

WINGMAN™

Part Number: IN404



Intended for specialized personnel or expert users



	Pg.
English	1
Diagrams	16
Français	20
Deutsch	28
Italiano	36
Español	44

Table of Contents (English)	Pg.
1. About this manual	2
2. Safety information	2-3
3. Product description and components	3-8
4. Intended use prerequisites and limitations	8
5. Use	9-13
6. Maintenance	14
7. Lifespan	14
8. Packaging, storage, transportation	14
9. Warranty	14
10. Equipment record	15



Please read these instructions carefully before installing, servicing, or operating the equipment. This manual may be modified without notice. In the event this manual is translated, the English version is definitive. For latest manual revision go to harkenindustrial.com/en/product-support/

PLEASE SAVE THESE INSTRUCTIONS

1. About this manual

Before and after using the Harken WingMan read the instructions contained in this manual thoroughly. This instruction manual is an integral part of the product, and it supplies all the necessary information for its correct safe use, maintenance, and storage. If you don't understand some of the instructions, please contact Harken's authorized dealer. Harken shall not be liable for damages, injuries or death caused by noncompliance of the safety and other instructions contained in this manual. This manual is intended for specialized personnel or expert users.

Keep the user instructions/information after they are separated from manufactured system and retain them in a permanent record. Copy the user instructions/information and keep with the equipment.

2. Safety Information

a) General safety precautions:



WARNING! Activities involving the use of this equipment are inherently dangerous. You are responsible for your own actions and decisions.



WARNING! This product must only be used by competent persons or skilled expert users.



WARNING! Before using this equipment, you must:

1. Read and understand all instructions for use
2. Get specific training in its proper use
3. Become acquainted with its capabilities and limitations
4. Understand and accept the risks involved



WARNING! Failure to heed any of these warnings may result in severe injury or death.

b) Intended use:

The WingMan is a mechanical-advantage device for load lifting and releasing. It is used in a fall protection or work at height system. It is intended for work at height, access, and rescue use. It can be used for human suspension for up to a 3 kN load.

c) Improper use:

Use only with supplied rope. Never use with wire rope or steel cable. Never use as a human suspension device when the WingMan is the sole support. Always have a backup safety system.

2. Safety Information (continued)

d) Personal Protective Equipment:

Wearing gloves is recommended. All PPE must be certified and marked according to the current relevant national regulations.

e) Risks:



WARNING! Injury or death from falling from height or from dropped objects is possible.



WARNING! Rotating Parts Trapping Risk
Always wear clothing and protective gloves, if applicable, that are form fitting. Avoid loose gloves or clothing.

3. Product Description and Components

a) Description

The IN404 WingMan is a mechanical advantage system consisting of two swivel pulleys and a manufacturer supplied rope. One pulley is a double with a becket to dead end the rope. The other pulley is a double with a ratchet and cammed sheave with a releasing handle allowing gradual release of the mechanical advantage system under load. The releasing handle is located at the operator end.

b) Component materials

Anodized aluminum is used throughout the pulleys. The handle is glass reinforced nylon. The rope is an 8 mm static polyester with a sewn termination and is not to be substituted. Pulleys have stainless steel axles and fasteners. The ratchet mechanism is stainless steel.

3. Product Description and Components (continued)

c) Certification

The WingMan is certified as a system including two pulleys, rope and rope connection. System is certified to the following standards.



MEETS THE MANUFACTURED SYSTEM REQUIREMENTS OF NFPA 1983, INCORPORATED IN THE 2022 EDITION OF NFPA 2500.

DO NOT DISASSEMBLE.

Additional information regarding manufactured systems can be found in NFPA 1500 and NFPA 1858 and NFPA 1983, incorporated in the 2022 edition of NFPA 2500 / G general use MBS 45 kN.

The H-86666 double becket block portion of the WingMan is CE and UKCA certified.

H-86666 Double pulley with side becket



H-86666



Certification: EN 12278.2007

This pulley is designed to be used in a system for preventing a fall from height. When required this product must be used with a comprehensive fall protection system in accordance with EN 363 and a fall arrest harness that meets EN361.



