Maxwell

Anchormax

Service Manual

Maxwell Anchormax Service

V1 1999 - 2011

V2 2011 to Present

History

Anchormate

Design was purchased by Maxwell and production continued with the Anchormate logo on top of the drum.

The Anchormate did not have the three SP0064 csk screws holding the deckplate and baseplate together.

The Anchormate used UHMWPE bearings for the drum cut from flat sheet (part 4229) Maxwell can still supply this part to order. The bore diameter of the drum is Ø42mm.

The Anchormate used a V100 (SP0748) deck seal which is no longer stocked but can be replaced by the V110 (SP2768)

Anchormax V1– Mid 1999 – January 2011

Drum was changed to have the Anchormax logo on top and the bore was increased to Ø44.2 and press in plastic bearings used.

3 x csk screws added to hold the deckplate and baseplate together.

In 2001 the cap was changed from plastic to aluminium and the V100(SP0748) seal on the deckplate was changed to the V110 (SP2768) – the V100 was overstretched and would crack.

In January 2007 the 4507 cap had an o-ring groove added and o-ring fitted to seal, prior to this a liquid gasket was used which was often omitted when serviced allowing water to get into the gearbox.

Anchormax V2 – January 2011 to present

Complete redesign, all gears now supported by bearings, stainless steel drum, changed motor from 600W (SP2142) to 500W (SP4189) which due to efficiency increase from bearing changes has same performance.

Due to improvements in the design to increase durability, servicing of the Anchormax V2 is expected to be reduced. Replacement of the entire unit may be a better option than repairing if a unit is damaged.

Service

All Models

DO NOT clamp the motor in a vice or similar as this will dislodge the magnets. Impact to the motor will have a similar result.

Gears are no longer available individually and must be purchased as a set
P90014 Anchormax V1 – excludes ring gear
P90016 Anchormax V2 – excludes ring gear

Other kits are available, Refer to the exploded drawings at the back of this booklet

If the ring gear in the drum is damaged the easiest / only way to remove it is to drill a hole in the ring gear / grind through the ring. This will release the tension in the ring alowing it's removal.

Note: When reassembling, the deckplate and baseplate need to be sealed with liquid gasket, an anaerobic sealant is recommended as this will not solidify into lumps which can get into the gears.

Anchormax V1 / Anchormate

Disassembly is straight forward, once the top cap is removed the drum should slide off. The gearbox is accessed by removing the 3 x csk screws in the baseplate and separating the baseplate and deckplate. The studs can be struck with a soft faced hammer while holding the motor to separate the baseplate and deckplate, or alternatively if the drum has been removed the end of the gear can be tapped to separate the baseplate and deckplate.

The original 600W motor (SP2142) is no longer stocked so must be replaced by the 500W motor (SP4189) and an adaptor kit P104725.

On models without the o-ring in the top cap, the cap should be sealed to the baseplate with liquid gasket.

Anchormax V2

To disassemble;

1) Separate the baseplate from the deckplate by removing the 3 x csk screws. It may be necessary to strike the stud ends while holding the motor.
2) Remove the 4226 gear assembly (offset gear). Clamp the end of the shaft in a vice or similar and tap the deckplate off with a soft faced hammer.
3) Remove the 7229 pinion and SP0683 bearing. The pinion and bearing should come out together, if this is not the case remove the bearing with a bearing puller.
4) Once the SP0683 bearing is removed, circlip SP3531 will become accessible, remove the circlip which will allow removal of the drum. Note this circlip is susceptible to stretching if opened too widely, check for correct fit before reuse.

Yearly Service recommendations

Anchormax V1

Run the unit in the clockwise direction and note the current draw and relative noise level. Current draw at 12V should be no more than 25Amp.

Remove the retaining cap and inspect the V-Ring seal for damage / deformation. Replace if necessary.

Remove the drum and inspect the two bushes inside the drum for damage/wear. Replace if necessary.

Inspect the V-Ring seal attached to the deckplate for damage/wear. Replace if necessary.

Remove the motor from the lower deckplate, clean carbon dust build-up and inspect for wear / damage (refer Motor section below)

Turn the input shaft by hand, feel for any roughness in the bearings, if shaft does not rotate smoothly separate the gearbox, and replace the bearings.

Clean , regrease and reassemble all components, The motor should be sealed to the lower deckplate using liquid gasket, the retaining cap should be sealed to the upper deckplate with either an O-ring or liquid gasket.

