



The majority of these tips have appeared in club newsletters over the years. Please note that you use them at your own risk as neither the Bristol Austin 7 Club nor the authors can be responsible for the results of trying to follow the instructions given.

Brakes - testing, Tapley meter - Ron Hayhurst

A year or so ago Dave Edwards managed to rescue a Tapley meter, heading for the skip in a house clearance, and presented it to the club. It is now held in the Spares Shed and is available to be borrowed by Bristol Club members.

It works on the simple principal that a suspended bob weight will swing forward in the direction of motion of a vehicle when it is suddenly brought to rest. How far it swings will be determined by how quickly the vehicle decelerates or how effective the brakes are. A ratchet "catches" and locks the amount of swing so that it can be measured.





All of this is captured in a meter that was first developed by Tapley Instrumentation nearly one hundred years ago. It was (and in some instances, still is) the main method of checking braking efficiency before the advent of rolling roads. The Company still makes and sells these meters. It is of particular interest to A7 owners as the track on some cars is too narrow to suit their local garage's rolling road. When testing, the unit is placed in the passenger foot-well, levelled up and the car driven along a level road at about 20 miles per hour. The brakes are then fully applied using the footbrake only. When the vehicle has stopped the brake efficiency readings can be taken from the figure shown by the recording needle. A similar reading should be taken from a lower speed using the handbrake only. The efficiency is denoted as the % of G that was achieved.

Being a scientific instrument based on a simple law of physics its accuracy is indisputable. It consists of a finely balanced pendulum free to respond to any changes in speed or angle, working through a quadrant gear train to rotate a needle round a dial. Damping is applied to cut out all vibration. The same meter can be used to test all types of vehicles.

Although the requirement for an annual MOT for our cars has been removed there is still a need to be on top of the steering and braking capabilities of our cars. A check with the Tapley meter will at least let you know if you are still keeping the car up to scratch without having to book it in to your local garage. It is a useful tool as and when you are adjusting the brakes. Recently, in advance of a planned MOT, I felt my Tourer's brakes could be made a little better. I did a short trip with the Tapley meter, made an adjustment and tested again only to find I had made them worse! So I was able to put them back where they were and passed the MOT with no problem. The meter removes some of the subjectivity that we would otherwise have to apply.

Instructions are supplied with the meter which is housed in a wooden box – I think it's optional whether you leave the meter in the box or take it out. The

essential parts are:-

- mount it rigidly throughout the test i.e. prevent it sliding around
- with the car level, slacken the two wing nuts and re-clamp with the reading showing "level"
- set the meter level left to right by rotating the top of the meter through 90° - accuracy of levelling not as demanding as the former - rotate back
- keep the meter TEST lever in the FREE position up to the point of making the test and at all other times
- make the test on a level road at about 20mph

You may like to try it out first in your modern. Here you should easily "pull" 100% on the footbrake and 25% on the handbrake.

On an A7 with coupled brakes you should be looking for 50% or something better with the footbrake. Hopefully this can also be achieved with uncoupled brakes if the handbrake is used at the same time. As I know little about uncoupled brakes it would be good to get a response from those "in the know" !

The handbrake should give a reading of 20% or better. 16% would almost certainly guarantee a failure at an MOT.

One option is to turn up on Spares Day and do a test nearby on a quiet stretch of level road. Otherwise, check in advance with Tony Cryer to arrange to borrow the meter for a short while.



Tapley also produced these small versions of their meter. Steve owns this one which Ken Warren always had attached below the dash-board on his RN - and it works !