



R'lift 350

Operating and Maintenance Manual

Original Instructions



CONTENTS

Introduction	2
Operating Specifications	3
Working Envelope Diagram.....	3
Do's And Don'ts.....	4
Primary Components.....	5
Operating Procedures.....	6 - 8
Emergency Procedures	10 - 11
Maintenance Procedures.....	12 - 16
Maintenance Frequency Summary.....	17
Transportation, Manoeuvring And Storage.....	18
Warranty Terms	19
Options And Accessories	19
Key Spare Parts.....	20 - 21
Decal Install Diagram	22
Decals	23 - 24
Declarations Of Conformity.....	25 - 26

INTRODUCTION

The R'Lift 350 (referred to as “the machine” in this manual) is a simple, safe and efficient alternative to step-ladders, platform/podium steps and small scaffold towers. It is the first non-powered, powered access platform. It does not require batteries (or charging) or connection to an electricity supply. It works by a unique, patented stored power mechanism which enables the platform to be elevated with very little effort by the operator.

It is designed for working internally on flat, level surfaces, and, as it has no batteries, electric motor, electrics or hydraulics, it is very ecologically friendly. It is ideally suited to working in a very wide range of applications from the very ‘clean’ environments of hospitals, food and drinks production facilities, pharmaceuticals and retail, to facilities maintenance, shop-fitting and indoor construction and even on zone 1/21 hazardous areas (If ATEX option is fitted).

It is suitable for any application provided it is used within its specified operating parameters. If used for applications such as sand blasting, welding, paint spraying or with any other hazardous materials, measures must be taken to ensure it does not become damaged in any way which may impair safety or reliability. Additional protection for the operator may be required in some cases, which is the responsibility of the operator and/or the operator's employer.

The purpose of this manual is to provide essential basic information required to operate and maintain the machine.

This is not a workshop manual. Please contact the manufacturer or their agent for specific operation or maintenance information if in doubt.

The health and safety of the operator or maintenance technician is the responsibility of the individual and/or their employer and not Power Towers Ltd.

OPERATING SPECIFICATIONS

Working Dimensions

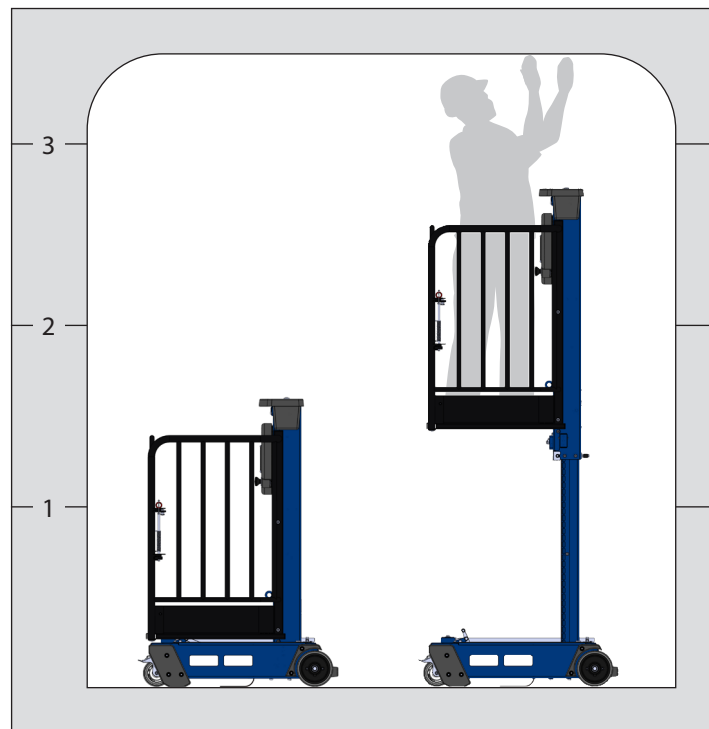
Maximum Working Height	3.50 m
Maximum Platform Height	1.50 m
Platform Dimensions	0.720 m x 0.600 m
Working Footprint	0.985 m x 0.700 m
Safe Working Load	150 kg
Number Of Persons Plus Allowance	1 Person Plus 70 kg
Maximum Manual Force	200 N
Maximum Gradient For Operation	0.5°
Maximum Wind Force	0 m/s (Indoors Use Only)
Maximum Total Weight With Payload	346 kg
Maximum Castor Point Load	125 kg (1.23 kN)
Maximum Wheel Force	125 kg (1.23 kN)
Sound Pressure Level	Less than 70 dBA

Closed Dimensions

Length	0.985 m
Width	0.700 m
Height	1.550 m
Weight	196 kg

Lift Cycles

Unlimited with maintenance program



DO'S

1. Read, understand and adhere to the instructions on the machine and in the Instruction Guide or Operating Manual.
2. Ensure pre-operation checks & operations are carried out in the manner described.
3. Use only on hard, level surfaces able to support the weight of the machine.
4. Use the machine internally only.
5. Ensure the operator is fit and does not suffer from a fear of heights.
6. Ensure guardrail gates are closed before elevation.
7. Ensure work area around the machine is cordoned off from pedestrians and other traffic.
8. Ensure operator is wearing the correct safety equipment.
9. Ensure the platform is correctly positioned so as not to come into contact with fixed or moving objects.
10. Ensure that the safe working load is evenly distributed on the platform.
11. Ensure the castor brake is applied when leaving the machine unattended.

