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Valume One Number Five
October Nineteen Hundred and Seventy Six

Well. the weather has finally broken as I write this, with the first gale blowing up outside.....The Six is tucked away in its barn, having acquitted itself admirably on the journey to Kenilworth and back; we even got used to the violent wheel wobble occasioned by non-existant top wishbone bushes:
'Our' day at Kenilworth was a great success, though ! believe that the rest of the weekend was rather less so, due both to the inclement weather and general orgamsational hitches. For the many who made the journey from Europe and paid the fairly heavy, if justifiable fee, it was obviously disappointing to find that everything did not go as smootlly as expected.


We are negotiating for a Type 45 at present in France, and think it could be very useful both to individual members for transporting either parts or cars(it will accomodate even a Six Familiale! ) and to the club for transporting the necessary for our future events, or even contingents of impoverished Tractionnnistes to European meetings. If our offer for this vehicle is not accepted, we intend to try and buy a smaller Type 23 (which looks even more like a Traction!) for the same purpose.

Indefatigable Rhodri Prys-Jones, self-styled 'only true Francophile in Wales', has proposed the superb idea of a Welsh weekend next Spring: in addition to his suggestions, (sec Correspondance), perhaps we could combine it with a mass sortic to VSCC Prescott to watch Will Sellers' racer thouncing all and sundry (well, sundry: anyway,) up the hill.
(See Motor Sport for details of this car's exploits last month). Our thanks to Rhodri - it promises to be an excellent weekend even if you haven't got the low-ratio 'montagne' gearbox on your car!

News, too, from John Gillard, who sends us detaifs of his weekly Traction meets which have become something of an institution in the Islington area. A group of tractionnistes attend the Vintage Car Metafwork evening classes (you bring your own projects) at Highbury Manor Institute, Highbury Grove, N.5., and afterwards, mechanical bent fulfilled, move on to the 'Alwyne Castle' pub, in St.Paul's Road, at the intersection of Highbury Grove. Rewarding winter evenings for the North London member?

With reference to the magazine, many vi y ou have mentioned that it contains insufficient practical information. To rectify this, please do not hesitate to contact our technical correspondant, Guy Isbell. with your problems and queries however minor, and then we can start a regular advice column. We are always pleased to get some feedback from our readers, and value criticism and ideas as much as information. Keep writing in! C.W.

## A RESTAURANT

for the gourmet tractionniste to frequent:
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Achelin accredited or course! Proprietors Mr. \& Mrs. wichael Hood.

ANEW type of clutch will shortly be put on the market in France, and doubtess in other countries, possessing such qualities that no motorist, expert or novice, can fail to be interested in it. It is perhaps hardly-correct to describe the invention of $M$. Bochory as a new clutch, for this component, whether it be the single-plate type, the multi-disc or the almost obsolete cone, remains entirely unchanged. However, instead of its operation being in the hands-or the foot -of the driver it is attended to by a robot which gives better results than any human being can obtain.

The clutch pedal, if not abolished, can at least be forgotten, and perfect gear changes can be made without the aid of synchromest. On taking the wheel of a car fitted with the Bocbory, the engine was started, frost gear was selected without using the clutch pedal and. on acceleratieg the car moved away in a manner sucgestive of the fluid fywbeel. Changes were made up and down withorat any use of the clutch For parking the car could be moved literally by inches, forward or backwards, merely by the use of the accelerator, and that withorit any jerks or sinucders. M. Bochory stood with one foot on the ground and the otber on the throttle and edged forward an inch
at a time-an impressive demonstration. The steepest freak hills around Paris were selected for demonstration purposes. On every occasion the car started aTay with amazing sweetness, although some. of the gradients were of such a natre that the skill of even an experienced drivewould have been tested. With the gear engaged, it was necessary only to hold the car with the hand brake and accelerate normally knowing that there was no danger of stalling the engine. The derice provides free wheeling, for below a determined speed the Bochory automaticaly disengages the clutch. This gase tie advantage that in traffe it was possible io approach an obstacle-traffic lights, 6e: instance-and while thus idling to seisa the gear which would be required to move away. On descending steep hills, there prould be the same automatic disengagement of the clutch as engine revolutions dropped. This could be overcome by passing invo a lower gear and accelerating a Lite or, if desired, the entire Bociory appara:us could be eliminared by merely turning an ignition key on the instrument board The car then became normal and the civici pedal had to be used.

Fhen driving this car and noting the remarkable sweemess of the take-up-a gliding which could not be equalled with the use of the pedal-the thought suggested itself that coere must be slip of the friction surfaces. The inventor claims
that this is not the case, and while there must inevitably be relative movement between the driving and the driven members, ihis is so progressive that there is really less wear of the clutch lining than with the normal system of control. Another advantage is that the speed of engagement is instantly adjustable to suit the requirements of those who want a scappy get-away and those who prefer to gide off with the umost sweemess.

## Suction-operated

The extzordinary results described are obtained by the use of the vacuum in the intake maisold, as with brakes and the suction-operated windscreen wiper. Vacuum 三ione, jowever, would merely declutch under certain conditions, as prien idling or when labouring on a hill. Thus, in addition to the vacuum cylinder, the piston rod of which is connected up to the clutch withdrawal lever, there are two solenoids contained in a metal bousing at the rear of the cylinder. One of the electro-valves acts as a cock on the vacumon pipe and the other on the body of the vacuum pump. The movement of the gear lever opens the vacuurn cock and closes the cylinder cock, causing the piston to be aspired and the clutch to be withdrawn. On touching the throtle pedal the reverse movement is obtained and, depression being annulled, the piston

# Automatic Clutch Operation 



Installation in a Citroen of the complete unit.

Vew French device eimmates the pedal


#### Abstract

In nennen to in oorta position, causing $\pm \ldots+\infty \quad$ be engaged. A series of - Haned boles provides for adjustment will Ie gilla, e $\langle=-$ bringing the friction - .n doner mogeter to give quick takeIin of incration the cistance berween - -fr a moce prosressive drive.

