



HR 700
HFF 700
HORIZONTAL WINDLASS



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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, and 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 cleated off and the anchor driven out by the engine otherwise the gearbox or shaft can be damage

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 rope.
- The windlass should never be used for lifting people aloft.
- Do not use a windlass as a bollard for mooring, towing or being towed.
- When the windlass is in use or the anchor stowed, always ensure the clutch is tightened with the clutch handle, and a Chain lock, Devils claw or Snubber Line is fitted to retain the anchor. The use of these accessories will prevent excessive loads on the geardrive and accidental release of the anchor.



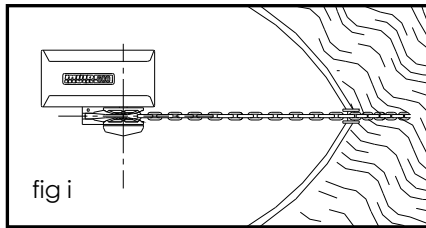


fig i

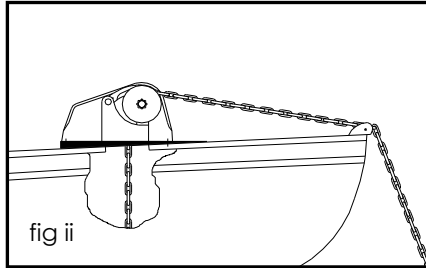


fig ii

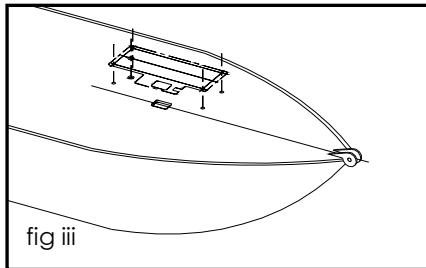


fig iii

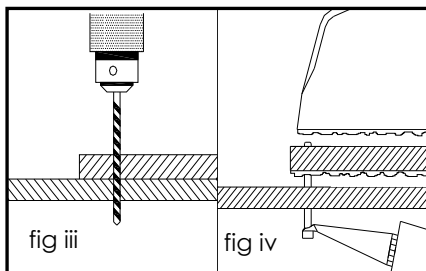


fig iii

fig iv

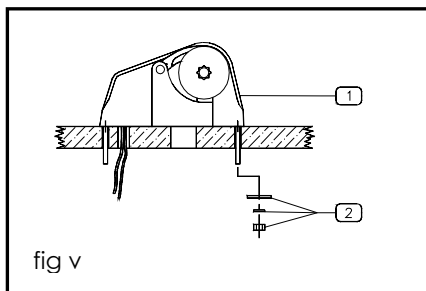


fig v

INSTALLATION

Figure (i) Locate the windlass centrally fore and aft. Check that the chain leads unhindered to the anchor roller and 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) 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 an appropriate 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 assists to spread the load.

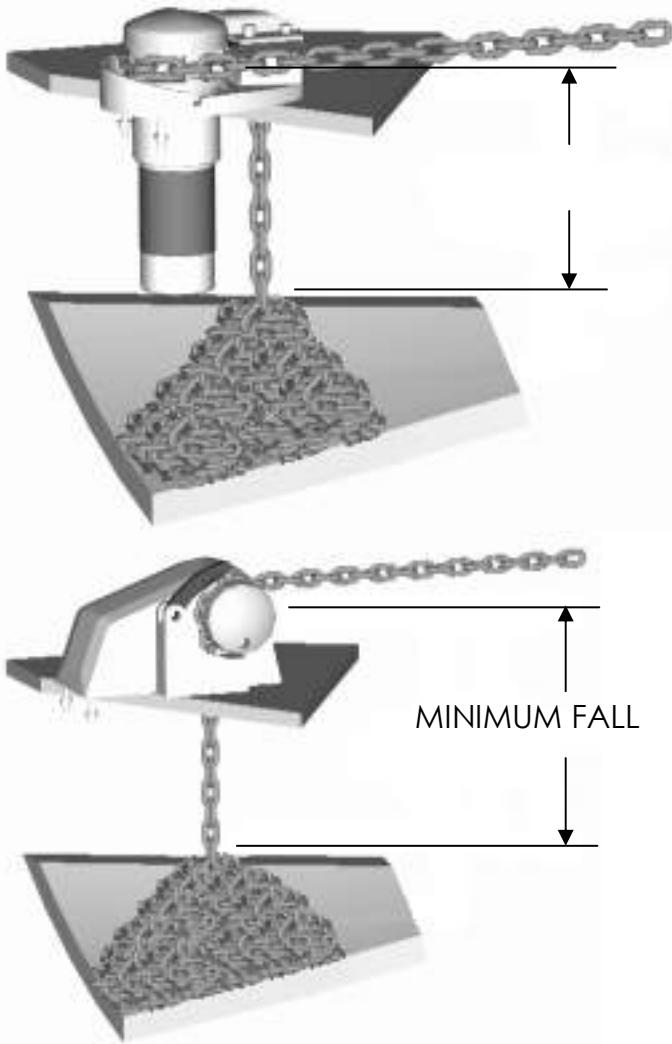
Figure (v)

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

NOTE: On assembly, grease all moving parts and deck plate grease nipple with Lithium/Teflon based grease. The Motor/gear drive assembly should be protected with anti-corrosion film or grease tape.

