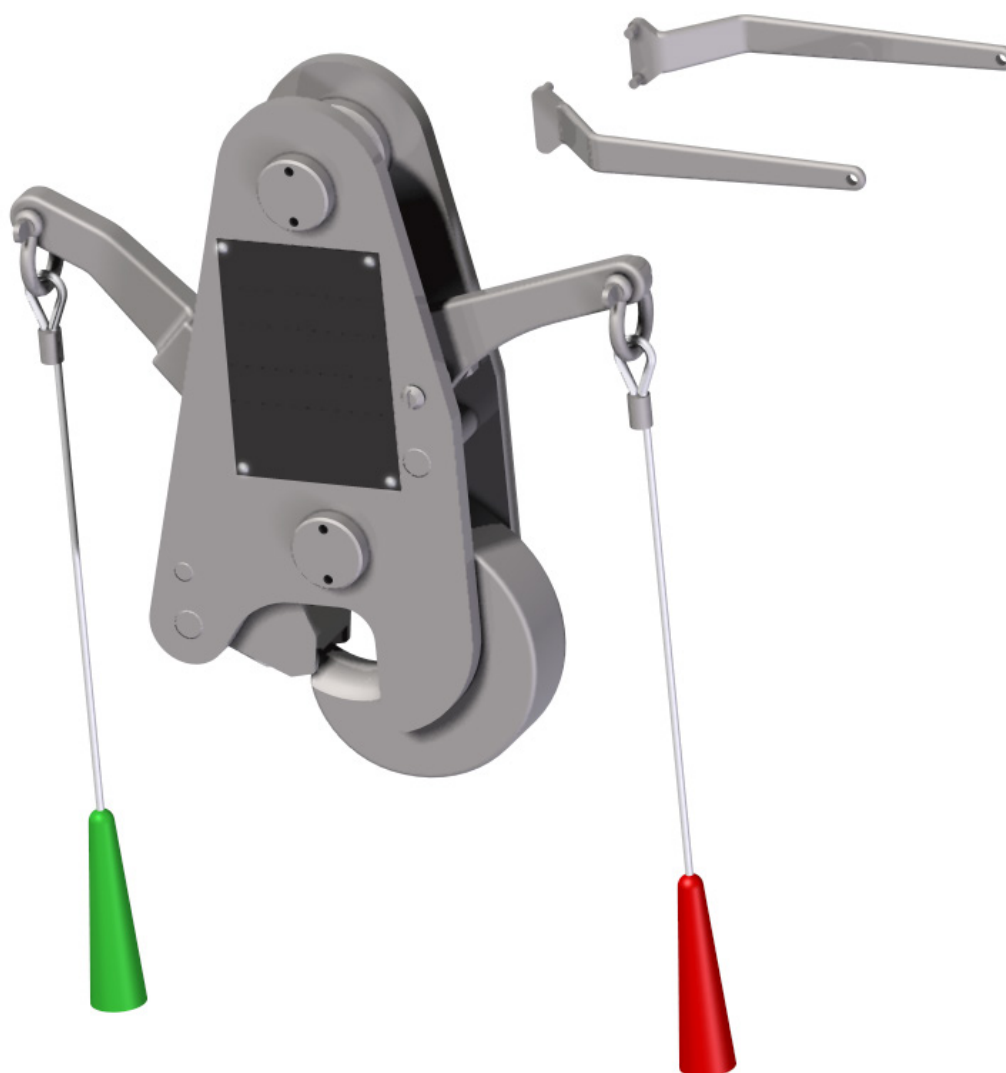


MANUAL

OPERATION AND MAINTENANCE

DATE: 2015 - 09
V0.7

- | | | |
|---|---|---|
| <input type="checkbox"/> Concept | <input type="checkbox"/> Revised | <input checked="" type="checkbox"/> Final edition |
| <input checked="" type="checkbox"/> Installation | <input checked="" type="checkbox"/> Maintenance | <input checked="" type="checkbox"/> Operation |
| <input checked="" type="checkbox"/> Original Manual | <input type="checkbox"/> Translation by PALFINGER NED-DECK of original Manual | |



CAR35 - Automatic release hook

Standard manual



PALFINGER NED-DECK



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Contents

1	System introduction	4
1.1	Description of product and field of application.	4
1.2	Terms and conditions	4
1.3	Agreements	5
1.4	Revision sheet	5
2	Safety.....	6
3	Technical specifications	7
3.1	System layout	7
3.2	Technical specifications CAR35	7
3.3	Drawing	7
4	Starting up.....	8
4.1	Preparations	8
4.2	Installation	9
5	Operation.....	10
5.1	Operator locations	10
5.2	Operating the CAR 35 Release hook	10
5.3	Connecting the link to the hook.	10
5.4	Automatic release (red hand grip)	11
5.5	Manual release (green hand grip)	11
5.6	CAR 35 instruction plate	12
6	Maintenance	14
6.1	Preventive and corrective maintenance	14
6.2	Maintenance regulations	14
6.3	Maintenance time schedule	15
7	Appendices	16
Appendix 1	Recommended spare parts	16
Appendix 2	The CAR 35 Replacement program	17



1 System introduction

1.1 Description of product and field of application.

In this manual the installation, operation and maintenance of the CAR35 is described. The Palfinger Ned-Deck CAR35 automatic release hooks are used for life saving systems for boats at sea. This hook can carry a davit and crew, a load not exceeding 3,600 kg.

The CAR 35 meets the high SOLAS standards for off-load release hooks, as described in the latest MSC (Maritime Safety Committee) resolutions. These hooks are adjusted and tested according to the newest rules and regulations.

1.2 Terms and conditions

Statutory regulations

The information in this manual is generally valid information applicable to this type of hook. Installation of the hook must comply with the statutory rules and regulations in countries where the hook is being used. Palfinger Ned-Deck can and will not accept any claims from third parties caused by non-compliance with these statutory rules and regulations.

