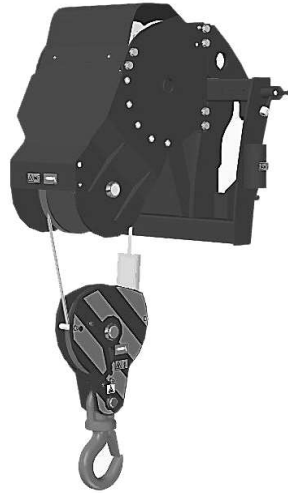


Use and Maintenance Manual



Interchangeable equipment

Hoisting winches

W 3 I - W 3 U

W 3,5 I - W 3,5 U

W 5 I - W 5 U

W 6 I - W 6 U

W 8 I - W 8 U

W 13 I

W 3,5/1,75 I - W 3,5/1,75 U

W 3/5 I - W 3/5 U

W 3/6 I - W 3/6 U



-- TRANSLATION OF THE ORIGINAL INSTRUCTIONS --

Drawn up in accordance with essential health and safety requirement 1.7.4 of Annex I to Directive 2006/42/EC

Magni Telescopic Handlers Srl

Via Magellano, 22 - 41013 Castelfranco Emilia (MO) - ITALY

Tel. +39 059 8031000 • Fax +39 059 8638012 • P. IVA/C.F. IT03353620366 • SDI: XMXAUP4 • Capitale Sociale 1.262.500 Euro i.v.
www.magnith.com

Symbols used

Parts of the text that are considerably important or specific operating procedures have been highlighted with the use of the following symbols:

NOTICE

Blue without safety alert symbol — used to indicate the presence of a potentially dangerous situation which, if not avoided, can cause damage to property.

CAUTION

Yellow with safety alert symbol — used to indicate the presence of a potentially dangerous situation which, if not avoided, can cause minor or moderate injury.

WARNING

Orange with safety alarm system — used to indicate the presence of a potentially dangerous situation which, if not avoided, can cause death or serious injury.

DANGER

Red with safety alarm system — used to indicate the presence of an imminently dangerous situation which, if not avoided, can cause death or serious injury.

The symbols used in this Manual comply with standard UNI EN ISO 7010:2012. To make it easy for the user, a summary of the symbols used is given below with their brief description:



Generic danger



Danger of burns



Danger of crushing



Danger from hanging load



Electrocution



Risk of intoxication



Batteries



Flammable material



Ban on smoking or lighting up any kind of naked flame

Reference regulatory framework

This Manual has been drafted in compliance with the main reference standards:

- Machinery Directive 2006/42/EC;
- UNI 10653:2003 Technical documentation – Quality of product technical documentation;
- UNI 10893:2000 Technical documentation of product – Instructions for use – Articulation and Exposition of the Content;
- UNI 14492-12:2019: Cranes – Power driven winches and hoists – Part 2: Power driven hoists
- UNI ISO 4301-1:1988: Lifting appliances. Classification. General

TECHNICAL PRODUCT INFORMATION

Main parts and general description of the winch

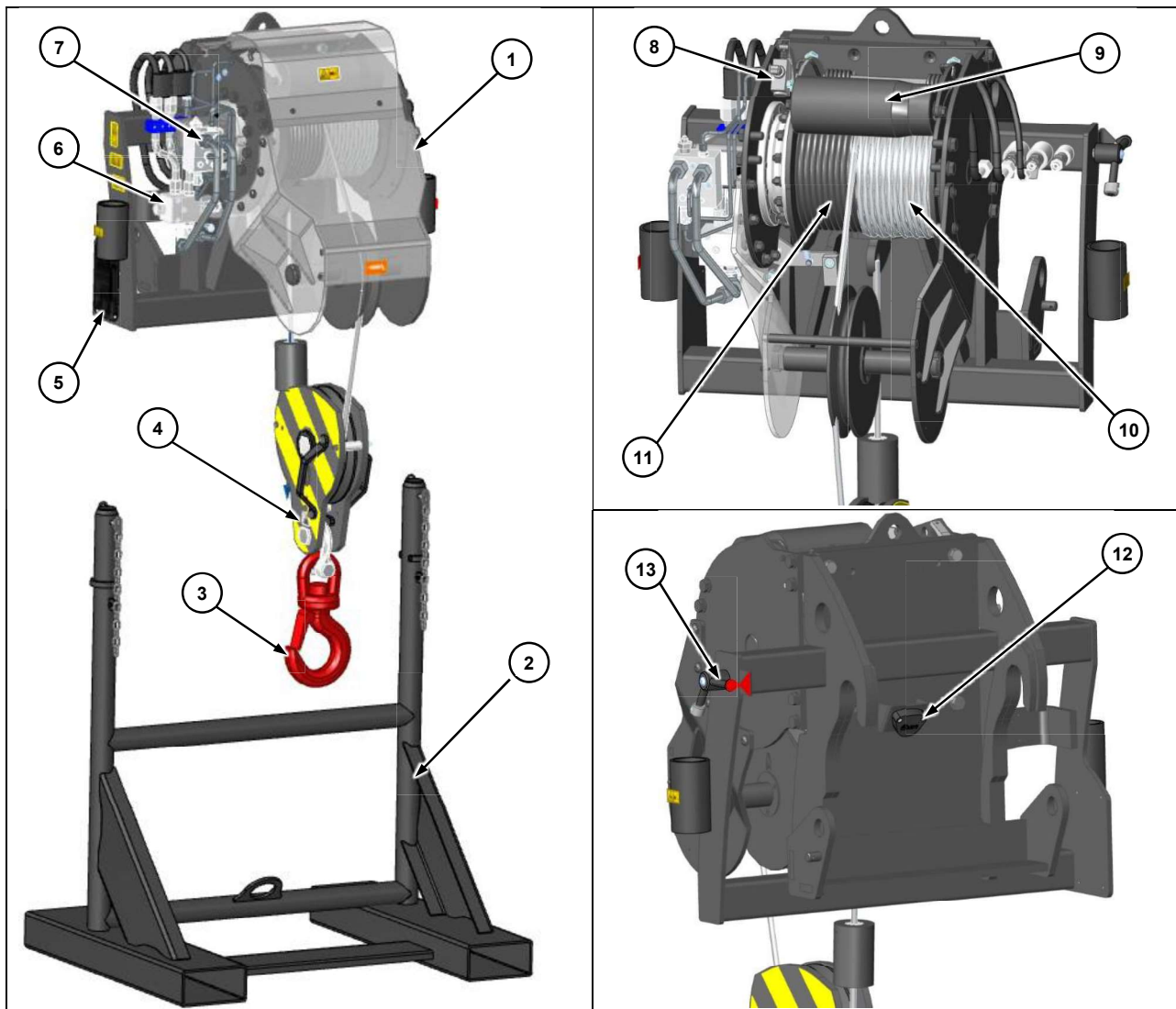
The winch consists of a drum (containing the planetary gearbox and negative parking brake) driven by a hydraulic motor, on which the rope for lifting the load is wound, all installed on a support structure.

The winch is controlled by the distributor of the operating vehicle on which it is installed.

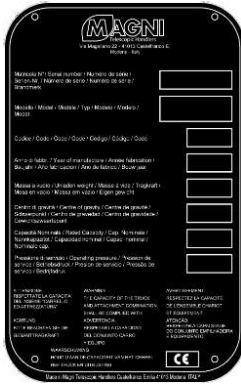
Rotation of the drum winds/unwinds the rope to which the load is attached (with or without block) by a hook.

The rotation brake opens when the motor starts and closes when the motor is stopped either by the operator or by the hydraulic limit switch systems.

Radars of the main components that make up the Hoisting winch interchangeable equipment



- 1 Winch structure;
- 2 Ground support;
- 3 Lifting hook;
- 4 Block;
- 5 Marking:



- Trademark, Manufacturer's name and address;
- Interchangeable equipment's serial number;
- Equipment model;
- MAGNI part number;
- Year of construction;
- Unladen weight;
- Centre of gravity;
- Rated capacity;
- Hydraulic operating pressure;

- 6 Hydraulic valve for blocking upward rotation;
- 7 Hydraulic valve for drum movement;
- 8 Hydraulic valve for blocking downward rotation;
- 9 Rope pressure roller;
- 10 Rope;
- 11 Drum;
- 12 Equipment recognition device;
- 13 Equipment inclination indicator.

The winch consists of a load-bearing structure made of tubes and metal sheets welded together, to which the hoisting structure is bolted, comprising a drum with a gear motor attached, which is in turn fitted between structural parts bolted together to provide quick access to moving parts for easier maintenance.

