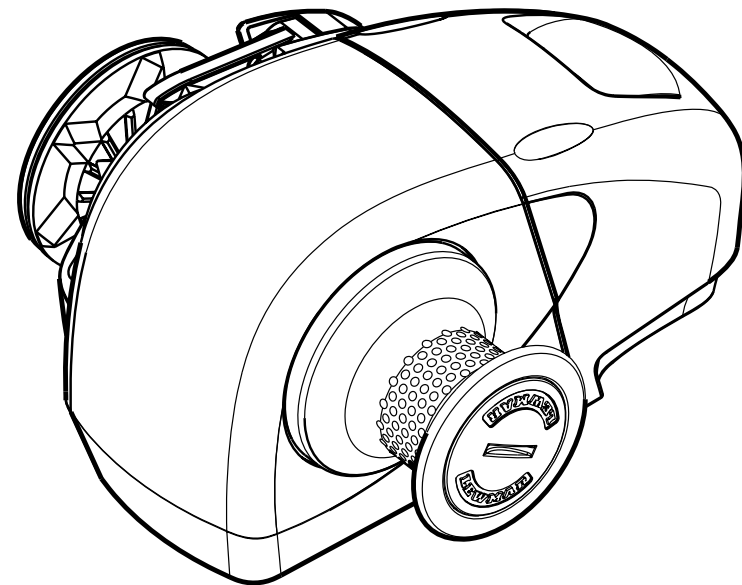
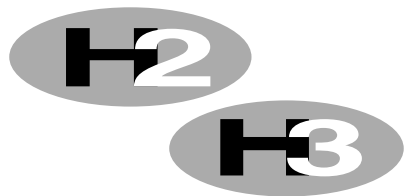


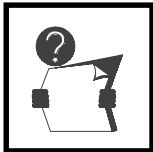
LEWMAR®

H2 & H3 Horizontal Windlass

Operation Manual



Installation



Preparation



Fitting

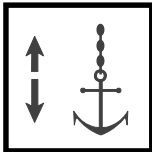


Wiring



Loading

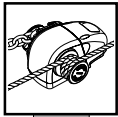
Operation



Safety and use



Manual Free Fall

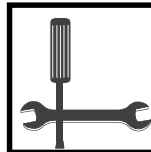


Warping

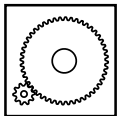


Manual Recovery

Servicing



Schedule



Parts



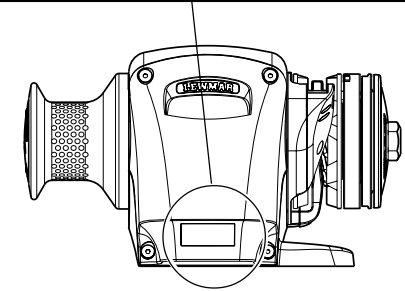
Appendix



IMPORTANT : Read these notes before continuing.

Note windlass serial number and voltage here.

_____	_____ V
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Warning!

- Keep limbs, fingers, clothing and hair clear of windlass and anchor rope/chain during operation.
- Ensure there are no swimmers or divers nearby when dropping anchor.
- Windlass must not be used as the sole means of securing the anchor to the bow fitting. Anchors should be **independently secured** to prevent accidental release.
- Classification Societies require that a vessel lying at anchor must have its anchor rope/chain secured to a suitable **independent strong point**.
- Any **independent strong point** must be strong enough to hold anchor and anchor rope/chain under storm conditions.



● Preparation

Warning!

- Neither the windlass nor its deck mounting are designed to withstand anchoring loads generated under storm conditions.
- Do not use windlass for **ANY** purpose other than deployment and recovery of anchor.
- Do not wrap chain around a capstan barrel or drum where fitted.
- A circuit breaker/isolator should always be used with this windlass to protect the motor and cables from overheating and damage.
- Always switch off this windlass at the circuit breaker/isolator when not in use.
- Regularly check clutch nut for tightness. During normal use it is possible for it to work loose. Always remove the handle after tightening clutch nut.
- For combined anchor rope/chain installations;
 - (i) Use three strand rope only, multi-plait rope should not be used;
 - (ii) Join rope to chain with a tight, tapered back splice, which will flow freely through the windlass.

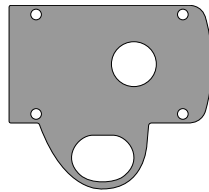
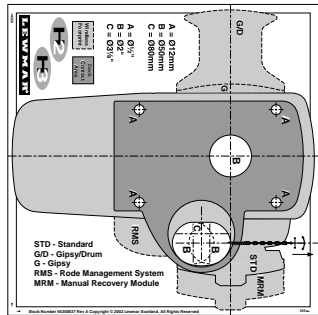
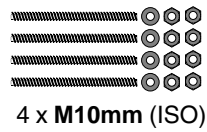
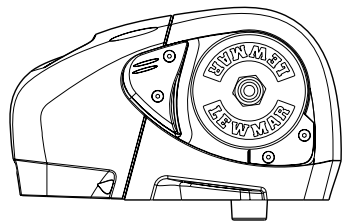
If you do not know how to splice rope to chain correctly, then seek professional help.

Installation

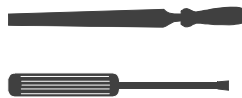
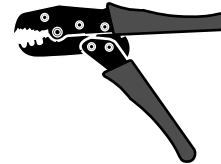
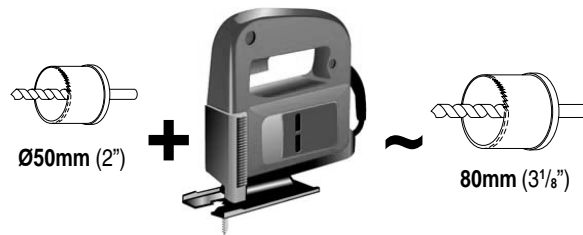
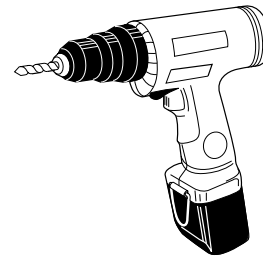




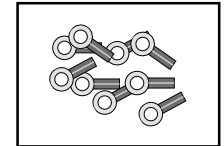
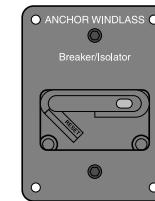
Packing list



Tools

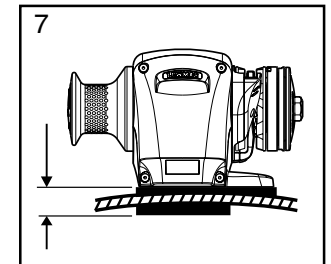
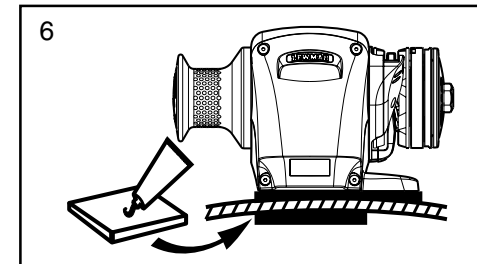
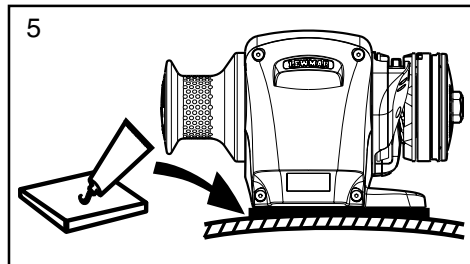
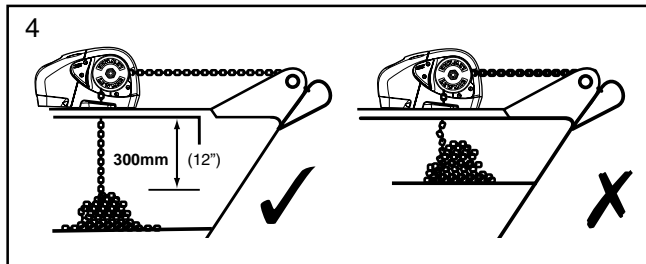
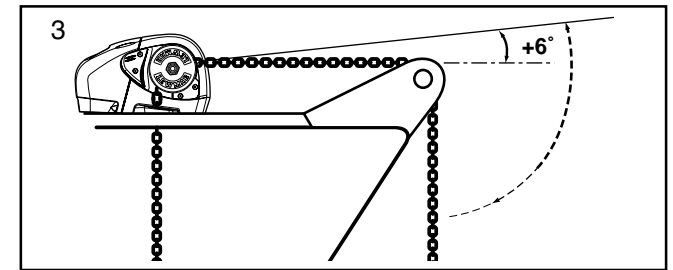
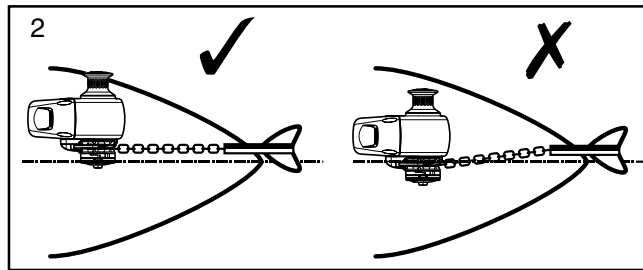
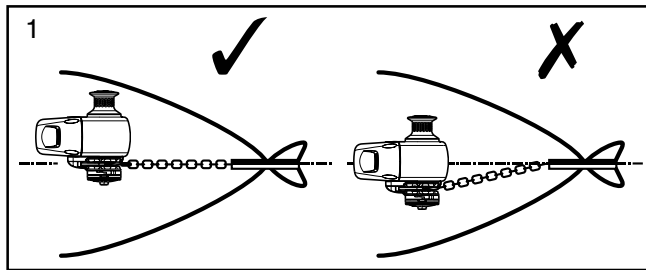


Additional parts



- For switch gear options, see diagram on page 11.

