



Monkey Tower™

Scaffolding in 5 Minutes

www.MonkeyTower.co.uk

Monkey Tower User Manual

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Chapter 1

Safety Rules

Failure to obey the instructions and safety rules in this manual may result in death or serious injury.

Important Information

- This manual should remain with the machine at all times.
- If you have any questions contact Monkey Tower Ltd.

Introduction

This instruction manual contains all the information required to correctly assemble the Monkey Tower to provide collective measures enabling full compliance with the Work at Height Regulations 2005.

This Manual should be used in conjunction with a suitable Risk Assessment and Method Statement relative to the project to be undertaken, Work at Height Regulations 2005, Regulation 6(1). It must be noted that all employers have a responsibility to ensure that

work methods (practices) and adequate facilities/ resources (including work equipment) are provided to eliminate or minimise risks, Work at Height Regulations 2005, Regulations 6, 7, 8 and Schedule 3 Part 2.

Do Not Operate Unless:

- You learn and practice the principles of safe machine operation contained in this operator's manual. You must:
 1. Know, understand and follow the safety rules in this Chapter.
 2. Follow the operating instructions, Chapter 2.
 3. Avoid hazardous situations, Chapter 4.
 4. Always perform a pre-operation inspection at the required interval, Chapter 3.
 5. Always perform function tests prior to use, Chapter 3.
 6. Inspect the workplace, Chapter 3.
- You read, understand and obey the manufacturer's instructions and safety rules including the safety and operator's manuals and machine decals.
- You use the machine as it was intended.
- You read, understand and obey employer's safety rules and worksite regulations.
- You read, understand and obey all applicable governmental regulations.
- You are properly trained and experienced to safely and competently operate the machine.

Chapter 2

Operating Instructions

Fundamentals

The Operating Instructions section provides instructions for each aspect of machine operation.

It is the operator's responsibility to follow all the safety rules and instructions in the operator's manual.

If more than one operator is expected to use a machine at different times in the same work shift, each operator is expected to follow all safety rules and instructions in the operator's manual. That means every new operator should perform a pre-operation inspection, function tests and a workplace inspection before using the machine.

Setup

- Check that work area is suitable according to the details given in the Site Inspection / Machinery Selection section of Chapter 3.

- Follow the Setup procedures in the Function Tests section.

Raising Platform for Use

1. Position the machine directly below the desired work area.
2. Extend each leg horizontally and lock into position with the leg pins. The second hole should be used unless a) the platform is below 3m when the holes nearest the leg can be used, or (b) the tower is braced against or tied into a solid wall when the holes nearest the leg can be used on the wall side.



3. Loosen star-knobs on levelling jacks.
4. Lower the levelling jacks equally by turning handle anticlockwise and lock the castors by pushing castor-lock down with foot.

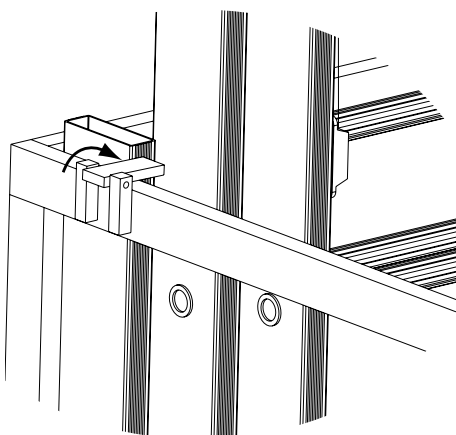


Chapter 2. Operating Instructions

5. Adjust the levelling jacks to level the machine. **⚠ DANGER** *Both of the bubble levels must have the bubble completely within the large circle road-wheels must be clear of the ground.*
6. Check that all four legs are in firm contact with the ground and tighten star-knobs on leg jacks.
7. Lift ladder to the vertical position.



