THE MOST TALKED ABOUT EVENT Since The Traction

BRAND NEW CROWN WHEELS

AND PINIONS

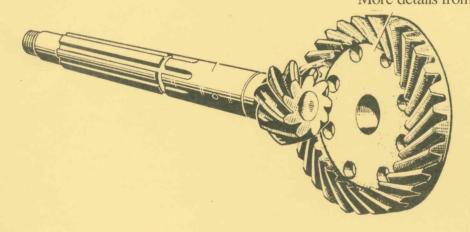
Manufactured without the inherent weaknesses of the originals, for Svenska B11 Klubben, Sweden.

Production will be early 1980, and delivery 2nd half 1980.

This should be considered as an essential investment by everyone who runs a Traction.

Final cost depends very much on the vagaries of freight and duties, but should be \$400-450, not unreasonable considering the prices of second-hand, pig-in-a-poke cwp's, and is most unlikely ever to be

ORDERS WILL CLOSE FOR CCOCA IN MID-NOVEMBER. Availability past this date will be limited, or non-existent. Obviously CCOCA cannot bear the cost of these parts, so orders must be accompanied by \$450.00, adjustment to be made on delivery. More details from John Couche.



ORDER

| □ Enclosed | please find | cheque for | s450.00, b | eing estima | ted cost of | one new | crown | wheel |
|-------------|-------------|-------------|--------------|--------------|-------------|----------|-------|-------|
| and pinion. | understand | d any adjus | stment to th | is cost will | be made at | delivery | • | |

| ☐ Please list me as | a possible | purchaser | of a cv | vp. (Final | decision to b | e made by |
|---------------------|------------|-----------|---------|------------|---------------|-----------|
| mid-November. | | | | | * | |

NAME

ADDRESS

TELEPHONE, BUSINESS HOME



Coming Events:

Wed. October 3, General meeting, Blackburn — Mark Navin, slides on recent visit to European rallies. November 6th, Cup Day observation run, 10.30am, Nunawading Civic Centre/Library.

November 17th, 18th, Bendigo Swap Meet, Bendigo (not official club

function).

December 6th, End-of-year general meeting, Blackburn — 'Spice Night'.

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 762 6856.

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.

How's your restoration going? It can't be going any slower than mine. Front Drive is planning a series of comprehensive articles about restoring your Traction, from basics such as how to approach a restoration, to detailed technical articles on restoring a front-end or an engine. Eventually we hope to assemble these articles into a single 'restoration handbook'. The emphasis will be on practicality and professionalism.

There are several CCOCA members who could contribute valuable information to such a series, whether a paragraph or two on some small aspect, or a comprehensive technical article. A regular part I hope to include will be profiles on the specialist firms operating in areas relating to restoration. You could perhaps help me here by supplying me with either the names of such places, or a screed describing their services

I invite you to contact me so that I can begin comprehensive planning of the series and get it under way. This is one area particularly where country and interstate members can make an important contribution.

My apologies for failing to acknowledge sources last issue — Rod Greschke supplied to Maladroit C2V article, and Mark Navin supplied the book, 'Eastern

Odyssey



October/November 1979 Volume Three, Number Four

The new Mehari 4x4 (4-wheel drive) — a combination of the unique Citroën engineering approach, with 2CV basics, lightweight body, and ultra-pliable 2CV suspension (see Twin Pot topics).

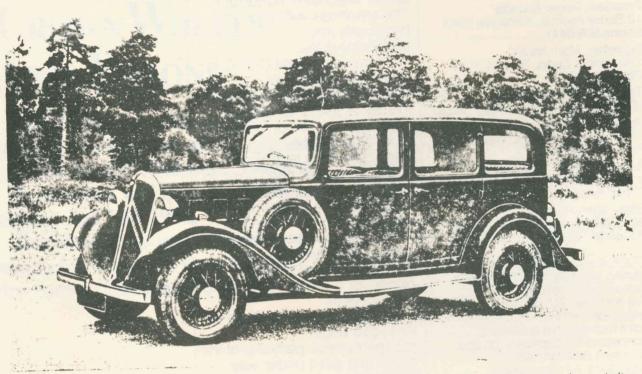


It is fairly well documented in Front Drive that in 1934 Citroën produced the 'great leap forward' — the Traction Avant series with its highly innovative front wheel drive. Up till that time, Citroëns were rear wheel drive and automotively somewhere between average and

It is fairly well documented in interesting — certainly not in Front Drive that in 1934 the league of what is now known as the Traction.

What is not widely known is that Citroën continued to produce rear wheel drive vehicles up to nearly the start of World War 2. These 'flatearthers' did have a certain amount of automotive

THE CITROEN DIESEL 7-SEATER SALOON



The body is of "Monopiece" All-Steel Safety Construction, exceptionally strong, with four wide doors, six large winding windows, sunshine roof and leather upholstery. Generous and comfortable seating accommodation is provided for seven persons, two on the individually adjustable front seats, three on the wide rear seat and two on the folding occasional seats which face forward.

CHASSIS SPECIFICATION

CLUTCH: Single dry plate.

GEARBOX: In unit with engine: four speeds and reverse. Synchronised change on top and third controlled by central lever.

REAR AXLE: Banjo type, spiral bevel final drive. Ratio 5.75 to 1.

STEERING GEAR: Worm and sector type. Horn and lighting controls in centre of wheel.

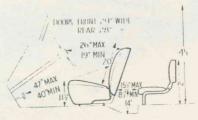
FRAME: Box section, extremely rigid and distortionless. Suspension by semi-elliptic springs of flat camber with hydraulic shock absorbers, giving exceptional comfort and freedom from road shocks.

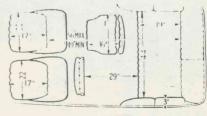
BRAKES: -- Very powerful four-wheel Bendix brakes with drums of large diameter. Independent foot and hand control. Automatically operated stop light.