Personal Protective Equipment Regulations (Regulation 2016/425) and the Personal Protective Equipment (Enforcement) Regulations 2018, as amended.

For Declaration of Conformity, visit www.harkenindustrial.com

Laboratory for PPE Certification (Module B):

UL International (Netherlands) B.V.
Westervoortsedijk 60, 6827AT Arnhem,
The Netherlands

Laboratory for UKCA Certification (Module B):

UL International (UK) Ltd –
Kingsland Business Park, Unit 1-3 Horizon, Wade Rd,
Basingstoke RG24 8AH,
United Kingdom

d) Part number and load rating (specifications)

Part Number - IN404

Maximum rated load	3 kN	674 lbf
Minimum Break Strength	45 kN	10116 lbf

The load limits above are based on using Harken supplied rope. Any changes to rope specifications changes the limits.



WARNING! Do not exceed maximum rated load.

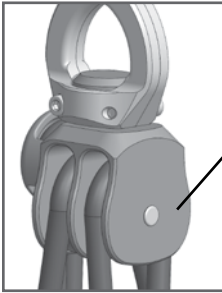
e) Compatibility (Selecting other components for the system)

Connectors and components must also meet fall protection rules and regulations for the presiding regulatory authorities.

Connection devices must be locking and must be capable of supporting at least 22 kN (5000 lb).

3. Product Description and Components (Continued)

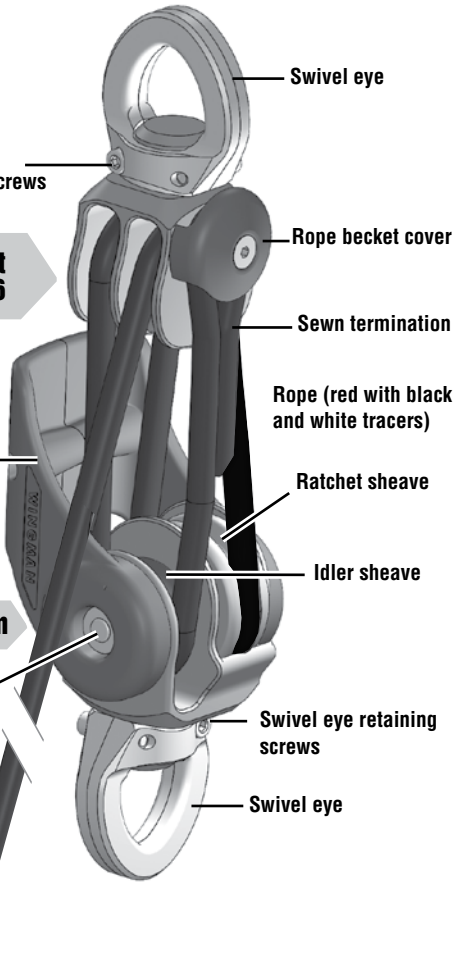
f) Parts description



Riveted end of axle

Swivel eye retaining screws

**Double pulley with side becket
H-86666**



Swivel eye

Rope becket cover

Sewn termination

Rope (red with black and white tracers)

Ratchet sheave

Idler sheave

Releasing handle

Double pulley with releasing cam

Riveted end of axle

Swivel eye retaining screws

Swivel eye

Haul/tauling rope

Stopper knot



Rope bag

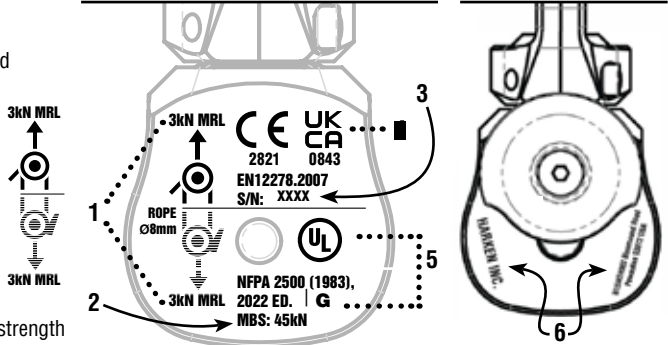
3. Product Description and Components (Continued)

g) Labeling - Double pulley with side becket

1 - Maximum rated load

Refers to the max rated load at 4:1 mechanical advantage.

