



★ INDEPENDENT
FRONT
SUSPENSION
TORSION BAR
SPRINGING

★ INTEGRAL
CHASSIS
AND BODY

★ DETACHABLE
CYLINDER
BARRELS

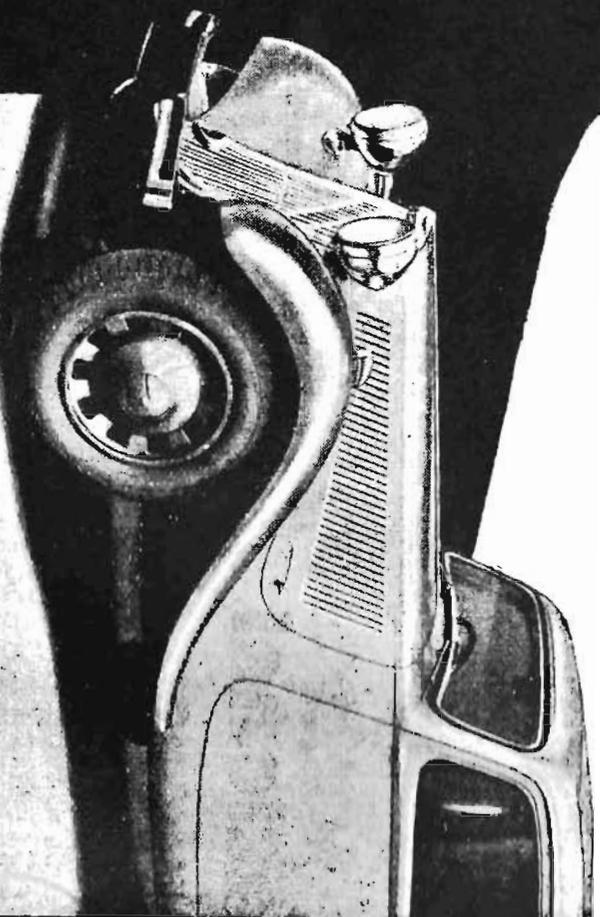
and

FRONT
WHEEL
DRIVE

**NOT NEW -
to CITROËN!**

*These proved features
were introduced in*

1934



"LIGHT FIFTEEN" SALOON DE LUXE 4 CYL. 1911 C.C.

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CITROËN CARS LTD

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Floating Footprints

Volume Three Number Five

October Nineteen Hundred and Seventy Eight

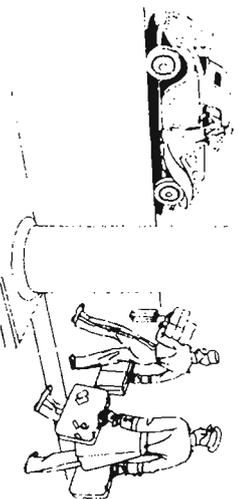
The 4th I.C.C.R. at Chartres!!! Well, what can you say when confronted by approximately 300 gleaming Traction's parked row upon row, not to mention 30 or so pre Traction models. I can only say my feelings were, amazement, how could so many be together on one day in 1978, bewilderment, where the hell do I start looking, and exhaustion, if you doubt the last you should have been there. As I am still in a state of shock over the whole experience. In fact the Doctor said it was the worst cast of "Tractionitis" he had ever seen, I have left a braver mortal to recount the great spectacle. I only hope all the pictures came out O.K. if not, no report this issue.

Our A.G.M. is now confirmed as the 24th November and will be held at the George Inn, Borough High Street, London. Full details plus a map of the location are to be found elsewhere. I cannot stress enough how important it is that as many members as possible attend, so that any crucial matters concerning the clubs' future can be dealt with and voted on. Plus of course it's always a good opportunity to meet old friends and exchange ideas and information.

You should find in this issue three enclosures, 1) Your T.O.C. membership card, if not please get in touch with the Secretary as soon as possible. 2) A register up date, even if you have completed one in the past it would still be appreciated if you could fill in the new form and forward to the Editorial address. It is of paramount importance that you do so, to enable us to keep our records up to date, and eventually supply all members with a complete list of owners names, addresses and their cars. 3) A copy of the clubs' accounts 77/78.

If any of you are wondering why there appears to be no Christmas 'Nosh-Up' this year the simple answer is, that at the time of writing, 22nd September, we have been unable to arrange a definite venue, before the magazine goes to print, we shall do our best to organise something for the New Year. Watch December magazine for details.

Oh, by the way, no Arthur Shaft column this issue, as the poor fellow is under sedation having travelled to Chartres with us, that's right, another bad case of 'Tractionitis'.



TOOLS OF THE TRADE

PART VI FRONT AXLE LOWER SWIVEL BALL EXTRACTOR 1851.T.

- Fig. 1 Shows ball extractor 1851.T. in position.
Fig. 2 Shows alternative to 1851.T. in position.
Fig. 3 Shows working drawing for construction of 1851.T.

a) Body b) securing pin c) threaded bolt for tightening onto ball pin d) threaded bolt for tightening onto suspension arm.

- Fig. 4 Shows alternative to 1851.T. made of mild steel, welded construction a) Boyd at least 8"-10" long b) securing arm drilled to take locking pin c) whit. bolt with continues thread, and must be concave. Fig. 5 Shows modification to original bottom plate which enables one to adjust for play without removing bottom plate and shimming. These kits may still be available on the continent although I have never seen them fitted to a car on this side of the channel.

DISMANTLING METHOD IS AS FOLLOWS

1. Remove road wheel and hub, see Vol. 3, No. 2.
2. Remove outer wheel bearing ring nut and seal. See Vol. 3, No. 3.
3. Remove back plate complete with wheel cylinder and brake shoes by undoing the six fixing screws and nuts, remove lock plates then give a firm pull to remove from swivel housing, support to one side away from work.
4. Undo the three bolts on the bottom of the swivel housing nut size 12mm and remove plate and shims,

- note thickness and order of shims as these must be replaced in the order they were removed if there is no need for adjustment.
5. Remove lower swivel ball cup, spacer and shims taking care to note order and number of shims.
 6. Remove split pan in nut and undo. Nut size 30mm.
 7. Use extractor tool 1851.T. as in Fig. 1, or alternative tool as in Fig. 2, by tightening the long bolt that fits onto the swivel pin, then give it a sharp blow with a hammer to break the taper.
 8. Remove tool allowing lower suspension arm to drop away, take care not to lose the rectangular key in the pin.
 9. Remove swivel ball and top cup from suspension arm.
 10. Remove leather gaiter, spring and washers.
 11. Clean all parts before reassembly.
 12. If cups and ball are badly worn they may be lapped in, see Vol. 3, No. 4.

REASSEMBLY, Note insure taper is dry when refitting parts

1. Replace gaiter, washers and spring.
2. Replace lower suspension arm, refit rectangular key in pin and refit upper ball cup and ball.
3. Replace cast-lead nut and tighten to 50A lbs. Replace split pin.
4. Refit spacer, shims and lower cup.
5. Refack with shims on bottom cup to bring to same level as face of suspension arm, and replace plate and bolts.
6. Refill unit with grease.
7. Refit back plate, etc.
8. Refit front bearing ring nut and seal, hub and wheel.

BALL
EXTRACTOR
ISSIT

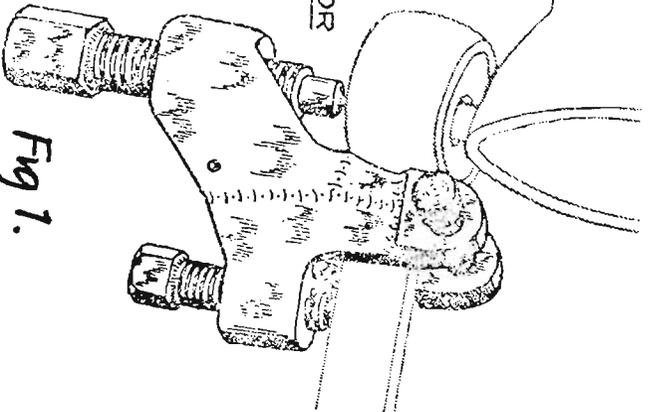


Fig. 1.

