

MANUAL FOR ANDERSEN 9000STH BACKWIND



SERIAL NO.: PS0014831, PS0014827

CONGRATULATIONS

You have purchased an ANDERSEN high quality winch. This product is a result of many years of development and experience in producing winches for sailboats. This winch gives you a high degree of functionality and many years of safe and easy sail handling.

CONTENTS

GENERAL INFORMATION.....	4
FEATURES AND ADVANTAGES.....	5
SAFETY.....	5
MOUNTING INFORMATION	6
GENERAL SERVICE INSTRUCTIONS	7
ELECTRIC INSTALLATION.....	8
ELECTRIC CONNECTION SCHEME	9
HYDRAULIC INSTALLATION.....	10
HYDRAULIC WIRING DIAGRAM BACKWIND	11
GENERAL SERVICE INSTRUCTIONS	12
EXPLODED VIEW FOR WINCH 9000STH-B.....	13
SPARE PARTS LIST FOR WINCH 9000STH-B.....	14
EXPLODED VIEW FOR DRUM 9000STH-B	15
SPARE PARTS LIST FOR DRUM 9000STH-B	16
EXPLODED VIEW FOR UPPERBASE 9000STH-B	17
SPARE PARTS LIST FOR UPPERBASE 9000STH-B	18
EXPLODED VIEW FOR HYDRAULIC GEAR 9000STH-B	19
SPARE PARTS LIST FOR HYDRAULIC GEAR 9000STH-B	20
VIEW FOR BACKWIND HYDRAULIC COMPONENTS 9000STH-B.....	21
VIEW FOR BACKWIND HYDRAULIC COMPONENTS 9000STH-B.....	22
SPARE PARTS LIST FOR HYDRAULIC COMPONENTS 9000STH-B.....	23
LIMITED WARRANTY	24

GENERAL INFORMATION

Please read following before installing your new ANDERSEN hydraulic winch.

The Andersen Mega winch combines high performance with a high rate and efficiency.

HYDRAULIC FLOW

Unloaded the winch require following:

9000STH:

MAX speed: 1 Meter / min. requires 0.95 Litre / min. (Flow= Req. line speed x 0,95)

MIN speed: 1Meter / min. requires 4.73 Litre / min. (Flow= Req. line speed x 4,73)

Max line speed recommended is 25 m / min

PRESSURE

Max working pressure is 240bar

WEIGHTS

9000STH-B: 212 kg

FEATURES AND ADVANTAGES

Materials:

The ANDERSEN Mega Yacht Winches is fabricated in Stainless steel and Aluminium bronze. External surfaces are made of highly polished AISI 316.

Gearbox:

The Built-in Hydraulic gearbox is running in an oil-bath to reduce maintenance to the minimum. The gearbox is designed as an epicyclical gearbox in tough hardened steel. The gearbox contains 0.75 Litre of ©Castrol Syntax universal 75W/90 gearoil

Self Tailing:

The Stripper-arm is turn able in 8 horizontal steps. The selftailing in general is made to adjust automatically to different rope sizes, and run in both directions.

NOTICE: When using the backwind function, it's necessary to hold your lose sheet end tight, to insure the rope is kept in the selftailer.

Hydraulic Motors:

The Hydraulic motor is turn able in 4 horizontal steps 90° between. The motors are Variable or two speed Motors. This gives us a great range of speed variations.

Backwind:

ANDERSEN winches with backwind can rotate in both directions. The ability to reverse the winch at any time is much appreciated, both for improved control and better safety.

Backwind makes trimming easier.

NOTICE: Using the backwind function requires that the user keep the lose sheet end tight, to insure the sheet is feed the sheet into the selftailer.

SAFETY

IMPORTANT:

Be aware of the winch's power. Only competent sailors should operate the winch.

Every time the winch is to be used, be sure that persons are standing well clear of the winch and rope to be pulled. Always be aware of what the winch is pulling on as well as the rope on the winch. A rope snagged or jammed on a sail, spar or rigging can result in dangerous overloading. This is especially important when using a powerful primary winch for less demanding tasks like hoisting the mainsail where the winch is many times more powerful than necessary for the task at hand.

Let only trained personnel operate the winch and under no circumstances should children be allowed to play with the Hydraulic winch.

MOUNTING INFORMATION

GENERALLY:

DO NOT REMOVE CONTRA VALVE ON DRAIN

Ensure that ALL HOLES in the deck is bedded.

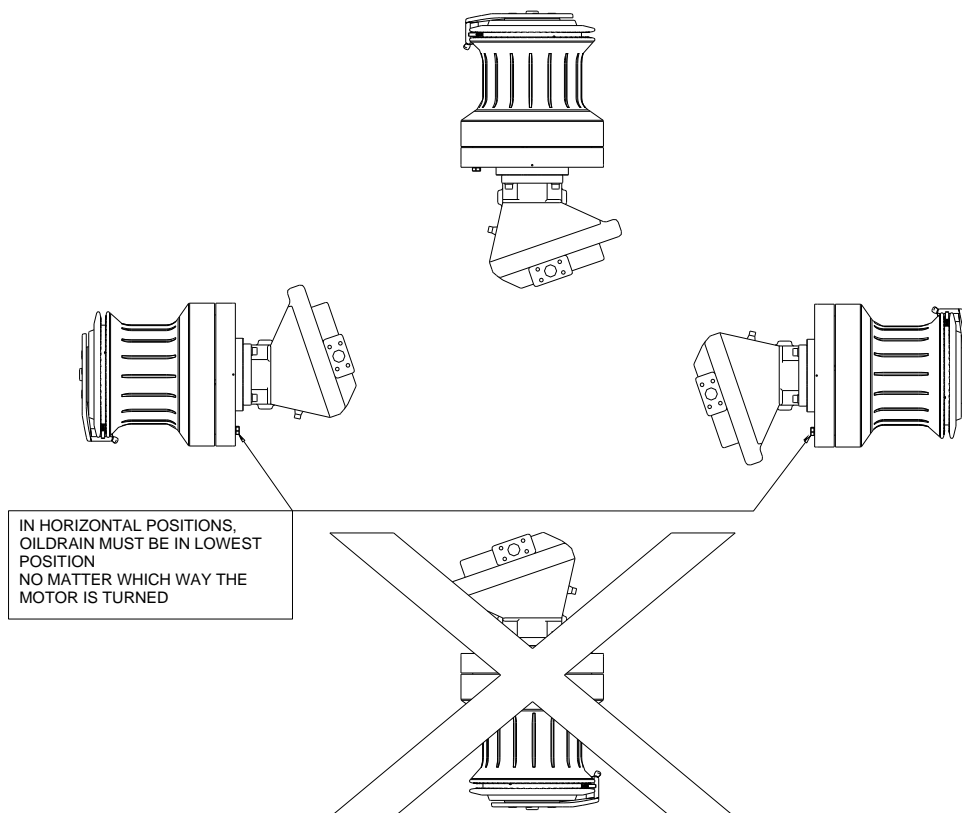
Be careful not to put bedding compound in thread holes in the base plate

Ensure that the mounting surface is absolutely straight.

