

FRONT DRIVE

THE MAGAZINE OF THE CITROEN CLASSIC OWNERS CLUB OF AUSTRALIA INC.

VOL. 20 ISSUE 3

**BIG NEWS
FROM CITROËN**

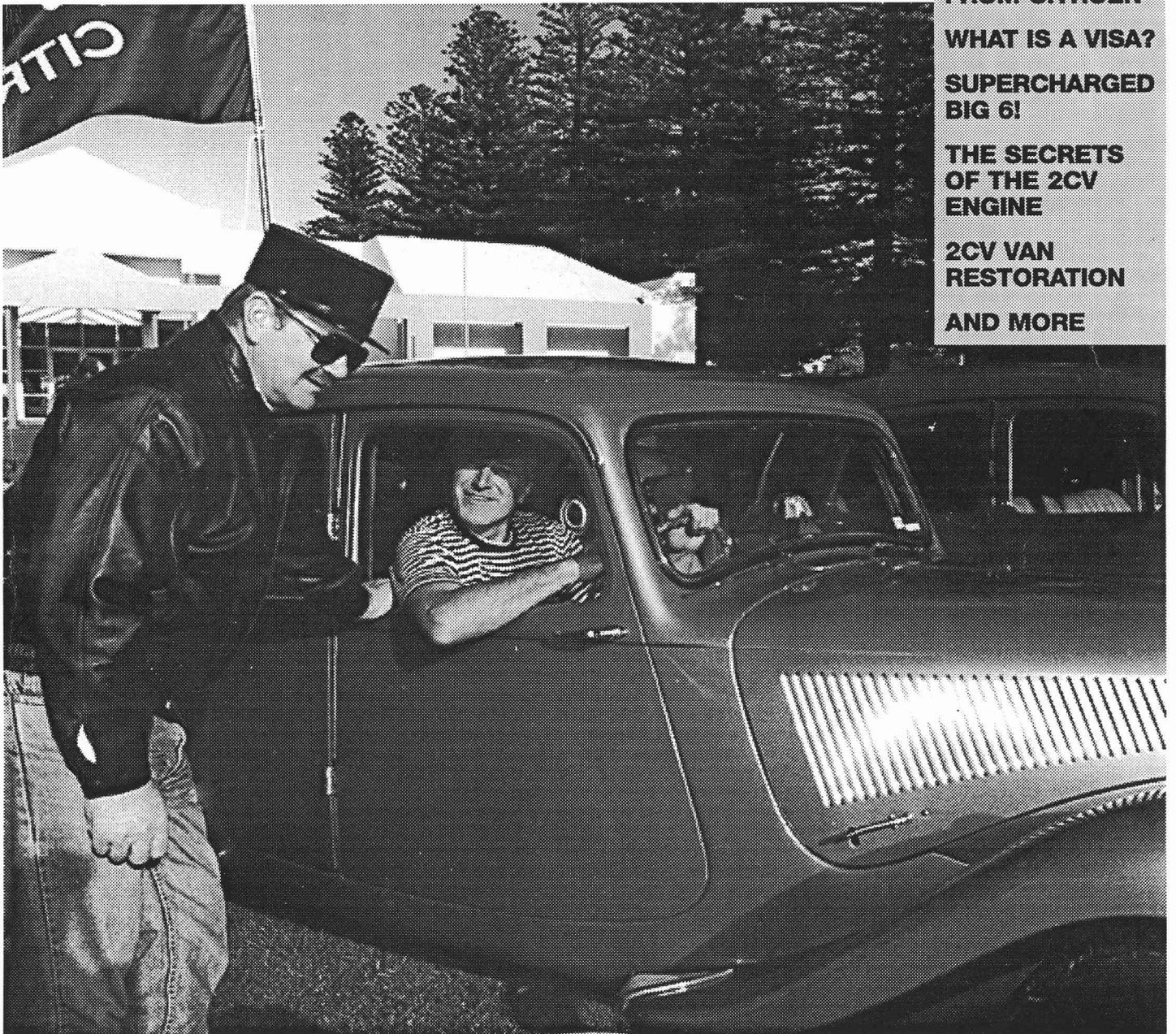
WHAT IS A VISA?

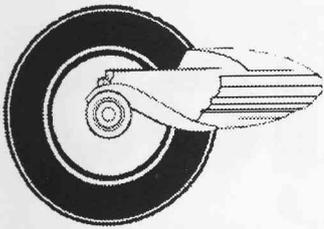
**SUPERCHARGED
BIG 6!**

**THE SECRETS
OF THE 2CV
ENGINE**

**2CV VAN
RESTORATION**

AND MORE



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behind the DESK

Well it has been a busy period for the car club, and we are suffering a little from lack of hand of decks. It seems to be the season for travelling. Editor Bill has been traversing across the country on Raid 96 and the next issue will have this event as the feature. There will be many stories to tell and I am sure a few that can't be told in print.

President Leigh is off on long service leave in Europe cavorting around in his new purchase a 4 door Visa Cabriolet This will bring his Visa collection to the twin pot, the GTI and now the cab. Quite impressive. Maybe he is planning to corner the market .

Not long after you get the magazine, secretary Sue will be flying off to Europe too for a month. Librarian Robin and his good wife Sue will soon be off doing French things. Hey is there anyone left!!

This probably explains why this behind the desk has been written by Activities Officer Peter, and the Prez Sez page has been written by stand in Prez Treasurer Ted. Scary stuff.

You may notice a drastic change in this new look Front Drive. It is bigger and the print and picture quality has been noticeably improved.

This has been all possible because of the advertising which is appearing for the first time in Front Drive. We wish to thank these sponsors for their support and hope that members will support them as much as they are supporting us.

Ateco (Citroën Australia) is now getting up speed for a number of new releases and will be a regular contributor and we thank them for their support also.

It is great to see the support from members on articles and if your article has not been included yet, it will be soon as we can now afford to increase the size of the magazine.

I hope you are pleased with the new look magazine and we would appreciate any comments so we can make this the base for the premier Citroën related magazine in Australia.

The most exciting event coming up is of course the Concours d'Elegance on October 13. It is dramatically scaled up and in addition Citroën will release 2 new models there. A major PR campaign has been done to all the media about the event so I urge you to support this event with every vehicle possible to put on a great show for the cameras

Peter F.

CCOCA MEMBERSHIP

Annual Membership \$30
Overseas Postage Add \$9

CCOCA MEETINGS

Every fourth Wednesday of the month, except December.

Venue:- Canterbury Sports Ground Pavilion, cnr. Chatham and Guilford Roads, Canterbury, Victoria. Melways Ref 46 F10,

HONOURARY LIFE MEMBERS

NANCE CLARKE 1984
JACK WEAVER 1991

CITROËN CLASSIC OWNERS CLUB OF AUSTRALIA INC.

The Club's and Front Drive's postal address is P.O. Box 52 Balwyn, Victoria, 3103.

Our e-mail address is ttp@tmx.com.au

CCOCA Inc. is a member of the Association of Motoring Clubs. G.P.O. Box 2374V Melbourne, Victoria, 3000.

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 Front Drive



prez sez

With Leigh Miles currently overseas, I have been delegated to act as President in his absence.

After many years as a CCOCA member it is great to see the Club prospering and our membership becoming even more widespread and national in its outlook and activities.

Peter Fitzgerald (officer in charge of everything else at the moment) has been



very pro-active with his new and interesting events recently and there are some more great events coming up which we need you to personally support for them to be successful - Remember CCOCA is only ever as good as you make it by your support and involvement

In particular:-

The Concours d'Elegance is an extremely important and public event this year and must be run professionally for CCOCA /CCCV reputations. Your help and support is vitally important to make this one event a priority.

Citroën Australia is recognising the support and loyalty that can be generated from the enthusiast level and will, in conjunction with Citroën Melbourne, be using this event to launch the Xantia Estate and the Xantia Turbo Sedan to the Victorian Public. This will coincide with the Australian launch at the Sydney Motor Show. Please read carefully the requirements for the day as we have to work within Melbourne City Council guidelines.

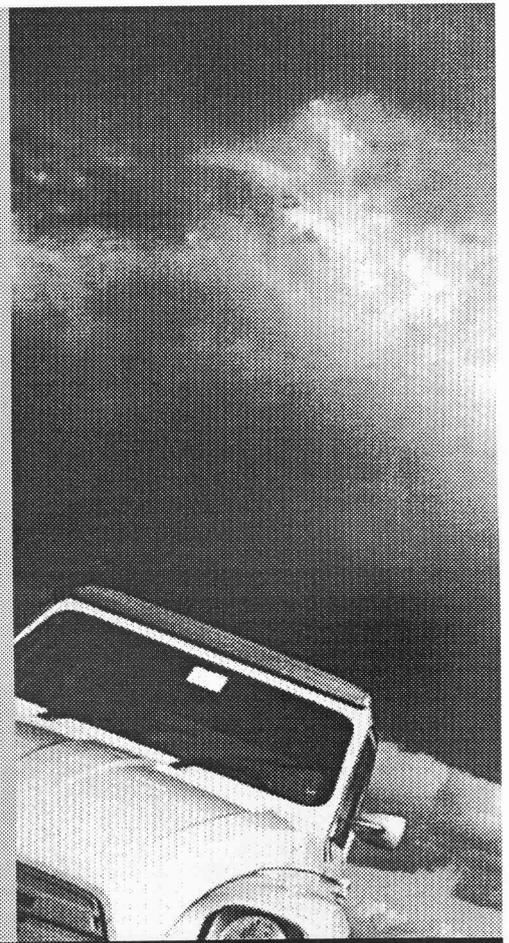
Peter also requires volunteers for some light duties on the day. This is important as it will not only ease the burden on the organisers, but if we do not get the required number by the Council the Club will have to pay for police presence at \$35 per man per hour. We do not wish to do this. Please contact Peter to volunteer to give a hand at some part of the day.

Jack Weaver's night at the end of this month is a must do. So please bring a fellow club member and come along for a memorable evening. It is not very often we get the chance to hear from someone who has been so closely associated with Tractions. Our Club is very fortunate to hear from Jack on an Annual basis. It is very much appreciated.

I look forward to catching up with you at future events, or ring me for a chat.
Ted C

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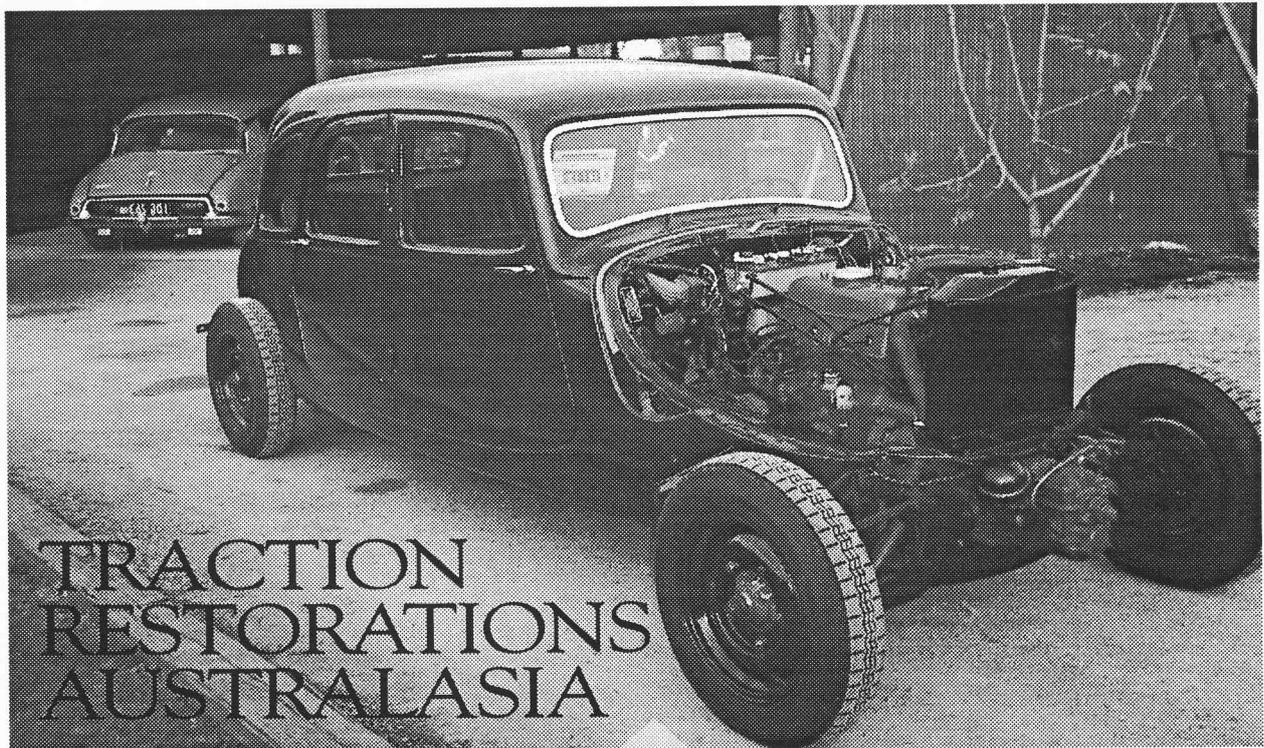
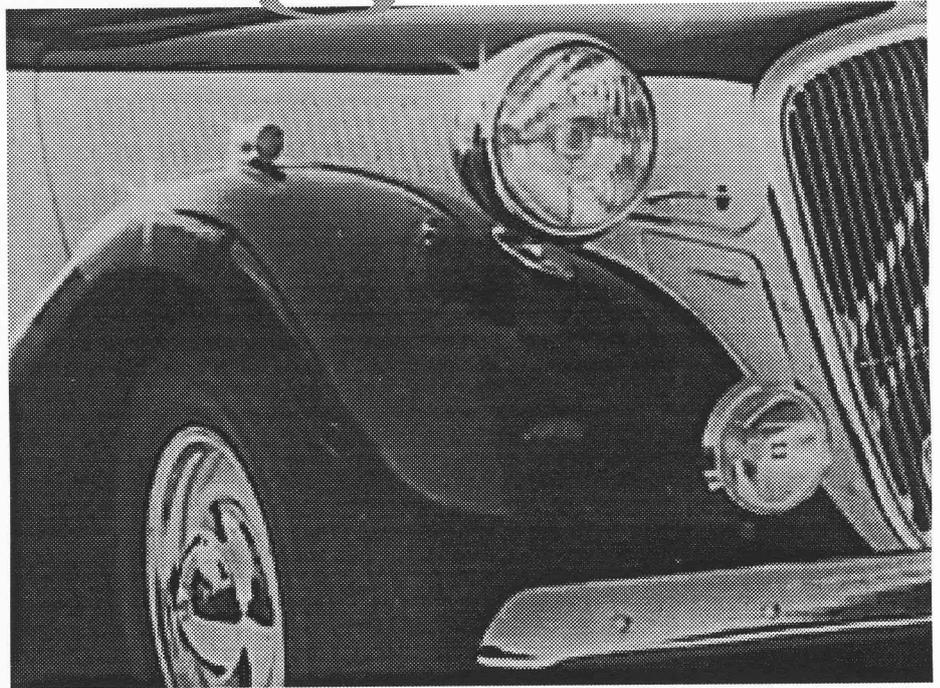
1996 concoours *d'Elegance*