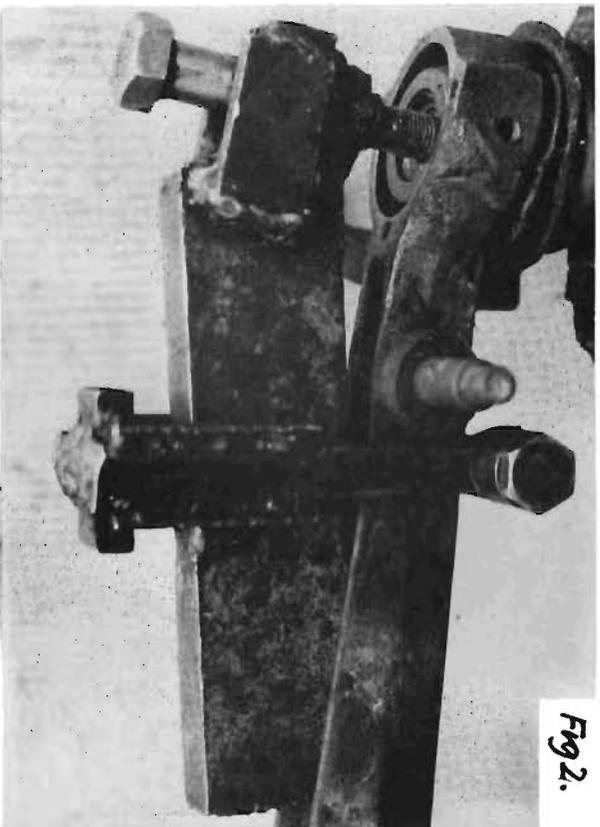
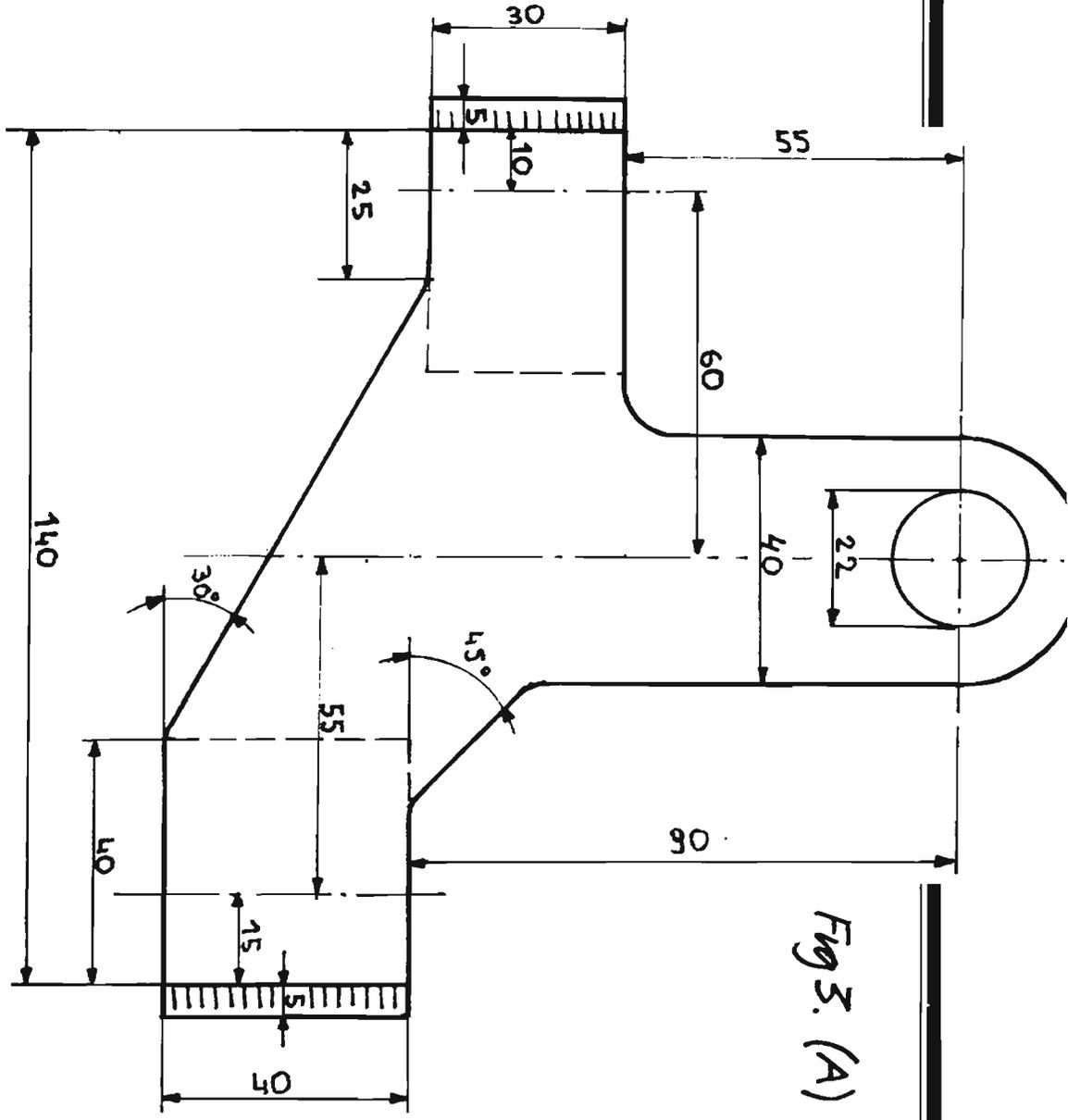
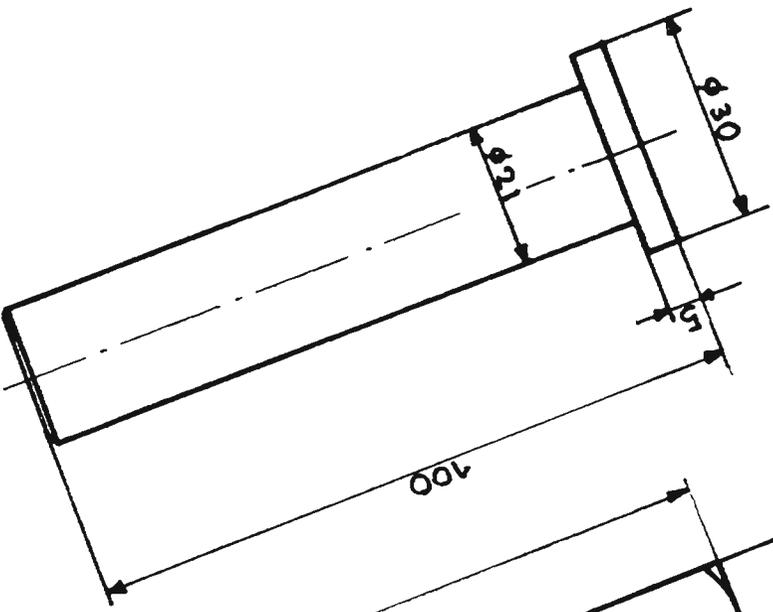


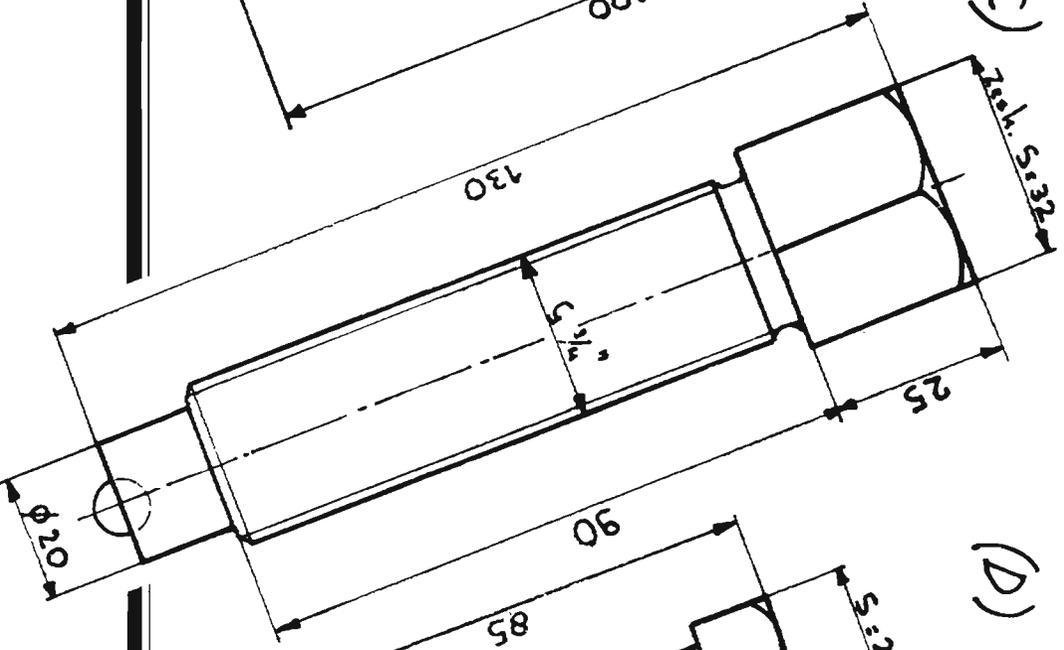
Fig. 2.



