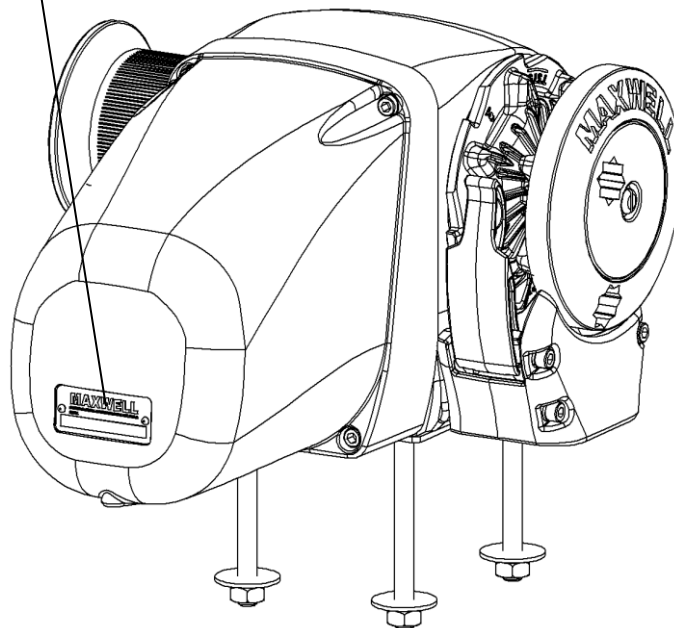


HRC10
Rope/Chain Windlass

VETUS-MAXWELL APAC Ltd

Owner Note:

Record your serial Number here.



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VETUS-Maxwell APAC Ltd reserves the right to make engineering refinements on all products without notice. Always consult manual supplied with product as details may have been revised.

Illustrations and specifications are not binding as to detail.

INTRODUCTION

- Read this manual thoroughly before installation and using the windlass. Failure to adhere to the correct procedures, recommendations and guidelines described in this Owner's Manual may invalidate the warranty.
- Correct selection of windlass together with correct installation, care in use and maintenance, are essential for long life and reliable performance.
- In addition to this instruction manual, the following components should be included with the windlass:
 - Clutch Handle.
 - Bi-Square to ½ socket adaptor.
 - Deckplate Gasket.
 - Deck Cutout Details (at rear of manual)
 - Deck stud Kit.
 - 4 x Studs
 - 4 x Nuts
 - 4 x Flat washers
 - 4 x Spring washers

The following accessories may be required to complete your installation:

- Remote up/down control panel
- Circuit breaker/isolator panel
- 12V or 24V reversing solenoid

IMPORTANT INFORMATION

- The windlass must have a minimum pull capacity of three times the combined weight of the anchor and rope/chain.
- Keep hands, feet, loose clothing and hair well clear of the windlass and rope/chain during operation.
- Never operate the windlass from a remote station without having a clear view of the windlass.
- Do NOT use the windlass as a mooring point. When anchoring or mooring, secure the line directly to a bollard or deck cleat.
- Do NOT use the windlass to pull the boat forward when raising the anchor. Use the boat's engine to drive the boat up to the anchor.
- Do NOT attempt to break free a fouled anchor with the windlass. Secure the line to a bollard or cleat and use the boat's engine to break the anchor out.
- Always firmly tie down the anchor when under way or in heavy seas. Do not rely on the windlass as a securing device.
- Always turn the circuit breaker/isolator switch off when the windlass is not in use and before you leave the boat.
- Do NOT use the windlass to haul a person up a mast.

ROPE AND CHAIN SELECTION

Correct fit of rope and chain to chainwheel is essential for the windlass to operate properly.

The ground tackle should be selected taking into account:

- a) Boat size, displacement and windage.
- b) Conditions of operation such as maximum depth of water, type of bottom and likely weather conditions.
- c) Holding power and size of anchor, taking special note of the manufacturers' recommendations.

Selection of chainwheel:

Part Number P103315 for :
HRC10-8: 14mm (9/16")-16mm (5/8") rope / 8mm (5/16") chain

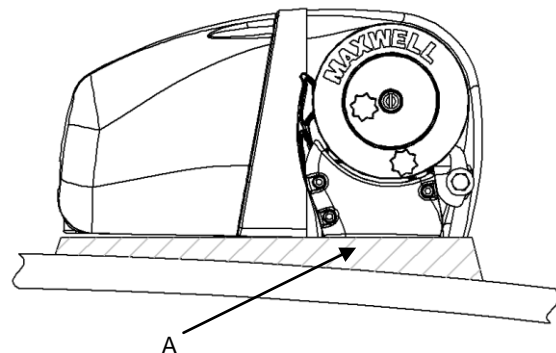
Part Number P103316 for :
HRC10-10: 16mm (5/8") rope / 10mm (3/8") chain

INSTALLATION

- For automatic operation to be possible, the anchor must be self launching.
- Tie the end of the anchor rope/chain to a secure fixture in the rope/chain locker.

Foredeck layout

Ensure the deck is flat, if not; a plinth (A) will be required to ensure the windlass sits on a flat surface.



Required clearances

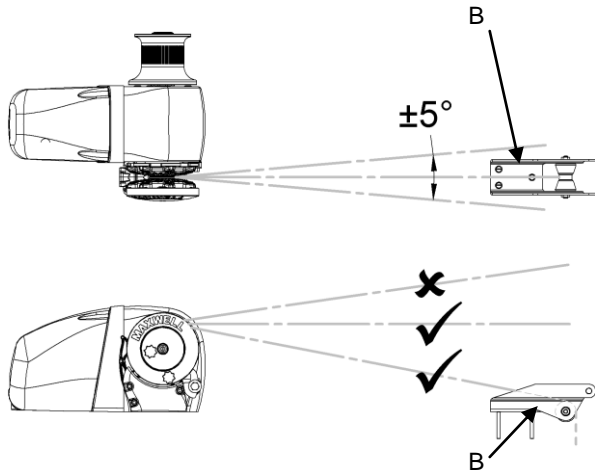
Identify any bulkheads, wiring or piping under the deck that should be avoided.