To mount the winch

Cut and drill the required holes in the deck according to the template

- 1) Dismount the hydraulic motor from the winch.
DO NOT REMOVE CONTRAVALVE ON MOTOR DRAIN!
- 2) The winch is mounted with 8 x M12 bolts (not included). The bolts are tightened with the head below the deck and are screwed into the thread prepared in the base plate of the winch. The bolts should be 30-35 mm longer than the thickness of the deck.
- 3) Re-mount the motor. Remember a 10 bar contra valve is to be mounted on return line (See wiring Diagram). Connect the winch hydraulic and electric.



GENERAL SERVICE INSTRUCTIONS

The hydraulic gear unit is virtually lubricated and sealed for life and need maintenance only every 5 years. Action to be taken is that the oil must be changed.

The winch drum with bearings and its planetary gear system needs normal service. We recommend dismantling, cleaning and lubricating every year. During extensive use such as racing we recommend extra service.

We strongly recommend always using ©TOPAS NB 52 Grease. This grease is high quality products with characteristics ideal for winches.

Check frequently the winch from leaking as well as hoses / pipes.

IMPORTANT: Damaged hoses or pipes must be changed immediately

For dismantling and assembling the winch see exploded views.

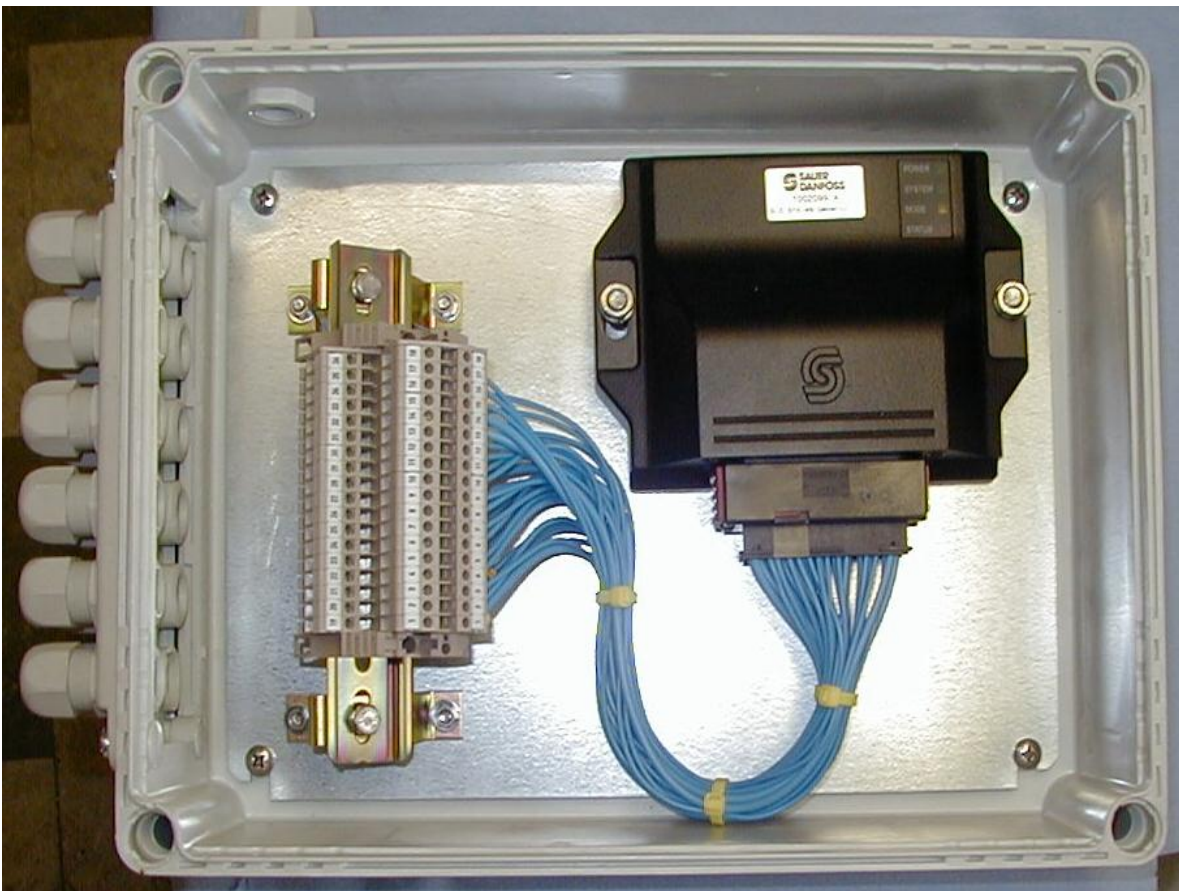
Required Tools: 1 set of metric Allen keys from 2 to 10mm.

ELECTRIC INSTALLATION

Mega Yacht Winches are supplied with a variety of control and gear options. Customers can choose between 1 to 3 push-button hydraulic speeds plus backwind and step less variable speed joystick control or everything.

Mega Yacht Winches are controlled by a PLC. The line speeds are automatically adjusted according to the pulling load by the PLC, meaning that the hydraulic motor always will gear down to the best suitable speed/power that is needed for the job, even if the operator tries to start the winch in the wrong gear compared to the pulling load. This guaranties the maximum safety against overload.

ANDERSEN Mega Winches are delivered with all relevant valves and hydraulic/electric connections and can by option be delivered with operating switches or/and full controllable joystick.



24V DC power is used to the PLC. See the electric connection scheme for more details.

The screw terminal is numbered from 1 – 36, which correspond with the numbers in the electric connection scheme.

