Mini Monkey Tower Maintenance Manual

March 5, 2024

Chapter 1

Technical Publications

Monkey Tower Ltd endeavours to deliver the highest degree of accuracy possible. Continuous improvement of our products is a policy, and therefore, product specifications are subject to change without notice. Readers are encouraged to notify Monkey Tower Ltd of any errors and send in suggestions for improvement. All communications will be carefully considered.

Chapter 2

Contact

Monkey Tower Ltd
North Wing Offices
Ingatestone Hall
Ingatestone, Essex
CM4 9NS, UK
+44 (0)1277 356172
www.monkeytower.co.uk
sales@monkeytower.co.uk

Chapter 3

Safety Rules

3.1 Warning

Failure to obey the instructions and safety rules in this manual and the Monkey Tower Operator's Manual could result in death or serious injury. Many of the hazards identified in the operating instruction manual are also safety hazards for maintenance and repair procedures.

3.2 Requirements to Perform Maintenance

Maintenance should only be performed by trained and qualified persons. Maintainers should read, understand and obey:

- Manufacturer's instructions and safety rules.
- Employer's safety rules and workplace regulations.
- Applicable governmental regulations.

Maintainers should have the appropriate tools, lifting equipment and a suitable workplace.

3.3 Personal Safety

- Any person working on or around a machine must be aware of all known safety hazards.
- Personal safety and the continued safe operation of the machine should be your top priority.
- Read each procedure thoroughly.

Be sure to wear Personal Protective Equipment (Gloves, eye protection, foot protection etc.).

Be aware of potential crushing hazards such as moving parts, free swinging or unsecured components when lifting or placing loads.

3.4 Workplace Safety

Be sure to keep sparks, flames and heat from flammable and combustible materials like battery gases and engine fuels.

Always have an approved fire extinguisher within easy reach.

Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.

Be sure that your workshop or work area is properly ventilated and well lit.

Be sure any forklift, overhead crane or other lifting or supporting device is fully capable of supporting and stabilizing the weight to

be lifted. Use only chains or straps that are in good condition and of ample capacity.

Be sure that fasteners intended for one time use (i.e., cotter pins and self-locking nuts) are not reused. These components may fail if they are used a second time.

Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be environmentally safe.

3.5 Safety Warning System

This manual and the decals on the machine use signal words to identify the following:

Warning triangle. Alerts personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Red DANGER sign with warning triangle. Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Orange WARNING sign with warning triangle. Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Yellow CAUTION sign with warning triangle. Indicates a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.

Green NOTICE sign. Indicates operation or maintenance information.

Chapter 4

Spare Parts

4.1 How To Order Parts

Spare parts can be ordered from Monkey Tower Ltd (see Chapter 2 for contact details) or your local distributor (See Section 4.2).

Please be prepared with the following information when ordering replacement parts for your Monkey Tower:

- Machine model number.
- Machine serial number.
- Part number (See Chapter 7).
- Description.
- Quantity.
- Purchase order number.
- Ship-to address.
- Desired method of shipment.

4.2 Monkey Tower Distributors

An up-to-date list of distributors can be found by contacting Monkey Tower (Section 2).

Chapter 5

Specifications

Dimensions		
Maximum Platform Height	1.92	m
Maximum Working Height	3.92	m
Minimum Working Width	1.64	m
Minimum Width	0.7	m
Minimum Length	1.2	m
Working Length	1.32	m

Dimensions		
Working Weight	300	kg
Minimum Weight	90	kg
Safe Working Load	150	kg
Lifting Capacity	0	kg

Fastener Torque Specifications	
Size	Nm
M6	10
M8	20
M10	40
M12	80

Chapter 6

Scheduled Maintenance Procedures

6.1 Maintenance Rules

- Maintenance procedures shall be completed by a person competent in the maintenance of this machine.
- Scheduled maintenance procedures shall be completed daily, quarterly and annually as specified on the maintenance inspection report.
- Failure to properly complete each inspection when required could result in death, serious injury or substantial machine damage.
- Immediately tag and remove from service a damaged or malfunctioning machine.
- Repair any machine damage or malfunction before operating machine.
- Keep records of all inspections for three years.
- Be sure supports can withstand machine weight. (See Specifications section for the machine weight).
- Be sure overhead cranes or other lifting devices can handle machine weight. (See Specifications section for machine weight).
- Unless otherwise specified, the machine should be maintained in the following configuration:
  - Machine on a firm, level surface.
  - Platform fully lowered.
  - Legs extended outwards, locked into position and supporting Monkey Tower Mini.
  - Castors locked.