Position the windlass so the rope/chain falls directly into the rope/chain locker with at least 200mm (8") unobstructed fall.

Aligning the windlass

The windlass must be positioned to allow the rope/chain to have a clear run from the bow roller (B) to the chainwheel without deflection.

The windlass must be mounted pointing in the direction of the incoming rope/chain. This arrangement allows the rope/chain to have maximum engagement with the chainwheel.



Installation Procedure

Use the Deck Cutout Details drawing, as a guide for marking and cutting the holes.

Tip: On GRP boats, running the drill in reverse first will reduce chipping of the gel coat.

Using hole saws, cut the holes for the rope/chain pipe and electrical cables.

On GRP or wooden decks, seal the edges of the holes with epoxy to avoid ingress of moisture.

Install deck studs to windlass and tighten by use of two nuts. Place the gasket onto the windlass and fit to deck.

Fasten the windlass to the deck using the nuts and washers supplied. Tighten the nuts progressively and evenly. Do NOT use power tools. Make sure the installation is firm, but do not over tighten the nuts.

Important note to Boat Builders

Experience has shown that, on long ocean deliveries as deck cargo, sulphur from the ships exhaust and condensation can damage the chrome plating and stainless steel of the windlass.

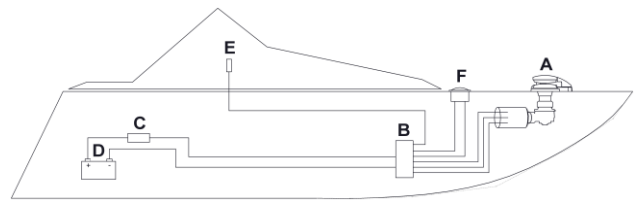
We recommend, after completing installation, you spray the top works of the windlass with CRC 3097 "long life" (or alternative) and wrap the windlass with plastic film and tape.

WIRING INSTRUCTIONS

Installation must be carried out in accordance with USCG, ABYC, NMMA, CE or other relevant local electrical requirements.

We recommend that connection of the power lines and control circuitry to the windlass be done by qualified technicians, to ensure reliable and safe operation of the windlass.

After all connections have been made and system tested, seal terminals against moisture by spraying with: CRC2043 "Plasti-Coat", CRC3013 "Soft Seal" or CRC2049 "Clear Urethane" (or alternative).



Solenoid pack (Required)

The solenoid pack (B) should be located in a dry area close to the windlass, not in the rope/chain locker.

Circuit breaker/isolator (Required)

! FOR SAFETY - The winch circuit requires protection provided by an isolator switch and either a fuse or circuit breaker, rated as follows:

HRC10-12V : 135amp

HRC10-24V : 80amp

Position the circuit breaker/isolator (C) no further than 1.8 m (6 ft) away from the battery (D) in an accessible and dry location.

Remote control panel (Recommended)

The remote control panel (E) should be mounted in a convenient location (such as the bridge, helm or cockpit) so that the operator can see the windlass.

Footswitch (Optional).

For safe operation, the footswitch (F) should be approximately 500 mm (20") from the windlass (A).

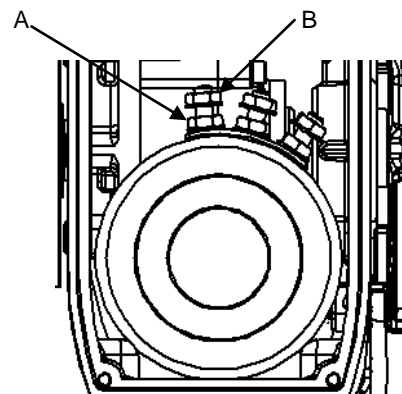
The below-deck part of the footswitch must be in a dry environment and the breather holes must be kept clear.

The arrows on the footswitch should be arranged to indicate the direction of operation.

Fit the switch according to the instructions supplied. Connect wiring as shown.

Motor

When tightening the cables to the motor, ensure the lower nut (A) is secure against turning when tightening the upper nut (B). This will prevent damage occurring within the motor. Nut(B) should be tightened to 9-11Nm.



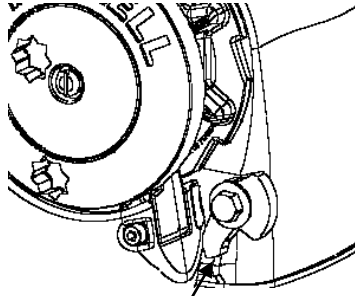
OPERATION

CAUTION:

Make sure that you do not operate the footswitch accidentally while putting extra turns on the capstan. Keep your fingers clear of the chainwheel and/or capstan.

When operating the windlass:

-Ensure the pawl is in the disengaged position when paying out the anchor.



Pawl In Disengaged position

-Do not switch immediately from one direction to the other. Wait for the windlass to stop in one direction before applying power in the other direction.

-Run the boat's motor(s) at sufficient rpm to activate the charging system.

Always make sure the isolator switch is turned off when the system is not being used.

Lowering the Anchor

Insert the clutch handle into the clutch nut and tighten the clutches by turning the nut clockwise. Only tighten sufficiently so that you can easily pull up the anchor.

REMOVE THE CLUTCH HANDLE.

Operate the windlass by pressing the toggle switch down on the remote up/down control panel to pay out the rope/chain (or press the "Down" footswitch if fitted).

Pay out sufficient rope/chain to set the anchor.

Watch as the rope/chain is being fed out. Any jam might cause damage to the windlass.

Raising the Anchor

Insert the clutch handle into the clutch nut and tighten the clutches by turning the nut clockwise. Only tighten sufficiently so that you can easily pull up the anchor.

REMOVE THE CLUTCH HANDLE. NOTE: Over tightening the clutches can cause damage to the motor when docking the anchor.

Operate the windlass by pressing the toggle switch up on the remote up/down control panel (or press the "Up" footswitch if fitted).

Motor up to the anchor while retrieving it. Do not use the windlass to pull the boat to the anchor.