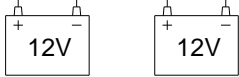














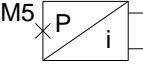






NOTICE: Remember to mount an Emergency stop on your system, which is connected either to the Hydraulic Power Pack or to the PLC electric supply.

ELECTRIC CONNECTION SCHEME

Andersen Mega Winch backwind - Electric scheme

Component

Electric box S1X-49 PLC Winch one Winch two

Electric supply	24V battery supply		Fuse 10Amp	PIN 2	+24VDC	-	28	-
				PIN 2	-GND	-	29	-
Push buttons	Min speed switch			PIN 2	+24VDC	-	28	28
				PIN 2	SIGNAL	-	10	11
	Midi speed switch			PIN 2	+24VDC	-	28	28
				PIN 2	SIGNAL	-	2	4
	Max speed switch			PIN 2	+24VDC	-	28	28
				PIN 2	SIGNAL	-	3	5
	Reverse switch			PIN 2	+24VDC	-	28	28
				PIN 2	SIGNAL	-	31	32
Joystick	Classic - JS100 2003 - 7 pins			PIN 2	-GND	BLACK	1	1
				PIN 3	+5VDC	RED	14	14
				PIN 5	Y-SIGNAL	GREY	35	36
	or Igloo - JS120 2003 - 7 pins			PIN 4	-GND	BLUE	1	1
				PIN 6	+5VDC	YELLOW	14	14
				PIN 5	Y-SIGNAL	GREEN	35	36
Hydraulic motor	Solenoid - proportional valve (PWM control):			PIN 1	0-3V	-	6	7
				PIN 2	-GND	-	29	29
	Pressure transmitter supply pressure:			PIN 1	+24VDC	-	28	28
				PIN 2	SIGNAL	-	33	34
Power Pack	Forward Solenoid Directional valve (PP):			PIN 1	+24VDC	-	24	27
				PIN 2	-GND	-	29	29
	Reverse Solenoid Directional valve (PP):			PIN 1	+24VDC	-	22	26
				PIN 2	-GND	-	29	29
RS232	SUB-D 9-pin female µGraph SW / PC			PIN 2	RS232 TX	-	20	-
				PIN 3	RS232 RX	-	21	-
				PIN 5	RS232 0ref-	-	5	-
Attention	Remember to mount a Emergency stop on your system							

HYDRAULIC INSTALLATION

The hydraulic installation is to be done by qualified personnel.

Hoses/pipes are recommended to a minimum. ½ inch. On longer hoses above 15 meters, it is recommended to size up the pipes or hoses. It is always relying on installation personnel to evaluate how big the pressure drop for the actual system is and design the piping/hosing in accordance to for instance numbers of fittings.

Keep all surfaces clean.

The Power pack should be installed with suction filter. (consult power pack manual)

The motor is SAUER-DANFOSS 51-1 bent axis motor with electro-hydraulic variable speed control-options.

All internal hydraulic hoses are supplied with the winch.

Costumer supplies only V1, V2 and Drain hoses from the power pack.

NOTICE it's necessary to have 10bar backside pressure on the motor. See hydraulic scheme for more details. (Next page)

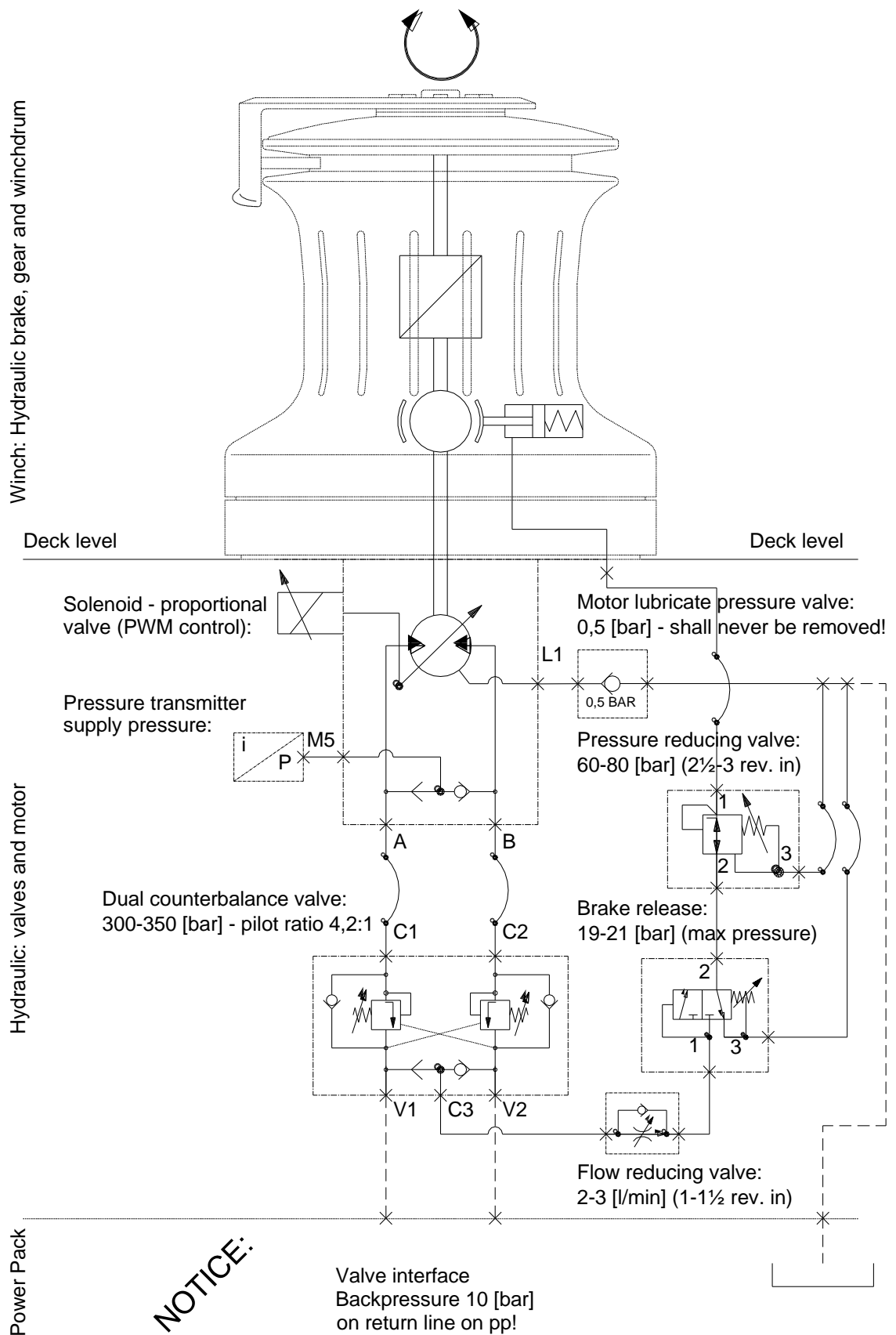
The Contra-valve on drain should not be removed.

