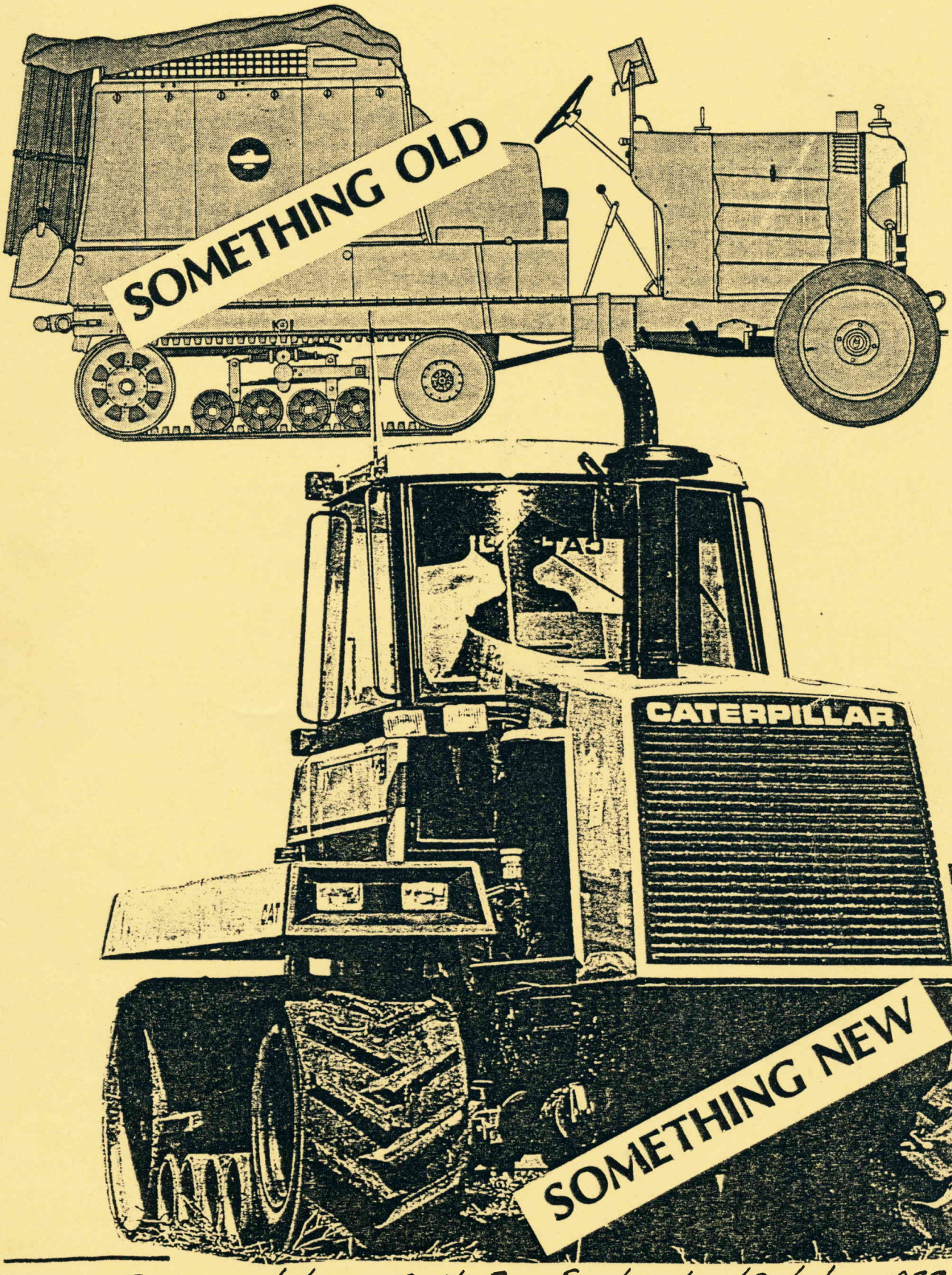
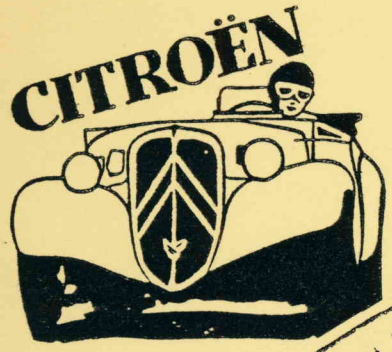
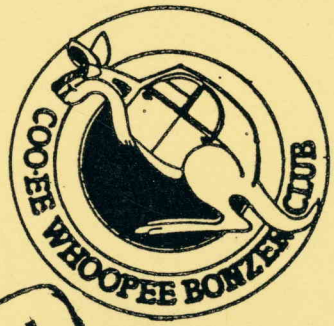


FRONT DRIVE Volume 12 No. 3 September/October 1988.
Registered by Australia Post. Publication No. VBH2127.

Windcheater & T shirt designs



ROADSTER



AILABLE ONLY TO
YLINDER OWNERS

CLUB BADGE
3 SIZES:
SMALL (BREAST POCKET)
MEDIUM, LARGE

Hey There!

Been working hard on your beloved auto, and feel that you should have more than just skinned knuckles to show for it?

Or there's someone whose small favour should be rewarded with with a gift to show you aren't another skinflint and you really are appreciative?

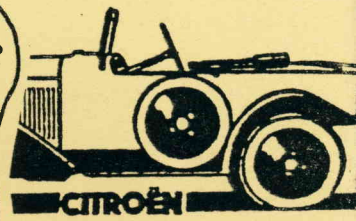
Maybe the CCOCA Club Shop can provide just the answer to both kinds of dilemma.

Robin Smith reports that things have been more than just a little quiet down at the Club Shop lately, and he'd like to see more stock moving so he can release funds for further goodies.

Give Robin a call and check out his stocks of T-shirts, badges, stickers, wine-glasses and so on. You'll be able, at modest price, to help him and your club mates, and maybe even —

Reward Yourself!

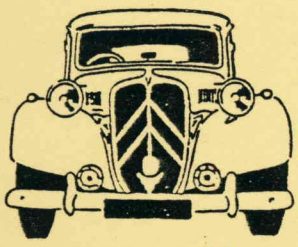
COUPE



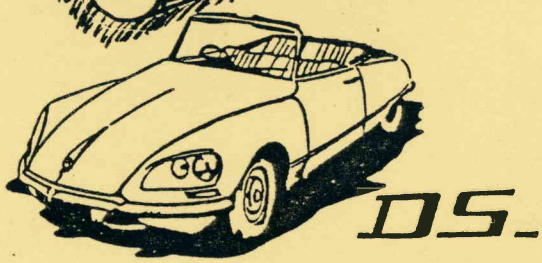
5CV
BREAST POCKET
SIZE ONLY

LIGHT 15

SCROLL
BREAST POCKET
SIZE ONLY



BIG 6



DS

CHEVRON BADGE

Dates of issue for magazine: Mid-January, March, May, July, September, November.

Closing dates for copy: Mid-February, April, June, August, October, December.

CCOCA IS A MEMBER OF:
ASSOCIATION OF MOTORING CLUBS

G.P.O. BOX 2374V, MELBOURNE, VIC., 3001

ISSN 0810-8625

FRONT DRIVE
The magazine of the Citroen Classic Owners Club of Australia

CCOCA POSTAL ADDRESS:

P.O. Box 52
Balwyn 3103
Victoria.

CCOCA Membership:

Annual Subscription: Full member $27.50
Associate member $20.00.

Joint membership is available to spouse of full member, no cost.

Overseas postage rate: Additional $9.00 (air).

Meetings are held as follows:

Fourth Wednesday of each month except December. The meeting location is the Courtyard Room, Nunawading Civic Centre, Maroondah Highway, east of Springvale Road, at 8.00 p.m.

EDITORIAL

1988 has moved on as a seemingly "quieter" CCOCA year, but really this one too is shaping up very well when you look a bit closer.

In this issue, we look at some club social activities of recent times - the very successful Annual Club Parts Auction and Barbecue, and the Annual Concours, this year in the superb environs of "Ripponlea" Homestead in Elsternwick.

We must also take note of the very enjoyable combined run with the Citroen Car Club of Victoria to "Chateau Tabilk" at Nagambie where sole CCOCA entrant in the associated CCCV Club Concours, Max Graham, attracted much attention with his dark red Light 15, the only Traction present, and he almost won first prize!

With the continuing interest in D conversions for Tractions, we start up a technical series covering in due course all you'll want to know about the subject.

And how about the latest thing in tracked vehicles - Andre would be pleased!

Cheers for now,

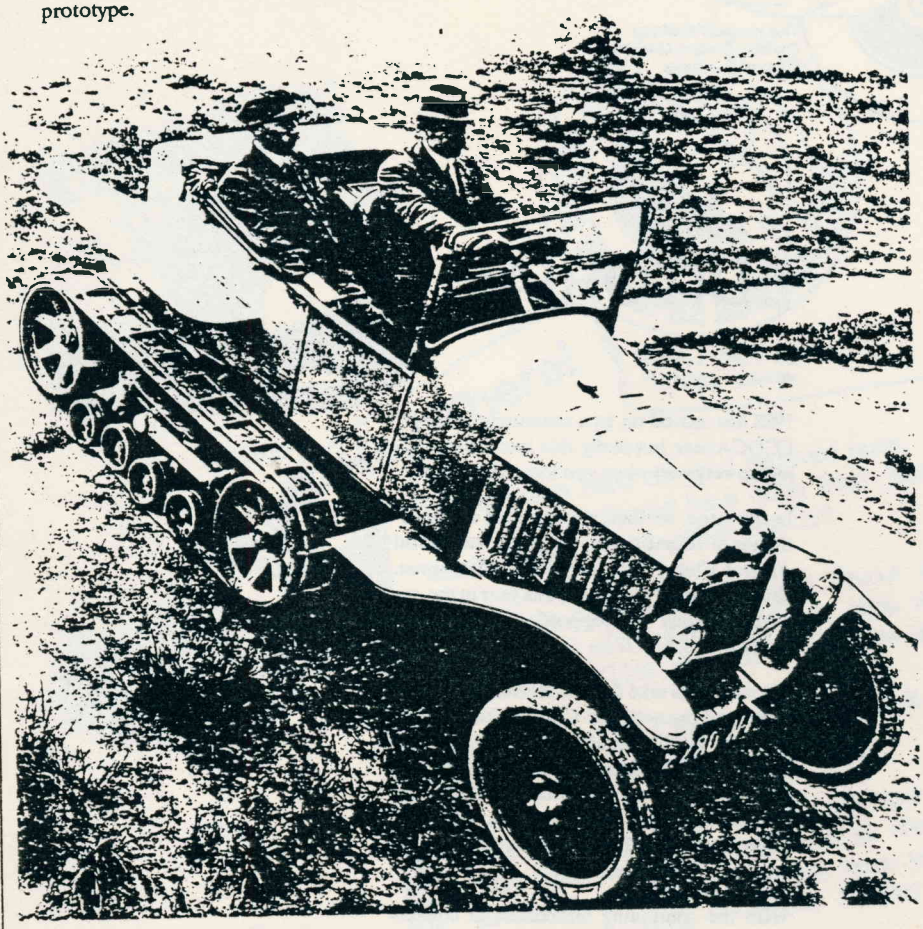
Bill Graham, Peter Simmenauer and Peter Hore.