● Preparation



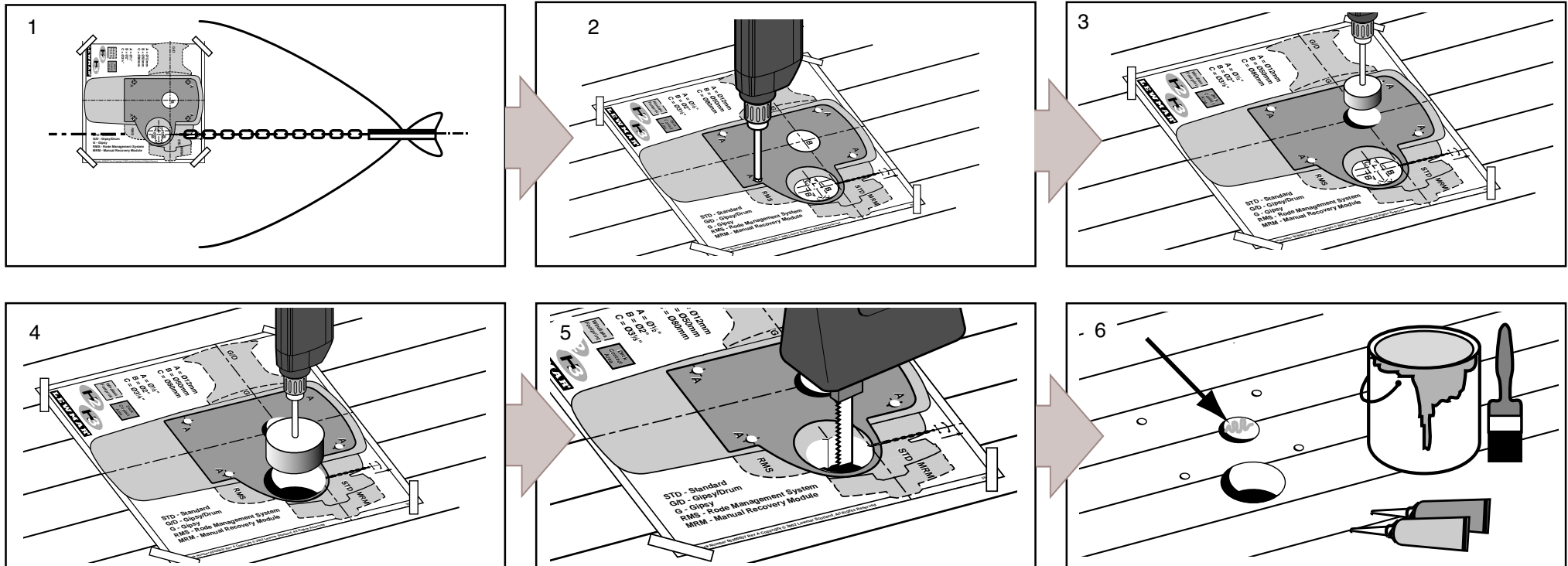
Plan location carefully

1. Ensure the anchor rope/chain will feed correctly.
2. Ensure rope/chain, and bow roller centre lines match.
3. Anchor rope/chain centre line should not be more than 6° above gipsy centre line.
4. Ensure at least **300mm (12")** between underside of deck and stored anchor rope/chain.
5. Uneven decks require mounting pad.
6. Reinforce lightweight decks.
7. If deck thicker than **80mm (3 $\frac{1}{8}$ ")**, use longer studs.

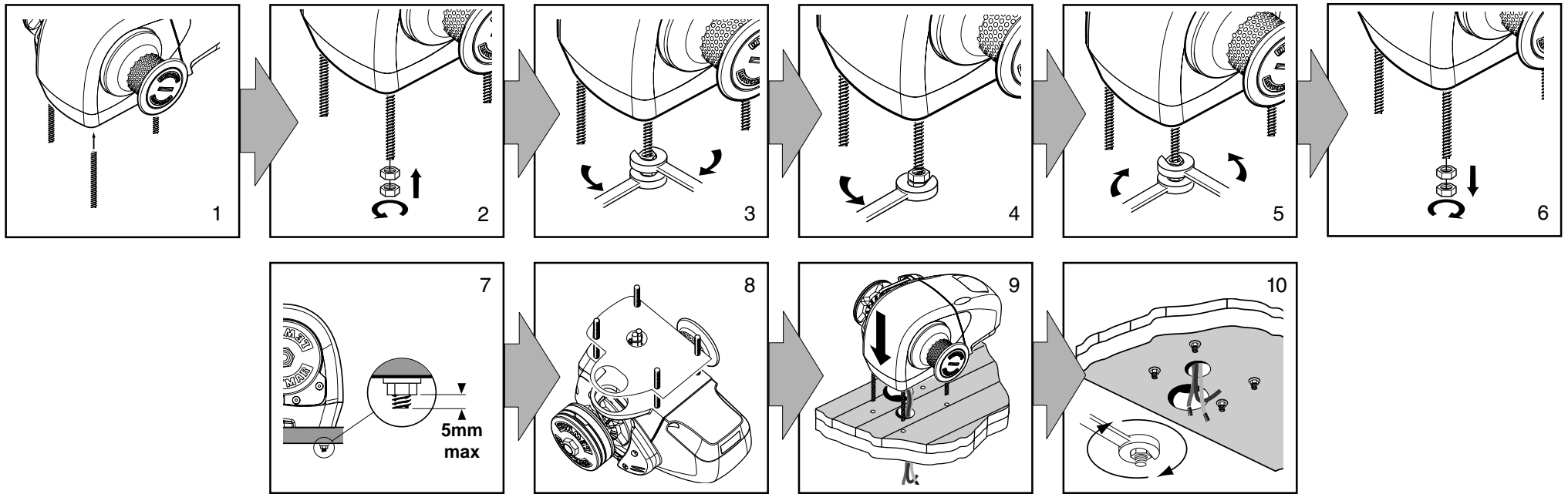
NOTE: When planning installation of your windlass, allow for the operation of the clutch lever and the manual recovery operating handle, see pages 15, 16 and 17. **DO NOT use a permanent adhesive/sealant to install the windlass.**

Installation





1. Position and fix template in line with anchor rope/chain centre line.
2. Drill 4 x Ø12mm (½") stud holes.
3. Drill 1 x Ø50mm (2") cable hole.
4. Drill 1 x Ø80mm (3 1/8") hole for the anchor rope/chain or 2 x Ø50mm (2").
5. Remove excess material.
6. Smooth and seal edges before fitting by using either, a marine paint, gel coat or two pack epoxy.



1. Fit studs to windlass.
2. Attach two nuts.
3. Tighten nuts.
4. Screw in studs firmly.
5. Loosen nuts.
6. Remove nuts.
7. Trim studs to prevent snagging anchor rope/chain if necessary.
8. Apply self adhesive base mat.
9. Fit windlass to deck.
10. Tighten nuts fully.



● Wiring



Caution

- Plan wiring installation to suit controls and to give operator full view of windlass.
- Use marine grade copper wire.
- Fit copper crimp terminals to wire ends.
- Keep windlass wiring separate from other wiring, and connect to starter battery where possible.
- The circuit breaker must be kept dry.
- All switches must be wired in parallel.

Warning!

- If you are not sure you understand the guidelines, seek professional help.
- Ensure installation complies with USCG, ABYC NMMA or other local regulations.
- If necessary add a grounding strap between the mounting studs and an earthing point.