If it is accidentally removed the motor must be demounted, laid down and refilled completely with hydraulic oil to lubricate the top bearing in the motor. Be sure there is NO air left in the motor. Use same hydraulic oil type as on power pack.

Hydraulic connection: See hydraulic scheme (Next page)

HYDRAULIC WIRING DIAGRAM BACKWIND

ANDERSEN Mega Winch backwind - Hydraulic layout



GENERAL SERVICE INSTRUCTIONS

The hydraulic gear unit is virtually lubricated and sealed for life and need maintenance only every 5 years. Action to be taken is that the oil must be changed.

The winch drum with bearings and its planetary gear system needs normal service. We recommend dismantling, cleaning and lubricating every year. During extensive use such as racing we recommend extra service.

We strongly recommend always using ©TOPAS NB 52 Grease. This grease is high quality products with characteristics ideal for winches.

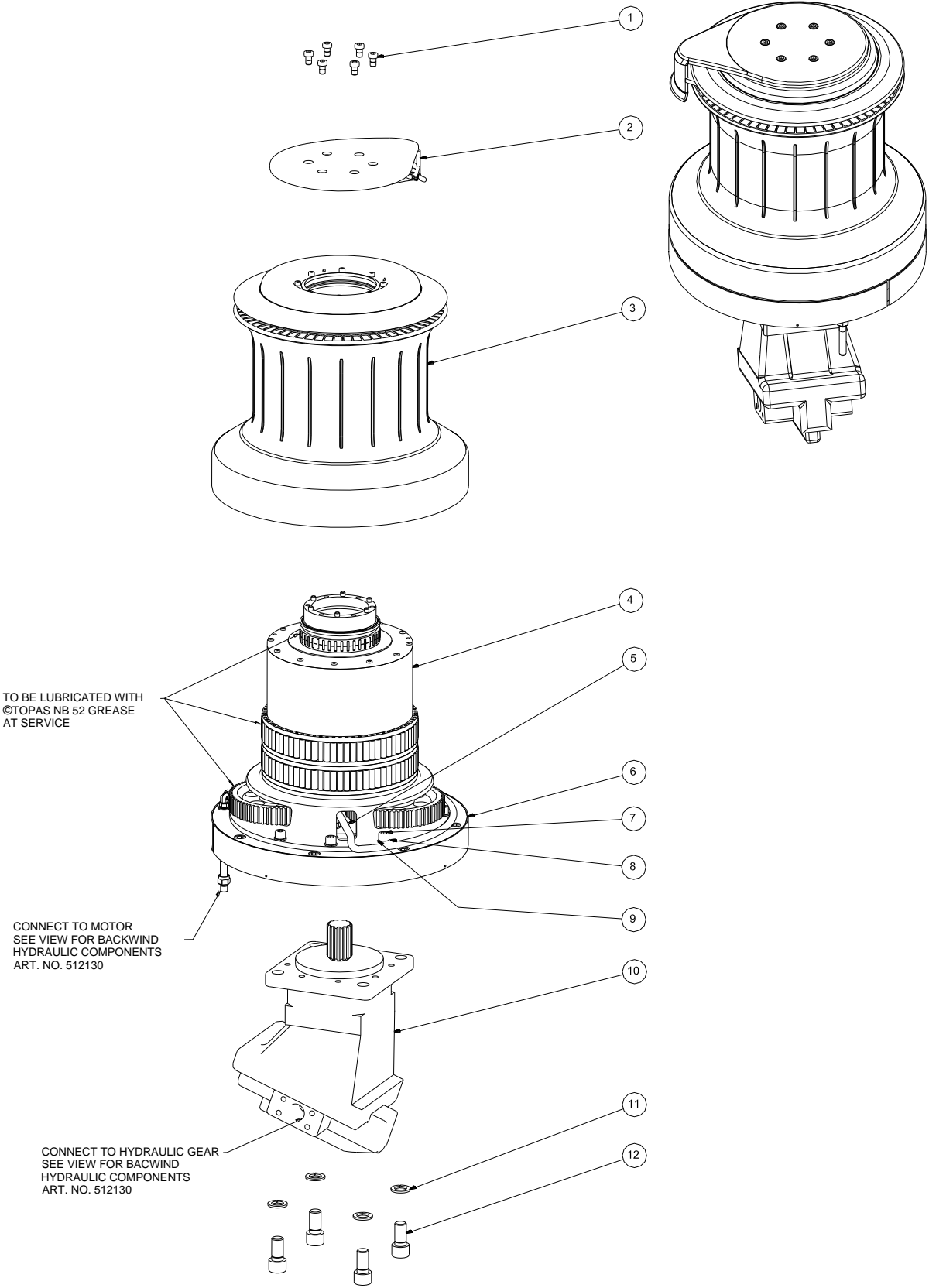
Check frequently the winch from leaking as well as hoses / pipes.

IMPORTANT: Damaged hoses or pipes must be changed immediately

For dismantling and assembling the winch see exploded views.

Required Tools: 1 set of metric Allen keys from 2 to 10mm.

