

J 516/5

on

Two Wheel Trailers

Origin.

With the increasing length of poles now being extracted from the Commission's forests, haulage by standard load carrying lorries had become unsuitable owing to the long overhang of the load. Whilst the overhang of a 30 ft. pole on a standard 5 ton lorry is 16 feet beyond the rearmost point of the platform it is even more important to note the centre of gravity of such a load.

The centre of gravity of a 30 ft. pole is about 9 ft. from the butt and the distance from the back of the cab to the centre line of the rear axle is 8 ft. - 9½ ins. (taking the Bedford 5 ton L.W.B. as an example). However much care is taken in loading, it is inevitable that the centre of gravity of the load will be behind the rear axle resulting in the concentration of the total load onto the rear axle and insufficient weight on the front axle to provide safe steering.

Alternatives. 1. There are, of course, articulated pole carrying vehicles available to meet this situation but they are:-

- (a) Expensive.
- (b) Not suitable for any role other than timber carrying.

This is a disadvantage where vehicles may be required for duties other than timber carrying for a part of the year.

- 2. A trailer can be used behind a standard lorry to support the overhung weight.

Design and application of 2 wheel trailer.

The Committee decided to investigate the second alternative and in conjunction with Messrs. Taskers of Andover a 2 wheel trailer was produced for trial.

This trailer has a load capacity of 4 tons, and runs on two twin wheels with 34 x 7 tyres. Girling brakes are fitted and operation is by vacuum servo from the towing vehicle. The forward end of the load is carried on an articulated bolster on the lorry and the overhang at the rear is carried on the trailer. The combination of standard lorry and 2 wheel trailer costs about 20% less than an articulated vehicle of similar capacity. The price of the trailer is £308.

A short wheel base lorry would be more suitable for use with the trailer but, as the whole object of using the trailer is to employ a dual purpose lorry, the long wheel base is used as the more convenient general load carrying vehicle.

Photographs.

The following photographs are attached to this report:-

No. 1 The trailer.

No. 2 The Bedford 5 ton L.W.B. lorry with trailer carrying a 6 ton load.

No. 3 A standard L.W.B. lorry carrying a 4 ton load showing the excessive overhang at the rear.

Trial Results.

This trailer has now been on trial with a 5 ton Bedford lorry for some eight months in the Thetford area where it has given very satisfactory results.

With the trailer it is possible to safely carry a load of over 6 tons with no overloading whereas without the trailer the same vehicle can carry only 4 tons and in this case there is a rear axle overload and some danger of loss of steering on the front axle.

There have been no mechanical defects on the trailer but there has been a case of clutch failure on the towing Bedford lorry. This clutch failure can be ascribed to hauling heavy loads down the racks and it would be unlikely to happen on reasonably surfaced roads or tracks.

Modifications.

The bolster on the experimental trailer was fixed but articulation will be provided on production models.

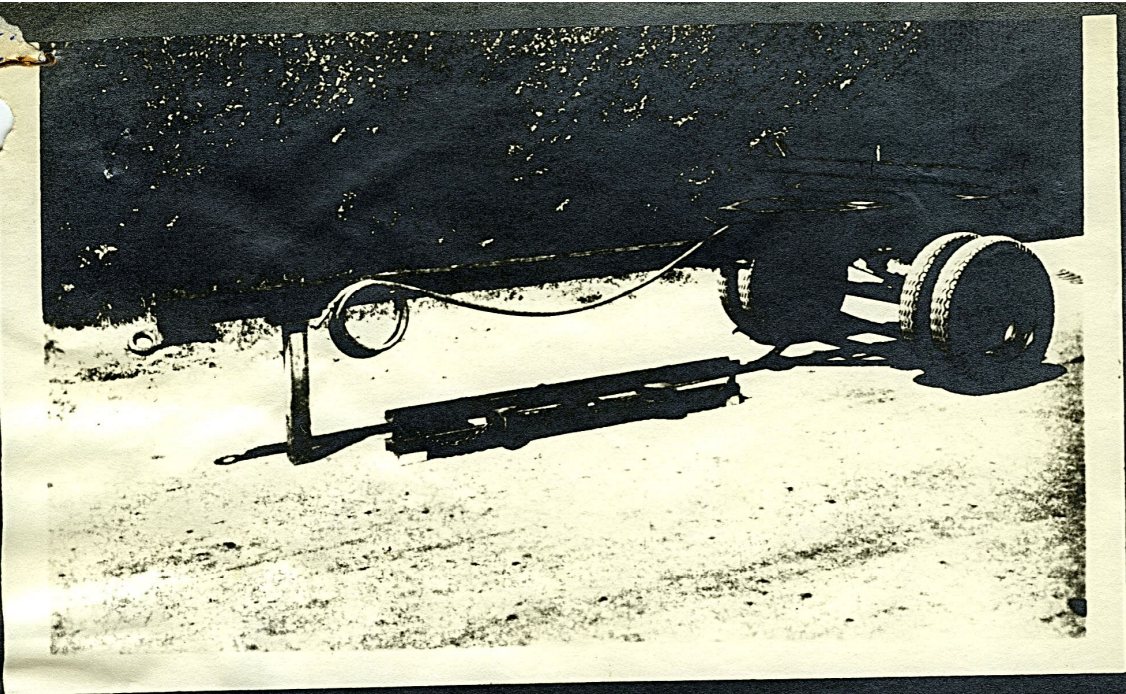
Conclusions.

For conditions where long poles have to be extracted from forests in which the volume does not justify a special articulated or other vehicle, the two wheel trailer with a standard lorry is a satisfactory solution.

R. C. SHAN

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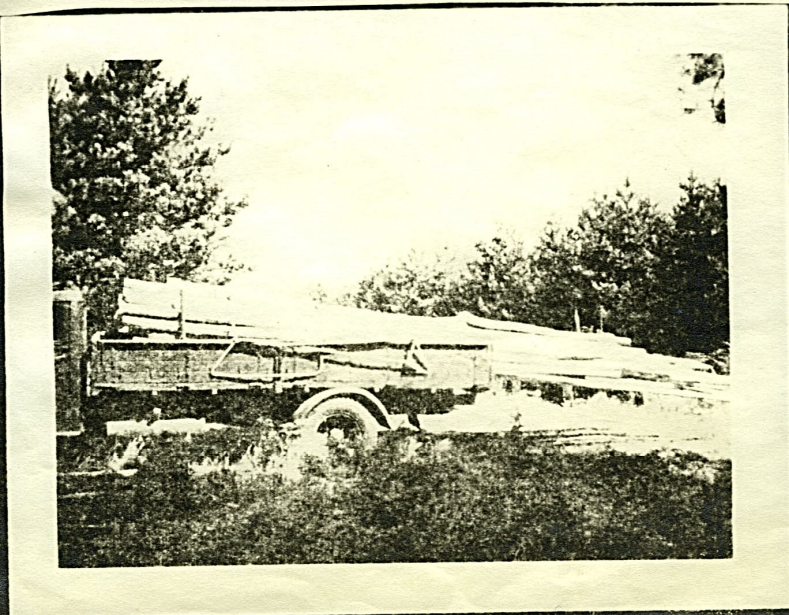
Machinery Research Officer
May, 1951



7/1 Tasker Timber trailer with



7/2 Bedford Lorry and Taslier
2 Wheel Trailer



7/4 Standard JWB Chassis