REID LIFTING

LIGHTWEIGHT ■ PORTABLE ■ SAFE

PORTA-GANTRY®

5000

PORTA-GANTRY®

PORTA-DAVIT®

T-DAVIT®

PORTA-QUAD®

PORTA-LIFTER®

Assembly & Operation Guide

for PORTA-GANTRY systems with Working Load Limit (WLL) 5000kg

ASSEMBLY & OPERATION GUIDE

CONTENTS

INTRODUCTION

All users must read these operating instructions carefully prior to the initial operation. These instructions are intended to acquaint the user with the PORTA-GANTRY 5000 its key options and enable him/her to use it to the full extent of its intended capabilities.

The operating instructions contain important information on how to handle the PORTA-GANTRY in a safe, correct and economic manner. Acting in accordance with these instructions helps to avoid dangers, reduce repair costs and down time and to increase the reliability and lifetime of the PORTA-GANTRY.

Anyone involved in doing any of the following work with the gantry frame must read the operation instructions and act accordingly:

Anyone involved in doing any of the following work with the gantry frame must read the operation instructions and act accordingly:

- operation, including preparation, trouble shooting during operation and cleaning
- maintenance, inspection, repair
- transport

Apart from the operating guide, health & safety and accident prevention act valid for the respective country and area where the gantry frame is used, the commonly accepted regulations for safe and professional work must be adhered to.

N.B. This document should form an element of the overriding Risk Assessment and Method Statement required for each lift.

CORRECT OPERATION

Inspection prior to initial operation:

Each PORTA-GANTRY frame must be inspected prior to initial operation by a competent person. The inspection is visual and functional and shall establish that the A frame is safe and has not been damaged by incorrect assembly, transport or storage. Inspections are instigated by the user.

Inspection before starting work:

The inspection procedure requires that a valid inspection/test certificate has been submitted to and checked by the user.

Before starting work inspect the gantry frame assembly and all load-bearing components for visual defects. Furthermore, test the trolley for free movement along the beam.

Ensure that the overall WLL limit is adhered to – following the necessary Risk Assessment and Method Statement.

Maximum capacity:

The PORTA-GANTRY assembly is designed to lift and lower loads up to the related capacity. The capacity indicated on the frame (5000kg in this case) is the maximum working load limit (WLL) or safe working load (SWL) which must not be exceeded (definition is country dependent). Each lift must be properly planned and the weight of the load to be lifted must be known by the operator.

NOTE:

1. We recommend the use of a load-sensing device on all lifts.
2. **The Gantry should NOT be moved under load. Any deviation from this should be supported by a risk assessment and method statement.**
3. **The WLL (or SWL) rating must NOT be exceeded – risk assessment & method statement must consider additional loading in "wet lift" situations.**

NOTES FOR CORRECT USAGE

- Do not throw the gantry frame or its components down or stack items on top of it. Always place properly on the ground avoiding damage to the equipment.
- Assemble only as instructed.
- The beam must be horizontal prior to any lift.
- Do not use the gantry frame if the trolley does not run freely along the beam.
- Attach hoist only to the lifting point on the trolley.
- Avoid side pull. Lift only when load chain(s) form a straight and vertical line between load and lifting attachment point on the gantry trolley.
- Do not allow load to swing.
- Only raise and lower loads when foot brakes are 'on'.
- The gantry is not to be moved under load except when a Competent Person or authority approves a risk assessment and a method statement for a particular reason.

Danger zones:

- Do not lift or transport loads while personnel are in the danger zone.
- Do not allow personnel to pass under a suspended load.
- After lifting, a load must not be left unattended for a long period of time.
- Start moving the load along the beam only after it has been attached correctly and all personnel are clear of the danger zone.
- Be aware of and comply with the manual handling issues and options for the manoeuvring of PORTA-GANTRY components.