8. Check ladder locks have locked into position.



9. Check rung-lock cables on ladders are all loose by pulling the bottom end of the cables straight down and releasing.



10. Raise platform by approximately 30cm (1 foot) by turning winch in the up direction (Ratcheting sound will be heard from winch). **⚠ DANGER** *Not to be used to raise people*



11. Flip all brace-locks over such that they are in the ready, locked position.



12. Continue winding winch to raise platform until the platform is above the desired height.

13. Lower platform (by winding winch in opposite direction to raising) until neither side of the platform lowers any further.
14. Wind winch in by approximately 1/4 turn to set winch on ratchet and take in cable slack.
15. **⚠ DANGER** *Check that all brace-locks and rung-locks are fully engaged. If locks are not engaged repeat steps 9 to 14.*
16. If platform is 3m (or higher) lock guy ropes in by placing stabilizer hook through guy rope loop and pulling handle down. *Note that guy ropes are not effective when the stabilizers are in the inner horizontal position.*

- Continue climbing through trapdoor aperture and step backwards onto platform.



⚠ DANGER *Do not extend the height of the platform by climbing on the guardrails or using ladders, boxes etc.*

Climbing Ladder & Entering Platform

Before the ladder is climbed the following checks must be made each time:

- Check that the tower is still correctly levelled by use of the bubble levels.
- Check that the assembly is still correct and complete.
- Check that both sets of brace locks and ladder locks are locked into place.
- Climb ladder inside platform using rungs for handholds and maintaining 3 points of contact at all times.
- Raise trapdoor until magnetic catch holds trapdoor in place.

Exiting and Lowering Platform

⚠ DANGER *Do Not raise or lower platform or undo any locks when personnel are on Monkey Tower*

1. Open trapdoor and exit platform via ladder.
2. Release guy-ropes by lifting hook handle.
3. Pull any rung-lock cables within reach downwards to apply tension to cable and sideways to lock the cable in place.
4. Wind winch to raise platform approximately 20 cm (9") to disengage rungs and brace-locks.
5. Flip any brace-locks within reach over.
6. Lower platform.

7. If platform stops lowering repeat steps 3 to 6.
 8. Disengage ladder-locks and lower ladder to transport position.
 9. Loosen star knobs and raise levelling jacks by turning handle.
 10. Remove leg pins.
 11. Retract each leg horizontally and lock into position with the leg pins.
- ▲ DANGER** Never move the Monkey Tower with workers on board.
- ▲ DANGER** When platform raised do not move unless ground is smooth, level and free from drop-offs, ledges or debris.
- ▲ DANGER** If windspeed is over 17mph (beaufort force 4) or ground conditions are poor fully lower the tower before moving.
- Avoid sudden starts and stops. Keep personnel away from the machine when moving.

Moving on Castors

The Monkey Tower can be moved through small distances on the the castors and jockey wheel. The tower shall not be moved with a platform height of over 3m.

1. If platform over 3m high, lower platform to 3m height.
2. Unlock castor by lifting castor-lock by hand.
3. Release jockey wheel clamp. Lower jockey wheel and lock into position. Raise tower by turning jockey wheel handle.
4. **▲ DANGER** *Front legs nearest the jockey must be down with the legs no more than 3cm from the ground*
5. Move Monkey Tower.
6. Lower tower by turning jockey wheel handle.
7. Lock castors.

Lifting tools

75kg of tools or equipment can be lifted on the platform of the Monkey Tower. Simply place the tools or equipment on the platform prior to raising the tower. Be aware of safe manual handling when lifting tools or equipment onto the platform.

Towing

- Check all jacks are fully raised and in the inner position with detent pins fully inserted and star-kobs are tightened.
- Check ladder has been lowered into the storage position.
- Attach break-away cable to substantial integral point on tow vehicle.
- Attach tow-hitch to suitable toe-ball on tow vehicle.
- Attach lighting connector to tow vehicle and check lighting works.
- Check axles are extended to the outer towing position and that lock pins are fully inserted.

- Check Starknobs on axles are fully tightened. **▲ DANGER** The tower shall never be used when lifted or suspended.
- Check numberplate on Monkey Tower matches numberplate on towing vehicle.
- Check towing capacity of tow vehicle (Monkey Tower weight given in Specification Section).
- Check the trailer visually for damage.
- Check tyre pressures, condition and tread depth.
- Check wheel condition. **▲ WARNING** *If the wheel is damaged, it is possible that the stub axle or complete axle may have been damaged, refer to Maintenance Manual.*
- Gripping the towing eye or ball in both hands, pull back and forth, up and down, feel for excessive moment.
- Check the attachment of the Coupling Body to the Drawbar for any cracks or signs of stress.

