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NEW ZEALAND

TRUCKING LONG AND SHORT LOGS WITH THE SAME RIG

A Report by Ollie Kemp, Tasman Forestry Limited, Rotorua

INTRODUCTION

A log cartage unit capable of carrying both short and long logs has been recognised for some time as having distinct advantages in the log transport industry (LIRA, 1979).

Compared with a single product unit such as a rig carrying either longs only or shorts only, a dual product unit increases truck utilisation because multiple length logs can be catered for. This is because there are greater opportunities for backloading.

The introduction of the 3 axle semi-trailer, or Bailey Bridge, in the mid 1970's met the requirement for dual product cartage. Its high tare weight, capital cost and greater repair and maintenance costs however, meant that owning and operating costs were also high. This translated into more expensive unit cartage costs compared with either a long or shorts rig.



Figure 1 - Tom Wright's rig carrying short (pulp) logs

This Technical Release describes a rig which is capable of carting both short and long logs while retaining the characteristics of a truck and trailer.

ACKNOWLEDGEMENT

Assistance from Tom Wright for information concerning his rig is gratefully acknowledged.

UNIQUE BOLSTER DESIGN

Recently a new truck and trailer unit has been added to Tasman Forestry Limited's contractor fleet. It is basically a longs unit but features a unique design which enables cartage of both short logs (3.7 - 6.1 m) and long logs (9.2 - 12.2 m). See Figures 1 and 2.

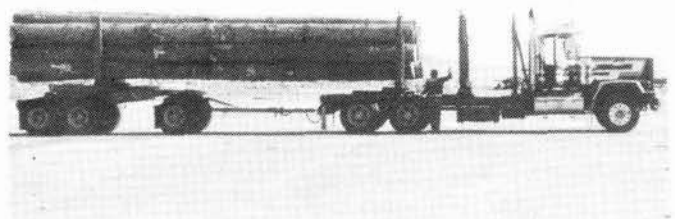


Figure 2 - Set up to carry long (export) logs

Owned and operated by Tom Wright, a Murupara based trucking contractor, the unit is fitted with adjustable bolsters. They are rotated on special turntables located beneath the standard bolster turntable, to change from one configuration to another (Figure 3). During repositioning, each turntable assembly is easily and quickly rotated by hand, and fixed into position with "container" locks (Figure 4).

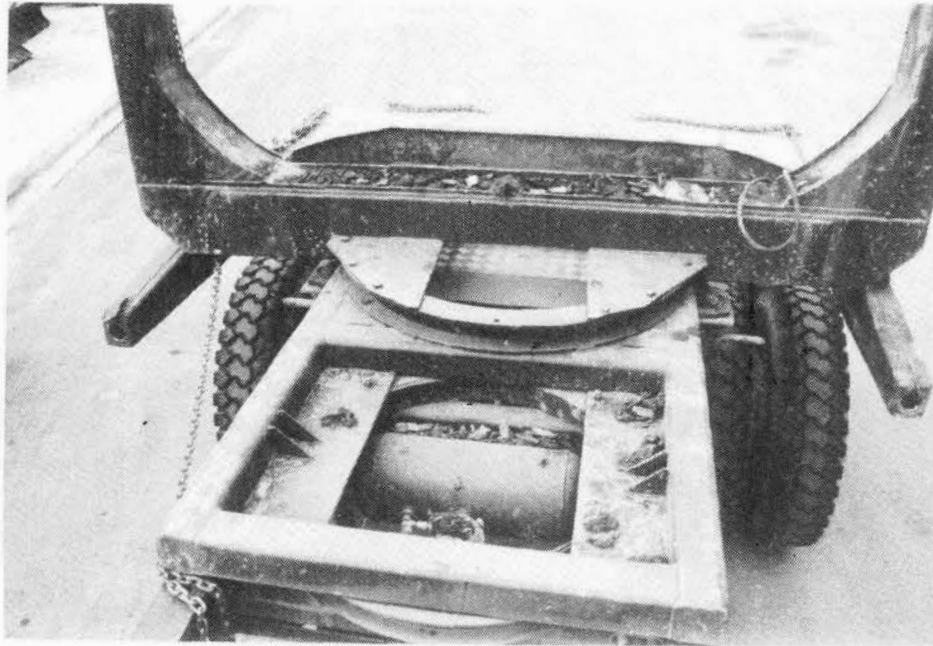


Figure 3 - Special turntable on the trailer unit with bolster turntable mounted above. Note rear bolster folded flat for longs cartage.



Figure 4 - Repositioning the rear bolster on the truck.

The rear bolster on the truck and trailer used for carting short logs folds flat during the cartage of long logs (Figure 5). The trailer drawbar is telescopic so that variable length longs can be carried.

Removal of the intermediate locking pin on the pole facilitates cornering when hauling long logs.

The whole process of switching between configurations normally takes about five minutes.

COMPARISON WITH ALTERNATIVE CARTAGE RATES

Compared with the Bailey Bridge configuration, there are distinct advantages :

- 15% cheaper capital cost (not including tractor unit)
- anticipated reduction of repair and maintenance cost
- reduced tyre wear and road user charges as a result of being able to piggyback the trailer
- 19% or 4 tonne higher net payload capacity which amounts to more tonnes carted per day even with a heavier truck unit (Table 1).

Table 1 - Payload Comparison between Wright's Rig and a Bailey Bridge

	<u>Wright's Rig</u> (tonne)		<u>Bailey Bridge</u> (tonne)	<u>% Difference</u>
Truck (Pacific P510PF)	10.60	(International)	8.60	23 %
Trailer	5.32	(Bailey Bridge)	8.40	37 %
	15.92		17.00	6 %
Load Capacity	25.08		21.00	19 %
Gross Weight (Class I limits)	41.00		38.00	8 %



Figure 5 - Folding down the rear bolster/stanchions

Compared with a set length rig, the advantages are :

- greater flexibility in the wood flow system with increased opportunities for loads, especially backloads of different length products
- potential for carting more loads per day which means improved truck utilisation and increased cashflow.

The benefits that Tasman Forestry Limited get from such a versatile rig are easier truck scheduling and cheaper cartage rates in some backloading situations. This can happen when carting longs in one direction and only having shorts available for a backload, as the new rig is much cheaper than a Bailey Bridge or a set length rig. A specific example is Tasman's cartage operations from Kaingaroa Forest to Kopu Sawmill (near Thames) where Tom Wright's rig shows savings of 8% over a Bailey Bridge and 19% over a long log unit.

CONCLUSION

This rig has been operating since August, 1987. Its innovative yet simple design has the potential to bring about significant savings in log cartage costs. There will also be increased annual revenue accruing to the contractor as a result of improved truck utilisation. Overall, this concept represents the sort of development that can arise when suitably motivated owner/operators seek improvements to conventional trucking systems.

REFERENCE

LIRA (1979) : "Truck Rig Layout Options - Panel Discussion", in "Log Transport and Loading Seminar Proceedings", pp 159-171.

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For further information, contact:

N.Z. LOGGING INDUSTRY RESEARCH ASSOC. INC.
P.O. Box 147,
Rotorua, New Zealand.

Telephone: (073) 87-168