6.2 Maintenance Symbols Legend

The following symbols have been used in this manual to help communicate the intent of the instructions. When one or more of the symbols appear at the beginning of a maintenance procedure, it conveys the meaning below:

 Tools required.

 New parts required.

 Dealer service recommended.

6.3 Maintenance Schedule

There are two types of maintenance inspections that must be performed according to a schedule-daily (pre

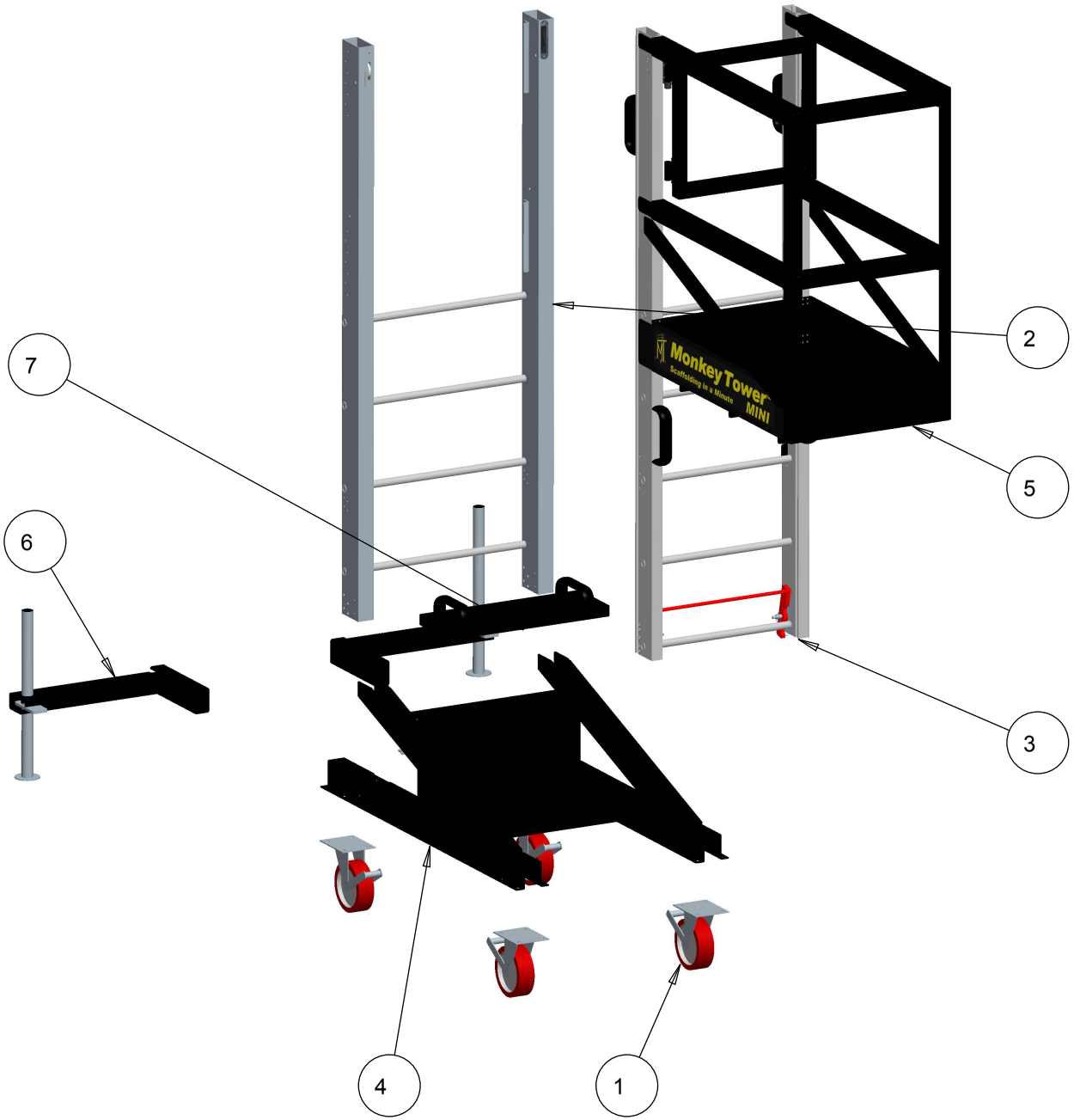
use) and annual. The Scheduled Maintenance Procedures Section and the Maintenance Inspection Report have been divided into two subsections — A and B.