EXPLODED VIEW FOR WINCH 9000STH-B ART. NO. 511400



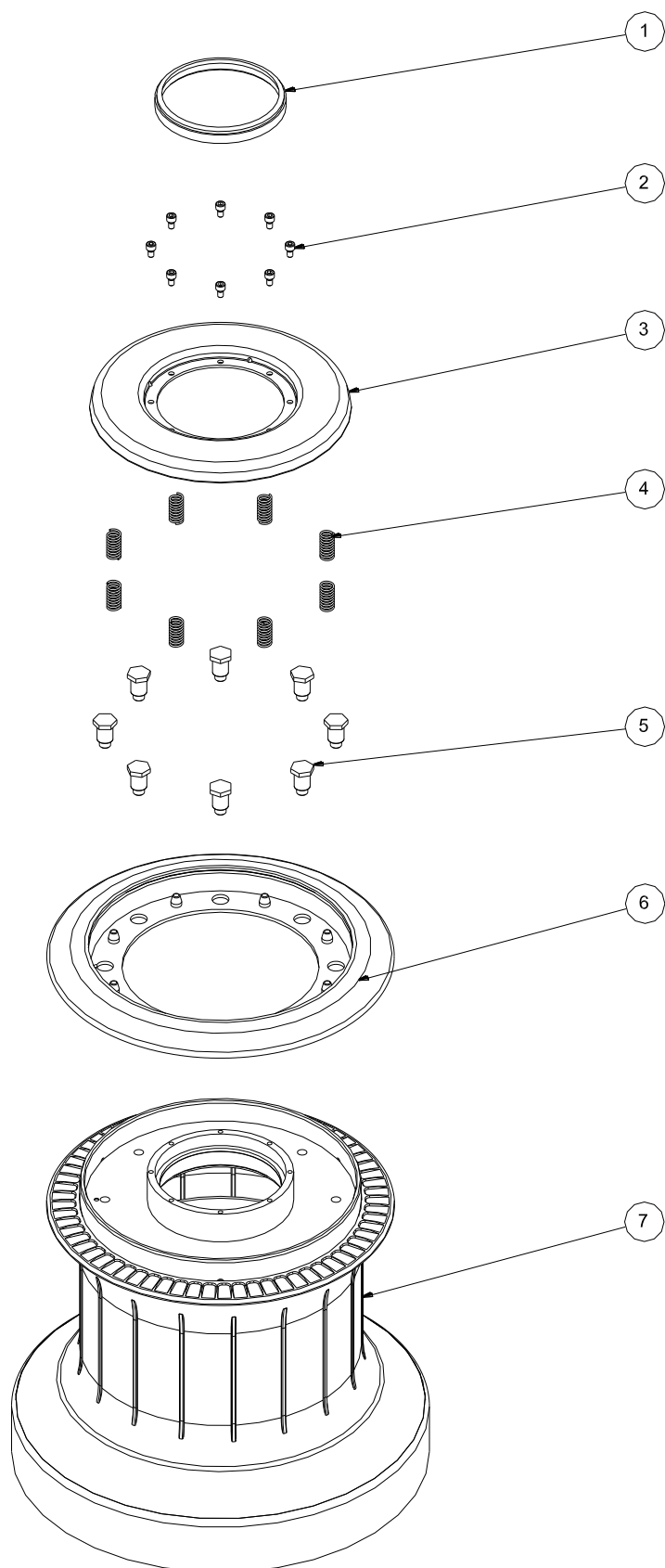
SPARE PARTS LIST FOR WINCH 9000STH-B ART. NO. 511400

POS.	QTY.	DESCRIPTION	ART. NO.
1	6	Cylinder Head Cap Screw	DIN6912-A4-M10x16
2	1	Self-tailing arm	512098
3	1	Drum complete	512060
4	1	Manual Gear Complete	512115
5	1	Hose	RD100715
6	1	Hydraulic Gear Complete	512010
7	9	Cylinder Head Cap Screw	DIN912-A4-M12x20
8	2	Hose Bracket	512121
9	9	Spring Washer	DIN127B-A4-Ø12
10	1	Hydraulic motor	RD100458
11	4	Spring Washer	DIN127B-A4-Ø20
12	4	Cylinder Head Cap Screw	DIN912-A4-M20x40
	1	Hydraulic components 2+3/B	512130
	1	El-box 24V 2+3/B	738625
	2	Lifting device M6	310301
	2	Lifting device M10	310305
	1	Template	RD100529
	1	Manual	

ACCESSORIES FOR 9000STH-B

Pos.	Qty.	Description	No.
1	1	El-box 24V 2+3/B Mega	738625
2	1	Control unit Mega winch	RD100484
3		Joystick std	512300
4		Joystick Igloo	512400
5		Push button standard	581900
6		Push button full stainless	581910
7			
8			
9			
10			
11			

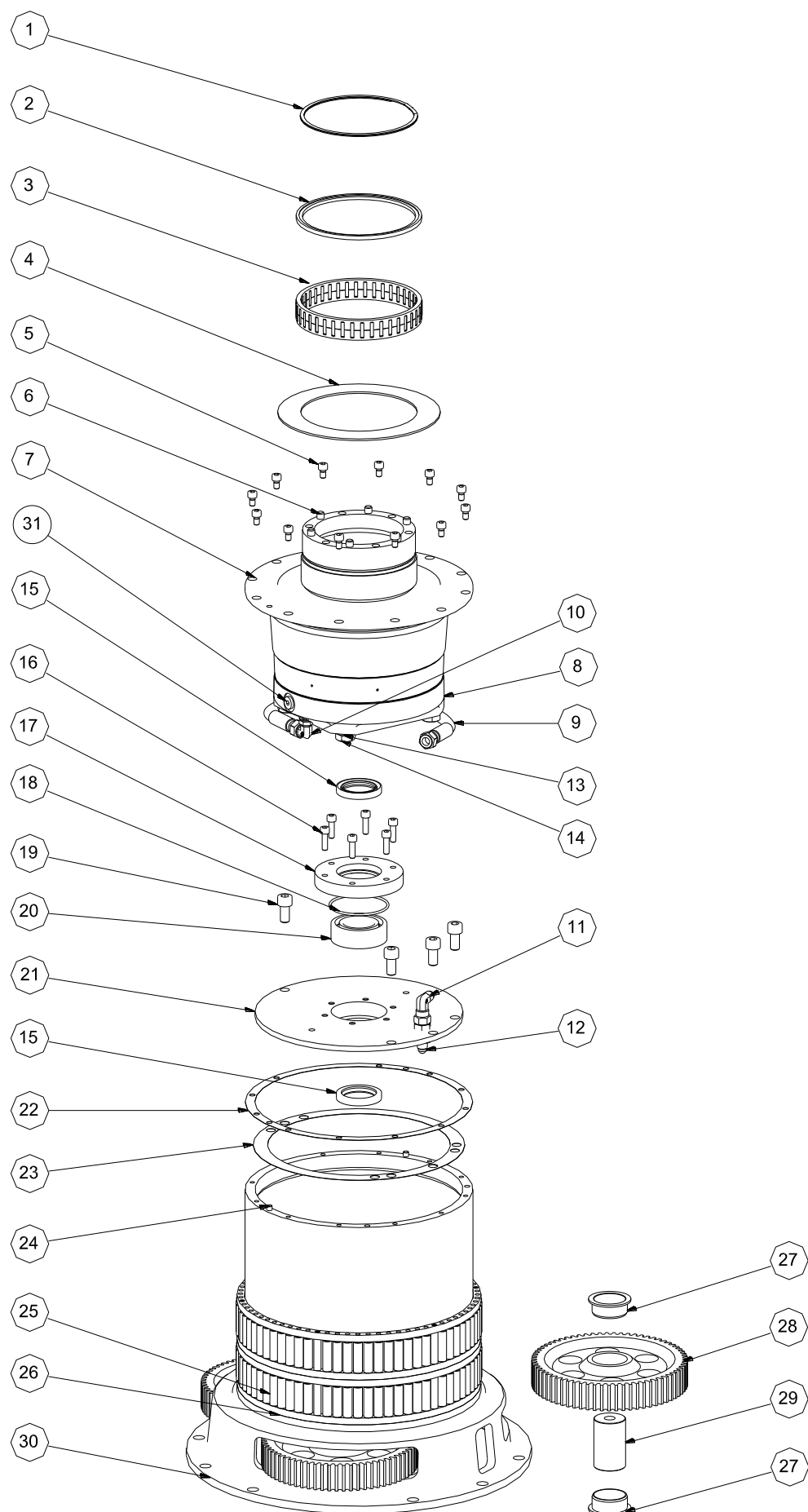
**EXPLODED VIEW FOR DRUM 9000STH-B
ART. NO. 512060**