COMING EVENTS

Apart from our regular monthly meetings, CCOCA provides a number of special rallies, workshops, socials etc throughout the year to cater for the various classic Citroen interests of our members and to display our vehicles to the members of the public and potential new members.

Please note coming events in the latest "A'tractions" enclosed with this issue, and keep it aside for future reference. Aim not to miss an event!

Adolphe Kegresse at the wheel of an early prototype.



1921 CITROËN AUTOCHENILLES

The French Citroën company made the first successful crossing of the Sahara by car, and its design later served many civilian and military uses. Even as recently as 1948, the Austrian postal service was still using Citroen caterpillar vehicles in the snow-covered regions of Vorarlberd and Tyrol.

The idea was developed by Adolphe Kegresse, a French engineer living in Russia. He became head of the Imperial Garage and was asked by the Czar to solve the problem of driving in snow. He developed his first successful track in 1913. After returning to France he showed the idea to André Citroen, who bought the sole rights. The prototype cars proved enormously successful on snow passes, climbing grades as steep as one in three. In December 1922, five Citroëns conquered the Sahara desert, covering 3200 km in 22 days, with an average speed of 17.6 km/h and a fuel consumption of 27 litres/100 km.

On the right track

Something old

The Citroen marque is noted in the popular mind for what is usually perceived as its "eccentricities". To the more discerning mind of the enthusiast, these eccentricities are evidence of commendable lateral thinking, and a willingness to form liaisons with those of a similarly innovative outlook. However, the price paid is that sometimes the marque has to wait a while, perhaps a very long time, for the rest of the world to catch up. Here is a case in point.

You probably know the essence of the relationship between Andre Citroen and Adolphe Kegresse, and the remarkable vehicles which arose therefrom.

Kegresse, a young French engineer, went off to Russia when his studies were finished early this century, and by age 25 had become technical director in the garages of Tsar Nicholas II. Seeking to cope with the Russian snow and slushy roads of the time, Kegresse experimented with several prototype tracked vehicles. He returned to France in 1919 and refined his inventions in conjunction with Jacques Hinstin.

This was of course when Andre Citroen was establishing his automotive business, and as always, was looking for new ideas. Citroen bought up sole rights to the Kegresse track system. The first Citroen-Kegresse "autochenilles" ("self-powered caterpillars") were demonstrated in the snow of the winter of 1920-21, as half-tracks based on the current rear-drive sedan. The system was eventually applied to four-cylinder vehicles (B2, B14 and C4) and six-cylinder (C6) types up to the early 1930s. Versions were used for various purposes - agriculture, military (armoured and non-armoured), exploration, communication, recreation, construction etc. Several even came to Australia (see Front Drive May-June 1987). One still survives in Queensland.

Examples of the half-tracks based on the C6 sedan were in still use in the alpine postal services of Austria and Switzerland in the late 1940s (see Front Drive November/December 1984). For snow use, skis were often fitted over the front wheels.

The essence of the Citroen-Kegresse system was a set of continuous belts made of fabric and rubber to form the tracks. A driven roller at the rear took power from the vehicle's back axle, and the rest of the track loop was supported by a front roller and small spring-loaded intermediate rollers.

Something new

Now, some 70-odd years later, the "latest thing" in tractors seems to have much in common with the Citroen-Kegresse system.

Produced by the big machinery manufacturer Caterpillar Inc. of Peoria, Illinois, the Challenger 65 is a full-track vehicle intended primarily for farm use at the high end of the horsepower range. In recent years, large four-wheel-drive tractors, usually with a total of eight large tyres fitted in an effort to gain adequate traction on the soil, have become the norm for this market.

The new Caterpillar track, like that of the Kegresse system, has a large roller at either end (rearmost driven) and smaller intermediate rollers to carry the vehicle load. It is fully flexible (like that of the Kegresse but unlike the tracks made of jointed metal sections found on other tractors and on modern armoured vehicles), and is made largely of rubber. The Caterpillar belts incorporate flexible steel cables to provide longitudinal strength.

The front rollers of the Caterpillar track are of paired pneumatic truck-type tyres, and lateral belt location is provided by internal belt lugs which fit between the tyres (and into similar locating gaps in the other rollers). The belt is automatically tensioned, and air-bags support the centre rollers.

It is claimed that worn belts can be rebuilt, but before this happens, they will have worked 4500-6000 hours - about 1 1/2 to 2 times the life expected from the rubber tyres of corresponding wheeled tractors.

Other major advantages claimed for the Challenger over equivalent wheeled tractors include:

- tractor weight is spread over a bigger "footprint", reducing pressure on the soil (39 kPa cf 100 kPa) and thus causing much less soil compaction and better crop production.

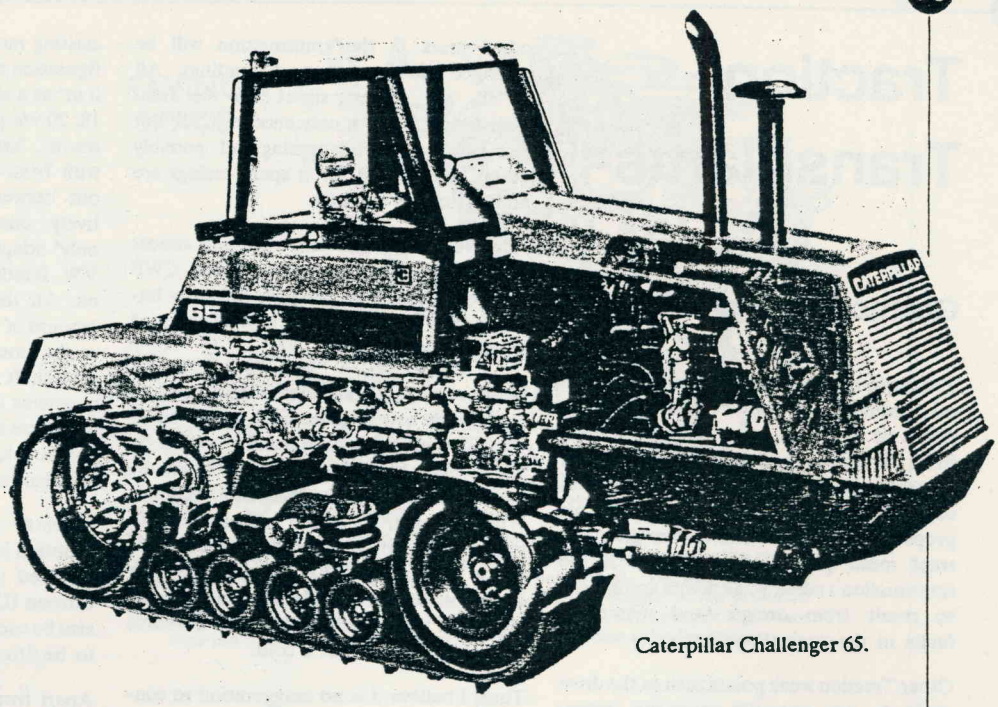
- 15-30 percent more usable power at the tractor drawbar.

- fuel savings of 15-20 percent.

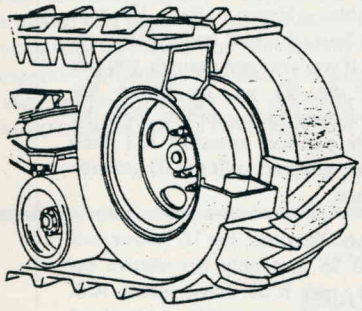
- 13 percent less slippage on the ground, saving fuel and soil damage.

- can travel as fast on highways without damaging the surface.

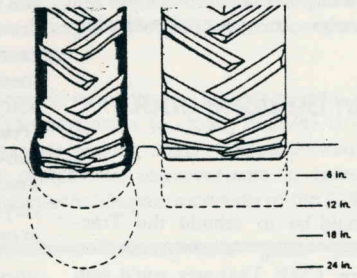
No lightweight, the Challenger notches up 13.5 tonnes, no doubt well in excess of the heaviest of the Citroen-Kegresses. But then the 10.5 L six-cylinder direct-injection turbo/after-cooled diesel motor turns out 250 HP, rather more than the 50 HP coming even from the 2.65 L of a C6. Top speed is 29 kph on the road, very similar to that of Citroen half-tracks when running on a decent surface.



Caterpillar Challenger 65.



An unpowered front idler wheel consists of two pneumatic tires mounted on a pair of standard truck rims. Rubber lugs on the belt's inner surface serve as alignment guides and prevent lateral movement of the belt during side-slope operation.



Track-type tractors usually spread vehicle weight over more ground-contact area than do wheeled machines. Therefore, a track often has lower surface pressures, less ground penetration, and reduced soil compaction. Caterpillar is pressing its advantage in this area by funding several studies that seek to determine how much crop yield is increased as a result of minimizing compaction.

while one commentator expects the tractor to enable Caterpillar to fight off foreign competition and the effects of labour and currency problems.

Given that the Challenger was released 74 years after Kegresse's first successful track and has had the benefit of much research and materials improvement, it seems likely that the new rubber track system will be commercially successful now that a major industry use has been found to take advantage of its special virtues.

Is the rubber track another example of Citroen picking up ideas which are so far ahead of their time that they have a struggle to attain commercial viability?

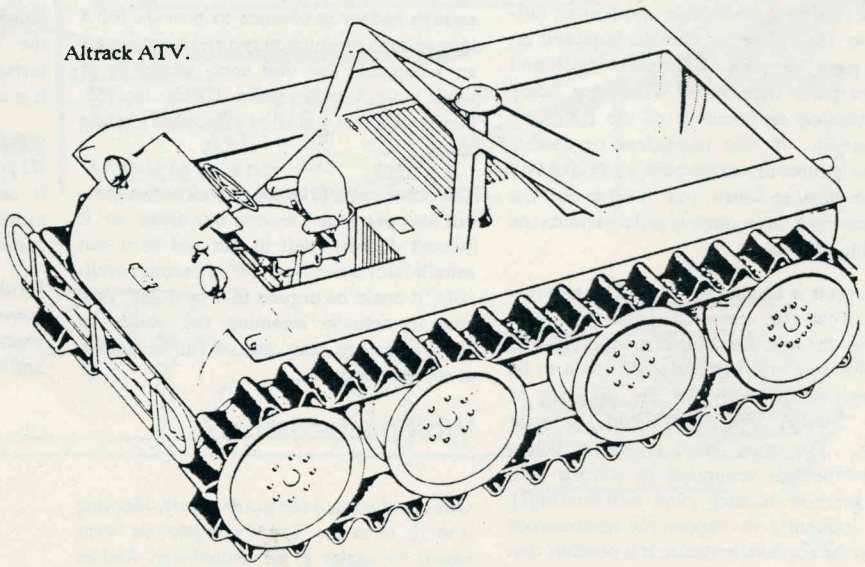
Irrespective, one might expect there to be a gentle chuckle of celestial satisfaction emanating from the trio of Kegresse, Citroen and Hinstin as they see the rubber track now getting full and proper recognition.