Ter Bochory actotiatic clutch has been Nan oy the Lavalette company in P-s cese of the biggest makers of elec$\mathrm{Z}=\mathrm{y}$ prates, injection pumps, and so an, an bey are laying down plant which _ $\quad=0: 0$ :0 make deliveries by the - at of the summer. The device can be  tan In a tont-wheel drive model, such an the C-aces; it is mounted by the side at 3 - Eire. Farina's Alfa Romeo, which I sasion the Lavalette works, bad it nocted in we chassis, slightly to the rear of teger box

Tee intention is to bring out models =tich can be applied to all the big prosxaion cars-Citroen, Renault, Peugeot, and so forth, without any alteration, the Etize refuiring only two or three hours ad being within the ability of any Eteizanic. There has to be a bracket to cory the apparatus, a connection to the izize manifold, and four electric wires. The current consumption is stated to be 0.5 amperes. Obviously current is used only when making gear changes.

The apparatus has the advantage of


being cheap. While no definite price can be quoted, it is expected that it will be retailed berween £ 15 and $£ 20$. In addition to sales to the private owner, as an "accessory," negoLia Lions are in hand for its adoption as standard by some of the big car manufacturers. It is significant that this clutch should have attracted the attention of a motorist of such standing as Farina, who has had it fired to his own car, and who is urging its adoption to his Alfa Romeo racing machine. The Italian engineers were met at the Lavalette works on the occasion of my visit. Farina believes that with the Bochory he can gain several seconds per lap on Monza track.

## On the Road

A further opportunity was afforded of a very thorough test of the Bochory clutch in a run from Paris to the Limousin coun"ry and then across France to Geneva, the total distance being more than four hundred miles over very varied roads from plains to mountains.

Perbaps the most surprising fact is the rapidity with which one learns to consider the clutch pedal as useless, despite babits formed by more than forty years at the steering wheel This is an advantage which probably would be more appreciated by the novice, who is always some-
what afraid of the clutch, than by the expert who has acquired all the niceties of double de-ciutching and who is quite prepared to bandle anything from fluid flywbeels to "grabbing" clutches. Sufficien: to say that during the whole of this run be cluch pedal remained untouched, albough it was in position, for the controis had not been altered in any yray. I: would indeed bave been an advantage had it been abolished, leaving the left foot for braking and the right foot for acxeierating.

On esery occasion gear changes were made so perfection without any special precauciozs, whether the changes were up or down On the passes from France to Smizeriance: it was found on several occasions that the engine was not being used as a brake by reason of the automatic declutching. In sich circumstances the process was to engage a lower gearsecond in the Ciroen being driven-and to accelerate a Ette. This could be done without any o? the skill necessary with a normal type of car.

Briefy, the device simplified driving and added to the comfor without any feeling that the expert was being depriver of opportunities of displaying his skill. It is hardly necessary to add that there were no mechanical adjustments and no irregularities of operation of any kind.
W. F. Bradiey.


## Sixes and Eights



A casual look through G N Georgano's "Encyclopaedia of Motorcars" the other day revealed no less than 46 different firms which had produced and marketed FWD cars prior to Citroen's simultaneous introduction of the four- and eightcylinder Tractions at the 1934 Paris Salon, Without exception, ad] the more powerfil machines constructed met with such chronic problems in their everyday running that they were either financial catastrophes for their makers or continued in limited production simply because the beauty of their 'carrosseries' outweighed the disadvantages of their eccentric mechanicals. The 22 CV , of course, was doomed to a similar fate; the firm's perilous financial position after the comprehensive retooling necessitated by the introduction of the 'Super Modern Twelve' (as the 7CV was known over here), and the Michelin brothers' consequent pruning of the entire V-8 project, only precipitated the inevitable demise of a car that was prodigiously unsafe anyway. (The weight of the beautiful 4-litre engine robbed the car of the poise of its smaller siblings). It also had an insatiable appetite for its own driveshafts; in short, it must have been virtually undriveable (it is reputed to have killed two of its test drivers).

It was not until the introduction of the Big Six :-: 1939 that there existed a large-engined practical FWD motornir practical in that it represented viable everyday transpori. Why did its precursors fail? Why had manufacturers persisted since Christie's 1904 cars with trying to transmit the torque of powerful engines through the steered wheels? A few different attempts are illustrated below, from the relatively obscure and insignificant like the 1928 Chaigneau-Brasier to the beautiful Cord which everyone recognises. There are the obvious theoretical dynamic advantages of having the car pulled through bends by wheels in the intended direction of travel rather than pushed by those at a different angle, and consequently im proved road behaviour. But also there is the beauty of the sheet metal that FWD permits, and to some extent dictates. All the chassis illustrated, and most of those omitted, were clothed in unusually seductive bodies; unusual insofar as they were so low-siung - no intrusive prop.shaft over which the floor had to sit, permitting low waist- and roof-lines. One only has to see a Rosalie next to a Traction, a Ruxton next to a RWD contemporary, to realise the enormous aesthetic advantage of such an arrangement?. And then there is the bonnet, shrouding not only the power unit, but the
gearbox and final drive 100 , and therefore long; and whether one explains it ir temes of phallic symbolism or not, it constitures an undeniably crucial element in a car's proportions. Even before the Great War, had not Dr.Lanchester's efficient and radical forward-control designs suffered in the eyes of the buying public from its lack of a suitably long and aggressive proboscis? I think it is arguable that it was in pursuit of these aesthetic ends as well as mechanical superiority that FWD was persevered with in the face of high manufacturing cost and considerably greater complexity.

It is interesting to compare the solutions adopted by a few: of the more adventurous car makers. The Salon of 1928 saw two such machines - the 3 -litre Selve 'Selecta' prototype (about which we know nothing - can anyone enlighten us?) and the 8 -cylinder $31 / 2$ litre Chaigneau-Brasier whose internals we illustrate in Figs. $1,2, \& 3$. As with the later Ruxton, the suspension is surprisingly conventional, consisting as it does of a beam front axle suspended on $1 / 2$-elliptic leaf springs, with the driveshafts passing through the axle yokes. There is no clue as to how gear selection is made (for this too is an obvious attendant problem of having the gearbox so far from the driver - I have still not understood how all of you with Slough cars ever manage to shift at all!). Perhaps some sort of electric or epicyclic box is employed;