Safety devices

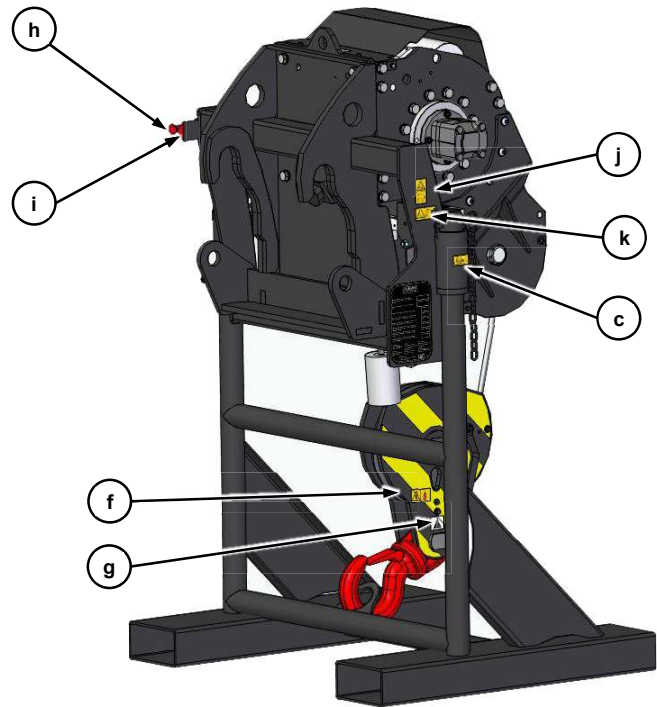
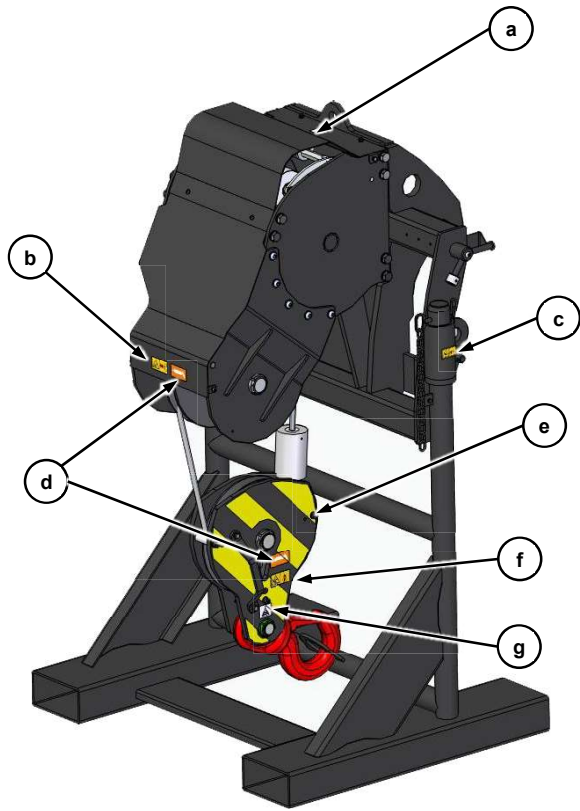
- **Shear pin** (interchangeable equipment – telescopic handler interface). The interchangeable equipment is mechanically fixed to the telescopic handler by a shear pin which is held in place by a cotter pin. This procedure is mandatory before using the equipment. (see Operation section).





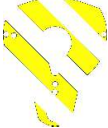


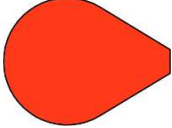
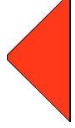




- **Hook with safety catch**
The winch is fitted with a hook with a spring-loaded locking device for return to the safety position.

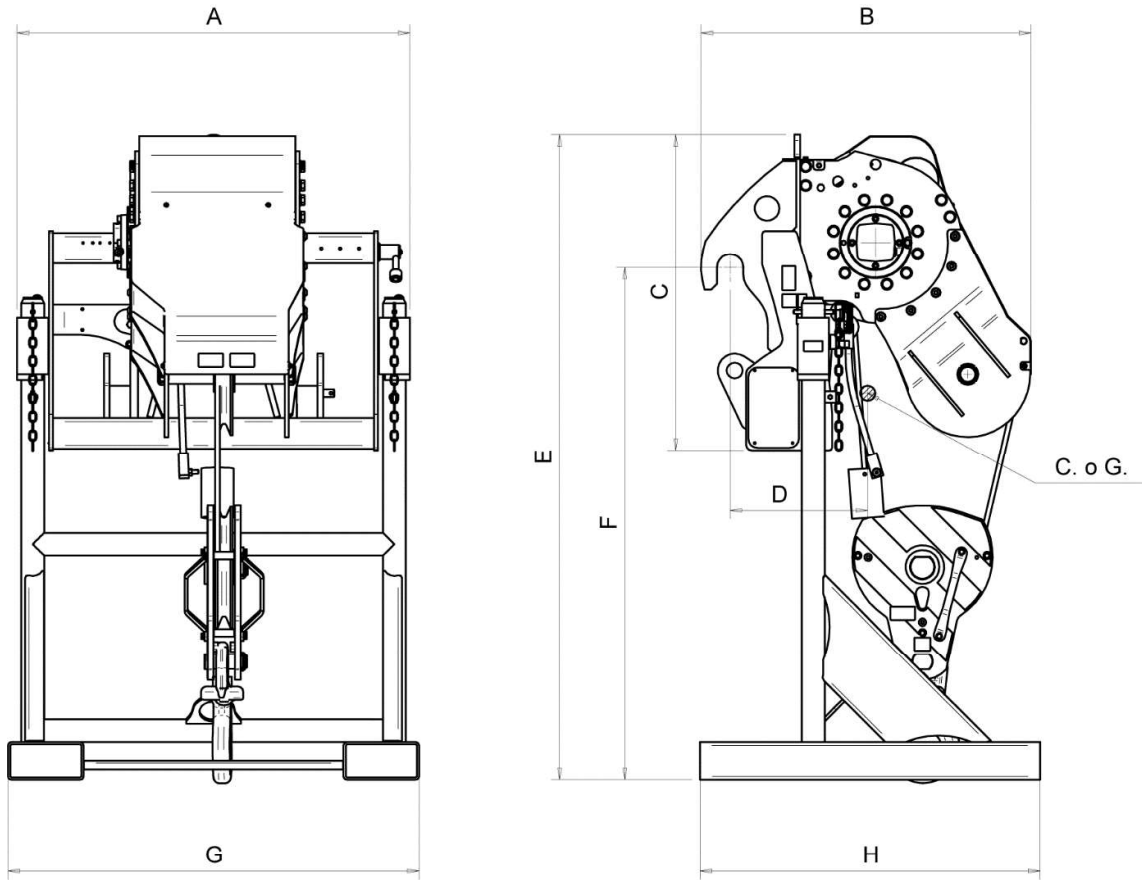


Warnings on the equipment



a		Tear-proof adhesive label indicating the lifting points.
b		Tear-proof adhesive label indicating areas with a high possibility of crushing the upper limbs by rotating parts.
c		Tear-proof adhesive label indicating areas with a high possibility of crushing the upper limbs during movement of the structure.
d	 <p style="font-size: small;">PN 03439 A</p>	Tear-proof adhesive label indicating nearby greasing point.
e		Tear-proof adhesive label indicating overall dimensions
f		Tear-proof adhesive label indicating danger of load falling from a height
g		Tear-proof adhesive label indicating the maximum load capacity of the block (when present) specific to the winch model.
h		Tear-proof adhesive label located on the movable support for detection of equipment inclination.
i		Tear-proof adhesive label located on the equipment's frame for detection of equipment inclination.
j		Tear-proof adhesive label indicating danger of swinging and unstable load
k		Tear-proof adhesive label indicating danger of the forklift truck tipping over with the load lifted

Dimensional diagram



Dimensional table

	A	B	C	D	E	F	G	H
W3 I p.n.27267	1040 mm 40.94"	874 mm 34.41"	835 mm 32.87"	377 mm 14.84"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W3 U p.n.28595	1040 mm 40.94"	842 mm 33.15"	970 mm 38.19"	346 mm 13.62"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W3.5 I p.n.09672	1040 mm 40.94"	877 mm 34.53"	835 mm 32.87"	288 mm 11.33"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W3.5 U p.n.01780	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	283 mm 11.14"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W5 I p.n.13100	1040 mm 40.94"	874 mm 34.41"	835 mm 32.87"	310 mm 12.20"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W5 U p.n.13095	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	305 mm 12"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W6 I p.n.16900	1040 mm 40.94"	874 mm 34.41"	835 mm 32.87"	310 mm 12.20"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W6 U p.n.16980	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	305 mm 12"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W8 I p.n.47917	950 mm 37.40"	1060 mm 41.73"	1010 mm 39.76"	450 mm 17.71"	2279 mm 89.72"	1978 mm 77.87"	1090 mm 42.91"	900 mm 35.43"
W8 U p.n.53290	950 mm 37.40"	1063 mm 41.85"	1010 mm 39.76"	441 mm 17.36"	2279 mm 89.72"	1978 mm 77.87"	1090 mm 42.91"	900 mm 35.43"
W13 I p.n.55465	950 mm 37.40"	1080 mm 42.52"	1260 mm 49.60"	427 mm 16.81"	2220 mm 87.40"	1918 mm 75.51"	1090 mm 42.91"	900 mm 35.43"
W3.5/1.75 I p.n.39020	1040 mm 40.94"	877 mm 34.53"	835 mm 32.87"	288 mm 11.33"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W3.5/1.75 U p.n. 59784	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	283 mm 11.14"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W3/5 I p.n.28590	1040 mm 40.94"	874 mm 34.41"	835 mm 32.87"	310 mm 12.20"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W3/5 U p.n.28570	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	305 mm 12"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"
W3/6 I p.n.30163	1040 mm 40.94"	874 mm 34.41"	835 mm 32.87"	310 mm 12.20"	1710 mm 67.32"	1355 mm 53.34"	1090 mm 42.91"	900 mm 35.43"
W3/6 U p.n.30158	1040 mm 40.94"	845 mm 33.26"	970 mm 38.19"	305 mm 12"	1710 mm 67.32"	1154 mm 45.43"	1090 mm 42.91"	900 mm 35.43"

