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YES YOU! TO WRITE AN ARTICLE"

Chairman
Roger Dyer,
Hill Top, Tuckey Grove,
Send Marsh,
Woking, Surrey GU23 6JG.

Treasurer
David Shepherd,
23 Longford Road,
Bognor Regis, Sussex PO21 1AB.

Social Secretary
Mike Wheals,
"Ladle Cottage,"
11 Fairclose,
Church Street,
Whitchurch, Hampshire.

General Secretary
Steve Reed,
1 Terwick Cottage,
Rogate, Near Petersfield,
Hampshire GU31 5EG.

Membership Secretary
Peter Riggs,
2 Appleby Gardens,
Dunstable, Beds. LU6 3DB.

Club Spares
Dennis Ryland,
"Woodholme," Frithwood,
Brownshill,
Stroud, Glous. GL6 8AD.

Tool Hire
Peter Simper,
215 Whitton Road,
Twickenham,
Middlesex TW2 7QZ.

Standing Committee
Phillipe Allison,
Stan Barker,
John Gillard,
Colin Gosling,
Tony Hodgekiss,
Steve Reed,
Peter Riggs,
David Shepherd,
Bob Wade,
Nigel Webb.

Club Shop
Steve Southgate,
11 Woodlands Avenue,
Walsall,
West Midlands, WS5 3LN.

Eastern Area Contact
John Starke,
The Cottage, Harts Lane,
Ardleigh,
Nr. Colchester, Essex.

West Midlands Area Contact
Simon Saint,
Snigs End, Danes Green,
Clains, Worcester.

Central Southern Area Contact
Mike Wheals,
Silk Mill Cottage,
26 Winchester Street,
Whitchurch, Hampshire.

Northern Area Contact
Liz and Jim Rogers,
11 Wilmer Drive,
Heaton, Bradford BD9 4AR.

Scottish Area Contact
Alan D. Hay,
Rosewall, Main Road,
North Queensferry,
Fife KY11 1HB.

Typesetting and Printing
Peter Stenner,
Bailes Fastprint,
Mill House,
Market Place,
Houghton-le-Spring,
091 584 6097.

Editor
David Gardner,
33 Austin Drive,
Banbury, Oxon OX16 7DL.

Titles
Giles Carver.

Honorary Life Members
Fred Annells
David Shepherd

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Floating Power

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January, Nineteen Hundred and Ninety One

Even though this is the last magazine of the volume it heralds a new year of Tractioneering. You will note the early warning for the annual rally. This year it is to be held at Bridgenorth and is being organised by Mick Boulton (see page 12). If you get too blasè about the cars you can always go for a trip on the Severn Valley Railway. Rally dates appear a bit sparse at the moment but I am sure that they will increase as the year progresses.

The letter/insert from Bain Clarkson, the insurance people, may need reading carefully. From my cursory glance it would appear that foreign mileage will now come out of the annual limited mileage unless one pays extra. A green card is no longer necessary for continental travel and this was how extra mileage was usually purchased for foreign travel.

It could therefore be an easy mistake that by not having to purchase a green card the annual limited mileage could easily be exceeded by trips abroad. It is noteworthy that the TOC will be on the new DVLA list of "Enthusiasts Clubs" who can authenticate applications for retention of original registration numbers. These numbers are on a strictly non-transferrable basis. For further details please write to Roger Dyer, the club chairman.

Now is the time to dig out the cheque book or open the wallet and renew your annual

membership subscriptions (£18). Early payment helps the cash flow of the club and you never know you may save yourself some money (the annual review of subscriptions has not yet taken place). In view of the preceding comment I should apologise to some recent new members. They should have received some back issues of the magazine. Unfortunately, due to certain unforeseen difficulties, this has not been possible.

Hopefully this issue will contain the new spares price list. It should have been in the last magazine but in the rush before Christmas there was some sort of hiccup at the printers. The list is almost as long as the magazine and probably makes more interesting reading. It also shows one of the benefits of belonging to this Club and the wide range of spares which are available.

The second Monte Carlo Challenge for Classic Cars starts from Edinburgh on Feb. 11th. Last year club member Chris Dixon took part in his Traction.

This year two club members are taking part: Carolynn Hoy at No. 22 in a 1952 Citroen 11B and at No. 115 Norman Wijker in a 1955 Citroen 11 BL. Best wishes for a safe and successful rally to them both and their crews. However, by the time you read this the event will probably be over, but it is the thought which counts. Perhaps next year there could be a TOC team entry?

DAVID GARDNER



The Roads Improvement Bill.

The Roads Improvement Bill has been read a third time and passed in the House of Lords.

Greasy Roads.

Seven accidents of varying degrees of seriousness took place through skidding on a stretch of greasy road in Sheffield *within half an hour* one day last week.

R.A.C. Guides Control Traffic at Lincoln.

The Lincoln City Council have arranged to employ five R.A.C. Guides to assist in regulating traffic in that town. The men will act in conjunction with the police, but will retain their familiar blue uniform.

In this Issue.

All the week-end events are described in *The Autocar* this week. The contents of the issue are widely varied, and embrace care and maintenance of a popular small car, road tests of British and French cars, an illustrated description of the Scottish Six Days' Trials, an analysis of the Grand Prix, a caravan holiday, in addition to the usual popular features.

Trade Visit to the U.S.A.

Sir William Letts, Managing Director of Crossley Motors, Ltd., and Willys-Overland Crossley Ltd., and President of the Society of Motor Manufacturers and Traders Ltd., is paying another visit to the United States, he having set sail on the *Adriatic* on August 1st, for New York. Sir William expects to stay about six weeks, intending to visit the factories in which he is interested, and to obtain first-hand information concerning the automobile industry in the States.

Increased Tyre Prices.

David Moseley and Sons, Ltd., intimate that owing to the greatly increased price of rubber they are compelled to increase the prices of covers for their motor car tyres by 15 per cent., this being the first advance they have made in the prices of covers since October, 1924. The company's tyre price list is now subject to the following advances: Motor car covers (all sizes), 15 per cent.; tubes (small), 20 per cent., (large) 33 1/3 per cent. Existing contracts will of course be completed at the old prices and will not be subject to any advances until September 30th next.

The makers of Dunlop tyres announce that the prices of their covers were increased by 15 per cent., and of tubes by 20 per cent., as from August 5th.

Enterprise.

A new attraction to the night scenes in Paris has now been provided by M. André Citroën. In order further to bring his cars before the

Lighting-up Times.			
MONDAY, AUG. 10th. Summer Time.			
Aberdeen	10.3	Manchester	9.49
Birmingham	9.42	Newcastle	9.52
Cardiff	9.46	Norwich	9.32
Edinburgh	10.2	Plymouth	9.46
London	9.32	Southampton	9.36

Rear numbers must be illuminated half-an-hour earlier.

public, he has rented three sides of the Eiffel Tower, which is brilliantly illuminated by night with electrically lit letters each 92ft. high. A special transforming station has been built at the foot of the tower in order to enable the flashing signs to be arranged. At first the tower is outlined in luminous lines, and then a certain number of small stars and five or six bigger ones with the tail of a comet are seen. At the same time bright flames shooting skyward appear at the top of the tower. As the tails of the comets gradually lengthen to form letters making up the word "Citroën," two signs, red and blue in colour, bearing the dates 1889-1925, the former the date of the tower's creation, become luminous, and are almost immediately replaced by the double chevrons which are the Citroën trade mark.



C-I-T-R-O-Ë-N. The Eiffel Tower as it now appears by night.

This may fairly be described as the most remarkable and complete flashing advertising sign yet created, and it is significant that the motor industry is associated with this wonderful transformation scene.

A Famous Racing Car.

We understand that the racing Vauxhall owned and entered by C. G. Brocklebank at the August Bank Holiday meeting has been purchased by and will be driven by J. D. Barclay at future meetings.

Inspection of Petrol Pumps.

In the House of Commons on Tuesday, Sir P. Cunliffe-Lister, President of the Board of Trade, informed Mr. Bennett that he hoped to obtain powers to make petrol-measuring pumps subject to the provisions of the Weights and Measures Acts as to examination and testing. This move has long been advocated by *The Autocar*.

Public Parking Places for Cars.

During the Committee stage of the Public Health Bill in the House of Lords on Clause 68, which empowers local authorities to provide parking places for vehicles, a new sub-section was added to the effect that "While any vehicle is within a parking place the driver or conductor or any person employed in connection therewith, must not ply for hire or accept passengers for hire, on pain of a fine not exceeding forty shillings."

