SPARE NEWS

This month we have reproduced news on floating brake shoe kits and nickel-plated hydraulic cylinders; this is by courtesy of Roger Williams whose reputation in manufacturing quality parts for tractions is second to none.

A few words on the brake shoe kit however will not go astray, however. The trailing shoe on a Traction, like that of an FJ Holden, is not fitted with a full lining. This is because the leading shoe does the greatest percentage of the work in this brake design. The trailing shoe is only fitted with a half lining – allowing greater pressure over a smaller area.

Once the brakes are converted to a floating link system however, the trailing shoe will then do the major percentage of the work hence the need for it to be fitted with a full lining.

The overall braking of the car will not be improved greatly by fitting this kit unless the brakes are not adjusted correctly in the first place. The floating shoe kit eliminates the need to adjust the anchor pins, so on assembly you will not need to use the brake-centring tool as described in the manual. The brakes are only adjusted by the two top cam adjusters.

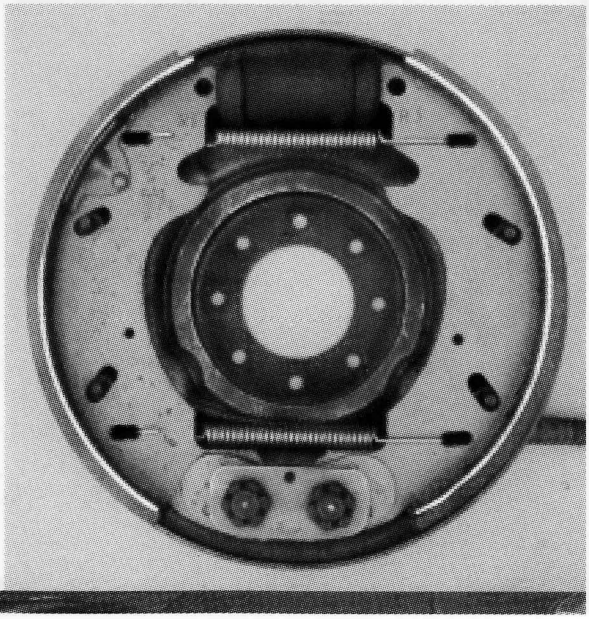
In all drum brake applications one shoe always carries out the major percentage of the work due to the self wrapping effect of the shoes. I hope this simplifies and explains the article to members who may think fitting the kit would give vastly improved braking.

Rob Little

Roger Williams wrote:

ADJUST YOUR BRAKES

For reasons unclear to anyone, Citroën chose to anchor the bottom of the brake shoes and provide adjustment via an eccentric bush in conjunction with the snail cam at the top end. If the brakes are properly adjusted, which



A rear brake assembly with the floating link conversion referred to by Roger Williams. Photo: Rob Little.

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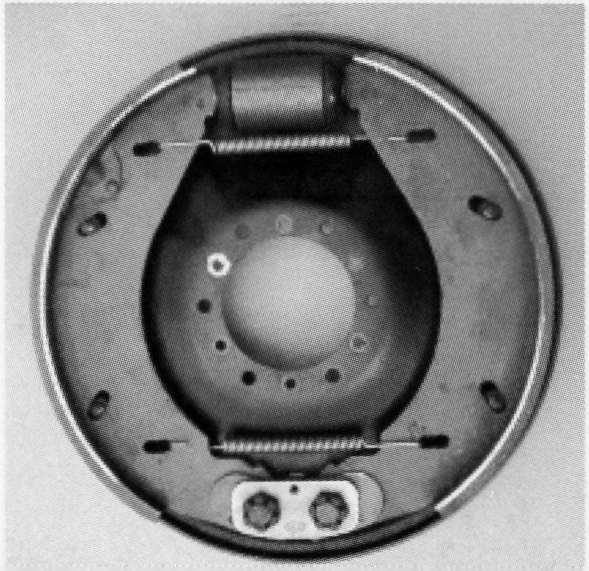
requires a special tool, they are very good. Unfortunately, most people do not have the special tool and make do with a variety of odds and ends, notably bent coat hangers etc, which do not always achieve the result for which Citroën designed ie the shoes to be just touching all the way around when adjusted. They are then backed off a small amount on the snail cams, the drum fitted and the snail cams turned out until the shoes just start to touch the drum. The requirements of the above are that the curvature on the brake shoes is identical to that on the drum and if this is so there is only one position in which the shoes can be anchored to touch along the length of the lining as described above. An alternative is to use a scrap brake drum and cut a segment out and adjust as above – unfortunately, this requires the drum to be perfectly round and exactly the same diameter as the drum that is being used on the car. It would be a miracle if these conditions were met!

A front brake assembly, similarly fitted with Roger Williams' floating link conversion. Photo: Rob Little.



Most people just adjust their brakes using the snail cam and this results in all the load being taken on the edges of the linings nearest to the slave cylinders which wear down rapidly and quite often cause sufficient heat to distort the brake drum. Also they pretty soon get down to the rivets, if you are old fashioned enough to still use this type, which scores the drum and then requires skimming. Another point to note, and again I can find no one who can explain it, is why did Citroën only provide half a length of lining on the trailing shoes? Maybe because with their system of fixing the bottom of the shoes the 'missing' section of lining would not have done anything anyway!

Conventional drum brakes use a system where the bottom of the shoes slide in a slot ie they are free to go up or down and thus centralise themselves when the slave cylinder pushes the top of the shoe towards the drum. The advantage of this system is that they cam be adjusted by using the snail cam only and the wear is more or less even around the whole of the brake shoe. Additionally the shoes can be lined for their full length and it can be utilised when braking.

If the bronze and eccentric steel bushes are removed from the bottom of the shoe/brake back plate and replaced with the plate shown, which is clamped using the nuts that held the eccentric steel bush, a conventional type drum brake system is achieved. Further more if you ever wished to return to the original system all you have to do is replace the discarded bushes. A series of these kits, comprising a pair of shoes lined full length and skimmed to the drum diameter together with the bottom plates and a set of new springs, have been tested over the last year and show a 40% improvement over a well-adjusted original system.

If anyone is interested in such a kit please contact Roger Williams at 35 Wood Lane, Beverley, East Yorkshire, HU17 8BS, UK, telephone +44 1482 863344 or email rdrw@steam-car-dev.karoo.co.uk

TRACTION BRAKE SLAVE & MASTER CYLINDERS

Over the last few years the drum brake has been largely superseded by the disc brake, except on small cars with small diameter rear brakes and small slave cylinders. This is making it increasingly difficult to source original equipment brake slave cylinders as the manufacturers gradually phase out production of the larger diameter slave cylinders. It is therefore becoming important to keep your brake slave cylinders in good condition – this is not easy if the cars are laid up during the winter months, which is the time when the pistons stick in the bore and cause the surfaces to become pitted and leak fluid past the seals. A solution is to nickel plate the whole of the slave cylinder unit ie the body, pistons, spring, bleed screw, etc. Although this adds an initial cost when changing a slave cylinder it is a more of a long term solution and you have to bear in mind that new slave cylinders of good quality are not so easy to obtain any more. The same can be said of the master cylinder which can be similarly treated.

Roger Williams

A wheel cylinder, dismantled showing the nickel plating about which Roger has written. Photo: Rob Little.