Execution of work

Palfinger Ned-Deck is not responsible for execution of the work with or on the hook. This work should be carried out by properly trained persons.

Warranty

Warranty on products of Palfinger Ned-Deck B.V. will be fully in accordance with the "General Terms and Conditions of Contract of Holland Marine Equipment Association(HME)", filed with the Clerk of Rotterdam District Court on May 31st 2002, File number 71/2002.

Liability

The liability of Palfinger Ned-Deck is fully in accordance with the "General Terms and Conditions of Contract of Holland Marine Equipment Association(HME)", filed with the Clerk of Rotterdam District Court on May 31st 2002, File number 71/2002.

Liability for the contents of this manual

There might be some minor differences between the photos, the descriptions, the drawings and the real system. Although the greatest care has been made for a correct and complete description of this hook, Palfinger Ned-Deck does not accept any liability for damage resulting from any inaccuracies and/or omissions in this manual.








Imperfections

We appreciate your notification if you find any imperfections in this manual. This helps us to optimise our documentation.



1.3 Agreements

- In this manual persons are referred to as "he", although this "he" may also be a "she". For readability reasons the "he" form is chosen.
- The following signs are used to draw the reader's attention to items of special importance.

 Danger	<ul style="list-style-type: none">• <i>Identifies possible dangers in operation and maintenance. Ignoring this information can result in death, serious injury or equipment damage.</i>
 Warning	<ul style="list-style-type: none">• <i>Identifies possible dangers in operation and maintenance. Ignoring this information can result in serious injury or equipment damage.</i>
 Advice	<ul style="list-style-type: none">• <i>Follow these important instructions always.</i>
 Caution	<ul style="list-style-type: none">• <i>Identifies conditions that can disturb the normal process and can damage the equipment or product.</i>
 Warning	<ul style="list-style-type: none">• <i>Danger for injury by electrical power.</i>
 Warning	<ul style="list-style-type: none">• <i>Crush hazard. Keep hands clear.</i>
 Advice	<ul style="list-style-type: none">• <i>Advice to keep the environment clean or to stimulate recycling.</i>

1.4 Revision sheet

DATE	CHAPTER	DESCRIPTION	

2 Safety

For a safe operation all operators and persons involved in installation, maintenance and operation of the hook must be familiar with the system functions and know how to use them. The hook may only be operated by qualified and/or trained operators.

This manual must be easily available on board for personnel working with the product. Please read this manual carefully and follow the instructions thoroughly. This may prevent possible accidents in the future.

- The operator is capable and responsible of using his judgment to ensure safety for himself and others. The operator has the ability to understand and apply rules, regulations, safety instructions and precautions. The operator is skilled, has practice using the equipment controls before putting the system into full use. He is stressless, alert and in good condition. He has good eyesight, good hearing and the capability to carry out necessary tasks safely. He has no incapacitating disabilities. He is not under the influence of drugs, medicines or alcohol when operating the system.
- General rules for prevention of accidents and appropriate personal protective devices, such as protective footwear, gloves and safety glasses must be applied.
- The operator must check that the hook is in good shape under all possible circumstances, including conditions of icing.
- The operator must report any hazardous conditions to his supervisor.
- Employees should be aware of first aid facilities and apply this knowledge when necessary.
- It is not allowed to change or dismantle protective facilities.
- Warning and information signs may not be removed, and must be kept in a readable condition.
- Operators must always use appropriate tools.
- Spare parts must comply with Palfinger Ned-Deck specifications. Conversions, alterations or changes to the program are only allowed after permission from Palfinger Ned-Deck.
- This hook is made exclusively for the field of application described in the operating instructions. Any other use is not in accordance with the specifications and therefore is considered as improper use. Palfinger Ned-Deck accepts no liability for any damage resulting from these actions.



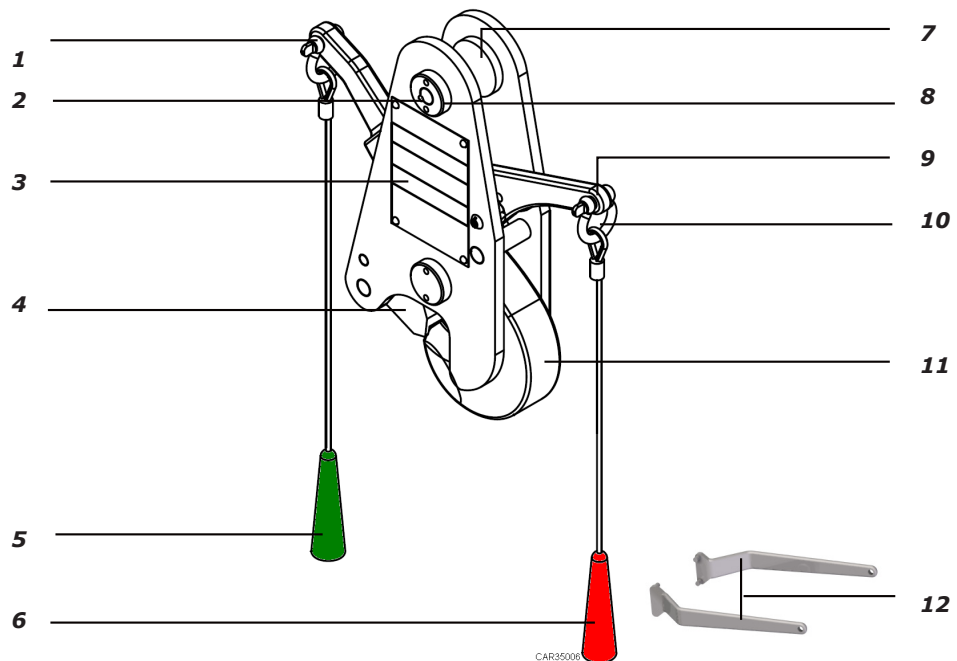
Advice

- *General Advice: THINK SAFE - WORK SAFE.*
 - *Test all devices beforehand on every occasion.*
-