This year's National Citroën Concours d'Elegance will be held in Swanston Walk, Melbourne. In the section between Bourke Street and Collins Street.

We ask that cars arrive between 10am and 11am and if possible stay till around 3pm. This will ensure a great public presentation of our clubs. Citroën will have an official presence and will use the opportunity to unveil a new model released onto the Australian market from that day.

This will prove to be a great day for all the family whether they have an interest in cars or not. There are many things to do. Trips to the museum, shop at Melbourne Central, the cinema, walk in the gardens or discover Southgate, or just like to sit in one of the many sidewalk cafes and enjoy the day.

We do need volunteers for judging. This year the process has been drastically simplified and is much faster so it will not tie you up very long...the more the faster. This event will be held on the 13th of October 1996.



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a-tractions

NEWS
FROM THE
NOT SO
SLENDER

september

Saturday 21st
Wednesday 25th

Technical day at Hekas **POSTPONED**
General Meeting - Talk by Jack Weaver
Canterbury Sports Ground

october

Saturday 5th
Sunday 13th

Wednesday 23rd

Technical Day at Melbourne Citroën starts 12 noon
Annual Concours d'elegance held in conjunction
with the CCCV
General Meeting - Speaker
Canterbury Sports Ground

november

Sunday 3rd
Sunday 17th
Wednesday 27th

CCOCA run to Nagambie and Haywards Winery
Annual All French Day
General Meeting - Speaker
Canterbury Sports Ground

december
january

Sunday 8th
Sunday 13th
Wednesday 22nd

Annual CCOCA Christmas BBQ Lunch
Gourmet Deli Run
Twilight Picnic Meeting - Canterbury Sports Ground

february

Sunday 3rd
Sunday 17th
Wednesday 26th

Yarra Valley Wine Tour
Technical Day
General Meeting - Technical night at Heka's

march

Sunday 10th
Monday 11th
sunday 24th
Wednesday 26th
Friday 29th

Australian Formula 1 Grand Prix
National Concours d'Elegance at Domain Chandon
First Charity Day Run
Annual General Meeting - Canterbury Sports Ground
31st National Citroën Rally held at Renmark,
South Australia hosted by the Citroën Car Club of
South Australia

april
june

Wednesday 23rd

Austraction Rally -

General Meeting - Canterbury Sports Ground

Canberra Incorporating Annual 1996/97
CCOCA Awards

If you wish to attend any event please advise the Activities Officer on (03-9696 0866) at least one week before the event so you will be catered for. Unless otherwise stated.



events past

and future

PAST EVENTS

They have been a number of successful and well attended events since you last received Front Drive. The first was the Internet Surfing Night held at my house. Whilst we experienced some technical difficulty due to a lack of a mirror site, as the one lined up in Canada itself was experiencing difficulties. member were able to surf the net an see what some other Citroën enthusiasts were doing. Special thanks to David Hayward for supplying the wine on this successful event.

The Winter Warmer Run to Daylesford was a great success where 26 people in a wide variety of Citroëns enjoyed the day immensely not to mention the sensational array of local produce and wines for lunch. Thank you to all those who came to make it the great success.

The dinner in Sydney is covered later in this magazine but it was a great success. Thank you all who attended.

The Economy Run and the Technical day were both postponed due to lack of time on the committees part to run them properly. A consequence of to0 many people enjoying holidays!

COMING EVENTS

There are a number of events that are a real must. The first is the talk by Jack Weaver on Wednesday the 25th. This annual talk is a must do on the CCOCA calendar

The technical day at Melbourne Citroën on the 5th of October is the weekend before the Concours. This will give you the opportunity to pop your cars up on hoists and have a rare look at the underside of your cars etc. The day starts at 12 noon (which gives you plenty of time to have a play at the Victoria Markets, which

are only 2 blocks away. Melbourne Citroën are throwing a sausage or two on the BBQ. BYO drinks. Please call Peter Fitzgerald (03) 9696 0866 to RSVP by the Oct 1st.

The Concours is covered elsewhere. The CCOCA Run to Nagambie and Haywards Winery is always a popular event and this year it is on Sunday the 3rd of November (Melbourne Cup weekend). Meet at 10am outside the Ford Factory, Hume Hwy, Broadmeadows, BYO BBQ food and wine is available for purchase at the winery

Plans are still a little sketchy about the Annual All French Day on the 17th of November, but as soon as I find out some information you will be notified.

Well that is all I have room for in my condensed what's on. See you soon. Peter F

IMPORTANT

This year concours d'Elegance will involve the closure of Swanston Street Walk between Collins Street and Bourke Street in Melbourne, on Sunday 13th of October.

All vehicles will enter Swanston Street between 10.00am and 11.00am via a left hand turn from Collins Street or a left hand turn from Bourke street ONLY. The departure of the vehicles will be after the presentations of the trophies after 3pm and the area will be cleared by 4.00 pm.

Vehicles are not permitted to do U turns in Swanston Street.

A map to the right marks this area and the areas set aside for models. So the entry doesn't dissolve into mayhem and the organisers end up with a nervous breakdown before the day starts. Different types of Citroëns are asked to arrive at spec-

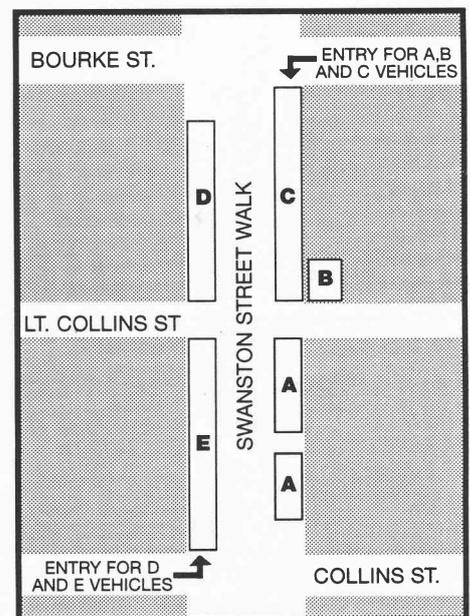
ified times so we can have some sense or organisation to the display, these are:-

2CV's & derivatives, vintage 10.00am
ID/DS, GS, 10.00am
Tractions SM 10.30am
CX/BX and Modern 10.30am

Contact Peter Fitzgerald if you intend to come so we can make allowance on the day that enough space is allocated for each Citroën type.

Due to the added cost of this event over previous years the cost per vehicle is \$5... now seriously guys that is less than one hour's parking in the city...and we are supplying prime parking for a number of hours BARGAIN!

As the Council requirements are that no money changes hand in this area, we would prefer, if possible, to receive this amount before the event. Proof of payment will be issued. Contact Peter Fitzgerald (9696 0866)



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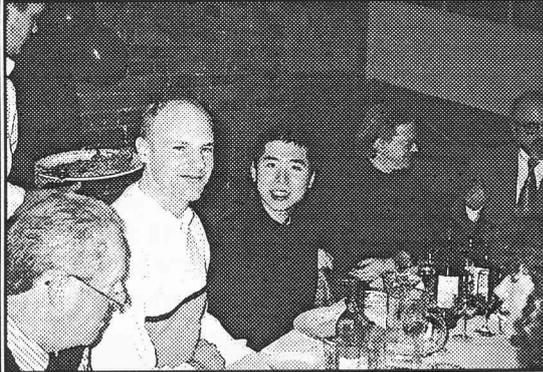
- A** - Vintage and 2CV **D** - ID,DS,GS,
B - New car display **E** - Traction,SM
C - CX,BX, Modern



purely social

by Fifi du Soir

BASTILLE CELEBRATION 13TH JULY



Top left: sue Smith patiently waiting for her dinner with Jack Hawk.

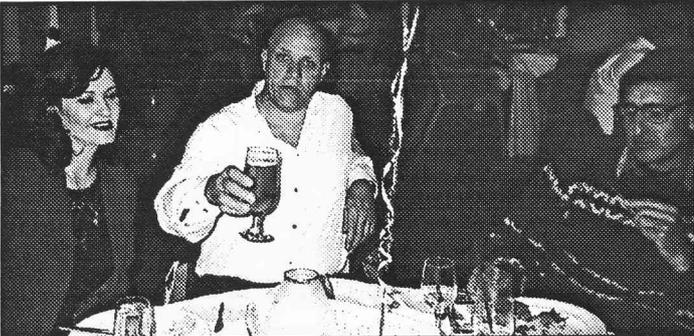
Top centre: Mel and colleen Carey enjoying themselves. What were you doing to poor Mel, Colleen.

Top Right: Peter Fitzgerald in a striking BRIGHT RED double breast4ed suit with blue and white tie and white shirt got into the swing with John Mc Grath.

Bottom Left: Colleen on the attack again. This time the victim was Sue Bryant.

Bottom Right: Bill Graham. Lance Bryant, Joe, John Mc Grath and Peter Fitzgerald

SYDNEY DINNER 17TH AUGUST 1996



Top left: Victorian members Sue Bryant and Colleen Carey obviously enjoying themselves.

Top centre: ACT contingent in the form of Mike Neal and Judy.

Top Right: David and Margaret Livingstone were most entertaining.

Bottom Left: Bert Houtepen larger than life entertained all. Alec trying to sneak out of the shot.

Bottom Right: A little flock of duck enthusiasts enjoying a break between the many courses.



Sydney dinner attracts large turnout

It was the best of nights.

The first, of which will definitely become the Annual Sydney Dinner, was held on August 17th at the Killara Inn. Chef for the evening Alain Antonious (CCOCA member who owns three beautiful tractions, 11BL, Big 6 and Family 9) kept pumping out course after course. Mind you by the photographs it wasn't all hard work in the kitchen. Well Down Alain.

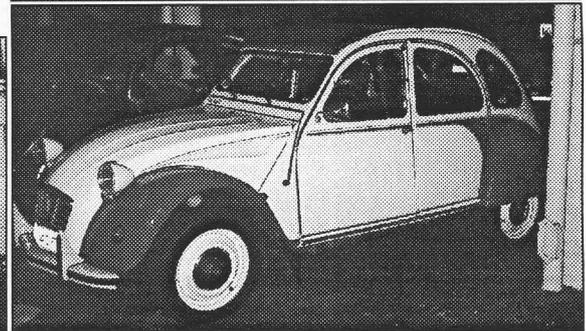
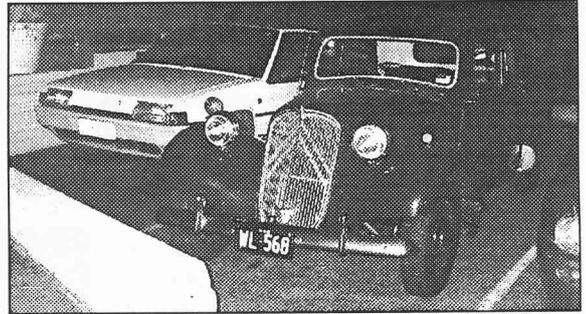
It was good to put some faces to names and see some new faces as well.

The event really had a great atmosphere, helped I am sure by the French colour decorations. There was not even the slightest hint of a lull in conversation on any table. And this went on well after midnight.