If the long-bonnet syndrome can be seen to apply to the Brasier, how much more must it to the L29 Cord of 1930 ! At least the former had its final drive located as on the Traction, with the gearbox overhanging the wheej centres. But the American car had not onit 4.9 litres of Lycoming Straighi-Eight, but the final drive is stuck right out on the end of the transmission': Enormous bonnet, platform floor, permitting formal saloon bodies which stood only $4^{\prime} 10^{\prime \prime}$ high, and some of the most elegant sporting coachwork of the period, both Americars and French. Despite sophisticated suspension derived from the brilliany 1924 Miller racing cars, with De Dion front axle suspended on twin $1 / 4$-elliptics (Fig.5) inboard brakes, etc., it was apparently terrible to drive, a delectable white elephant! Plagued with problems (ivhicin incidentally al so afflicted the later $810 / 812$ series) of overheating, gears jumping out, and unreliable and inadequate driveshafts on the double hook-joint principle. The first Tractions had the same troubles (see issue No. 1), and even the more complex driveshaft joints of the later Cord had a life expectancy not exceeding 10,000 miles. Interesting to note that on the L-29 the fan is mounted on a pillar from


Fig.4. L-29 Cord; Lycoming straight eight and transmission.

the gearbox, as on the Citroen V-8 (not shown in Fig.6), and that the gearshift is effected by a simple pushrod mechanism passing over the engine - a push/pull dashboard change like that on modern Renault 4's. And, as it used a proprietary engine turned the wrong way round, its direction of rotation was anti-clockwise, as were the first Citroen 15-6G'sproduced until 1949.

A prototype Ruxton had been built in the same year as the

Brasier's introduction, and the definitive model was unveiled in 1930 at the same time as the French manufacturer's even bigger o.h.c. DG8. It was powered by a 94 b.h.p. sidevalve Continental Straight-8 driving through a small front-mounted transmission hidden by an enveloping apron. A conventional chassis, only unusual in that it employed worm drive for reasons of silence, the wheels were driven through enclosed knuckle trunnions (see Figs. 7 \& 8). The low, rakish, bodies fitted had

## LE MOTEUR 8 CYLINDRES

Le moteur de la a 22 nest un 8 cylindres $79 \times 100$, d'une puissarce effective de 100 CV . Il permet une vitesse de 140 à l"heure. Consommation 16 litres.


Fig. 12. The 22CV unit in the Salon Roadser; Is this a mock-up?


Fig.7. Cross-section of Ruxton chassis showing worm drive

twothing in common with the Traction - they were built accandig to Budd patents, and they carried no running boards. The Derby and Tracta chassis shown (Figs. 9 \& 10) Fertrate two more approaches to the same probleni. The latter, a 1931 model, is the brainchild of the great FWD exponent,


Fig. 11.


The last chassis, the Derby, doesn't really qualify as a large-engined car, as the 1933 L 8 used an 11 CV two-litre V8. The economy of space permitted by the use of this engine configuration is apparent when compared with the others, despite a transmission whose design is far from compact. As with the 22 CV Cirroen, the two cylinder banks are at $90^{\circ}$ but whereas the Quai de Javel unit (Fig.12) had sophisticated o.h.v. cross-flow heads, the Derby combined side inlet valves with overhead exhaust. It drove through a four-speed box, however, and the driveshafts were fully enclosed by the two large suspension arms swivelling on the transmission casing itself; these being suspended by a transverse leaf spring. Those of you who were at Donington will remember Gwenda Hawkes' slender Derby-Maserati single seater which was based on one of these chassis cut and shut.

It is no longer seriously in dispute, I think, that the abortive Traction V-8 ran under its own power, any more than all but the most romantic believe any to have survived (indeed the writer knows an old man in Hesdin who can remember going to see one that was on test from the factory). And the design seems to have culled the best from its ill-fated antecedents; had money been available for further development. and the technology to produce efficient homokinetic transmission joints, one has every reason to suppose it would have been more successful than any of the machines mentioned above; yet it was not to be. Not until the advent of the wix (Fig.13), its great agricultural motor sitting high because of the design of its compact transmission, did F.W.D. come to mean Fast Without Drama rather than Fraught With Disaster.
R.W


Fig.14. A one-off private installation of a Ford flathead V8 in a French Big Fifteen.

Fig. 16. One particular Paris Garage which specialised m transplanting Citroen Six mechanicals into 810 Cords to make them reasonably reliable.



Fig. 15. The ill-fated Salon roadster



The T.O.C. Donington trip was undoubredly the high spol of the Kenilworth weekend. It is difficult to communicate the emormous ben one gets from participating in such a convoy to someone who has never had the pleasure of seeing Big Boots, Small Boots and Dickies streat
uninteruptedly ahead with nothing but chevrons in the rear view mirror! Some fort -odd Tractions were in attendance, including an



Fig. 2 "Pilote" cross-section (the hubcap shown is not from a Traction)



Fig. 1 'Stop' rim (left) compared to the Pilote

The earliest four-cylinder Tractions were fitted as standard with $150 \times 40$ welded steel wheels, with 5 - or 6 -stud fixings and open centres (hubcaps being held in place by spring pressure, as opposed to the later Paris cars with central retaining bolt). These relatively narrow tims ivere completely conventional, the same having been standard equipment on the older rwd. Citroens for some years, together with Michelin low-pressure 'Superconfort' and 'Stop' tyres: no concessions were nade to the particular requirements of the new fwd car. The outstanding agility of the Traction, however, accentuated the inadequacies of its footwear, and accordingly Michelin engineers started in late 1934 to develop a new concept, both in wheels and tyres, whose eventual applications proved to be far wider ihan on the machine for which they were designed.

The slatted 'Pilote' wheels, announced in 1937, were Michelin's answer to the problem - a superbly elegant piece of work, its flat radial spokes evoking an echo of Bugatti wheels of the Twenties. At least one committee member, seduced by their looks, has thrown originality to the winds and fitted them to his post-war car (and the writer, given the chance, would do just the same - has anyone a spare set of $185 \times 400$ Pilote rims?!). But at the time, undoubtedly the most important innovation was the 'Pilote' tyre which was presented with the wheel. $165 \times 400$, of course, in size, and therefore $13 /$ " wider at the rim than its predecessor, and ul different construction.

As can be seen from Fig. l, it had a ' $D$ ' cross-section, as opposed to a circular one; as a result, the casing itself had to be of different construction, especially in the ply of the sidewalls. In consequence, a $40 \%$ improvement in the tyre's resistance to lateral deflection over the 'Superconfort' was claimed. Not only this, but it only weighed $81 / 2$ kilos as opposed to $101 / 2 ; 20 \%$
better adhesion, and $50 \%$ improvement in tyre life - in short, a

EEcat an advance over its contemporaries as the ' $X$ ' was to proue to be after the war.

