

964 Forest Road,  
LUGARNO  
SYDNEY. N. S. W.  
AUSTRALIA

The Manager,  
Citroen Cars Ltd.  
SLOUGH.

12th September, 1959

Dear Sir,

I regret to trouble you from Australia for advice regarding some trouble I am having with my 1949 Light 15 Citroen, Body 131087. Technical advice is hard to come by out here and the Agents appear to have limited knowledge.

This car has been recently rebuilt by me and is almost equal to new. I have spent a considerable amount of time and money on it. With many refinements, it attracts quite a lot of attention.

This request for advice, principally, is regarding the gear box. This gearbox has been stripped down approx. six times, both by me and the Agents, Buckle Motors of Sydney.

The trouble is a chatter in the gearbox on using the accelerator below 30 m.p.h. in top gear as speed is gained it disappears. It can also be detected on slowing down in top gear, but much less. The chatter seems to be in the Reverse gear pinion synchro teeth, which I notice has more back lash than the other gears generally. The First and Reverse speed Idler Pinion bush has slight play, but would think it unlikely to cause trouble by allowing this gear to run out of true sufficient to cause chatter in mesh with the Reverse Gear Pinion which is in constant mesh. Could it be possible that the gearbox casing could have been machined inaccurately? My profession as an engineer enables me to assemble the gearbox very accurately to Citroen specifications in the Hand-book.

I might add that the gearbox is fitted with new bearings, Synchromesh assembly with top gear, Forks, Planetary and Satelite gears, Shafts, Crown Wheel and Pinion, etc. Clutch recondition. This noise has been present to a lesser degree since the car was new, I feel, I must get over the trouble. As you will realise the expense has been great and I would appreciate your help before making any further move.

If I might ask one or two further questions regarding this 1948-49 Citroen, your opinions would be gratefully received.

1. Could I safely raise up the engine compression ratio and if so, how much, and the amount to shave off the cylinder head. The higher grade petrol is now available in Australia.
2. What should the petrol consumption be for normal petrol on average road use. It is rather poor now, 22 m.p.g. at 30-40 m.p.h. No passengers.
3. Would the fitting of twin Carburettors be beneficial and would the assembly be available.
4. Should I expect some whine from the Crown Wheel and Pinion, I have recently had them fitted in the gearbox (very accurately) and they are just as noisy as the original and I think it will have to be rectified. Would it be possible to have them relapped?

Any help or advice you can recommend I shall be most grateful. Also, pay any expense involved.

I am.

Yours faithfully,

# CITROEN CARS LIMITED

ctors:

V. Sellis British  
F. B. Tanner British  
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A.G.Hards British.

Secretary:

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**SLOUGH,  
BUCKS.**



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28th September 1959  
Telegrams:  
Citroworks, Slough.

Codes:  
Bentley, A.B.C. 6th Edn.

YOUR REF.:

OUR REF. AGH/EDB

28th September, 1959.

O. Matthews, Esq.,

954, Forest Road,

Lugarno, SYDNEY,

N.S.W., Australia.

Dear Sir,

We have received your letter of the 12th September which is principally to ask for some advice concerning the gearbox of your car.

Having regard to the work which has so far been put into this unit, we think you should consider the following before you decide to expend any more time and money on the gearbox unit.

The chatter to which you refer is not entirely unknown to us here and is what we term the "pick-up" rattle. This rattle, or noise, as you say, is immediately obviated if at lower speeds you change down to second gear. Here it is necessary to refer to the fact that there are always a number of gears in constant mesh in the gearbox, all of which have their respective clearances. When the top gear is engaged these respective clearances are combined and if, especially at lower speeds, there is any unevenness of running this can cause a noise similar to that you describe. If a quantity of top gear pinions, both mainshaft and layshaft, were available for selection it might be possible to choose a pair of gears where the tolerances were close, and obviously this would minimize the rattle. In practice however this is rarely feasible. Actually the noise is nothing whatever to worry about as it does not necessarily get worse with mileage, neither can it produce any defects or breakdown. Whilst we do not wish to advise you on how to drive the car, it would be evident from the information we have given above that at the lower speeds it is preferable to use second gear.

Coming now to the other matters you mention, you can if you wish remove 1-mm from the face of the cylinder head, but this must be approached with some caution in order to leave sufficient metal in the water jacketing inside the head. Taking 1-mm off will increase the compression ratio to about 6.5 to 1.

CITROEN CARS LIMITED

O. Matthews, Esq.

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28th September, 1959.

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We find from general experience that the average petrol consumption in this country can be in the neighbourhood of 26 m.p.g. where some traffic conditions are involved, and at moderate speeds on main roads where progress is more or less uninterrupted the consumption might be in the neighbourhood of 28 m.p.g. In your case therefore possibly some re-tuning of the engine or a change of carburettor jets might be called for.

The question of whether the fitting of twin carburettors is a help is a matter of some conjecture. We do not normally supply anything like this here because we do not depart from the standard job. We know there are various proprietary manufacturers who can supply a conversion. In some cases we have heard of people claiming that a substantial improvement in general running has been obtained, and in other instances we know where it has been most unsatisfactory and a reversion to the original equipment has taken place.

We note your concluding enquiry concerning a whine from the crown wheel and pinion and we think it possible that this could be improved if you lapped the gears. On the other hand, it must be remembered that as the transmission is in the front of the car the driver is bound to hear more noise than if the differential, etc. was on the back end as would be the case with rear-wheel-drive models.

We thank you very much for your enquiry for an individual name and address for the purpose you have in mind, but we are very pleased to assist you where we can and we hope that the foregoing will be of help.