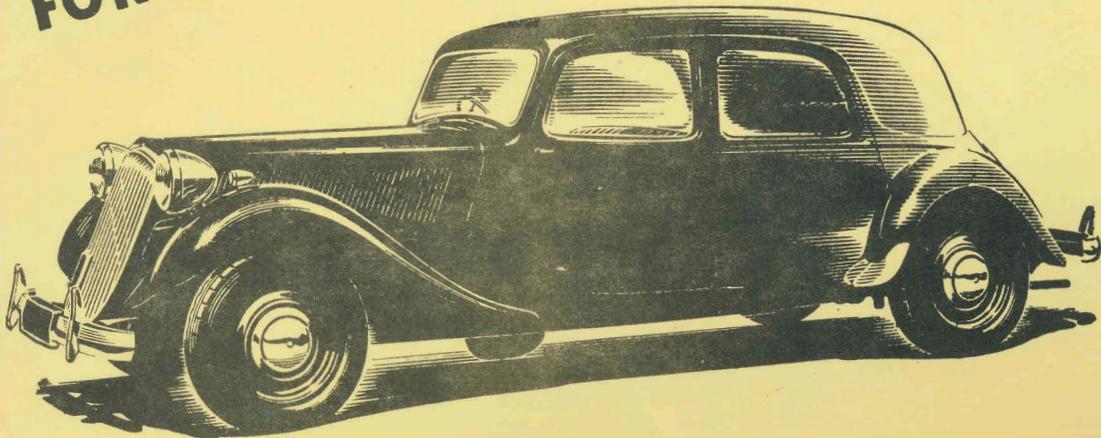


FOR TRAVELLING **FAR...AND FAST**



What "The Autocar" says about the CITROEN SIX

"It is lively, eager, purposeful, feels taut and solid, allows no side sway whatsoever, and travels up to a maximum exceeding a genuine 80 m.p.h. with the same aplomb as it displays in the fifties. . . . Ordinary main road slopes

are taken mostly accelerating or holding the 60 to 70 m.p.h. which it could obviously maintain all day. . . . Over icy roads, the driver found himself able to virtually disregard the conditions."

The 2.8 Litre Citroen "SIX" has the famous Citroen features of design including: **INDEPENDENT FRONT SUSPENSION · TORSION BAR SPRINGING · INTEGRAL CHASSIS and BODY · DETACHABLE CYLINDER BARRELS and FRONT WHEEL DRIVE.**

# CITROEN

## SIX SALOON

Four door Saloon £1131. 11. 8 including P.T.

"LIGHT FIFTEEN" Saloon £761. 0. 7 including P.T.

CITROEN CARS LTD., SLOUGH, BUCKS.

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**Volume 2 Number 6  
February/March 1979**

The magazine of the Citroen  
Classic Owners Club of  
Australia

Front Drive back issues. \$1-00  
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CCOCA meetings are held at  
8pm on the first Wednesday of  
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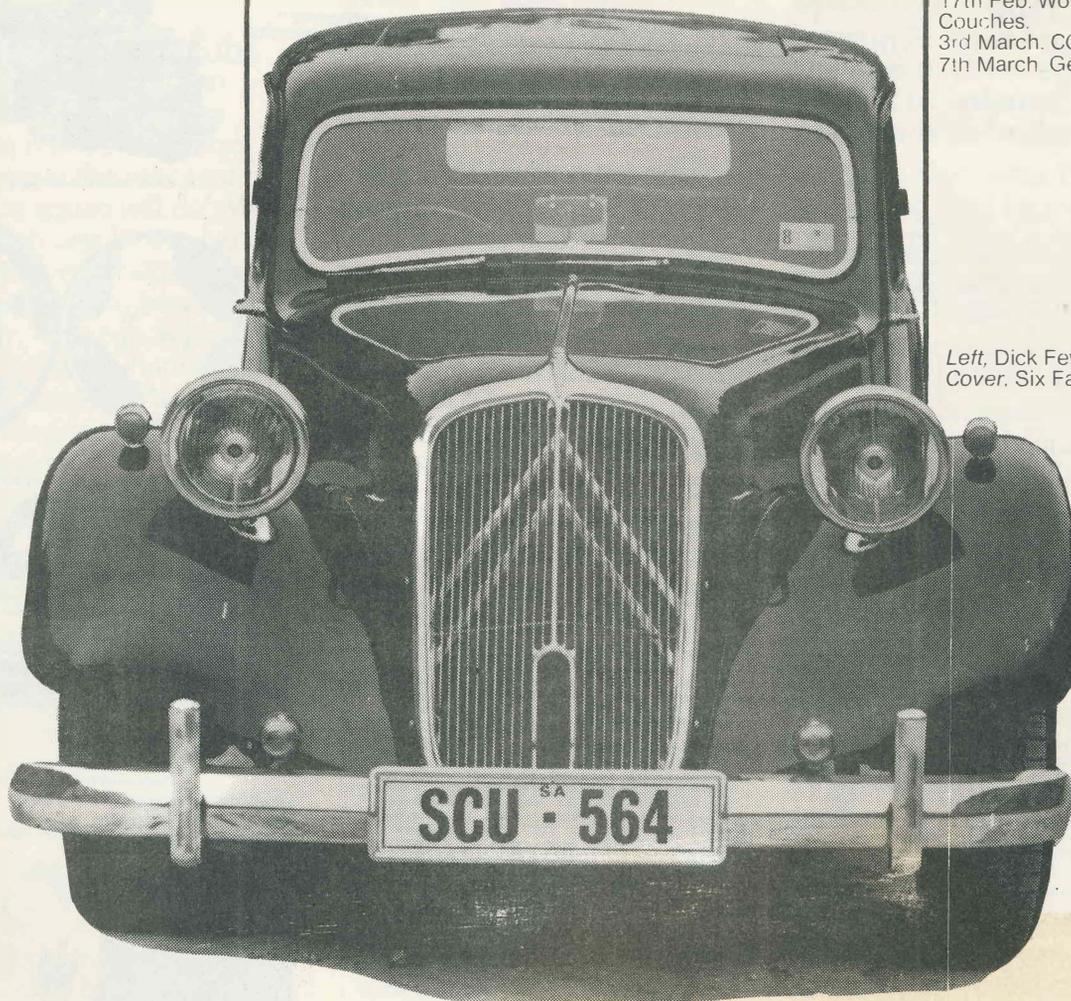
## FRONT DRIVE

To counterbalance this issue's heavy bias towards that King of the Road, the Six, a glance at Citroën today, prompted by a passage in 'Car' magazine (itself to car magazines what Citroën is, or was, to the automotive industry, perhaps).

Having always believed that Citroën possessed a sense which transcended what is 'sensible', can one still maintain any optimism that might have survived the Peugeot takeover in the face of the following?

Peugeot's George Taylor and his colleagues thus had a very sensitive task to perform at Citroën, with plenty of critics waiting on the sidelines to tear them – and Peugeot – apart if they failed. They started off well by making few major changes, except where they were essential to save money. A new baby Citroën then quite close to production was killed, as was the SM. The Maserati-engined car was being sold at substantially less than production cost; and the baby car was 'the most eccentric-looking car imaginable,' according to one Peugeot engineer who saw it. It was a baby car with 15in wheels and styling which made the 2CV look civilised. It might have been brilliant in engineering terms but it outraged the Peugeot sense of moderation and logic, and it was axed. As a stopgap, Peugeot swiftly re-worked their 104ZS which became the LN model, and its back-up (the car that really does the job the aborted Citroën car was meant to) the Visa, is now just going into production.

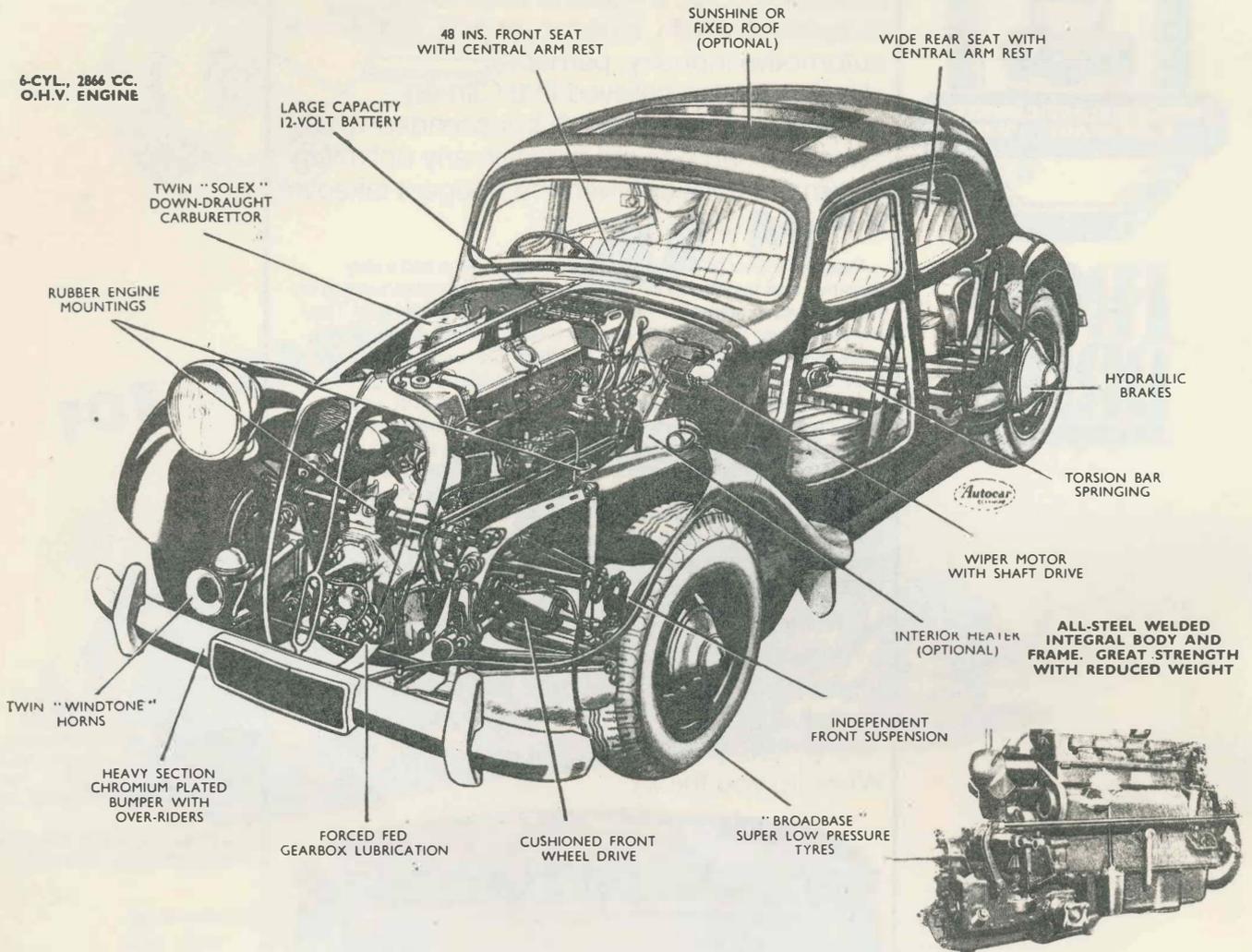
Perhaps even this concern is 20 years overdue – what real developments have taken place at Citroën since the 6H, or, to stretch a point, the DS? A great deal of refinement, yes, but what real developments? What do you think?



