

Installation and Maintenance Manual

MRPW50.3/55.3 - Mod.A

Performa™ Winch

50.3 STP

55.3 STP



HARKEN®

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Introduction

This manual gives technical information on winch installation and maintenance, including disassembling and reassembling.

This information is DESTINED EXCLUSIVELY for specialised personnel or expert users.

Installation, disassembling and reassembling of the winch by personnel who are not experts may cause serious damage to users and those in the vicinity of the winch.

Harken® accepts no responsibility for defective installation or reassembly of its winches.

In case of doubt the Harken® Tech Service is at your disposal at 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.

Technical characteristics

50.3 STP

	Power ratio	Gear ratio
1st speed	4.3 : 1	1 : 1
2nd speed	11.2 : 1	2.4 : 1
3rd speed	50.8 : 1	10.9 : 1

The theoretical power ratio does not take friction into account.

55.3 STP

	Power ratio	Gear ratio
1st speed	4.3 : 1	1 : 1
2nd speed	11.2 : 1	2.4 : 1
3rd speed	55.2 : 1	11.8 : 1

Weight

	50.3 STP	55.3 STP
weight (Kg)	6.9	6.9

Maximum working load

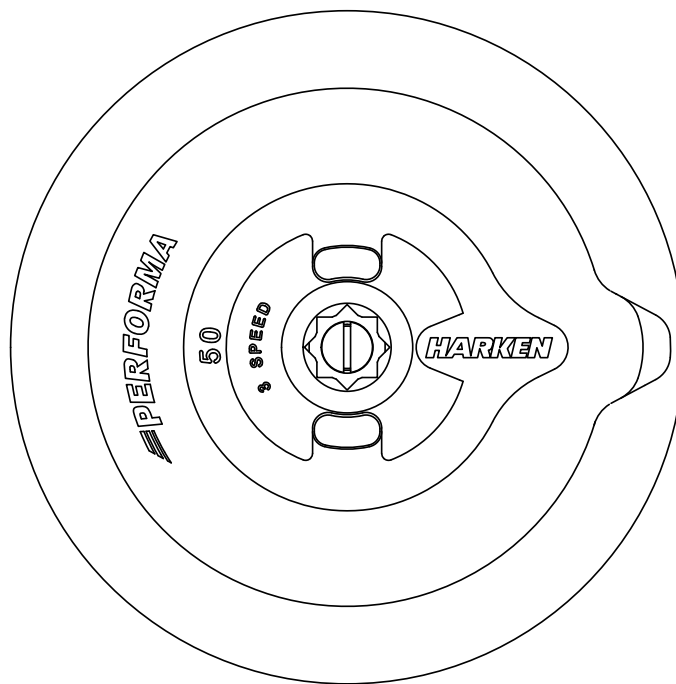
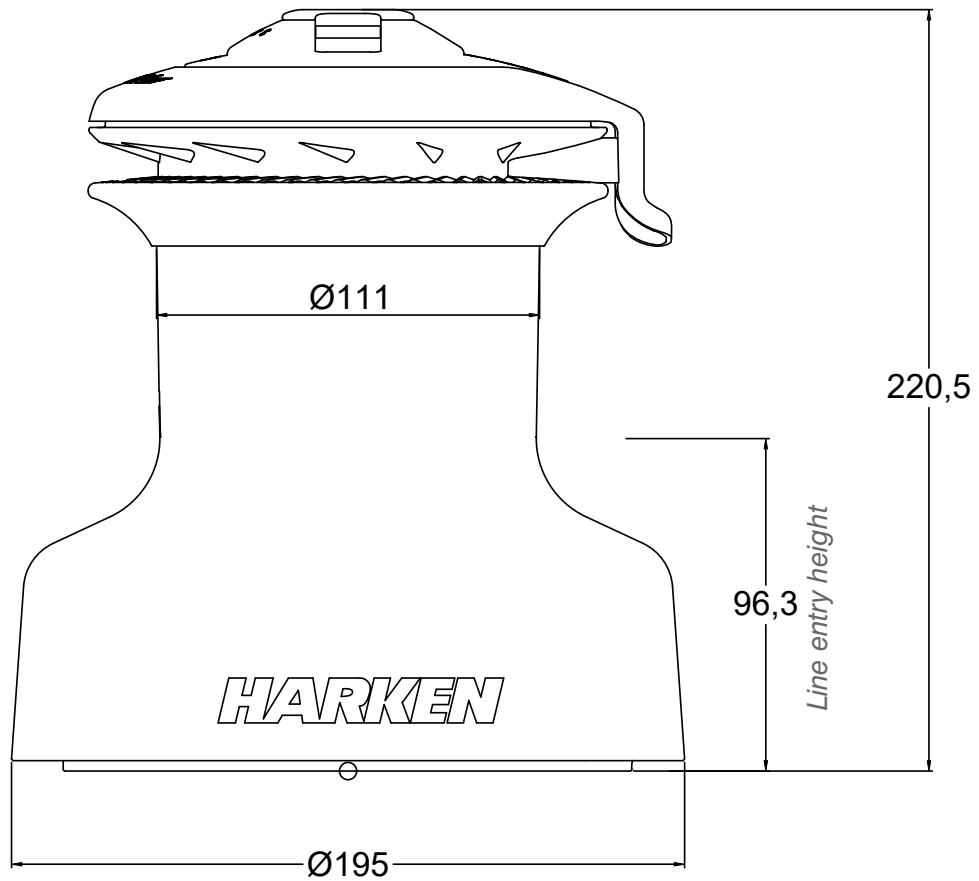


WARNING!

