



Easy Weigh

S E R I E S

**VM/VMC 500/650
VR/VRC 1000/1200
VERTICAL WINDLASS**



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INTRODUCTION

Thankyou for purchasing a Muir Windlass. Muir go to great lengths to develop anchoring systems that meet all your performance and safety requirements and are designed with a style and finish that enhances the aesthetics of your vessel. With Muir's commitment to quality and use of superior materials and processes we know you will be pleased with your investment. Rest assured that through the correct installation, operation and maintenance your new Muir Windlass will give you years of reliable performance.

IMPORTANT INFORMATION

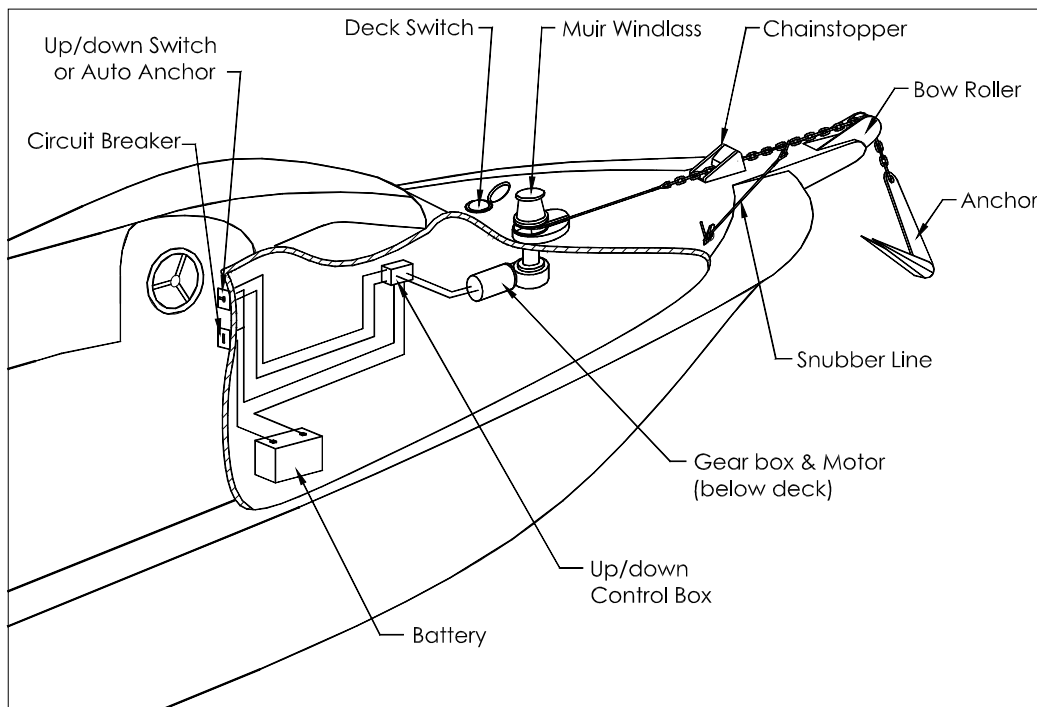
To avoid damage to the gear drive, windlass or vessel when bringing the anchor up hard, it is a preferred practice to mark the chain at approximately 5-meter intervals from the anchor, to alert the operator to the anchor position. Alternatively an Auto Anchor can be used.

Under no circumstances should the windlass be operated if it is stalled or overloaded.

If anchor retrieval is impaired by high wind, heavy seas or the anchor is snagged, ease the load by motoring slowly forward into the wind with a chain stopping device in place. The rope or chain should be cleated off and the anchor driven out by the engine, otherwise the gearbox or shaft can be damaged.

SAFE OPERATION

- Ensure that hands, feet, hair and clothing are kept clear of the windlass and other loose gear when in operation.
- Ensure no one is swimming nearby as anchor is lowered or retrieved.
- Keep hands well clear of capstan, gypsy, chain and line.
- The windlass should never be used for lifting people aloft.
- Do not use a windlass as a bollard for mooring, towing or being towed.
- Always ensure that the windlass clutch is tightened with the clutch handle. When the windlass is not in use a Chain Lock, Devil's Claw or Snubber Line should be fitted to retain the anchor. The use of these accessories will prevent excessive loads on the geardrive and accidental release of the anchor when travelling.



INSTALLATION INSTRUCTIONS

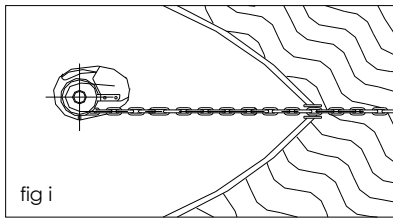


Figure (i)

Locate the windlass centrally fore and aft. Check that the chain leads unhindered to the anchor roller. The chain runs onto the starboard side of the gypsy, wraps around 180° and falls below deck through the chain pipe. Ensure there is sufficient room around the windlass to allow full rotation of the manual/clutch handle (if supplied).

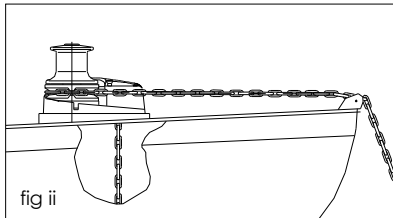


Figure (ii)

The centre height of the gypsy must be in the same plane as the chain lead from the bow roller. If the deck is angled (fore & aft) or curved (port to starboard) a suitably shaped mounting block will be required to spread the load evenly over the deck surface and mount the windlass base on a level and even footing.

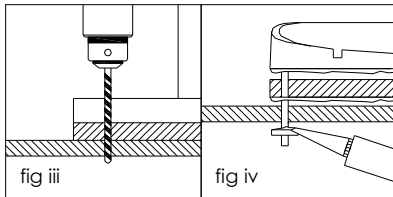
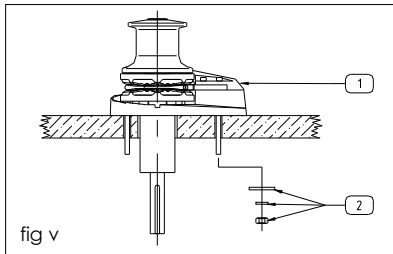


Figure (iii)

Place the shaped mounting block (if required) onto the deck. Using the layout template supplied, mark the mounting centres and drill the holes, (Refer template).

Figure (iv)

The nylon insulation gasket supplied with your windlass must be fitted between the deck (or mounting block if required) and the windlass base. Apply an appropriate sealant to the nylon gasket (and mounting block if required).



The nylon insulation gasket also acts to insulate between dissimilarity of metals and helps avoid corrosion.

For aluminium or steel hull vessels, it is important to insulate the mounting bolts, nuts and washers with a non-conductive gasket to avoid corrosion. Apply Loctite 222 or equivalent to the threaded studs under the deck and carefully tighten the nuts & washers. Remove excess sealer.

Where the deck construction is light or of foam sandwich construction, a plywood stiffener of at least 16mm (5/8") thickness should be fitted to the underside of the deck to spread the load and to prevent the bolts from pulling through the deck. Large diameter washers on the underside of the stiffener assists to spread the load.

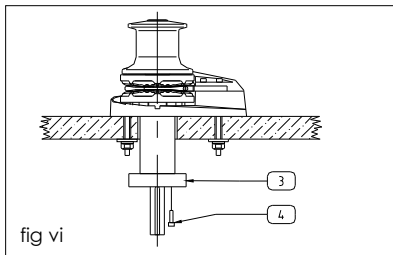


Figure (v)

1. Mount the windlass from above as shown.

2. From below, apply Loctite 222 or equivalent and place washers and nut on each stud and tighten.

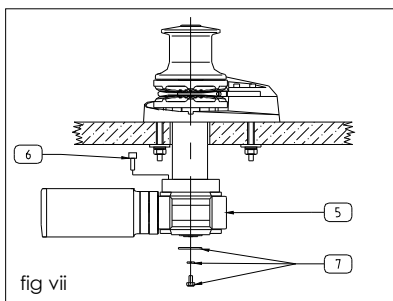


Figure (vi)

3. Locate adaptor and align holes.

4. Apply Loctite 222 or equivalent and fasten using cap screws provided.

Figure (vii)

5. Grease shaft, key, and gearbox hub, slide geardrive onto shaft ensuring key is aligned. Rotate gearbox to preferred mounting position and secure with bolts provided.

6. Locate gearbox, apply Loctite 222 or equivalent and bolt through adaptor.

7. Apply Loctite 222 or equivalent and place washers and bolt in the end of the shaft and tighten.

NOTE: On assembly, grease all moving parts with an appropriate marine grade grease. The motor / gear drive assembly should be protected with anti-corrosion film or grease tape.

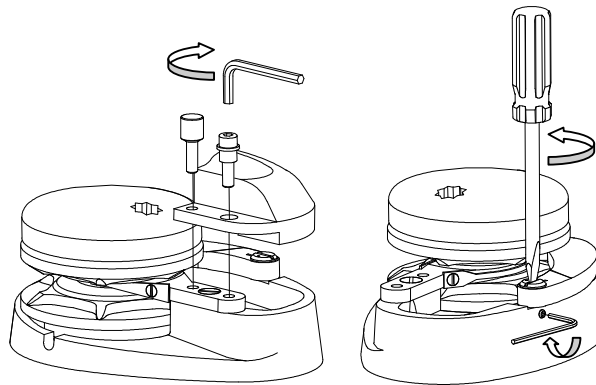
ROPE CHAIN MANAGEMENT SYSTEM INSTALLATION

If you require the use of the Rope Chain Management System (RCMS), follow these instructions to fit and adjust the finger and spring. You will require allen keys and a large flat tip screw driver to fit and adjust the RCMS, which is easy to do and will only take approximately 5 minutes to complete.

Firstly, ensure that power to the windlass is isolated so it can not accidentally operate whilst you are working on it and that it is safe to work on or near it. It is also recommended to store all removed parts in a secure place, so that they do not roll off the deck during this operation.

Refer to the Windlass manual Exploded View to help identify parts.

1. Remove the chain cover, by removing the thumb screw and swivel the chain cover around so it is out of the way.
2. Using the correct size of allen key, loosen the grub screw and remove the finger pin from the base.
3. Fit the spring into the hole and slot in the finger, with spring ends pointing upwards.
4. Fit the finger and spring to the base, by lining up the finger and spring hole over the finger pin hole in the base, and reinstall the finger pin. The hole in the finger pin must fit over the end of the spring that is sticking up.
5. To tension the spring, use the flat tip screw driver to turn the Finger Pin anti-clockwise to line up the slot in the pin with the slot in the finger, then whilst holding against the spring tension, tighten the grub screw to lock the Finger Pin in place. This applies the correct tension to the finger.

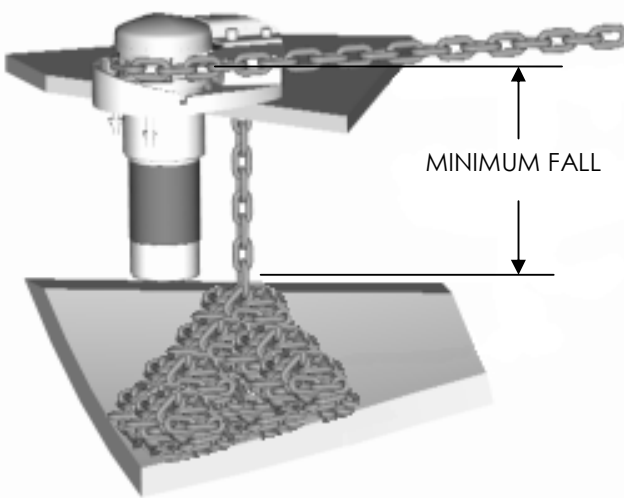


6. Re-fit the chain cover and tighten the thumb or socket head cap screw as appropriate.

Once installed and adjusted, proper maintenance and operation will provide many years of service.

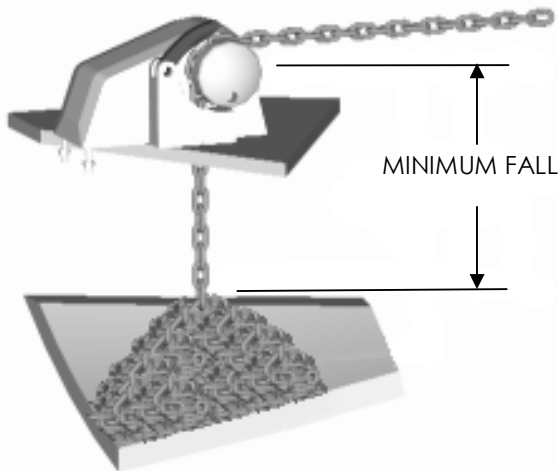
DEPTH OF THE CHAIN LOCKER

Measuring the vertical distance (minimum fall) underside of the deck and the top of the completely stored and heaped anchor rode in the locker will assist in determining the installation to suit your vessel. Refer to the fall depth diagrams and the options detailed below. It is also recommended that the chain be directed to the centre of the chain locker.