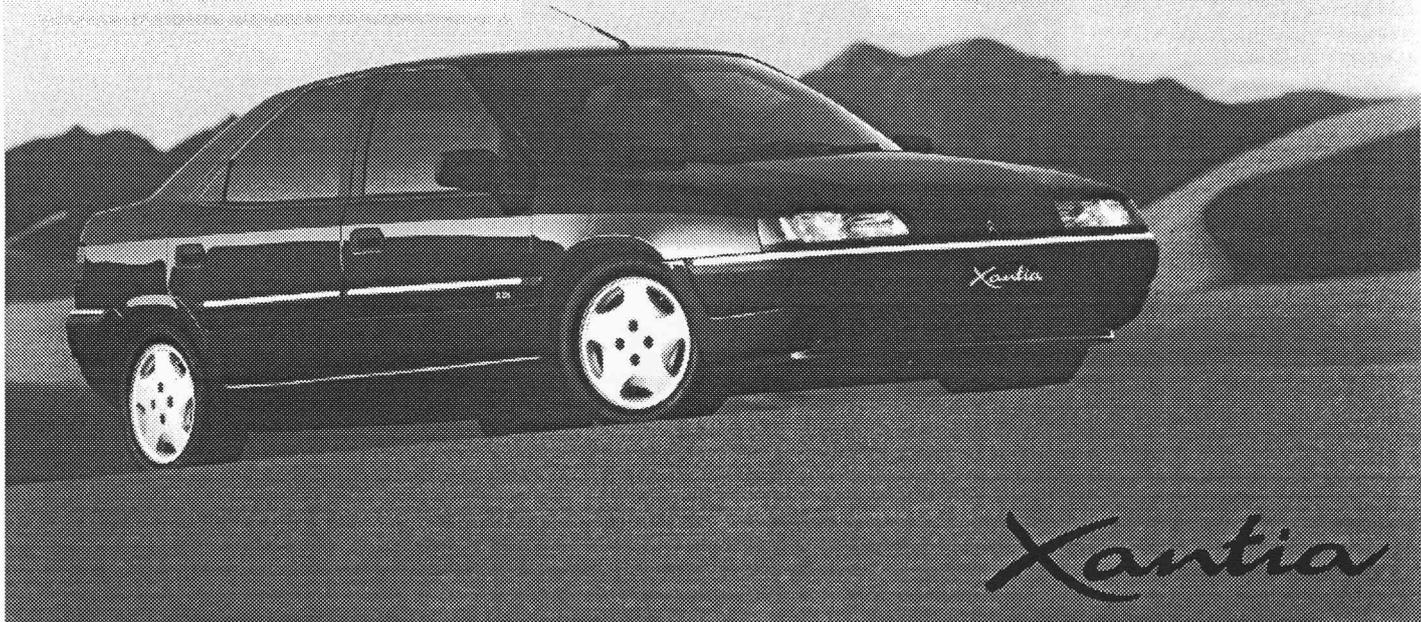
Many members drove some distance like Keith James, and Mike Neal and Judy. Some took the opportunity to fly up for the weekend from Melbourne, and

Mel even drove up from Bairnsdale with lots of spare part goodies for people.

The turnout was close to 30 people and an interesting selection of vehicles. Beautiful Traction, a 53' Slough built 2CV that is used daily, a Dolly, a Charleston, some nice D's... the list goes on. It is great to see the NSW section of the Club up and firing on all cylinders. Thanks guys and see you next year!



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what is a VISA

Some might say
"The passport to motoring
pleasure".

The Visa is a small Citroën, extremely rare in Australia, and something about the rounded grey plastic nose that graced the Mark 1 and the chunky shape has made some Aussies think of the native wombat. The French response at launch was rather less well mannered - the description given in the motoring press being "l'Elephant man"! The Mark 2 Visa dropped the heavy grill surround and were less distinctive as a result.

Citroën introduced the Visa at the Paris Show of 1979 in two mechanical versions - the Special/Club of 652cc and the Super of 1,124cc. The Super motor was a water cooled four taken from the Peugeot 104 and mounted 'east-west'.

The 652cc Special/Club motor was like that of the 2CV, or my Dyane - an air-cooled flat twin - mounted 'north-south' and driving the front wheels through a four speed gearbox taken from the GS. However, though of similar capacity to the 2CV motor [652 v 602cc] the Visa motor was all new. One of its features being electronic ignition.

At ground level, the Visa shared the floor pan of the Peugeot 104 - McPherson

strut and discs at the front and trailing arms/drums at the rear. Steering was rack and pinion. However, the suspension was set to typically Citroën specifications - very soft and rather roly-poly. To overcome some of the roll, the four cylinder version was fitted with an anti-roll bar, which whilst limiting the roll, resulted in a handling style that offered far less "brio" than could be found in its junior sibling.

Of course it would not have been a Citroën without a distinctive dashboard. The satellite to the left of the steering wheel contains the controls and identifying lights for the direction indicators, horn, side and head lights, including the dipping control, windscreen wiper and washers. [Wiper? Yes, like the CX and the BX the Visa makes do with one wiper on the front. The windscreen is shaped in such a way that the air pressure when driving forces the wiper onto the window, rather than allowing it to lift. This also means the rain is forced off by

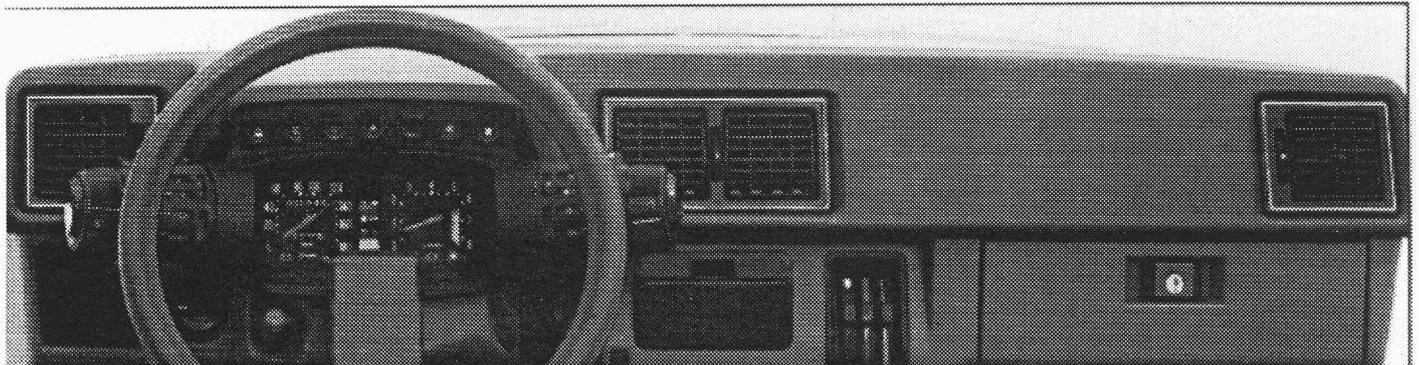
ABOVE: The desirable and quite rare in R/H drive Visa Cabriolet. BELOW Dash from the Axel derivative.

the air pressure, too.] To the left were the controls for the blending of the air for the heater. The press buttons for the heater fan, rear wash/wiper, rear fog lights and heated rear window are on the dash, through the wheel.

Unfortunately, with the update of the Mark 2 these unique instruments were replaced by a rather more conventional dash arrangement, similar to that found on my GTI.

The Visa also appeared in diesel and van versions and until very recently the diesel engined van, was still sold in France. At the time of launch of the van, they were only available in white or red and in the United Kingdom were marketed as 'Van Blanc' and 'Van Rouge'.

As time went by the Visa acquired more luxurious trim and bigger motors shared





with the BX, Peugeot 205 and 405 and it became rather a ball of fire.

With the exception of the van all Visas were five door hatchbacks. But a three door version was built by the Citroën subsidiary Olcit, in Romania. Badged an Axel these vehicles used the flat, air-cooled four cylinder engine of the GS and GSA range, with torsion bar suspension.

The Visa was perhaps the cause of yet more rumours of a 2CV replacement. However that was not to be and the 2CV continued to soldier on into the '80s. Ultimately both the Visa and the 2CV were squeezed out by the AX.

TOP LEFT: The Visa hot hatch GTI had a BX motor slotted in the engine bay.

MIDDLE LEFT: Side View of the Axel

BOTTOM: Perhaps where it all started the Visa MK 1 had lots of character and lots of criticism over its wombat styling. Just like a real Citroën should.

BELOW: the C15 variant if the Visa has proved to be a damn good work horse.



VOITURE FAMILIALE POUR L'ENTHUIASTE

FROM MOTOR SPORT MAGAZINE DECEMBER 1949

Towards the end of last month, by courtesy of Mr. H.M. Johnson, we took an evening drive in his Citroën Six saloon with Wade-Ventor supercharger installation.

The appearance of the car intrigues, even seems mildly aggressive in a purposeful sort of way. As the unusually long wheelbase forecasts, there is ample room inside for five grown-ups. This, then, is a comfortable family car, but after driving out of London as far as Maidstone, during the evening traffic peak, we realised that not only are all the splendid qualities of the "Light Fifteen" reproduced in this latest front-drive car from the Citroën factory, but that in spite of its capaciousness it is able to shame many so-called sports cars in the matter of performance.

Mr. Johnson, who formerly owned Darracq, Rolls-Bentley and Studebaker cars, bought this Citroën and drove it about 1,000 miles in standard form. He decided that he liked it and took it along to Pat Whittet & Co., Ltd. to have some additional urge insailed. The Ventor blower installation fits very neatly with the under-bonnet scheme. A Type R 020 four-lobe supercharger is mounted high up on the near side and driven from the front of the camshaft in two stages, first by chain enclosed in a neat alloy casing and thence by short triple belts running over spring-loaded jockey pulleys. An S.U. carburettor behind the blower feeds via a curved inlet pipe and a large-bore delivery pipe passes from the blower, behind the engine, to the centre of the six-branch inlet manifold on the off side, where the blow-off valve is hidden beneath the delivery-pipe/manifold junction. At the back of the engine the main oil feed is tapped to provide drip-feed lubrication of the rotor gears and the driving chain. Ki-gass injectors enter the delivery pipe on the off side and here also it is tapped for the boost-gauge line. The pulley on the camshaft having been sacrificed for the chain sprocket, a new belt drive has been devised for fan and dynamo. The supercharger blows at 4 to 4.5 lb/sq. in. at maximum speed; the compression-ratio of the engine has been lowered from 6.7 to 6.4 to 1. To obviate valve bounce 1/16 in. packings have been inserted beneath the valve springs and a Fram filter and Runbaken Oil Coil are fitted. The engine



is otherwise Citroën unit evolved some years ago for lorry propulsion. The bonnet has been felt lined to absorb noise and a boost gauge and oil and water thermometers have been added to the unobtrusive square dial instruments on the right of the standard facia panel. Hand ignition control is a standard fitting.

As a result of adding a Wade-Ventor installation to the Citroën Six a very good motor car has been rendered outstanding to the point of being unique. The engine responds instantly to the throttle and acceleration is most impressive both by reason of its degree and its continuity. As soon as possible you get out of the 13.21 to 1 bottom gear and the 5.62 to 1 middle ratio of the facia controlled three-speed box, the car surges cleanly forward up to an easy speedometer 60 m.p.h.

Although top gear is as high as 3.87 to 1 and the car weighs 26cwt. unladen, speed continues to build up just as rapidly as in

second gear. The engine as smooth as a turbine and inaudible except for a faint hum from the blower. On the over-run things are just as smooth and unobtrusive.

The true maximum speed is probably in excess of 90 m.p.h., and on traffic infested roads 70 to 75 m.p.h. was the usual gait. The feeling of absolute security up to maximum speed is most pronounced. As with the "Light Fifteen" however, so in this "Six" speed as such is subordinate to the delightful manner in which the car gets on with its job. The steering is so obviously connected to the front wheels and so pleasantly high geared that its heaviness is no disadvantage. The Lockheed brakes required fairly heavy pressure but are free from fade. The ride is so level-keel that it ensures complete confidence when cornering or standing on the brakes in an emergency, and the suspension so effectively absorbs road shocks that to ride in any seat in this car is to realise how much the French know about motor car design fifteen years ago and how



sadly our designers lag behind.

For the Citroën Six derives its delightful riding and handling qualities from front-wheel-drive, low build, torsional suspension, and rigid one-piece construction, features which caused English eyes to goggle at the Citroën Twelve way back in 1934 and have enabled Citroën cars to serve ordinary Frenchmen as such satisfactory utility motorcars ever since. It may even be said that the "Six" has more refinement of running than its famous contemporary the "Light Fifteen."

Moreover, as it has been naturalised, the car we tried has r.h. drive and spares and service were available from Staines.

In his blown Citroën Six Mr. Johnson has a profoundly inspiring car. The supercharger, now that its bronze and steel rotor bears are bedded in, imparts merely a low hum to the under-bonnet silence and apart from that only in a little resonance and wind-roar, more noticeable in the back than in the front seats, proclaim the sort of performance that is being delivered. After the wire-mesh was

removed from the radiator grille no serious overheating has been experienced, and during our drive the water temperature did not exceed 75 degrees C. The blower belts have lasted about 5,000 miles. Castrol XL oil and the plugs supplied with the car are used, and a double S.U. pump now looks after the fuel feed.