WHEELS: Disc wheels with 160 40 super lowpressure tyres. ELECTRICAL EQUIPMENT: 12-volt dynamo and electric starter; 85AH. battery; two large headlamps with dipping device, two side lamps and tail lamp, all chromium-plated. Trafficators concealed in door pillars. Automatic stop light. Electric horn mounted under bonnet.

prising speedometer with trip and total mileage indicators, ammeter, oil and fuel gauges and an 8-day clock. The dials have indirect lighting. Chromiumplated bumpers front and rear; spare wheel carried on near side; adjustable windscreen; winding windows; safety glass all round, safety catches to doors; door locks; remote door controls; driving mirror; twin screen wiper; ash trays; door pockets; glove pockets in dash; interior light and rear blind; dash ventilator; ventilating shutters in bonnet sides; number plates; licence holder; kit of tools.

| Track | | 4 ft. 8 m. |
|----------------|------|---------------|
| Wheelbase | | 9 ft. 10 in. |
| Clearance | | 7¦ in. |
| Turning Circle | | 36 ft. |
| Overall Length | | 14 ft. 8½ in. |
| Overall Width | | 5 ft. 8½ in. |
| Overall Height | | 5 ft. 9½ in. |
| Weight | | 29. cwts. |
| | | |



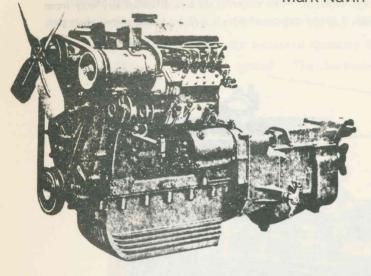


CITROËN CARS LTD., TRADING ESTATE, SLOUGH, BUCKS
Telephone: Slough 1600
Telephone: Slough 1600

ingenuity. Initially they were effectively Rosalie bodies with a Traction engine reversed. By mid-'36/37 a diesel engined version in 4 and 6 cylinders had been produced and designed as a commercial vehicle.

I have it on good authority that both models were

marketed in Australia. With the exception of the remains of a 4 cylinder motor in Sydney, I have never heard/seen of either model in a reasonably complete form. If any member can furnish me with any facts, rumours, hearsay, I would be most grateful. Mark Navin



CITROËN DIESEL

Principal Technical Characteristics

Bore 75 mm.
Stroke 100 mm.
Capacity 1,766 cc.
Treasury rating 13.9 h.p.
Type, 4-cylinder, 4-cycle.
Firing Order, 1, 3, 4, 2.

H.P. developed, 40 B.H.P. R.P.M. 3,500. Slow running, 350 R.P.M. Compression ratio 20 to 1. Injection pressure 1,420 lbs. to sq. in. Injection nozzle orifice 2 mm.

Engine Suspension: By a patented flexible mounting exclusive to Citroën which absorbs the reactions due to the power impulses.

Crankshaft:—Three bearing, of forged and heat-treated steel of heavy section, statically and dynamically balanced.

Camshaft: Heat-treated steel stamping running in three bearings and driven by helical gearing.

Overhead Valves: Of special high temperature resisting steel, operated by push rods and rockers

Pistons: Of heat-treated aluminium alloy with three compression and two scraper rings.

Cylinder Barrels: Detachable wet cylinder barrels cast in special wear-resisting and corrosion-proof material.

Con Rods: Of forged and heat-treated steel, "H" section. The big ends are fitted with lead-bronze bushes.

Fuel Feed:—Fuel is drawn from the rear tank (capacity 9½ gallons) through a first stage filter by a fuel supply pump driven from the camshaft, and is then forced to the main filter from whence it flows to the injection pump. A valve fitted to the main filter maintains the delivery at a constant pressure and acts as an overflow, any surplus being returned to the main tank.

Injection Pump: The injection pump is driven from the crankshaft by helical gearing, a vernier coupling being provided for accurate timing. Type Lavalette Bosch F.P.E. 4A, with pneumatic governor.

Injectors: Bosch Lavalette Type DN/40.S.2. Holder F.K.B. 50 S.57.

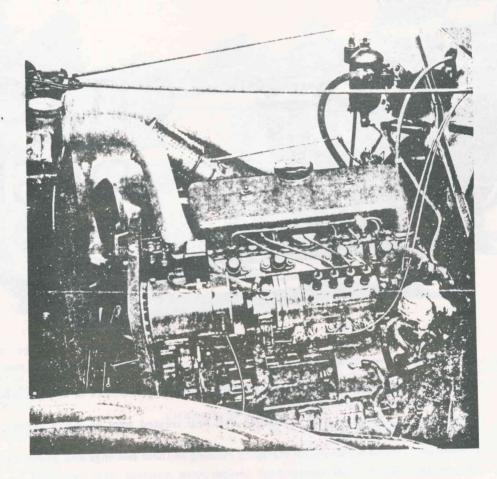
Quick Starting Plugs: Two pole, "Beru" electric heating plugs fitted in cylinder head. The plugs are wired in series with a resistance which is mounted on the dashboard. They are operated by a self cancelling switch on the facia board and a tell-tale is provided.

Lubrication: Pressure feed by spur-wheel gear pump distributing the oil to the camshaft and crankshaft bearings, and through the crankshaft to the big ends. Suitable piping ensures lubrication of the rocker shaft and timing gears. The pressure adjustment is accessible from the outside.

Cooling: By centrifugal pump assisted by four-bladed fan.

EASE OF CONTROL

Citroën Diesel cars are singularly easy to drive and control. The controls do not differ in any way from those of an ordinary petrol driven car, and the chassis, a specification of which will be found overleaf, is per fectly normal in every respect.



FUEL ECONOMY

Reduced fuel costs, plus a saving of 40 per cent in consumption under normal working conditions, places the Citroën Diesel amongst the world's most economical cars, whilst a greater range is obtained without refuelling.

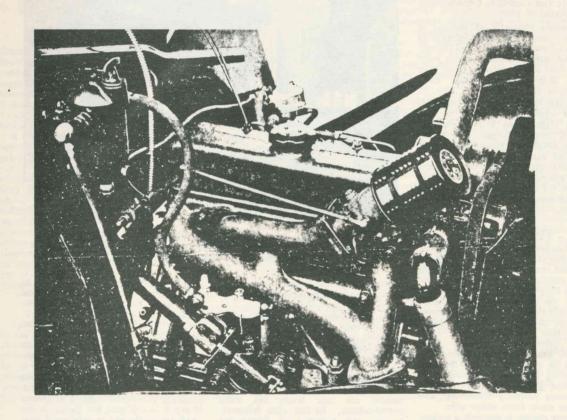
ABSENCE OF FUMES

With the Citroën compression ignition engine, there is an entire absence of fumes and odour, and in this respect it is not approached by any other oil engine.

It runs on fuel oil of any well-known brand of any specific gravity from .830 to .870. This fuel is non-inflammable when cold and has a non-poisonous exhaust, two safeguards of great importance to the user.

THE PRINCIPLE OF THE CITROËN OIL ENGINE

Unlike the petrol engine, air only is drawn into the engine during the induction stroke. The charge of air is then compressed to about 550 lbs. per sq. in., raising it to a high temperature: towards the end of the compression stroke a carefully measured quantity of oil is injected into the highly heated compressed air charge, when it is instantly ignited. The combustion chamber is of the "ante-chamber" type.



