

**P.C.B.U. Team Work**  
**Positive Expectations for**  
**Log Loading and**  
**Load Security**



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Mark McCarthy.

# P.C.B.U. Team Work

## Positive Expectations for Log Loading and Load Security.

We are looking to establish a mutual and agreeable understanding of requirements between Loader Operators, Truck Drivers, Harvesting and Cartage Contractors working for the Forest Owners principles.

**Once the load delivery docket is signed, the load is the responsibility of the truck driver.**

For various reasons mistakes still occur. Loader drivers and truck drivers can work together to ensure the loading process is carried out safely and efficiently and the load that leaves their landing is safe, secure and legally compliant.

### **Two key messages**

1. Communication between truck and loader is critical right through the loading process, poor communication is the main cause of most of the loading problems we encounter.
2. Never assume anything. Always check.

### **Prior to loading**

Communication. Truck drivers are trained to call the loader before they get to the loading site and most do. Some forest companies have erected signage to make sure drivers are aware of Site Specific Procedures.

It is good operational practice for trucks and loaders to sort everything out before they park on the landing. This should take into account first time to a particular operation or many times to the particular skid.

Many truck drivers do not have the necessary experience to identify and manage the risks they can encounter on a specific landing. This includes risks like chain shot, log stacks etc.

Before starting to load sort out the safe zones and protocols. The loader driver knows the site risks and can manage the truck driver for SAFE ZONE awareness on his skid. Truck drivers have been instructed to discuss with the loader driver and agree on the safe zones and the procedures for the site. This is because the site is managed by the crew and there are different policies and procedures around safe zones among forest companies which can cause confusion among drivers.

## Some things we have learnt:



*Figure 1. Driver trying to get attention of loader. Note the blind spot.*

**Getting the loader operators attention to move out of the safe zone** to check loading, weights or heights can be difficult without radio contact. Not so bad if the driver is in the truck but many prefer to stand outside to watch the loading and help the loader operator. It can save time tidying up of the load later on.



*Figure 2. Loader parked with door facing the door of the truck and grapple lowered. Loader drivers should look to park similar to this way whenever the truck driver is in the loading zone.*



xxx

Figure 3. Other people are not allowed in the SAFE ZONE.



xxx

Figure 4. Other people are not allowed in the SAFE ZONE.

## **The number 1 wish of transport operators is for:**

Loader drivers to have a hand held radio tuned to their loader that they pass to truck drivers when they turn up.

The loader driver and truck driver can then talk and assist each other right through the whole loading process.

1. The radio would preferably have a clip to attach the radio to his vest or shirt so the driver can have both hands free.
2. The truck driver does not get his docket until the radio is returned to the loader operator at the end of due process.
3. Some contractors have fitted chargers permanently in their machines to store and charge the hand-held's.

## **Why is it better for the loader driver to supply the radio?**

100% guaranteed the hand held can talk to the loader. Across the country loaders use a multitude of different radio channels including some that are not 'bush radio' channels.

On any day trucks can be anywhere in the Southern North Island working for different clients and customers.

Trucks are currently programmed with a large number of channels just to cover the areas they may have to go.

## **Unloading trailers from the truck**

- Trailer securing chains are removed
- Tail lights to trailer disconnected
- Lifting chain presented by POGO stick or over bolster
- Lifting ring to be located in centre of grapple, loader to be capable of lifting trailer
- Lift off and either hook up or place carefully out of the way to load the truck then pick up and hook up the trailer

Hooking up loader driver to indicate to truck driver via hand signal or radio – OK – to unlatch drawbar when loader driver has trailer safely under control. Swing drawbar around to line up and hook up safely.

Truck driver to remember loader driver can often not see coupling and therefore relies on communication from the truck driver to complete.

Teamwork is crucial to avoid incidents or injury as the human is the softest thing amongst the steel and machinery involved.



Figure 5. Pogo Stick or chain pulled over bolster.



Figure 6. Wait until loader operator gives OK by signal or radio if using one.