Coming events:  
(for more detail, see inside)  
7th Feb – General meeting,  
Blackburn.  
17th Feb. Workshop day at the  
Couches.  
3rd March. CCOCA Annual dinner  
7th March. Gen meeting.

Left, Dick Fewster's Six.  
Cover, Six Familiale

# THE "SIX CYLINDER"



6-CYL., 2866 CC.  
O.H.V. ENGINE

48 INS. FRONT SEAT  
WITH CENTRAL ARM REST

SUNSHINE OR  
FIXED ROOF  
(OPTIONAL)

WIDE REAR SEAT WITH  
CENTRAL ARM REST

LARGE CAPACITY  
12-VOLT BATTERY

TWIN "SOLEX"  
DOWN-DRAUGHT  
CARBURETTOR

RUBBER ENGINE  
MOUNTINGS

HYDRAULIC  
BRAKES

TORSION BAR  
SPRINGING

WIPER MOTOR  
WITH SHAFT DRIVE

INTERIOR HEATER  
(OPTIONAL)

ALL-STEEL WELDED  
INTEGRAL BODY AND  
FRAME. GREAT STRENGTH  
WITH REDUCED WEIGHT

TWIN "WINDTONE"  
HORNS

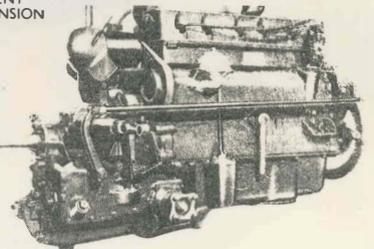
INDEPENDENT  
FRONT SUSPENSION

HEAVY SECTION  
CHROMIUM PLATED  
BUMPER WITH  
OVER-RIDERS

FORCED FED  
GEARBOX LUBRICATION

CUSHIONED FRONT  
WHEEL DRIVE

"BROADBASE"  
SUPER LOW PRESSURE  
TYRES



76 b.h.p. six-cylinder power unit

## ENGINE

Six cylinder, 78 mm x 100 mm., 22.6 h.p., compression ratio 6-2, 2,866 cc., three-point suspension on rubber overhead valves operated by push rods and rockers, valves are short and have double springs; detachable cylinder barrels; four-bearing counter-weighted crankshaft; pistons of special alloy with four rings; silent roller chain drive to camshaft; crankshaft torsional vibration damper

## LUBRICATION

pressure feed by gear pump. Visible oil level indicator fitted on side of crank-chamber. Oil tell-tale on dash. Oil capacity 12 pints

## COOLING

By belt-driven impeller type pump and fan. Water capacity—21 pints

## CARBURATION

By Solex downdraught twin carburettor with acceleration pump and "Starter" device. Pump fuel supply with filter. Large air silencer. Second petrol filter fitted adjacent to tank. Tank capacity 15 gallons

## IGNITION

By coil and distributor, 12-volt. Automatic advance and retard with separate hand control.

## CLUTCH

Twin dryplate

## GEARBOX AND DIFFERENTIAL

In unit with engine, three speeds and reverse; short stiff shafts. Easy gear change, synchronised on top and second, with automatic control for cancelling gear selector locking devices. Dashboard gear lever. Lubricated under pressure by pump incorporated in the box. Bevel pinion-crown wheel, ratio 8:31. Gear ratios, top 3:87; second 5:62; first 13:25; reverse 15:87 to 1.

## FRONT WHEEL DRIVE

The drive is transmitted from the differential to the road wheels by universally jointed sliding cardan shafts, rubber couplings providing a cushioned drive being incorporated in the shafts

## FRONT SUSPENSION

By independent wheels and adjustable torsion bars. The front axle cradle is of very stiff construction with cross bracing and carries the front wing supports and shock absorber mounting integral with same. The swivels are connected by triangulated upper and lower links of heavy section. The lower links operate the torsion bars, whose action is checked by powerful hydraulic shock absorbers, vertically mounted.

## REAR SUSPENSION

By adjustable torsion bars. Trail axle with beam of cruciform section. Powerful Hydraulic Shock Absorbers fitted vertically. A diagonal radius rod is fitted

## STEERING

Very efficient form of rack and pinion with spiral gear teeth, giving light and accurate steering.

## BRAKES

Powerful Lockheed hydraulic on the four wheels. 12-inch drums, with two 1 1/2-inch operating cylinders to each of the front wheels and one 1-inch operating cylinder to each rear wheel. 45 mm. linings. The hand brake acts independently on rear wheels.

## WHEELS

Pressed steel wheels, with 185-400 "Broadbase" super low-pressure tyres. Chromium plated hub embellishers

## ELECTRICAL EQUIPMENT

12-volt c.v.c. dynamo, electric starter with solenoid control, 57 A.H. battery located under bonnet in very accessible position.

## BODY

Six-seater all-steel saloon with four lights, four wide doors, flat unimpeded floors with ample leg room, winding windows, safety catches to doors, door locks, opening screen with central control, large luggage locker with folding extension flap for use with lid in open position. Adjustable dash ventilator.

## THE INTERIOR

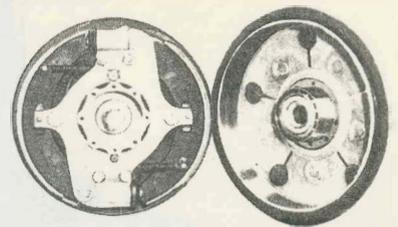
The seats are trimmed in real leather. Non-fray pile carpets with thick underfelts. The single bench-type front seat is adjustable for driving position and has a centre folding arm rest; two pockets are fitted on the back of same. The wide rear seat has a centre folding and side arm rests, foot rests for rear passenger. Polished wood facia board and window fillets, glove pocket in facia board, parcels shelf at back of rear seat. Interior light. Visors are provided for passenger and driver. Pockets in doors. Rear blind.

## GENERAL EQUIPMENT

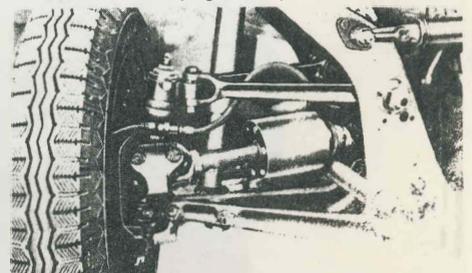
is most complete and comprehensive and includes, in addition to the many interior fittings, two large chromium plated headlamps with dip-switch device, side lamps, tail and stop lamp. One pair Lucas chromium plated Windtone horns; self-cancelling trafficators; instrument panel containing speedometer, electric clock, petrol gauge and ammeter; concealed panel lights; driving mirror. Twin electric screen wiper with motor under bonnet. Ash trays. Spare wheel sunk in rear panel with metal cover providing theft-proof fixing. Handsome front and rear bumpers with over-riders. Polished aluminium rear wing protectors. Number plates; licence holder; kit of tools. Triplex safety glass throughout.

## OPTIONAL EQUIPMENT.

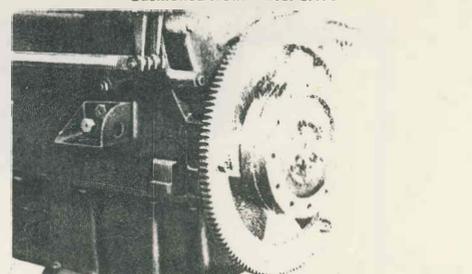
at an extra charge. All-steel sunshine roof. Interior heater of simple and efficient design.



Powerful and progressive hydraulic brakes



Cushioned front wheel drive



Torsional vibration damper

## Learning the Hard Way on a 6H, or, The Foresight Saga

There it was, a small ad in Wednesday's Age (there is hardly ever any kind of Citroën ad on Wednesday, let alone a 6H) — 'Citroën, 6-cyl, hydraulic suspension etc \$250', and the address of a car yard in Northcote. After a quick trip in the L15, ritual tyre kicking and a quick foray down High Street, it seemed that due to numerous cracks, tired upholstery, a cloud of blue smoke, ingenious amateur wiring, and an advanced state of rustus destructicus, that \$250 was a little too much to pay (1971 prices). So tactfully not making a decision and leaving our phone number, we left somewhat disappointed. Two weeks later we received a desperate phone call from the proprietor begging us to take the car at cost price of \$120. Next weekend, money and documents changed hands, and 6H GKL-932 changed addresses.