Police Activity in the West.

Police traps have lately been worked by the Bridgwater, Somerset, police on the roads leading from that town to Taunton and Bristol. Motorists are timed over a measured furlong, and several convictions have been recorded, the time of 14s. for the measured distance, equivalent to a speed of 32.15 m.p.h., being attained by the victims in the majority of cases. In the circumstances motorists proceeding to the West country would do well to avoid Bridgwater for the time being.

Accident.

We are glad to learn on going to press that Miss Joan Siddeley, who was seriously cut by the glass partition in an accident last Friday, is making satisfactory progress at the Stratford Hospital. The accident occurred on the Stratford-on-Avon-Alcester Road, Mr. J. D. Siddeley's saloon being involved in a head-on collision with a Morris-Cowley two-seater, the steering wheel of which, according to the driver, "slipped through his hands." Mr. and Mrs. Siddeley were slightly cut and bruised by the impact, whilst Mr. Geoffrey Smith, who was aboard the car, sustained damaged ribs, and cracked the Triplex screen with his head by being thrown forward, but was not cut. The other passengers escaped unhurt. The driver and passenger on the Morris-Cowley were cut and bruised, the passenger's leg being fractured.

Unique Publicity Scheme

Illumination of the Eiffel Tower

THE lighting of the Tower was switched on for the first time on Saturday evening, July 4th, and Paris was suddenly flooded with brilliant light. The Tower appeared like a huge torch with the Arabesque designs of startling effect. These Arabesques were then gradually changed into stars and comets, giving the impression of gigantic fireworks.

Suddenly spellbound, Parisians saw the name "Citroen" appear in dazzling letters 90ft. high. This wonderful illumination is the Citroen contribution to the present Paris Exhibition of Decorative Arts and everybody agrees that it constitutes the principal attraction.

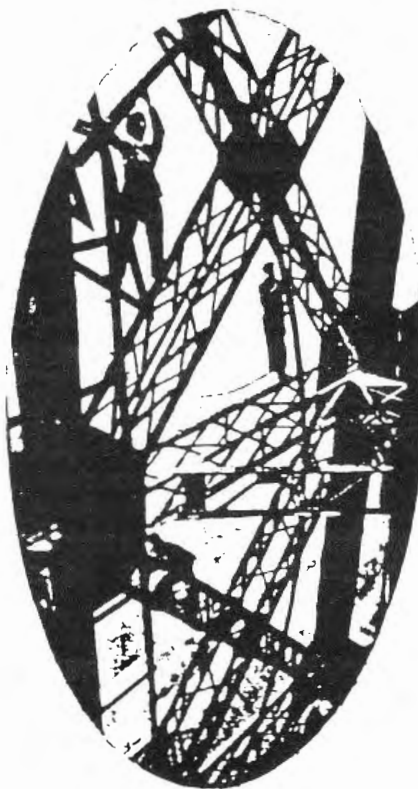
This electric sign, which gives the impression of a fairy-like vision from some enchanted land, has aroused enormous interest and immense enthusiasm in and around Paris, as it can be seen as far as 25 miles away.

We think our agents will be greatly interested to know the methods by which this masterpiece was achieved, and we have therefore had unique photographs taken for their benefit, which gives an idea of the magnitude of the effort made to attain such a wonderful result.

The complete installation of the luminous designs necessitated 200,000 electric lamps. The lamps, varying from 25 to 600 c.p. and of six different colours, are fixed to wooden frames, shaped so as to form the various letters and designs. Some of these letters are over 90ft. high, the N at the foot of the name "Citroen" covering over 1,200 square feet, while the panel with the double chevron has a superficial area of 3,600 square feet.

The frames and fittings were assembled on the different storeys of the Tower and had then to be hoisted to their proper positions by workmen, whose daring deserves special praise. The photographs show the fitting up of the Tower with the electricians posed some 900ft. above the ground, risking their lives in the performance of their dangerous task.

Under expert supervision, the skill of different trades was combined to complete the largest electric sign in the world. Masons, carpenters, painters, fitters, electricians and labourers united in a common effort to produce this artistic scheme of illumination, the execution of which was exceptionally



difficult and distinctly dangerous.

The electrical installations at the base of the Tower comprises 14 transformers of a power of 12,000 kilowatts, which transform a tension of 12,000 volts into a single phase current of 220/110 volts. This current is transmitted to the second storey by 32 cables which are fastened to the South pillar by means of cross-pieces and insulators.

These cables distribute the necessary current from the switchboard cabin on the second storey, thus ensuring the illumination of the Tower. Each design has its own comprehensive wiring system.

The various designs are lit by means of contact switches, operated from a single keyboard, and are reflected in a mirror placed in front of the operator.

Sudden and considerable variations in the power of the current, caused by the consecutive displays, have necessitated special precautionary measures.

The complete installation required 21 miles of heavy-section cable and 36 miles of wire and small cable. These weigh about 25 tons; 57 miles of electric wire have a total ILLUMINATION OF THE TOWER.

Nine consecutive displays appear on the sides of the tower, viz:

1. The Tower is brilliantly outlined.
2. Big stars extend from the top to the foot of the Tower.
3. Small stars cover the whole surface of the Tower.
4. Comets.
5. Signs of the Zodiac.
6. Moving flame at the top of the Tower.
7. Panels bearing the dates 1889-1925. (The Tower has been in existence for this period.)
8. The name "Citroen" appears between the second and top storeys.

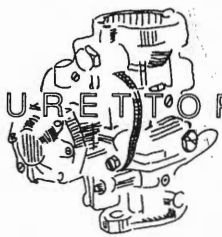
The principal designs can be illuminated at will simultaneously with others. Hundreds of designs are made possible and special photographs have been taken which will give some idea of the beautiful luminous displays.

This luminous sign is most artistically and tastefully designed, and has met with general approval. It is undoubtedly the greatest achievement of French advertising, now famous the world over.

You see them everywhere

TROUBLESHOOTING

CARBURETTOR



AND FAULT FINDING

Flat Spots

A flat spot is an effect whereby the engine does not respond to accelerator movement, but cuts out or hesitates momentarily when the pedal is depressed.

The cause is usually weakness, due to an accelerator pump fault on carburettors so equipped. It should be noted however, that the sudden acceleration of an engine which is not yet fully warm may give a momentary hesitation even with all aspects of the carburettor working satisfactorily.

If a flat spot occurs on a fully warmed up engine, the best course of action is to check through the accelerator pump circuit, starting at the injector and working back. Firstly ask a helper to operate the accelerator, with the air cleaner removed and with the motor switched off.

As soon as the accelerator begins to move, fuel should start to be expelled from the injector. The manner of discharge varies from carburettor to carburettor. On units which use the injector as a calibrated orifice, the fuel should discharge as a strong jet. On units which have a remote pump jet and a parallel injector tube the discharge may be less violent, taking the form of a wider and slower jet of fuel.

In each case, however, a solid jet should be discharged, not a spray. A spray indicates that the injector is partially obstructed and the part can be usually cleared by blowing through the nozzle end of the injector.

Total absence of discharge may indicate a completely blocked injector or pump jet, or an obstruction in the pump supply channels which should be traced and blown through.

A very poor discharge may point to an obstructed gauze on the inlet pump valve where used, or a poor seating of the pump inlet valve itself, due to dirt being trapped between ball and seat.

This fault will allow fuel to return to the float chamber each time the pump is operated.

In such a case the cure is to clean or replace the valve.

On carburettors where the inlet ball valve is an integral part of the casting, it is only possible to syringe through the appropriate channel in the hope of cleaning the valve.

Where an anti-syphon valve is used, it is also possible that bad seating of the ball or plate valve will allow fuel to escape to the float chamber when the pump is operated.

Certain carburettors employ a ball valve in the channel beneath the pump injector. This component rarely gives trouble, but if it has been lost due to careless servicing, air will bleed back through the injector, causing a low standing fuel level in the pump circuits so that the air will have to be expelled, before fuel can discharge, which may give rise to a minor flat spot. In addition, a coil spring has been used on some units to prevent the ball being lost. This spring is wedged in the channel above the ball and should not press the ball on to its seat. If this spring has been pushed down onto the ball, pump operation will be affected.

Do not forget also to check that the mechanical parts of the pump are in good

order i.e. the pump lever, operating rod, follow up spring and split pins.