Vertical Windlass:

The running gear, gypsy and capstan are positioned above the deck with the motor and gear drive below. Vertical windlasses operate at best with greater anchor rode fall than the horizontal windlass and a minimum fall of 300mm from top of stacked anchor rode is recommended. This is particularly important if using nylon line, which does not fold and stack as well as chain. Vertical windlasses minimise deck intrusion and the modern curved lines of the Muir windlass enhance the look of any vessel. A vertical windlass provides the advantage of a 180-degree wrap of the anchor rode around the gypsy.



Horizontal Windlass:

Fully enclosed, above deck, this style is usually preferred where locker space is limited or additional fall is required. The motor and gear drive is fully enclosed in the housing with nothing protruding below deck. The horizontal windlass operates with optimum anchor rode fall of at least 300mm from the top of the stacked anchor rode, and due to the horizontal orientation of the gypsy higher above the deck there is additional fall provided. These units are ideally suited for vessels with less locker space.

Vertical Windlass Model	Minimum Fall (Dist. Top of Pile)
VM/C 500 / 650	300 mm
VR/C 1000 /1200	450 mm

HANDY HINTS

It is a common error to locate the windlass too far forward, or too close to the bulk head, where there is insufficient room for chain and anchor stowage. The chain fall should be positioned in the centre of the chain locker to maximise the fall of the chain. If the chain falls alongside a bulkhead or onto the stem it will typically pyramid and jam.

If the windlass requires positioning such that chain falls into an undesirable position, a metal tube can be fitted under the hawser to redirect the chain to a preferred position. This pipe should be at least 2 times the diameter of the chain. It should also be as vertical as possible. Position the windlass in the best location with the chain hawser facing forward.

Ensure sufficient room to run electric cables to the windlass. Follow the installation instructions, including underdeck stiffening, deck camber, alignment, mounting blocks and sealing procedures. The gearbox and motor can be located in one of 8 positions.

ELECTRICAL

See Wiring Diagrams for wiring instructions.

Circuit breaker (must be fitted to ensure warranty)

If the windlass is overloaded or stalled the circuit breaker will automatically cut power to the windlass and protect the wiring and motor. The circuit breaker should not be used as an isolating switch.

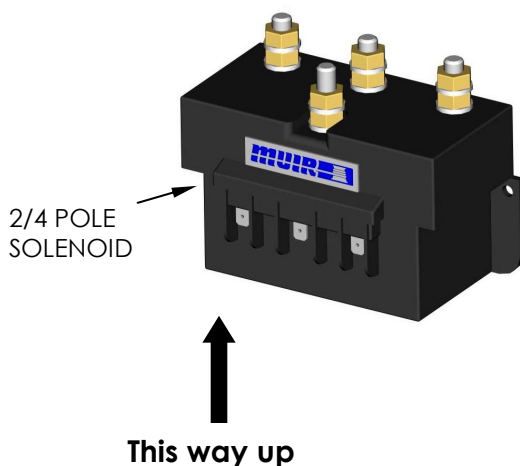
Deck Switches are best located out to either port or starboard or directly behind the windlass in a position where it can be easily reached with your foot or knee, preferably where you can view the anchor and chain coming aboard.

Isolating Switch should be fitted in an accessible position for safety, ideally close to the battery or switches. The isolating switch is not a circuit breaker.

Batteries are best located as close to the windlass as possible. Larger cables will reduce the voltage drop to the motor and the heat generated when running the windlass. Small diameter cables drop voltage considerably. Use the following table as a guide to your required wire size:

Distance from battery to motor (m)	Cable Size		Cable Diameter (mm)
	(mm ²)	AWG	
7 (23')	25	3	8 (5/16")
9 – 17 (30' – 55')	50	1/0	10 (3/8")

Rotation: Windlasses may be wired for single or dual direction, using single or dual deck switches for raising or lowering. Alternatively a remote control solenoid package with Toggle Switch, Hand Pendant or Auto Anchors are available.



Solenoid Installation

We recommend that the solenoid is installed in an upright position, where it has **no exposure** to sea water and in close proximity to the electric motor of the windlass.

Do not place the solenoid in the chain locker.

For wiring information, please refer to the appropriate wiring diagram listed in the table below.

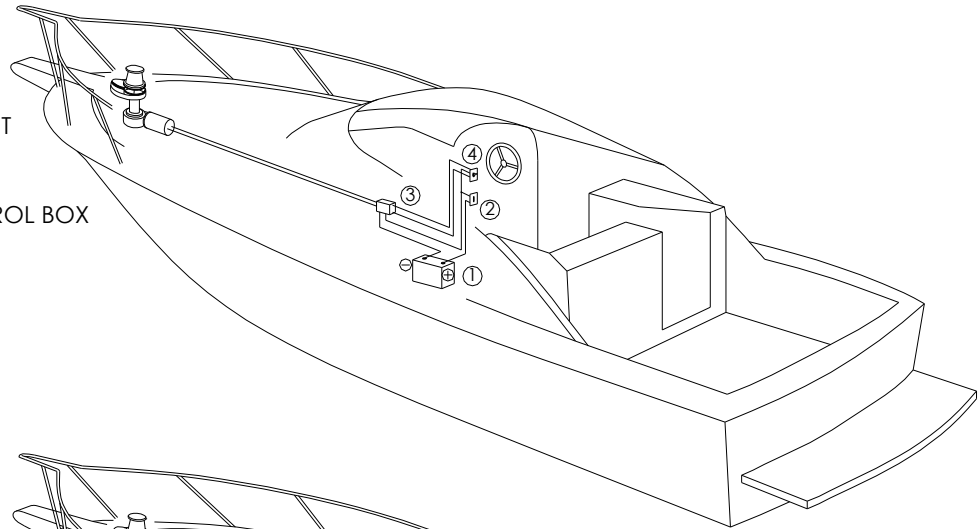
WINCH MODEL	MOTOR TYPE	DRAWING NO.
VR/C 1000/1200	2 POLE	WIRE0085-A
VR/C 1000/1200	3 POLE	WIRE0086