To avoid damaging the bow fitting, retrieve the last meter (3') of rope/chain slowly and take care when docking the anchor.

Note: To avoid applying the full force of the windlass to the bow fitting when docking the anchor, adjust the clutch nut so that there is some slippage when docking the anchor.

Free falling the Anchor

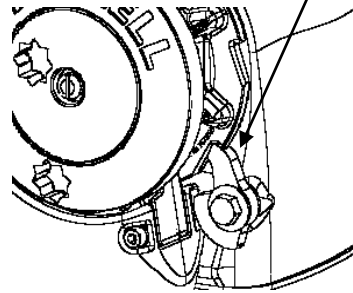
Insert the clutch handle into the clutch nut and loosen by slowly turning the handle anticlockwise.

Tightening the clutch nut clockwise will control the rate of descent.

CAUTION: Do not allow the chainwheel to free wheel uncontrolled as this will allow dangerously high speeds to build up.

Raising the Anchor Manually:

Move the pawl into the engaged position.



Insert the clutch handle into the clutch nut and turn anticlockwise to loosen the clutch. Note the chain wheel may pay out the anchor until the pawl locks into the chainwheel.

Insert the clutch handle into the outer bi-square of the chainwheel and rotate anticlockwise to pull in the line. A bi-square to 1/2" socket adaptor has been provided with your windlass. This can be used with any 1/2" ratchet to recover the rode.

Using the Capstan Drum for Rope Warping:

The capstan can be used independently from the chainwheel. This is ideal for handling mooring or docking lines, or retrieving a second anchor. For safety reasons, a footswitch is highly recommended.

To haul in using the capstan:

Make sure the anchor is secured.

Insert the clutch handle into the clutch nut and turn anticlockwise until rotation stops. This will release the mechanism so that the chainwheel remains stationary while you operate the capstan.

Take three turns of rope around the drum in a clockwise direction.

While holding the tail of the rope, press the "Up" footswitch. The capstan will rotate clockwise.

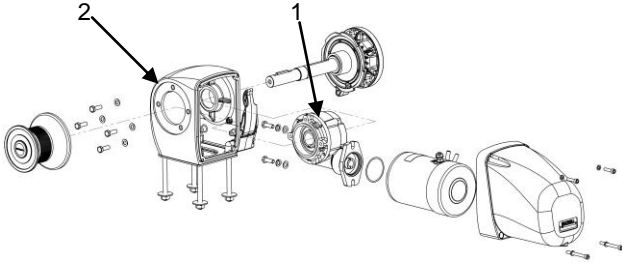
MAINTENANCE

Every Trip

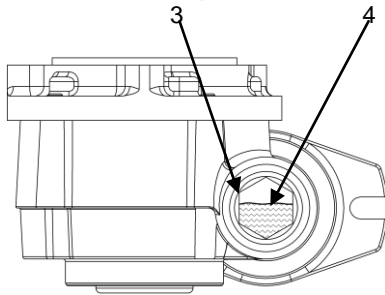
- Ensure clutch is adjusted correctly
- Wash down topworks with fresh water
- Spray motor and electrical connections with CRC Soft Seal.
- Check rope for wear and wash down with fresh water

Every 3 Months

- Remove chainwheel. Strip and grease clutch
- Split gearbox (1) from main case (2), clean and re-grease mating faces.



- Check level of oil in gearbox using the sight glass (3). Oil level (4) should be above 1/2 and no more than 3/4 full. If necessary top up.



- Clean the Windlass with a cloth damp with Kerosene (paraffin). Spray preferably with CRC3097 "Long Life" or alternatively, CRC6-66 or WD40 (or alternative). Polish off with a clean non-fluffy cloth.

Every Year

- The motor should be serviced by a qualified technician.
- Remove any rust build up from the casing and paint with a suitable coating

Every 3 Years

- The gearbox should be serviced by an authorised service agent.

Specifications

Electric Motor : Direct Current motor
Voltage : 12 V DC or 24 V DC
Rated Output : HRC10-8: 1000W
: HRC10-10: 1200W

Hydraulic Motor:
Recommended Flow :20l/min 5.3gal/min
Relief Valve setting :2000 psi 138bar

Gear box ratio : 56:1

Max Force : HRC10-8: 700kg (1540 lbs)
: HRC10-10: 850kg (1870 lbs)

Haulage speed : 20-24 m/min (65.6-78.7 ft/min)
(Dependant on the load)

Rope size : HRC10-8: 14-16mm (9/16"-5/8")
: HRC10-10: 16mm (5/8")

Chain size : HRC10-8: 8mm (5/16") short link
: HRC10-10:10mm (3/8") short link

Net weight : HRC10-8: 19kgs (42lbs)
: HRC10-10: 20kgs (44lbs)

Recommended lubricants:

Gearbox :

Capacity: 75 ml (2.4 fl oz)

SAE viscosity grade 90-110 API GL-4 or lower gear oil

Main shaft, bearing, and clutch surfaces:

Marine grease, Lithium or Lithium complex based NLGI No.1 to No.3 .Do not use soap based greases.

WARNING:

When re-assembling care must be taken to ensure the key/keys are properly seated in the shaft. DO NOT wrap the motor with grease cloth as this prevents the cooling of the motor.

Cable Lengths

12V Systems		
Cable Length	Cable Size	
	mm ²	AWG
Up to 12m (40')	25	3
12m - 16m (40' - 52')	35	2
16m - 20m (52' - 65')	50	1
20m - 26m (65' - 85')	70	0
66m - 33m (85' - 108')	70	00

24V Systems		
Cable Length	Cable Size	
	mm ²	AWG
Up to 27m (88')	16	6
27m - 43m (88' - 141')	25	4

! NOTE: Cable length is the total length from battery to winch then back to battery.

Ordering Spare Parts

When ordering spare parts, please quote the following details.