Anchormax V2

Run the unit in the clockwise and anti-clockwise directions and note the current draw and relative noise level. Current draw at 12V should be no more than 35Amp.

Remove the motor from the lower deckplate, clean carbon dust build-up and inspect for wear / damage (refer Motor section below)

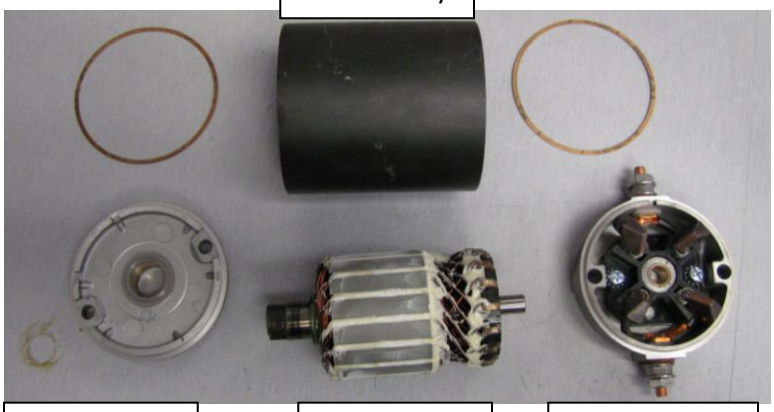
Turn the input shaft by hand and feel for any roughness in the bearings, if the shaft rotates smoothly reassemble the unit and test

If the shaft does not rotate smoothly then disassemble the unit following the instructions on the previous page. Remove the drum and check the lip seal for damage/ wear. Replace parts as necessary.

Motor Service

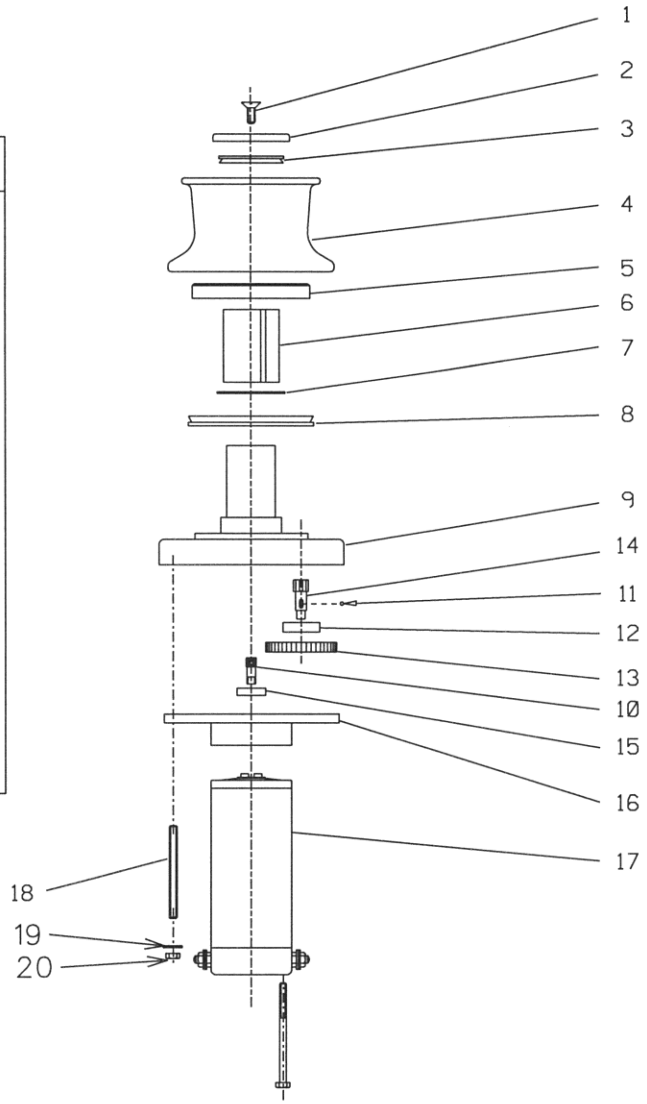
The motor used on the Anchormax has the brushes acting axially along the motor axis, for this reason when the motor is unbolted from the deckplate the endcap / brush assembly is inclined to separate from the motor body due to the spring pressure pushing the two apart. Take care not to lose the springs.

Once the motor is separated from the gearbox separate it into the individual parts; front flange, armature, motor body, end cap assembly.