W.G.

Australian version

Not to be left out of the moves toward rubber tracks, Altrack Ltd in conjunction with the Chamberlain John Deere Company in Western Australia has been experimenting with a local rubber belt tractor. This uses a fixed suspension, and loops on the belt provide ride-cushioning and grip. These belts are developed from conveyor-belt material. As its name implies, the Altrack ATV copes with various terrains and will float. With a 75 kW diesel engine, it will travel up to 60 kph on bitumen.

Altrack ATV.



Celestial chuckle?

Both professional and on-farm evaluations (including that of one in the NSW grain-belt) are most enthusistic about the Challenger,

Traction Transplants

Gearbox problems.

The major cause of really serious mechanical problems in the Citroen Traction Avant is the loss of a tooth or teeth from the crown-wheel-and-pinion (CWP) in the transmission final drive. Experience and common opinion seem to support this proposition. The CWP and the low gear constant mesh pinion have long been the transmission's major weak points and appear to result from design (and material?) faults in the original production.

Other Traction weak points such as the drive shafts do not normally cause the instantaneous and traumatic immobilisation which a bad CWP failure is well and truly capable of producing.

While there are examples of CWPs having travelled many tens of thousands of miles without or before failure, none-the-less, every few months or so, we hear the tragic story of a club member whose car has become immobilised because of CWP failure.

Were the problem to be just the loss of the CWP itself, it would be bad enough. However, the situation can be one of either a "clean break" or a "dirty break", as David Gries so eloquently puts it.

In the clean break situation, the piece(s) of broken gear tooth fall into the bottom of the transmission case, and the prudent driver, hearing something amiss, stops his vehicle and doesn't proceed. He "only" has to find a replacement CWP and rebuild it into the transmission.

In the more tragic and not uncommon dirty break situation, the broken tooth after falling to the bottom of the box, is picked up and jams between the crown-wheel and pinion gears themselves. This may occur immediately on breakage of the tooth, or commonly, if the imprudent or unwary driver ignores the characteristic clicking due to the missing tooth and "pushes on", the broken piece subsequently picks between the moving gear faces.

The result is usually very sad. The momentum of the car, conveyed from the road-wheels through the transmission, causes the still-rotating crown-wheel and pinion to be strongly wedged apart by the presence of the "foreign object" jammed between them. The usual result is that sufficient lateral force is generated to actually split the gearbox housing (and bell housing?), and incidently to deposit the transmission oil on the roadway beneath. It is possible that other gears in the transmission will be damaged also by the shock loadings. All in all, not a pretty sight! Now the Tractionist must find not only another CWP but also another gearbox casing and possibly other bits as well. Even spare casings are now difficult to come by.

Admittedly, opinions vary a bit, and almost certainly, having a properly adjusted CWP is a better bet than plugging fervently onwards with a pig-in-a-poke type of setup of uncertain background.

However, any CWP you come across now (except the few newly-made ones) will be many years old, probably have done a lot of work, and probably have fatigue and worn case-hardening added to any "built-in" shortcomings. While insentitive clutch operation and violent acceleration on hard surfaces may increase the risk of CWP failures, there are stories of that ominous "snap" sound occuring when gently backing out from the curb, especially when the car is cold.

Thus, I believe it is no exaggeration to consider any Traction gearbox still fitted with an original-type CWP as a potential time-bomb, just waiting to cause serious and expensive damage to your Tractioning pleasure.

What can be done about it?

The ideal would be to rebuild the Traction gearbox, using a newly-manufactured modern CWP. That way, you'd gain reliability and retain originality which many are keen to do. Of course, you should make any other improvements and repairs to the box at the same time (second gear bushes, bearings, seals etc). However, unless you bought a set when they were still available ($300/set!), you'll find that all the original run of new CWPs made in Europe a few years ago have now gone. Plans to make further sets of CWPs in the UK (or even here in Australia) seem to be in abeyance at present, the main obstacle in all cases being to get enough orders in advance to provide for a long enough production run and hence to get an acceptably low unit cost. Incidently, if you'd bought your spare CWPs in 1960, they'd have cost you all of 19 pounds sterling each!

The other way is to install an alternative gearbox and put your Traction box aside so it doesn't destroy itself in use and so it can rebuilt later when new CWPs become available. It could be argued that by doing this, you are actually retaining the ability to readily restore your car to full originality at some later date.

Which alternative?

One could replace the gearbox only, adapting it to fit onto the Traction motor, or what would be easier in all probability, find an existing motor/transmission of similar configuration to that of the Traction, and "slip it in" as a unit. For example, the Renault 16, 18, 20 etc power-units are aligned "north-south", have the gearbox to the front, with front-wheel-drive offtake coming out between the box and motor. Alternatively, one might consider "transmission only" adaptions, taken for example from VW Beetle, Renault, Subaru, Skoda and so on. All these would require a reasonable amount of modification to make them "fit" at the mounting points, clutch housing and driveshaft coupling points. No doubt, such problems are not insurmountable however, and there is one local example where a VW gearbox has been used as above but with a "foreign" motor as well.

However the most common and earliest adaption is based on the power unit which followed the Traction - that of the 1911 cc Citroen ID. A 1911 cc Citroen DS unit can also be used if an ID gearbox lid is available to be fitted to it.

Apart from having a cross-flow head (carburettor on left side of motor) and four forward gears instead of three, the ID power unit is and looks very similar to that of the Traction, in fact many components are interchangeable. Hence, the ID unit doesn't look "out of place" under the Traction bonnet. If you are keen enough, you can "Tractionise" the ID unit by fitting the non-crossflow head and manifolds. Even the Traction-style two-rod gearshift has been very effectively adapted to fit the ID gearbox in one instance.

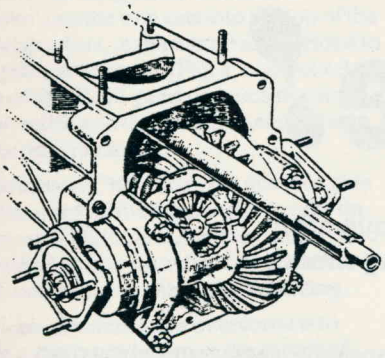
With such modifications, the ID power unit can be made so that only the relative expert would pick it as non-original. And you've eliminated many worries and gained some positive benefits - no gearbox worries, more power, shell bearings on the crankshaft, four speeds with a higher and easier cruising top gear etc.

Careful planning and fitting keeps modifications to the Traction engine bay (and cockpit) down to to an absolute minimum - usually the odd small hole which can be plugged up later if desired - so that refitting the Traction unit later is not a problem in terms of structure or appearance. No wonder it is such a popular conversion.

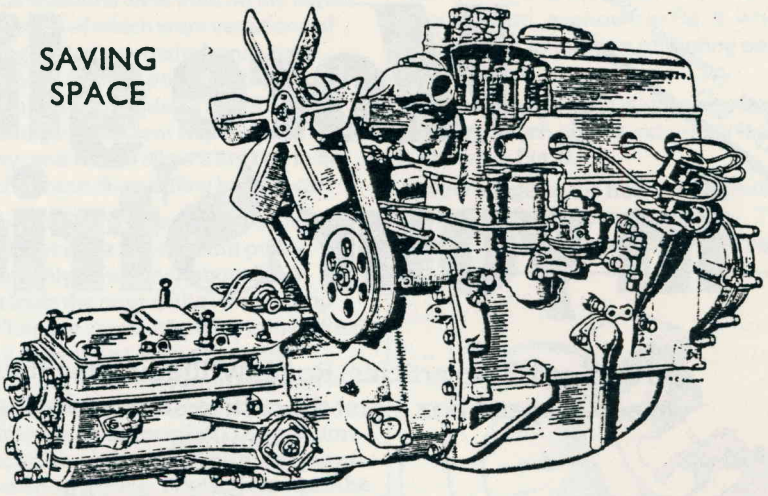
Any Tractionist is well advised to collect an ID power unit (or gearbox at least) and put it aside for this purpose. Don't leave your move too late though - even ID units are becoming scarce.

Incidently, it is claimed that the first "ID conversion" may have been performed in Australia or New Zealand - more research and story to follow?

SAVING SPACE



The crown-wheel, bevel pinion and differential are compact and in unit with the gearbox, the bevel pinion being integral with the gearbox lay-shaft. Short transmission shafts run at right angles to the front wheels.



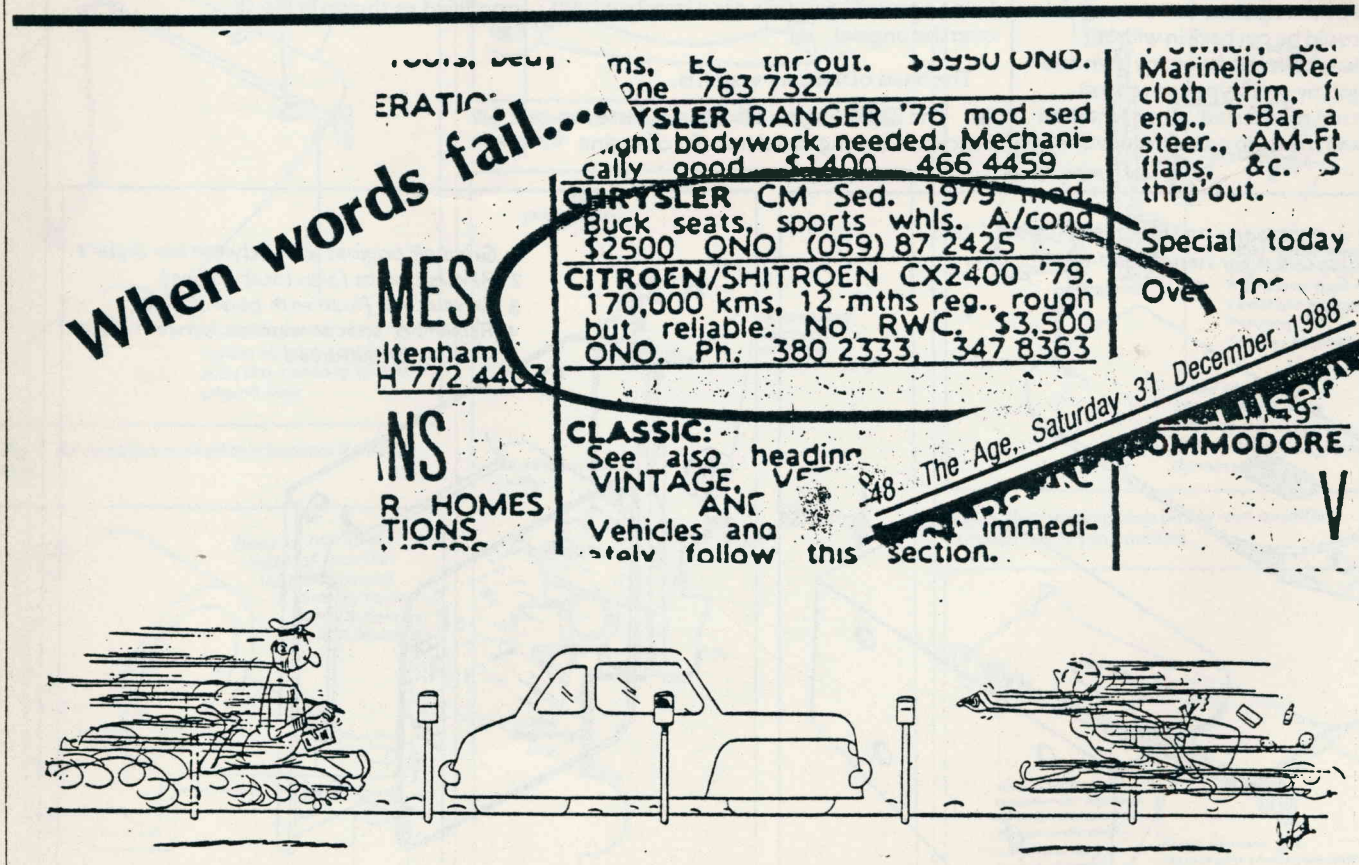
The three-gear gearbox on the Citroen is mounted ahead of the front wheel centre as clearly shown in this drawing, the drive being taken over the crown wheel and pinion by an extension shaft shown below, left. The above drawing also indicates the principal features of the 1,911 c.c. engine which produces 56 b.h.p. Of particular interest is the way in which wet cylinder liners are inserted into the water space of the main crankcase cylinder casting.