SMALL SIZE

As will be seen from the illustrations, the size of the engine is similar to that of a petrol engine of corresponding H.P., and the disposition of the various parts is relatively the same. It will be noticed that the engine is of very clean design and great accessibility has been achieved. Light in weight 444 lbs. without flywheel it gives a power weight ratio of 11 lbs. per B.H.P.

EASY STARTING

A feature of the Citroën Diesel is its ease of starting in any temperature and ability to pull away quickly from cold.

THE CITROEN LIGHT FIFTEEN

An Unusual Car with Chassis-less Construction and Front-wheel Drive

THE Citroen Light Fifteen saloon. a de luxe model of which was recently submitted to "The Motor" road test, is a car unusual both intechnical specification and in the qualities which impress a driver or passenger. It is also a car which is not truly appreciated until many hundreds of miles have been covered, when the real reasons for unconventionality the real reasons for unconventionality become evident and the tester realises why men who drive big annual mileages frequently run successive Citroens over a long period of years.

The whole character of the car is linked with such outstanding features as the use of front-wheel drive and chassisless construction, features which have by now been incorporated in more than 200,000 British and French built examples of the marque.

A strong hint at what to expect is obtained when first entering the car, stepping right down into it through doors of normal height, and sitting on seats which are pleasantly upright yet, in fact, exceptionally low set. correspondingly low, flat floor, obtained despite adequate ground clearance, is the prize for eliminating the propeller shaft and using the body as the frame of the car.

First Impressions

A driver coming as a stranger to the Citroen has at first to accustom himself to several new ideas. The upright driving position, giving a view of the two side lamps, imparts confidence, but initially, the pedals and gear change seem peculiarly sited. After some miles have been covered, however, a driver realizes that pedals of piano type, moving downwards rather than moving downwards rather than forwards, are extremely comfortable, and can be operated without the heel ever leaving the floor. Likewise, the facia-board gear lever, with vertical gate, proves perfectly convenient and facilitates entry from either side.

The gear change is unusual, a unique solution having been adopted to solve the problem of obtaining really light remote control—a problem which is not always ideally solved when steeringcolumn gear levers are adopted. On the Citroen, the gear lever is normally locked immobile in whatever position it occupies, but is freed for the engagement or disengagement of gears when the clutch pedal is depressed. With this system a gear change is obtained which is pleasant and entirely simple, but the clutch pedal must always be depressed fully. The synchromesh mechanism operates well on the engagement of the top and middle ratios, provided the lever is not moved too rapidly, although with a little skill it is possible to make quite rapid up or down changes.

The suspension on the Citroen is by torsion bars, with damping by telescopic-pattern hydraulic shock absorbers. The front wheels, which transmit the engine power, are indepen-



SAFE CORNERING.—The ability of the Citroen to take corners at high speed is one of its best characteristics. Cornering at a more modest pace, the model tested shows off its lines in a pleasing setting.

dently sprung, and at the rear a special form of radius-arm-located axle beam serves as an anti-roll stabilizer.

By present-day standards, the riding is moderately firm and well damped, excessive speed over a hump-backed bridge failing to evoke any bounce. At moderate speeds, with the car lightly loaded, there is a fair amount of up-anddown movement of the rear of the car, but at high speeds or with four people aboard the ride levels out most commendably In any case, however, commendably In any case, however, bumps and potholes of frightening proportions can be tackled at any speed, and singularly fail to influence the car.

Exceptional Cornering

The speed at which corners can be taken, on either wet or dry roads, is altogether exceptional. Above-average vigour of handling, especially on fast, open curves, produces neither roll, sway nor tyre howl. If corners are entered at speeds of which no sports car would be ashamed, there is some audible protest from the tyres, and the car feels to drift outwards slightly, but there is no sign of any disconcerting tendencies and it is a determined driver indeed who manages to skid the car at all. With front-wheel drive, the steadiest fast cornering is obtained with the throttle open, but corners taken quite furiously with the car coasting or the brakes applied also felt perfectly safe. The steering is reasonably high geared, almost entirely free of lost

motion, but rather variable in feel. At high speeds it is beautifully precise and quite light, but it feels rather more sluggish at traffic speeds. The selfcentring action is obtained mainly from the engine, so that on the overrun it is slight, but it can be restored by a burst of throttle and is very marked when accelerating in a low gear. There is some vibration to be felt through the rigid two - spoke steering wheel, especially if a hill is climbed at around 30 m.p.h. in top gear, but the car is one which leaves the driver unfatigued after a big mileage.

The engine and transmission, it must be said, did not, at least on the test car, come up to the highest modern standards of silence and smoothness. Induction and exhaust noise are seldom audible inside the car, which cruises most pleasantly about 50 m.p.h. Towards the higher speeds, however, which are readily reached and sustained.

there is a fair amount of gear noise.

In keeping with the road-holding qualities, however, is the performance, which is most usefully high. The car accelerates well from rest, with use of the three-speed gearbox. On the open road, too, where top gear is seldom abandoned, there is really excellent power instantly available for acceleration or hill-climbing, and the car seems tircless even if driven at almost its maximum speed.

The smoothness of running at low speeds, in town or elsewhere, is a little



SQUAT FROM THE SIDE.—The construction of the Citroen provides a low, flat floor, yet gives adequate ground clearance. Here, the long wheelbase emphasizes the car's flattened appearance.

disappointing. Lost motion in the rather flexible throttle linkage appeared to contribute to a certain amount of snatch experienced when crawling through heavy traffic, and the sort of small throttle opening required for a sustained 35 m.p.h. sometimes produced a slight hesitancy or surge.

hesitancy or surge.

A certain lack of refinement at low speeds must perhaps be regarded as the price paid for obtaining, at a cash outlay which must be regarded as extremely moderate, the ability to make long journeys at average speeds far above the normal without the car suffering rapid deterioration or the passengers feeling any strain. The Citroen is quite evidently a car which, although offering the spaciousness required by family motorists, will make its strongest appeal to those who do a lot of motoring and do not want to waste more time than is essential.

Economy Pace

The rather unusual results obtained in our fuel consumption tests substantiate this impression that the car is most at home when travelling briskly. It may be noted from the data page that whereas many cars of comparable size give their best economy at a speed as low as 20 m.p.h., the economy pace for

the Citroen is around 35 m.p.h. The overall consumption figure recorded during our tests, approximately 23 m.p.g., is creditable in view of the conditions, which included very fast runs and the negotiation of tracks rarely used by motor traffic.

Front wheel drive being sometimes criticized as giving limited adhesion on steep hills, we deliberately drove the Citroen well off the fairway. In rain, a winding, cobble-stone hill was easily climbed by the fully laden car, with a re-start on the steepest corner. A series of hills with rough and loose surfaces of large stones produced some wheelspin, accompanied by mild steering wheel "fight," but the only gradient which stopped the car was one used for testing military vehicles, a hill which would stop almost any other family car.

