

WINDLASS SERIAL NUMBER:



**VFF 1050/2200  
VERTICAL WINDLASS**





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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

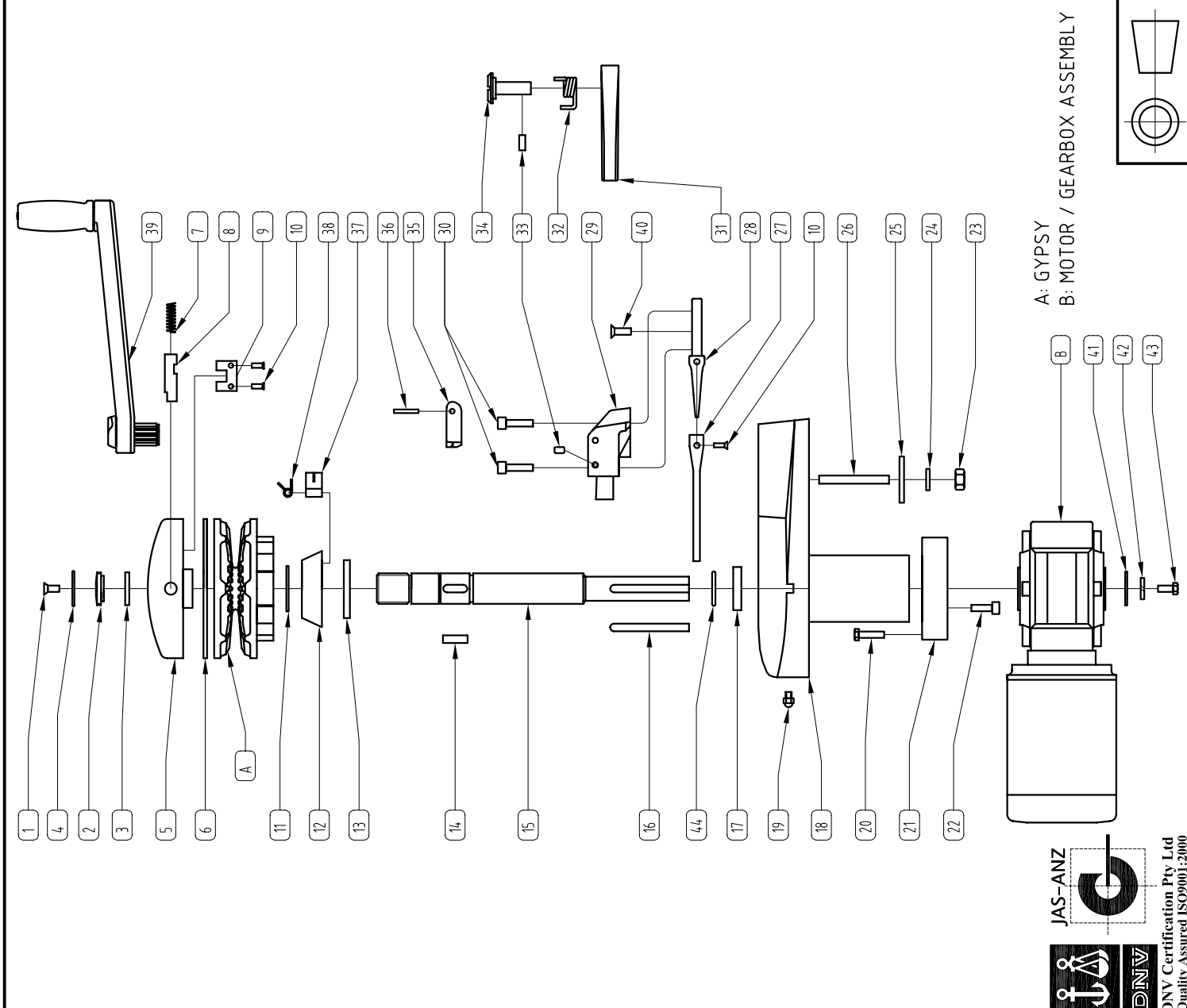





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ITEM	PART NUMBER	DESCRIPTION	QTY
1	S44-31610.00030	SCREW SHCS CSK 316 10MM X 30MM	1
2	P21-304049.010.210	WASHER 304 49MM X 10.2 X 10.5	1
3	P16-RNGHDPE1050F	RING RETAINER BLK HDPE VFF1050 FREEFALL	1
4	R41-ORG004403803.0	O' RING 44 X 38 X 3	1
5	P07-CLNBRZVFF1050	CLUTCH NUT BRONZE VFF1050	1
6	R66-PVCVFF1050	WASHERS PVC VFF1050 CLUTCH	1
7	S36-SPR304VFF1050	SPRING PLUNGER VFF1050 ATLANTICS	1
8	P15-PINAB210.00038	PIN-PLUNGER VFF1050 FREEFALL	1
9	R48-RTRPVCVFF1050	PIN RETAINER PVC VFF1050 FREEFALL	1
10	S34-30404.76010	SCREW CSK X-R MT 304 0-3/16 X 0-3/8 INCH	4
11	S94-CIR3040320	CIRCLIP SS304 D1400-0320 KSF	1
12	P08-CNEGSH1050F	CONE GUARDSHAFT VFF1050	1
13	P16-RNG303VFF1050	SPLIT RING 303 VFF1050 FREEFALL	1
14	P12-SS10.010.00023	KEY SS316 10 X 10 X 23MM	1
15	P18-SFT303VFF1050	SHAFT - VFF1050 FREEFALL	1
16	P12-BRS08.008.0080	KEY BRASS 8 X 8 X 80MM	1
17	R42-SEA044031.756.4	SEAL 1 3/4" X 1 1/4" X 1/4" (TC12057)	1
18	P22-BSEBRZ1050F	BASE BRONZE VFF1050 FREEFALL	1
19	R43-NIP3036.35UNFST	GREASE NIPPLE SS303 1/4"UNF STRAIGHT	1
20	S13-30406.00030	BOLT HEX HD SS304 6MM X 30MM	4
21	P01-DADP049P00850A	ADAPTOR ALLOY VF49P - VR/C850 ATLANTIC	1
22	S45-30407.94019	SCREW SHCS SS304 5/16 X 0-3/4 INCH	4
23	S20-30409.52	NUT HEX SS304 0-3/8 INCH	3
24	S76-30409.52	WASHER SPRING SS304 3/8 INCH	3
25	S75-30409.52025	WASHER FLAT SS304 3/8 INCH 1 LGE/OD	3
26	P24-STD3040850A	STUD SS304 VR/C850A	3
27	P19-STR3040850AF	STRIPPER SS304 VR/C850AF-SPOON TYPE	1
28	P05-PLRBRZ0850AF	PEELER BRONZE VR/C850AF SPOON TYPE	1
29	P05-CCVBRZ1050F	CHAIN COVER BRONZE VFF1050 FREEFALL	1
30	S45-30407.94032	SCREW SHCS SS304 5/16 X 1-1/4 INCH	2
31	R40-FGRPVC0850A	FINGER PVC VR/C850A	1
32	S36-SPR304FGRATL	SPRING FINGER ATLANTICS	1
33	S35-30406.35006	SCREW GRUB 304 0-1/4 X 0-1/4 INCH BSW	2
34	P15-PIN30419.05X27	PIN - FINGER ATLANTICS	1
35	P13-PWL303VFF1050	DECLUTCHER VFF1050A FREEFALL	1
36	S93-PIN04.76025	ROLL PIN 3/16 INCH X 1 INCH	1
37	R61-CSTRATPAWL	PAWL CAST STEEL RATCHET	1
38	S36-SPR304PWLA TL	SPRING RATCHET PAWL ATLANTIC 1000	1
39	F90-HANHDP200	HANDLE HDPE 8" (200mm)	1
40	S33-30407.94019	SCREW CSK SL MT 304 05-16 X 0-3/4 INCH	1
41	P21-BRS050.0010.503	WASHER BRASS 50 X 10.5 X 3MM	1
42	S76-30410.00	WASHER SPRING SS304 10MM	1
43	S36-30410.00025	SCREW HEX HD SS304 10MM X 25MM	1
44	R41-ORG02802501.8	O' RING SEAL 28.5X25X1.75 (BS022)	1