Check

- The windlass operates in the correct direction from all switches.
- That the windlass does not cause harmful electro-magnetic interference to other equipment.

Installation

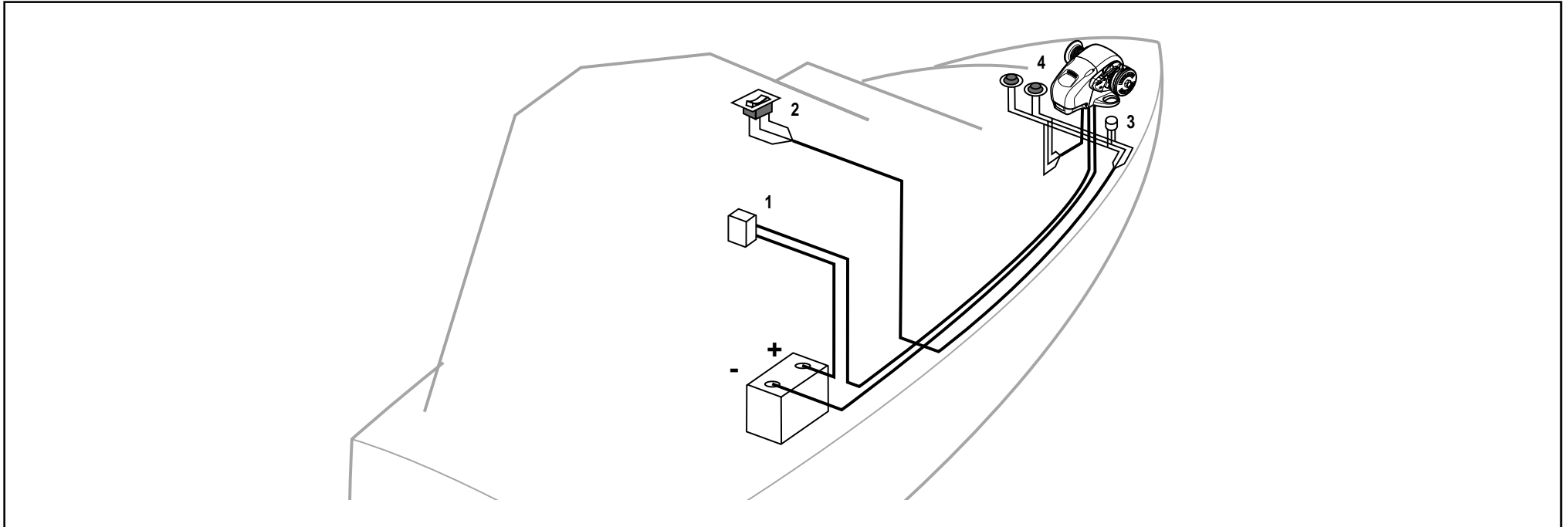




● Wiring

Warning!

This is not a wiring diagram. This diagram is for guidance only.



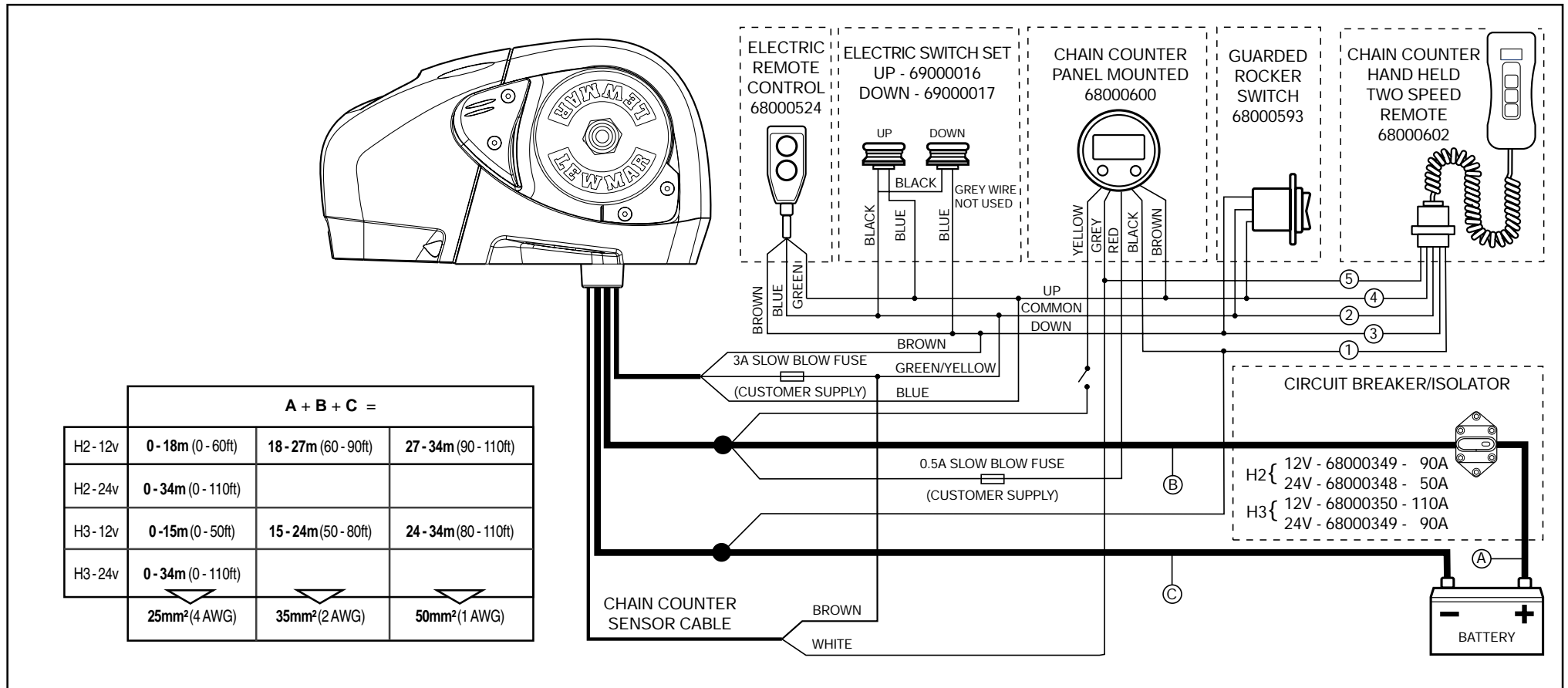
Key

1. Circuit breaker/isolator.
2. Cockpit rocker switch.
3. Deck socket.
4. Foot switch(s).





Multiple Switches



- Choice of cable thickness depends on total cable length;

A + B + C =

= Battery to winch, winch to battery.

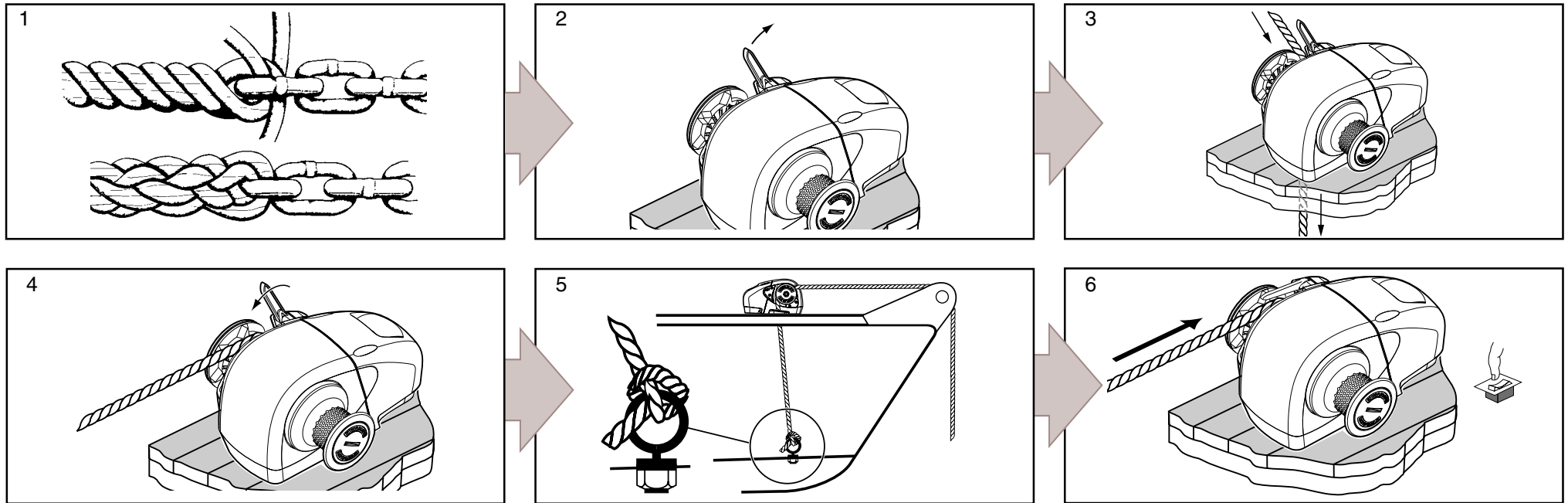
- Switch wire thickness:
1.5 mm² (14 AWG)