SPARE PARTS LIST FOR DRUM 9000STH-B
ART. NO. 512060

POS.	QTY.	DESCRIPTION	ART. NO.
1	1	Sealing ring	512029
2	8	Cylinder Head Cap Screw	DIN912-A4-M6X10
3	1	Topplate	512058
4	8	Spring	RD100451
5	8	Distance bolt	511452
6	1	Driving Plate	512035
7	1	Drum	512059

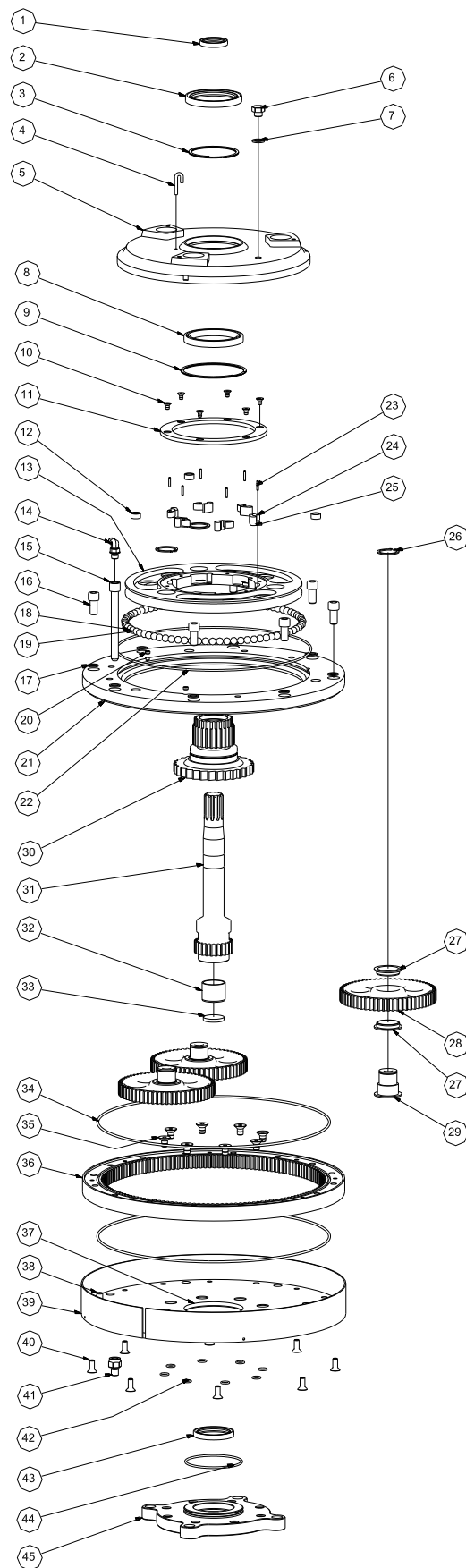
EXPLODED VIEW FOR UPPERBASE 9000STH-B ART. NO. 512115



SPARE PARTS LIST FOR UPPERBASE 9000STH-B
ART. NO. 512115

POS.	QTY.	DESCRIPTION	ART. NO.
1	1	Lock Ring	592500U
2	1	Polymer Bearing	512033
3	1	Roller Bearing	588001
4	1	Bearing	512120
5	12	Cylinder Head Cap Screw	DIN 912 - M6 x 10
6	6	Pin	512005
7	1	Top Plate	512111
8	1	Brake	512117
9	1	Hose for Brake	RD100714
10	1	Nipple 7/16 - 90	RD100716
11	1	Nipple 7/16 -20 - 90	RD100709
12	1	Scot fitting 7/16	RD100708
13	4	Spring Washer	DIN127-A4-A12
14	4	Screw	DIN933-A4-M12x140
15	2	Sealing Ring	RD100474
16	6	Cylinder Head Cap Screw	DIN 912 - M6 x 20
17	1	Bearing Cover	512113
18	1	O-ring	RD100861
19	4	Cylinder Head Cap Screw	DIN 912 - M10 x 20
20	1	Bearing	RD100476
21	1	Mounting Plate	512116
22	1	Sealing Ring	RD100653
23	1	Sealing Ring	RD100654
24	2	Pin	511809
25	2	Roller Bearing	512090
26	1	Bearing	512072
27	6	Bushing	512002
28	3	Gear wheel	512030
29	3	Drive shaft	512031
30	1	Baseplate	512043
31	1	Plug	RD100717