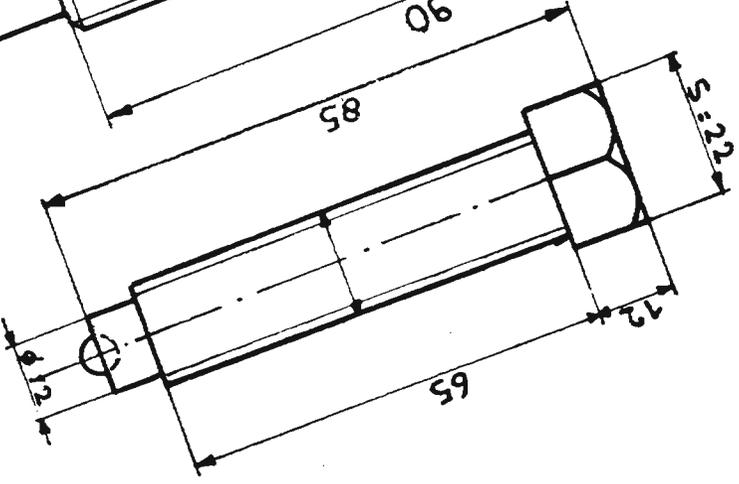
(B)



(C)



(D)



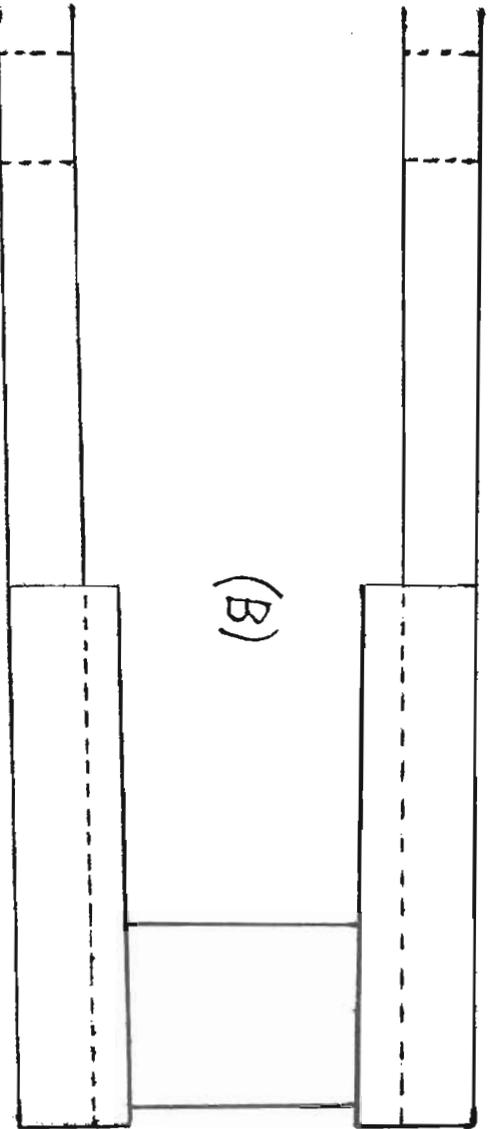


Fig. 4.

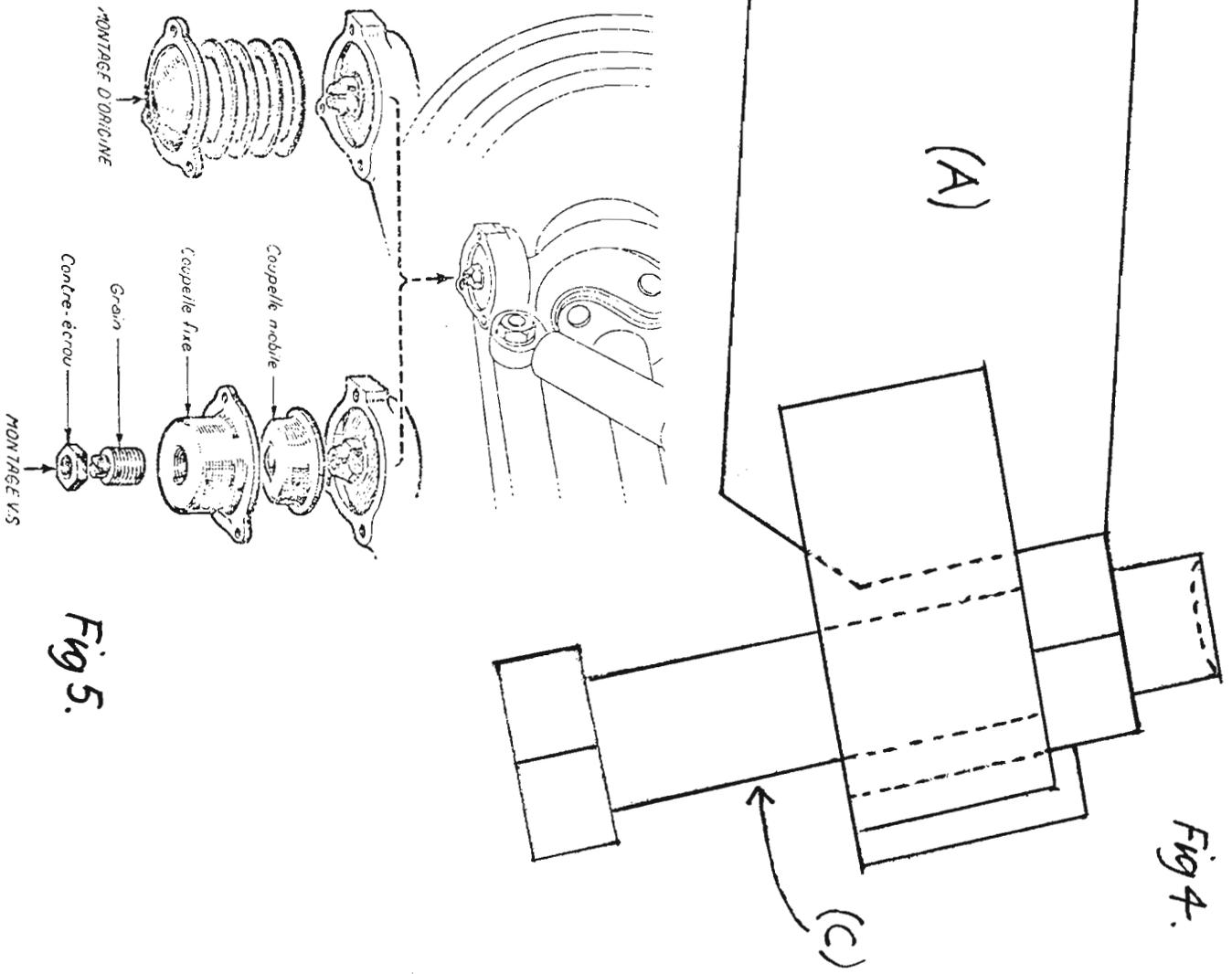


Fig. 5.

Citroën history

Citroën 12hp

(drawn by F. Gordon Crosby for
The Autocar of 28 September, 1934).