Technical data

Data Model	MAX Nominal Capacity	Transport weight	Operative weight	Rope		Hydraulic operating pressure	Limit Switch
				Dimensions			
				Diameter	Length		
W3 I p.n.27267	3000 kg 6600 lbs	570 kg 1260 lbs	480 kg 1060 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W3 U p.n.28595	3000 kg 6600 lbs	570 kg 1260 lbs	480 kg 1060 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W3.5 I p.n.09672	3500 kg 7700 lbs	460 kg 1015 lbs	370 kg 815 lbs	Ø10 mm 0.39"	54 m 177'16"	250 bar 3625 psi	Hydraulic
W3.5 U p.n.01780	3500 kg 7700 lbs	460 kg 1015 lbs	370 kg 815 lbs	Ø10 mm 0.39"	54 m 177'16"	250 bar 3625 psi	Hydraulic
W5 I p.n.13100	5000 kg 11000 lbs	560 kg 1235 lbs	470 kg 1040 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W5 U p.n.13095	5000 kg 11000 lbs	560 kg 1235 lbs	470 kg 1040 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W6 I p.n.16900	6000 kg 13200 lbs	560 kg 1235 lbs	470 kg 1040 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W6 U p.n.16980	6000 kg 13200 lbs	560 kg 1235 lbs	470 kg 1040 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W8 I p.n.47917	8000 kg 17600 lbs	1010 kg 2230 lbs	920 kg 2030 lbs	Ø16 mm 0.63"	88 m 288'71"	250 bar 3625 psi	Hydraulic
W8 U p.n.53290	8000 kg 17600 lbs	1015 kg 2240 lbs	925 kg 2040 lbs	Ø16 mm 0.63"	88 m 288'71"	250 bar 3625 psi	Hydraulic
W13 I p.n.55465	13000 kg 28600 lbs	1130 kg 2500 lbs	1040 kg 2295 lbs	Ø16 mm 0.63"	88 m 288'71"	250 bar 3625 psi	Hydraulic
W3.5/1.75 I p.n.39020	3500 kg 7700 lbs	535 kg 1180 lbs	445 kg 985 lbs	Ø10 mm 0.39"	54 m 177'16"	250 bar 3625 psi	Hydraulic
W3.5/1.75 U p.n.59784	3500 kg 7700 lbs	535 kg 1180 lbs	445 kg 985 lbs	Ø10 mm 0.39"	54 m 177'16"	250 bar 3625 psi	Hydraulic
W3/5 I p.n.28590	5000 kg 11000 lbs	625 kg 1340 lbs	535 kg 1180 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W3/5 U p.n.28570	5000 kg 11000 lbs	625 kg 1340 lbs	535 kg 1180 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W3/6 I p.n.30163	6000 kg 13200 lbs	625 kg 1340 lbs	535 kg 1180 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic
W3/6 U p.n.30158	6000 kg 13200 lbs	625 kg 1340 lbs	535 kg 1180 lbs	Ø12 mm 0.47"	58 m 190'29"	250 bar 3625 psi	Hydraulic

Classification of cranes according to ISO 4301: T4 – L2 – M4 valid for all models.

Environmental information

<i>Parameter</i>	<i>Values</i>
<i>OPERATING TEMPERATURE</i>	from -20 °C to +40 °C (from -4 °F to +104 °F)
<i>STORAGE TEMPERATURE</i>	from 25 °C to +50 °C (from -13 °F to +122 °F)
<i>HUMIDITY</i>	from 20% to 95%

This equipment, which was assessed independently, does not have any noise emissions and is therefore not subject to any specific directives; when it is connected to a vehicle, it complies with the regulations of Directive 2000/14/EC.

This equipment, which was assessed independently, does not have any electromagnetic emissions and is therefore not subject to any specific directives; when it is connected to a vehicle, it complies with the regulations of Directive 2014/30/EU.

This equipment does not directly transmit any significant levels of vibration to the operator, these effects are to be expected from the vehicle/equipment combination and their general condition and maintenance.

SAFETY INFORMATION

General safety requirements

Most of the accidents linked to use, maintenance and repair of the equipment are due to failure to apply and comply with the elementary safety standards. These accidents can be avoided by identifying the risks to which the user will be exposed and by taking the necessary precautions.

CAUTION

Operations or movements not described in this Use and Maintenance Manual must be avoided; the person using methods other than those recommended must first ensure his own safety, the safety of others and correct handling of the equipment.

The Manufacturer has designed this equipment accurately, with the help of appropriate tools and technologies to ensure its safety; however, it is difficult to assess all the work situations in which one may find oneself operating and the ensuing operating conditions.

Consequently, the user is responsible not only for following the indications given in this Use and Maintenance Manual, but also for adopting the methods for use that take into account the provisions and legislation on the matter of health and occupational safety in force in the country in which the equipment is used, associated with responsible use of the equipment, with the capacity of foreseeing and preventing potential danger situations generated by special logistic, climatic, visibility and health conditions of the user.

NOTICE

Maintenance or repairs on our equipment must be carried out solely using original components.

If original components are not used, the customer alone will be held responsible for harm to persons and damage to objects caused by potential malfunctioning of the vehicle.

The Manufacturer **shall not accept** any responsibility if the use of components that are not original results in reduction of the reliability of the equipment over time.

DANGER

Failure to comply with the safety regulations listed in this Use and Maintenance Manual can result in serious accidents, sometimes even fatal.

No request for assistance under warranty can be accepted in the above-listed cases, but assistance can be provided by our network of technical assistance on payment.

Using original components for carrying out maintenance will ensure legal protection.

If this is not the case:

- the Customer who purchases non original components from unauthorized dealers must be aware of the risks this entails.
- the Customer who modifies or has third parties make modifications to Magni Telescopic Handlers' equipment must be aware of the legal responsibilities of such an action and, in case of accident caused by yielding of non original components, cannot avail of any legal cover;
- the Customer who copies or has copies made of the original component is exposed to legal risks;
- the Certificate of Conformity of Magni Telescopic Handlers' equipment implies responsibility for the Manufacturer only if the maintenance schedules and methods defined in this Manual are complied with;
- the Customer who does not comply with the maintenance schedules and frequency established in this Manual must be aware that the warranty conditions on the equipment will lapse.

Main recommendations for using the equipment

Read this Use and maintenance manual carefully before using the equipment.

Ensure that personnel handling the equipment are properly trained, have all the requirements for correct operation and have the appropriate Personal Protective Equipment (protective helmet, safety shoes, gloves).

Know the procedures to be implemented in case of an operating emergency.

Keep the equipment efficient by carrying out the required checks and inspections.

Before each use, check the integrity of the equipment and all its components, including the protection and safety systems:

- check the hydraulic up and down rope limit switch systems.
- before each use, check the efficiency of any visible electrical parts.
- before each use, check that the safety signs on the equipment are present and efficient.
- check the tightness of the equipment's hydraulic components.
- before use, check that the working environment is adequately lit.
- before use, check that there is no one next to the vehicle or within its range of action.
- before use, check that the environmental temperature complies with the manufacturer's instructions.
- check that there are no unprotected overhead power lines in the work area.

Place appropriate signs and barriers around the work area of the vehicle and its attached equipment (ground projection), people must not circulate in this area in compliance with the regulations, provisions and laws on safety at work established in the different countries of operation.

CAUTION

Mark the work area correctly so that people do not walk underneath suspended loads.

If the equipment is to operate on the road, it must be fenced off/marked in accordance with national and local regulations for road construction sites.

DANGER

It is forbidden to overload the equipment.

If on sloping ground, compensate for its inclination using the stabilisers that have a level corrector specifically fitted to ensure the equipment stays in the horizontal position. Level the vehicle, the tilt of which must be within a maximum error of less than $\pm 1^\circ$ from the horizontal line on the four fronts.

Correct use of the equipment

Comply with the data indicated on the load charts. Do not attempt to lift weights exceeding those permitted on the load charts attached to the vehicle, under any circumstances whatsoever.

Do not overload the equipment beyond its maximum rated capacity.

Keep the load low and with the telescopic boom fully retracted.

Drive the crane at a speed appropriate to the ground conditions.

When there is a load on the hook, drive the vehicle gently; avoid abrupt manoeuvres such as starting and stopping to prevent the load from swinging uncontrollably.

When there is no load, travel with the telescopic boom lowered and fully retracted and with the hook locked.

Before lifting the load, check that there are no obstacles of any kind: people or objects.

Pay attention to electrical cables.

Do not use the crane during heavy storms or when there is a risk of lightning.

Never leave the forklift truck parked with a raised load.

Do not approach or enter the crane's range of operation.

When using the equipment with a load hanging from the hook:

- position the equipment perpendicular to the load to be lifted and to the ground.

- the empty hook must be brought down slowly (gently) because if it is operated quickly it can loosen the rope wound round the drum, which can cause serious problems for the rope, the limit switch, etc.

Improper use of the equipment

It is forbidden to lift people

It is forbidden to remove, disable or change the safety devices in any way.

Do not use the equipment in particularly adverse weather conditions (storms with lightning).

It is forbidden to overload the equipment: the maximum capacity indicated on the manufacturer's plate must never be exceeded.

It is forbidden to use the equipment to transport people.

Use near power lines



Before starting operations, check the work areas for any overhead power lines.



It is forbidden to operate in the vicinity of power lines.

Always keep at a safe distance of 5 metres from them, especially when they are powered or when their status is not known.

Use in windy conditions

WARNING

The equipment can be used in wind conditions, **provided that the wind does not exceed the following speeds: 49 km/h – 31 mi/h - 13.8 m/s (Force 6 on the Beaufort Scale).**

For visual identification of this speed, refer to the Beaufort Scale below for empiric evaluation of the wind speed.

