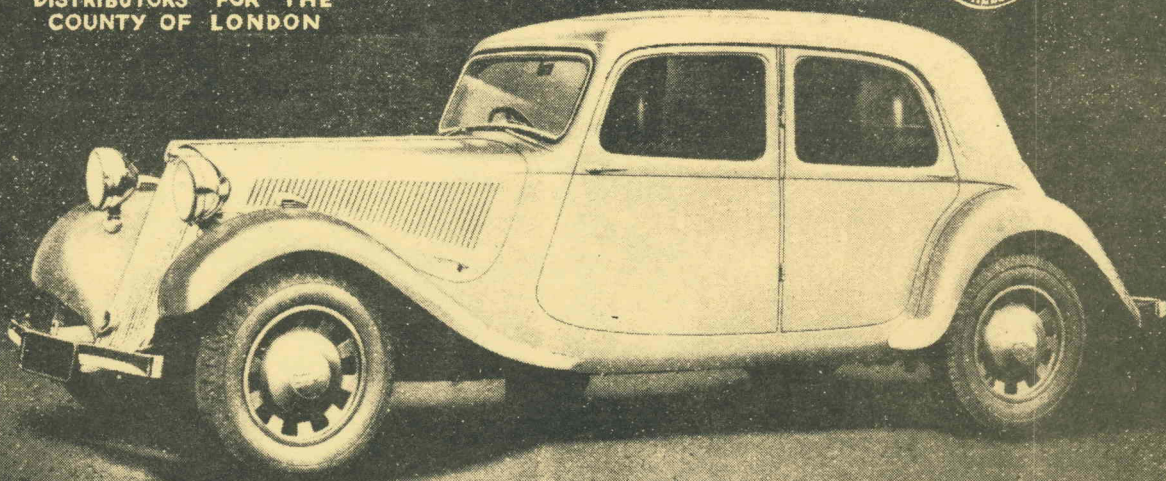




CITROËN

DISTRIBUTORS FOR THE
COUNTY OF LONDON



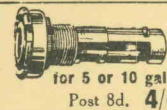
46-52, VAUXHALL BRIDGE ROAD, VICTORIA, LONDON, S.W.1.

Telephone: VICtoria 7611-16 (six lines)

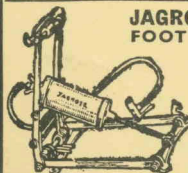
OVER 70 YEARS' SERVICE AND SATISFACTION

For OVER 20 YEARS
THOUSANDS
of SATISFIED
MOTORISTS
HAVE USED
ONLY—

5 GALL DRUM
25/- Carr.
4/-
With Acheson's
Collidal
Graphite **35/-**
Deposit on drum
5/-, returnable



**JAGROSE
OIL DRUM
TAPS**
for 5 or 10 gallon drums
Post 8d. **4/6** each



**JAGROSE PUMPS
FOOT OPERATED**
Powerful and
strongly made,
"Quickfit"
connection
24/6
DeLuxe Model
31/8



**JAGROSE 4" ADJUST-
ABLE SPANNERS**
Post 6d. **4/6** each



**JAGROSE
HUB CLOUTERS**
All rubber head 5/- each
Rawhide & Copper head,
Small 6/- ea. Large 8/6 ea.

CAR NUMBER PLATES WITH
RAISED WHITE LETTERS AND
FIGURES

Blue mels



Per Plate **20/-** Delivery
Post 9d. Same day



**JAGROSE
DOOR GRAB HANDLES**
Chromium plated.
Post 8d. **1/9** each.

**JAGROSE
"RUNNING-
IN"
COMPOUND**
for your new
car. 1-qt. tin,
8/9
Post 9d.



**JAGROSE
CIGARETTE
LIGHTERS**
6 or 12 volt
To screw on
dashboard
7/6
Post and pkg. 8d.



**JAGROSE LICENCE
HOLDERS**
To stick on
windscreen
1/8 each
Postage 6d.

**JAGROSE PETROL
POURERS**

To screw on 2-gall. cans
1/- each.
Postage 4d.



**JAGROSE ALUMINIUM SPARE PLUG
CARRIERS**
Fit under the bonnet
To carry 2 plugs
2/- each
To carry 4 plugs
3/6 each
Postage 6d. each

ESTD **JAMES
GROSE**
LTD. 1876

**REBORE
RESULTS**
as easily
as this



HOLT'S
OVRHAUL
CUTS OIL
WASTE—RE-
STORES COM-
PRESSION—
GIVES THE
ENGINE NEW
POWER AND PEP.
For Cars up to 12
h.p. 15/-, over 12
h.p. 25/-. Post free.



Collapsible Frame—Rubber Hull
—made easily transportable in
strong carrying bags. Complete with Paddles.
Popular Single Seater, 11 ft. long, 28 in. beam .. **£21-16-6**
Lightweight Two Seater, 13 ft. 9 in. long, 28 in. beam **£33-16-6**
Foldflat Rowing Dinghy, complete with two oars,
no assembly, instantaneous erection .. **£13- 4-0**
Carriage extra.

379 EUSTON ROAD
PHONE: EUSTON 5231. NORTH LONDON DEPOT—

GT. PORTLAND ST. N.W.1.
—255-257, HOLLOWAY RD. N 7. PHONE: NORTH 1297

Coming Events:

Wednesday 1st August: General

Meeting, Blackburn — The
Gearbox, by Gerry Propsting.

Saturday 8th September: Second
Annual Parts Auction, at Robyn and
John Couches'.

Wednesday 3rd October, General
Meeting Blackburn.

17th, 18th November, Bendigo
Swap Meet.

CCOCA Committee:

President, Roger Brundle

12 Barkly Avenue, Armadale 3143.
Phone 5090441.

Secretary, Mark Navin

1 Alexander Street, Box Hill 3128.
Phone 898576.

Treasurer, Pat Propsting

18 Bellara Drive, Mooroolbark 3138.

Spare Parts Officer, John Couche

15 Mitchell Avenue, Boronia 3155
Phone 7626856.

Activities Officer, Bryan Grant

2 Bader Avenue, Nunawading 3131
Phone 8731378.

Editor, Kym Harding

26 Tyrrell Avenue, Blackburn 3130
Phone 8774853

CCOCA membership:

Joining fee (new members) \$5.00

Annual Subscriptions:

Full member, \$15.00

Associate member, \$10.

Joint membership available to
spouses of full members, no cost.

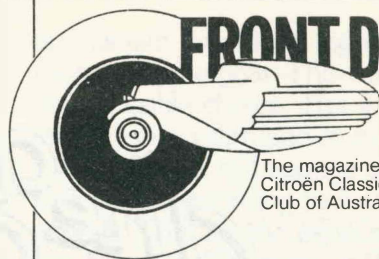
Overseas postage rates on
application. All membership
applications to Secretary.

CCOCA meetings are held at 8pm
on the first Wednesday every second
month from February, at the
Blackburn Baptist Church,
19 Holland Road, Blackburn.

The Nineteen Twenties and
Thirties stand out as the Age
of Adventure in so many fields.

Much more than a
commercial promotional
exercise, or a simple proving
of Citroën vehicles, the Yellow
Crossing was an expression
of the adventurous spirit of
André Citroën, and the
ambitious grand culmination
of the programme of half-
track journeys. That it had
more than superficial value
was confirmed by the
presence of people like
Dr. Maynard Owen Williams
of the National Geographic
Society of Washington
(National Geographic
Magazine featured the
journey), Father Teilhard de
Chardin, noted geologist and
theologian, and Dr. Joseph
Hackin, eminent archaeologist.

I wish that it could be
possible to reprint in full the
368 pages of 'An Eastern
Odyssey', the official account
of the journey, to give a fuller
impression of the 'insclutable'
and capricious hospitality, and
the constant difficulties facing
the expedition, and Haardt's
and Point's calm and dogged
resolution to overcome all
difficulty.