▲ CAUTION The Monkey tower should always be towed in the storage position.

▲ DANGER Never tow with any personnel or equipment aboard the Monkey Tower.

Lifting Monkey Tower

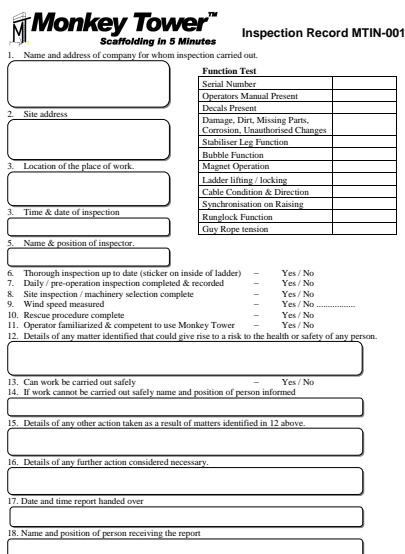
The weight and size of a Monkey Tower make it unsuitable for manual lifting.

Lifting lugs suitable for craning the Monkey Tower are built into the ends of the leg tubes. All parts should be secured prior to lifting and competent lifting operators used.

Chapter 3

Pre-Use Inspection

The pre-use inspection is a check on the correct functioning of the Monkey Tower, operator competency and site conditions. The pre-use inspection is carried out in conjunction with the Inspection Record MTIN-001 (a copy of which can be found on the back cover of this manual).



Monkey Tower™
Scaffolding in 5 Minutes
Inspection Record MTIN-001

- Name and address of company for whom inspection carried out.
- Site address
- Location of the place of work.
- Time & date of inspection
- Name & position of inspector.

Function Test	
Serial Number	
Operators Manual Present	
Details Present	
Damage, Dirt, Missing Parts, Corrosion, Unauthorised Changes	
Stabiliser Leg Function	
Bubble Function	
Magnet Operation	
Ladder Lifting / locking	
Cable Condition & Direction	
Synchronisation on Raising	
Ramlock Function	
Guy Rope tension	

- Thorough inspection up to date (sticker on inside of ladder) – Yes / No
- Daily / pre-operation inspection completed & recorded – Yes / No
- Site inspection / machinery selection complete – Yes / No
- Wind speed measured – Yes / No
- Rescue procedure complete – Yes / No
- Operator familiarized & competent to use Monkey Tower – Yes / No
- Details of any matter identified that could give rise to a risk to the health or safety of any person.
- Cin work be carried out safely – Yes / No
- If work cannot be carried out safely name and position of person informed
- Details of any other action taken as a result of matters identified in 12 above.
- Details of any further action considered necessary.
- Date and time report handed over
- Name and position of person receiving the report

The inspection regime given here is not exclusively for Monkey Tower but based on the HSE guidelines for work platforms (Scaffold Towers or MEWPS) <http://www.hse.gov.uk/pubns/c27.pdf> and the working at height regulations 2005

The pre-use inspection also serves to determine if any maintenance procedures are re-

quired. If damage or any unauthorized variation from factory delivered condition is discovered, the machine must be tagged and removed from service. Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

Frequency of inspection

The pre-use inspection should be made at the following frequency:

- After installation in any position (note:- this does not mean every time that the Monkey Tower is moved on site)
- After exceptional circumstances which are liable to jeopardise the safety of the Monkey Tower or other work equipment.
- At suitable interval not exceeding every 7 days.

Thorough inspection up to date

The thorough inspection is a requirement under the LOLER (Lifting Operations and Lifting Equipment Regulations 1998). For the Monkey Tower a Loler inspection is required at a maximum yearly interval. A reminder sticker detailing when the next inspection is due is usually placed on the inside of the ladder.