DON'TS

1. Never exceed the safe working load 150kg (1 person plus tools).
2. Never use the machine as a goods lift or crane.
3. Never exceed horizontal forces, (maximum horizontal force 200N).
4. Never use in the vicinity of live conductors.
5. Never try to move the machine on its wheels when elevated.
6. Never extend the height of the platform by using boxes, steps, ladders, etc.
7. Never modify the machine in any way without the full written approval of the manufacturer.
8. Never attempt to enter or exit the platform unless it is fully lowered.
9. Never use the machine on sloping or uneven ground.
10. Never operate the machine outdoors, or anywhere it may be affected by wind.
11. Never lift heavy components on the machine without the use of the correct lifting equipment.
12. Never use the machine in an explosive environment.
13. Never use the machine if you are fatigued.
14. Never use the machine inappropriately or for 'horseplay'.
15. Never use the machine if under the influence of drugs or alcohol.
16. Never use the machine if suffering from poor health or using medication which might impair safe operation of the machine.
17. Never use the machine if vision is impaired by bright lighting.
18. Never push the machine on sloping surfaces without the use of a safe method.
19. Never push or pull objects with the platform.
20. Never use on uneven surfaces.

PRIMARY COMPONENT LOCATIONS



OPERATING PROCEDURES

It is the owners and/or the users responsibility to ensure that the machine is maintained and operated in accordance with the operation and maintenance procedures contained within this manual.

It is essential to be familiar with the correct operating procedures.

The operator must have adequate training for this type of platform.

The machine is fitted with a safety harness point. If after conducting a risk assessment the operator chooses to wear a safety harness, an approved 'fall restraint' type harness should be worn with a very short lanyard.

Operating procedures are divided into three key areas:

1. Pre-operation checks.
What to do before operating the machine.
2. Normal operation.
How to use the machine safely.
3. Emergency operation.
How to lower the machine in the event of operator incapacity.

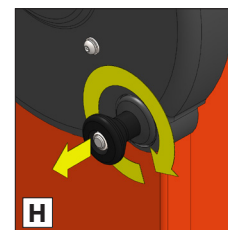
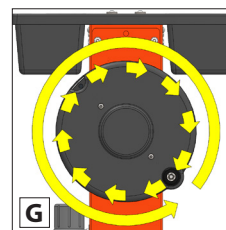
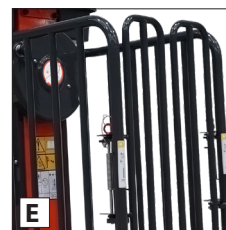
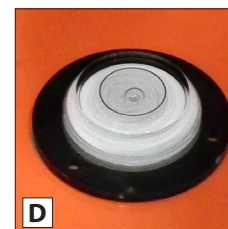
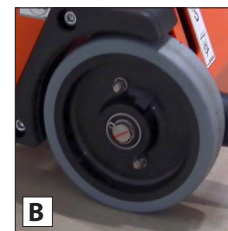
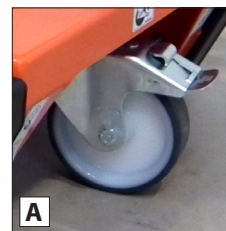


PRE-OPERATION CHECKS

1. Visually inspect the machine for any signs of damage to handrails, platform tray, chassis and mast lifting structure including mast fixing bolts.
2. Check castor and wheels rotate freely and are not loose or damaged.
3. Check castor axle bolt **(A)** and wheel split pins **(B)** are secure.
4. Check that the front rubber pads (feet) are undamaged and fixings are secure **(C)**.
5. Check spirit level **(D)** is intact and bubble is centred to ensure machine is level.
6. Check gates, gate hinges, hinge springs and hinge fixings are undamaged and that gates fully open and fully self close when released **(E)**.
7. Check emergency lowering tool is attached to the chassis and is not damaged.
8. Step into the basket. Check the machine sinks down onto front rubber pads (feet) **(F)**.
9. To ensure full functionality of the handle locking mechanism, stand in the platform and pull and release the handle knob for each of the 10 locking positions as the flywheel is rotated clockwise through 360 degrees. The handle must lock at each position. Once the last position is reached, return to the fully lowered position by rotating the handle once anti-clockwise. **(G)**.
10. While in the fully lowered position remain standing in the platform, pull the handle knob out and rotate it to inspect the surface for any significant signs of wear. If excessive scoring or a step is visible it is recommended that the complete locking mechanism is replaced **(H)**.

If any of the above items are faulty or do not work correctly then do not use the machine.

If the machine cannot be operated because the mast interlock system has activated, contact the manufacturer.



NORMAL OPERATION

Only use the machine internally, on hard level surfaces.

Ensure a person is available at ground level to assist in case of emergency.

1. Position machine under application.
2. Check spirit level to ensure machine is level.
3. Step into platform through gates, ensure gates close behind you and check machine is sitting on its front rubber pads (feet).

