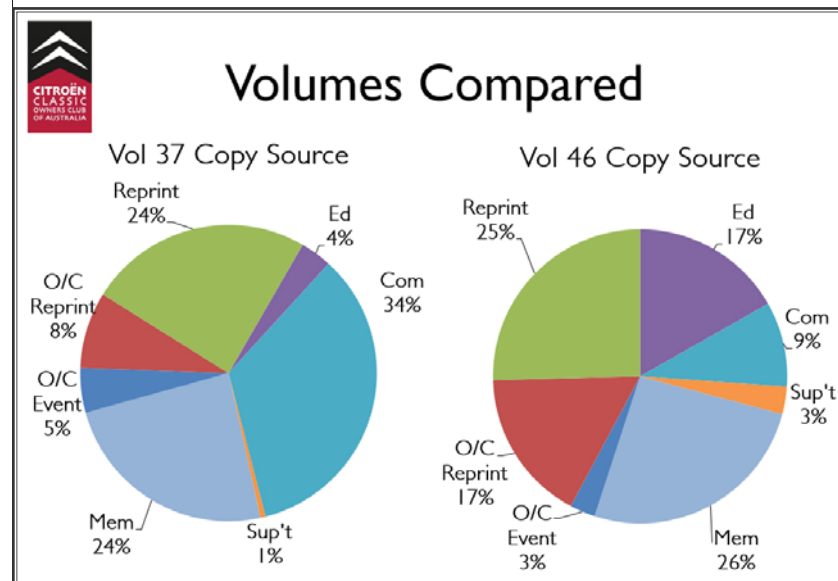
We produced, as promised, six editions of 'Front Drive' and in addition five editions of 'démarreur'.

Naturally, I think a good job has been done, but of course others may [and are welcome to] disagree.

To see how I have gone I decided to compare

Volume 37: the final series I produced last time I was Editor with the most recent six editions [Volume 45, No 6 through to Volume 46, No 5].

The average number of pages per edition was 44, while the present average





## Committee Reports

is 72 [excluding committee lists, advertisements and the outside cover]. Hopefully members see the increase as a plus.

Of course the source of the material is also important.

In Volume 37 the members of the club [including the Committee, those in Support positions, and articles specially commissioned by the Club from members and non-members] supplied 63% of the material. In the latest volume these groups provided 55%. The Editor's contribution went from 4% to 17%, contributions from those in Support roles increased from 1 to 3%, predominately thanks to our Librarian, Max Lewis.

Articles commissioned by the Club [from both members and non-members] rose from 24% to 26% of the magazines' pages. Contributions from the members of the Committee fell from 34% to 9%.

Information from other Clubs regarding forthcoming events [CITIN and the like] went from 5 to 3% while articles re-printed from the magazines of other

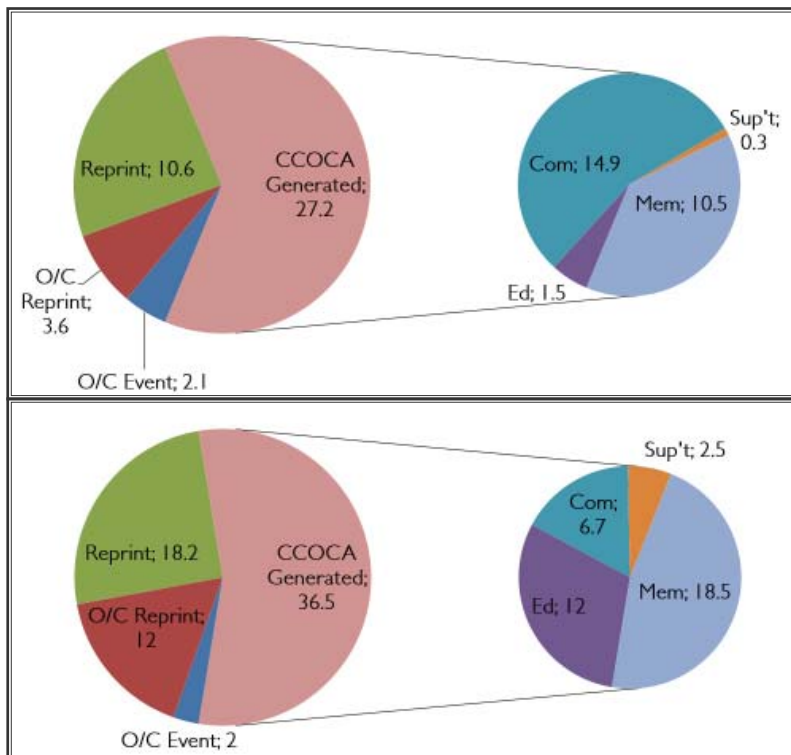
Clubs [especially the UK, French and Dutch clubs] went from 8 to 17%.

The balance is made up of articles sourced from the internet and other available sources [mainstream magazines and the like] and these rose by just one percentage point, from 25% to 26% of the magazine.

### COSTS

As Ian Macdermott has noted elsewhere the costs of producing the printed magazine this year exceeded our expectations and certainly exceeded the \$45 members pay to receive the printed copy.

The upper chart shows the [by the number of pages per edition] the source of material published in Volume 37, while the lower chart shows the same data for the latest year.



Two important steps have been taken to control these costs. The weight of paper we print on has been reduced by 50% which lowers the printing cost and the postage cost.

We have also determined to, wherever possible, hold the number of pages in 'Front Drive' to below 80 which also keeps the weight within the minimum postage price point of \$2.40 per copy instead of \$3.60.

### DÉMARREUR

Does it have a future? Well, it does for the time being. At least it does assuming I am re-elected to this role at the AGM. My plan is for four editions of 'démarreur' in the coming year. But, remember these are a 'bonus' which comes with no guarantee. FINALLY...

I would love to see more articles written by members. Too often when I email members seeking their input about a model they own [be it 2CV, Traction, DS or a modern] they either decline or simply fail to even reply.

I have said this before and I am sure I will say it again: 'Front Drive' is not my magazine, it is not Tim's magazine. It is your magazine and what you get out of it depends on what you put into it.

Thanks to all who did contribute over the last year: it has been a delight working with you all.  
Leigh F Miles ~ Editor.

### Web Site Manager

The website has kept me busy with the usual behind the scenes updates, hiccups and attending to members requests and creating Jot forms for various activities.

