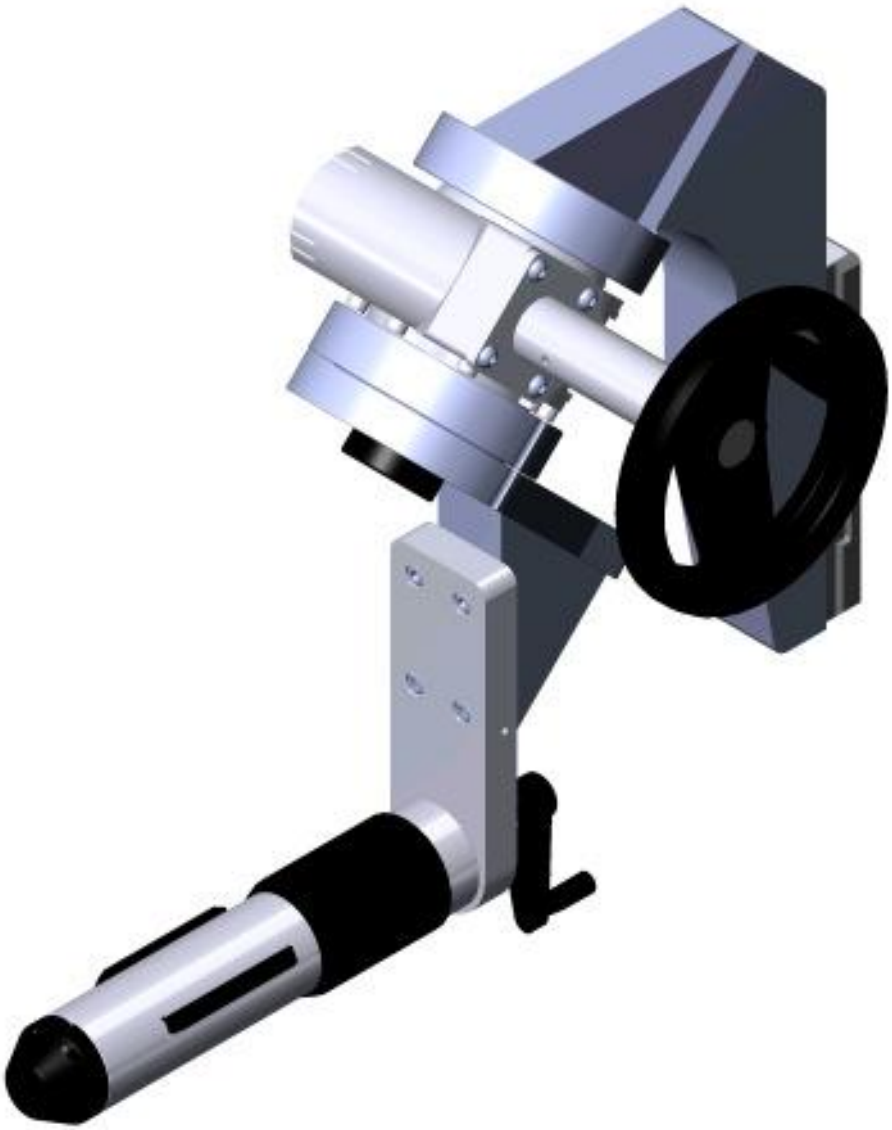
Vertical Spindle with Mechanical Rotation



Operator Manual

Read this manual before use

For European models this manual supports the CE Declaration of Conformity

Retain for future reference

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Introduction

Scope of Manual

This manual has been compiled to assist in the operation and maintenance of the Packline Vertical Spindle and in the case of European models, to meet regulations stated in the CE Declaration of Conformity.

There are individual datasheets for the Vertical Spindle Attachments and their optional features. Please ensure you have the relevant datasheet supplied with this manual. For bespoke solutions, an addendum may also be supplied to give specific information on the design.