Installation





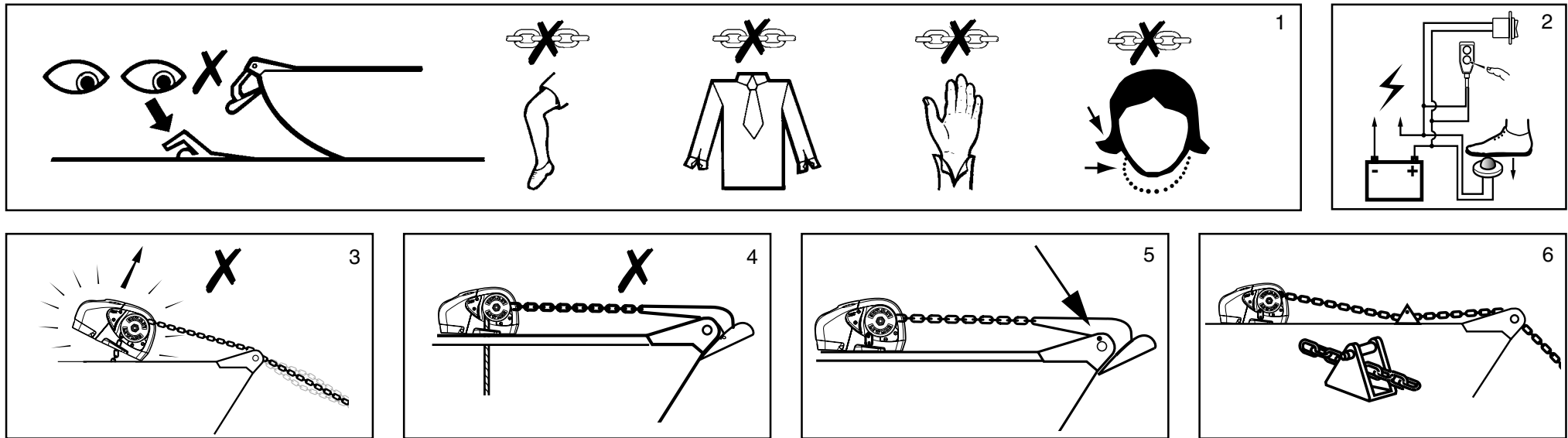
● Loading



1. Before attempting to splice rope to chain, read warning on page 4 (paragraph 7).
2. Hold out control arm.
3. Feed anchor rope/chain into entry hole. Feed until rope/chain drops into chain locker.
4. Align rope/chain in gipsy, release control arm.
5. Tie off anchor rope/chain to suitable strong point.
6. Power load rest of anchor rope/chain.

Installation

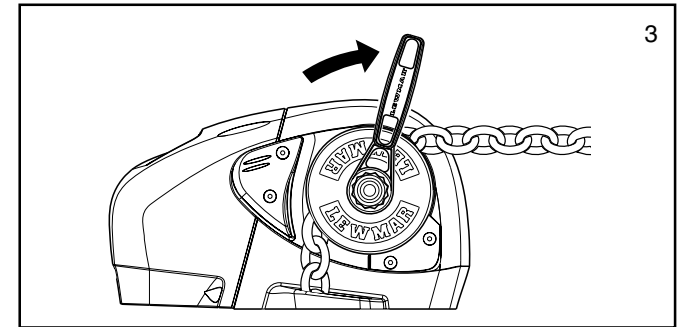
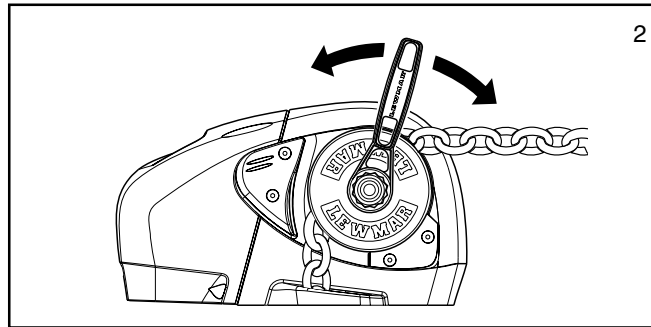
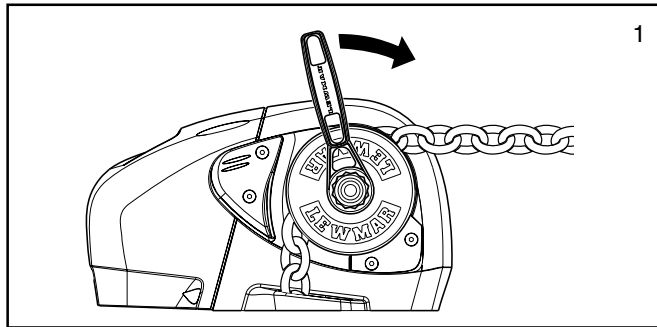




1. Check for swimmers. Keep clear of moving anchor rope/chain.
2. Use **UP** or **DOWN** button to operate windlass.
3. Do not overload windlass. Avoid stalling windlass.
4. Splice should not be in windlass with anchor raised.
5. Secure anchor to bow fitting to prevent accidental release.
6. When riding at anchor, secure anchor rope/chain to a suitable independent strong point.

WARNING: When not in use, you must isolate windlass with circuit breaker/isolator.

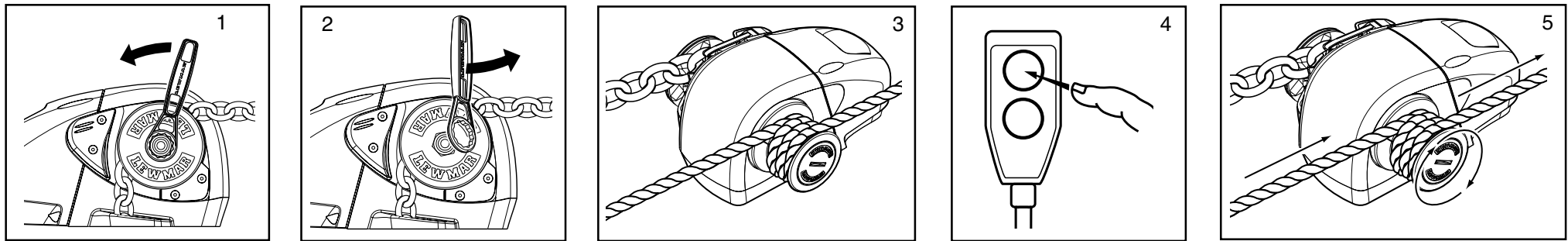




1. Place the clutch lever on the clutch nut, push it clockwise to ensure that the clutch nut is tight. Release anchor rope/chain from independent strong point.
2. Pull the clutch lever anti-clockwise to release anchor rope/chain. Control descent of the anchor by pushing gently clockwise on the clutch lever.
3. When sufficient rope/chain has been paid out, push the clutch lever firmly clockwise. Remove clutch lever and tie off anchor rope/chain.

WARNING! Care should be taken when releasing anchor and rope/chain. Loose articles of clothing, watches, bracelets, etc., should be clear of moving parts and rope/chain.





Warning!

Before warping, secure the anchor rope/chain, whether the anchor is deployed or not, to an **independent strong point**.

Disengage Clutch

1. Place the clutch lever over the clutch nut, pull the clutch lever firmly anti-clockwise to release the clutch.
2. Remove clutch lever from gipsy clutch nut.