The procedures required to perform a scheduled inspection are determined by the following chart.

Inspection Checklist	
Daily or pre use	A
Annual	A + B

6.4 Maintenance Inspection Report

The maintenance inspection report is given in Appendix C and contains checklists for each type of scheduled inspection. Make copies of the Maintenance Inspection Report to use for each inspection. Store completed forms for three years.



Index	Part #	Part Name	Quant
1	Caster	Locking Castor	4
2	NAssLad1	Ladder 1 Assembly	1
3	NAssLad2	Ladder 2 Assembly	1
4	NBaseAss	Base Assembly	1
5	NPlatAss	Platform Assembly	1
6	NLegAss	Stabiliser Leg	2
7	NWghtAss	Stabiliser Weight	1

DESIGNER AMW

ISSUE 22-Nov-11

TOLERANCES

± MM UNLESS SHOWN

MATERIAL

DO NOT SCALE

ALL DIMENSIONS IN MM UNLESS SPECIFIED OTHERWISE

Monkey Tower Ltd
North Wing, Ingatestone Hall, Ingatestone
Essex CM4 9NS (44) 1277 356172,
(44) 7866 687618 alan.watt@monkeytower.co.uk

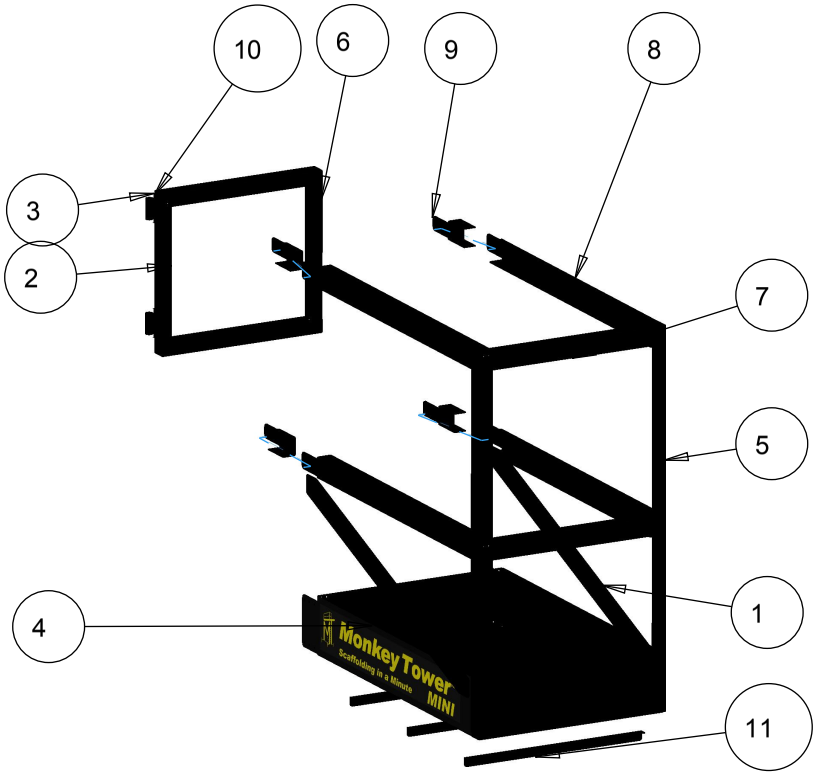
Quantity

per tower

Pro/E Drawing File

L_LA_X_009 MINI_PARTS

For Manufacture | SCALE 0.020 | SHEET 1 OF 1



Index	Part #	Part Name	Quant
1		ANGLE	2
2		DOOR	1
3		P2_DOORA_AP	2
4	PT2	P2_PLATFORM	1
5	PT4	P2_UP_ANGLE	2
6	p7	P2DOORB_APX	2
7	PT5	P2RAIL1	2
8	PT7	P2RAILB_FOLDED	4
9	PT7	P2RAILC_FOLDED	4
10		SPRING_HINGEA	2
11	p31	TRAPDOOR_STIFFENER	3

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Quantity

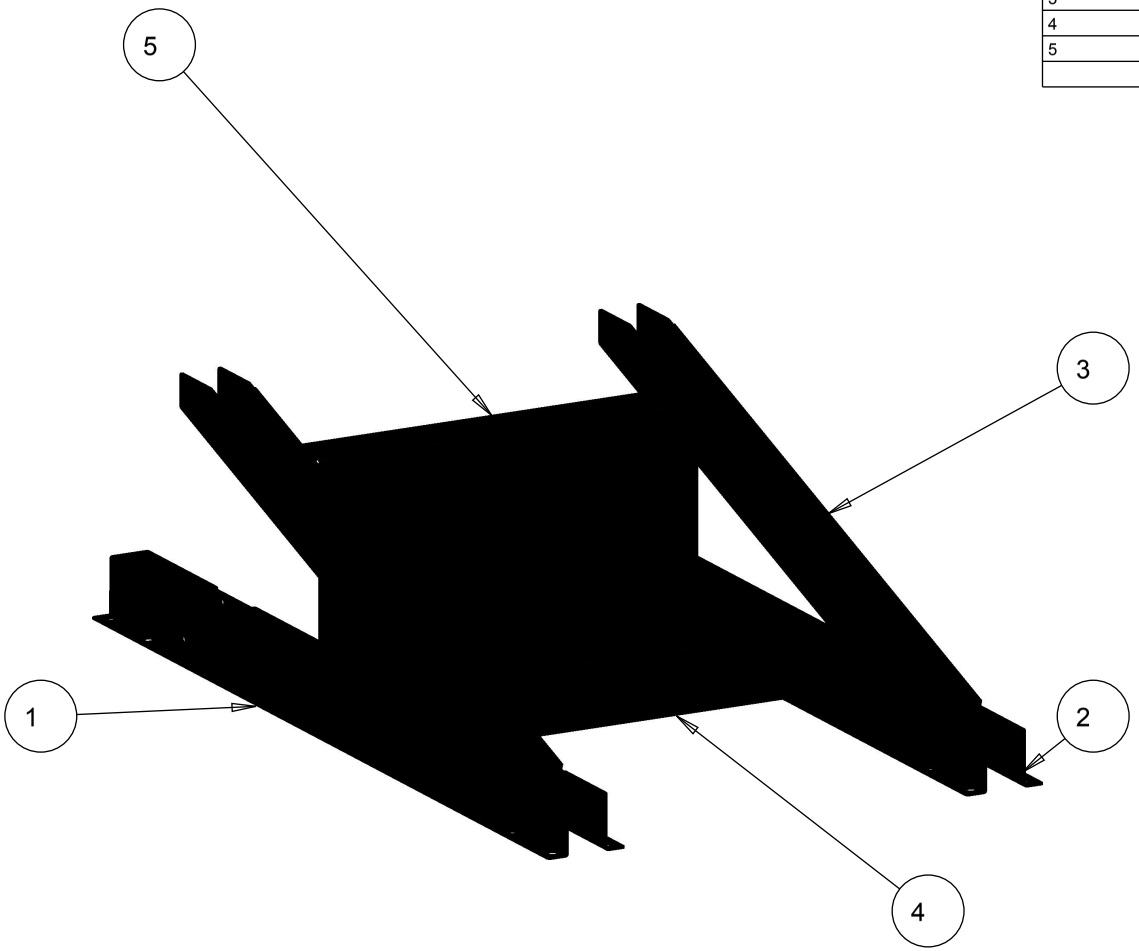
per tower

Pro/E Drawing File

L_LA_X_009 MINI_PLATFORM

For Manufacture	SCALE 0.020	SHEET 1 OF 1

Index	Part #	Part Name	Quant
1		NANO_BASE1	1
2		NANO_BASE1_MIRROR	1
3		NANO_BASE2	2
4		NANO_BASE3	1
5		NANO_STIFFENER	1