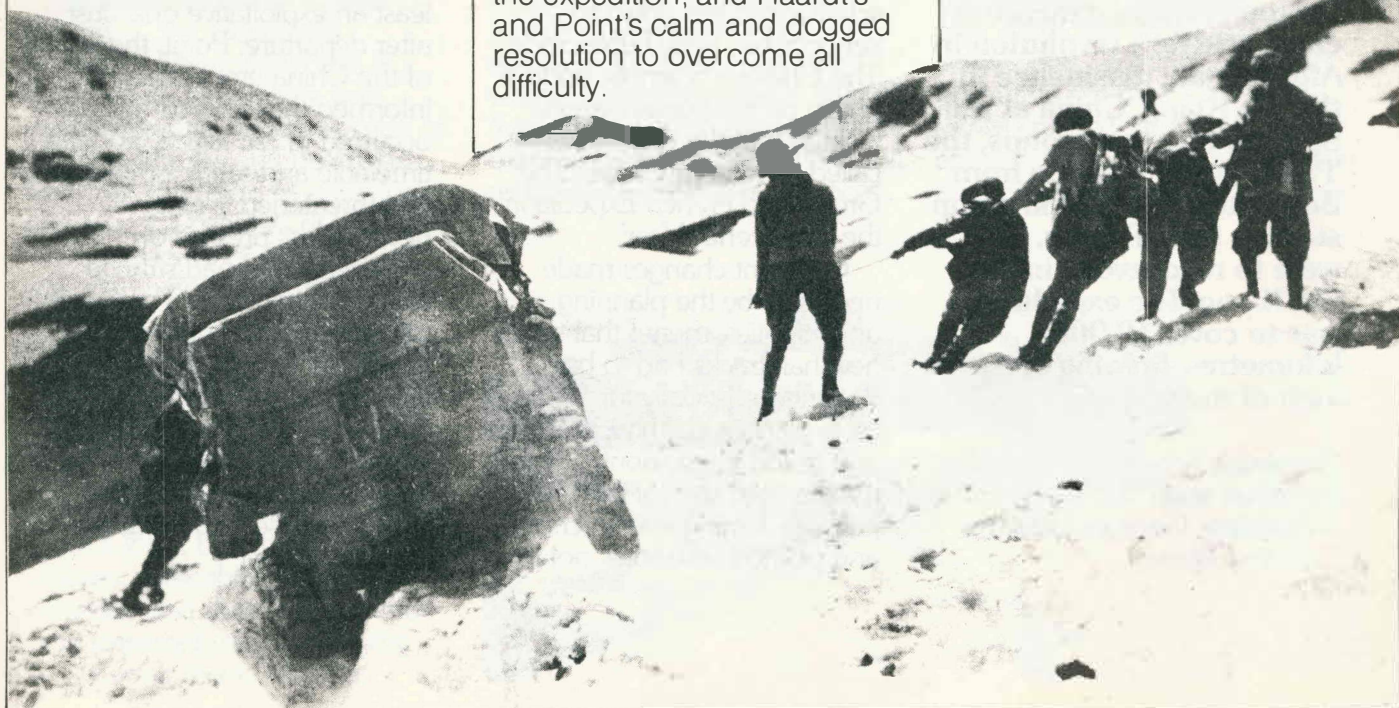


The magazine of the
Citroën Classic Owners
Club of Australia

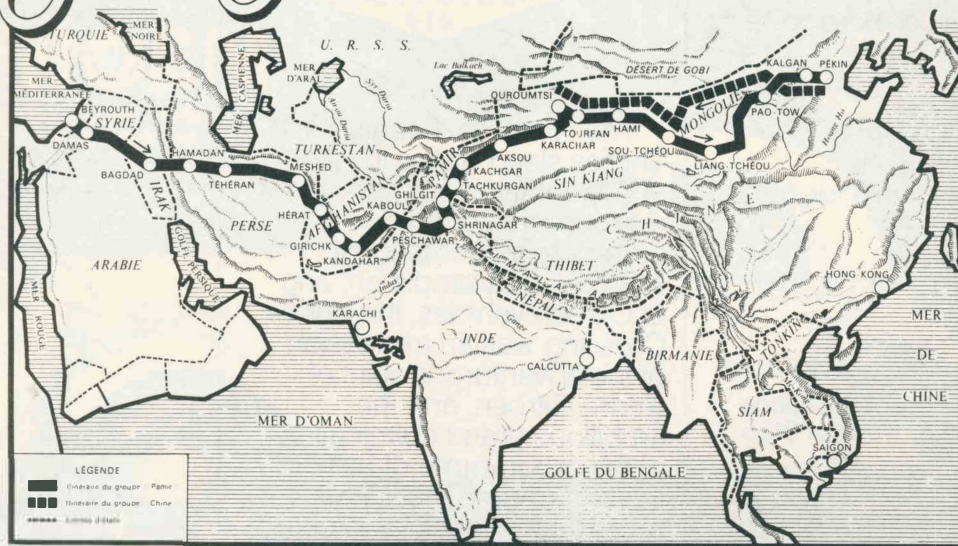
Volume 3 Number 3
August/September 1979

Front Cover: The Yellow
Crossing. One of the heart-
stopping incidents, this one
high in the Himalayas. The
road disappeared from
beneath one side, leaving the
Golden Scarab balancing
precariouly.

Below: Par for the course.
Progress on the last leg of the
China group's journey slowed
to four miles a day.



The Yellow Crossing



Between April 1931 and February 1932, an astounding adventure thrilled the world: this was Citroën's Central Asia Expedition, the Yellow Crossing. About forty men and fourteen half-tracks tried to establish a link between the Mediterranean and the China Sea, following Marco Polo's footsteps over the 'Silk Road' already known to the caravans of old. Barring its way were two fearsome obstacles – one vertical, the Himalayas, and the other horizontal, the Gobi desert. On top of these difficulties came others: a revolution in Afghanistan, dissidence in the Sin Kiang, China at war. Split up into two groups, the 'Pamir group' starting from Beirut, and the 'China group' starting from Peking, were to rendezvous in the Sin Kiang. The expedition was to cover 12,000 kilometres, fighting every inch of the way.

This article is based on a book published about the expedition by its historian, Georges LeFèvre, 'Eastern Odyssey'.

An expedition of this scale required massive and complicated planning and support. Huge camel caravans had to be organised to transport fuel and spares to various point along the route. Men had to be despatched on journeys, which in themselves were almost epic adventures, into remote parts to try to discover the best routes. This was the first time since Marco Polo that such a journey had been attempted. Delicate diplomacy to ensure safe passage through sensitive areas had to be planned, and negotiations at all levels of Government, from scheming rulers down to xenophobic, petty bureaucracies. The Chinese Scientific body, a highly political organisation, insisted that the expedition be called, at least in China, 'The Great Sino-French Expedition of the Nineteenth Year'.

Constant changes made necessary by the planning uncertainties, meant that seven new half-tracks had to be designed especially for mountainous country, then built and tested three months before the planned start of the journey. Timing was so critical, and political situations, not to

mention seasonal considerations, were so critical, that it was not possible to postpone the start for any reason – the only choice was go, or cancel the whole expedition. Cancellation was a real possibility right up to the actual departure.

At last both groups had arrived at their points of departure, Beirut and Peking, and the Pamir group, headed by Georges-Marie Haardt left Beirut and headed across the Syrian Desert.

The China group was dogged from the beginning by a deep suspicion by the Chinese that it was a military expedition, or at least an exploitative one. Just after departure, Point, the leader of the China group, was informed that a revolt had just occurred in Sin Kiang, and the timetable and safety of the group was threatened. Point nevertheless pressed on.

Desert travel had strange effects on travellers. There was the story of two buses crossing the desert in opposite directions, with no roads to follow, and no other traffic, which crashed head-on, with great loss of life. This was an excellent example of the effects of desert travel, as well as Turkish drivers!

Not only strange effects, but strange sights were experienced by the travellers — in Persia, in the ancient centre of Kermanshah, they were amused to find a one-way sign, and a policeman with helmet and baton directing the traffic — a motley collection of donkeys. Escorted through Persia by a Persian colonel, they were impressed by the beginnings of Western influence. Afghanistan, however was still untouched by this 'progress'. Roads were non-existent, tribesmen hostile, and there was warfare in the north. Every man carried a firearm, and there were reckoned to be only three classes of people — nomad, settler, and bandit.

Travelling through towns was an unpredictable adventure. At Herat the China group had to pass through the covered-in streets of ancient Herat, a city unchanged for centuries, and its people very much the same as they had been centuries before, trembling with wonder at the sight of headlights, and laughing hysterically at the sound of a horn. Travelling through the streets, the group was brought to a halt by a fierce looking soldier, the Governor of the Province (he had achieved his position by beheading fifty of his enemies — no doubt the Frenchmen wondered if they were next). He ordered them to follow him, and they proceeded through the narrow streets to the centre of Herat, and came into a large garden — the Governor's residence, where there was a feast laid on long tables, and many servants. The fierce man of war was a polite and charming host, begging them to stay there and tour the beauties of the area.

The traversal of Afghanistan was made difficult by the many river crossings — in fact floods made travel so unpredictable that a traveller often had to stop at a nearby village, adopt its customs, and take employment until the water receded.

Jourdan, the expedition doctor, spent a lot of time treating sick villagers, prescribing simple remedies and diets. His patients were extremely naïve, believing the whirring movie cameras

a magic cure for their ailments.

Some rivers had to be crossed using old wooden boats lashed together as ferries, operated by primitive people often controlled by a wily and wizened chief, who would spit elaborate curses at his 'crew' to cajole them. Each vehicle took hours to get across.

Despite the unrest in Afghanistan, the reception to the expedition everywhere was warm and helpful — roads were repaired, river ferries built, and lavish palaces were provided as accommodation for the expedition.

By 15th June, Haardt's party were making good progress, and were almost at the Indian border, and Victor Point's group was leaving Sinkiang at a steady pace, after some initial difficulty with the tracks. As Georges LeFèvre puts it, "The China Group was only 1600 miles from us — no more than twelve hours journey in a fast aeroplane".

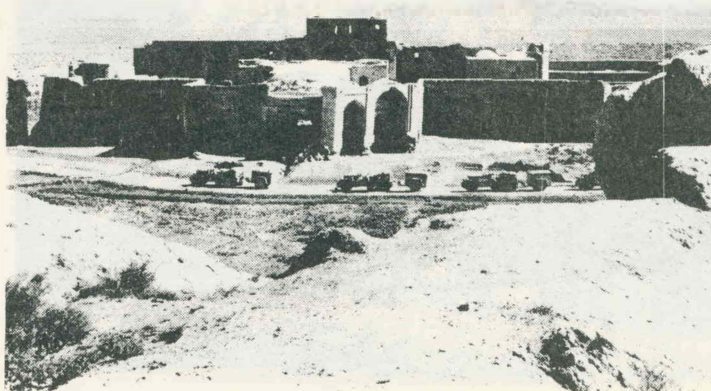
Travelling through the Jalalaba Basin, nearing India, the temperature climbed to 50°C, the rocky landscape baking through the day, and releasing the heat through the night.

Compared with what lay ahead of the expedition, now at Srinagar, the past difficulties were as nothing. Srinagar, in Kashmir, lay at the foot of the Himalayas, and there were only three possible routes over the mountains — the Burzil Pass, a strategic route barred by the Indian Government to all travellers; the Leh Treaty road, with its three passes over 18,000 feet, or the Gilgit road, no more than a precarious pack-mule trail, as narrow as one foot in places,

and closed for at least eight months of the year. This was the only possible choice. The 45-day journey was estimated to need 1,000 pounds of baggage per European, according to local experts. This, for the expedition, would mean 400 men, or 200 pack-horses, not allowing for the cameras, scientific equipment — or half-tracks! Haardt reconnoitred ahead on horseback. To complicate things, the China group radioed that they had just passed through a raging battle between Chinese troops and Muhammedan rebels, and the Muhammedan rebellion was severely hampering progress.

Government regulation stipulated that travellers through this region should travel in groups of not more than five. They were faced with gradients of over 40%, narrow hairpins, lack of bridges, and a track which was rough as well as narrow. Three parties set off over a period of two and a half weeks, hampered by continual heavy rainstorms, which washed away part of the road, and also by riots in Srinagar resulting in martial law being proclaimed. Too, it had been twenty-two days since any contact between the Pamir and China groups.