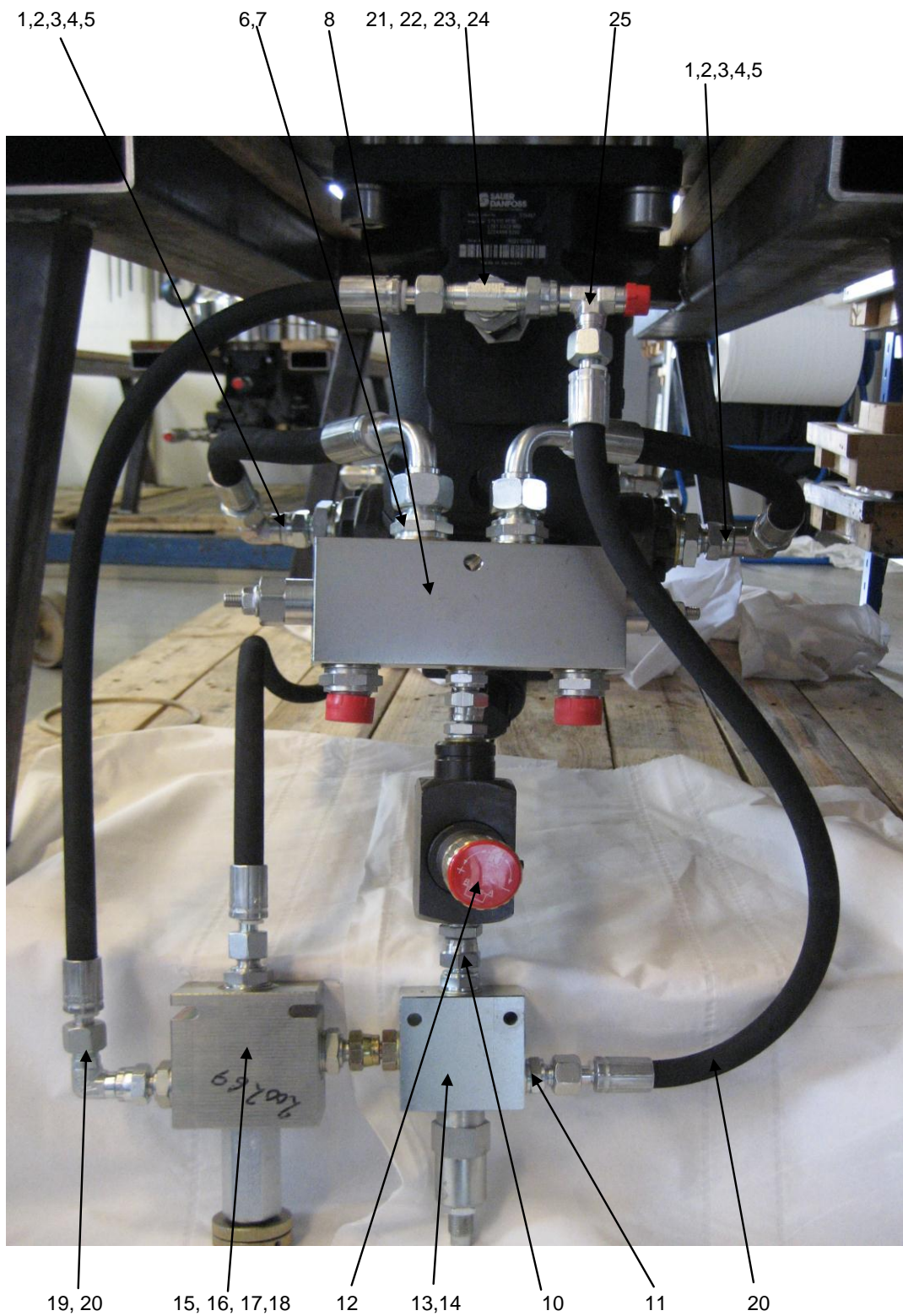
EXPLODED VIEW FOR HYDRAULIC GEAR 9000STH-B ART. NO. 512010



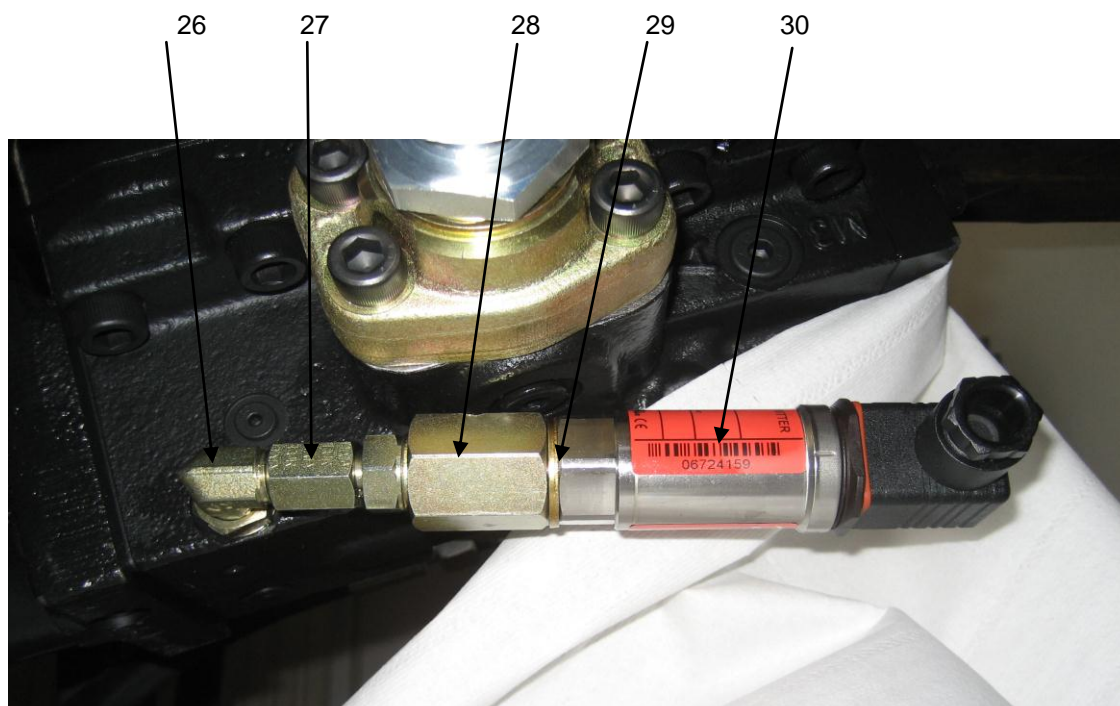
SPARE PARTS LIST FOR HYDRAULIC GEAR 9000STH-B
ART. NO. 512010

POS.	QTY.	DESCRIPTION	ART. NO.
1	1	Sealing Ring	RD100339
2	1	Sealing Ring	RD100452
3	1	Circlip	590400U
4	1	Outlet Pipe	512018
5	1	Gear Housing Top	512019
6	1	Plug	RD100112
7	1	Washer Bonded Seal	RD100449
8	1	Deep Groove Ball Bearing	RD100453
9	1	Circlip	RD100076
10	6	Countersunk Screw	DIN7991-A4-M6x10
11	1	Cover for Free Wheel	512028
12	3	Bushing	511837
13	1	Planet Carrier	512015
14	1	Nipple elbow	RD100863
15	1	Scott fitting	511862
16	7	Cylinder Head Cap Screw	DIN912-A4-M12x25
17	8	Washer Bonded Seal	RD100447
18	39	Ball Ø12 Stainless	RD100429
19	40	Ball Ø12 DELRIN	RD100435
20	3	Pin	511808
21	1	Top Plate for Gear Housing	512014
22	1	O-ring	RD100638
23	6	Pin	DIN7-A1-3H8x16
24	6	Spring	511987
25	6	Pawl	511969
26	3	Circlip	DIN471-A2-A30
27	4	Polymer Bearing	511801
28	3	Planet Wheel	512013
29	3	Shaft for Planet Wheel	511816
30	1	Wheel for driving sprocket	512020
31	1	Wheel	512114
32	1	Polymer Bearing	RD100645
33	1	Stop disc	512122
34	2	O-ring	RD100636
35	8	Countersunk Screw	DIN7991-A4-M10x16
36	1	Crown Gear	512012
37	1	Bottom Plate Bottom	512011
38	1	Pin	511807
39	1	Cover for Bottom	512017
40	8	Screw	DIN7991-A4-M8x20
41	1	Hydraulic Nipple	512107
42	8	O-ring	RD100399
43	1	Sealing Ring	RD100649
44	1	O-ring	RD100425
45	1	Mounting Plate for Motor	512021

VIEW FOR BACKWIND HYDRAULIC COMPONENTS 9000STH-B ART. NO. 512130



**VIEW FOR BACKWIND HYDRAULIC COMPONENTS 9000STH-B
ART. NO. 512130**



SPARE PARTS LIST FOR HYDRAULIC COMPONENTS 9000STH-B
ART. NO. 512130

POS.	QTY.	DESCRIPTION	ART.NO.
1	2	Flange	RD100481
2	2	Bonded Seal	RD100734
3	2	Hexagon Nipple	RD100723
4	2	Nipple Elbow	RD100718
5	2	Hose	RD100707
6	6	Bonded Seal	RD100292
7	4	Hexagon Nipple	RD100291
8	1	Valve	RD100488
9	5	Bonded Seal	RD100732
10	2	Nipple	RD100724
11	4	Hexagon Nipple	RD100720
12	1	Control Valve	RD100722
13	1	Sequence Valve	RD100486
14	1	Valve Housing	RD100487
15	3	Hexagon Nipple	RD100873
16	3	Bonded Seal	RD100874
17	1	Reduction Valve	RD100877
18	1	Block for Sequence Valve	RD100878
19	1	Elbow	RD100875
20	2	Hose	RD100704
21	1	Hexagon Nipple	RD100728
22	1	Non-return Valve	RD100290
23	1	Hexagon Nipple	RD100721
24	1	Tee	RD100719
25	1	Tee	RD100876
26	1	Nipple Elbow	RD100864
27	1	Nipple	RD100865
28	1	Socket	RD100866
29	1	Bonded Seal	RD100292
30	1	Pressure Transmitter	RD100483

LIMITED WARRANTY

1.1 ANDERSEN issue a three-year warranty on all their products covering manufacturing and material defects on condition that the products are used in normal fashion. The warranty shall apply for three years from the moment ANDERSEN sell the product concerned (to the first buyer).