BEAUFORT WIND SCALE					
Force	Speed (km/h)	Speed (mi/h)	Speed (m/s)	Wind type	Wind effects
0	0 - 1	0 - 1	> 0.3	Calm	Smoke rises vertically, sea surface is mirror-like.
1	1 - 5	1 - 4	0.3 - 1.5	Light air	Wind causes smoke to drift, ripples on water.
2	6 - 11	5 - 7	1.6 - 3.3	Light breeze	Leaves rustle, small wavelets.
3	12 - 19	8 - 11	3.4 - 5.4	Gentle breeze	Leaves and twigs are constantly moving, small wavelets, crests begin to break.
4	20 - 28	12 - 18	5.5 - 7.9	Moderate breeze	The wind raises dust, dry leaves, small tree branches constantly moving, small wavelets becoming longer.
5	29 - 38	19 - 24	8 - 10.7	Fresh breeze	Small trees in leaf begin to sway, small waves form on inland waters, waves become moderately longer.
6	39 - 49	25 - 31	10.8 - 13.8	Strong breeze	Larger tree branches are moving, wind whistling in telegraph wires, whitecaps on the sea surface and spray.
7	50 - 61	32 - 38	13.9 - 17.1	Near gale	Whole trees are moving, resistance when walking against wind, sea heaps up, white foam streaks of breakers.
8	62 - 74	39 - 46	17.2 - 20.7	Gale	Twigs are breaking off trees, walking against wind becomes impossible, moderately high waves of greater length, edges of crests begin to break into spindrift.
9	75 - 88	47 - 54	20.8 - 24.4	Strong gale	Shingles and tiles are blown away, high waves, dense streaks of foam and spray, raised by wind, reduce visibility.
10	89 - 102	55 - 63	24.5 - 28.4	Storm	Event seldom experienced on land, trees uprooted, considerable damage to dwellings, very high waves with long overhanging crests.
11	103 - 117	64 - 73	28.5 - 32.6	Violent storm	Rare event, severe devastation, enormous high waves, which can conceal medium sized ships, poor visibility.
12	beyond 118	74 +	32.7 +	Hurricane	Destruction of buildings, constructions, etc., foam and sprays in the seas seriously reduce visibility.

Residual risks

Despite compliance with all the rules and the recommendations given in this manual on using the equipment and the safety devices fitted, potentially hazardous situations may still arise.

These are residual risks, i.e. work-related risks that cannot be eliminated or reduced sufficiently by design measures and which cannot be completely avoided by integrated protective measures.

The residual risks are:

- ***Risk of swinging or toppling over***
- ***Risk of hanging loads falling***
- ***Electrical risk***
- ***Risk of colliding with obstacles***
- ***Risk of crushing***
- ***Risk of overturning.***

Risk of swinging or toppling over

The risks of swinging or toppling over can result in a very serious injury to the operator and are present when:

- the controls are not used properly;
- the equipment is overloaded;
- the ground subsides;
- there are gusts of wind;
- you hit an obstacle on the ground or at height;

Risk of hanging loads falling

The risk of hanging loads falling from above can be caused by structural failure of the equipment's components (hook, rope, safety clamps) and incorrect slinging of the load.

Electrical risk

There is an electrical risk when operations are carried out in the vicinity of overhead power lines.

Risk of explosion or burns

There are risks of explosion or burns if the hydraulic hoses containing high-pressure fluid break; contact can also occur in the form of spurts and splashes during normal use of the vehicle or during maintenance operations in the presence of hydraulic leaks.

Risk of getting knocked over

There is a risk of getting knocked over at all stages when moving the vehicle and/or the equipment.

Risk of colliding with obstacles

There is a risk of colliding with obstacles when moving the equipment around obstacles in the work area.

Risk of crushing

There is a risk of crushing when handling loads in the work area.

Risk of overturning

This is the risk from the vehicle/equipment combination losing balance. There are many causes: excessive load handling speeds and unstable ground being the main ones.

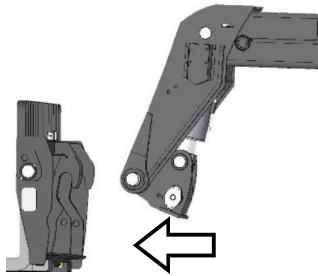
OPERATION

How to connect the vehicle's equipment

NOTICE

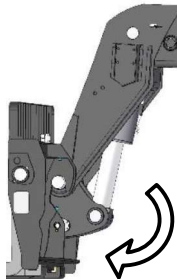
Only personnel qualified and trained for driving the forklift truck and using the various accessories with which it may be provided must be allowed to connect the equipment to the vehicle.

The connecting procedure is illustrated below:



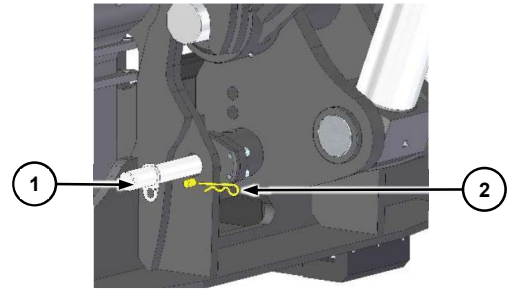
Position the equipment on a stable level surface.

Bring the vehicle closer to the equipment, positioning the end of the boom with the quick-fit coupling retracted suitably to facilitate attachment.



Attach the equipment to the boom head quick-fit coupling.

Tilt the boom head coupling round to the equipment chassis to allow the shear pin to be inserted.



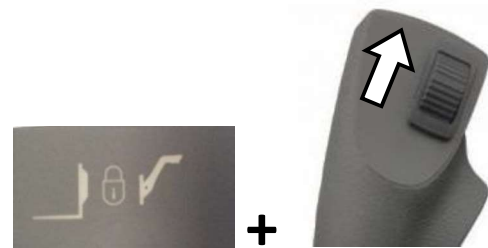
Complete the coupling procedure by inserting the shear pin ① and relative cotter pin ②.

⚠ CAUTION

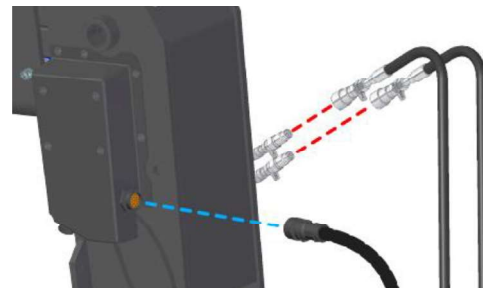
Potential risks in this type of operation: crushing of the upper limbs.

Hydraulic shear pin

If the vehicle is supplied with a hydraulic shear pin, press and hold down the relative spring button with the dedicated graphic on the push-button panel to the right of the driver's seat and simultaneously rotate the roller forward on the joystick (right or left one depending on the vehicle model used) to OPTIONAL to activate the hydraulic circuit until the shear pin comes completely out.

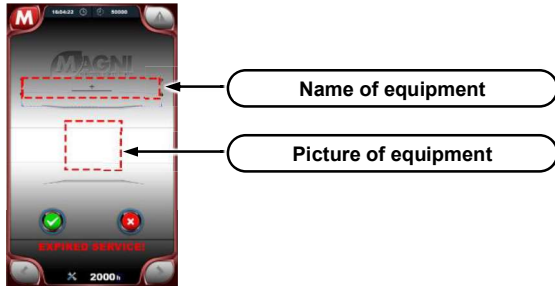


Connect the equipment's hydraulic (red) and electrical (blue) system.



Attachment confirmation

Make sure that the areas indicated on the multi-function display, highlighted below, show the name and image of the attachment detected by the automatic recognition system.



Two buttons are displayed under the name:



Attachment confirmation



No attachment confirmation

Press the confirmation button if the equipment identified corresponds to that actually fitted on the vehicle.

Press the no confirmation button if the detected attachment does not correspond to the one actually fitted on the vehicle.

The vehicle can still be used, but operation and load capacity are limited for safety reasons.

NOTICE

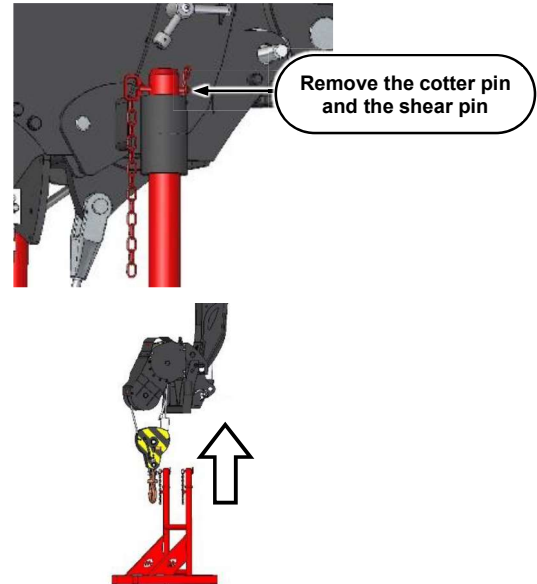
If the equipment is not recognised, check the state of preservation of the transmitter present on it and of the receiver present at the head of the boom. If there is no obvious damage, please contact the Magni Telescopic Handlers Assistance Service.

If the RED button is pressed, for safety reasons the vehicle will have limited operation and load capacity to enable the unrecognised equipment to be transported and moved around the site area.

Operation prior to use

Once the equipment has been attached to the boom, for safety reasons the winch must be uncoupled from its ground support before it can be used.

First remove the shear pin from both sides of the structure and then lift the winch.



Changing load capacity

Certain winch models manufactured by Magni Telescopic Handlers are enabled to change load capacity according to the position of the last anchorage point of the rope:

- on the frame of the winch structure
- on the block.

The variation of the rope anchoring point is detected by the proximity sensors installed on the structure that send a signal to the control unit of the forklift truck which, as a result, sets the safety parameters for the various work configurations of the equipment.

Below are the procedures on how to position the rope with direct pull on the block.

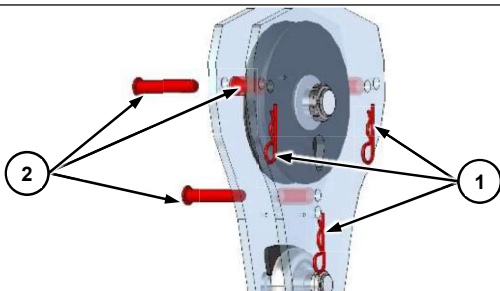
NOTICE

It is advisable to have two operators carry out the following operations: one in the vehicle's cab to hydraulically move the rope and one to ensure that the rope winds/unwinds correctly so that it doesn't overlap or cross over, resulting in possible injury and damage.