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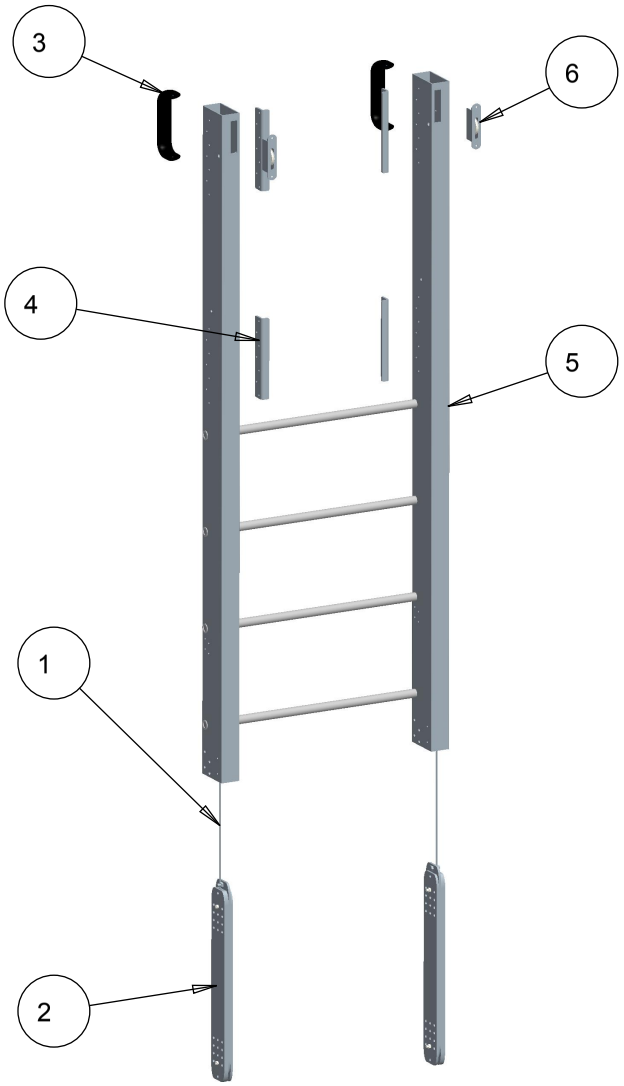
L_LA_X_009 MINI_BASE

For Manufacture | SCALE 0.020 | SHEET 1 OF 1



Index	Part #	Part Name	Quant
1		CABLE_COUNTERBALANCE	2
2		COUNTERBALANCE_HALF	8
3	bridg_handle	GRAB_HANDLE	2
4		LADDER_ANGLE	4
5	N_LAD1_ASS	LADDER1	1
6		SASH_PULLEY	2