Fuel consumption has scarcely increased since the engine was blown, 16 to 17 m.p.g. being normally obtained; 10 per cent. benzole is added when available. The only serious trouble in 5,000 supercharged miles was clutch slip, which Monaco of Watford cured by fitting different linings, which sweetened the action. Oil pressure, when hot is 30 lb./sq.in. at 70 m.p.h.

In spite of its 19 ft 1 1/2 in wheelbase the car can be thrown about with impunity. An American Bosch radio is fitted and tyres are 185/400 Michelins.

No car is perfect, as Mr. Johnson is the first to admit, but the snag-sheet relating to his present car is a very short one. Bottom gear is too low, and an additional gear between middle and top, with the

latter as still higher ratio, would be an improvement, as at present the Citroën is a top-gear car. Hunting at idling speeds is evident to a slight degree due to supercharge surge, which is common to many blown engines, and the car sometimes suffers from a very slight "flat-spot," noticeable when opening-up from low speeds. The accelerator pedal has rather a long movement, and clutch engagement is rather difficult.

After which you return to the opinion that here is one of the few truly-great quantity-production car of the present day. That such a bold statement is no exaggeration can be appreciated when to the forgoing remarks are added the facts that Citroën still refuses to streamstyle or aerodyne his cars, and that the doors of the all-steel body swing easily on their hinges and allow entry and egress with a minimum of contortion.

This Citroën is a roomy family saloon, endowed with additional speed and acceleration by reason of a mild boost, and it would do some of our designers a power of good to drive it -W.R.



Citroën owners come from all over Australia

Car lovers from many parts of Australia converged on Warrnambool on Saturday for the Citroën Classic Owners Club of Australia display. The display held at the Civic Green and Lake Pertobe, attracted enthusiasts from interstate as well as Victoria

Two members of Citroën Owners' Club, New South Welshman Larry O'Carroll (left) and Rod Greschke from Canberra,

were just two of many people who took advantage of the opportunity to view the array of French cars on display in their shining glory.

The show was helped by sunny weather. Organisers were happy with the turnout.

This article appeared on June 10 1996 in the local Warrnambool newspaper "The Standard" Photo by Leanne Gourley

An interesting STORY

has emerged in Australian Classic Car Monthly.

On March 18, 1976, a Frenchman stalled his 1936 Citroën on a level crossing, sparking an accident in which an express goods train was derailed, tearing up 100m of track, breaking a bridge and delivering its cargo - 21 wagons of beer and tinned soup - into a busy nearby canal.

The canal was contaminated, commercial traffic on the canal was disrupted and, for nine days, rail track had to be diverted while cranes cleared the wreckage. The canal also had to be drained and repaired.

It was believed to be the most expensive accident involving a single private car, as insurers had to pay for one locomotive, 21 wagons, a bridge, 100m of track, the hiring of 60 buses, compensation to 40 barge owners, claims for lost beer and soup, injury claims by the fireman and train driver and a further claim by the local anglers' society for lost catches.

And to think we suspected those AAMI advertisements were just a figment of some ad mans overactive imagination.



motion

OPPOSED

'The most beautifully detailed engine in quantity production' is not, according to LJK Setright, a many-cylindered Italian creation. It is Citroën's simple and ingenious flat-twin, born at the end of the 30's and still going strong.

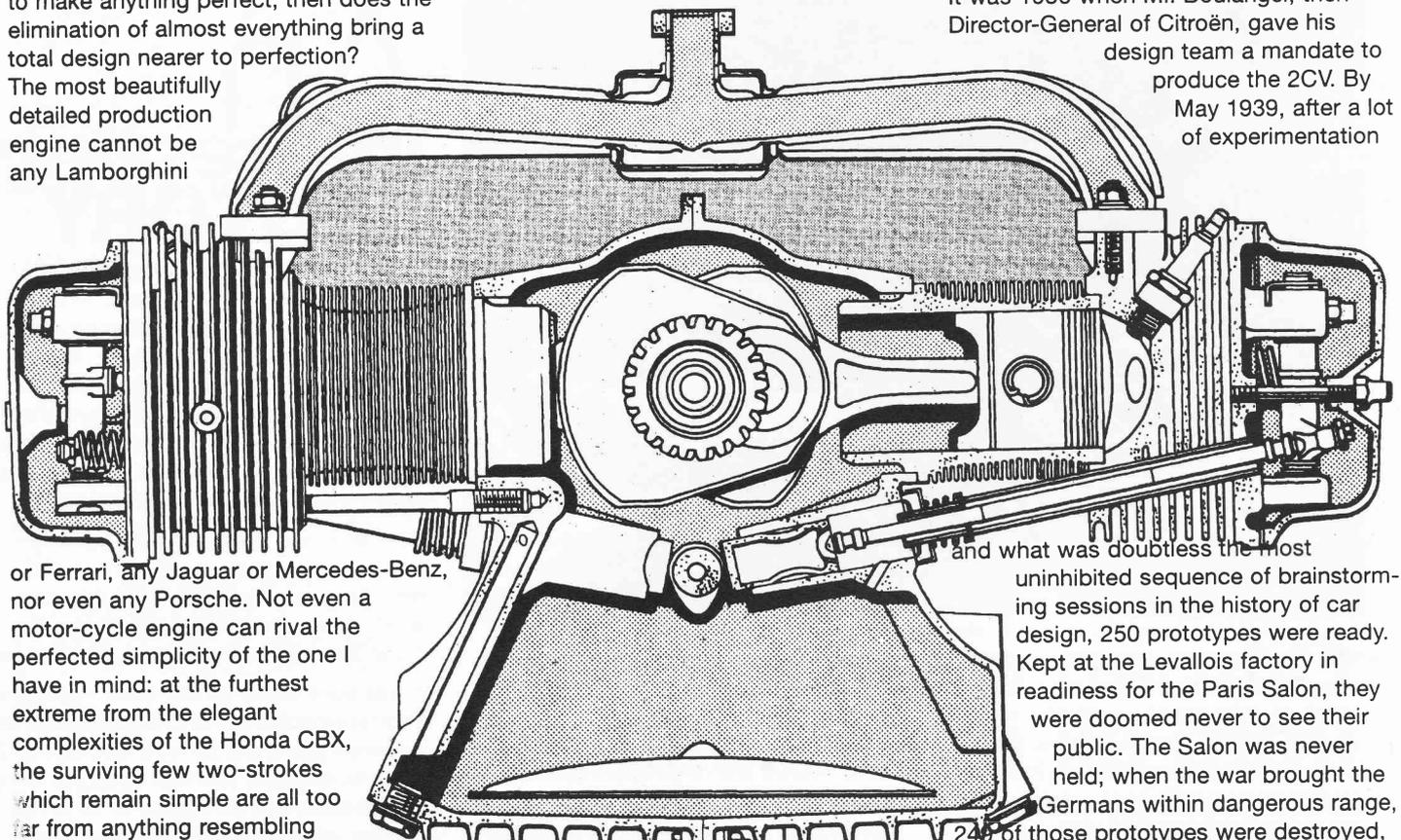
The big blasters and glamorous guzzlers are not to have things all their own was in this series. It is time to consider what might be the most beautifully detailed engine in quantity production; and it is time for a surprise, I dare say. It is time, also, for a paradox: if it is admitted to be impossible to make anything perfect, then does the elimination of almost everything bring a total design nearer to perfection?

The most beautifully detailed production engine cannot be any Lamborghini

to it. Everything that could possibly and desirably be eliminated has been rooted out and cast away; everything that remains is a credit to the clarity of its designers vision. This is an engine that was conceived and prototyped in the '30s,

electricity or air; it nearly had a cord-pull recoil starter, like a lawnmower or an outboard engine, but when secretaries were hauled out of the Citroën offices to try starting it, too many of them broke fingernails. It had to be capable of being started by a frail lady without such discomfort, so the final choice was of a conventional starting handle, with compression ration and flywheel effect (not to mention ignition timing and mixture control) all arranged to suit. It had to be enduring and insensitive, demanding little either of maintenance or sustenance, and if ever occasion arose when new parts would have to replace old ones there should be no possibility of the job being done amiss.

It was 1936 when Mr. Boulanger, then Director-General of Citroën, gave his design team a mandate to produce the 2CV. By May 1939, after a lot of experimentation



or Ferrari, any Jaguar or Mercedes-Benz, nor even any Porsche. Not even a motor-cycle engine can rival the perfected simplicity of the one I have in mind: at the furthest extreme from the elegant complexities of the Honda CBX, the surviving few two-strokes which remain simple are all too far from anything resembling perfection. No, there is in each of these too much detail inviting criticism, and there are too many instances of lapsed logic. Compared with all or any of these, the Citroën 2CV is a skeleton whose soul shines out through the bones.

There is not much in it, but there is a lot

following Pierre Boulanger's instructions to build 'an umbrella on four wheels' which would enable four people to be carried in comfort with 50kg of luggage at 50km/h, or carry a basket of eggs across a ploughed field without breaking any. It had to be capable of being started without reliance on any accumulated

and what was doubtless the most uninhibited sequence of brainstorming sessions in the history of car design, 250 prototypes were ready. Kept at the Levallois factory in readiness for the Paris Salon, they were doomed never to see their public. The Salon was never held; when the war brought the Germans within dangerous range, 246 of those prototypes were destroyed, and Citroën's secret was as faithfully kept as the 250th, hidden from German knowledge until danger had passed. At last, on October 6 1948, 10 years after the first examples had been built, the 2CV was slowly unveiled by the same proud Pierre Boulanger at a new Paris Salon. When the doors of the show finally



closed, 1.3 million Frenchmen had followed their President Vincent Auriol to goggle at this extraordinary revelation of a car. For those who looked under the bonnet, what they did not see was more important than what they saw. For a start, they saw no belts. Only in 1967 was an alternator drive belt added. Likewise they saw no hoses nor radiator, no water pump not any coolant reservoir: the engine was air cooled, with the draught induced by a closely cowled and carefully formed fan on the nose of the crankshaft. Also integral with the nose of the shaft was the dynamo.

Everything else was driven by the camshaft. There was no separate drive for the oil pump: the rear bearing for the camshaft was the oil pump. No stupidly sloppy skewgears drove the distributor, for there was no distributor: better than waste all that power driving one, while suffering all the usual attendant disadvantages of inaccurate timing, tracking across the cap, fractures or scorching of the rotor arm, and so on, was to waste a spark. The 2CV did just that, with a simple contact-breaker and automatic advance mechanism mounted directly on the nose of the camshaft and therefore blissfully accessible. Driving the camshaft was the only pair of gears in the engine, but here Citroën showed that they did not confuse simplicity with crudity: the half-speed gearwheel was split in two halves which were spring-loaded out of phase so as to eliminate backlash, ensuring consistent timing as well as a lifetime of quiet meshing.

The distinction between simplicity and crudity was even more eloquently stated inside the light-alloy crankcase. The two-throw crankshaft was composed of five separate pieces pressed together (in later years the joints were made even firmer by shrink-fitting) and this entrained advantages far more important than mere cheapness of manufacture. It meant that the big-end eyes did not have to be split, so the conrods were lovely stiff lightweight things which minimised inertia loadings while offering the utmost structural integrity. The crankshaft assembly was stiff too, naturally resistant to torsional vibration, and rigid as a beam because the crankpins were stoutly shouldered against the crank throws. Being made separately, the pins could be made of steel that could be hardened to suit lead-bronze big-end bearings, which were so much stronger than ordinary 'white metal' plain bearings that they could be made as narrow as roller bearings. This meant

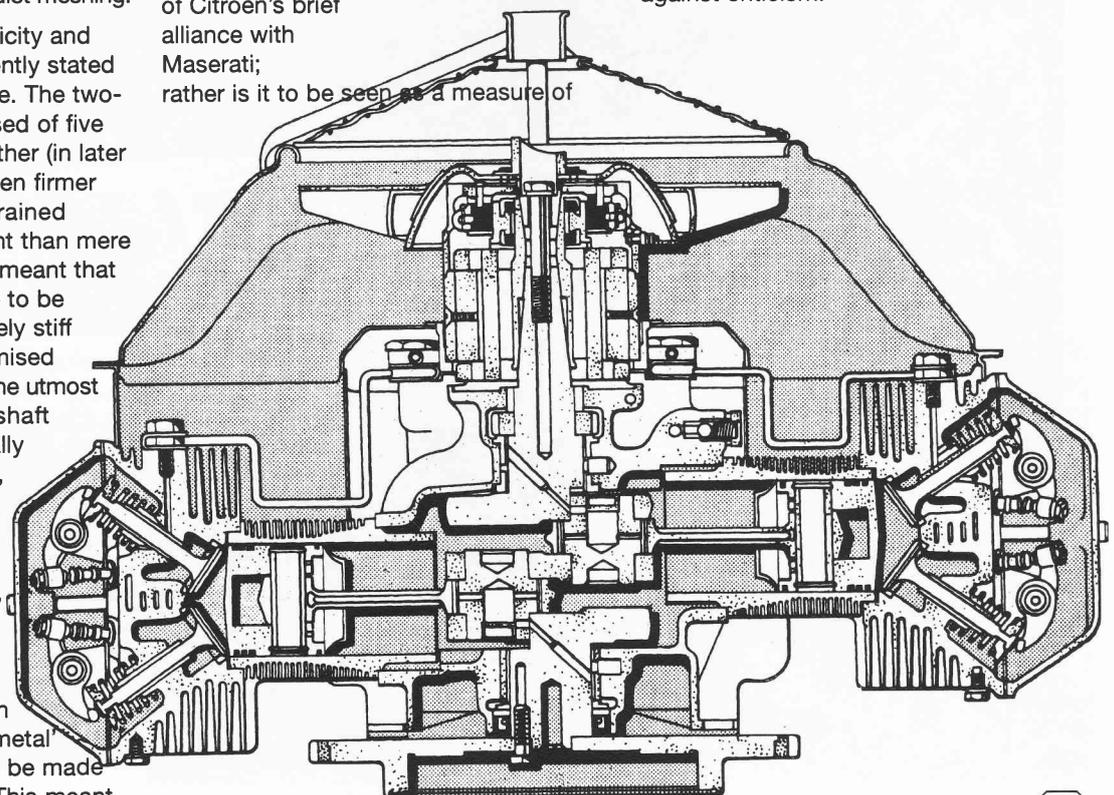
that offset of the the two cylinders was very slight, reducing the already negligible rocking couple that alone distributed an otherwise perfect balance of an horizontally opposed two-cylinder four-stroke engine. It also meant that the diameter than if rollers were employed, and that the engine wear several times longer than any roller bearing device.