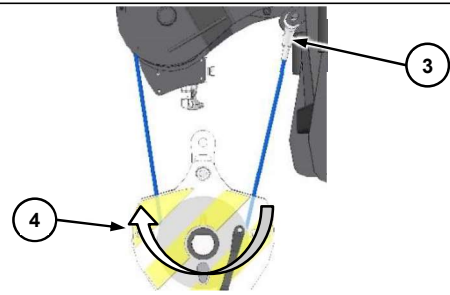
CAUTION

Potential risks in this type of operation: crushing of the upper and lower limbs.

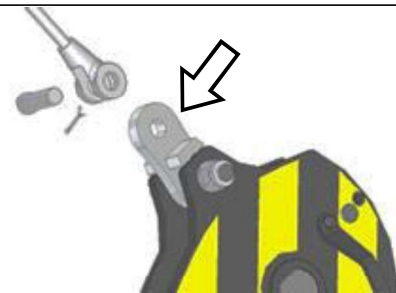
To prevent the block from falling, it is advisable to lay it on the ground and unwind the rope before starting the operations below.



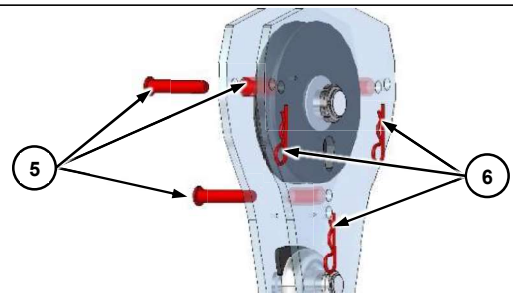
Pull out the rope retaining rollers (2) from inside the sheave groove after removing the cotter pins (1).



Uncouple the rope lug (3) from the winch frame and pull it out of the block (4).



Insert the lug on the top of the block with the pin just removed from the winch frame.



Finish the procedure by reinserting the rope retaining rollers (5) into the previously removed block and securing them with the respective cotter pins (6).

CAUTION

When lifting the block off the ground, and before starting the winch, check that the rope is correctly positioned on the drum: check that there are no overlaps or twists.

CONTROLS

Vehicles designed and built by Magni Telescopic Handlers are engineered to provide maximum ease of use with the utmost safety of the driver with special conditions to prevent unintended actions.

The vehicle is equipped with one or two joysticks (depending on the model) near the driver's seat arm rests. Joysticks control vehicle/equipment movements.



To impart commands using the joysticks, keep the confirmation button mentioned above pressed. Not pressing the confirmation button prevents accidental movements of the vehicle following involuntary activation of the joystick.



Another requirement for driving the vehicle correctly is the operator in the cab sitting properly in the driver's seat. The seat is fitted with an operator detection sensor: if he/she is not seated correctly, the controls are inhibited.

The anomalies described above are shown by means of intermittent visual signals on the control panel next to the seat.



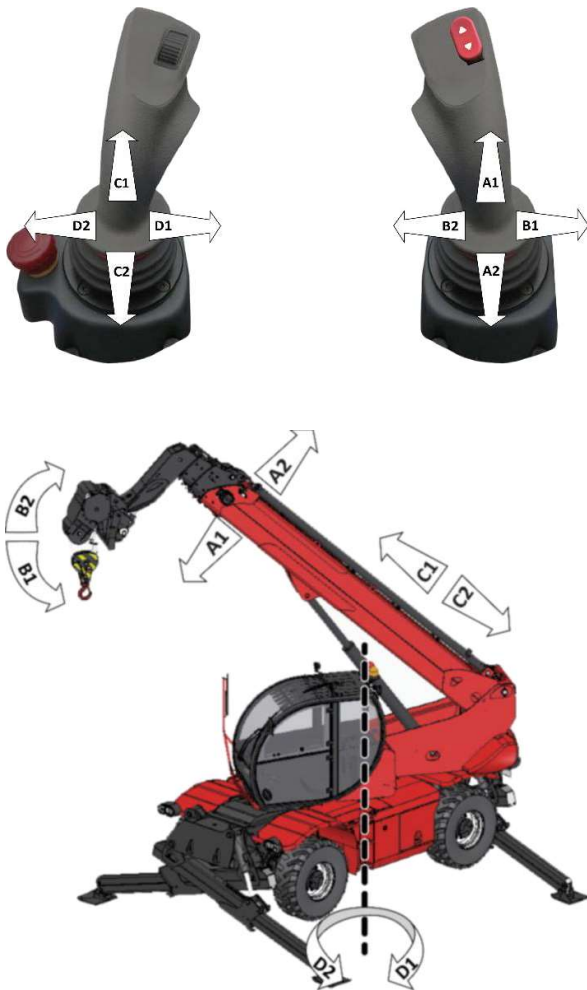
PRESS DEAD MAN'S
BUTTON ON JOYSTICK



SEAT SWITCH

Controls from the RTH cab

Vehicle movements



- **A1:** right joystick forward lowers the telescopic boom;
- **A2:** right joystick backward lifts the telescopic boom;
- **B1:** right joystick to the right rotates the equipment downward;
- **B2:** right joystick to the left rotates the equipment upward;
- **C1:** left joystick forward extends the telescopic boom;
- **C2:** left joystick backward retracts the telescopic boom;
- **D1:** left joystick to the right rotates the vehicle's turret clockwise;
- **D2:** left joystick to the left rotates the vehicle's turret anticlockwise.

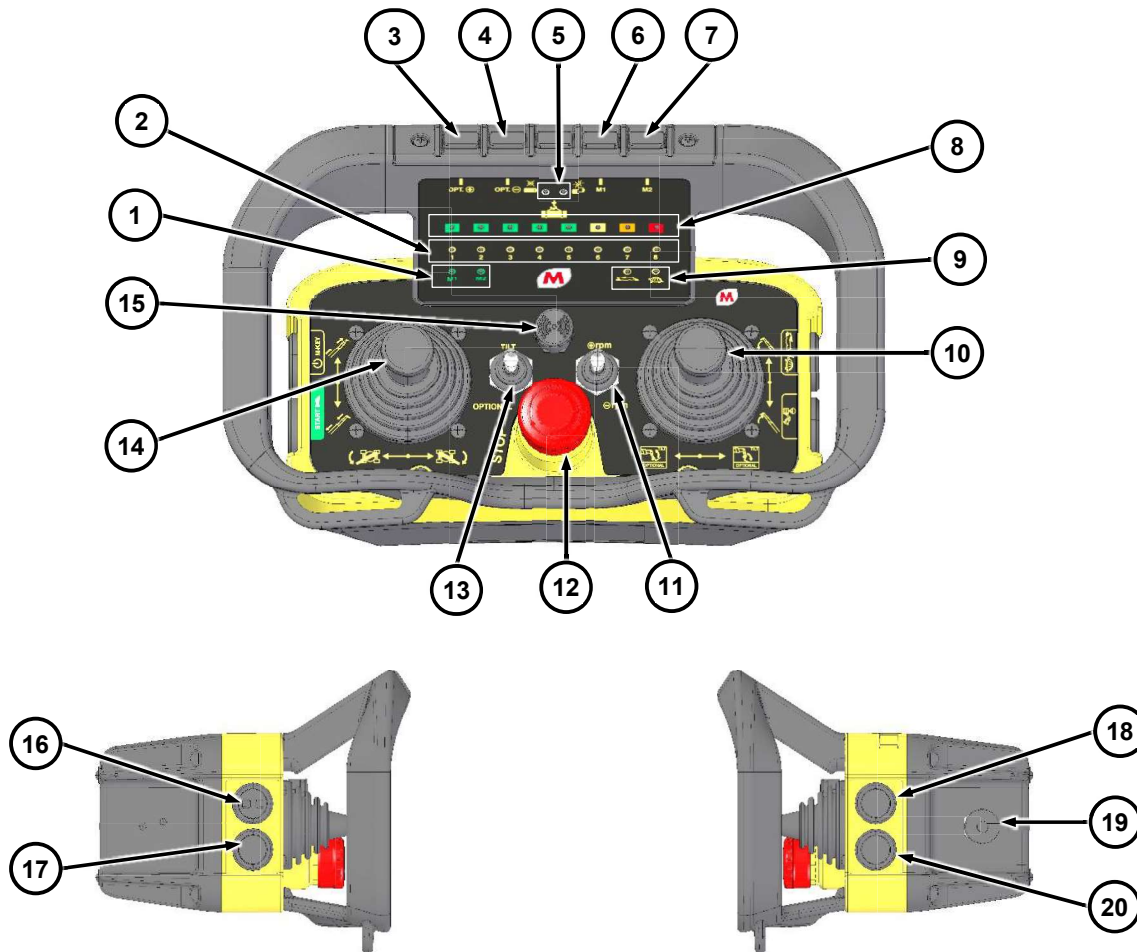
Equipment movements



- **E1:** roller forward lifts the hook/winds the rope;
- **E2:** roller backward drops the hook/unwinds the rope;

Radio control

Description of the control panel



- 1- M1 or M2 mode selection indicator LEDs,
- 2- numerical scale indicating the program selected for moving the accessory,
- 3- program increase button [+] for moving the accessory,
- 4- program decrease button [-] for moving the accessory,
- 5- LED for charging status of the radio control batteries,
- 6- M1 load handling mode selection button, specifically for use with RTH 6.46 (SH),
- 7- M2 load handling mode selection button, specifically for use with RTH 6.46 (SH),
- 8- colour scale for indicating the load level detected by the platform,
- 9- LED indicating the vehicle movements speed mode (inhibited with platform in use),
- 10- right joystick (optional manoeuvre enabling button),
- 11- engine's RPM +/- selector,
- 12- emergency stop button,
- 13- TILT (vehicle controls) OPTIONAL (accessory controls) functions selector,
- 14- left joystick (optional manoeuvre enabling button),
- 15- buzzer,
- 16- radio control activation key housing,
- 17- button for turning the radio control on/off,
- 18- movements speed mode selection button: slow/fast (inhibited with platform in use),
- 19- connector for wired control (only for connection with aerial work platform),
- 20- emergency pump activation button.