Manuals and Catalogues in the online library are proving popular. I often go there myself having just returned to the road a Light 15, Big 6 and Family 9. I highly recommend Technical Articles and Fix & Restore as well. Just put what you are looking for in the Search field. Don't forget to Reset after each search. If you have any useful restoration information in relation to Citroëns let me know and it can be put in Technical Articles

Photos are very popular so if you have been to an event send me some photos especially non-Victorian members, as we would love to see what is going on in other states.  
Bruce Stringer ~ Website Manager





## Talking Technical: 2CV Fuel Filter

Most 2CV owners change the fuel filter during the vehicle's annual service. If the owner fits a preferred type of filter, then usually, that filter type will continue to be used. This may be how many of us manage our 2CV's fuel filter, but there's more to know.

The life of an internal combustion engine is very much influenced by the cleanliness of the fuel burnt inside the engine. The majority of today's modern vehicles use fuel filters which filter particles down to the 10-20 micron range, while some vehicles use 5 micron filters. [A micron is one millionth of a metre or one thousandth of a millimetre.] As well as protecting the engine in this manner, the fuel distribution system in modern vehicles also needs to be protected. Thus, modern engines and fuel systems are both protected by the fuel filter. The question is: What can we do to help the 2CV? After all, dirty fuel is dirty fuel and engine life is engine life. The answer? *Use a 10micron fuel filter in our 2CV.* Well, that should be easy enough to arrange...

Citroën fitted a small inline plastic fuel filter to the 2CV, specified as a Champion LI01 [Haynes manual, page 49]. An internet search found several overseas suppliers selling this filter, and their web sites state it

filters to 10microns. Ah, looking good!

Contact was made with the suppliers to seek a link or reference to a Champion document which states the particle size specification for this filter. Although the suppliers responded quickly, *none were able to provide a reference to a Champion document.* [I chose not to ask where their stated 10micron figures originated.] The next contact was to an overseas Champion filter distributor, who kindly sent me a link to a Champion filter document containing the specifications for the LI01 filter. Unfortunately, the LI01 data did not include the particle size, so after seeking advice on the filter's particle size figure, the writer was advised that *this information is only for internal use by their engineering department!* It astounds me that particle size information is not formally available from the manufacturer, given that it is *the most critically important property of a fuel filter!*

Ah, take a deep breath!

OK, let's try outside the box! What type of fuel filter should we be searching for? As our 2CVs are usually travelling only a few thousand kilometres between annual services, the surface area of the filtering element should not be of concern. Also, as the 2CV fuel pump pressure is just under 3psi, the maximum

flow rate and maximum working [negative] pressure should also not be of concern.

This shortlists the search criteria to four items:

- 1 the fuel filter must have 6mm or ¼inch fuel spigots to suit the 5.5mm inside diameter of the rubber fuel hose used in the 2CV;
- 2 it needs to be an in line, standalone filter;
- 3 it must be relatively small and lightweight so it can be self-supporting if necessary, and
- 4 it should filter particles down to 10microns, in line with modern day vehicle fuel filters.

OK. Let's check locally. An internet search on Australian web sites was done in the hope of finding a suitable filter from a local supplier. While numerous fuel filters were found which match the first three criteria, *none of them provided particle size data.* One of the sellers was contacted in the hope of obtaining the data, and although very helpful, *the seller advised they didn't have that information and felt it may not be obtainable!*

One could ask: why is such critically important information being withheld from the consumer? Does it provide a benefit to filter manufacturers, distributors and retailers? Does this action provide room to blur the details through obfuscation?

Mmmm. Although pure sup-

position, the writer believes it could, for these reasons. All other things being equal, a 10micron filter has to cost more to manufacture than a 40micron filter because it is more restrictive to the fuel flow and therefore needs more surface area, increasing the manufacturing cost and thus the cost to the consumer. By deduction, perhaps a way to attract a customer to buy a filter is to keep the cost down by selling lower cost [read: larger particle size] filters. These will be priced much more in line with the customer's price expectations, along with the advice, 'this fuel filter fits your car', without the retailer or the customer ever mentioning the particle size figure or without perhaps knowing about the term 'particle size' or that it is a critical filter parameter. In a nutshell, excluding the particle size specification from the manufacturer's product data sheet certainly is a way to keep it out of sight and out of mind of the consumer. If you don't know of it, you'll never go looking for it!

*The bottom line?* Why hide a critical filter specification? To repeat, who is benefiting from this action? As a consumer, the writer certainly is not! Hence this article! However, as already noted, this is all pure supposition by the writer, and there may well be justifiable reasons for why the particle size is not



## Talking Technical: 2CV Fuel Filter

made available. The writer just can't think of any.

OK, moving right along. The fuel filters provided by popular local filter brands were also considered. A small range of fuel filters from Repco and Ryco were identified which match the first three criteria. Some of those filters stated the particle size while some did not. The respective product managers were contacted in the hope of obtaining particle size data, and fortunately, the data was provided for all filters requested by the writer. Thank you Repco and Ryco! The results? The popular Repco filters RPF1415, RPF1003, RPF1005, RPF1022 and RPF9192 are specified at 40microns, whilst the popular Ryco filters Z4, Z14, Z750 and MFI-12 are specified at 17microns. Regrettably, in view of the writer's search criteria, none of these filters is adequate. Keep searching!

As an aside, it's now understood why there has always been plenty of sediment lying on the bottom of the fuel bowls of the writer's 2CV carburettors when serviced, even though the vehicles usually travel less than 5,000km each year. The writer has been using the Repco RPF1415 filter for 14 years [well, not the same one!]. At 40micron particle filtering, any dirt particles in the fuel which are

smaller than this figure will pass through the filter. [This is not a criticism of Repco's RPF1415 fuel filter, but rather, is a statement of self-criticism by the writer for not identifying the filter properties sooner!]

Alright, let's go global. A grand total of one, yes, one, fuel filter matching the four search criteria was located ~ the Oregon 07-124. This filter is available via eBay and Amazon, and from North American retailers. A local supplier has not been found.

Below is a photo of this filter and also a link to the filter data on the manufacturer's web site. The data confirms the 10micron particle size specification. *At last a matching filter has been found. Eureka!*

In view of this analysis, the writer will make an *immediate* switch to a 10micron fuel filter for his 2CVs by way of the Oregon 07-124 filter. The times are a'changin'.

There may be other 10micron filters which suit the 2CV. *Should the reader know of any, would you be kind enough to advise the writer.* Your information will be included in the next revision of this article for the benefit of the readers.

The 10micron Oregon fuel filter and its base specifications are shown here: [https://www.oregonproducts.com/en\\_ca/in-line-fuel-filter%2C-](https://www.oregonproducts.com/en_ca/in-line-fuel-filter%2C-)

10-micron/p/07-124

OREGON 10-MICRON FUEL FILTER

The photo at below shows the Oregon 07-124 10micron fuel filter.