Footnote: Lest the above discussion appear to be a misleading indictment that Traction CWPs "have only themselves to blame" for their demise, it should not be overlooked that gearboxes using these components were employed very successfully in competition situations. However, this usually required strengthening and stiffening of the box to ensure that the CWP remained in proper mesh under load. In fact, the major obvious improvement apparent in the D box in this regard is not in the CWP design but in box strength and rigidity of location of components.

Hence in rebuilding a Traction gearbox, it is highly adviseable to closely examine it and consider making some of the after-market or competition improvements to enhance component lifespan, especially of the CWP.

We start the following series of overseas and local notes on Traction Transplants with the first of the excellent presentations by Roger Williams in the November 1986 issue of Floating Power (Traction Owners Club UK).

Bill Graham/Jack Weaver.



From: Floating Power November 1986 (Traction Owners Club, UK).

More glide in your Stride!

In the first of two articles, Roger Williams describes his conversion to a four-speed box – just the task to start on during the long winter evenings.

WHILST renovating the bodywork of my Light 15 I decided that a four speed gearbox would be better than the fragile (or so I was told) original three speed box. I saw Tom Evans's car at the Dent rally in 1980, and although at the time it did not mean much to me, as I had never seen an ID19 engine/gearbox before, various statements coming over the shoulders of the front row of onlookers did stick in my mind . . . "across the gate movement . . . joined to cables . . . behind the dash . . . difficult to get into reverse sometimes . . . bags of space" . . . etc.

In due course I acquired an ID19 engine/gearbox and set about fitting it into my Lt15 with the brief that the modifications to the car itself should be minimal, so that the original power unit could be put back in without further work. I soldiered-on on my own and eventually got my prototype conversion working but not road tested, when Jonathan Howard asked me to do a similar conversion for his Commerciale. This became Mk2, which performed very satisfactorily under hard everyday driving conditions, and this was followed by Mk3 for his Lt15, and Mk4 as a spare. Mk5, Mk6 and finally Mk7 followed with small but successive refinements, and the current version described here, Mk8, represents, dare I say it, the final version!

The ID/DS power unit was not designed for fitting into a Traction, and the solution to one problem seems to generate another, and whilst none of the modifications necessary are major, there are quite a few of them.

The final result, however, is a robust, reliable and economic power unit which, not being a purist, I think is a great improvement over the original.

The basis of the conversion is:

(i) The ID/DS engine block is similar to the Traction allowing direct transfer of engine side suspension brackets and timing chain cover with the rear rubber mounting block.

(ii) The Traction differential unit, and hence the output shafts, can with suitable bushing and shimming, replace the original ID/DS one.

The ID/DS bellhousing, however, is 35mm shorter than the Traction bellhousing, thus when the output shafts from the gearbox are aligned with the drive shafts, the engine block side and rear mountings do not align with the original hull mountings.

The hull side mounting brackets are replaced by new ones as shown in Fig. 1, and the housing for the rear rubber mounting modified as shown in Fig. 2.

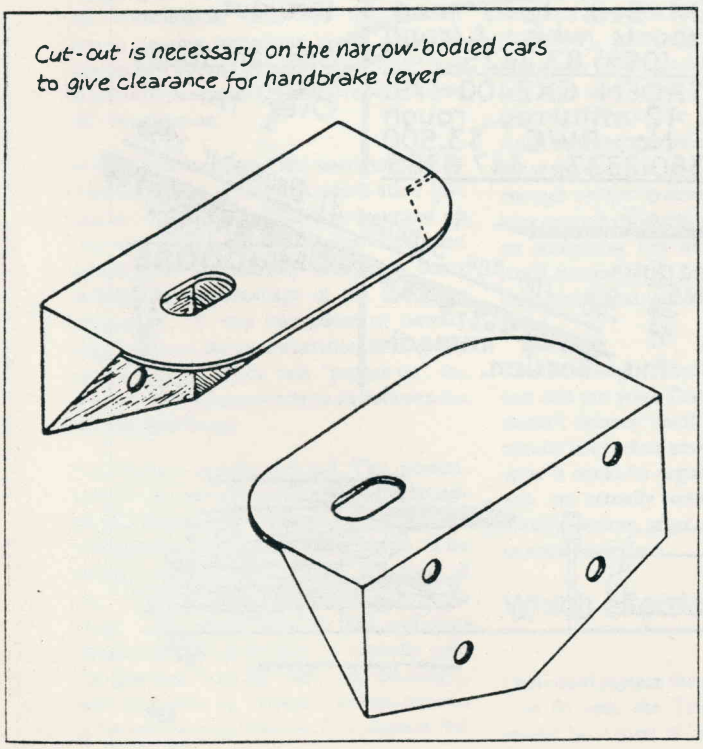


Fig. 1. New brackets for engine side mountings.

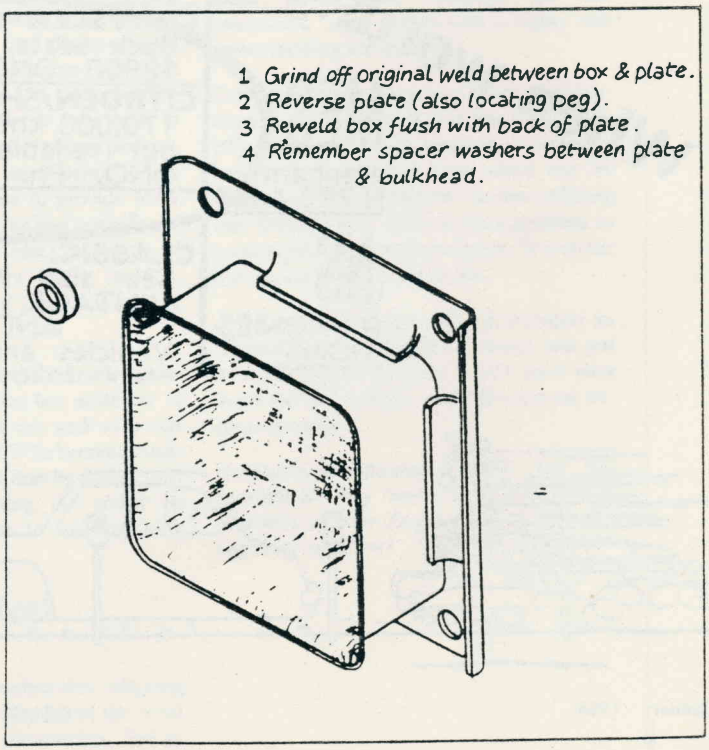


Fig. 2. Modified housing for rear engine mounting.

There certainly is not "bags of space" in the narrow bodied cars, and the mechanism shown in Fig. 3 is necessary to operate the carburettor on RHD cars. The LHD cars are easier because the throttle pedal is on the 'correct' side of the car, and a direct connection to the carburettor drive rod is, therefore, fairly straightforward.

A steel mounting boss, to the same dimensions as the one cast into the top of the Traction gearbox, is machined and welded to a steel plate as shown in Fig. 4, and bolted to the top of the ID/DS gearbox, such that its position relative to the output shafts is the same as the Traction.

Unfortunately, however, the gearbox side lower flanges foul the suspension cradle on the narrow bodied cars, and the cradle has to be modified as shown in Fig. 5 to allow the power unit to float on/about its mounting.

The next problem to be overcome is to provide a clearance between the camshaft pulley and the cross member which, in the original state, can be seen from Fig. 6 as being about minus 5mm. The radiator, however, is mounted on the cross member and anything other than minor modification will affect the position of the radiator, which in turn affects the alignment and fit of the grill/bonnet/side valance panels/wings etc.

Various solutions were tried on the earlier prototypes, all of which were variations of machining back the camshaft and water pump pulleys as far as possible, combined with cutting and strengthening of the cross member to give sufficient clearance to run the pulley, and to also allow a fan belt to be changed without dismantling half the car!

If all the original parts are to be re-used, the limiting factor is the water pump pulley which can only be set back about 5mm before it fouls the nose of the water pump body. When the camshaft pulley is then lined up with it there is just enough running clearance, and the extra 10mm required to change a fan belt can only be obtained by cutting into the cross member. The solution is to machine a completely new water pump pulley, as shown in Fig. 7, which changes the limiting factor to the clearance between the rim of the camshaft pulley and the pivot bar of the clutch fork lever.

The camshaft pulley is a steel pressing, dished towards the front and rivetted to a central boss. The most satisfactory way of re-positioning it is to separate it, reverse the dish and then re-rivet the dish to the central boss. The result of these modifications is to move the line of the pulley train back by about 15mm, as shown in Fig. 8, which also gives details of the new mounting position of the dynamo.

Some modification is still necessary to the cross member, but it is extremely minor and is shown in Fig. 9.

Now we get to the heart of the problem – the output shafts from the gearbox. The original ID/DS gearbox is shown in Fig. 10.