On carburettors fitted with depression operated pumps, it is less easy to check the discharge. Therefore the above mentioned components should be checked in turn and in addition the depression channel leading from the pump cover to the flange, should be blown through, as the pump will not operate at all, if this is blocked.

When a pump fault is suspected, it rarely helps to just change the pump diaphragm. If this component fails, the result will simply be fuel escape from the pump cover.

On depression units, the symptoms will be extreme over-richness as fuel is drawn down the depression channel.

Carburettors without accelerator pumps can also develop flat spot problems, although in this case the cause is usually general weakness manifesting itself during acceleration when a richer than normal mixture is required. Refer to the section on weak running therefore and check for such faults as partial jet obstructions, low fuel level, air leaks etc.

After a long period of service, air leakage at the throttle spindle bearings will tend to weaken the running mixture on all types of carburettor. If it is not possible to replace the unit entirely, then flat spots caused by this in-leakage can often be overcome by slightly increasing the size of the main jet. An increase of 5 over the standard size is recommended.

Flooding

This describes fuel escape or overflow from the carburettor, or fuel running into the barrel of the carburettor when the engine is in use.

The causes are usually quite straight forward. Check first that the float is not punctured, by shaking the float to see if fuel is contained inside. Examine the float to see that it has not been partially collapsed by pressure caused by an engine backfire. Make sure the float is the right way up. Where a float pivot lever is used, ensure that this swivels freely on its hinge pin and ensure also that the lever is the right way up. Ensure that the hinge pin is correctly located in its grooves in the float chamber and that it is held down by the appropriate clip on carburettors so equipped.

Determine that the needle valve is serviceable by removing the valve and attempting to suck air through it whilst holding the needle on its seat. Only a dead seal is acceptable. If any air at all can be drawn through the valve, clean it thoroughly and test again. A sticky valve can often be cured by rinsing in methylated spirit, but if no improvement is noted, replace the part.

A needle valve washer made of red or black hard fibre material or aluminium, should be present between the needle valve and the casting. Washer thickness varies between 1 and 2½ mm. Refit the valve firmly so that no fuel can pass down the needle valve threads and around the washer.

If flooding persists after the above mentioned tests have been carried out, then the problem may be due to excessive fuel pump pressure. Most garages are able to test pump output which can often be regulated, in the case of mechanical pumps, by spacing the pump away from the crankcase.

Syphoning

This fault should not be considered in a similar way to flooding. Syphoning is an effect whereby fuel will overflow from the main spraying outlet or from the pump injector after the motor is switched off, causing fuel to collect in the throttle chamber or inlet manifold.

No fuel escape will take place while the engine is running, so that this problem only becomes noticeable when the engine has been standing for a short period, whereupon the excess fuel renders hot starting difficult due to fouling of the plugs by an over rich mixture.

As a rule, the standing level of fuel in the float chamber should be low enough to prevent any fuel escape when the engine is switched off. However, at the end of a run, heat acting on the carburettor will cause the fuel in the chamber to expand slightly and if this expansion is sufficient to raise fuel height to that

of the main outlet into the choke tube, then fuel may drain away due to syphoning action.

Carburettors with accelerator pumps can be particularly affected by this problem as the fuel trapped in the pump housing is generally subjected to a greater temperature rise than that in the float chamber, whilst the amount of expansion which must take place before fuel will begin to overflow from the pump injector is relatively slight. Low injector pumps can be particularly troublesome in this respect, as once fuel begins to flow from the injector nozzle, a great deal can drain away.

To counter syphoning, the first action would be to see that the standing level of fuel in the float chamber was not higher than that intended and that the needle valve and float mechanism are in good order. In addition, ensure that the motor is not overheating.

On accelerator pump carburettors fitted with anti-syphon valves, ensure that the valve is working freely. In hot climates, it is sometimes advisable to make up a shield which can be placed beneath the carburettor to protect the float chamber and pump assembly in particular from the hot air rising from the exhaust system and engine block. The effect could be also be tried of using an additional needle valve washer to lower the fuel level so that greater expansion will have to take place before syphoning occurs.

On certain carburettors some limited syphoning will be unavoidable. Under these circumstances, hot starting can usually be achieved by opening the throttle fully and then operating the starter, without moving the accelerator pedal until the over richness is cleared and the engine fires.

Note: As stated elsewhere, it is a feature of a depression operated pump to discharge a final slug of fuel as the engine is switched off and manifold vacuum falls. This may also render immediate starting difficult, whereupon the remedy mentioned above can be used. This problem should not however be mistaken for syphoning.

Carburettor Icing

This phenomenon occurs obviously in cooler weather and when a high degree of humidity exists. Quite simply, the evaporation of fuel in the inlet manifold and lower portions of the carburettor will cause a refrigerating effect which can sometimes cause the temperature of the carburettor casting to drop below freezing point. As a result, any moisture which is being drawn through the carburettor with the intake air may freeze and adhere to the lower portions of the carburettor.

This ice deposit will upset engine running either by building up on the throttle plate or carburettor barrel, thus obstructing air flow, or by sealing over the slow running and by-pass outlets, causing stalling and light throttle running problems.

This fault occurs during the warm up period of the engine before sufficient heat has built up in the engine compartment to prevent ice formation. It may also become apparent when cruising on an open road with the engine under relatively light load. The symptoms range from occasional misfiring to complete cutting out of the motor depending on severity.

The short term cure is simply to switch off the motor and wait until conducted heat melts the ice deposit. If local conditions make icing a regular occurrence then some permanent remedy may be sought, such as running without a heat insulator between the carburettor and inlet manifold, making up a shield to protect the throttle body and float chamber from the draught of the engine cooling fan, or installing a radiator blind to bring the engine quickly up to working temperature.

Another remedy may be to arrange ducting which will take hot air from the area of the exhaust manifold which can then be delivered to the carburettor or air cleaner intake.

Note: When humidity is low, icing is less likely to occur. In addition, when ambient temperature is in any case below freezing, no free moisture will be present in the atmosphere to cause icing problems.

Water Contamination of the Fuel

In many instances a small amount of water may find its way into the fuel system, due to a

leaky filler cap, inlet hose or overflow pipe, or due to water being present in the main tanks of a filling station.

Under normal circumstances a small amount of water may remain harmlessly in the fuel tank, where it will congregate at the lowest point.

However, if a build up of water occurs, or if the fuel tank is run almost empty, this water will be drawn along the fuel line into the carburetter.

Under the circumstances, water droplets will form small globules which will effectively block jets, especially the pilot jet. In the case of sudden bouts of stalling or loss of power therefore, this fault may be suspected.

On the road, the effect could be tried of revving up the engine with the air cleaner removed and then momentarily obstructing the main air intake in the hope of creating enough depression to draw the water through. Do not attempt to put your hand over the intake, use a flat piece of card or wood.

Otherwise drain the float chamber and blow through each jet. Pump a sample of fuel into a transparent container to see whether any water collects at the bottom of the container. In cases of moderate contamination it may only be necessary to thoroughly clean the carburetter and fuel pump.

If further blockage occurs it may be advisable to install a bowl type filter in the fuel line to trap any water passing through, which can then be drained off at regular intervals.

If a great deal of water is present then the only permanent cure would be to blow through the fuel lines and have the fuel tank drained. It should be remembered that water has an adverse effect of the 'Mazak' material that most carburetters and also fuel pumps are cast from, by causing severe corrosion which takes the form of a hard chalky deposit which builds up on the castings.

This in itself can cause obstruction in both the carburetter and fuel pump and is extremely difficult to disperse should it find its way into the numerous passageways drilled in the carburetter body.

Rich Running

This problem is usually accompanied by symptoms such as a sooty tail pipe or plugs, by poor fuel economy and by a deterioration in the hot idle quality of the motor and by difficult hot starting.

To remedy this, various points should be checked as follows. Firstly remove the air cleaner and examine the element for excessive dirt contamination. Replace any paper element found to be choked, or in the case of a wire mesh filter, clean, dry and re-oil this. For oil bath filters, ensure that the oil level in the canister is not too high.

If the carburetter has a flap type choke, ensure that this is in a vertical position when the choke control is pushed fully home. For automatic choke carburetters, run the engine from cold blipping the throttle occasionally and ensure that the flap gradually opens, reaching the vertical position as the engine nears normal temperature.