Comventional wheels of appropriate dimensions would have Ler the advantage of reduced unsprung weight which the new yric mode possible, and the Michelin project sought to redesign terim as well as the cover. Heavy-guage steel, and therefore matupois, was deemed necessary in conventional wheels, brcause their dual function - to provide resistance against the flated cover, and to transmit torque - were treated as one. The Michelin engineers isolated these two functions, and mented again from scratch, using sound geometry in the spokes (F), 2) to ensure that the gauge could be kept down to a num, that al! the metal in the wheel was structurally necezary, and that no dead weight was carried. The result weighed ower a kilo less than its narrower equivalent, and incidentally moorporated some sort of ventilation to the brake drums. (in exrospect, however, these wheels have proved to be considerably weaker than the disc ones - any rust in a Pilote renders it less ten safe). A comparative test between a Traction on 'Superconforts' Ind one on the new wheels and tyres reads very convincingly: the tester was able to nearly double his average speed on an open mead circuir, and concluded with the words:"Michelin's accDishment has forced us to completely revise our criteria D all that concerns ride, handing, and roadholding. As I told Et designer, 'You have done this country (France) a great disErvice, taken away our greatest superiority over foreign cars, that of roadholding - now, with your Pilotes, everyone else will be able to corner as if on rails too!".

Fred Annells has seen a cast alloy Pilote wheels at Rochetaillee, I believe; these must be extremely rare, the writer has never seen them mentioned anywhere. No less rare and aimost as desirable, are the superbly made aluminium wheels fitted to Mike Tennant's Light Fifteen (Fig.3). It sould be interesting to know their origin, as these, too, are maque in this country.

A composite wheel, with aluminium centrepiece and rounded spokes mated to a steel rim as fitted to Dr. Sellers' roadster, is sometimes seen on French pre-war Legeres: the writer saw a set fitted to an extremely early 1934 car (twin scuttle ventilators and petrol caps, etc.) in France - are they 150 or 165,1 wonder? All the Beigian cars at Kenilworth were equipped with wheels of very similar aspect, but entirely of steel, and standard issue in Belgium, apparently. (Fig.5)


Fig. 5 Belgian-type wheel

Wheels firted to Slough models after 1936 (ecluding the Pilotes) were of English manufacture - either French-type solid discs or 'Easi-Clean' perforated discs. Both 10 - and 14 . hole wheels of this ty pe were issued, though which were fitted to to what when remains, for this writer at least, a mystery. Fig. 6


On page 74 of Borge's 'La Traction' book ( a must for all enthusiasts for the marque, incidentally), there is a picture of an 1! Legere belonging to a Resistance leader with 19-hole Easycleans. No clues to this one, either. Finally, there are those horrid French wire wheels (bolt-on, not centre-lock), fitted to many roadsters over there (the Eppendhal racing 6 featured in issue No. 1 was thus equipped). These uniquely French creations (Fig.4) were fitted to larger French cars as late as the Sixties. But none of the above can match the 'Pilote' for sheer ponache . . . . comments invited! R.W.


Fig. 4 French wire wheels.

## Dashof Style.

The accompanying line drawings, taken from Autocar Road Tests through the years, have been assembled in order to establish some sort of tentative chronology for the evolution of the Slough-built dash. The writer, however, has only ever owned Paris cars, and the following therefore is subject to corroboration; it is hoped to obtain information from the factory, and we want to combine with this our readers' observations on minor differences and any additional points. By collating these two sources, we should be in a position to publish a future addendum to this article in the form of a definitive table of the various forms of the English Traction's fascia and controls. We rely on you to correct us.

Fig. 1 illustrates the dash of the first Slough cars of September 1934: it was equipped with the Rosalie-type steering wheel with the lighting control contained in the boss, the central Jaeger instrument, twin glove boxes and oval pedals. The windscreen wiper motor is mounted on the near side, and the dash is furnished with a bizarre little swing-out ashtray for the passenger. Not quite visible are both the wing nuts under the dash, which operate the twin scuttle vents. This additional right-hand wing-nut (absent, of course, on later cars), is more clearly seen in the March 1935 car shown in Fig.2. The standard pre-war steering wheel has made its appearance, and the lighting and hom controls, as well as the trafficators, have been moved to the Lucas 'stalk' characteristic of Slough cars until 1939.

The central instrument is now oval, and the starter has migrated to the top right of the speedo., to be more easily within reach. The arrangements of the 1936 Twelve in Fig. 3 incorporate these modifications, though the main instrument has reverted to the 1934 shape. In june of ' 36 , the rectangular pedals made their first appearance according to the Spare Parts catalogue.

By 1938, the Light Fifteen fascia had undergone a major transformation (Fig.4). Prominent were the circular Jaeger dials, and the ignition and lighting switch had moved to the right (at the expense of the second glovebox). The travelling starter has moved back to its original place. $=$ a panel light has turned up, and the wiper motor is in the middle. There doesn't appear to be a manual wiper knob found on the equivalent French cars. Much closer in general layout to the latter was the 1938 Popular Twelve of Fig.5. In lieu of the wood and leather furnishings of the more expensive models, the basic Popular was quite as spartan as the French cars: no sliding head, cloth seats, no trafficators, no chevrons 6 -volt electrics and pressed steel dash with the square instrument bezel mounted above the column. The rather cheap and nasty, though eminently practical, plastic lights and horn stalk (as fitted until relatively recently on H -vans and 2 CV.s), was standard. The post-war Light 15 Popular dash is shown in Fig.6, and is a mirror-image of the writer's 1950 11 Legere, down to the round S.E.V. wiper motor, cardboard sun visor and central chevrons and aluminium strips, French wheel and low-mounted rear view mirror. Have any Populars survived, I wonder?

More common Slough practice in Fig. 7, a 1939 Twelve DeLuxe; similar to the 1938 car, differing only in the interminable peregrinations of the starter, which is back on the right (the panel light has moved, too). In contrast to the Popular, the Grand Luxe option pack was quite comprehensive, including as it did oil pressure and water temperature gauges, a Bluemets 'Brooklands' sprung steering wheel (see Fig. 8), a pair of Lucas pass lights, Lucas 'Biflex' headlamps with windtone horns below, special hubcaps and bumper over-riders - all for $£ 12$ ! Unfortunately, we have no picture.