3 Technical specifications

3.1 System layout



1	Actuating lever manual release
2	Securing screw
3	Type plate
4	Latch
5	Cord with grip green for manual release
6	Cord with grip red for automatic release
7	Distance bush and shaft
8	Nut
9	Actuating lever automatic release
10	Bow shackle
11	Hook
12	Pin spanner set

3.2 Technical specifications CAR35

Supplier	Palfinger Ned-Deck
Suppliers reference	CAR 35 Automatic release hook (off-load release)
Maximal working load	36 kN
Static proof load	90 kN
Dimensions	285 x 260 x 70 mm
Weight (approximately)	6.1 kg
Auto Release Mode (hook load limit)	0.208 kN
Auto Release Mode (actuating force)	0.157 kN
Minimal and maximal dimension ring	19 mm up to 27 mm

3.3 Drawing

3S-CAR35-19

Rev. B Mounting assembly hook CAR 35.



4 Starting up

4.1 Preparations

Transport

Check for possible damage at arrival. Check also if all products described on the packing or shipping list are there. Any possible damage or missing parts must be noted on the freight bill and must be signed by the transporter. A detailed description of the damage (including photographs and writing) must be sent immediately to:

- The shipping agent.
- Insurance agent.
- Palfinger Ned-Deck.

Storage

Protect the hook against corrosion. Palfinger Ned-Deck cannot accept any guarantee claims for damage caused by incorrect storage.

Please test all functions, protect the system against damage, rust, dust and dirt.



Advice

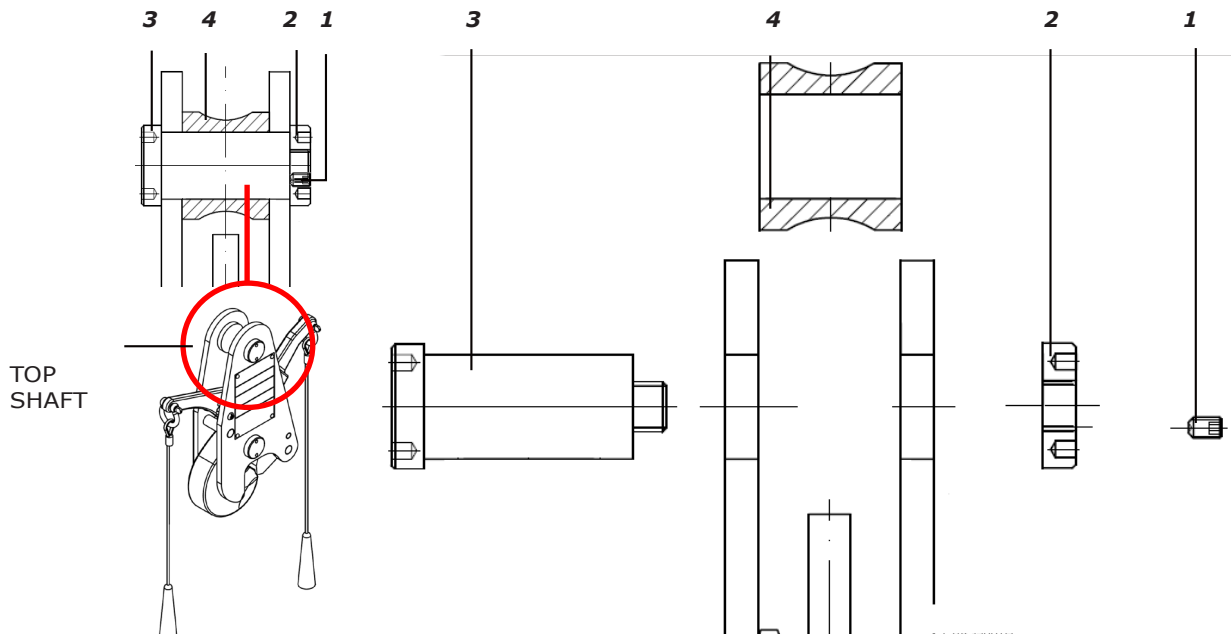


Caution

- *Before lifting, see "Technical specifications" for actual weights.*
 - *A Palfinger Ned-Deck service engineer will always give you professional advice, but he cannot be held responsible for any damage that may occur.*
 - *See the technical specifications for maximum weights (chapter 3.2) before lifting.*
 - *Do not change or repair anything before agreement of all parties involved. In addition, refer to Palfinger Ned-Deck's Conditions of Sale. When in doubt, contact Palfinger Ned-Deck before undertaking any activity.*
 - *Palfinger Ned-Deck cannot accept any guarantee claims for damage caused by incorrect transportation or unsuitable storage conditions.*
-



