



SAFETY BULLETIN

2018 NTC Load Restraint Guide Now Available

Issued: 25 June 2018

| Number: 15-18

What is the issue?

A recent incident involving a collapsed soft timber pallet (refer Environmental Alert 02-18) carrying a transformer has highlighted the need for increased awareness of the requirements for restraining loads.

What are the changes?

- An ICAM into the incident is in progress. One aspect which has been highlighted is the recent release of the National Transport Commission (NTC) Load Restraint Guide 2018.
- The guide provides detailed information on restraining loads using a variety of methods. Of particular value are the 'Number of Tie Down Lashings' tables found in the appendices.
- The examples pictured in this bulletin highlight the significant improvements in restraint that can be made by using a pull-down ratchet, as opposed to a push-up ratchet and high friction methods (rubber load mat under load).

What you need to do

- All drivers of Heavy Vehicles should familiarize themselves with the 2018 NTC Load Restraint Guide.
- IPad and PC users can access the guide via this link: [NTC Load Restraint Guide 2018](#)
- If you're viewing a hard copy of this bulletin you can access the guide via the NTC website at <http://www.ntc.gov.au/heavy-vehicles/safety/load-restraint-guide/> or via intranet > Internal Services > Fleet Services > View HVNL Information > NTC Load Restraint Guide
- Other relevant information on the Fleet Services page includes Safety Information Sheets (SIS) on HV load restraint, dimension limits, mass management, speed management and fatigue management.

Contact

For further details:

Matt French WHS Business Partner on 0466 554 267

Alan Bone Lead Investigator/Auditor on 0417 236 774

Brett Gibbs Senior Assessor Trainer on 0434 368 890

Related documents

[Environmental Alert – 02-18](#)

[SWM 1.017 – Road Transport General](#)

[Heavy Vehicle Operators Manual](#)

| Lashings: | Tensioner: | Pre-tension: |
|----------------------|------------------------|--------------|
| 50 mm webbing straps | Pull-down hand ratchet | 600 kgf |

| UNBLOCKED (RESTRAINED TO 0.8 G) | | | | | |
|------------------------------------|---------------------------------|---|---------------------------|---------------------------|---------------------------|
| Number of lashings | Lashing angle (from horizontal) | | | | |
| | At least 75° AE > 0.95 | At least 60° AE > 0.85 | At least 45° AE > 0.70 | At least 30° AE > 0.50 | At least 15° AE > 0.25 |
| HIGH FRICTION | Static friction: 0.6 | Example: Rusty steel on timber or smooth steel on rubber load mat (not conveyor belt) | | | |
| | 1 | 3,400 kg | 3,100 kg | 2,500 kg | 1,800 kg |
| | 2 | 6,900 kg | 6,200 kg | 5,000 kg | 3,600 kg |
| | 3 | 10,000 kg | 9,300 kg | 7,600 kg | 5,400 kg |
| | 4 | 13,000 kg | 12,000 kg | 10,000 kg | 7,200 kg |
| | 5 | 17,000 kg | 15,000 kg | 12,000 kg | 9,000 kg |
| | 6 | 20,000 kg | 18,000 kg | 15,000 kg | 10,000 kg |
| | 7 | 24,000 kg | 21,000 kg | 17,000 kg | 12,000 kg |
| | 8 | 27,000 kg | 24,000 kg | 20,000 kg | 14,000 kg |
| | 9 | 31,000 kg | 28,000 kg | 22,000 kg | 16,000 kg |
| MEDIUM FRICTION | Static friction: 0.4 | Example: Smooth steel on timber | | | |
| | 1 | 1,100 kg | 1,000 kg | 840 kg | 600 kg |
| | 2 | 2,300 kg | 2,000 kg | 1,600 kg | 1,200 kg |
| | 3 | 3,400 kg | 3,100 kg | 2,500 kg | 1,800 kg |
| | 4 | 4,600 kg | 4,100 kg | 3,300 kg | 2,400 kg |
| | 5 | 5,700 kg | 5,100 kg | 4,200 kg | 3,000 kg |
| | 6 | 6,900 kg | 6,200 kg | 5,000 kg | 3,600 kg |
| | 7 | 8,100 kg | 7,200 kg | 5,900 kg | 4,200 kg |
| | 8 | 9,200 kg | 8,300 kg | 6,700 kg | 4,800 kg |
| | 9 | 10,000 kg | 9,300 kg | 7,600 kg | 5,400 kg |
| 10 | 11,000 kg | 10,000 kg | 8,400 kg | 6,000 kg | 3,100 kg |

Figure 1. Example of tying down load using 2 x 50mm webbing straps and a pull-down ratchet (from p272 of guide).

| Lashings: | Tensioner: | Pre-tension: |
|----------------------|-------------------------------------|--------------|
| 50 mm webbing straps | Push-up hand ratchet or truck winch | 300 kgf |

| UNBLOCKED (RESTRAINED TO 0.8 G) | | | | | |
|------------------------------------|---------------------------------|---|---------------------------|---------------------------|---------------------------|
| Number of lashings | Lashing angle (from horizontal) | | | | |
| | At least 75° AE > 0.95 | At least 60° AE > 0.85 | At least 45° AE > 0.70 | At least 30° AE > 0.50 | At least 15° AE > 0.25 |
| HIGH FRICTION | Static friction: 0.6 | Example: Rusty steel on timber or smooth steel on rubber load mat (not conveyor belt) | | | |
| | 1 | 1,700 kg | 1,500 kg | 1,200 kg | 900 kg |
| | 2 | 3,400 kg | 3,100 kg | 2,500 kg | 1,800 kg |
| | 3 | 5,200 kg | 4,600 kg | 3,800 kg | 2,700 kg |
| | 4 | 6,900 kg | 6,200 kg | 5,000 kg | 3,600 kg |
| | 5 | 8,600 kg | 7,700 kg | 6,300 kg | 4,500 kg |
| | 6 | 10,000 kg | 9,300 kg | 7,600 kg | 5,400 kg |
| | 7 | 12,000 kg | 10,000 kg | 8,900 kg | 6,300 kg |
| | 8 | 13,000 kg | 12,000 kg | 10,000 kg | 7,200 kg |
| | 9 | 15,000 kg | 14,000 kg | 11,000 kg | 8,100 kg |
| MEDIUM FRICTION | Static friction: 0.4 | Example: Smooth steel on timber | | | |
| | 1 | 570 kg | 510 kg | 420 kg | 300 kg |
| | 2 | 1,100 kg | 1,000 kg | 840 kg | 600 kg |
| | 3 | 1,700 kg | 1,500 kg | 1,200 kg | 900 kg |
| | 4 | 2,300 kg | 2,000 kg | 1,600 kg | 1,200 kg |
| | 5 | 2,800 kg | 2,500 kg | 2,100 kg | 1,500 kg |
| | 6 | 3,400 kg | 3,100 kg | 2,500 kg | 1,800 kg |
| | 7 | 4,000 kg | 3,600 kg | 2,900 kg | 2,100 kg |
| | 8 | 4,600 kg | 4,100 kg | 3,300 kg | 2,400 kg |
| | 9 | 5,200 kg | 4,600 kg | 3,800 kg | 2,700 kg |
| 10 | 5,700 kg | 5,100 kg | 4,200 kg | 3,000 kg | 1,500 kg |

Figure 2. Example of tying down load using 2 x 50mm webbing straps and a push-up hand ratchet or truck winch (from p274 of guide).