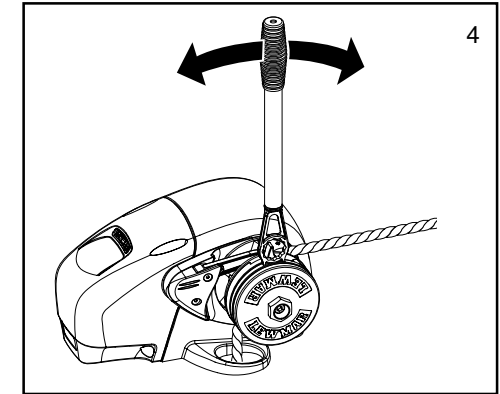
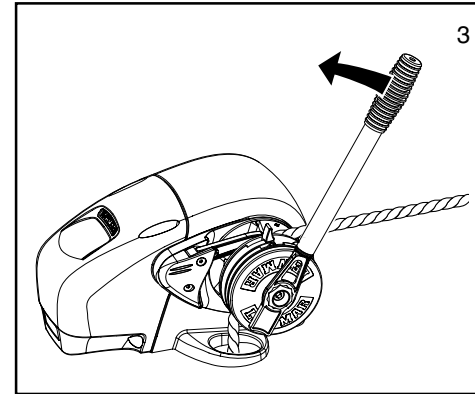
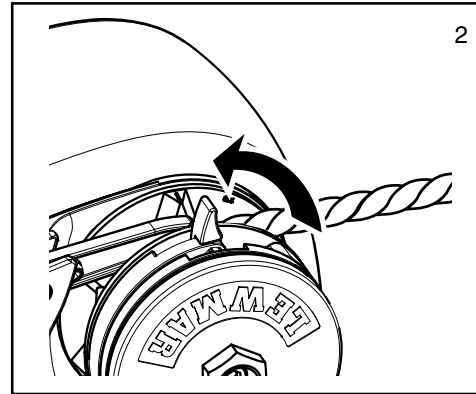
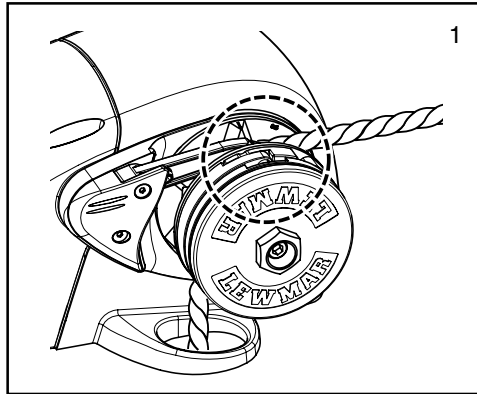
Warping

3. Wrap at least 3 coils of rope, loosely, around drum.
4. Start windlass.
5. Apply tension to rope gently.

Caution

- If warping speed is too fast, ease tension in rope.
- Never wrap chain around the Drum.
- When finished, re-engage clutch.

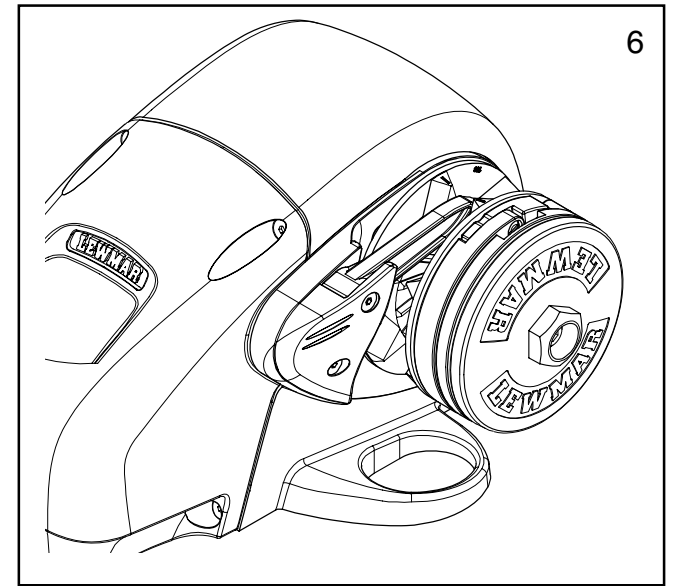
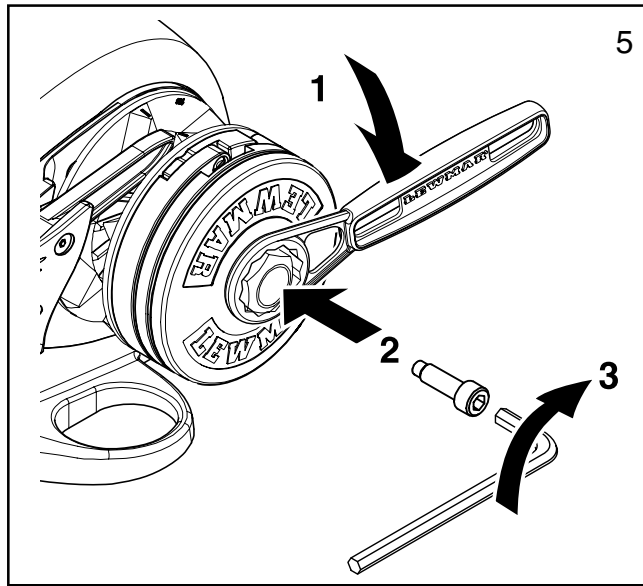
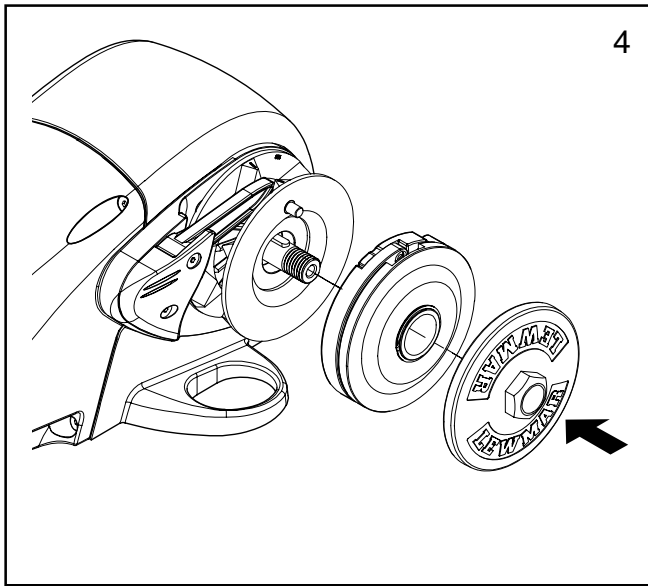
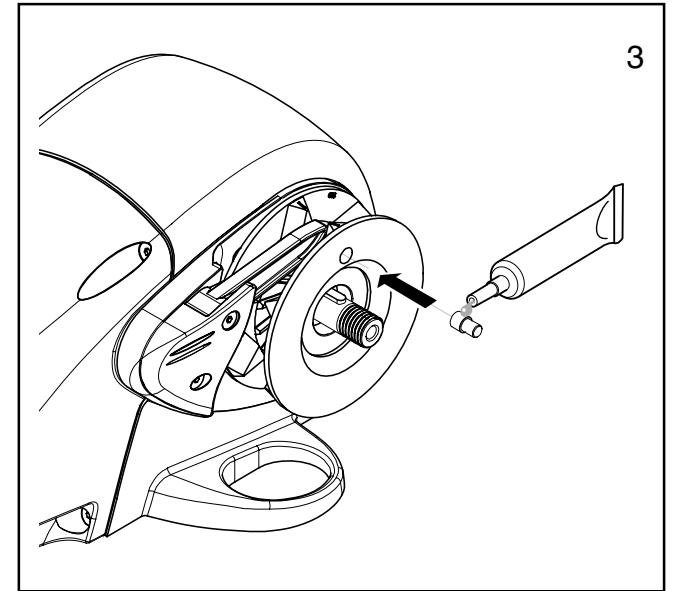
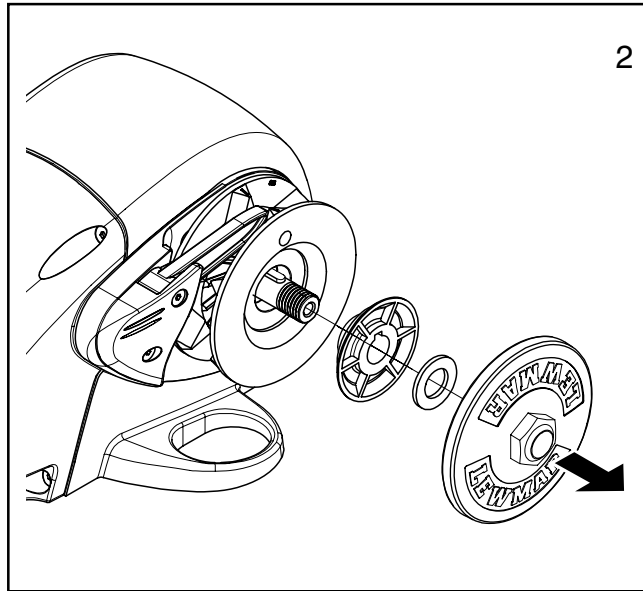
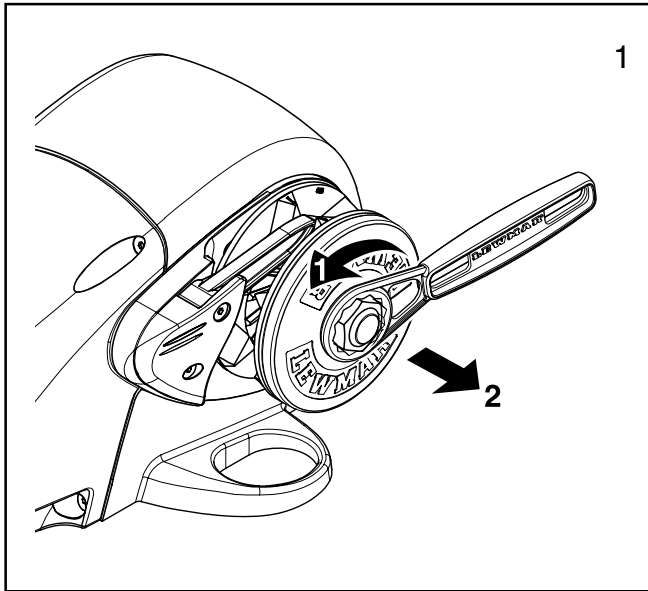