Haul/tauling rope



2 - Minimum breaking strength

3 - Serial number

4 - Certification: Double pulley with side becket

5 - Certification: Entire system

6 - Manufacturer/address

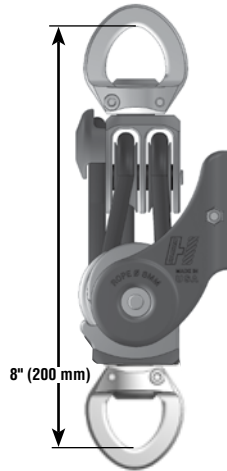
g) Labeling - Double pulley with releasing cam

7 - Required rope diameter



h) Dimensions

Minimum distance - The distance below is the minimum distance the WingMan can close.

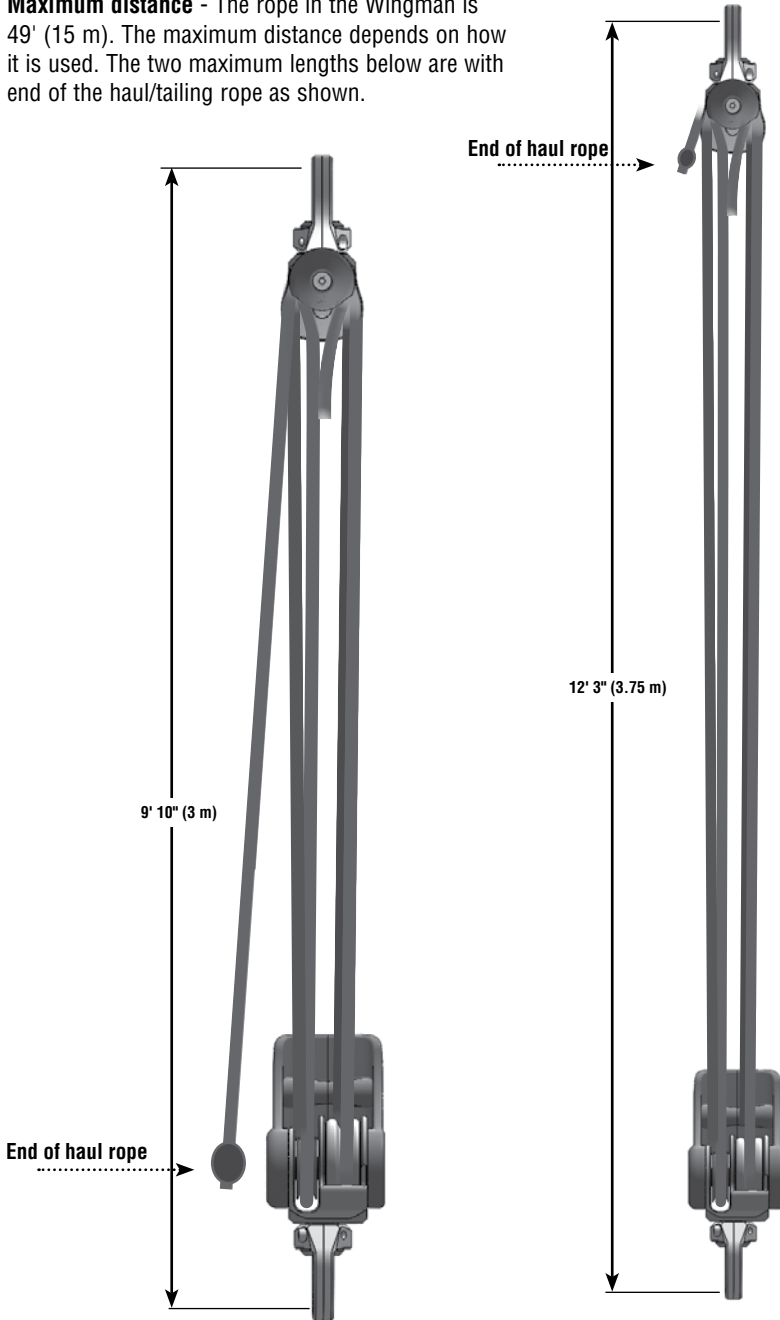


Minimum distance

3. Product Description and Components (Continued)

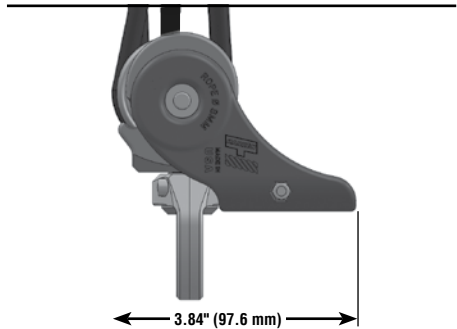
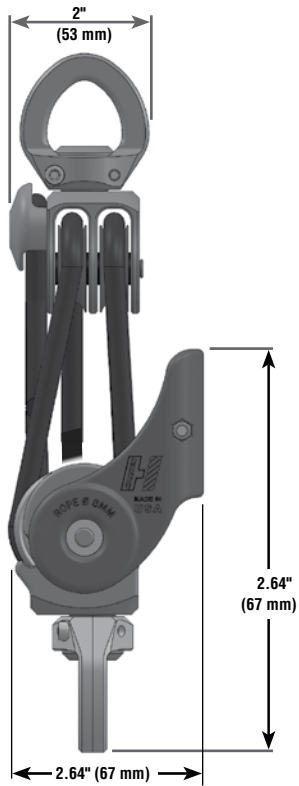
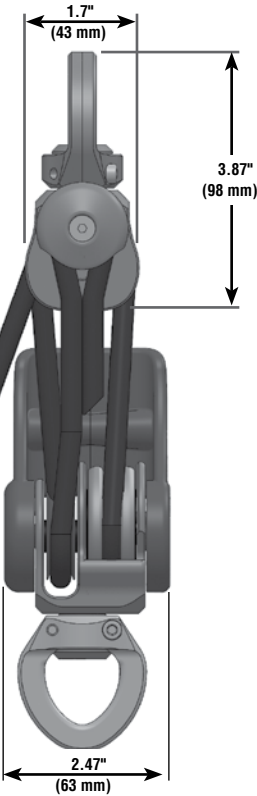
h) Dimensions (continued)

Maximum distance - The rope in the Wingman is 49' (15 m). The maximum distance depends on how it is used. The two maximum lengths below are with end of the haul/tailing rope as shown.



3. Product Description and Components (Continued)

h) Dimensions (continued)



4. Intended use prerequisites and limitations

a) Atmospheric conditions

Temperature for operation between -10°C and $+40^{\circ}\text{C}$ (14°F and 104°F).
Wet and icy conditions can affect the function of the device. Prolonged exposure to dust, ice or other particulates can result in damage to the WingMan and should be removed before use.

5. Use

a) Inspection before each use

Inspect the following carefully before using the WingMan. Correct problems before using. See part description on page 5 and inspection form on page 15.

Component	Inspection	Action if not correct
Swivel eyes	Ensure swivel rotates freely. Lack of rotation can indicate overload.	Remove from service. Send to Harken service center.
Swivel eyes	Check for wear on load bearing part of eye for each pulley.	Remove from service. Send to Harken service center.
Swivel eye retaining screws	Check for loose screws.	Remove from service. Send to Harken service center.