DO NOT ELEVATE IF THEY ARE NOT CLOSED.

4. Check there are no overhead obstructions.
5. To elevate, pull operating knob towards you and turn clockwise.
To stop, stop turning the handle and release handle knob to lock.
6. To descend, repeat but turn handle anti-clockwise.

Only turn the flywheel handle when standing within the platform guardrails. Never operate when standing outside the guardrails, except when following the "Emergency Lowering Procedure".

The user shall obtain the guidance and approval of the manufacturer in the event of any special working methods or conditions outside those specified by the manufacturer.

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EMERGENCY LOWERING OPERATION

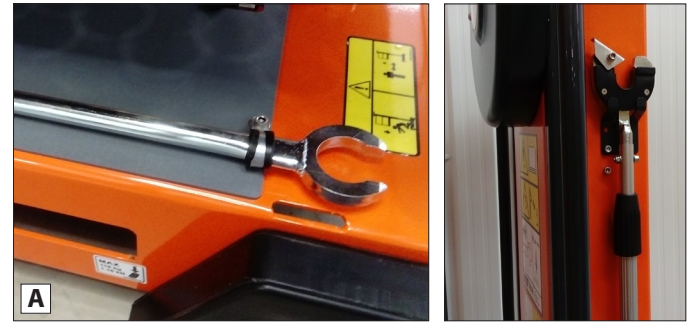
The Emergency Lowering Procedure is for lowering the platform from height with an incapacitated operator in the platform and for no other purpose.

Never attempt to recover the machine/operator if there is any possibility the machine is contacting any live wiring/cabling and is therefore potentially 'live'.

Never operate the emergency lowering without a person in the platform otherwise serious injury may result.

If the mast interlock system has activated it will not be possible to lower the elevated platform. Use an alternative, safe method to recover the operator.

1. Locate emergency lowering tool on chassis or mast (A), remove from fixing. If tool is held captive with tie-wrap safety tag then break tag to release tool.
2. Stand to side of machine, attach 'hook' end of emergency lowering tool to flywheel handle knob in basket, releasing handle knob, turn wheel **anti-clockwise** to bring platform down (B).
3. Depending on the height of the elevated platform, it may be necessary to extend the shaft of the tool.
4. Keep clear of structure as it descends.
5. When lowered, always remove the lowering tool first before removing the person in order to lock the platform in a stationary position.



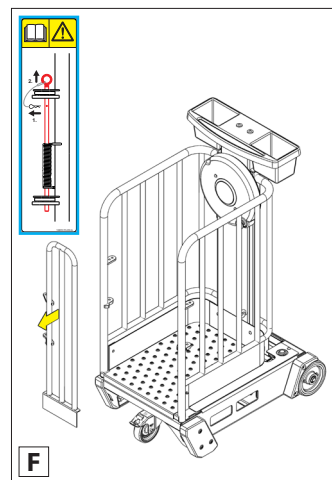
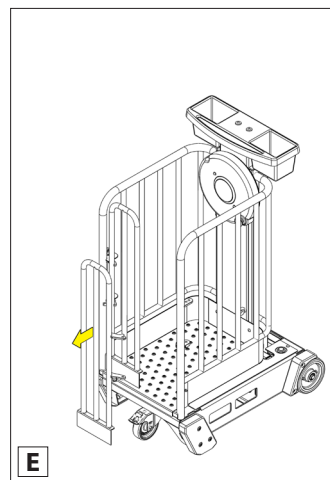
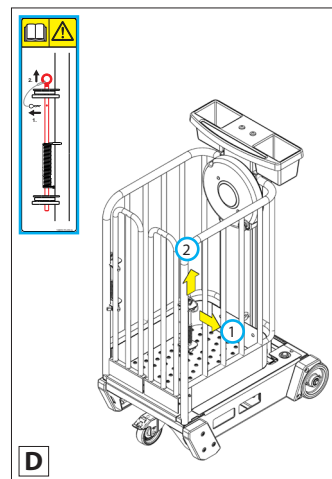
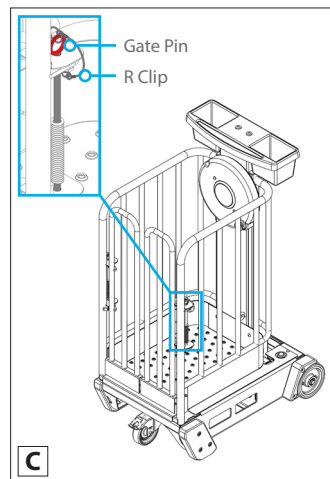
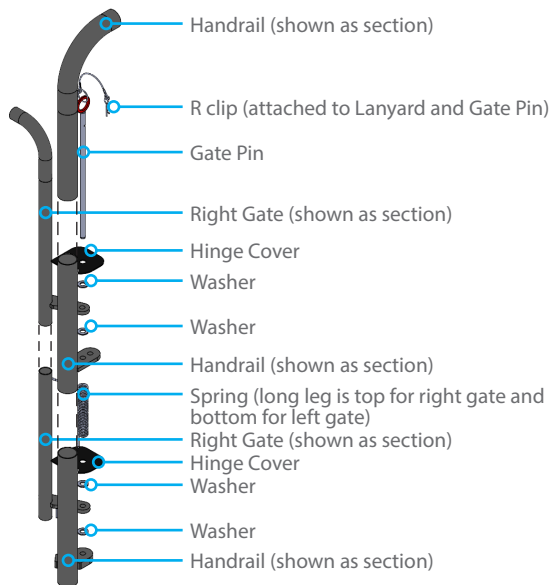
Never attempt to engage the emergency lowering tool without an operator in the platform.