No. 1 in a Series

The original Citroën 12, first of the company's long and continuous line of front-drive cars, appeared in 1934. By the autumn of that year it was in production at the Citroën works at Slough, and went on sale in Britain as the Super Modern

Twelve at a price of £250. Apart from the novelty of front wheel drive, the unitary body construction was perhaps even more revolutionary.—Citroën and Lancia pioneered the idea for a long time before it was generally

accepted. The 12 had engine dimensions of 72 by 80mm, giving 1,302 c.c.; friction dampers were used at the front, hydraulic ones at the back; a dead axle was used at the rear, with torsion-bar springing all round.



Earst-Wars

by W. F. BRADLEY

WALTER CHRISTIE FIRST PATENTED A TRA



AS every traveller is aware, West 42nd Street, New York City, empties itself into the Hudson River. On that spring morning of 1907, it ceased to exist as a "street." Some 50 yards from the water's edge. All attempts at paving had been abandoned; the mud was deep and sticky and the only building was an unimpressive shed on the bank of the river occupied by an "automobile guy," according to the information given me by a coloured boy.

The "guy" in question carried the name Walter Christie. He had earned much fame, and doubtless not a few dollars, in the design and construction of gun turrets. Now he was spending those dollars on building racing cars.

Walter Christie was not known as a car manufacturer. He was not a member of the Association of Licensed Automobile Manufacturers, nor did he belong to the independent body of importers and home makers (prominent among them being Henry Ford) which had irreverently replied "Nuts" to the claim that a certain Mr. Selden held a master patent covering all self-propelled road vehicles.

In 1904 Walter Christie had taken out patents for a front-wheel drive automobile with transverse-mounted engine and the following year he founded the Christie Direct Action Motor Car Company. A transverse mounted front-wheel drive taxicab was built and put into service in New York. The four-cylinder engine was in front of the dashboard, which carried the transverse radiator. Of the two gears, one was for forward operation and the other for reverse. Probably this was one of the main reasons why the company formed to operate the taxicabs quickly went out of existence. A 50 h.p. touring car on the same general lines ap-

peared in 1906, being catalogued at the then high price of \$6,500.

During the first 10 years of the motor car became standardized, with the engine mounted longitudinally in front, an exposed flywheel containing a clutch, a separate gearbox and final drive by side chains; the latter, however, were being ousted by propeller shaft and a bevel-gear rear axle.

Christie, therefore, broke away from convention with his "direct action" design comprising transverse engine and front-wheel drive. The indifferent success of his standard model influenced him in switching to racing cars. During the 18 months prior to my visit he had taken part in a number of minor American events and had appeared in the elimination trials for the 1906 Vanderbilt Cup race.

Christie was ambitious and, notwithstanding the comparatively meagre success of his car in the United States, he decided to go abroad and compete in the world's greatest race, the French G.P.

French Grand Prix

The 38 competitors at Dieppe, representing France, Germany, Italy, England, Switzerland, Belgium and America, were given a fuel allowance of 30 litres per 100 kilometres. With this liberal allowance of petrol, Christie's existing straight-four was considered too small and he built a vee-four of equal bore and stroke—7½ in., or 184 mm. Doubtless the main reason was that four huge cylinders in line would have given such a width that the car would not have been allowed on the road. The smaller engine had four separate steel cylinders surrounded by a common copper water jacket. The Grand Prix car also had separate steel cylinders with a copper water jacket, but they formed a vee. There was one exhaust valve in the head, operated by pushrod and rocker, but around it Christie had found room to place eight automatic inlet valves fed from a carburettor of his own design. Evidently Christie realized the desirability of reducing the weight of reciprocating parts, for he made use of steel pistons. As steel

on steel presented lubricating problems, the pistons were fitted with copper skirts. Nickel steel was used for the crankcase-cum-gearbox, providing two forward ratios and reverse. The front wheels, having to transmit a claimed 130 h.p., were steel spoked, whereas those at the rear were artillery wood type. Track was the standard 55 in., with a wheelbase of 98 in., and Christie claimed the very low total weight of 1,760 lb.

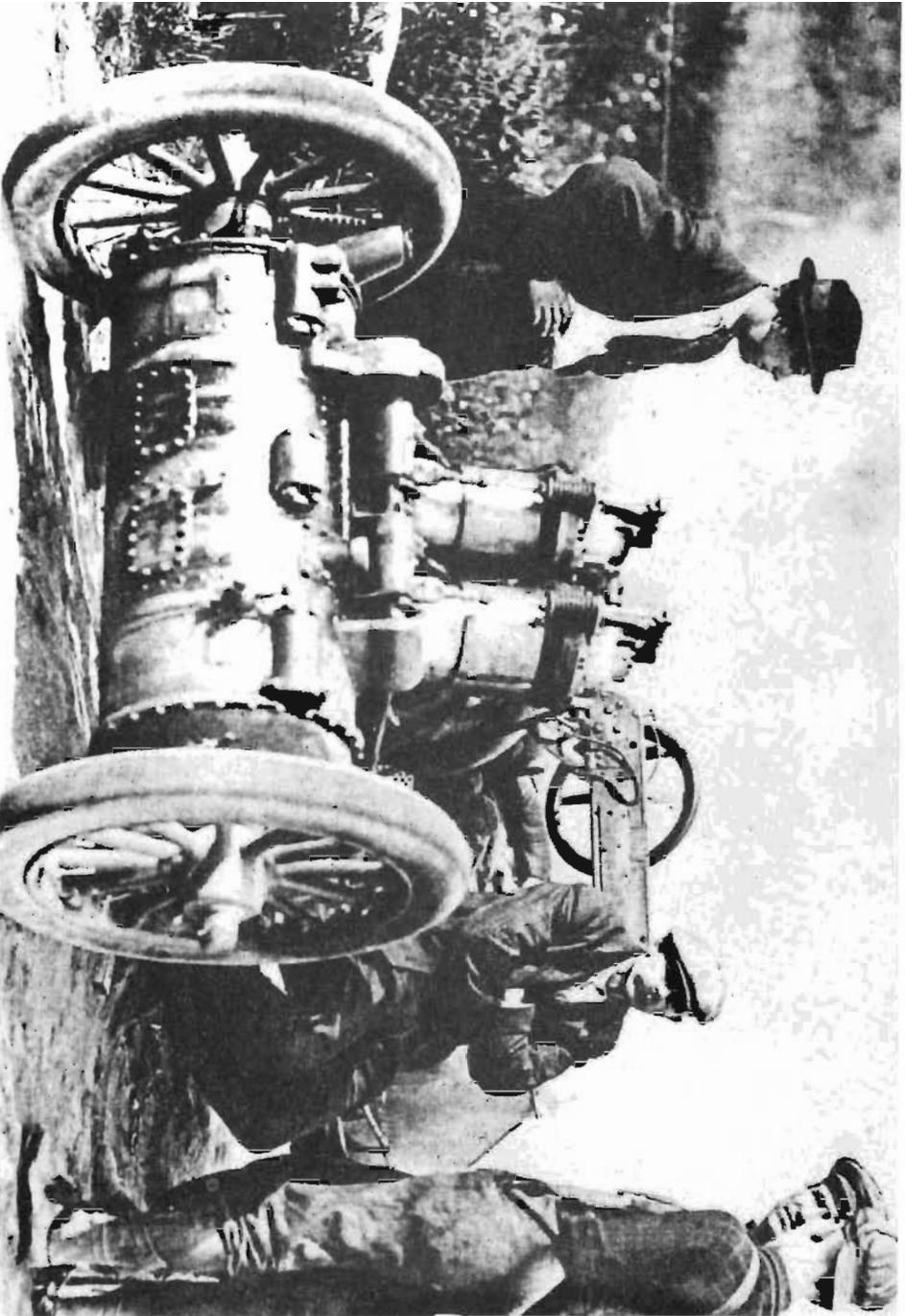
Christie invited me to attend the first road test of his east-west production, to be held on the deserted highways of Long Island the following Sunday morning. At 4 a.m. the car was hauled from its shed and connected by rope to the back of a touring car. "It is so fast that we could not think of driving it down Broadway," explained Christie. When Brooklyn had been left behind, the racer was unhitched, and the order was given "Push all together boys." We pushed; we stopped for breath; we pushed again, but the engine stubbornly refused to fire. Suddenly there was a puff of black smoke, a roar, and almost immediately the car, Christie, and his nephew Louis Strang had disappeared from view.