For disc type chokes, carry out the test procedure detailed in the section on Starter Face Leakage. Within the carburetter, check the operation of the float and needle valve mechanism. Refer to the section on Flooding for information on this. Check all air bleeds in the carburetter such as the air correction jet, pilot air bleed and econostat air bleed where used. Blockage here will cause the mixture output to be enriched. Where a fuel immersed economy diaphragm is used, check that this is not punctured, thus giving a direct bleed of fuel to the carburetter flange. Carry out a similar check on any depression pump type carburetters. Finally check fuel pump pressure in case the needle valve and float, although in good order, cannot cope with the delivery pressure.

Difficult Hot Starting

This fault is partially described in the section relating to Syphoning. It is invariably caused by richness and as such may have its origins in such problems as excessive pump pressure,

faults in the float and needle valve mechanism, overheating, or puncture of an economy or depression pump diaphragm.

Weak Running

The above fault can be identified by symptoms such as a very pale deposit on the spark plugs and tail pipe, by flat spots, loss of power or overheating. Persistent weak running can cause exhaust valve damage or erosion of the piston crowns.

Checks for this fault are as follows. Determine that the air cleaner element has not been entirely discarded by a previous owner. If the cleaner is connected to the carburetter by a hose and clips ensure that the hose makes a snug fit over both the air intake and the cleaner spigot. If the cleaner is remotely mounted, check for any air leaks into the connection trunking. If a non standard wire mesh 'sports' cleaner has been fitted, the lack of restriction provided by this type of unit will generally weaken the running mixture of any carburetter on which it is used. To offset this, it may be necessary to make minor increases in the size of the main jet and a reduction in the size of the air correction jet.

Assuming that these points are in order, examine the carburetter as follows. Check that the float chamber vent is quite clear as obstruction will cause a partial vacuum in the float chamber which will prevent fuel being drawn into the choke tube. Examine the float chamber gasket and the flatness of the float chamber and cover faces in case air is entering at this point. Check for float distortion or incorrect installation which could give a low fuel level. Check for partial obstruction of the needle valve.

Look for blockages in any of the jets or jet channels. Examine the carburetter castings in case any permanent plugs have been lost. Check the flange gaskets and the flatness of the carburetter flange. Examine the spindle in case excessive wear is causing a large air leak along the spindle bearings.

Poor Cold Starting

This fault will be accentuated by any weakness in the carburetter, so that the information given in the previous section should be referred to. If the cold start problem is an isolated fault however with all other aspect of carburetter operation being satisfactory, the following points should be checked.

Remove the air cleaner and on all choke flap type carburetters, ensure that the choke flap completely obstructs the air intake when the dashboard control is pulled out. Open the flap by hand and see that it springs shut when pressure is released. If the flap fails to shut, then it is probable that the small automaticity spring mounted on the projecting end of the choke spindle is broken or has been detached from its anchor points. If the spring is in good order, then tightness in the spindle bearings may be responsible for the malfunction. In such a case, carefully remove the screws that secure the choke flap and withdraw the spindle, having first filed down the burrs on the underside of the spindle left by the screws. Failure to do this will result in the bearing being scored as the spindle is removed. Thoroughly clean the bearings and spindle with a light abrasive such as metal polish, rinse the area in petrol and replace the spindle. If trouble persists, the spindle should be changed. On carburetters with fixed position choke flaps, check that the automatic weakening valve is spring loaded into the closed position. Once again open it by hand and ensure that it closes immediately.

On carburetters with a choke operating cam ensure that the swivel bolt on which it operates is tight. Ensure that there is a full range of movement available from the choke control. It is important that the correct degree of fast idle is applied to give the ideal relationship between the throttle and choke, this can be checked by reference to the section devoted to Fast Idle Setting.

Disc starter carburetters should be checked in a different manner. In this case, first remove the starter petrol jet. See that it is quite clear and that there is no build up of sediment in the depression in the float chamber base, leading to the jet.

Check the condition of the float chamber gasket in the area where the starter fuel channels pass through from the float chamber to the cover. Remove the starter housing and blow through the drillings in the starter disc. Check that the disc stands slightly proud of the housing.

Examine the condition of the starter face on the casting and face of the starter disc. If these are not entirely smooth, carry out the procedure detailed in the section on Starter Face Leakage. On re-assembly, ensure that a full range of choke movement is available.

Poor Tickover

This fault, more than any other, is one for which the carburetter is usually blamed, whilst the actual fault usually lies elsewhere.

Before examining the carburetter therefore, the following points should be considered.

The lowest idle speed which an engine will accept depends on a number of factors, such as flywheel weight, compression ration, camshaft design, etc. In more modern engines the trend is towards lighter flywheels and short piston strokes, with camshafts designed to extract maximum performance in relation to engine size. The penalty of these design trends is that the lowest stable tickover speed of the motor is higher than that of a more modestly tuned engine. For four cylinder engines, it should be considered that the lowest idle speed is about 600 r.p.m. while this may rise to a level of 850/900 r.p.m. on certain engines. Six cylinder motors, due to their more balanced firing pattern, can usually be set to a slower level.

The definition of a good tickover would be where the exhaust note is smooth and regular and where the engine is steady on its mountings. With most ignition systems there may be the occasional 'miss' which can be discounted as normal.

A regular misfire however could point either to failure of a spark plug or the breakdown of an ignition H.T. lead or to 'tracking' in the distributor cap. Within the engine, this could be caused by a badly seating valve or blown head gasket. Intermittent misfiring could be caused for instance by imperfections in the plugs, points, rotor arm, distributor cap, leads etc. or by a faulty condenser.

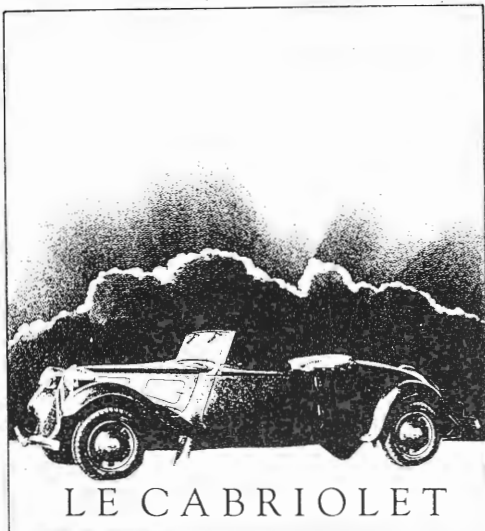
When all these possibilities have been discounted, then attention can be paid to the carburetter.

Check for air leakage at the flange or for excessive wear of the spindle bearings. Remove the volume screw and examine the tip for ridging or distortion. Remove the pilot jet and check for obstruction. Test the seating of the jet, using the information provided in the section on Solex Pilot Jets.

Blow through all passageways connected with the slow running circuit and ensure that the by-pass drillings are clear. Ensure that the pilot air bleed in the rim of the main body is clean.

With all these points in order, the carburetter may be reassembled and a further attempt made to set the idle. It should be remembered that if the throttle is set to far open, it will bring into action, one or more of the by-pass drillings. As such, the idle fuel supply will be provided by this outlet, over which the volume screw has no control. This will result in a situation where either the volume screw will have to be closed off almost completely in order for the correct idle mixture to be dispensed or that the volume screw may be incorrectly set wide open, causing excessive richness which will bring down engine speed and give a false impression of the motors requirement. To avoid setting off this sequence of events, start to tune the idle with the throttle as far as possible towards the closed position.

If the volume screw still needs to be set almost shut to give a good idle then it is likely that additional fuel is being supplied from another part of the carburetter. Check therefore the condition of any immersed economy diaphragms, or depression pump diaphragms. Check for a high fuel level or for damage to the emulsion tube well of the carburetter which may be giving a permanent slight fuel leak into the carburetter barrel.