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.



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 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	HR600 - 700	300 mm
VR/C 850 – 1250 & 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 mistake 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 position should be in the centre of the chain locker. If the chain falls alongside a bulkhead or onto the stem it will pyramid and jam.

If the 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 1 ½ times the diameter of the chain. It should also have as much vertical angle 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 instructions on page 4 including underdeck stiffening, deck camber, alignment, mounting blocks and sealing procedures. The gearbox and motor can be located in one of 22 positions.

ELECTRICAL

See Wiring Diagrams for wiring instructions.

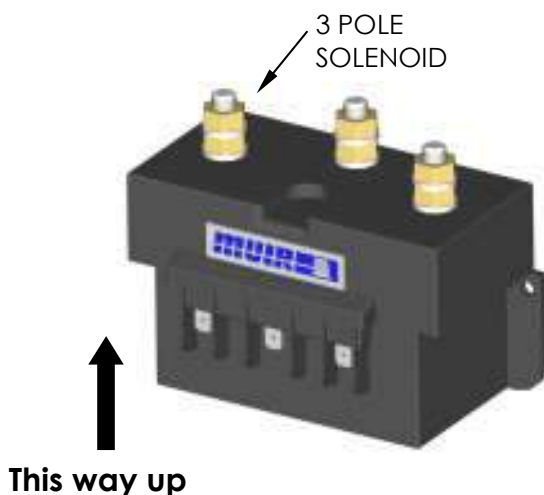
A circuit breaker must be fitted to ensure warranty. If the windlass is overloaded or stalled the circuit breaker automatically cuts off power to the windlass and protects the wiring and motor. The circuit breaker should not be used as an isolating switch.

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. If located within 7m (23') use a cable of min 36sqmm, 8mm(5/16") core. For longer runs, 9-17m (30'-55') use 50 sqmm, 10-12mm (3/8" -7/16") core. The larger the cable, the greater voltage is delivered to the motor and overheating will not occur. Small diameter cables drop voltage considerably.

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 packages with Toggle Switch, Hand Pendant or Auto Anchors are available.



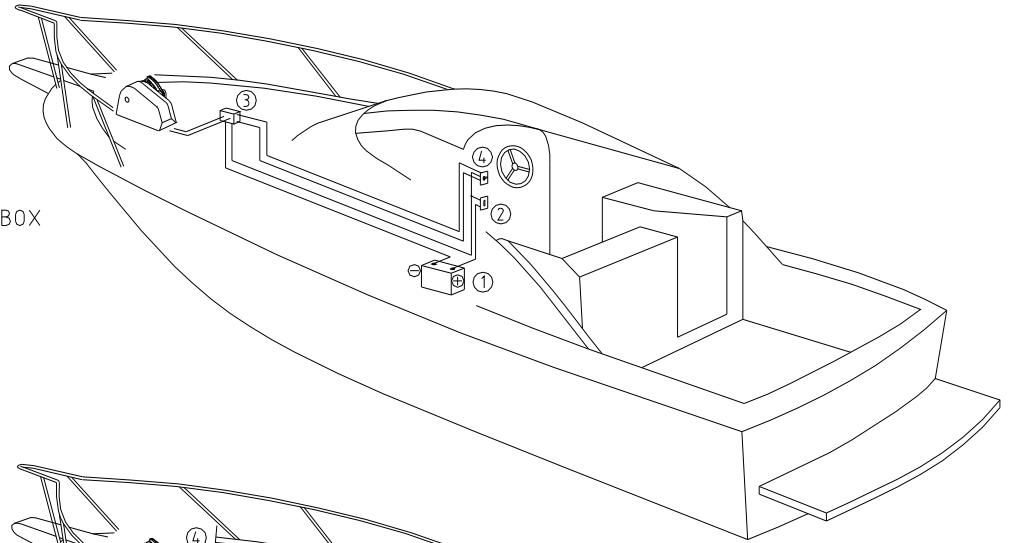
Solenoid Installation

We recommend that the solenoid is installed in an upright position, and in close proximity to the electric motor of the capstan. The solenoid **must not** be installed in chain locker. It should be located in **dry** area only.