Function Test

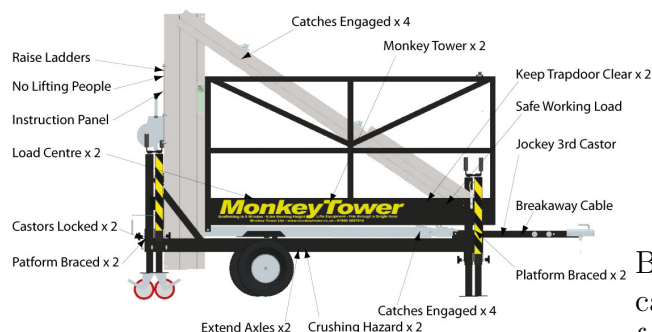
It is the responsibility of the operator to perform a function test. The function test is a visual inspection performed by the operator prior to each work shift. By following the order laid out here the function test can be performed whilst erecting a tower.

Operators Manual Present

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

Decals Present

Be sure that all decals are legible and in place.



- Legs.
- Stabilizers.
- levelling jacks.
- Sliders.
- Cable (check for kinks, frays, abrasions).
- Pulleys.
- Cable attachments.
- Wheels.
- Castors.
- Nuts, bolts and other fasteners.

Check the entire machine for:

- Dents or damage.
- Corrosion or oxidation.
- Cracks in welds or structural components.

Be sure that all structural and other critical components are present and all associated fasteners and pins are in place and properly tightened.

Damage, Dirt, Missing Parts, Corrosion, Unauthorised Changes

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

- Winch and related components.
- Base components.

Stabiliser Leg Function

Check the following function on all four of the stabiliser legs:

- Detent pins slide in and out of holes easily with spring-loaded ball locking the pins into place.
- stabilisers slide horizontally without undue force.

- Star knobs are in position and in good condition.
- Legs wind up and down easily without undue force.
- Castors are in position on the rear two legs and function correctly.

Bubble Function

Check that:

- Two bubble levels are present, (one at the front and the other at the back of the machine):
- Bubble levels are firmly attached to the platform.
- Bubble levels have bubble present and are capable of both being levelled.

Magnet Function

Check that the magnets holding open the trapdoor and the trapdoor toeboard (if fitted) are hold the relevant part firmly.

Ladder Lifting / Locking

Check that:

- Ladder raises into use position easily from towing position.
- Ladder locks hold ladder in position.

Cable Condition & Direction

Be sure that

- There is a minimum of 4 wraps of cable around the winch drum when the platform is fully lowered.
- The cable is wrapped around the winch in the correct direction (i.e. when the winch is wound in the direction shown by the up arrow the platform raises and a clicking sound is heard from the ratchet mechanism)
- Pulley beneath winch is in good condition.
- Visible portion of cable is in good condition. (no flat spots, kinks or frays)

Synchronisation on Raising

Check for the correct synchronisation on raising the tower of the following components:

Ladders. Short ladder section should raise before the longer middle ladder section.

Diagonal Brace. The middle tube should only raise once the largest outside tube is fully raised.

Main sliders. The sliders should raise in order with the sliders nearest the platform raising before the other sliders.

Lock Function

Check that the locks on the ladders and diagonal brace move in and out of position easily and that the bungee cables are in good condition.

Guy Rope Tension

Check that with the legs held in the 2nd hole out the guy ropes attach tightly and that the guy rope latches latch firmly.

Site Inspection / Machinery Selection

The site inspection determines if the workplace is suitable for safe machine operation. Workplace inspection should be performed by a competent person prior to moving the machine to the workplace.

Be aware of and avoid the following hazardous situations:

- Low ground bearing capacity.
- Drop-offs or holes.
- Bumps and floor obstructions.
- Debris.
- Sloping surfaces (maximum slope 1 in 7).
- Unstable or slippery surfaces.
- Overhead obstructions.
- High voltage conductors.
- Inadequate surface support to withstand all load forces imposed by the machine.

Check that the Monkey Tower is suitable for the intended job i.e. is there sufficient height to reach the workplace, can the workplace be reached from within the platform.