Radio control activation



With the attachment attached to the vehicle, if not already in operation, put the reverse gear in NEUTRAL, engage the parking brake and stabilise.



Stabilisers page



Controls page

Activate the vehicle's connection with the radio control by pressing the key on the "stabilisers page" or "controls page".



Turn the red emergency button clockwise to activate the electrical circuit of the radio control; insert the magnetic key on the left-hand side.



Wait for the green battery charged light to turn on and then press the connection button underneath the magnetic safety key.

If everything is correct, when the connection has been made the vehicle's horn makes a warning sound.



ATTENTION

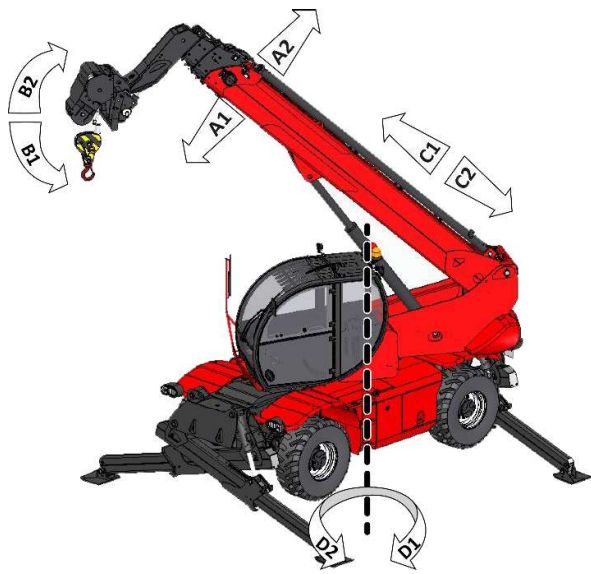
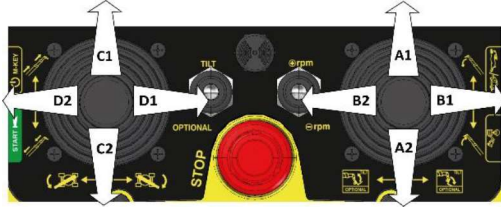
If connection between the radio control and the vehicle has been interrupted by the red emergency button being pressed (for the vehicle or radio control), reactivate it as follows:

- 1- reset the red mushroom-shaped button by rotating it anticlockwise,
- 2- press the green radio control button once to reactivate the radio control/forklift truck connection, confirmed by the vehicle horn making a warning sound,
- 3- press the green radio control button again to start the vehicle's I.C. engine, confirmed by the vehicle horn making a warning sound.

When this procedure has been completed, the radio control will be operational.

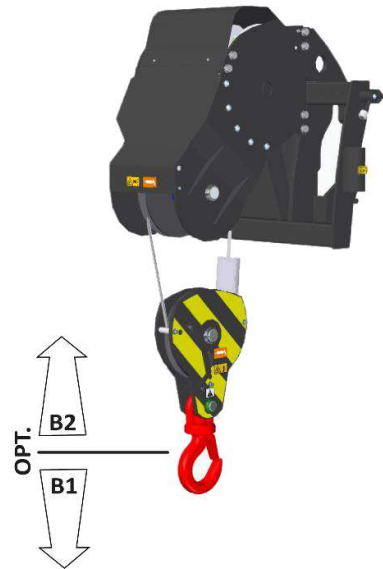
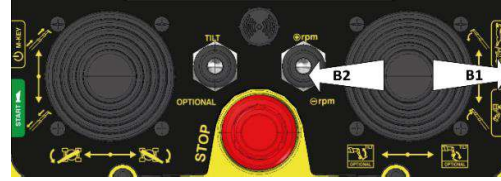
Radio control combined with RTH machine

Vehicle movements (TILT)



- **A1**: right joystick forward lowers the telescopic boom;
- **A2**: right joystick backward lifts the telescopic boom;
- **B1**: right joystick to the right rotates the equipment downward;
- **B2**: right joystick to the left rotates the equipment upward;
- **C1**: left joystick forward extends the telescopic boom;
- **C2**: left joystick backward retracts the telescopic boom;
- **D1**: left joystick to the right rotates the vehicle's turret clockwise;
- **D2**: left joystick to the left rotates the vehicle's turret anticlockwise.

Equipment movements (OPTIONAL)



- **B1**: right joystick to the right drops the hook/unwinds the rope;
- **B2**: left joystick to the left lifts the hook/winds the rope.

Emergency stop procedure

⚠ CAUTION

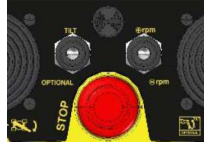
In dangerous conditions, press the red emergency button either inside the vehicle's cab next to the left joystick (RTH / HTH) or right dashboard (TH) and in the centre of the radio control to stop every forklift truck and attachment movement.



RTH / HTH



TH



Radio control

Once the dangerous situation has been eliminated, to resume control of operations, reset the red emergency button (whatever its position) by turning it clockwise, switch the vehicle on again and then reconnect the radio control (if present) as described above.

Driving the vehicle

Move the vehicle with the attachment in transport position, i.e. with the boom completely retracted and the load approx. 300 mm above the ground.

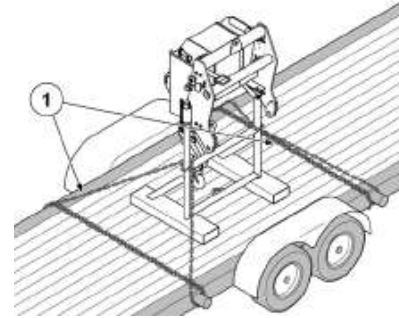
The speed of the forklift truck with load must never exceed 10 km/h.

Drive carefully, adjusting the speed according to the stability of the vehicle and the ground conditions. Slow down on bends. Avoid sudden action on the vehicle controls. Never operate the vehicle with the load in a position other than that for transport. Avoid grounds where there is risk of inclining or overturning the vehicle. Use the rear view mirrors frequently.

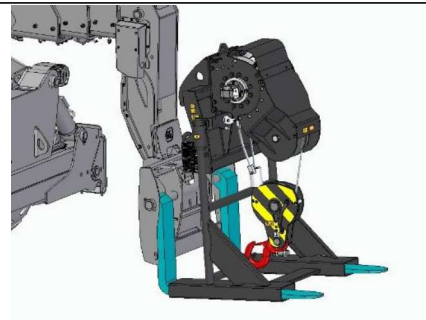
Never leave the vehicle unmanned with the engine running.

Do not bring the vehicle to rest on any structure unless you are sure it can stand the weight and dimensions of the vehicle without risk for safety.

Transporting the equipment



For transport by vehicle, place the hoisting winch with its support as shown in the figure below, taking care to put it crosswise to the vehicle's line of travel: secure it with ropes ① or chains so that the support is firmly fixed to the bed and does not sway during transport.



The winch support stand has special slots so that the equipment can be moved like a pallet.

⚠ CAUTION

Be careful when handling to swing the winch towards the head of the vehicle's telescopic boom to prevent it from tipping over.

Downtime

If the equipment is to remain unused for long periods, adopt the following measures:

- ✓ clean all parts thoroughly;
- ✓ check that there are no scratches, marks or rust on the structure: if there are, restore the zone and repaint for protection;
- ✓ change the reduction gear oil;
- ✓ lubricate all joints or rotation points with grease;
- ✓ insert the hydraulic connectors in the housings provided;
- ✓ protect the hydraulic limit stop valves with grease;
- ✓ protect the exposed points of the rope with grease;
- ✓ place the accessory on a flat surface, and protect it from atmospheric agents with a waterproof cover.

Putting back into service

Before resuming work after a long shutdown:

- ✓ remove any excess grease applied before storage;
- ✓ clean the attachment thoroughly;
- ✓ lubricate all joints or rotation points thoroughly with grease;
- ✓ check to ensure the rotating parts work properly;
- ✓ perform a series of equipment movements after connection to the vehicle followed by attachment to the vehicle with no load;
- ✓ check the condition of the hydraulic seals;
- ✓ check operation of the hydraulic rope limit switch systems.

Checks and maintenance

Magni Telescopic Handlers declares that dynamic and static tests have been conducted on all the forklift trucks produced, equipped with the equipment for lifting loads or persons (for example: forks, jibs with hook, winches, aerial platforms, etc.).

A functional test was also performed, adjusting all the electric and hydraulic equipment and mechanisms and the safety devices and the torque and overload limiter devices; the performance of the assembly for each forklift truck is also checked before shipment to the customer.

The Customer must comply with the maintenance and monitoring program defined in the Use and Maintenance Manual.

It is important and advisable to carry out a daily check, without the obligation to record in the register, the state and the working of all the safety devices of the vehicle, specifically the safety system and the roll-over protection system; in case of doubt regarding their working or any malfunctioning, do not use the vehicle and contact the area dealer immediately.

Every 2500 hours of operation or every year, send the vehicle for a general check by your dealer.