Inspect the armature for any burnt windings / insulation, if any found replace the motor.
Inspect the motor body, check the magnets are not broken and are still bonded to the body.
Inspect the end cap assembly to ensure brush terminals or leads are not touching the body, there is no melting of the insulators, the brushes are not worn (std brush length is 12.7mm).
Clean all carbon build-up from the motor components, apply a light coating of grease to the front flange bearing and reassemble motor. Replace motor gaskets if necessary.
To reassemble first fit the armature to the end cap / brush assembly ensuring all brushes and springs are seated correctly in the housing.
While holding the armature in place fit the motor housing (armature will be attracted to magnets and pull into housing if not held in place)
Align the locking tabs on the end cap and motor body.
Align the locking tabs on the front flange and fit.
Fit through bolts.

PART NO.	PART	No.	DESCRIPTION
SP064	1	1	screw M8x16 st.st. 304
4228	2	1	cap - polyacetal
SP0740	3	1	V ring seal VA38
4221	4	1	rope drum - bronze casting
4227	5	1	gear ring - carbon steel
4229	6	1	sleeve bearing - UHMWPE
4230	7	1	thrust washer - UHMWPE
SP0748	8	1	V ring seal VA100
4222	9	1	deck plate top- alloy casting
4224	10	1	pinion gear - case hardened steel
SP682	11	1	drive key - 5mm ball
SP0684	12	1	bearing - 6001LLU
4226	13	1	gear - F.M. steel
4225	14	1	pinion gear - case hardened steel
SP0683	15	1	bearing - 6000LLU
4223	16	1	deck plate bottom - alloy casting
SP2142	17	1	motor - Unipoint DM-717
4231	18	3	studs - M8x110 st.st. 304
3625	19	3	Washer M8 X 24
SP0366	20	3	M8 Nut



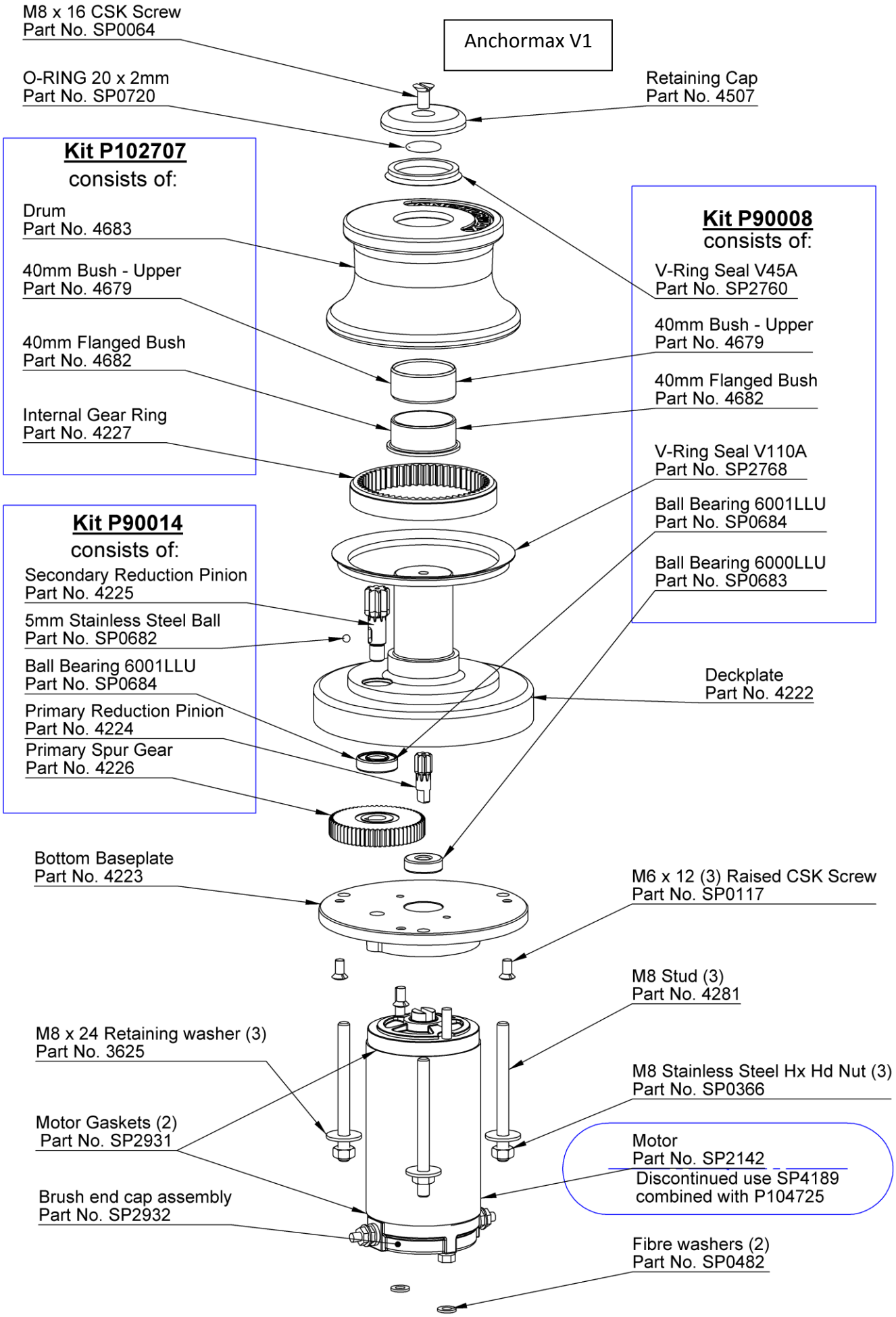
REV.	CHANGE	BY
4.0	Motor change	26-8-98
3.0	redrawn	27-8-97
2.0	PRODUCTION ISSUE	9-8-96