Attaching the load:

The operator must ensure that the hoist is attached in a manner that does not expose him or other personnel to danger by the hoist, chain(s) or the load.

Temperature range:

The PORTA-GANTRY 5000 can be operated in ambient temperatures between -10° and +50°C. Consult your supplier in case of extreme working conditions.

Regulations:

The Supply of Machinery (Safety) Regulations (1992) (S.I. 1992 No. 3073) as amended (S.I. 1994 No. 2063), The Provision and Use of Work Equipment Regulations 1998 (S.I. 1998 No. 2306), The Lifting Operations and Lifting Equipment Regulations 1998 (S.I. 1998 No. 2307), Machinery Directive 98/37/EC and/or safety regulations of the respective country for using manual lifting equipment must be strictly adhered to.

Maintenance/Repair:

In order to ensure correct operation not only the operations instructions, but also the conditions for inspection and maintenance must be complied with. If defects are found stop using the PORTA-GANTRY immediately.

INSPECTION/MAINTENANCE:

Regular inspections:

To ensure that the gantry frame remains in safe working order it must be subjected to regular inspections by a competent person. Inspections are to be annual unless adverse working conditions or profile of use dictate shorter periods. The components of the gantry frame are to be inspected for damage, wear, corrosion or other irregularities. To check for worn parts it may be necessary to disassemble the gantry frame.

Repairs should only be carried out by an approved specialist workshop that uses original spare parts.

Inspections are instigated by the user.

PORTA-GANTRY® 5000

5000Kg WLL | 3-4 people | 275 - 294Kg flatpack

ASSEMBLY INSTRUCTIONS:

NB: Appropriate PPE should be worn

• Gloves • Protective footwear • Hard hat

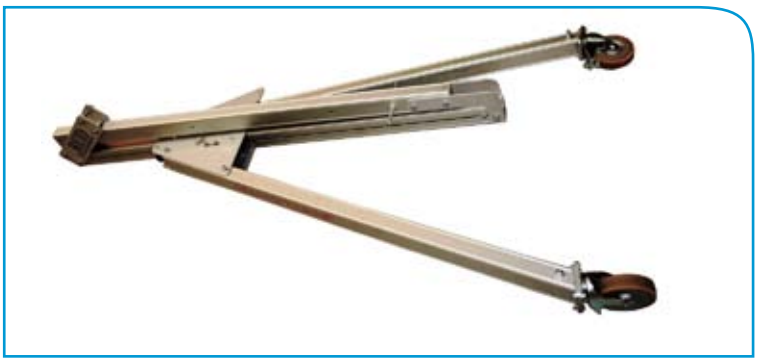
PORTA-GANTRY system delivered Flat Packed on a Pallet:

- 2 x A-Frames
- 1 Trolley
- (Stabiliser legs - Options)

Beam sometimes shipped separately

Gantry Tool Set:

- Ratchet handle
- 24mm socket
- 24mm combination spanner
- 14mm long series allen key



A-Frame prior to assembly

Assemble each A-Frame by:

- Position legs & bolt in place
- Attaching leg brace

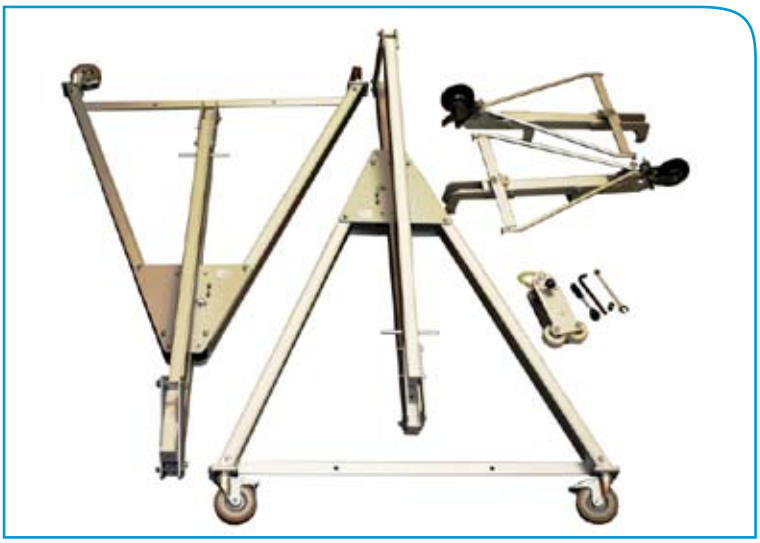
The unit is most easily assembled with the A-Frames at their lowest height setting and this is the recommended position to start from.
(A-Frame shown with Geared elevation & Stabiliser leg attached)

