Installation and Maintenance Manual

Mod.00

Compact Light Retractable (CLR) Mooring Winch

HARKEN®

1. Glossary

- Intended use: specific and proper use of the winch for which it is designed.
- Improper use: use of the winch in a different way from that indicated in the instructions for use specified in this manual.
- Qualified operator: person who has attended specialisation and training about the use of the winch.
- User: person who uses the winch regularly.
- Maximum working load (MWL): maximum value of the load the winch can bear in a dynamic working condition.
- Maximum holding load (MHL): maximum value of the load the winch can bear in a static working condition.

2. Symbols

WARNING!
This denotes the existence of a potential danger, which could cause injury or damage if the information or instructions are not followed.

DANGER!
This denotes the existence of a potential danger, which could cause serious injury or death if the instructions are not followed.

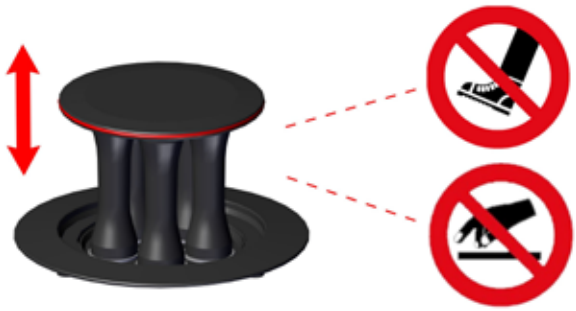
NOTE!
This denotes particularly important information concerning the device.

3. Safety information

WARNING! Read this manual carefully and fully understand it before using the system to avoid personal injury or property damage during system operation.

- This manual is an integral part of the device and it aims to provide all information needed for its safe and correct use and for proper maintenance.
- This manual gives technical information on winch installation and maintenance.
- This information is destined exclusively to qualified operators.
- Installation of the winch by personnel who are not experts may cause serious damage to users and those in the proximity of the winch.
- Install and use the winch only as described in the technical information supplied.
- Improper use can cause severe harms to users, equipment and the boat.

DANGER!
Do not put fingers, hands or feet near the winch during the working of the winch:



Deck plane

- Do not apply to the winch loads greater than the MWL (Maximum Working Load) in dynamic conditions.
- Do not apply to the winch loads greater than the MHL (Maximum Holding Load) in static conditions.
- Never substitute any winch part with one that is not original. Even though they look similar and are both made by Harken®, the non-original part may not be suitable and the warranty will be invalidated.
- Modifications carried out by the user, without explicit written authorization from the manufacturer, will invalidate the warranty and relieve the manufacturer of any responsibility for damage caused by the defective product.
- Failure to install the winch will void the warranty of the winch itself and the Harken® products to which it may be connected.
- Refer to the warranty on the web site www.harken.com.

Harken® cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system installation or operation.

- Wear suitable clothing when using the winch, to avoid loose ends of fabric becoming entangled in the winch.
- Periodical maintenance must be carried out regularly as specified in the chapter on Maintenance. In case of doubt, contact Harken Tech Service by e-mail: techservice@harken.it
- This manual is available only in English. If you do not fully understand the English language, do not carry out the operations described in this Manual. For any doubts, questions or comments contact the Harken distributors nearest to you, or contact the Harken Italy Technical Service by e-mail: techservice@harken.it
- See www.harken.com for additional safety information.

4. General advices

Intended use

The Compact Light Rectratable (CLR) Mooring Harken Winches are designed and manufactured to moor the sailing boats and the motor boats on which they are installed.

For any other usage, contact Harken Italy Technical Service by e-mail: techservice@harken.it.

Improper use

- The Harken winch must not be used for purposes different from those outlined in “Intended use” chapter, or for purposes not mentioned in this manual or different from those mentioned.
- The Harken winch must not be used if unauthorized modifications or interventions have been carried out.
- Do not use the winch to divert a line (cross-sheeting).
- Do not apply to the winch loads greater than the MWL (Maximum Working Load) in dynamic conditions.
- Do not apply to the winch loads greater than the MHL (Maximum Holding Load) in static conditions.

NOTE!
See the User Manual for all details about the use of the winch. User manual is available in paper form, included into the packaging of the purchased winch, and available on our website www.harken.com.

5. Product identification

6. Technical characteristics

Performance data - electric motor

CLR Mooring Winch 600

	electric horizontal motor	
	12 V (700 W)	24 V (900 W)
line speed [m/min]*	24	27
max working load [Kg]	400	400
current absortion [A]**	200	110

**Line speed is measured with no load*

***Current absortion measured at Maximum Working Load (MWL)*

CLR Mooring Winch 1200

	electric horizontal motor	
	12 V (1500 W)	24 V (2000 W)
line speed [m/min]*	23	25
max working load [Kg]	800	800
current absortion [A]	350	200

**Line speed is measured with no load*

***Current absortion measured at Maximum Working Load (MWL)*

Weights

Weights [Kg] (lb)			
CLR size	**A EH**	**C EH**	**W EH**
CLR 600	18 (39.7)	22 (48.5)	19 (42)
CLR 1200	22 (48.5)	26 (57.3)	24.5 (54)

Versions:
A = all anodised aluminium
C = all chrome
W = wood grain
EH = horizontal electric winch

Maximum loads

The maximum working load (MWL) is the maximum load the winch can bear in a dynamic working condition.
The maximum holding load (MHL) is the maximum load the winch can bear with a line loaded in a static working condition.

Maximum loads	[Kg] (lb)	
CLR size	**MHL**	**MWL**
CLR 600	600 (1322.8)	400 (881.8)
CLR 1200	1200 (2645.6)	800 (1763.7)

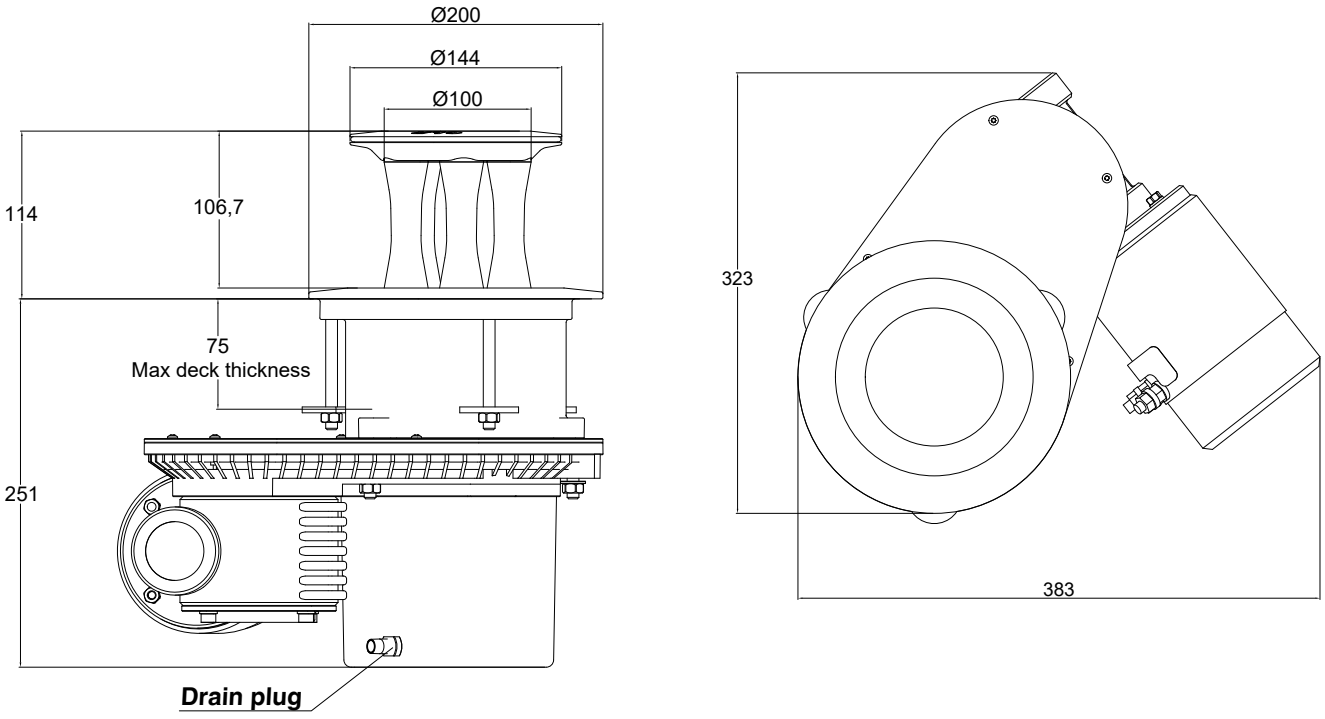
WARNING!
Subjecting the winch to loads above the maximum working load and the maximum holding load can cause the winch to fail or pull off the deck suddenly and unexpectedly during high loads causing severe injury or death.

7. Outline

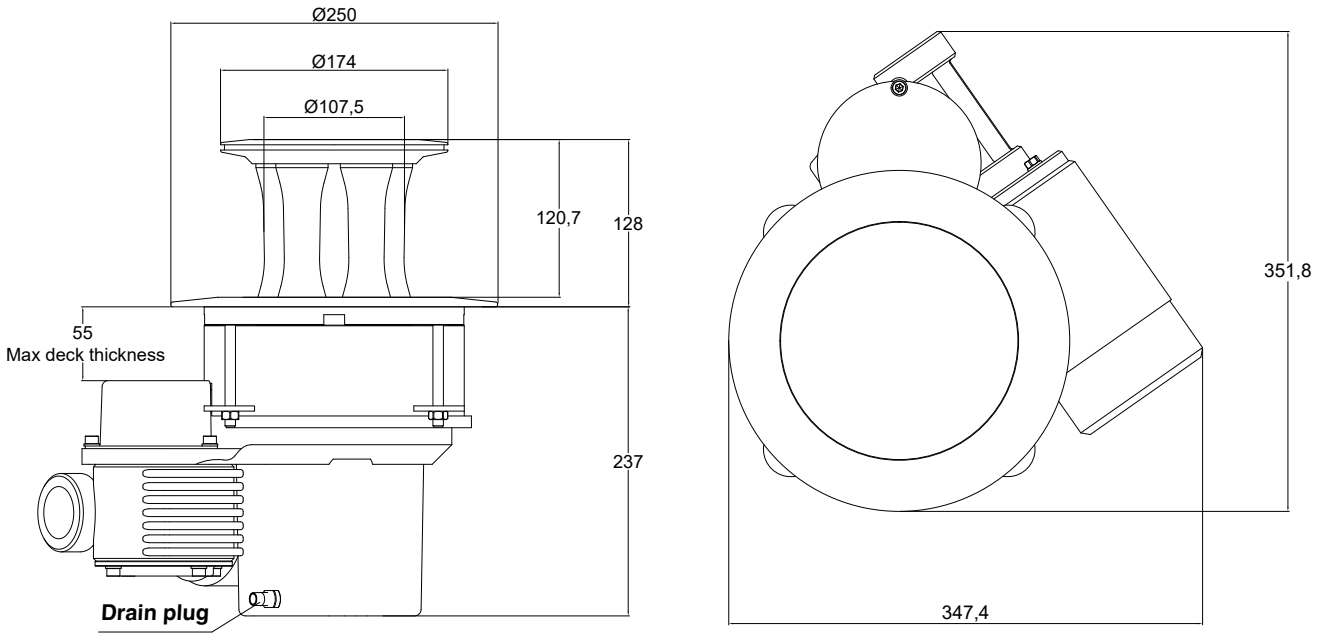
Winch CLR 600 EL

NOTE!

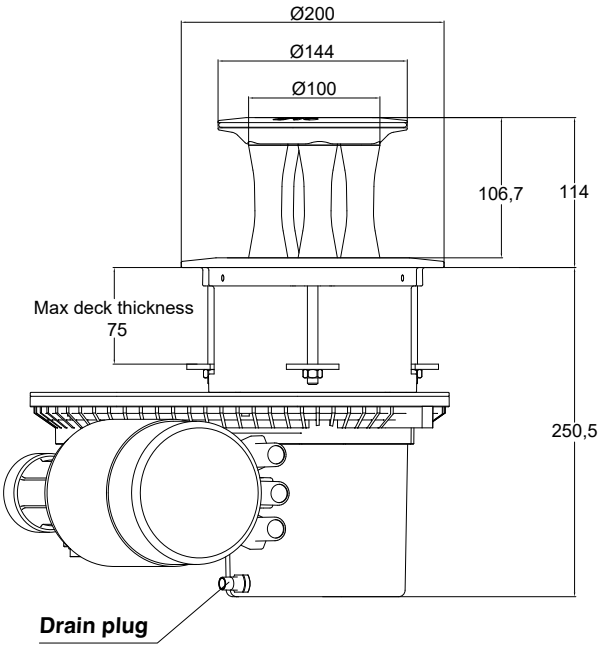
All dimensions are in [mm]