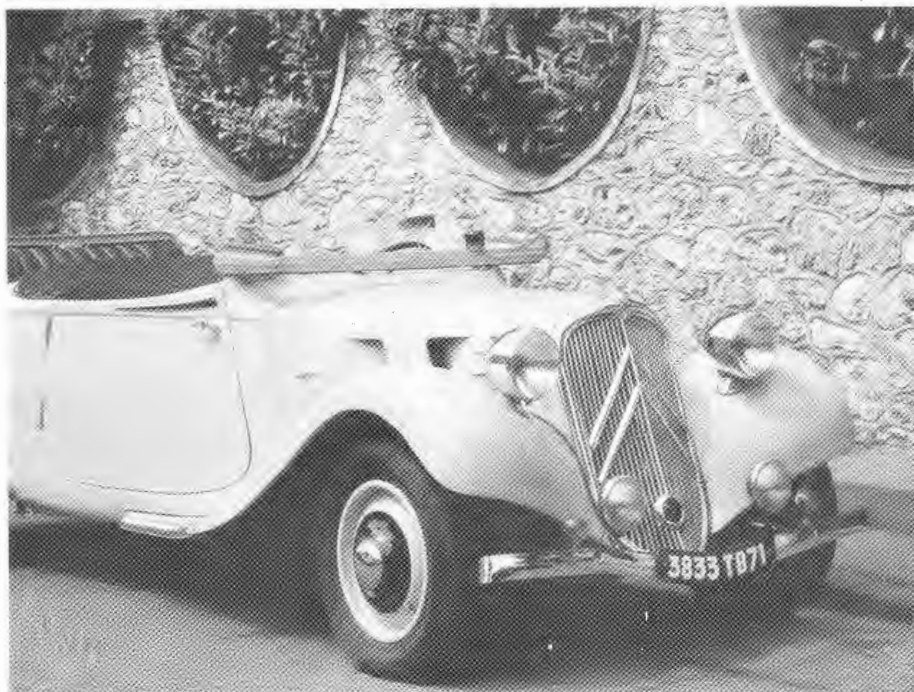


The following article and photographs appeared in the "Cabriolet et Coupé" magazine and has been translated and sent in by our friend from the South – M. Nicholson.

Every Tractioniste knows the characteristics of the make by heart, but for France it should be said that this car represented an absolute masterpiece, the efforts of which are still felt today.

In 1934 Andre Citroen was in desperate financial trouble. The factory renovation at Quai de Javel in only five months without halting production had almost ruined him. It was essential to bring out a new model. The old 8, 10 and 15 models were no longer powerful enough.

On the 18th April 1934, the "7" was officially introduced to the press even though it wasn't ready. The driveshafts emitted horrifying noises when cornering, the body shells split resulting in rear end sagging, torsion bars broke, the "floating power" engine floated a bit too much, the radiator clattered against the bonnet and the exhaust



The fold down windscreen is the undisputed feature of the Roadster in the same way as the aluminium trim on the tops of the doors. The front and rear wings have 'Robri' embellishments, the one on the front wing has a scraper so that passengers can clean their shoes and so protect the carpets! A clever little touch.



The Traction in itself is not exactly revolutionary but what a machine. Floating Power, front wheel drive, all steel box gearbox (This last characteristic did not last, one of the first brought out the first "Hydramatic" box in 1940 on the C

and stub axles broke (apart from that, everything else was fine – MN).

Even if the idea of front wheel drive was not exactly new, mass production on the scale intended was nevertheless an innovation. It was evident at the time that one could not steer the rear wheels so that gave engineers something to think about, i.e. both the drive and the steering through the front wheels! After several months of experimenting, the vehicles was almost ready although the first clients experienced many teething troubles! Thus today we have a car which enters into the realms of history and from which the basic mechanical principles are still in use in modern cars.

The 'cabriolet' was introduced at the same time as the 'berline' model and the 'faux cabriolet' (faux cabriolet). On this subject it is worth remembering that the 'open cabriolet' or roadster as it was first known because it had a fold down windscreen and hood, clearly the car was not a 'faux cabriolet' or even a cabriolet at all.

In fact the official name for the open topped car was the RPV or Roadster Petite Voiture (little car) and for the Coupé CPV or Cabriolet Petite Voiture. The term 'cabriolet' really comes from the days of horse drawn vehicles when a 'cabriolet' referred to a small closed carriage. Along the same lines the term 'Spider' (dicky seat to the Brits) does



although the steering is heavy and the brakes too light. All in all however it does not feel unlike a modern car and is quite manoeuvrable in traffic.

Only 4325 examples of the roadster were made from 1934-1939 with at least another 100 units being built in Slough or 'Forest' in Belgium. It is thought that about 400 survive.

The Traction was a revolution, it marked a turning point in the history of the automobile with a "first" in the mass production of a front wheel drive vehicle. Andre Citroen was without doubt a genius and had far reaching ideas. He influenced automobile production to such a degree that today rear wheel drive appears to be the odd man out.

To sum up the 11 CV Roadster is a work of art with its easy driving compared with its competitors and its unique looks, its a first choice for a collector.

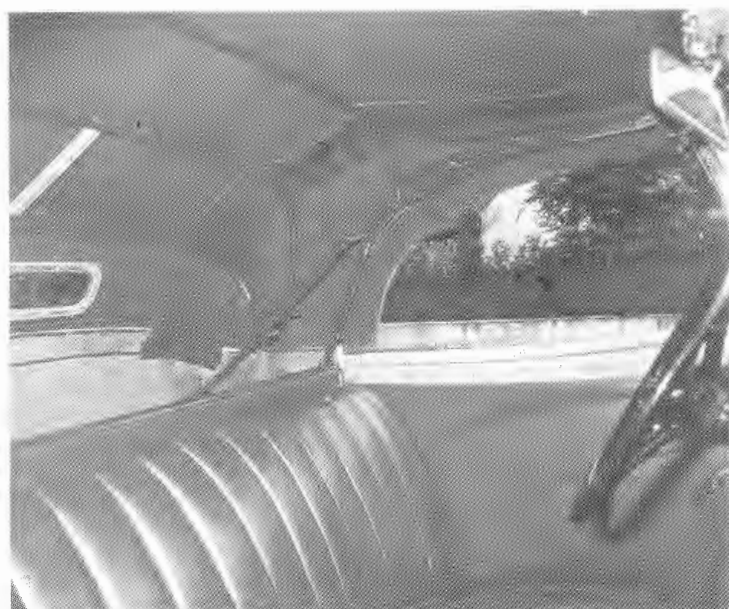
but when considered as an end product of individually new techniques it becomes a notable steel body, torsion bar suspension and as far as prototypes were concerned, automatic hydraulic of the problems was that the oil was not really suitable – it was General Motors of the USA who the Oldsmobile).

not refer to the American 'Spider' which refers to a type of body, but again, a 19th century term given to a small rear seat in a carriage reserved for servants.

Development plans at Quai Javel included a four seater cabriolet with a hood but without the 'spider' rear seat. Prototypes had problems with body distortion. The 'spider' rear seat was obviously a form of body reinforcement somewhat along the lines of the VW Golf's rear construction.

The first proposals were to equip all the models with an automatic gearbox and this many years before the American box. Unfortunately the oil at that time was not really suitable and would boil and the car would stay in one gear. A three speed box was quickly looked at to alleviate the problems. Despite all these teething problems the cabriolet idea was finally born. Fifty years later it attracts lots of attention and admiration from motorists everywhere.

At the wheel one finds the three speed gearbox a little irritating but the ratios are well spaced. The gear lever is a bit like a soup spoon protruding from the dashboard and not being very practical. You sit as though you were driving a bus, but forgetting these ergonomical faults which would not be acceptable today you quickly forget when with the windscreen folded down you soon cruise along at 100kph without really knowing it. The road holding is precise



The hood itself is stored loosely behind the front seat. It takes two minutes or so to erect it, a bit like an Indian Teepee. The hood is all in one and fits over a system of hoops. For the record a difficult hood to erect.