4.2 Installation

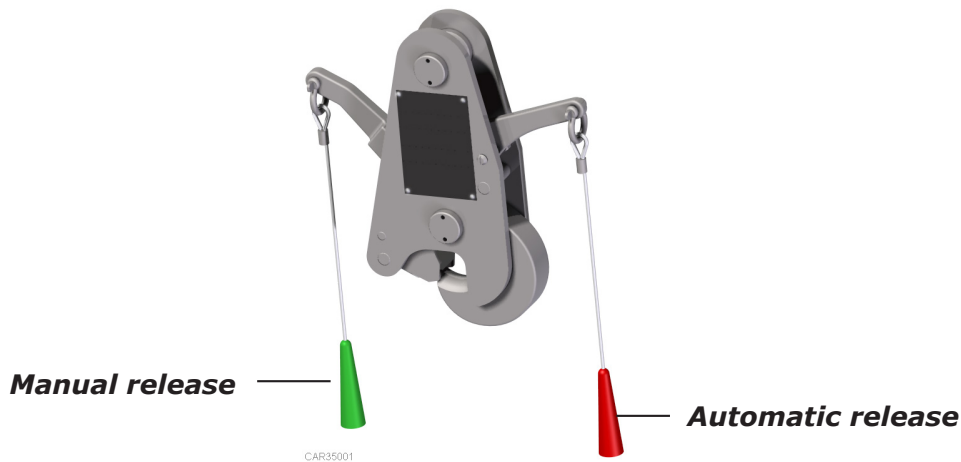


1. Switch OFF the main power on the electric cabinet.
2. Use a pin spanner set to loosen nut (2) .
3. Disassemble top shaft:
 - Loosen securing screw (1).
 - Loosen nut (2).
 - Remove shaft (3).
 - Remove distance bush (4).
4. Assemble top shaft:
 - Place spliced eye or corresponding wire rope fall over the distance bush (4) -
 - Place distance bush between the two side plates.
 - Place shaft (3).
 - Place and fasten nut (2).
 - Place securing screw (1).
5. Switch ON the main power.



5 Operation

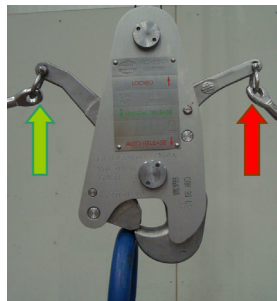
5.1 Operator locations



5.2 Operating the CAR 35 Release hook

- Place the hook in locked position with the suspension link enclosed.
- Hoist the boat.
- Rotate/ pivot the davit in fully outboard position.
- Lower the boat.
- Activate the automatic release (red grip) just above water level / see boats manual.
- When the boat is waterborne the hook will open automatically.
- Sail away from the ship.

5.3 Connecting the link to the hook.



Push both levers up before to bring the hook in locked position.



Press the suspension link of the boat into the hook (as shown below). The latch will open, the suspension link will slide in to place and the hook will be locked automatically.

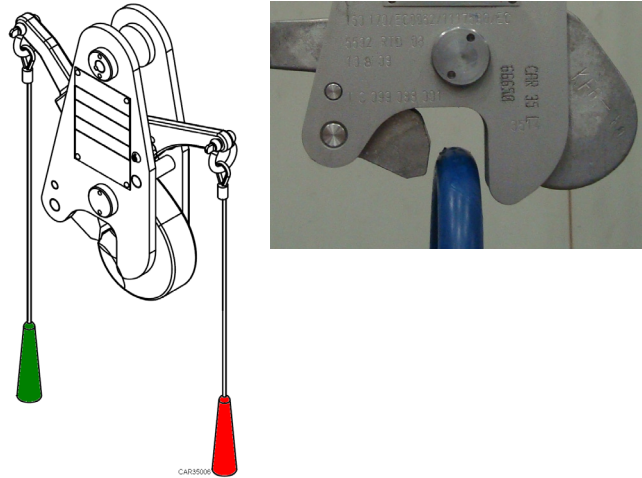


Advice

- *If the suspension link is not locked correctly, pull the "red hand grip" firmly to release the hook and try again.*



5.4 Automatic release (red hand grip)



The automatic release function is activated just above water level (see the boat's manual) by pulling the cord with the red hand grip. The "off-load release system" will;

- not open if a force of more than 30 kg pulls to the hook (the boat is not waterborne yet);
- open and release the boat if a force less than 30 kg pulls to the hook (the boat is waterborne).

5.5 Manual release (green hand grip)

It is possible that the boat is waterborne, but it's not released because the boat keeps pulling the hook with a force of more than 30 kg (for example when there is a strong current). Until a current force of 150 kg it is possible to release the boat manually.

The manual "on-load release system" can be activated by pulling the green hand grip firmly (the required pulling force to the green hand grip is approximately 60 kg). For security reasons this system can only be activated after the automatic release has been activated.