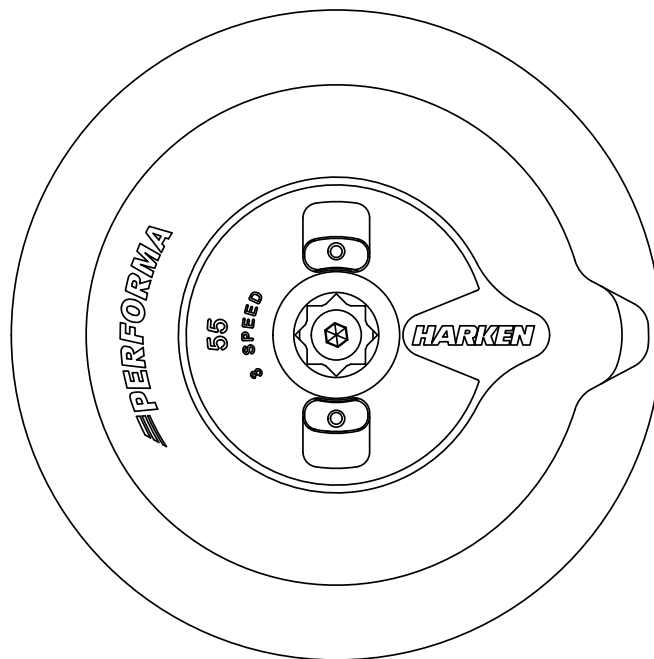
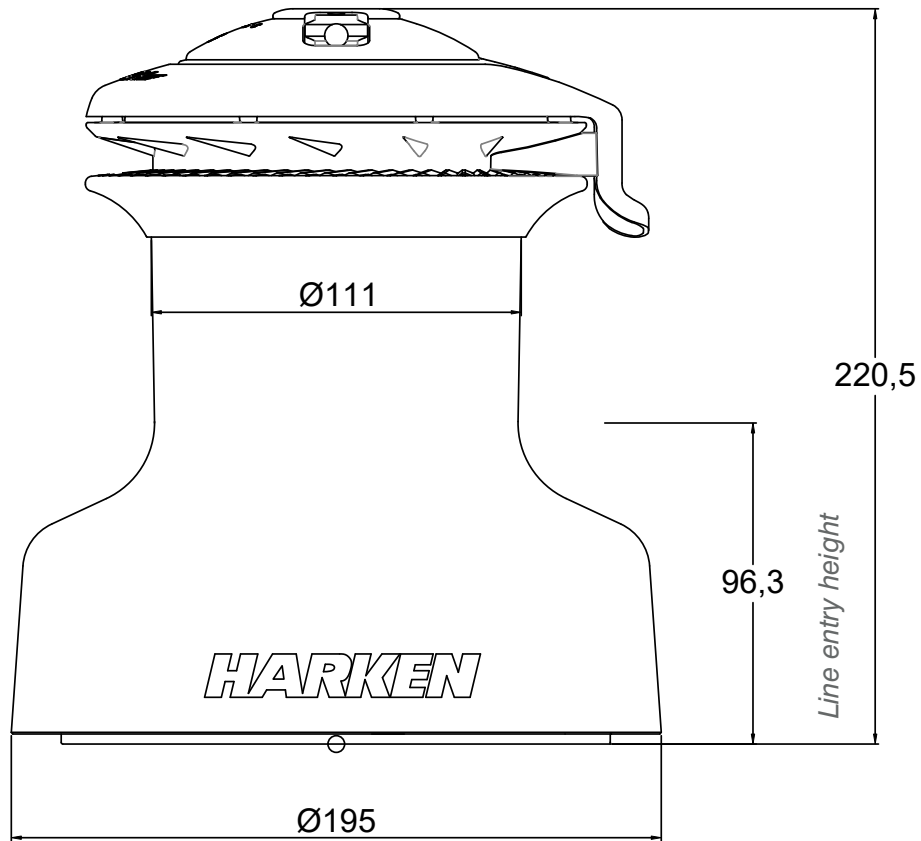
The maximum working load (MWL) for the 50.3 ST Performa™ Winch and for the 55.3 ST Performa™ Winch is 1450 Kg (3197 lb).

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

50.3 STP



55.3 STP



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® does not supply the screws needed to install the winch since these may vary depending on the deck on which it is to be installed.

It is the installer's responsibility to choose the correct screws taking account of the loads they will have to bear.

Harken® assumes no responsibility for incorrect installation of its winches or for an incorrect choice of mounting screws.



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.



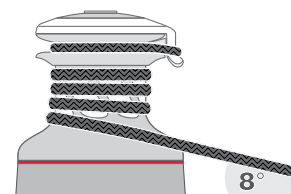
WARNING!

Failure to use the correct number and type of mounting fasteners or failure to ensure the correct deck strength can result in the winch pulling off the deck suddenly and unexpectedly during high loads causing severe injury or death.



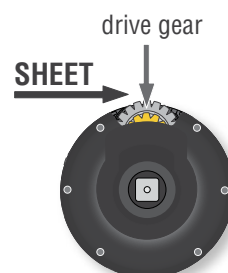
WARNING!

Verify the entry angle of the sheet. This must be 8° with tolerance of $\pm 2^\circ$, to avoid sheet overrides and damaging the winch or making the winch inoperable leading to loss of control of the boat which can lead to severe injury or death.



WARNING!

Mount the winch on the deck so that the drive gear is positioned where the sheet enters the winch drum. Incorrect position of drive gear can weaken winch leading to failure which can cause an accident leading to severe injury or death.



After correctly positioning the final pinion with respect to the load, check that the motor, gearing, electrical wiring and/or hydraulic pipes can be housed below decks. To help find the optimal compromise, remember that, to make the installation of the motor easier, it can be coupled to the winch in different positions.

Once you have decided the correct mounting position for the winch on the deck and checked the space available below deck, proceed with the installation.

Installation procedure

To install the winch, remove the drum and use Socket Head (SH) bolts.

Torque to be applied in assembly phase.



1. Unscrew the M8 central screw
 40Nm



2. Slide off the socket and the covers



3. Unscrew the three M6 screws
16Nm



4. Remove the stripper arm



5. Lift off the drum

Install the winch on the deck in the position you have chosen, keeping in mind the limits described above and using socket head (SH) bolts.

Winch installation procedure

Carry out the **Procedure**, then install the winch on the deck in the chosen position.

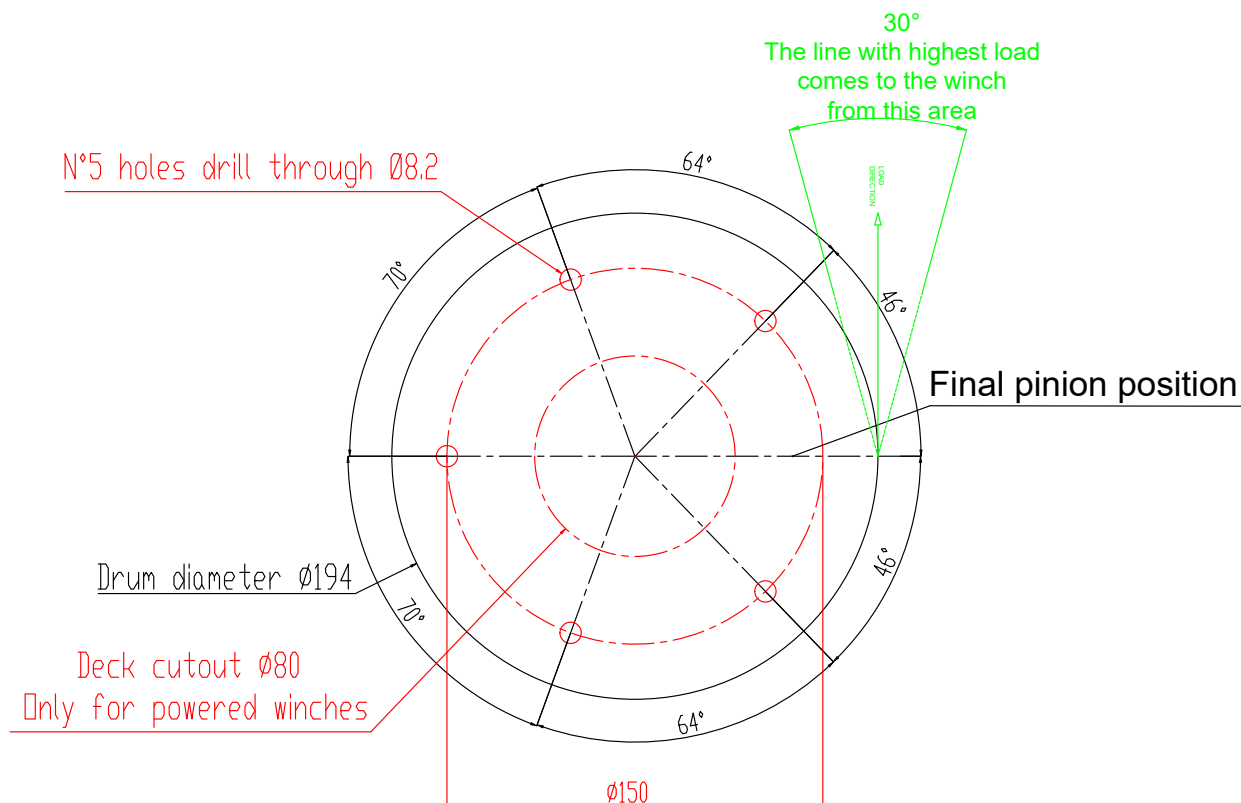
NOTICE

Before drilling the deck, check the space available below deck for the flange and the motor

- A. Position the base of the winch on the deck and mark the position of the holes or use the drilling cut-out template at the point where you have decided to place the winch.