The Six dash shown in Fig. 8 of 1939, marks the first appearance of the three-piece fascia, incorporating the French-type rectangular instrument. The same design is seen, on a reduced scale, in the Light 15 roadster of Fig.9, but this time with black numerals on a buff ground. This drawing dates from 1940 and shows some details of the hood fixings, as well as the reappearance of the ashtray (the wiper motor is back on the left, too). The combined lighting and ignition switch is now circular. And I didn't know that any roadsters had windscreen opening arrangements like the saloons - any comments? Apparently the three-piece design was carried over in the 1946 cars. In this year also, there occured the most extraordinary thing; at least some Slough cars moved their wipers down onto the scuttle onstead of the roof, a good good five years before the Paris cars. I can think of no other instance of modifications being made first over here, indeed in all other cases, it was a good year or more before we got the benefit of any changes. Especially puzzling as this was no simple cosmetic alteration, involving as it did new scuttle and roof pressings. I find this completely baffling, yet have seen the evidence on an actual car-as well as in the spare parts catalogue, and would much like to sort it out. Even more confusing, ifone refers back to the cutaway Six of the June issue it will be noted that it is shown,too, with scuttlemounted wipers - in 1939!!.

The 1953 Light Fifteen of Fig io evinces another complete rethinking of the instrumentation. The neat square dials are prominent, as is the advance/retard. (What happened to this on the pre-war cars? Weren't they thus equipped?). The brown Slough wheel, made by Bluemels, incidentally, the screen wiper parking knobs, low-mounted mirror, indicator switch and ashtray, all identify this model. The starter? - back over the other side, of course!

A change was made to this layout in 1953, to the extent that the elegant and efficient chrome fly-off handbrake was was replaced by the unspeakably horrid Ford Prefect-type umbrella sort; but the last major alteration came with the Slough cars of 1954, Fig. 11 , with which you are all familiar.

There remain considerable inadequacies and inconsistencies in this attempt to sort things out, but we need your help in pointing out where our tentative generalisations are disproved by the featu res of your own car. Those of us with Paris cars remain blissfully ignorant of all things wooden, but it would nonetheless be an invaluable aid to dating and establishing criteria for originality if we could accurately tabulate the journeys of the wandering Slough starter switch!
R.W.


Fig. 8 1939 Six


Fig. 1934 Super Modern 12


Fig. 6 Light Fifteen Popular


Fig. 9 i 940 L. 15 Roadster


Fig. 2 March 1935 L.:


Fig. 41938 L!. 15


Fig. 31936 Twelse


Lidring S


Fig. 7193912 DeLuxe


Fig. 51938 Popular 12


Fig.111954-8ig Six

## The Ialtesl Alccessories

In our last issue, we dealt in this column with two susper:sion modifications taken from a post-war accessory catalogue, but neither of which any of us have actually seen. A much more common modification, at least on French cars, was the Gregoire Progressive rear suspension pictured here.


Gregoire, it will be remembered, (see issue No. 1 and elsewhere in this issue), was close ly involved in the early develop ment of the Traction project. His intention was to market this system as a factory option in the face of their usual anti-modification policy, and to this end gained Quai de Javel's approval for every stage of its production and testing. (Ample evidence of the factory's attitude to such things is to be found in a paternalistic, though strict, warning printed as an afterword to their French owner's manuals, in which prospective boy racers are told that they should have bought something else, and ending with a rhetorical (they hoped!) question:"If any improvement were possible to this magnificent machine, do you not think that in all their wisdom and with the fantastic thechnical expertise at their disposal, Citroen would have made them themselves?''). Gregoire, anyway, thought not, and went ahead accordingly. The support promised from on high, however, did not, and directives were
sent to every dealer saying that the fitment of the Gregoire suspension automatically invalidated the maker's warrantywhich hardly encouraged people to rush out and fit them. Quite apart from the fact that they were not only expensive parts, but expensive to fit, as this involved dismantling the entire rear axle and suspension. Its advantages were such, however, that they outweighed these difficulties. The writer has seen several Sixes thus equipped, and driven one - the handling is noticeably more responsive, the car corners flatter and more 'chuckable' than a Six has any right to; the ride, both laden

and emply, is better, too. The photo above was taken in an Algerian scrapyard, and unfortunately, the axle itself has been unceremonizously lopped off with a welding torch. They were fitted extensively, I believe, to cars in French overseas territories, presumably because of the inferior roads. So next time you're in Saigon or Beirut . . Anyway, the system is worth having if only for the delectable "Suspension Gregoire" badge fitted on the rear wing!

The second accessory is concerned with suspension of a different kind, as can be seen from the drawing. It consists of two additional rubber-based engine mounts marketed by ERSA, the large spares concern, before the war. They were intended to limit excessive 'floating' of the 'power' at idling speeds and under severe acceleration. It will be noticed that the the engine illustrated is an early ' 34 unit - whether the ir engine springs were weaker to necessitate this reinforcement, or whet her they were intended for all models, I do not know; has anyone experienced any trouble in this area? (apart, that is, from seeing the expression on the non-tractionniste's face as he gazes at the idling engine rocking apparently unchecked in its bay.) The writer went to the ERSA factory in Paris in late 1973 to see if they had any of
these left; they didn't, but just mentioned in passing that they had, nine months before, consigned forty five of their four-speed crash gearboxes for Tractions to the scrap man. Exit writer weeping . . . .

 dously successful, due largely to the generosity of Mr. \& Mrs. Michael Hood, who arrived with several crates of wine and some superb nosh, and Lord Monk Bretton's kindness in lending us the ground. Mrs. Hood, incidentally, was one of the chief attractions of the day, as can be seen from the photograph! There were several other exotic ladies, and a tremendous trade must have been done in stripey t-shirts and berets before the event!

Mr. Bibendum lived up to his name, and his 'escont' from Michelin Mr. Graham Wain, I think enjoyed himself thoroughly zipping Judy Smith into the 'costume'.

John Dodson had the ingenious idea of towing his coupe to the picnic as a 'technical problem' - he and the editor had together contrived to disrupt the timing so that the car refused to start. About ten 'experts' immediately surrounded it, and in spite of the old proverb 'too many: cooks .....' the engine soon burst intu life with a rather territying scream.