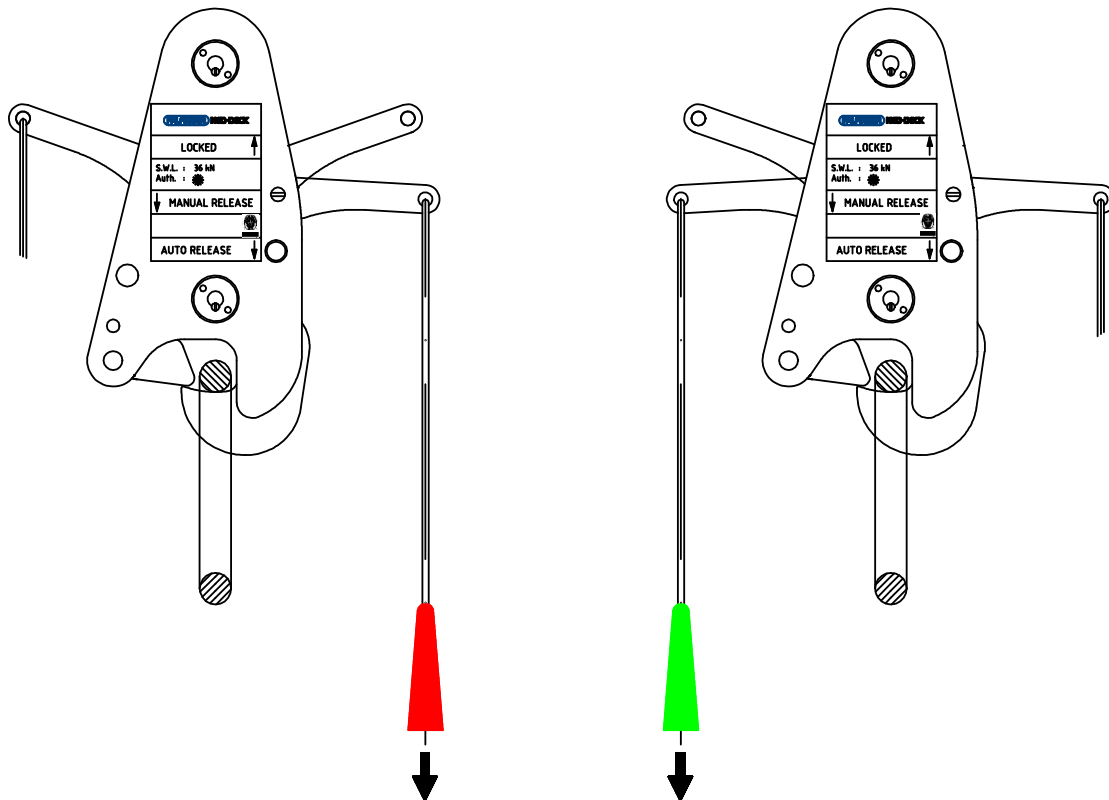
Advice

- *Always check for and be aware of possible obstructions!*



5.6 CAR 35 instruction plate

LIFERAFT / RESCUE BOAT
COMBINED AUTOMATIC RELEASE HOOK (CAR 35)
(Type: OFF LOAD RELEASE)
OPERATION INSTRUCTIONS



AUTOMATIC RELEASE
(Red handgrip)

MANUAL RELEASE
(Green handgrip)

Note:

Remember that in both automatic and manual release modes the actuating lever has to be locked in the automatic release position just before survival craft enters the water

PALFINGER NED-DECK

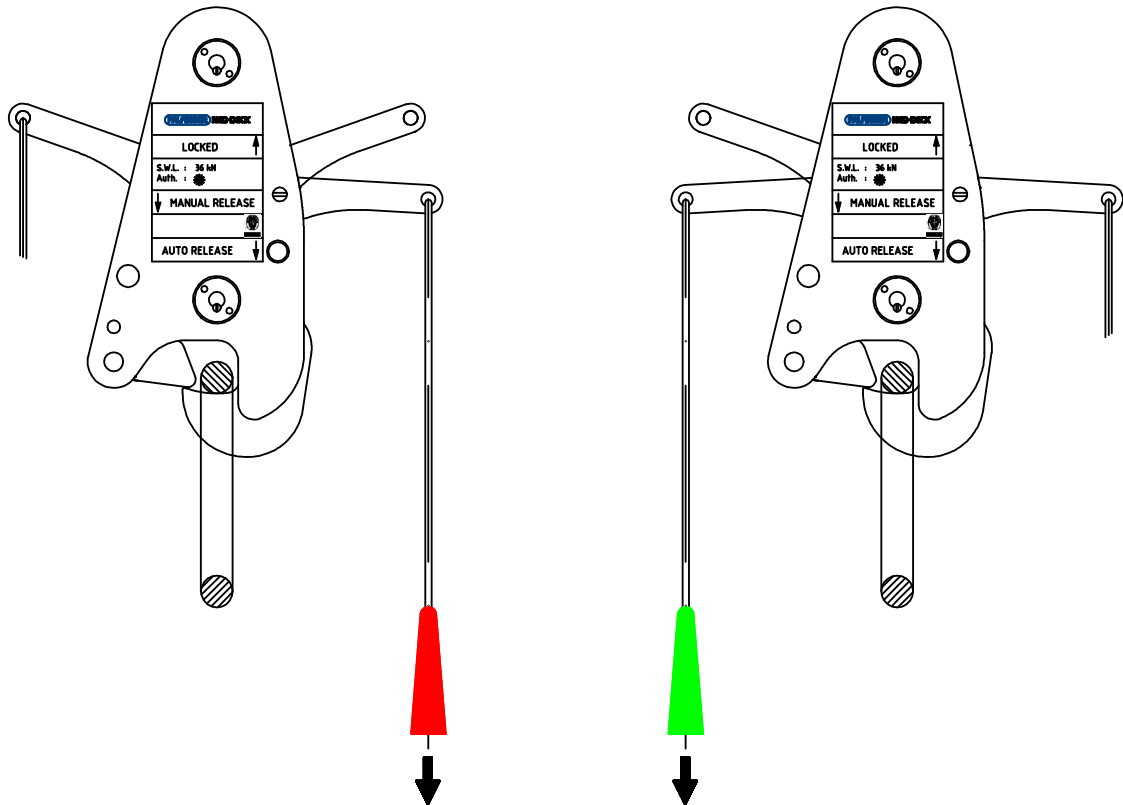
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E-mail: neddeck@palfinger.com



LIFERAFT / RESCUE BOAT
COMBINED AUTOMATIC RELEASE HOOK (CAR 35)
(Type: OFF LOAD RELEASE)

OPERATION INSTRUCTIONS



AUTOMATIC RELEASE
(Red handgrip)

MANUAL RELEASE
(Green handgrip)

Note:

Remember that in both automatic and manual release modes the actuating lever has to be locked in the automatic release position just before survival craft enters the water



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6 Maintenance

This hook is designed for a tough and corrosive marine environment. A long working life is assured if the periodic maintenance is followed.

6.1 Preventive and corrective maintenance

Preventive maintenance consists of cleaning, checking (of adjustments and on wear and tear) and lubrication. Clean the hook with regular soap and water or a greaser. Preventive maintenance ensures;

- a good condition of the hook.
- an optimal operational reliability.
- a longer hook lifetime.
- an optimal personal safety.

Corrective maintenance consists of replacement of worn out or defective parts and fine tuning of variable settings. Corrective maintenance is performed to restore quality, reliability and safety due to wear and tear.