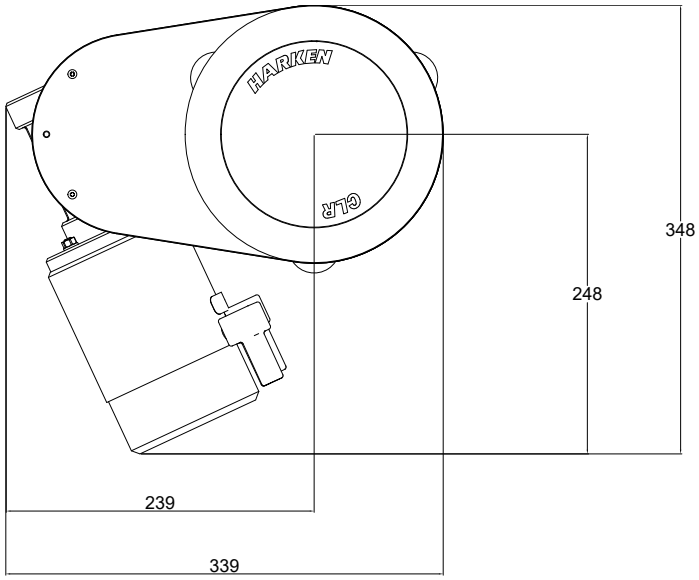


Winch CLR 1200 EL

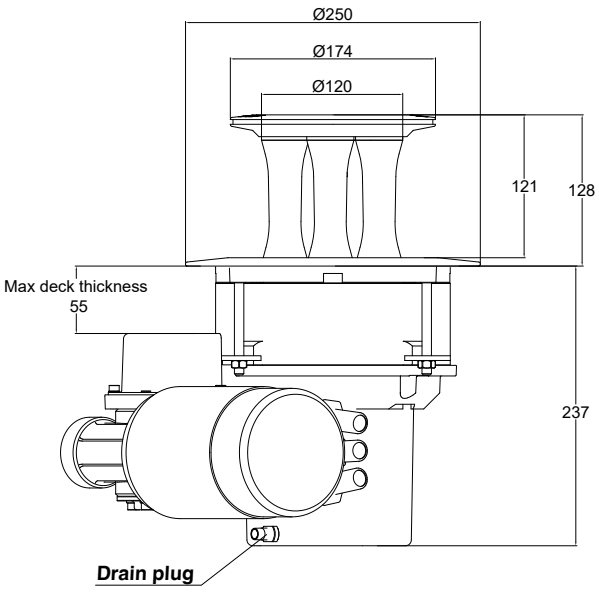


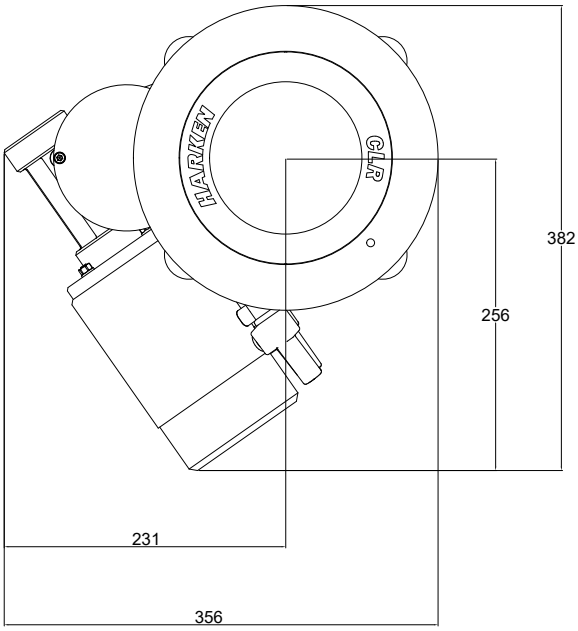
Winch CLR 600 LH EL





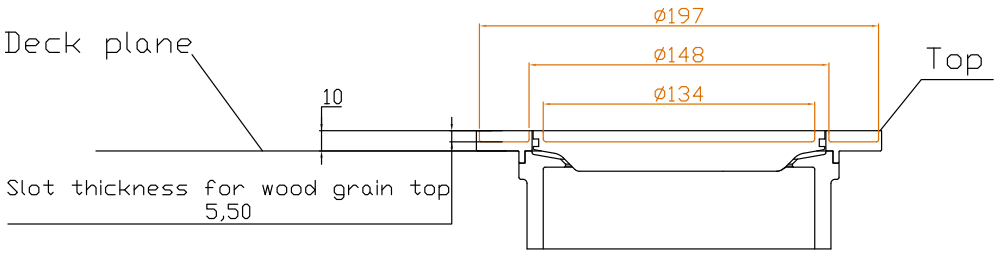
Winch CLR 1200 LH EL

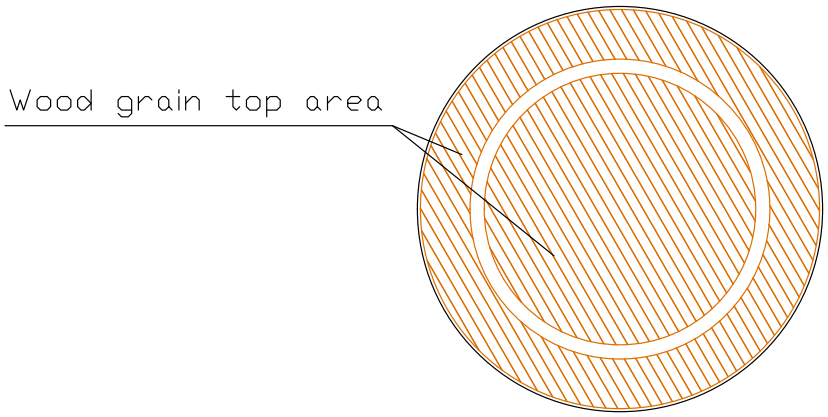




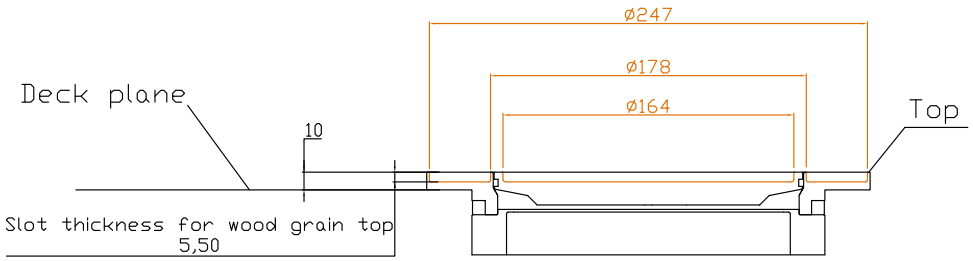
7.1 Outline dimensions of the top for wood grain version

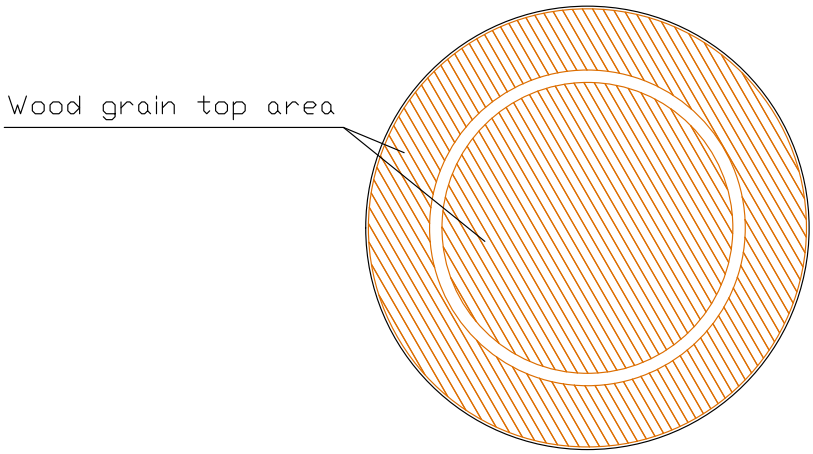
Winch CLR 600





Winch CLR 1200





8. Installation

The winch must be installed on a flat area of the deck, reinforced if necessary to bear a load equal to at least twice the maximum working load of the winch.
It is the installer's responsibility to carry out all structural tests needed to ensure that the deck can bear the load.
Harken® assumes no responsibility for incorrect installation of its winches.

WARNING!
Before using the winch, pay attention to follow scrupulously the steps shown in the CLR installation procedure in the sequence written below.

DANGER!
Incorrect installation of the winch may cause severe injury or death. Consult the yard that built the boat in the case of doubt over the correct positioning of the winch.

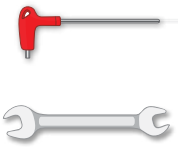
WARNING!
Keep the columns support in the position found at the moment of the opening of the packaging.
Remove the columns support only when indicated.

NOTE!
Before drilling the deck, check the space available below deck for the gearmotor assembly.

NOTE!
Do not use the drain plug in case the winch is installed in a peak tank already used for the drain (the forepeak of a motor boat for example).

8.1 CLR installation procedure

Tools needed:

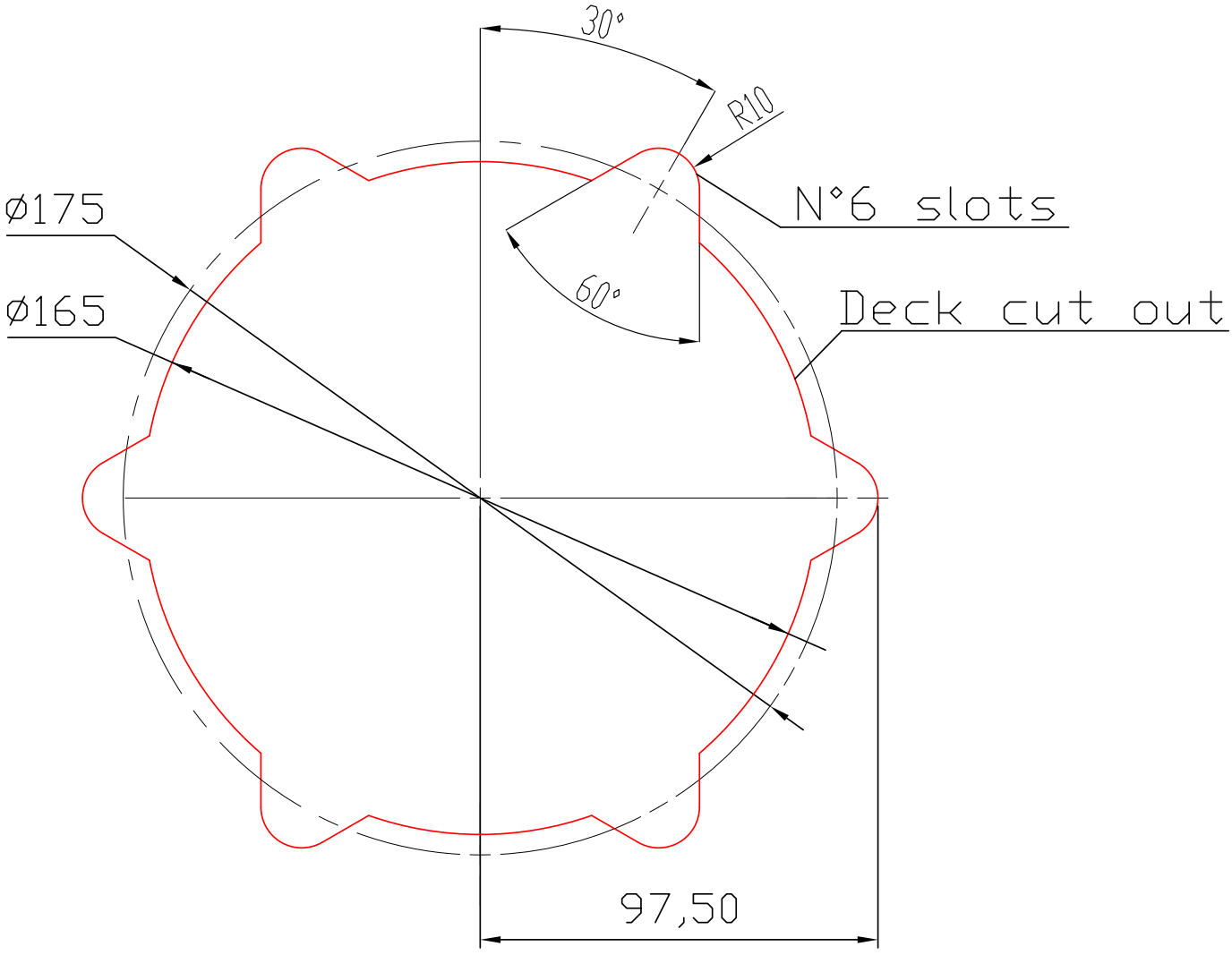


- One number 5 allen wrench
- Two number 13 adjustable spanner
- One number 10 adjustable spanner

1. Choose the position of the deck where user decides to place the winch.
2. Place the mounting template over the point chosen for installation.

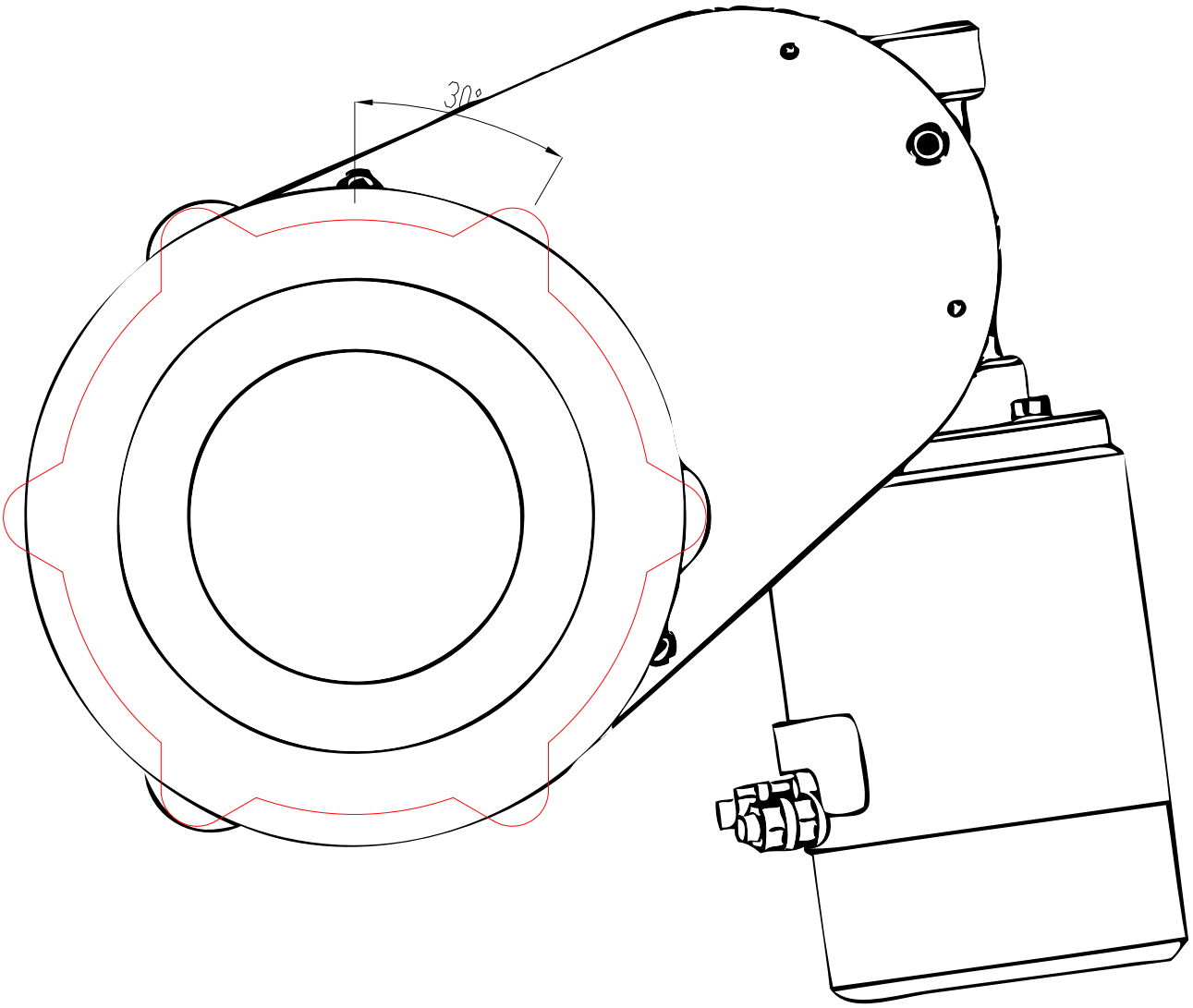
NOTE!
Below is a reduced scale diagram.
The drilling cut out template is available on the Harken® website www.harken.com

Winch CLR 600
View from above



NOTE!
Redlined slots are six: three slots are used to choose the position of the CLR Winch; the other three slots are the passages of the cables of the led lights.
For all info regarding the installation of the led lights, refer to the installation chapter of this manual.