The China group had been fighting many obstacles — warnings from people who had previously given the all-clear that the projected journey was impossible and should be abandoned, warnings of bandits, frustrating red tape. One of the lorries crashed through the rotten timbers of an old bridge, narrowly escaping total destruction. In one



day, fourteen track bands self-destructed, due to an unforeseen stress problem, and new track-bands had to be urgently ordered from Paris, to replace spares. The China group was facing the most difficult part of the journey, the Kalgan and Nankow Passes up to the Mongolian Plateau — narrow, crumbling rock tracks built by the Emperors centuries before, and now badly deteriorated. Boulders had to be physically broken up, levered to one side or pushed over cliff edges. At one place, after crossing several fortress-like walls, and finally the Great Wall of China, the road had to be excavated so that the convoy could pass under a railway 'bridge'. Difficulties with Chinese authorities continued to delay the expedition, with Victor Point summoned back to Peking to clear up reported misdemeanours. To gain permission to proceed through China, and to allay fears of ulterior motives (mineral exploration, spying etc..) it had been necessary to allow a group of Chinese 'scientists' (of high political ranking) to accompany the expedition. These were a constant problem. Their arrival was weeks late, and were delaying Point's group, who decided to press on to Kalagan and Peilingmiao through the rugged and freezing country without them to the edge of the Gobi Desert, where he was at last forced to wait for them. On arrival, the arranged delegation of four had grown to eight, with trucks full of baggage and equipment, including a flag proclaiming Tsu Ming-Yi 'Chief of the Sino-French Expedition'. Five hours of reasoning by one of the

members of the French party, noted geologist Father Teilhard de Chardin, finally convinced them to return three quarters of their load back to Kalgan. Communal life with the Chinese delegation proved a constant trial.

The way ahead over the unmapped Gobi was certain to be difficult for many reasons — an approaching thunderstorm threatened to set the 1600 gallons of fuel the convoy was carrying alight) and the party had to rely on a 'guide' who had never travelled this country, trying to glean information from passing Mongol camel drivers. At one time, on the instructions of a camel driver, the expedition came across a **yurt** (tent) where a woman was shearing a sheep, and her husband was sitting in the yurt. Despite the noise of the vehicles, the woman didn't look up, and the man didn't come out of the yurt. Neither had ever seen foreigners, nor any motor vehicle, yet answered questions on which direction to take without asking one question in return. A 60mph sandstorm obliterated the track, sandblasted the vehicles, and charged the petrol-laden vehicles with static electricity, necessitating extreme caution near the tanks! Progress was often slowed by choking dust. By June 6th, the Black Gobi had been left behind, but several petrol containers had been crushed, holed, or burst in the heat, and only 120 miles range remained, with double that distance to go to the next fuel supply dump. Point set out to bring back 500 gallons. The remaining party was to follow shortly. At one stage, a leading vehicle was surrounded by 100 armed, mounted bandits, who

ordered everything unloaded. When the following cars came into view, they asked who these were. "Armoured military cars", was the reply. The bandit chief ordered everything reloaded, considering his party no match for an organised military force.

At Tien Ts'ang, the petrol had run out, and the party was forced to wait for Point's return. He returned three days later, fortunate to have the petrol, as Suchow had suffered a rebellion and changed hands.

A radio message from Sinkiang warned of possible difficulties because of the Chinese delegation. When the group reached Suchow, the new rulers forbade the departure of the expedition, confiscated all passports and ordered the dismantling of the radio mast. One telegraph to Peking was 'allowed', however after payment — at triple rates, including an official receipt — the operator admitted that he had been directed not to send the message. Following some deft diplomacy and palm-greasing, the party was at last given permission to leave, but arranged fuel supplies were uncertain because of the unrest. Complex politics, including some secret sabotaging by the Chinese group, again prevented departure, and the Chinese leader insisted on Brull relieving Point of the French leadership. The group got under way, beating only by hours a directive from Peking that the Frenchmen be detained and escorted back to Peking. The political situation was becoming treacherous, and, arriving at a small village out of Hami, the houses were alight and deserted, and artillery and machine-gun fire could be heard nearby.

A little further on, the party came into a valley, with a thousand Chinese soldiers chasing a group of Muhammedan rebels into the forest at the sides of the valley, a pitched battle. On sight of the cars, all firing stopped, and five soldiers left the main body and approached the cars, welcoming the 'Sino-French Expedition' to



Hsing-hsing-sia, among all the dead corpses and animals. A fresh charge by the rebels was thwarted, but one over enthusiastic rebel charged through the lines, only to have his horse shot from under him. Once captured, his arms were ripped off, and his innards were cut out and waved about victoriously before finally his head was cut off and flung off. The Europeans, naturally, were sickened.

The large city of Hami was in turmoil, and the future of the expedition looked extremely dangerous. Petro, a French member of the expedition, had to be left at Hami to await a camel caravan loaded with supplies and spare parts, to fix a broken clutch housing, while the party pressed on with considerable uneasiness to Turfan. The deep suspicion and active sabotage of the accompanying Chinese continued, and at Turfan, the group was ordered by the Sinkiang Governor-General at Urumchi to immediately report to Urumchi to answer charges that they had photographed scenes of fighting 'degrading to the national dignity of China'. Point left immediately (giving instructions to the rest only to follow on his orders) being welcomed to Urumchi with flamboyant military honours in the morning, and imprisoned at nightfall! The Governor-General (Marshal King) had military plans for the half-tracks and radio car, and was enraged that three half-tracks promised to him had not arrived. (They had been intercepted by bandits). Point gave the order for the others to follow, and the group was placed under house arrest, forbidden to use their radio or send telegrams for assistance. On the pretext of having a musical evening, Point decorated the area with flags — hanging from the radio aerial — and ran the radio generator, ostensibly to provide power for the gramophone, and radioed for help. It was forty-three days before the party were allowed to leave to press on towards the meeting with Haardt, and Point set off immediately to find Petro,

from whom nothing had been heard since they had left Hami, which was still under siege.

To return to the Pamir group, just beginning the Ghilgit 'road' over the Himalayas. The difficulties were enormous — two ton vehicles (unloaded) trying to traverse a pack-horse mountain track. At steep hairpin bends, vehicles had to be jacked, winched, and delicately man-handled around to cover the next few feet before the same manoeuvre started again — for each vehicle. To cross delicate alpine bridges over chasms and raging rivers, the vehicles would have to be unloaded and hauled over the creaking, swaying bridge by cables. In the rarefied mountain air, breathing and exertion were difficult, and the engines could only run at 47% of their normal power. The softening snow, and ice caverns

underneath kept progress to less than a mile an hour. Even the tracks on the vehicles were not always enough. Edging along a narrow rock ledge above the racing Astor River, the road slid from underneath one side of the 'Golden Scarab', one of the half-tracks, crashing into the river below, and leaving the Scarab tottering insecurely only centimetres from going to the same fate. (See front cover). Hours of improvised engineering finally allowed the Scarab to inch away from the precipice.

People who knew the country well said that it was impossible that any vehicle could pass beyond Astor. Haardt reconnoitred on horseback again, and decided to try. At one point, a hundred yards of pathway had slid down the mountainside, leaving a steep, slippery slope where a loose rock would slide a thousand feet before stopping.



Here, the vehicles were completely dismantled into 60-pound loads, and hauled across the gap by stubborn bearers, to be reassembled on the other side. Starting again, progress was at the rate of four miles a day. The snow had now given way to bare rocks under a fiery sun, and dysentery was starting to ravage the expedition.

At last they came to Ghilgit. The Frenchmen had become something of a legend in the mountains, and the whole population turned out to watch the arrival — none had ever seen a wheeled vehicle before, and many of the astonished and puzzled onlookers stooped to watch the wheels go around, and the movement of the tracks. At Ghilgit, Haardt got news from his second-in-command, Audouin-Dubreuil, several stages back, of Point's difficulties with Marshal King at Urumchi. This made the proposed meeting of the two motor columns impossible. Pressing on through the incredibly difficult terrain would only delay getting to the China group. Haardt decided to go on to the assistance of Point without the cars — on foot and horseback.

The going was still exhausting. Even though the sun never penetrated the Karakoram Gorge, the heat was oppressive, and the ponies, trudging through mud from melting glaciers, frequently stopped as if for lack of air, and their riders had to dismount and lead them until they too were ready to drop. The narrow track became impossible for ponies, and porters carried the

baggage. Frequently the path was a narrow ledge along a vertical rock face, and bridges were three swaying, cables of twisted brushwood — two handrails and one 'roadway'.

At the tiny village of Misgar, peopled by mountaineer remnants of the Aryan invaders, and two days march from the Sinkiang border, Haardt was warned that Chinese authorities across the border had forbidden the people to have any dealings with foreigners, so they could count on neither help nor supplies. Because of the many difficulties — the Chinese authorities' attitude, Point's difficulties, the Muhammedan rebellion — the decision whether to proceed or turn back would have to be made almost immediately, otherwise the approaching autumn snows could snow the party in for months. The word came that the way ahead was clear, and on horses, then yaks, the party pushed on, and the spectacularly rugged country gradually gave way to rounded hills and gentle valleys. A mail runner brought the news that Point would be sending four cars out to meet them.

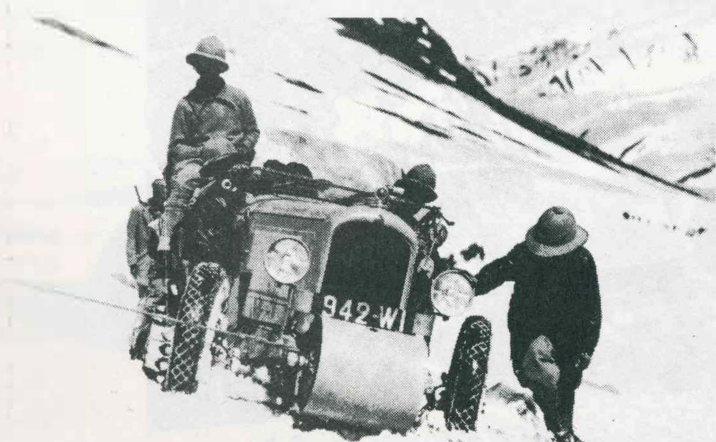
At Tashkurgan, the Amban, the Chinese representative, feted the Expedition. The Frenchmen had to tread very carefully to avoid offending any of the intricate niceties of Chinese politeness — when the Amban brought out an old Russian gramophone, and wound it up, he was astonished to see the Frenchmen leap to their feet. He knew nothing of the French national anthem, the 'Marseillaise'!

After Tashkurgan, the party

moved rapidly, despite the onset of winter snows, and after crossing passes at 16,000 feet, the altitude started decreasing, and the way became easier and more civilised — although they still had to cross the Gaz River sixteen times in one day. Finally, after traversing the Himalayas, the Karakoram, and the Pamirs for 65 days, the party again reached the plain and headed for Kashgar.