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

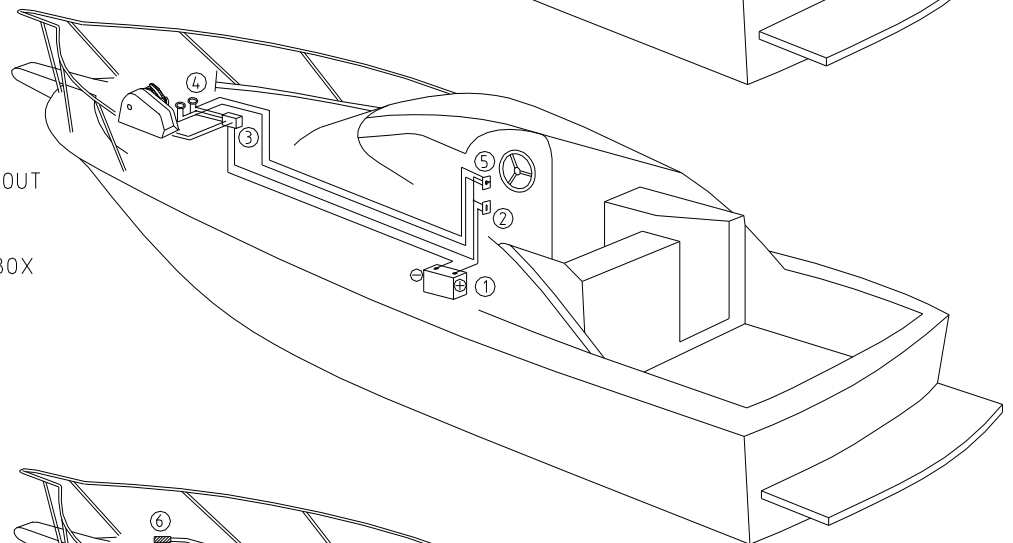
REMOTE SWITCH LAYOUT

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



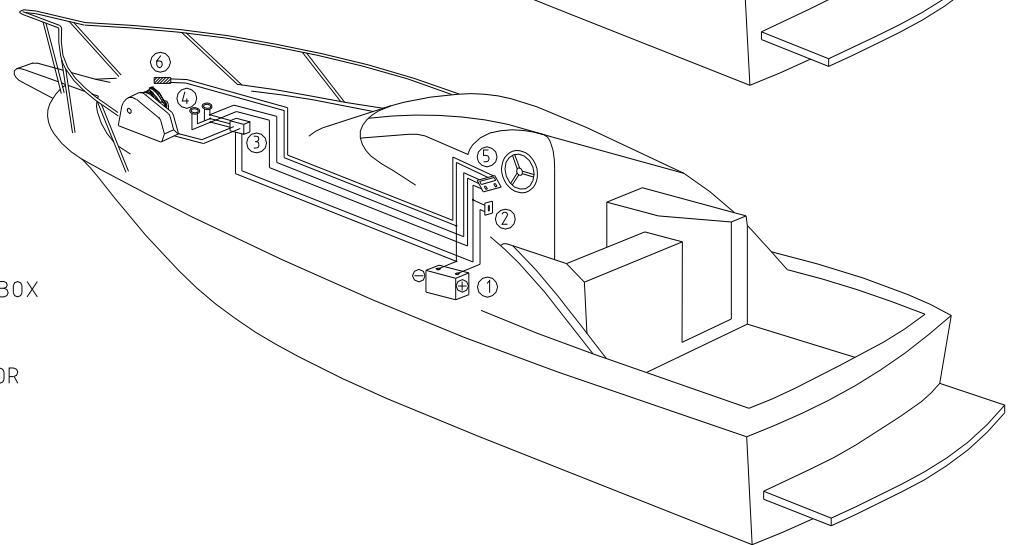
REMOTE / DECK SWITCH LAYOUT

1. BATTERY
2. CIRCUIT BREAKER
3. SOLENOID/CONTROL BOX
4. DECK SWITCHES
5. TOGGLE 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 DIAGRAMS

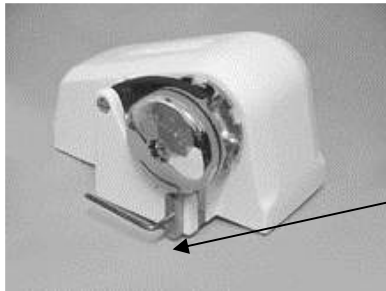
OPERATING INSTRUCTIONS

The concept of the Free Fall windlass is to launch a freefall anchor in by the flick of a switch.

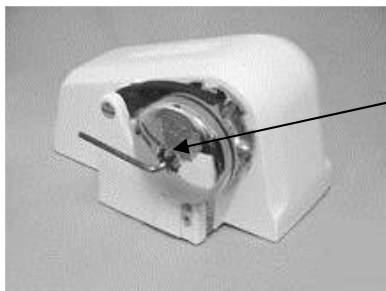
- 1) Engaging the down switch or reversing the windlass automatically releases the clutch released allowing the winch to free wheel thus launching the anchor.
- 2) Engaging the up switch of the windlass will automatically tighten the clutch allowing the winch to take up any slack in the anchor rode. **This must be done only when the anchor and all of the rode has touched the bottom and not whilst in freefall.**
- 3) Then release the switch when sufficient slack in the anchor rode has been taken up
- 4) To retrieve the anchor, run the winch in the up direction. It is also recommended that the vessel is motored into the wind / towards the anchor rode to minimise excessive load on the windlass.
- 5) If necessary the windlass can be powered down without freefall, this can be done by removing the Declutching Pawl. (see *Maintenance and servicing step 2 Page 9*).
- 6) The clutch can also be operated manually after the above step has been performed. The clutch **has a right hand thread**, so to release the clutch insert & turn the handle (P/N. F90-HANNYL0600) in a anti-clockwise direction. To tighten turn the handle in a **clockwise direction**.
- 7) We recommend to aid the efficient operation of the windlass to periodically **apply grease to the Declutching Pawl** (P/N. P13-PWL316HFF600) located on top of the chain pipe.
- 8) The RCMS Nylon Finger (P/N. R40-FGRPVC0600A) applies pressure to the line and splice and must be tightly tensioned onto the gypsy without line fitted by releasing the grub screw (P/N. S35-30406.35006) and adjusting the finger pin (P/N. P15-PIN30415.88X41) by tightening Anti Clockwise.