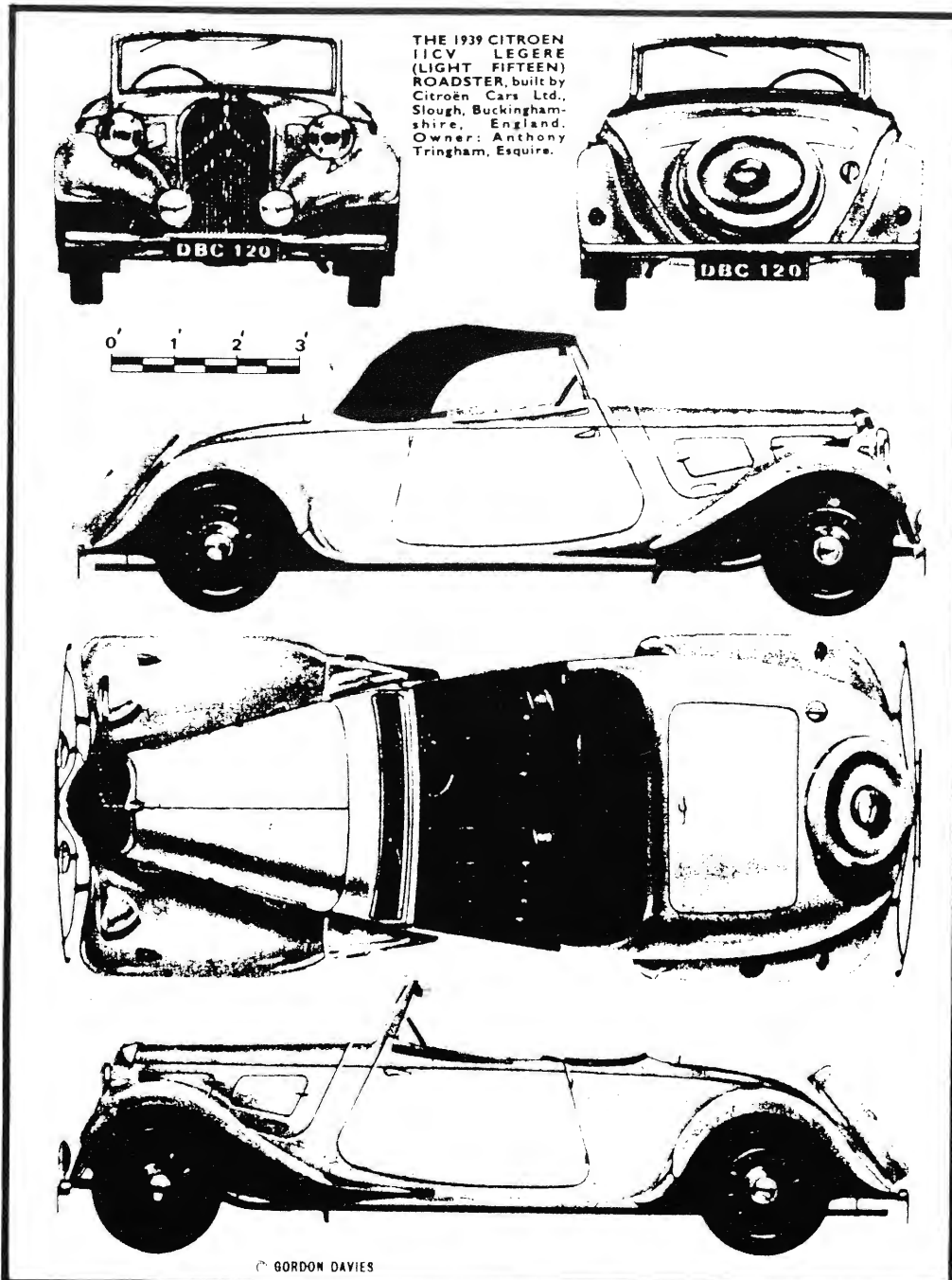
The interior is in red leather and has recently been refurbished. It is necessary to open the two doors to tilt the seat to obtain access to the rear compartment where one could just about fit a toothbrush.



The Spider (or dickey seat in Britain) is from the 19th century, "a little seat at the back of coaches or carriages reserved for servants etc." In 1937 it appears on this car as a small opening in the boot area with a small seat. Not too comfortable but amusing. Passengers are of course open to all weathers.

Access to the Spider is quite amusing. First step onto the aluminium step or disc on the bumper, then onto another on top of the rear wing, then swing yourself, in to the seat. Not recommended for the infirm.

The photographs below of Roadster DBC 120 show that the Classic Car Profile was based on an actual vehicle. The photographs were supplied by Mrs. Christine Tringham, wife of the the owner Anthony Tringham (sadly now deceased). Anthony Tringham was an early TOC member.



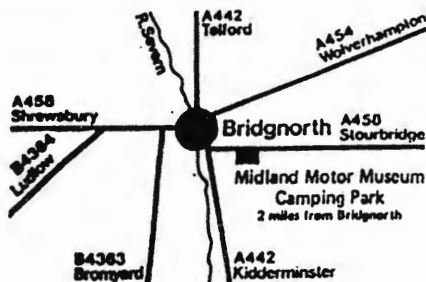
DON'T MISS

The Traction Owners Club ANNUAL RALLY



Bridgnorth 14-16 JUNE

THIS YEARS VENUE IN SUNNY SHROPSHIRE IS AT THE CAMPING PARK IN THE GROUNDS OF BRIDGNORTH MOTOR MUSEUM.



COST : £4.00 PER UNIT PER NIGHT

ADVANCE BOOKINGS PLEASE TO :

MICK BOULTON (STRICTLY BEFORE 9.00pm)

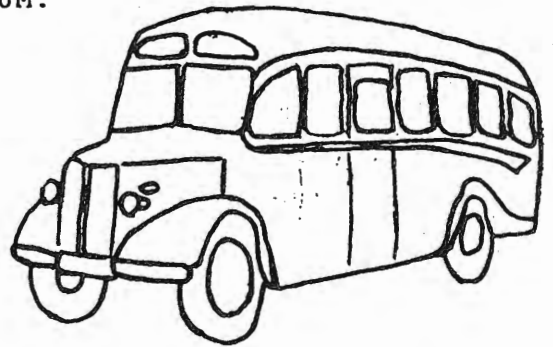
ON 093928 254.

WE SHALL BE ON SITE FROM FRIDAY MIDDAY ONWARDS TO WELCOME YOU.

SATURDAY 15th JUNE. THE MAIN EVENT WILL BE A SCENIC TOUR OF SHROPSHIRE TO INCLUDE A PUB LUNCH, AND FINISHING WITH A VISIT TO ACTON SCOTT FARM MUSEUM OR IRONBRIDGE BLISTS HILL MUSEUM.

IN THE EVENING WE SHALL GATHER IN A LOCAL PUB WITH ENTERTAINMENT.

TRANSPORT THERE AND BACK WILL BE LAID ON.



SUNDAY 16th JUNE SEES THE IDEAL OPPORTUNITY TO TRAVEL ON THE BRIDGNORTH STEAM TRAIN AND CLIFF RAILWAY. THERE WILL ALSO BE THE USUAL AUTO JUMBLE, CLUB SPARES AND CLUB SHOP, AND CONCOURS COMPETITION.

DRIVING SKILL GAMES FROM 11.00 AM ONWARDS, OTHER GAMES AND SPORTS FOR THE YOUNGSTERS.



Dear David,

We at *Classic Cars* were delighted that your Club was able to provide a stand for the National Classic Cars Show at the NEC on December 1-2, and hope that it proved enjoyable and worthwhile for the Club.

Please accept the enclosed print of the stand, which may be of use for your Club magazine, with our compliments. Don't forget that if you have any news from the Club that you think may be of more general interest, I would be delighted to hear from you — we are always pleased to hear of candidates for our 'Discovered' pages, too.

Yours sincerely,
Malcolm McKay,
 Club Editor



CLASSIC CAR INSURANCE — UPDATE

by Martin Cooke,
 Director, Bain Clarkson Ltd.

Having attended classic car shows throughout the country for over 15 years, I never fail to be impressed by the tireless enthusiasm and dedication of club officials who I meet. Hopefully this transmits to members at shows, rallies, through the magazine and other points of contact, and I am sure that those who play a full and active role in the club derive most pleasure from the classic car ownership and contribute highly to the very successful club movement.

I hope people are not motivated to join a club just for cheap insurance, but it is a fact that club members have been targeted as a group who are very much better than average risks, and special Agreed Value insurances have been devised to provide them with the right type of cover at low cost for limited mileage exposure. My company helped to popularise these in the early seventies and in spite of (or because of) increased competition of late, our schemes (underwritten by Royal Insurance) continue to represent top value, and a number of improvements and innovations are available for 1991.

Free Green Cards

Good news for those who like to treat their pride and joy to a spin on the Continent, Green Card charges now being a thing of the past, but a little clarification is needed:

1. **Unlimited Mileage Policies** — Up to 35 days allowed free of charge for journeys to E.C. or Supplementary Agreed Countries.
2. **Limited Mileage Policies** — as above,

Dear Mr. Gardner,

The article in the November issue of *FP* on ERSA (and other) 4 speed gearboxes prompted me to put pen to paper. Although I was first bitten by the Traction bug many years ago it was some time afterwards that I plucked up the courage to buy a car. I remember that day in 1978 very well — armed with Land-Rover and trailer, a friend and I drove from Sheffield to the little village of St. James South Elmham in Suffolk in response to an advert seen in *Exchange and Mart*. The car in question was a 1946 Light Fifteen, JV 9781, and it was in a sorry state, though complete. I recall that I was somewhat disappointed when I first saw the car but, having towed that trailer 150 miles I wasn't going to return home empty handed! We haggled over a price — £250 — but an enthusiast and his money are soon parted and I was the proud(?) owner of my first Traction.