At Kashgar, the party's passports were confiscated (with the usual Chinese flowery politeness — the iron fist in the velvet glove), and after the initial pleasure of learning that four cars from the China group were only 300 miles away, a telegram arrived, saying that they were being prevented from proceeding any further. All photography and research were forbidden. Georges LeFèvre commented on the Chinese, 'The better we knew them, the less we understood them'. After a lavish distribution of gifts, the party was allowed to leave, on 26th September — with an escort of ten soldiers and a guide — for 'protection'.

It had been three weeks earlier, 6th September, that Point at Urumchi had obtained Marshal King's assent to send four cars to Kashgar, under the leadership of Maurice Penaud, and accompanied by Father Teilhard. The difficulties included intense heat, at 600 feet below sea level, huge boulders and rocks, and potholes, marshes — and one of the cars caught fire from a leaking petrol tank. It took five men pumping furiously on the fire extinguishers from all directions to extinguish the flames — and the possibility of a large explosion. Penaud made the 593 miles from Urumchi to Aksu in 18 days, a very creditable average of 33 miles a day, considering that in places, they took ten hours to cover less than a mile. At Aksu, the authorities refused to allow the group to go any further. Twelve days later, on 8th October, Carl, the archaeologist, managed to escape on a pony, and met Haardt's group of horses and camels 35 miles out. At Aksu there were excited scenes of



elation at the reunion, and the group sat down to a lavish celebration dinner.

Point, meanwhile, had been allowed to leave on condition that he repair an army radio installation at Ta-shih-tu. When this was complete, Point called on the Commander-in-Chief, General Chang, and told him of his plans to rescue Petro. Chang seized his pass issued by Marshal King, saying, 'The Marshal governs the Province, but here I am in command. And you will remain here as long as I consider it necessary.' Luckily Point had planned for something like this, and without saying a word, he leapt from the window into his waiting lorry, and sped off with the other three accompanying him.

Reaching an oasis, they were surrounded by thousands of Chinese soldiers — dead corpses mummified by the heat and extreme dryness, eyes picked out by vultures. Gunfire cut off Point's escape, and he was forced to return once more to Ta-shih-tu, where he was held by Chang, under close surveillance. Next evening, a daring escape caught the guards by surprise. All the Chinese could do was fire rockets to warn Chang's troops. The rearguard forces a few miles out took this as the alarm of a general attack, and Point's little group passed unhindered. At a military petrol depot, one of the party, a Mongol guide, tricked the officer in charge into giving them petrol. At Ku-cheng, the party tricked the guards of the city gate to wake the Magistrate to get the keys to open it.

Eventually, the party reached Urumchi again. Seven members of the expedition had remained at Urumchi, including one of the doctors, Delastre, who had been kept busy treating local people, who had paid him with rugs, furs, eggs and rice. The hopes of being able to rescue Petro vanished, and Point was forced to wait more than three weeks at Urumchi, with no word from Haardt, Penaud, or Petro.

At 3am on 21st October, there was a violent knocking on the door, and a lean, sunburnt Petro

entered, and gulped down a huge meal before telling his story.

He had waited at Hami for the camel caravan with the spares to replace his broken clutch housing. Hami was under siege, with constant cannon fire, and Petro had a front-stalls view from his quarters of the grim and bloody assault on the walls of Hami. After a few days, the Chinese had the upper hand, and the Muhammedan rebels retreated, leaving only about a thousand troops to snipe at the Chinese. Petro decided that the lull was a good time to try to find the caravan, and bribed a colonel with a pair of much appreciated field glasses, to let him through one of the gates in the wall. Outside, he was immediately taken captive and ordered to be sent with some other prisoners to look after the herds. Fortunately, he knew the rebels' Chief-of-Staff, who entertained him as his guest. The rebels had renewed their attempts to capture Hami, which seemed ready to capitulate. A white flag appeared on the wall, and a Chinese officer asked the rebels' general to send in a deputation to discuss the terms of surrender. The general was reluctant, as one of his previous messengers had been decapitated by the Chinese. Petro volunteered and was accepted. Petro tells the story:

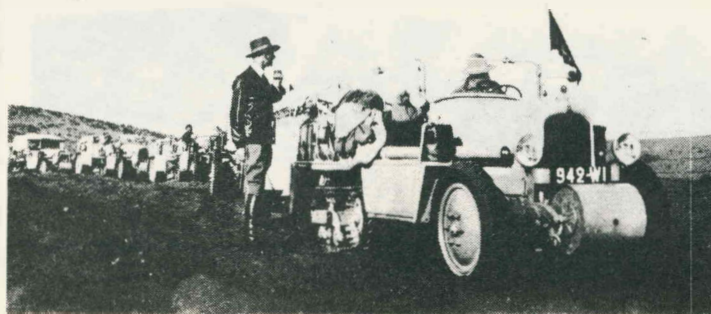
'I crossed the no-man's land alone, waving a white handkerchief. Not a shot was fired; but, as I got close, I saw rifles levelled at me from every loophole. When I reached the Chinese outpost near the west gate, which was out of sight of the rebel lines, several soldiers

sprang at my horse and dragged me off. One of the men had me nicely covered with his rifle, when the city gate opened, and my friend the Colonel, who recognised me, rushed out, kicked the soldier violently, and the shot went into the air. The field-glasses had not been forgotten.'

The Chinese, however, decided not to surrender.

Petro and a companion were faced with an unhappy situation — if the rebels took the city, they would kill everyone, and if they didn't, the whole population would starve. The caravan had not appeared, so he found a blacksmith to forge his clutch housing. The casing forging took a week to fabricate, but each of the thirty holes took a day to drill, using 'home-made' bits, and Chinese drilling methods — a total of over five weeks! Petro said, 'It weighs fifty pounds more than it should.'

Meanwhile, repeated rebel attacks had reduced the Chinese garrison from 6,000 men to 2,500, and all the animals had been slaughtered for food. Opium alone was sustaining the troops. Hami's only hope was for someone to get out to Urumchi for assistance — numerous previous attempts had failed. Petro volunteered, and under cover of night and gunfire, escaped, surviving gunfire from the rebels, and scaring off a group of mounted rebels by driving at them with headlights on. Their guide from Hami soon admitted that he didn't know the country — he only volunteered to get away from Hami.



With food and water all gone, Petro found the way to Urumchi, warning the authorities of the Hami situation. Point and Petro were then permitted to go to meet Haardt and Penaud, and by 27th October, the whole expedition was united at Urumchi.

Here, the party was not encouraged by meeting several Europeans who had been waiting for their passports to be issued for two years. The delays meant that the return journey to Peking — winter — instead of the warmer September. Tents, clothing, and vehicles were not prepared for this, so elaborate arrangements had to be made — sheepskin clothing was specially made, heaters were rigged up in the vehicles. On November 20th, the three half-tracks and other equipment promised to Marshal King appeared, and so did the group's passports.

The return journey was planned to visit many interesting archaeological sites and, despite the restrictions imposed by the Chinese escort, the distinguished archaeologist, Joseph Hackin, and his assistant Jean Carl, were able to carry out much valuable work, with added aid of the expedition's artist Iacovleff, and photographers and cinematographers. For the first time in three months, the expedition was allowed to use its radio, only to have the condenser break down, rendering the radio useless.

The expedition had to return to Hami to collect large collections of geological

specimens left there by Father Teilhard, and insects and animals, as well as petrol and oil. General Chang had by now relieved Hami, although the fighting had not stopped completely. Haardt was shocked to find the store empty, with Government seals carefully removed, and a polite 'We know nothing about it' from Chang, who confiscated the party's passports. Iacovleff painted a flattering portrait of the vain, obese Chang, who softened and returned the passports, if not the other goods. Chang also sent Haardt a large equestrian portrait of himself, inscribed 'From the conqueror of Hami. Chang, to the Conqueror of the Pamirs. Haardt.'

Because of the military situation, the logical course was over the desert, but the disappearance of the Hami supplies meant there was not enough petrol. Fortunately, the petrol and oil from the caravan which had disappeared some months earlier had been buried at Hsing-hsing-hsia, which, however, lay in the direction of retreat of the rebels, and was thought to be still under their control. Audouin-Dubreuil volunteered for the hazardous task of collecting the petrol.

The expedition left Hami on 11th December. The countryside which had previously been so attractive was now a charred, desolate mess. At night the temperature dropped to 20° below zero. Audouin-Dubreuil commenced his difficult and eerie journey, guns at the ready, through the destroyed and looted villages, with recent signs of

fighting — blood stained pieces of clothing and uniform. At Hsing-hsing-hsia, the petrol was found and loaded, and the steep and difficult way back was started at once.

The temperature had dropped so low that the engines had to be run without stop, including night time.

To avoid the Muhammedan rebels, the path now lay along unknown and unmapped country in the foot-hills of the Mongolian Plateau. Although food and petrol was plentiful, the cold had burst the water tanks, and only 500lbs of ice could be carried. Running the engines at night was wasting fuel at a time when the future trail was unpredictable, and in any case, after a few hours of idle, carbon formed in the cylinders and choked the spark plugs. Stopping the engine meant that the radiator had to be drained, and the oil froze in the engine. Even boiling (precious) water poured into the radiator would freeze by the time it reached the engine, so the decision was made to keep moving night and day. The country, 'Loan Shan', meaning disorderly mountains, consisted of many valleys leading to dead-ends, so the party had to try to pick a track along the ridges. The country was entirely bare of vegetation. The expedition came at last to the Hami—Suchow camel road, a network up to a half mile wide of parallel tracks, which converged like a railway at a narrow pass, made by the camels passing through the desert. This featureless part of the Gobi was exhausting and boring, especially as the mechanics were only getting two hours sleep a night. The bitter cold was demoralising and inescapable — 33°C below zero, ironically in the same Gobi Desert that had fried the China group only months before.

Reaching Suchow, the passports were again confiscated and Haardt was delayed for several days negotiating (and bribing) their release. Owing to the loss of vital spares at Hami,



mechanical problems began to hinder progress — two engines had to be rebuilt, and track-bands had to be replaced — a complicated and lengthy operation — all at around 30° below zero. The mechanics were suffering the most of all, driving almost non-stop, and repairing freezing metal with bare hands.

On New Year's Day, 1932, the party reached the Catholic Mission at Liangchow, where they rested for several days in the warmth and comfort of the monastery, and repaired the cars and the radio from a supply previously arranged. The first news from the outside world hardly cheered them, however. The world financial crisis had become chronic, the Japanese had invaded Manchuria and Shanghai, and in France taxation had been increased!