IMPORTANT

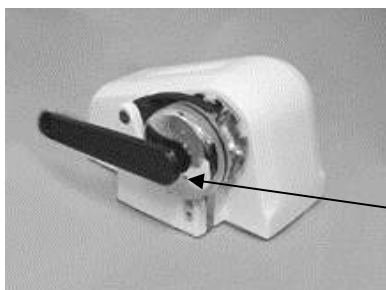
IT IS NECESSARY TO INSTALL AN ISOLATION SWITCH TO THE FREEFALL WINDLASSES TO SWITCH OFF THE WINCH WHEN NOT IN USE. This is to prevent the rope and chain from paying out if the winch is accidentally reversed



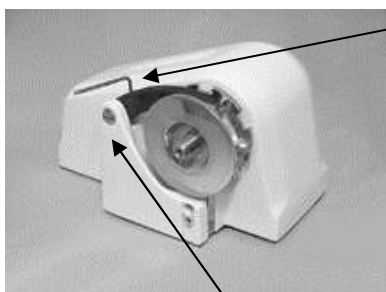
A



B



C



D

E

HFF 700 Free Fall Windlass

Maintenance & servicing

1. You will require the following tools to complete this procedure:

- (i) Clutch handle (P/N. F90-HANNYL0500)
- (ii) Screwdriver (flat blade)
- (iii) Screwdriver (Phillips head)
- (iv) 3/16" Allen key
- (v) 3mm (1/8") Allen key
- (vi) A Lithium/Teflon based marine grease.
- (vii) HFF 700 Exploded view Dwg. K08-FREHFF700

2. **Removing Declutching Pawl** (P/N. P13-PWL316HFF600) & SHC Screw (P/N. S45-30406.35019). Place 3/16" Allen key into (A) SHC Screw and turn anti-clockwise to remove. Now the Declutch can be removed.

- 3a. **Removing Clutch Nut** (P/N. P07-CLNBRZHFF600), SHC Screw (P/N. S45-30406.35013) & Retaining Washer (P/N. P21-304019.2007.012). Place 3/16" Allen key into (B) SHC Screw and turn anti-clockwise to remove.

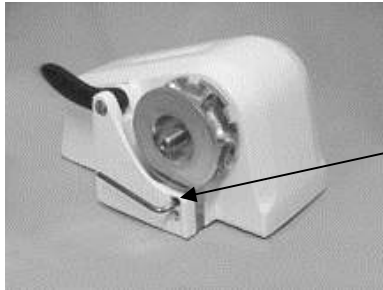
- 3b. Place the Clutch Handle (P/N. F90-HANNYL0500) into (C) bi-square and turn anti-clockwise to remove.

Note: After Declutcher and retaining washer has been removed the clutch can be engaged and disengaged manually (if required).

4. **Releasing Finger** (P/N. R40-FGRPVC0500A). Place 3mm (1/8") Allen key into (D) Grub screw (P/N. S35-3040635006) and turn anti-clockwise to release. With the tension released from the finger it can be pivoted out of the way.

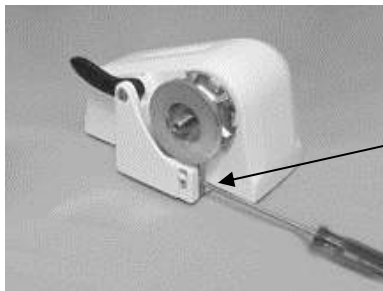
Note: upon re-assembly don't over tension the Finger Pin (P/N. P15PIN30415.88X41). With line removed from the gypsy, place Screwdriver (flat blade) into slot (E) and turn it a 1/4 turn in the clockwise direction then hold. Now place 3mm (1/8") Allen key into (D) Grub screw and turn clockwise to tighten.

HFF 700 Free Fall Windlass



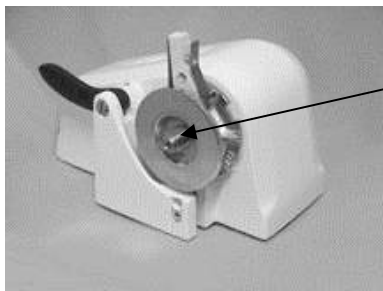
F

- 5a. Removing Peeler** (P/N. P05-PLRALL0700C) & Stripper (P/N. P19-STR3040700C). Place 3/16" Allen key into (F) SHC Screw and turn anti-clockwise to remove.



G

- 5b.** Place Screwdriver (Phillips head) into (G) and turn anti-clockwise to remove. Now the Peeler & Stripper can be removed.