WARNING: Keep solenoid away from salt and fresh water

WIRING LAYOUT

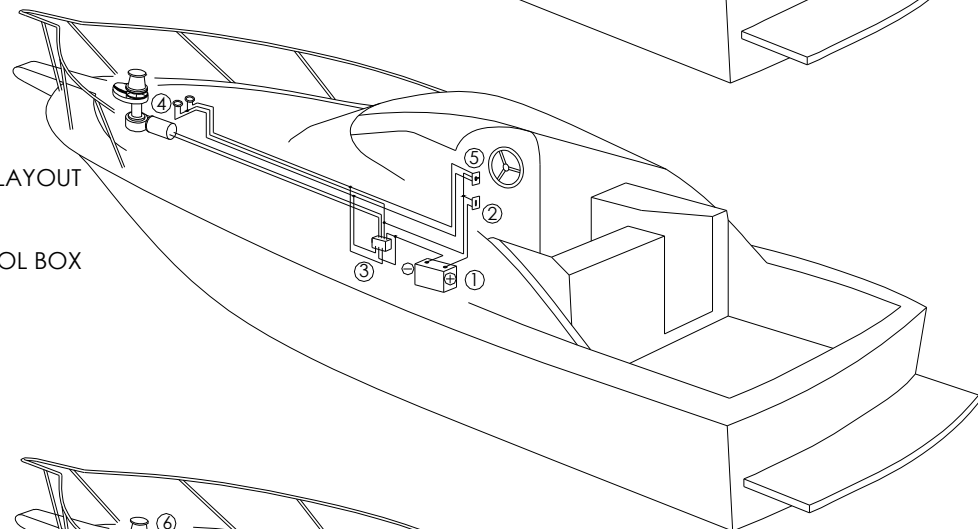
REMOTE SWITCH LAYOUT

1. BATTERY
2. CIRCUIT BREAKER
3. SOLENOID/CONTROL BOX
4. REMOTE SWITCH



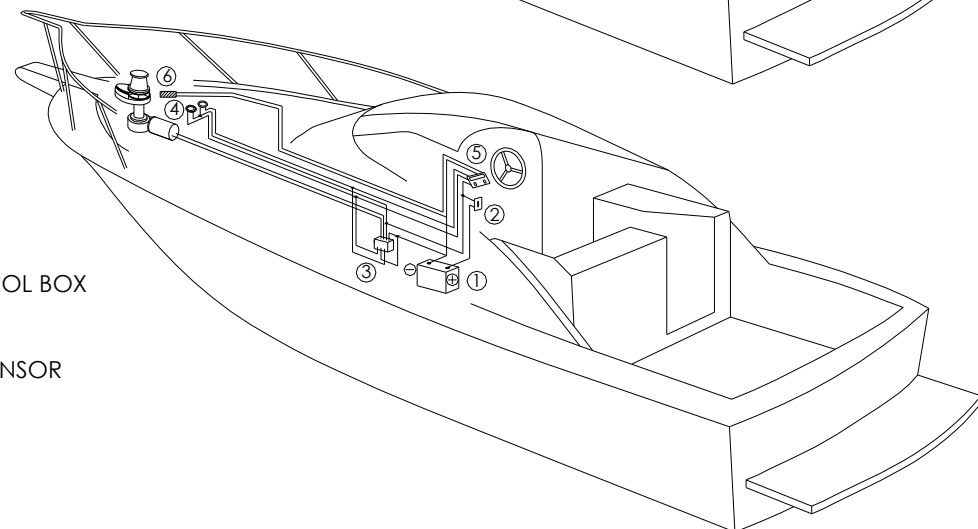
REMOTE / DECK SWITCH LAYOUT

1. BATTERY
2. CIRCUIT BREAKER
3. SOLENOID/CONTROL BOX
4. DECK SWITCHES
5. REMOTE SWITCH



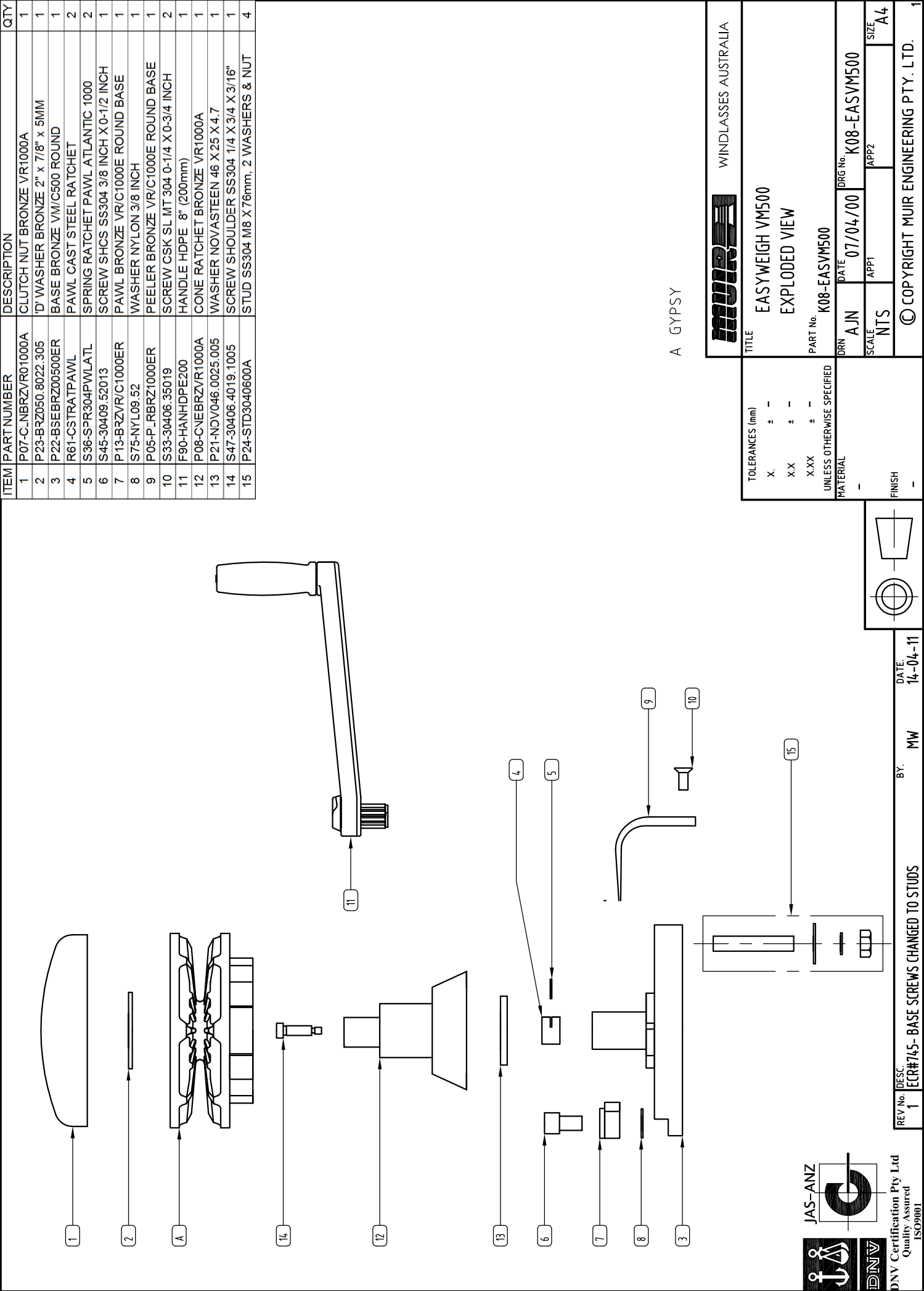
AUTO ANCHOR LAYOUT

1. BATTERY
2. CIRCUIT BREAKER
3. SOLENOID/CONTROL BOX
4. DECK SWITCHES
5. AUTO ANCHOR
6. AUTO ANCHOR SENSOR

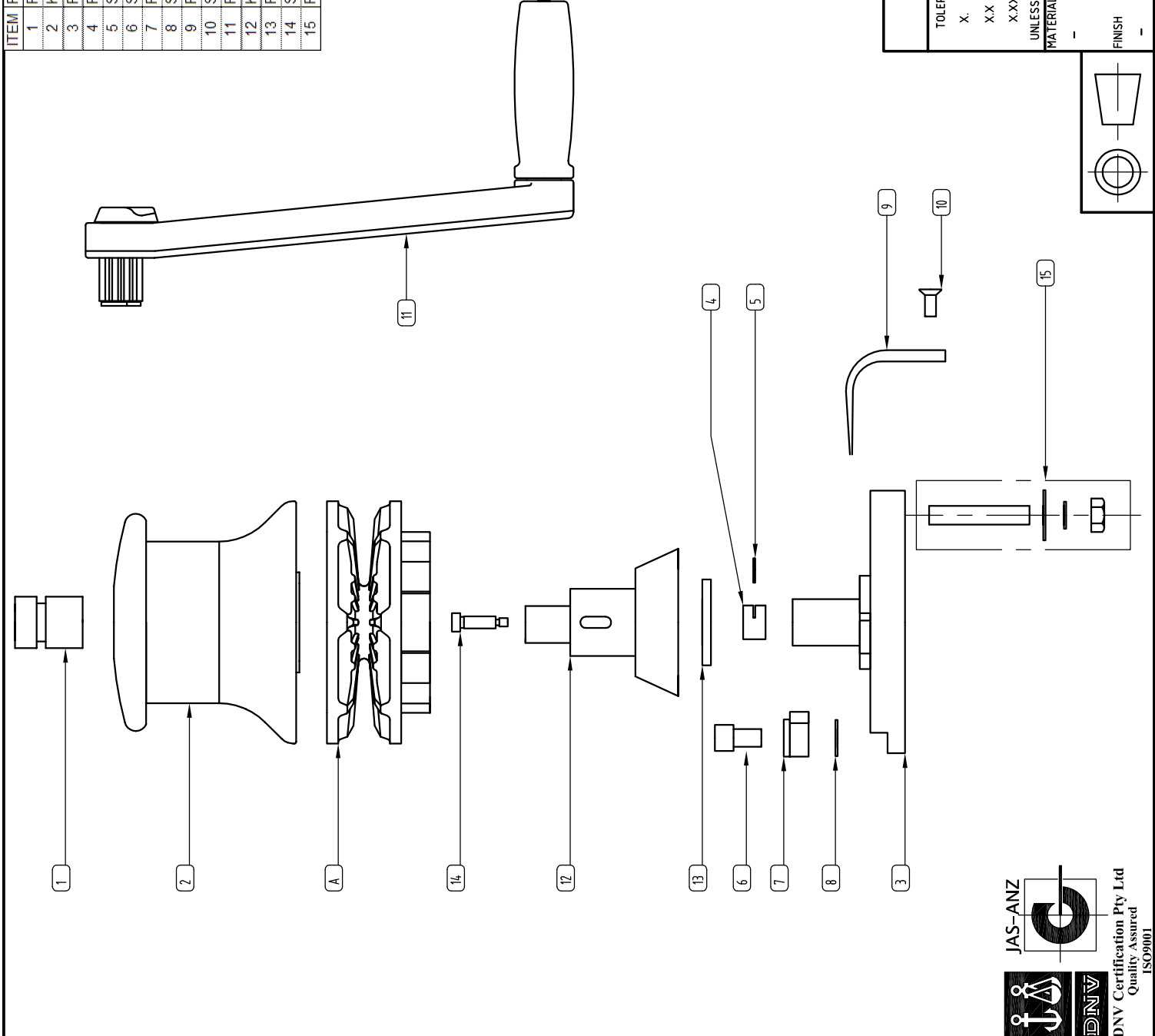


NOT TO BE USED AS WIRING DIAGRAMS

ITEM	PART NUMBER	DESCRIPTION	QTY
1	P07-C-NBRZVR01000A	CLUTCH NUT BRONZE VR1000A	1
2	P23-BRZ050.8022.305	1" WASHER BRONZE 2" x 7/8" x 5MM	1
3	P22-BSEBRZ00500ER	BASE BRONZE VM/C500 ROUND	1
4	R61-CS-TRATPAWL	PAWL CAST STEEL RATCHET	2
5	S36-SPR304PWLATL	SPRING RATCHET PAWL ATLANTIC 1000	2
6	S45-30409.52013	SCREW SHCS SS304 3/8 INCH X 0-1/2 INCH	1
7	P13-BRZVR/C1000ER	PAWL BRONZE VR/C1000E ROUND BASE	1
8	S75-NYL09.52	WASHER NYLON 3/8 INCH	1
9	P05-P-LRBRZ1000ER	PEELER BRONZE VR/C1000E ROUND BASE	1
10	S33-30406.35019	SCREW CSK SL MT 304 0-1/4 X 0-3/4 INCH	2
11	F90-HANHDPE200	HANDLE HDPE 8" (200mm)	1
12	P08-CNEBRZVR1000A	CONE RATCHET BRONZE VR1000A	1
13	P21-NOV046.0025.005	WASHER NOV/ASTEEN 46 X 25 X 4.7	1
14	S47-30406.4019.1005	SCREW SHOULDER SS304 1/4 X 3/4 X 3/16"	1
15	P24-STD3040600A	STUD SS304 M8 X 76mm, 2 WASHERS & NUT	4



ITEM	PART NUMBER	DESCRIPTION	QTY
1	P07-CLNBRZVRC01000A	CLUTCH NUT BRONZE VRC1000A	1
2	K06-CAPVRC01000A	CAPSTAN ASSEMBLY VRC1000A	1
3	P22-BSEBRZ00500ER	BASE BRONZE VM/C500 ROUND	1
4	R61-CSTRA PAWL	PAWL CAST STEEL RATCHET	2
5	S36-SPR304PWLATL	SPRING RATCHET PAWL ATLANTIC 1000	2
6	S45-30409.52013	SCREW SHCS SS304 3/8 INCH X 0-1/2 INCH	1
7	P13-BRZVRC1000ER	PAWL BRONZE VRC1000E ROUND BASE	1
8	S75-NYL09.52	WASHER NYLON 3/8 INCH	1
9	P05-PLRBRZ1000ER	PEELER BRONZE VRC1000E ROUND BASE	1
10	S33-30406.35019	SCREW CSK SL MT 304 0-1/4 X 0-3/4 INCH	2
11	F90-HANHDPE200	HANDLE HDPE 8" (200mm)	1
12	K06-CNEVRC1000A	RATCHET CONE ASSEMBLY VRC1000	1
13	P21-NOV046.0025.005	WASHER NOVASTEEN 46 X 25 X 4.7	1
14	S47-30406.4057.2005	SCREW SHOULDER SS304 1/4 X 1 1/4 X 3/16"	1
15	P24-STD3040600A	STUD SS304 M8 X 76mm, 2 WASHERS & NUT	4



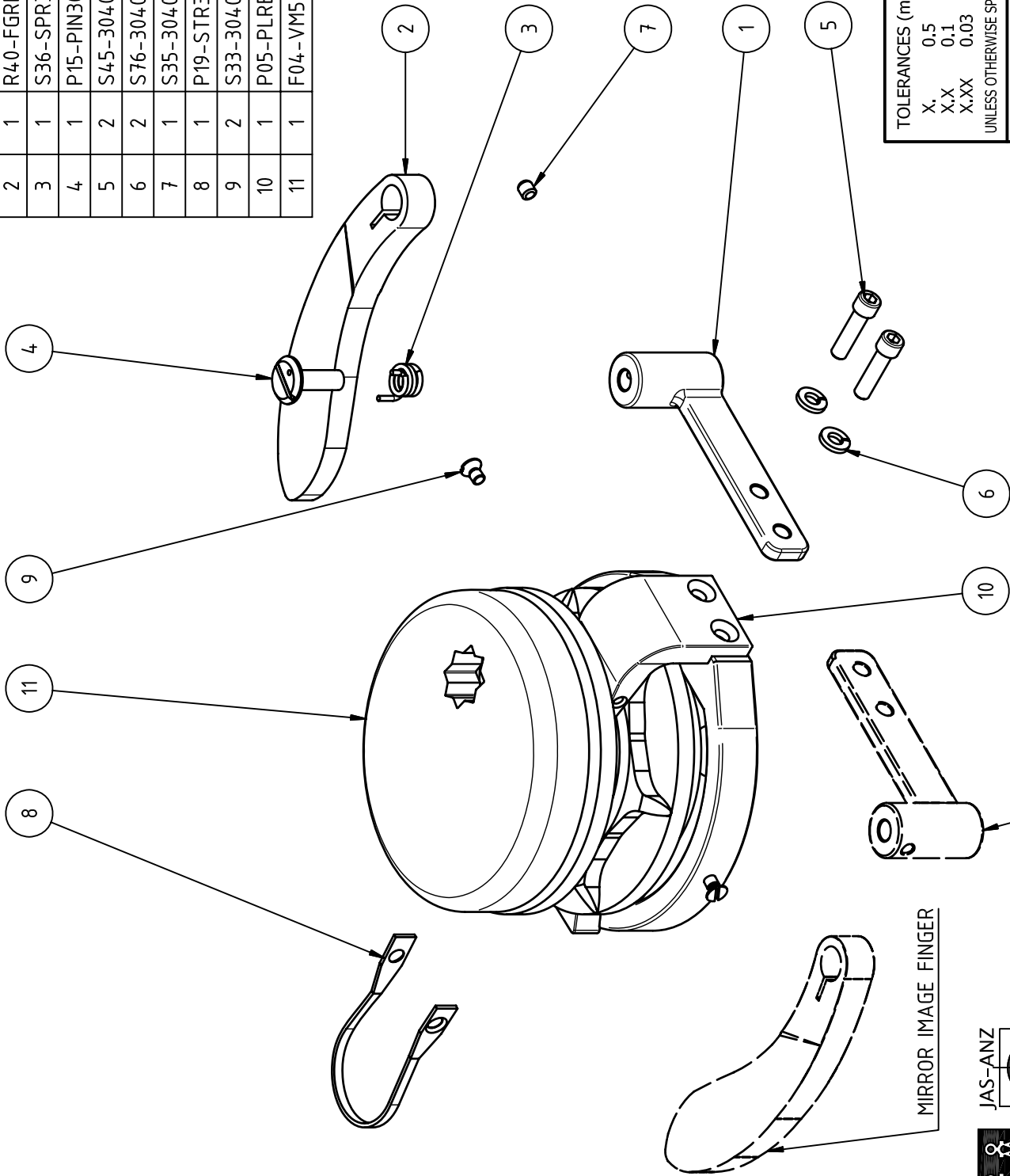
A GYPSY

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MATERIAL -		SCALE NTS	APP1
FINISH -		APP2	SIZE A4
© COPYRIGHT MUIR ENGINEERING PTY. LTD. 1			



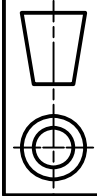
DNV Certification Pty Ltd
Quality Assured
ISO9001

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	P14-RCMS316SUPPORT	SUPPORT RCMS
2	1	R40-FGRPVC0850A	FINGER PVC VR/C850A
3	1	S36-SPR304FGATL	SPRING FINGER ATLANTICS
4	1	P15-PIN304.19.05X27	PIN - FINGER ATLANTICS
5	2	S45-304.06.35025	SCREW - CAP 1/4 X 1"
6	2	S76-304.06.35	WASHER SPRING 1/4"
7	1	S35-304.06.35006	SCREW GRUB SS304 1/4 X 6MM
8	1	P19-STR304.0850A	STRIPPER SS304 VR/C 850AF
9	2	S33-304.04.76010	SCREW CSK 3/16 X 3/8"
10	1	P05-PLRBRZ1000FRCMS	PEELER BRONZE
11	1	F04-VM500	VM 500 ASSEMBLY