Warning



Advice

- *Preventive maintenance must be done periodically, according to the preventive maintenance schedule. Maintenance and inspection data must be recorded and kept for reference (see appendix 3). Irregularities must be reported immediately to a higher decision level.*
- *Maintenance with a one year or five year frequency, must be done by an authorized engineer.*
- *Make sure there is no pressure or electricity on the system.*
- *Switch OFF the main power switch, and lock it. After switching off, some parts may need time to discharge, cool down or find their rest position.*
- *For recommended lubricants see appendix 1: Advised Lubricants.*
- *See appendix 3 for the logbook for records of inspections and maintenance.*
- *Maintenance with a one year or five year frequency, must be done by an authorized engineer. Corrective maintenance must be performed by an authorized engineer. Corrective actions must be done as soon as possible, depending on the seriousness of the problem.*

6.2 Maintenance regulations

- Certificates, inspection and maintenance records must be available on board and shown upon request. The items listed in checklists for the weekly/monthly inspections are a part of the annual examination.
- Reparation and replacement of parts should be carried out in accordance with the manufacturer's requirements and standards.
- For details see the latest MSC (Maritime Safety Committee) resolutions.



6.3 Maintenance time schedule

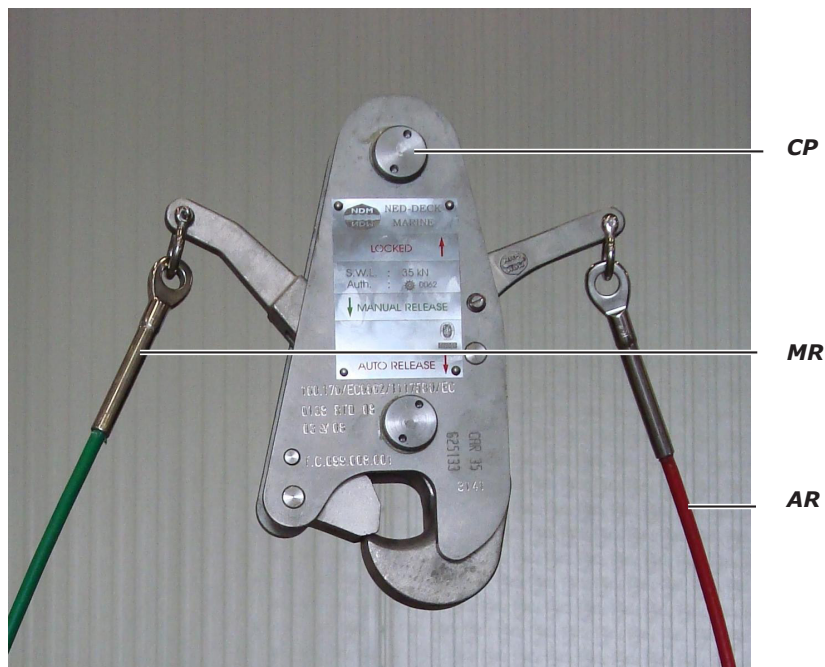
Maintenance time schedules of the installation are split into weekly, monthly, yearly, two yearly and five yearly maintenance.

Maintenance actions:

1. Clean and check for corrosion deformation and depression
2. Grease, lubricate
3. Check status
4. Check and replace (if necessary)
5. Measure and readjust (if necessary)
6. Replace
7. Change oil

Machine part	Maintenance frequency				
	Week	Month	Year	2 Years	5 Years
Automatic Release Hook CAR35					
CAR35	1				
CP Connection automatic release hook to wire rope		4			
AR Automatic release actuation cord		4			
MR Manual release actuation cord		4			
Automatic release hook functionality test		3			
CAR35 replacement program					6

1-Clean and check for corrosion deformation and depression, 2-Grease, lubricate, 3-Check status, 4-Check and replace (if necessary), 5-Measure and readjust (if necessary), 6-Replace, 7-Change oil.





APPENDICES

Appendix 1 Recommended spare parts

50600	Pin spanner set	1
3S-CAR35-08	Distance bush	1
3S-CAR35-07	Nut	1
3S-CAR35-06	Shaft	1
12061	Release cables set RED	1
12062	Release cables set GREEN	1
00913.470.05.6	Locking screw DIN 913	1



Appendix 2 The CAR 35 Replacement program

According to the latest MSC (Maritime Safety Committee) resolutions release hook mechanisms require annual services by the manufacturer or an authorized service station. To do this Palfinger Ned-Deck offers a 'CAR 35 Replacement Program'.

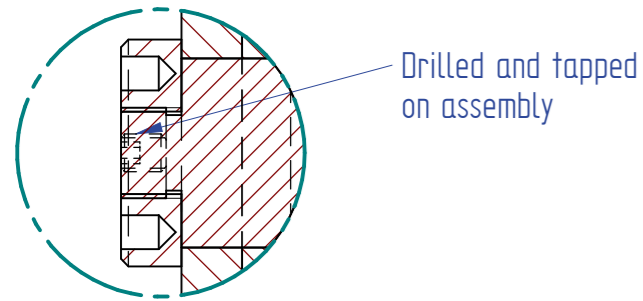
Based on history, experience, safety and taking into account the economical aspects, Palfinger Ned Deck strongly advises to follow the CAR35 replacement program. This CAR35 replacement program is the most efficient way to have an overhauled hook including certificates available

Palfinger Ned-Deck sends by courier a reconditioned, updated and newly certified CAR 35 hook to the ship or agent/port of your choice. Change the old CAR35 hook for the newly certified CAR 35. Send the old CAR35 hook to the Palfinger Ned-Deck office in The Netherlands.

If you have questions (prices, procedure), or if you want to make use of the 'CAR35 Replacement Program', please contact Palfinger Ned-Deck (see page 2).