Apply the castor brakes

Put brakes on only with protective footwear

DO NOT USE HANDS

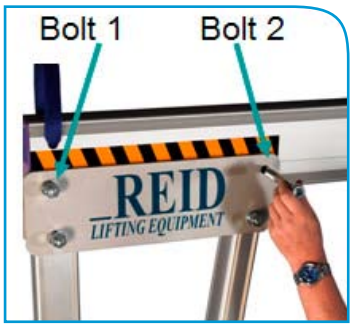
Lock castors in position in line with the A-Frame Tie Bar, as shown:



Pre Assembly visual check

- Beam
- Trolley
- 2 x A-Frames
- Tool Set (Option)

(May include 2 x Stabiliser legs - Options)



Cheek Plates bolts 1 & 2

Lay the two A-Frames a beam length apart on a flat surface in line with each other with the castor wheels outward and brakes on.

Lay the beam on the A-Frames, resting on Bolt 1 on each cheek plate.

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Offer one end of the beam to the rear bolt-hole on the cheek-plate (Bolt 1) and insert a bolt. Put on plain & spring washers and nut, finger tight.

Thread beam trolley over the other end of the beam and lock with friction brake at approximately the centre position.

Offer the beam to the rear bolt-hole on the cheek-plate (Bolt 1) and insert a bolt. Put on plain & spring washers and nut finger tight.

Assess whether the lifting device (usually chain block / hoist) needs to be attached to the trolley at this stage or when fully assembled.

Heavier hoists are best attached at this stage to avoid lifting and working at height.

Visual Check

With the help of 2 (or 3) people, scissor the beam and A-Frame into position (using the first bolt as a hinge)

BE CAREFUL NOT TO TRAP ANY HANDS IN THIS OPERATION

Insert the second bolt into the cheek-plate. Tighten both bolts. (Do not over tighten)

N.B. The use of a suitable platform ladder may be required to reach the bolt-hole.

Move trolley to other end of beam, opposite to the end to be raised, and secure by tightening the trolley knob.

(For additional safety whilst the beam is at such an angle a spare bolt can be temporarily be placed in an adjustment point on the beam to prevent the trolley slipping down the beam)

Repeat the scissor activity at the opposite end of the gantry.

Insert and tighten the final beam bolt.

N.B. Again, the use of a suitable platform ladder may be advisable to reach the bolt-hole.

If the hoist is not already attached to the suspension point on the trolley, do so now (using stepladder if height setting requires).

If this is not safe, disassemble the gantry and re-start adding the hoist prior to raising the A-Frames.

The gantry is now erect at its lowest height setting.

Tighten all bolts to 27 Nm (20 ft lbs)

(If raising the beam height – leave the two height adjustment bolts loose on each upright – see next image)

Decide on the height required (always using the lowest setting for the work in hand).