PLEASE NOTE:

This article is not intended as an advertisement for the Oregon filter, but rather, is offered as information on the only 10micron fuel filter known to the writer which suits the 2CV.

The photo below shows the writer's 2CV alongside wheat sowing machinery operated on Burrangong Station near Young, NSW. [Lee's home town and home of the best cherries in Australia she advises me!] The overall length of the sowing machinery is 55metres, and up to 30acres per hour can be sown [yes, that's one acre every two minutes!], and all steps done in one pass, including the fertiliser. The machinery operation and the sowing rates are computer controlled by the operator in the cabin. The all-up cost of this rig would buy several dozen very good condition 2CVs!

The three fuel filters in the 12.5litre diesel engine in the John Deere tractor remove particles



## Talking Technical: 2CV Fuel Filter

down to 10microns. Yes, that's probably good enough for the 2CV as well!

Although this article applies directly to the 2CV, it also applies in principle to all classic and earlier vehicles.

### FINAL STATEMENT

My grateful appreciation and acknowledgement is given to the web sites from which photos/images/drawings have been

This photo was taken on RAID 2016. The road train is the length of eleven 2CVs. Yes, low-micron fuel filters would have been of benefit to the 2CV engines given the amount of red dust.

accessed.

This article may be updated in the future and assigned a new revision number.

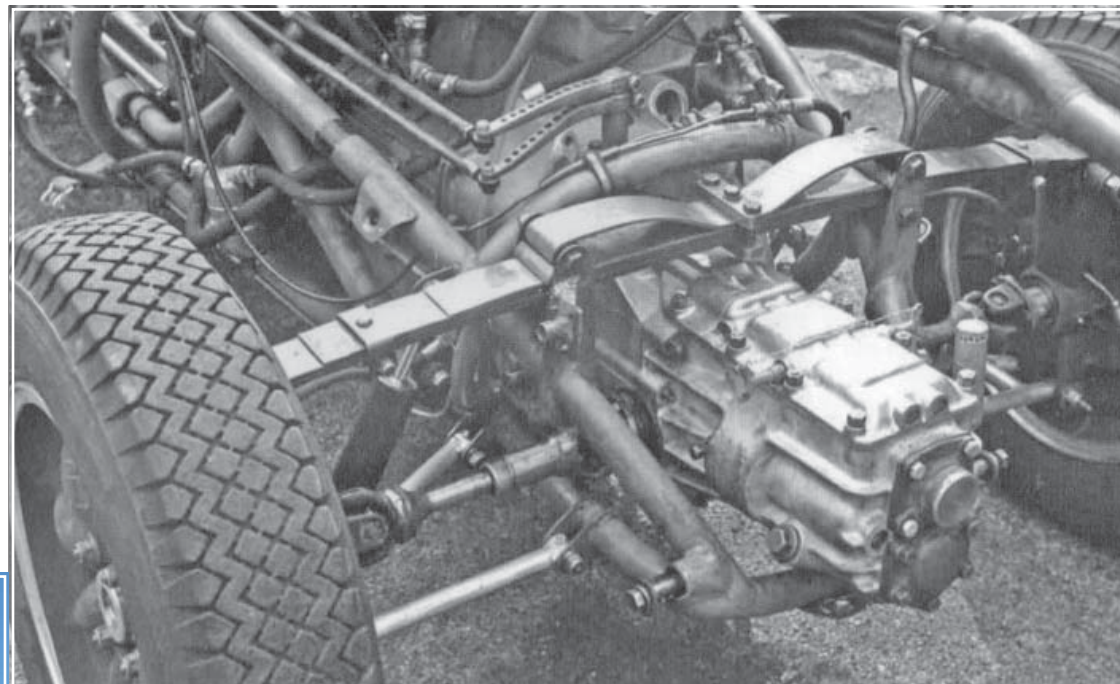
Before using the information in this article, ensure the most recent revision is being used.

Should you have questions about the information in this article, if you find errors or have suggestions for improvement, or if you wish to re-publish this article in your club magazine, please contact the writer at: [gdennes@gmail.com](mailto:gdennes@gmail.com)

Copyright © Graeme Dennes 2023



## Totally Traction



### Racing Gearboxes

In recent editions of the CCOCA magazines there has been some coverage of the Traction's involvement in racing, and there is definitely more to come. Chris mentioned in a previous article that the gearbox might have been a potential weak point. Ironically, whilst the Traction Avant car didn't have a stellar racing career [in the UK], its gearbox did.

With a few exceptions, racing cars followed the conventional form until the 1950s ~ front engine, rear-wheel drive. Putting the engine behind the driver was pioneered in the 1950s

by Coopers ~ father and son, Charles and John. Their first rear-engine racing cars used 500cc motorcycle engines with chain drive to the back axle.

Moving up to Formula Junior ~ the formula below Formula 1 ~ required a bigger engine, which would be in-line 4-cylinder ~ eg the Coventry Climax engine. And so, a transaxle gearbox was needed.

The word 'transaxle' conjures up thoughts of Italian supercars for me, but, back in the '50s, that was not really the case.

You can find a transaxle gearbox on almost any car that has an in-line [rather than transverse] engine located at the



# Totally Traction

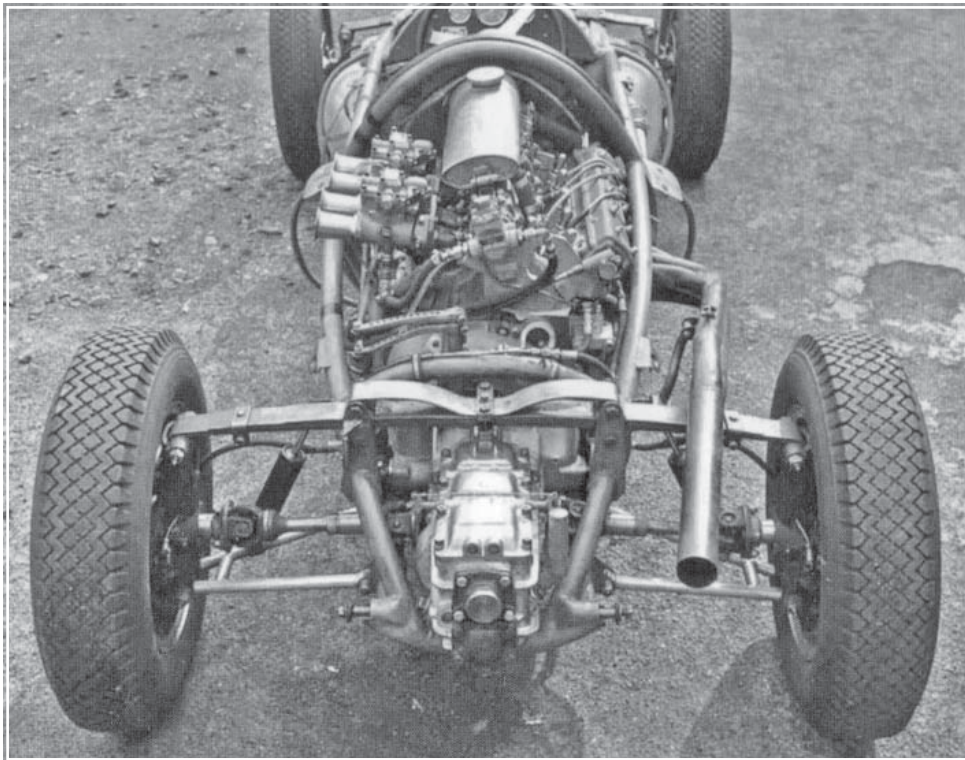
same end as the driven wheels, as well as some front-engine rear-wheel drive cars. In the early 1950s there were few such vehicles ~ the rear-engined VW Beetle and Renault 4CV and the front-wheel drive Traction Avant and Panhard Dyna being the most common.