Optimistically believing that the push start would occupy but a few seconds, we had left nobody aboard the touring car. We seemed to have to walk miles to the rear, but only a dozen miles from the starting point we came upon the racer by the roadside. Something had gone wrong; we had to tow it back to 42nd Street.

Christie's appearance at Dieppe was not brilliant nor, despite its originality, did the car attract much attention among the technically minded. At the end of the first lap it was lying 33rd, just 50 min behind the leading Fiat. On the next lap it had gained a place; on the following round it had lost one. Then on the fifth lap it disappeared, having covered only half of the 500 miles required of the competitors. That year the organizers had decided that the cars should carry the initials of the maker followed by a number. Thus the Fiats were F-1, 2 or 3. Instead of giving Christie the "C" to which he was entitled, some joker declared that it should have the full

It Pioneer

TRANSVERSE ENGINE, FRONT-WHEEL DRIVE IN 1904



What's up? This disconsolate roadside scene centres round the car Christie built for the 1907 French Grand Prix. Its mighty vee-four engine is inclined back at about 45deg, so the rear cylinders are out of sight. Transmission gears were encased in the boiler-shopped crankcase

Issigonis didn't think of it first! Christie, too, tried four-wheel drive with a transverse engine at each end, but without success



initials "WC," which was a wonderful opportunity for a certain section of the spectators to indulge in ribald jokes as the American product trundled painfully round. Naturally, in 1907, the United States did not know how to build cars. Christie's cross-wise engine, however, should not be dismissed lightly. Compared with the Europeans he was totally unprepared for a long-distance road race, and how could he prepare in a country possessing few roads and no race tracks?

Christie was accompanied by his nephew Louis Strang. The two men were totally dissimilar. Christie was quiet, thoughtful, engrossed in engineering problems. Strang was boyish, wild, reckless, daring, of the sensational type common to America in



Walter Christie's front-wheel drive with east-west in-line engine was born in 1905. Christie is at the wheel here, his nephew Louis Strang beside him

east-west pioneer

the motor movement's first decade. Among Broadway "chauffers" he had won fame by his bet to rush down one of the avenues with throttle wide open and make a turn into one of the cross streets. This was possible at a time when the accelerator pedal was unknown and engine speed was controlled by a throttle on the steering-wheel. It was only necessary to hold this small lever in the wide open position by means of an elastic band. Strang made his run, but he could not prevent his car plunging down the steps to the "Subway." It needed the fire brigade to extricate the wreckage.

Strang delighted in the wild 24-hour races held on trotting tracks. Competing at Morris Park on a Delahaye, a right front wheel became detached and bowled ahead, leaving the three-wheel car to mow down the inner rail on which some 20 spectators had found an illegal vantage point. When I ran back to the stranded car with the remark "That's a big bunch you've sent to the hospital, Louis," he turned on me almost savagely: "Did I ask those birds to come and sit on the rail? Beat it back to New York and get me a new axle." By reason of frequent crashes, the impression spread that the front-drive Christie was difficult to handle. Doubtless, however, the drivers of the day exaggerated the difficulties in order to enhance their reputation as supermen. In a track race at Pittsburg, Christie collided with the wreckage of a car and both he and Strang were thrown clear. Looking over the remains of his car, Christie noted that Strang was laughing hilariously.

"What the Hell are you laughing for?" he asked.

"Oh, you look so darned funny," replied the nephew.

Suffering severely, Christie could

see nothing amusing in the situation and, despite his injuries, he wriggled himself across the grass and soundly cuffed the inconsiderate mechanic.

Strang, however, had his revenge, for he quickly recovered, had the car repaired and set off on a series of barnstorming exhibitions on dirt tracks in the south-east, while Uncle remained in hospital with an injured back, broken wrist and damaged eye.

There were very few long-distance road races in America at that period. However, Daytona Beach had come into use and the Christies were frequent performers there. Soon after his return from France both the big and the little Christie appeared in the Daytona events, pitted against Fiat and Hotchkiss. The big Christie stopped with a broken valve after covering 50 miles, but the smaller covered the 265 miles, defeating its two European rivals. That the Christie had speed is shown by its performance of 86.09 m.p.h. for the flying kilometre on Long Island Parkway. On several occasions, running on one-mile dirt tracks, Christie had covered the mile in 52sec.

During the first World War Christie decided to retire from racing, but his cars passed into the hands of various drivers. Barney Oldfield, the world's greatest motor showman, secured one and boasted that he could tame a brute "which its builder did not have the nerve to drive."

At that time Christie was in hospital recovering from a crash and thus unable to make a reply. However, Bill Pickens, who at one time had been Oldfield's manager, resented these unkind remarks, and after a violent discussion in a hotel lobby the two men came to blows, the ultimate result being that the American champion found himself lying in the gutter, minus the cigar he invariably crunched.

Oldfield's appearances with the small Christie were numerous. He tried to give the impression that this machine was so fast, so dangerous, so difficult to handle that he was the only man on earth capable of mastering it. At that time Oldfield was connected with the Firestone Tyre Company and naturally used their tyres only. His small Christie was described as "The Killer," and in order to emphasize this feature he had painted on its side "My Only Life Insurance: Firestone Tyres."

Doubtless the last appearance of the Christie "Killer" was on Indianapolis track in 1916. When he went to America in 1914 with the Peugeot team, Georges Bollot set up a track record at 99.7 m.p.h. without claiming that he had done anything superhuman.

Carl Fisher, track president, said to Oldfield—"If you'll sell me the Christie right now I'll take that damned pile of junk into the infield and burn it. It's a death-trap on wheels." Barney replied: "I got a hunch she's still the fastest sprinter in the country. I've been admitting that while Stetson of yours for some time. If you'll bet it against my busting the record I'll promise to buy you five more like it if I don't break 100 out there today." An American writer describes the performance: Barney moved out slowly into the 2.5-mile track, then began picking up speed as he gradually opened the throttle. The Christie's nose wavered slightly as Oldfield leaned on the gas. He circled faster, then, ready to go for the record, gave the thumbs-up sign.

First 100 m.p.h. at Indianapolis

Hugging the bricks, the red car shot by the timing stand, a bullet fired from a giant gun. Oldfield rammed into the first turn with the treacherous Christie wide open, sliding to the outside. He corrected, keeping his foot hard down as the tyres screamed against the track surface. On the north turn the car appeared to rise up, it seemed to shake and twist itself like a frenzied animal as Barney fought the wheel. Would he die here on the famed oval, after so many hairbreadth escapes? No, the Christie straightened, aimed for the tape. With a sulphurous rush it was passed, and the lap was timed for the vast crowds to see—1min 27.7sec, or an average of 102.6 m.p.h.

If it was the first time Indianapolis had been lapped at more than one hundred, it was the last public appearance of the Christie. What happened to it is not known. Possibly Carl Fisher did burn it.

That was the end, too, of the transverse-engine front-wheel drive car—at any rate for about 45 years, when British motorists were presented with a new model having an east-west engine, its gearbox in the sump and drive to the steered wheels. But it never has been known as "The Killer."

Correspondence

Dear Tricia,

Thank you for forwarding my T.O.C. Membership Card, here are some details of my car – II LEGGER – CHASSIS No. 136335.

It seems to have started life as DSG 269 on May 5 1954, although the old green log-book in my possession is a continuation book dated 15th October 1963. For some reason the registration was changed prior to this book to OYM 103 and registered with Argyll County Council at Lochgiphead.

Seven owners and fourteen years later, I bought the car which was suffering by then from great holes in the doors and sills, no M.O.T. but an engine that just ran, a pre-war bonnet and pilot wheels.

November 1977 saw the car in John Phillips workshop, completely gutted. It was stripped to bare metal through successive layers of black, grey and red paint. All body-filler in the wings was taken out and then re-repaired and finished in metal.

The car was resprayed in metallic blue and silver, the basketwork sides being done by the Queen's own heraldic artist, who took a couple of days off in the middle of it to work on the Rolls Royce Phantom VI presented to the Queen as a Jubilee present.

The chrome has been repaired and replated, a first time M.O.T. and 2000 miles later sees the car back in the workshop, but nothing a 1964 ID19 won't cure. After this I am concentrating on the inside.