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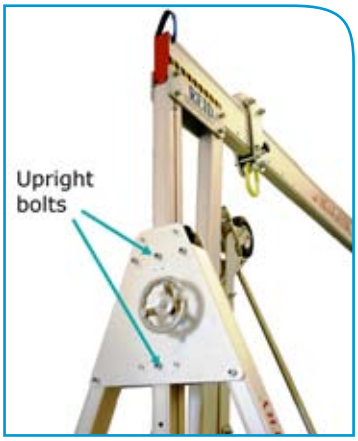
Beam Height Adjustment - A-Frames with Geared Handwheel:

A) Beam Height Adjustment – A Frame with Geared Handwheel:

Two Person Operation is Recommended – one on each A-Frame working concurrently.



For taller A-Frames suitable platform ladder should be used to operate the gearwheel at an ergonomic height.

1. Decide on the height required (always use the lowest setting for the work in hand).
2. Ensure the castor brakes are on.
3. Hold the A-Frame wheel securely.
4. Remove 2-off upright bolts.
5. Compress centre button with thumbs whilst holding the wheel firmly.
6. Rotate the wheel (clockwise to raise, anti-clockwise to lower) to adjust height to required setting, ensuring that the bolt holes are aligned.
7. Decompress centre button, but continue to hold wheel securely.
8. Re-secure with 2-off upright bolts, nuts and washers.
9. The above steps 4-8 to be done concurrently on each A-Frame, ensuring that both A-Frames finish at the same height.

10. Check all bolts on the gantry are secure.
11. If the hoist is not already attached to the suspension point on the trolley, do so now (use a suitable platform ladder if height setting requires). If this is not safe, disassemble gantry and re-start from step 6 of the Gantry Assembly Instructions.

N.B. Ensure the beam is horizontal prior to any lift – see Method Statement.

Release trolley brake and wheel brakes to position the PORTA-GANTRY directly over the lifting point.

B) Beam Height Adjustment – A Frame with Ratchet System:

Two Person Operation Recommended – one on each A-Frame working concurrently.

1. Decide on the height required (always use the lowest setting for the work in hand).
2. Remove lower bolt from behind the webbing strap.
3. Tension the webbing strap slightly with the ratchet and remove the upper bolt.
4. Operate ratchet to adjust height to required setting, ensuring that the bolt holes are aligned.
5. Insert upper bolt to retain the upright to the frame and apply washers and nut.
6. Release tension in ratchet strap and insert second (lower) bolt, washers and nut.
7. Check all bolts on the gantry are secure.
8. If the hoist is not already attached to the suspension point on the trolley, do so now (using platform ladder if height setting requires). If this is not safe, disassemble gantry and reassemble the Gantry with the hoist attached to trolley

N.B. Ensure the beam is horizontal prior to any lift – see Method Statement.

Release trolley brake and wheel brakes to position the PORTA-GANTRY directly over the lifting point.

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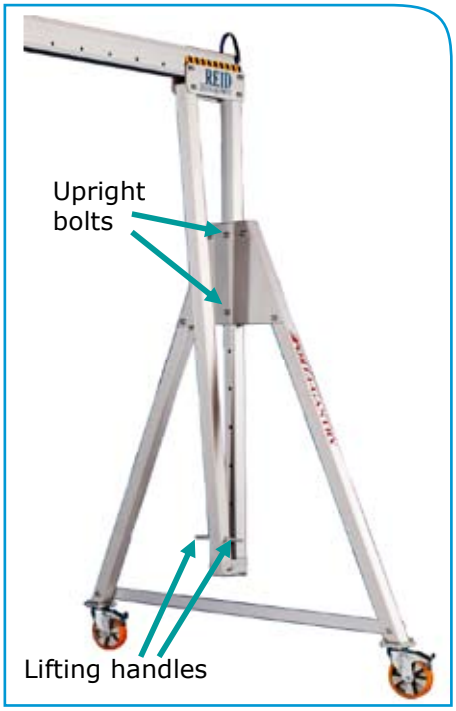


C) Beam Height Adjustment – Small A Frame with no mechanical aid fitted:

Always wear gloves when using this item.