The road ahead led across a 'loess', which was half sand and half powdered clay. Centuries of cart traffic had pulverised and loosened the dirt, which was carried away by winds, meaning that the track would get a few inches deeper each year — first developing into a trench, then a cutting, then a gorge between vertical walls — in some places an amazing two hundred feet deep, and only a little wider than a cart.

The misery and poverty of the people in the cold was overwhelming. Opium seemed to be the sole sustainer of life. LeFèvre comments, 'By the irony of Fate, opium, famine, bandits and Muhammedan rebellions were all that the Great Wall had now to protect.'

Leaving Ning-sia on 20th January, Audouin-Dubreil's car, the Silver Crescent, crashed through the apparently solid ice covering an irrigation canal, and with its trailer sank to radiator cap level. Another of the vehicles broke two front springs and a crank-case trying to drag it out. Three other cars were hitched up, and the surrounding ice broken up, and the race began to haul the car out before it was frozen in. The expedition's photographic plates were in the sunken trailer,

but miraculously escaped damage. Any delay at this stage was exasperating — the men only wanted one thing, to get to Peking.

The insecure travel, miserable people, the exactions of the army, and walled towns all suggested the Middle Ages. The main hazard between Ning-sia and Paotow was bandits, which operated on several levels, from desperate individuals up to large organised groups, which were often a part of the army.

At a small village, the convoy was surrounded and fired on, but despite many bullets lodged in the vehicles, no-one was hurt. The Frenchmen brought out two machine-guns and fired a couple of warning rounds, and the bandits retreated, returning later to say it had all been a 'mistake'.

On the morning of 12th February, the three hundred and fifteenth day since Haardt had left Beirut, the expedition arrived in Peking, greeted by the French Legation, and telegrams, telephone calls, letters, interviews — and the luxury of a hotel room each.

Almost immediately, plans were made to return to Beirut, by a more southerly route, starting at Hanoi, and passing through India and Persia. Haardt was persuaded to rest for some days in Hong Kong, suffering from slight influenza. The expedition was ready to leave, but at the last minute, Point and Audouin-Dubreuil had been summoned to an urgent telephone call. On their return,

Audouin-Dubreuil was extremely pale, and beckoned the party around him. 'Yesterday I received very disquieting news. Now I have just learned the terrible truth. Haardt, my old comrade and the leader of us all, died last night at Hong Kong from double pneumonia.'

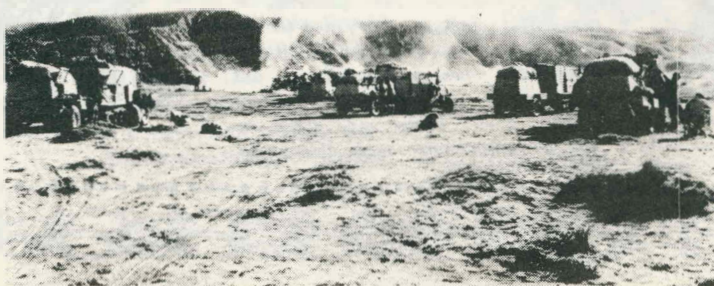
The expedition had lost its mainspring, and now received this message:

'The man is dead, but his work lives. Bring back to France the body of your leader. I share your grief. André Citroën.'

Kym Harding



Georges-Marie Haardt



AUTOMOTORCAR

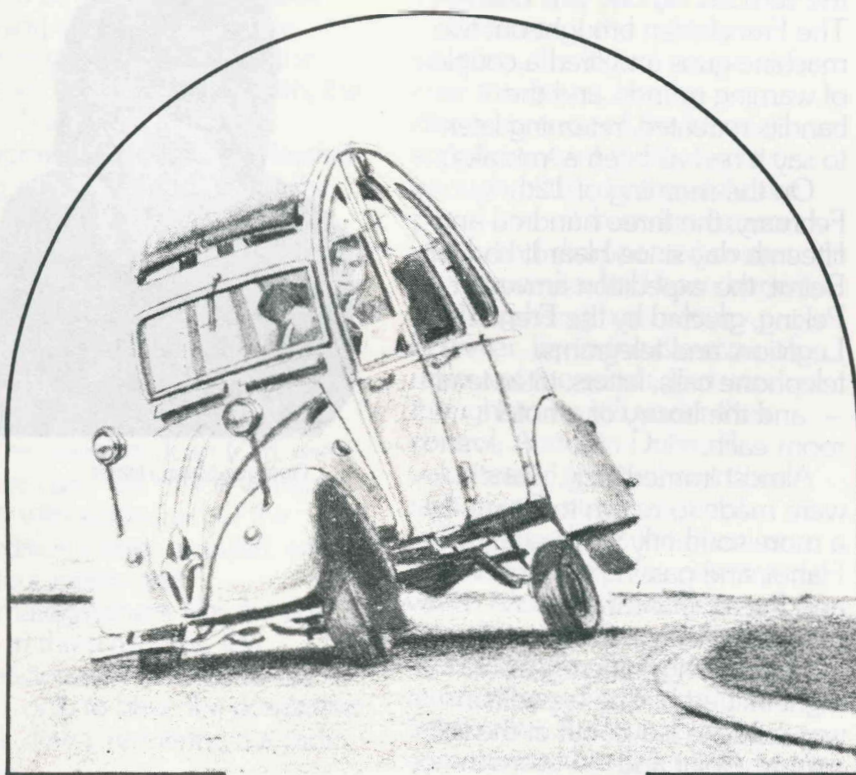
Road Test Number

C-32675298/B

Maladroit C-2V

"Escargot" Saloon

401 cc



A study of the C-2V attempting a curve, taken moments before the photographer bolted. Actual cornering was only slightly more of an ordeal, our testing driver observes, than the job of gathering sufficient speed to do it.

Much belov'd (or at least tolerated) in the backward regions of the world (and rural France in particular), the well nigh ageless (in terms of model run) Maladroit C-2V, or "Escargot" (meaning "snail") as it is more familiarly known amongst those who are fond of or at least well acquainted with this interesting Gallic device for transporting persons and chickens cheaply, has conspicuously eluded any niche for itself in the affections of British motorists—a state of affairs one should not too glibly fob off merely as the consequence of none of this type having been landed in Britain for well nigh a decade. After all, as our Technical Editor points out, Britons still treasure the memory of the stout little Amilcar (which ceased production about 40 years ago, according to Mr. Reg. Snively of the British Amilcar Register), and several British motoring journalists of the time termed Bugatti's monstrous Royale "interesting" during its all too brief heyday, even though all too few correspondents were ever privileged to set eyes on one.

In fact, total absence of a *marque* frequently makes the sentimental British heart grow fonder; how else indeed to explain the very existence of the Royal Welsh Lea-Francis Lynx Owners' Club, when no Lea-Francis Lynxes were ever actually built?

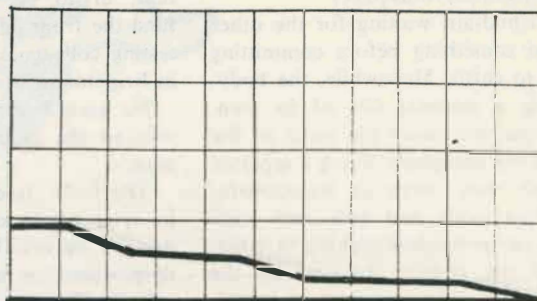
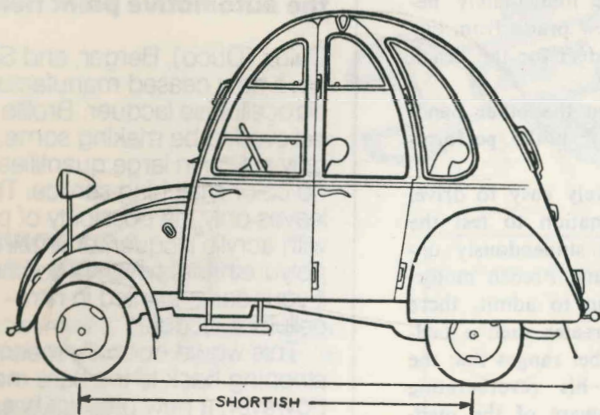
The C-2V may have been shut out of our hearts simply because Britain's aggressive bicycle industry has effectively responded to the market demand this self-propelled French machine seems more or less aimed to meet. Or then again, the answer may lie elsewhere, or in several other places at once.

Withal (despite the refusal of the Maladroit press section at Pleurisy to provide the requested data, a refusal as baffling as it was rude), many thousands of C-2Vs have clearly been not only constructed but bought. And many, as any Briton knows who must journey via France en route to his holiday destination in Spain, are still, after a fashion, running (though in the case of the Escargot, "ambling" may be the more accurate if less charitable word!).

Maladroit S.A. is a firm that displays, indeed flaunts, its flamboyant Gallic unorthodoxy in a series of somewhat bizarrely engineered medium-priced saloons (see *Auto-*

On Cursory Retrospection: Seems to hit its stride whilst being smartly towed. Workmanship not yet cause for alarm. Handgrips for pushing, a thoughtful feature but dearth of wipers astern a peril. Easily visible doors. No chassis detected on our test vehicle in contrast to factory claims. Newer model once again rumored, rumors once again discounted.





Kermode Factor accelerative graph to 1-in-30 scale shows torque multiplication becomes subtraction in pure scientific terms, shortly after vehicle commences run. Graph appears to show that C-2V loses power as throttle pedal is depressed, in fact, with theoretical stalling occurring at theoretical maximum speed. French data differ, needless to add.

motorcar, July 1965, "Can French Gimcrackery Catch Up With British Know-How?") with their fixed suspensions under flexing bodies, their rope-pull substitute for a normal gear-change mechanism, *et al*, that sell well at least in France (with the aid of the restrictive Gaullist tariff laws, one feels obliged to add).

In the face of this eccentric bent, it is exceeding odd, notes our Technical Correspondent, that the Maladroit boffins should approach the C-2V from such a head-on (one wants to say "primitive," but one catches oneself in the very nick) conceptual tangent, and fashion a machine as unsurprising to behold in its technical configuration as a Gauloise: a tall, thin, tin box merely, dragged along on tiny wheels by its frontally anchored, 401cc short-stroke 12-hp (DIN) two-cylinder water-cooled petrol-burning motor. (Our Technical Editor notes striking similarities of design between the C-2V's engine and his WeeGee model aeroplane petrol 1/32nd-hp engine. There are, of course, signal differences, but our test group had scant chance to check them out; the bonnet latch on our borrowed C-2V had been evidently welded to the bodywork, making access to the engine compartment quite impossible and forcing us to study murky photographs in the flimsy brochure for clues.)