Guy Isbell had brought quite a few spares with him, and laid them out on a suitable bonnet, and the club did a good trade in posters and back copies of the magazine. Attention was for the most pari, however, focussed securely on the wine table!

At 5 o'clock the cows were ushered into the field after the afternoon milking, and even the most intrepid tractionniste began hastily packing up the remains of their picnic. The last cars were seen meandering rather shakily into the sunset . . . . G.W.


Tip Chamavis coupé


# cortespondence 

All letters to Traction Owners Club, North Cottage, Mongers Farm, Barcombe, Nr. Lewes, Sussex.

## An extract from Dr. Sellers' letter:

. . . . . . at Oulton Park, I stuffed the roadster into the armco trying to avoid three Frazer-Nashes who'd just overtaken me - they go into a corner very fast, the cars so sideways which slows them up just as normal cars start to accelerate. I lifted off, and zap, a way I went! I repaired the damage and have since been to Prescolt and Shelsey Walsh( 66.7 sec .); $b y$ the way, I did 53 sec . (49 last year) on the short course at Prescott.

About the Cotal gearbox Sedgwick mentions, I am at present negotiating to buy one from a Frenchman via another Frenchman, and hope to bring it back soon

In old copies of the Citroenian magazine, there are a couple of photos of single-seater racing cars; one in particular, a South African one, looks terrific - rear-engined, two ' $C$ ' chassis members joined by tubes. A very easy special ro make, just swap the crown wheel and pinion around and you have rear drine!

At the Classic Hill clim:b at Prescotr, I beat Berry Haig (BMW 328- had it since new, actually collected it from the facton!! and TR3's, MG A's, etc., but she said the last time she raced against Tractions was in 1949 in the Alpine rallies, when in the ice and snow, one car actually won something; she thought they were marvellous, and wondered if I had something special under the bonnet, because she could beat the other Tractions!

I've just remembered - please put a note from me in the next mag. I am not a Citroen gearbox breaker! No-one will ever sell me one again!. Damage to date was one fourspeed box which broke near Lyons, just after I had dashed into a cheese factory to get out of the rain (no hood, you see) - of course, I could neither go forward or back and so had to be manhandled out of the way. I was fed with goat's cheese, though. The first gear had broken up. The gearbox I replaced it with in France was the next to go; the synchromesh ring on second and third was pushed over the end of one of the
gears. The only crown wheel and pinions to go were on my saloon, once just going round a corner - the other time wheni a con. rod fell off (1 hadn't fixed the bolts properly) and the engine seized. All were cuused originally by not setting things up properly. I think the gearboxes $A R E$ strong, they take crunch gearchanges when I race - what you must NOT do is go backwards up steep hills in a rough manner. Perhaps some readers can tell us what else breaks them?

William Sellers
*This is the reply to the letter from Martin Horrocks.
We intend to publish a more detailed specification of Dr,Sellers'car, together with his advice in the matter of the ins and outs of such competition. The fact that Martin possesses an $11 D$ reminds me that we received a query: from a reader about the exact differences between this engine and its predecessor. It was introduced in 1955, and is inmediately recognisable by their slimmer clinder heads, different rocker corers with new oil filler mounted on a small tower at the far end of the unit and a large ovoid MIOM air filter mounted transversely. Internal changes were considerable; the new head had redesigned water passages to improve valve cooling, and the valves themselves were considerably longer and made of a superior nickel-chrome steel. The oil pump was larger and gave a higher pressure, the rockers were lighter, the cam followers had drilled oilways, the con rods were stronger, and the modern type of piston replaced the split-skirt sort. That annoying clanking at tickover, caused by the Mitchell key between the camshaft and the pulley shaft disappeared with the fitting of a splined end. The net result of these changes was an increase in out put to 65 b.h.p. at 4,000 r.p.m. We had thought that inu such cars were produced at Slough, but according to the factorn, some were indeed supplied as an interim meastif: :1nal the supply: of DS's became plentiful. Hove an sumbed?


Dear Editor,
In my first letter, I mentioned I knew of a Cb for sale. I have since had another look at this car, and am cotally confused. The owner told me some time ago that he believed that this car was the only one of its type ever built, and was reputedly displayed at the 1933 Motor Show. I took this as as an exaggeration to the uninformed, but now believe it may be unique. As I am no authority on Citroen History, my one source of reference being Raymond Broad, maybe some Cluo member can provide more information.

The car is in appearance similar to the illustration of the C6CGL Family 7-seater of 1931, illustrated on page 38 ff Broad's 'Citroen'. Except that the sidelights are fitted on the wings instead of the scuttle and there is no boot. The engine is 2 6MFP75. I prestme the '75' refers to the bore dimensions, which would make it the same capacity as the C6G, 2.650 ccc . The odd thing about this car is the chassis type which is a P36. Now the only mention of this type by Broad is that it was a large four-cylinder vehicle constructed by Unic and fitted with halftracks! What is it? Rare or not? As it definitely has 'Floating Aower', it is relevant to our cause. I an interested to the extent thar I might sell my Light 15 to help finance its purchase. Somebody tempt me with an offer!

The scrapyard containing a C6 halftrack I refenred to in my last letter is at Descartes, benween Tours and Chatellerault, which incidentally contains a protot.pe 2CV. Maybe someone with a better command of the language can extract more information from the somewhat truculent owner than I did.

## Graham Carr.

## Dear Editor,

A Welsh section indeed! - and I the onls member. Well, at least it cnsures $100 \%$ attendance at rallies' Serioush, ihough, I enjuved Fridor at Kenihworth greatly. Be it whispered that I'd never sev: another Traction on the road before, except Robin Wrightson's beaunc (beautifully hand-painted - Ed./ and Brian Drummond's. Apart from those, it was childhood mernories of a week spent at Peronne with my brother suffering from Gastric 'flu and requiring 'suppositaires'- a mysterious word that really expanded my schoolboy French when I learnt what it meant. The doctor, needless to say, drove a Big 6, and the town square was packed with them.