*Figure 7. Trailer under control. Safe to unhook drawbar.*



*Figure 8. Unhook drawbar and turn. Note height from ground nothing other than an arm under the trailer.*





Figure 9. Pull drawbar around with handle. Note back wheels can be on ground or whole trailer suspended.



Figure 10. Hands well clear of any steel contact or jamming. Indicate to Loader Operator what you require, ahead – back – etc.



Figure 11. Hooked up ring feeder lock down. All Sweet.



Figure 12. **ABSOLUTE NO - NO** loading the front packet then swinging trailer around by the lifting chain. This bad practice results in premature chain wear and possible failure. Side loading the front packet is OK when loader reach is compromised but the trailer must be pulled ahead by the truck to load the rear packet.

## Foundation of each packet of logs

In order to build a load or packet of logs correctly the bottom layer should be tight at both bolsters holding the packet. This will involve some “Topping and Tailing” of the butts, for most loads using 3 to 5 or 6 logs to fill the available space.

Some delivery points “prefer” all logs one way. We suggest in this case that the outside log on both sides is turned the opposite way, so that scalers or unloading facilities can meet their needs and requirements while we meet ours.

There have been many cases involving loads being shot forward by heavy emergency braking or impact with other vehicles.



*Figure 13. Poor loading. Big log on top r SRT and 2<sup>nd</sup> layer not touching bolsters but rounded enough.*



*Figure 14. Load Foundation OK and load well rounded. Note big log on the first layer.*



*Figure 15. Load Foundation tight, 2<sup>nd</sup> row tight, top row crowned for chains to touch all logs. Awesome*

The new log trailers with a good gap in the middle can be top and tailed easily. The older shorter trailers with minimal gap can be loaded safely with the bottom tight at least and all packets truck and trailer crowned off professionally.

If you start your load with a **solid foundation**, you will have stability to build.

## **Loading on slopes**

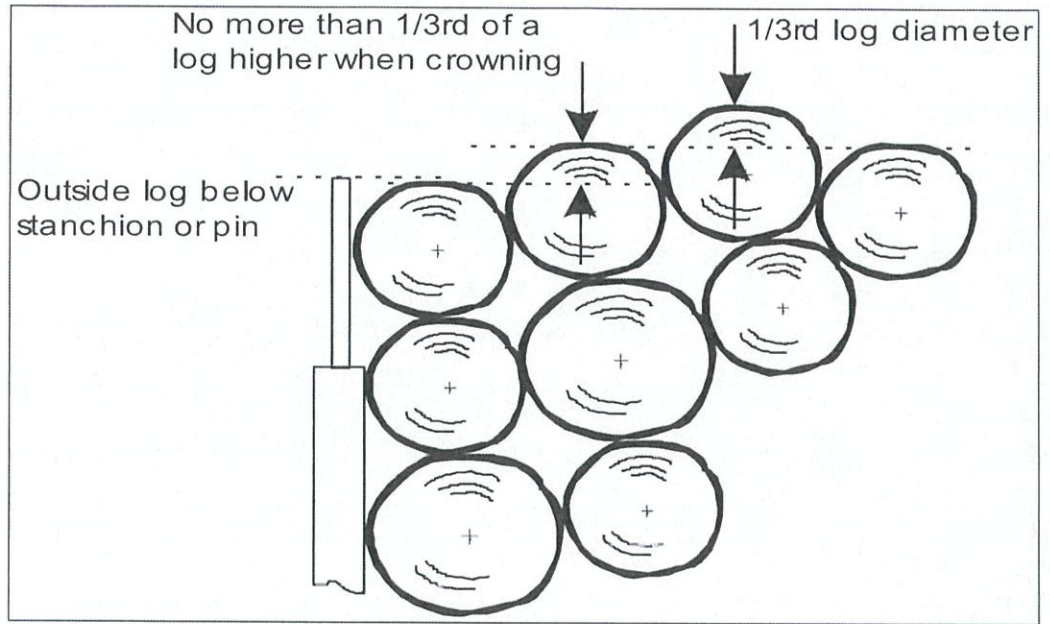
Ensure the loading area is as level as possible. Logs can slide off the truck during loading particularly during the spring sap run or with the increased mechanised processing. In extreme cases the truck and trailer can slide if the road surface is wet and/or slippery. It has happened especially where PPI valves are used to supply air to the suspension for air weigh scales releasing the trailer brakes to do so.