The restoration saga will be familiar to many readers — working long hours in a cramped garage, my enthusiasm gradually

but subject to such journeys being within the Policy Mileage Allowance of 1,500, 3,000, or 6,000 miles.

If the journey takes the mileage in excess of the Policy Limitation, then one can purchase additional mileage needed for £20.00 per trip.

Lower Age Limits

There is continued demand for us to cater for the younger membership, and experience has enabled us to lower age limits selectively.

In most circumstances we can now consider drivers from age 21, particularly for the older cars, but for cars post-1970 above Insurance Group 5, the age limit remains at 25. For our 6,000 Limited Mileage Scheme, the age limit is now reduced from age 30 to 25.

Future Classics

Other areas in which we are seeking to expand include the provision of Agreed Value cover for cars less than 10 years old, but pre-1987.

We are also offering a more sympathetic ear to drivers with modest accident or conviction records who might otherwise be finding it difficult to obtain classic car insurance.

Keener terms are now available for higher value cars with facility to cater for individual values up to £1.5m.

Northern Ireland

Finally, a full range of facilities, both Limited and Unlimited Mileage Policies, can now be offered to club members in Northern Ireland.

Wishing you the best of classic motoring in 1991.

Further Information

Martin Cooke Esq., Bain Clarkson Ltd.,
 Falcon House, The Minorities, Dudley DY2
 8PF. Telephone (0384) 455011.

began to fade as the enormity of the task ahead dawned on me. Every item I removed revealed more and more rot and I got more and more despondent. To cut a long story short I realised that I would never make any progress with that particular car, and I was very glad when John Howard in Leeds agreed to take it off my hands a couple of years later when I was about to move house to Cambridge. I believe it went to "Arch 124" but where it is now I have no idea.

In 1952 I brought back a '52 Normale from France (the story of which was published in *Citroenian* in December that year) and I've been contented as the proverbial pig ever since.

However JV 9781 did possess a couple of unusual features — firstly Pilote wheels, which were fitted to pre-war cars. Maybe Slough had some left after the war and used them up on a number of post-war cars — I don't know. I hung onto the Pilotes when I got rid of the car and, after refurbishment, fitted them to my Normale. Very nice they look too, even though they aren't authentic.

The second unusual feature was 4 speed gearbox. In my extreme ignorance at the time I thought a 4 speed box was standard and it wasn't until I started reading articles that I realised the gearbox was special. Needless to say I also kept that gearbox for posterity! I wrote to *FP* in 1979 asking for any information on the gearbox and later that year received a reply from the president of the Australian Club. He sent me a copy of a leaflet, in French, relating to an 'INCAR' 4 speed gearbox conversion. The accompanying diagrams and sketch of the gear lever surround (where the opening in the dashboard had to be enlarged to allow reverse to be selected below first, after first sliding a spring loaded gate across) seemed to match the gearbox I had.

I was now fairly certain of what I had got, although I had no idea where the gearbox had come from, or how it had come to be fitted to JV 9781. I was determined to give it a road test and it was eventually fitted to the Normale. My experiences confirmed that 4th acted as an overdrive, increasing top speed by about 10%. However, there were penalties to be paid, not an insurmountable problem in itself, but my particular crown wheel and pinion emitted a worrying whine and I knew that one or two teeth on the first gear cog were damaged. Although I enjoyed the enhanced performance, I was never completely confident that the box wouldn't let me down and I eventually reverted to the 3 speed box on the Normale. The 'INCAR' box was consigned to the garage, awaiting sufficient funds to finance an overhaul.

I have now reluctantly decided to part with the 'INCAR' box, and being short of funds am willing to sell it to the highest bidder. Anyone interested should contact me at my home address.

My final purpose in writing is to say that I translated the 'INCAR' literature as best I could and think it could be reproduced in *FP* as an article of interest. Basically the leaflet consists of a modest sales pitch, giving some comparisons of performance between the original and 'INCAR' boxes followed by detailed instructions on how to fit the new parts into the existing housing. There are also some diagrams which should reproduce OK.

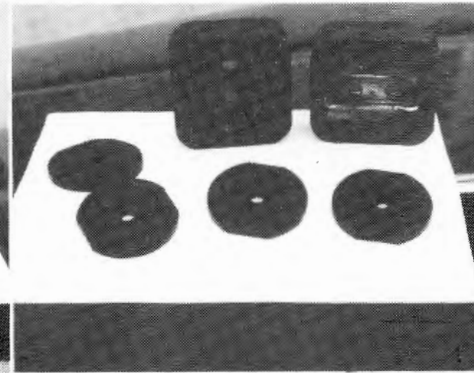
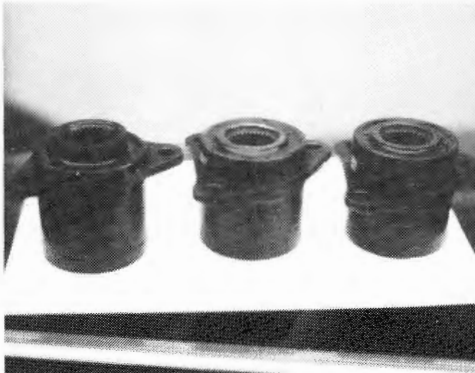
One last point, the article is signed 'ERSA' — curiouser and curiouser!

Regards,
Mick Thurman,
 7 Weston Grove, Fulborn,
 Cambridge CB1 5DY

CLUB NEWS

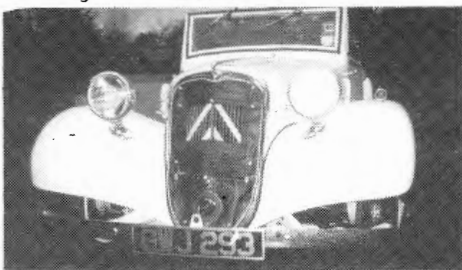
Radiator Muffs

For those of you who use your cars all year round here is something which may be of interest. Fellow member David Boyd has had a radiator muff made for his Roadster (see photo). He reports that the item is well made and it keeps the engine temperature up to 60-70°C, all for the price of £24.50 + p&p. If anyone is interested, the contact is Roger Arnold, Latex Cushion Ltd., 830 Kingsbury Road, Erdington, Birmingham B24 9PU. Tel. 021 373 0026.



Colchester Classic Car Show

John Starke the Eastern Area contact would like to give advance notice of the Colchester Classic Car Show due to be held, it is thought, on the second Sunday in May. John would be pleased to hear from anyone willing to assist and/or exhibit on a TOC stand or probably as in the past a joint TOC/CCC stand. It is a well recommended show and includes a beer tent and a play area for children. Please contact John on 0206 231 241.



Spares

The photographs show examples of the 'Silentblocs' and engine mounting rubbers now available from Mike Tennant (see advertisement). Thanks should go to Mike for undertaking these projects which are sometimes, dare I say it, not quite so straightforward as machining projects, e.g. rubber moulding presses are not so frequently available as lathes or milling machines. Mike added at the end of his letter that he hopes that all Traction rubber components can in the end be made in the UK, or at least the Forest of Dean. More power to your elbow Mike.

Dear Secretary,

Following the success of this year's Highland Autofest and especially the turn out of Citroën cars, we are pleased to inform you that our 1991 event will feature an International Citroën Gathering.

Our Committee would therefore like to extend an invitation to all members who would like to spend a late summer break in the beautiful Scottish Highlands to join us for the 1991 Highland Autofest.

With entries expected from Europe and Scandinavia, we will be giving awards for the best pre-1939 Citroën, the best traction avant 7, 11, 15; series ID; DS and 2CV, seven in total as well as long distance awards.

The Highland Autofest '91 takes place in Inverness over the long weekend 6-8th September inclusive with two options tours on the 4th to Speyside and The Whisky Trail and on the 5th to The Isle of Skye.

The weekend will hopefully bring together over 600 vehicles including cars, motorcycles and commercials. The major attraction will be The Royal Artillery Motor Cycle Display Team, Europe's largest Monster Trucks, a classic car auction, a model motor show and toy fair, and a two-day country music festival.