In keeping with the character of the car is the general standard of equipment, presentable and very practical but devoid of frills. The head lamps, raised to an unfashionable, but very sensible, height above the road, give an excellent driving light, the red tell-tale glasses of independent side lamps are both within the driver's field of vision, and interior and facia lights are provided.

For cold weather, there is a simple form of heater, a duct extending from the radiator to a controllable vent above the feet of the front seat passenger. For warmer weather, the de luxe saloon tested had winding door windows, sliding roof, scuttle ventilator, and a windscreen which opens for a short distance. During the mild weather in which our test was made, a certain amount of engine warmth was noticed in the front of the car, but it was found that the sliding roof could be left open almost continuously and did not cause unwanted draughts.

The front seat is in two individually adjustable halves, which can be set together for the carriage of a third passenger, and the rear seat is also able to accommodate three people. In view of the suitability of the car for fast driving, it is unfortunate that no armerests or handholds are provided in the rear compartment.

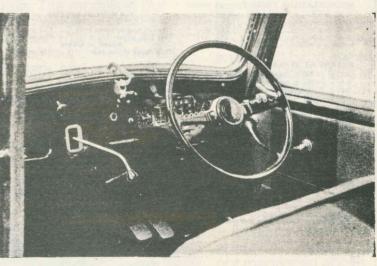
The rear luggage locker is of moderate capacity, and a fold-down panel extends the floor when loads which prevent the lid from closing are to be carried. The spare wheel, mounted on the locker door, is secured from within the locked compartment. Inside the car there is a facia cubby hole, sloped sensibly to keep things in place, and pockets are provided on the front doors.

No cold weather was experienced during our tests, but after nights spent in the open the Citroen invariably started at the first touch of the button. Thereafter, the idling with the Solex starter carburetter control pulled out was certain, and the car could be driven straight away.

From a somewhat dubious first impression, strongly flavoured with doubt as to whether the unusual features of the Citroen were justified, we rapidly came to a much more appreciative frame of mind. After upwards of 600 miles with the car, over highways, byways and city streets, we parted with it reluctantly, having acquired much of that enthusiasm for the marque which regular users so often reveal.

DETAIL SHOTS.—(Left) The rear luggage locker, of moderate capacity, carries the spare wheel, secured from inside, on its lid. (Right) An interior view, showing the facia layout and controls.



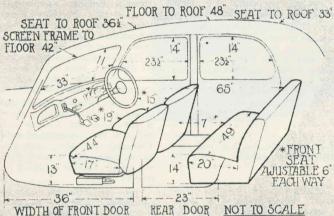


Stor Road Test No. 4/48

Type: Light Fifteen. Makers: Citroen Cars Ltd., Make: Citroen. Trading Estate, Slough, Bucks.

Dimensions and Seating





Test Conditions

Warm, light breeze, dry concrete surface. Poor petrol.

Test Data

| ACCELERATION | TIMES | on | Two | Upper | Rat | ios | | Top | 2nd |
|--------------|-------|----|-----|-------|-----|-----|------|--------------------------|------------------------|
| 10-30 m.p.h | | | | | | | | 10.6 secs. | 5.9 secs. |
| 20-40 m.p.h | | | | | | | | 10.1 secs. 11.0 secs. | 6.0 secs. 8.0 secs. |
| 40-60 m.p.h | | | | -51 | | | - 11 | 15.6 secs. | |

| | | | |
|-----------------|------|-------|---------|
| 0-30 m.p.h. | | 6. | 0 secs. |
| 0-40 m.p.h. | | | 5 secs. |
| 0-50 m.p.h. | | | 5 secs |
| 0-60 m.p.h. | | | 4 secs. |
| Standing 4-mile | | . 22. | 8 secs. |

MAXIMUM SPEEDS

| riving wuarter-ini | 16 | |
|--|----|-------|
| Mean of four opposite runs Best time equals | | m.p.f |
| Speed in Gears | | mod |

BRAKES AT 30 m.p.h.

0.23 g, (=130 ft. stopping distance) with 25 lb. pedal pressure. 0.44 g, (=68½ ft. stopping distance) with 50 lb. pedal pressure. 0.65 g. (=46 ft. stopping distance) with 75 lb. pedal pressure. 0.80 g. (=37½ ft. stopping distance) with 75 lb. pedal pressure.

FUEL CONSUMPTION

Overall consumption for 343 miles, 15 gallons, equals 22.9 m.p.g. 26.5 m.p.g. at constant 20 m.p.h. 29.5 m.p.g. at constant 30 m.p.h. 29.5 m.p.g. at constant 40 m.p.h. 26.5 m.p.g. at constant 50 m.p.h. 23.5 m.p.h. at constant 60 m.p.h.

HILL CLIMBING Max. top-gear speed on 1 in 20 ... 62 m.p.h.
Max. top-gear speed on 1 in 15 ... 57 m.p.h.
Max. top-gear speed on 1 in 10 ... 44 m.p.h.
Max. gradient climbable on top gear, 1 in 9.
(Tapley 235 lb. per ton).
Max. gradient climbable on 2nd gear, 1 in 5.
(Tapley 390 lb. per ton).

STEERING

Left- and right-hand lock 40 ft. 21 turns of steering wheel, lock to lock.

In Brief

Price: £575. Plus purchase tax £160 9s.6d. ==£735 9s. 6d.

. . 1.911 c.c. Capacity .. 21 cwt. Road weight unladen Front/rear weight distribution 55/45 .. 23 towt. Laden weight as tested Fuel consumption ... 73.3 m.p.h. Maximum speed ... Maximum speed on 1 in 20 gradient 1 in 91 Maximum top-gear gradient Acceleration 10-30 on top .: 10.6 secs. 0-50 through gears 14.5 secs. Gearing, 17.4 m.p.h. in top at 1,000 r.p.m. 66.2 m.p.h. at 2,500 feet per minute pistor speed.