Riveted end of axle	Ensure rivet is secure and not loose.	Remove from service. Send to Harken service center.
Pulley body	Inspect the aluminum body of the pulley for any cracks wear or corrosion.	Remove from service. Send to Harken service center.
Sheave operation	Ensure sheaves roll freely. Ensure ratchet sheave rolls one direction and stops in other direction. The ratchet sheave should make a clicking sound when rotating.	Follow maintenance directed in this manual and recheck. If still does not roll freely remove from service. Send to Harken service center.
Releasing handle	Ensure that the releasing handle locks rope when handle is released completely. Ensure spring action closes the handle smartly.	Remove from service. Send to Harken service center.
	Inspect the handle for any cracks wear or separation between halves.	Remove from service. Send to Harken service center.
Rope sewn termination	Check sewn loop for signs of unraveling or damage. Inspect rope becket cover to ensure screw is tight and locked using thread-locking compound.	Remove from service. Send to Harken service center.
Rope	Check for any abrasion, UV damage, mold, exposure to chemicals, grease or excessive heat.	Remove from service. Send to Harken service center.
Rope stopper knot	Ensure there is a stopper knot on the free end of the haul rope.	Tie barrel knot and cover with clear shrink wrap.
Reeving of rope	Ensure the rope strands are not crossed or tangled. This can happen if the pulley is flipped during handling.	Flip the pulley through the strands to correct the problem. See diagram in part 3.
	Ensure the rope is reeved through all sheaves. The haul/tailling end of rope must exit from the double pulley with becket.	Lead rope through last sheave and ensure the sewn stop is in place.