Below is a reduced scale diagram.

The drilling cut out template is available on the Harken® website, www.harken.com



- B. Remove the winch and drill the five 8.2mm diameter holes.
- C. Bolt the base of the winch to the deck using five M8 Socket Head (SH) bolts (not supplied by Harken®), correctly chosen for the thickness and type of the boat deck. Consult the yard that built the boat in case of doubt.



WARNING!

To install the winch on the deck, use only bolts in A4 stainless steel (DIN 267 part11). Bolts made of other materials may not have sufficient strength or may corrode, which can result in winch pulling off deck suddenly and unexpectedly during high loads causing severe injury or death.

NOTICE

To mount winches on the deck, do not use countersunk bolts.

- D. Fill the mounting holes with a suitable marine sealant.
- E. Remove the excess adhesive/sealant from the holes and base drainage channels
- F. Reassemble the winch following the steps of the **Procedure** in the reverse order, and apply the products indicated in the section on maintenance.

NOTICE

Before closing the winch, make sure the holes and drainage channels in the base of the winch are not obstructed.

Positioning the self-tailing arm

Position the self-tailing arm so that the line leaving the winch is led into the cockpit.

After winch is assembled and before sailing, test the winch functioning: insert the lock-in winch handle in the handle socket and check that the rotation of the winch

Maintenance

Washing

Winches must be washed frequently with fresh water, and in any case after each use.

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, on the stickers on the winches or on any anodized, chrome plated and plastic surfaces.

Make sure that the holes and drainage channels in the base of the winch are not obstructed so that water does not collect.

Maintenance table

Winches must be visually inspected at the beginning and end of every season of sailing or racing. In addition they must be completely overhauled, cleaned and lubricated at least every 12 months. After an inspection, replace worn or damaged components. Do not replace or modify any part of the winch with a part that is not original.



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.

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







WARNING!

Make sure that the power is switched off before installing or carrying out maintenance on the winch.

Winch disassembly procedure

Tools needed


-  One medium flat-bladed screwdriver
-  A number five hex key
-  Brush
-  Rags

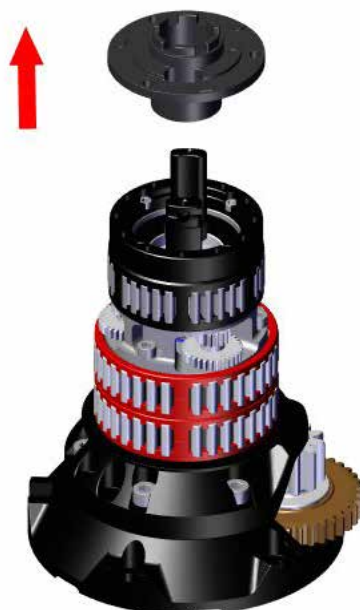
To identify the various parts refer to the exploded view at the end of this Manual.

 Torque to be applied in assembly phase

Carry out procedure as shown in the paragraph on winch installation and then do the following:



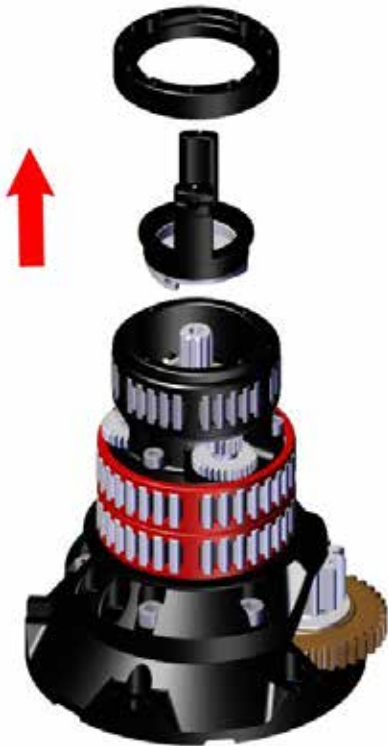
1. Completely unscrew the three M6 screws
 4Nm



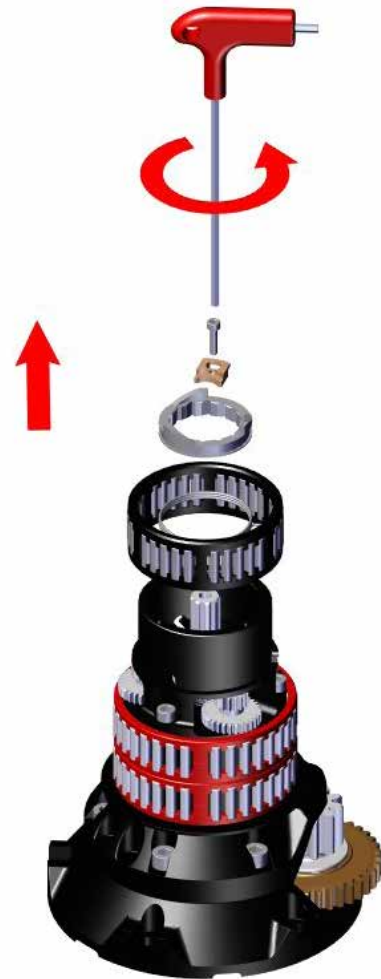
2. Remove the stripper arm support



3. Unscrew the four M4 screws



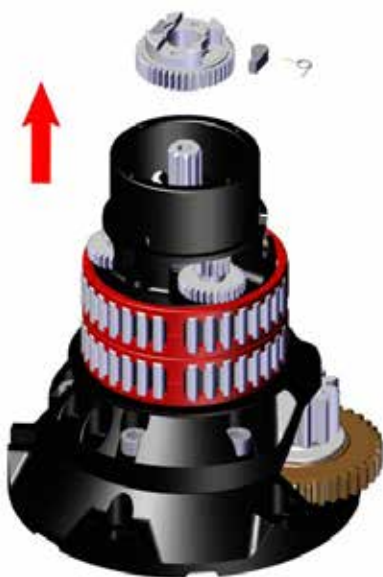
4. Remove the flange and the central disconnection button