TOLERANCES (mm)
X. 0.5
X.X 0.1
X.XX 0.03
UNLESS OTHERWISE SPECIFIED

MATERIAL
FINISH



SUPPORT CAN BE ROTATED 180°
IF REQUIRED FOR MIRROR IMAGE CONFIGURATION

REV No. DESC. BY DATE



WINDLASSES AUSTRALIA

TITLE
VM 500 RCMS UPGRADE KIT
EXPLODED VIEW

PART No
K02-RCMSVR1000RB

DRN
JT
SCALE
1:2

DATE
20/06/2008
APP1

DRG No
K02-RCMSVR1000RB
APP2

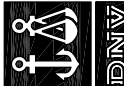
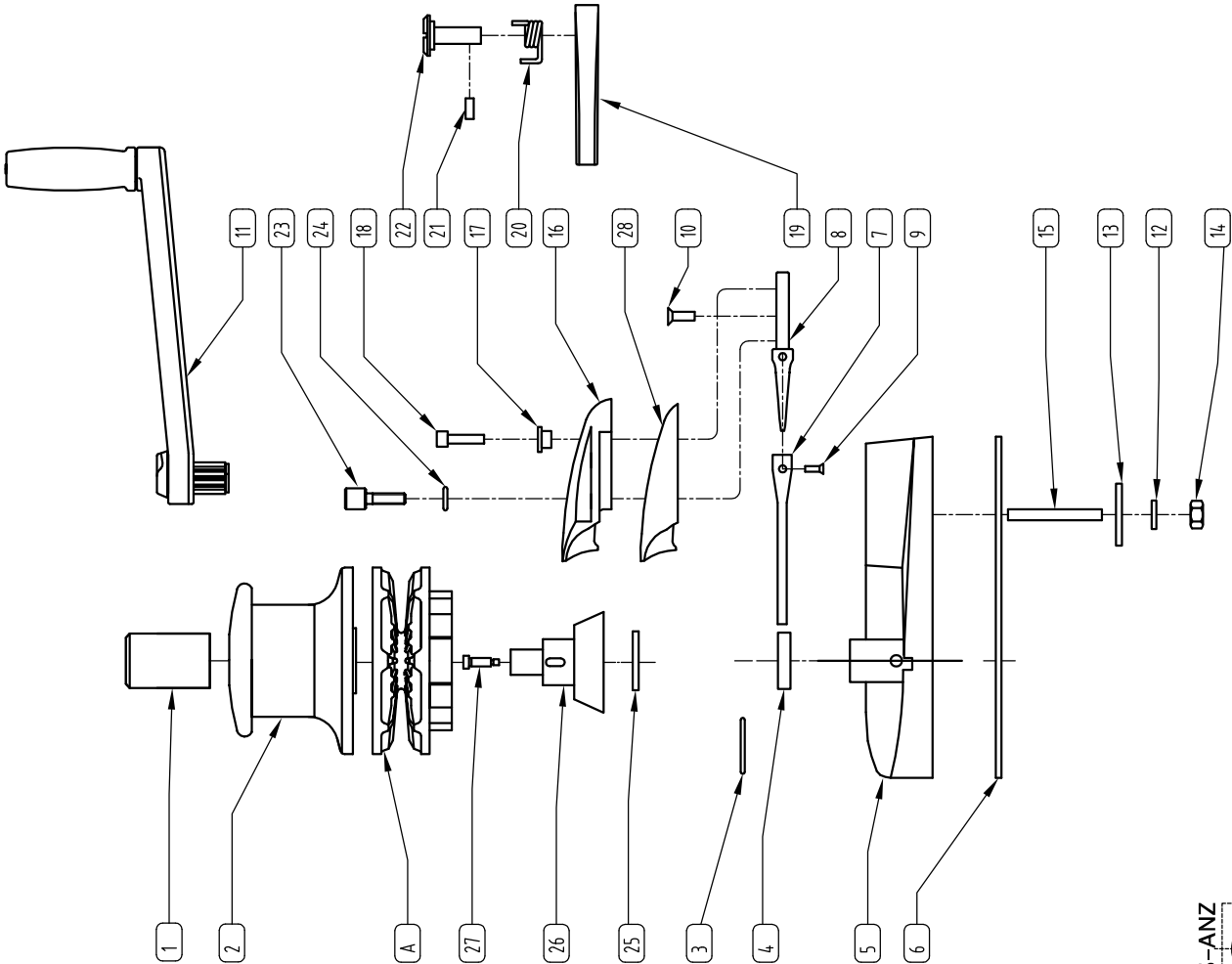
SIZE
A4

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ITEM	PART NUMBER	DESCRIPTION	QTY
1	P07-CLN316VRC00850	CLUTCH NUT SS316 VRC850	1
2	K06-CAPVRC01000A	CAPSTAN ASSEMBLY VRC1000A	1
3	P15-PIN30407.94X50	5/16" DRIVE PIN	1
4	P16-RNGBRZ1000A	AB2 PAWL RING	1
5	P22-BSE31600650M	MANUAL STORM BASE	1
6	P22-BSE31600850B	BASE INSULATION PAD	1
7	P19-STR3040850A	STRIPPER SS304 VRC850A	1
8	P05-PLR3160850	PEELER SS316 VRC850AF SPOON TYPE	1
9	S33-30404.76010	SCREW CSK SL MT 304 0-3/16 X 0-3/8 INCH	2
10	S33-30408.00020	SCREW CSK SL MT 304 8mm X 20mm	1
11	F90-HANHDPE200	HANDLE HDPE 8" (200mm)	2
12	S76-30410.00	WASHER SPRING SS304 10mm	3
13	S75-30410.00	WASHER FLAT SS304 10mm	3
14	S20-30410.00	NUT HEX SS304 10mm	3
15	P24-STD3040850A	STUD SS304 VRC850A	3
16	P05-CCV3160850A	CHAIN COVER SS316 VRC850A	1
17	P02-304012.2008.109	BUSH SS304 VRC1000A CHAIN COVER	1
18	S45-30408.00030	SCREW SHCS SS304 8mm X 30mm	1
19	R40-FGRPVC0850A	FINGER PVC VRC850A	1
20	S36-SPR304FGRATL	SPRING FINGER ATLANTICS	1
21	S35-30406.0006	SCREW GRUB 304 6MM X 6MM	1
22	P15-PIN30419.05X27	PIN - FINGER ATLANTICS	1
23	S46-30408.00030	SCREW THUMB SS303 M8 X 30MM	1
24	R41-ORG01100701.8	O' RING SEAL 11 X ID7.5 X 1.75 (BS011)	1
25	P21-NOV046.0025.005	WASHER NOVASTEEN 46 X 25 X 4.7	1
26	K06-CNEVRC1000A	RATCHET CONE ASSEMBLY VRC1000A	1
27	S47-30406.4019.1005	SCREW SHOULDER SS304 1/4 X 3/4 X 3/16"	1
28	P05-CCV3160850AINS	CHAIN COVER INSERT	1

A GYPSY

 WINDLASSES AUSTRALIA	
TOLERANCES (mm)	TITLE
X. ±	STORM VMC650
X.X ±	EXPLODED VIEW
X.XX ±	
UNLESS OTHERWISE SPECIFIED	PART No. K08-STORMVMC650
MATERIAL	DRN MW DATE 30-03-11 DRG No. K08-STORMVMC650
FINISH	SCALE NTS APP1 APP2
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	© COPYRIGHT MUIR ENGINEERING PTY. LTD. 5



DNV Certification Pty Ltd
Quality Assured ISO9001:2000

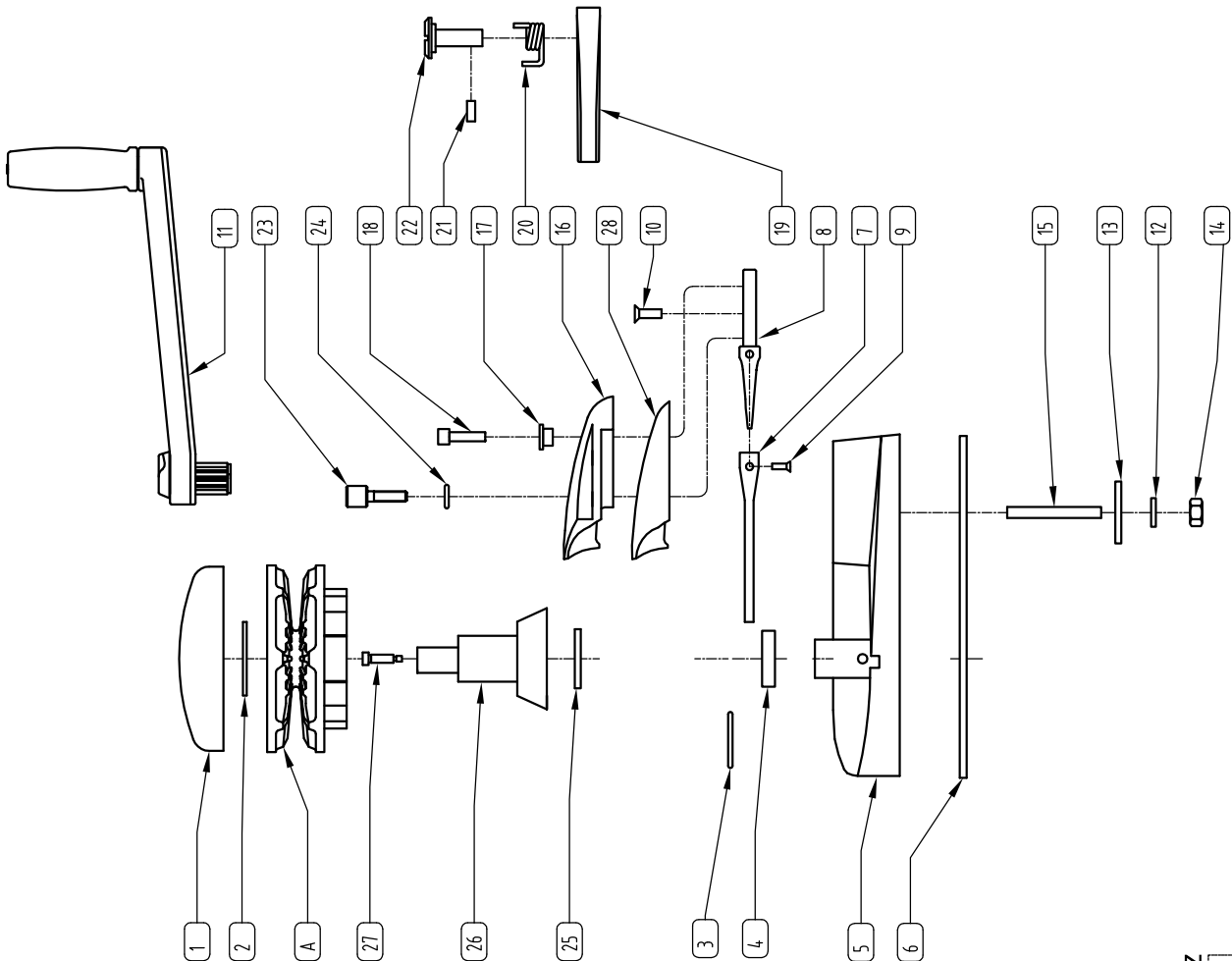
REV No. DESC.

BY.

DATE.