To Coopers, who were based in London, both Citroën and Renault were quite local with their factories in Slough and Acton. I know nothing of the Renault 4CV, let alone anything about its gearbox, so have no idea why Coopers chose the Traction Avant gearbox over

the Renault. I have not found any reference to any racing car manufacturer using the 4CV gearbox. If you know otherwise, you know what to do.

The 6-cylinder gearbox would have been an option. It is certainly stronger but much heavier than the 4-cylinder car's. I now realise that I am not aware of any 4-speed conversion for the 6-cylinder box. Mind you, with all those cylinders, I am not sure why it even needs three gears, so maybe there was no such conversion.

The first iterations of rear engine [or really mid-engined]



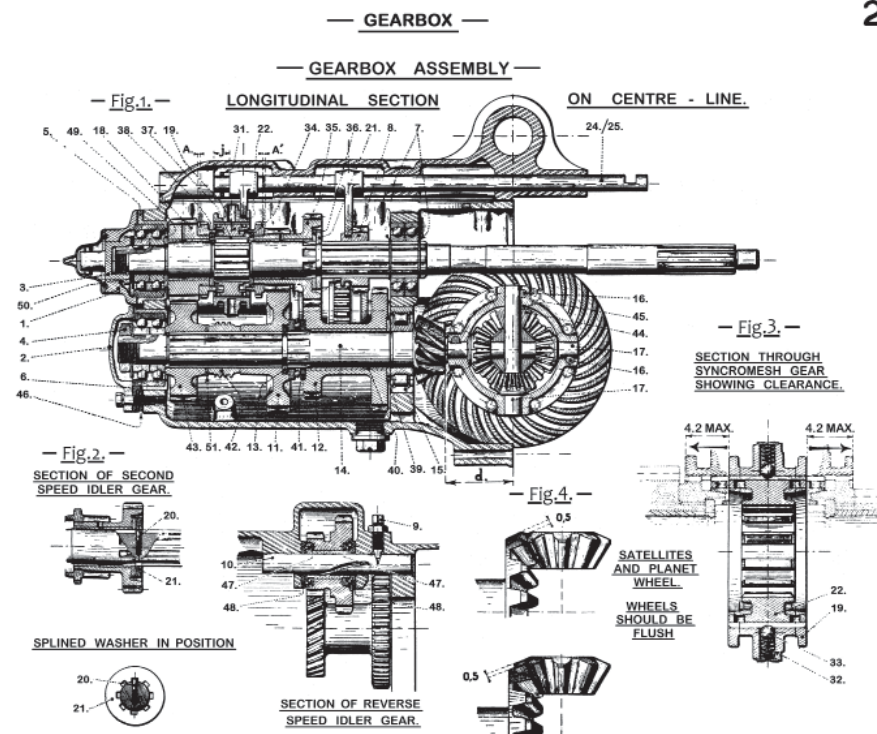
Coopers used gearboxes modified to accept four forward gears with added strengthening supporting the differential. Jack Knight, ERSA, Reda and Duriez all offered these types of modifications. Cooper used a Knight-ERSA gearbox in their 1955 T39 car. I believe the ERSA box was without synchromesh, presumably using the saved space for the extra gear.

Pictures of the slightly later T42 show the gearchange linkage used the standard Eiffel tower arrangement ~ albeit with lightening holes. I don't know how the two rods were

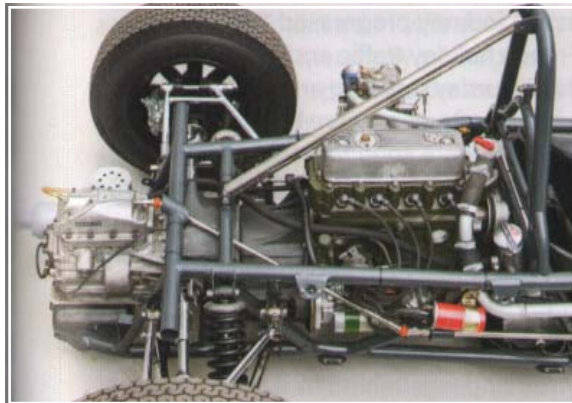
connected to the gear lever, but I doubt the Traction Avant's striker plates were involved.

By 1962 the Cooper T59 was using an inverted Citroën ERSA gearbox. Why would you invert the gearbox? Doing so allowed the engine to sit lower and, hence, drop the car's centre of gravity. In the standard form the input shaft is above the output shaft. And the output shaft is at the same height as the differential which connects to the drive shafts. Given that you don't really want to be driving the drive shafts through much of an angle, this places the height of the

26



## Totally Traction

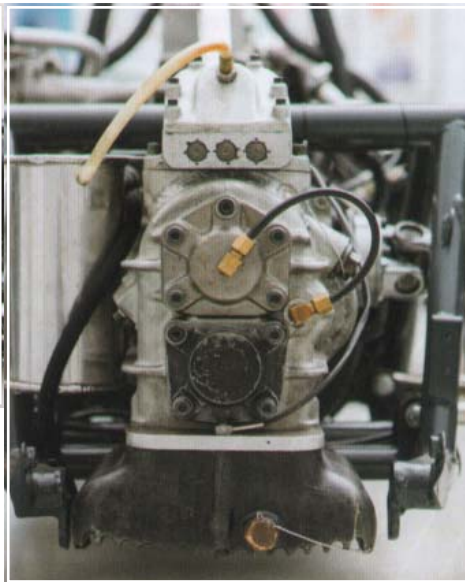


engine's crankshaft above the centreline of the wheels. Of course, the racing car designer wants the centre of gravity as low as possible, and flipping the gearbox over allows this.