MAXWELL
WINCHES LTD.
AUCKLAND, NEW ZEALAND

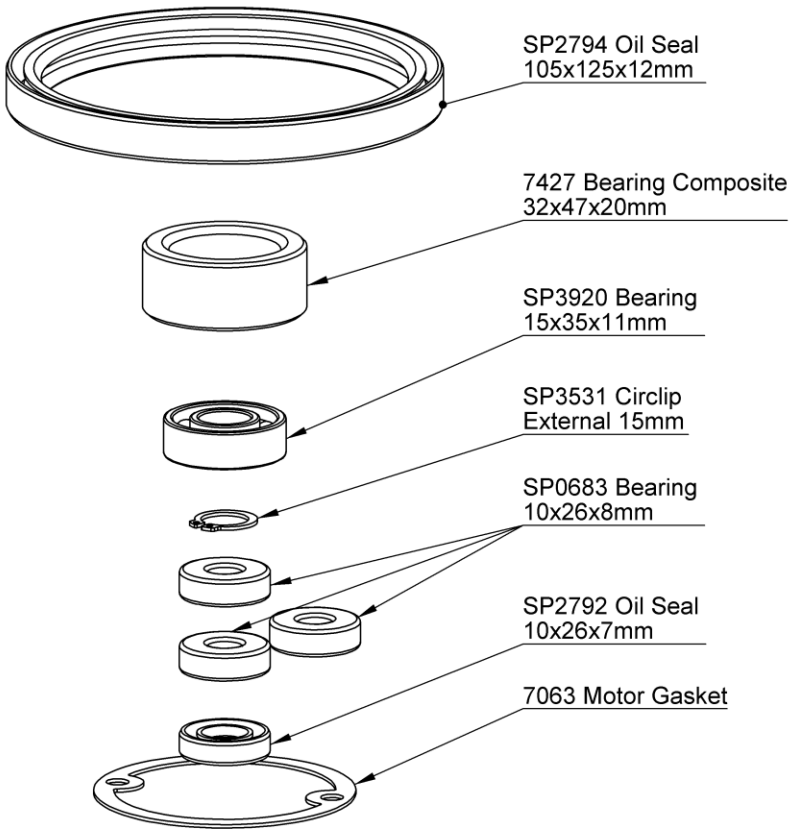
DRG. NO.	REV			
P9510005	4.00	DOLPHIN CAPSTAN WINCH -ASSEMBLY	SCALE	NTS
MATERIAL		SHT 1 OF 1	CREATED BY	J. EHN
			ON	7-5-96