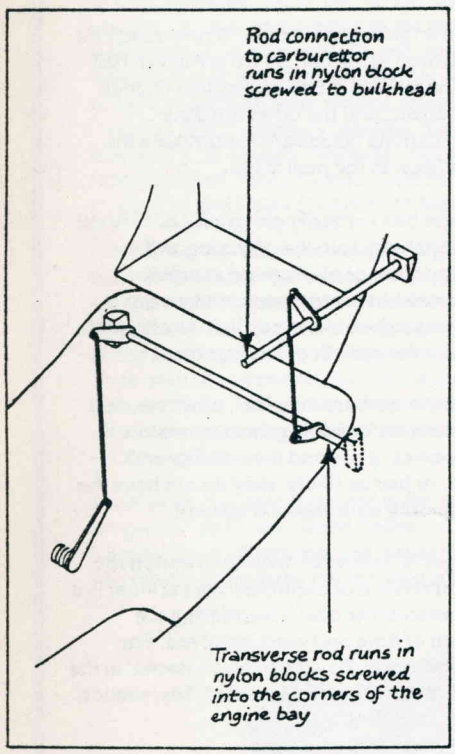


Fig. 3. Carburettor control mechanism for RHD cars.

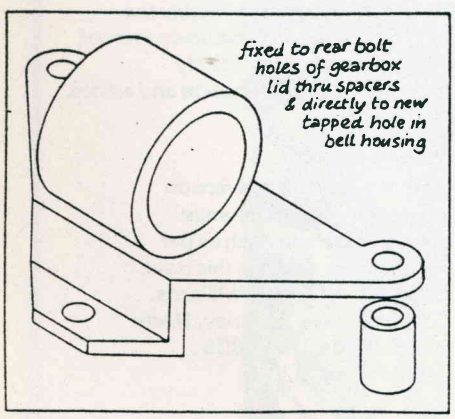


Fig. 4. Front engine/gearbox mounting boss.

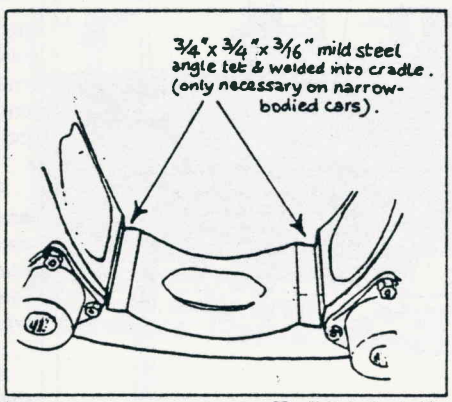


Fig. 5. Modification to cradle. (On narrow bodied cars only.)

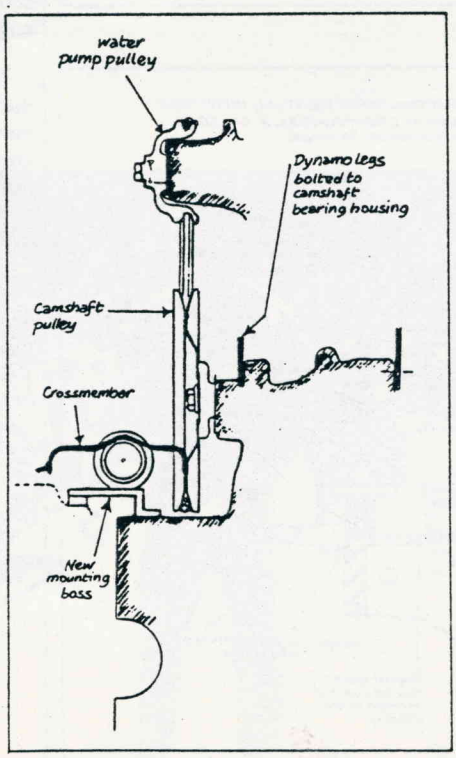


Fig. 6. Camshaft pulley fouling cross member.

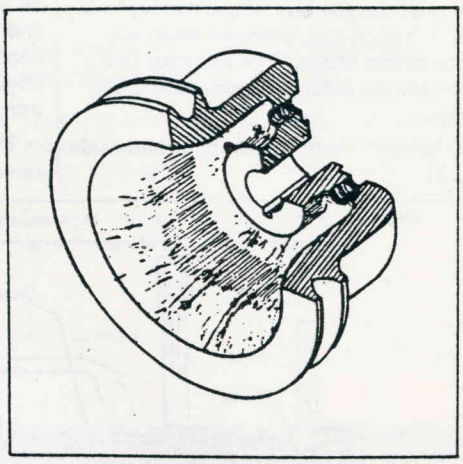


Fig. 7. New water pump pulley.

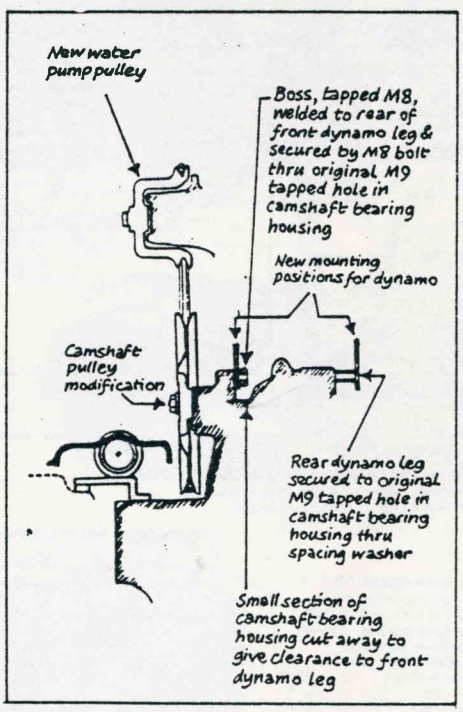


Fig. 8. New water pump pulley and modified camshaft pulley in position.

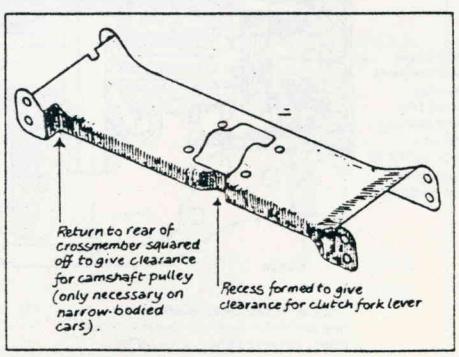


Fig. 9. Modification to rear edge of cross member.

The easy way is to swap the ID/DS differential for a Traction one, and machine a bush into the ID/DS crown wheel in which the Traction planetary wheel shaft can run. Whilst this is an easy, and in many ways, a practical solution it uses a Traction differential, which is not particularly well engineered. It is inherently weak because the planetary wheel shaft, onto which the output flange is splined, runs in a bush bearing from which the face of the output flange overhangs by about 50mm.

The only other work necessary is to machine off the gearbox flange to accept a 3" × 1⅜" × 9/16" oil seal, machine down the Traction output flange from 36mm to 1⅜", and re-shim the differential-side taper roller bearings.

This layout is shown on the right-hand side of Fig. 11.

By the time I'd got to Mk4, I was convinced it would be far superior to retain the ID/DS differential and make up a new pair of output shafts. These are machined from a solid 3" × 3" bar of EN24 steel, and it grieves me to see over 90% of the original bar disappear in swarf! The shafts are then hardened and tempered after basic machining, and finally ground to the correct dimensions and finish for the bearing seating/oil seal face.

The principle is the same as the original; the outer end of the output shaft runs in a ball bearing. I considered various arrangements for retaining the bearing to the output shaft and the flange of the bearbox using standard bearing and oil seals, but could not better the original layout, with the possible exception of using circlips instead of threaded sections.

The existing bearing/oil seal housing, however, is begging to be re-used, which I did by machining down the outside of the housing and shrinking it into the flange, as shown in the left-hand side of Fig. 11.

In order to provide proper support for the bearing, it must be located mostly within the flange and this pushes the oil seal outside the line of the flange. This in turn pushes the face of the output flange out so far that it would be impossible to install if the normal stud fixings to the drive shafts were used. The output flange is, therefore, made a little thicker and the stud holes tapped for connection to the drive shafts via caphead allen screws.

The flanges are held to the gearbox via four No. M7 bolts and six No. M9 bolts. The M9 bolts pass through the original gearbox support brackets and are too long for re-use. Replace these with ⅜" BSF bolts 1¼" or 1½" lg. (M9 is 0.354" dia. with 20.32 TPI – ⅜" BSF is 0.375" dia. with 20 TPI – just run a plug tap through original holes but be careful not to leave swarf inside gearbox). It is necessary to recess countersunk head allen screws for the bottom two holes on each side, and file away the bottom of the flange for the narrow-bodied cars, to give clearance in the cradle.

The engine/gearbox unit is now ready for installation in the car, so we are about half way there! I will describe the gear change mechanism and the other ancillary modifications necessary to complete the conversion in the next issue.

Roger has certainly given a lot of thought and hard work into the planning and development of his 4 speed gearbox conversion in recent years, and we are fortunate to be able to publish details of his work for the benefit of all members.

Many members may feel, however, that the actual task of doing the conversion themselves is beyond their ability and scope, or just as likely, they do not have the engineering equipment required!

Roger is, however, willing to undertake the conversion of members' cars at what is a very reasonable cost, considering the amount of time and work involved. For further details, Roger can be contacted at the address given in the Classified Ads. section of the magazine.

Whilst every effort is made to ensure the accuracy of the information and advice published in this magazine, neither the T.O.C. or the officers and members thereof, or the authors, accept any liability whatsoever for such information and advice.

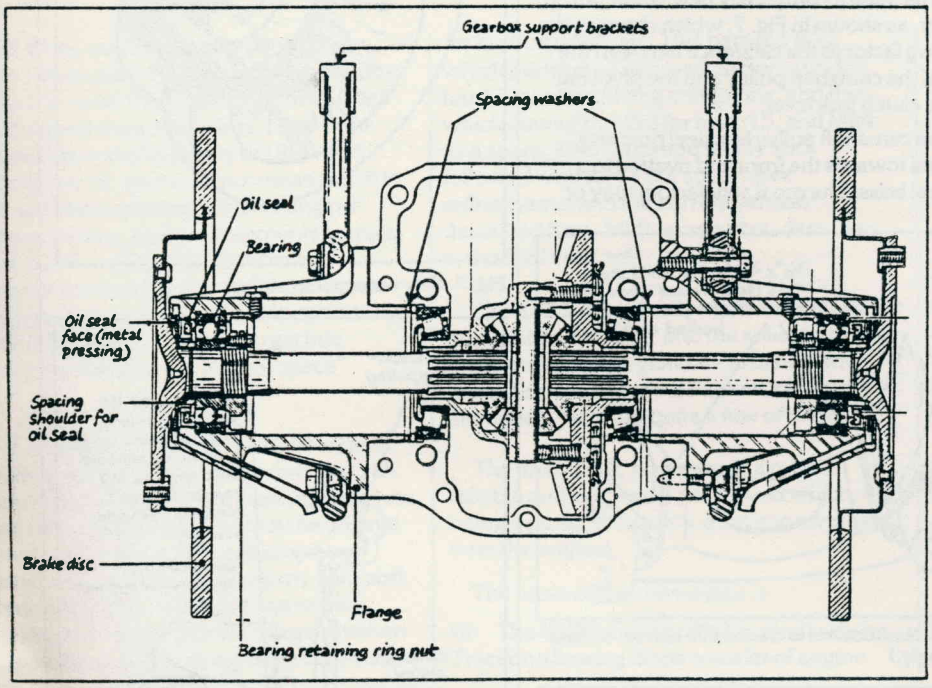


Fig. 10. Original ID/DS gearbox before modifications.