Notwithstanding the foregoing, that C-2V engine has several home-spun advantages worth mentioning. It barely inhales petrol, yielding scandalously high fuel mileage that creates the risk of the driver's quite forgetting petrol fill-ups altogether, and finding himself (as did our testing aggregation) stranded in the midst of nowhere.

The engine is simple enough for even a French mechanic in the Provinces to tinker with and not savage.

And once fired up, no doubts linger in the operator's mind as to whether the engine is or is not turning over at idling; it is, with a raucous Gallic vengeance. Our Technical Editor comments that this can be attributed to the lack of a firewall betwixt engine and operator (this is, one need hardly remind oneself, an economy design), and to the inherent imbalances in a two-cylinder engine layout, with which the Europeans seem endlessly preoccupied even today, long after British engineers "gave up the ghost."

And then again, the peculiar corrugated, non-insulated raw metal bodywork carries its messages more faithfully than the faithful Gunga Din ever did. They are plentiful, and they are always the same: cacophony. One begins to understand the strident speech habits of so many Frenchmen; they *must* scream, to be heard in a C-2V.

(It all reminds our Technical Editor of his wartime days as Navigator in a Vickers Wellington bomber, he reports, but cannot be more conclusive at this time due to space limitations.)

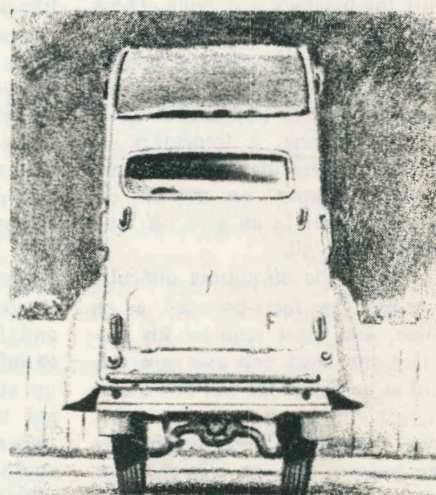
The suspension system employed under the C-2V since its inception has provoked near hysteria among the unwary who are following this unlikely-looking proposition over winding roads for the first time. It seems, indeed, less a "suspension" in the S.C.H. Davis sense than a means of *stepping* the vehicle along as if its four wheels were four feet; at no time are all four touching *terra firma* simultaneously, but at least one is always seen reeling un-

(Continued on next page)

SPECIFICATIONS DELINEATION ROUCESTER

Maladroit C-2V Saloon, 401cc (approx.)

Constructors	Maladroit S. A. Pleurisy, France
Test conditions	Fog, slight drizzle with westerly winds at 4 mph, 56 deg. F., 12 ft. above sea level on macadam surface recently re-paved, machine unladen save for driver, driver's woolen muffler, full ash receiver nominal amounts of fuel, oil and water, morning dew.
Tyres	Four in use, 3 spares.
Hooter	Press-type button on steering wheel boss, A over High-C.
Doors	Four found, 2 per side, opening outwards via European style knobs.
Heater	In the Gallic mode, i.e., difficult to engage and of questionable use below -50 degrees F.
Tools	Trapped under battery, thought to be a spanner and or screwing-driver. Technical Editor cannot be certain.
Fuel	Petrol except in emergencies.
Engine	One.
Transmission	Vitally connected with the vehicle's progress, several ratios to choose from.
Battery	Rumored to be 6-volt but hidden beneath rear seat.
Dipping Stick	Metal with thumb grip.
Windscreen	Behind bonnet.
Handbrake	Foot-operated.
Instrumentation	Barometer gauge and several warning lamps which may or may not indicate overheating, lack of oil pressure, etc.
Driver's Seat	Adjacent to passenger's seat.
Owner's Manual	Printed in French, with illustrations.



Familiar view of C-2V, usually encountered on hills, and sustained sometimes for hours.

(Continued from previous page)

certainly in mid-air, waiting for the other three to do something before committing itself back to earth. Meanwhile, the bodywork, living a separate life of its own, lurches to and fro above the waltz of the wheels; and the occupants, living a separate life of their own, wage an unsuccessful battle against pitch and yaw and yield themselves up to helpless rocking in counterpoint to the rhythm enjoyed by the suspension.

It is evidently good enough for the French, and it is all done with coils and tubes and some form of sliding rod according to our Technical Editor, who thinks he spotted what looked like big rubber bushings somewhere in the middle of things, but cannot be more conclusive at this time—nor in the future, for that matter.

Starting up in damp, drizzly weather (it has been a beautiful summer in England) requires first and foremost the ignition key. Ordinarily—to forestall just such happenstances—our staff wear such a key around their necks on a string; alas, this time a stray gremlin did its dirtywork and, *voilà*, no key. That the C-2V key is a dullish sliver of metal not easy to spot lying on a kerbstone or in the gutter, made our search no easier. Must an economy car economize in every minute particular? But two or three days later the missing object turned up in a staff pocket, the parking tickets were summarily raked off the windscreen (and smartly forwarded to the Maladroit offices, if they can be called that, in Bowling Alley), and the little contraption (the C-2V) boarded—albeit, on the wrongish side since France hews to tradition and mounts steering wheels on the left, or *gauche*, side.

Driving the C-2V, one is struck by how little like driving it all really is, actually, in so very many rather important respects.

There is the matter of never being absolutely sure the machine is moving. There is the worrisome concern one cannot suppress, as to whether the steering column is in fact connected with the front wheels. There is that damnable illuminated flashing sign of the fascia, a trademark of Maladroits for lo these many years, winking "Defense de Fumer" on and off, off and on as if one were in an aircraft and not an automobile at all.

There is, lastly, the off-putting difficulty of trying to see. One feels bounced, as on a trampoline, and must regulate his motions, so that the head and eyes are facing forward as he passes the slot that forms the windscreen, on his way up or down. Rather, our Technical Correspondent observes, like peeping through a keyhole on a child's teeter-totter, although he is unable to be more conclusive at this time.

Resembling a lower-priced line of lawn furniture, the C-2V's seats, or sitting arrangements (two low-slung deck chairs in front, a kind of truncated camp-cot in the

rear, or to be precise, immediately behind the front ones), drew praise from our testing colleagues as perfect for the beach at Brighton or Blackpool.

No such hesitancy, on the other hand, marked the judgment of brake performance.

The C-2V is deceptively easy to drive, in spite of its determination to test the driver's nerves. If it is stupendously underpowered, as even some French motorizing journals have begun to admit, there are compensations: it creates such a bedlam of noise in all decibel ranges that the driver, trapped inside his reverberating roost, is mercifully unaware of the maddened trumpeting from car and lorry horns following. He can thus concentrate fully on the job at hand.

We found ourselves frequently wrenching the shifting stick into reverse while underway—not through forgetfulness but deliberately, in order to reassure ourselves the C-2V was *not* in fact moving backwards. Luckily, the reversing gear on our test vehicle was stripped or otherwise fended; no harm done.

And the ever-present problem of leaking petrol fumes from the tank, installed under the seat, was handled by frequent vomiting stops—one would have stopped anyway, to clear one's head and bring the circulation back to the legs.

One can stow an almost unlimited amount of luggage in the C-2V's capacious boot, but since it all immediately falls through to the ground, this becomes a futile pastime in short order. A boot floor would be the first optional item we would order if we could convince ourselves to buy French and consider the C-2V. (In this regard, it is passing strange that, while Maladroit has denied buyers such "frills" as a firewall and boot flooring, every new car comes with three spare tyres, lined up on a shelf behind the rear seat, or perch, like a set of Gibbons' "*Decline and Fall*," and a gallon of paint, though the latter, since it does not necessarily match the colour of the particular car, seems more souvenir than blessing!)

We encountered no opportunity to record fuel consumption figures or acceleration data, alas. Our test machine ran out of petrol about two days after trials began, on a lonely stretch of road near the Great Brobdignagian Flyover, in the middle of the night. The Maladroit representative, and *he* knows who *he* is, had neglected to inform us that the tank was not topped up at the outset—either that, or we forgot to check before starting out, which seems highly unlikely in view of this staff's collective 198 years' testing experience in all types of motor vehicles.

Tit for tat, our testing congregation unanimously decided, and left the C-2V sitting there by the roadside, where, for all we know (or care), it may still languish.

Two major developments in the automotive paint field

Dulux (Duco), Berger, and Spartan have now ceased manufacture of nitrocellulose lacquer. Brolite are still believed to be making some, but only selling in large quantities, with no color matching service. This now leaves only the possibility of painting with acrylic lacquer, enamel, or polyurethane, which is not too good if your car is painted in nitro-cellulose lacquer!

This would normally mean stripping back to the bare metal—however, a new product has come onto the market which enables acrylic lacquer to be applied even over enamel or n.c. lacquer.

Real-Seal, a Scottish development, is an alcohol based sealer which is applied very thinly over a thoroughly prepared surface prior to using a primer-surfacer. It may only be thinned with the Real-Seal solvent. Only one extremely thin coat is permitted. It must not be rubbed down, and water must not come into contact with it. At normal temperatures, Real-Seal dries within an hour.

It is quite expensive—about \$18.60 for a litre of sealer and a litre of thinner, but this is claimed to be enough for at least a couple of cars, because of the thin application. Real-Seal is available from Rejon Industries, Varman Court, Nunawading (trade discount to club members), or try your normal paint supplier.

If you know of any supply of nitro-cellulose lacquer, please contact the Editor, for publication in Front Drive.



SERVICE OF A LUCAS GENERATOR

Extracts from a 1938 Lucas service manual, courtesy of Roger Brundle.

BRUSHGEAR

1. Sticking Brush

Test by holding back the brush spring and moving the brush in its holder. If the brush tends to stick, remove it and clean it with petrol.

2. Brush spring weak

If the tension is low, fit a new spring.

3. Brushes worn

If the brushes have worn to such an extent that they do not bear properly on the commutator they must be replaced:

Remove dynamo from engine, withdraw cover band, remove screw securing eyelet on end of lead from brush. Hold back brush spring and remove brush from its holder. Place new brush in holder and gently lower spring. Secure eyelet on end of brush lead in original position. Bed the brushes to the commutator.