Specification

| Cylinder | 1, |
|----------------------------|------------------|
| Bore | 73 mm. |
| Stroke | 100 mm |
| Cubic capacity | 1911 c.c. |
| Piston area | 29.5 sq. in. |
| Valves | Prishrod o.l.v. |
| Compression ratio | 6.25 |
| Max. b.h.p. | 55.7 |
| | 4.250 r.o.m. |
| 8.h.p. per sq in diston | |
| area | 1.88 |
| Piston speed at max.b.h.p. | 2.790 ft. min. |
| Carburettei | Down-draught |
| CM SUITCE | Solex 35 F.A. E. |
| Ignition | Lucas Coil |
| ignition | 7.13 |

| 1 (4112111122 | 1011 | | | |
|---------------|------|-----|-------|------------------|
| Clutch | | | | Single dry place |
| Top gear | | | W.983 | 4.3 |
| 2nd gear | | | * * | 7.3 |
| 1st gear | 5.0 | 0.0 | | 13,1 |
| Final dain | | | | Q 31 Sourel have |

Champion id.

| hassis | |
|----------------------|------------------------------------|
| Brakes | Locklined hydraulic |
| Brake drum diameter | Front 12 ins., Real 10 ins. |
| Friction lining area | 97.5 sq. ins. |
| Tyres | Michelin 165 x 400 |
| Steering gear | Rack and pinion |

Performance Factors (at laden weight as

Piston area, sq. ins. per 25.2 sq. ins. Brake lining area, sq. ins.

Fully described in "The Motor," March 20th,

Maintenance

Fuel tank: 9 gallons. Sump: 8 pints, S.A.E.
40. Gearbox and Differential: 3 pints, medium gear-oil, Radiator: 14 pints. Chassis lubrication: By grease-gun every 500 miles to 17 points. Ignition timing: 8° B.T.D.C.
Spark-plug gap: 0.025 in. Contact-breaker gap: 0.012 to 0.015 in. Valve timing: Inlet opens 3° B.T.D.C., closes 45° A.B.D.C., exhaust opens 45° B.B.D.C., closes 11° A.T.D.C.
Tappets (hot): Inlet 0.006 in., exhaust 0.008 in. Front-wheel toe-out: 1/16 in. to 3/32 in. at wheel rims. Camber angle: 1° 30′. Castor angle: 2° 45′. Tyre pressures: Front 22 lb.; Rear 24 lb. Brake fluid: Lockheed. Battery: 12 volts 57 amp.-hours.

Le Petit Citroën

A look into the world of the miniature Citroën



If the little Citroën bug has already bitten you, then you have probably thought about or have already started your collection of model Citroëns, magazines, articles and books. This article is devoted to the first mentioned.

This month we look at locally available models — in future issues, we intend to present reports on building the Heller Big Six kit, the Heller 5CV, a club member's impressions of a visit to the Matchbox factory, reviews of models available from overseas and how to obtain them.

If you are one of those who intends to start your model collection soon, then you will need to know what you can buy locally. Don't think that you'll be able to buy a 1/12th scale model of your Light Fifteen off the shelf at your

local toystore.

The local range is very poor. I suppose its only to be expected; after all we are 'down under'. In die-cast models, the good old Matchbox reigns supreme. If you are lucky enough you may be able to pick up two models in the Superfast range — they are both numbered 51 Citroén SM. The superceded model is bright orange - part of the 1977-8 range. The currently available 1978-9 model is red with blue and white racing stripes. Both models would

cost about 90¢ from your local

tovstore.

Matchbox Speedkings are a larger model (approx 11cm long). These retail for about \$2.95 and there are three different models in this range. The first is the Citroën SM number K33. It comes in a red finish with tinted blue windows and opening doors. The second and third are also SM's. Number K62 is a doctor's vehicle, being white with tinted yellow windows and features decals proclaiming it to be an emergency vehicle. It differs from the K33 in that the support for the emergency light is moulded into the die. For those of you who intend to be real collectors, the third is exactly the same as the second except for the colour of the undercarriage. It can be obtained in either red or silver.

Corgi produce at least two Citroën models at the present time; but try as I might, I have only been able to obtain the smaller one so far. The smaller, a Corgi Junior, is number 89 Citroën Dyane. This model is readily available, even in K-Mart, for the price of 89¢. It appears in gold and black and features a rear opening door. Corgi's larger, unavailable model is also a

Dvane

Majorette, a French model company, produces six Citroën models at present, yet only four are available in Australia. The models in our collection were bought in a newagent in Prahran, but I have since found them for sale in milk-bars, and in Box Hill (Frank's Toystore) and Boronia (Toyworld). They range in price from 90¢ to \$1.10.

No.206 is a DS21 Ambulance. It is white with yellow tinted windows and features a rear opening door revealing a suitable injured patient.

No.221 is the GS Camargue. There is nothing startling about this model — it appears in red paint and yellow tinted windows.

No.250 is the SM — for a change of pace, this one appears in a light green paint and comes with opening doors, driving lights, sporty interior and yellow tinted windows.

No.231 is a Dyane resplendent in rally equipment — for example, a roll-bar, crash bar, spare petrol can on either side and spare tyre on the back. This Dyane also appears in yellow and black with soft grey roof.



In scratch-built models - all I've come across is the Heller Big Six kit and more recently, the Heller 5CV. Both these models were available at Hearn's Hobbies in Melbourne, but their availability is sporadic. The price of the Big Six seems to fluctuate daily - from \$80 to \$160. It seems that the best way to get one of these is to win the Club Person of the Year Award. The Heller kit will be dealt with in the detail it deserves in a forthcoming edition.

The Heller 5CV is part of the Heller 1979 range — Hearn's had two of these kits, one of which found its way into the Couche collection. They cost around \$11 and are a very nice kit to assemble. This kit will also be reported in detail.

If you are after older models than those mentioned above, the only way to find them is to bribe your father to part with his Dinky collection. Failing that, collections are advertised in the papers, or some come up for sale at swap meets.

If you have any information about the location of models not mentioned above, please pass this on to me or *Front*

Drive.

Robyn Couche.





TWIN POT TOPICS Dirk Shervo

MEHARI 4 4 4

Since the last appearance of Twin Pot Topics some nine issues ago, the editor has been steadily twisting my arm up my back to contribute to Front Drive and like a true enthusiast I've finally agreed (it was either that, or learn to write left-handed) The club's membership of Two Horse owners has been slowly rising and now consists of quite a formidable group of anarchists dedicated to 2CV world domination.

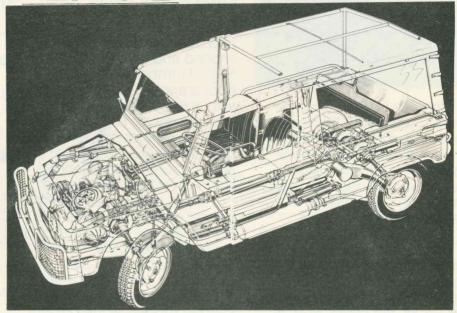
The CWB (Coo-ee Whoopee Bonzers, not Country Women's Branch) globetrotters Mark, David and Phil, have returned with tales of wonder after their visit to the 3rd International Meeting of 2CV Friends in Denmark. Using all my subtle powers of persuasion (Kym isn't the only one who can twist arms) Mark has contributed the following on the meeting, but before that some news snippets Next 2CV Friends Meeting Belgium early August 1981 (start saving - see Letters to the Editor). Instant classic - latest Citroen twin pot, Mehari 4x4 - this is a four wheel drive model, but unlike the Sahara 4x4 uses one engine and a prop shaft to a rear gearbox. (see below). Rumours of a Swedish[Norwegian 2CV owner who has stuffed a GS Birotor engine under his bonnet (said to cross fjords in a single bound).