General Safety

The Packline Vertical Spindle Attachment should:

- **Be specified to your application** - Considering strength, stability and suitability. Taking into account the Safe Working Load of the Lifter and its fitted Attachment - the load should not exceed the guidelines i.e. max. load and load centre distance.
- **Be tested with the specified load/reel -** Every effort has been made to ensure that the Lifter and Attachment are suitable to most applications however, due to variations in reel construction and type of load, each application should be tested for suitability and safe operation.
- **Only be installed and maintained by competent authorised person(s).**
- **Only be operated by trained authorised personnel -** To aid in-house training, Packline are able to offer training packages.
- **Only be operated according to the instructions set out in this manual -** Ensure all relevant personnel have access to this document. Packline Ltd will not accept responsibility for any consequences arising from misuse of the Lifting Attachments.
- **Only be maintained in accordance with the National regulations -** The Packline Maintenance Schedule supports European LOLER 98 regulations.
- **NOT be operated unless all supplied covers, guards and fail-safe locks are correctly fitted.**
- **NOT be modified without the written permission of Packline Ltd -** The company will not be held responsible for any injuries to personnel or damage caused, due to unathorised modification of equipment.
- **Be disposed of in a responsible manner** - If in doubt, contact Packline Ltd.

Terms used in this manual:

Warning! This may result in injury if not observed.

Caution This may cause damage to equipment if not observed.

Note This highlights correct use of equipment or characteristics of the equipment.

The contents of this publication may not be copied, either whole or in part, without the consent of Packline Ltd.

Due to our policy of continuous improvement, Packline reserves the right to make technical improvements and alterations without notice.

Do Not:

- Attempt to lift loads that exceed the certified **SAFE WORKING LOAD** and load-centre distance of the Lifter or the Attachment.
- Lift objects other than those specified by Packline Ltd.
- Drop loads onto the Attachment, as this can bend or weaken the Attachment or the Lifter.
- Attempt to use the Attachment if damaged or malfunctioning.
- Use in a potentially explosive atmosphere.
- Run near the Lifter or Attachment.
- Operate the Lifter when a person is loading/unloading the Attachment.
- Swing or step on the Attachment - the Attachment is not for lifting personnel.
- Wear loose garments.
- Remove covers, or service Attachment unless trained.
- Allow the Attachment to rest on an obstacle whilst lowering due to the risk of overturning or dropping load.
- Maneuver a Lifter with the Attachment in the uppermost position except for positioning purposes during loading and unloading operations.
- Allow the Attachment to have direct contact with foodstuffs.
- Stand or put body parts under an elevated load.
- Operate the Attachment if the service period has expired.
- Leave equipment loaded for a period longer than required for the application. If leaving the unit, the load should be relieved.

Always:

- Follow HSE guidelines for safe lifting and handling.
- Ensure hands and feet are clear of all moving parts and care is taken not to trap them whilst loading/unloading.
- Transport loads at a safe speed.
- Use the Attachments as specified.
- Check the condition of the Lifter and Attachment before and after use.
- Wear protective footwear when using the Attachment and handling loads. Ensure long hair is tied back
- Wear protective gloves if using constantly.
- Engage/disengage loads properly from Attachment - follow guidelines.
- Locate Attachment with label upwards (when using with Compac Lifter)
- Observe Attachment and load combination and individual ratings.
- If using in a constricted area, operate from unobstructed side.
- Ensure adequate lighting levels and visibility for safe operation.