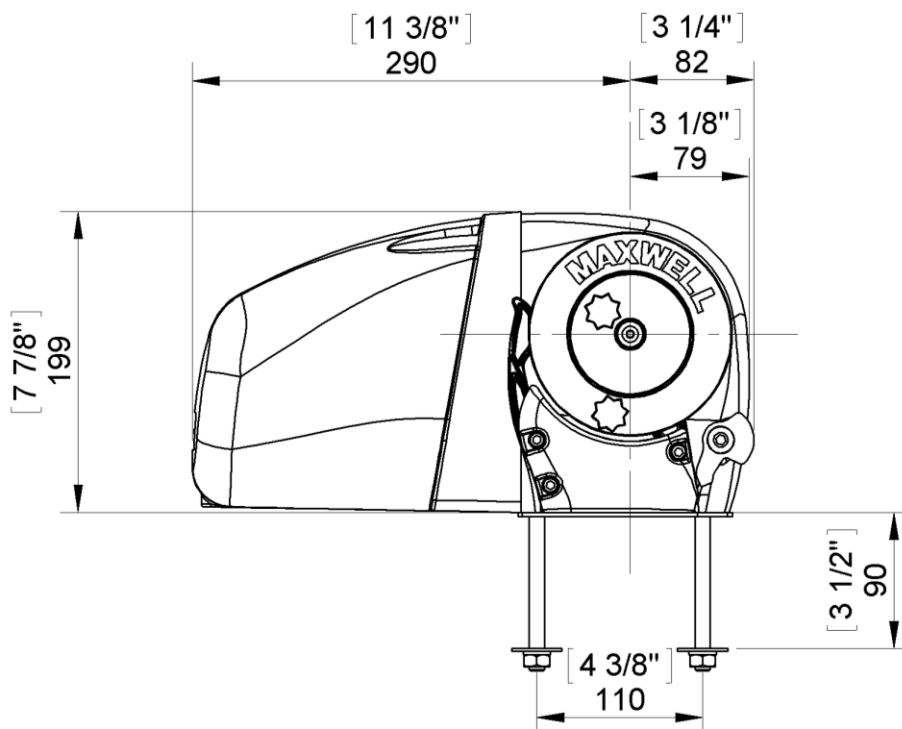
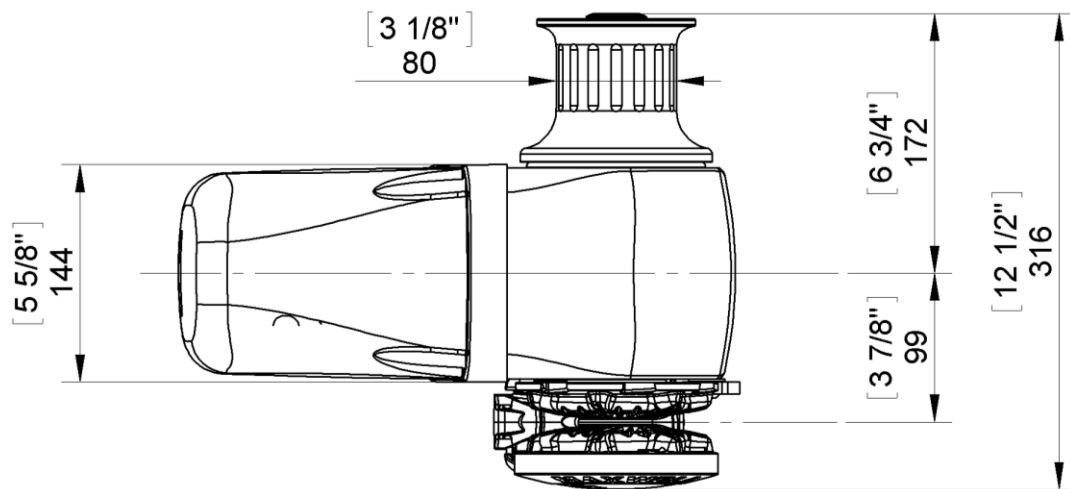
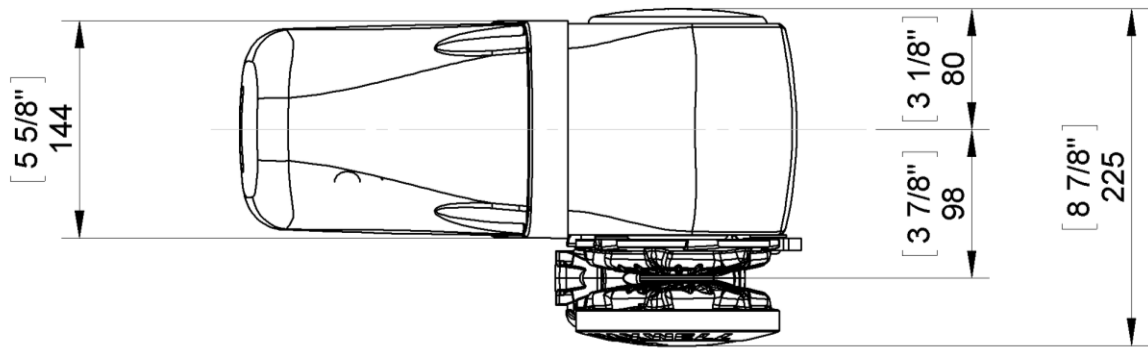
Windlass Model _____