Chevron Motors (Sydney) have quantities of crankshafts, mufflers, for most models. Certain Ami 8 owner has added Ami Super to the family

Strong rumours that 2CV's in

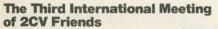
limited numbers to be imported into Australia early

next year.



Citroën has just introduced a new Mehari, the four-wheel drive 4x4. Its climbing ability is claimed to be significantly better than 1:1, and. because of its light weight and supple long travel suspension (2CV) which keeps all wheels in constant contact with the ground, it performs remarkably even on loose ground. In fact, by means of geared reduction, torque is multiplied from the 4m/kg available at the engine to a total of 244m/kg! The 4x4 weighs only 1540 lbs., uses the economical 602cc engine, and features include four-wheel inboard disc brakes, and of course lockable differential.





Mark Navin

Attending this event was the culmination of 3 years of planning, dreaming and talking about it. Five Australians made it to Denmark -David Gries, Phil Sethna, and Victor Conde (currently expatriate living in Amsterdam), Stephen Berry, and myself. By the end of the rally, the Coo-ee Whoopee Bonzers had become an international family with Stephen and Barry (UK), Dominique and Renée (France), Joke and Maaike (Holland) and Knut (Sweden) given honorary membership.

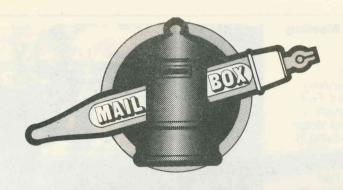
On arrival early Saturday, there were 40 2CV's; by Sunday lunchtime there were more than 500! Only a Sahara 4x4 was missing — there were 2CV, 2CV4, 2CV6, Dyane, Ami6, Ami8, Ami Super, Arcadiane, AK250, 250L, 400, Mehari, Mehari 2plus2 in every possible variation/modification/colour scheme. A Dyane had a Visa motor, and Victor

Conde's 2CV was powered by a GS 1015 motor and C-matic gearbox — top speed about 170kph — enough to startle many a BMW/Mercedes driver! Variations included Traction 2CV, 'Mercedes' 2CV, and 2CV roadster.

The Meeting officially went from Sunday to Thursday and was generally low-key, though every day saw some activity, from 2CV Cross to tours, parties, and competitions (best planned 2CV, Miss 2CV, Longest journey to meeting — won jointly by David, Phil and self). Claus and Ulla Jakobsen and the Danish organisers did a superb job.







It is amazing how one can become attached to cars — the attachment Judy and I have for *Geronimo* is a different attachment than what we have for our other cars. 2CV's become a part of your family — they grow on you very easily. After driving for a few weeks, you begin to realise what simple basic transport, and how practical they really are.

Issued standard with incredible road-holding, full length sunroof, unbelievable MPG, superb comfort and a distinct lack of power which one does get used to — a respect for what it is — basic transport. So what if there's people overtaking you on the highway — but around town it is possible to keep up as long as there are plenty of green lights, tailwinds, and downhills.

I have lost count of the number of people who ask 'wheredyagettit' or 'howmuchisit'. Most people look at it in total disbelief — is it really a car? It is quite often mistaken for the great pretender (Renault R4).

I am sure that there would have to be a ready market for 2CV's in Australia if they were marketed here again.
Unfortunately Australian
Design Rules make it impracticable to sell here in new form because of the number of alterations necessary to meet them.
Maybe someone will bring in secondhand 2CV's in quantity to sell here. Any volunteers?
Happy 2CV owners

Andrew and Judy Rankine.

Dear Kym,

On Wednesday your librarian, Peter Simmenauer, found a few spare hours during the conference that brought him to Canberra, to have lunch with Judi and me and to catch up on the things we didn't get around to talking about at Echuca. Peter mentioned that you were looking for some additional sources for future technical articles, possibly to relieve Gerry Propsting and Roger Brundle of some of that task, and also that you were looking for an article that would be a quide to would-be restorers as to the order in which one should attack the problem of converting the rotting hulk their wives see in the driveway into the classic, gleaming limousine they see in their minds. (If you are reading this aloud, I hope you took a deep breath. I have previously been convicted of writing the world's longest sentences). He also mentioned that my name came up as a 'possibility' but while I'm flattered that someone thought my technical knowledge was worthy of the pages of *Front* Drive I feel the compliment is unjustified. It is with considerable shame and reluctance that I confess to having done nothing more to my Big 6 in twelve months of ownership than to remove the rats' nests - hardly what you'd expect to find in 'The Classic Guide to Achievement in Car Restoration', or 'Restoring Your Big Six in Three Easy Lunch Breaks'. On the other hand, removing the rats' nests (and one remaining carcase) should not go completely unnoted as the task itself was anything but insignificant. The

South Australian strain of rat (I bought my car in Adelaide) has, over the centuries, evolved into an extremely home conscious animal who has developed a house building ability equalled only by the termite of Central Australia. While demolishing the fruits of their labours it became apparent that each rat had a winter residence in the headlining, a summer residence in the seats, and a weekender in the door trims. They also have an insatiable appetite for walnuts and left half a garbage bin of broken remnants of the banquets of seven years. What other material evidence they left is known only to myself and the vacuum cleaner, but the 'smellody' lingers on. The point is though, that while the task may have been monumental, the amount of technical knowledge required to effect it was relatively insignificant. I should think that the average back yard mechanic or home handyman could complete this initial stage of restoration without the benefit of my own experience and without resorting to the workshop manual which, in any case, has blatantly failed to cover the operation.

My answer to Peter's question must therefore be, 'If I should acquire some technical know-how not previously divulged in *Front Drive*, I should be delighted to share it with you.' On the subject of restoration, the lack of any worthwhile achievement on my part precludes me from giving advice to others.