Wind Speed Measurement

The maximum windspeed that a freestanding Monkey Tower shall be used in is 17mph (beaufort force 4). The windspeed should be checked at the beginning of work and rechecked if any changes in the windspeed are noticed. The windspeed can be measured by use of an anemometer measuring the windspeed in two perpendicular direction. Alternatively the beaufort scale can be used (Beaufort force 4 is described by dust and loose paper being raised and small branches beginning to move. For Beaufort force 5 branches of a moderate size move and small trees in leaf begin to sway.)

Be aware that local windspeed conditions can be higher than surrounding areas especially in cases such as working between buildings, on the corners of buildings, open ended buildings etc.

Rescue Procedure

In the incidence of a user being incapacitated and requiring medical attention whilst in the raised platform of the Monkey Tower the emergency lowering procedure is to lower the Monkey Tower with the person on the platform. It is therefore recommended that there is at least one other person on site that is capable of lowering the Monkey Tower.

Chapter 4

Hazardous Situations

Fall Hazards

⚠ DANGER

- Do not use the machine as a personnel lifting platform. Monkey Tower is not to be used to lift or lower people.
- Do not climb tower unless ladders and diagonal brace are locked into position and winch cable is tight.
- If occupants of the platform are required to wear personal fall protection equipment (PFPE) due to job site or employer rules, PFPE equipment and its use shall be in accordance with the PFPE manufacturer's instructions and applicable governmental requirements.
- Do not sit, stand or climb on the platform guard rails.
- Maintain a firm footing on the platform floor at all times.
- Keep the platform floor clear of debris.

- Ensure platform trapdoor is closed when working.

Tip-over Hazards

⚠ DANGER

- Do not raise the platform unless the legs have been fully extended, lowered and locked, the casters are in full contact with the ground and the base is level.
- If the Monkey Tower is to be used against a sturdy wall the legs adjacent to the wall can be used in the inner position, however the ends of the legs must be in contact with the wall.
- Do not impose a side load of more than 200N. Be aware of possible sideloads arising from work (pressure blasting, drilling etc.)
- Do not raise the platform unless the leg retainer pins are properly inserted through the leg and the base.
- Do not remove the leg detent pins while the machine is loaded and/or raised.
- Do not raise the platform unless the machine is on a firm surface and levelled.
- Do not level the machine with blocks or other means except the leg jacks.
- Do not move the machine with a raised platform.
- Do not operate the machine in strong or gusty winds (max windspeed 17mph, beaufort 4).

- Do not increase the surface area of the platform or the load.
- Do not place ladders or scaffolding against any part of the machine.
- Do not use the machine on a moving or mobile surface or vehicle.
- Do not exceed the rated load capacity. (See Specifications Section).
- Do not adjust or remove the outriggers while the platform is occupied or raised.
- Do not place or attach overhanging loads to any part of this machine.
- Do not raise tools and materials unless they are evenly distributed and can be safely handled by person(s) in the platform.
- Do not exceed the rated lifting load (see Load Capacity Section)
- Do not push off or pull toward any object outside the platform.
- Do not operate the machine near drop-offs, holes, bumps, debris, unstable or slippery surfaces or other possible hazardous conditions.
- When moving the machine with a forklift or other transport vehicle (i.e. towing), the platform should be fully lowered, the ladders should be down and no personnel, tools or materials shall remain in the platform.
- Do not modify or alter the Monkey Tower without prior written permission from the manufacturer.
- Do not exceed the Safe Working Load - see specifications chapter.

Electrocution Hazards

⚠ DANGER

This machine is not electrically insulated and will not provide protection from contact with, or proximity to, electrical current.

- Keep away from the machine if it contacts energized power lines. Personnel must not touch or operate the machine until power lines are shut off.
- Keep away from electrical power lines and apparatus. Allow for machine movement and electrical line sway or sag, and be aware of strong or gusty winds.
- Do not use the machine as a ground for welding.
- Do not operate the machine during lightning or storms.

Crushing Hazards

⚠ DANGER

- Do not raise or lower the platform unless the area below is clear of people and obstructions.
- Keep hands and fingers away from potential pinch points.

Collision Hazards

⚠ CAUTION

- Check the work area for overhead obstructions or other possible hazards.
- Do not lower the platform unless the area below is clear of personnel and obstructions.
- Be careful when transporting on an incline.
- Be careful when towing, especially when reversing.
- Be careful when moving by hand and avoid obstacles.