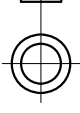
 <b>WINDLASSES AUSTRALIA</b>	
<b>TITLE</b> VFF1050 FREEFALL EXPLODED VIEW	
<b>PART No.</b> K08-FREVFF1050	
<b>DRN</b> AJN	<b>DATE</b> 27/09/00
<b>SCALE</b> NTS	<b>APP1</b> APP2
<b>DRG No.</b> K08-FREVFF1050	<b>SIZE</b> A4
© COPYRIGHT MUIR ENGINEERING PTY. LTD. 2	



**TOLERANCES (mm)**  
 X. ±  
 X.X ±  
 X.XX ±  
 UNLESS OTHERWISE SPECIFIED

**MATERIAL**  
 FINISH

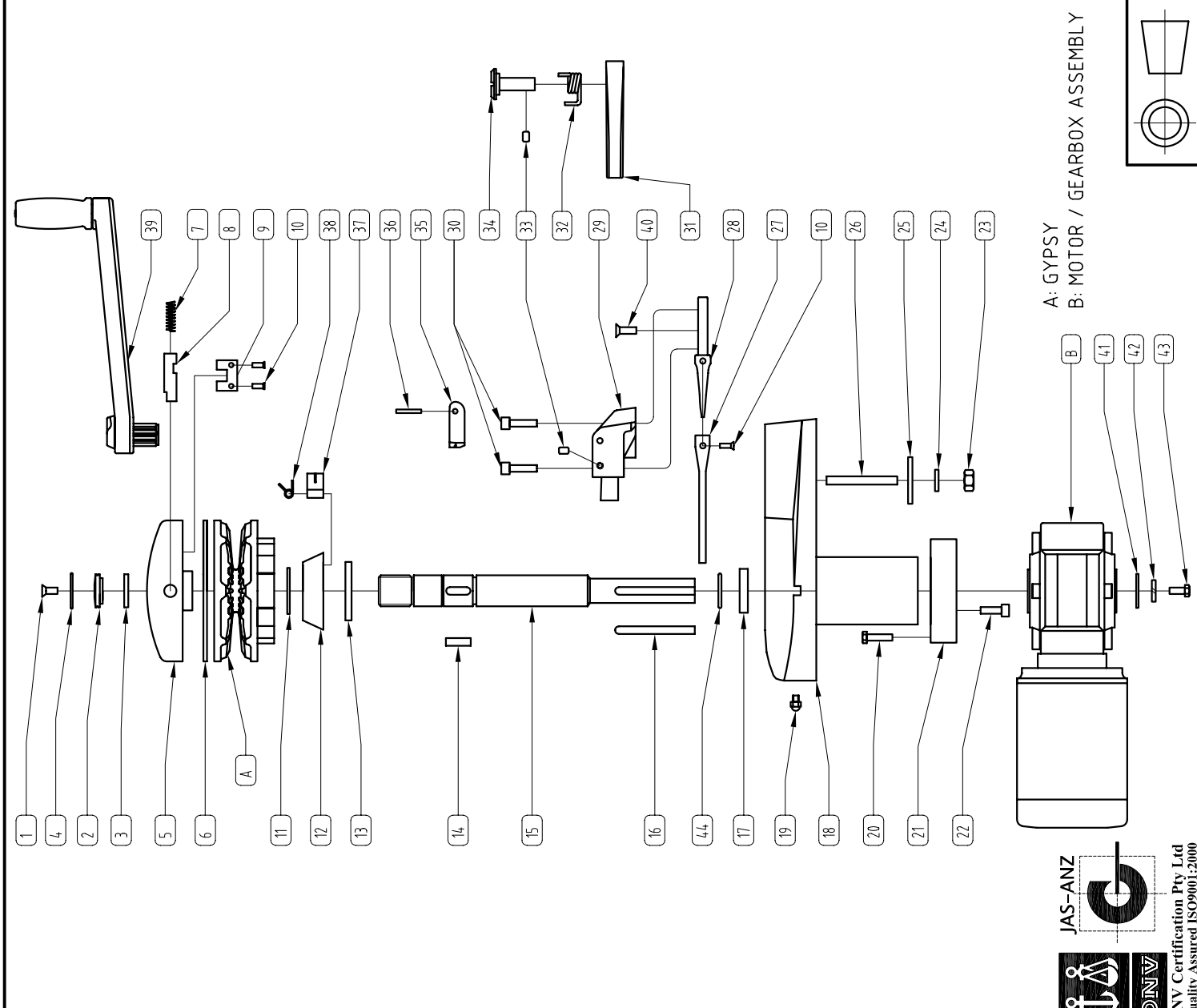
**A: GYPSY**  
**B: MOTOR / GEARBOX ASSEMBLY**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43