You can see in the photo the gearbox filler hole is still fitted, but in completely the wrong place. The gearchange connection is quite different too.

This does not affect the direction of rotation. That is determined by the side of the output shaft on which the differential crown wheel is placed. I have read of someone who rebuilt a Traction Avant gearbox and managed to get three reverse gears and one forward. It's hard to see how you would do that, if you are following the manual - but I don't think there's anything actually stopping this from happening.

To be kind to the anonymous gearbox builder, maybe the gearbox in that story was intended for a racing car which



needed the crown-wheel to be located on the opposite side to normal.

In all of the above iterations, the racing gearboxes would have extra stiffening or support to the bearings that support the differential to prevent them from being pushed apart and splitting the casing ~ the Achilles' heel of the Traction Avant box. 4-speed conversions and strengthening modifications were available for road-going cars.

ERSA developed further strengthened gearbox casings for Jack Knight and Cooper and developed features, such as quick-change final-drive gears. Other racing cars used specially made ZF gearboxes, or the VW-derived Hewland gearbox,

which was eventually adopted by Cooper in the early '60s. Hewland continue to make gearboxes for Formula 1 cars.

I finish by sharing a note I received from Philip Vesey Holt:

*A while ago I wrote to you about my quest for electronic ignition. The Gammatronix I used seem to work well, and the Traction has run reliably. Though that may be partly due to E5 fuel and the cooler weather.*

*I did find that the Sparkrite ignition unit is available for 6 volt. It has the advantage that the condenser can be left connected, and a switch on the unit allows for switching between the electronic or conventional ignition.*

*Like your Traction, mine has suffered from vapour locks in hot weather. So, I have been running it on E5 petrol with Castrol valve master octane booster.*

Chris Bailey

As many members knows 'our' Ted Cross owns 123Ignition Australia and so I passed Philip Holt's letter past Ted to see if he had any comment to make. I hasten to add this is Ted writing as the owner of 123Ignition Australia, not as a member of the Committee of the Club.

*I have read this letter with interest. Both Gammatronix and Sparkrite ignition options mentioned appear to be added onto*

*an existing standard distributor. I have not used these myself but will point out that both of these options rely on the old distributor being in good condition to begin with. Any wear in the old shaft can result in an uneven dwell angle and uneven running. They also rely on a condenser and/or points. These are generally unreliable these days and will still give problems. So the distributor will still need regular maintenance. That technology is nearly 100years old and there are better ways to get the best performance from your Citroën.*

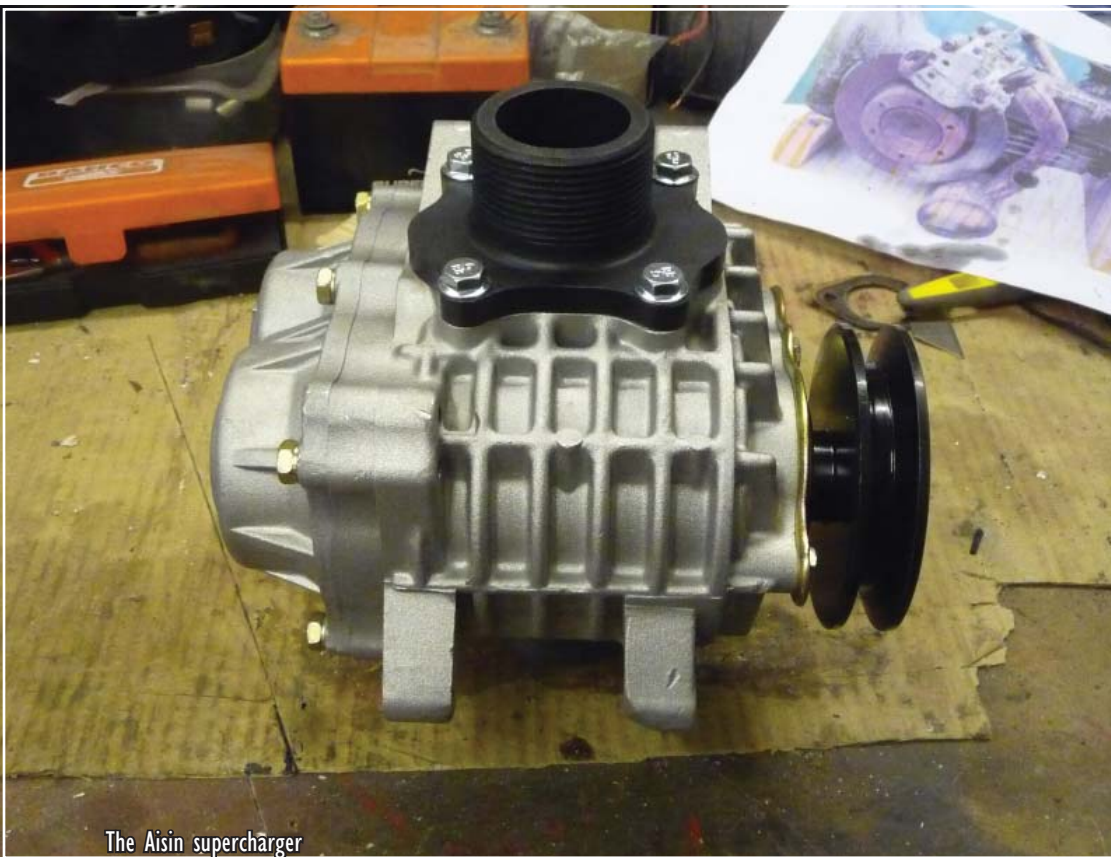
*The 123ignition option disposes of these antiquated components completely, and only all new parts are used. By setting up the ignition timing, using a full electronic system, almost all problems are extinguished in a single change. The 123 settings can be easily altered to allow for different fuel types in Australia [I recommend 98octane fuel, but 95octane is also acceptable usually] and commonly use the advance retard feature. Hot weather should not effect a 123ignition as they are proven to run in all climates over the last 20years of manufacture.*

*I run a full range of 123's in stock ready for immediate sale and cover most classic cars from UK and Europe.*

*Ted Cross*



## Supercharging Your 2CV



The Aisin supercharger

### Mon and Super Mon

Talking with a fellow 2CV owner and good friend, we were discussing the fact that in the modern era of turbocharged everything, driving a 2CV often meant holding up traffic when pulling away from rest. However, once up to speed, given today's congested roads, a 2CV's 80kph-90kph cruise was still relatively OK.

