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Safe Use and Operation of Unic Winch

Product:	Unic	Document No.	TB-028
Revision Date:	DRAFT	Revision No.	A
Relevant Models / Variants / Serial Numbers:	Truck Cranes		

Whilst the electronic control systems on the Unic truck mounted crane are highly sophisticated and go beyond the requirements of AS 1418.11, it is always the operator's responsibility to ensure they are operating the crane in a safe manner. All Unic truck cranes are operated via the winch. Correct operation of the winch will ensure the crane is safely operated and the risk of damaging the crane or causing injury will be significantly reduced. This document outlines the correct operating procedures with which the Unic winch should be utilized.

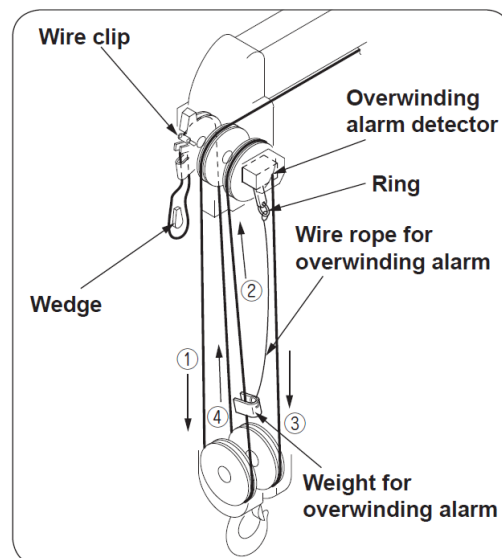
As with all Maxilift Australia's products, the correct operation should always be followed to ensure optimal safety is achieved. Always refer to the Use and Maintenance manuals which are provided with the crane.

General Lifting

All Unic truck cranes are configured with multiple falls of winch rope. Each fall of rope increases the multiple of mechanical advantage the winch can provide. This means, a 1T winch, reeved with 4 falls of rope will be capable of lifting 4T on the hook.

The Unic truck crane is designed to lift loads off the winch. Whilst the strong luff cylinder certainly is capable of lifting loads, it is proper operation to lift the load with the winch, then slew, extend or retract the load with the boom. This is the easiest, and most precise way to operate a Unic.

Thanks to the advanced hydraulic systems integrated into all Unic truck cranes, operators can smoothly control the winch while extending or retracting the main boom. This seamless operation is further enhanced by Unic's Balance Retention feature, which automatically regulates the speed of multiple functions when used concurrently. Operators can fine-tune both speed and control in real time to suit their preferences and operational needs.



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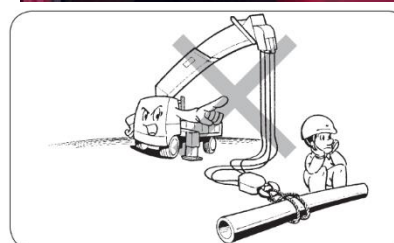
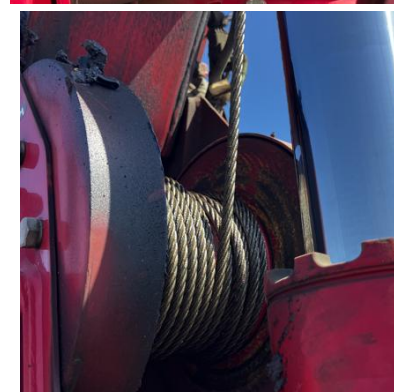
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'Bird-nesting' the Wire Rope and How to Avoid it

It is highly important that the wire rope is tight and uniform when wrapped onto the winch drum. Failure to do so can cause the wire rope to be pulled into subsequent layers of rope which potentially can damage the rope or cause loads to drop as the rope is pulled free from lower layers.

'Bird-nesting' occurs when the rope is not spooled onto the drum neatly and eventually the rope becomes tangled in amongst itself. This is predominately caused by the operator allowing the hook block to be rested on the ground whilst continuing to winch down. This causes the rope to become slack and eventually create the 'bird-nest' situation.

In the event a 'bird-nest' occurs, it is vital the operator does not winch up. The first step is to luff the boom up, so that the hook is lifted off the ground and tension is applied back onto the rope. Once this is achieved, winch the hook down until all the parts of tangled wire rope is wound off the drum. The boom may have to be extended and raised further in order to keep the hook off the ground. Once all tangled wire rope is off the drum, and only tight and well wrapped rope is present, the hook can then be winched back up to neatly wind the rope back onto the drum. Having a weight on the hook during this process will help to tightly wrap the rope back onto the drum.

**Below Ground Lifting**

Whilst winching below ground, it is important to not wind too much rope off the winch drum. Winding too much rope off the drum is a highly dangerous situation which can cause damage to the winch drum, winch gearbox or wire rope. It can also cause the rope to potentially come free from the winch rope retaining wedge, and result in the winch rope becoming dislodged from the crane completely.

It is the operator's responsibility to continuously monitor the winch drum and never allow less than three complete wraps to be present on the winch drum at any time. The operator should consult the below ground lifting charts which are present in the Use and Maintenance manuals provided with the crane, to calculate and plan their lift ahead of time. This will ensure the operator does not overwind the rope off the drum during a lifting operation.

New models of Unic truck cranes are installed with a 'low rope switch'. This switch will disengage the winch motion when three wraps of rope remain on the winch drum. This system has been phased in from models manufactured from mid-2024. The operator must still continue to monitor the winch drum to ensure the rope is laid on correctly. Retro-fit low rope switch kits are available upon request for older model cranes if required.