Cylinder wear was to be kept slight, too, an important consideration in those days of poor lubricants and frequent rebores. A short stroke and modest rates of crank revolution kept piston speeds low, while reasonably long conrods moderated piston accelerations. Even so, light alloy pushrods were employed so as to minimise valvegear inertia: this servile engine was endowed with the most lordly layout on inclined overhead valves in an hemispherical combustion chamber, with little valve-clearance cutouts in the crowns of the cutaway - skirted heat-sink pistons. The gudgeon pins' diameter was over 32 percent of the pistons', a proportion more generous than most racing engines could boast. As for cylinder-head gaskets, there were non (as in the best racing engines); there was originally an annealed copper shim 1.0 mm thick, but this disappeared after a few years, while the engine gradually grew in power and in displacement.

The fact that the output rose from 9.0 to 31 bhp between 1948 and 1970 is not a measure of the engine's potential, not of the value of Citroën's brief alliance with Maserati; rather is it to be seen as a measure of

how much more sophisticated and better educated was the typical French motorist by that time. He had long been able to take electric starting for granted, and he could still take 56 mpg for granted - just as he could still assume that, in the unlikely event of anything going wrong, he could pull off a body panel or two and simply walk into the engine bay, see what was amiss and fix it.

For their part Citroën learned not to take anything for granted, least of all the typical Frenchman. Assorted enthusiasts have used the engine for driving boats, gliders, light aircraft, motorcycles, odd agricultural machines and all manner of other oddities. Citroën themselves have been known to market twin-engines versions of the 2CV, capable of climbing a sandhill of 45 percent gradient with a full load aboard. The 2CV has been all over the world, in the tracks of Marco Polo, Alexander the Great, Amundsen and Scott. It has served with the Royal Marines, and it has done something even tougher than that commando duty: it has survived a third of a century's efforts on the part of the French peasantry to drive it into the ground. Today it still exists, but there is a superior new version available in the Citroën Visa, a 650cc twin with Nikasil-bored light alloy barrels and unimpeachable electronic ignition. Plus ça change, plus c'est la même chose. The 2CV engine had to be proof against fools and against knaves; Citroën went further, and made it proof against criticism.



A VIEW TO THE FUTURE

An article from "Consumer Reports", by Consumers Union of U.S. Inc., January, 1957, Volume 22, Number 1.

A view into the future: a report on CU's road tests on the unique Citroën.

While the multi-billion dollar American car industry continues to concentrate its energy on adding inches to the length, horsepower to the engine, and ornamentation to the body of the American car, a small but well-established French firm, Societe Anonyme Andre Citroën, has stolen the march by producing a really new car, and one that is creating quite a sensation among engineers and automobile aficionados.

But to say that a car is new and different is only to say that it is interesting, not necessarily that it is good. To find out what can happen when car designers start with a clean sheet of paper on their drawing boards, and to learn what American buyers can look for in coming years, CU's consultants bought one of the first Citroën DS19s to reach America, and subjected it to the same schedule of road tests that they give to all cars. Their conclusion, while not one of all-out

enthusiasm, suggests that American car designers who are studying the Citroën are on the right track, for many of its unique features couldn't fail to appeal to American car buyers.

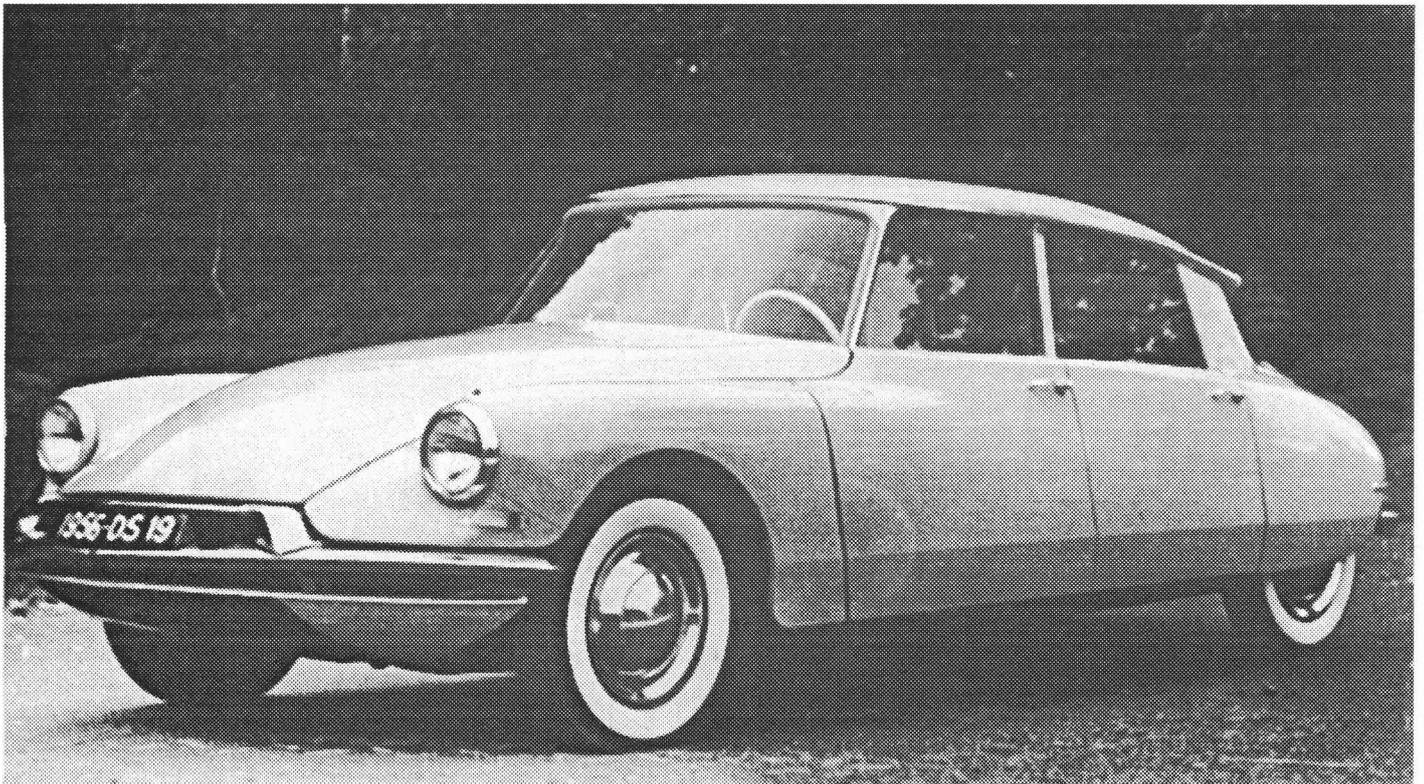
And to be sure, the Citroën, like most other foreign cars, is designed primarily for the terrain and the driving conditions of its own country, where the cost of fuel is high, and high speeds on the open roads between towns are more important than taxiing around the suburbs and beating other cars at traffic lights. The Citroën uses an engine hopelessly underpowered by American standards to propel a car of modest size and weight. But here modesty ends. For the Citroën has no peer among American cars, regardless of size, weight or price, in the matter of passenger comfort. How that comfort has been achieved is in large part of the story of the new-from-the-ground-up Citroën.

The heart of the Citroën is a pump actuating its central hydraulic system; its veins and arteries are a hundred-odd feet of tubing carrying its life blood (in the form of hydraulic fluid) to an

impressive array of organs; including brakes, steering, clutch, transmission and suspension.

The Citroën has no axles; each wheel is independently attached to the chassis by swinging arms. The body is supported, not by metal springs, but by an enclosed column of oil and compressed nitrogen, separates by a flexible diaphragm. The result is a comfortable, bounce-free ride judged by CU's consultants to be better than the best ride available in a conventionally-sprung car. In many respects, the ride is quite different. The difference results in part from the superiority of compressed gas over steel as a spring medium. In part it comes from an ingenious shock absorber, and a design which permits the Citroën's central hydraulic system to adjust the amount of oil in each suspension unit so as to keep the car always on an even keel, and at a constant height, compensation for varying passenger loads and for changes in weight distribution that take place as the car is driven over hilly or uneven roads, or as the brakes are applied.

The height of the car is under the control



The Citroën of the future released at the Paris salon in 1956



of the driver, through a simple lever under the dashboard. For the best ride and handling on smooth roads, the car customarily rides low. Come rutted roads or snow drifts, the road clearance of the car can be increased. Changing a tire on the Citroën is almost a pleasure. The driver sets the car's height to its maximum, inserts a simple prop under the car's side, and then reduces the suspension level so as to draw up the wheels again. The ailing tire remains suspended in the air. If it's a rear tire, the loosening of one bolt removes the enshrouding rear fender; removal of a single nut allows removal of the wheel. If it's a front tire, the fender does not interfere with access.

BODY & FRAME

The Citroën's excellent rigidity and shale-free characteristics result chiefly from two large (six-inch-deep) box members along the sides of the car, over which entrants step down onto the floor. Body & frame are in a single unit. Since the car has front wheel drive, there is no drive shaft to make a hump along the centre line, and the Citroën floor is perfectly flat, covered by carpet with a thick foam rubber underlay.

The Citroën derives its uncluttered, sharp lines partly from body components which are simple and simply joined together. The trunk lid and the long, downsloping hood are of aluminium. The roof is plastic. The windows are frameless, without vent panes. Excellent vision prevails in all directions, for all passengers as well as the driver.

Both the front and rear seats are a comfortable "chair height" - over 15 inches high - and covered with a generous layer of foam rubber. The bucket-type front seats have adjustable backs, so that occupants can recline or even lie flat. Seating dimensions are liberal for two passengers front and back; three on the rear seat is a tight squeeze. The trunk, deep rather than wide, and placed squarely between the rear wheels instead of hanging out astern, achieves a good average interior size because neither the gas tank (under the rear seat), the spare tire (in front of the engine under the hood), nor the rear axle (there isn't any) encroach upon it. The car's rear overhang is very short; its front overhang, too, is less than in most U.S. cars. It has a wheelbase five inches longer than a 1957 Ford's, but is a foot shorter overall. The underside of the Citroën, from the front wheels back, is flat; the wind resistance of the whole car is remarkably low.

ENGINE AND TRANSMISSION

The most ordinary feature of the Citroën is the engine - a fairly-long-stroke four, with hemispherical combustion chambers, push-rod-operated valves, aluminium cylinder head, and two-barrel carburettor. It has about one third the piston displacement and horsepower of a 1956 Chrysler, in a car that weighs two-thirds as much - from which its meek-and-mild performance may be deducted, and is confirmed by CU's performance tests.

One unusual feature of the engine is a simplified ignition system alleged to require extremely infrequent checking or replacement of breaker points - which is just as well, since the "timer" is in an extremely inaccessible location.

The engine, transmission, and differential gears are combined in one unit at the front of the car, the final drive being by universal-jointed shafts to the front wheels. The transmission has four forward speeds, the fourth like an overdrive in ratio. There is no clutch pedal; the gear lever acts as a selector, without effort. The central hydraulic system operates the simple friction clutch.

This gear change system sounds good, but its operation leaves much to be desired. The purpose, of course, is to get rid of the clutch pedal, without going to the high cost, extra weight and power losses of an automatic transmission.

CU's experience with various engineering attempts to operate a clutch automatically have been uniformly happy and the Citroën is no exception. Primarily, the trouble is that the shifts take too long a time to complete themselves. The car loses momentum pitifully during each upshift in ascending hills; it is left hopelessly behind in traffic. CU's test drivers unanimously agree that they would like the car much better - which, incidentally, means very well indeed - if it were equipped with a foot-operated clutch and a good, handshifted gearbox.