*Figure 16. Logs sliding forward due to truck being loaded on a slope.*

# Load Heights

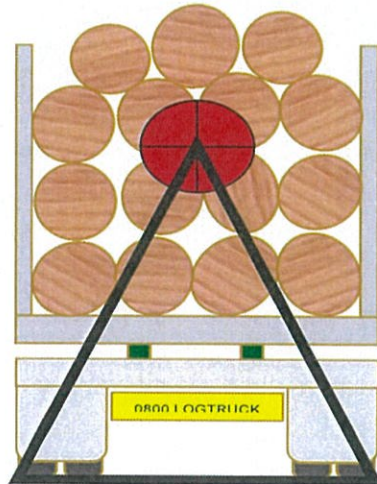
The ACOP says:



Height in or Out

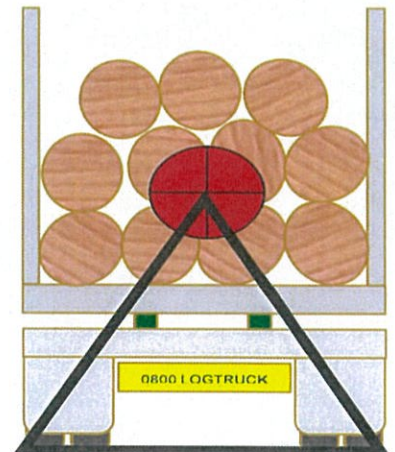
x

Altered S.R.T



High Load  
Increased chance of rollover

✓



Low Load  
Decreased chance of rollover



*Figure 17. Barely over height but it is over height according to the ACOP*

The industry's number 1 goal is to keep load heights consistently below the legal requirements.



*Figure 18. This load is legal and single packet.*



*Figure 19. The same load but double bunked. Note how much lower and longer it is. Result is much better stability.*



*Figure 20. 3.1 metre on a 3 axle trailer – Photo shows logs almost over on rear packet technically, but well loaded topped and tailed and correctly crowned.*

- Most log trailers can double bunk. Even 3 axle set ups.
- Double bunk everything you can.
- If necessary, change grades between the truck and trailer. E.g. 6.1s on the truck and 2 packets of 4.9s on the trailer.
- Talk to dispatch if necessary to change grades or lengths to match the truck set up. Why put 3.1m on a 5 axle trailer that can carry a bit more weight and double bunk 5.5s?

## The Minimum Stanchion Overhang

### The law says

The minimum overhang is 150mm

If the overhang is less than that, the truck cannot take that load.

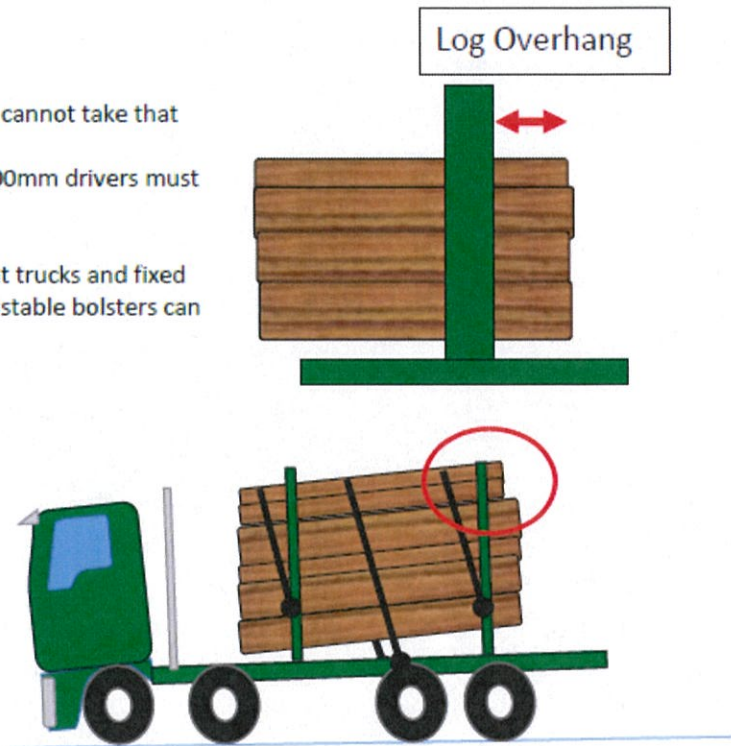
If the overhang is between 150mm and 300mm drivers must put a belly chain around the load.