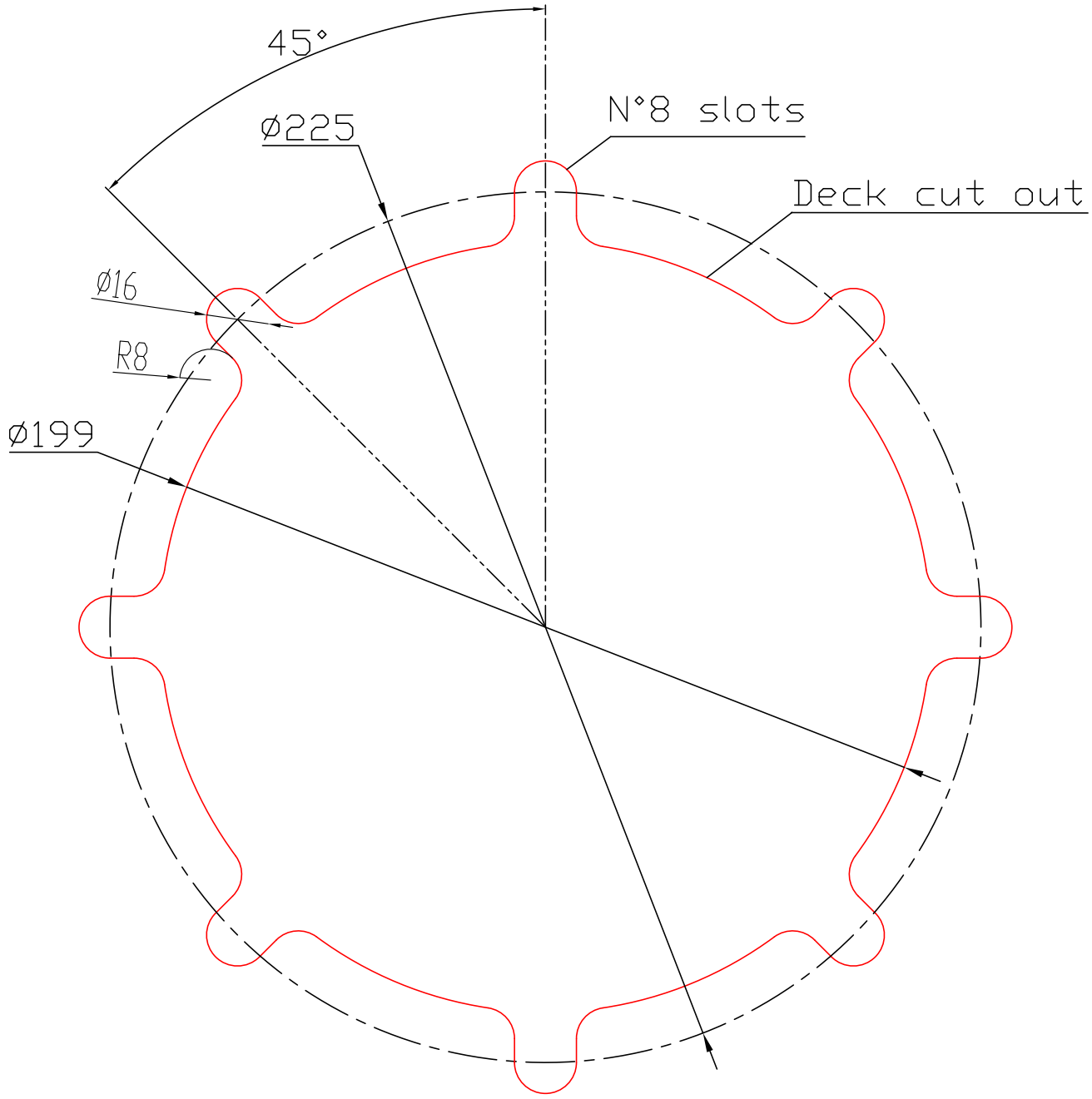
NOTE!
Orientation of the winch must be chosen taking into account 2 factors:
- The overall dimensions shown in the Outline section of this manual.
- There is only one orientation available for the coupling of the assembly support with the motor.



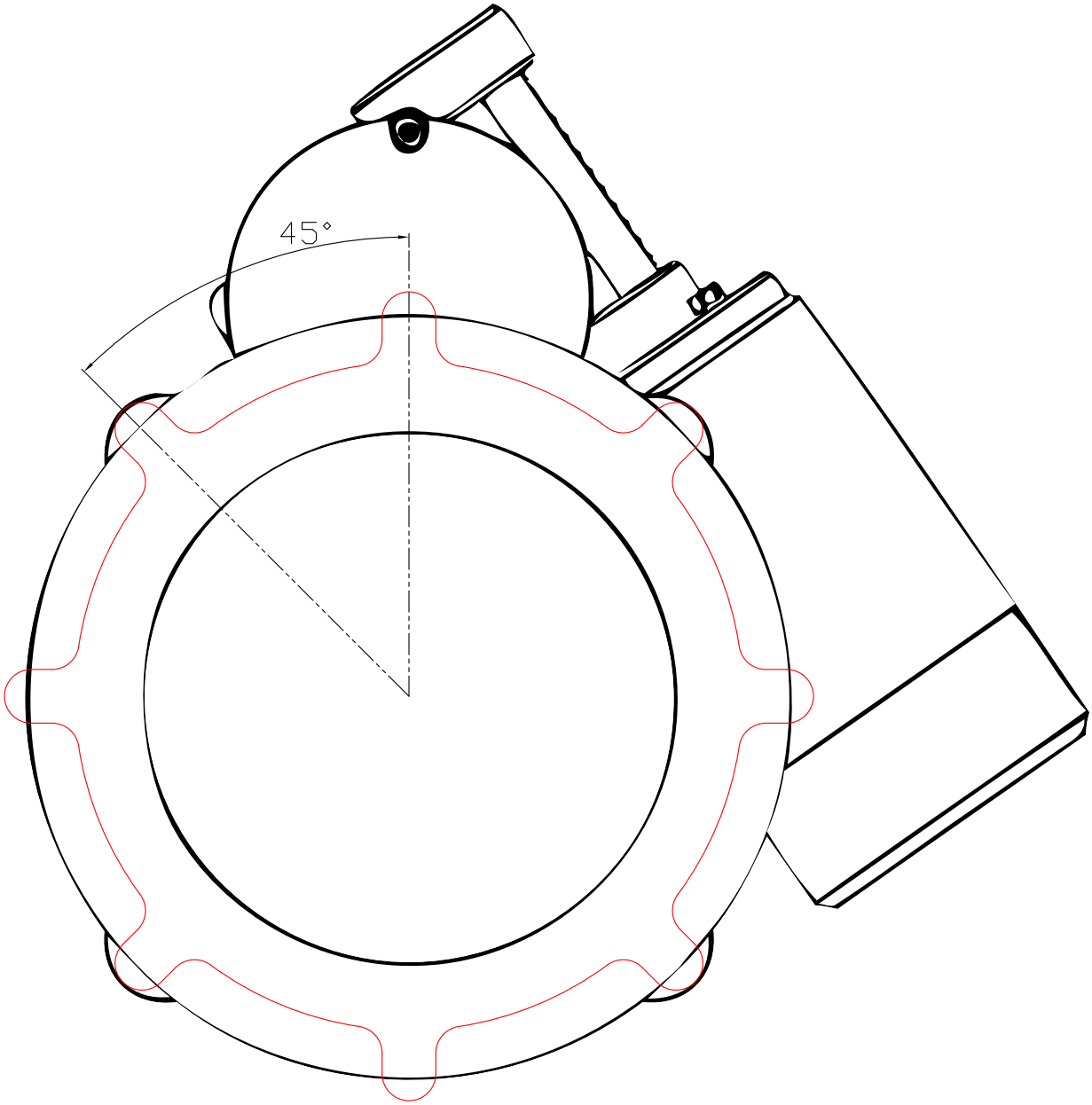
Right mounting - Internal motor poles

Winch CLR 1200
View from above

NOTE!
Below is a reduced scale diagram.
The drilling cut out template is available on the Harken® website www.harken.com



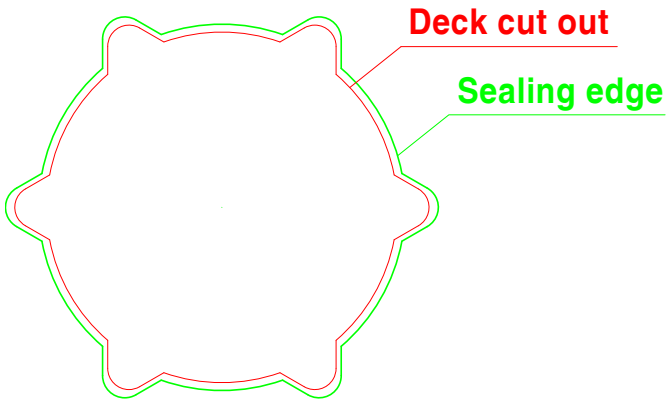
NOTE!
Orientation of the winch must be chosen taking into account 2 factors:
- The overall dimensions shown in the Outline section of this manual.
- There is only one orientation available for the coupling of the assembly support with the motor.



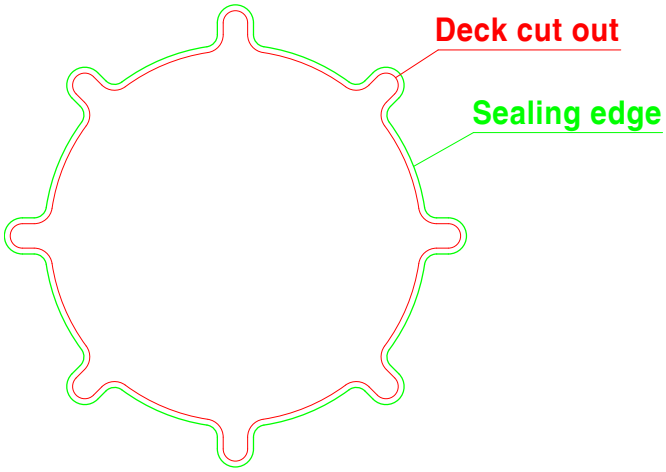
Right mounting - Internal motor poles

3. Mark the position of the cut out profile (red lines) to be drilled in the deck.
4. Drill the cut out profile.
5. Fill the cut out with a suitable marine sealant following the sealing templates below (green lines).

Winch CLR 600



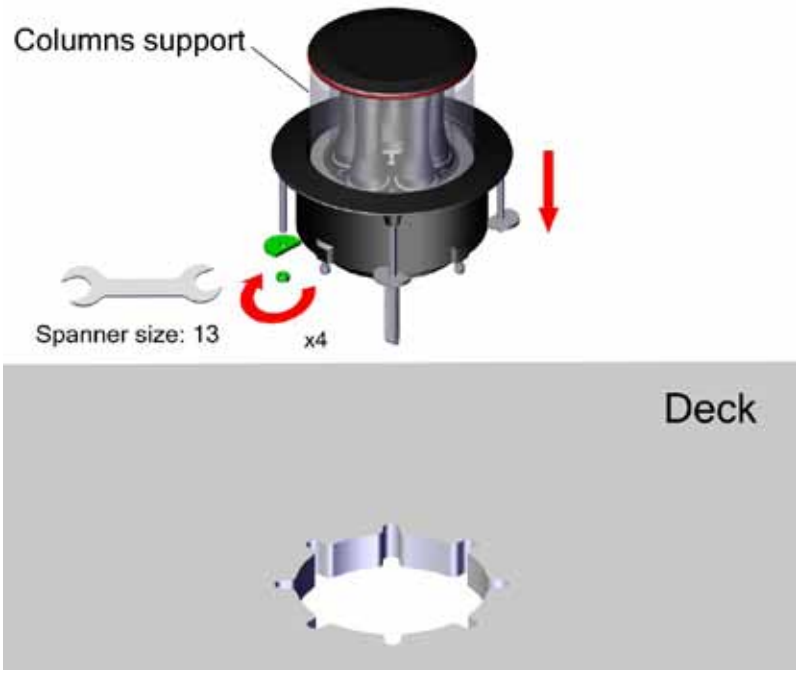
Winch CLR 1200



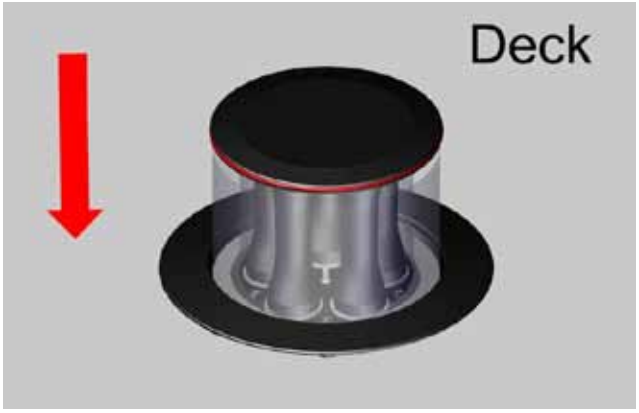
WARNING!
The mounting bolts must be isolated with anti-corrosive lubricants.
It is mandatory to prevent any direct contact between the aluminium plates from other conductive materials such as carbon fiber (deck or hull); in that case a fiberglass lamination is required to avoid any galvanic corrosion.