Adjust the upright position at one A-Frame (a 2 man operation – one on the bolts and one on the upright) by removing 2xUpright securing bolts, moving the upright to the appropriate setting by lifting from the strut handle.

Re-secure with bolts, nuts & washers (Do not over tighten).

Repeat the height adjustment at the opposite end.

N.B. Ensure the beam is horizontal prior to any lift – see Method Statement.

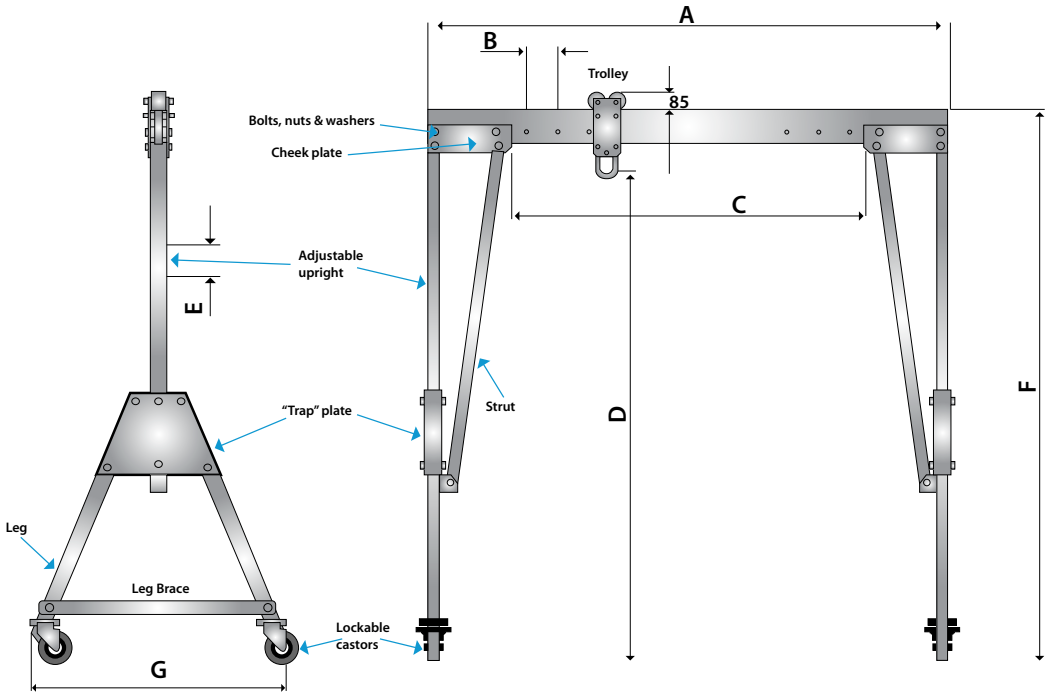
Release trolley brake and wheel brakes to position the PORTA-GANTRY directly over the lifting point.

PORTA-GANTRY®
500-5000

Unique portable gantry system that can safely lift to 5000kg, with manual assembly on just 4 bolts.

500 - 5000Kg WLL | 1-4 people | 92-294Kg flatpack

(S) = Small (M) = Medium (I) = Intermediate (T) = Tall (see table)



NOTE - beam height adjustment:

The height of each gantry beam is easily adjusted by the release of 2 bolts on each upright and can be easily and safely raised into position by increments of 200 or 150mm.

To assist with this activity a Geared Wheel or Ratchet system is provided for the larger gantries.