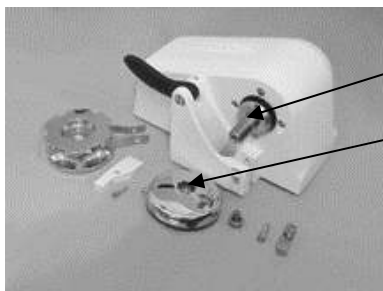
H

- 6. Removing Gypsy** (P/N. P10-H0600BC). The Gypsy can now be taken off the main shaft (H).

To complete the service or replacement of parts reverse the above steps.

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

- Before re-assembly, grease the exposed Main Shaft/cone (J) and Gypsy bore (K).



J

K

Line Care

Using the wrong type of line may cause the line to jam and give excessive wear of the line. 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.

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.

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

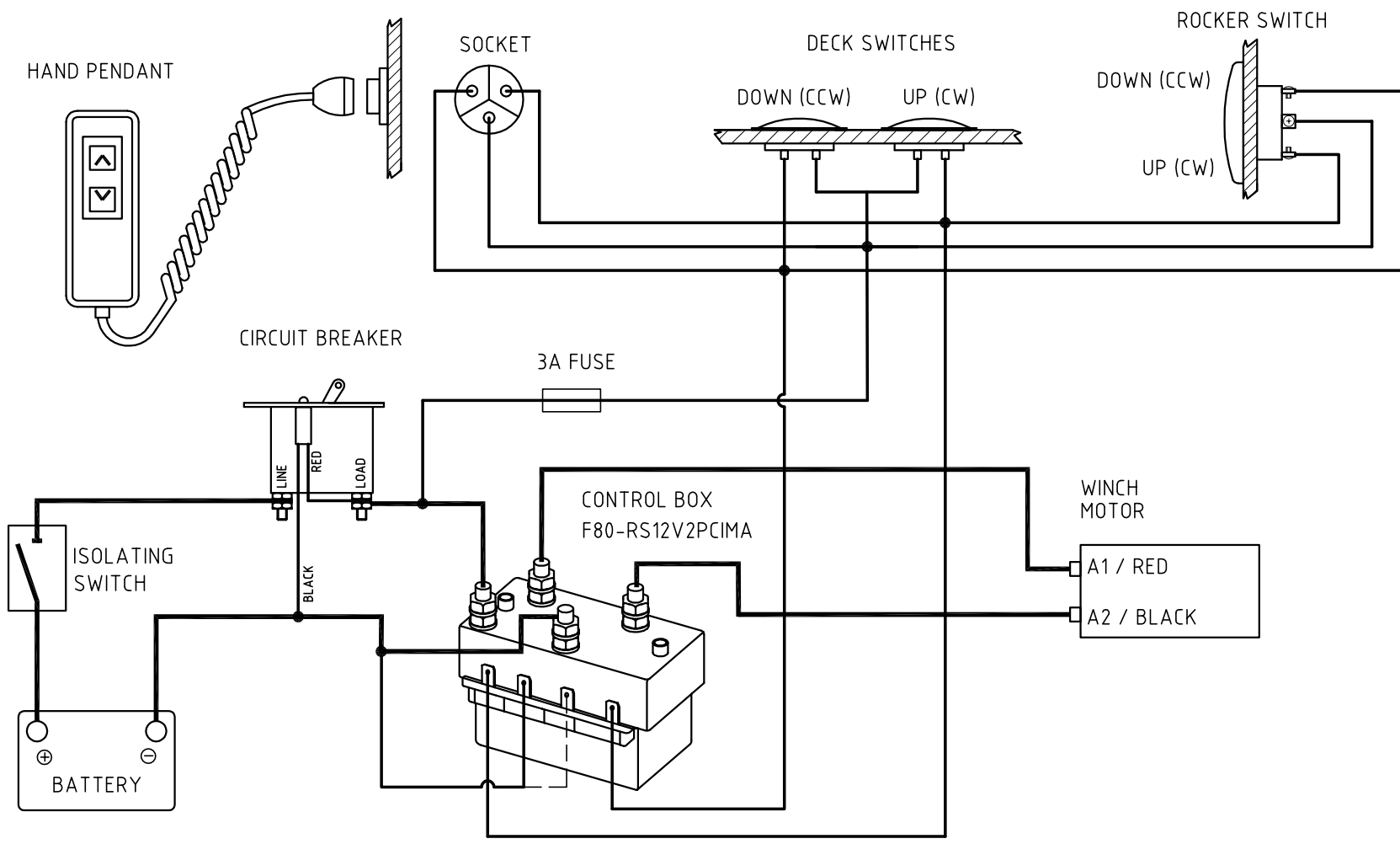
Refer any problems with your hydraulic motor to a Muir service agent or Muir Hobart.

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.