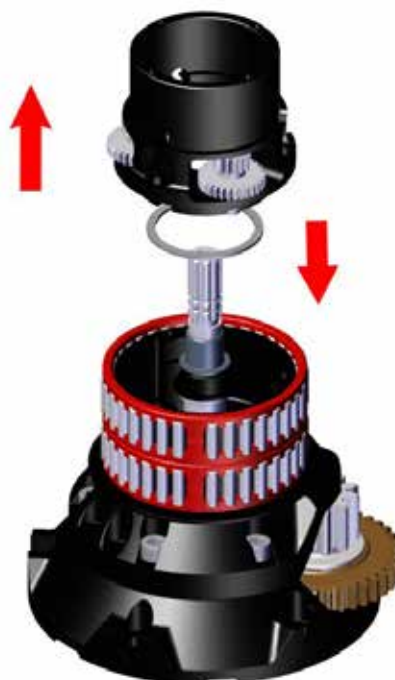
5. Unscrew the two M4 screws



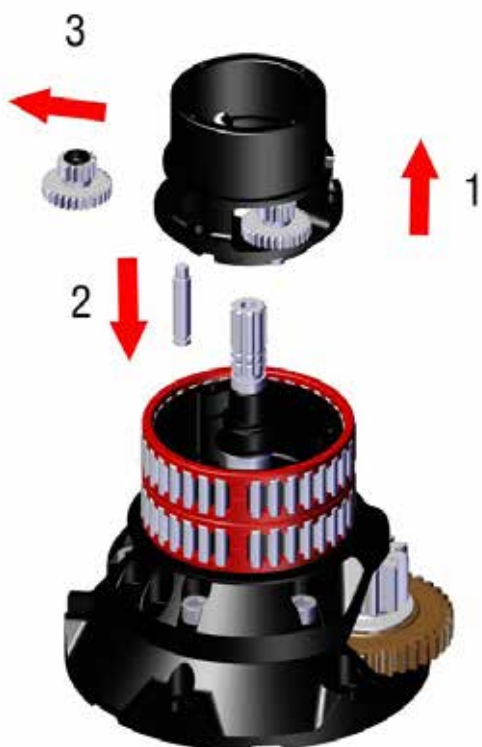
6. Unscrew the four M6 screws
16Nm



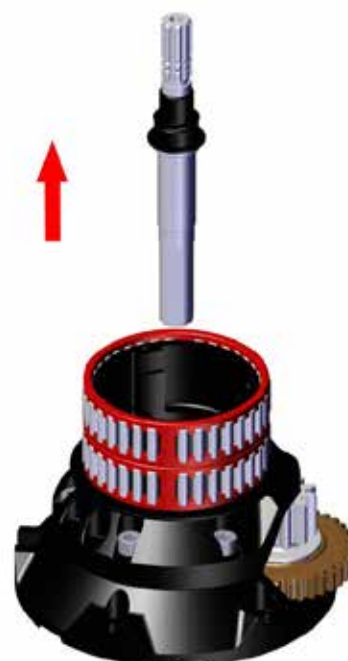
7. Slide off gear, the two pawls and springs



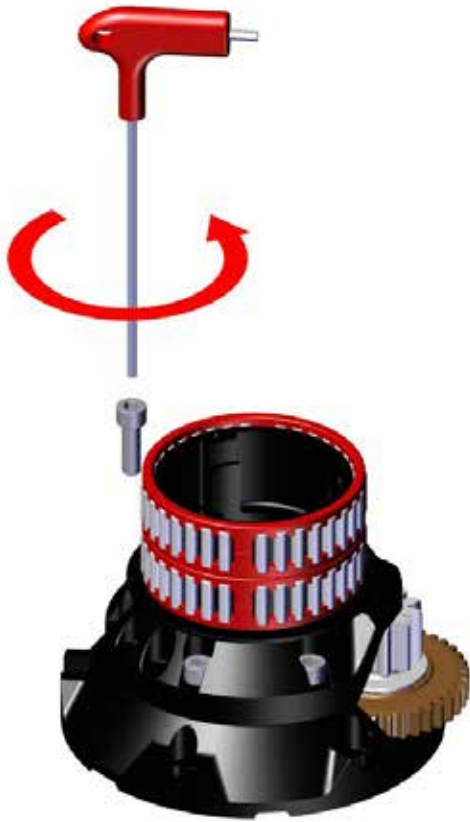
8. Slide off supports and the three assembly gears (satellites).
To remove the elastic ring, use a flat headed screw or a punch.



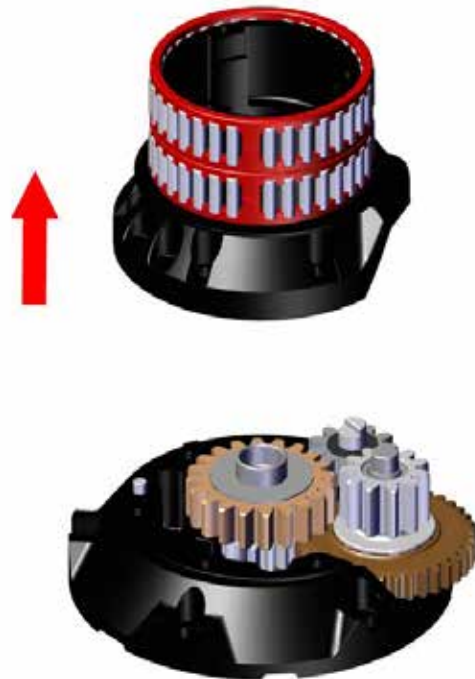
9. Slide out gears and pins in the pointed-out sequence



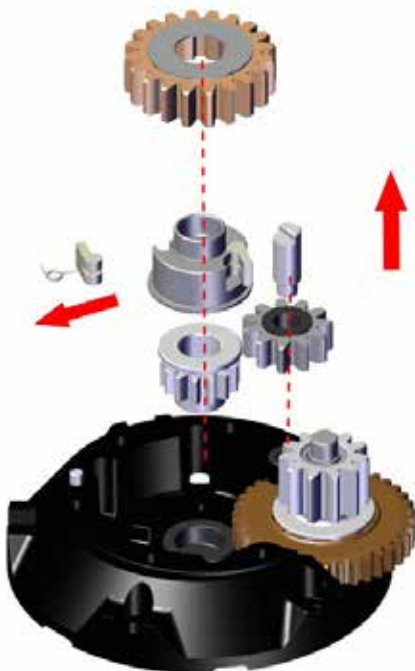
10. Slide off the central shaft



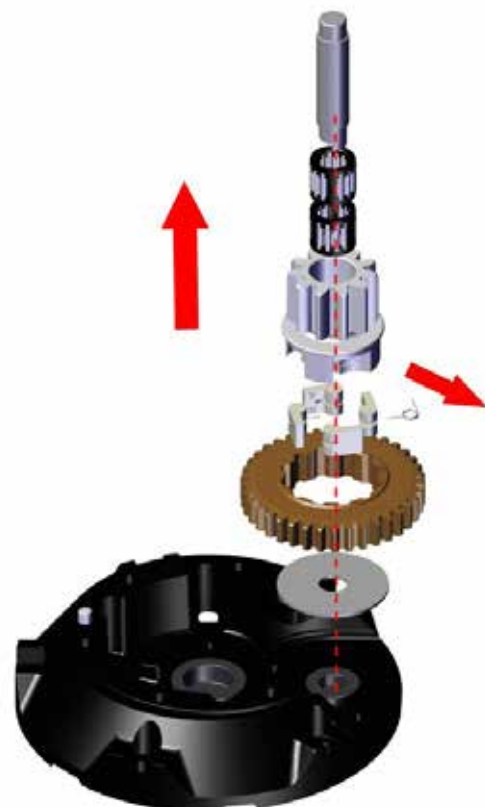
11. Unscrew the five M8 screws
20Nm



12. Remove the assembly housing



13. Slide off gears of the central axle
and of the idler axle

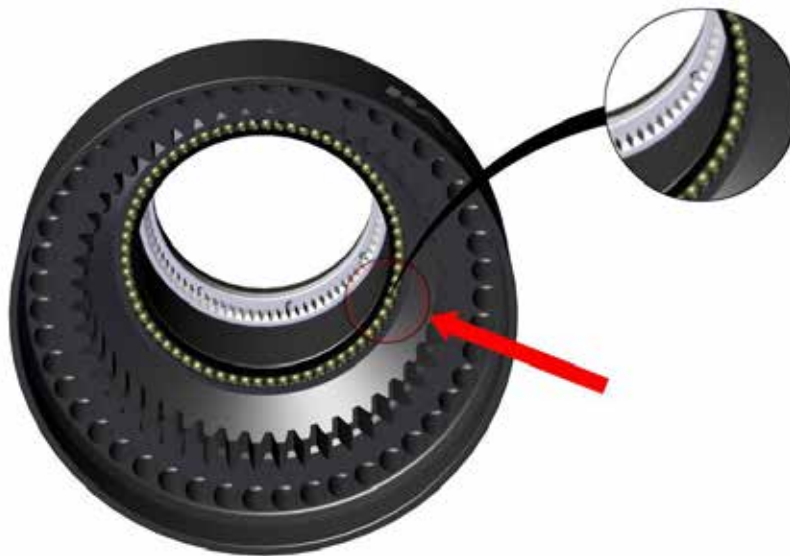


14. Slide off gears of the final axle.
Remove the four pawls and springs

If it is necessary to replace any jaws of the winch, proceed as follows:



Inspect balls inside the drum and carefully check the correct position; if it is necessary to put back any balls, push balls in the race (as shown below):



Once the winch is completely disassembled, clean the parts with a degreasing that does not leave residues, proper to clean metal components; rinse plastic parts in fresh water. Once you have done this, dry the parts with cloths that do not leave residue.

Inspect gears, bearings, pins and pawls for any signs of wear or corrosion.

Carefully check the teeth of gears and ring gears to make sure there are no traces of wear.

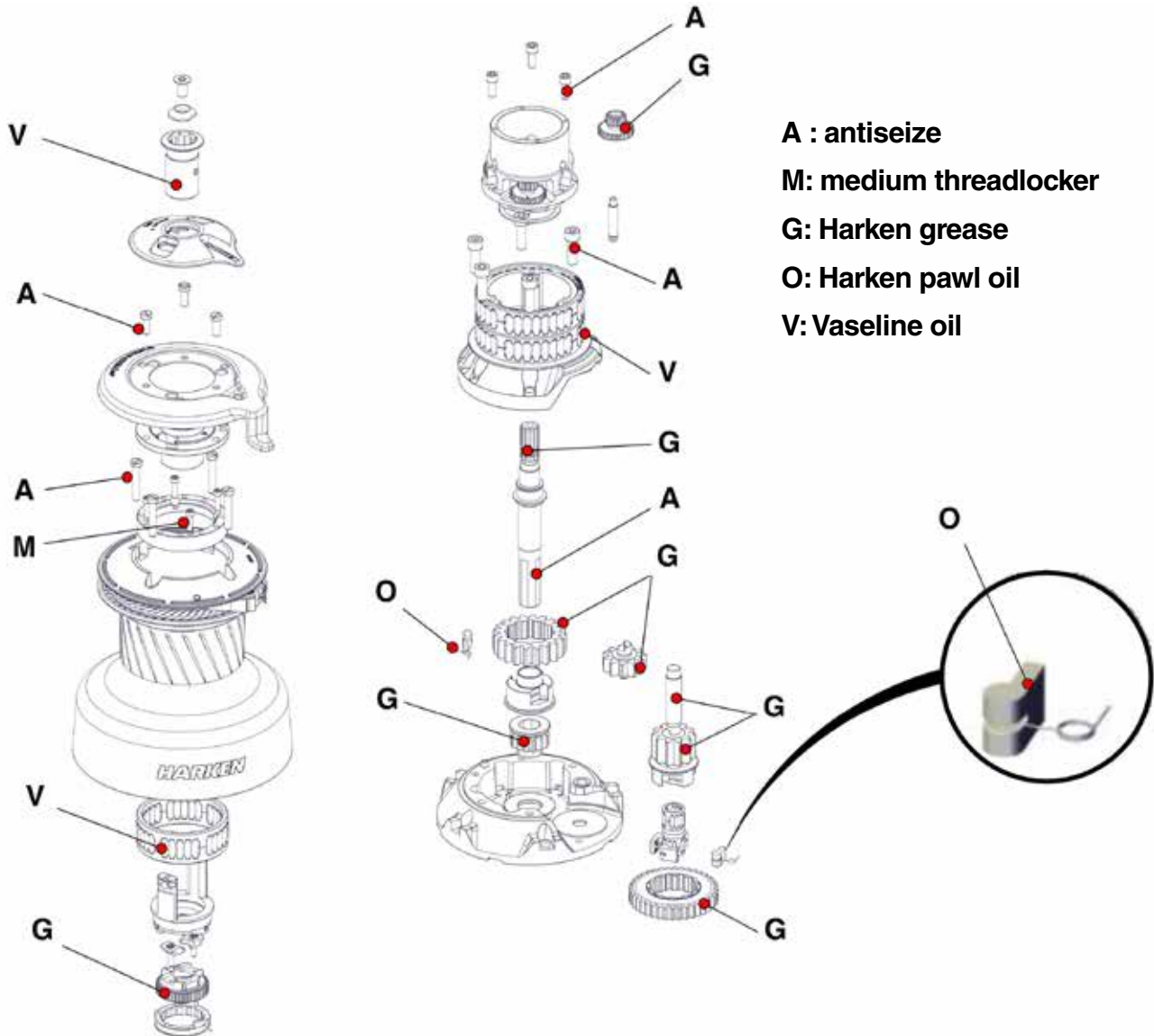
Check the roller bearings and check there are no breaks in the bearing cages.

Replace worn or damaged components.

Carry out maintenance on components using the products listed below.

For more information on which products to use where, refer to the exploded diagram below. Use a brush to lightly lubricate all gears, gear pins, teeth and all moving parts with grease. Lightly lubricate the pawls and springs with oil. Do not use grease on the pawls!

Winch exploded view with maintenance products



Apply Harken® grease where indicated above
 Apply Harken® grease: 1. on assy socket screw - 2. on washer

NOTICE

On every gear and every component that must be greased, apply Harken® grease with a brush in a proper quantity as shown below:



NOTICE

Harken® grease to apply on all teeth: do not use excessive quantity of product to void wastes. If in contact with the pawls, an excess of grease can compromise the safety of the winch.

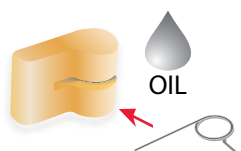
Winch assembly

Make sure that the holes and drainage channels in the base of the winch are not obstructed. Assemble the winch in the reverse order of the sequence in the section on disassembly.

To tighten bolts, use the torque indicated in the disassembly procedure.

NOTICE

If the jaws have been disassembled, insert peeler between the two jaws, taking care that the letters TOP on the peeler are facing upwards.



To assemble the pawls:

correctly position the spring in its housing as shown at left. Hold the spring closed and slide the pawl into its housing. Once in position, check that the pawls can be easily opened and closed with a finger.

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

Harken® limited worldwide warranty

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

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 printed on a plate on the drum support of the winch.