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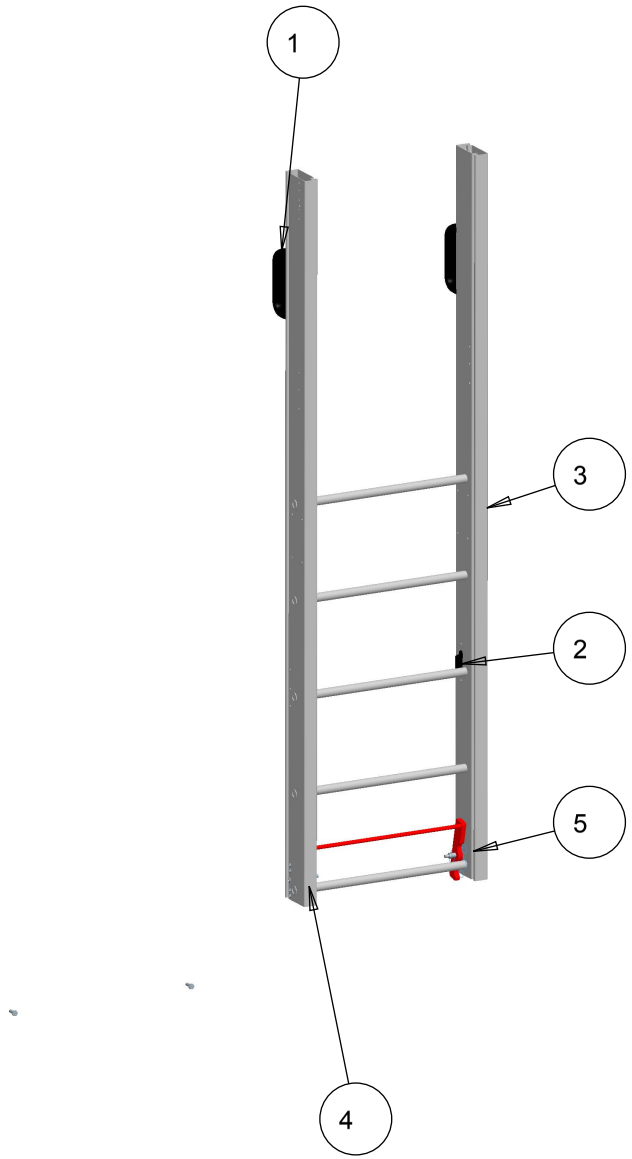
Quantity

per tower

Pro/E Drawing File

L_LA_X_009 MINI_LADDER1

For Manufacture | SCALE 0.020 | SHEET 1 OF 1



Index	Part #	Part Name	Quant
1	bridg_handle	GRAB_HANDLE	2
2	L_HJ_N_009	HOLT_JAMB_CLEAT	1
3	N_LAD2_ASS	LADDER2	1
4	n_runglock	RUNGLOCK	1
5	12860_roller	RUNGLOCK_SLIDER_B	2

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Essex CM4 9NS (44) 1277 356172,
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Quantity