REID PORTA-GANTRY STANDARD UNIT DATA SHEET

	Overall Beam Length	Span Adjustment Increment	Max Working Span	Max Height to Lifting Eye	Height Adjustment Increment	Min Height to Lifting Eye	Max Height to Top of Beam	Max Width Across Legs	Assembled Weight (Ex Trolley)	Beam Weight	A Frame Weight		
	A	B	C	D	E		F	G					
WLL Kg / Frame Size	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg		Kg
500 (S)	2500	200	1580	2361	150	1611	2678	1220	85	19	33	1	92
1000 (M)	3920	200	3000	2854	150	2104	3171	1429	109	29	40	2	116
2000 (I)	4570	200	3650	3143	200	2143	3459	1726	125	33	46	2	132
3000 (T)	4570	200	3650	4089	200	2889	4405	2011	205	43	82	3	212
5000*(I)	4570	200	3650	3168	200	2168	3616	1726	265	71	97**	3/4	275
5000*(T)	4570	200	3650	4040	200	2840	4485	2011	293	71	111**	3/4	294

All WLL ratings can be produced in each standard frame size — Custom spans, height and Working Load Limits (WLL) on application.

*N.B. PG5000 beam depth (250mm), trolley depth (570mm) & trolley top above beam (125mm) are larger than the standard beam depth (152mm), trolley depth (385mm) and trolley top above beam (85mm)

** This weight includes the stabiliser leg option — Please note that dimensions may vary marginally — **NB. No leg brace fitted on 'S' systems**

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VARIANTS & OPTIONS:

- A-Frame Handling
- Wind Up Jack Legs
- Customised configurations

A-FRAME HANDLING:

The A-Frames & Stabilisers:

Fig 1.

Fig 2.

Minimum Two Person Operation Recommended

The A-Frames of WLL 5000kg capacity need to be handled with care and respect. The centre of gravity is high on the taller models (T & I) and should have a stabiliser leg fitted. There are two safe modes of handling depending on the environment.

In the "Stabiliser Leg' mode it is designed for use on flat, concrete or tarmac surfaces. This is the ideal mode for moving about in a factory or depot environment.

In the 'Wheelbarrow' mode it is designed for manoeuvring on rough ground and open areas with the centre of gravity of the A-Frame as low as possible.

Manoeuvring A-Frame using Stabilising Leg in Wheelbarrow Configuration:

Two Person Operation Recommended

Always wear gloves when using this item.

1. With the A-Frame on its back, ensure that the A-Frame Castor Wheels are locked in position. Put brakes on only with protective footwear DO NOT USE HANDS.
2. Ensure that the Stabilising Leg is correctly and safely assembled in the Wheelbarrow configuration.
3. Ensure the pneumatic castor has its directional lock deployed.
4. Rotate the A-Frame onto its front so that the stabilising leg wheel is resting on the ground.
5. Using correct manual-handling procedures, two people lift the A-Frame from the tie-bar (one at Point A and one at Point B).
6. Manoeuvre the A-Frame in the same way as a wheelbarrow.
7. When 'parking' an A-Frame in this mode always apply the castor brake.

Manoeuvring A-Frame using Stabilising Leg in Vertical Configuration:

One Person Operation Recommended for Manoeuvring.
Always wear gloves when using this item.

1. With the A-Frame on its back, ensure that the A-Frame Castor Wheels are locked in position. Put brakes on only with protective footwear DO NOT USE HANDS.
2. Ensure that the Stabilising Leg is correctly and safely assembled in the vertical configuration.
3. Lift the A-Frame into the vertical position (two person activity) about the A-Frame Castor Wheels and slowing down as the vertical point is reached and exceeded.
4. Continue to tilt the A-Frame past the vertical position until the Stabilising Leg Castor Wheel takes the weight of the A-Frame.
5. To manoeuvre the A-Frame ensure that the stabiliser castor has directional lock disengaged and release the brake on the A-Frame castors.
6. With the A-Frame weight resting on the 3 castors and all pins secured with clips, unlock the castor brakes and the A-Frame is easily manoeuvred by one person with one hand on the A-Frame leg and one hand on the stabilising leg strut.
7. When "parking" the A-Frame in this mode, always apply a minimum of 2 castor brakes.

N.B. Re Tall and Intermediate (T & I) configurations:
The stabiliser leg has two settings – one for the T frame size and one for the I frame size, with adjustment between the two by the 2 bolts on the box section. Extended for the T, shortened for the I. Ensure it is set to suit the relevant frame size.