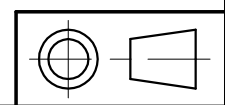
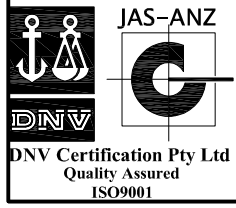
MAINTENANCE SCHEDULE

INSTALLATION	DATE	PROCEDURE
At Installation		See page 4/5
6 Months after installation		<ul style="list-style-type: none"> • Check all bolts are tight • Check Grease tape/anti-corrosion film on Motor /Geardrive
12 onths after installation		Remove chain wheel, clean cones then fully grease and lubricate. - see Maintenance & Servicing
2 years after installation		Remove chain wheel, clean cones then fully grease and lubricate. - see Maintenance & Servicing
3 years after installation		Remove chain wheel, clean cones then fully grease and lubricate. - see Maintenance & Servicing
4 years after installation		Full winch Service



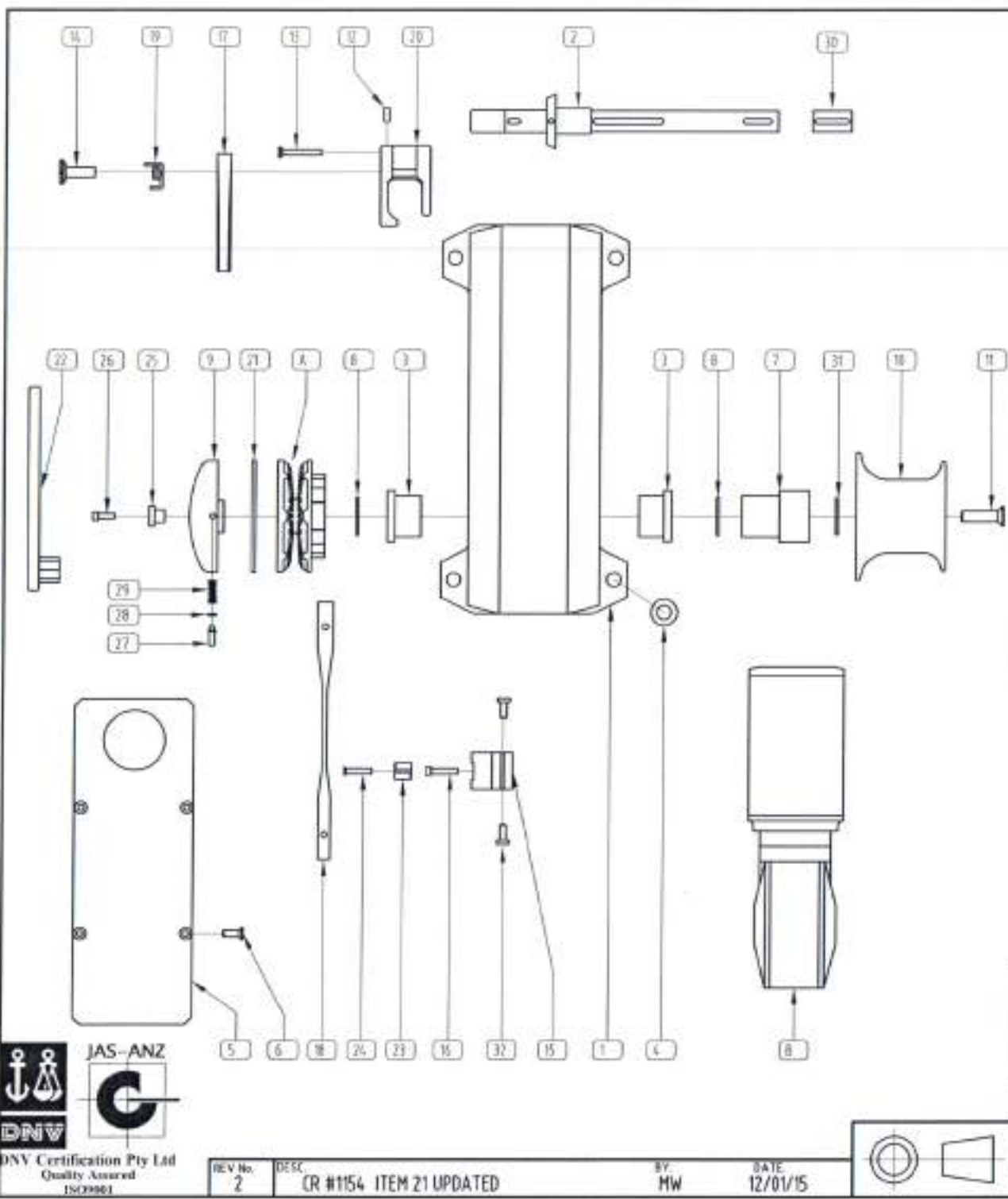
— REFER TO MANUAL FOR WIRING INDICATED BY HEAVY LINES
 — LIGHTER LINES INDICATE LIGHT WIRING.
 - - DASHED LINES INDICATE OPTIONAL WIRING.

MOTOR 12/24V	200/400W	600W
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TOLERANCES (mm)	
X.	±
X.X	±
X.XX	±
UNLESS OTHERWISE SPECIFIED	
MATERIAL	
FINISH	

MUIR WINDLASSES AUSTRALIA			
TITLE TWO TERMINAL MOTOR (REVERSING) WIRING DIAGRAM (POSITIVE ACTING SOLENOID)			
PART No. WIRE-600		CIMA SOLENOID	
DRN MW	DATE 8/12/14	DRG No. WIRE-600	
SCALE NTS	APP1	APP2	SIZE A4
© COPYRIGHT MUIR ENGINEERING PTY. LTD.			