Serial number _____

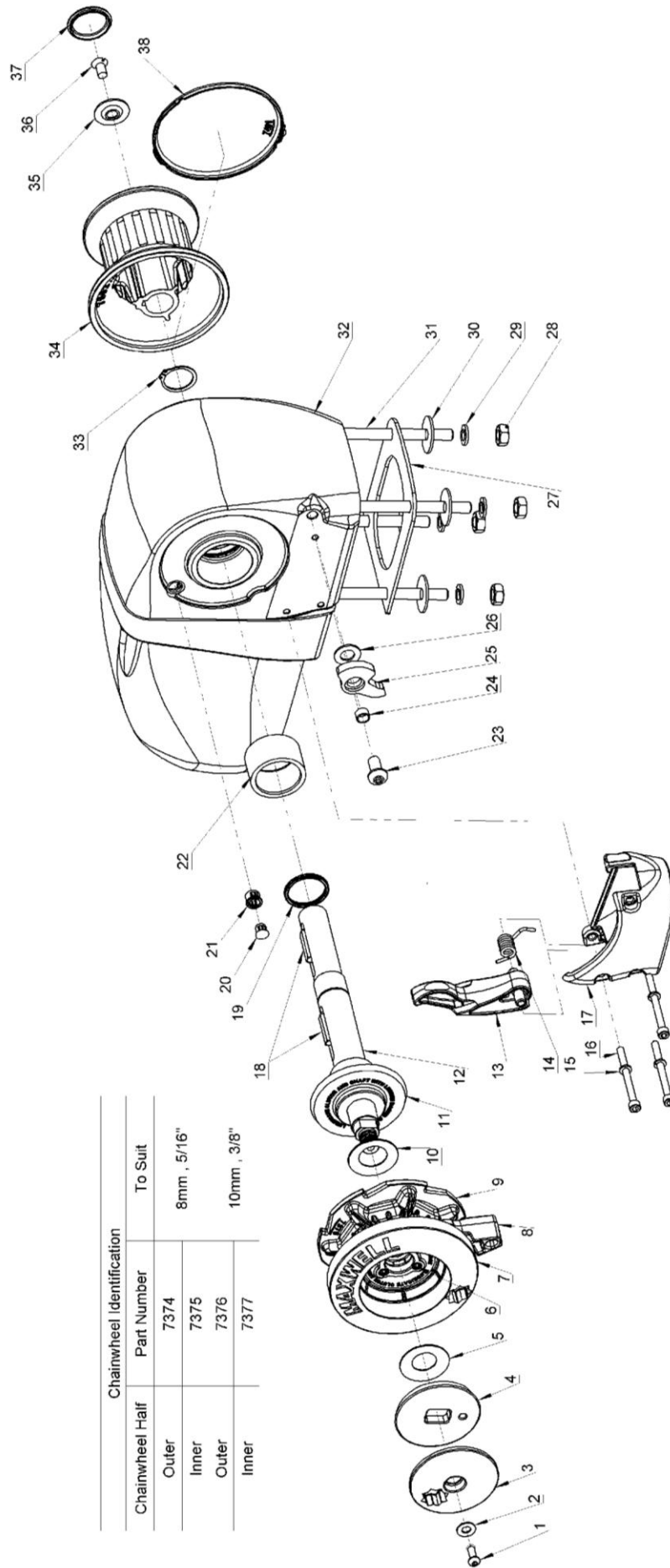
Power supply _____

Note: For your nearest retailer, service agent or representative please refer to our website www.maxwellmarine.com

Overall Dimensions

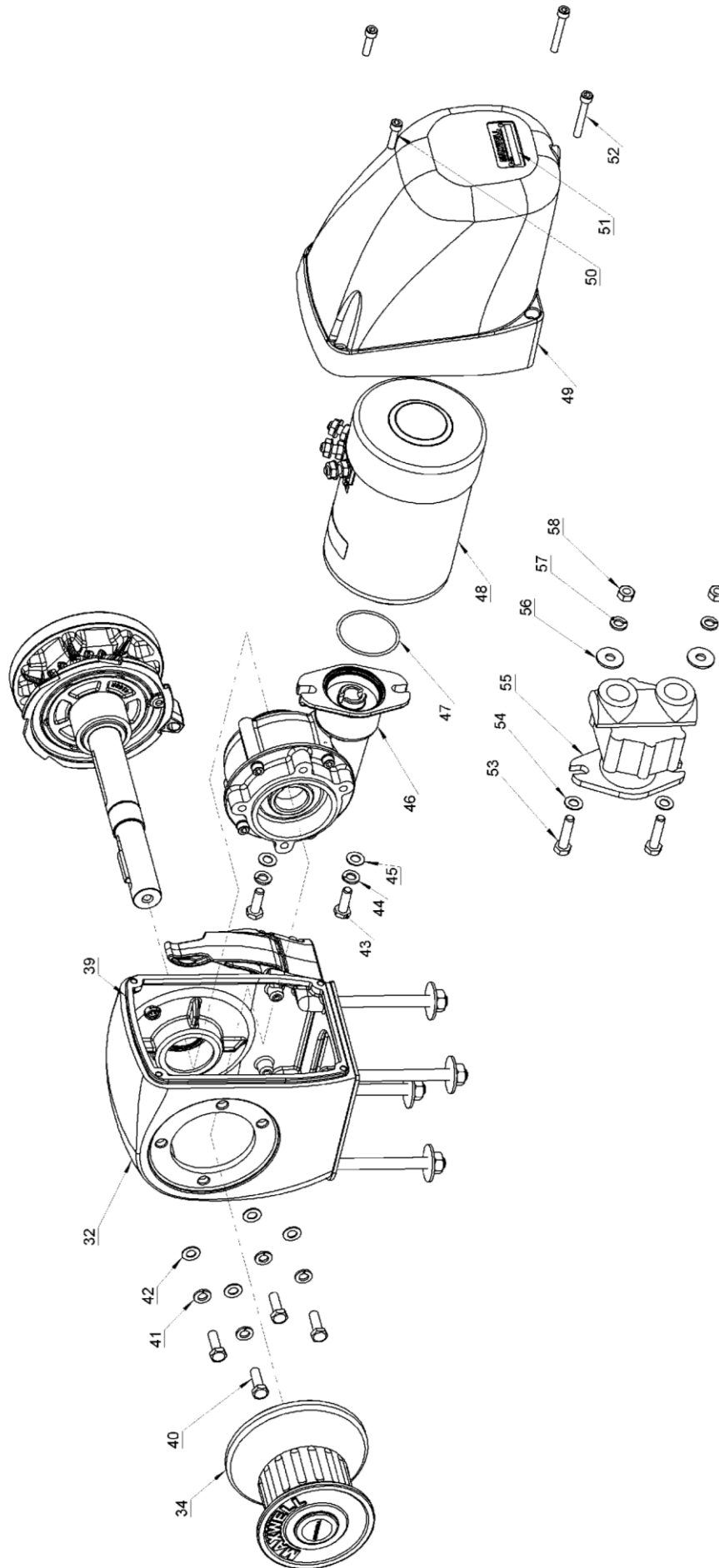


Parts List



Chainwheel Identification		To Suit
Chainwheel Half	Part Number	
Outer	7374	8mm , 5/16"
Inner	7375	
Outer	7376	10mm , 3/8"
Inner	7377	