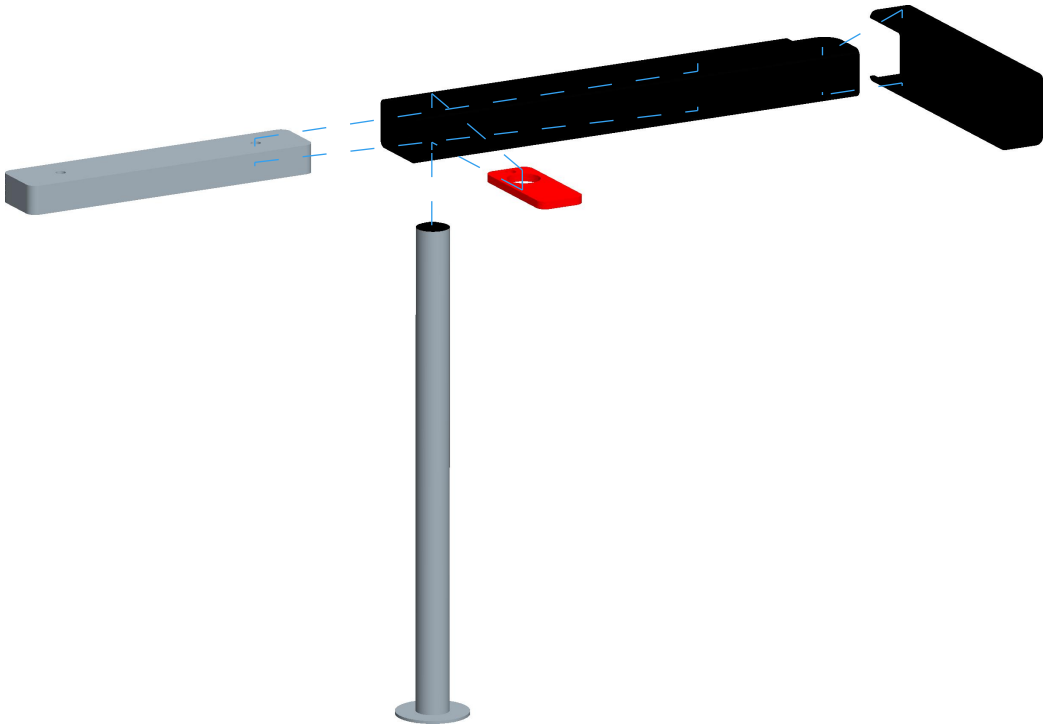
per tower

Pro/E Drawing File

L_LA_X_009 MINI_LADDER2

For Manufacture | SCALE 0.020 | SHEET 1 OF 1

Index	Part #	Part Name	Quant
1		COUNTERBALANCE_LEG	5
2		JACK_HOLDER	2
3		PROPSTAND	1
4		STABILISER_LEG_NEW	1
5		STABILISER_LEG1_NEW	1
6		STABILISER_LEG2_NEW	1



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Quantity

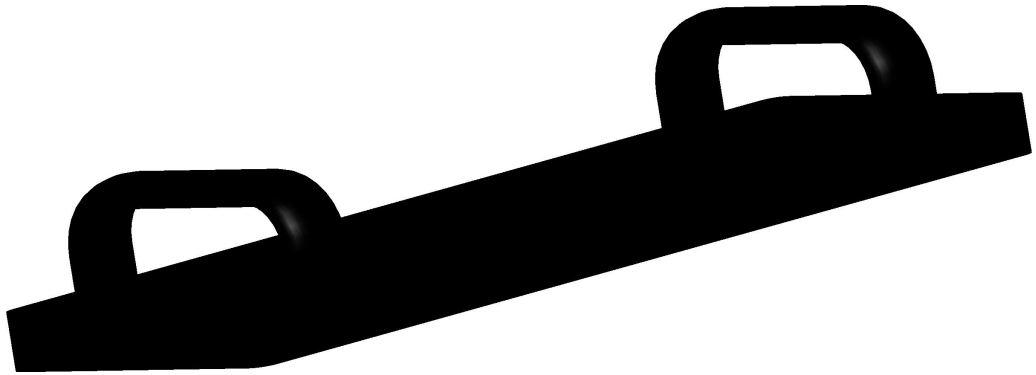
per tower

Pro/E Drawing File

L_LA_X_009 MINI_STABLEG

For Manufacture | SCALE 0.020 | SHEET 1 OF 1

Index	Part #	Part Name	Quant
1	bridg_handle	GRAB_HANDLE	2
2		WEIGHT	5



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ISSUE 30-Apr-13

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MATERIAL

DO NOT SCALE

ALL DIMENSIONS IN MM
UNLESS SPECIFIED OTHERWISE

Monkey Tower Ltd
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Essex CM4 9NS (44) 1277 356172,
(44) 7866 687618 alan.watt@monkeytower.co.uk

Quantity

per tower

Pro/E Drawing File

MINI_WEIGHTS

For Manufacture	SCALE 0.167	SHEET 1 OF 1

Appendix A

Checklist A Procedures - Daily Pre-operation Inspection

Completing a Daily Pre-operation Inspection is essential to safe machine operation. The Pre-operation Inspection is a visual inspection performed by the operator prior to each work shift. The inspection is designed to discover if anything is apparently wrong with a machine before the operator performs the function tests. The Pre-operation Inspection also serves to determine if routine maintenance procedures are required. Complete information to perform this procedure is available in the appropriate operator's manual. Refer to the Operator's Manual on your machine.

A.1 Operators Manual Present

Be sure that the operator's manual is complete, legible and readily accessible by users.

A.2 Decals Present

Be sure that all decals are legible and in place. The decals and their location can be seen in Figure **??**.

A.3 Damage, Dirt, Missing Parts, Corrosion & Unauthorised Changes

Check the following components or areas for damage, excessive dirt, contamination or corrosion, improperly installed or missing parts and unauthorised modifications:

- Base components.
- Platform Components
- Ladders
- Levelling jacks.
- Wheels.
- Castors.
- Griptape / Rubber matting on platform.
- Nuts, bolts and other fasteners.