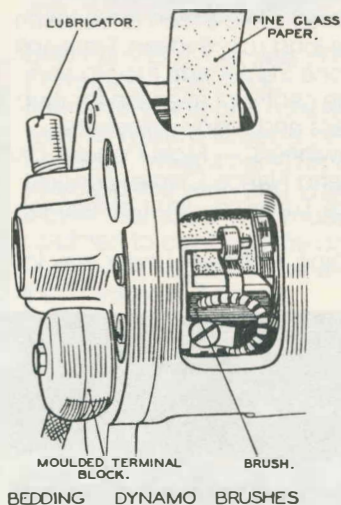
4. Bedding brushes to commutator

The surface of the brush in contact with the commutator must present a uniformly polished appearance. Brushes must be bedded to the commutator as follows:

Pass a thin strip of very fine glass paper between the commutator and each of the brushes so that the abrasive surface is towards the brush faces. Turn the armature in its normal direction of rotation for a few minutes and then remove the glass paper. Wipe away carbon or sand paper dust after the operation. It is best removed by blowing the dynamo out with a pump or compressed air with the machine in

SYMPTOMS.	POSSIBLE CAUSES.	
BATTERY IN LOW STATE OF CHARGE	Dynamo giving low or intermittent output indicated by ammeter giving low or intermittent charge reading when car is running steadily in top gear with no lights on.	Broken or loose connection in charging circuit.
		Battery needs attention.
		Commutator dirty.
		Commutator worn.
		Brushes sticking.
		Brushes worn.
		Brush springs weak.
		Brushes not bedding.
		Regulator out of adjustment.
BATTERY OVERCHARGED SHOWN BY BURNT-OUT BULBS AND VERY FREQUENT NEED FOR "TOPPING UP"	Dynamo not charging indicated by ammeter not showing charge reading when running steadily in top gear with no lights in use.	Broken or loose connection in charging circuit.
		Battery needs attention.
		Commutator dirty.
		Brushes worn.
		Brush lead broken.
		Regulator out of adjustment.
		Cut-out damaged.
		Cut-out contacts dirty.
	Dynamo giving high output indicated by ammeter giving high charge reading.	Dynamo Field coils damaged.
		Armature damaged.
		Regulator out of adjustment.

HOW TO LOCATE AND REMEDY CHARGING TROUBLES.



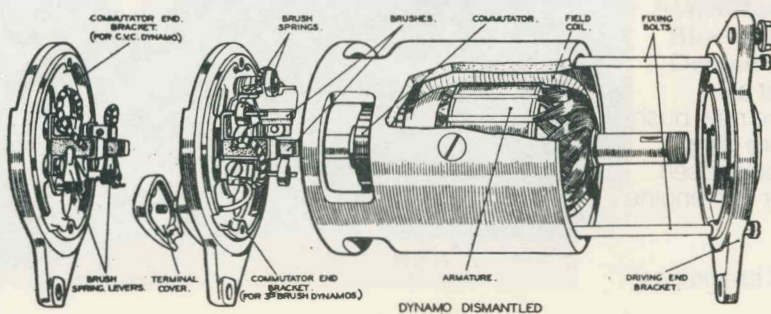
motion.

After several days running, the brushgear should be again examined; and any carbon dust wiped away. At the same time, the dynamo output should be checked.

5. Dirty or greasy commutator

A commutator in good condition will be smooth and free of pits or burned spots.

Clean the commutator with a cloth moistened with petrol. If this is ineffective, carefully polish with a fine glass paper. Pass the strip of glass paper around the commutator and draw it backwards and forwards while the armature is slowly rotated.



6. Commutator badly worn or grooved

To withdraw armature from dynamo:

Remove driving pulley by unscrewing the fising nut and carefully levering the pulley off the shaft with a sprocket extractor or similar tool. Unscrew the through bolts passing from the commutator end bracket to the driving end bracket.

Lift the brushes from their holders and disconnect field leads from brushgear and leads from the moulded terminal block.

Pull the two end brackets from the yoke. Finally remove the driving end bracket and bearing from the armature by means of a bearing puller.

Turn down the commutator in lathe. Rotate the armature at high speed and take a very light cut with a sharp tool. Do not remove any more metal than is necessary. Polish the commutator with a strip of fine glass paper. Now, undercut the mica as follows:

The mica insulation must be below the surface of the commutator segments. If necessary, it must be undercut to a depth of 1/32". A hacksaw blade, ground down until it is only slightly thicker than the mica, forms a suitable tool. This is drawn backwards and forwards along the mica until the latter is undercut to the proper depth.

REPLACEMENT OF ARMATURE

Remove armature as described in (6). The testing of the armature requires the use of a voltdrop tester, or a growler. If these are not available, the component should be checked by substitution or sent to a Lucas agent for testing. After fitting a replacement armature, the brushes must be re-bedded as the new commutator may not have the same curvature as the old one.

REPLACEMENT OF FIELD COILS

The fitting of field coils requires the use of a pole shoe expander. If one of these tools is not available, do not attempt this operation, but send the dynamo to the nearest Lucas agent.

REPLACEMENT OF BEARINGS

Whenever possible, ball bearings should be removed and refitted by means of a press.

Bearing bush

Remove the end bracket as described in (6). Press the new bush in the end bracket. Before fitting, make sure the bushes have been soaked in machine oil or thin engine oil.

Ball bearings

Remove the driving end bracket as

described in (6). Remove the plate covering the bearing by withdrawing the three securing screws. Fit the new bearing using a suitable tool. See that the bearing is packed with a good quality high melting point ball bearing grease.

Club Calendar

Bryan Grant

AUSTRACTION '79

Bryan Grant

Fine weather, excellent location, great company. These were the ingredients that made Austraction '79 a success.

The forty members and children who attended made the most of the opportunity to meet with and get to know their fellow club members at this our first annual rally.

One positive element forthcoming is that this rally provides an incentive for all members to get their cars into the best possible running condition. I know from first hand experience the many hours that were put in to endeavour to ensure a trouble-free trip. Unfortunately not all cars that were given the treatment made it to Echuca, a variety of last minute ailments causing them to be left at home. It is believed although not confirmed that the owners of these miscreants made the fatal mistake of talking about a long trip within earshot of their pride and joy, and this caused strike action to be taken.

In the long run, thirteen Tractions and a lone 2CV made the trip and were the centre of attention for club members and many onlookers.

Prizewinners — Most Popular Car: Arthur and Nance Clarke; Longest Distance Travelled: Jim LeMesurier, T.A.S.A.

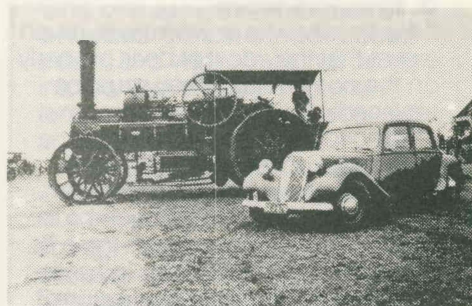
Planning is already under way for

our next annual rally, so if you missed out in '79 start bringing your car into top shape now so that you too may be part of Austraction '80.

Don't miss our next general meeting, and a chance to get to know something of the mystery that surrounds *that noise* from the front end of your Citroën.

Wednesday 1st August at Blackburn: The Gearbox, courtesy Gerry Propsting.

Other coming events to keep in mind are the barbecue and car-moving at Fred Kidd's in Maryborough, and the Second Annual Parts Auction on Saturday 8th September — for more details on both of these, see the Spare Parts column in this issue. An advance notice too for the Swap Meet at Bendigo — this year on the weekend of 17th and 18th November at the Bendigo Showgrounds.



Two Tractions.

Austraction '79 coincided with the annual Steam and Traction Rally at Echuca. The one in front is Rob Harding's 1955/6 Light Fifteen 11D.

How to get better mileage from your traction — hire Judy Rankine's 2CV tow car.....



Report on the second T.O.C. Spring Rally

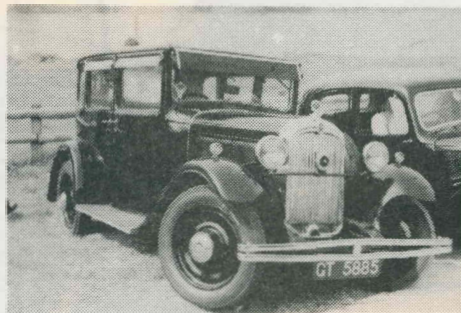
from CCOCA member, Tim Farmilo

Picture if you will, a beautiful summer day and rolling green fields, with the River Severn weaving its way between them, and a group of Traction enthusiasts sitting outside an old English pub. This was the scene as a group of us from the TOC sat eating lunch and waiting for everyone to arrive for the second TOC Spring Rally. Gradually, the members began to arrive, and the line of Tractions began to fill the pub carpark. About 2 o'clock, the contingent of cars was lined up for local press photographs.

The afternoon was taken up with a boat trip up the Severn, sightseeing in the nearby town, and then the 'club shop' was set up for those wanting to buy parts. After cooking our evening meals over our respective campfires, we enjoyed a great evening playing skittles in the hall adjoining the pub.

Sunday saw the dawning of another beautiful day and most people seemed to be up early washing and polishing their cars for the concours to be held later in the day. Some people however preferred to sleep in and have coffee served to them in bed! Around 11am the judges began their unenviable task of going from car to car and assessing their standard to find winners for the five prizes to be won.

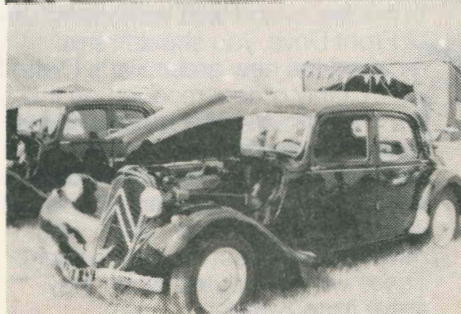
After considerable looking, poking, listening and deliberation, the judges were ready to give their results and announce the winners.



Best Over-all Car was awarded to Martin Lloyd for his immaculate restoration of a 1931 C4G. After 6 years work, the finished product was deserving of the prize.