*DO NOT SCALE - IF IN DOUBT ASK *REMOVE ALL BURRS AND SHARP EDGES *ALL DIMENSIONS IN MILLIMETRES *FULL SIZE ON A3

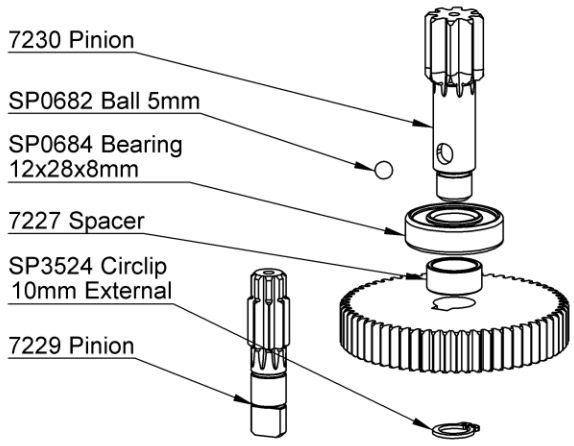
Anchormate


Anchormax V1
M8 x 16 CSK Screw
Part No. SP0064
O-RING 20 x 2mm
Part No. SP0720
Retaining Cap
Part No. 4507
Kit P102707
consists of:
Drum
Part No. 4683
40mm Bush - Upper
Part No. 4679
40mm Flanged Bush
Part No. 4682
Internal Gear Ring
Part No. 4227
Kit P90008
consists of:
V-Ring Seal V45A
Part No. SP2760
40mm Bush - Upper
Part No. 4679
40mm Flanged Bush
Part No. 4682
V-Ring Seal V110A
Part No. SP2768
Ball Bearing 6001LLU
Part No. SP0684
Ball Bearing 6000LLU
Part No. SP0683
Kit P90014
consists of:
Secondary Reduction Pinion
Part No. 4225
5mm Stainless Steel Ball
Part No. SP0682
Ball Bearing 6001LLU
Part No. SP0684
Primary Reduction Pinion
Part No. 4224
Primary Spur Gear
Part No. 4226
Deckplate
Part No. 4222
Bottom Baseplate
Part No. 4223
M6 x 12 (3) Raised CSK Screw
Part No. SP0117
M8 Stud (3)
Part No. 4281
M8 x 24 Retaining washer (3)
Part No. 3625
M8 Stainless Steel Hx Hd Nut (3)
Part No. SP0366
Motor Gaskets (2)
Part No. SP2931
Motor
Part No. SP2142
Discontinued use SP4189
combined with P104725
Brush end cap assembly
Part No. SP2932
Fibre washers (2)
Part No. SP0482

Anchormax V2



P90017 Bearing and Seals Kit Anchormax V2



P90016 Gear Kit Anchormax V2
(Excludes Ring Gear)