Changing Stabilising Leg from Wheelbarrow to Vertical Configuration:

Two Person Operation is Recommended
Always wear gloves when using this item.

1. With the A-Frame on its back, unpin the Wishbone Tie Bar from the Stabilising Leg (A).
2. Then unpin the castor link plate from the A-Frame Strut (B), ensuring that the weight of the Stabilising Leg is held to help prevent the trapping of hands or fingers.
3. Pivot the Stabilising Leg about the Bolted Link Plate connection, and insert the Wishbone ends (D) through the A-Frame Tie-Bar holes (C). Pin the Wishbone with 2-off pins.

Changing Stabilising Leg from Vertical to Wheelbarrow Configuration (Reverse of above):

Two Person Operation is Recommended
Always wear gloves when using this item.

1. With the A-Frame on its back, unpin the wishbone ends, and remove Wishbone ends from the Tie-Bar holes.
2. Pivot the Stabilising Leg about the Bolted Link Plate connection.
3. Pin the Castor Link Plate onto the A-Frame Strut, ensuring that the weight of the Stabilising Leg is held until securely pinned to help prevent the trapping of hands or fingers.
4. Pin the Wishbone Tie Bar onto the Stabilising Leg at both points.

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WIND UP JACK LEG OPTION (WUJL):

WUJL option may be fitted to the gantry – if so this gives fine adjustment in the height setting (300mm total lift on the uprights) and gives independent foot adjustment, particularly useful on uneven ground. If the windup jack legs are fitted the following points must be observed:

1. Check whether the castors fitted are Load Rated (or Pneumatic).
   Note: When 'all-terrain', pneumatic castors that are not rated for lifting, the WUJL system must always be applied prior to performing any lift. If load rated castors are fitted the operator can choose whether the castors or WUJL take the load on each foot of the gantry.
2. When transporting over ground or manoeuvring the gantry, into position, always have the stands in the 'parked' position as in figure.1 below or remove if required.
3. Position the gantry for the lift before setting the heights with the stand-off.
4. Before lifting ensure all jacks are in the correct lifting position and are secured with locking pins and clips as in figure.2.
5. Manually raise each leg/castor in turn and set the height by rotating jack handle clockwise
6. Having set the adjustment of all four legs, stand back from the gantry and ensure that the gantry uprights are vertical and the beam is horizontal as in figure.3.
7. If the ground that the load spreading feet are on is soft and likely to sink when the load applied put boards under the feet to spread the load further.
8. Having performed the lifting operations, put the stands in the 'park' position and disassemble.

Fig.1 Wind Up Jack Leg in 'parked' position

Fig.2 Jacks secured with locking pins and clips

Fig.3 Wind Up Jack Leg system in place – normally used with pneumatic "All terrain' castors.

CUSTOMISED configurations:

For customised systems additional assembly and operation information will be provided as required.

QUALITY & SAFETY

ACCREDITATIONS

All REID Lifting systems are tested to 150% WLL prior to shipment with test data retained against the system Serial Number.

Accreditations

Quality and Safety are key themes throughout this document and the REID Lifting ethos. It is with this in mind that we have undertaken external accreditations to ensure we stay focused on what is important to our clients and users and ahead of market trends and developments in Safety and Quality systems.

REID Lifting has been successfully audited by Lloyds Register (LRQA) for approval of its Integrated Management System combining quality systems management, environmental issues and the Health and Safety practices within the company.

REID Lifting holds the following certifications:

- **ISO 9001** - Specifies requirements for a quality management system for any organisation that needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements and aims to enhance customer satisfaction.
- **ISO 14001** - Specifies the requirements for implementing environmental management systems throughout all areas of the company.
- **OHSAS 18001** - Occupational Health and Safety Managements Systems.
- **LEEA Membership** - REID Lifting Ltd is a full member of the Lifting Equipment Engineers Association (membership 000897). REID Lifting conforms to the main aims of the Association which is to achieve the highest standards of quality and integrity in the operations of members. Their entry qualifications are demanding and strictly enforced through technical audits based on the Technical Requirements for Members.