Parts List



Item no.	Component Description	Qty	Parts to order	Includes
1	Capscrew M6x16	1	SP0167	
2	Washer M6x16	1	SP0439	
3	Clutch nut	1	6914C	
4	Clutch cone upper	1	6090	
5	Belleville Washer	1	SP0484	
6	Capscrew M5x12	3	SP4503	
7	Chainwheel outer 8mm	1	P103315	6,7,8,9
	Chainwheel outer 10mm	1	P103316	6,7,8,9
8	Stripper	1	6915	
9	Chainwheel inner 8mm	1	P103315	6,7,8,9
	Chainwheel inner 10mm	1	P103316	6,7,8,9
10	Belleville Washer	1	SP0488	
11	Clutch cone Lower	1	Ref #12	
12	Shaft	1	P104723	1,2,11,12,19
	Shaft (No Drum Version)	1	P104724	1,2,11,12,19
13	Pressure arm	1	7347	
14	Pressure arm spring	1	7037	
15	Capscrew M6 x 70	3	SP4509	
16	Spring Washer	3	SP0474	
17	Chain Pipe	1	7346	
18	Key	2	6340	
19	Quad Ring	1	SP2758	
20	Plug	1	SP3519	
21	Bush	1	SP3518	
22	Deckplate Bearing	1	4218	
23	Capscrew M10x20	1	SP0194	
24	Spacer	1	7400	
25	Pawl	1	7362	
26	Washer M12	1	SP0424	
27	Gasket	1	7395	
28	Nut M10	4	SP0371	
29	Spring washer M10	4	SP0466	
30	Washer M10	4	SP0423	
31	Stud M10x125mm	4	5225	
32	Main Case	1	7344	
33	Circlip 1-1/8"SS	1	SP0878	
34	Drum SS	1	7502	
35	Retaining washer	1	3467	
36	Screw Csk slot M8	1	SP0064	
37	Cap	1	3465	
38	Cover (No Drum version only)	1	7401	
39	O-ring 178 x3	1	SP2798	
40	Bolt M8x20	4	SP0254	
41	Spring Washer M8	4	SP0467	
42	Washer M8	4	SP0413	
43	Bolt M8x25	2	P12487	42,43,44,46

44	Spring Washer M8	2	P12487	42,43,44,46
45	Washer M8	2	P12487	42,43,44,46
46	Gearbox 56:1	1	P12436	
47	O-Ring	1	P12487	42,43,44,46
48	Motor 12V 1000W	1	P12072	
	Motor 12V 1200W	1	P12073	
	Motor 24V 1200W	1	P12074	
49	Motor Cover	1	7345	
50	Capscrew M6 x 25	2	SP0175	
51	Label	1	7361	
52	Capscrew M6 x 45	2	SP4511	
53	Bolt	2	P12488	52,53,55,56,57
54	Washer M8	2	P12488	52,53,55,56,57
55	Motor Hydraulic	1	P14366	
56	Washer M8	2	P12488	52,53,55,56,57
57	Spring Washer M8	2	P12488	52,53,55,56,57
58	Nut M8	2	P12488	52,53,55,56,57
	Bi-Square to 1/2" drive adaptor		7369	
	Bi-Square handle 8"		P103864	
	Product Manual		P103124	

Electrical and Hydraulic Schematic

- 1: Battery
- 2: Breaker/Isolator
- 3: Manually resettable 3 Amp breaker / Fuse
- 4: Solenoid Pack
- 5: Up Foot Switch
- 6: Down Foot Switch
- 7: Up/Down control switch
- 8: Motor

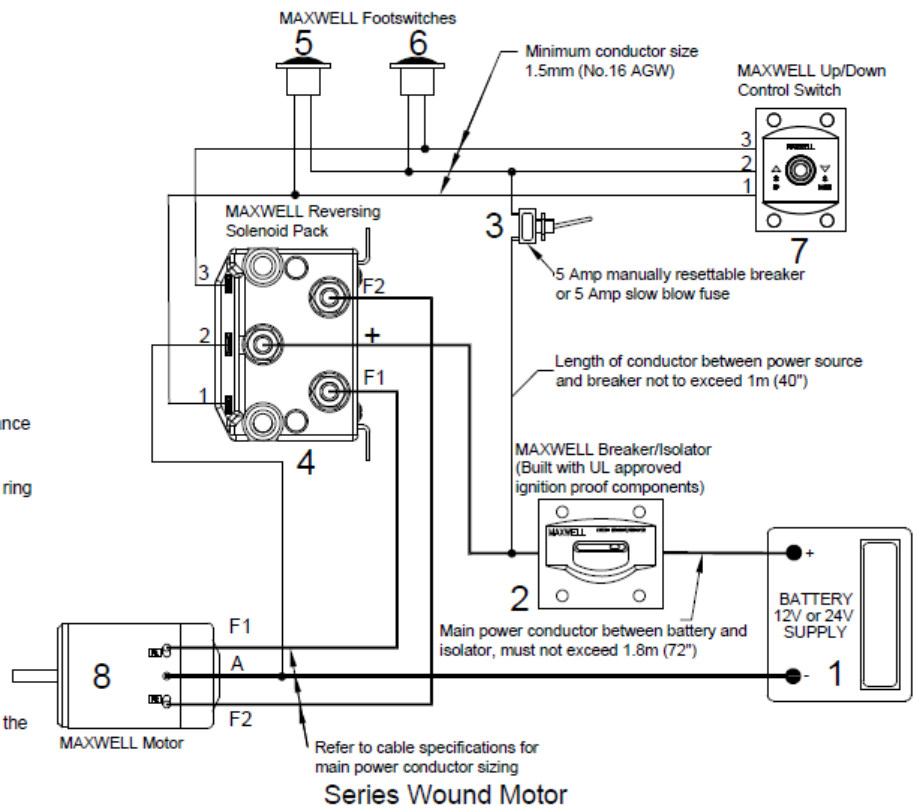
Note:

All installations should be carried out in accordance with USCG, ABYC, NMMA requirements.