A full information pack is being prepared and will be available in early 1991, and we would invite your members to write as soon as possible if they wish to receive this information. Please write to Fiona MacLeod, Highland Autofest '91, PO Box 20, Inverness, IV1 1WD, Scotland.

Hoping to hear from your club members soon, we send you our Best Wishes from Inverness.

Yours sincerely,
David Griffiths,
Chairman,
Highland Autofest Committee

New Magazine

Last date for articles etc., 1st March. St. David's day, quite appropriate.

Motoring Nostalgia – Beaulieu's Classic Car Show

In order to give the Classics & Restoration Show wider appeal to the non-enthusiast public, we have given it a change of name for 1991. To be held on Sunday 16th June 1991, the event will again be supported by *Classic Cars* magazine and the format will follow the previous years' events, with the popular Pride of Ownership competition introduced in 1990 being expanded. The Restoration Show will continue as before with covered and outdoor stands available to any firm which provides either a complete restoration service to the enthusiast/restorer or provides a specialist service. Jenolite will again be sponsoring two specialist Cavalcades, the theme of which will be "The Motoring Scene 1945-1965". John Willis will be the commentator. There will be an Automart where classic cars will be offered for sale, and for those who wish to just come and watch, and who drive to Beaulieu in a pre-1971 car, there will be the usual special concessionary rate of admission and the opportunity to be part of the day by parking alongside the Pride of Ownership entrants. Full details of the show will be sent out with the next newsletter. However, if you want to register for entry forms for any part of the event, please contact the Events Department, The National Motor Museum, Beaulieu, Hampshire, SO42 7ZN. Telephone 0590 612345 or 612445.

RATES AND CONDITIONS OF ADVERTISING

Private Adverts (classified)

Members and non-members of T.O.C. buying or selling Citroën Cars or parts (pre-1957)—NO CHARGE.

Trade Adverts

1/8 page, £30 per insertion. Advertisers must supply camera-ready artwork. Where this is not available, the T.O.C. will provide it, after agreement with the Editor, on format and cost.

Inserts (loose)

Any size up to A4, £30 per issue plus handling charges, to be agreed with Editor. Artwork as above.

Terms of acceptance

Cash with order, all cheques and money orders will be cleared by the Club before the acceptance of any advert.

The Club reserves the right to refuse any advert which it considers unsuitable for publication.

All advertisements should be submitted to the Editor.

Events

SOCIAL EVENTS 1991

May 2nd-5th - 3rd Tour of Belgium

The two previous tours were excellent and very well supported; there is every expectation that this year's tour will equal them. Full details will be available shortly. Please contact me if you are interested.

June 14th-16th - Annual Rally

See advert in magazine.

July 9th-15th - 1st Tour of Wessex and Brittany

The French will come over and join us for the first few days, then we all go over to France to join them for the last few days. Costs have not been finalised as yet but it is expected to be approximately £60 for the Wessex section and approximately the same for the Brittany section; all costs are per person. Ferry crossings are additional.

For further information contact Mike Wheals, Ladle Cottage, 11 Fairclose, Church Street, Whitchurch, Hampshire. Tel. (0256) 896 876.

September 6th-8th - The Highland Autofest at Inverness

See Club News.

Classified

FOR SALE

1954 Familiale LHD Big Boot. Resprayed burgundy and black. ID 19 engine fully restored, reground crank, etc., Peacock driveshafts, restored steering rack and more. Interior original and good condition upholstery. £5,500 ono. Norman Wijken. Tel. (0452) 618 141.

FOR SALE

Citroen 11 BL 1953. 61,000 km, very reliable, recently imported, all duties paid. Silver/black with cord cloth upholstery, bodywork and interior in good, sound condition, current MoT and tax. £5,200. Martin Herman. Tel. (0705) 463 766 (Hayling Island).

FOR SALE

1948 Light 15. Slough built, small boot model. Recently resprayed, re-trimmed and re-chromed. Engine totally rebuilt by Classic Restorations. Original handbook, current MoT and tax. £7,500. Alan Lloyd. Tel. (0306) 889 365 (Dorking).

FOR SALE

Sets of 4 ex-motorbike Indicators. Chrome with yellow lenses. Fitted with 6 volt lamps but standard lampholder (12 volt lamps can be fitted). Brand new, still in packaging, these would make a very suitable indicator system for your Traction, mounted on the bumper irons. £16 per set plus p&p. Contact Steve Reed. Tel. (0730) 821 792.

Classified

FOR SALE

At last the tool has been made to recondition Lt15, Big 15 and Big 6 front 'Silentblocs'. Send your old 'Silentblocs' and a cheque for £60 plus p&p. (Turnaround three weeks or less.) 'Volute' spring rubber pads £1.75 each plus SAE for return. Rear engine mounts £14 plus p&p each exchange. GRP front wings £55 each, rear wings £45 each, these are to order only; collection is requested or they can be delivered to main rallies (Worcester, Stratford, etc.). For all the above contact Mike Tennant, 49 Hollywell Road, Mitcheldean, Glos. GL17 0DL.

FOR SALE (Trade)

DIY import of Traction and Ds from all over France. Traction from £3,200, Ds from £2,300 on, H-Vans from £1,500. All French export papers delivered with the vehicles plus advice given. Cars visible 3 hours from the Portsmouth-St. Malo ferry, 2 hours from Plymouth-Roscoff. Already several Citroenists satisfied. Delivery possible. Enquiries welcome. Contact Ton Smulders, 8 Square Botrel, 29930, Pont Aven, France. Tel. 010 33 98 06 12 48. Vive la Reine de la Route.

TRACTION SPARES FOR SALE

New, unused 11CV water pump/fan unit; 3 front, 2 rear brake hoses; fan belt; head gasket and other small bits; £60 the lot, carriage extra. Dismantled gearbox and 2 starter motors, condition unknown, free to anyone willing to collect. John Hinchliffe. Tel. Hamstreet (Kent) 2038.

Diary Dates

CENTRAL SOUTH SECTION MONTHLY MEETINGS

On the first Sunday of each month the Central Southern Sections meets at The White Hart Hotel in Whitchurch, Hants. Whitchurch is situated halfway between Winchester and Newbury, just off the A34. The meetings are lunch time meetings commencing at noon. Food available.

WEST MIDLANDS SOCIAL SECTION MEETINGS

1st Wednesday of each month at the Swan, Whittington, Worcester, 200 yards off Junction 7, M5. Please contact Simon Saint, 'Snigs End', Daines Green, Glaines, Worcester. Tel. 54961 for directions or info.

NORTHERN SECTION MEETINGS

4th Thursday of months, White Hart, Rooley Lane, Bradford. Phone Liz or Jim Rogers for directions and info. Tel. (0274) 45600.

LONDON SECTION MEETINGS

All meetings last Tuesday of each month at the Sun Inn, Barnes.

TOC CLUB SHOP PRICE LIST 1991

GREETINGS CARDS. Pack of Six with Envelopes £1.50

POSTERS:

"Les Traction" £2.50
 "Traction Avant Colour 3D" £2.50
 "Traction Avant" Blue/White £1.50

MAGAZINE COVERS. Black/White 4 for £1.00
 Ideal for Frames or Gifts Set of 20 for £4.00

MODELS:

Burago Black Diecast 15CV. Boxed £7.50

BADGES:

Metal TOC Bumper Badge £15.00
 TOC Windscreen Sticker £1.00
 Enamel Brooches £2.50
 Blazer Badges (last few available) £5.00

NEW ITEMS AND ABSOLUTELY SUPERB

SWEAT SHIRTS

Embroidered Traction Motif.
 Men's/Ladies (26" 30", M, L, XL)
 Red, Navy, Grey, and Burgundy £14.00

SPORT SHIRT

Embroidered Traction Motif
 Men's/Ladies (S, M, L, XL)
 Red, Light Blue, White £14.00

T-SHIRTS

Traction (S, M, L, XL, White/Red/Blue/Grey) £6.00
 Traction (26" 30", Red/White/Blue) £5.00

TRACK SUITS

Available (Embroidered) to Order.
 Send details of size/colour £24.00

UMBRELLAS

Small Red/White Available Soon TBA
 Large Red/White Available Soon TBA

New Items Soon

Please Add £2.00 for Post & Packing - Cheques to TOC, any overpayment will be refunded.

Several colours are available in T-shirts and Sweat Shirts, but please give alternative colours when ordering.

With Compliments,

Steve Southgate