Lesley Martin

Dear Ed,

The following Part Nos. will be of interest to Lt 15

owners.

| | | |
|------------|------------------------------|-------|
| ZC9461114U | Spindle (valve rocker shaft) | £6.07 |
| ZC9461886U | Valve spring inner | £0.47 |
| CZ9452914U | Valve spring outer | £0.67 |
| ZC9451996 | Manifold Gasket | £0.86 |
| ZC9453033U | Valve Guide Inlet | £0.66 |
| ZC9457538U | Valve Guide Outlet | £0.73 |

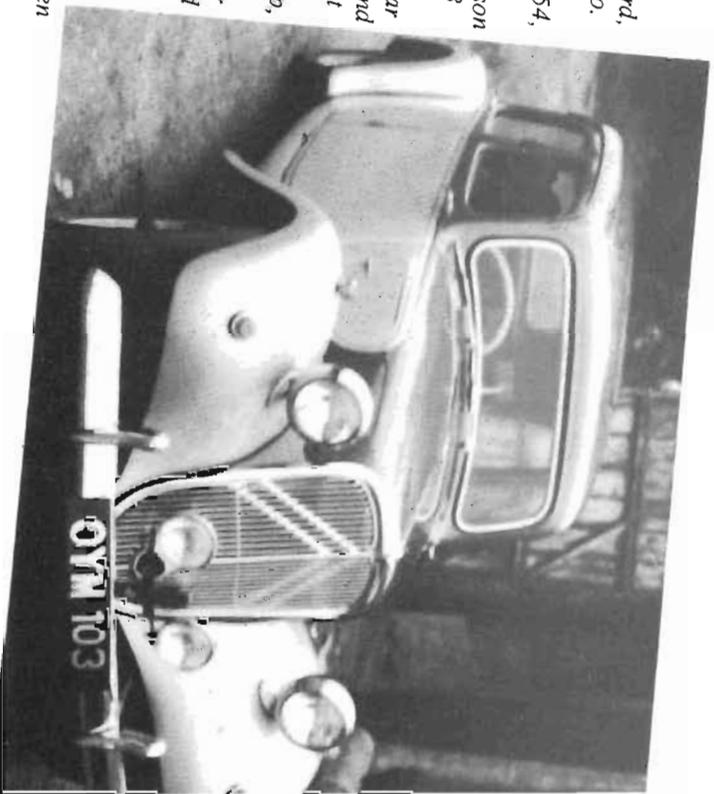
All the above parts can be ordered through your local Citroen dealer, the price of the rocker shaft is correct, mine came today, the other prices will vary by a few pence up or down as my price list is out of date. They take about six weeks to come from France and Slough will most likely think the dealer had gone mad, but any rate they do have parts in stock in France.

I still have rocker L/H and R/H on order, when they come I will let you know the part nos. also. ZC9602 135 bellows seal steering rack £1.23 each.

All the best,

Mike Tennant

Thanks a lot for the Info Mike, I wonder just how many other parts are still available over the counter. Ed.



THE QUESTION IS

. by Alex Binney

Five different tractions, of different nationalities and different colours drew up in the carpark at Peasmarsh. They all ran on different tyres and the owners preferred different petrol. Now, if:

1. Gulf petrol is used in the green traction,
2. The Englishmen drives the grey traction,
3. The Dutchman has a coupe
4. Dunlops are fitted to the Light 15,
5. The Belgian likes Shell petrol,
6. The green traction is parked immediately to the right of the silver one,
7. Texaco petrol is used by the owner parked in the centre,
8. Avon tyres are used on the black Traction,
9. The Frenchman parked on the extreme left,
10. The Michelin shod car parked next to the Familiale,
11. Avon tyres are fitted on the traction next to the roadster,
12. The Goodyear driver uses Jet petrol,
13. The German always uses Pirelli tyres, and
14. The Frenchman drives the traction parked next to the blue traction,

then a) who has the Big Six and
b) who used Esso petrol?

Answers to the author enclosing a twenty pound note for his holiday !

(Seriously though there's 2 free windscreen stickers for the first correct answer sent to the Editor.)

THE CITROEN WHICH WAS ALMOST AN ALVIS

My desire to rebuild an old car of character had on two previous occasions led me to obtain the basic ingredient, firstly an Austin Somerset with a blown up engine and secondly, a Renault 750, the one with the nicely lowered rear bonnet. Neither progressed beyond the stage of being unsystematically dismantled and casually hacked about before being disposed of again as worthless scrap. Whether the cars lacked sufficient character or I lacked sufficient resolve was an analysis I never concluded. However the bug remained.

There followed many visits to the mouldering remains of a once elegant Alvis. The fact that it was engineless and floorless seemed unimportant to me as a prospective restorer as my imagined talents were limitless, a price was agreed and a final inspection followed. Providence smiled on me at this stage for as I slammed a door shut it fell to the ground with a door pillar attached to it. This raised minor doubts as to the cars suitability as a subject for my attentions and I returned home to give the matter more thought before concluding the purchase.

"Wouldn't that Citroen behind the garage down the road be a better bet" suggested my wife tentatively. "It's such a nice shape, like the MG you once had." Just the sort of ridiculous suggestion a woman would make I thought to myself, fancy considering one of those, why, they don't even have a chassis! Anyhow, my father had warned me about them as a child. "Driveshafts go every six months" he had said.

"Feller left it here over two years ago" said the man at the garage. "Driveshafts gone! Can't get spares you know, be pleased to see the back of it before it rusts away altogether". Dad's summary dismissal of the breed definitely seemed to be born out by this example. Rust ruled supreme, all four wings were crumbling, doors bottomless, sills like a carpenter's saw and the remainder of the underparts about as substantial as Nottingham lace.

"Drove in like a gud'un" exclaimed the man, "Bet she'd start with a battery." Five minutes later his faith was confirmed and my scepticism confounded as a hearty bellow issued from the ventilated silencer.

The upholstery was mouldy and the interior contained sundry cardboard boxes slowly decomposing with the damp but containing many mysterious and unfamiliar motor car parts. A pair of front doors stood on edge in the back supporting the sagging headlining.

Yes, the driveshafts have definitely gone I concluded, after a cursory explanation of the controls and the application of trade plates saw me despatched, unaccompanied, onto the public highway. The knocking and snatching from the nearside front wheel was unbelievable. I drove it home and onto my driveway to conduct an unsupervised inspection after which I was unable to engage reverse gear. A fair accomplice. I returned with trade plates on foot. "Having it then are you?" said the garage proprietor. "You might as well have this, cost more

than the car to buy new today." He handed me a new 165 x 400 Michelin X. "Nobody uses that size no more," he exclaimed. "Ordered it speshurl an t' feller never come for it." This was encouragement indeed, I had at least the makings of one corner of a Citroen Light Fifteen.

PART 2

A not too detailed examination revealed structural weaknesses which I soon conceded were beyond my capabilities to repair. Very early one Sunday morning the car was driven the twelve miles to the welder who I had persuaded to take an interest in the vehicle. The decomposed remains of the carpet were removed and carefully stored to use at some future date as templates for replacements. The wings were removed to facilitate repairs to the sills, the larger part of the rear wheel arches detached themselves with the wings which were themselves entirely beyond repair.

The welder seemed assured of a steady source of income for the foreseeable future.

Before his work could proceed however it was imperative to obtain replacement wings so that the form of the wheel arches could be determined. Where does one find wings for a twenty-three year old Citroen? Things began to get desperate as time progressed. After six months searching and advertising I had found but one near side front wing in poor but repairable condition and two rear doors. The welder had lost interest and the car had been pushed outside the rear of his workshop and was already attracting the attention of vandals.

How I finally obtained the wings and saved the whole project is a story in itself, but suffice it to say at this stage that it involved a certain "Etablissement Fausstrol."

Once the wings were in the welders possession work began in earnest. Whilst the major surgery was taking place, twelve miles away in my workshop I was instructing myself in the use of a small electric welder and began repairing the doors and various other bits and pieces which didn't matter very much (remember, I had a spare set of doors by this time). The results were extremely encouraging and my enthusiasm was re-established.

About this time I obtained a spare parts manual for photocopying from Brian Drummond and then a repair manual. From these it was possible to identify the spares in the cardboard boxes and it soon became apparent that they included, apart from several drive shafts in various stages of mechanical decomposition, sufficient drive shaft repair kits for four shafts. Using my new found knowledge from the manual I rebuilt a pair of drive shafts in preparation for fitting when the car returned home.