In a flurry of enthusiasm, the car was taken straight to an engineer to weld the cracks around the rear wheel arches. 'Shall I remove the rear seat?' 'No, just the squab will do'. With this, the torch was lit, the panel packed with wet asbestos rags, and cracks began to become metal again. 'Strange, whats that flickering inside?' 'Oh, nothing'. 'But I smell smoke'. Two people began running around madly with extinguishers.

### **Lesson Number 1: Never weld near combustible material.**

The engineer having decided that payment was not necessary, I drove the car home with the acrid smell of charred vinyl permeating my nostrils.

Next stages proceeded smoothly, repair of rotted rear sills, and cracked left-hand scuttle. The car then sat for a while looking somewhat akin to a patchwork quilt, daubed with undercoat and quickstop putty.

Soon another fit of enthusiasm fell upon me, and, wielding spanners, screwdrivers and Penetrene, the old girl was soon undressed, doors, guards, boot,

bonnet, etc., were stored, and the hull sent to the panel beaters for refinishing.

### **Lesson number 2: Never give a painter a car without the doors attached.**

Economics dictated this idiotic procedure. I had enough to paint the hull, but not the minor panels. I was going to have these done later. No of course the doors didn't fit — they still don't — maybe one day I'll have it straightened properly.

### **Lesson number 3: Do the mechanical restoration before the body if the car has to be kept mobile during its rebuild. (The nature of the parents' mountain goat-like abode dictated this).**

Nasty stuff, hydraulic fluid — does wonders for freshly painted surfaces. I discovered this while waiting for the car to come up to height during one of its many short trips in and out of the garage. The hydraulic pump would have done justice to the Trevi fountain — it soaked up coins with gusto, and futile wishes weren't the only exclamations heard that day.

Matrimony gets in the way of projects such as these, and apart from another address change, the car again lay idle, until one day for the second time around, the patter of little feet, the onslaught of bassinets, bottles, and nappy bags began to make the L15 feel just a little cramped. Babies don't like sleeping standing up.

The old girl had to come out of retirement. Hurriedly she was carpeted, bumpered, legalised and registered — IOV-280. The new plates looked the best part of the restoration.

### **Lesson number 4: Never rush.** Still, I suppose it was more faithful than buying a Holden.

Our first outing felt like riding a cart with lead bricks tied to square wheels — most un-Citroën-like. Three days work experimenting with damper valves for the rear suspension changed all that. Ah, what a nice feeling, floating over bumps on the rear end. Somehow, this did

not match the front with its firm (extra firm?) ride. A set of L15 rear shocks instead of the originals worked wonders.

A trip to the Swan Hill Folk Museum really felt quite nice, even if it did consume more oil than petrol (clogged oil seal, we later found), and you overlook a sore right arm trying to counteract a tendency to steer only around left-hand corners.

For the rest of the first registered period, numerous investigations into particles of fractured manifolds and how to rebuild them kept the car firmly tied to home base. Thanks to Ray Hobbs for the location of a good one.

Its avid appetite for \$'s saw a lapse in registration while the odd ticking sound deep in its 6 cylinder heart was cured (one broken ring) and the front stoppers relined. With the car again legalised, a more fitting number plate was bestowed — CV-015. Such power, such acceleration, such vibration as I braked for the lights.

### **Lesson 5: With French rims, the size of the stud holes is critical to balance, even slight play leads to brake shudder.**

English wheels were the cure — they are fixed far more securely.

I am only now over these last two months, after seven years ownership beginning to appreciate the concept of owning a 6H. What it must have been like owning one from new! The unparalleled comfort, the superb braking and the excess of power is an exhilarating experience (after driving L15's). Last Tuesday, the old girl took us from Mooroolbark to Korrumburra, Wonthaggi, Phillip Island, and home again. The last stage, in pouring rain, we were sitting on a genuine 70mph, and seemed to overtake everything in sight with total assurance and safety.

Yes, the tedium has been worth it, and no, I am not going to sell it. One day it will have the restoration it deserves. (The owner prefers not to admit to a restoration such as this, and will therefore pass un-named). (Gerry's secret is safe with me — ed.)

Wal Burkhardt owns, and is currently restoring one of only three 6H's in the club. Wal has had the car for 3 years — its predecessor being a DB4 Aston Martin (which he has under wraps at home as well).

The car is presently in a rather disassembled state, the motor is completely stripped down; the hydraulics, brakes, and gearbox are removed from the car and neatly scattered about the garage and under Wal's house. The body has just been trailered back from Sydney, where it has been undergoing a thorough clean-up, sand-blasting, followed by extensive panel repair. It has then been treated to an excellent spray job and interior refit.

The body work was done by Scientific Motor Body Works P/L in Sydney. The repair work was fraught with problems — Wal received a panic phone call at one stage in the proceedings — they were in the process of sandblasting the rear section of the car, and the rust was disappearing — along with the car! Apparently the rust was a lot worse than first assessments indicated, and extensive panel replacement was necessary.

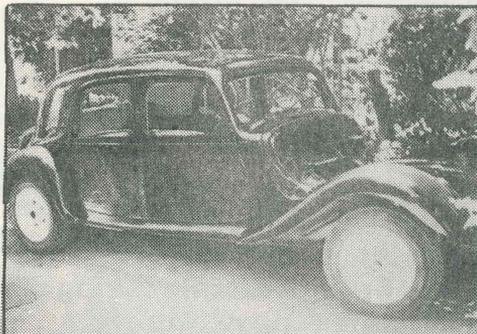
The interior refit has been completed as per the original designs — a cream headlining with red door trims, carpet and seats. The seats were trimmed with leather faces and vinyl backs, as were the originals. The interior refit was carried out by Bob King, who teaches motor trimming at Sydney Technical College.

When Wal bought the car, the condition of the hydraulic system was somewhat questionable. At one stage, Wal had eight people sitting in the back seat in an abortive attempt to lower the rear of the car as the automatic ride height adjustment had frozen in the high position. They managed to budge it a mammoth  $\frac{1}{8}$ ”!

Having now solved the

### 1955 Big Six 'H'.

Wal Burkhardt  
35 Elm St. Bayswater



problem of the hydraulics (hopefully), Wal has found that he has a new problem, or rather, his cat has the problem. Poor old puss, who is accustomed to sleeping on the cars in the family, cannot figure out how to get onto this particular vehicle — the result being claw marks engrave down the right hand guard on the beautiful paintwork — Ouch! Maybe Wal should consider some kind of cat-ladder to the top of the mudguard.

When asked why he chose to restore this particular model and marque, he expressed his fascination for the car. 'Doesn't even compare to a Rolls or a Bentley, they're too common! This is an unusual and interesting car, and much more fun. After all, anybody can own a Rolls!'

Little is known of the history of the car. Wal bought the car in 1976 from the Roberts family (also members of the club). Wal discovered an RACV badge dated 1967,

which identified one previous owner as a Mr. Money. (With a name like this, maybe he should buy the Rolls.) Other than this, nothing is known about the car.

Is Wal after a concours winning car? 'I wouldn't like to commit myself on that,' he says. 'It's bad enough that as a result of appearing in Front Drive, I'm forced to continue working on the car to get it completed. I can't just hide it away and hope that no-one notices that its not progressing.'

Wal would appreciate some good fairy [I don't really think he said that — Ed.] or some generous club member to find him some or any of the following parts he needs for the car —

Bumper irons for the rear,  
A pair of wind deflectors,  
Kick plate for the front passenger side guard,  
and a speedo face to 120mph (round).

If you have these or know where any of these are, please contact Wal or the Parts Officer.

Wal, who teaches watchmaking at RMIT, commented that the only thing that would prevent him from completing the car this year, is the condition of the suspension and brakes, coupled with a lack of time. Being a watchmaker, you should be able to overcome the problem of time, Wal!

Story: Robyn Couche  
Photos: John Couche



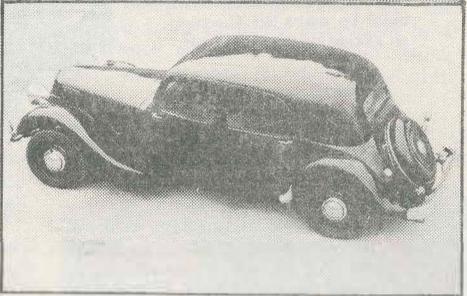
## 1948 Big Six Dick Fewster

I can still remember her, she was very pretty, had long legs and was very keen to get married. The only problem was that my mate Jim didn't have the money to buy an engagement ring. He did, however, have a 1948 model Big Six, that he had just acquired from its original owner on Kangaroo Island. Overcome by his love for the long legged lady, he decided that there was only one way to raise the required \$150 to buy the engagement ring — sell the car. Well, that's how I became the owner of a very original, but slightly tired Big Six. I might add that my friend wasn't quite so lucky — the engagement lasted only three months. I still have the car, but he didn't get the ring back. I should add that this love affair took place some six years ago from which you will gather that the restoration of the car has not been an overnight thing.

While the car was basically straight and fairly complete when I bought it, it was showing some signs of its life on Kangaroo Island. The speedo showed 31,000 miles, but I have still been unable to find out whether that was right or not.

The biggest problem with the car was rust. For those not familiar with Kangaroo Island, it is a lovely place to go for a holiday, but the sugar sand roads work like a sand blast gun on the underside of cars. As most of the underseal had been worn off by the sandy roads I decided it was best to have the whole underside sand-blasted and treated. Except for the sand getting into every nook and cranny I was very pleased with the result. After treatment with Fisholac, the whole underside was sprayed with Killrust.