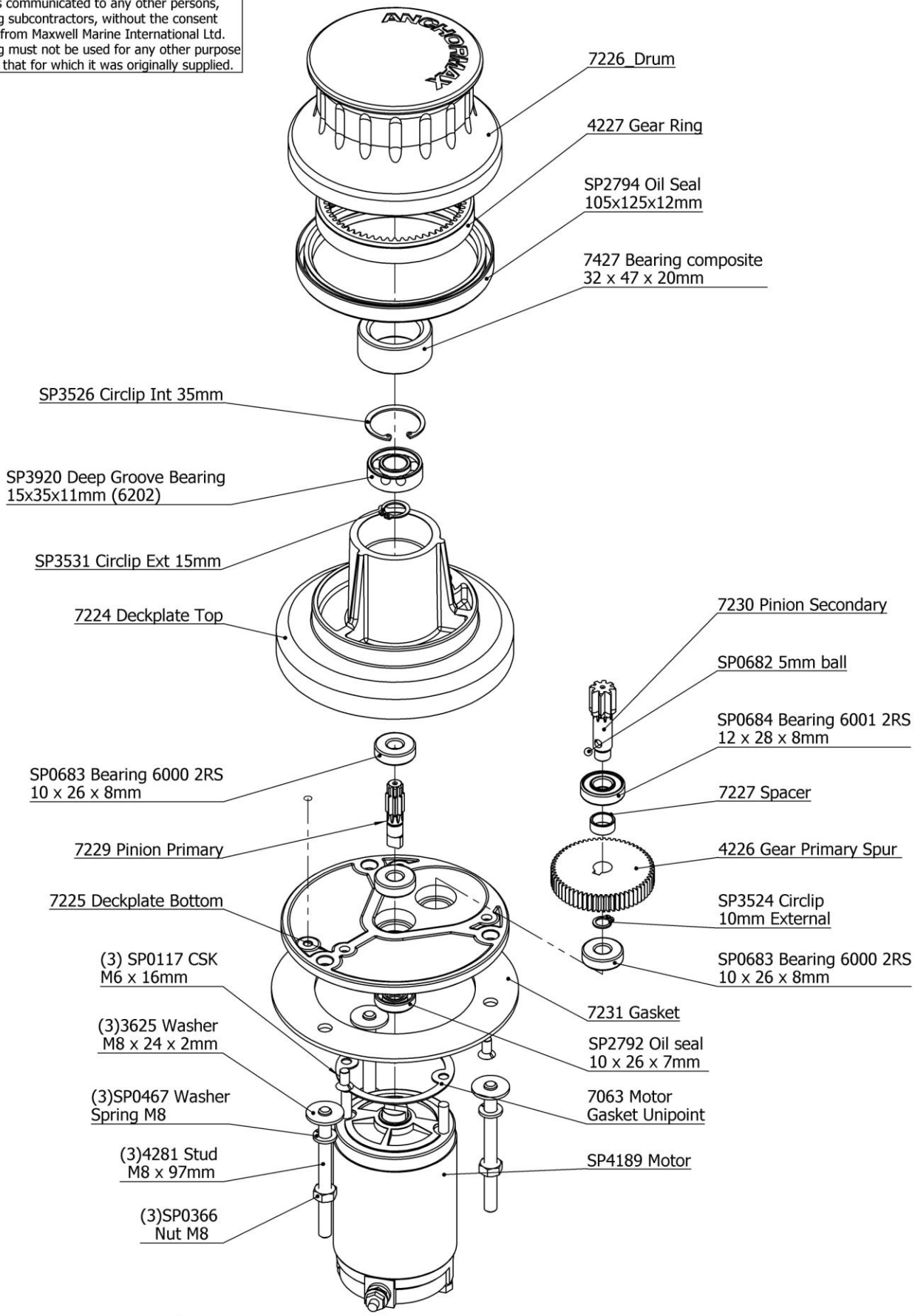
Description	Assy No.
Kit - Gears Anchormax (Excl Ring Gear) V2	P90016
Kit - Bearing, Seals	P90017

Sht Size	Scale	Dwg Type	Sheet	Description	Pbv/Dwg No.
A4	1:2	DFTED	1 of 1	Anchormax Capstan	P100461

File location: W:\Product Data\assemblies\P100000-P100999\P100461_5.00_DFTED_Anchormax Capstan KITS

Rev.	Change	Made on	Des/Dwn	Checked
3.00	Main bearing now Tecaform AH LA, SS drum	25/06/10	DB	GB
4.00	Motor changed to SP4169	12/02/11	DB	GB
5.00	Removed tension pin	21/03/11	GB	PC