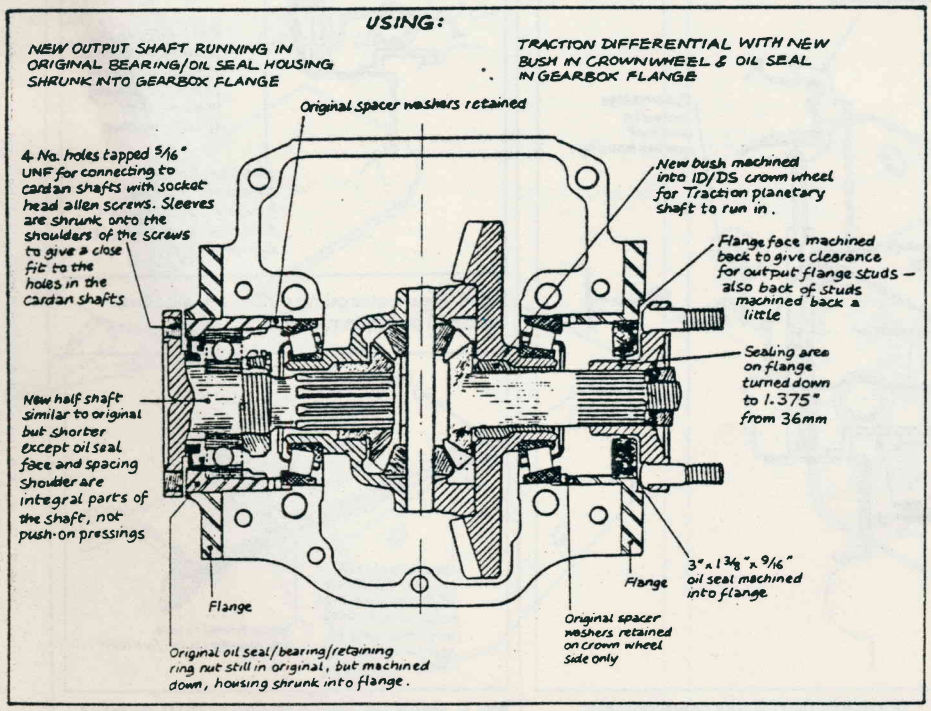


Fig. 11. Section through ID/DS gearbox showing conversion using

Service
4 speed gearbox conversion complete with gearchange mounted behind dash as per original. See article in this issue of FP, contact Roger Williams, 37 Wood Lane, Beverley, North Humberside, HU17 8BS. Tel. 0482 881220.

RECENT EVENTS

1988 Concours d'elegance

On Sunday 27 November, CCOCA held its annual Concours d'Elegance at Melbourne's historic Ripponlea mansion.

Despite having just weathered Melbourne's wettest November for many years, a total of 22 classic Citroens braved the elements and were presented for judging and public viewing.

Although a number of the "regulars" did not turn up, including one or two of the club's top cars, it was encouraging to see such a high standard of presentation and such a large number of cars. Several cars not seen at previous meetings were present, including Doug and Jean Ferguson's beautiful Big Six, John and Lois Smart's Normale, Neil and Nola Rankine's 11BL, Claude Baxter's Big 15, and Ted and Helen Cross's ID19 Safari.

Public interest in the event was quite high (as usual) with many questions being asked and photos being taken. A coincidence on the day was a large French language class having a social gathering at Ripponlea also. Their obvious attraction to the voitures from La Belle France had many of them spending as much time at our display as with their own group.

Prizes on the day were presented in the usual categories and are listed below. Congratulations to all winners, and thanks to all who turned up to make the day such a success.

Those attending were:

Alan and Sandy Baker	Light 15	GHY 229
Claude Baxter	Big 15	CH0560
John and Wilma Coleman	Light 15	PB 007
Ted and Helen Cross	Big Six	CH0291
Ted and Helen Cross	ID 19 Wagon	?
Brian Gladman	SM	CIT 222
Max Graham	Light 15	GEH 187
Bryan and Joan Grant	Light 15	KSE 442
David Gries	2CV	OS 214
Ron Lawrence/ Hayden Chapman	Light 15	OLC 082
Leigh Miles	Dyane 6	DYANE 6
Leigh Miles	Visa	USX 938
Peter Fitzgerald	2CV van	AUM 245
Peter and Anne Simmenauer	Light 15	RH 246
John and Lois Smart	Normale	CH0713
Robin and Sue Smith	Light 15	DKO 084
Robin and Sue Smith	Light 15	CAY 935
Dylan and Margaret Webb	Big 15	DGC 266
Doug and Jean Ferguson	Big Six	COY 107
Neil and Nola Rankine	11BL	ZD 148
John Locke	2CV	CH0280
?	2CV	?

Prize winners

Best Traction Avant: Bryan and Joan Grant (1953 Light 15, KSE 442)

Best Two-Cylinder: Leigh Miles (Visa, USX 938)

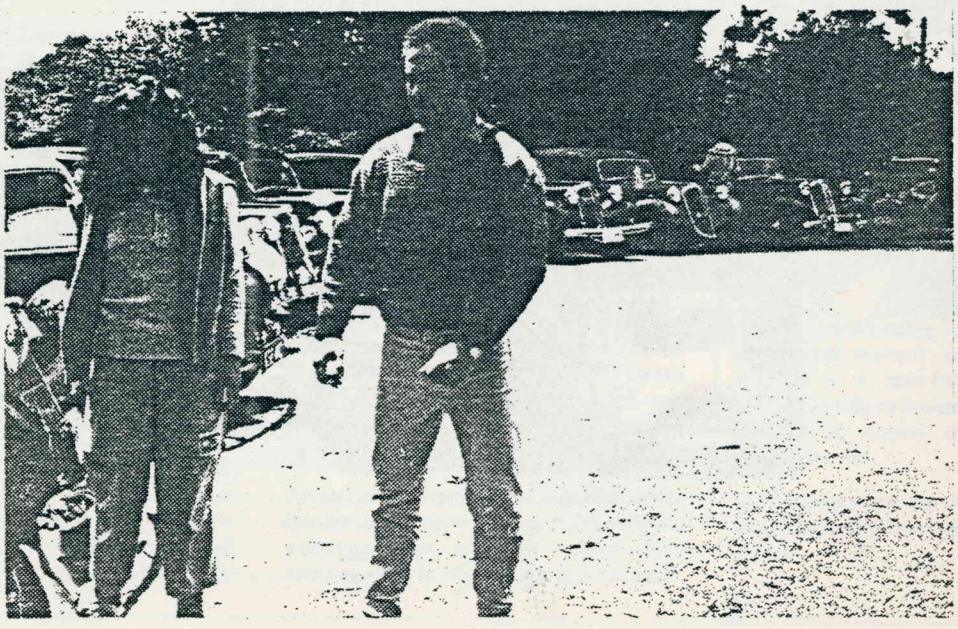
Best Special Interest Citroen: Brian Gladman (SM, CIT 222)

Most improved Citroen (Arthur Clarke Award): John and Wilma Coleman (1951 Light 15, PB 007)

Outright winner of Concours: Bryan and Joan Grant (1953 Light 15, KSE 442)

John Couche.

Lining up



Curtains and geraniums.

Footnote: Special note should be taken of the Twin Pot Equipage on the day, particularly as represented by Messrs Fitzgerald and Miles.

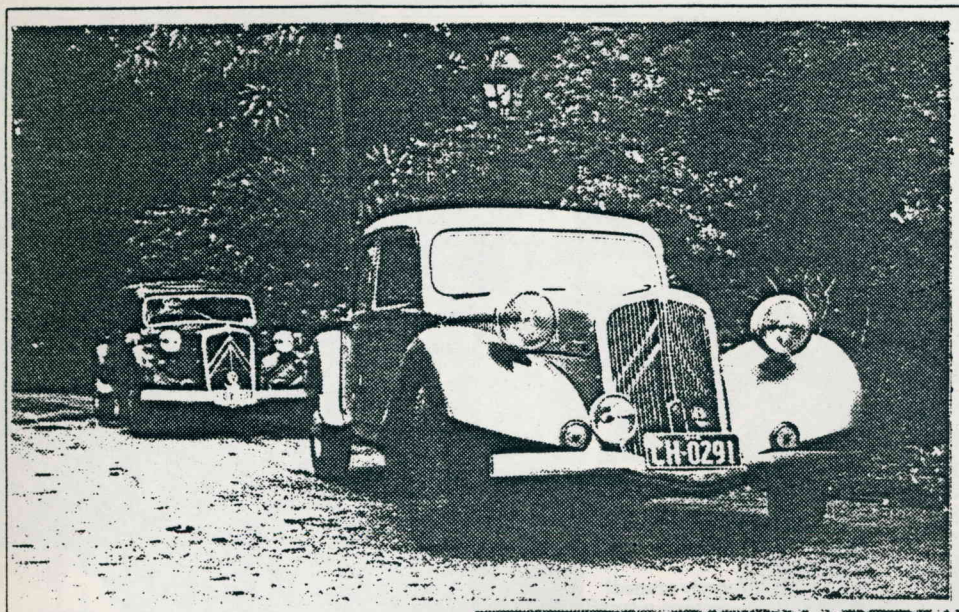
Despite the occasionally inclement weather, Leigh presented himself "au tropicale" (No, no, not "au naturale" - that's usually quite a different state) in light summer attire, notably shedding the occasional summer shower from his solar topee. Apart from lacking an anticipated entourage of native bearers, one could imagine him having just greeted "Doctor Livingstone, I presume?"

The Fitzgerald 2CV van was similarly eye-catching, replete as it was with geraniums in window boxes.

The group dined al fresco at a table under their parasol, complete with white starched tablecloth, black-and-red directors' chairs, silver service with champers in crystal, and tucking into beautiful stuffed eye fillet of beef. Truly a magnificent and envy-generating effort.

Ed.

Twin pots at rest.



Six appeal.

Ed. goes for six!