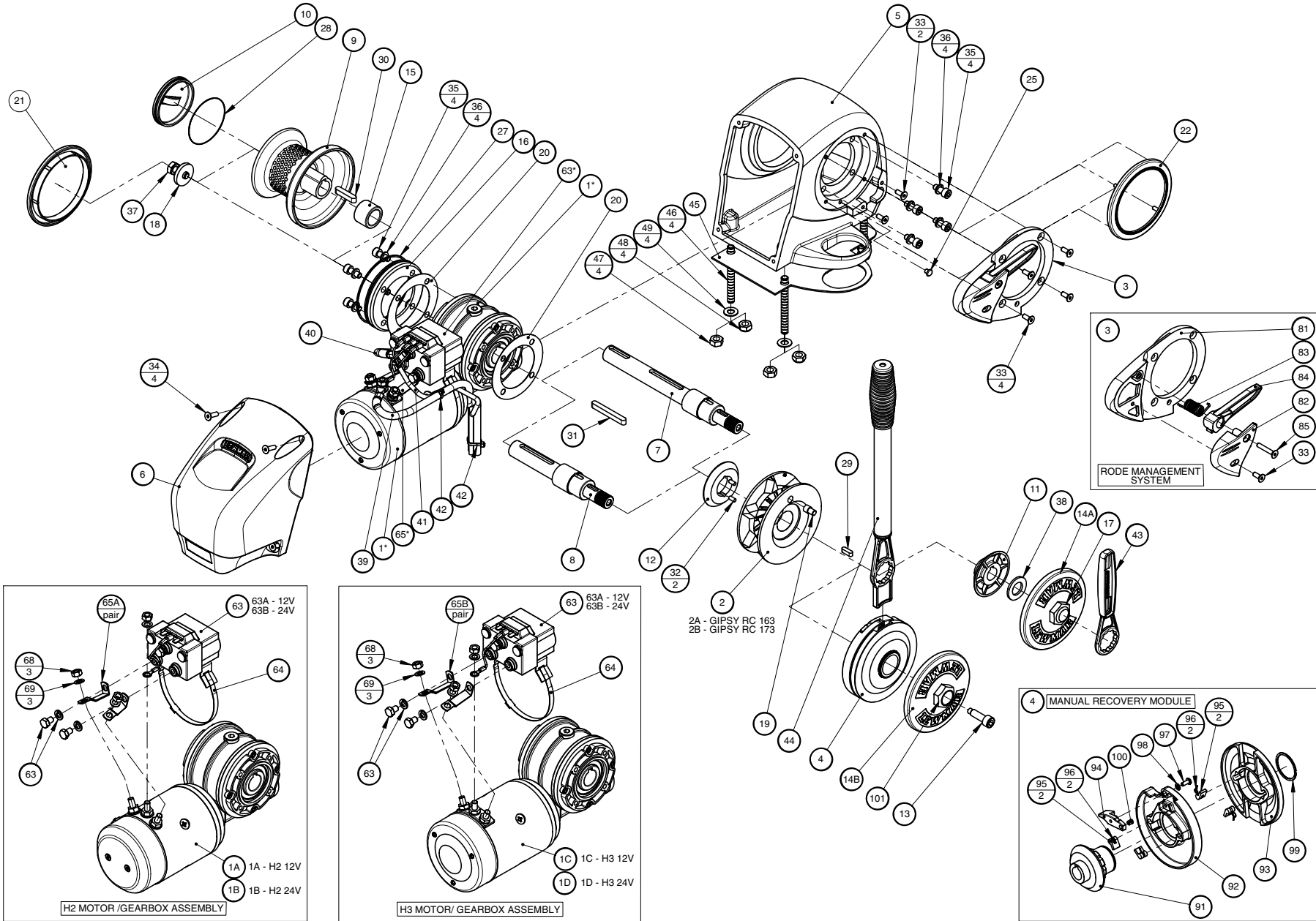


NOTE: The following instructions are for windlasses fitted with the manual recovery option only.

1. If need be, rotate the Manual Recovery Module until the drive lever is visible.
2. Swing the drive lever outwards as far as it will go, it aligns with the centre of the clutch nut.
3. Using the clutch nut hole in the manual recovery operating handle, turn the clutch nut anti-clockwise to slacken off the clutch.
4. Insert the operating handle into the slot on the circumference of the Manual Recovery Module.
5. With the operating handle fully inserted into the slot, pull back on it anti-clockwise, to recover the rope/chain. The Manual Recovery Module ratchets forwards, there is no need to remove the handle between recovery strokes.
6. Remove the operating handle from the Manual Recovery Module slot. Use it to tighten the clutch nut. Remove the handle from the clutch nut and return the drive lever to its normal flush position.
7. On completion, secure the anchor and anchor rope/chain to an **independent strong point**.