In the event of operator incapacity:**To remove the gates once the platform has been fully lowered**

1. Locate R clip and gate pin (C).
2. Remove R clip (D1), remove the gate pin, hinge covers and washers (D2).
3. Remove the gate (E).
4. Repeat to remove the other gate (F).

To refit the gates before reusing the machine

1. Assemble the right gate, gate pin, hinge covers and washers in the order shown below. Fit the R clip into the hole in the gate pin.
2. Repeat for the left gate.
3. Open the gates and check they fully close when released.



Please note that whilst the machine is extremely simple to maintain, all work must be carried out by a competent person.

DAILY MAINTENANCE

The telescopic mast is a sealed unit which contains a pressurised cylinder and can only be dismantled by a trained person authorised by the manufacturer.

DAILY CHECKS

1. Check there is no damage to the wheels and corner feet and check that their fixings are secure.
2. Check that the guardrails are not damaged and all fixings are secure.
3. Check gates and gate hinges are secure and gates fully self close when released. Ensure gates cannot open outwards.
4. Check chassis is not damaged and spirit level is intact and working.
5. Check mast fixings are all present and secure.
6. To ensure full functionality of the handle locking mechanism, stand in the platform and pull and release the handle knob for each of the 10 locking positions as the flywheel is rotated clockwise through 360 degrees. The handle must lock at each position. Once the last position is reached, return to the fully lowered position by rotating the handle once anti-clockwise.
7. While in the fully lowered position remain standing in the platform, pull the handle knob out and rotate it to inspect the surface for any significant signs of wear. If excessive scoring or a step is visible it is recommended that the complete locking mechanism is replaced.
8. Check castor mounting allows machine to sink onto its rubber pads (feet) when stepping on front of platform. Check machine 'springs' back up again when weight is removed from platform and machine is pushed forward.
9. Check automatic wheel brake works. When platform is elevated approximately 100mm, step out of the platform and attempt to push the machine, machine should not move, wheels should be braked.
10. Check emergency lowering tool is attached to chassis and not damaged.

THOROUGH EXAMINATION

1. In order to inspect the internal mechanisms of the machine the following covers must be removed; tool tray **(A)**, mast cap plate **(B, shows mast cap after tool tray is removed)** and handle cover **(C)**. Remove the tool tray using an allen key, then remove the mast cap plate using an allen key. The mast cap screws **(B, arrowed)** are additionally secured with a threadlock adhesive. If difficulty is experienced removing these screws then they will need to be heated with a heat gun for a few minutes. Remove the handle cover using a special 5mm allen key, which can be obtained from the manufacturer or his agent.
2. Inspect and lubricate gearwheels. Use Omega 73 no. 2 harsh environment grease or equivalent. Do not use standard gear grease because it will dry out prematurely and will lead to premature gear wear.
3. Elevate the platform approximately 20mm so the back of the belt clamp bracket and the two countersunk fixing screws are visible. Looking through the inspection hole **(D, boxed)**, check the two screws are secure. Look inside the mast section from the top to the rear of the clamp **(E)**, and ensure the two nuts are secure.