NOTE!
Installation bolts are provided by Harken: Winches CLR are equipped with M8x90 A4 stainless steel screws and deck washers.

6. Unscrew the nuts of the installation screws and the remove the deck washers
(deck washers allow to close the installation screws from the underdeck side).



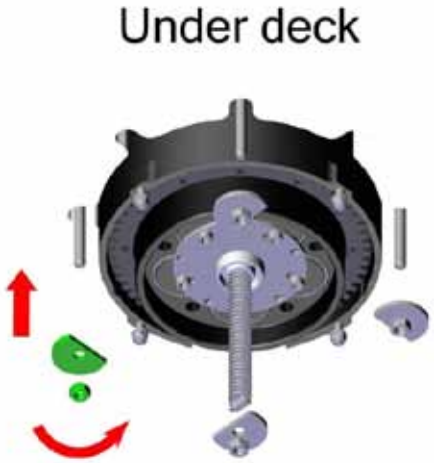
7. Insert the winch from above: pass the assembly support through the cut out hole.



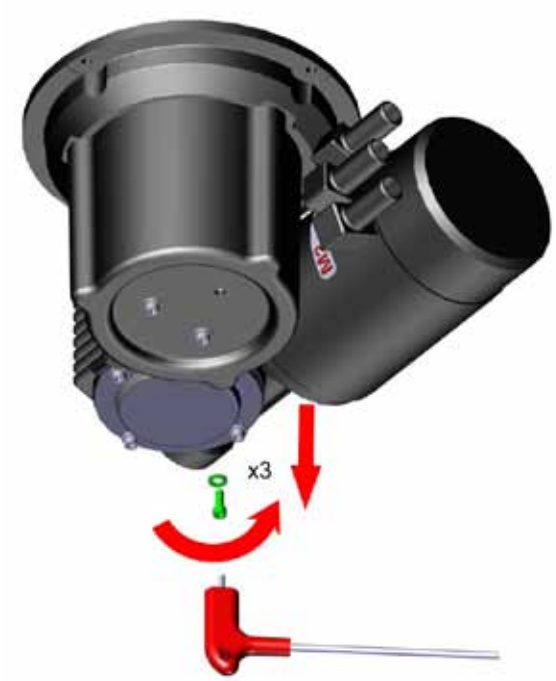
WARNING!
Do not remove the columns support.

8. Remove the excess adhesive/sealant.
9. From the underdeck side, insert the deck washers along the installation screws and close them up to the bottom surface of the deck with the proper nuts to fasten the support winch to the deck.

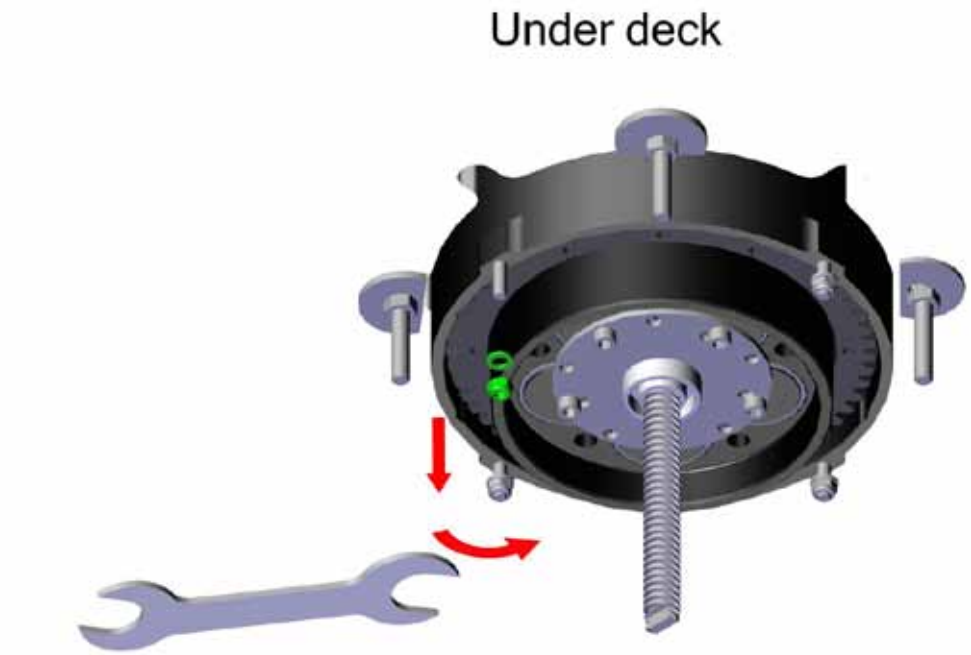
10. Screw the nuts and place the washers:



11. Remove the cover from the gearmotor assembly (view from the underdeck side):

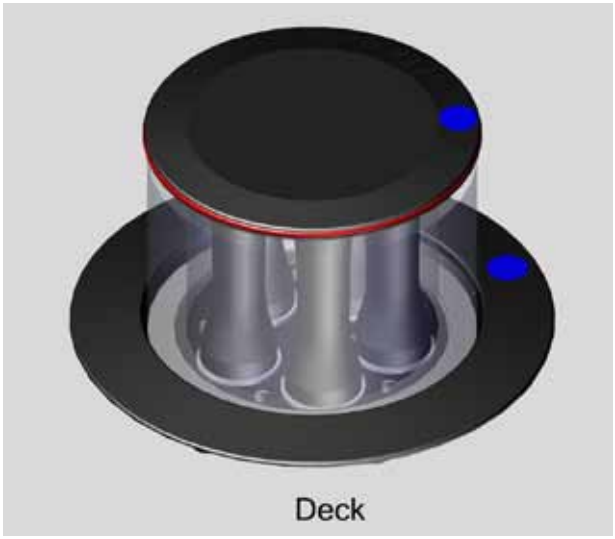


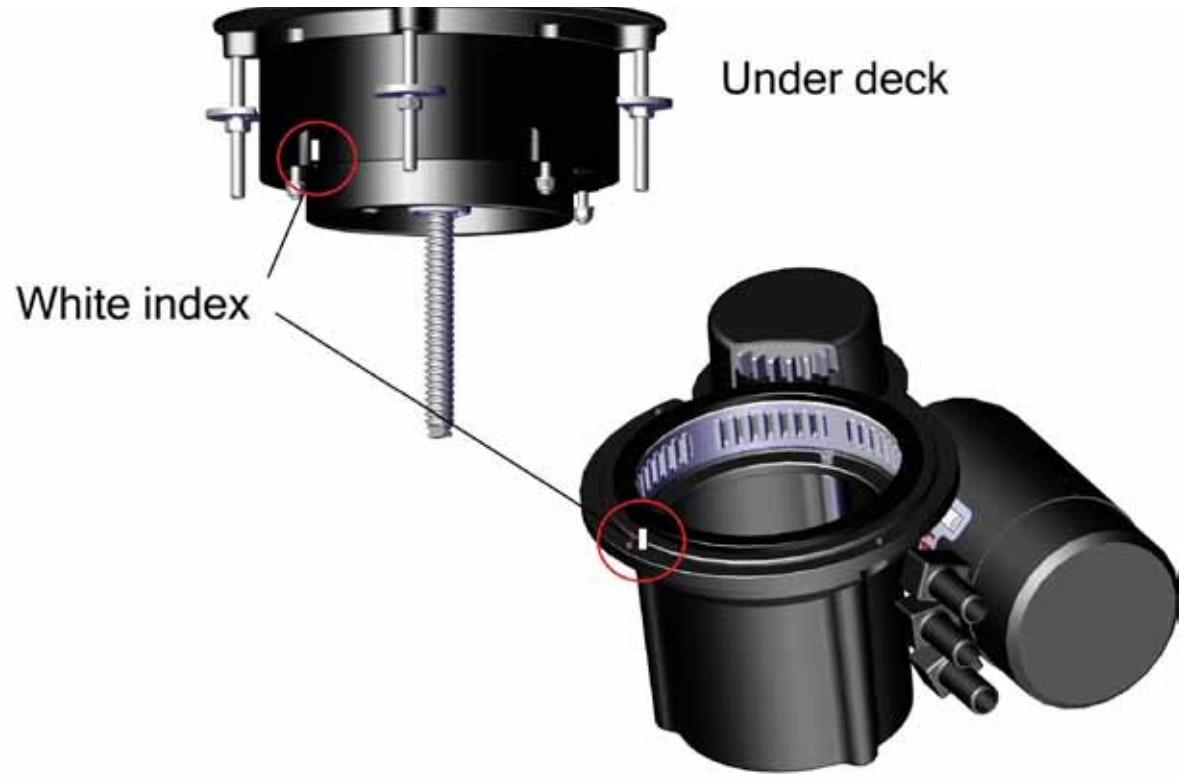
12. Unscrew nuts and remove washers:



13. Once you have installed the winch on the deck, proceed with motor installation.

WARNING!
For CLR 600: for the motor installation, refer to the blue index stickers placed on the top of the winch to have a positional reference from the below deck side; refer to the white tracks marked on the drum and on the motor assembly to have a positional reference from the under deck side:

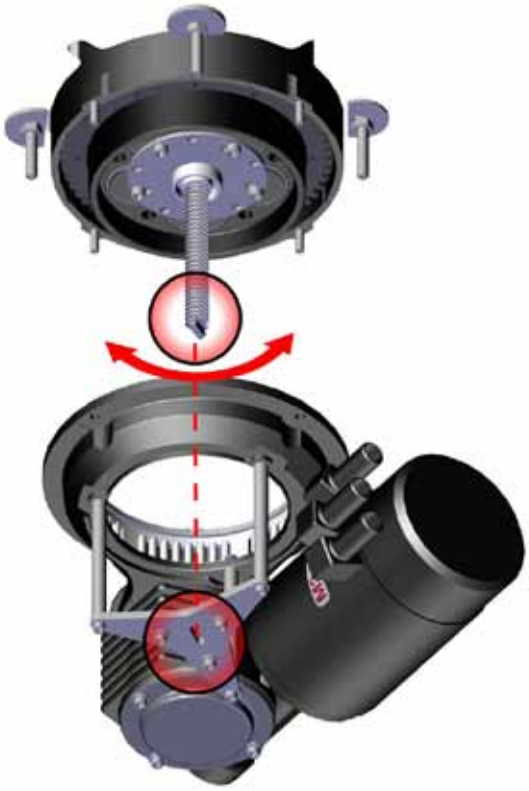




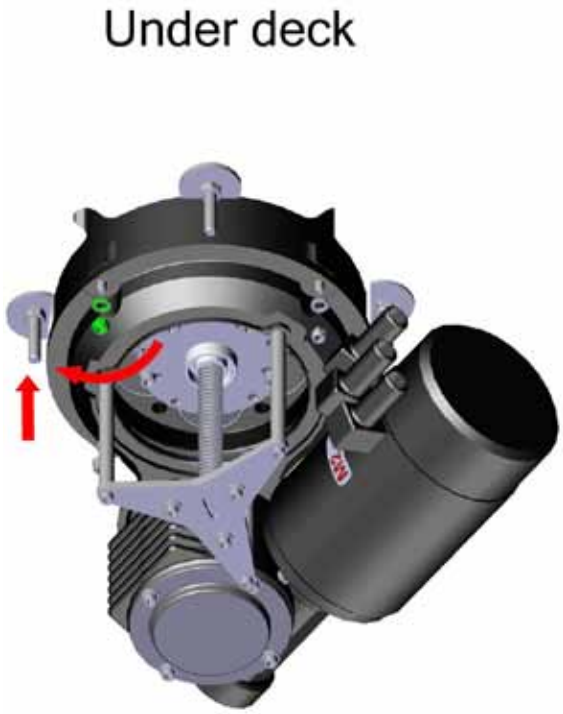
WARNING!
Make sure that the electric power is switched off before installing.

14. The gearmotor assembly must be mounted from the underdeck side:

15. Once having respected the motor orientation, insert the squared end of the central screw into the slot of the base plate.



16. Screw the nuts of the gearmotor:

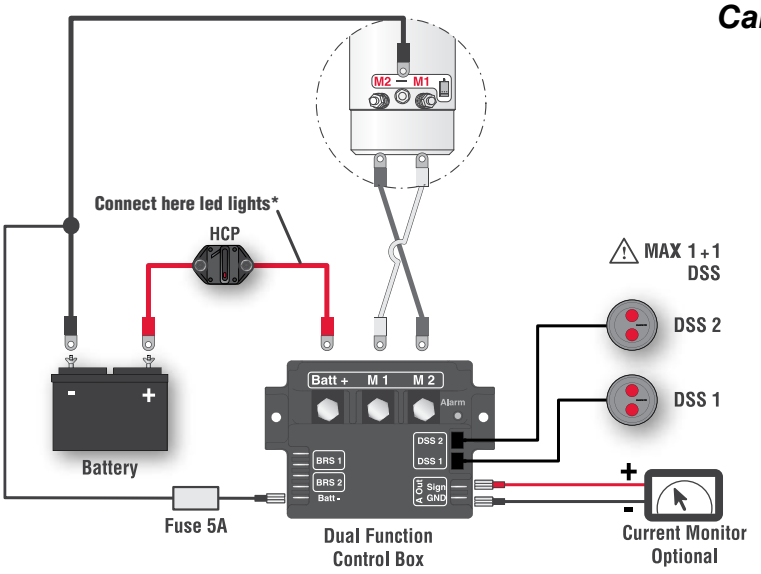


17. Remove the columns support.
18. Before completing the mechanical installation of the winch, proceed with the installation of the electric parts (Dual Function Control Box and Led lights).