  
  
 DNV Certification Pty Ltd  
 Quality Assured ISO9001:2000

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13	P16-RNG303VFF1050	SPLIT RING 303 VFF1050 FREEFALL	1
14	P12-SS10.010.00023	KEY SS316 10 X 10 X 23MM	1
15	P18-SFT303VFF2200	SHAFT - VFF2200 FREEFALL (63 BOX)	1
16	P12-BRS08.008.0121	KEY BRASS 8 X 8 X 121MM	1
17	R42-SEA04031.756.4	SEAL 1 3/4" X 1 1/4" X 1/4" (TC12057)	1
18	P22-BSEBRZ1050F	BASE BRONZE VFF1050 FREEFALL	1
19	R43-NIP3036.35UNFST	GREASE NIPPLE SS303 1/4" UNF STRAIGHT	1
20	S36-30408.00050	SCREW HEX HD SS304 8MM X 50MM	8
21	P01-DADP063P02200A	ADAPTOR ALLOY VF63P - VR/C2200 ATLANTIC	1
22	S45-30407.94019	SCREW SHCS SS304 5/16 X 0-3/4 INCH	4
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24	S76-30409.52	WASHER SPRING SS304 3/8 INCH	3
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44	R41-ORG02802501.8	O' RING SEAL 28.5X25X1.75 (BS022)	1



**MUR** WINDLASSES AUSTRALIA

VFF2200 FREEFALL  
EXPLODED VIEW

PART No: K08-FREVFF2200

DRN	DATE	DRG No
AC	22/11/02	K08-FREVFF2200
SCALE	APP1	APP2
NTS		
		SIZE
		A4

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## INTRODUCTION

Thank you, for purchasing a Muir Windlass. Muir go to great lengths to develop anchoring systems that not only meet all your performance and safety requirements, but at the same time 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

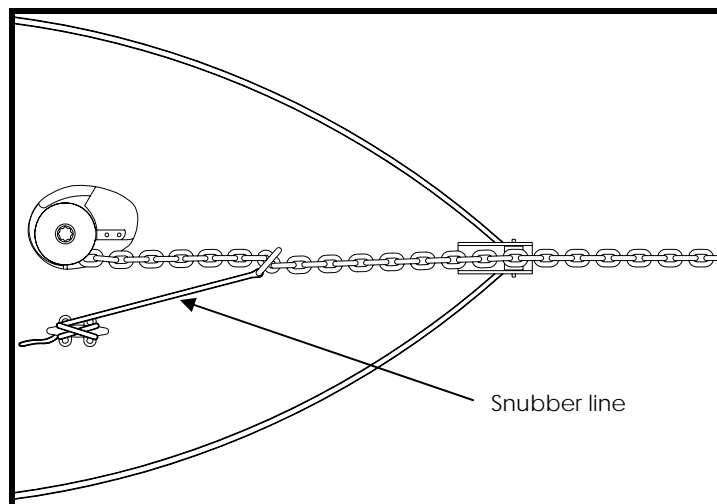
To avoid damage to the gear drive, windlass or vessel when bringing the anchor up hard, it is a preferred practice to mark the chain at approximately 5-meter intervals from the anchor, to alert the operator to the anchor position. Alternatively an Auto Anchor can be used.

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 either motoring or sailing slowly forward into the wind. If the anchor gets caught unloading the winch is recommend. The rope or chain should be cleared off and the anchor driven out by the engine otherwise the gearbox or shaft can be damaged

## SAFE OPERATION

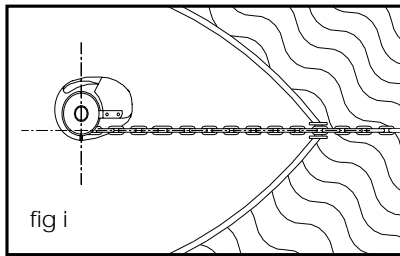
- Ensure that hands, feet, hair and clothing are kept clear of the windlass when in operation.
- Ensure no one is swimming nearby as anchor is lowered or retrieved.
- Keep hands well clear of capstan, gypsy, chain and line.
- The windlass should never be used for lifting people aloft.
- Do not use a windlass as a bollard for mooring, towing or being towed.
- The clutch must be tightened when windlass is in use. When vessel is at anchor a snubber line or chain lock must be used to protect the winch from excessive loads.

While underway the clutch nut must be tightened and the anchor chain secured with a devil claw, snubber line or chain lock to prevent accidental release of the anchor

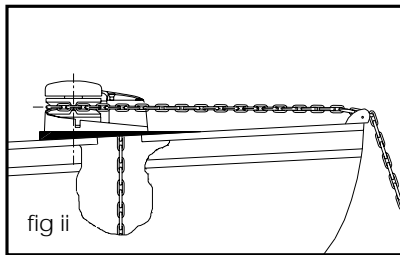


CONFIGURATION WITH ANCHOR DROPPED

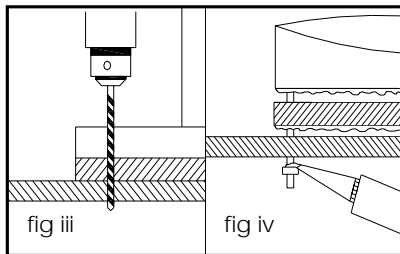




**Figure(i)** Locate the windlass centrally fore and aft. Check that the chain leads unhindered to the anchor roller. The chain leads onto the starboard side of the gypsy for a CCW, and portside of the gypsy for a CW (see templates page 12 & 13), wraps around 180° and falls below deck through the chain pipe (hawser). Ensure there is sufficient room around the windlass to allow full rotation of the windlass manual/clutch handle (if supplied).