The subject of restoring a car sparked off a bit of further

discussion on the matter and we both agreed (after agreeing that we both need a shot in the arm, or kick in the pants. depending on what school you went to) that it should be tackled in such a way that the job itself gives the inspiration that is needed to keep going. There is probably a danger, in long term projects, of becoming bogged down in some aspect of the job which hides the final goal from view and causes you to lose interest. When that happens your car ends up in Saturday's Age, publicly proclaiming your failure in the words partly restored.

see the total job being classified under four different headings: Engine/Gearbox; **Body; Suspension/Brakes:** and Interior trim. Obviously we are each inspired by different stimulii but for myself I believe that the greatest encouragement would be gained from getting the engine going. While the odour of the previous car's inhabitants is slowly absorbed by Canberra's all-to-brief sunshine and the cancerous rust continues to eat its way through the braking system because of a one-time owner who decided that water was cheaper than brake fluid, I'm sure that the ever-ebbing enthusiasm could be brought back to new heights with an occasional brmmm brrrrmmm on the accelerator pedal.

Others may achieve the same heights by sitting on newly upholstered seats behind an impeccably varnished dash panel, while, on the other side of the firewall, the engine languishes beneath a decade of grime, white metal chips covering the bottom of the sump like hair on a barber shop floor, with the pistons and valves remaining in a state of suspended animation, poised, like the victims of Pompeii, ready for action, but condemned by rust to be eternally still. To each his own, or whatever turns you on, but for me its the engine that

contains the wheels of progress that must be kept turning and I intend that to be my own first line of attack.

Rod Greschke Canberra

Dear Sir.

The attached I believe is self explanatory and I would be pleased if you could find space to publish it in Front Drive.

The idea was originally mooted around a campfire in Denmark (after suitable amounts of tongue-loosener) and since returning to Australia, have encountered no obstacles that time, organisation and a little finance could not overcome. The main obstacle is time itself and the next 20 months will be very full for the intending participants.

For the actual journey, the itinerary includes a long meandering journey throughout the Australian mainland states finishing in Perth.

I would like to think that the proposed venture would be able to draw support from all the Citroën clubs in Australia. At the very least, it should provide some interesting stories for future club magazines. Should you think it worth publishing. I would be prepared to submit a progress report on the trip and the events leading up to the trip.

As indicated in th article, not all positions are filled, and I would appreciate the article being brought to the attention of any possible candidates.

Thanking you in advance for vour attention. Yours in Citroëns.

Mark Navin





Melbourne-Brussels 1981 **2CV Friends Meeting**

Every two years in Europe, a meeting is held by the 2CV Friends. The first meeting was held in 1975 in Finland, the second (1977) in Switzerland, and the third this year in Denmark. Each meeting has seen Australian representatives present and in Denmark the flag was flown by five Australians calling themselves the Coo-ee Whoopee Bonzers with a club symbol of a 2CV in the shape of a kangaroo.

The next meeting is to be held in Belgium in early August 1981 and it is to be expected that again Australians will be present. In keeping with the spirit of the 2CV and the meeting, it is hoped that an Australian contingent will attend in their own vehicles. To achieve this, both Phil Sethna and myself are currently engaged in the organisation needed to make such a

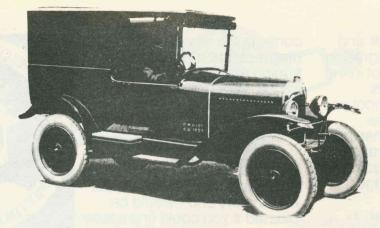
venture possible.

It is envisaged that four AK400 vans and eight people will take part in the trip. At this stage, plans are already well advanced for the importation of the vans to prepare them for long-distance travel. The trip itself is expected to take about 12 weeks departing early May 1981, and in that time nearly 30,000 km will be travelled. As is can be realised, such undertakings are not cheap, bu we have had indications of interest by sponsors, so it is hoped to be able to offset some of the costs

Already approximately half

Continued on p.14

Spare Parts Report John Couche



Auction

Saturday 8th September saw the Second Annual Spare Parts Auction and barbecue at John and Robyn Couches. Although the day started off slowly with a poor attendance at the barbecue, the auction itself was a great success with nearly 20 members frantically bidding to take home the bargains.

The best buy of the day went to David Giddings who purchased a brand new tie rod end set valued at over \$40 for

only \$28. Those members who brought some of their own parts for auction found the day profitable by disposing of some of their unwanted parts to enable them to clutter up someone else's garage.

Seven Tractions, one 2CV and a DS19 turned up for the event which is a club record for the number of Citroëns at an event (apart from MG Concours, and our Echuca rally).

Thanks to every one who turned up and enjoyed themselves whilst helping the club with their purchases.

Maryborough trip

On August 5th several members made the trip to Maryborough to pick up the 11BL body kindly donated by Fred Kidd and transport it to John Avard's farm at Colbinabbin where it now rests. My thanks to Fred and Kathy for putting on a most enjoyable lunch and to John Avard for supplying the storage space. A proposal from Queensland to purchase the body has already been received.

New parts in stock

A number of new parts have been added to the club's supply recently. They include: Changeover L15/B15 clutch plates, reconditioned by Repco. Price \$26.88 C/o. Upper and lower ball joint seals (leather) \$3.45 each. Note, the next shipment of these seals will be more expensive, so buy them now.

Door rubber seals — this is the seal that goes around the perimeter of all doors to exclude breezes. There is only one left in stock, but more can be ordered if required. Price \$12.78.

Non-stock items

The following is a list of items that are available to the Club but have not been purchased for stock at the present time. Depending on demand, the club will buy items for stock. From Sweden: Door handle springs, 4skr. Stainless steel distribution tube in head, part 451321, 28skr. Transfers for 'Miofiltre' air filter, Vokes filter and brake fluid tin, 5skr ea. Heating system rubbers pts. no. 331352, 329875, 45skr/pr. Springs for gear lever pt.515891, 15 skr/pair.

From Holland:
Big Boot top weather seals, part no. 802676, f15.
Rear silent bloc bushes, pt.441584, f30.
Small boot fuel filler grommets pt.224186, f5.
6 volt regulator, 11BL, pt.702323, f50.
Crown Wheel & Pinion with 4

satellites (complete set only), price f750. 2nd and 3rd gears with synchro (complt. set only) f850.

From local suppliers:
Master cylinder, all models.
Big 6 head gaskets.
Drive shaft rubber boots and metal sleeves.
Steering rack balls and cups.
Brake shoe pivot bushes.
various steering mechanism parts.

As usual, note that prices quoted are ex supplier and do not include duty, sales tax, mark up, etc. If you are interested in any of these parts, please contact me and place your order on the green parts order form.

Continued from p.13.

the eight positions have been filled, but there exist vacancies for four people (or two couples) to take part. People wishing to be considered for the vacancies will be expected to submit in writing the usual pertinent details of experience and qualifications. All applications will be processed strictly in order of receipt and it is expected that all positions will be finalised by late December 1979. Depending of the number of applicants, it is conceivable that either the size of the expedition be expanded or a standby list made or both.