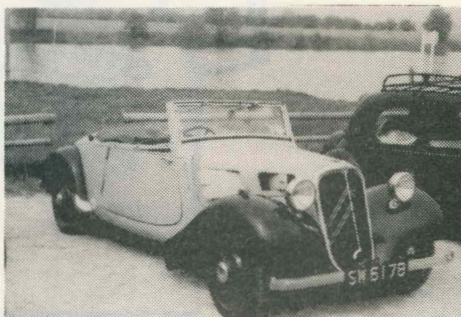
Best First Time Entry also went to the C4G.

Neil Burton's car won Best Slough Built Car, a 1955 Light 15, 11D.



Best Paris Built Car was John Dryhurst's 1952 11BL. Most Interesting or Unusual Car went to Walford Bruen's 1939 Roadster. What a car! This car is 40 years old this year, and Walford had a cake, complete with model roadster, to celebrate the occasion. I only wish we saw these versions of the Traction in Australia.

The rally was very enjoyable and a great success. I hope that Austraction '79 was well supported and equally successful — I only wish that I could be there to enjoy it with you.

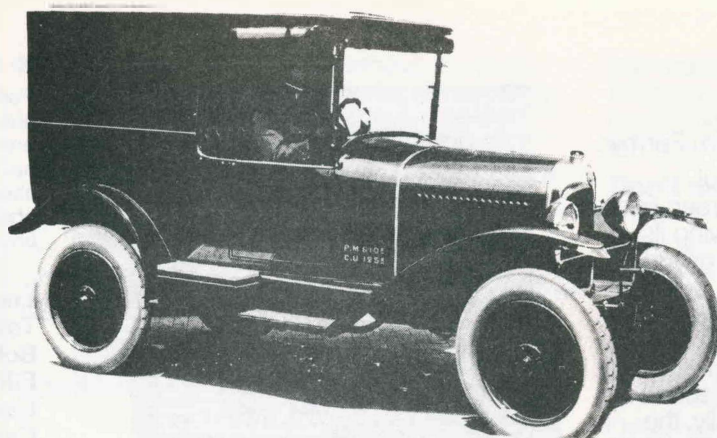


Following on from French automotive terms published in a previous Front Drive, David Archbald has sent some more, so that you can abuse the car in a language it really understands when (or is that if?) it breaks down.

Lunette Rear window
Toit Roof
Bobine d'allumage Ignition Coil
Filtre à air Air filter
L'aile Mudguard, wing
Capot Bonnet
Calandre Radiator shell
Phare, projecteur Headlight
Feu de position Parking light
Radiateur Radiator(!)
Regulateur de tension Voltage reg.
Collecteur Manifold
Avertisseur Horn
Pare-chocs Bumper bar
Batterie d'accumulateurs Battery
Disque Disc
Tambour Drum
Pneumatique (pneu) Tyre
Tunnel Propellor shaft housing (??)
Ressort helicoidal de suspension: Helical, or coil spring
Enjoliveur Hubcap
Reservoir Tank
Feu arriere et le feu de stop Rear light and stop light.
Couvercle du coffre à bagages Boot lid
Roue de secours Spare wheel
Tableau de bord Dashboard
Compteur de vitesse Speedometer
Retroviseur Rear view mirror
Levier de commande de changement de vitesse Gear lever
Pedale de frein Brake pedal
Pedale de debayage Clutch pedal
Frein à main handbrake
Vis de reglage de richesse du ralenti Throttle regulating screw
Papillon des gaz butterfly throttle
Vis pointeau de reglage de vitesse du ralenti Idling adjust. needle
Gicleur principal Main jet
Flotteur Float
Tube d'arrive d'essence Petrol inlet pipe
Pointeau Float needle valve
Gicleur du ralenti Idling jet
Volet de depart Starter butterfly
Courroie trapezoidale V- or fan-belt
Bouchon de l'orifice de remplissage d'huile Oil cap
Guide de soupape Valve guide
Culbuteur Rocker
Soupape Valve
Vilebrequin Crankshaft
Bloc-cylindres Cylinder block
Demarreur Starter

Spare Parts Report

John Couche



A number of interesting and important points have arisen in spare parts since you last breezed your eyes across these pages. If you have read this far, you may as well continue and find out what they are.

Price Hike?

Discussions were held at the last Committee meeting about how we could overcome the situation where, on small sales, handling charges such as sending out receipts, phone calls, etc., wiped out the small club margin.

It has been decided that a flat handling fee of 50 cents be included on all sales of new and second-hand parts (per order). Before you hit the roof and cry 'Aagh, robbery', remember that the extra 50 cents is only wearing a hole in your pocket, so it may as well be put to good use in buying that elusive part the club can't afford at the moment.

Maryborough Trip

Maryborough member Fred Kidd has very kindly donated an 11BL body to the club to do with it what we wish. At this time, it will be put up for sale complete — see classified ads section.

The only catch is that the car need to be moved from its present location at a friend's wrecking yard.

Fred has also invited the spares sub-committee and any other interested member to an informal barbecue lunch at his house in Maryborough.

The date for this will be August 5th — ring me if you require more details.

Spare Parts Auction

September 8th is a date you must set aside — it is the date of CCOCA's Second Annual Spare Parts Auction. To help make this auction a success, you are asked to think about all the parts you would like to have cluttering up the lounge room or kitchen at home and inform myself or Bryan Grant.

Bryan will publish a 'parts wanted' list in A-Tractions prior to the auction. All you have to do now is hope someone will bring along the parts you require.

Don't forget — to be a success, the auction needs **you** and **your parts**.

Recoed Parts

Investigations are presently under way regarding the reconditioning of clutch plates, as the supply of new ones has dried up, and also upper and lower ball joints. These will be available for sale when the investigations are complete.

Parts Order Form

In this issue, and with your last issue of Front Drive, you should have received the new green Parts Order Form. Only orders received on this form will be valid. **All outstanding orders, whether verbal or written must be re-submitted on this form.** Exceptions to this are John Avard and Peter Gillott, who have ordered door sealing rubbers. These will be supplied when they arrive from Sweden.

Tool Hire

If you have read the back of this magazine, you will have noticed that the list of tools for hire has shrunk. This is because only club-owned tools are now for hire. The deposit for tools is now a flat \$10.00 for any number of tools.

Club Shop

Pat Propsting

T-SHIRTS AND WINDCHEATERS: \$10 each plus postage, with either club or roadster design. Available in 3 colours — red, yellow, pale blue. T-shirts are \$5 each plus postage, with either Club or roadster design. Available in red, yellow, pale blue and white.

If other colours are wanted, please supply your own Exacto T-shirt or windcheater and we will print it for you. Exacto is specified because they seem to be the only ones that take the screen-ink without running.

LUBRICATION CHARTS

\$1 each (Light 15). Includes postage if necessary.

FRENCH SPARE PARTS CATALOGUES:

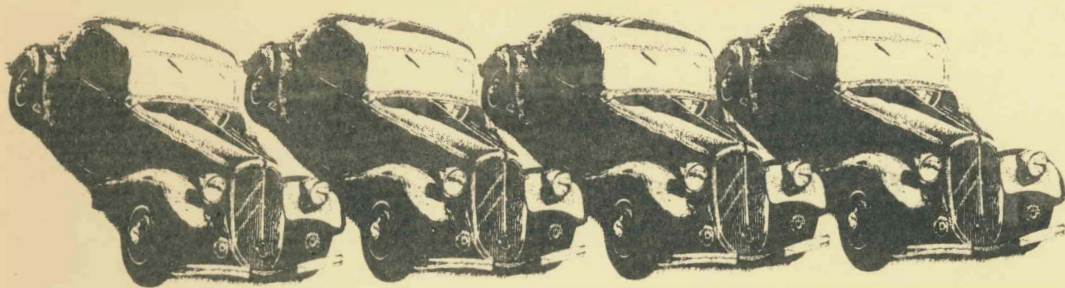
Reprinted by the Swedish club, good quality printing and binding. \$15 each plus postage.

1938 SALES CATALOGUES

Also reprinted by Svenska B11 Klubben, \$2 plus postage.



Market Place



FOR SALE

11BL BODY Includes hull, 4 doors, boot lid and spare tyre cover, rear guards and bonnet. Some suspension parts. Body has no seats and not much interior, but it is straight and rust free. Ideal to transplant your good mechanicals from your rusty body. \$200 ONO. This car is being sold by the club. Contact the Spares Officer, John Couche. (03) 762 6856.

B14 Instruction Book The Motor Book Shop, 59 Landcox Street, Brighton, \$25.00 Ph. (03) 5966615. (Phone first).

1951 Big Six Part dismantled, but complete except for clutch plate. Some rust in body. Best offer. Mr. Hunter (03) 936514. Mr. Hunter also has some **ID19 parts**.

COO-EE WHOOPEE BONZERS!!

2CV Owner's Club, cloth badge, sticker, and T-shirts are now available — for more details, contact Mark Navin, (03) 898576.

SPECIAL CITROËN TOOLS FOR HIRE BY MEMBERS

The club has for hire the following special tools for your Citroën. Tool hire rates are \$2 per week, for a period of one week, with a deposit of \$10.00.

To hire the tools, contact Rex Gercovich on (03) 874 3469.

*Spanner for adj. upper swivel ball;
Extractor for steering ball pin;
Spanner for steering rack tube cap;
Extractor for upper swivel ball;
Apparatus for checking concentricity of brake drums and linings, front;
Same as above — rear;
Front outer wheel bearing extractor;
Front Hub extractor;
Spanner for outer ball-race retaining ring;
Extractor for lower swivel ball;
Vice for holding driveshaft couplings during dismantling and refitting;
Stand for engine when removed.*

Contact Times

To ease the workload on the Spare Parts Committee, the following times have been set aside as the **ONLY** times that spare parts can be ordered or picked up, except in emergencies (which means the need to obtain a part to keep a registered and road-going car on the road following a break-down. Cars undergoing restoration do not qualify for emergency handouts.) To make this system work, your co-operation is requested.

The order times are 5pm to 9pm weekdays and 10am to 9pm weekends. John's phone number is listed in Front Drive.

Pickup Times

Parts may be picked up on the first and third Saturday of each month, except in emergencies.

WIDE RANGE OF NEW AND SECONDHAND PARTS for a range of years and models. Contact Parts Officer. Refer to this and back issues of Front Drive for listings of parts available.

Whilst every effort is made to ensure the accuracy of information and advice in this magazine, and in replies to readers queries, neither the Citroën Classic Owners Club of Australia nor the officers and members thereof nor the authors accept any liability.