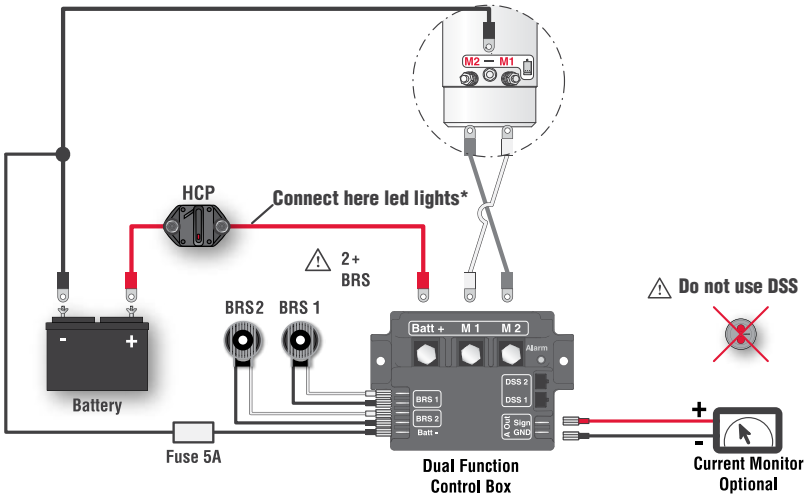
8.2 Electric wiring diagrams - Dual Function Control Box (DFCB)

To guarantee greater efficiency in terms of safety and long life, for every winch model is mandatory to install the Dual Function Control Box.
Refer to the following diagrams for the electric wiring:

Cabling with DSS



Cabling with BRS



*** NOTE!**

User can choose if installing led lights with a switch or not: if led lights are installed with the switch, their power-up and power-off states are commanded by the switch. In those cases, even if the winch is not used, lights can be lighted or switched-off.

If lights are installed without switch, their control is commanded by the HCP switch. In this case, connect the led lights in correspondence of the point shown in the wiring diagrams above.

WARNING!
Read the Dual Function Control Box manual carefully before installing and using the device.

Fasten the Dual Function Control Box containing solenoids to bulkhead or wall: refer to the Dual Function Control Box manual. Install remote circuit breaker between power supply and Dual Function Control Box. Locate the electric buttons on deck in a convenient spot for easy winch operation: refer to the Digital System Switch manual.

Refer to the following chart for wire size:

Total distance between winch and battery

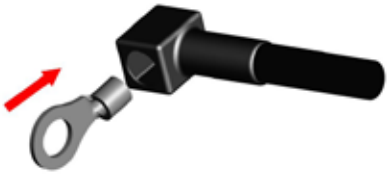
Current voltage	Under 16.4 ft AWG	Under 5 m mm²	16.4 - 32.8 ft AWG	5 m - 10 m mm²	32.8 - 49.2 ft AWG	10 m - 15 m mm²	49.2 - 65.6 ft AGW	15m - 20 m mm²
12 V	2	32	0	50	00	70	000	95
24 V	5	16	3	25	2	35	0	50

8.3 Electric motor installation procedure

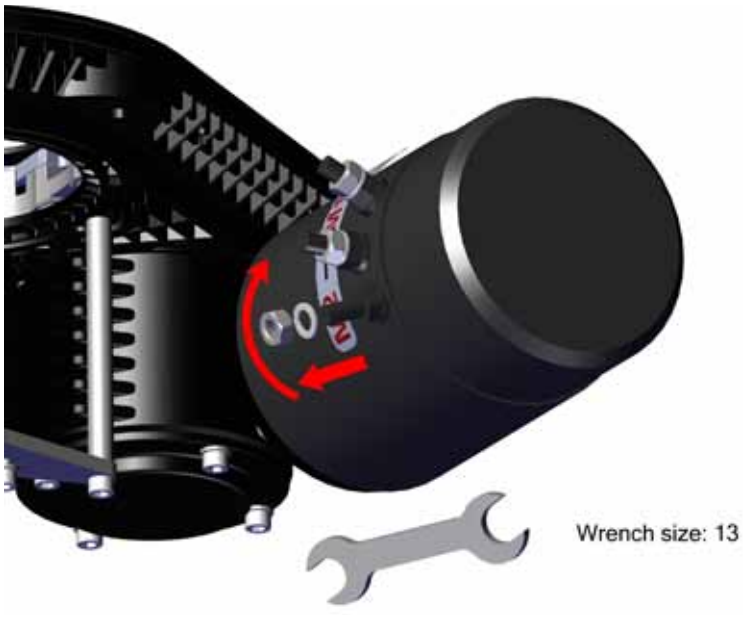
1. Before connecting the cable terminals to motor, remove the sheaths from the central spindles of the motor contacts.

2. Insert the cables coming from the Dual Function Control Box into the sheaths

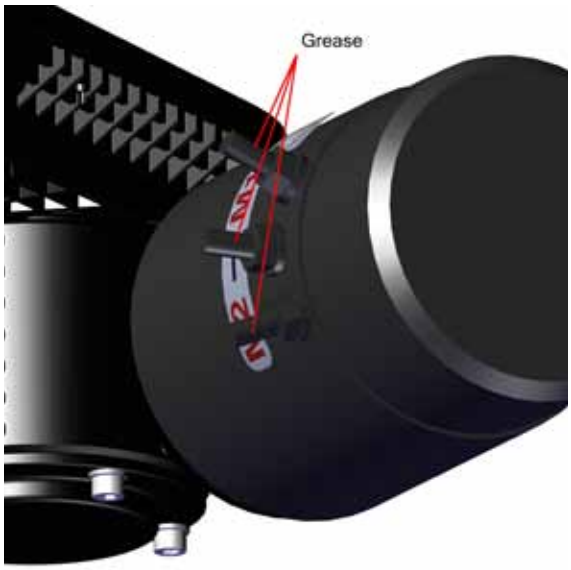
3. Crimp the cable terminals



4. Unscrew nuts and remove washers from the central spindles of the motor contacts



5. Apply Harken grease on the contacts of the motor



6. Attach cable terminals to clamps between M8 nut and lock nut

7. Use two counter-rotating wrenches to ensure the correct screwing of the clamps and nuts:

8. Reposition the sheath in the correct position and orientation.

NOTE! Take special care not to turn the central spindles. Be careful not to turn central spindles.

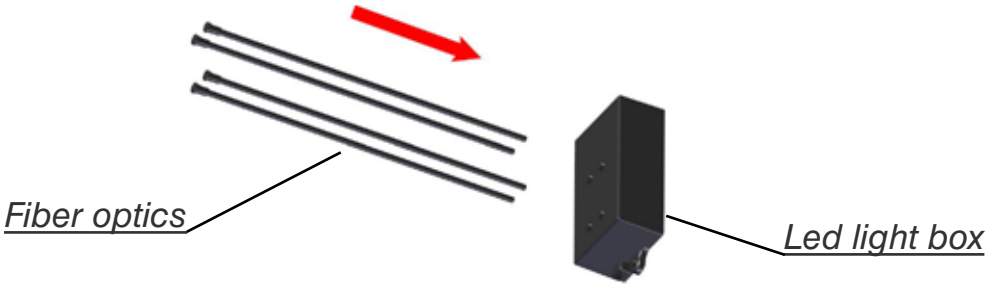
8.4 Functional test

NOTE!
Before installing the led lights and using the winch, proceed with a functional test to verify if the mechanics and the electric parts are correclty installed.
To start the functional test, follow the procedure below:
1. Switch on the motor power by pressing the HCP button (shown in the DFCB wiring diagrams).
2. Press the first electric button installed on the deck.
3. Keep pushed the electric button until the come-out stroke of the drum of the winch is completed.
In this phase, the drum rotates clockwise.
4. Press the second electric button to let the drum into the base of the winch.
In this phase the drum rotates counter-clockwise.
5. Keep pushed the electric button until the come-in stroke of the drum is completed.

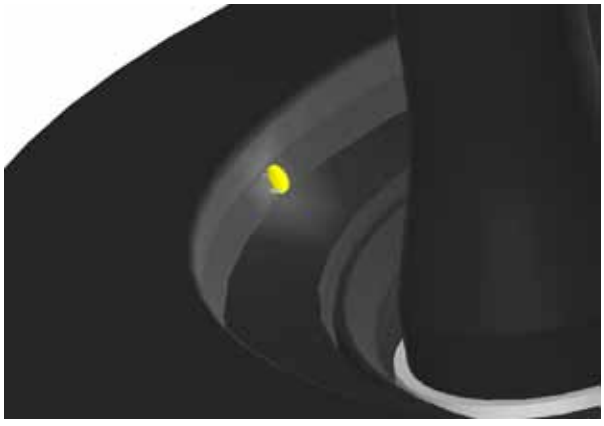
NOTE!
For all info regarding the use of the winch, refer to the User Manual available in paper form, included into the packaging of the purchased winch, and available on our website www.harken.com.

8.5 Led lights installation

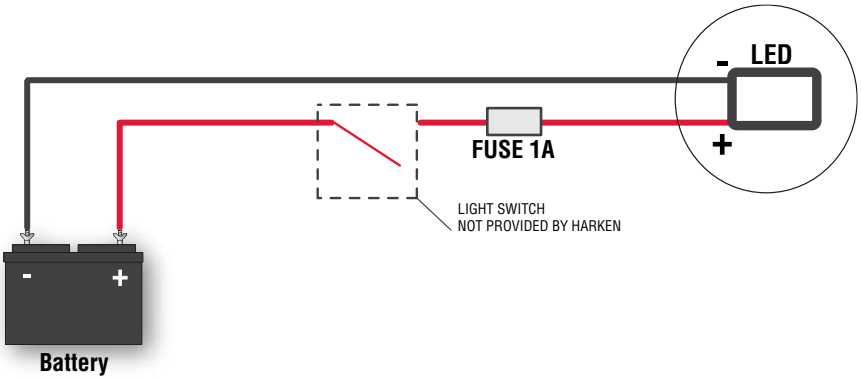
After installing the motor and the Dual Function Control Box, proceed with the installation of the led lights.
CLR Mooring Winch is equipped with 4 fiber optics that carry on the lights coming from the led lights sources to the columns of the drum of the winch.
Led lights are to be installed from the underdeck side.
Fiber optics are to be cabled to the led light box:



After the cabling, pass the fiber optics cables throughout the slots realized into the deck not used for the passage of the drum of the winch.
The installation of the fiber optics is completed by inserting the fiber optics cables into the holes of the top flange:



8.6 Electric wiring diagrams - Led lights



NOTE!
The cabling of the led lights sytem must be done taking into account the following data:
Voltage range: 10-30V
Current absortion: 150mA

19. After the electric installation and the preliminary functional test, screw the cover to the base plate.
20. The installation procedure is completed by connecting the drain plug with a proper drain tube (not provided by Harken).

9. Maintenance

9.1 Washing

The more the winch is used, the more frequent it will be its maintenance and cleaning: environmental conditions and use influence the usury of the components of the winch and directly the maintenance and cleaning frequency by the user.

Winch must be frequently washed with fresh water, at least after each use.
In addition they must be completely overhauled, cleaned and lubricated at least every 12 months.

After an inspection, replace worn or damaged components.

Use a brush to lightly lubricate all gears, gear pins, teeth and all moving parts with grease.

Do not allow teak cleaning products or other cleaners containing caustic solutions to come into contact with winches and especially anodised, chrome plated or plastic parts.
Do not use solvents, polishes or abrasive pastes on the logos or stickers on the winches.
Do not use polishes or abrasive pastes on anodised, chrome plated, wooden or plastics surfaces.
Make sure that the holes and drainage channels in the base of the winch are not obstructed so that water does not collect.

WARNING!
Periodic maintenance must be carried out regularly. Lack of adequate maintenance shortens the life of the winch, can cause serious injury and also invalidate the winch warranty.
Installation and maintenance of winches must be carried out exclusively by specialized personnel.

WARNING!
Make sure that the power is switched off before carrying out maintenance on the winch.
In case of doubt contact Harken® Tech Service at techservice@harken.it

9.2 Maintenance products

The maintenance products listed below must be used:

1. Strong threadlocker – Green (i.e. LOCTITE® 270)
Clean the parts and apply the product, spreading it all over the thread as shown.
Assemble the parts and wait at least 45 minutes before use. To remove screws sealed with threadlocker, you may need to heat the parts to reduce the effect.

2. Medium threadlocker – Blue (i.e. LOCTITE® 243)
Clean the parts and apply the product, spreading it all over the thread as shown.
Assemble the parts and wait at least 45 minutes before use.
Generally, for use on all screws, requires no heating before removal.

4. Synthetic GREASE Harken - BK4513
Apply a film of grease with a brush to all the parts indicated, and make sure that the film is visible. Take special care when greasing the teeth of the ring gears, the gears and the roller bearings.
It is important to keep the teeth of the ring gears of our winches greased to increase their efficiency and life.

WARNING!
Parts and especially the gears of the winch that are not sufficiently greased will undergo irreversible wear that is not covered by the warranty.

5. Anti-corrosive lubricants (i.e. TEFGEL®)
Apply sacrificial anodes or anti corrosive lubricants to prevent electrolytic corrosion between different metals in contact with one another.
NOTE! Apply the anti-corrosive lubricant with a brush on clean surfaces.

6. Anti-seizing (i.e. SAF-T-EZE® Anti-Seize or LANOCOTE®)
This product is used to prevent problems of seizing caused by oxidation.
We recommend using this or similar products on stainless steel screws where the use of Loctite is not specifically requested.

NOTE! Apply the anti-seize with a brush.

7. Vaseline OIL
This product is used to lubricate balls and roller bearings.

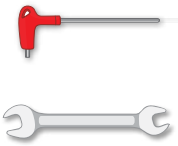
9.3 Disassembly procedure

NOTE!
In case of doubt, to identify the various parts refer to the exploded view at the end of this manual.