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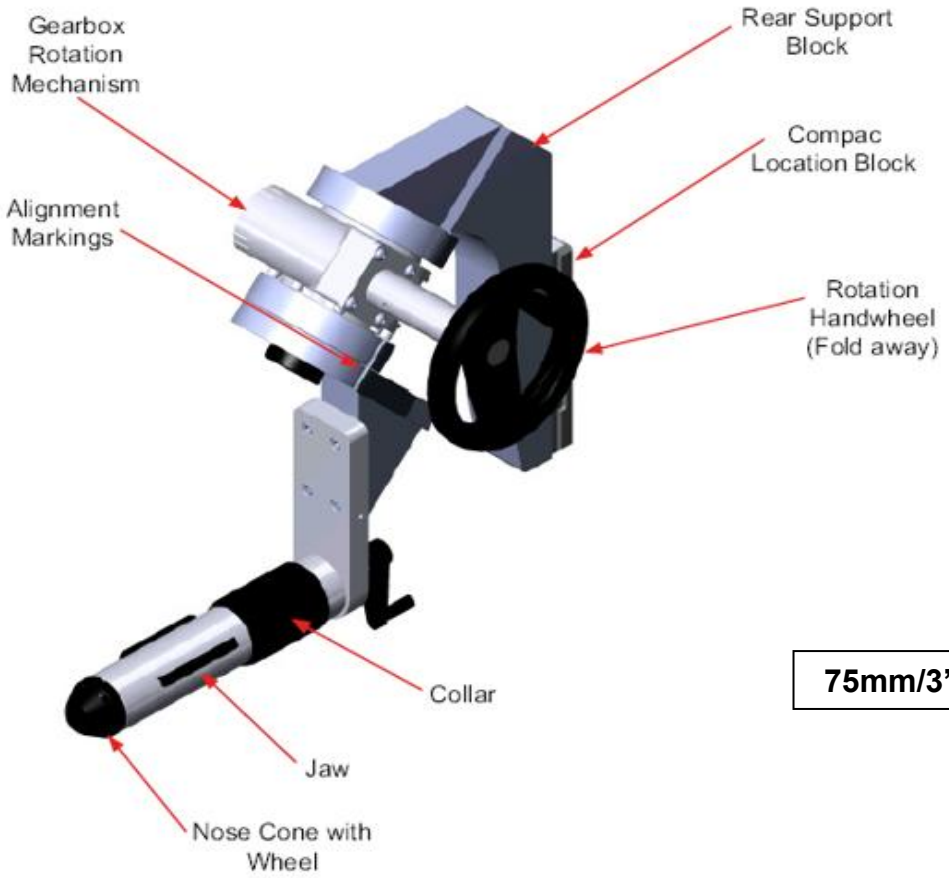
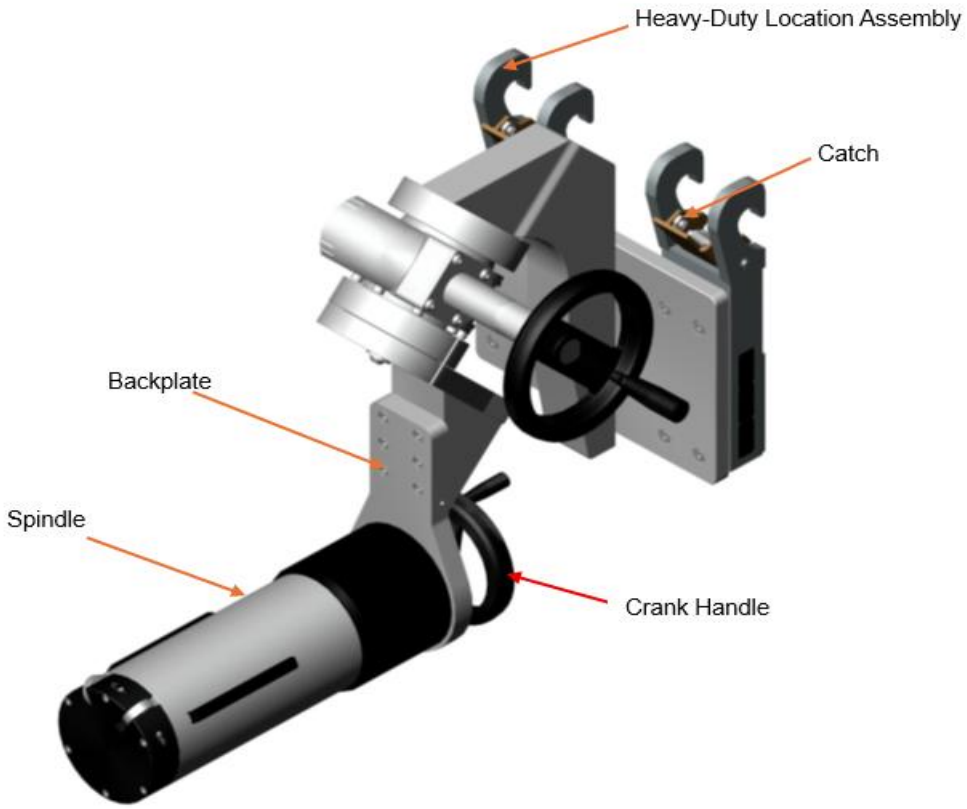
Part Designation