Conformité Européenne (CE)

REID Lifting's products have been designed, tested and approved (as appropriate) by the Conformité Européenne (French for European Conformity). This certifies that REID Lifting's products meet the demands of the European Directives regarding Health and Safety requirements.

The Queen's Award for Enterprise Innovation:

REID Lifting Ltd has been awarded this prestigious award for innovative design and development of lightweight, portable and safe lifting solutions.

TESTING

Testing and Technical File review are integral parts of our design and manufacturing process – to externally verify the products, where appropriate, using government approved Notified Bodies.
All REID Lifting products are type tested at NAMAS accredited laboratories and every individual system is tested to 150% of WLL rating. Full product design & development Technical Files are available for inspection.

PRODUCT IPR

Design Rights apply to all REID Lifting Ltd products
REID PATENTS in place, or pending, for:

- PORTA-GANTRY
- T-DAVIT
- SNAPPER

All product names are Trade Marks of REID Lifting Ltd:

- PORTA-GANTRY
- PORTA-DAVIT
- PORTA-BASE
- T-DAVIT
- PORTA-QUAD
- SNAPPER
- PORTA-LIFTER Manhole Lifter

Tel: +44 (0) 1291 620796 enquiries@reidlifting.com

LIGHTWEIGHT PORTABLE SAFE

Reid Lifting Limited
Unit 1 Severnlink
Newhouse Farm Industrial Estate
Chepstow
Monmouthshire NP16 6UN
enquiries@reidlifting.com
Tel: +44 (0)1291 620796
Fax: +44 (0)1291 626490

Reid Lifting France
16 Quater
Avenue Martyrs de la Resistance
56250
Elven, France
reidlifting@wanadoo.fr
Tel: +33 (0)297 53 32 99
Fax: +33 (0)297 53 04 86

BPF Distributors & Pumps Limited
Industrial Estate, Killough Road,
Downpatrick, Co. Down BT30 6LJ
NI
Tel: +44 (0)28 4461 5777
Fax: +44 (0)28 4461 4250
ROI
Tel: +353 (0)1 478 0665
Fax: +353 (0)1 478 0678
info@bpf-ltd.com & www.bpf-ltd.com

KAMAB Lyftsystem AB
Box 74, Rallarvägen 15
184 21 Åkersberga, Sweden
Tel: +46 (0)8540 69180
Fax: +46 (0)8540 60566
www.kamab.nu

Thern, Inc.
5712 Industrial Park Road
PO Box 347
Winona, MN 55987
USA
Phone: 507.454.2996
Toll Free: 800.843.7648
Fax: 507.454.5282
info@thern.com

REID Lifting – the best night's sleep in the lifting industry

- Systems are type tested at NAMAS accredited laboratories
- Every individual system is tested to 150% of WLL rating prior to shipment
- Full product design & development Technical Files are available for inspection
- Lifting Equipment Engineers Association (LEEA) full membership
- ISO9001 Quality Management Systems accreditation
- ISO14001 accreditation environment management systems and standards
- OHSAS18001 Occupational Health and Safety Management accreditation
- Certification of products by relevant recognised bodies from sockets to systems
- Safe assembly, use and maintenance manuals and training are available for all systems

WHAT'S NEXT

Further information and support can be found on our website www.reidlifting.com

CALL US

+44 (0)1291 620796

EMAIL US

enquiries@reidlifting.com

WEB

www.reidlifting.com

N.B. This document should form an element of the overriding Risk Assessment and Method Statement required for each lift.

Printed upon recycled paper, using alcohol free processes

17/06/09