SUMMING UP

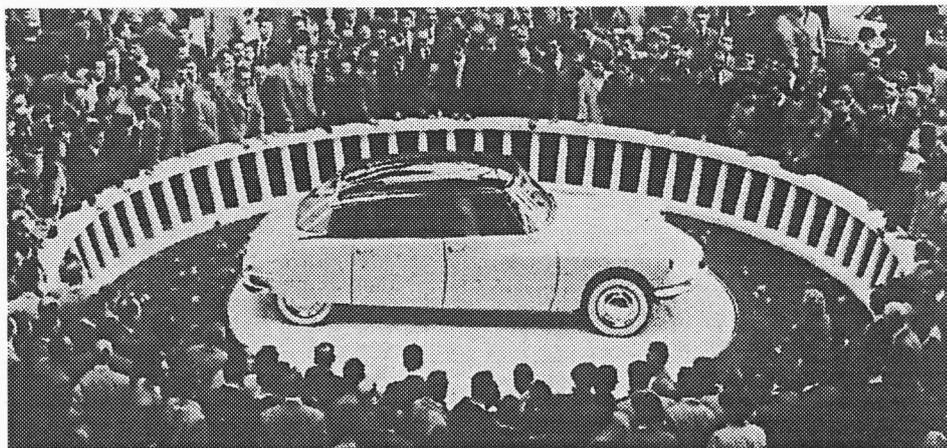
Now what about the drawbacks, both of the elaborate hydraulic system and of the car as a whole? The former has a lot of plumbing, and CU's test car developed several minor leaks, not all of which were fixed satisfactorily. (Hydraulic brake fluid, by the way, costs two or three dollars a quart). With total hydraulic failure, the car can still be steered and braked, and towed slowly, but gears and clutch would be inoperative. Major adjusting and servicing of the hydraulic system is a job for trained experts - practically non-existent in the U.S. at present.

Regarding the rest of the machinery, there is nothing especially temperamental about it, but the complication and inaccessibility under the hood (where almost all of the machinery, plus the spare tire and the front brakes are located) is strictly American style.

The Citroën DS19, over and above its complex and important mechanical features, is a car of interesting, freshly conceived, and often very practical details. For example, the heating-ventilating system, with air entering through grilles on the dashboard rather than through pivoted vent window panes, is excellent.

Dash space is economised by locating the clock on the front of the ash tray. Each tail-light contains a spare bulb. Interior door handles double naturally as grab handles. And, finally, the ignition key is itself as revolutionary as most of the car - it goes into the lock either side up.

The DS19, though it is in many respects a glimpse of the future, and though it offers practically unmatched passenger comfort, is not a car to rush out and buy, even if you can afford its \$3825 price. At its present bug-ironing-out stage of development, and with its only about-to-be-born U.S. service, the Citroën DS19 is essentially a connoisseur's item.



The Citroën drew quite a crowd at the Paris Salon



NEWS FROM CITROËN AUSTRALIA

XANTIA ESTATE FOR AUSTRALIA

National Citroën Importer, Ateco Automotive, has confirmed the Xantia Estate as a supplementary model to the Xantia saloon in Australia.

Launched to unqualified praise in Europe last September, the Xantia Estate offers the good looks of a luxury car with the practicality of a load carrier in a car that delivers high levels of comfort and driveability.

Measuring 4.66 metres in length - 220mm longer than the saloon, Xantia Estate is one of the roomiest cars in its class. With the rear seat folded, the luggage area measures 1.86 metres in length.

The cabin is light and airy with an extensive glazed area. Extensive soundproofing cuts noise intrusion into the cabin to insignificant levels. Two suspension options are available in Europe, hydraulic and the more sophisticated, computer controlled

Hydractive 2 system found the range topping VSX model saloon already sold in Australia.

Regardless of which suspension is fitted, the Xantia Estate offers an exemplary ride with constant ground clearance regardless of load. The rear axle has a self steering function for improved road holding.

Five engine options are available in Europe with possibly two being offered here - the two litre petrol versions with eight or sixteen valves depending on which transmission is specified.

Citroën designs all its engines to satisfy two main parameters, low speed torque and fuel economy. The two litre petrol units fulfil both requirements admirably. Xantia Estate is a showcase of safety technology in this class of car. It boasts side impact beams, pyrotechnic seat

belts, drivers airbag, luggage impact protection system, ABS, crumple zone chassis, fuel cut off device and more.

To prevent theft, Xantia Estate boasts theft proof locks with pick proof surrounds, deadlocking and a remote controlled alarm system and engine immobiliser.

Arteco Automotive will be looking at a highly specified model with a full range of luxury standard features including power steering, air conditioning, 15 in alloy wheels, electrically operated ancillaries and premium sound system.

The Xantia Estate will be launched at Sydney Motor Show this year. The Estate will also be on show at the CCOCA and CCCV joint Concours d'Elegance on October 13 (see club calendar for details) No pricing is available at this stage.



NEW 2CV MAY COME TO AUSTRALIA

THE CITROËN 2CV IS BACK?

In response to the burgeoning popularity of so-called sub-B class cars or light cars, Citroën has gone into its styling archives for a low-cost retro look car to win additional sales.

In a move similar to Volkswagen's forthcoming re-introduction of an updated Bug, Citroën is well along the road to launching a low-tech, affordable runabout in the spirit of the 2CV.

Citroën will pitch the car at the lower end of the market up against a host of other offerings from various countries.

It is expected to be in production and on sale before the end of the decade.

Citroën knows it can't afford to be left out in this market segment with a competitive product and the new 2CV will be a purpose built "citadine" or city car.

Code named C1 at the factory, the new model will be a no frills but cleverly designed and engineered urban runabout.

A compact three door design is favoured - something to compete with the Renault Twingo and a five door bubble back is also planned as a low cost family car.

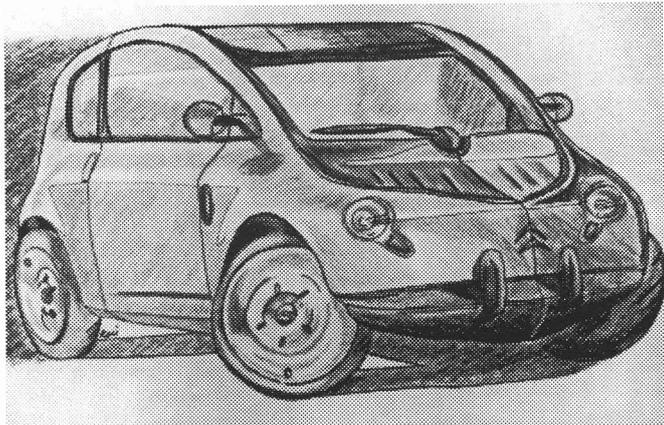
Engines offered in the European versions will

be 1.0 litre and 1.1 litre petrol and a 1.5 litre diesel. Power ranges from about 32kW to 50kW which will be adequate for light weight vehicle.

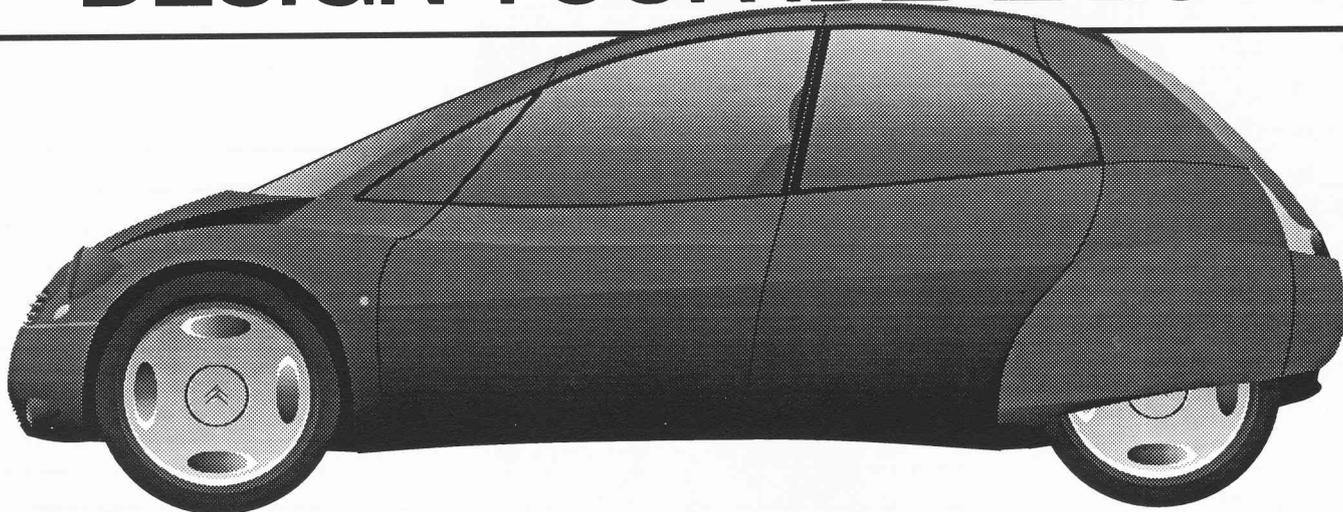
In deference to the original 2CV roof design, the new model has a similar removable roof section that can be covered with a steel or glass section in winter or use a canvas roll back roof for summer and open air driving.

The Australian importers of Citroën, Artec Automotive, are considering the car for local introduction - subject to right hand drive availability. Information courtesy Car magazine - UK.

The illustration was done by Car magazine and we would assume it will not quite look like this Bambino look-alike Let's hope Citroën add it to their range in Australia...I know I will be right at the front of a very long queue Peter F)



DESIGN YOUR IDEAL 2CV



Send in a drawing of what you think the new 2CV should look like and you could **WIN** a 2CV model.

Drawings will be published in the next edition of Front Drive. So get the whole family involved over the school holidays

Entries close on the 1st of November 1996. Entries should be sent to The Editor, CCOCA P.O. Box 52 Balwyn, Victoria. If you wish your entries to be returned please enclose a stamped self addressed envelope. The Judges' Decision will be final.



CCOCA *Library*

Listed below is the full list of books available for members to borrow from the club library. Many Club magazines from around the world are also available. At each meeting the club Librarian brings a selection of books including the latest acquisitions and recently received magazines. Books may be borrowed any time by contacting the Librarian to arrange delivery

Citroën

Toutes les Citroëns (Bellu)

Citroën (Broad)

4eme Rallye ICCR

5eme Rallye ICCR

6th ICCR (Knebworth)

Les Prestigieuses (Sabate)

Why Citroën ?

Auto Quarterly (Jordan)

L'Album DS

Cheverons de Gloire

SM (Daniels)

Citroën (Thorpe)

"Citroën (Auto Hist , DuMont)"

Genealogie

SM (Citroën)

Sm Citroën (auto archive 26)

DS (auto archive) 13

DS en comp. (auto archive 18)

"RTA A, B2, B12, 5CV"

RTA B14

"RTA C4, C6, Rosalie"

Restoration (Wallage)

Dulux index

Dulux L/L

Loctite

Retrim

Woodgraining

Citroën DS & ID (Brooklands)

Le Grand Livre 'tous les modeles' (de serres)

Citroën SM (Brooklands)

Ami 8 (Russek)

Rosalie (Auto Archives)

Les Auto Chenilles Citroën

Citroën XM (Martinez)

The British Citroën (Bobbitt)

Dumont 1

Dumont 2

Le Grand Livre (deSerres)

L'Album Traction-avant

La Traction (Borge)

Citroën Traction-avant (1934-1957) (Brooklands)

RTA Traction

Auto Archives 3

Auto Archives 5

En Avant

Les Fabuleuses (Sabates)

Les Traction-avants (Puiboube)

Traction-avant Citroën (Profile)

Traction-avant Gold portfolio (Brooklands)

22 V'la Les Traction (Sabates)

La 2CV (Borge)

2CV & derivatives (Taylor)

Life & Times 2CV

Citroën 2CV 1948-82

Citroën flat twins

2CV evolution Tech.

2CV (Olyslager)

2CV (Russek)

2CV (Haynes)

Once upon a time

Ici Commence

Au Long Cours

Raid Maroc

The Ugly Duckling

Travels with a 2CV

Maintenance Handbook (Citroën twins)

2CV Auto Archive 20 (Sabates)

Citroën 2CV (Brooklands)

Citroën GS (Russek)

Citroën 2CV (Jacobs)

Frisemouche (Sabates)

Citroën 2CV (Schiffer)

Traction-Avant 1934-57 (Taylor)

Citroën 2CV Gold Portfolio (Brooklands)

The Citroën (Jonathon Wood)

DS The Family Album (Sparrow)

DS The Grand Livre (de Serres)

2CV The Family Album (Sparrow)

Citroën DS (Osprey Classic)

Moi Citroën (Sabates)



members *right*

Dear Friends

You'll notice some pics of an ID19 and a pale yellow DS19 with grey leather interior with my membership payment. DS belongs to Mike Thomson and took pic while moving it to higher ground at his brother's property. Don't know what he'll do with it, but should be restored.

The grey ID19 is mine! Couldn't help myself!

