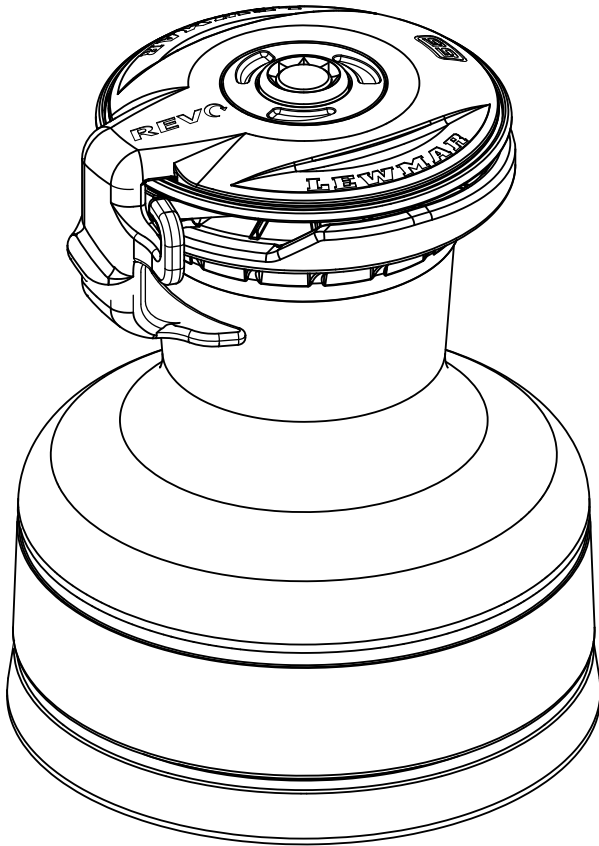


**LEWMAR®**

# REVO™ Winch

Lewmar REVO™ Winch Manual ref B10489 iss.4



Installation, Operation & Servicing Manual

## 1- Introduction

Dear Customer,

Thank you for choosing Lewmar. Lewmar products are world renowned for their quality, technical innovation and proven performance. With a Lewmar product you will be provided with many years of outstanding service.

### Product support

Lewmar products are supported by a worldwide network of distributors and Authorised Service Representatives. If you encounter any difficulties with this product, please contact your national distributor, or your local Lewmar dealer. Details are available at: [www.lewmar.com](http://www.lewmar.com)

### CE Approvals

For CE approval certificates contact Lewmar.

### Important information about this manual

Throughout this manual, you will see safety and product damage warnings. You must follow these warnings carefully to avoid possible injury or damage.

## 2- Safety Notice

 WARNING!

### IMPORTANT: Read these notes before continuing.

Please ensure that you thoroughly understand the operation and safety requirements of the winch before commencing the installation. Only persons who are completely familiar with the controls and those who have been fully made aware of the correct use of the winch should be allowed to use it. If there is any doubt of how to install or operate this unit please seek advice from a suitably qualified engineer.

1. Winches used incorrectly could cause harm to equipment or crew.

Winches are designed to generate very high loads and this is stored as energy you cannot see. Always be aware when handling rope that the load may be very high.

The winches must be installed on a suitably re-inforced deck area. If in doubt, consult your boat manufacturer or a suitably qualified expert.

A minimum of 2 turns of rope on the drum should be used to ensure easy and safe handling of the winch. For very high loading, add extra turns as required.

REVO winches may be operated from controls located remotely from the winch site. Before and during any winch operation, ensure the winches and ropes are free of any obstructions

When operating a REVO winch in reverse, it is vital that the rope tail is free to run. Attention must be paid at all times and operation ceased immediately if an obstruction might occur.

Electric winches should not be used for man hoisting. Any such operation should be performed manually with a winch handle and with the power isolated. Furthermore, the rope should be hand-tailed and not engaged in the self-tailing mechanism.