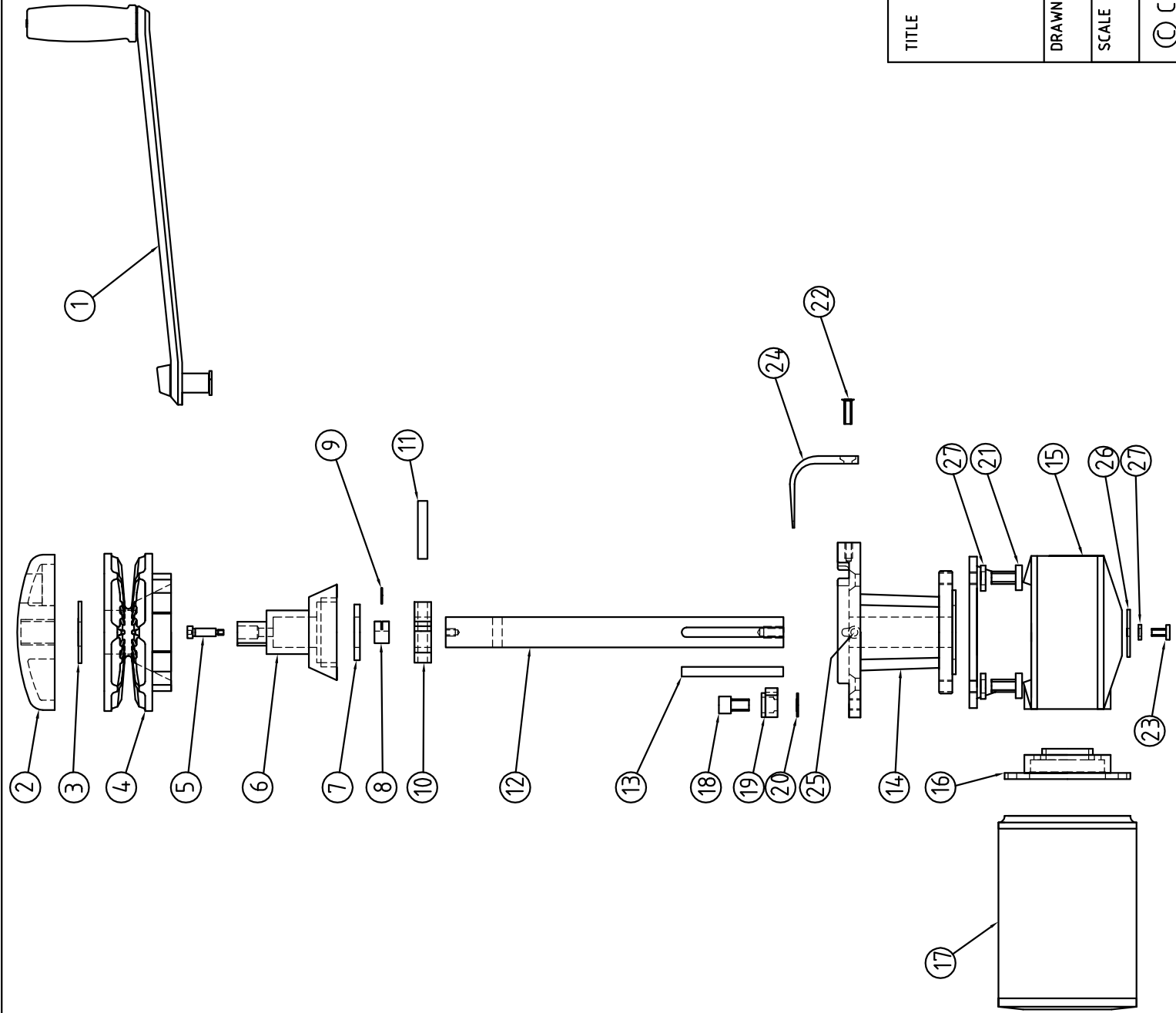
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1	P07-CLN316VR00850A	CLUTCH NUT SS316 VR850	1
2	P23-316050 8022.305	D' WASHER SS 316 2" x 7/8" x 5mm	1
3	P15-PIN30407.94X50	5/16" DRIVE PIN	1
4	P16-RNGBRZ1000A	AB2 PAWL RING	1
5	P22-BSE31600650M	MANUAL STORM BASE	1
6	P22-BSE31600850B	BASE INSULATION PAD	1
7	P19-STR3040850A	STRIPPER SS304 VR/C850A	1
8	P05-PLR3160850	PEELER SS316 VR/C850AF SPOON TYPE	1
9	S33-30404.76010	SCREW CSK SL MT 304 0-3/16 X 0-3/8 INCH	2
10	S33-30408.00020	SCREW CSK SL MT 304 8mm X 20mm	1
11	F90-HANIHDPE200	HANDLE HDPE 8" (200mm)	2
12	S76-30410.00	WASHER SPRING SS304 10mm	3
13	S75-30410.00	WASHER FLAT SS304 10mm	3
14	S20-30410.00	NUT HEX SS304 10mm	3
15	P24-STD3040850A	STUD SS304 VR/C850A	3
16	P05-CCV3160850A	CHAIN COVER SS316 VR/C850A	1
17	P02-304012.2008.109	BUSH SS304 VR/C1000A CHAIN COVER	1
18	S45-30408.00030	SCREW SHCS SS304 8mm X 30mm	1
19	R40-FGRPVC0850A	FINGER PVC VR/C850A	1
20	S36-SPR304FGRATL	SPRING FINGER ATLANTICS	1
21	S35-30406.0006	SCREW GRUB 304 6MM X 6MM	1
22	P15-PIN30419.05X27	PIN - FINGER ATLANTICS	1
23	S46-30408.00030	SCREW THUMB SS303 M8 X 30MM	1
24	R41-ORG01100701.8	'O' RING SEAL 11 X ID7.5 X 1.75 (BS011)	1
25	P21-NOV046.0025.005	WASHER NOVASTEEN 46 X 25 X 4.7	1
26	P08-CNEBRZVR1000A	CONE RATCHET BRONZE VR1000A	1
27	S47-30406.4019.1005	SCREW SHOULDER SS304 1/4 X 3/4 X 3/16"	1
28	P05-CCV3160850AINS	CHAIN COVER INSERT	1

A GYPSY



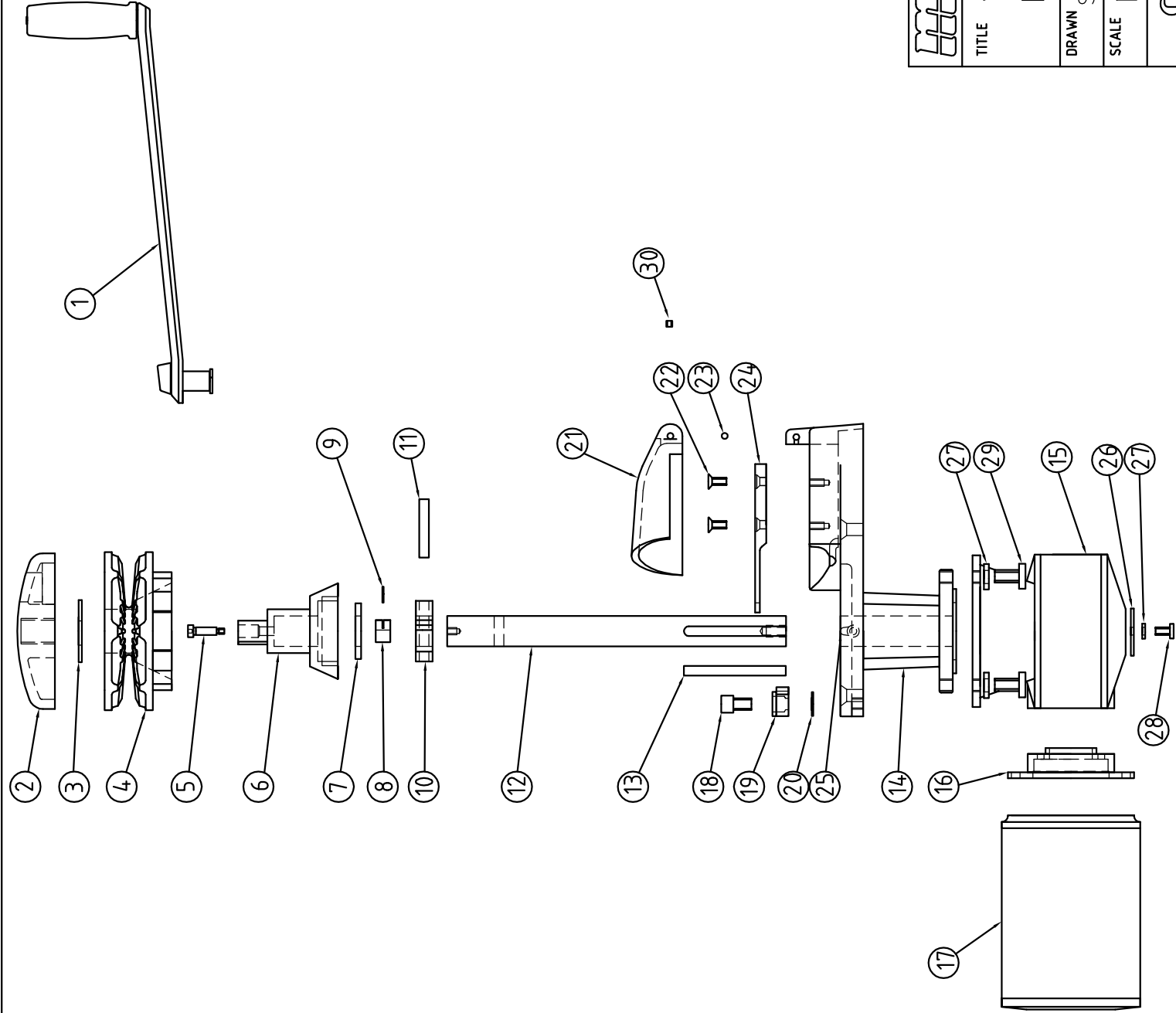
WINDLASSES AUSTRALIA

TOLERANCES (mm)	TITLE				
	STORM VM650				
	EXPLODED VIEW				
	PART No. K08-STORMVM650				
	UNLESS OTHERWISE SPECIFIED				
MATERIAL	DRN	MW	DATE	DRG No.	
			30-03-11	K08-STORMVM650	
FINISH	SCALE		APP1	APP2	SIZE
	NTS				A4
	© COPYRIGHT MUIR ENGINEERING PTY. LTD. 5				



ITEM	PART No.	DESCRIPTION	QTY.
1	0626	HANDLE MUIR	1
2	0461	CAPSTAN TOP - "MUIR"	1
3	0710	WASHER	1
4		GYPSY	1
5	1201	SCREW - SHD 1/4x3/4x3/16	1
6	1100	SHAFT - CAPSTAN SHORT	1
7	1401	WASHER - NOVASTEEN	1
8	0800	PAWL	2
9	0801	PAWL SPRING	2
10	0500	PAWL RING - SHAFT	1
11	2511	DRIVE PIN 5/16x2	1
12	1102	SHAFT - VR800	1
13	1801	KEY 5/16x3 1/4	1
14	1928	BASE - VR800	1
15		GEARBOX	1
16		MOTOR-GEARBOX ADAPTOR	1
17		ELECTRIC MOTOR	1
18	1248	SCREW 3/8x3/4 SHCS	1
19	0802	PAWL - VM/VMC 500	1
20	1421	WASHER - NYLON	1
21	1209	SCREW 3/8x1 HEX	4
22	1200	SCREW 1/4x3/4 CSK MT	2
23	1207	SCREW 3/8x3/4 HEX	1
24	2400	PEELER	1
25	3400	GREASE NIPPLE	1
26	1403	WASHER 2"	1
27	1404	WASHER SPRING 3/8	5

TITLE MUIR ENGINEERING HOBART			
EASYWEIGH VR1000			
ROUND BASE			
DRAWN	S. A.	DATE	DRG No
		29/09/95	1141/EX/02
SCALE	APP		
© COPYRIGHT MUIR ENGINEERING PTY. LTD.			



ITEM	PART No.	DESCRIPTION	QTY.
1	0626	HANDLE MUIR	1
2	0461	CAPSTAN TOP - "MUIR"	1
3	0710	WASHER	1
4		GYPSY	1
5	1201	SCREW - SHD 1/4x3/4x3/16	1
6	1100	SHAFT - CAPSTAN SHORT	1
7	1401	WASHER - NOVASTEEN	1
8	0800	PAWL	2
9	0801	PAWL SPRING	2
10	0500	PAWL RING - SHAFT	1
11	2511	DRIVE PIN 5/16x2	1
12	1102	SHAFT - VR800	1
13	1801	KEY 5/16x3 1/4	1
14	1902	BASE - VR800	1
15		GEARBOX	1
16		MOTOR-GEARBOX ADAPTOR	1
17		ELECTRIC MOTOR	1
18	1248	SCREW 3/8x3/4 SHCS	1
19	0802	PAWL - VM/VMC 500	1
20	1421	WASHER - NYLON	1
21	2101	CHAIN COVER - HAWSER	1
22	1200	SCREW 1/4x3/4 CSK MT	2
23	2501	PIN - 3/16x1 7/8	1
24	2401	PEELER - HAWSER	1
25	3400	GREASE NIPPLE	1
26	1403	WASHER 2"	1
27	1404	WASHER SPRING 3/8	5
28	1207	SCREW 3/8x3/4 HEX	4
29	1209	SCREW 3/8x1 HEX	4
30	1205	SCREW GRUB 3/16x3/16	1