People wishing to obtain a more specific breakdown of timetable, costs and itinerary should send a SAE (pref. 9x4 envelope) to the following address:

2CV Friends Belgium 1981, C/o Mark Navin, 1 Alexander Street, Box Hill, Vic 3128.

Club Library

Peter Simmenauer

The library currently consists of the following items: BOOKS & PAMPHLETS: Borge, Jaques. La Traction en 300 histoires et 150 photos. Balland, 1975.
Citroën CX SAAC, 1977.
Citroën GS. SAAC, 1977.
Citroën LN. SAAC, 1977.
Dumont, Pierre. Citroën, the great marque of France.
Interauto, 1976.
SKF Automotive service list.
SKF (Aust.) 1963.

MANUALS:
Citroën B14 1926-8.ETAI,1977.
Citroën C4, C6 et Rosalie,
1929—34, ETAI, 1978.
Citroën front-wheel drive
Twelve and Fifteen models
repair manual from 1938.
Citroën, reprinted 1959.
Citroën Traction Avant: tous
types (7, 11, 15) ETAI, 1973.
Repair Manual: Citroë n frontwheel drive six cylinder model.
Citroën, 1950.

PERIODICALS:
Avant Garde (Qld.)
B11 Bladet (Sweden)
The Chevrons (NSW)
Citroën (Canterbury N.Z.)
Citroënian (Citroën CC, UK)
Floating Power (Traction
Owners' Club, UK)
Newsletter (CCCV)
Single Spoke (Invercargill, N.Z.)
Spheres & Gears (ACT)
Traction Avant (CTU, France)
Traction Avant (Wellington, NZ)
Traction Torque (SA)
Traksion (Holland)

All items are for loan, except manuals which can be photocopied at cost (currently 5c/page). Postage costs to be paid by the borrower, loan period negotiable unless required by another member, when speedy return will be expected. Your friendly librarian will bring required items to meetings etc, if required (826539 AH). Suggestions for purchase, with indication of price and availability, if known are welcome. Donations are even more welcome!

Club Calendar

Bryan Grant

October 3, General Meeting, Blackburn. Speaker Mark Navin on his recent visit to

European Rallies and
International Friends of the
2CV Meeting. Including slides
of interesting and rare cars.

October 20, Championship Display Rally at East Ringwood State School. Entry forms available at October 3 meeting.

November 6th, Cup Day observation run. A fun day for all — whilst every encouragement is made for members to enter driving their Citroëns, all comers are welcome (even HDT). Departure point is Nunawading City Library, 379 Whitehorse Road, Nunawading, at 10.30am. Bring yourself, an observer, a motor vehicle and a picnic lunch.

December 5th, Last meeting for 1979. Annual 'Spice' night (spouses of committee members), and following barbaric rites.

December 10th, CCOCA Concours in conjunction with M.G. Car Club. Details later, but preparations should start now!

November 17th & 18th,
Annual Bendigo Swap Meet
at the Bendigo Showgrounds.
Always worth a browse — you
never know what you might
find — old magazines,
miscellaneous gadgetry,
maybe even some parts for
your car.

Club Shop

Pat Propsting

METAL BADGES

The club has now received these chrome and enamel badges, which look excellent, and are absolutely necessary on the grille of your Traction. There is a limited number left after filling prior orders, and price is \$10.00 each, plus postage if applicable.

Lubrication Charts \$1 each, inc. postage.

French Spare Parts Catalogues

Reprinted by Swedish club — good quality printing and binding. \$15.00 each, plus postage.

1938 Sales CataloguesAlso reprinted by Svenska B11
Klubben, \$2.00 plus postage.

T-Shirts and windcheaters

Windcheaters: \$10.00 each, plus postage, with either club badge or roadster design. Available in 3 colours — red, yellow, pale blue. T-shirts are \$5.00 each plus postage. Details as for windcheaters.

If other colours are required, please supply your own Exacto Tshirt or windcheater and we will print it for you at nominal cost. Exacto seem to be the only ones that take the screen ink without running.





Traction Superstar? Crawford's have contacted the club re supply of a couple of Tractions as background to a coming episode of 'The Sullivans' set in Holland. Payment is on an hourly basis (about \$12/hour), and no-one else will be driving the cars. Should be an interesting exercise. Contact Mark Navin for details.

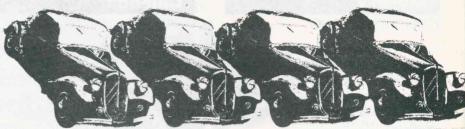
Got a Light 15 manual that's not yours? Would whoever borrowed manual from Roger some time ago please return same.

Front Silentblocs for the very good price of about \$25 per set of four. Previous Silentblocs were costing us \$15.00 each. Ask Ray Hobbs what a difference good Silentblocs make.

Dwindling Nitro-cellulose lacquer stocks: Further to the reporting of the discontinuation of this type of paint last issue, Gerry Propsting has contacted me to say that Bill Patterson of Ringwood, Victoria still have limited stocks, which are not to be replaced. This may be your last chance to obtain paint to match your car's original paint, or a spare litre or two in case of mishap.

Operation 41 This club has been approached to lend its support to Operation 41, a national drive within the car-club movement for funds for Foundation 41, the organisation researching causes of malformation and disability in new-born babies. This is being held in conjunction with the International Year of the Child. The aims of this drive are obviously excellent and most worthwhile. Donations may be directed through this club (via Treasurer) or through Restored Cars Magazine.

Market Place



FOR SALE

DS 4-speed gearbox 1957 complete except for crown wheel. Includes bell housing and hydraulic gear change. Whole unit is in good condition. Price negotiable around \$40.00. Also ID or DS exhaust manifold in good condition. Price \$3.00. Ring John Couche, 7626856

Light Fifteen Engine, rebuilt. Ray Hobbs has this unit for sale. Price and details, contact Ray.

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.

FOR SALE

TOC Traction Posters — in full colour, magnificent posters \$Price \$4.50 each plus \$1.00 postage. From Mark Navin.

1951 Big Six Silver grey, Reg.&RWC, one owner, 52,000 miles, gearbox, spares. \$4,000 ONO — apply Lionel Cohen, (03)265591.

Light 15 Owners Handbooks (Reprints 1949 Edition) \$2.00 plus \$1.00 postge. Mark Navin.

WANTED

Small boot Traction, preferably French, must be complete, but condition unimportant. Colin Brown, (03)8488485 (Bus. Hrs).

Wanted Returned:

2 Copies of Spare Parts Catalogue borrowed from Mark Navin!!

SPECIAL CITROEN 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 roadgoing 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.

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.