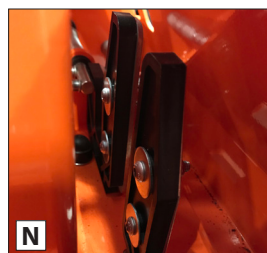
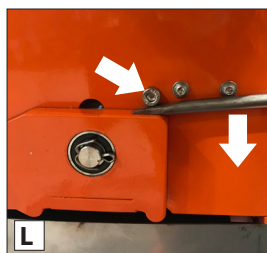
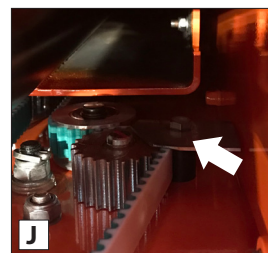
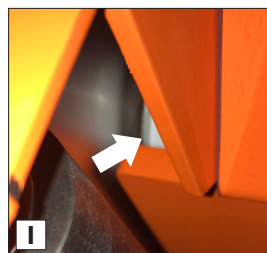
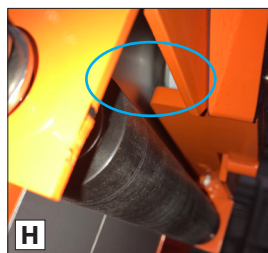
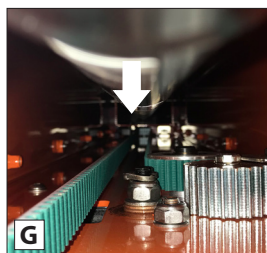
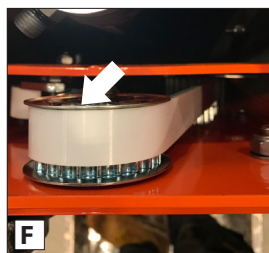
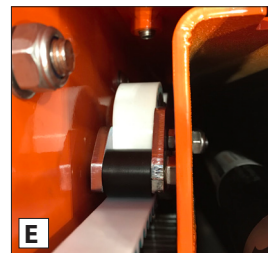
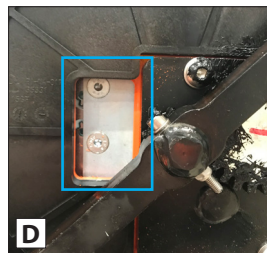
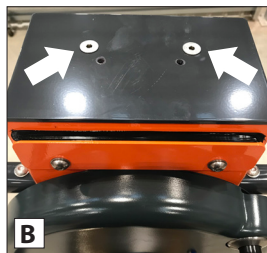
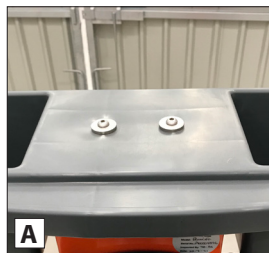
Raise and lower the platform fully and inspect the drive belt whilst doing so with the aid of a suitable light. Ensure the belt remains on the top pulley **(F, arrowed)**, bottom pulley **(G, arrowed)** and drive cog. If it is found difficult to view the lower pulley it may be necessary to look through the gap above the mast roller **(H, circled)**. To do so remove the mast roller cover, located underneath the platform, by slackening the two M12 nuts and pulling the cover off **(I, shows cover removed and lower pulley, arrowed)**.

Minor scuffing and wear of the belt surfaces, and visible steel braided wires, is acceptable. However, there must be no signs of wear or fraying of the steel braided wires. If the steel braided wires are worn or frayed, please contact the manufacturer.

Inspect the belt retaining plate **(J, arrowed)**. Ensure that the belt retaining plate does not move when the mast is raised and lowered.

When the internal inspection is complete, refit the mast cap plate and refit screws with medium strength threadlock. Paint seal the screws. Refit the handle cover and refit screws with medium strength threadlock. Paint seal the screws. Refit the tool tray. It is extremely important that all of these screws are replaced correctly.

4. Check the mast interlock is undamaged and is working correctly. Check the casing for signs of damage and remove the end plate **(K, arrowed)**. Insert a large flat screwdriver (300mm long approx.) between the stop screw and the lower pulley block **(L, arrowed)** and lever downwards by applying a force of no more than 10kg. Care must be taken as applying too much force will damage the stop screw. When moving the block, watch the end of the interlock bolt **(M, arrowed)** and ensure it moves inward and outward as the block is moved down and up. Refit cover and screw. Paint seal screw when refitted.
5. Inspect condition of automatic wheel lock. Look under brush strip at rear of chassis when platform is elevated so that mast outer is clear of chassis. Check brake cam plates **(N and P)** are undamaged and that the two attaching screws are tight. With an assistant to lower the platform, observe the action of the cams and the movement of the brake pins. Ensure the movement is free and the pins clear the wheel discs. When the platform is elevated ensure the pins fully engage the brake discs. Ensure the pockets in the wheels are in good condition.