I missed out on it a few months ago and after seeing it. had to have it. It's been stored for twenty years, but runs beautifully and suspension is still up after moving it here three or four weeks ago. It comes with many spares and Michelin tyres (new ones) A paint job and cleanup plus some minor mechanical repairs should see us at the Concours in October. It was imported by an engineer coming to Canberra from the UK in 1962 who bought £1,000 worth of spares from Slough before putting the car on boat. The car seems very well looked after.

Front Drive is better than ever with a nice blend of articles. I reprint and pass on to prospective members.

Anyway keep up the good work, see you all soon.

Regards Mike Neil

Dear Sue Bryant

Many thanks for Front Drive and the application form.

I believe that contact was first made to my wife Judy during the time I was having my second hip replacement - it's cheaper to restore vehicles than people!!

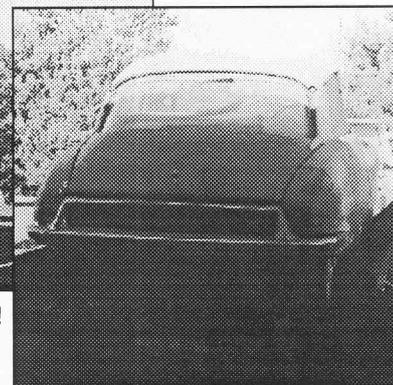
Enclosed are some photos of a Traction, two dated when we bought it in Cairns and two taken in Weipa it's home since 1975.

My small body repair shop has been inactive for six months due to hip repairs, at the moment Traction is stripped, doors, boot lid, spare wheel cover and three mudguards have been repaired, the next major step will be rolling over and welding in a new front floor section which is the only body rust area on the car.

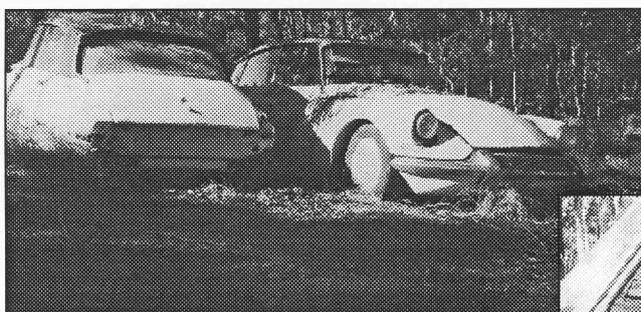
I look forward to future copies of Front Drive and will no doubt contact Mel Carey in the future.

Hopefully we will be able to make the trip south when restored

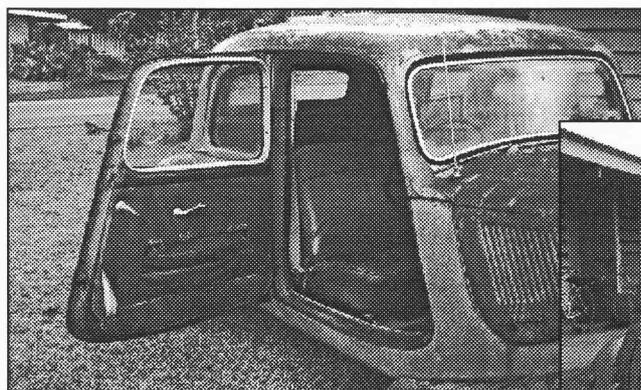
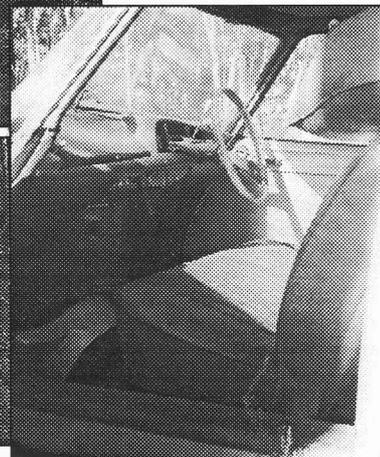
Your Sincerely Kevin Mc Michael



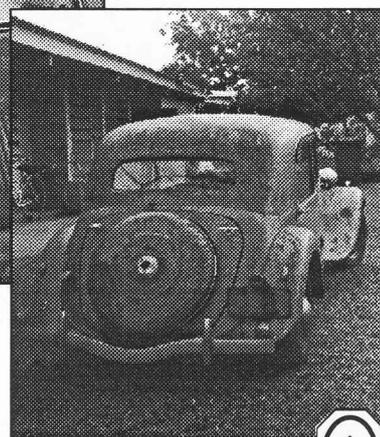
Mike's new ID (top left and top right) What a find!



The ID and DS that Mike talks about plus a shot of the very tidy interior.



Kevin McMichael's car is very complete and now getting the restoration once over. It's great to see another gem out of the woodwork.





Van restoration

The restoration of our van really commenced in the year prior to Raid '88, when such things as a new engine were fitted. The old one went up with a "bang" in late 87 when the timing gear on the camshaft disintegrated. I'm told this is a reasonably common problem with 2CV motors that have done a lot of miles.

We obtained a re conditioned motor from Germany via Phil Ward, which cost about \$1,000. This turned out to be a good deal because everything in it was new except the crankcase halves.

Major suspension and chassis work was also done prior to Raid '88. All the recommended modifications in the factory bulletin for preparing AK Vans for Raids were done. These included substantial steel gussets in the sides of the chassis, plus gussets in the front suspension arms and steering rack. Bump stops were also reinforced.

Various bits were replaced including wheel bearing and suspension arm bearing and seals.

A new clutch was fitted with the new engine.

Other Raid preparations including fitting new front guards plus new petrol tank and spare wheel covers.

Extras added included a "roo" bar a sump guard and a long range petrol tank with a two-way tap, giving an extra 45 litres of

fuel and tripling the normal capacity. Headlight protectors and a special pre-filter type of aircleaner were also fitted.

The car survived the Raid fairly well, its main problems being several tyre failures and a damaged battery which worked loose and fell out.

However, it suffered more from being lent to some friends after the Raid who took it into the outback again (but that's another story).

About a couple of years ago I decided it was time to properly restore the van body, having collected a few new items for it.

This was a major exercise as there was significant rust in some areas, which had only been roughly "bogged up" by the previous owner. (See photos).

The body was taken off the chassis and suspended from the roof of my garage, so I could work on the area underneath.

I obtained a new rear box section and back bumper and this was fitted - quite a job involving much cutting, preparation and spot welding.

Some of the other panels I needed proved to be unobtainable, and so I had to custom make them. These included the two front floor panels, the front triangular box section and the box section behind the front seats. All the original

panels in these areas were deemed bad enough to need total replacement (see photos)

New sills were obtained, but came with a full door frame. Replacing the whole door frames was impractical and so I cut out and replaced with new ones, which were available.

Numerous other smaller bits and pieces were made up and fitted to repair particular areas.

The metal-work part of the restoration was then completed.

The chassis required a small amount of rust repair work and apart from that has been cleaned down, repainted and undersealed. The body was then put back on it.

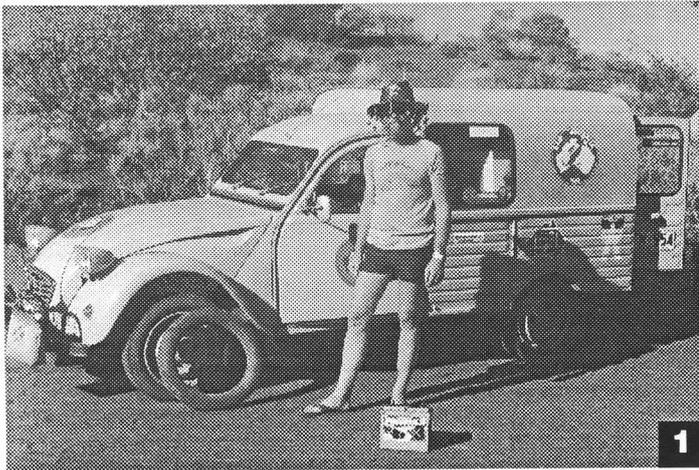
The colour chosen for the final colour finish was "rouge delage", a Charleston colour, in two-pack paint.

The Van has now been completed for around two years and is in pristine condition.

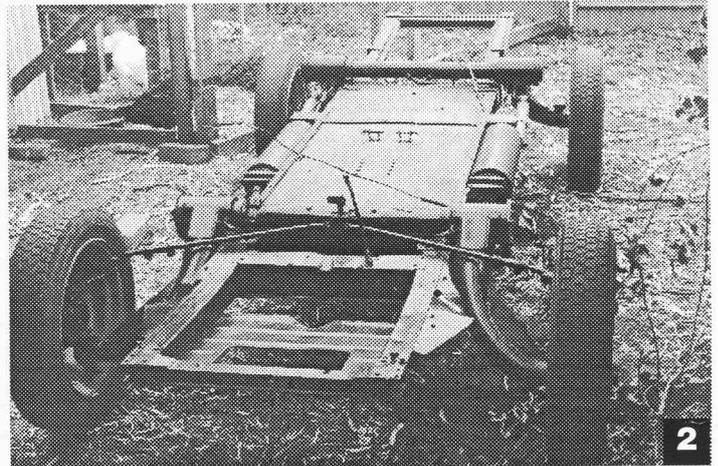
This has been a fairly difficult body restoration due to the extent of the rust, the thin metal panels, non-availability of some panels, etc. But the end product makes it all worthwhile.

This vehicle is now up for sale and information can be obtained through Chris Bennet in Adelaide on (08) 293 2619





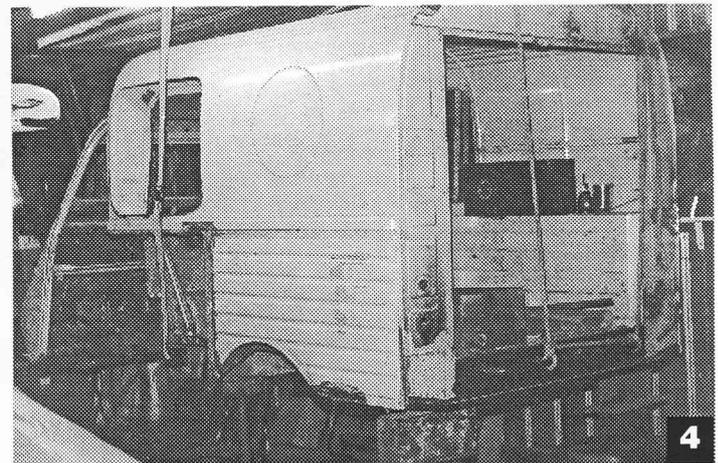
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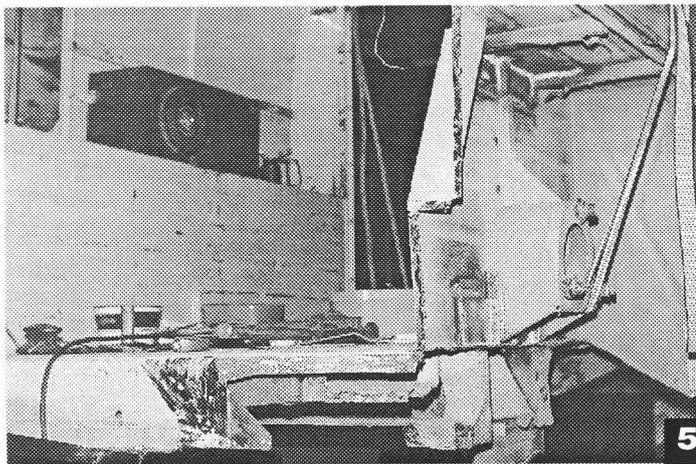
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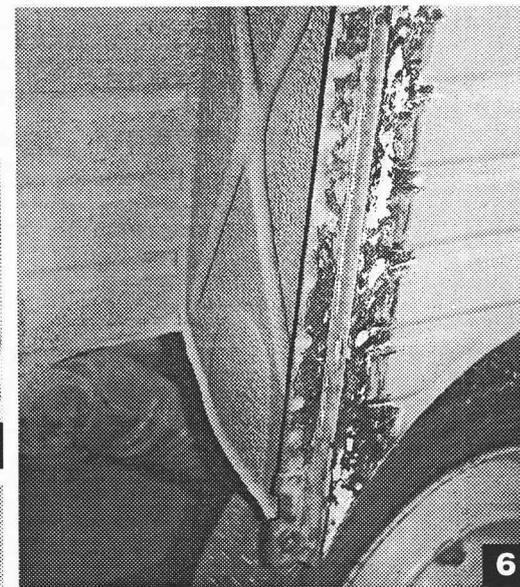
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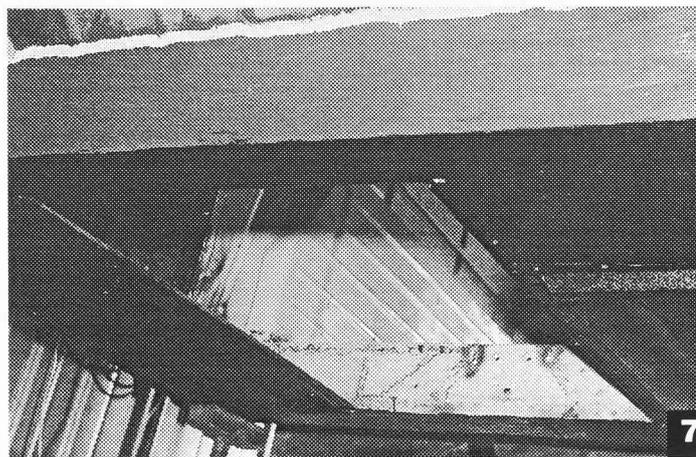
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1-Van on Raid 88 - I think that this was when we discovered that our battery was stuffed.
 2- Chassis after rust repair and repainting/ resealing, ready to have body refitted.
 3-View of rusty areas ready for cutting out.
 4 -View of body with rear box section, but with floors, sills etc cut out ready for new ones
 5-View from LH front showing floors, sills, a half of middle box section cut out in preparation for new ones.
 6-View of a section of the van on left-hand side, behind the spare wheel, showing the rust, which had previously been plastic filled. The new section was custom made and welded in here.
 7-View from underneath front, after new floor panels had been fitted.