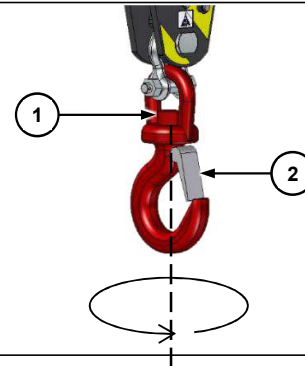
The maintenance and maintaining the state of conformity of the equipment are binding for ensuring its safety during road travel and during operations.

The Manufacturer shall not accept liability for harm to persons or damage to objects because of incorrect maintenance of the parts and equipment comprising the equipment.

- ✓ Carefully read and understand all the Sections of this Use and Maintenance Manual.
- ✓ Place the equipment, on its base, on the ground and disconnect it from the forklift truck to carry out all maintenance operations on it.
- ✓ Use personal protective equipment for carrying out maintenance operations on the equipment in accordance with the workplace safety laws in force in each country.
- ✓ Take special care during disposal of consumable materials and worn components, checking to ensure it is done ecologically, with utmost safety.
- ✓ During maintenance operations, make sure there is no unauthorised personnel in the area concerned with the operations;
- ✓ **For all interventions that do not fall under routine maintenance, it is advisable to contact your agent or dealer.**

Daily checks

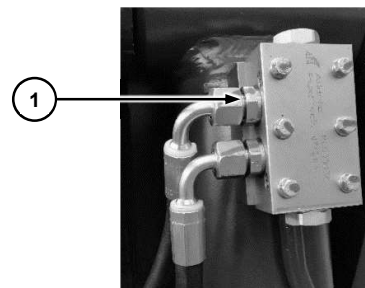
Hook



For correct operating efficiency, check that the hook rotates freely on its axis: without a load attached it must rotate freely: keep the pin ① greased.

Check that the hook's safety catch ② is not damaged and closes properly. If any malfunctions are encountered, **DO NOT USE** the equipment and contact your agent or dealer to replace the damaged component.

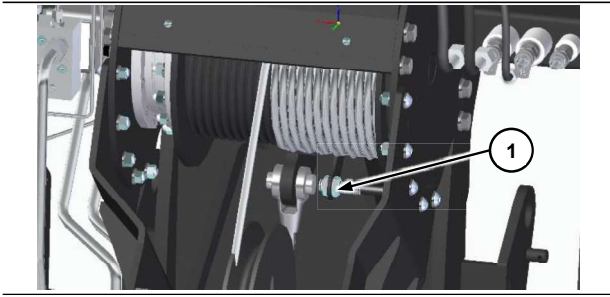
Hydraulic components



Check the condition of the hydraulic components, flexible hoses and hydraulic valves with regard to: oil leaks from the connection points ①, pressure points ② and along the length of the hoses ③.

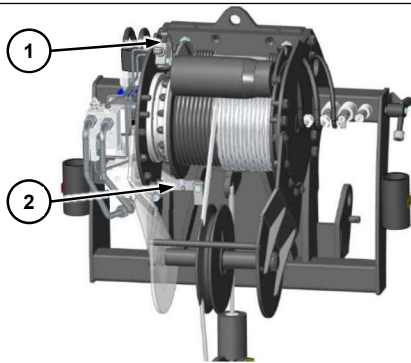
If there are anomalies near the connections, check that they are tightened properly.

Electrical components (double size winches versions)



In the "double size" winches, check the integrity and operation of the proximity sensor ① which detects the position of the cable lug and its wiring and connector to the control unit at the head of the machine arm.

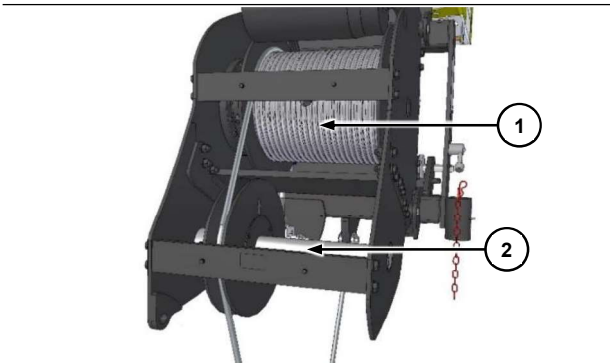
Hydraulic rope limit switches



Check the hydraulic rope up ② and down ① limit switch system by testing operation of the rod on the check valves as well as the operating levers and their operating springs.

Check the condition of the hydraulic hoses and ensure that there are no oil leaks from valves or fittings.

Rope



Check the condition of the rope ① and ensure that it is correctly wound around the drum: **it must not overlap or be twisted.**

Check the condition of the sliding cylinder of the rope guide sheave ②: it must be clean, with no elements that could obstruct the natural sliding of the rope guide sheave: remove all traces of dirt and grease.

The check involves checking for broken strands and defects due to breakage, wear, stretching, deformation or rust on the winding area as well as on the couplings.

A further check which, if positive, requires the rope to be replaced is to verify if there is a localised reduction in the diameter of the rope due to the inner core giving way.

Identification of one of the aforementioned defects must be done by a qualified person who can decide the measures to be applied.

With reference to standard **ISO 4309**, the safety of a rope is guaranteed by correctly evaluating:

- Number of broken strands and their position.
- Wear of the strands.
- Internal or external corrosion.
- Damage and deterioration of the rope.









It is mandatory to replace the rope if the number of broken strands is the same as or higher than the number indicated in the relative table in standard **ISO 4309**.

Replacement of the rope or repairing the connecting terminals must be done solely by Dealers, using genuine spare parts.

⚠ CAUTION

All the operations involved in checking the rope [unwinding/rewinding] must be performed keeping it taut: overlapping of the rope can lead to its structural damage and to the components of the winch.

The table below indicates a few possible types of rope damage that can be seen visually and the relative actions to be taken:

Type of damage	Description of the damage	Action to be taken
	Local reduction in the diameter of the rope, since the outer strands tend to extend over the textile core, which is destroyed.	The occurrence of this condition requires the rope to be replaced immediately.
	Flattened area, caused by local crushing due to mechanical action, which causes an imbalance in the strands. Presence of more than one broken strand.	The occurrence of this condition requires the rope to be replaced.
	Flattened area of a multi-strand rope due to mechanical action on a long section, caused by a drum not unwinding properly. Note the increase in the winding pitch of the outer strands, with the tension being unbalanced under load conditions.	The occurrence of this condition requires the rope to be replaced.
	Example of severe bending of the rope.	The occurrence of this condition requires the rope to be replaced.
	Basket deformation (nest) of a multi-strand rope (rotation resistant type), caused by forced rotation due to grooves too narrow or excessive angle of deviation.	The occurrence of this condition requires the rope to be replaced immediately.
	Local increase in the diameter of a parallel winding rope, determined by the metal core twisting, resulting from a sudden load. There are also traces of corrosion and heavy wear of the outer strands.	The occurrence of this condition requires the rope to be replaced immediately.
	Typical example of a rope that has come out of the pulley groove and is stuck. It is deformed and flattened, with local wear and a lot of broken strands.	The occurrence of this condition requires the rope to be replaced immediately.
	Cumulative effects of several deterioration factors. Note the severe wear of the outer strands, which causes the strands to loosen enough to generate a basket deformation with the risk of the rope coming out of the pulley. There are also a lot of broken strands.	The occurrence of this condition requires the rope to be replaced immediately.

⚠ WARNING

In the presence of one or more of the above cases, immediately suspend the activities and contact the Magni Telescopic Handlers Srl assistance service for the replacement of the rope with the correct spare part.

Periodic checks

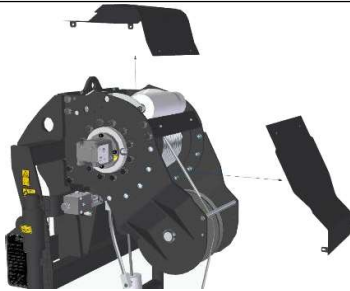
Reduction gear

Correctly checking lubrication ensures a longer service life of the reduction gear.

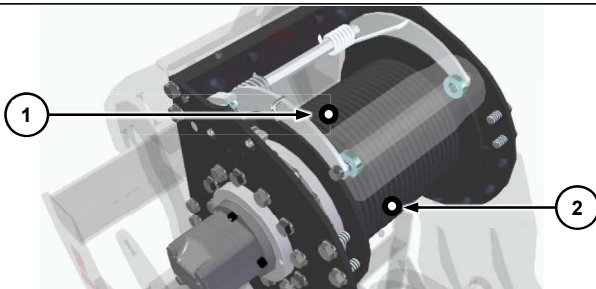
Below is a correct timetable for the interventions:

- **after the first 100 hours** of operation, change the oil, clean the caps and check that all screws are tightened properly.
- **every 500 hours** of operation, check the oil level, clean the caps and check the external seals for oil leaks; check that all screws are tightened properly.
- **every 2000 hours** of operation, change the reduction gear oil, clean the caps; check that all screws are tightened properly.
- **after the first 5000 hours** of operation, replace all bearings, replace the seal rings and check the condition of all gears. **Please contact your Magni Telescopic Handlers dealer for this operation.**

Proceed as follows for these interventions.



Remove the drum and rope guide sheave covers.



Completely uncoil the rope to reveal the drum and its holes for access to the reduction gear oil filler ①/drain ② caps.

NOTICE

When carrying out this operation, be extremely careful not to damage the rope by twisting it and/or crushing it: place it neatly and without any knots on a sheet so that it does not touch the ground or come into contact with dust or other impurities.

If deemed useful, decide whether to remove the block or not so as to work more freely on this operation.

Place a container under the drum to collect the used oil and then turn the drum until the hole ② is perpendicular to the ground so that the oil drains out.

After it has been emptied, place the drum so that the filling hole ① is at the top of the drum perpendicular to the ground and the hole ② is parallel to the ground so that the filling level can be checked.

Fill the reduction gear with oil until it starts to come out of the inspection hole ②.

Use oil with a viscosity index of ISO VG 150.