I might add at this stage that the whole car was stripped before it was sand-blasted. The engine and gearbox were also completely dismantled and



rebuilt with new parts and bearings throughout. The engine was also fully balanced to 8,000 rpm. While it is most unlikely (never) that these sort of revs are required, the balancing operation was well worthwhile as far as smooth running goes.

When it was stripped, the engine showed many signs of poor servicing. While wear was not excessive, it was bad enough to require a full rebuild. For the technically minded, the crankshaft was turned down then hard chromed back to original size. A matched set of ID19 conrods complete with slipper bearings were fitted in place of the original. The barrels were honed and new Zephyr pistons fitted. I should point out that Zephyr pistons, while being a highly suitable substitute for the more expensive originals, are slightly higher and require some

Looking for all the world like an 8-times life size replica of a Heller model, Dick's car can be distinguished from the real thing by its highly sought-after sunroof and non-plastic torsion bars.

machining of metal from the top. The camshaft was also ground, and a new timing chain fitted.

Things like the water pump, distributor, starter motor and generator were also overhauled at the same time. Prior to having the car painted, new carpets and roof lining were fitted. The leather seats and door trims were, luckily, in fairly good condition, and responded well to a good soaking in neatsfoot oil and a vigorous scrub down with saddle soap. The neatsfoot oil was applied with a brush until the leather would not take any more. I think I used about a gallon overall. The paint job involved a complete stripping down to the metal. The original paint was very badly pitted (Kangaroo Island roads again).

The brakes were also re-done and new wheel bearings fitted both front and rear.

While the car has been registered for nearly 12 months there are still a few little things that need finishing off. I might add that it is a real performer once it gets wound up. It seems to be at about its best at 70mph.

By the way, for the romantic types who are still worrying about my mate Jim, he finally did get married — to an even more beautiful lady.

(My thanks to Dick, who managed to escape both the unrelenting probing questioning of my intrepid in-depth reporters, and the ignominy of having one's photo published, by writing his own article — Ed.)

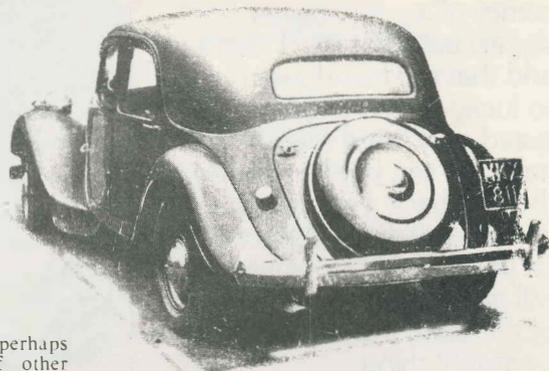
# THE CITROEN SIX

*An Interesting Newcomer to the British Market, Especially Designed to Go Far and Fast*



being at times some vibration transmitted through the rigid steering wheel, but it pulls hard and without snatch over an extremely wide speed range, certainly extending from below 10 m.p.h. to over 80 m.p.h.

On the sort of cross-country journey which especially suits the car, there is a very strong temptation to forget about the gear lever completely. Outside town, there always seems to be ample power for overtaking other traffic in the highest of the three ratios,



**S**INGLENESS of purpose is the predominant impression left on those members of our staff whose pleasure it recently was to drive the Citroen Six. It is manifestly intended, not as a more refined version of the same manufacturer's sturdy and popular "Light Fifteen," but as a car scaled up in all its dimensions to suit the especial requirements of the long-distance traveller.

In every dimension except height, the Citroen Six rates as a large car by European standards. It is wide enough to seat three people very comfortably on each of its bench seats when the central armrests are folded away, although the unusual gear lever droops far enough from the fascia panel to touch a central passenger's knees. It is long enough for rear seat passengers to appreciate a foot-rail on the floor, in contrast to the modern idea of letting them put their toes under the front seat. And, although the seats are upright and the car's overall height very modest, the low, flat floor allows headroom for a tall passenger to be ample in front and adequate above the rear seat.

## Stable Equilibrium

The whole appearance of the car is unusual, in that whereas fashion has tended to crowd bodies onto chassis of limited wheelbase and track, this design slings the body low between four wheels which are spread out to the very extreme corners of the car. It is an arrangement which elementary mechanics suggest should make for stability, and such indeed proves to be the case, for even violent manoeuvres produce only the smallest amounts of pitch during braking or roll on corners. Few sports cars, even, are so little affected by awkward adverse road cambers such as are often and inevitably encountered on corners.

Riding qualities as well as stability are influenced by large wheelbase and track dimensions, and although many other modern designs have obviously been inspired by this particular layout of torsion-bar springing the results are a little out of the ordinary. In so far as such matters can be defined in words,

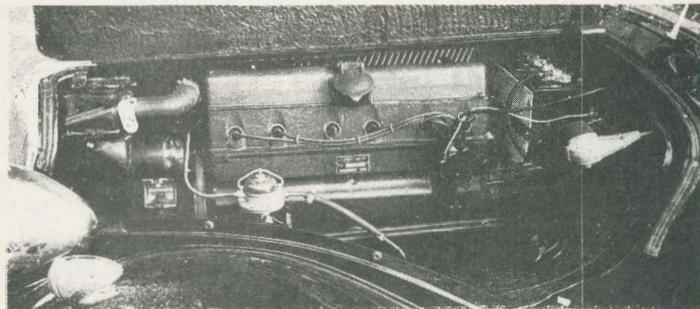
**LOW SLUNG.**—Generous wheelbase and track dimensions combine with low build to make the Citroen an exceptionally stable car.

the movement of the car is perhaps slightly quicker than that of other models equally flexibly sprung, more a matter of two small motions as front and rear wheels successively encounter a bump than of the whole car rising and falling bodily once—it is a definite but restrained, well-damped motion which should have, happily, little effect on those so unfortunate as to be subject to car sickness.

The six-cylinder engine which very well fills the car's long bonnet uses the same cylinder dimensions as the better known "four," so that there is 50 per cent. more swept volume, but the actual power increase is 36 per cent. only. The enlarged engine develops its required maximum power at less than 4,000 r.p.m., and correspondingly gains in flexibility at low speeds, so that the car will run through quite surprisingly slow town traffic in top gear. It is not a completely smooth engine, there

and much the same is true in passing through towns, provided a complete stop is not enforced by traffic: the engine pinks quite readily on Pool petrol at moderate speeds, but in town, rather than change down, one turns the ignition timing control (which adjoins the fascia-panel gear lever) towards "retard" and stays in top gear.

It must be admitted that this practice is somewhat encouraged by the rather deliberate nature of the gear change. The gear lever is locked immobile until the clutch pedal is depressed fully, so that although the synchronized change-into 2nd and top gears are easy, it is impossible to hustle them by any running together of clutch and gear lever movements. First gear provides power enough to spin the front wheels on a



**FULL HOUSE.**—Set high up, and almost completely filling the long bonnet, the engine is flanked by the gear control linkage, fuel pump and ignition distributor.



**WELL SPACED.**—The floor is dropped below the level of the doors, and the rear seat positioned to give generous knee and foot room.

dry road, second gives power to climb any ordinary hill and allows a useful 50 m.p.h. to be attained, and top carries the car steadily up hills of the 1-in-10 order of steepness.

Anybody accustomed to driving pre-1950 Citroen front-drive models finds on new cars such as this a very much more comfortable pedal layout, but the use of pedals hung from high up on the scuttle remains an unusual feature. With use they are found quite comfortable, however, although initially the left foot is apt to rub against the central bulkhead as the clutch is depressed.

Our initial usage of the Citroen was in London and around Sussex lanes, where it behaved very well, although the turning circle was rather large in diameter: it is an asset that the front wings stand up in full view on either side of the long bonnet, although with some settings of the adjustable driving seat the near-side parking lamp is hidden behind the driving mirror. Low-speed service, however, is not the car's proper sphere, as under these conditions the driver has to handle quite unusually heavy steering.

Our incursions into country ways did show up circumstances in which front wheel drive, often accused of being at a disadvantage on slippery surfaces, in fact, proved an asset. Turning at a gateway in a narrow lane, keeping the driving wheels on hard ground, proved much easier than usual when it was a case of reversing into the gateway.

Open road was what really suited the Citroen, however, the desirable condition being not smoothness, straightness or width, but simply a clear enough view ahead to make fast cruising safe. Under such conditions, the car automatically covered the ground very quickly indeed, to an even greater extent than the over-80 m.p.h. maximum speed and good acceleration figures would suggest. There are, of course, many faster cars on the road, but in practice we encountered nothing outside restricted areas which was not quickly overhauled, passed and left.

In so far as a cruising speed can be specified for this car, we would mention a genuine 70 m.p.h. (a little more than 72 m.p.h. on the speedometer) on English roads, a speed which is quickly

**Citroen Six - - Contd.**

attained, instinctively maintained despite normal gradients and corners, and is not noisy, extravagant or consciously fast. At somewhat lower speeds some transmission noise is audible, something rather like the humming of roadside telegraph wires on a windy day: higher cruising speeds are perfectly acceptable to the car when conditions are suitable, but acceleration is much less rapid above 70 m.p.h.