ITEM	PART NUMBER	DESCRIPTION	QTY
1	P22-HSGH700C	HOUSING ALLOY H700 COMPACT	1
2	K06-SFTH00700C	SHAFT ASSEMBLY H700 COMPACT	1
3	P02-NOV041 032 23	BEARING NOV H700C HOUSING	2
4	P02-NYL025 0010 517	BUSH NYLON HR1200C COUGAR FOOT	4
5	P22-BPLALLH00700	BASE PLATE ALLOY H700 COMPACT	1
6	S33-30404 76013	SCREW CSK SL MT 304 0-3/16 X 0-1/2 INCH	4
7	P02-304034 9022 258	SPACER SS304 H700C CAPSTAN	1
8	R41-ORG002502201.8	O' RING SEAL 1 X 7/8 X 1/16" (BS020)	2
9	P07-CLNBRZHFF600	CLUTCH NUT BRONZE HFF600	1
10	P04-CAPBRZ00700C	CAPSTAN BRONZE H700C	1
11	S33-30407 94019	SCREW CSK SL MT 304 0-5/16 X 0-3/4 INCH	1
12	S35-30406 35006	SCREW GRUB 304 0-1/4 X 0-1/4 INCH BSW	1
13	S45-30406 35051	SCREW SHCS SS304 1/4 INCH X 2 INCH	2
14	P15-PIN30415 88X41	PIN FINGER SS304 H600C	1
15	P05-PLRALL0700C	PEELER ALLOY H700C	1
16	S45-31606 35B SW038	SCREW SHCS SS316 1/4 BSW X 1-1/2 INCH	2
17	R40-FGRPVC0600A	FINGER PVC VR/C600A	1
18	P19-STR3040700C	STRIPPER SS304 H700CH800C	1
19	S36-SPR304FGR0600C	SPRING FINGER H600C	1
20	P06-CPALLO700	CHAINPIPE ALLOY H700	1
21	P21-NYL100 0032 003	WASHER NYLACAST 96X3203 MM	1
22	F90-HANNYL0600	HANDLE NYLON CLUTCH 600	1
23	P13-PWL316HFF600	DECLUTCHER HFF600 FREEFALL	1
24	S45-30406 35019	SCREW SHCS SS304 1/4 INCH X 0-3/4 INCH	1
25	P21-304019 2007 009	WASHER 304 OD:9.2 X ID 7 X 9 LG HFF 600	1
26	S45-30406 35013	SCREW SHCS SS304 1/4 " X 0-1/2 " UNC	1
27	P15-PINAB209 52025	PIN- PLUNGER VFF600A	1
28	R41-ORG00900502 0	O' RING 9 X 5 X 2 VFF600 PLUNG. (BS-009)	1
29	S36-SPR304VFF600	SPRING PLUNGER VFF600 ATLANTICS	1
30	P02-BRZ019 050 032	CAPSTAN SLEEVE BRONZE	1
31	S75-31616 00	WASHER FLAT SS316 16MM	1
32	S38-30404 0012 70	SCREW PAN HD SL SS304 3/16 X 1/2"	2

A: GYPSY
B: MOTOR / GEARBOX ASSEMBLY

MUIR WINDLASSES AUSTRALIA

TITLE: HFF700 FREEFALL
EXPLODED VIEW

PART No: K08-FREHFF0700

ORG No: K08-FREHEF0700

DATE: 11/07/02

SCALE: NTS

APP1: [Signature]

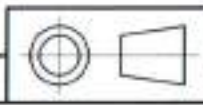
APP2: [Signature]