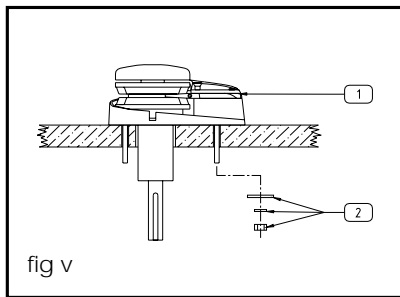


**Figure (ii)** The centre height of the gypsy must be in the same plane as the chain lead from the bow roller. If the deck is angled (fore & aft) or curved (port to starboard) a suitably shaped mounting block will be required to spread the load evenly over the deck surface and mount the windlass base 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). When cutting out the chainpipe hole care needs to be taken to match the template accurately, if material is left in the hole rope jams may occur.

**Figure (iv)** Apply a marine grade sealant to the base plate and mounting block (if required) and carefully tighten the nuts & washers onto the threaded studs under the deck. Remove excess sealer.

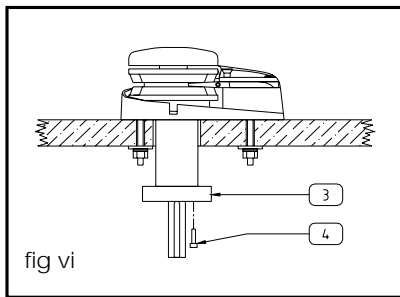


For Aluminium or Steel hull vessels, it is important to insulate the windlass with a non-conductive gasket to avoid corrosion. This also applies below deck with the mounting bolts, nuts and washers.

Where the deck construction is light or of foam sandwich construction, a plywood stiffener of at least 16mm (5/8") 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 will assist to spread the load.

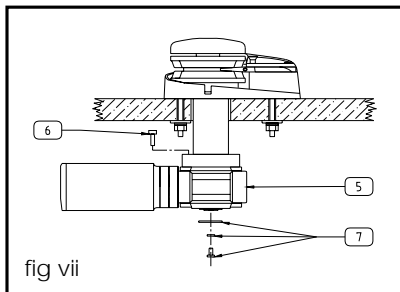
**Figure (v)**

1. Mount the windlass from above as shown.
2. From below, place washers and nuts on each stud and tighten each nut progressively in a rotation.



**Figure (vi)**

3. Locate adaptor and align holes.
4. Fasten using cap screws provided with loctite.



**Figure (vii)**

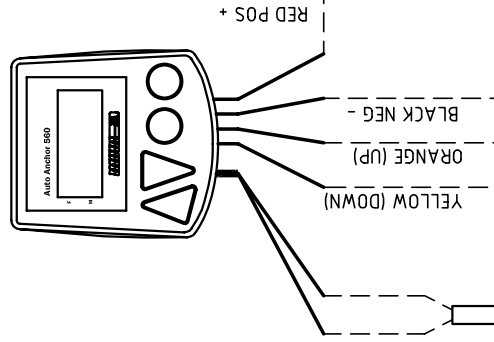
5. Grease shaft and key, slide geardrive onto shaft ensuring key is aligned. Rotate gearbox to preferred mounting position and secure with bolts provided.
6. Locate gearbox and bolt through adaptor.
7. Place washers and bolt in the end of the shaft and tighten / Fit circlip.

**INSTALLATION**

NORMALLY APPLIES TO THESE WINCHES AND MOTORS

MOTOR 12/24V	1000W	1200W	1500W
WINCH MODEL	COUGAR	CHEETAH	JAGUAR
	V 1000	V 1200	THOR
	V 1050	V 2200	V 3500
	V 1250	V 2500	

CHAIN METER  
P/N: F80-CMAA560  
REFER TO MANUAL FOR  
INSTALLATION GUIDELINES



SENSOR MOUNTED UNDER  
GYPSY (CHAIN WHEEL)  
P/N: F80-CMSENSOR

HAND PENDANT  
P/N: F80-HP02

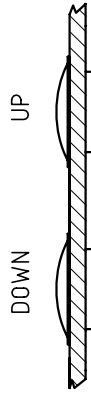


SOCKET

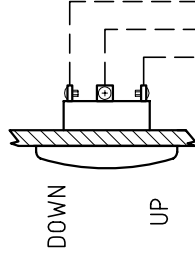


WARNING:  
DO NOT ACTIVATE ANY UP & DOWN  
SWITCH AT THE SAME TIME. REFER TO  
MANUAL FOR MORE INFORMATION

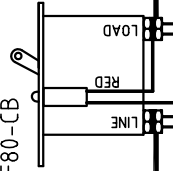
DECK SWITCHES  
P/N: F80-DS



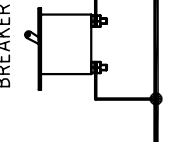
TOGGLE SWITCH  
P/N: F80-TS3P



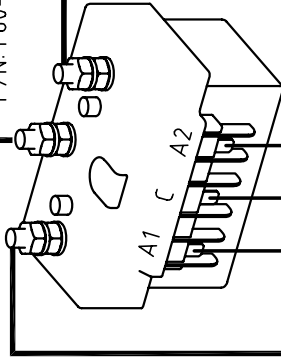
CIRCUIT BREAKER  
P/N: F80-CB



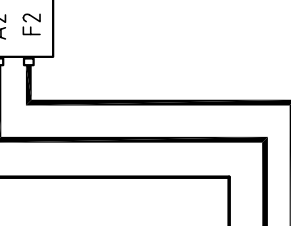
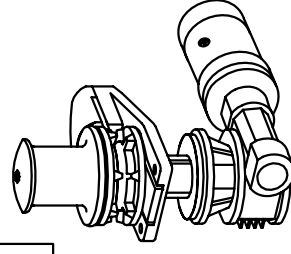
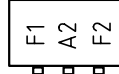
3A CIRCUIT  
BREAKER



CONTROL BOX  
P/N: F80-RS



WINCH  
MOTOR



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

**Muir** WINDLASSES AUSTRALIA

TITLE: THREE TERMINAL MOTOR (REVERSING)  
WIRING DIAGRAM (POSITIVE ACTING SOLENOID)