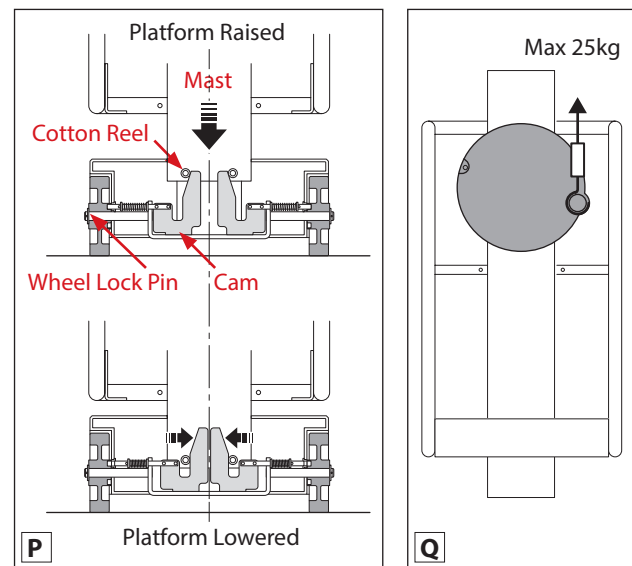


6. Ensure platform entrance gates open and close freely and that they self-close when released. Check pivots and springs for signs of fatigue and damage.
7. Check crank handle knob is securely fixed with M12 nyloc nut and roll pin through plastic tip. Ensure handle springs back to the locked position freely.
8. The machine should be subjected to the test procedure below:
 - a) Fully lower platform to the transport position.
 - b) With a calibrated digital spring balance apply a further 25kg force to the drive handle in the anti-clockwise direction (lowering), first releasing the handle knob from the back plate to allow the handle to turn **(Q)**.
9. Check rear wheels for signs of damage and that they rotate freely. Ensure there is no cut or wear to tyre that penetrates more than 4mm in depth. The original wheel diameter is 200mm. Check split pin retaining the rear wheels is undamaged and secure.
10. Ensure the front rubber feet are in good condition and firmly bolted to the chassis. With an adequate weight in the platform ensure the castor has collapsed and the rubber feet are solidly in contact with the floor.
11. Check castor latch operation with an assistant or weight in the platform so that the rubber feet have contacted the ground. Elevate platform 100mm and look under front of chassis to rear of castor and check latch has engaged tab on rear of castor mounting **(O, arrowed)**. This must be conducted on flat ground.
12. Visually inspect the condition of the emergency lowering tool ensuring that it is not damaged or bent in any way and that it is securely clipped to the chassis.

13. Check all instruction labels are present and clear. Refer to the key spare parts. Check aluminium specification plate is clear and legible.

When replacing components for any reason, only use OEM specification parts, either supplied from the manufacturer or authorised in writing by the manufacturer. Warranties and design approvals will be void if alternative components are fitted. It is essential to obtain manufacturer's approval of any alteration which might affect stability, strength or performance in writing before proceeding.

When refitting a rear wheel always use a new cotter pin (4mm diameter x 32mm A2 stainless steel). NEVER REFIT A USED COTTER PIN.



CASTOR MOUNTING PLATE LUBRICATION

Tools required:

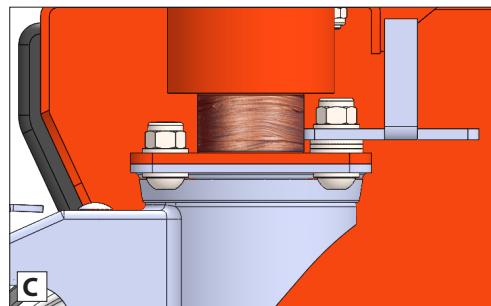
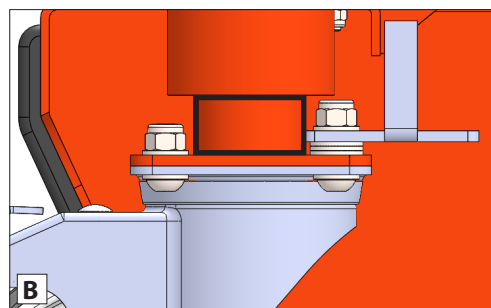
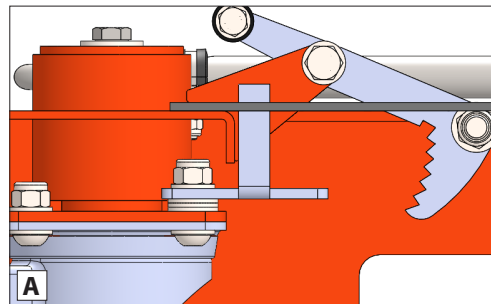
- Small Tin of Copper Slip
- Small Paint Brush

Advised Personal Protective Equipment (PPE):

- Goggles
- Gloves

Procedure

1. Raise the machine from the floor to a comfortable working height using a forklift or suitable lifting machinery.
2. Release the castor latch which is situated underneath the platform **(A)**.
3. Once spring tension is released, clean shaft. This is to prevent any debris from contaminating the copper slip.
Clean area shown (B).
4. Apply an even amount of copper slip around the castor with a small paint brush **(C)**.
5. Lower the machine to the floor. Step in and out of the platform to allow the spring to compress and to work the lubricant up around the moving parts, repeat this ten times. Check latch is engaging plate correctly.



MAINTENANCE FREQUENCY SUMMARY

The machine must have a thorough examination by a competent person at periodic intervals, according to local regulations.

MAINTENANCE FREQUENCY TABLE			
Item	Daily	Monthly	Periodic
Wheels, Castor & Rubber Feet	●		
Guardrails	●		
Gates	●		
Spirit Level	●		
Mast Fixings	●		
Flywheel Handle	●		
Auto-Lok Braked Wheels	●		
Emergency Lowering Tool	●		
Visual Inspection	●		
Gearwheel Lubrication			●
Castor Mounting Plate Lubrication			●
Crank Handle Force			●
Crank Handle Knob Operation			●
Drive Belt			●
Mast InterLock			●
Instruction Labels			●

TRANSPORTATION

Always ensure the machine is transported in the upright position.

The machine can be loaded via a forklift, tail-lift, or winch.

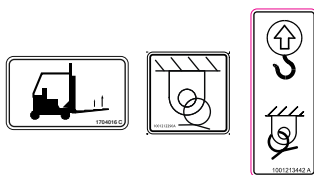
Load the machine onto the transport vehicle, taking care to position the machine so that straps can be located around the base of the machine.

If tying down the machine using straps or chains, the platform must be fully lowered to the transport position with the machine securely tied down.