Anchormax V2

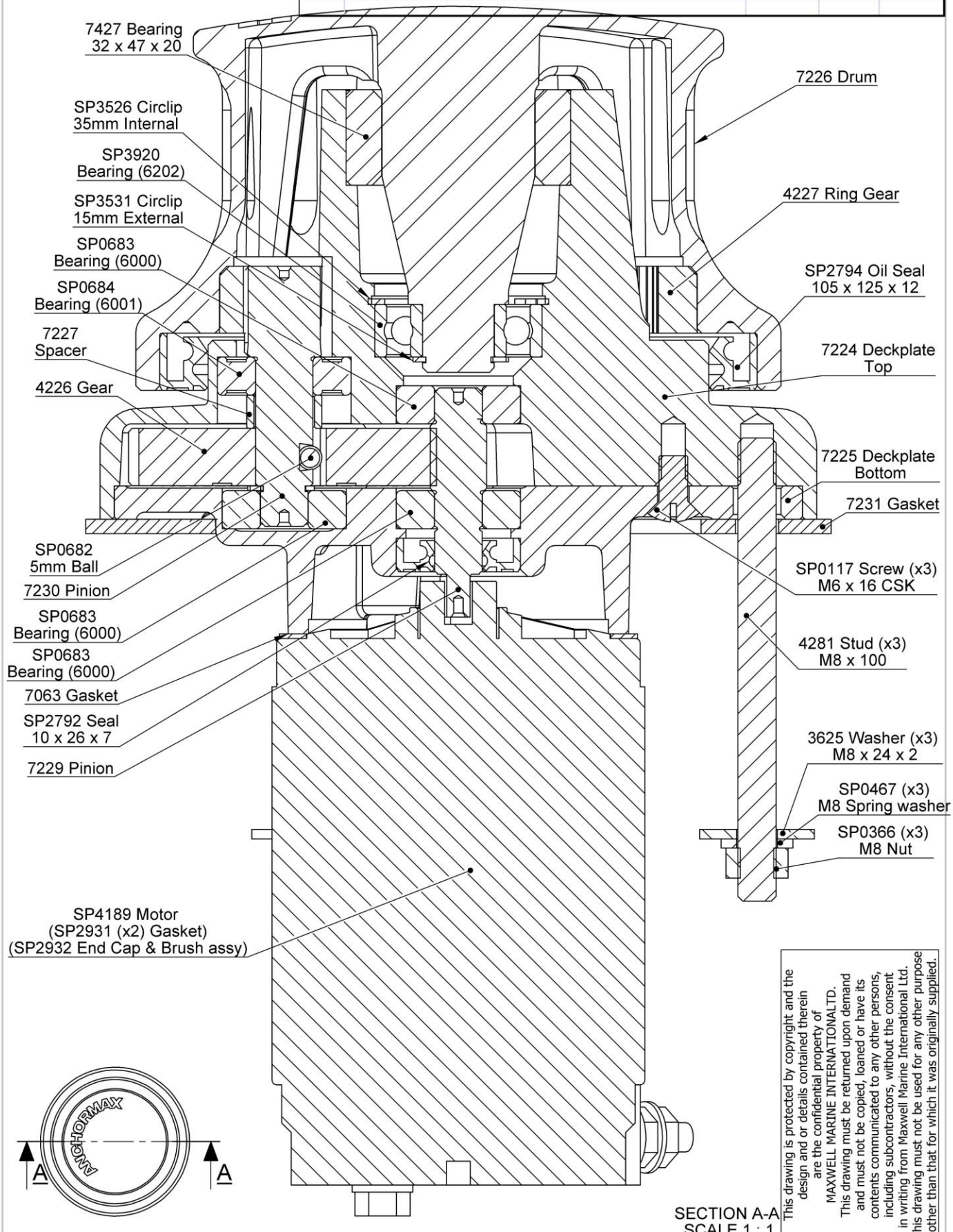


Sht Size	Scale	Dwg Type	Sheet	Description	Pbv/Dwg No.
A4	1:3.25	?	1 of 1	**Anchormax exploded view**	**P100461**

File location: W:\Product Data\assemblies\P100000-P100999\P100461_5.00_dftisd_Anchormax Capstan

Anchormax V2

Rev.	Change	Made on	Des/Dwn	Checked
3.00	Main Bearing now Tecaform AHLA, StSt Drum	25/06/10	DB	GB
4.00	Motor Changed to SP4189	12/02/11	DB	GB
5.00	Removed Tension pin	21/03/11	GB	PC