SIZE: A4

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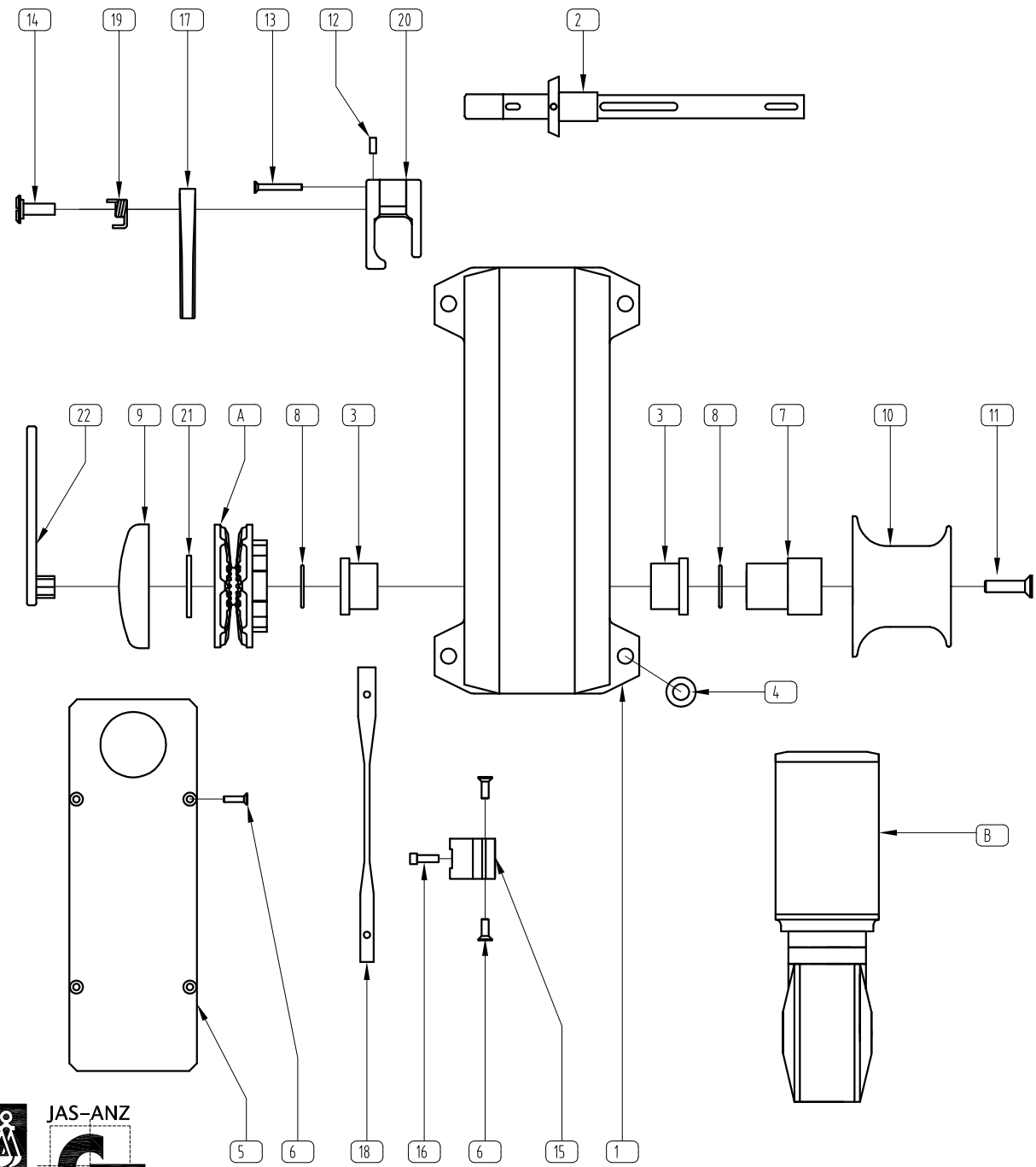
JAS-ANZ
DNV
DNV Certification Pty Ltd
Quality Assured
15(2996)

REV No: 2
DESC: CR #1154 ITEM 21 UPDATED
BY: MW
DATE: 12/01/15



3. The product is designed and manufactured in accordance with the requirements of the Australian Standards AS/NZS 4588:2001 and AS/NZS 4588:2001.

ITEM NUMBER	DESCRIPTION	QTY
1	ROD END BRACKET	1
2	ROD END BRACKET	1
3	ROD END BRACKET	2
4	ROD END BRACKET	4
5	ROD END BRACKET	1
6	ROD END BRACKET	1
7	ROD END BRACKET	1
8	ROD END BRACKET	1
9	ROD END BRACKET	1
10	ROD END BRACKET	1
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12	ROD END BRACKET	1
13	ROD END BRACKET	1
14	ROD END BRACKET	1
15	ROD END BRACKET	1
16	ROD END BRACKET	1
17	ROD END BRACKET	1
18	ROD END BRACKET	1
19	ROD END BRACKET	1
20	ROD END BRACKET	1
21	ROD END BRACKET	1
22	ROD END BRACKET	1



A: GYPSY
 B: MOTOR / GEARBOX ASSEMBLY

MUIR WINDLASSES AUSTRALIA			
TITLE H700 COMPACT / SINGLE GYPSY / CAPSTAN EXPLODED VIEW (CAPSTAN TO PORT)			
PART No. K08-COMHR0700			
DRN AJN	DATE 05/04/00	DRG No. K08-COMHR0700	
SCALE NTS	APP1	APP2	SIZE A4
© COPYRIGHT MUIR ENGINEERING PTY. LTD.			

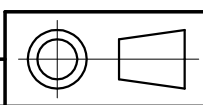
TOLERANCES (mm)	
X.	±
X.X	±
X.XX	±
UNLESS OTHERWISE SPECIFIED	
MATERIAL	FINISH

JAS-ANZ

DNV

 DNV Certification Pty Ltd
 Quality Assured ISO9001:2000

REV No. 1	DESC UPDATED ITEM NO:2 P18-SFT303H00700C	BY WHE	DATE 19/11/07
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C:\Users\Drawings\K08-K08-COMHR0700.dwg, 13/08/2012, 10:54:43 AM, cad3

**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 bylaw). 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 Name :		Address / Contact :	
Date of Purchase :	Winch Model :	Serial No :	
Supplier Name :		Address :	



Head Office:

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Kingston Tasmania,
Australia 7050
Tel Int: +61 (0) 3 6229 0600
Fax Int: +61 (0) 3 6229 7030
Email: sales@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