5. Use (continued)

b) Operation

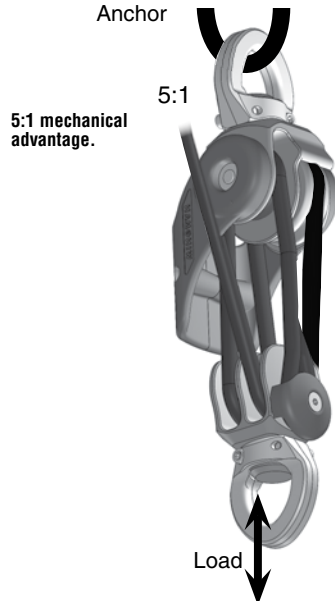
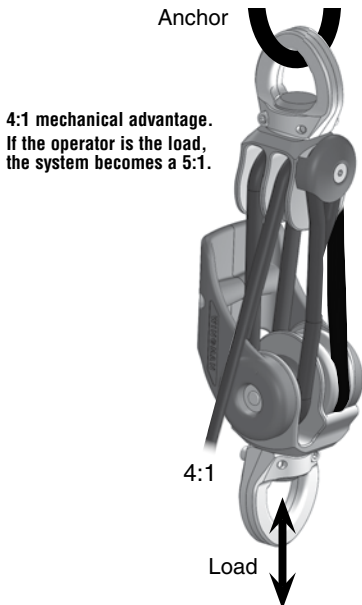
Function test - Before each use, verify that the device is working properly. Always use a backup safety system. Anchor one end and gradually apply load to the WingMan. Make sure the rope is locked in the double pulley with releasing handle. Grip the running end of rope with one hand and then with the other hand slowly open the handle to allow the rope to pass through and load to begin lowering. Ease pressure on the handle so it closes and make sure the rope locks. With a moderate load on the system, open the handle and make sure the handle snaps closed. Pull on the haul/tailing rope and make sure the sheaves turn freely and you hear a clicking sound.

Setup - Secure one end to an anchor or appropriate full strength anchor point on harness. Keep the releasing handle within reach of the operator.

Depending on orientation the WingMan can be used as a 4:1 mechanical advantage system or a 5:1 mechanical advantage system.

4:1 Mechanical advantage - If the double pulley with becket is attached to the anchor so the double with releasing handle is the movable load, and if the operator is not the moveable load, the system provides a 4:1 mechanical advantage. If the operator is the moveable load, the system becomes a 5:1.

5:1 Mechanical advantage - If the double pulley with releasing handle is attached to the anchor and the double with becket is the movable load, the system provides a 5:1 mechanical advantage. Note: the handle must be within reach of the operator.



5. Use (continued)

Lowering - To lower load, carefully open the releasing handle while securely tailing the haul/tail rope. Open the handle until you start to feel some pressure then slowly increase pressure as needed to start lowering. Use the combination of handle release and tailing to control the rate of descent.



To stop lowering, ease pressure on the handle so it closes and locks. Releasing the handle completely will immediately stop the lowering action.



5. Use (continued)



Raising - Raise by hauling hand over hand. When stopped (hand leaves haul/tail rope) make sure the load is secured with a blocking hitch finished with a security knot. Be sure not to secure to or interfere with the releasing handle.