75mm/3” Vertical Spindle



152mm/6” Vertical Spindle

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Technical Specification

Capabilities	A technical specification for the individual Attachment purchased should be supplied separately, detailing overall dimensions and spare parts.
Construction	Mainly constructed from anodised Aluminium 6082/T6, Stainless Steel 303/304, Phosphor Bronze, Brass, Delrin/Acetal and Polypropylene. The Heavy-Duty Location kit contains zinc plated mild steel parts.
Rotating Mechanism	This allows the reel to be turned manually through 90 degrees about the centre of mass, from horizontal to vertical or vice-versa. As the load increases, the turning motion is more difficult. **The length of the reel changes the centre of gravity, which can change the ease of rotation.** The centre of mass of the reel should coincide with the axis of rotation, near the end of the spindle, depending on the model. Please see operating instructions. A locking pin secures the rotation mechanism in either the vertical or horizontal position on all manual rotation models. Geared mechanisms are available to reduce the manual effort involved.
Spindle Mechanism	This is inserted into the reel's core to grip it securely. Spindles are available for 70mm (2.7"), 75mm (3") and 152mm (6") cores. Rotating the Crank Handle pushes the jaws out to grip the core. An internal slip torque mechanism ensures a firm grip. The factory set level is adjustable to suit different reel cores. When releasing the reel to unload it in the horizontal position, the serrated jaw is on the underside to prevent catching the core during transfer. The nose cone has a lead to allow easy entry into the core. Nose wheels can also be fitted to assist transfer of the reel. Special short Spindles are available with flat noses. Extended options are available to support longer reels in restricted areas, with more wheels to assist transfer. The Collar allows the reel to be supported whilst clamping.
Location Kits	The Location Kit can vary to suit the lifting equipment on which the Attachment will be mounted, depending on whether it is fixed to the machine or interchangeable. The Packline Location Kit works with the Compac range of lifters. Other kits are available for different lifter models.
Reel Information	This Attachment is not suitable if the reel is liable to telescope and unravel if picked up by the core. Packline recommends the Attachment is tested with the load/reel to assess its suitability. Reels less than 190mm wide require a special short nose version to ensure full engagement of the jaws. If the reel is too narrow, there may be a danger of it falling off the end during the transfer to the mandrel. When reels are stacked on top of one another, there is a risk that the Vertical Spindle may be lowered into more than one reel, resulting in the spindle trying to pick up two. To overcome this issue, an additional collar may be requested therefore allowing the operator to lower the Spindle down only so far.

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Attachment Fitting

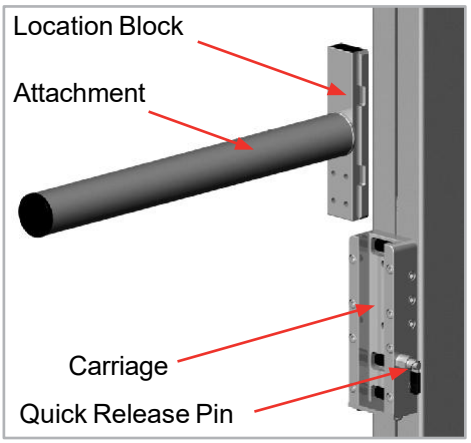
The Attachment and Lifter used will determine the way that the Attachment is fitted. The Attachment can be permanently fixed to the Lifter or Interchangeable, utilising a quick release system incorporated on the Lifter or the Attachment.

Fixed Attachment - the Attachment is permanently fixed on to the Lifter and so requires no fitting. Please note, the Attachment should only be removed by authorised personnel.

Interchangeable Attachment - the Attachment can be removed from the lifting equipment incorporating a Quick Release mechanism. This mechanism is to prevent the Attachment from inadvertently riding out of the Carriage whilst lowering i.e. hitting an obstacle. The Quick Release mechanism is fitted to the Lifter on the Packline Compac and some other types of lifter, and fitted to the Attachment on Heavy-Duty Stackers.

Packline Compac Lifters

Fitting an Interchangeable Attachment



1. Set the carriage at a suitable working height and ensure the Quick Release Pin is disengaged by twisting to the unlock position.
2. Lift the Attachment safely and slot the Location Block into the Carriage, ensuring the SWL label is upwards. Once the Attachment is part way into the Carriage assembly, slide it down until a positive stop is reached.
3. Ensure the Quick Release Pin is fully engaged by twisting it to the locked position.