NOTE!
The disassembly procedure is useful for the maintenance, cleaning and lubrification of every item of the product.
In the procedure, three types of operations are described:
- Flush deck operations
- Under deck operations
- Bench operations: for all operations for which user must have a comfortable position to disassemble and reassemble the several components. For those operations, is strongly recommended to operate on a proper bench to avoid damages and to operate into the correct rooms dedicated for the tooling handling.

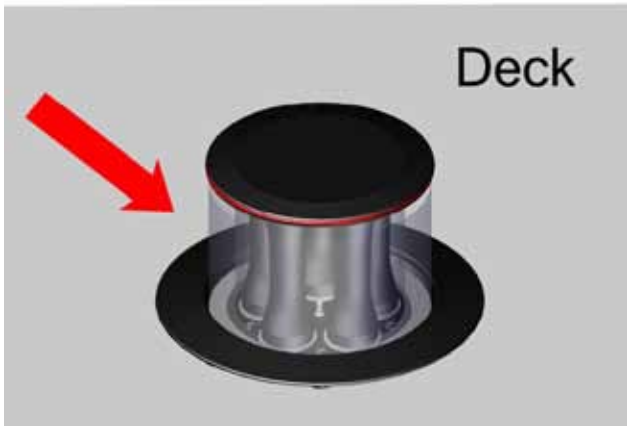
Tools needed:

- One number 5 allen wrench
- One number 13 adjustable spanner
- One number 10 adjustable spanner
- Rags



Torque to apply in assembly phase

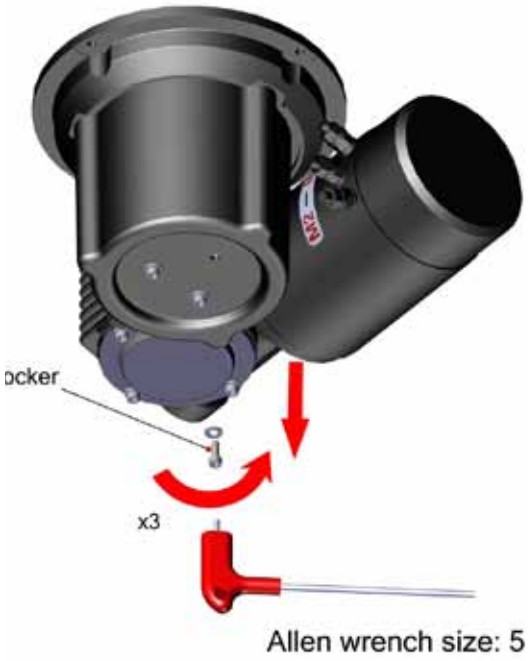
1. Remove the fiber optics: from the open drum configuration, disconnect the fiber optics following the opposite order of the procedure specificed in the section #16.4 of this manual (Led lights installation). Only in case the fiber optics are broken or damaged, proceed with the substitution of the led kit, with the removal and the installation (for the spare kits and parts see section Ordering spare parts of this manual).
2. Flush deck operation - Place the drum support to keep open the drum:



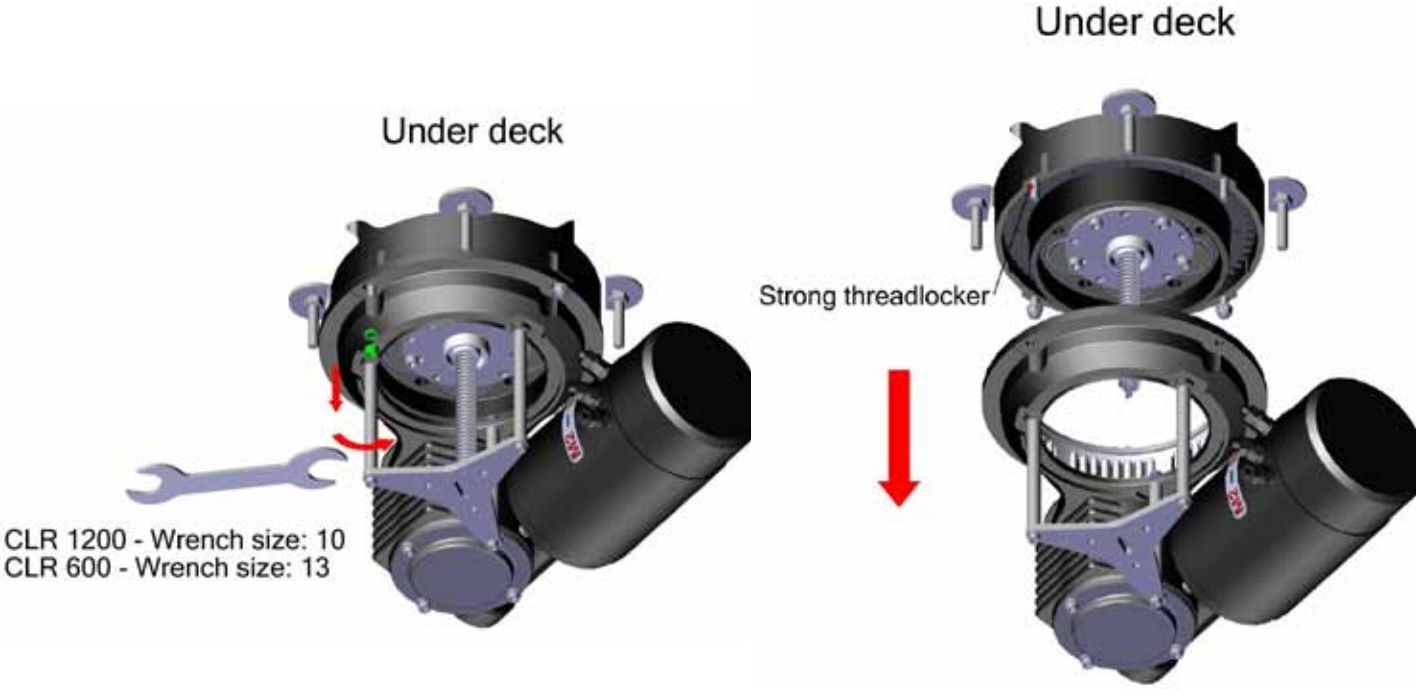
3. Under deck operation - Disconnect the motor, following the opposite order of the procedure specificed in the section #16.2 of this manual (motor installation).

3.1 Remove the sheaths from the motor poles to have a better handle during the disassembly procedure:

4. Under deck operation - Remove the drain plug and the motor cover:



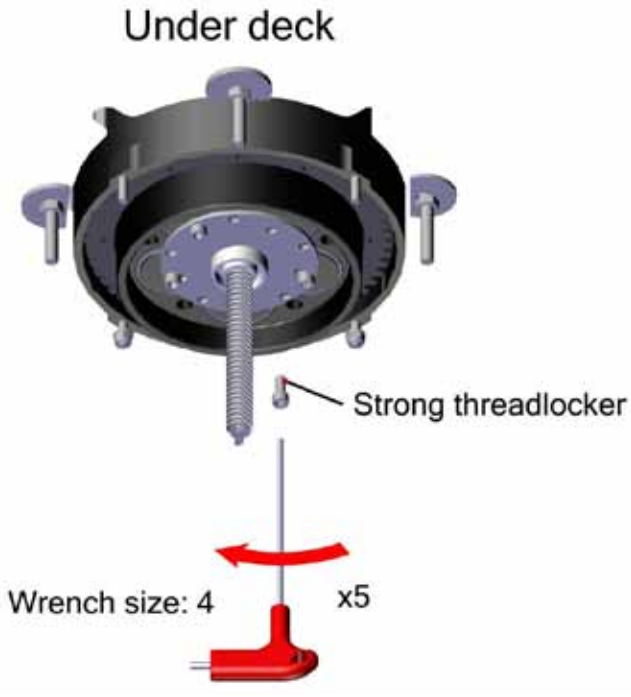
5. Under deck operation - Remove the motor assembly, unscrewing nuts and removing washers:

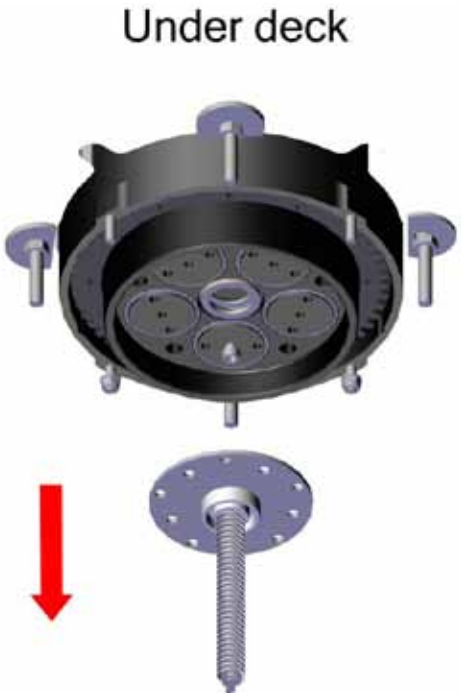


NOTE! Only for CLR 1200
5.1 Be careful to the needle roller bearing: it must be part of the assembly motor:

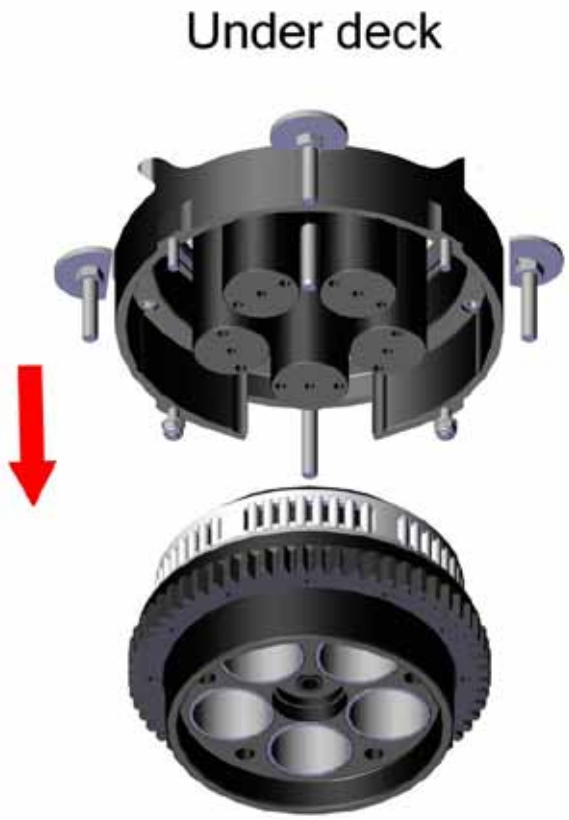
NOTE! Only for CLR 1200
5.2 Bench operation - Unscrew n°3x M5 socket head screws and the motor cap to inspect, clean and lubricate the internal pinion:

6. Under deck operation - Unscrew n°5x M6x14 socket head screws to remove the friction clutch group:



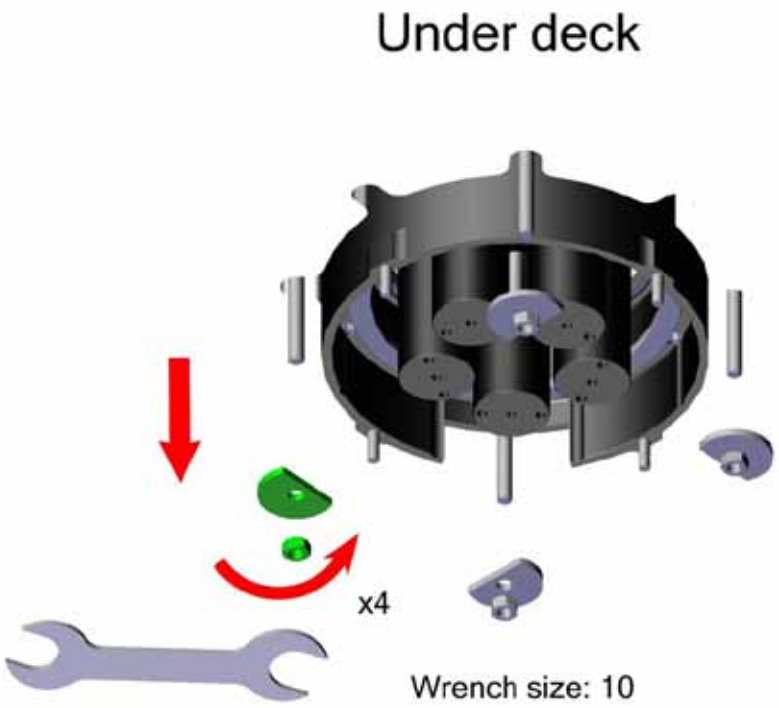


NOTE! Be careful to the hub, the washer and the needle roller bearing not axially fixed after the disassembly of the friction clutch group.