PART No. WIRE1075

DRN JK DATE 25/11/02 DRG No. WIRE1075

SCALE NTS APP1 APP2

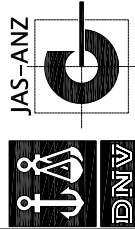
MATERIAL UNLESS OTHERWISE SPECIFIED

TOLERANCES (mm)  
X ±  
X.X ±  
X.XX ±

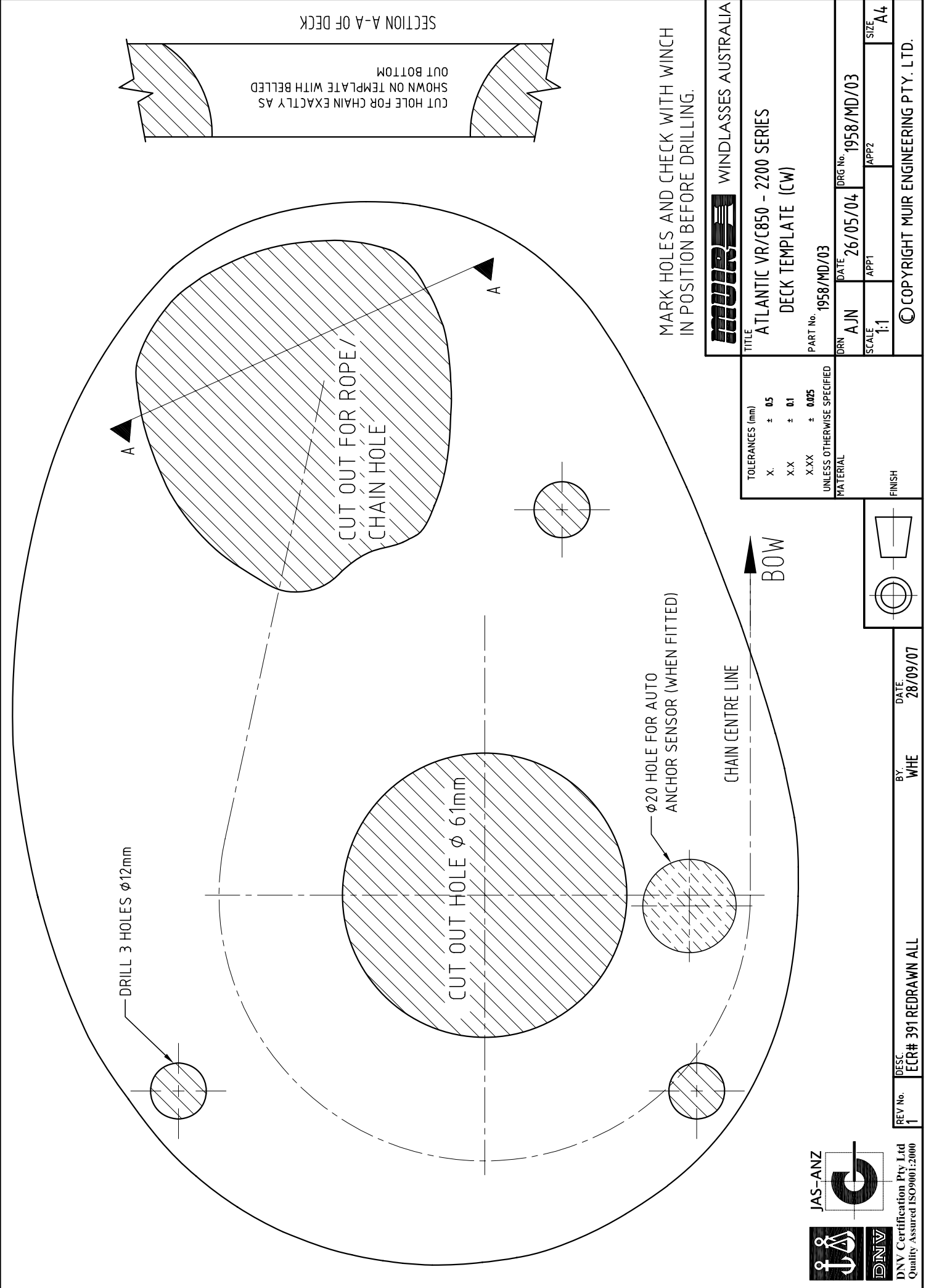
FINISH

SIZE A4

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DNV Certification Pty Ltd  
Quality Assured ISO9001:2000



**WINDLASSES AUSTRALIA**

**TITLE** ATLANTIC VR/C850 - 2200 SERIES  
DECK TEMPLATE (CW)

**PART No.** 1958/MD/03

**DRN** AJN **DATE** 26/05/04 **DRG No.** 1958/MD/03

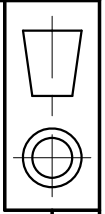
**SCALE** 1:1 **APP1** **APP2** **SIZE** A4