It could not be said that the neighbours were delighted

T.O.C PICNIC

when the Citroen re-appeared in my driveway attached by a tow rope to a Land Rover. It was considered imprudent to drive it home from the welders due to the absence of wings, doors and lamps. After manoeuvring the car into my garage the scene was set for the enactment of various dramas and contortions, guaranteed to enliven the winter months.

A blow by blow account of the procedures which followed would be boring for those who have carried out such a project and extremely discouraging for those who haven't, so to cut a long story short suffice it to say that the car eventually emerged into the sunlight in May 1976, resplendent in cream paint.

The interior sported seat covers in velvet, a new headlining and red carpets. It must be stated at this juncture that it would never have occurred to me to tackle these jobs had they not been pointed out to me by my wife who seems to notice such things. My thanks go to her for persevering with the filthy remnants of upholstery and trim to make patterns for the new which she then ably formed on her sewing machine.

A few trial runs took place before final sorting and it was soon necessary to remove the cylinder head to replace a burnt exhaust valve. The car which by this time became affectionately known to my family as Suzie, due to her registration number which is SZ 425 was used locally until sufficient confidence was gained to embark on longer runs.

That summer of 1976 she covered over three thousand miles taking in the I.C.C.C.R. and Sudeley Castle Events. 1977 has seen visits to all the VSCC Events and also a journey to Belgium for the superb CBAC Event at Ypres. We are always four up and sometimes take the dog as well and appear to cover distances just as quickly as in our family everyday saloon, and certainly in greater style.

I should add that a Paris Built Big 6 has been receiving similar attention for some time now, but a completion date is as yet impossible to forecast. This car has an interesting history and will one day be the subject of a similar account of bleeding knuckles, frustration and gnashing of teeth. G.Carr

Well . . . where were you all then, on that beautiful summers' day, especially with so many people living within easy reach of the site. Still, for those who did make the effort it was a thoroughly enjoyable, and very pleasant afternoon, with some interesting new visitors.

My arrival at the 'Rainbow' found Dave Shepherd and John Watson already well settled and with them Dion Skeats, a T.O.C. member from Canada, on holiday here. Then came the first of our 'foreign' cars — Barney Baxter and family in their beautifully kept Wolseley Hornet Special, very well loaded with two children and large hamper in the back. And a very pretty sight it was parked along with John's roadster.

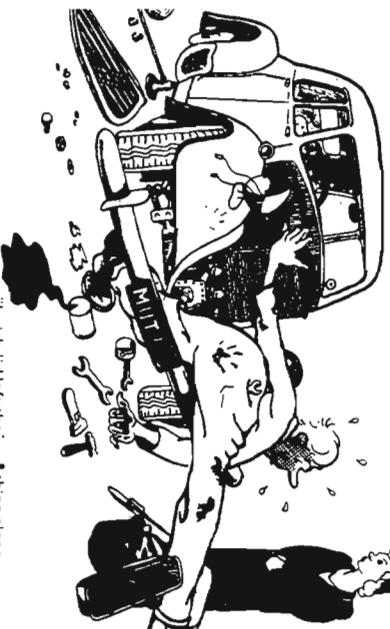
By closing time (lunchtime that is!) more Tractions and non-Traction visitors had arrived, so we struggled across the road to the picnic field for the serious business to begin. The pates, cheeses, bread, salad were laid out, wines opened and the feast began, lounging in the grass, under the tree and the sun, and in the usual tradition there was far more in the fabulous food pool than we could eat or drink (on second thoughts we did drink it all!)

During the afternoon we were joined by two more 'foreign' cars, Neil Heading from Crowborough in his Austin 7 Special and Gill and Rod Taylor from Brighton in their very smart 1950's Sunbeam Talbot tourer. It's amazing what a little mention in Johnathan Woods page of T & CC can do to help the turnout! Even the neighbours, in the house across the field could not resist seeing what was happening.

By the time we all knew what the engine of a Wolseley looked like and where the tools of a Sunbeam are kept, and Alan Sibley had sold a few more T-shirts and gaskets, we had the grand line-up for photos, and the party began thinning out — a shame really as the Rainbow was just about to re-open!

So ended another very enjoyable picnic with some new friends from other clubs and the knowledge that we are not the only club which suffers from 'invisible members'. So in future — more mixed-club events. Oh, and it turned out we never did have permission to use the field — is seems someone forgot to ask. A.G.H.

LEARNING THE HARD WAY by "Harry Driters"



"I wish I'd left the . . . thing alone"

Classified

Sales, Wants, Miscellaneous, Toys and Books.

Wanted Any information, photos or history about my 1927 B14 Roadster, which was built at Slough. Also information about parts etc for this model. Please write to: Miss P A Bren, Poraitte Road, R D 2, Napier, Hawkes Bay, New Zealand, all letters answered.

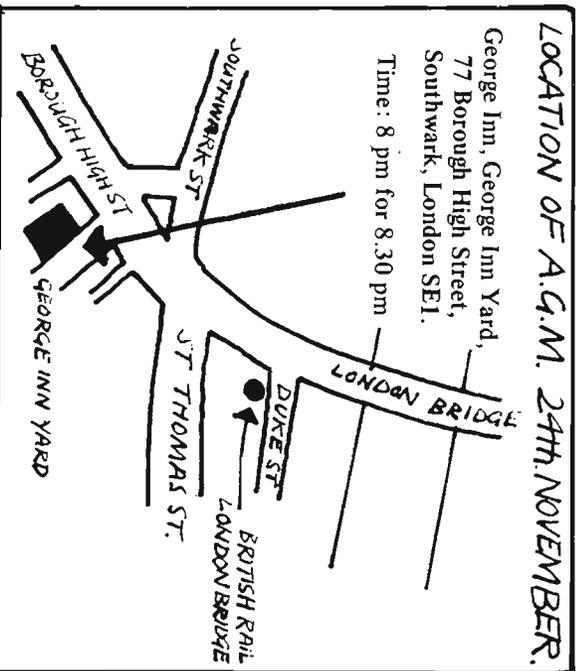
For Sale 1952 Lt 15. Bodywork good, will however need new interior + respraying. Price £750 or thereabouts. Telephone: 01-870 2946 any time.

For Sale Spare parts for Citroen Lt 15/Big 15? Bonnet, gearbox, drive shafts, complete with back plates and other sundry items. No reasonable offer refused, write to Mr. S. Lea, 16 Bramley Way, Hardwick, Cambs. CB3 7XE.

Wanted Complete set of front and rear brake shoes for 1949 Slough Lt. 15. Also french radiator grille for Lt. 15. Terry Homewood, 11 Vale Court, East Lane, North Wembley, Middlesex HA0 3NW. Telephone: 01-904 6446.

Exhausts All models and marques, exhaust made on a one off basis in 16 gauge specially imported steel or in stainless steel, original L.15 was approx. 20 gauge which is a lot thinner. Old exhaust needed as a pattern. Contact Paul at address below. Also M.O.T. while you wait.

J.J. Silencers and M.O.T. Centre, 16-26 Upper Stone Street, Maidstone, Kent. Telephone: 59126/7.



George Inn, George Inn Yard,
77 Borough High Street,
Southwark, London SE1.

Time: 8 pm for 8.30 pm

Nominations for Committee Members and the position of Club Secretary to be received by the Club Secretary in writing 5 days before the A.G.M. You **MUST** be nominated by another fully paid up Club Member.

Whilst every effort is made to ensure the accuracy of the information and advice given in the technical articles in this magazine and the replies to readers enquiries, neither the Citroen Car Club T.O.C. or the officers and members there of or the authors accept any liability whatsoever for such information and advice.

T.O.C. Spares for Sale

| | £ | |
|--|-------|-----|
| Brake M/Cyl. Kit | 2.65 | 40p |
| Brake W/Cyl. Kit - state 1" or 1 1/4" | 1.90 | 30p |
| Brake flexible hoses - state English or French | | 30p |
| | | 40p |
| Outer wheel bearings | 2.60 | 40p |
| Clutch thrust bearings | 8.20 | 50p |
| Light 1.5 valve springs | 12.35 | 50p |
| | 10.00 | 50p |

Coming soon: - Replacement wheel cylinders, U/J repair kits for drive shafts (gearbox end), Lenses for French cars. Prices on application.