CCOCA *classifieds*

CARS FOR SALE

CITROËN DS 21 EFI model, manual gearbox, top condition Tom Jeffrey AH 057 976 273. Reasonable offers.

CITROËN CX 2200 1977 Pallas Tom Jeffrey AH 057 976 273. Reasonable offers.

CITROËN CX 2200 Super Tom Jeffrey AH 057 976 273. Reasonable offers

CITROËN DS21 Pallas For wrecking Tom Jeffrey AH 057 976 273 Reasonable offers.

PARTS FOR SALE

PARTS FOR LIGHT 15 1949 (English) Fuel gauge, amp gauge, wood dash, wood door garnish moulds, many odds and ends. New 185 x 400 Michelin. Complete front and rear bumpers - could be French? Ken Churchman (09) 295 2569

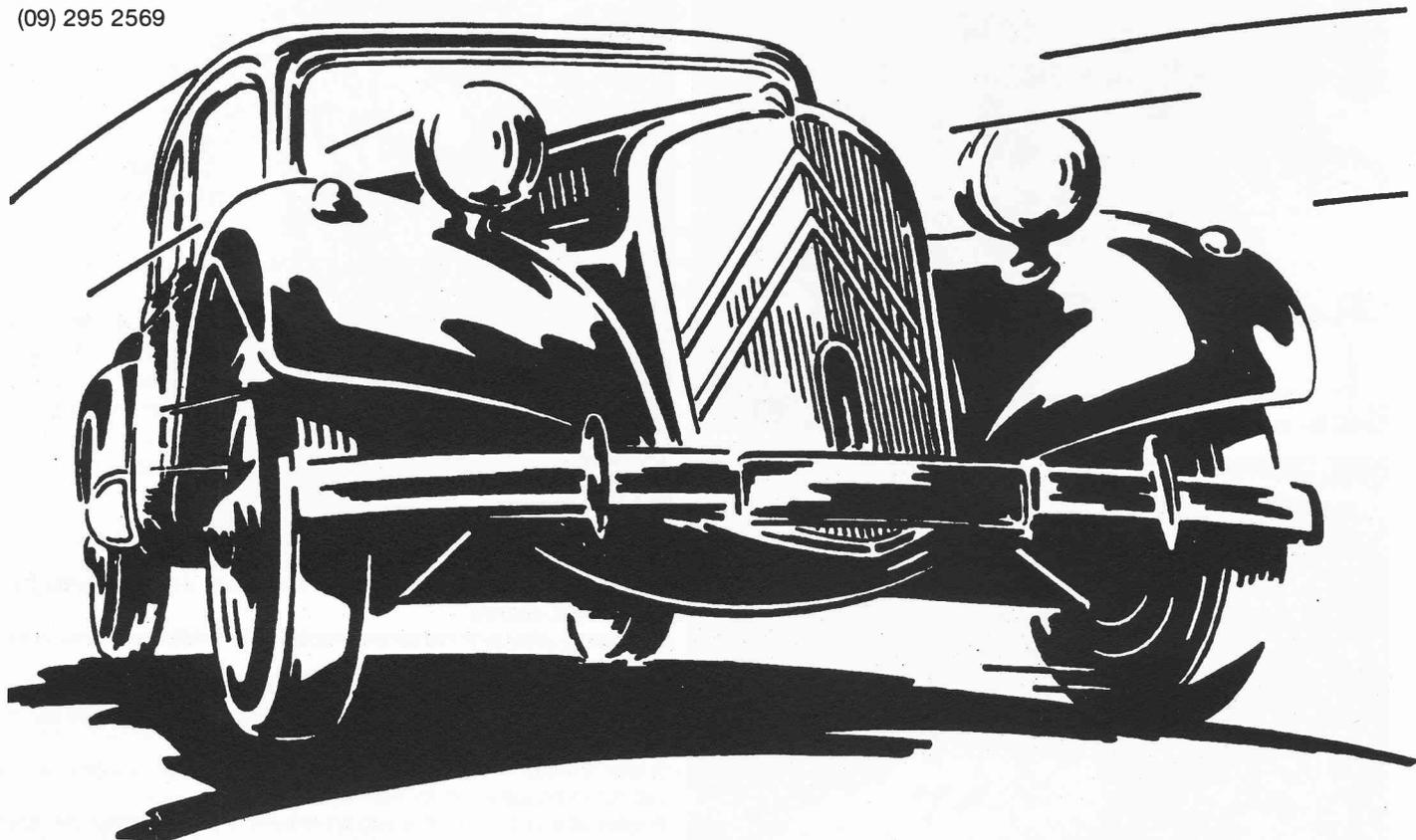
PARTS WANTED

EARLY 2CV parts wanted to complete restoration.

Slough built bonnet emblem
Semaphore indicators
Ripple bonnet
Early model front guards
Grill surround
Head gaskets
Window wiper unit (speedo operated)
Front over riders
Front bumper blade for 50's
Internal light unit 50's Slough
Muffler for 375cc or 425cc
Driver and passenger lower window frames for 50's
Contact Gayle Trask 55 Mathesons Road, Christchurch, New Zealand.
Phone 0011 64 3 366 9888

BIG 6 PARTS WANTED for repair of accident damage.

Complete large headlight or parts
Parking light or parts
Right hand front mudguard
Front bumper bar
Front bumper bar iron
Right hand flich plate
Radiator
Front number plate mount
Front outrigger for mounting radiator and grill
Front wheel bearing
Hub cap and bolt
Steering rack (B6-B15)
Contact Mel Carey 018 516126 (Mobile)
AH 051 521 040



talking technical

SPARE PARTS OFFICER - MEL CAREY

Our member Paul Bishop of Tenant Creek, Northern Territory, has had made crankshaft nuts for the Big 6 engine. Two nuts are surplus to his requirements and are for sale through the club shop. They are unobtainable worldwide, BE QUICK!

Most rubber parts are now available or are now on the way.

SPECIAL

Is your normale grill looking vacant? C.C.O.C.A. spares have a brand new crank handle cover which will make your car complete!

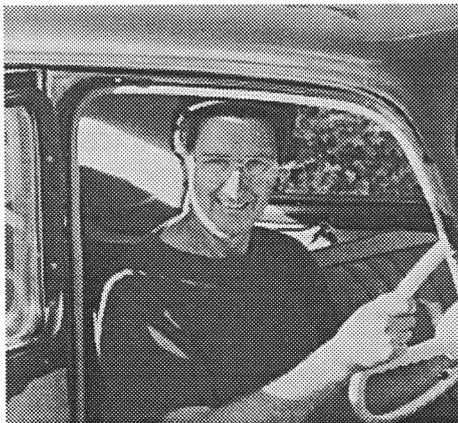
Use your parts order form from the magazine to check availability before fax/phoning overseas.

Orders are being processed on "first in first served" basis. If your parts haven't arrived (and heaps have) don't despair as further shipments are on the way!

There is enough paper trim cord Part No. 121178 for about one more car, so if you are thinking about a bare shell restoration, start with this.

We have a quote from Eaglehawk Castings for the making up of the after-market LI5 crank handle cover. Please let me know if you are interested or we will let this idea go. One order is not sufficient to warrant making them up.

Original windscreen wiper grommets are now available for big and small boot cars.



TRACTION PARTS

Sets panhard rod bushes (rear axle sway bar)

Radiator mounting grommets

Petrol fill pipe grommets - big/small boot

Scuttle vent rubbers

Window bailey channel (guide/seal for door windows)

Steering rack boots

Front end tools

Petrol pump kits

Mudguard piping (not plastic)

Boot seal rubbers - big/small boot

Note: Rear engine mounts for LI5 are on a changeover basis from the U.K.. If you have an order in or require on in the future, please send in your old mount now as I am preparing a shipment.

2CV PARTS

ORIG.PART NO. DESCRIPTION

ENGINE

A124-5A Engine pushrod

A124-1A Cam follower

A13386-A Engine mount - right

A13386 Engine mount - left

A2221-95 Rubber seal for dipstick

A132-02B Engine breather valve

A172-90 Hot air sleeve - Exhaust manifold

A142-5 Accelerator return spring (large diam.)

A142-5 Accelerator return spring (small diam.)

A532-94 Bolts - Dynamo to crankcase

A241-95 Fan securing bolt

A211-4 Distributor cam & drive plate

A124-9 Valve spring - outer

A124-9A Valve spring - inner

A124-11 Valve spring - retainer

A533-12A Bush - starter endplate

A224-98 Washer - for pushrod sleeve

A113-6 Oil pump body

A553-02 Bendix drive - starter

Head gasket

A211-3 Points

CLUTCH

A314-5A Clutch pressure plate finger

A314-8 Spring clutch pressure plate finger

A314-9A Clutch fork return spring



A312-99	Cup for clutch pressure plate spring
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A454-75	Clutch for trunnion
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BRAKES

A451-80	Oil drain tube - front brakes
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A453-17	Master cylinder rod boot
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A453-58	Bolt - brake hose to r/h flex hose
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A451-86	Cam - r/r brake adjuster
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A451-3	Brake shoe adj. spindle
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A453-105	Bolt - retainer for brake fluid tank
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A451-6	Brake drum
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SPEEDO

A332-9	Lock nut for speedo drive
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A563-04	Worm drive (March 62)
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REAR AXLE

A426-99	Tab washer
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A416-8	HVB lock nut
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A434-88	Tube - suspension adjuster
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FRONT AXLE

A437-86	Rubber buffer - axle arm
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A437-85	Packing shim - adj. axle buffer
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STEERING

A442-3	Nut for rack guide spring
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A442-5	Steering ball pin cup
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A442-72	Steering shaft pinion
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BODY

A863-98	Bonnet striker plate (to May 53)
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A863-2	Latch on bonnet handle
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A173-2	Filter for petrol tank
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A454-84A	Spring for handbrake catch (4mm wide)
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215073	Key sets (incl. barrel)
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A563-16c	Windscreen wiper drive
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	Accelerator pedal
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A861	Door locks
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A615-91	Bumperettes
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A334-79	Metal flange under g/shift boot on dash
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TRANSMISSION

A331-95	Driveshaft joint flange (from June 52)
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A331-98	Rear gearbox attachment studs
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A333-12A	Bronze bush (g/box)
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A372-99	Uni jnt cup - for needle rollers
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A334-99	Shims for pinion shaft rear bearing
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A344-01	Crown wheel & pinion
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SUSPENSION

A414-92	Seal for bearing on crossmember
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A434-93	Compression cup with lining
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A434-86	Suspension rod dust boot
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A413-98A	Plug for grease nipple on kingpin
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A437-86	Bump stop
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A12416	Rocker shaft spring
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A2332-5	(2 sizes) nut - centrifugal clutch shaft
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A334-2	Bottom half of gearshift knob
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A334-67	Clevis pin 6m x 20m clutch/brake/gear lever
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A314-72}	Clutch toggle adj. bolt/nut
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A314-89}	Clutch toggle adj. bolt/nut
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A314-92	Clevis pin 6m x 17m clutch fork
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A442-3	Nut for securing front guard
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SPARE PARTS FUND

The spare parts fund is to be re-established. Members will receive a 10% discount on parts purchased through CCOCA spare parts with a new member fee of \$50.

This has been established to provide a short term cash injection that will give this club the ability to purchase larger quantities of parts and therefore reducing the overall cost. Thus benefiting all members plus an additional bonus for parts fund members. Just sit down and calculate how much you spend on parts for your Citroëns per year, subtract 10% and see the savings. And this membership is a one off fee and you are a member for the life of your membership.

Members who have previously paid to be part of a CCOCA parts scheme will get the benefits automatically.

The Spare Parts Officer has the list of members and this list will be published in the next magazine

SPECIAL TOOLS

Are available to members only for rent.
This will enable you to replace wheel bearings, driveshafts etc.

They include:

Brake Drum Puller 1750/1820T

Top Ball Joint Breaker 1850T

Bottom ball Joint Breaker 1851T

Inner Hub/Driveshaft Nut Socket 1826T

Top Ball joint Spanner 1852T

Mandrel for Trueing up Front Brake Drum MR 3381-1

Outer Bearing Puller 1750T/1819T





Citroën

CITROËN CLASSIC OWNERS CLUB OF AUSTRALIA INC.