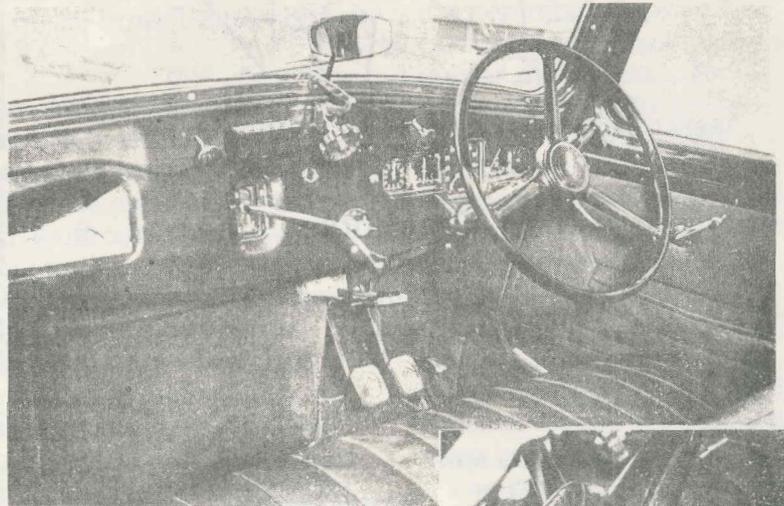
**Responsive at Speed**

Used in this fashion, as it is very evidently intended to be used, the car ceases to be subject to any criticism on the ground of heavy controls. The steering takes it precisely where the driver wishes it to go, on the straight or on a curve, and needs no real effort. The hydraulic brakes are little noticed, but in fact slow the car promptly and surely whenever required in response to a comfortably moderate pedal pressure, although at high speeds some vibration of the pedal is felt. The way in which the car changes character, from being relatively heavy on the helm in town to being responsive to a light touch when road conditions allow it to "get up onto the step" inevitably

if the car is coasted round a corner at the (very high) speed which just induces tyre howl a little opening of the throttle instantly silences this noise.

Foggy weather conditions relented frequently enough during our test to let us appreciate head lamps of very much above average quality—but closed in frequently enough for us to be frustrated by an opening windscreen which opened insufficiently far to provide direct forward vision: however, an unobstructed front compartment facilitates the driving of a car with right-hand steering from the left-hand seat! The same wintry conditions allowed us to appreciate first-touch-of-the-button cold starting, using only the half-way setting of the two-stage Solex mixture enrichment control—a performance which was even repeated when a long evening journey with a broken dynamo belt was the prelude to a cool night of outdoor parking.

The car is sensibly equipped, the facia cubby hole and four map pockets, for example, being supplemented by a pocket on one side of the scuttle and a useful parcel trough behind the rear seat cushion. The wide luggage locker is not very deep, but there is proper provision for leaving the door open when bulky loads are carried. There are a pair of usefully bright interior



**COMMAND CENTRE.**—Mounting of the gear lever on the facia panel is convenient and gives an unobstructed floor. Neat also is the grouping of trafficator, head-lamp dipping and horn switches to the right of the steering wheel.



invites comparison with comparable sized sporting cars of what is fondly remembered as the "vintage" period.

The influence of front wheel drive on the car's character is not especially easy to distinguish, although it has certainly helped in the attainment of a very low floor level, and may contribute to heavy steering at low speeds, since a good deal of weight is carried on the front wheels. Acceleration away from a standstill on wet wood blocks is quite brisk, and only fierce use of the power on sharp turns induces much change in the feel of the steering: the old f.w.d. advice to accelerate round bends still seems to apply, however, as

lights, a sliding roof is available at extra cost, and for hot weather a scuttle ventilator supplements the opening windscreen.

Essentially masculine in its character, the Citroen Six is undoubtedly a car which will appeal most strongly to those drivers who especially value a car displaying willingness to be driven hard on main roads. The reputation of its manufacturers suggests that it should be extremely durable, as well as effortless in feel, in the hands of fast drivers.

# The Motor Road Test No. 21/49

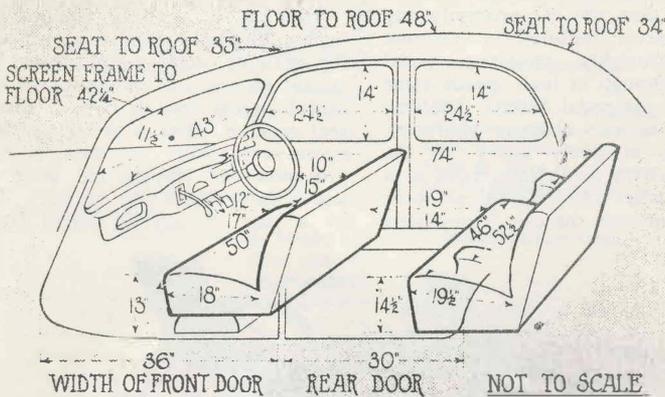
Make: Citroen.

Type: Six-cylinder

Makers: Citroen Cars Ltd., Trading Estate, Slough, Bucks

## Dimensions and Seating

## In Brief



Price £850 plus purchase tax  
 £236 17s. 3d. equals  
 £1,086 17s. 3d.  
 Capacity . . . . . 2,866 c.c.  
 Unladen kerb weight . . . . . 26½ cwt.  
 Fuel consumption . . . . . 19.1 m.p.g.  
 Maximum speed 81.8 m.p.h.  
 Maximum speed on 1 in 20 gradient . . . . . 69 m.p.h.  
 Maximum top gear gradient 1 in 9.9  
 Acceleration . . . . . 10-30 m.p.h. in top 9.5 secs.  
 0-50 m.p.h. through gears 12.6 secs.  
 Gearing 20 m.p.h. in top at 1,000 r.p.m., 76 m.p.h. at 2,500 ft. per minute piston speed.

## Specification

**Engine**  
 Cylinders . . . . . 6  
 Bore . . . . . 78 mm.  
 Stroke . . . . . 100 mm.  
 Cubic capacity . . . . . 2,866 c.c.  
 Piston area . . . . . 44.4 sq. ins.  
 Valves . . . . . Pushrod o.h.v.  
 Compression ratio . . . . . 6.2/1  
 Max. power . . . . . 76 b.h.p. at 3,800 r.p.m.  
 Piston speed at max. b.h.p. . . . . 2,620 ft. per min.  
 Carburettor . . . . . Solex 2-choke downdraught  
 Ignition . . . . . Coil  
 Sparking plugs . . . . . Champion 18B  
 Fuel Pump . . . . . S.E.V. Mechanical

**Transmission**  
 Clutch . . . . . Twin dry plate  
 Top gear (s/m) . . . . . 3.875  
 2nd gear (s/m) . . . . . 5.62  
 1st gear . . . . . 13.24  
 Propeller shaft . . . . . Nil (Front wheel drive)  
 Final drive . . . . . 8/31 spiral bevel

**Chassis**  
 Brakes . . . . . Lockheed hydraulic  
 Brake drum diameter . . . . . 12 ins.  
 Friction lining area . . . . . 143 sq. ins.  
 Suspension:  
 Front . . . . . Torsion bars and wishbones I.F.S  
 Rear . . . . . Torsion bars and axle  
 Shock absorbers . . . . . Newton telescopic  
 Tyres . . . . . Michelin Pilote, 185 x 400

**Steering**  
 Steering gear . . . . . Rack and pinion  
 Turning circle . . . . . 45½ ft.  
 Turns of steering wheel, lock to lock . . . . . 2½

**Performance factors (at laden weight as tested).**  
 Piston area, sq. ins. per ton . . . . . 29.6  
 Brake lining area, sq. ins. per ton . . . . . 96  
 Specific displacement, litres per ton/mile 2,870  
 Fully described in "The Motor," September 29, 1948

## Test Conditions

Cool, dry weather with little wind: tarmac surface. Pool-grade petrol.

## Test Data

### ACCELERATION TIMES on Two Upper Ratios

	Top	2nd
10-30 m.p.h.	9.5 secs.	5.6 secs.
20-40 m.p.h.	9.5 secs.	5.9 secs.
30-50 m.p.h.	10.4 secs.	7.2 secs.
40-60 m.p.h.	12.3 secs.	
50-70 m.p.h.	17.5 secs.	

### ACCELERATION TIMES Through Gears

0-30 m.p.h.	5.2 secs.
0-40 m.p.h.	8.3 secs.
0-50 m.p.h.	12.6 secs.
0-60 m.p.h.	19.4 secs.
0-70 m.p.h.	31.0 secs.
Standing quarter-mile	21.6 secs.

### MAXIMUM SPEEDS

Flying Quarter-mile	
Mean of four opposite runs	81.8 m.p.h.
Best time equals	83.3 m.p.h.
Speed in Gears	
Max. speed in 2nd gear	55 m.p.h.
Max. speed in 1st gear	26 m.p.h.

### FUEL CONSUMPTION

Overall consumption for 343.9 miles, 18 gallons=19.1 m.p.g.  
 25.0 m.p.g. at constant 30 m.p.h.  
 23.5 m.p.g. at constant 40 m.p.h.  
 22.0 m.p.g. at constant 50 m.p.h.  
 20.5 m.p.g. at constant 60 m.p.h.  
 17.0 m.p.g. at constant 70 m.p.h.

### WEIGHT

Unladen kerb weight . . . . . 26½ cwt.  
 Front/rear weight distribution 60/40  
 Weight laden as tested . . . . . 30 cwt.

### INSTRUMENTS

Speedometer at 30 m.p.h. . . . . 6% fast  
 Speedometer at 60 m.p.h. . . . . 4% fast  
 Distance recorder . . . . . 2% fast

### HILL CLIMBING (at steady speeds)

Max. top gear speed on 1 in 20 . . . . . 69 m.p.h.  
 Max. top gear speed on 1 in 15 . . . . . 63 m.p.h.  
 Max. top gear speed on 1 in 10 . . . . . 44 m.p.h.  
 Max. gradient on top gear . . . . . 1 in 9.9 (Tapley 225 lb./ton)  
 Max. gradient on 2nd gear . . . . . 1 in 5.6 (Tapley 395 lb./ton)

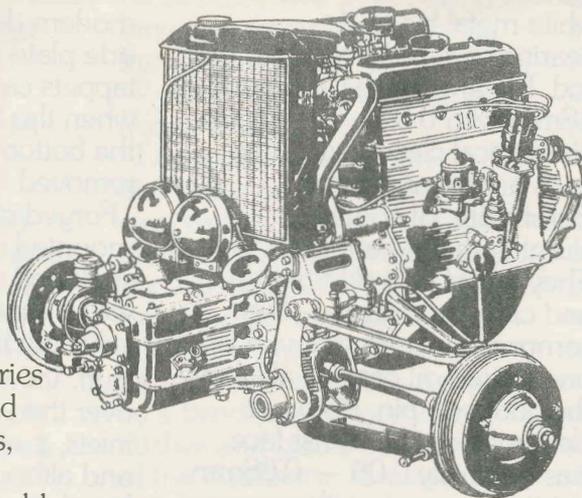
### BRAKES at 20 m.p.h.