All main power conductor terminals are to be of ring type and all terminations are to be sleeved to protect against accidental shorting.

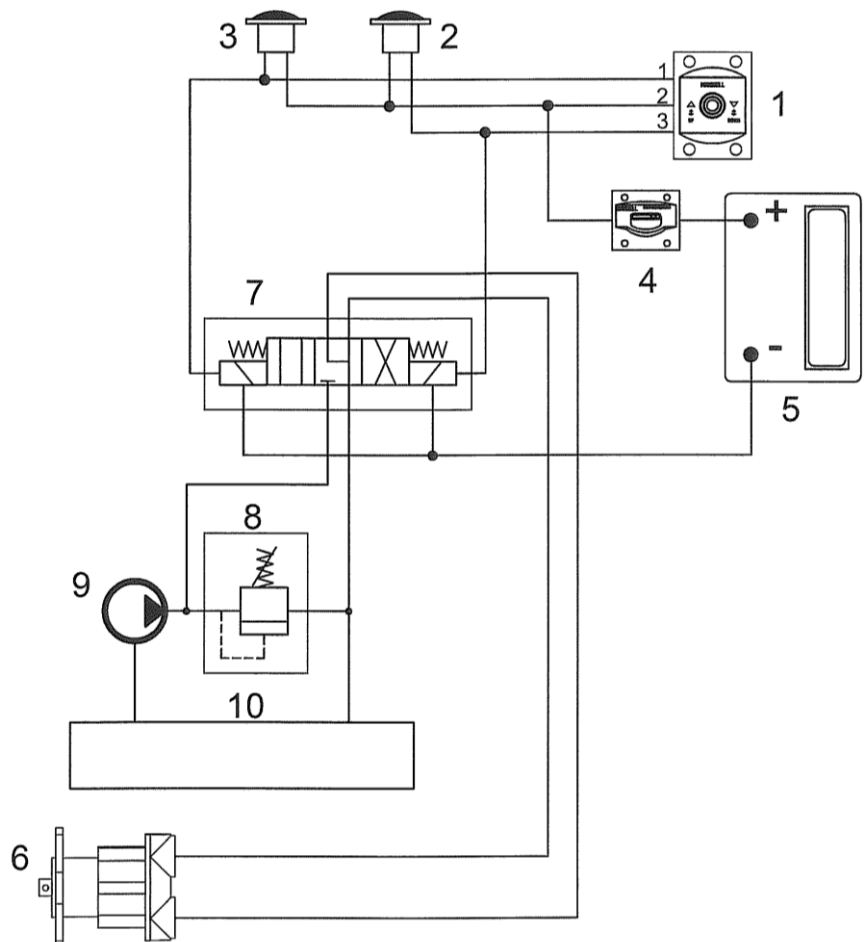
After installation and all necessary tests - Seal terminals against moisture by spraying with CRC2403 "plasti-coat", CRC3013 "soft seal" or CRC2409 "clear urethane"

Check rotation of winch before application of chain/rope. Swapping F1 and F2 terminals or connection 1 and 3 on solenoid box will change the rotation of winch.

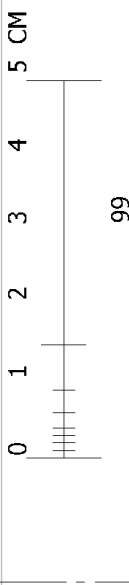


Hydraulic Motor

- 1 Remote control panel
- 2 Down Foot Switch
- 3 Up Foot Switch
- 4 Breaker/Isolator
- 5 Battery
- 6 Motor
- 7 Dual direction solenoid
- 8 Relief Valve
- 9 Pump
- 10 Tank



Rev.	Change	Made on	Des/Drawn	Checked
1.00	Initial Issue	14/10/2009	PC/RP	DB
2.00	120 holes was 90	12/05/2010	RP	DB