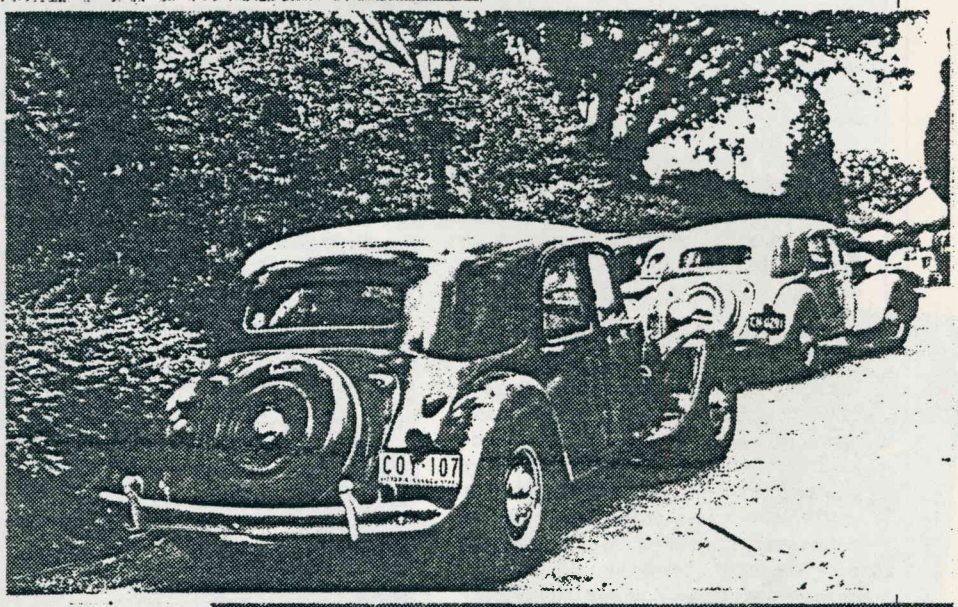
One of the advantages of being Editor is that you can put in your thoughts on the spot - just like that. Potential editors, keen to wield that sort of power, are you taking note? Often, of course, such editorial rumblings serve to "top up' Front Drive and keep your fellow members reading about your favourite cars - be thankful for small mercies.

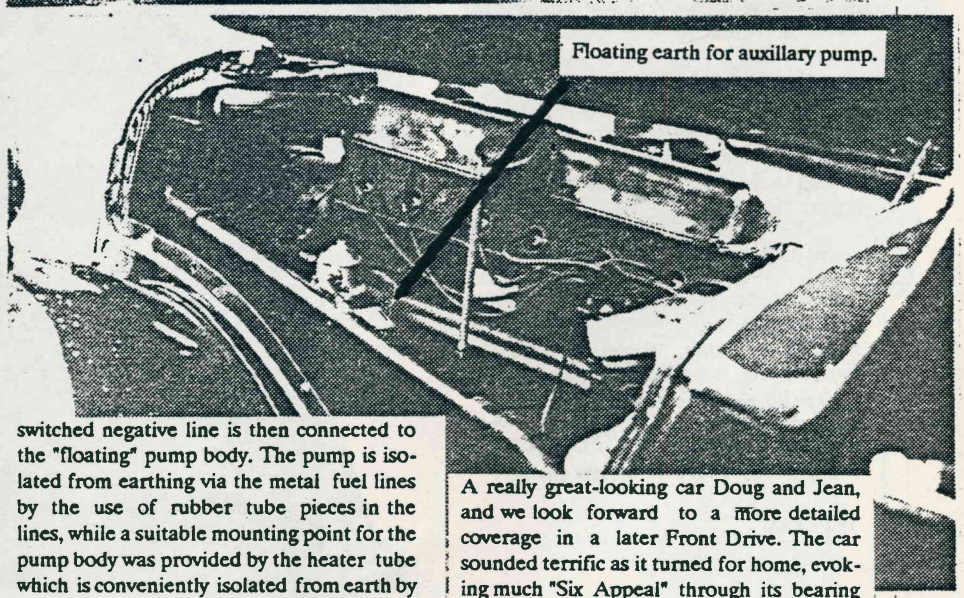
There is a separate account of the CCOCA Concours at Ripponlea which reports the official results of the judging. However, the Editor in spending a few pleasant hours in the magnificent house and grounds, and looking at the Citroen collection, came up with his own "prize winner".

Yes, the Editor went for a Six! Well actually, there were two Sixes there - Ted Cross's splendid machine and a "previously unseen" Six from the far southwest of Victoria. It was the latter car which took the Editor's eye and his fancy.

Doug Ferguson of Dartmoor rolled up in his splendid 1949 Big Six, resplendant in close-to-original Regal Red paintwork, gleaming chrome, "proper" Michelin 185x400 Xs, and red interior trim. Doug was accompanied by his family, and a fine family transport it must be for such trips across the Western District plains.

We don't want to spoil a future Member's Car article covering Doug and his restorations. However some eye-catching innovations were noted - smart turn-light mountings made from exhaust tubing, and an auxillary electric petrol pump to assist with priming the carburettor and reduce the cranking work-load on the battery. The pump is apparently "polarised", and with a positive earth system on the car, it was easiest to float the normally negative body of the pump above earth and run its positive input connection down to earth instead. The switched negative line is then connected to the "floating" pump body. The pump is isolated from earthing via the metal fuel lines by the use of rubber tube pieces in the lines, while a suitable mounting point for the pump body was provided by the heater tube which is conveniently isolated from earth by its rubber connecting pieces at either end.





Floating earth for auxillary pump.

An electric "thermo fan" is mounted inconspicuously low down in front of the radiator, and this helps to avoid boiling when crawling along in city traffic and in parades.

A really great-looking car Doug and Jean, and we look forward to a more detailed coverage in a later Front Drive. The car sounded terrific as it turned for home, evoking much "Six Appeal" through its bearing and its conduct.

As Doug says, he is one of CCOCA's "Phantom Members", but we now hope to see more of him.

Ed.

Annual parts auction and barbecue.

As per usual, no one said they were coming to this event on Sunday, November 6th at our place in East Doncaster. Hence, as usual in that case, we could expect a good roll up - makes sense doesn't it?

The weather was good , and the social BBQ in the carport was very enjoyable, with some previously unseen faces, notably wife Lois and daughters of new and enthusistic member, John Smart.

Of course, the main feature of the day was the auction which gave an opportunity to dispose of remaining Dan Jones' parts stock, and eventually enable me to reorganise the workshop/rumpus room space under our house.

An auction is no good without a sharp and voluble auctioneer, and CCOCA was again fortunate in having the services of a very competant "knocker downer" in the person of Peter "Luigi" Boyle, businessman extraordinaire.

Peter was in his prime (and suitably primed), coping with the variously spirited or lacklustre bidding. Because we were keen to clear stock, there were many bargains which made even Luigi's jaw drop (a bag of door handles for a fiver, clutches ditto), and many keen restorers built up stocks of essential and unobtainable spares. However, some items experienced spirited bidding, and Graeme Bradshaw bought heavily into ex-library car magazines of the 20s. A unique item offered was a carved bas-relief of M. Citroen himself.

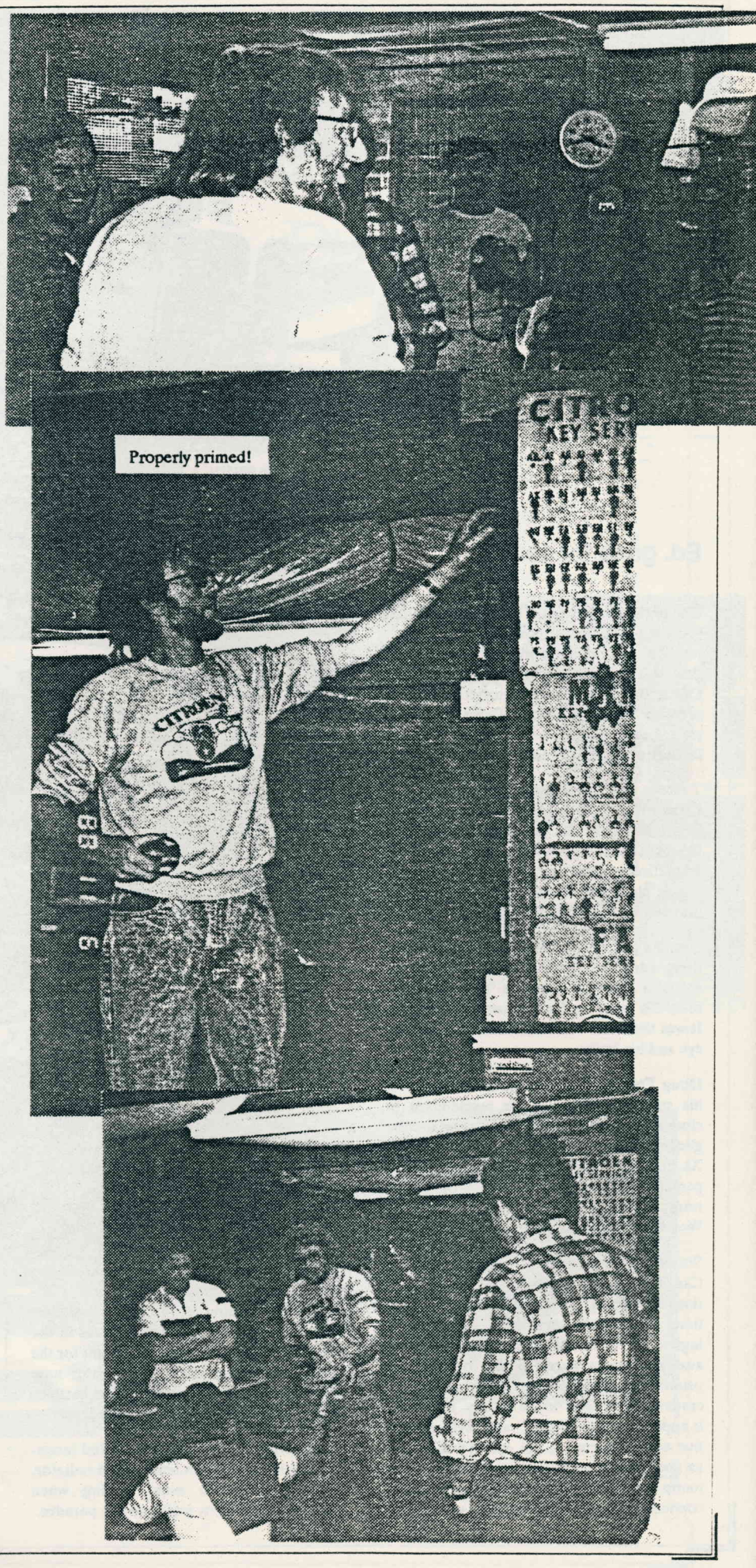
Outside in the street, it was a case of "Bohemia hits Suburbia", with several now-uncommon Citroens posing with their owners to give a touch of class to East Doncaster.

Those attending included:

Simmenauers, Ron Lawrence, Hayden Chapman, Robin Smith, John Couche, Smarts, Doughenys, Webbs, Leigh Miles, Bryan Grant, Bill Graham, Crosses, Robyn Couche, Graeme Bradshaw, Peter Boyle.

Clearly, another top-class CCOCA social event. Look forward to the next one.

Ted Cross.



Bargain hunting.

Bohemia?

Letters

Citroen ID/DS Club Nederland, Bokelshoef 26, 3343 CC H.I. Ambacht, Holland.

11 December 1988.

Dear Mr. Graham,

As Librarian and Editor of the Dutch Citroen ID/DS Club, I try to get to know as much as I can about D-models. Some time ago, I heard about a new lead, which was the assembly of Ds in Australia. I tried to get to know more about it but no-one could help me until Wouter Jansen of the Traction Avant Nederland gave me photocopies of your magazine Front Drive of September/October 1987. It had an Australian assembled ID on the cover and you wrote the article.