3.7s are generally the shortest lengths that trucks and fixed bolster trailers can take. Trailers with adjustable bolsters can take shorter.

### Why have overhang?

In a sudden stop logs may slide forward.

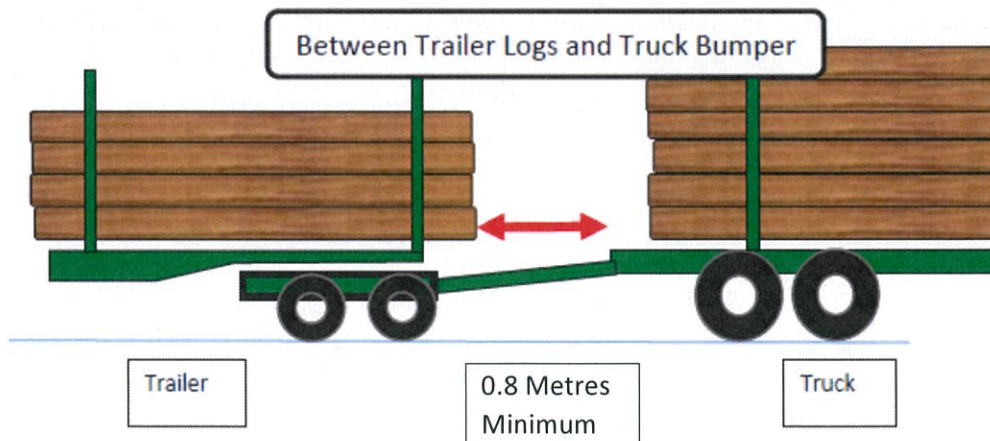
That is why truck drivers must have at least 150mm overhang past the bolster. Truck drivers will always try to maximise the rear overhang to make the load safer.



## IVS – Inter Vehicle Spacing

0.8 Metres is the Minimum for Logging trucks. This is a Legal Requirement

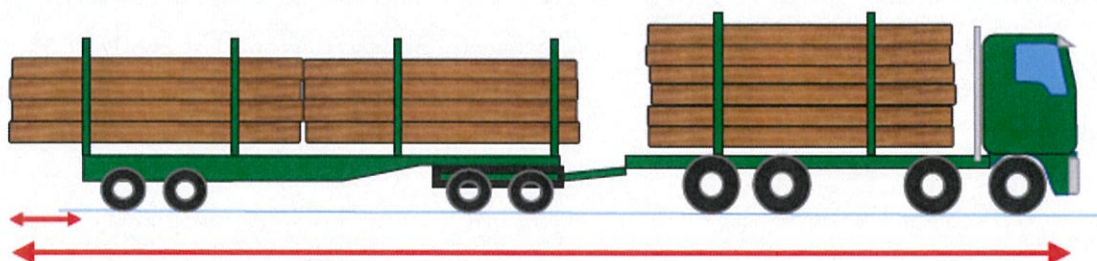
Some log trucks are allowed down to 800mm inter vehicle spacing. The driver will know his particular unit capabilities.





## Overall Length and Rear Overhang

There are legal limits – The truck driver knows the limits for his unit.



## Before the truck leaves

Ask the driver if the load looks OK.