Warning! Care should be taken when fitting/removing an Attachment to ensure no injury is caused. Do not place fingers underneath the Attachment Location Block. Always ensure hands and feet are clear of all moving parts and care is taken not to trap them whilst loading, unloading, fitting an attachment, or in adverse conditions.

Removing an Interchangeable Attachment

1. Set the carriage at a suitable working height and ensure the Quick Release Pin is disengaged by twisting to the unlock position.
2. Take the weight of the Attachment Assembly and then lift until the Location Block is clear of the Carriage Assembly. The Attachment can now be removed and replaced with an alternative.

Warning! When the Quick Release Pin is engaged, the operator should ensure that they do not hit any obstacles whilst lowering, nor continue lowering when the Attachment has deposited the load, as this will drive the load into the obstacle or could cause the Lifter to overturn.

Warning! If the weight of the Attachment falls outside of the guidelines for manual lifting, either seek assistance, use a lifting device or a purpose-built Docking Station (available as an option from Packline).

Docking Station Option - Packline can supply custom platforms which are designed to support their Attachments whilst fitting/removing. If this has been supplied, please consult the relevant manual for information.

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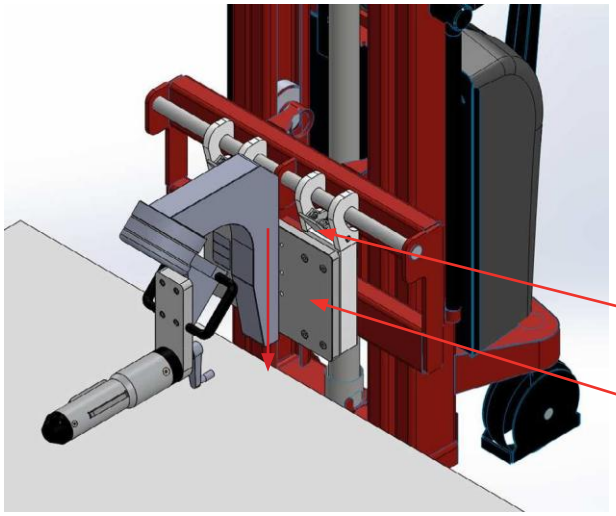
Attachment Fitting

Heavy Duty Stackers - Removal/Fitting of Interchangeable Attachment

For Heavy Duty Stackers, the procedure for removal of the attachment is as follows:

Fig.1

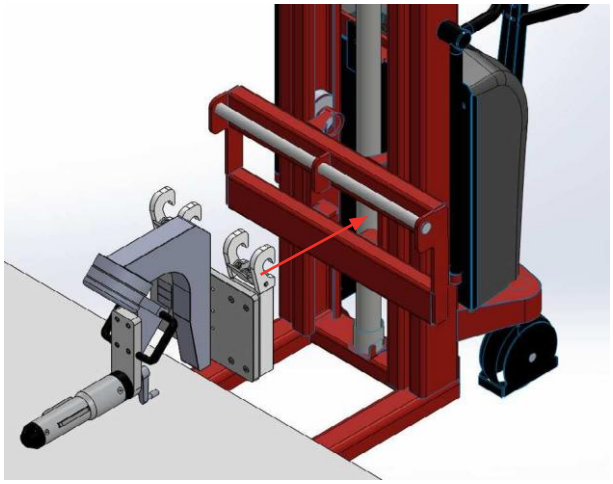


1. Position Attachment over a solid platform or surface.

2. Ensure the Quick Release catches are pulled forwards (using the uppermost lip).

3. Lower the Attachment onto the surface until the surface has taken its Weight (fig.1). Ensure the flexline bar has moved as low as it can.

Fig.2



4. Move the Heavy Duty Stacker away from the attachment. A second person may be needed to ensure that the Attachment is stable during this procedure.

5. Fitting is the reverse of removal. Confirm the catches are engaged before transporting or lifting to ensure the Attachment is secure.