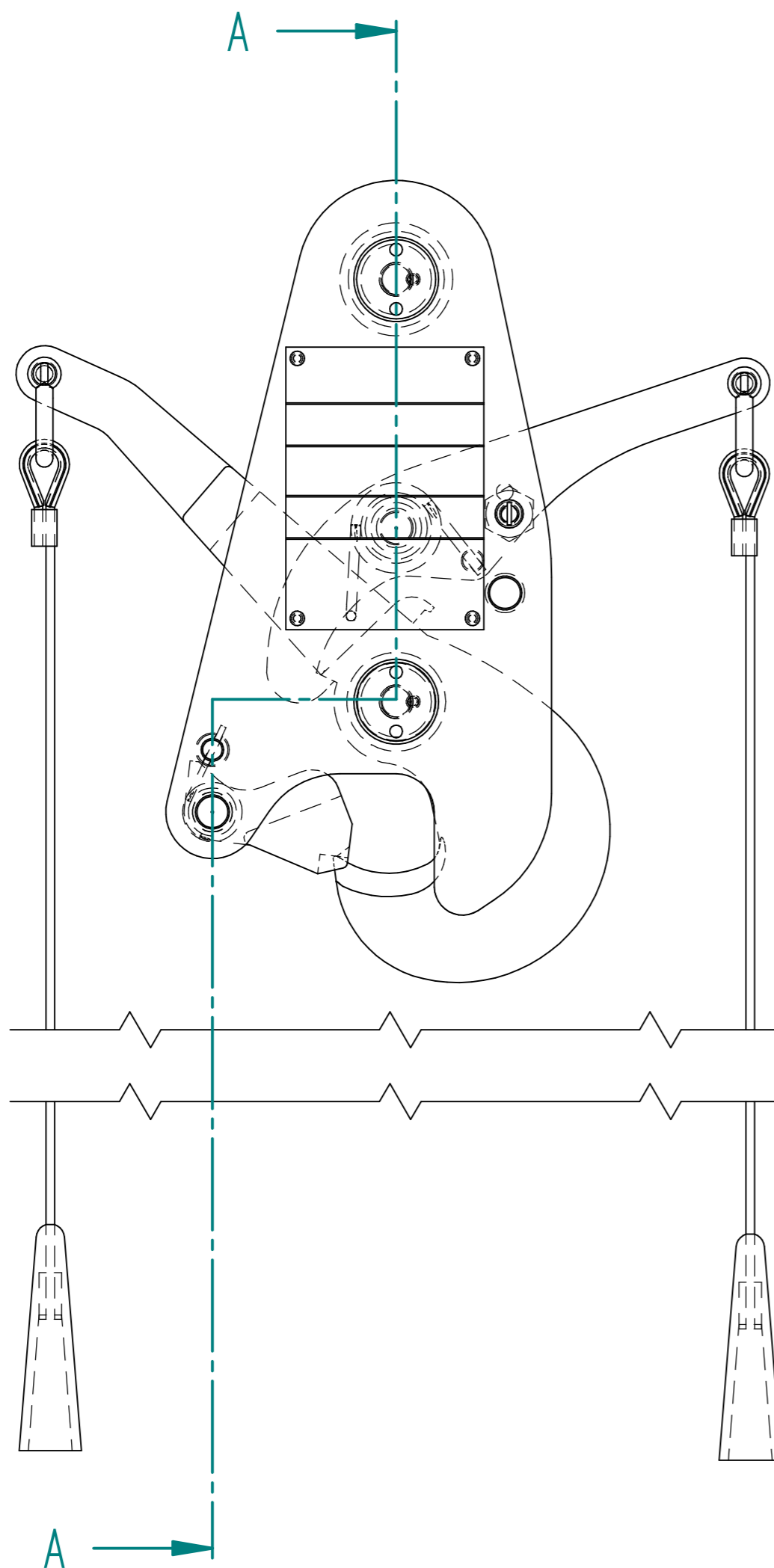
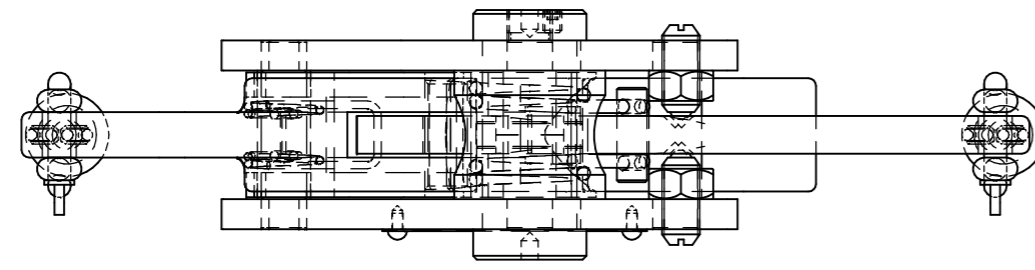
Trusting to have informed you sufficiently, we remain.