Having completed my two-

year GSA-powered 2CV/Ami Super rebuild, I was wondering what to do next when lockdown came along. After some more pondering, I decided to build my friend a supercharged engine for his beloved orange 2CV Mon [short for Monique]. The objective being to improve acceleration from rest, rather than top speed.

Superchargers give boost from low revs as they are mechanically linked to the engine's

crankshaft. Turbochargers [another form of supercharger] have to spool up to high revs before they deliver boost. A supercharger is generally the better solution to improve acceleration from low revs.

The hunt started for a suitable supercharger. I eventually settled on an Aisin AMR300. This supercharger was fitted to a number of Kei class [660cc] Japanese mini-trucks and looked ideal. A very compact unit with its own oil reservoir for the internal gears, keeping things simple. I took a punt and ordered one from a Chinese seller on eBay for around £250. A few weeks later it arrived and I was pleased to see that it was as described 'in good used condition'.

The 300 in AMR300 relates to the displaced volume of air in cubic centimetres per revolution. As a 2CV breathes in 301cc per revolution [at 100% volumetric efficiency], I could see that it would be a good match. In order to create boost, the supercharger would need to be over-driven; basically running at higher revs than the engine. Working with my local friendly machine shop, I had three different supercharger pulleys machined to give me ratios of 1.4:1, 1.6:1 and 1.9:1. This gave me the option of experimenting with different levels of boost. At the time, I had yet to find some of the useful tools on the internet

to calculate approximate boost levels.

See <https://www.performancetrends.com/Calculators/Supercharger-Boost-Calculator/Supercharger-Boost-Calculator.php>

### SUPERCHARGING WEBSITE

Superchargers and engines have different levels of volumetric efficiency. This basically means how much air they pass/breathe in compared with a theoretical 100%. As the AMR300 is a twin vane Roots-type supercharger, I had estimated a 75% to 85% volumetric efficiency. This meant it would pump between 225cc to 255cc per revolution; hence the requirement to over-drive to pump in more air and create boost. The target was between 6 and 8psi to keep things reliable.

As the 2CV fan back-plate and pulley are fairly fragile and known to crack and break, I decided to modify a fan by fitting a bespoke pulley machined from a laser-cut steel blank. I settled on 120mm diameter, driving the same 10mm style V-belt as the existing fan/alternator. Heavy duty versions of these V-belts can handle up to 2½hp and I thought I would be within this limit. It also meant I could use the standard alternator pulley and avoid more machining costs.

The new fan pulley was welded onto the fan drive boss and

## Supercharging Your 2CV

then onto the back of the fan plate. Keeping all of this centralised while welding was a challenge but I ended up with a very concentric pulley with a small amount [2mm] of fan eccentricity.

I decided to use the existing alternator mounting onto the exhaust manifold as one of the major mounting points. I then made up a mounting plate that ran across and bolted to the face of the alternator and allowed the supercharger to be bolted onto the same plate. In addition, I added an adjustable idler/tensioner pulley so that I could adjust belt tension and

try different pulley sizes/ratios. Another reason to add the pulley was to maximise the length of belt around both the supercharger and alternator pulley for the best power transfer. A modified Peugeot 206 idler/tensioner pulley was used after being machined down to 15mm wide.

At the other end of the mounting plate, I ran support legs down to the fuel pump mounting point and used the existing 11mm/M7 threaded holes to bolt down to the block. I was able to do this as the car was already running an electric fuel pump.



The supercharger in place.

A spare 2CV engine was stripped down to the block and 1mm laser cut spacers put under the barrels, to bring the compression ratio down from 9.0:1 to circa 8.0:1. This was done to reduce the likelihood of knock or pre-ignition in the engine, as the hotter and denser compressed air/fuel were pumped into the cylinders by the supercharger. 8.0:1 is a good compromise between poor thermal efficiency [energy extracted from the fuel] and the risk of knock or pre-ignition.

At the same time I lightly honed the barrels, recut the valves, fitted new valve stem oil

seals, piston rings and uprated Kent Cams valve springs. Using an adaptor, a much larger oil filter was also fitted to provide more oil to cool the engine, and to act as an additional oil cooler.

Another area modified was the ignition system. Mon was already running Lumenition Op-tronic ignition but there was a need to limit the maximum ignition advance. A rule of thumb is that for every psi of boost, you need to drop 1 degree of advance ~ in my case 6 to 8psi = 6 to 8 degrees. To keep this simple, I just fitted small spacers onto the centrifugal advance tabs to prevent the weights



The modified oil filter.



## Supercharging Your 2CV

from moving fully outwards. Based on my measurements, I guesstimated this would drop the maximum advance from 30 degrees to around 23 degrees.

The next modification was to the intake manifold. I cut off the carburettor mounting plate and welded on a piece of steel tube to allow the supercharger outlet to be connected to the manifold with a short length of silicon hose. I also remembered to weld up the small hole at the base of the manifold under the carburettor, to stop boost/fuel bleeding away and a potential engine fire!

Now onto carburation! Constant velocity carburettors like the SU are ideal for 'suck through' supercharger installations. These have been used for many years, right back to blower Bentleys and MG Magnettes in the late 1920s. I specified an HS4 [1½"] SU carburettor, on the basis that these were used on 1.0-litre Minis. I was hoping to achieve around 33.6kW/45hp, and this was what a fairly standard Mini would have developed. I found someone selling fully re-conditioned HS4s on eBay for around £200. I didn't want to mess about with an unknown condition carburettor, so decided to pay the money.

Due to the curving bonnet line of the 2CV, I had to set the SU back in the engine bay to allow it to clear the underside of

the bonnet. I made up an angled intake manifold from tubular steel from this.

Another challenge was to modify the oil filler neck as the supercharger now sat where it used to be. I basically cut off the base, welded a steel tube to it at an angle and then re-welded the top back onto it so that it sat behind the alternator. I had to remove the rubber valve mechanism and move to an oil catch tank instead on the bulkhead near the battery. A downside of this was losing the vacuum effect on the crankcase. I did try an in-line valve but this struggled to cope and during later trials, it dumped oil over the brake pads, which I had to replace.

After a number of months of work, the engine was ready to run. I bolted it to an old gearbox and just ran it up on the floor of the garage. It started and ran OK, which was encouraging enough to consider fitting it into Mon the 2CV.

A few weeks later, Mon's engine was swapped and the tuning work began. As a 2CV racer of old, I had already welded a wide band lambda sensor boss into the exhaust manifold. Having a wide band AFR [Air Fuel Ratio] meter is really essential if you want to tune an engine.