Anyhow, I digress. The Welsh and Border Counties Section is in business. How does 'Cymdeithas Traction Avant Cimm a'r Gororan' sound to you? (Very nice. - Ed.) I've written to all those members who live within a few tens of miles from :he Welsh border informing them that I shall have mey car at the ntrance to the Royal Welsh Show Ground at Buit th Wells, Pow's at $2 \mathrm{p} . \mathrm{m}$ on the 2nd. October. A run to the beautiful new Llyn Briane dam will ensue

An idea for next Spring might be a North Walian week जd. I've a whole house to myself (so far!), so if people don't ruind camping in a house in the middle of the most beautitut part of Snowdonia, they're welcome. Keep up the good work, and more power to your U'J'.s,

## Rhodri Pros Jones.

## Dear Edilor,

I read with interest the article on the C.D. Waters car in issue No.2, as my father-in-law, Peter Blyth, supplied many of the components to Deryck Waters. Unfortunately, the car, which I believe was a 1936 2-seater, was completely destroyed when the garage it was in caught fire. I think this was $2-3$ years after the car was built). Many of the details in your arcicle, together with one or two more, can be found in Michael Frosfick's book, "The Cars that Got A way". Incidentally, Dervck Waters was one of the design

1946/7. According to the June issue of 'Classic Car',several members of this team were involved in the Dragonfly project, an attempt to build a sinall FWD car which was partly inspired by' Citroen engineering, and apparently a pre-war Light 15 was acquired by the teain to improve their expertise in FWD. An interesting thread of developements from the Waters prototype?

## Martin Jones.

## Dear Ediror,

Here in South Africa, I own a 1949 Slough Traction which is in the process of a necessary rebuild. I am at present making arrangements to buy a 1947 French car in good order, but ineeding general reconditioning as well.

During the 1950's, a certain Mr. Stanley Reed, who owned the local Citroen Agency, raced a very successful Light 15 special (is this the car Dr.Sellers refers to? - Ed.) I have in in possession the original engine from the beast, which will one day no doubt be put to good use.

Cutroen's have alway's been very popular out here, especially the Light Fifteen. It seems we received both Slough and French noodels, all rhd, of course. I know personally of about 30 Tractions in the Cape area, but only' one Big 15 and one Big Six. No roadsters, unfortunately,

For some unfathomable reason, not many people out here are very interested in Tractions, so when a reasonable one comes up, the price is normally very cheap, in the region of $R 300$ (about5550). The highest bid I have ever heard of is $R 900$. Spares are unobtainable, so the normal recourse is cannibalisation, in other words the dreaded story of diminishing returns. I would be interested to know how the Traction stands as regards the PVT appelation. (The VSCC recognise pre-sar Tractions as such-Ed. I There is locally a rather pretty 1923 'Trefle'. Unfortunately, years of near poverty induced b. University studies have rendered, unil recently, the resthation of m! car very difficult. The next step will be the sarting of a Traction Arant Club out here. (Yes! - Ed.)

Geoffrey Wueff,
'Roserille', Verser. Rd, Rosebank, Cape Town, $R$ S A

## Dear Editor,

What a shame 'Floating Power' isn't longer!! It seems that you're right when you say that the bargain Traction is a thing of the past, more especially I would think since the box-office success of "Les Bons et les Mechants",. but I suppose you might still be lucky. I wouldn't rate the chances of finding some far-flung peasant who doesn't know the value of his immaculate Six. Such is not the economic make-up of the French peasant.

It was easier twelve months ago. At 2,000 F.F., I rate my $195611 D$ legere as a bargain. Apart from the raity of the D moror, and the fact that you have to par : more for the Legere than the Nomale in France, the car was made more attractive by being completely rust-free. It has covered approximately $90,000 \mathrm{k}$. since new, and has been fitted with seat and door covers. So, all in all, a bargain, made more so by the Customs and Excise, who could only laugh when this old French thing drew into their shed at 6 am , and declaring it worthless, refused to take the import duty to which they were entitled.

I was interested by your article on Dr. Sellers' roadster. I agree that the Classic Saloon Championship might be fun, but would the Traction be competetive? I think the championship has a class division at 1900 c.c., which rather scuppers the Traction at 1911 c.c. I would, however, be very interested if you could print full details of the regulations of this competition, and suggestions as to how the Traction might be made competitive. I might even be persuaded to take to the tracks!



JOHN AUSTIN has the following new spares available. For Light 15's: Brake pipes 1946-1955, Brake shoes (exchange), Front and rear wheel cy!inder kits, Mastercylinders, Brake drums front and rear (skimmed), Wheel bearing front and rear, J new set easy clean wheels (4), Wishbone pins and bushes (exchange), Driveshafts (reconditioned) when available, Vew clutch plates, Reconditioned pressure plates (exchange), Inew rear door (big i5) off side, Shock absorbers front and rear, Exchange cylinder heads, Timing chains, Exhaust front pipes, Torsion bars (new), Cardin couplings (exchange), Fan belts, Radiator hoses, Front cradle, Exchange radiators.

For Big 6's: Brake pipes (English or French , please state year of manufacture), Wheel cylinders, Master cylinders, Brake shoes, Front wheel bearings (when available), Brake drums, Driveshafts (reconditioned) when available, Secondhand gearboxes, Crown wheel and pinion (new), Timing chains (new), Reconditioned heads, Valves (new) inlet and exhaust, Shock absorbers, Rear wheel bearings, I new rear door (Big 6) off side, Front wheel cylinders.

Front end tools for hire - substantial deposit required. Stock of secondhand spares too numerous to list. PLEASE STATE YOUR EXACT REQUIREMENTS.

When replying please state year of manufacture, model and whether English or French, and enclose s.a.e. to Wellington House, High Street, Shirrell Heath, Southampton, Hants.

Send $\$ 1.00$ for our catalogue
Rebuilt driveshafts and cardans for 11 CV and 15 CV , new hubcaps, (French type) front bumper brackets, brake and master cylinders, hoses, fan belts, silencers, downpipes, gaskets, barrels and pistons.
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LES AMATEURS DES CITROEN ANCIENNES<br>offer the following new parts:<br>Pedal Rubbers ...... 12 FF<br>Bonnet hinges IJCV \& 6 .... 38 \& 42 FF<br>11 CV silencer . . . 70 FF<br>Big 6 silencer . . . . 230 FF<br>Big 6 starting handle conduit ... 138 FF<br>Big 6 grille motif . . . . . 98 FF<br>Apply direct to: 4/ Rue Marcel Sembat, 59184<br>Sainghin en Weppes, France.<br>The A.C.A. have stocks of the following publications:<br>'Archives du Collectionneur - C4 ... 50 FF<br>'Archives du Collectionneur - Traction Avant 7. 11.15 CV' . . . . 60 FF<br>${ }^{\text {'Comment entretenir ei reparer une T.A ( } 1957 \text { edition) }}$ (contains many useful tips) .. .. . 36 FF<br>Facsimiles of original factory brochures for $\mathrm{B} \mid 4 \ldots 25 \mathrm{FF}$ C4G (30FF), 5HP (20FF), $10 \mathrm{HP}(30 \mathrm{FF}), 7$ \& 11 CV Traction (25 FF) : 15-6(2) FF).<br>Apply to the address printed above.