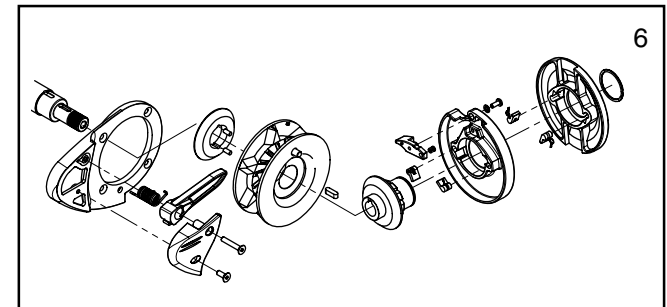
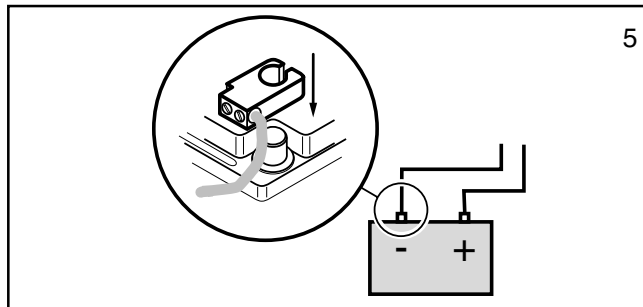
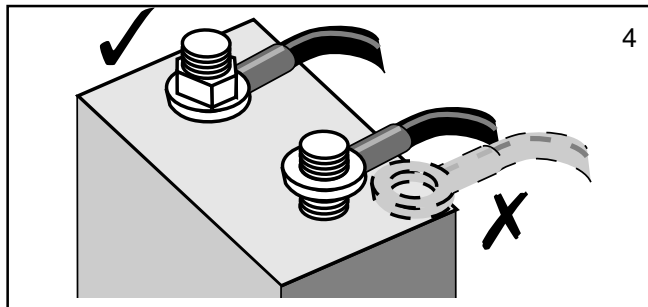
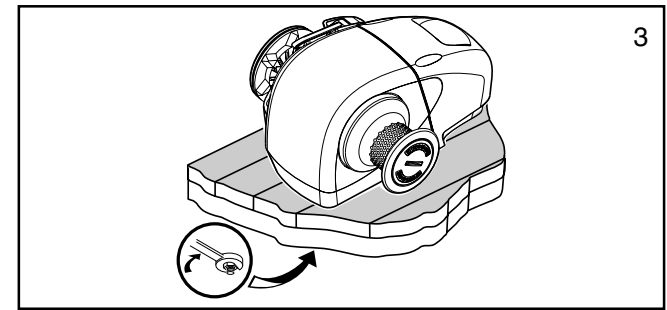
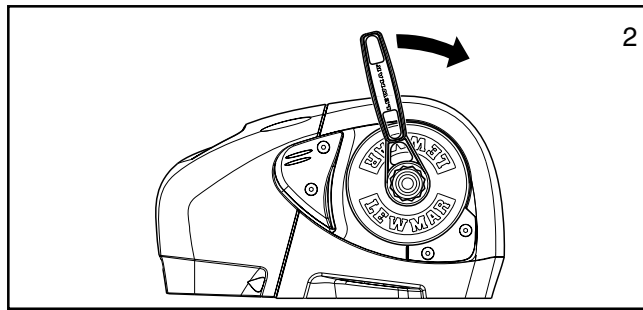
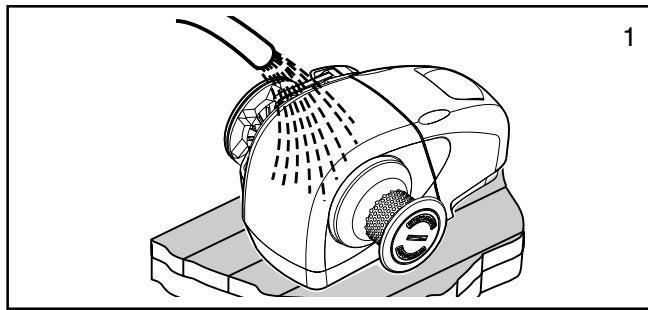
Item No.	Description	Quantity		Part or Service Kit Number
		H2	H3	
1A	Motor/Gearbox 12V H2 Assembly	1	-	66000002
1B	Motor/Gearbox 24V H2 Assembly	1	-	66000003
1C	Motor/Gearbox 12V H3 Assembly	-	1	66000004
1D	Motor/Gearbox 24V H3 Assembly	-	1	66000005
2A	RC 10mm Gipsy Assembly (RC163)	1	1	66000006
2B	RC 8mm Gipsy Assembly (RC173)	1	1	66000007
3	RMS Module	1	1	66000008
4	Manual Recovery Module	1	1	66000009
5	Front Case	1	1	66000010
6	Rear Case	1	1	66000011
7	Mainshaft, Gipsy / Drum	1	1	66000012
8	Mainshaft, Gipsy Only	1	1	66000013
9	Drum	1	1	66000014
10	Drum Cap	1	1	66000015
11	Clutch Cone	1	1	66000016
12	Gipsy Cone	1	1	66000016
13	Screw, Socket Head Cap M10 x 35 (mod)	1	1	66000026
14A	Gipsy Cap, Standard	1	1	66000017
14B	Gipsy Cap, Manual Recovery	1	1	66000018
15	Drum Spacer	1	1	66000028
16	Gearbox Support	1	1	66000019
17	Clutch Nut, Standard	1	1	66000017
18	Washer	1	1	66000027
19	Drive Pin	1	1	66000026
20	Gearcase Gasket	2	2	66000029
21	Coverplate, Drum	1	1	66000020
22	Coverplate, Chain Only	1	1	66000020
25	Pry Out Hole Plug	1	1	66000029
27	'O' Ring Seal	1	1	66000029
28	'O' Ring Seal	1	1	66000029
29	Key, Rounded 6 square x 20	1	1	66000028
30	Key, Rounded 8 square x 40	1	1	66000028
31	Key, Rounded 8 square x 68	1	1	66000028
32	Drive Roller	2	2	66000028
33	Screw, Socket C'sunk M6 x 16	7	7	66000027
34	Screw, Socket C'sunk M6 x 20	4	4	66000027
35	Screw, Socket Head Cap M8 x 20	8	8	66000027
36	Washer, Spring M8	8	8	66000027
37	Screw, Hex Head M10 x 25	1	1	66000027
38	Washer, M20 Form A	1	1	66000027
39	Cable Assembly, single core (black)	1	1	66000030
40	Cable Assembly, single core (red)	1	1	66000030
41	Cable Assembly, 3 Core (black)	1	1	66000030
42	Cable Tie	3	3	66000030
43	Clutch Lever	1	1	60540K11
44	Manual Recovery Operating Handle	1	1	66000021
45	Base Mat	1	1	66000027
46	Stud, M10 x 100	4	4	66000027
47	Nut, Standard M10	4	4	66000027
48	Nut, Nyloc M10	4	4	66000027
49	Washer, M10 Form B	4	4	66000027
63A	Contactor Dual 12V SW	1	1	66000022
63B	Contactor Dual 24V SW	1	1	66000023
64	Wave Tie	1	1	66000024

Item No.	Description	Quantity		Part or Service Kit Number
		H2	H3	
65A	Link Set, H2 Motor	1	-	66000024
65B	Link Set, H3 Motor	-	1	66000024
68	Nut, Standard M8	3	3	66000027
69	Washer, Shakeproof M8	3	3	66000027
81	RMS Plate	1	1	66000008
82	RMS Cover	1	1	66000008
83	RMS Spring	1	1	66000025
84	RMS Control Arm	1	1	66000025
85	Screw, Socket C'sunk M6 x 35	1	1	66000027
91	Inner Ratchet Cone	1	1	66000009

Item No.	Description	Quantity		Part or Service Kit Number
		H2	H3	
92	Manual Recovery Drive Plate	1	1	66000009
93	Manual Recovery Handle Socket	1	1	66000009
94	Manual Recovery Drive Lever	1	1	66000026
95	Pawl	4	4	66000026
96	Pawl Spring	4	4	66000026
97	Screw, Cheese Head M5 x 12	1	1	66000026
98	Washer, Standard M5 Form A	1	1	66000026
99	Retaining Ring	1	1	66000026
100	Ball Spring	1	1	66000026
101	Manual Recovery Clutch Nut	1	1	66000018

Service Kits	Description	Items included in Kit
66000002	Motor/Gearbox 12V H2 Assembly	1A, 68 (x3), 69 (x3)
66000003	Motor/Gearbox 24V H2 Assembly	1B, 68 (x3), 69 (x3)
66000004	Motor/Gearbox 12V H3 Assembly	1C, 68 (x3), 69 (x3)
66000005	Motor/Gearbox 24V H3 Assembly	1D, 68 (x3), 69 (x3)
66000006	RC 10mm Gipsy Assembly (RC163)	2A
66000007	RC 8mm Gipsy Assembly (RC173)	2B
66000008	RMS Module	33 (x5), 81, 82, 83, 84, 85
66000009	Manual Recovery Module	91, 92, 93, 94, 95 (x4), 96 (x4), 97, 98, 99, 100
66000010	Front Case Kit	5, 45
66000011	Rear Case	6
66000012	Mainshaft, Gipsy/Drum	7
66000013	Mainshaft, Gipsy Only	8
66000014	Drum	9
66000015	Drum Cap	10
66000016	Drive Cone Kit	11, 12
66000017	Gipsy Cap & Clutch Nut Assembly, Standard	14A, 17
66000018	Gipsy Cap & Clutch Nut Assembly, Manual Recovery Version	14B, 101
66000019	Gearbox Support	16
66000020	Coverplate Kit	21, 22
66000021	Manual Recovery Operating Handle	44
66000022	Contactor Kit 12V	63A, 64
66000023	Contactor Kit 24V	63B, 64
66000024	Link Set Kit	64, 65A (pr), 65B (pr)
66000025	Control Arm Kit	33, 83, 84, 85
66000026	Manual Recovery Drive Kit	13, 19, 94, 95 (x4), 96 (x4), 97, 98, 99, 100
66000027	Fastener Kit	18, 33 (x7), 34 (x4), 35 (x8), 36 (x8), 37, 38, 45, 46 (x4), 47 (x4), 48 (x4), 49 (x4), 68 (x3), 69 (x3), 85
66000028	Drive Key Kit	15, 29, 30, 31, 32 (x2)
66000029	Seal Kit	20 (x2), 25, 27, 28
66000030	Cable Kit	39, 40, 41, 42 (x3)
60540K11	Clutch Lever	43
	OPTIONAL UPGRADE KIT TO ADD MANUAL RECOVERY	
66840045	Manual Recovery Upgrade Kit	4, 13, 14B, 19, 44,





Regularly:

1. Wash down the windlass using fresh water.
2. Check clutch nut for tightness.
3. Check mounting bolts and nuts for tightness and condition.
4. Examine all electrical connections for corrosion, clean and lightly grease.

Annually:

5. Check electric cables for damage. Repair/renew as required.
6. Strip the above deck components, clean and lightly grease.