Damaged Machine Hazards

⚠ DANGER

- Do not use a damaged or malfunctioning machine.
- Conduct a thorough pre-operation inspection of the machine and test all functions before each work shift.
- Immediately tag and remove from service a damaged or malfunctioning machine. Any damaged parts or incorrect components shall not be used.

Routine Maintenance

Details of routine maintenance can be seen in the Monkey Tower Maintenance Manual.

- Check guy rope cables have been released.
- Check that there are no obstructions to the ladder, slider or brace-lock.

Chapter 5

Fault Finding

Ladder Fails to Lower

- Check that platform has been fully lowered.
- Check that there are no obstructions to the ladder, slider or brace-lock.

Fault Finding Diagnostics

Platform Fails to Raise

If none of the solutions below fix the problem please refer to your Monkey Tower distributor or Monkey Tower Ltd.

- Check that the winch is functioning and that the cable is firmly attached.
- Check that there are no obstructions on the sliders or ladders.
- Check that ladder has been raised to a vertical position.
- Check that winch cable is intact.
- Check that platform is not overloaded.

Platform Fails to Lower

- Check that all rung-locks and brace-locks have been released. (Platform may need raising to release rung-locks).
- Check that rung-lock cables are intact.

Chapter 6

Specifications

Class - Class III Tower
Weight - 380 kg.
Safe Working Load - 250 kg.
Lifting Capacity - 75 kg.
Max Platform Height - 4.5m (14'9").
Maximum Working Height - 6.5m (21').
Height Increment - 0.25m (10").

Wind limits

Windspeed (mph)	Windspeed (Beaufort)	Action
0-17	0-4	Use as normal
0-21	5	Tie platform to solid structure or lower tower
21 +	6 +	Do not use and lower tower

Footprint

The minimum area required for a Monkey Tower is:
Height - 2.1m (6'10").
Length - 2.6m (8'8").
Width - 1.3m (4'4").

Width* - 1m (3'2").
*for max working height 5m.

Towing Dimensions

In the towing position the Monkey Tower has dimensions of:

Height - 2.1m (6'10").
Length - 3.3m (11').
Width - 1.1m (3'8").

Minimum Dimensions

With the stabilisers and towbar removed and the telescopic wheels slid in the Monkey Tower has minimum dimensions of:

Height* - 1.9m (6'3").
Length - 2.6m (8'8").
Width - 0.7m (2'4").

*Height when tipped - for instance, to pass through door.

Load Capacity

No loads are to be carried in the Monkey Tower whilst it is being towed.

Tyres

8" tyres should be used. In the EU tyres should be marked with a Load Index (LI) and Speed Rating. Tyres with a Load Index (LI) of 67 (307kg) or greater should be used and the speed rating adhered to. Tyre pressures should be as given on the tyres.

1. Name and address of company for whom inspection carried out.

2. Site address

3. Location of the place of work.

3. Time & date of inspection

5. Name & position of inspector.

Function Test

Serial Number	
Operators Manual Present	
Decals Present	
Damage, Dirt, Missing Parts, Corrosion, Unauthorised Changes	
Stabiliser Leg Function	
Bubble Function	
Magnet Operation	
Ladder lifting / locking	
Cable Condition & Direction	
Synchronisation on Raising	
Runglock Function	
Guy Rope tension	

6. Thorough inspection up to date (sticker on inside of ladder) – Yes / No

7. Daily / pre-operation inspection completed & recorded – Yes / No

8. Site inspection / machinery selection complete – Yes / No

9. Wind speed measured – Yes / No

10. Rescue procedure complete – Yes / No

11. Operator familiarized & competent to use Monkey Tower – Yes / No

12. Details of any matter identified that could give rise to a risk to the health or safety of any person.

13. Can work be carried out safely – Yes / No

14. If work cannot be carried out safely name and position of person informed

15. Details of any other action taken as a result of matters identified in 12 above.

16. Details of any further action considered necessary.

17. Date and time report handed over

18. Name and position of person receiving the report