Get your radio back.

Encourage him to check it before he leaves. Better the truck driver checks it while you are in a position to fix it rather than 100 metres up the road when he chains up.

Double check the docket. The biggest error made by loader drivers is putting in the wrong truck number.



*Figure 21. Muddy landings. In the dark a major cause of injury. Trucks should move away to a better place to chain up if it is safer up to 100 metres.*

## What can go wrong?

Some examples:



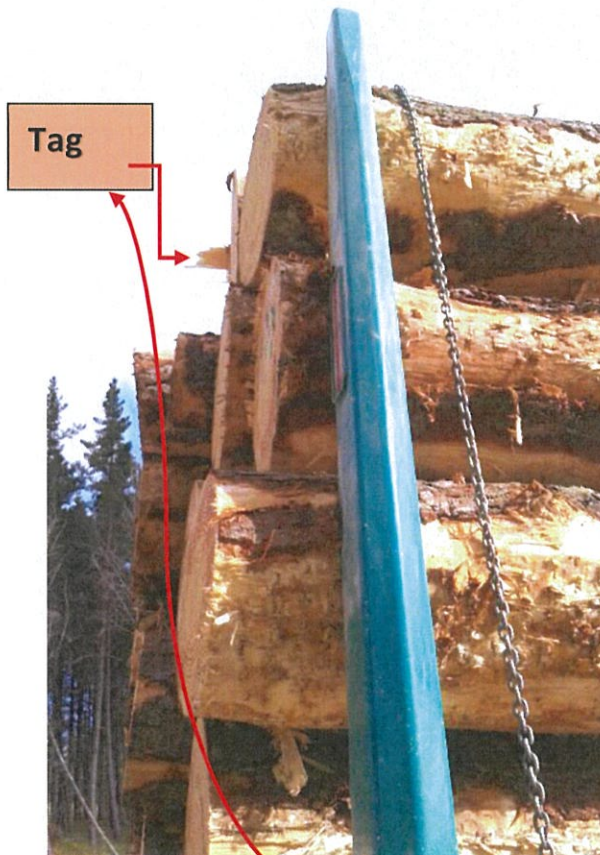
*Figure 22. Poor rounding of the load. Chains should touch all top logs ensuring they are locked into one another or pulling down on the next log.*



*Figure 23. Poor crowning. Logs in middle have no chains on them.*



Figure 24. *xxx*



*xxx*

Figure 25. *Not enough overhang.* → Please note the tag on the top log will result in the truck being turned away at the scaling shed.



*Figure 26. What is wrong with this load? Normal rules still apply even for off highway. Weight may increase a little but is still limited by the vehicle certification (GVM)*

Question Answers:

Load centre is compromised on rear group.

1. How do we unload it?
2. IVS is not enough.
3. Truck is overloaded. Dynamic load transfer is compromised. Design weights may be exceeded.



*Figure 27. What is wrong with this off highway load?*

Question Answers:

IVS – GVM – Load Centres: How do we unload it?



*Figure 28. Poor crowning. Logs over top of bolsters not supported by 2/3rds of log next to them. Outside log technically too high.*



*Figure 29. Top heavy loading. Longer logs should be on the bottom.*



*Figure 30. Over height but well crowned for chain contact however absolutely not acceptable, not even if load is light. Must be within the volumetric capacity of the bolsters as per Figure 28.*

**EXAMPLES OF POOR LOADING vs GOOD LOADING:**



✓✓✓



✓✓✓

*Base tight 2<sup>nd</sup> layer tight and top crowned. Secured easily and properly. No problems in transit. ✓✓✓ Next Load.*



*Bottom layer not touching bolster so not tight 2<sup>nd</sup> log not touching. Relying on the chain but very hard to get and keep tight.*



✓✓✓



✓✓✓

*Base is tight. Load well crowned. Chains tight, easily containing load.*



✘

*Foundation not tight but logs wedged well and top crowned. Little bit more effort on the bottom layer the load would be perfect.*