Parking while raising or lowering - When stopped (hand leaves haul/tail rope) make sure the load is secured using a blocking hitch finished with a security knot.

IMPORTANT! Do not tie to releasing handle or interfere with releasing handle operation.

IMPORTANT! - When finished using the WingMan system, carefully pull the two pulleys together to prevent tangles during transport and storage. To pull the mechanical advantage system together, secure one end of the WingMan and keep pressure on the swivel eye of the other end while pulling the hauling part.

Pulleys secured for storage



5. Use (continued)

c) Rescue

You must have a rescue plan and the means to rapidly implement it in case of difficulties encountered while using this equipment.

d) Operating temperature

-10°C and +40°C

(14°F and 104°F)

Use, store and transport the Wingman where it will be protected from flame or high temperature.



WARNING! Avoid exposing the Wingman to flame or high temperature. It could melt or burn and fail if exposed to flame or high temperature which may result in severe injury or death.

e) Removing from service

If the WingMan has been subjected to the forces of arresting a fall it must be immediately withdrawn from use. Product can be severely damaged if exposed to chemical agents, heat, and abrasion and should be removed from service if safe function is in doubt. If in doubt check with Harken Industrial.

6-9. Maintenance, Lifespan, Storage, Warranty

6. Maintenance

Do not disassemble the WingMan. If soiled or exposed to saltwater, rinse in clean warm water (maximum temperature of 25°C) with non detergent at appropriate dilution (Ph range 5.5-8.5), and thoroughly rinse. When the equipment becomes wet, either from being in use or due to cleaning, it should be allowed to dry naturally, and should be kept away from direct heat. Light surface corrosion may be removed with a wire brush (no power tools). Retire if corrosion is heavy.

Do not use lubrication of any kind on the pulleys or releasing handle. Flush and dry as stated above. Dry away from solvents and corrosive materials. Do not store at extreme temperatures or with direct exposure to UV. Important: do not put in bag or sealed container until dry.

7. Lifespan

Do not remove or change rope. Certification is based upon using supplied rope. All testing for certification was conducted using kernmantle rope with the same specifications. Using any other rope makes the WingMan non-compliant and may prevent proper locking and release of the WingMan. The manufacturer is not responsible for any other rope in the system.

Send the WingMan to a Harken service center for rope replacement and general inspection every five years. If the WingMan has been stored in direct sunlight so that fading of the rope is evident, return to Harken immediately. If the rope does not pass inspection stop using immediately and send to **Harken service center** for rope replacement.

8. Packaging, Storage, Transportation

Avoid packaging, storing or transporting of the WingMan where it is exposed to these conditions:

- UV rays
- Excessive heat
- Saltwater
- Chemicals including solvents, grease, oil, or corrosive materials

Send the WingMan to a **Harken service center** sooner if the system is stored in direct sunlight for long periods and the rope shows fading.

9. Warranty

Harken guarantees this product for three years against any defects in materials or manufacture. The guarantee does not cover this product from normal wear and tear, oxidation, modification or alteration, incorrect use or storage, poor maintenance, accidental damage, negligence or any usage for which the product was not designed.

10. Records

Equipment Record		
Product:		
Model/type IN404	Description WingMan mechanical advantage system with locking mechanism and release handle	Serial number
Manufacturer HARKEN Industrial	Address N15W24983 Bluemound Rd Pewaukee, WI 53072-4974 USA	Tel/Website + 1 262-691-3320 www.harkenindustrial.com
Year of manufacture	Purchase date	Date first put into use
Other important information (i.e. document number):		

Inspection History - See page 9				
Date	Reason for entry (Periodic exam or usage)	Defect notes and other important information	Name and signature of competent person	Date of next periodic inspection

Country of Manufacture - USA



Manufacturer - Harken

N15W24983 Bluemound Rd., Pewaukee, WI 53072-4974 USA
Telephone: +1 262 691-3320 • Fax: +1 262 701-5780
Web: www.harkenindustrial.com
Email: infoUSA@harkenindustrial.com