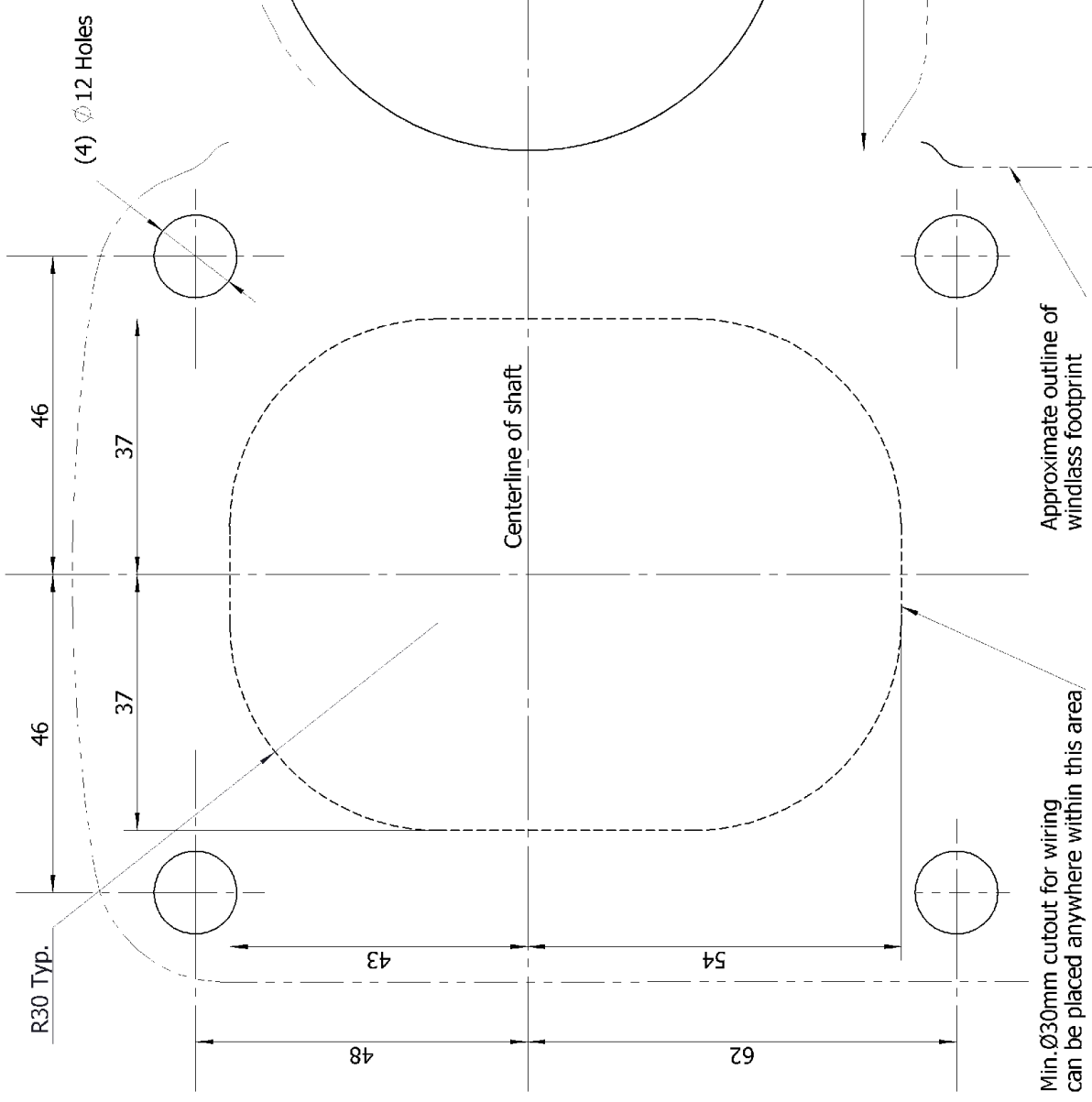


**IF USED AS A TEMPLATE
PLEASE CHECK ACCURACY OF
DIMENSIONS ON DRAWING
BEFORE CUTTING OUT
(SEE NOTE 3)**

NOTES:

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

Centerline of Rode to Bow Roller



Approximate outline of chainpipe footprint

This drawing is protected by copyright and the design and or details contained therein are the confidential property of MAXWELL MARINE INTERNATIONAL LTD. This drawing must be returned upon demand and must not be copied, loaned or have its contents communicated to any other persons, including subcontractors, without the consent in writing from Maxwell Marine International Ltd. This drawing must not be used for any other purpose other than that for which it was originally supplied.

Description: **Deck Cutout Template: HRC10** Drawing No: Revision No: **7379 2.00**

Tolerances if none specified
 0 DECIMAL (X) ±0.5 ALL ANGLES = 0.5° Sheet Size A4
 1 DECIMAL (X.X) ±0.2 SURFACE FINISH 1.6 Scale 1:1
 2 DECIMAL (X.XX) ±0.1 1:1

Sheet 2 of 2

LIMITED WARRANTY

Warranty: VETUS-Maxwell APAC Ltd provides a three year limited warranty on windlasses for pleasure boat usage, and a one year limited warranty for those systems used on commercial or charter vessels. Warranty, service and parts are available around the world. Contact your nearest VETUS-Maxwell office for a complete list of service centres and distributors.

This warranty is subject to the following conditions and limitations:

1. This Warranty will be null and void if
 - (a) there is any neglect or failure to properly maintain and service the products.
 - (b) the products are serviced, repaired or maintained improperly or by unauthorised persons.
 - (c) loss or damage is attributed to any act, matter or omission beyond the reasonable control of VETUS-Maxwell or the purchaser.
2. VETUS-Maxwell liability shall be limited to repair or replacement (as determined by VETUS-Maxwell) of the goods or parts defective in materials or workmanship.
3. Determination of the suitability of the product and the materials for the use contemplated by the buyer is the sole responsibility of the buyer, and VETUS-Maxwell shall have no responsibility in connection with such suitability.
4. VETUS-Maxwell shall not be liable for any loss, damages, harm or claim attributed to:
 - (a) use of the products in applications for which the products are not intended.
 - (b) corrosion, wear and tear or improper installation.
 - (c) improper use of the product.
5. This Warranty applies to the original purchaser of the products only. The benefits of the Warranty are not transferable to subsequent purchasers.
6. VETUS-Maxwell shall not be responsible for shipping charges or installation labour associated with any warranty claims.
7. There are no warranties of merchantability, fitness for purpose, or any other kind, express or implied, and none shall be implied by law. If any such warranties are nonetheless implied by law for the benefit of the customer they shall be limited to a period of three years from the original purchase by the user.
8. VETUS-Maxwell shall not be liable for consequential damages to any vessel, equipment, or other property or persons due to use or installation of VETUS-Maxwell equipment.
9. This Warranty sets out your specific legal rights allowed by VETUS-Maxwell; these may be varied by the laws of different countries. In addition, the purchaser may also have other legal rights which vary from country to country.
10. To make a claim under this Warranty, contact your nearest VETUS-Maxwell office or distributor. Proof of purchase and authorisation from VETUS-Maxwell will be required prior to any repairs being attempted.



To be eligible for warranty protection, please either complete the form below at the time of purchase and return it to the appropriate retailer or supplier of the goods, or fill out the electronic warranty form on our website, www.maxwellmarine.com

Purchaser

Name:

Address:

Telephone:

Facsimile

Supplier / Dealer

Name:

Address:

Telephone:

Facsimile

Windlass Model

Serial Number

Date of Purchase

Boat Type

Windlasses Supplied

Name

L.O.A.

With boat

Fitted by boat yard/dealer

Purchased from dealer/chandler

Built by