Specifications

Technische Angaben

Sp

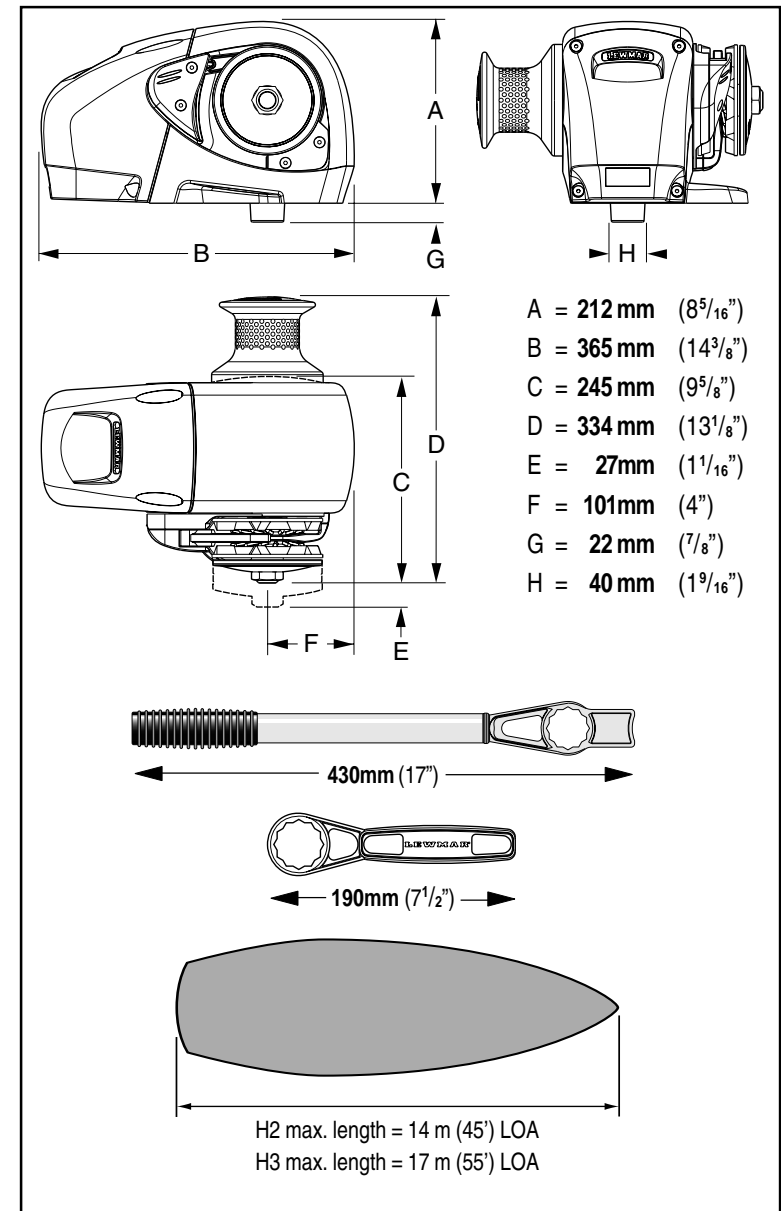
Voltage	Motor size	Maximum pull	Working load	Line speed at working load	Current draw at working load	Payout line speed	Weight
H2 - 12V	700W (Output)	650kg (1433lb)	45kg (100lb)	17m/min (56ft/min)	80A	21m/min (69ft/min)	19.5kg (43lb) G 22.5kg (50lb) GD
H2 - 24V	900W (Output)	760kg (1675lb)	45kg (100lb)	19m/min (62ft/min)	45A	24m/min (79ft/min)	19.5kg (43lb) G 22.5kg (50lb) GD
H3 - 12V	1000W (Output)	860kg (1900lb)	45kg (100lb)	18m/min (59ft/min)	85A	28m/min (92ft/min)	20.5kg (45lb) G 23.5kg (52lb) GD
H3 - 24V	1000W (Output)	970kg (2140lb)	45kg (100lb)	20m/min (66ft/min)	60A	30m/min (98ft/min)	20.5kg (45lb) G 23.5kg (52lb) GD

Servicing





		P	D	D
RC163	10mm ISO French NFE26-011 German DIN 766 American ACCO BBB Italian Norwegian Australian Grade 'L'	30.0mm 30.0mm 28.0mm 27.7mm 29.0mm 31.9mm 29.3mm	10.0mm 10.0mm 10.0mm 3/8" 10.0mm 3/8" 10.0mm	14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only) 14-16mm (9/16-5/8" U.S.A. only)
RC173	8mm ISO French NFE26-011 German DIN 766 American ACCO BBB American G-4 ISO Italian Norwegian Australian	24.0mm 24.0mm 24.0mm 25.4mm 26.2mm 24.0mm 25.3mm 23.4mm	8.0mm 8.0mm 8.0mm 5/16" 5/16" 8.0mm 8.0mm 8.0mm	12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only) 12-14mm (1/2-9/16" U.S.A. only)





Warranty

Lewmar warrants its products in normal usage to be free of defects in materials and workmanship for a period of three years from date of purchase by the original purchaser, subject to the conditions, limitations and exceptions listed below. Any part, which proves to be defective in normal usage during that three-year period, will be repaired or at Lewmar's option, replaced by Lewmar.

A CONDITIONS AND LIMITATIONS

- i Lewmar's liability shall be limited to repair or replacement of the goods or parts defective in materials or workmanship.
- ii Determination of the suitability of the material for the use contemplated by the buyer is the sole responsibility of the buyer and Lewmar shall have no responsibility in connection with such suitability.
- iii Lewmar shall not be liable in any way for:
 - a Failures, loss or damage due to use of products in applications for which they are not intended.
 - b Failures, loss or damage due to corrosion, ultra violet degradation, wear and tear or improper installation.
 - c Failures, loss or damage due to incorrect maintenance.
 - d Failures, loss or damage due to conditions that exceed the product's performance specifications.
 - iv Product subject to warranty claim must be returned to Lewmar for examination unless otherwise agreed by Lewmar in writing.
 - v Lewmar shall not be responsible for shipping charges nor installation labour associated with any warranty claim.
 - vi Service by anyone other than authorised Lewmar representatives shall void this warranty unless it accords with Lewmar guidelines and standards of workmanship.
 - vii Lewmar's products are intended for use only for marine purposes. Buyers intending to use them for any other purpose should seek advice from Lewmar, and Lewmar shall be under no liability arising from use, which Lewmar has not approved.

B EXCEPTIONS

Warranty is limited to a period of one year from the date of purchase in the case of the following:

- Bow thrusters
- Electric motors and electrical equipment
- Electronic controls
- Hydraulic pumps, valves and actuators
- Weather seals
- Products used in "Grand Prix" racing applications

C LIABILITY

- i Lewmar's 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):
 - a Lewmar 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 Lewmar's negligence).

- b Lewmar grants no warranties regarding the fitness for purpose, use, nature or satisfactory quality of the goods.
- ii Where the laws of the country do not permit a warranty to be excluded, then such warranty, if permitted by that country's law, shall be limited to a period of one year.

D SEVERANCE CLAUSE

If any clause of these warranties is held by any competent authority to be invalid or unenforceable in whole or in part of the validity of the other clauses of this warranty and the remainder of the clause in question shall not be affected.

- E This warranty gives you specific legal rights, and you may also have other legal rights, which vary, from country to country. Where the products are sold in the UK under a consumer transaction, the buyer's statutory rights are not affected. Lewmar Limited reserves the right to alter design and specification without prior notice.

TERMS AND CONDITIONS OF SALE

All sales are subject to Lewmar's General Terms and Conditions of Sale, which can be obtained from Lewmar Limited Head Office in Havant. The foregoing warranty and the following General Conditions of Sale form part only of, but also supplement, Lewmar's General Terms and Conditions of Sale. In the event of any conflict between the foregoing warranty and the following General Conditions of Sale on the one hand and Lewmar's full General Terms and Conditions of Sale on the other, Lewmar's full General Terms and Conditions of Sale shall prevail.

PRICES

All prices are subject to change without prior notice due to the fluctuating costs of materials and wages. Prices are ex-warehouse and are those ruling at the date of despatch and exclude VAT, which will be charged as appropriate.

QUOTATIONS

Any quotation is open for acceptance for a period of 30 days from the date of quotation. Quotations can only be regarded as firm when they are put in writing. (Verbal estimates are made purely for indicative purposes.)

RETURN OF GOODS

RETURNED GOODS WILL NOT BE ACCEPTED NOR CREDIT ISSUED UNLESS THE RETURN IS AUTHORISED BY LEWMAR IN WRITING.

An authorisation will be issued on approval of return. All carriage charges on returned goods must be prepaid. All returned goods accepted and subsequently returned to our stock will be subject to a 15% restocking charge. Items returned in a damaged condition will not be credited at full value.

Custom fabricated items or parts will not be accepted for return.

CATALOGUES

Sales literature and product manuals are available from Lewmar on request. These items can also be ordered from our Web site.

AVAILABILITY

Goods can be obtained from your local boat builder or chandler. We will be pleased to inform you of your nearest supplier.