Manufacturer

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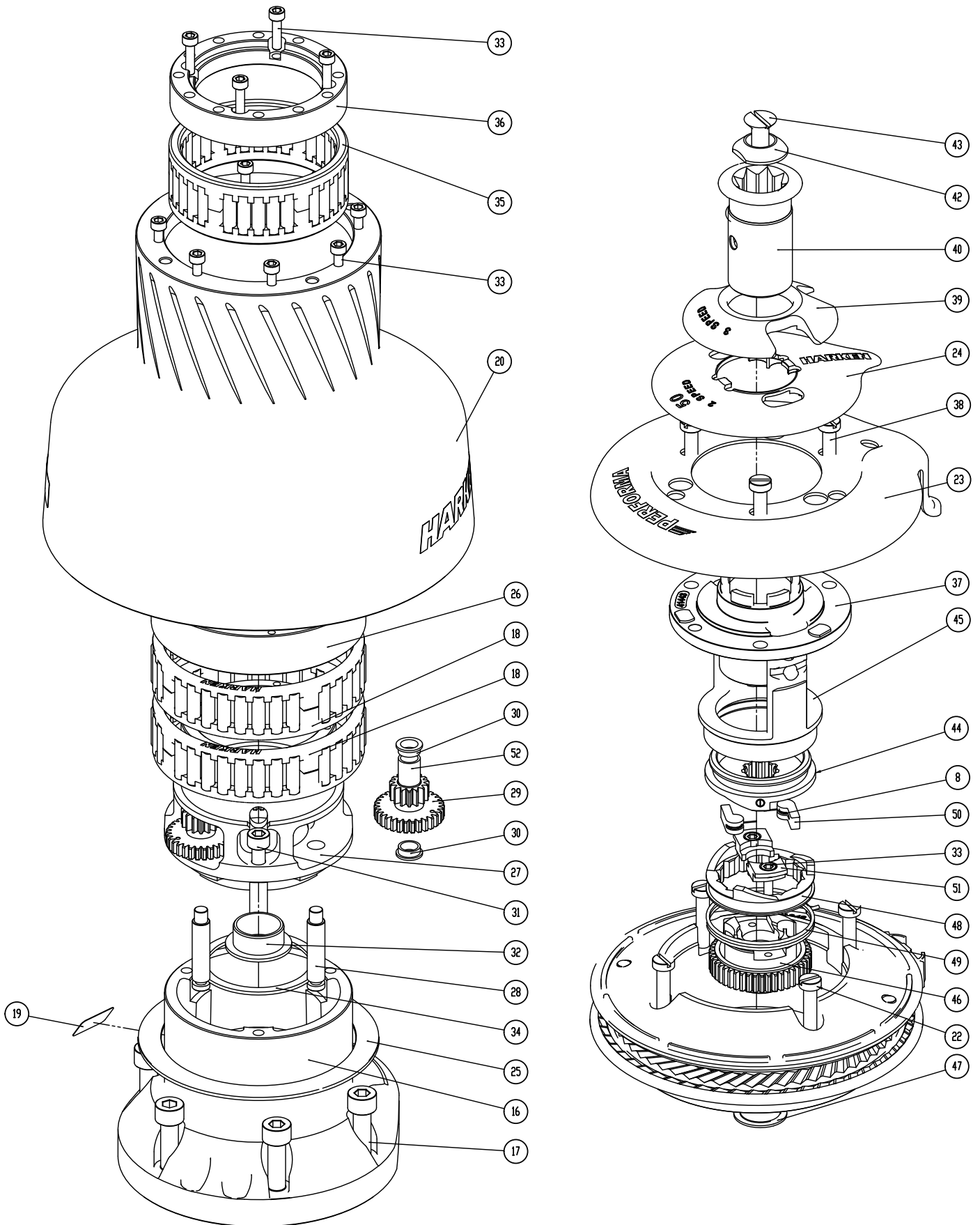
Headquarters

Harken®, Inc.

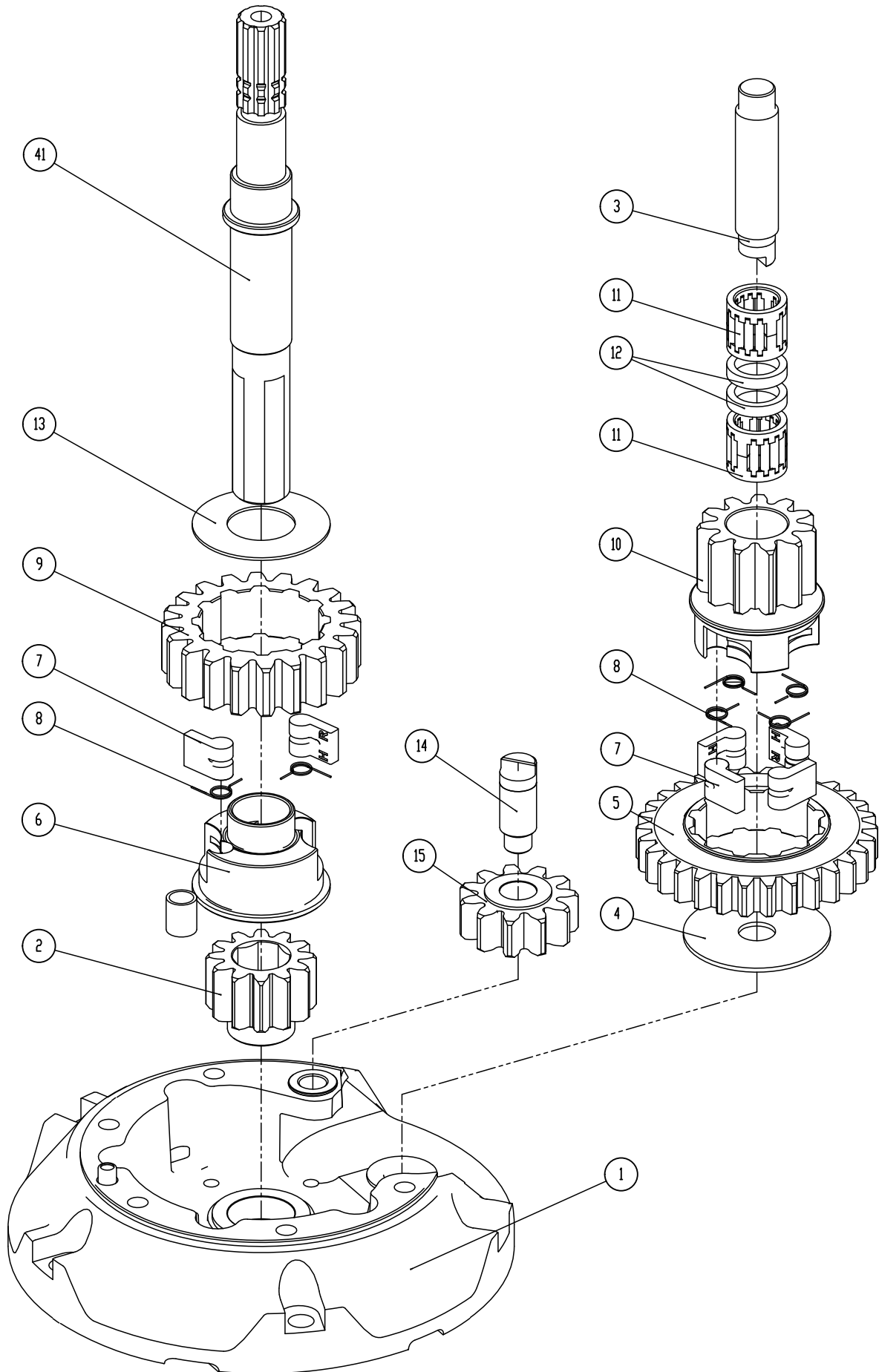
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Performa Winch 50.3 STP