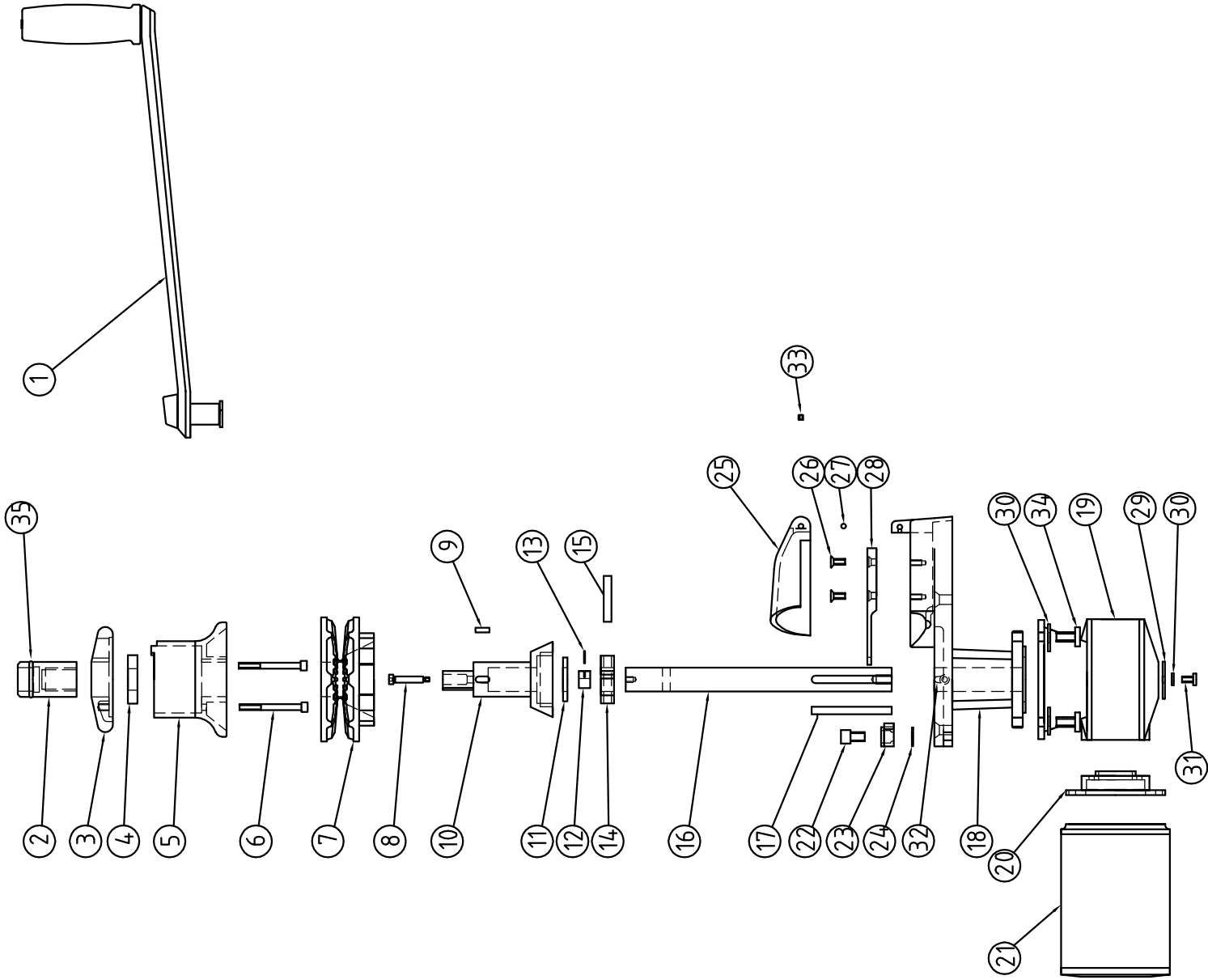
ENGINEERING
HOBART

TITLE VR-1000

EXPLODED VIEW

DRAWN	S.A.	DATE	25/01/96	DRG No	1141/EX/01
SCALE	NTS	APP		SIZE	A4

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ITEM	PART No.	DESCRIPTION	QTY.
1	0626	HANDLE MUIR	1
2	0724	CLUTCH NUT - VRC1100	1
3	0405	CAPSTAN TOP - "MUIR"	1
4	1402	WASHER - BRZ	1
5	0455	CAPSTAN DRUM - VRC1100	1
6	1325	SCREW 1/4x3 1/2 RH. MT	3
7		GYPSY	1
8	1203	SCREW SHD 1/4x1 1/4x3/16	1
9	1800	KEY 1/4x5/8	1
10	1101	SHAFT CAPSTAN LONG	1
11	1401	WASHER - NOVASTEEN	1
12	0800	PAWL	2
13	0801	PAWL SPRING	2
14	0500	CONE DRIVE RATCHET	1
15	2511	DRIVE PIN 5/16x2	1
16	1102	SHAFT - VR800	1
17	1801	KEY 5/16x3/4	1
18	1902	BASE - VR/VRC 800	1
19		GEARBOX	1
20		MOTOR-GEARBOX ADAPTOR	1
21		ELECTRIC MOTOR	1
22	1248	SCREW 3/8x3/4 SHCS	1
23	0803	PAWL - VM/VMC	1
24	1421	WASHER - NYLON	1
25	2101	CHAIN COVER - EASYWEIGH	1
26	1200	SCREW 1/4x3/4 CSK MT	2
27	2501	PIN 3/16x1 7/8	1
28	2401	CHAIN PEELER - HAWSER	1
29	1403	WASHER 2"	1
30	1404	SPRING WASHER 3/8	5
31	1207	SCREW 3/8x3/4 HEX	1
32	3400	GREASE NIPPLE	1
33	1205	SCREW GRUB 3/16x3/16	1
34	1209	SCREW 3/8x1 HEX	4
35	2306	RING 'O'	1

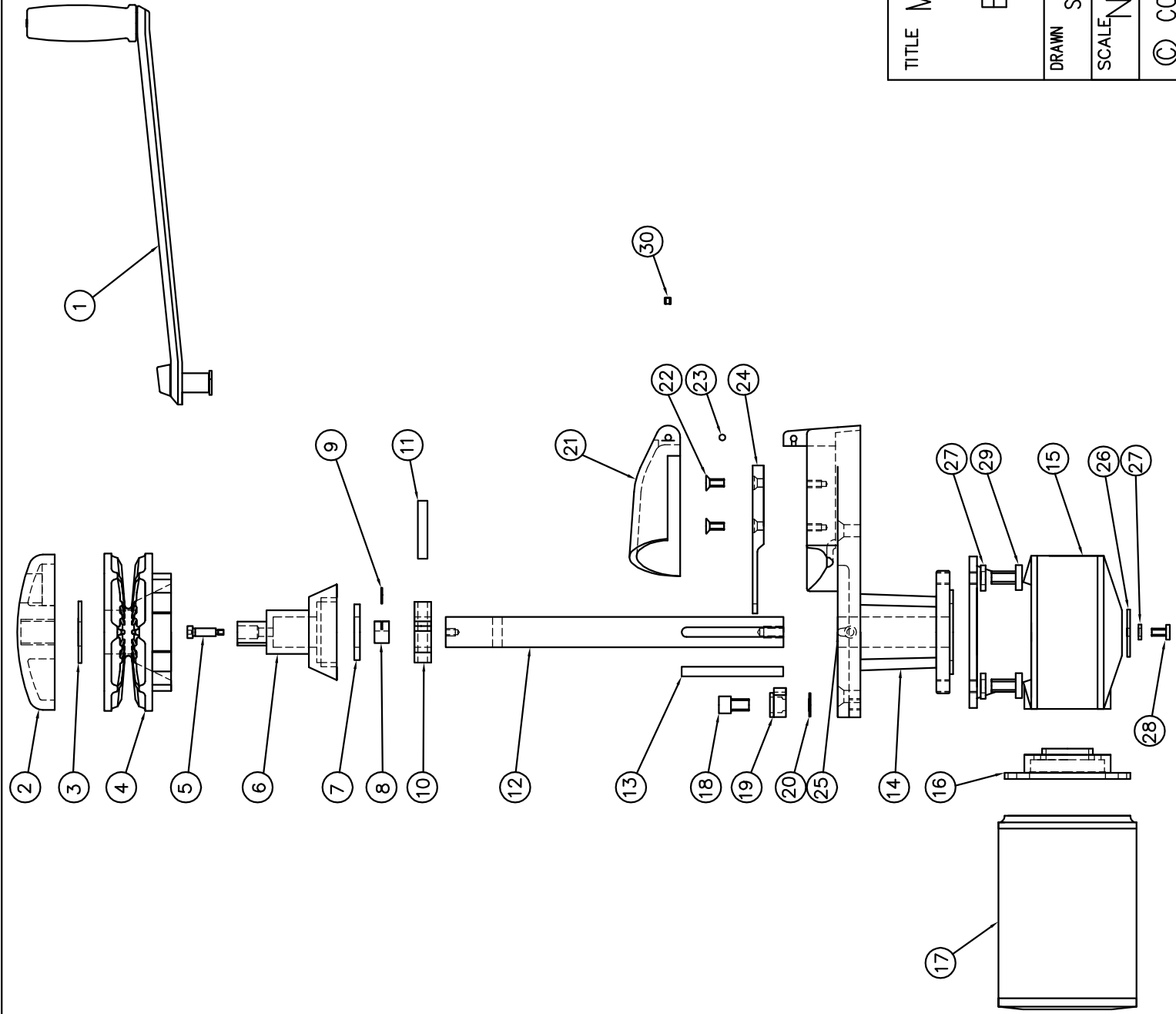


ENGINEERING
HOBART

TITLE
EASYWEIGH VRC 1200
EXPLODED VIEW

DRAWN S.A.	DATE 07/03/96	DRG No 1171/EX/01
SCALE NTS	APP	SIZE A4

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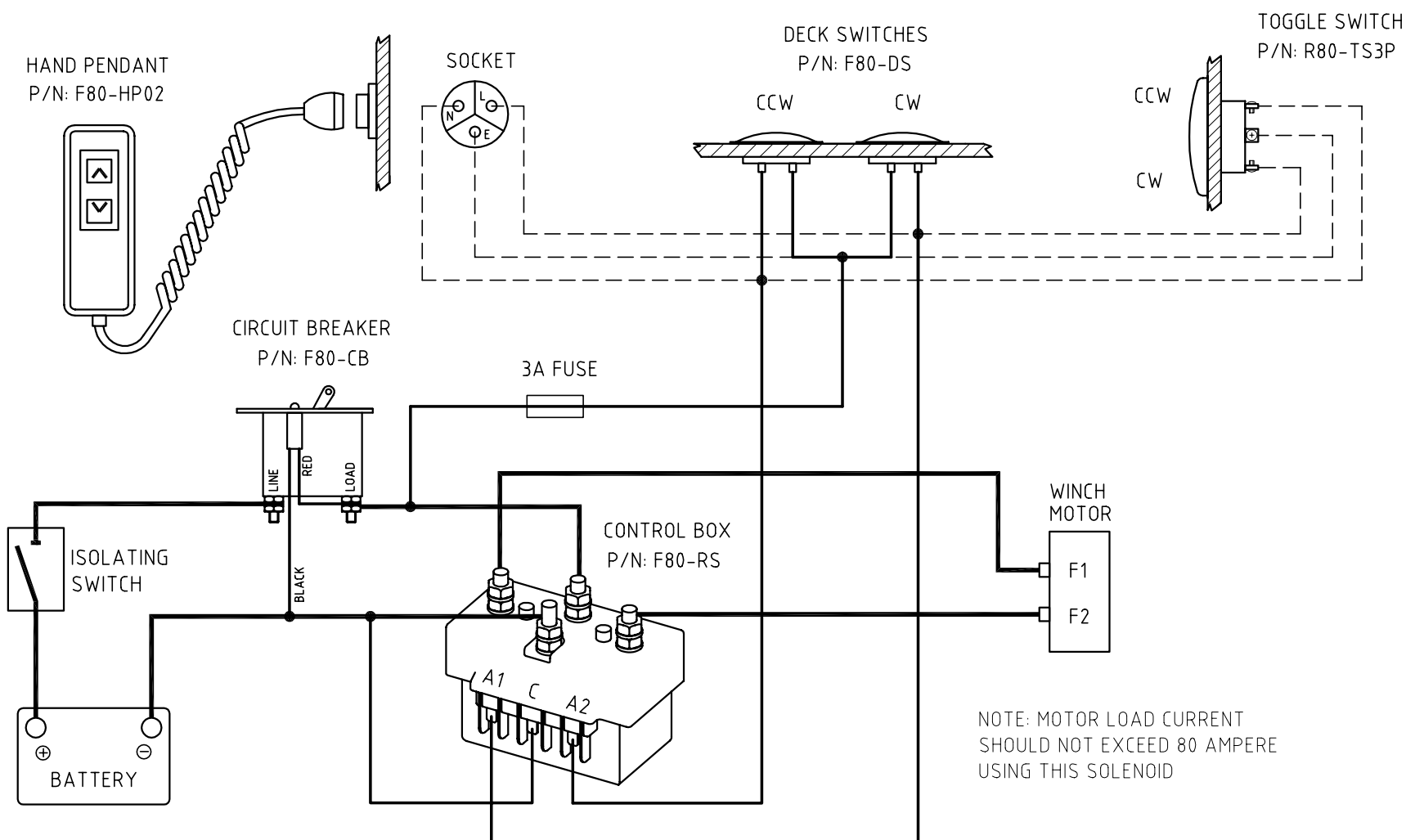