TOLERANCES (mm)	
X	± 0.5
X.X	± 0.1
X.XX	± 0.025

UNLESS OTHERWISE SPECIFIED

**MATERIAL**

**FINISH**



**REV No.** 1 **DESC** ECR# 391 REDRAWN ALL **BY** WHE **DATE** 28/09/07

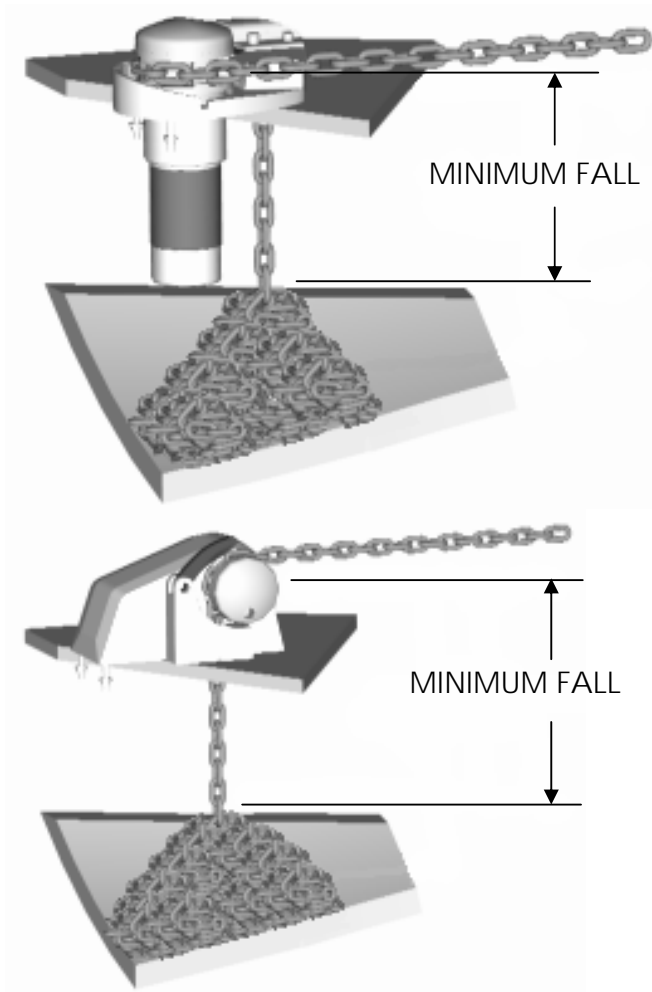
**JAS-ANZ**

DNV Certification Pty Ltd  
Quality Assured ISO9001:2000

MARK HOLES AND CHECK WITH WINCH  
IN POSITION BEFORE DRILLING.

**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 to the left, and the options detailed below. It is also recommended that the chain be directed to the centre of the chain locker. (See also water protection diagram page 11)



**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 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 advantages 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	Horizontal Windlass Model	Minimum Fall (Dist. Top of Pile)
VR/C 600, VFF 600	HR600 – 700, HFF 600 - 700	300 mm
VR/C 850 – 2200, VFF1050 - 2200	HR1200	450 mm
VR/C 2500 – 3500	HR2500 - 3500	650 mm
VR/C 4000	HR4000 - 4200	800 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 stowing. 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 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.** This 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:

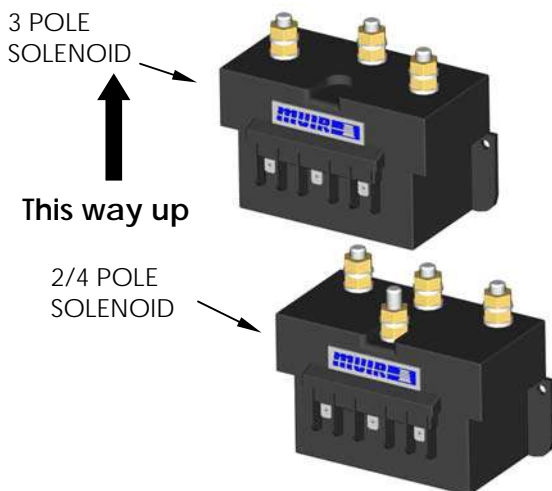
Distance from battery to motor (m)	Cable Size		Cable Diameter (mm)
	(mm <sup>2</sup> )	AWG	
7 (23')	25	3	8 (5/16")
9 – 17 (30' – 55')	50	1/0	10 (3/8")

**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 minimal exposure to sea water and in close proximity to the electric motor of the windlass.

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



WINCH MODEL	MOTOR SIZE	MOTOR TYPE
VR/C 850	600 W	2 POLE
VR/C 1250	1000 W	3 POLE
VR/C 2200	1200 W	3 POLE

**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:
Contact (if Company):
Address:
Phone / Email:

Winch Model:
Serial Number:
Purchase Date: dd / mm / yyyy
Purchased From:
Invoice Number / Receipt Number / Proof of Purchase:

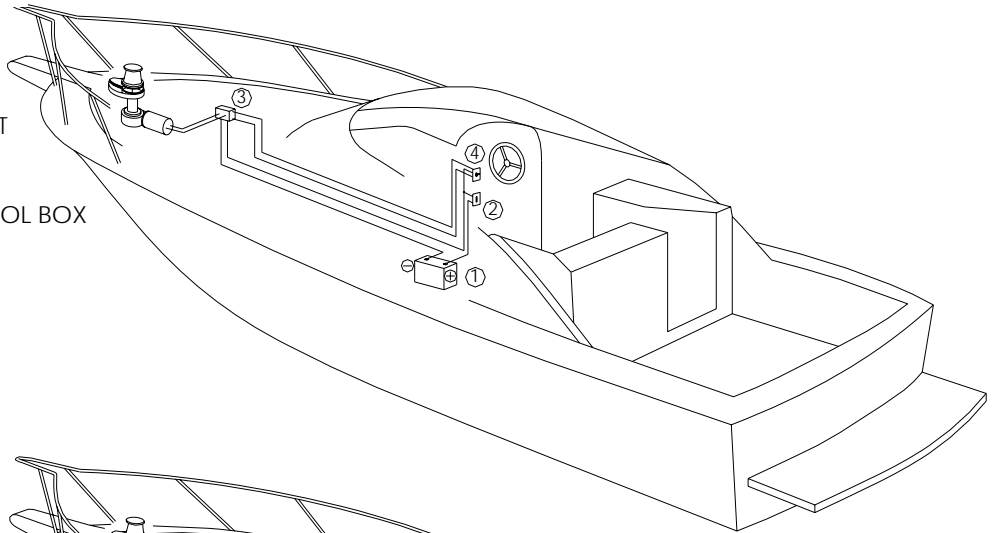
**NOTE:**

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INTENTIONALLY BEEN  
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**WIRING LAYOUT**