Starting off with the smallest pulley/highest boost and the needle that came in the carbu-



## Supercharging Your 2CV

rettor, it was clear that all was not well. There was terrible knock under acceleration and the afr was way off. Tuning an SU is done by fitting needles with different tapered profiles. As the piston rises in the carburettor, the needle moves upwards as allow more fuel out of the jet as the airflow [velocity] increases.

Over the course of a couple of tuning days, the engine started to perform better. I dropped the pulley ratio from 1.9:1 to 1.6:1 which reduced the boost and the knock. The ignition was retarded back to 0 degrees BTDC static timing and a number of different needles were tried.

A very useful resource for comparing SU needle profiles is: <http://www.mintylamb.co.uk/suneedle/>

### NEEDLE PROFILE WEBSITE

We were definitely moving forward and learning by doing. After a while, I asked my friend if I could leave my 2CV with him and return home in Mon so that I could do more work back in my own garage workshop for a while. Always easier when you have your own tools around you.

A further reduction in pulley ratio to 1.4:1 banished the knock and Mon started to feel very frisky indeed. A few more evenings of road tests with different SU needles and changes

to ignition timing brought the performance to a point where I felt confident that the car was drivable across all rev ranges and had the right AFR levels. 2CVs were swapped again and off Mon drove into the distance.

Without a trip to a rolling road, it is hard to guesstimate power and torque figures. However, I would expect power is around 33.6kW/45hp with similar percentage increases in torque [power=torque×revs]. The supercharger boosts strongly from low revs.

What is the car like to drive? Before and after times on a test stretch of dual carriageway are as follows:

- Standard Mon 2CV 64kph to 97kph in 4th gear 22s
- Super Mon 2CV 64kph to 97kph in 4th gear 14s

In summary, the original objective was achieved. Mon now accelerates much faster and can stay in a higher gear more of the time. Top speed has increased but that wasn't really the point of the exercise. What is good is that you don't have to work so hard to keep up momentum, but Mon has not lost the essence of being 2CV-like to drive. It just feels like she has a significantly bigger version of a 2CV engine ~ result!

For information, I ended up with:

- 1½" HS4 SU carburettor
- AAA needle in the standard

0.90" jet

- Red spring
- 1.4:1 pulley ratio [120mm: 85mm]
- 4 degrees BTDC static advance [circa 18 degrees maximum advance]
- AFR at idle 13:1, at cruise 13.8:1, under acceleration 12.8:1
- Runs on Super Unleaded [95 Octane] to give a safety margin
- NGK B8HS spark plugs [two grades cooler than standard fitment to sink more heat away]

Although the AFR might seem rather rich versus the ideal of 14.7:1, air-cooled engines run hotter and my subject matter

reading suggested I should aim for circa 13.5:1 to keep the engine running cooler for better reliability. Lean mixtures tend to burn hotter than rich mixtures.

Total costs for the build were around £800; supercharger, carburettor, metal, laser cutting and machining. It took around 60hrs of build time, as I was making up the design as I went along.

Julian Winn

This article first appeared in the February 2023 edition of '2CVGB News', the journal of 2CV GB and is reproduced here with their permission. It may not be reproduced elsewhere without their approval.

## Looking Forward...

*Next issue of 'Front Drive'...  
We celebrate the 50th  
Anniversary of the GS GZ:  
aka the Birotor while touching  
on her sister the M35 and  
cousin the NSU Ro80.*





## Papybus Omnibus

*Further adventures of a Citroën C8 in Western France and beyond...*

Bonjour chers amis Citroënnistes antipodéens, Here is our continuing Atlantique-Australie journey, courtesy of Papybus. Today we start off on the Vendée coast, travel back in time to 1980's car yards in Western Australia, and end up headed for an 1858 shipwreck near the Solomon Islands, leading to a 17-year marooning in northern Queensland.

Our esteemed Editor recently described these tales as « off-beat ». What better term to describe our favourite marque ?

*Introduction: Why you don't say AIR CON in French*

Previously: our non-air-condi-

tioned GSA Edna May handed over her rôle as summer transportation at the height of last year's French heatwave. Her successor was our C8, nicknamed « Papybus », which is 20years old and has only slightly more kilometres on his liquid crystal odometer than the Starship Enterprise.

Just like Captain Kirk's Star Trek conveyance, our C8 has sliding doors. Most of Papybus's accessories work some of the time, some of them work all of the time, but all of them do not work all of the time.

The air-con, however, functions perfectly. Providing, that is, that we have it re-charged at Daniel's archaïque/authentique garage in Bazoges every second year. Foregoing this minor bien-

nial intervention results in a gurgling, hissing noise from deep within the mysterious interior of the sweeping, split-level Papybus dashboard. The sound, for those readers who are familiar with Aussie camping excursions, is reminiscent of a frill-neck lizard sampling Listerene mouth-wash. This is followed by a surprisingly swift failure to deliver chilled air.

As you probably know, air-con in French is « climatisation » ; if you are a gallic motor-trader or petrolhead « clim' » is the accepted nomenclature.

Of course, most recent models have this as standard.

Not so many years ago on French forecourts, second-hand cars, just as in Australia, would boast their features via

windshield banners : « faible kilomètre... non-fumeur... essence... diesel... régulateur de vitesse... CLIMATISATION ».

When we lived in Western Australia in the '80s, we would take photos of car-lot Kingswood Utes, Falcon wagons, or even orange Mitsubishi Sigmas proudly boasting in thirty-centimetre capital stick-ons their AIR CON. We'd send the photos to francophone friends as a cheap joke ; to a French reader « air con » could translate as « I look like a drongo ».

With its vast, sloping windscreen and greenhouse glass area, a Papybus « sans clim' » during Vendée summer months becomes, in effect, a solar oven. Non-functioning Clim' would indeed have its owner taking

Papybus met this Italian take on the never-produced 1950's [?] H-G van in a Vendée car-park last week. Do any readers have information about which Citroën base-vehicle is used ? The windscreen looks a bit C8. The owner remarked that the air-con works beautifully...



«Rodolphe's pitch at Le Goulet last week-end. Grey skies, low tide. Just before Easter, Rodolphe will set up La Petite Cabane, hook up to water and power, and La Saison can officially commence.



## Papybus Omnibus

on an... « air con » appearance, seated on its plush velour captain's chair driving seat, ruddy-faced and desperately seeking shade.

Nonetheless, it was with confidence and functioning Clim' that we arrived at Le Goulet beach on an August evening in 2022 for our second heatwave apéritif with Gérard and Marie-Pierre, under the red parasols in front of Rodolphe's Petite Cabane.