Warning! Care should be taken when fitting/removing an Attachment to ensure no injury is caused. Do not place hands/fingers behind the Heavy-Duty Location Assembly or in the Catch/Hook mechanism. Always ensure hands and feet are clear of all moving parts and care is taken not to trap them whilst loading, unloading, fitting an Attachment or in adverse conditions.

Warning! This operation can be performed manually by lifting the Attachment out of the Lifter however, if the weight of the Attachment falls outside of the guidelines for manual lifting, seek assistance, use a lifting device or a purpose-designed Docking Station (available as an option from Packline).

Docking Station Option - Packline can supply custom platforms which are designed to support their Attachments whilst fitting/removing. If this has been supplied, please consult the relevant manual for information.

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Operation

Guidelines for Reel Handling

To ensure safe lifting and smooth rotation, it is important to note the following:

1. The full length of the jaws **must** be within the core of the reel before any attempt is made to expand them for clamping (Fig.1).

2. The Spindle should be inserted into the reel as far as possible (Fig. 2).

3. For best balance and ease of rotation, the ideal reel position is with its Centre of Mass coinciding with the axis of rotation (see Fig.3). Some latitude in this position is possible given the mechanical advantage of the gearbox.

4. Bear in mind that if the Attachment is not inserted far enough (Fig.4), more effort will be required to "lift" the reel when trying to turn it, whereas if insertion is excessive (Fig.5), the reel will tend to "fall" round rather than require turning.

The jaws of the Spindle are expanded when the crank is turned clockwise. With standard Vertical Spindles, to apply sufficient pressure to grip the core and for safe lifting, the number of complete crank handle turns will be between 5 and 7 after resistance begins. The specific number of turns is dependent on the reel's size and core type and must be determined by a qualified person.

For Vertical Spindles fitted with an optional Torque Limiter, the crank must be turned until the ratchet can be heard/felt engaging and should be tested with each reel to be lifted.

Caution The torque mechanism is factory set and must not be adjusted. If a change in setting is required, please contact Packline.

Markings

It may assist the operator to mark the Attachment with a label or tape to show the correct position for the reel/load. Where reels of varying widths are to be lifted, alternative colours could be used for different sizes. Packline recommends that a reference chart is used to help with this. Alternatively, a collar could be supplied to physically limit the insertion of the Spindle.

The positioning guidelines are especially critical when using the Vertical Spindle with Mechanical Rotation, as large reels could hit the handwheel during rotation.

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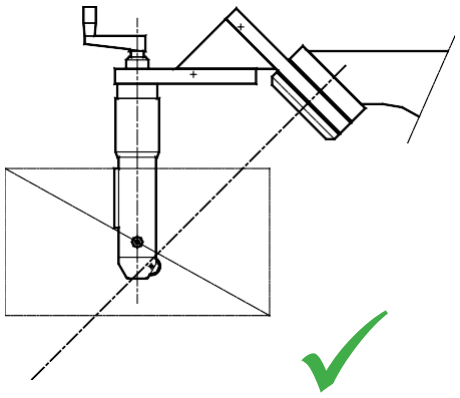