1.2 Within the period of the warranty, and in accordance with the terms of the warranty, ANDERSEN undertake to replace or repair all defective components which have been used in normal fashion.

1.3 However, the warranty is subject to the limitations and exceptions outlined below.

2. Conditions and limitations:

2.1 ANDERSEN's liability shall be limited to repair or replacement of components which are defective owing to manufacturing or material defects.

2.2 ANDERSEN assume no other liability than this, not even liability for indirect losses caused by defect concerned, including operating losses, loss of profits, or damage caused to real property or moveable property occurring while the product concerned is in the position of the Buyer.

2.3 The Buyer alone shall bear the responsibility and risk involved as to whether the product is suitable for the application intended. ANDERSEN assumes no liability in this connection.

2.4 ANDERSEN assume no liability for defects which occur due to use of their products for purposes for which they are not intended, or for defects which occur owing to incorrect installation, corrosion, ultraviolet degradation, lack of maintenance, or any alteration or repair of the product carried out incorrectly by the Buyer. Finally, ANDERSEN assumes no liability for normal wear and tear, or for depreciation of value.

2.5 Nor do ANDERSEN assume any liability for service carried out by anyone other than authorised representatives of ANDERSEN, unless such service is carried out pursuant to guidelines laid down by ANDERSEN and in accordance with good craftsmanship.

2.6 The buyer shall inform ANDERSEN in writing of any defects with no undue delay once defects have been registered. Products being dealt with under the warranty shall be returned to ANDERSEN for repair unless any other agreement has been reached in writing.

2.7 ANDERSEN shall not cover costs incurred by the Buyer in connection with the transport or wages involved in a warranty case. Such costs shall be met by the Buyer in full.

3. Exceptions:

3.1 The warranty is only valid for one year in respect of components bought for the products concerned, such as electric motors, electric equipment, hydraulic pumps, motors and valves.

3.2 ANDERSEN assume no liability for consequential damage of ships, equipment, property or people by defects in ANDERSEN's products.

3.3 The company's products are subject to continuous development, and consequently ANDERSEN reserve the right to change designs and specifications without prior notice.

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