Yours sincerely,
PALFINGER NED-DECK NL Service

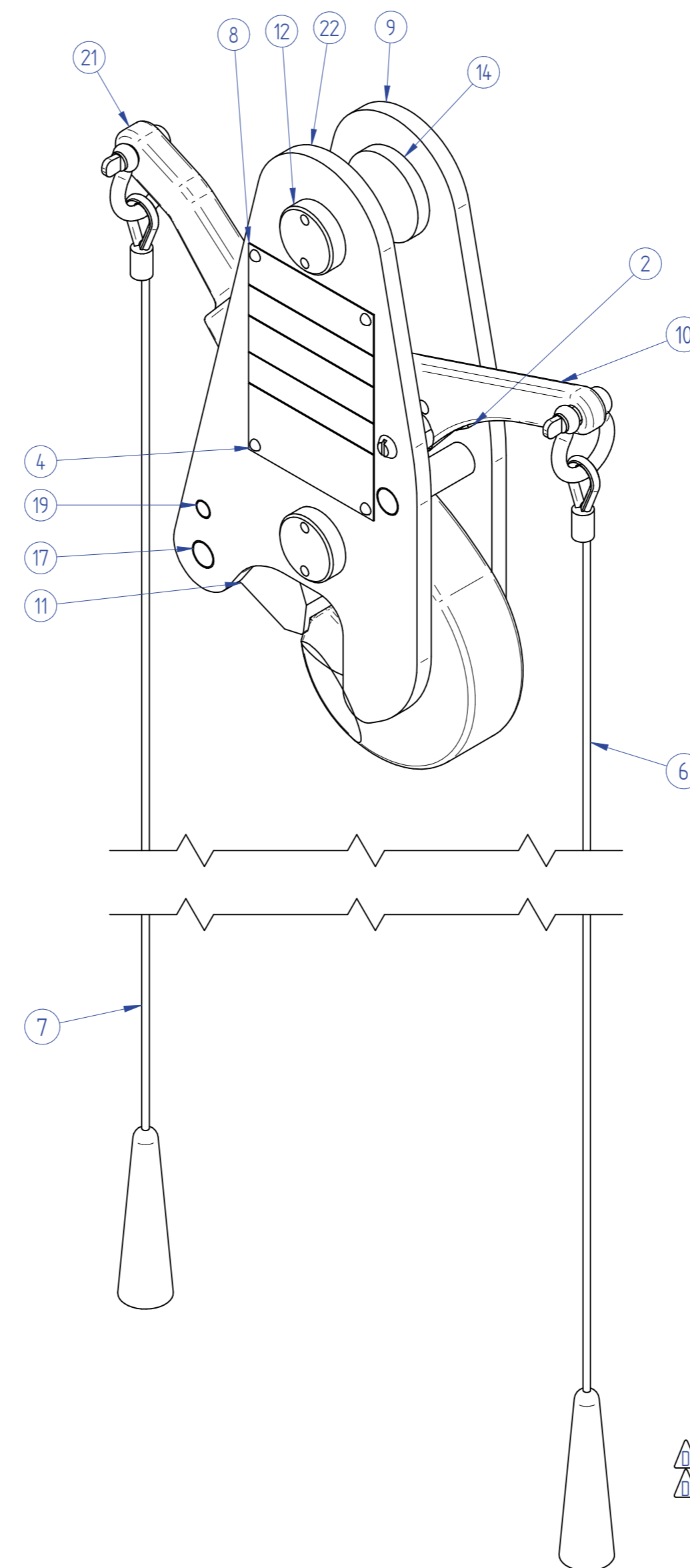


Drilled and tapped on assembly

DETAIL B



SECTION A-A



See part list: 2500082

Max. SWL 36 kN

Pos	Qty	Description	Dimension	Drawing no.	Mass
23*	2	Pin spanner set	NR. 9933 LKL-STEEL	50600	0.1 kg
22	1	Side plate with holes	Plt 8 136,5x260	3S-CAR35-24	1.4 kg
21	1	Hook	Plt 30 - 280x107	3S-CAR35-21	2.3 kg
20	1	Spring	Ø2 - L=270	3S-CAR35-16	0.0 kg
19	1	Shaft	Ø12h9 - L=50	3S-CAR35-15	0.0 kg
18	1	Shaft	Ø8h9 - L=25	3S-CAR35-12	0.0 kg
17	3	Shaft	Ø14h9 - L=50	3S-CAR35-11	0.2 kg
16	1	Spring	Ø3,5 - L=390	3S-CAR35-10	0.0 kg
15	2	Bush	Ø22 - L=16,5	3S-CAR35-09	0.0 kg
14	1	Distance bush	Ø40 - L=34	3S-CAR35-08	0.2 kg
13	2	Nut	Ø30 - L=8	3S-CAR35-07	0.1 kg
12	2	Shaft	Ø30 - L=66	3S-CAR35-06	0.5 kg
11	1	Latch	Plt 40 - 60x33	3S-CAR35-05	0.2 kg
10	1	Securing lever	Plt 10 - 202x67	3S-CAR35-03	0.4 kg
9	1	Side plate without holes	Plt 8 - 136,5x260	3S-CAR35-01	1.4 kg
8	1	CE type plate	100x70	3P-101238	0.0 kg
7	1	Assembly Release cable RAL 6024 "Green"	(3S-CAR35-39)	12062	0.1 kg
6	1	Assembly Release cable RAL 3013 "Red"	(3S-CAR35-40)	12061	0.1 kg
5	2	Iglidur bearing	XFM-2528-13	10500	0.0 kg
4	4	Drive screw	2,89x4,76 SS A2	10020	0.0 kg
3	2	Slotted spring plunger with ball M10x1	SS A4	10009	0.0 kg
2	2	Nut M10x1	SS A4	00934.470.10.1	0.0 kg
1	2	Hex socket set screw flat M5x6	SS A4	00913.470.05.6	0.0 kg

<p>change data P4 RvB</p> <p>21.11.12 Pos 6 & 7 RvB</p> <p>18.2.11 Add text RvB</p> <p>15.7.'09 tripline->hand grip AM</p> <p>8.5.'08 hand grip->tripline AM</p>		<p>TITLE: Mounting assembly hook CAR 35</p> <p>PALFINGER NED-DECK</p> <p>www.palfingerneddeck.com</p>		<p>DRAWN.: AM</p> <p>DATE: 25-07-07</p> <p>APPROVED: RvB</p> <p>SCALE: 1:2</p>		<p>TOLERANCES: NEN-ISO 2768-1</p> <p>PROJECTION: </p>	
<p>3.12.12</p> <p>21.11.12</p> <p>18.2.11</p> <p>15.7.'09</p> <p>8.5.'08</p>		<p>Rev Date Description Name</p>		<p>DRAWING NUMBER: 3S-CAR35-19</p> <p>SIZE: A2</p> <p>REVISION: E</p>		<p>FILE: 3S-CAR35-19E</p>	

Total mass approx.: 7.3 kg

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