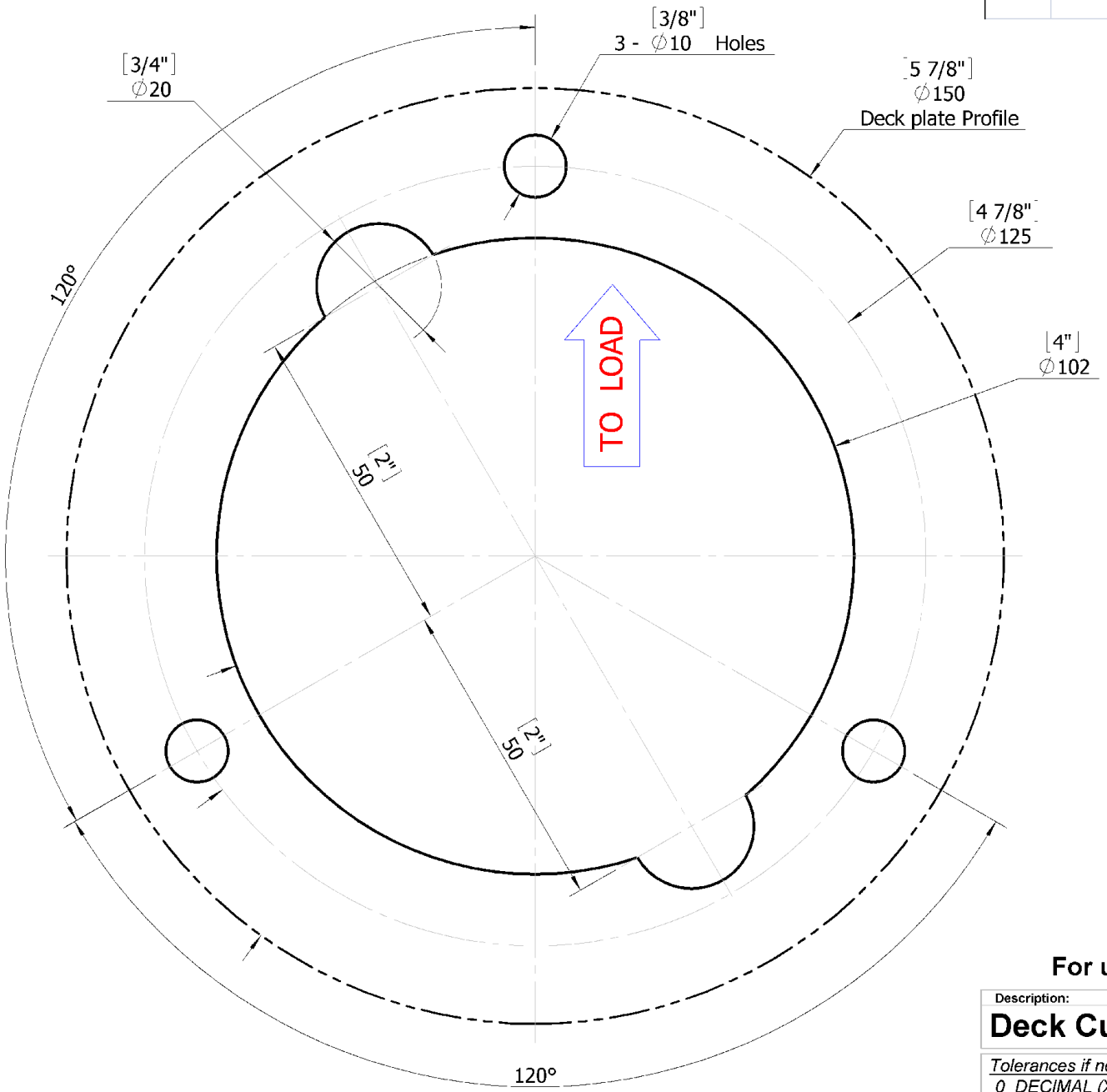


SECTION A-A
SCALE 1 : 1

Sht Size	Scale	Dwg Type	Sheet	Description	Pbv/Dwg No.
A4	1:5	DFTED	1 of 1	**Anchormax**	**P100461**

File location: W:\Product Data\assemblies\P100000-P100999\P100461_5.00_Dfted2_Anchormax Capstan section

Rev.	Change	Made on	Des/Drawn	Checked
1.00	Initial CAD issue	9/02/10	RP	GB
3.00	Central cutout increased to 4"	15/06/12	PC	DH



IF USED AS A TEMPLATE
PLEASE CHECK ACCURACY OF
DIMENSIONS ON DRAWING
BEFORE CUTTING OUT
(SEE NOTE 3)

NOTES:

1. *BEFORE CUTTING DECK, CHECK ALL UNDERDECK CLEARANCES. READ & UNDERSTAND INSTALLATION INSTRUCTIONS CONTAINED WITHIN THE MANUAL.*
2. *CHECK YOUR MARKED OUT DIMENSIONS CAREFULLY, BEFORE CUTTING & DRILLING. DECK BOLT HOLES MUST BE DRILLED PARALLEL & SQUARE TO MOUNTING FACES.*
3. *MAXWELL MARINE IS NOT RESPONSIBLE FOR ANY INACCURATE DATA, DUE TO REPRODUCTION ERRORS OF FAX MACHINES, PRINTERS, PHOTOCOPIERS ETC.*

For use with : ANCHORMAX

Description:	Drawing No:	Revision No:
Deck Cutout Template	**7409**	**3.00**

Tolerances if none specified
0 DECIMAL (X) ±0.5
1 DECIMAL (X.X) ±0.2
2 DECIMAL (X.XX) ±0.1

ALL ANGLES ±0.5°
SURFACE FINISH 1.6

Sheet Size A4
Scale *1:1*

Sheet 1 *of* 1

File Location: W:\Product Data\components\7400-7499\7409_3.00_prt_Deck Cutout Details - Anchormax

NOTES:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....