✘

*Bottom layer not tight in bolsters so the chains will come loose until the logs stop moving in transit. Not Good.*



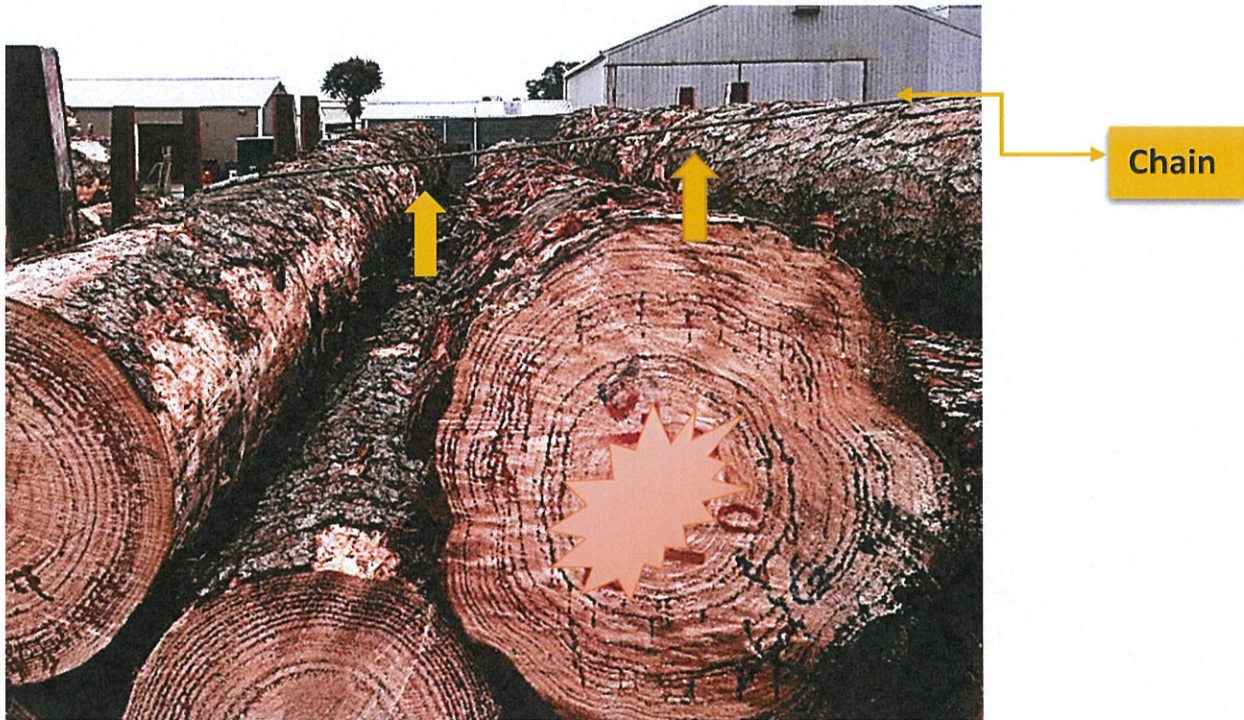


xxx



xxx

*Nicely stacked and crowned, but totally illegal with log overhang. Poor communication between Loader Operator and Truck Driver results in an unsafe load.*



*Chains clearly missing log and the log is just resting there, not locked in by the 2 logs either side.*

(A)



(B)



***Could it be double bunked??***

*Photo A- at Truck Driver view is nicely crowned at front.*

*Photo B –is Loader Driver view – Load is over height and unacceptable.*

## IN SUMMARY

The log loading and cartage operations are a vital part of the harvesting process. As many as 40% of the loads can be loaded in the dark. Due only to the diligence of the people involved incidents are few and far between. Safe Zones are necessary. Mobile radios would help the safety and practicality of the Safe Zone and allow responsive teamwork to get the load on and away safely and professionally.

Together we can exceed the expectation of loading a unit by looking out for one another. Personal issues and dislikes should be set aside in the interests of being true professionals.

As Wiremu says: “STAND IN THE GAP TOGETHER”