0.93g. retardation (= 32½ ft. stopping distance) with 75 lb. pedal pressure.  
 0.56g. retardation (= 54 ft. stopping distance) with 50 lb. pedal pressure.  
 0.27g. retardation (=111 ft. stopping distance) with 25 lb. pedal pressure.

## Maintenance

Fuel tank: 15½ gallons. Sump: 12½ pints. S.A.E. 30. Gearbox and differential: 5 pints, S.A.E. 90 E.P. gear oil. Steering gear: Heavy grease. Radiator: 21 pints. (2 drain taps). Chassis lubrication: By grease gun every 600 miles to 9 points. Ignition timing: 6° before t.d.c., fully retarded. Spark plug gap: 0.015-0.020 in. Contact breaker gap: 0.015 in. Tappet clearances (hot): Inlet 0.006 in. Exhaust 0.008 in. Front-wheel toe-in: TOE OUT 0-0.08 in. Camber angle: 0°30'-1°30'. Castor angle: 0° ± 15'. Tyre pressures: Front 20 lb. Rear 22 lb. Brake fluid: Lockheed. Battery: 12-volt, 57 amp.-hr. Ref. B-F/29/49.

## A Look at Bottom Ends and Such Part One, by Roger Brundle



The Austin/Morris 'A' series engine which has powered innumerable Austin A30's, Morris Minors, Minis and has long been held up as an astonishing example of engine development. In the 28 years of production this venerable lump of ironmongery which started life at 803cc producing 28bhp has been stretched to 1275cc and persuaded to finally produce 65bhp in single carburettor mass production form. Great, but what about the Traction? Born 20 years earlier than the A series engine, and developed during what was largely a limbo period of automotive development, the 4 cylinder Traction engine had an equally remarkable history. The 7A engine of 1934/5 had a bore and stroke of 72x80mm giving 1303cc and produced 32bhp at 3200rpm, on a compression ratio of 5.7:1. Changes rung on the bore and stroke theme subsequently produced 78x80mm and 72x100mm, 1628cc versions with little power increase, but more torque, before the 78x100mm, 1911cc configuration of the type 11 was settled on, a size which continued to the end. The final (11D) engine of 1955-7 produced 65bhp at 4000rpm, by which time the compression ratio had risen to the giddy heights of 6.8:1.

If we cheat a little, this comparison can be taken a little further, as the 78x100 1911 DS/ID engine produced until 1966 was basically the 11D engine with a crossflow (with hemispherical

combustion chambers) aluminium head grafted on. With the help of a dual choke Weber carburettor, no less than 83bhp was wrung out. So in 32 years, the original design was stretched in size by 50% and power increased 250%.

That the engine was capable of such remarkable development was due primarily to the brilliance and advanced thinking of the original design. To quote from 'L'automobiliste' no. 37:

'Two designs were tried, Sainturat's which was considered best, being simpler, and consequently adopted, and Jouffroy's which was more traditional, and rejected. 'And yet Sainturat used some design features which had never heretofore been used on mass production cars, but had been the prerogative of higher priced vehicles such as Hotchkiss, Delage and Talbot. These were pushrod operated overhead valves, and 'wet' removable cylinder liners, which were very advanced thinking at the time, obviating tricky and expensive rebores, and used only in powerful foreign engines such as the Austro-Daimler. Conversely, very exact machining of the mating surfaces of head and block were needed to ensure perfect sealing against the combustion pressures. 'The engine in prototype form proved troublesome, the lubrication system was faulty,

and then it overheated. The four bladed fan was ineffective, especially as due to its short stroke compared to its predecessors it revved far faster. By the autumn of 1933 it had developed into a brilliant design, very economical and yet particularly powerful since it developed 25bhp more than the previous side valve engine, or about 23bhp per litre.'

Taking a fifties 1911cc unit as the example, as this is the form which is now most common, and saves the trouble of tracing the perambulations of the carburettor, exhaust manifold, engine mounts etc., the first observation is that it's bloody heavy. With accessories, it must go close to 200kg. By comparison, a modern design of similar size, the 2 litre BMW engine weighs 140kg. The engine is also physically large compared with modern 2 litre designs, due to the long 100mm stroke, generous bore spacing, and necessarily long main bearings.

The cast-iron water jackets and crankcase are cast in one unit with an open deck at the cylinder head joint line — a feature made necessary by the removable wet liners. These liners are spigoted at their base into the block, and clamped at the top by the cylinder head. Machined flats on the upper periphery locate the liners in pairs. This layout has a number of advantages — the open deck design of the block makes for better control of water jacket casting and allows almost the full depth of the liner to be surrounded by

coolant leading to lower thermal distortion and consequently lower bore wear. A better grade of cast iron could be used for the liners, again producing lower bore wear. When they finally wear out they can be relatively easily replaced, obviating the need to engage the services of your friendly rebore expert (?). Knowing that the designed clearances will be correct, something that is a bit of a gamble with the aforementioned reborer is a definite advantage. Pistons and liners can be removed and replaced without disturbing the bottom end of the engine, and in fact, without removing the engine.

The disadvantage of this arrangement is the precise machining necessary to ensure adequate water sealing, which increases cost and is the reason why your Holden has bores machined direct in the block. Also, casting techniques and

Also, casting techniques and materials have improved to the extent that when the bores are worn out in modern engines, it's long past time to throw the rest away. Some might say it's time to throw the rest away long before the bores are worn out. The crankshaft is carried in three main bearings and features bolt-on counter-balance weights. The main bearings are white metalled (lead plus 8–10% tin) bronze shells dowelled into the housings. Main journals are 50mm diameter and as is usual practice with white metal bearings, the diametrical clearance is on the high side at 0.041–0.081mm. End clearance is adjustable by means of shims, and is 0.1–0.25mm. Clutch thrust is taken by the flanges of the rear main bearings. No undersize replacement shells were/are available, the accepted method of taking up wear being to file the cap faces ('Take this 'ere bloody big file, young Fred, and whip a bit off it!')

The connecting rods are

forged steel of decidedly slender proportions with white metal big-end bearings poured direct into the rod. Big-end journal diameter is 48mm with 0.044–0.061mm diametrical clearance. Little ends are bronze bushed. Pistons are, of course, aluminium, and are quite long. They are of split skirt design, and carry four rings — two compression, one grooved, and one slotted oil control, all above the gudgeon pin. Piston clearance on the thrust face was originally 0.06–0.08mm, but this may vary with replacement piston and barrel sets.

The camshaft is driven by an endless duplex (twin row) chain with no tensioner. A duplex chain is used as the drive for the water pump fan and generator is taken from the forward end of the camshaft via a single dog coupling and short drive shaft in the bell-housing.

The three-bearing camshaft runs direct in the block and end-thrust is taken by a thrust washer bolted to the block at the rear adjacent to the drive sprocket. Designed end float is 0.12–0.25mm.

Valve timing, as befits the age of the design, is quite moderate, and contributes to the excellent low-speed torque.

At checking clearances of: 0.014" (0.34mm) inlet, and 0.016" (0.41mm) exhaust,

Inlet valve opens 3°BTDC  
Inlet valve closes 45°ABDC period 228°

Exhaust valve opens 45°BBDC  
Exhaust valve closes 11°ATDC period 236°

It appears that this timing was used on all types, although Dumont mentions that the camshaft of the 11D was modified to improve performance (presumably longer period, more overlap). However, early ID/DS engines had the valve timing given above, and later units have had **more** conservative timing.

Hollow cylindrical tappets are used and the pushrods, although quite short by contemporary standards, now

appear to resemble knitting needles, compared with modern designs. As there is no side plate on the block, the tappets can only be removed when the head is off, or from the bottom with the camshaft removed.

Forged steel rockers are mounted on a hollow rocker shaft and operate inclined valves running in replaceable valve guides — all standard stuff. Valve head sizes grew over the years to 36.7mm inlets, and 33.8mm exhausts, and although the overall lengths seemed to vary considerably, the stem diameter of 8.9mm and the 30° seat angles remained unchanged. Split conical cotters secure the valve spring caps.

By modern standards, the lubrication system is nothing unusual with one exception, but it must be remembered that this engine was designed at a time when quite a number of engines were still lubricated on the 'spit and hope' principal. A skew gear on the camshaft drives the gear-type oil pump in the sump and oil is picked up from the 8 pint sump through a gauze screen and delivered to the centre main bearing and main oil gallery running along the righthand side of the crankcase. This gallery feeds the front and rear mains, and the camshaft bearings through drillings. The timing chain is also sprayed with oil under pressure. At the rear of the main gallery is an oil pressure switch and a take-off for the external oil feed to the rocker shaft. Very early (pre-war) engines were wick-fed to the rocker shaft — Good Grief! A groove in the top of each rocker feeds oil to push-rod end and top of the valve stem.

Designed oil pressure is 20–30psi at around 1800rpm (30mph top gear), and is adjustable at the oil pressure relief valve which is accessible only with the sump off.

Crankcase ventilation is provided by a road-draught tube bolted to the lefthand side of the block and cunningly arranged so that it covers the underside of the car with oil.