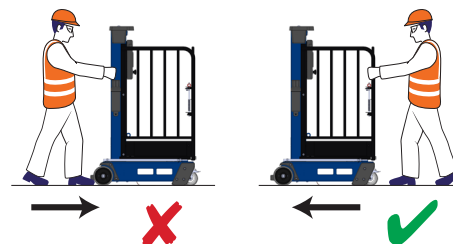
Never place a strap through the platform or handrails. Do not use excessive force when tightening straps or chains.

Do not make connections at points different than those identified by the forklift, lifting and tie down location decals shown below.

Failure to follow these instructions could cause permanent damage to the machine.



HOW TO MANOEUVRE



STORAGE

The handle of the machine can be locked using a padlock to prevent unauthorised use.

Place the padlock through the hole in the handle and the corresponding hole in the backplate.



If the machine is due to be stored for periods in excess of one month, ensure it is fully lowered and ideally place a cover over the machine.

Only store the machine in an upright position.

Upon removal from storage and prior to returning to use, check that the machine inspection certificate is current, in accordance with the requirements of the local authorities. Ensure machine pre-operation checks are carried out thoroughly.

WARRANTY

Your R'Lift 350 (The Machine) is covered by a parts and components warranty as stated in the purchase terms and conditions.

The Manufacturer, Power Towers Ltd (The Company), undertakes to replace or repair, free of charge, any defective part or component which the company considers to be due to faulty workmanship or material, within the warranty period, except for:

The telescopic mast is a sealed unit. If the mast is opened in any way warranty may be invalid.

Defects arising from neglect, misuse or unauthorised modifications.

Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow transportation, storage, installation, loading or operation instructions.

Alterations, additions or repairs carried out by persons other than the Manufacturer or their recognised distributors.

Transportation or shipment costs to and from the Manufacturer or their recognised agents, for repair or assessment against a warranty claim, on the machine or component.

Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.

Faults arising from the use of non-standard or additional parts, or any consequential damage or wear caused by the fitting or use of such parts.

IMPORTANT

Warranty may, at the sole discretion of the Manufacturer, be voided if the scheduled service/inspections are not carried out in accordance with this manual.

The Manufacturer and/or their recognised agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the machine for any purpose.

MODIFICATIONS

If additional equipment or any third party work, modifications or alterations are to be carried out on the machine which will involve any welding, drilling or any form of cutting or distortion of materials, full written approval must be obtained from the Manufacturer prior to the work being carried out.

MACHINES WITH ATEX CERTIFICATION

The R'Lift 350 can be specified as ATEX approved, for zones 1 and 21. This comes with third party approval by SGS Baseefa (Certificate no. Baseefa 13ATEX0150X).

 II 2G Ex h IIC T₆ Gb T_{amb} -20°C to +60°C

 II 2D Ex h IIC T_{85°C} Db T_{amb} -20°C to +60°C

The machine shall not be located in areas where there are fast moving dust laden air streams.

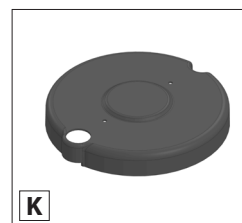
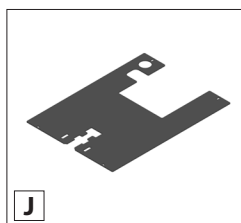
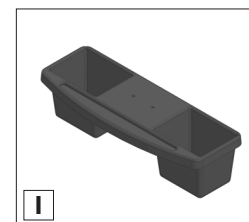
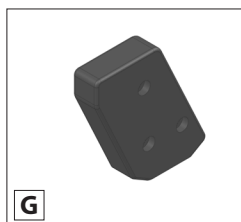
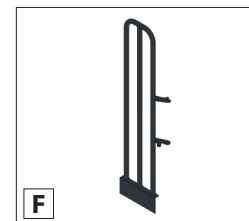
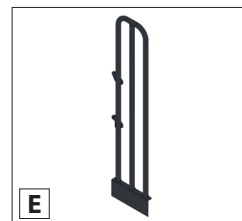
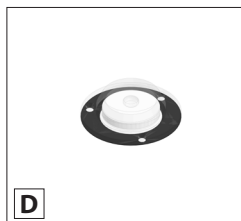
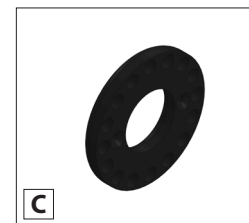
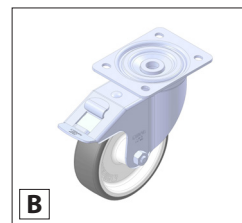
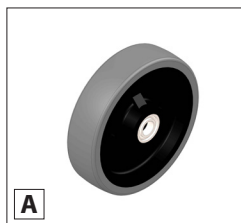
There are no specific additional maintenance procedures required for the ATEX certified machine except to ensure that the earthing strap is intact, and it is in contact with the ground.