Fig. 1

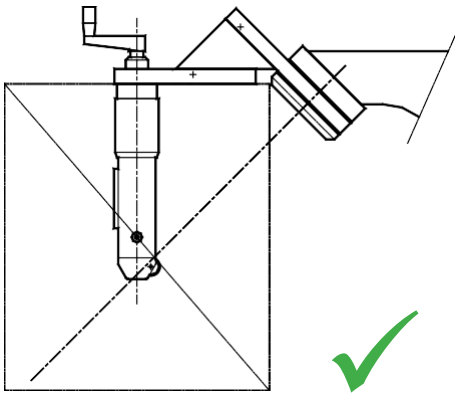

Fig. 2

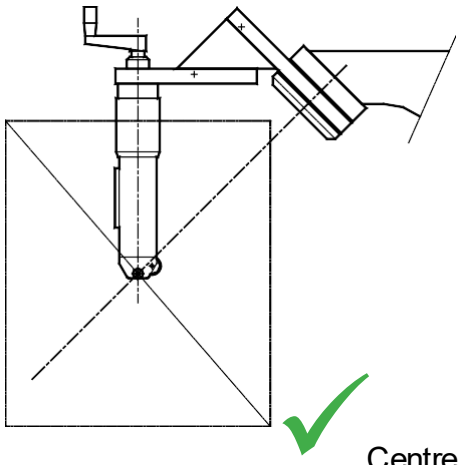

Fig. 3

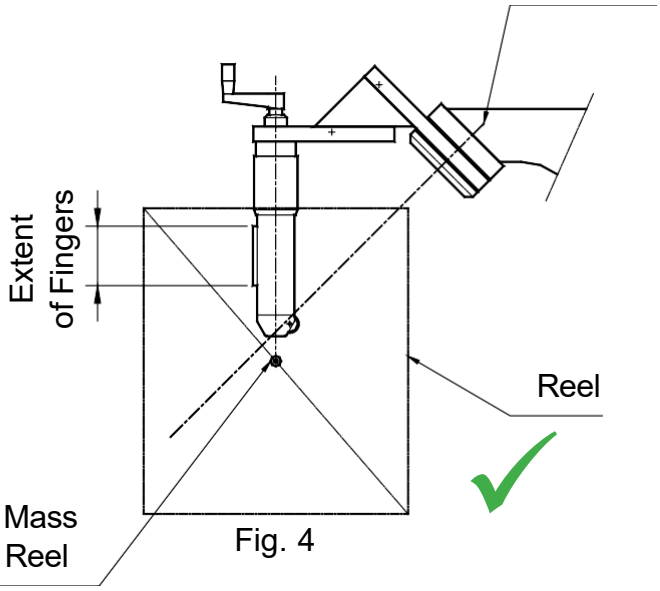

Fig. 4

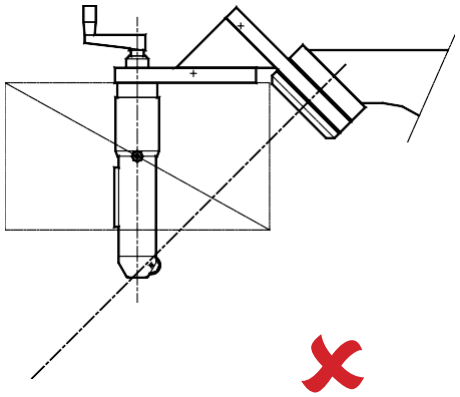

Fig. 5

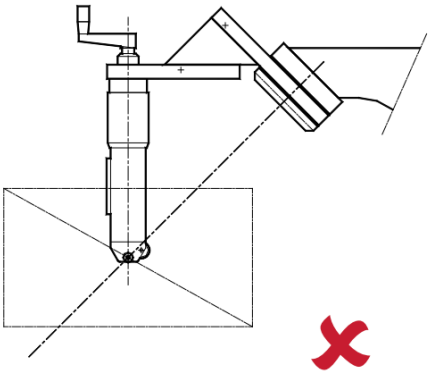

Fig. 6

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Operation

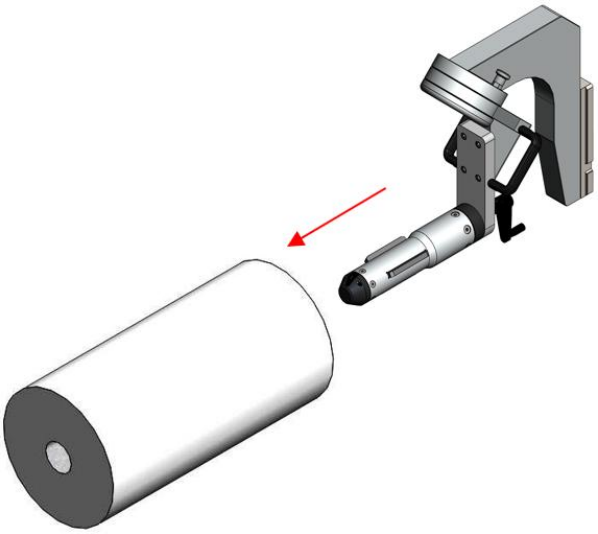

Fig.1

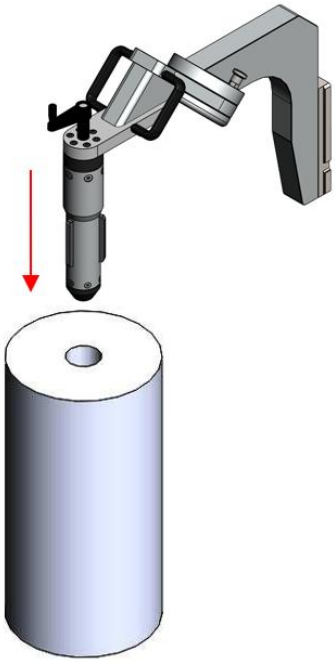

Fig.2

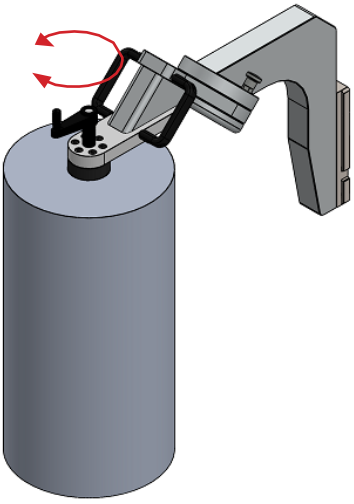

Fig.3

Some variances may be required to the following procedure given the nature of the application.

1. If relevant, release the battery charger lead and release the brakes on the rear wheels of the Lifter.

2. With the Attachment at the lowest travelling height, manoeuvre the Lifter so the Attachment is near to the reel to be lifted.

3. Apply the brakes and as required, raise or lower the lifting Spindle using the appropriate controls located on the lifting machine.

4. When the Spindle is at the desired height, either release the brakes and move the Lifter forward to slide the Spindle into the core of the reel (Fig.1) or position the Spindle over the core of the reel (Fig.2) before lowering the Spindle into the core.

Warning! Ensure the Spindle is engaged as described previously.

5 Once the reel is safely loaded onto the Spindle and the jaws are engaged, the Attachment can be raised or lowered to a safe height for transportation by using the appropriate controls. The reel should be transported in a horizontal position. If necessary, position the Attachment at a comfortable working height and rotate the reel through 90 degrees using the rotation handwheel.

6. Release the brakes and manoeuvre the Lifter to align it with the desired location for unloading the reel.

7. Apply the brakes and raise, lower or rotate the Attachment using the appropriate controls and rotation mechanism, to line up with unloading location.

8. To eject the reel, release the jaws and push off or raise the Attachment out from the reel's core.

Caution When releasing a reel, do not force the handle when it reaches a stop.

9. Once the reel has been unloaded, the Lifter can be manoeuvred away from the reel and the Attachment can be lowered to a safe height using the appropriate controls.