The exception to standard lubrication practice mentioned earlier is the total absence of an oil filter, if one discounts the gauze-type screen on the pump inlet, which is really only capable of straining out large rocks and small animals. The lack of an oil filter can only be tolerated because of the ability of the relatively thick and compliant white metal main- and big-end bearings to swallow debris which would cause havoc with thin-wall bearing shells. It is interesting to note, however, that even the late engines (11D, ID19) which had modern thin wall bearings didn't have an oil-filter either — blind faith?

A pressed steel sump prevents all the oil (well most anyway) from being deposited on the roadway and is sealed by cork gaskets.

Turning to the ancillary equipment, one finds the generator and waterpump/fan driven by a single vee-belt from a pulley mounted on the camshaft-driven bell-housing drive shaft. On Slough-built cars, the generator (sorry Carruthers, dynamo) is usually a 12 volt Lucas C39PV L-O although earlier cars may have a C45PV3CJ26. Output of the C39 is 17amps at 1850—2100rpm, whereas the C45 can only manage 13amps at 1500—1700rpm.

The French-built cars are, of course, 6-volt and may sport a generator built by Ducellier or Citroën themselves. Maximum output is 15amps at 2500rpm which explains why the lights on French cars resemble hung-over glow worms.

A multitude of different water-pumps were fitted at various times, varying only in detail. The type with lead-covered gland packing persisted until at least 1953 in English models and possibly later. Certainly the 11D had a

proper face seal which went a long way towards eliminating the dreaded water-pump drip — cause of many slipping or frozen clutches.

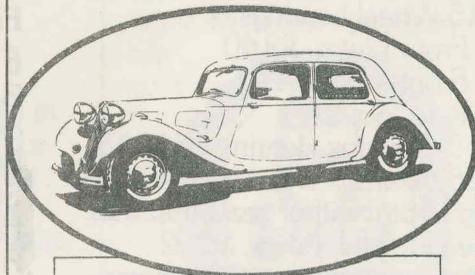
Lucas also provided the distributor on Slough-built cars, usually a DKY44ACJ32 unit featuring both centrifugal and vacuum advance. Provision for manual advance/retard and the vacuum advance was made by a fiendish arrangement of bushes and plates at the base of the distributor. Rotation of the distributor is clockwise viewed from the top and contact breaker gap is 0.010"—0.012". Contact breaker spring tension is 20—24oz. measured at contacts while condenser capacity should be 0.18—0.23microfarad. Static ignition timing on early engines was 8° BTDC set by inserting a 6mm pin through a hole in the bell-housing and picking up a slot in the flywheel, later increased to 12° BTDC. Which is a hell of a lot of advance!

Fuel arrives at the carburettor courtesy of a mechanical fuel pump mounted on the lefthand side of the block and driven by an eccentric lobe on the camshaft. Pumps are AC (English), Guiot and SEV (French) and may or may not incorporate a glass filter bowl, depending on the weather, probably.

As mentioned earlier, the carburettor was one item which varied considerably over the years, always of Solex manufacture, although I've heard that some 11D's were fitted with a Zenith (post-fitment?) Early post-war cars were fitted with a Solex 35FPAI — a downdraught instrument of massive proportions, later changed to a more compact 32PBIC. These carburettors feature a diaphragm accelerator pump and a built-in separate starting jet system as opposed to the more usual choke-flap.

Well, that's what it looks like. With the advantage of

considerable hindsight, what inbuilt problems did it have? Surprisingly few, in spite of its early beginnings, and the reputation for long life was well won. By now, all the components are getting on, and most breakages are due simply to old age. The real problem these days is in reconditioning worn out parts at a cost which doesn't cause immediate bankruptcy, and that isn't easy as some of the skills required are rapidly disappearing. Fortunately, there are more ways of rebuilding engines than the workshop manual would have you believe, and these will form the basis of a future article.



## Austraction 79

Echuca

Queen's Birthday Weekend  
16, 17, 18 June 1979

Australia's only classic  
Citroën rally.

Meet with the cream of  
Citroën enthusiasts.

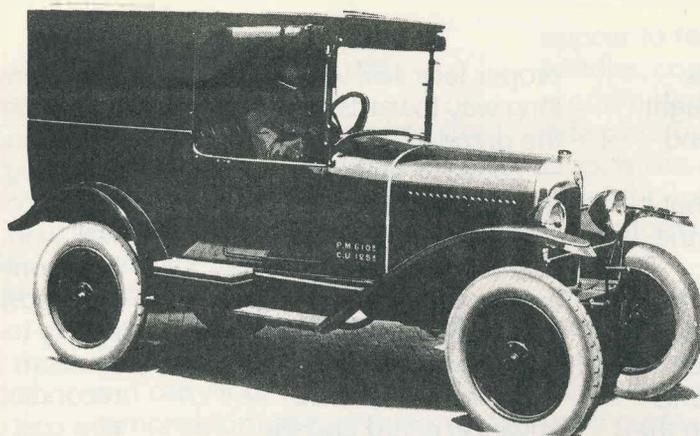
Caravan accomodation:  
won't cost an arm and a leg.

Plenty of action

Rally plaque for all entrants.

Contact Roger Brundle  
for preliminary details.





## New Parts

The following is a list of all new parts currently held in stock.

Please note that the prices listed are for parts in stock at time of writing, and that with subsequent shipments, prices may vary. Stocks of some items are not always held in stock, so if you want it, buy it, as they may not be available at all later.

**Remember – Spare Parts Fund members can subtract 10% from the listed prices.** If you're not a member, think of all the money you're wasting! Join now!

Bumper irons, \$43.20 pair.

L15 Wheel bearings:

Front Outer, \$9.60

Front inner, \$4.01

Rear, \$5.46

L15 Gearbox Bearings, \$17.15

L15 Gearbox Bearings, \$17.63

Big boot weather seals, app.\$15

Steering rack boots, \$5.92

Windscreen rubber, 75¢ metre

Pedal rubbers, \$7.95 ea.

Scuttle vent rubbers, \$13.00

L15 Radiator hoses, \$4.25

Tie-rod ball sets, \$42.43

Silentblocs, front, set of four on changeover, \$60 approx.

Leather upper and lower ball joint seals, \$3.45 each.

Big Six exhaust gaskets (with two holes), 75¢.

L15 head gasket, \$4.60

(Above are early ID, but do fit).

Gearbox coupling seals, \$5.66

Clutch bearing springs, 50¢

L15 C'over radiator, app.\$25

## Parts currently on order:

Gearbox bushes, six each of parts numbers: 500521,

500523, 500893,  
500374(locktabs), and twelve  
of 40844.

Big boot rubber seals

Bonnet lacing (app. 50¢/ft.)

**\*\*\*Furflex, window channelling and vinyl or rubber panel piping can be purchased through spare parts, but is not kept in stock.**

**Parts currently being tracked down – wanted dead or alive:**

Crown wheels and pinions

Big 6 front wheel bearings

ID19 Conrods.

**Parts required by Parts Fund members:**

### 6 Cyl:

Bonnet mounting brackets,

centre bonnet strips

Bonnet vent springs

Square bumpers

Hub caps

Front Lucas parking light

Grille badge

Oil filler mesh

Oil filler cap

Air cleaner(1949)

Good or repairable drive shafts

185x400 rims

Inner U-joint assembly

Circular clock

Spare parts manual

### Four Cylinder:

Bonnet mounting brackets

Normale doors

English and French bumpers

Artillery wheels

Grille wings

Oil bath cleaner and ducting

Good or repairable drive shafts

Any pre-war fittings

Pre-war engine block

Sundry Coupés/Cabriolets??

## Eight Cylinder:

Any 22CV's (one can always hope).

## Workshop Day

A 'How to do it' workshop day will be held at the Spare Parts Officer's abode on Saturday 17th February. The aim of this day will be to sort and catalogue gears and gearbox parts — these will then become available for sale.

We will also be stripping a couple of drive-shafts, with the aim to recondition these, using new universal joints.

Spare Parts, Club Shop items and expertise will be for sale from 9am onwards. Bring your bod, problems, and Tractions.

## 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 may be ordered or picked up, except in **emergencies** which means the need to obtain a part to keep a registered and roadgoing car on the road following a breakdown. Cars undergoing restoration do not qualify for emergency handouts. To make this system work, your co-operation is requested.

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

## Pick-up times

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

**We need your money!**  
**Do you require parts for your beloved Traction?**  
**Would you like these parts to be new or reconditioned?**  
**Have you been searching for that rare bearing or cog?**  
**If you answered yes to any of these questions, you need to join the Spare Parts Fund, and the fund needs you.**

**By making a fully refundable loan to the parts fund, you will help us to purchase a larger stock of the hard to obtain new parts and reconditioned parts for sale to members. Members of the fund also have first call on scarce parts and benefit from 10% discount on new parts offered.**

Remember, your \$40 is fully refundable in cash or parts at any time or when you leave the club. Apply to John Couche **now** for membership.



...and now for something completely different...  
*The glittering social event of the year...*



**Coming Soon (Saturday March 3) to a French restaurant near you!**

**THE INAUGURAL CCOCA ANNUAL DINNER AND PRIZE-GIVING**

Billenting will be arranged for country and interstate members. Enjoy yourselves in the company of some quite human people  
**See who won 'Club Person of the Year'**  
**Note the date and make up a party**  
**Limited Numbers — first in, first served.**

**Further details in near future.**

See what people said about previous CCOCA social events:

'What event?' — Fred Furd, Frankston  
 'My head hurts' — D.G., Melbourne  
 'Burp' — Irving Splinge, Box Hill

**Coming Events**

Roger Brundle

**7th Feb** — General meeting, Blackburn, should be some good films.

**17th Feb** — Workshop day, see p.12.

**3rd March** — CCOCA Annual Dinner (see ad this page)

**7th March** — Gen. meeting, Blackburn

**4th April** — Annual General Meeting

**Also...** not organised club activities, but well worth attending: Sunday 4th Feb., at the Berwick showgrounds, the Dandenong Valley Historical Vehicle Association (and you thought CCOCA had a long name) Swap Meet.