Performa Winch 50.3 STP



Performa Winch 50.3 STP

Pos	Q.ty	Code	Description	Pos	Q.ty	Code	Description
1	1	A96633400	Performa assembly base Winch 50	21	1	A96807900	Performa assembly Jaws W50.3
			Performa base W50				Lower Jaw W50
	1	S413350080	Roller Ø6x19				Performa Upper jaw W50.3
	1	S4152300A7	Bushing Ø22xØ25x9.5		1	S414280080	Peeler W46 - 50
	1	S414890080	Bushing Ø9xØ11x7		4	S385970001	Spring
	1	S413330085	Bushing Ø12xØ14x11	22	4	M0601803	Screw UNI EN ISO 1207:1996 - M6x35 - A4
2	1	S413020004	Gear Z12	23	1	S680820019	Performa Black Stripepr Arm W50.3
3	1	S416050004	Pin	24	1	S6808400A5	Cover 50.3
4	1	S278170002	Washer Ø12.5xØ48x1.5	25	1	S657320052	Performa Shim W50
5	1	S412800041	Gear Z30	26	1	S680750004	Ring gear Z=90
6	1	S414260004	Pawls Carrier Ø8xN2	27	1	S680730052	Stripper arm support 50.3
7	6	S000090004	Pawl Ø8	28	3	S680760002	Pin Ø8
8	8	S000380001	Pawl spring Ø8	29	3	S680740004	Gear Z=30 Z=15
9	1	S415590041	Gear Z20	30	6	M6049294	Bushing Ø8xØ10x12-04
10	1	S415610004	Pinion Z11	31	3	M0635103	Socket head screw M6x16 UNI 5931
11	2	A72821800	Roller Bearing Ø14xØ20x18	32	1	M0604194	Bushing Ø20xØ23x11
12	2	S281340080	Spacer roller bearings	33	14	M0624103	Screw M4x16 UNI5931
13	1	S413120002	Washer Ø22.5xØ45x1	34	1	M0630701	Elastic retaining ring shaft Ø50x1,57
14	1	S413070004	Pin Ø9xØ12x32.5	35	1	A73746200	Bearing Ø70xØ82x30
15	1	A94156000	Assembly Gear Z11	36	1	S680870052	Flange
			Gear Z11	37	1	S4155700A0	Stripper arm support
	2	S414900080	Bushing Ø12xØ14x8	38	3	M0601903	Screw M6x16 UNI1207
16	1	A96807100	Assembly Housing Winch 50.3	39	1	S680830080	Cover 50.3
			Housing	40	1	S416520019	Socket Handle
	1	S414900080	Bushing Ø12xØ14x8	41	1	S680720004	Central shaft 50.3
	1	S413330085	Bushing Ø12xØ14x11	42	1	S415130085	Washer Ø7.7xØ25x5.8
			Bushing for support	43	1	M0614303	Screw M8x20 UNI 6109
17	5	M0606303	Screw M8x25 UNI 5931	44	1	A76808000	Assembly clutch 1st direct Winch 50.3
18	2	A74135100	Bearing Ø85xØ97x26	45	1	S680810080	Button 3 speed
19	1	S418760063	Winch Serial Number Sticker*	46	1	S680770004	Gear Z=45
20	1	A96572400	Performa W50 Drum	47	1	M0637394	Bushing Ø16xØ18x17
			Performa Drum W50	48	1	S680780004	Clutch 1st direct w50.3
	68	M0619580	Ball 3/16"	49	1	S377510001	Clutch spring
	1	S6573100A3	Performa Bearing ring W50	50	2	S396950004	Special pawl Ø8
			Winch Product Sticker**	51	2	S680880041	Insert
				52	3	M6020494	Bushing Ø8xØ10x12