A.4 Bolted & Riveted Connections

Check tightness of bolted connections and tightness and condition of riveted connections.

A.5 Cable Condition

Check the visible portion of the counterbalance cable is in good condition with no frays, worn or flat spots.

A.6 Stabiliser Leg Function

Extend each leg horizontally and lock into position with the leg pins. Check pins in good condition and locating correctly. *Legs should slide out easily and the leg pins should fit into place without significant force.*

Lower the stabiliser legs until they are firmly resting on the ground, check that stabiliser legs move easily without binding. *Stabiliser levers should move easily with spring function working.*

Check that when stabiliser legs are in place they do not move upwards without depressing stabilise lever. *stabiliser legs should support minimum load of 100 kg each*

Lock the castors by pushing castor-lock down with foot. *Castors must lock into place*

A.7 Castor Function

Lock the castors by pushing castor-lock down with foot. *Castors must lock into place with wheel prevented from spinning and verticle axis locked*

A.8 Platform lifting / locking

- Check platform lifts easily in to position.
- Check ladder locks engage automatically and secure ladder in position.
- Check ladder locks disengage easily.
- Check runglock elastic cables are in good condition without excessive wear.
- Check runglocks flip down on releasing runglock elastic cable.
- Check runglocks flip up on applying tension to runglock elastic cable.
- Check condition of runglock connection to ladder *ensure mounting undamaged and secure.*

A.9 Platform Door Inspection

- Check door opens easily and springs back to closed position.
- Check condition of door hinges.

Appendix B

Checklist B Procedures - Annual

The following procedures should be followed once monthly (more often if conditions require). These procedures should be followed in addition to the Checklist A procedures.

B.1 Inspect and Clean the Sliders

Clean sliders are essential to good machine performance and safe operation. Extremely dirty conditions may require that the sliders be cleaned more often.

1. Raise platform and lock at a suitable height for inspecting the sliders (following operating instructions in Operators Manual).
2. Visually inspect the channels of the sliders for debris or foreign material.
3. If necessary, use a mild cleaning solvent to clean the sliders.

B.2 Lubricate Machine

- Apply white lithium grease to ladder sliders.
- Apply light coating of grease to castor mechanism.

B.3 Inspect Ladders

1. Inspect ladders for wear.
2. Check all rivet connections for tightness and damage.
3. Check runglock elastic bungee latches for wear.
4. Check runglocks for wear and correct function.
5. Check sise to side freeplay between ladder sections, the freeplay should be checked at the lowest platform height, intermediate height and maximum height. Freeplay should be less than 4 mm. *Freeplay is important to ensure ladder sliders do not separate.*
6. Check ladder sliders are firmly riveted to ladder.

B.4 Castor Inspection

1. Visually inspect each castor for cuts, cracks or unusual wear.
2. Move the machine on a flat smooth surface and check that the casters and wheels roll smoothly, free of hesitation and binding.
3. Check brake operation by applying and releasing brakes.

4. Check brakes prevent movement and rotation of castors.
5. Pump Lithium based grease into the caster until it can been seen coming out of the bearing gap.

Extremely dirty conditions may require that the casters be inspected and lubricated more often.

Appendix C

Maintenance Inspection Report

1. Select the appropriate checklist(s) for the type of inspection to be performed.
2. Place a check in the appropriate box after each inspection procedure is completed.
3. Use the step-by-step procedures in the Maintenance Inspection section to learn how to perform these inspections.
4. If any inspection receives an "N", tag and remove the machine from service, repair and re-inspect it.
5. After repair and retest, place a check in the "R" box.

Monkey Tower Inspection Record

Serial Number

	Date
	Inspection Type (A, B or C)
a1	Operators Manual Present
a2	Decals Present
a3	Damage, Dirt, Missing Parts, Corrosion, Unauthorised Changes
a4	Bolted / Riveted connections
a5	Cable Condition
a6	Stabiliser Leg Function
a7	Castor Function
a8	Platform lifting / locking
a9	Platform Door Inspection
b1	Inspect & Clean the Sliders
b2	Lubricate Machine
b3	Inspect Ladders
b4	Inspect Castors
	Name
	Signed