And on Sunday Feb. 11th at the Rowville Drive-in, cnr. Wellington and Stud Rds., the Classic and Historical Vehicle Club Swap meeting — 50¢ per adult, or \$3.00 if you are a seller.

**AUSTRACTION '79**

National Traction Rally, Echuca, Queen's Birthday Weekend, June. See separate ad.

**Mudgee 'Easter Honey Weekend'**

April 1979, Mudgee NSW.

The CCC of NSW are organising this year's rally. Accommodation is available in motels, cabins, on-site vans or tent-sites on a first come, first served basis. The event, from Good Friday to Easter Monday, will include a motorkhana, sightseeing of historical attractions, tours of wineries, barn dance, and special catering for children. Further details from Roger.

**Past Events**

The December general meeting. There were some bewildered (and bemused) faces at Blackburn as the spouses (spice?) of the committee provided a hilarious send-up of their respective husbands. I for one wish to dispel the malicious rumour that I'm Nuvolari reincarnated. Good fun too at Mark and Anna's home later. Many thanks to all who helped to make it an enjoyable evening.  
 Concours Berwick 10th

December: What can I say? Arthur Clarke won in **that** immaculate big boot L15 KSE-442. Congratulations, Arthur. The day was marked by the appearance of a restored Yankee rolling chassis of London Bus-like proportions on which the exhaust system alone was reputed to have cost more than one would pay for a half decent Traction. Madness! Anyway everyone got sunburnt and gently chatted about Citroëns and the bikinis and the...bikinis etc...

**Club Shop Pat Propsting**

**Traction Miscellania Metal Badges**

These are an absolute must for every club member. With one of these on the grille or bumper iron, you are promoting 'the cause' wherever you go. They are \$8.50, and when we have orders for 50 we can have them produced (enamelled chrome badges by Stokes). **Strictly cash in advance.** Country and interstate members please send \$8.50 plus postage.



**Stickers** One sticker is free with every new membership, further issues are 60 cents each.

**Cloth badges** with club motif woven on — \$1.00 each.

**Windcheaters and T-shirts** are available on order from the club in a choice of colours with either the club motif or roadster design. When ordering, please state whether Mens, Ladies, or Childs, and also chest measurement.

Windcheaters \$10.00

T-shirts \$5.00

Country and interstate

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Volume No./Issue No./Page No.  
so that a reference, 1/3/2, means that the article in question may be found on page 2 of Volume 1, Issue 3.

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**Technical**  
**Specific Models**  
**Members Cars**  
**Advertisements**

(IFC means inside front cover, and IBC inside back cover).

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## Advertisements

### Light Fifteen:

1/3/IFC, 2/1/IFC

### Six:

1/1/IFC, 1/2/IFC, 2/4/IFC, 2/6/IFC

### Vintage, veteran:

1929 Six: 2/2/IFC

1933 Ten, Big Twelve, Twenty, 2/5/IFC

1933 10hp and 12hp: 2/5/IBC

### 2CV:

2/3/IBC, 2/3/IFC

My apologies to those who got all worked up to fever pitch over the extract in last edition from the 'Queensland Motorist' on 'The New British-built Citroën', only to find that the end of the article was missing. Here is the exciting climax....

roads which would not even be attempted on the majority of cars.

Furthermore, when travelling really fast the car settles down very nicely and holds the road in a most reassuring manner.

On the open road the Citroën behaves very creditably, regaining a high cruising speed quite rapidly after a temporary check, and being capable of sweeping up the average main-road hill with but little diminution in speed.

The braking system is carried out on simple and effective lines with Bendix Duo-servo shoes; both the pedal and the hand lever are interconnected to the main central cross-shaft. These brakes, while quite smooth in action, give the big reserve of stopping power which one associates with the Bendix system.

### The Four-cylinder Engine.

Here it may conveniently be mentioned that the four-cylinder engine is of the side-valve type, with a bore and stroke of 68 mm. and 100 mm. respectively. It is connected to the synchromesh gearbox through a clutch of conventional design, the final transmission system consisting of an open propeller shaft and a spiral-bevel back

axle. Half-shafts of unusually robust design are used in this semi-floating unit.

The body is a fine example of modern panel work and the finish is excellent.

The 12 and 20 h.p. models carry all the features of the 10 h.p. model with the addition of a device which makes free wheeling optional at the whim of the driver.

The cars will, we feel sure, quickly become popular in Queensland for in performance on the road, economy of operation, sturdiness of construction, appearance, comfort and roominess of the bodies and attractiveness of price, they have all the essentials of appeal to discriminating car buyers.

Fuller particulars may be obtained from Sneddens Motors, Adelaide street, Petrie Bight, Brisbane.

Club Shop, contd. from p.13

members please add postage to these figures.

### French Parts Catalogue

Reprints — \$15.00 plus postage

### 1938 Sales Catalogue

Reprints \$2.00 plus postage.

### Light 15 Lubrication Charts

\$1.00 each, including postage.

### Club Library

We have two workshop manuals, available for loan only — Citroën B14

(1926—28) and Citroën C4,

C6 (1929—34).

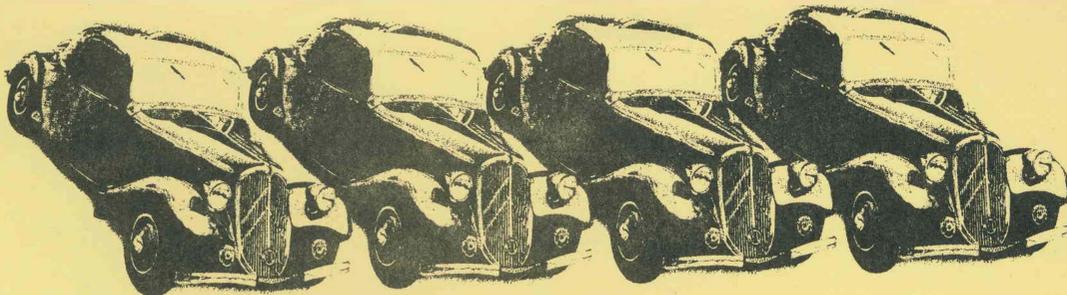
## IMPORTANT

If you have perused your CCOCA Constitution, you will have noticed that the annual subscription is payable before the Annual General Meeting (which is on Wednesday 4th April). If payment is not made by that date, you will be liable to pay the joining fee of \$5.00 again. Please note also that the money must be sent to the Secretary, not to the treasurer.

## FEELING ERUDITE?

The editor of this august journal needs another masochist to assist in the production of Front Drive — specifically research and contribution to major articles. Future Front Drives (elections permitting) will be covering the themes of: the half-tracks, the 'Raids', the records set by various Citroëns in Australia, the Lecot epic, etc. There is a great deal of information available, particularly in some libraries, but it does require some time to extract it, and hopefully expand the scope and value of Front Drive. This sort of job may be done by anyone anywhere, so how about it?

HAVE YOU SENT YOUR NOMINATIONS FOR THE NEXT ELECTIONS YET???



**FOR SALE**

**1951 French 11BL**, not including motor, gearbox, wheels. Solid, but complete restoration needed. No structural rust. Includes many spare parts. Must sell to solve storage problem, as going overseas. Sam Crisi, 387 3328. Best offer over \$150.

**1951 French 11BL**, Fully restored, with 12 months registration, RWC. \$3500 ONO. Tim O'Brien, 93 8680.

**1951 French 11BL**. Body structurally sound, but requires restoration. Original plates (WA-740), although unregistered. Reluctant sale. \$800 ONO. Peter Carnell, 82 3925.

**ID19 Parts –**

ID19 12v generator, completely reconditioned.  
ID19 Gearbox, complete, very good condition.  
2 ID19 crankshafts, very good.  
Prices on application. Peter Fitzgerald, (Bendigo) (054)43 1120.

**1954 Big Fifteen** with good engine, recent respray, good interior, radio, registered till May. \$2,000. Stephen Bates, AH 8619496.

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.

**SPECIAL TOOLS  
NEW ADDITIONS**

The club has recently acquired some special tools, which will be available along with the tools already available through Roger Brundle. Tools are available for a period of one week – deposit on one tool is \$10, on two or more, \$25.

The new tools (hire charges on application to Roger):

- Tool for checking brake lining and drum concentricity.
- Gauge for positioning rear axle.
- Spanner for steering-rack cap.
- Gauge for checking length of track rods.
- Spanner for outer ball-race retaining ring.
- Vice for dismantling drive-shaft couplings during fitting.

Former tools and hire charges:

- Spanner for adjusting brake shoe eccentrics 50¢.
- Tool to adjust synchromesh 50¢
- Valve spring compressor \$1
- Vernier gauges \$1
- Stub axle nut spanner \$1
- Steering ball pin extractor \$1.50
- Block for removing rear torsion bar \$1.50
- Front hub extractor \$2
- Upper balljoint extractor \$2
- Outer front wheel bearing extractor \$2
- Stub axle inner ring nut extractor \$2
- Upper swivel ball spanners \$2
- Extractor body for drive shaft spigot cup or ball joint \$2
- A-frame for towing L15 \$2
- Lower ball joint extractor \$3
- Collets for ball pin extractor \$3
- Collets for spigot cup extractor \$3
- Chain block and tackle \$3.



**IN ENGLISH**

**COVERING MODELS FROM 1938**

**2 VOLUME SET**

**TEXT AND ILLUSTRATIONS**

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*Bar*