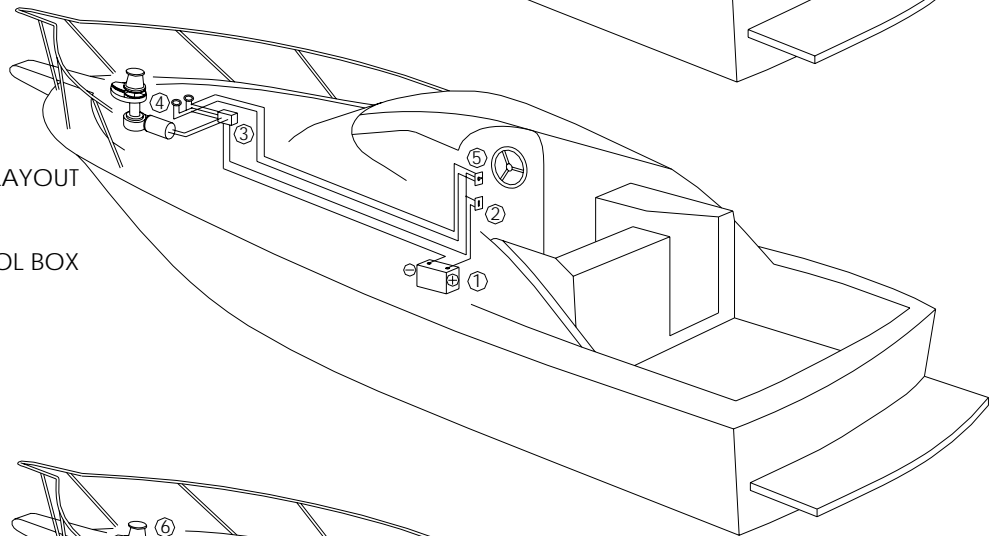
REMOTE SWITCH LAYOUT

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



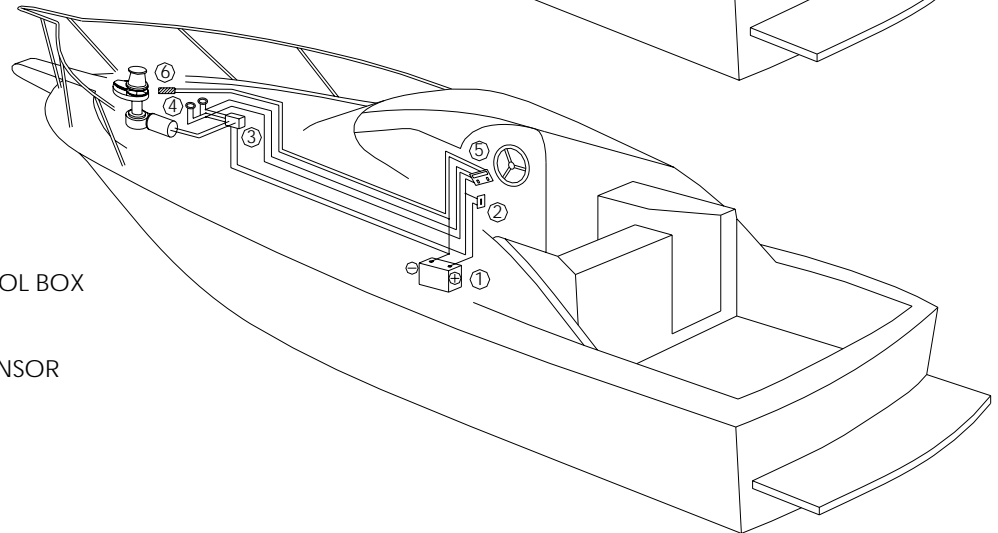
REMOTE / DECK SWITCH LAYOUT

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



**NOTE: ALL Free Fall models must include an isolating switch.**

**NOT TO BE USED AS WIRING DIAGRAM**



### OPERATING INSTRUCTIONS:

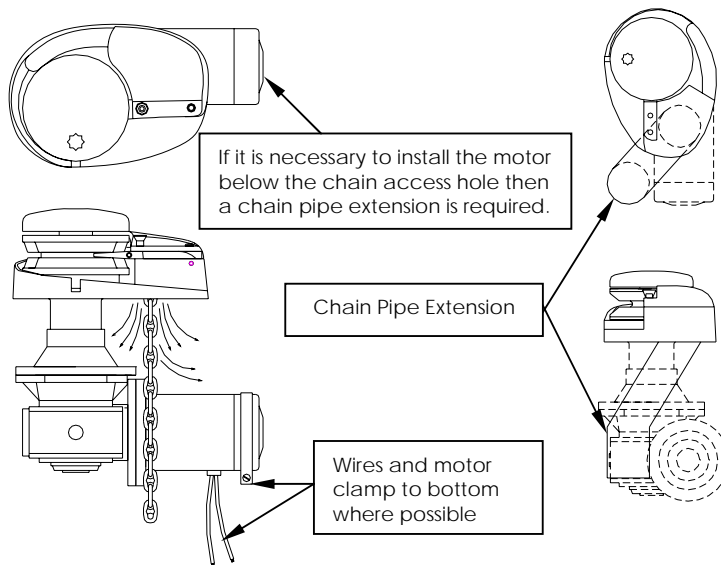
The concept of the Free Fall windlass is to deploy and freefall an anchor remotely from the helm station.

- 1) Engaging the down switch or reversing the windlass automatically releases the clutch allowing the chain gypsy to free wheel thus dropping the anchor.
- 2) Engaging the up switch of the windlass will automatically tighten the clutch allowing the winch to take up any slack in the anchor rode. **This must be done only when the anchor and all of the rode has touched the bottom and not whilst in freefall.**
- 3) Release the up switch when sufficient slack in the anchor rode has been taken up.
- 4) To retrieve the anchor, operate the windlass in the up direction. It is also recommended that the vessel is motored into the wind / towards the anchor to minimise excessive load on the windlass. (The anchor should be raised vertically)
- 5) If necessary the windlass can be powered down without freefall, this can be done by releasing the grub screw and rotating the striker pawl 180 degrees. (*see Maintenance and servicing 2a, Page 9*).
- 6) The clutch can also be operated manually using the above method. The clutch **has a left hand thread**, so to release the clutch turn the handle in a clockwise direction and to tighten turn the handle in an **anticlockwise direction**.
- 7) For efficient operation of the windlass periodically **apply grease to the striker pawl** located on top of the chain pipe cover.
- 8) The Rope Chain Management System Nylon Finger (P/N. R40-FGRPVC0850A) applies pressure to the line and splice and must be tightly tensioned onto the gypsy without line fitted. This is done by releasing the grub screw (P/N. S35-30406.35006) and adjusting the finger pin (P/N. P15-PIN30419.05X27) by tightening anticlockwise.