*Available with service kit; see website www.harken.com

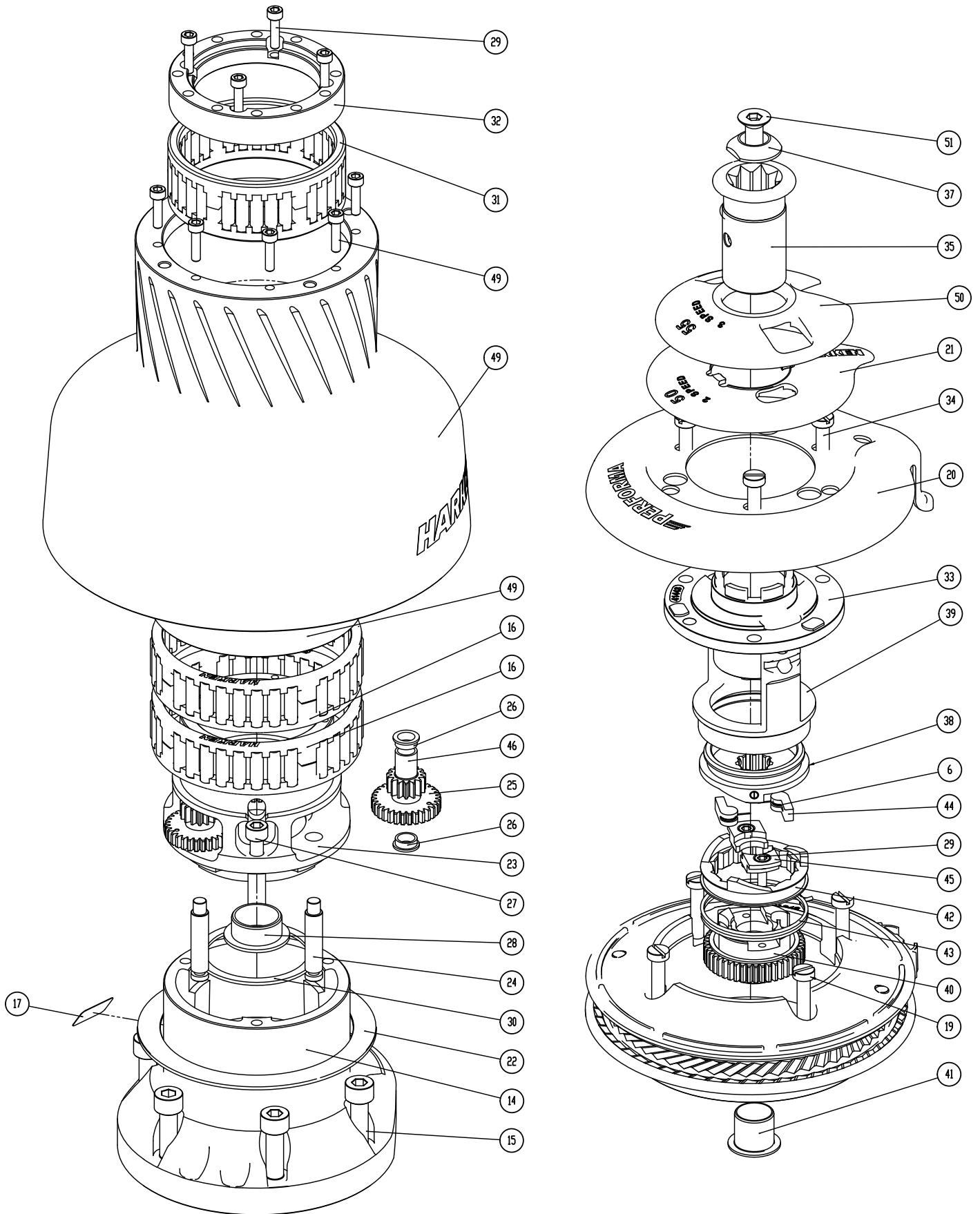
**Winch product sticker



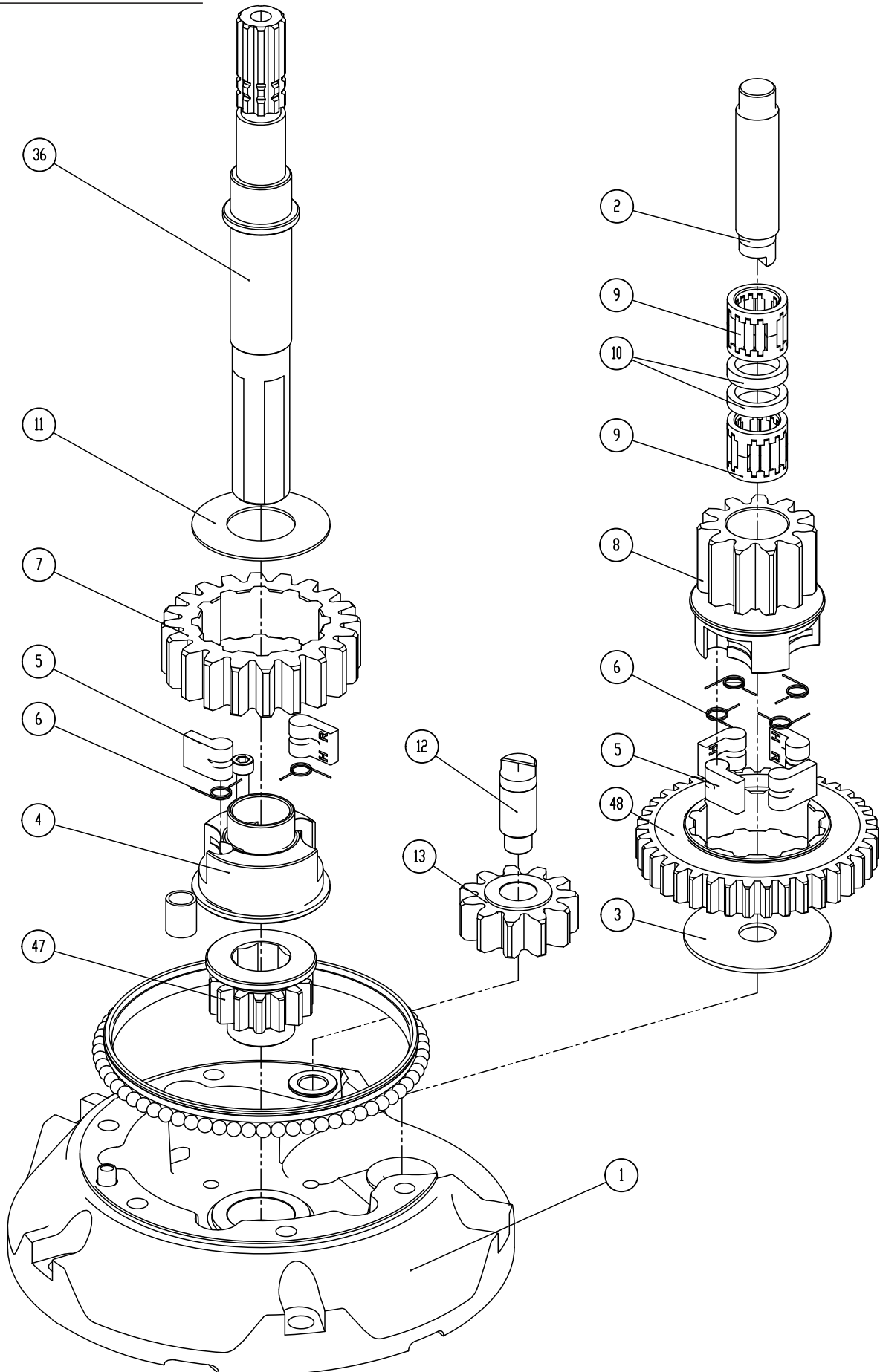
Exploded view 1/2

HARKEN

Performa Winch 55.3 STP



Performa Winch 55.3 STP



Performa Winch 55.3 STP

Pos	Q.ty	Code	Description	Pos	Q.ty	Code	Description
1	1	A96633400	Performa assembly base Winch 50	21	1	S6808400A5	Cover 50.3
			<i>Performa base W50</i>	22	1	S657320052	Performa Shim W50
	1	S413350080	Roller Ø6x19	23	1	S680730052	Stripper arm support 50.3
	1	S4152300A7	Bushing Ø22xØ25x9.5	24	3	S680760002	Pin Ø8
	1	S414890080	Bushing Ø9xØ11x7	25	3	S680740004	Gear Z=30 Z=15
	1	S413330085	Bushing Ø12xØ14x11	26	6	M6049294	Bushing Ø8xØ10x12-04
2	1	S416050004	Pin	27	3	M0635103	Socket head screw M6x16 UNI 5931
3	1	S278170002	Washer 12.5x48x1.5	28	1	M0604194	Bushing Ø20xØ23x11
4	1	S414260004	Pawls Carrier Ø8xN2	29	6	M0624103	Screw M4x16 UNI5931
5	6	S000090004	Pawl Ø8	30	1	M0630701	Elastic retaining ring shaft Ø50x1,57
6	8	S000380001	Pawl Spring Ø8	31	1	A73746200	Bearing 70/82/30 ertapeek
7	1	S415590041	Gear Z20	32	1	S680870052	Flange
8	1	S415610004	Pinion Z11	33	1	S4155700A0	Stripper arm support
9	2	A72821800	Roller Bearing Ø14xØ20x18	34	3	M0601903	Screw M6x16 UNI1207
10	2	S281340080	Spacer roller bearings	35	1	S416520019	Socket Handle
11	1	S413120002	Washer Ø22.5xØ45x1	36	1	S680720004	Central shaft 50.3
12	1	S413070004	Pin Ø9xØ12x32.5	37	1	S415130085	Washer Ø7.7xØ25x5.8
13	1	A94156000	Assy Gear Z11	38	1	A76808000	Assembly clutch 1st direct Winch 50.3
			<i>Gear Z11</i>	39	1	S680810080	Button 3 speed
	2	S414900080	Bushing Ø12xØ14x8	40	1	S680770004	Gear Z=45
14	1	A96807100	Assembly Housing Winch 50.3	41	1	M0637394	Bushing Ø16xØ18x17
			<i>Housing Winch 50.3</i>	42	1	S680780004	Clutch 1st direct w50.3
	1	S414900080	Bushing Ø12xØ14x8	43	1	S377510001	Clutch Spring
	1	S413330085	Bushing Ø12xØ14x11	44	2	S396950004	Special pawl Ø8
			<i>Bushing for support</i>	45	2	S680880041	Insert
15	5	M0606303	Screw M8x25 UNI 5931	46	3	M6020494	Bushing Ø8xØ10x12
16	2	A74135100	Bearing Ø85xØ97x26	47	1	S743640004	Gear Z14
17	1	S418760063	Winch Serial Number Sticker**	48	1	S743650041	Gear Z38
18	1	A96807900	Performa assembly Jaws W50.3	49	1	A96807500	Performa drum W50.3
			<i>Lower Jaw W50</i>		1	S680750004	Ring gear Z=90
			<i>Performa Upper jaw W50.3</i>				Performa Drum W50
	1	S414280080	Peeler W46 - 50			M0619580	Ball 3/16"
	4	S385970001	Spring		1	S6573100A3	Performa Bearing ring W50
19	4	M0601803	Screw UNI EN ISO 1207:1996 - M6x35 - A4		1	S418780063	Winch Product Sticker*
20	1	S680820019	Performa Black Stripepr Arm W50.3		8	M0624103	Screw M4x16 UNI5931
				50	1	S743660080	Cover 55.3
				51	1	M0666303	Screw UNI 5933:2003 - M8x16 - A4

*Available with service kit; see website www.harken.com

**Winch product sticker