ITEM	PART No.	DESCRIPTION	QTY.
1	0626	HANDLE MUIR	1
2	0461	CAPSTAN TOP "MUIR"	1
3	0710	WASHER	1
4		GYPSY	1
5	1201	SCREW SHD 1/4x3/4x3/16	1
6	1100	SHAFT - CAPSTAN SHORT	1
7	1401	WASHER - NOVASTEEN	1
8	0800	PAWL	2
9	0801	PAWL SPRING	2
10	0500	PAWL RING - SHAFT	1
11	2511	DRIVE PIN - 5/16x2	1
12	1102	SHAFT - VR800	1
13	1801	KEY - 5/16x3 1/4	1
14	1902	BASE - VR800	1
15		GEARBOX	1
16		MOTOR-GEARBOX ADAPTOR	1
17		ELECTRIC MOTOR	1
18	1248	SCREW 3/8x3/4 SHCS	1
19	0802	PAWL - VM/VMC 500	1
20	1421	WASHER - NYLON	1
21	2101	CHAIN COVER - HAWSER	1
22	1200	SCREW 1/4x3/4 CSK MT	2
23	2501	PIN 3/16x1 7/8	1
24	2401	PEELER - HAWSER	1
25	3400	GREASE NIPPLE	1
26	1403	WASHER 2"	1
27	1404	SPRING WASHER 3/8	5
28	1207	SCREW 3/8x3/4 HEX	1
29	1209	SCREW 3/8x1 HEX	4
30	1205	SCREW GRUB 3/16x3/16	1

TITLE MUIR ENGINEERING HOBART

EASYWEIGH VR1200

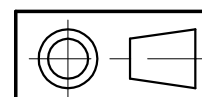
DRAWN	S. A.	DATE	29/09/95	DRG No	1161/EX/01
SCALE	N.T.S.	APP			
© COPYRIGHT MUIR ENGINEERING PTY. LTD.					



- REFER TO MANUAL FOR WIRING INDICATED BY HEAVY LINES
- LIGHTER LINES INDICATE LIGHT WIRING.
- - DASHED LINES INDICATE OPTIONAL WIRING.

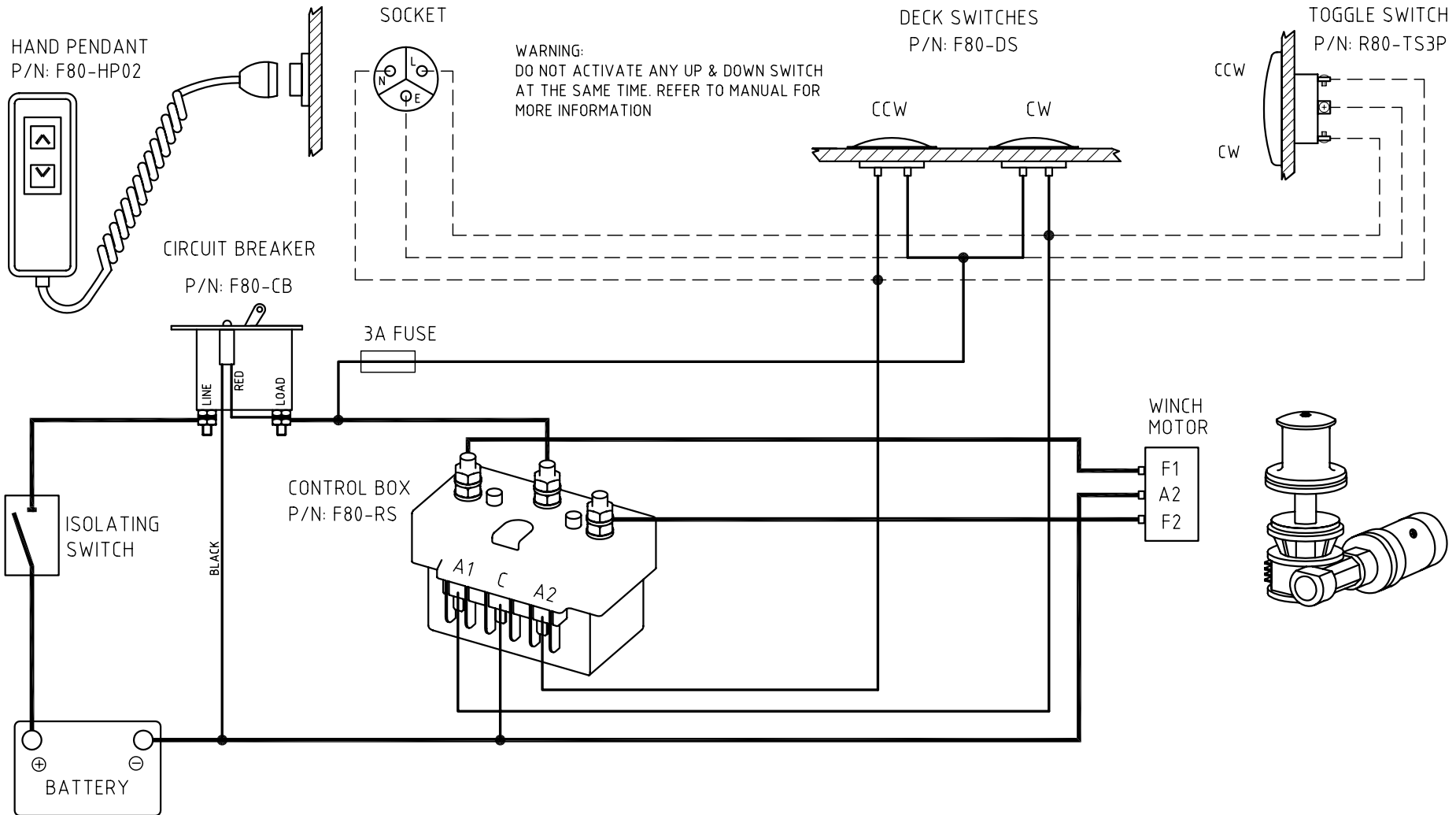
NORMALLY APPLIES TO THESE WINCHES AND MOTORS

MOTOR 12/24V	600W
WINCH MODEL	DW 08



TOLERANCES (mm)	
X.	±
X.X	±
X.XX	±
UNLESS OTHERWISE SPECIFIED	
MATERIAL	
FINISH	

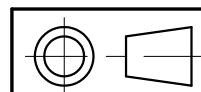
		WINDLASSES AUSTRALI	
TITLE			
TWO TERMINAL MOTOR (REVERSING)			
WIRING DIAGRAM (POSITIVE ACTING SOLENOID)			
PART No.			
DRN	DD	DATE	01/09/06
		DRG No.	WIRE0085-A
SCALE	NTS	APP1	APP2
			SIZE
			A4
© COPYRIGHT MUIR ENGINEERING PTY. LTD.			



- REFER TO MANUAL FOR WIRING INDICATED BY HEAVY LINES
- LIGHTER LINES INDICATE LIGHT WIRING.
- - DASHED LINES INDICATE OPTIONAL WIRING.

NORMALLY APPLIES TO THESE WINCHES AND MOTORS

MOTOR 12/24V	1000W	1200W	1500W
WINCH MODEL	VC 850	VC 2500	VC 3500

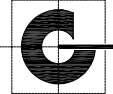


WINDLASSES AUSTRALIA

TITLE THREE TERMINAL MOTOR (REVERSING) WIRING DIAGRAM (POSITIVE ACTING SOLENOID)			
PART No.			
DRN WQ	DATE 10/06/05	DRG No. WIRE0086	
SCALE NTS	APP1	APP2	SIZE A4
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JAS-ANZ



DNV Certification Pty Ltd
Quality Assured ISO9001:2000

OPERATING INSTRUCTIONS

Manually Releasing chain: To release the anchor rode, place the handle into the clutch drive bi-square as shown in the diagram at the bottom of the page and turn **anti-clockwise** to release the clutch brake. Let the anchor fall and control the run of the chain by tightening handle **clockwise** using the clutch mechanism as a brake.

Anchoring: When laying at anchor, use a chain stopper, nylon/chain bridle or snubber line to prevent snatching and direct loading on the windlass main shaft. Never use the windlass as a mooring bollard.

Retrieving Chain: Before operating the windlass tighten the clutch with the handle in a **clockwise** direction, then remove the handle. If anchor retrieval is impaired by high wind, heavy seas or the anchor is buried hard, ease the load by motoring slowly forward into the wind with a chain stopping device in place. This way, the anchor is driven out by the engine, otherwise the gearbox or shaft can be damaged.

Rope hauling on the Capstan (VRC models only): The capstan can be operated independently of the gypsy. Secure the anchor rode (via chain lock, Gypsy lock or Snubber) then release the clutch. The capstan can then be operated using the manual handle or by operating the windlass motor.

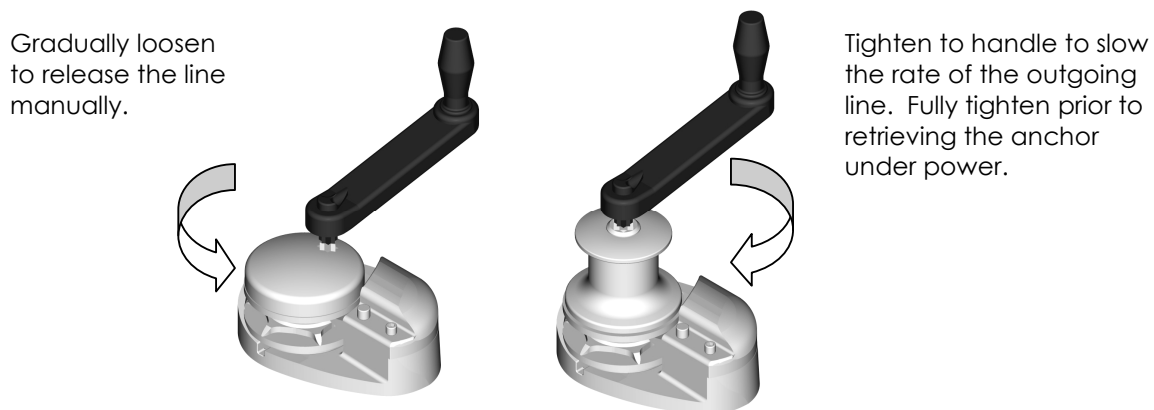
Electric / Hydraulic operation: Releasing and retrieving the anchor rode is identical when operating an electric or hydraulic windlass. Always keep well clear of the windlass when releasing or retrieving chain and anchor. Keep fingers, hair and clothing well clear when the windlass is in operation.

Auto Anchor Launching: If the anchor roller can be positioned so that the anchor falls as soon as the windlass is reversed, the whole operation can then be carried out remotely. Remote switching controls are self centering and stop the windlass when the switch is released. Mark the anchor end of the chain at 2 and 5 metre (6.5' & 16.5') intervals to enable the operator to judge when the anchor is almost up. For the last few metres of chain retrieval, decrease retrieval speed by letting go of the switch, rather than waiting for the anchor to fly up over the roller and bang tight, as this will put excessive load onto the bow roller, windlass and foredeck.