## UNREPEATABLE OFFER

The ACA are having specially woven a batch of original pattern grey striped woollen upholstery cloth, as fitted to the vast majority of post-war cars.
Further details unknown, unfortunately, but a solution to a hitherto insoluble problem of how to reupholster without deviating from original specification.
Write direct to M. Rene Fournie, Borde Haute, Route de Toulouse, 31620 - Cepet, F.
'RIPE FOR RESTORATION' - 1947 small boot for restoration, new headlining, rewired, but welding needed on floor. Tel 019871664.

DECOKE SETS AND SIAGC LAR triangular manifold gaskets. Decoke sets $£ 2.50$ (limited quantity) triangular flange £ 1.00 each. (Expensive but limited). Am tooling for manifold gaskets this year. Bernie Shaw. 45 Green Land, Windsor, Berks.

SPARE PART CATALOGUES reprinted by the Swedish B1! Club (Text in French) superb printing and illustration, better that the original. 45 skr cach plus postage. From Bengt Olsson, 239 Sodra Nas, 43200 Varberg, Sweden.

SPARES FOR TRACTIONS - will try to help with any parts problems new or used. Please include any available information, part numbers, diagrams, photos etc. Contact William H. Skinner. 6661 Hornbach, Pirminius, Str ll, Germany.

GASKETS GASKETS GASKETS GASKETS GASKETS
Complete head sers available for: B14. 19.3HP (C6F), 2). $8 \mathrm{HP}(\mathrm{C} 6 \mathrm{G}), 12.24 \mathrm{HP}(\mathrm{C} 4), 13.9 \mathrm{HP}$ Big Twelve ( C 4 G ) , 11.8 HP Type ' M ', 10HP ( 8 CV ), and all models of traction-! 2 to 15 HP ( 7 to 1 lCV ). All at around $£ 5$ a set; apply to D. Cookson, 2 Roker Park Ave, Ickenham, Middx. LB 10 8ED (Uxbridge 37693).

1954 SLOUGH BUILT BIG 6 in process of being renovated. Engine, front axle completely reconditioned, brand new upholstered seats and many parts chromed. Also available, numerous parts for this vehicle, together with the parts of two siripped Big 6's.
Only serious buyers please.
Triephone: Southend-on-Sea (0702) 585185.

A limited number of these sensational screen-printed posters designed by Tom Evans are available for sale through the clab. In black and grey on a red background, they coes 75 pach. Please contact John Dodson, and enclose an aditional $25 p$ for postage and packing.

## Wanted

ANTIPODEAN OWNER of 6 H requires information re or supply of wiring loon for above. Also information or advice from fellow B6 owners re replacement of Iousy Solex Carburetta with either Weber or other/s. Please. Information or advice to Peter Hudson, 5/19 Waruda St, Kirribilli, 206!, Australia.

## Books, Magazines

TRACTION BOOKS - 'Quai de Javel - Quai Andre Cutoen' by Pierre Dumoni. The most complete histors of the marque so far.
Two special numbers ol l'Aucomobiliste - specifically traction, authoritative text (English translation) and unpublished pictures, Chater and Scutt, Motor Bookshop, Syon House, Isleworth, Middlesex.




A Fearis Free Subscription to "rleating Buen" § ... for the winner of our competition to design a metal car badge to be edopted by the T.O.C. as the Club badge. Can you and a coloured sketch of your design with the suggested size of the badge, material end mettod of fixing - i. $\theta$. on a bar or direct onto raciator grille - to John Docison, closing date Nowerber 1st. The Comitiee will pick the best design, and the result will be announced in the Christans issue.

We now heve a menual loan service for all models of tractions: please apply to Tricia Brice, the Club Secretary, enclosing a SAE, a Postal Order for 80p. to cover p.\&p., and a separato cheque for a denosit of $120-$ Jon't woryy, you get this back as soon as the manual is returned!

Speedo cables for Light $15 s$ - Thomas Richílelà \& Son Litd., 8 Broadstone Plece, Betrer St., London w1E 4AL. Supply your own pettern, or quote their Invaice no. 09015. ( $6 / 2 / 1974$ ), for reference. The cables cosi £2. 22 p. 6- and 12-Voit buibs for Light 153 and Big be at about half-price, fror J. Laughton, 9 Meadou Close, Thatchara, Berks. Fel: 0635 63064.

We ane looking for a marquen for next year's events - any meaber who knows where we could beg, borroin or buy one for very littie money would $6 a y$ our etermal gratituded Please contact Tony Hoagekiss.
The Compltee has proposed to offer fres joint meubership to wives (or husbands) whose spouses at present belong to the T.O.C. - this gives thera fill roting rights. If you wish to registor for Joint Kemborghip, csn you notify the Club Secretary before the end of kovember?

SCGIEL DIARY; Novanber igth ; a get-wgether with the customary 1iquid refreshment at tho Skan and Sugar Loaf, 1a Brifhton Road, South Croydon. Pictures/anticles/objects of general Traction iriterest will be most welcomes.

December 20th : Christmas Nosh-up at the Kesntire Restaurent, Church Sto, Creenwleh. E moutbwatering three-course ainner with wine inciuded, for E3 a heac. This will be quita an occasion, the T.O.C.'s firgt Christuas, and as pleces are limitod to 40 , wo shouid be gratoful is you conld send your bookings as soon as possible, together with the appropriate monies, to the Club Treasure:, David Shepherd. Clesing date for bookinge is Dec. 6th.
Mici Jsmenty, dato to be notified in December issue : ifilu show with contributions from Michelfin, et al, and a bar laid on, at Greonford, keddr.
N.B.- We have a list of the most frequentry-needed spares arailskle off the shelf from the Datch Club, trenslated into Eagligh, with the price in guinders : thefs will be published in the Deceraber issue, but if envons is desperates, sead a SAE to Grahen Sage, end te will provide an farediate copy of tho lishe