### I Gérard presents Narcisse Pelletier

« Ah, voilà Le Papybus ! » exclaims Gérard as we alight, raising a « demi » of foaming beer.

Within seconds, he signals to Pierrot at the serving-hatch, and two additional beers arrive as if by teleportation.

« Une nouvelle bière, Alan. De la République Tchèque. »

Beer from the Czech republic ?

« Oui. There is a young... entrepreneur... in Saint Martin des Noyers who imports it. He discovered it a few months ago when transporting humanitarian aid from a local charity to the Ukraine border. He brought back some cases of Czech beer because his truck was empty, and the word got around. Rodolphe puts an order in every month now. »

We take a draught, pause and appreciate its East-European crispness.

Marie-Pierre remarks :

« So you call your Citroën C8 a Papybus. Très drôle ! »

« Yes. Ten years ago, we were really looking for a van. Perhaps a Jumpy, or even a Berlingo. But Papybus turned up at a dealer in Chantonay with a couple of dents, 211,000k's and a low price-tag. When we clip out the seats, we have a... van ! Haul a couple of seats back in and we can bring the grandkids, too. For stealth camping near the beach, it does not attract the attention of La Police Municipale as would a Kombi or a kitted-out Renault Trafic. »

« Ingénieux mes chers Alan et Shirley »

...then Marie-Pierre, a retired « professeure » of Classics and French literature promises us a gratuitous Latin exposé...

« Papybus ! Did you know that the word 'bus

origi-  
nated  
in our  
home  
town of  
Nantes ?

I will  
tell you  
about  
this an-  
other



time, mes amis, because this evening we would like to share with you the story of a man who came to be called Amglo »

Smiles all round, as Gérard walks the ten paces to their parked and slightly sunburnt AX Thalassa, returning with a Leclerc hypermarket jute carrier-bag which he places on the table before extracting a weighty coffee-table book.

Rodolphe walks over from La Petite Cabane, leaving Pierrot on frîtes duty, and nods a welcome to us.

« Ah, Gérard, Les Vendéens Grands Voyageurs. I know that book. You are going to tell us the story of Narcisse Pelletier, non ? »

« Indeed, mon ami. I think

that Shirley and Alan, our amis australo-vendéens, would be delighted to learn about a man who, one hundred and seventy years ago became perhaps the most Australian of Vendée people »

« Attends une minute, Gérard. I will go and get a cold Tchèque. And here comes Christian, I'll bring one for him, also. »

Christian parks up the early-model Landcruiser ute ; as usual, he's intending to go paddle-boarding to the reef on a lobster expedition later.

Within minutes, we are in a circle, under the parasol as the slightest of ocean breezes picks up.

« La Clim' naturelle » comments Christian.



Australian duco always seemed to resist sunshine better than Vendée varnish. Older paint-jobs often end up looking like this, especially near the Atlantic coast. CCOCA paint gurus might have some explanations ? Do the Aussies have some secret to share ?



## Papybus Omnibus

Gérard opens the book and begins his story...

### *II From Saint Gilles to Solomons Shipwreck*

« Alphonse Narcisse Pelletier, who would later become Amglo, was born just up the road from here in Saint Gilles on 1st January 1844.

His uncle owned a sardine-fishing boat, and from the age of eight he would join the crew.

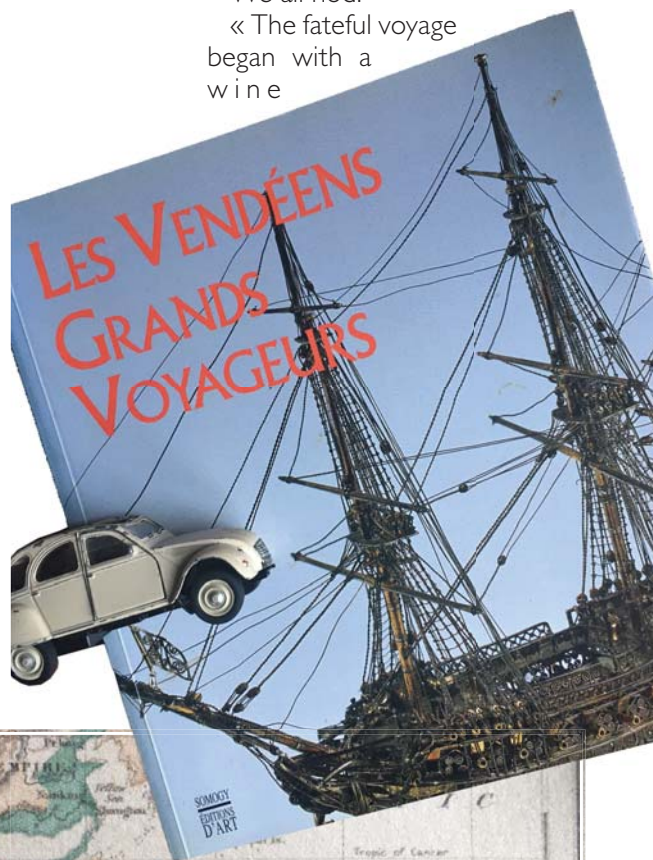
By all accounts he was a bright scholar with a lively imagination. He could read and write fluently, although he left school well before his fourteenth birthday.

What is of interest to us this evening is his Australian « Aventure » of course. So I will explain how it was that Narcisse became shipwrecked in September 1858. And how it would be seventeen years before he

saw his family again.

We all nod.

« The fateful voyage began with a wine



shipment from Bordeaux to Bombay on board a three-mast vessel called Le Saint Paul. Narcisse was cabin-boy, and the captain's name was Emmanuel Pinard. »

Rodolphe comments on the irony of the word Pinard being a French informal term for low quality wine. I offer its Australian equivalent. Our French friends all practise trying, unsuccessfully, to pronounce the word « Goon » in Aussie English. Laughter billows upwards into the cedar trees.

I briefly consider pointing the Papybus remote-control towards the other end of the car

park, and watching the Papybus sliding door do the Star Trek trick, dumping super-heated interior air in the process. Then I take another gulp of Czech beer instead.

Gérard patiently waits for our laughter to subside, and returns to the story.

« Le Capitaine... Pinard, after delivering the wine, decided to head towards Hong Kong. This is where the Australian connection emerges, chers amis... »

Stay tuned, amis Citroënistes, for the continuing story of Narcisse Pelletier in next month's magazine...

Alan Brown





**CITROËN CLASSIC OWNERS'  
CLUB OF AUSTRALIA**

Australia's National Citroën Car Club