So now I'm turning to you for help. Could please tell me how many of these cars were produced, where and when, to what specifications and in what way they were different from English or French cars. I would also like to borrow the photos you used for the above article, especially the one showing the ID tag with the body and colour numbers.

Was there any specific Australian documentation for D-models? I mean handbooks, brochures, advertisements and the like. I would be very interested in photocopies and even more in the real thing. I suppose I could swap for other interesting Citroen documentation.

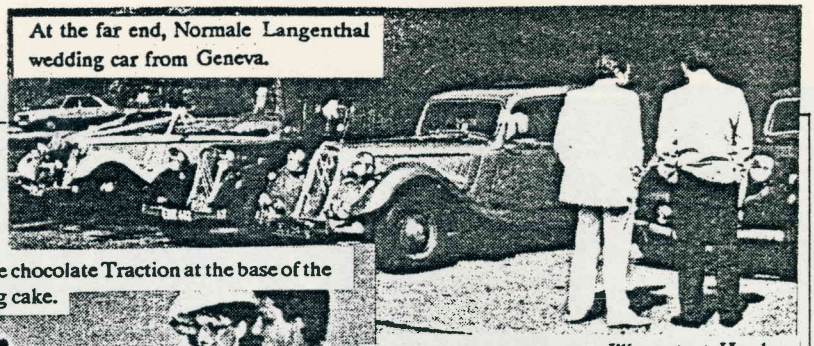
Please let me know if you can help me and if you can't, let me know who I could turn to instead. If I can return the favour, just let me know!

I'm looking forward to your reply.

Yours,

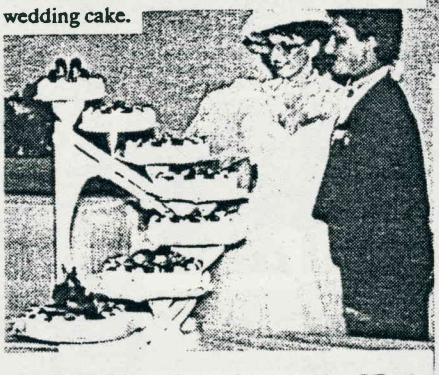
Jan de Lange.

Ed's note: We're passing on what we can to Jan. However, any comments would be welcome for Jan's benefit and for later use in Front Drive to benefit other CCOCA members.



At the far end, Normale Langenthal wedding car from Geneva.

Note the chocolate Traction at the base of the wedding cake.



36 Main Street Dyke, Lincolnshire PE 10 OAF, England.

7 October 1988.

Dear Bill, Barbara and family,

Many thanks for your letter dated 18/9/88, and I am also pleased to have received the most recent magazine with the info about the '88 trip around Oz. I see a couple of names very familiar to me who took part, it really was some trip! I don't think I'd have survived, never mind a car. It made our trip to Morocco 10 years ago in an AK 400 look like a trip to the seaside.

Pleased to see all is well Down Under - I hope Barbara enjoys her "walk" [in Nepal] and doesn't get blisters. I take it she will be in a group. As you say, the views will be breathtaking. What will the weather be like in that part of the globe?

News from us is that we (Edna and myself) are now Gran and Gradad to a boy from Gloria and Barry. Peter was born on June 7th weighing in at 8 lb 3 oz. I had gone to the Le Touquet 15/6 meeting on my own as Edna felt her place was to be with Gloria, but Peter arrived after I got back.

We had a very good meeting there, met up with many of the old crowd. I went with John and Josie Waghorn in the 1953 Commerciale as my coupe was being prepared to go to Switzerland (more later).

I haven't had a call yet from David Giddings. So far no news from Mike Peacock on the CWPs. It looks as though the project has been put aside at present. I am still waiting for a call to take my [Big 15] roadster over. I tried my local dealer who can't find in his catalogue the numbers for the Traction cardan parts you gave me. I'll contact Hardy Spicer direct and see how I go. Mike says he gets a universal joint with a grease nipple from Germany. I'm sure one day it'll pay to produce a brand new cardan since at the moment it is the weak link in the chain.

I have included some photos of our visit to Switzerland. When we went on the Paris-Monte Carlo trip in 1986, we got friendly with a Swiss couple who own a Slough-built Big Six. He was presented with a very large bottle of champers at the Paris end of the trip since it was his 50th birthday. He said he would only open it at his daughter's wedding. We were invited to the occasion with the Waghorns in our Tractions, to be there for September 10th. We sailed from Portsmouth to Le Havre which was to be the return point for cars coming back from the Quebec-to-New Orleans run. We wanted to see these cars, but a delay with the returning ship meant we had a rapid dash over to Switzerland on the 9th for the wedding. However, we did see a lot of pretty villages near Le Havre while we were filling in the time waiting for the ship.

The reception we received in Switzerland was great, 20 cars took part in a run around Montrieux with a police escort after the wedding. I am at present making a short story about the trip for the magazine. Our great time indicates the friendship which exists between owners of Tractions.

Thanks for the offer of accomodation when we return to Oz, and I'll let you know when we get nearer the time of coming.

My Traction affairs will be wound up when the Big 15 roadster is finished. Barry is now doing the odd Light 15, but his business is doing so well that he can't get too involved with these.

Next year, the Citroen Car Club celebrates its 40th anniversary and a special dinner dance is being worked out. I'll let you know when there is more of this and other news. Meanwhile, all the best to those we know and of course to the family.

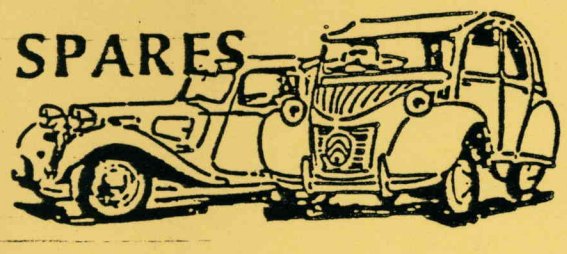
Cheers for now

Edna and Fred Annells.

P.S. Perhaps someone will tell about the Quebec-New Orleans Trip?

Traction lineup for the wedding.

SPARES



SPARE PARTS OFFICER:

Peter Boyle
35 Newman St
Thornbury 3071.
Phone: (03) 480 3560.

HOURS:

10am - 5.30pm
Monday - Saturday

PLEASE NOTE THE NEW HOURS FOLKS. Please, oh, please try to restrict your calls to these hours. Remember, the name's not Arkwright and we're not open all hours.

NOTE: ORDER FORMS TAKE PRECEDENCE OVER PHONE CALLS.

PARTS LIST (TRACTIONS) as at ~~1/9/86~~ 1/4/87

Clutch thrust bearing	$24
New oil pump gears (ea)	55
Wishbone shaft, upper, recond.	180
Lower ball joint adjusters (permanently fixed to car) (set)	50
Windscreen wiper blade	9
Bushing, second gear	12
Bronze bush for brake shoes	3.50
Big boot top rubber	~~12.80~~
Big boot bottom rubber	11
Rubber door seal	25.60
Scuttle vent rubber	25
Pedal rubber	~~5.50~~ 10.00
Rubber grommet petrol filler (2 sizes)	~~7.50~~ 9.00
Rear bumper grommet	12.50
Rubber V-blocks for doors (8)	~~34.50~~
Bonnet rubbers	0.30
Big boot paint protectors (under handles & lights)	~~25~~ 30.00
As above (small boot)	25
Windscreen rubber - alum frame	~~15.50~~ 40.00
Steering rack boots (pair)	~~26~~ 30.00
Gearbox gasket set	8
Complete gasket set motor L15/11BL	76.44
Sump set " / "	10.20
VRS set " / "	50
Complete gasket set motor Big 6	70
Exhaust muffler incl. tail pipe L15	95
" B15	105
" B6	140
Rubber exhaust hanger	2
Gearbox output shaft seal	8.50
Front hub outer seal	~~6~~ 8.00
" inner "	~~6~~ 8.00
Rear hub seal	~~6~~ 8.00
Door lock set French big boot	22
" Small "	22
Radiator hose upper/lower	13
Fan belt	12.25
Door lock springs	3
Piston & liner set	360
Liner seal	7.50
Exhaust valve	15
Inlet valve	15
Outer cross (driveshaft)	43.80
~~Water pump shaft & bush~~	~~18~~
~~Water distributor tube (head)~~	~~20~~
Tie rod ball joint kit	65
Upper/lower ball joint boot (leather)	12
~~Wheel cylinder rear 4 cyl (1" diam)~~	~~40.70~~
Brake hose front/rear Slough	28
" rear French	22
~~Brake master cyl kit~~	~~9.50~~
~~Shocker mount rubber~~	~~1~~
Throttle shaft 32 PBIC 0.5 mm O/S	20
Hub & bearing puller	~~105~~ 140.00
Lower ball joint puller	65
Bonnet strip clamp (internal)	1.50

DYANE

Brake hose	22
Seat rubber	1
Wiper blades pair	10

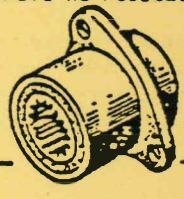
Early 2CV parts, all new unless indicated, LIMITED STOCKS, NEVER TO BE REPEATED OFFER!!

Clutch linings	$15
Exhaust valves	$9
Rear engine mount	$9
Tie rod covers (metal)	$3
Suspension arm seals	$8.50
Engine push rods	$2.50
Suspension bumper rubbers	$4
Starter motor (reco)	$40
Crown wheel & pinion	$200
Front brake drum	$15
Rear brake drum	$15
Starter Bendix unit	$10
Windscreen wiper speedo worm & drive	$8
Front over-riders	$5
Head gaskets 375 cc	$2
Lock & key set - 2 barrels, 2 keys	$15
Oil pump bodies, bronze, no gears	$10
Valve rocker arm & shaft	$15
Valve springs	$1
Steering pinion & bearings	$15
Brake bleed nipples & caps	$1.50
Dip stick & holder rubber	$1.50
Door catch, righthand front	$6
Ditto LHF	$6
Accelerator pedals	$1

STOP PRESS

Wanted, wanted: Your old silentblocs for reconditioning. The Spares Department needs any amount, be it one or 10, we will be pleased to purchase them off you, or if you'd like to donate them, we'll have no hesitation in accepting your offer!

Peter Boyle
35 Newman St
Thornbury 3071
(03) 480 3560.



By the way, I just can't justify the time to chase up second-hand parts, so if you need them, please advertise in the classifieds in the magazine.

Don't forget the firm's motto:

Never fear!
Luigi's here,
When your motor needs new gear!

P. Boyle

Special, never-to-be-repeated offer: One set only, light 15 driveshafts, fully reconditioned in France. At cost, less Exchange: $820. Contact Peter Boyle

Super special: New fabricated replacement ends for rear of Traction front mudguards. L11/B15/B6. LHS & RHS. $55 each.