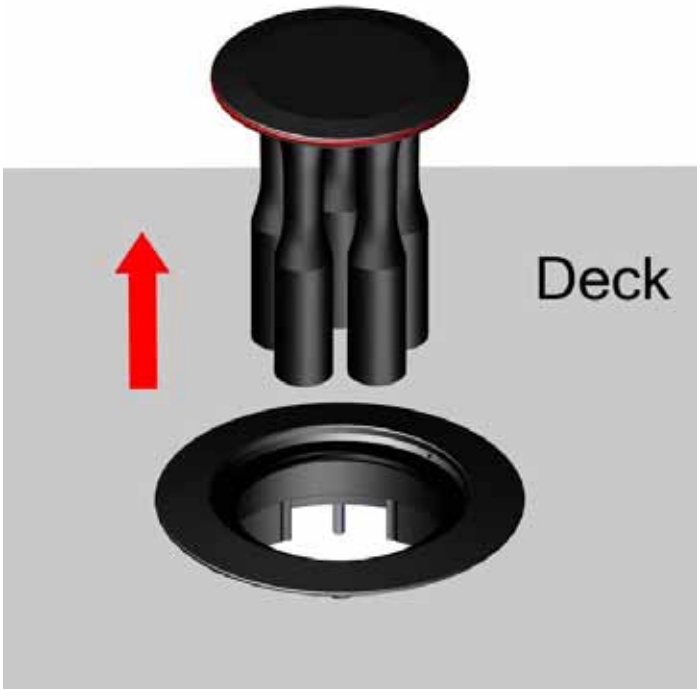


7. Bench operation - Remove the needle roller bearing, washer and unscrew n°12x M6x14 socket head screws to remove the toothed gear from the hub:

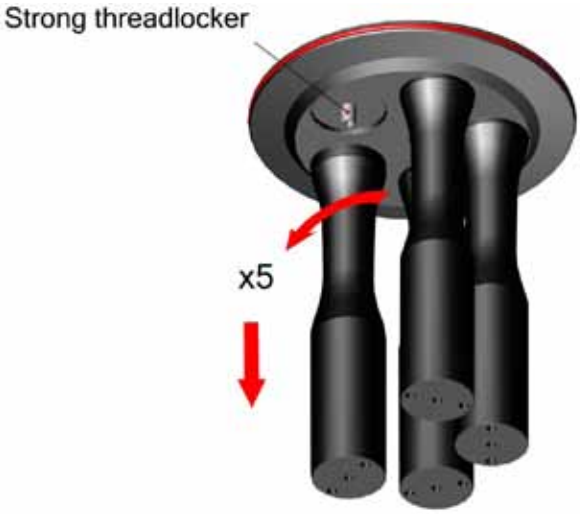
8. Unscrew 4 nuts and remove 4 washers to remove the base from the deck (opposite procedure of the section #10 of this manual):



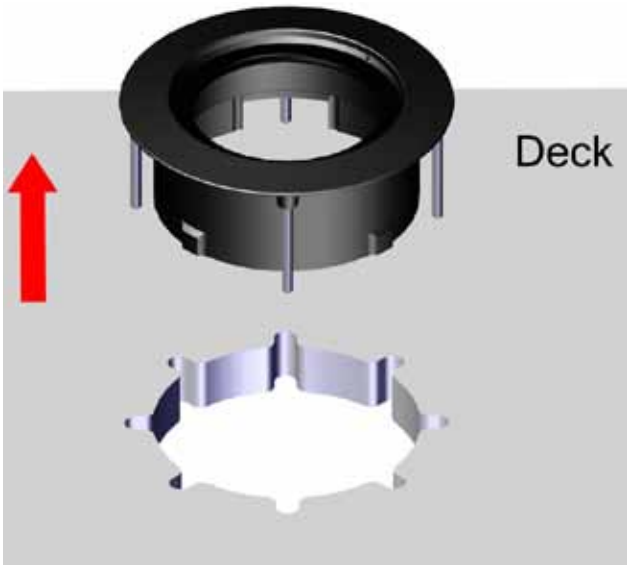
9. Flush deck operation - Remove the drum support and extract the top and the coloumns:

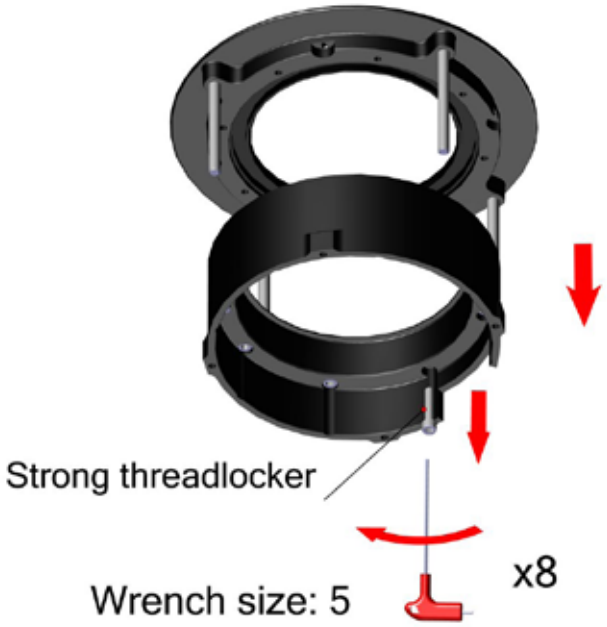


10. Flush deck operation -Unscrew the coloumns from the top:



11. Bench operation - Extract the base from the deck and unscrew n°8x M6x30 socket head screws to remove the base from the top:

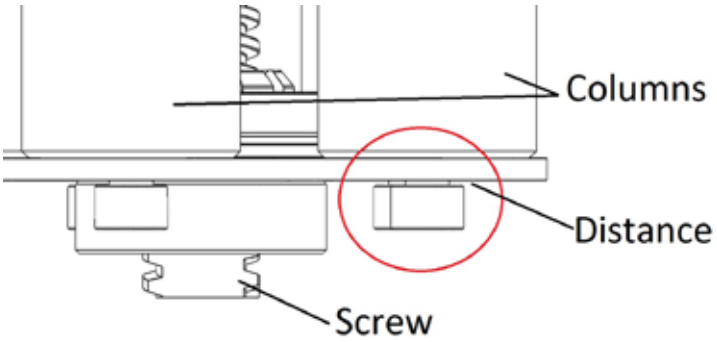




9.4 Assembly

Assemble the winch in the reverse order of the sequence in the section of the disassembly.

NOTE!
Once the screwing of the columns is completed, the distance between flange and the head of the screws is an essential design aspect for the proper mechanical working of the Winch.



In case of doubt concerning the assembly procedure contact Harken® Tech Service at techservice@harken.it

10. Harken limited worldwide warranty

Harken Winch is covered by a warranty: if during the warranty period the winch proves defective or suffers breakages, the manufacturer, after checking the device, will repair or replace the defective components as indicated in the warranty.

NOTE!
Refer to the Harken® Limited Worldwide Warranty in the Harken Catalogue and on the website www.harken.com

11. Ordering spare parts

Spare parts can be requested from Harken® as described in the Harken® Limited Worldwide Warranty, indicating the part number in the parts list and including the serial number of the winch for which the parts are required. The serial number of the winch is sticked on the lateral side of the winch, as shown:

Manufacturer

Harken® Italy S.p.A.
Via Marco Biagi, 14
22070 Limido Comasco (CO) Italy
Tel: **(+39) 031.3523511**
Fax: **(+39) 031.3520031**
Email: **info@harken.it**
Web: **www.harken.com**

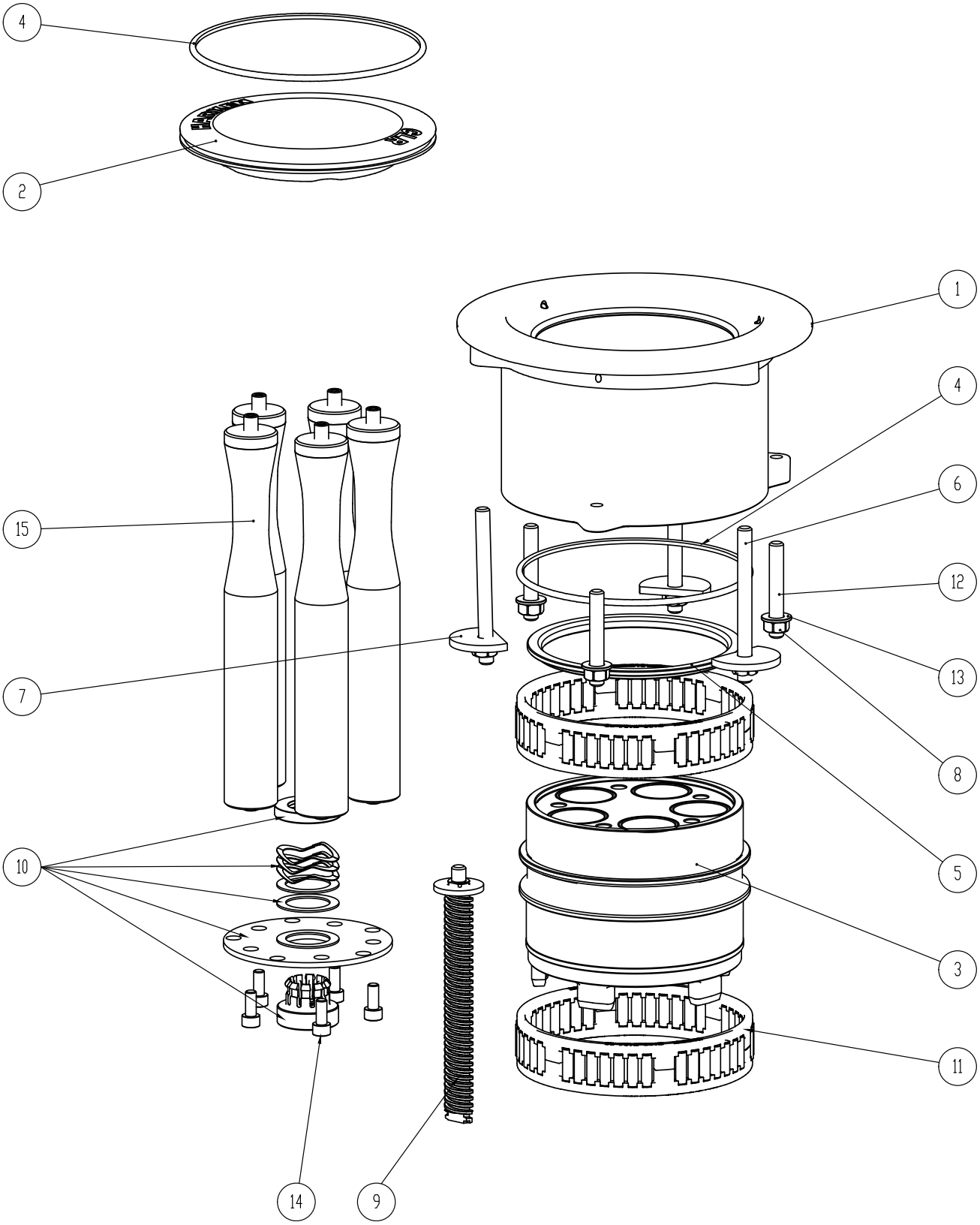
- **Tech Service**
  Email: **techservice@harken.it**
- **Customer Service**
  Tel: **(+39) 031.3523511**
  Email: **info@harken.it**

Headquarters

Harken®, Inc.
1251 East Wisconsin Avenue
Pewaukee, Wisconsin 53072-3755 USA
Tel: **(262) 691.3320**
Fax: **(262) 691.3008**
Email: **harken@harken.com**
Web: **www.harken.com**

- **Tech Service**
  Email: **technicalservice@harken.com**
- **Customer Service**
  Tel: **(262) 691-3320**
  Email: **customerservice@harken.com**

12. Exploded view - CLR Mooring Winch 600



13. Parts List - CLR Mooring Winch 600

Aluminum version

Pos.	Q.ty	Code	Description
1	1	S713950053	Support
2	1	S713970053	Cover
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

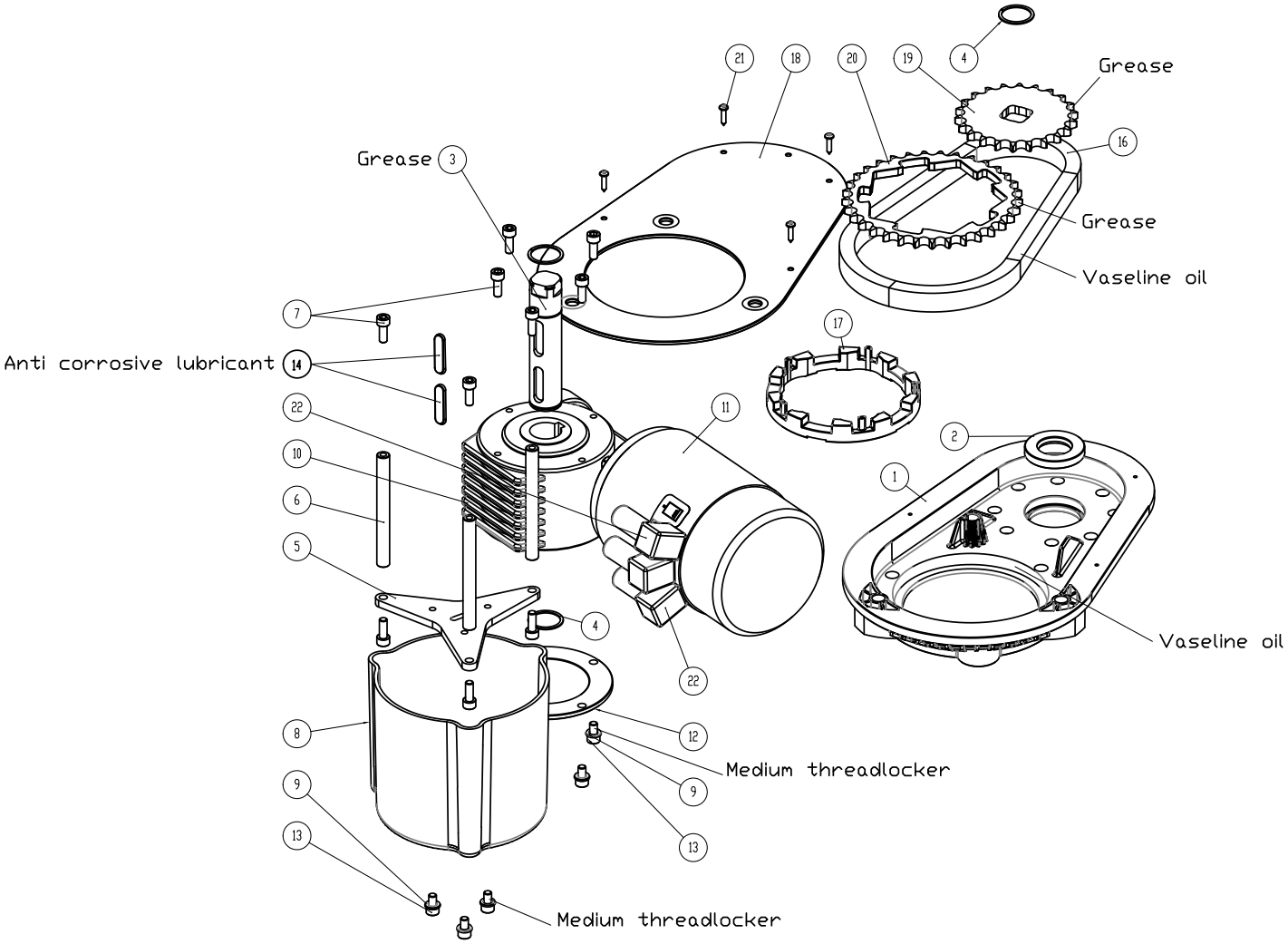
Chrome version

Pos.	Q.ty	Code	Description
1	1	S713950043	Support
2	1	S713970043	Cover
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