Close the 2 caps properly, ensuring that they are clean and do not allow any impurities into the reduction gear.

Rewind the rope, taking care to ensure that it runs smoothly: it must not be twisted on itself or haphazardly overlap its own coils.

If the block was removed, put it back in place and then close the winch with the two protective covers that were removed at the beginning of the procedure.

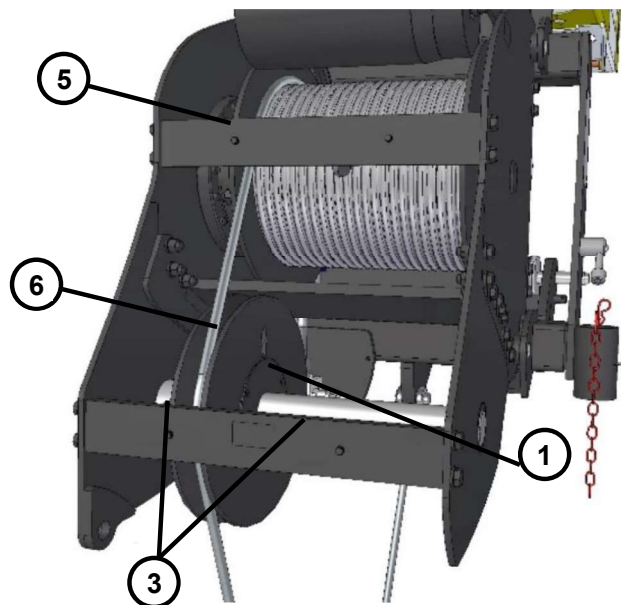
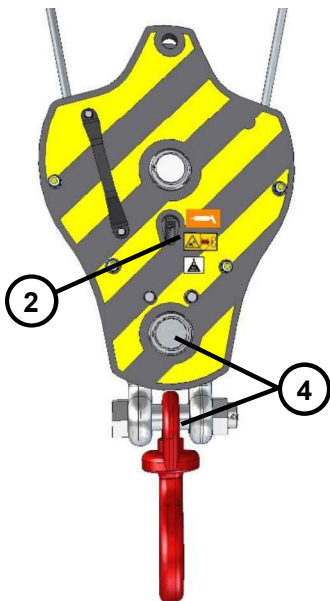
Lubrication

Periodic lubrication is necessary to protect the equipment from rust and wear, in order to ensure high level of service over time.

- ✓ A generic worker can carry out lubrication of the equipment.
- ✓ Clean the grease nipples carefully before injecting the grease and then wipe the excess grease;
- ✓ It is advisable not to use too much grease to prevent a build-up of dirt.

The summary Table of the main lubrication points is given below:

Lubrication point		Type of lubricant
1	Rope guide pulley	Lithium soap grease, with NLGI 2 consistency
2	Block pulley	
3	Rope guide pulley shaft	
4	Hook rotation pin and hook shank	
5	Reduction gear	Mineral oil: EP ISO VG150
6	Rope	Thin film lubricant, with good penetrating properties, resistant to corrosion and wash-out



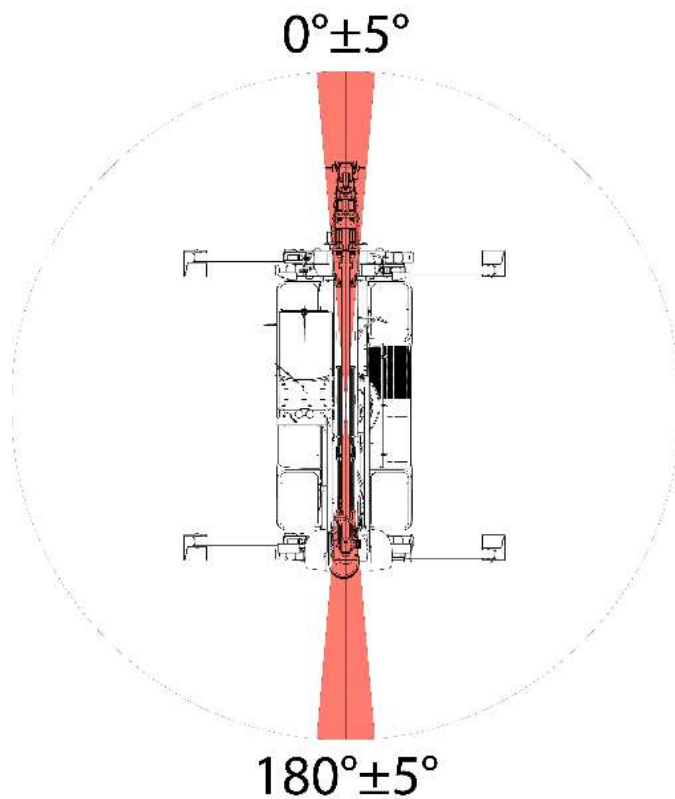
LOAD CHARTS (EU / US VERSION)



Reading the load charts

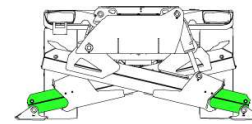
For vehicles fitted with “scissor” stabilisers, in any stabiliser extension configuration and in a turret rotation range between $0^\circ \pm 5^\circ$ and $180^\circ \pm 5^\circ$, the load charts apply taking into consideration the maximum load (**Condition 3**).

Otherwise, if these limits are exceeded, the load charts specific to the extension percentage of the stabilisers apply, as given below: **Condition 1**, **Condition 2** and **Condition 3** with dedicated work areas.



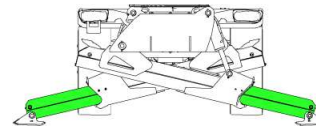
Condition 1

Stabilizer extension from 0 to 49%



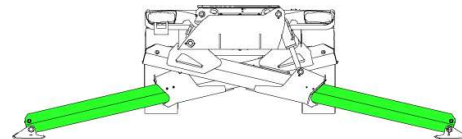
Condition 2

Stabilizer extension from 50 to 99%



Condition 3

Stabilizer extension at 100%



NOTICE

The above diagram and indications only apply to models in the RTH range.

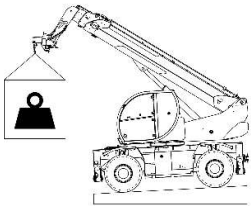
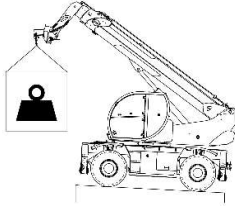
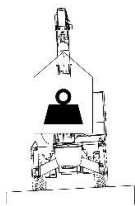
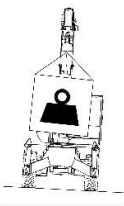
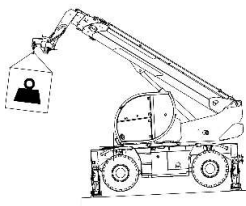
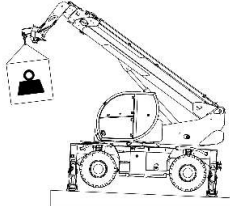
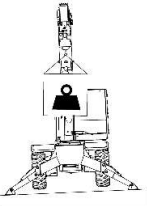
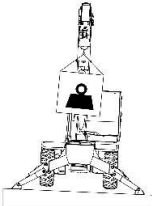
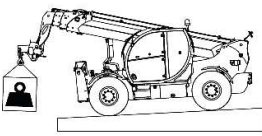
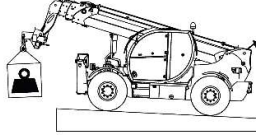
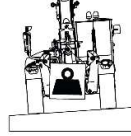
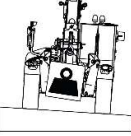
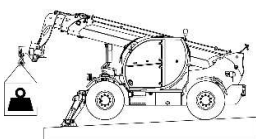
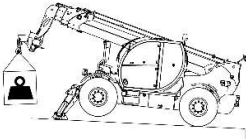
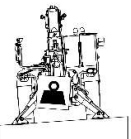
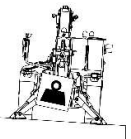
NOTICE

To see the load charts for the double size winch models W 3/5 I, W 3/5 U, W 3/6 I and W 3/6 U, please refer to the sections relevant to the single size models.

E.g.: for the W 3/5 model, please refer to the combinations in section W3 and section W5.

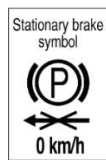
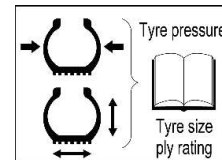
⚠ WARNING

The table below shows the maximum angles allowed for the vehicle chassis in the working area (represented by the load chart), depending on the machine model used (RTH or TH) and the configuration chosen (on wheels or stabilisers).

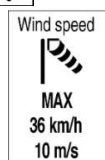
Models	Maximum operating inclination allowed			
<p>RTH on Wheels <i>(in compliance with standard EN 1459)</i></p>	 <p>1° max</p>	 <p>1° max</p>	 <p>1° max</p>	 <p>1° max</p>
<p>RTH on Stabilisers <i>(in compliance with standard EN 1459)</i></p>	 <p>1° max</p>	 <p>1° max</p>	 <p>1° max</p>	 <p>1° max</p>
<p>TH on Wheels <i>(in compliance with standard EN 1459)</i></p>	 <p>4° max</p>	 <p>4° max</p>	 <p>3° max</p>	 <p>3° max</p>
<p>TH on Stabilisers <i>(in compliance with standard EN 1459)</i></p>	 <p>4° max</p>	 <p>4° max</p>	 <p>3° max</p>	 <p>3° max</p>

⚠ WARNING

Always check the tyre pressure before moving the vehicle with the equipment: incorrect tyre pressure can affect the stability of the vehicle and cause it to tip over.



Parking brake engaged =



Maximum allowed wind speed =