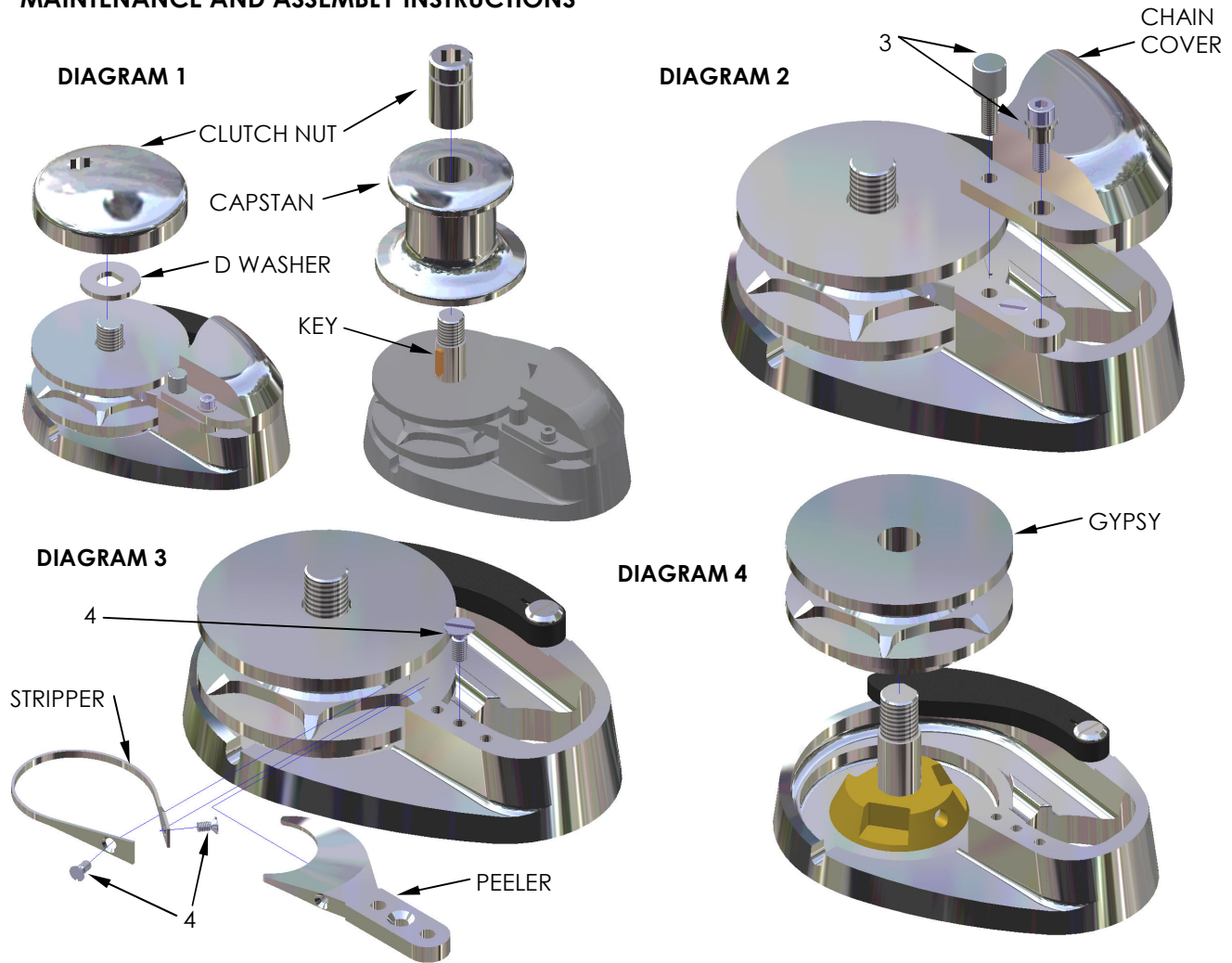
SERVICING

Rinsing all deck gear with fresh water after every excursion ensures that salt deposits and corrosion are kept to a minimum. We recommend the windlasses of Pleasure Vessels are stripped yearly and all moving parts cleaned and greased with an appropriate marine grade grease. Servicing should be carried out more frequently with increased usage (e.g. in the case of Work and Charter Vessels). **Do not use soap based grease.**

The geardrive is filled and sealed at factory with long life synthetic oil that does not require replacement for the life of the geardrive.



MAINTENANCE AND ASSEMBLY INSTRUCTIONS



PROCEDURE:

Tools Required: Clutch handle, allen keys, small and large flat bladed screwdrivers & marine grade grease.

VR MODELS ONLY (DIAGRAM 1 LHS)

1. Remove clutch nut with handle supplied
2. Slide the 'D' washer off the shaft.

VRC MODELS ONLY (DIAGRAM 1 RHS)

1. Remove clutch nut with handle supplied
2. Slide the capstan off the shaft taking care not to lose the shaft key

VR AND VRC MODELS

3. Undo the thumb screw and socket head screw with an allen key to remove the chain cover.
4. Undo the stripper screws with a flat bladed screwdriver and remove the stripper. The securing screw for the peeler should now be removed with a flat bladed screwdriver, followed by the peeler.
5. The gypsy can now be removed from the main shaft.

NOTE: We recommend the use of a marine grade grease.

- Before re-assembly, grease the exposed main shaft/cone & gypsy bore.
- The Motor / geardrive assembly should be protected with anti-corrosion film or grease tape.

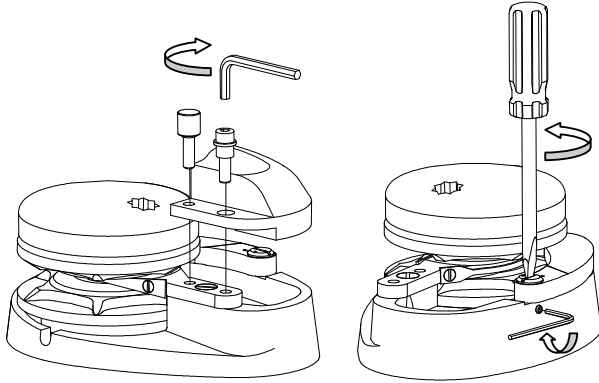
ROPE CHAIN MANAGEMENT SYSTEM (RCMS) ADJUSTMENT

Firm tension of the finger is required to reduce rope (nylon line) slipping through the gypsy. To adjust this tension (if line slippage is occurring) refer to the diagrams and procedure below.

PROCEDURE:

Tools Required: Allen keys and a large flat bladed screwdriver.

1. Undo the thumb screw and open the chain cover by rotating it.
2. Loosen the grub screw on the side of base with an allen key for finger adjustment.
3. Turn screwdriver **anti-clockwise** to tension the spring. While maintain this tension, re-tighten the grub screw.
4. Reattach the chain cover to finish the adjustment.

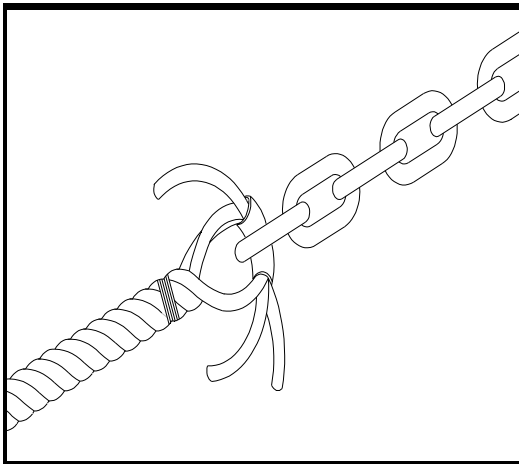


Line Care

Using the wrong type of line may cause the line to jam causing excessive line wear. Muir Windlasses are designed to run on 3-strand nylon line (supplied by Muir) which has been specially treated to prevent it from hardening. It is recommended to soak your rope in fresh water containing fabric softener every 3 months.

In case of a rope jam, slacken off the windlass clutch to free the jammed line. When retrieving the anchor rode do not continue to run the windlass if the anchor or chain is jammed, as line slippage in the gypsy will cause damage to the line.

Rope/Chain Splice



1. To stop rope unravelling, seize rope 400mm (16") from end with whipping twine. Unlay strands.
2. After placing 20mm (3/4") of heat shrink sleeve tubing through the last link of chain, pass one strand of rope through sleeve and chain from one side and the other two strands of rope from the opposite side, (see illustration).
3. While pulling all three strands tight, shrink the sleeve tightly onto the rope using a hairdryer / fan heater or by immersing in boiling water.
4. Remove seizing and complete back splice in normal manner for two full tucks. With a hot knife pare down the three strands by one third and insert two further tucks. Pare down by another third and finish with two tucks. Cut any remaining tails.

Troubleshooting

ELECTRICAL

1. Check the battery circuit breaker and ensure that the isolating switch is on.
2. Check battery is charged up to 12 or 24 volts (as relevant to the vessel).
3. Check that the foot switch plunger is contacting.
4. Check that the remote control solenoid is contacting. If this is clicking the problem may be low voltage, a faulty solenoid or a wire not properly connected.
5. Check wiring between controls, solenoid and motor are intact.
6. If the motor will not turn after checking the above points, check that the motor bushes are not worn or sticking.

MECHANICAL

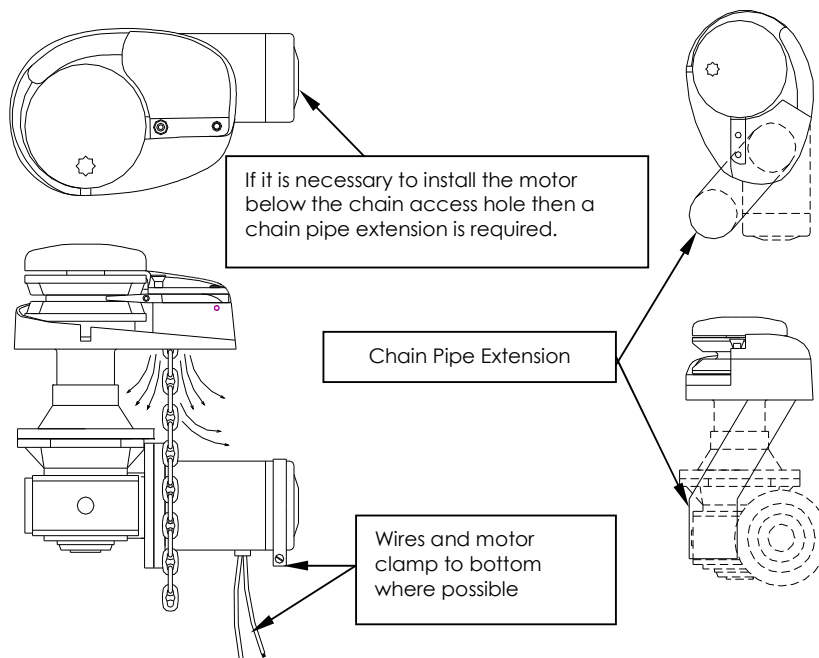
If the windlass running gear will not turn or operate check the following:

1. Check that the clutch above the chain gypsy is tightened to the chain gypsy drive using the handle supplied (see operating instructions).
2. If the line slips check the tension on the finger and increase spring tension (refer to section on RCMS adjustment).
3. Check the drive key between the gearbox output and the main shaft.
4. Check the drive key between the gearbox and motor input.

HYDRAULIC MOTOR

Refer any problems with your hydraulic motor to a Muir service agent or Muir Engineering.

WATER PROTECTION DIAGRAM



NOTE:

It is important to thoroughly lubricate all mating surfaces with a grease suitable for marine applications.

Corrosion protection should be applied to the external surfaces of the motor, gearbox and adaptor and also in any areas in which water may lie.

Recommended products for anti corrosion protection are Techtyl under body anti corrosion film and Denso grease tape.

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Warranty

Limited for period of Three years (First Owner)

We warrant each new product manufactured by us to be free from defects in material and workmanship for a period of 3 years (first Owner).

This warranty shall become effective only upon receipt of a completed warranty registration, which shall identify the product so registered by serial number. This warranty shall remain in effect for a period of three (3) years from the date of purchase. For vessels in charter or hire the warranty is one (1) year due to various operators and overloading which may occur.

Conditions

While this warranty applies to defects in material and workmanship, it does not apply to:

- Normal worn parts or to damage caused by neglect, lack of maintenance, accident or improper service/installation or service by persons other than an authorised Muir representative.
- Muir shall not be responsible for failures due to products being used in applications that they are not intended for, or exceed the products performance specifications.
- For warranty claim, defective product must be returned to Muir for inspection.
- Muir will not be responsible for freight charges, removal or installation labour on warranty claims.
- Damage due to unsatisfactory storage or use of equipment prior to installation in the approved/intended manner.

Exclusions

Warranty is limited to twelve months for:

- Electric motors / controls / equipment
- Hydraulic pumps / controls / valves
- Weather seals
- Use on charter/hire/commercial boats

All incidental and/or consequential damages are excluded from this warranty. Warranties of merchantability and fitness are excluded from this warranty. Implied warranties are limited to the life of this warranty. Some countries do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

We reserve the right to improve the design or materials used on any product without assuming any obligation to modify any product previously manufactured or used.

Liability

Muir Engineering liability under this warranty shall be to the exclusion of all other warranties or liabilities (to the extent permitted by law). In particular (but without limitation):

Muir Engineering shall not be liable for:

Any indirect or consequential loss including (without limitation) any loss of anticipated profits, damage to reputation or goodwill, loss of expected future business, damages, costs or expenses payable to any third party or any other indirect losses. Any damage to yachts or equipment. Death or personal Injury (unless caused by Muir Engineering negligence).



WARRANTY REGISTRATION CARD

Return To

MUIR ENGINEERING PTY. LTD.
100 Browns Rd, Kingston
Tasmania, Australia, 7050

**WARRANTY VOID UNLESS CIRCUIT
BREAKER OR RELIEF VALVE FITTED**

Customer / Company Name:	Winch Model:
Contact (if Company):	Serial Number:
Address:	Purchase Date: dd / mm / yyyy
Phone / Email:	Purchased From:
	Invoice Number / Receipt Number / Proof of Purchase:

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Kingston Tasmania,
Australia 7050
Tel Int: +61 (0) 3 6211 8811
Fax Int: +61 (0) 3 6229 7030
Email: info@muir.com.au
www.muir.com.au

WINDLASS
SERIAL NUMBER

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While all due care and attention has been taken in the preparation of this manual no responsibility shall be taken for errors or omissions.