10. Return Lifter to the storage point and connect lead to recharge battery when not in use.

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Markings

Label	Location & Meaning
	On Location Kit Shows Safe Working Load (SWL) at Load Centre distance Mass of Attachment and Centre of Mass
	On Location Kit Shows assembly part number, Attachment serial number and year of manufacture
	On Location Kit Warning as both the Lifter capacity and Attachment capacities must be considered. e.g. a high rated Attachment could be on a lower rated truck, which would exceed the truck capacity and cause damage when loaded
	Optional Warning your hand is near a pinch point
	Optional Do not drive Attachment into ground or legs
	On rear of Mounting Plate/above Handle Shows the operation of the handle to open the fingers (grip the core) and to close the fingers (release the core).

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Maintenance

Overview

The Vertical Spindle has been manufactured to ensure that maintenance is kept to a minimum and the materials used should minimise corrosion however, the unit should regularly be wiped down to support this. Packline does not recommend that chlorine-based cleaners are used on the Vertical Spindle Attachments.

Warning! Always remove the Attachment from the Lifter before any maintenance is undertaken.

Every Shift

1. Check Attachment's condition and function.

Warning! The following tasks should be carried out by skilled personnel.

Every Month

2. Grease Spindle screw.

Annually

1. Check the torque setting.
2. Check/replace the fingers.
3. Check/replace the roller nose.
4. Check cam/screw.

In accordance with the Health and Safety Regulations, it is a legal requirement that all lifting equipment is thoroughly and regularly examined and tested where necessary.

Packline provides a full maintenance package for supplied equipment. For details, please contact the office.

A technical specification sheet for the exact Attachment purchased should be supplied separately, detailing overall dimensions and spare parts.

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Notes

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