OPTIONS AND ACCESSORIES

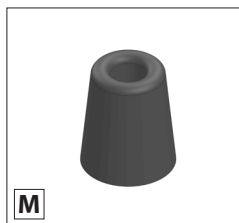
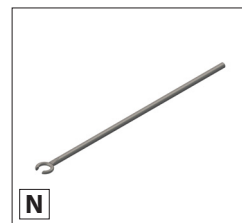
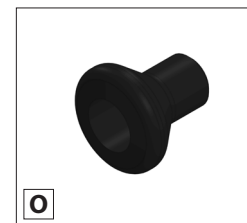
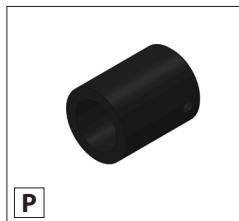
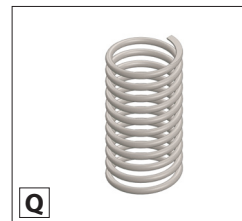
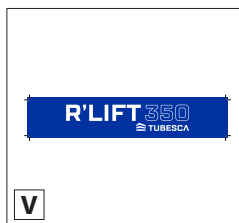
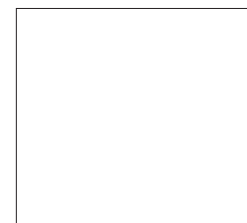
For further information regarding options and accessories available for the machine, please contact your regional Tubesca-Comabi team.

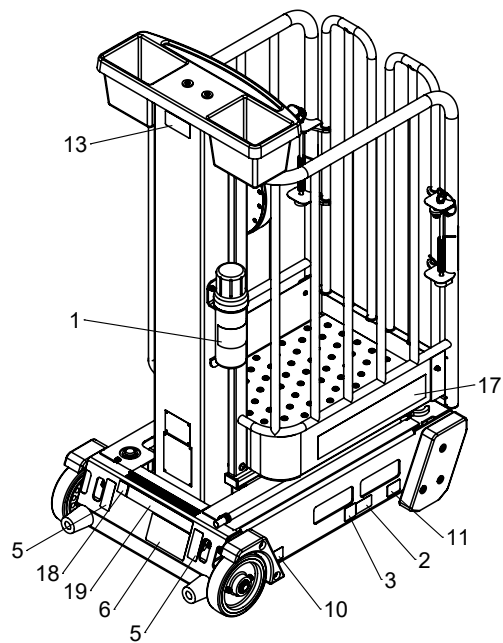
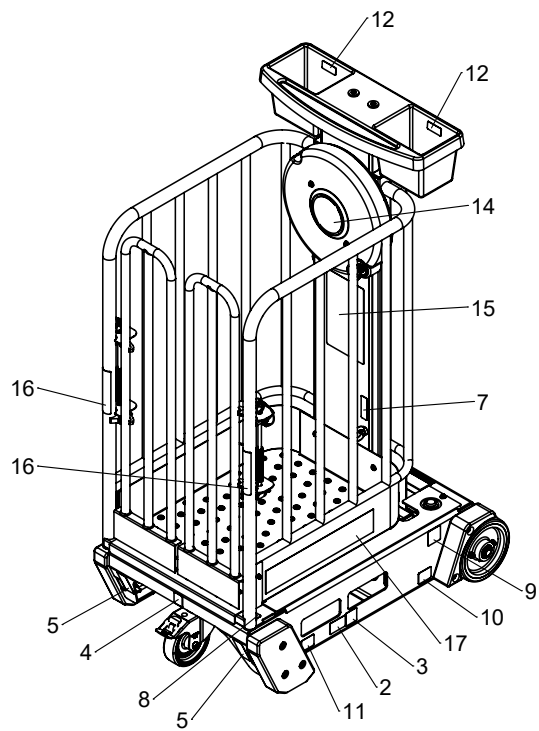
A	Wheel	1001266218
B	Swivel Castor	1001281278
C	Brake Disc	1001266246
D	Spirit Level	PTM106
E	Left Gate	1001312308
F	Right Gate	1001312307
G	Corner Foot	PELM403
H	Mudguard	PELM404
I	Tool Tray	PELM405
J	Chassis Cover	PELM406
K	Handle Cover	ECLM603
L	Platform Tray	1001289035

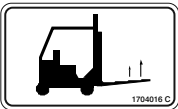
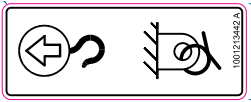
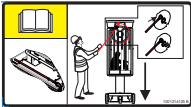
Part No.



M	Conical Buffer	PELM409
N	Emergency Lowering Tool (Chassis)	PELM407
O	Handle Knob	PELM412
P	Handle Lock Tip	PELM480
Q	Handle Spring	PELM483
R	Spring Pin	1001266107
S	Left Handrail	1001312281
T	Right Handrail	1001312282
U	Decal Set	1001324199
V	R'Lift 350 Logo	1001331102
W	Emergency Lowering Tool (Mast)	1001332207

Part No.**M****N****O****P****Q****R****S****T****U****V****W**



1		1701509	7		1001260837
2		1704016	8		1001260845
3		1001212290	9		1001261089
4		1001289252	10		1001269383
5		1001213442	11		1001269384
6		1001214125	12		1001271167

13		1001272162	16		1001311410
14		1001269385	17		1001331102
			18		1001289390
15		1001271163	19		1001314080

Signature:  Date: _____
Name: Phillip Godding Position: Senior Manager -
Product Strategy EMEA
Place: Hoofddorp, The Netherlands

26



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