### **IMPORTANT**

**IT IS MANDATORY TO INSTALL AN ISOLATION SWITCH TO THE FREEFALL WINDLASSES TO SWITCH OFF THE WINCH WHEN NOT IN USE. This is to prevent the rope and chain from paying out if the winch is accidentally reversed**

## 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 that water may lie.

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

## Trouble Shooting

### ELECTRICAL

1. Check the battery circuit breaker and ensure the isolating switch is on.
2. Check battery is charged up to 12 or 24 volts.
3. Check that the foot switch plunger is contacting
4. Check remote control solenoid is contacting, if this is clicking the problem may be low voltage a faulty solenoid or a wire not properly connected or tightened.
5. Check wiring between controls, solenoid and motor are in tact.
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 the drive key between the gearbox and motor input.
2. Check the drive key on main shaft to gearbox output.
3. Check that the clutch above the chain gypsy is tightened to the chain gypsy drive using the manual handle supplied.
4. If the line slips check the tension on the finger and increase spring tension.

### HYDRAULIC MOTOR

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

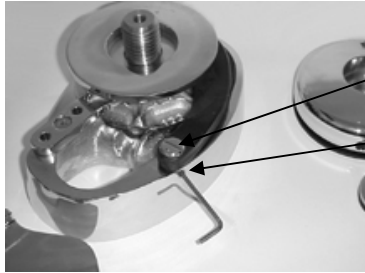
### FREEFALL MECHANISM

1. Check that the freefall plunger and spring can move freely.
2. Ensure that the declutcher pawl is in the correct position and that the grub screws holding this in place are tightened.

## VFF 1050/2200 Free Fall windlass

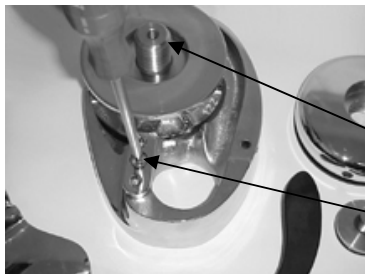


G



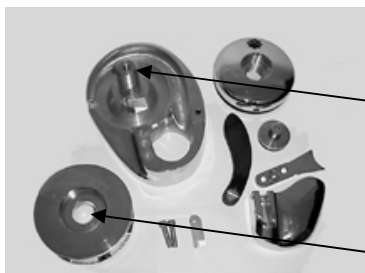
I

H



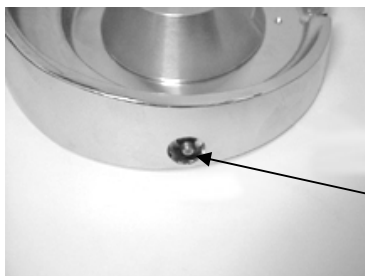
J

K



L

M



N

5. **Removing clutch cap** (P/N. P07-CLNBRZVFF1050). Place Muir clutch handle (P/N. F90-HANHDPE200) into (G) bi-square and then turn **clockwise** (left hand thread) to remove.

6. **Removing PVC finger** (P/N. R40-FGRPVC0850A). Place 1/8" Allen key into (H) grub screws (P/N. S35-30406.35BSW006) and then turn anti clockwise to release. Now the Finger, Finger Pin (P/N. P15-PIN30419.05X27) & spring (P/N. S36-SPR304FGRATL) can be removed.

**Re-assembly:** To tension the Finger, place Flat Bladed screwdriver into (I) slot of Pin, then turn anti clockwise ¼ turn & hold. Then tighten (H) Grub screw.

7. **Removing gypsy** (P/N. P10-A0600\*), peeler (P/N. P05-PLRBRZ0600) & stripper (P/N. P19-STR3040600A). Place Phillips head screwdrivers into (K) CSK screws (P/N. S33-30407.94019) and then turns anti clockwise to remove. These parts can now be slid of the main shaft (J).

**NOTE: We recommend the use of Lithium/Teflon based grease.**

- Before re-assembly, grease the exposed Main Shaft/cone (L) & Gypsy bore (M).
- The Windlass Base Plate (P22-BSEBRZ1050F) can be greased via grease nipple located (N) at the rear of the base.
- The Motor/gear drive assembly should be protected with anti-corrosion film or grease tape.

### Rope Care

Muir Windlasses are designed to run on 3-strand nylon line (supplied by Muir) which has been specially treated with fabric softener to prevent it from hardening up. It is recommended to soak your rope in fresh water every 3 months with fabric softener. Other types of lines may go stiff and jam.

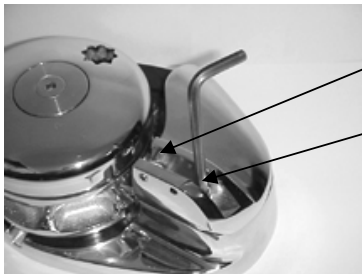
In case of a rope jam; stop the winch and slacken off the windlass clutch to free the jammed line. When retrieving the anchor rode do not continue to run the windlass if the anchor or chain/rope is jammed as line slippage in the gypsy will cause damage.



A

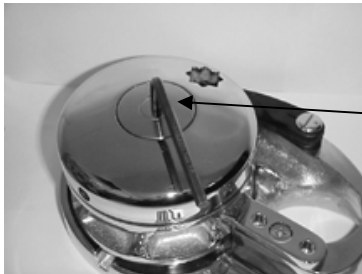


B



C

D



E

## VFF 1050/2200 Free Fall windlass

### Maintenance and Servicing

#### 1. Tools required

- (i) Muir clutch handle (P/N. F90-HANHDPE200)
- (ii) Phillips Head screw driver
- (iii) Flat blade screw driver
- (iv) 6mm Allen key
- (v) 1/4" Allen key
- (vi) 1/8" Allen key
- (vii) 3/16" Pin punch
- (viii) VFF 1050/2200 exploded view Dwg. K08-FREVFF1050 or 2200

2a. **Removing declutching pawl** (P/N. P13-PWL303VFF1050). Place 1/8" Allen key into (A) grub screw and then turn anticlock wise to release. (this operation also used to enable the power down function, see operating instruction 5).

2b. **Removing 3/16" roll pin** (S93-PIN04.76025). Place 4mm (3/16") pin punch into point (B) and then tap carefully with a hammer to remove.

3. **Removing chain cover** (P/N. P05-CCVBRZ1050F). Place 1/4" Allen key into (C) & (D) socket head cap screw (P/N. S45-30407.94032) and then turn anticlock wise to remove. Now the chain cover can be removed.

4. **Removing clutch nut retaining screw** (P/N. S44-31610.00030). Place 6mm Allen key into (E) CSK socket head screw (P/N. S44-31610.00030) and then turn anticlock wise to remove.