Wood grain version

Pos.	Q.ty	Code	Description
1	1	A97137900	Kit for Teck version
	1	S713800053	Support
	1	S713780003	Cover
	1	S713790003	Flange for support
2	-	-	-
3	1	A97139600	Hub assembly
			Hub
	10	M6076894	Bushing Ø30xØ34x49
	1	S713810081	Bushing Ø8xØ32x10
4	2	S7138300B6	O-RING Ø126,59XØ3,53 RED
5	1	S713920080	Bushing
6	3	S708330003	Threaded bar M8x90
7	3	S708320003	Washer Ø8,5xØ40x4
8	6	M0602903	Nut M8 UNI 5588
9	1	A97138200	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ22x3 square hole
			Elastic ring D6-UNI7434-DIN6799 A4
10	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer Ø25,5xØ35x1
			Washer Ø25xØ35x2
			Wave spring
11	2	A77139400	Roller Bearing Ø122xØ134x30
12	3	S427170003	Stud screw M8x55
13	3	M648703	Washer Ø8 ISO 7089
14	5	M0606803	Screw M6x14 UNI 5931
15	5	A77139800	Bar assembly
			Bar Ø30
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

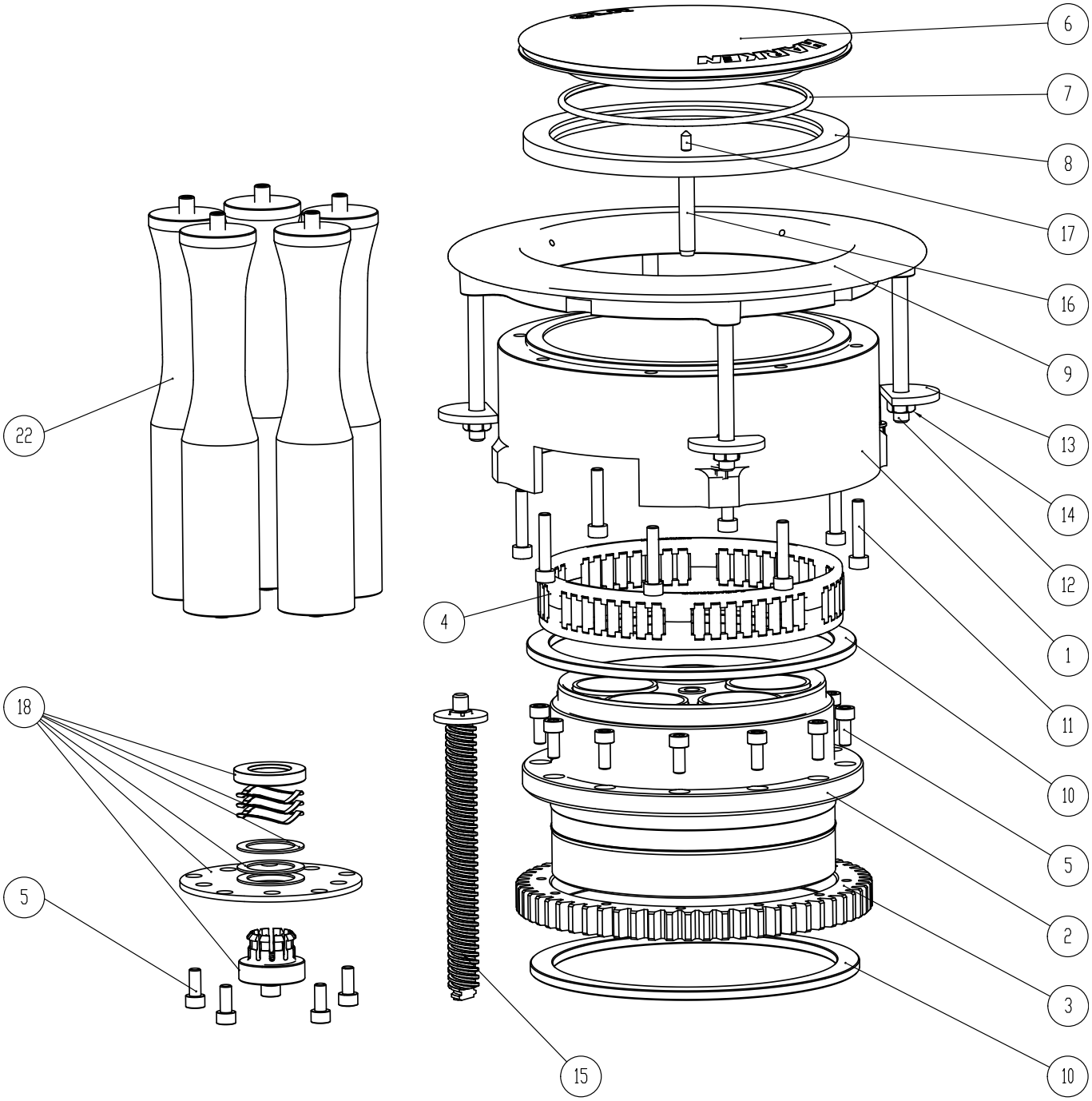
14. Electric Motor - CLR Mooring Winch 600



Pos.	Q.ty	Code	Description
1	1	S7139100B7	Gearbox support
2	1	M0620697	Seal Ø25xØ47x7
3	1	S713900004	Shaft
4	3	M0630401	Elastic retaining ring shaft Ø25x1,07
5	1	S708280002	Plate
6	3	S708270002	Rod Ø10 L=100
7	10	S415360003	Screw M6x16 UNI EN ISO precote coating
8	1	S708250063	Cover
9	7	M0621303	Washer Ø6
10	1	A77137600	Black painted gear box 1/45
11	1	A96015400	KIT EL Motor 12V 0,7kW
			Motor 12V 0.7 kW
			Sticker motor
	4	S312810002	Screw stud M6x26
	4	M0621303	Washer Ø6
	4	M0620803	Nut M6 UNI5588
	1	M6014206	Key DIN 6885 5x5x15

Pos.	Q.ty	Code	Description
12	1	S690200080	Flange
13	7	M0639103	Screw M6x10 UNI 5931
14	2	M0640403	Key 8x7x32
15	1	S362670082	Drain plug
16	1	S713870003	Chain
17	1	S713840080	Thrust bearing
18	1	S713860052	Cover
19	1	S713890002	Pinion Z22 DIN_08B_1_8187_1
20	1	S713880002	Gear Z33 DIN_08B_1_8187_1
21	4	M6037302	Screw ISO 7049 (DIN7981) 3,5x16
22	3	M6079597	Pipe

15. Exploded view - CLR Mooring Winch 1200



16. Parts Lists - CLR Mooring Winch 1200

Aluminum version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S708380053	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S708360053	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8,5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

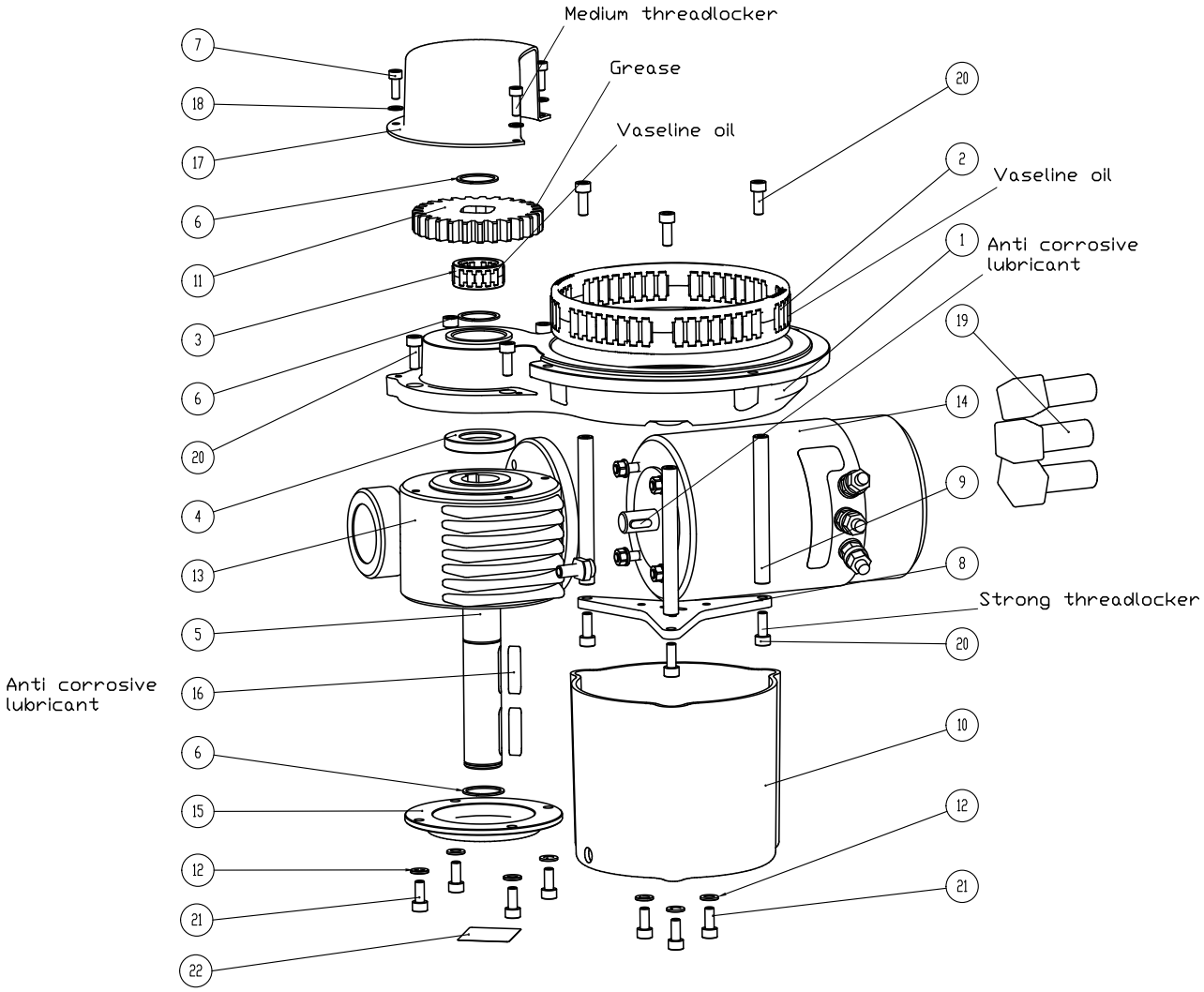
Chrome version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S708380043	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S708360043	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8.5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

Wood grain version

POS.	QTY.	Code	Description
1	1	S708440052	Base
2	1	A97084300	Hub Assembly
			Hub
	10	M6071294	Bushing Ø40xØ44x40
	1	M0673394	Bushing 0810-09
	1	S713810081	Bushing Ø8xØ32x10
3	1	S708410052	Ring gear Z=60
4	1	A74158900	Roller bearing Ø148x160x30
5	17	M0606803	Screw M6x14 UNI 5931
6	1	S712720003	Cover
7	1	S7138300B6	O-RING OR 4500 126,59X3,53 RED
8	1	M6071197	Lip seal Ø140xØ170x8
9	1	S712710003	Flange
10	2	S708420080	Washer Ø172xØ148,5x5
11	8	M0624203	Screw M6x30
12	4	S708330003	Threaded bar M8x90
13	4	S708320003	Washer Ø8.5xØ40x4
14	4	M0602903	NUT M8 - UNI 5588 - A4
15	1	A97083500	Screw assembly
			Screw Tr 16x8 LH
			Plain washer DIN 440V 9xØ28x3 square hole
			BENZING D6 -UNI7434-DIN6799 A4
16	1	M6075903	Straight pin ISO 8735B Ø8x50
17	1	M0643402	Set screw M5x10 UNI 5927
18	1	A77083400	Clutch assembly
			Nut Tr 16x8 LH
			Flange
			Bushing Ø22,5/35,5xØ37,5x6/2
			Washer 25,5x35x1
			Washer 25x35x1
			Wave spring
19	3	S312810002	Screw stud M6x26
20	3	M 06213 03	Washer Ø6
21	3	M0620803	Nut M6 UNI5588
22	5	A77084000	Bar Assembly
			Bar Ø40
			Set screw M8x20 UNI 5923
			Spacer 6x8x5,5

17. Electric Motor - CLR Mooring Winch 1200



Pos.	Q.ty	Code	Description
1	1	A77083000	Assy gearbox support
			Gearbox support
	1	S402010004	Bushing Ø39xØ32x22
2	1	A74158900	Roller bearing Ø148x160x30
3	1	A74506900	Bearing Ø25xØ35x15
4	1	M0620697	Seal Ø25xØ47x7
5	1	S708290004	Shaft
6	3	M0630401	Elastic retaining ring shaft Ø25x1,07
7	3	M0638803	Screw M5x14 UNI 5931
8	1	S708280002	Plate
9	3	S708270002	Rod Ø10 L=100
10	1	A77082500	Cover assembly for CLR
	1	S708250063	*Cover*
	1	S362670082	*Drain plug*
11	1	S708260004	Gear Z=27
12	7	M0621303	Washer Ø6

Pos.	Q.ty	Code	Description
13	1	A77137600	Black painted gear box 1/45
14	1	A96010600	KIT EL Motor 24V 2kW
			Motor 24V 2 kW
			Sticker motor
	4	S312810002	Screw stud M6x26
	4	M0621303	Washer Ø6
	4	M0620803	Nut M6 UNI5588
	1	M6014206	Key DIN 6885 5x5x15
15	1	S690200080	Flange
16	2	M0640403	Key 8x7x32
17	1	S712660063	Gear cover
18	3	M0621103	Washer Ø5
19	3	M6079597	Pipe
20	10	S415360003	Screw M6x16 UNI EN ISO 5931:2003 precote coating
21	7	M0606803	Screw M6x14 UNI 5931
22	1	S477440063	Sticker for gearbox