Also available: - Exchange drive shafts. Please send your old drive shafts for replacement plus a deposit of £65.00. **NOTE** the stub axles, tapers and shafts must be in re-useable condition.

Add postage & packing where applicable

Spares for Sale

| | |
|---|------------------|
| 2nd hand 165 x 400 X's | £7.00 and £10.00 |
| 2nd hand 165 x 400 tubes | £1.50 |
| Wire mesh for grille 1/4" square galvanised | £1.50 |
| Steel tube for exhaust thru pipe (requires flanges) | £4.00 |
| New Armstrong shock absorbers for Lt.15 fronts | £10.00 |
| New standard 7mm pistons with rings (1 set) | £20.00 |
| New standard 68mm pistons with rings (1 set) (Pre-Traction) | £10.00 |

John Gillard, 129b Camden Street, London NW1.

Manual Hire Service

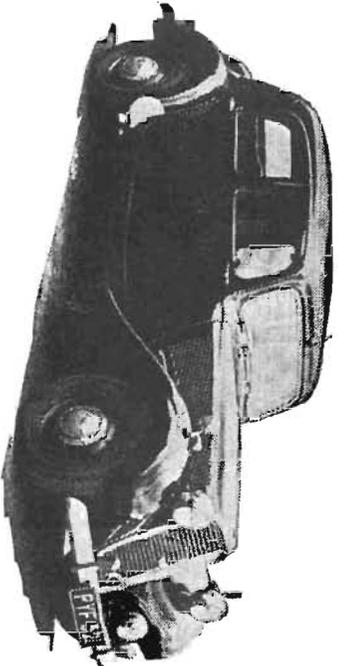
We have a full range of workshop manuals for loan. Please send details of your car, together with a deposit cheque for £20, plus a separate Postal Order for the postage of £1. Make the cheque payable to the T.O.C. and the postal order uncrossed payable to G. Brice.

Please enclose a S.A.E. for the return of your deposit. The manuals are available from the Editor.

T.O.C. Windscreen stickers, 40p each. Available from Dave Shepherd, Flat 2, Field House, Esplanade, Bognor, Sussex.

The Club has for sale coloured 'T' shirts with a 'Vive La Traction' design available in small, medium and large. Colours: White, Blue, Brown, Red, Yellow, Green, please state all colours in order of preference. Price £1.95 small, £2.25 medium and large including p&p. Overseas members please add extra for postage. Available from John Gillard, 129b Camden Street, London NW1.

Provided for test by C. N. K. Motors, 353, Finchley Road, London, N.W.3. Telephone: HAMstead 5712/8532.



USED CARS on the Road

1955 CITROËN LIGHT FIFTEEN

PRICES: Secondhand £595; New—basic £750, with tax £1,064.

| Acceleration from rest through gears: | | | |
|---------------------------------------|--------------|----------------------------|------------|
| to 30 m.p.h. | 8.5 sec | 20 to 40 m.p.h. (top gear) | 16.1 sec |
| to 50 m.p.h. | 21.3 sec | 30 to 50 m.p.h. (top gear) | 16.0 sec |
| to 60 m.p.h. | 32.0 sec | Standing quarter-mile | 23.3 sec |
| Petrol consumption | 20-23 m.p.g. | Mileometer reading | 49,556 |
| Oil consumption | negligible | Date first registered | March 1955 |

The sliding roof opens readily, and for additional ventilation there is an opening windscreen. Anti-drought panels have been added to the front windows. Tiny arcs of the flat windscreen are cleared by the wipers

AFTER a run lasting 23 years, production of the Citroën Light Fifteen ended in August 1957. Throughout this time the basic design specification remained largely unaltered, and because of the lack of change from year to year, and of the excellent reputation for durability which the car established, well-kept used examples of the model held their prices well. The one which is the subject of this test certainly comes in the "well-kept" category, and in terms of condition related to age it is among the best cars so far tested in the series.

It is finished in black, and the only blemishes on the cellulose are one or two long but shallow scratches. There is evidence of carefully executed retouching in some areas, but practically no rust is to be seen anywhere on the bodywork. Although admittedly the car is only four years old, it creates the impression that proper care has been given to the finish, to preserve it from corrosion and the progressive decay which is too readily accepted by used car buyers as "normal." This thought is confirmed by the above-average appearance of the chromium which, with one or two exceptions—notably the bonnet and boot handles, is unmarked. The same absence of rust was noticed when the underneath of the car was inspected.

Inside the Citroën, the slightly grey appearance of the roof linings and mild creasing of the brown leather seat upholstery are the sole indications of the considerable use which the car has seen. In almost all other respects the interior is practically up to new car standards, and is abnormally good in relation to a mileometer reading of nearly 50,000. Even the brown floor carpets are virtually as new.

When the Citroën was selected for test, C.N.K. Motors explained that the engine was to be overhauled before sale. The figures recorded above for acceleration and petrol consumption were measured before the engine was taken down. It is a four-cylinder o.h.v. unit of 1,911 c.c.

Starting is good, but the engine warms up slowly, and a choke if it is to pull away smartly during the first one or two miles after a cold start. It is quiet at all speeds, but is not really smooth, some degree of lumpiness and lack of torque at low revs being noticeable. The manual ignition control is in need of adjustment, but even without its use the engine runs happily on commercial petrol—a point to bear in mind when assessing the car's fairly high petrol consumption.

After new pistons, rings and exhaust valves had been fitted, and the big end bearings had been remetalled, the car was tried again at "running-in" speeds. It was then appreciably quieter, and noticeably smoother. The buyer of this Citroën obviously will kick off with a virtually new engine.

Protruding from the fascia is the lever for the three-speed gear box; cranked towards the driver, it proves extremely convenient and light to operate. The synchromesh is weak, and changes cannot be hurried without grating the gears—a fault which was criticized in our Road Test of the model when new in 1952. There is a positive lock arrangement which prevents the gear lever from being moved unless the clutch pedal is depressed. The clutch take-up is slightly juddery when reversing, and it is necessary to pause for a second or two with the pedal fully depressed to engage bottom or reverse silently from rest.

One of the best features of the Citroën is its suspension by torsion bars all round, with trailing arms for the rigid axle at the rear, and independent wishbones at the front. It is comparatively firm, yet has a remarkable ability to absorb road irregularities at speed almost without any jolt at all to the car. At certain speeds there is a limited degree of firm vertical movement, but the dampers are still effective and the ride is pleasantly taut. There is complete absence of body rattles.

With its relatively wide track and long wheelbase, the Citroën holds the road remarkably well, and the car can be driven with confidence really fast on corners; there is a minimum of roll, and no tyre squeal occurs until the very high limit of adhesion is being approached. With these commendable safety factors goes rack-and-pinion steering which is light and extremely positive. Only at low speeds is there occasionally a slight tug at the steering wheel, reminding the driver that the car has front wheel drive.

Effective and dependable braking is available in return for reasonably light pedal pressures; and it is rare indeed to come across such a powerful hand brake as the one fitted on this Citroën. It is controlled by an umbrella-type lever below the fascia.

Four practically new Michelin X tyres have been fitted. The spare wheel—which stands at the front of the luggage locker—has a little-used Regent Renoult tyre. The toolkit handle is confined to a jack and wheelbrace, and there is a starting handle in the luggage locker.

A flat-beam Marchal fog lamp has been added to the car, and a windscreen washer, two spring-loaded wing mirrors and an Ekco radio are the other extras. The radio has good tone, but some attention is required to the volume control, which gives rise to cracking. The windscreen washer is also out of order, but this is the only other faulty item of the equipment.

This Citroën Light Fifteen leaves a satisfying impression of efficiency with those who drive it. It makes no pretence to be a stylish car; it scores simply by being comfortable and convenient for normal motoring on short or long journeys, with a praiseworthy ability to cover the ground rapidly, yet safely. Visibility is good in spite of the shallow windscreen, and a pleasing array of bonnet, head lamps and front wings is within the driver's forward view, making it easy to place the car.

There has been no change in the system for selecting the subjects of this test series; as previously, this car was picked at random from *The Autocar* classified advertisements in our issue of 12 June.

The Citroën's comprehensive equipment includes a simple form of heater which collects fresh air warmed by the radiator, and passes it by ram effect to the interior where it is controlled by a rubber flap valve