2. Lewmar winches are designed and supplied for line control in marine applications and are to be used in conjunction with appropriate clutches, cleats and other manual controls and stoppers

3. Every winch should be installed with adequate means of manually cleating or stopping the loaded ropes.

4. This equipment must be installed and operated in accordance with the instructions contained in this manual. Failure to do so could result in poor product performance, personal injury and/or damage to your boat.

Make sure you have switched off the power before you start installing this product.

This product requires installation by a suitably qualified electrical engineer.

5. Sailing, like many other sports can be hazardous. Even the correct selection, maintenance and use of proper equipment cannot eliminate the potential for danger, serious injury or death.

6. It is the unavoidable responsibility of the owner or master or other responsible party to assess the risk of any operation on the vessel.

## 3- Important Usage Notes

⚠ These notes must be read before attempting installation.



### 3.1 Set up and function

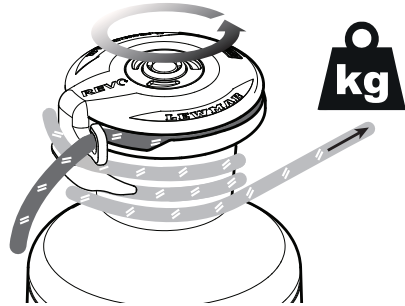
#### ▶ ROPE :

Correct rope specification is critical. See section 5.1 to ensure suitable line is used.

NON-CORRECT LINE WILL RESULT IN FAILURE OF THE REVO SYSTEM TO FUNCTION. THE LINE MAY FALL FROM THE SELF-TAILING MECHANISM AND BACK-WIND LOAD REQUIREMENT AS DESCRIBED TO THE RIGHT WILL BE VERY HIGH.

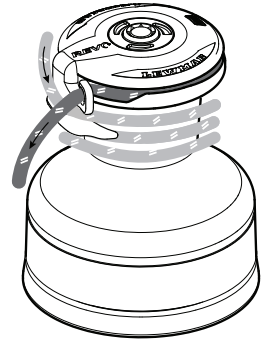
▶ The Revo winch will power backwards (backwind) only if there is load on the sheet. This is to prevent over-runs and riding turns.

**If no, or low, load on the sheet, the winch will not power backwards.**



### 3.2 Using the winch

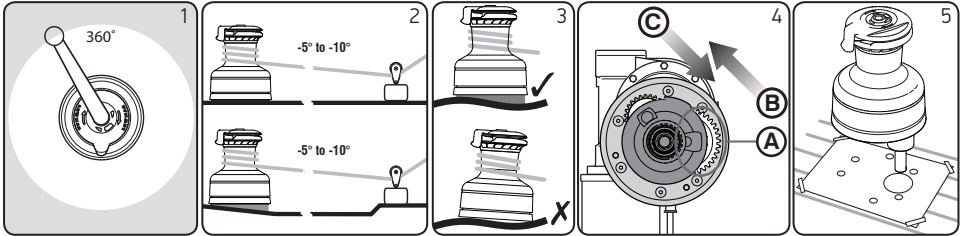
- ▶ Loading up the rope- see illustrations and photos below.
- ▶ **The number of turns of rope on the drum should be kept to a minimum at all times; add a wrap only when the line begins to slip when winding** - this greatly improves the back-wind performance
- ▶ The maximum number of wraps is defined by the bottom of the suppressor plate on the feeder arm. Once the rope reaches this point, no more wraps should be attempted.



## 3- Installation

### 3.1 Above deck preparation

**IMPORTANT:** Always keep in mind the space available below deck for the motor/gearbox.

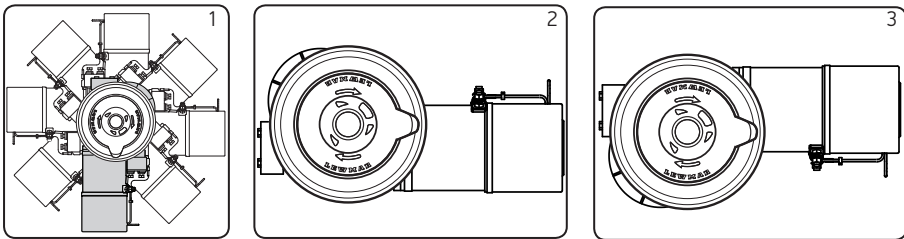


Plan location carefully before drilling any holes and allow for the following:

1. 360 degree rotation of manual operating handle.
2. Lewmar recommend that the rope enters onto the drum at an angle of  $-5^{\circ}$  to  $-10^{\circ}$  to the base axis of the winch. To achieve this angle it may be necessary to use a base wedge when installing the winch.
3. It is essential that the winch is fixed to an even surface for maximum performance.
4. If practical, for best performance, the winch should be installed so that the output gear (A) is situated in the optimum position in relation to the load (B) and sheet line entry (C).
5. Once position of winch is established, mark position of driveshaft and drill  $\varnothing 64\text{mm}$  hole. Strip winch (section 3.3) place base plate on deck then mark through mounting bolt holes, remove and drill to size of bolts.

### 3.2 Below deck preparation

**IMPORTANT:** The positioning of the motor/gearbox must be checked prior to cutting for deck/hull and bulkhead clearance.



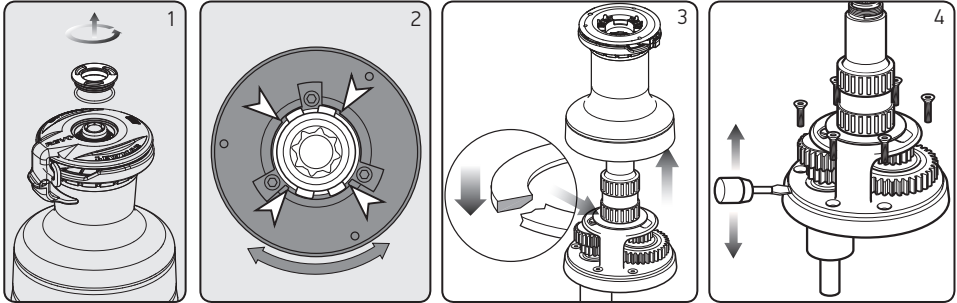
1. The motor/gearbox can be rotated in 45 degree steps.
2. The motor rotation is factory set for fitting to drive shaft as shown.
3. If the motor/gearbox is fitted the opposite way round, this will reverse the function of the buttons.  
If you have to position the motor/gearbox in this way you can swap round D1 and D2 connections on the motor gearbox.

Check clearance below deck and accessibility then position the deck switches near and in view of the winch. Use template as a guide to cut/drill hole, fit switch and seal.

Once you have selected the ideal position for winch, motor/gearbox and controls, double check everything and only then drill holes in the deck.

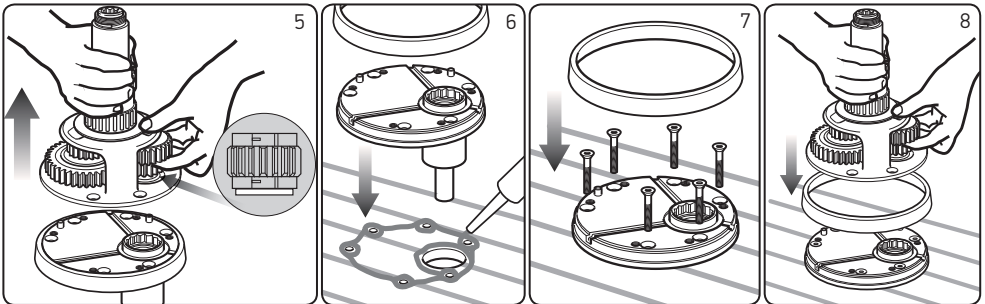
## 3.3 Fitting the REVO™ Winch

⚠ WARNING! Isolate the winch using breaker/isolator.



Place the winch in position to ensure correct fit once the holes have been drilled/cut.

1. Unscrew the top cap anti-clockwise and remove. Remove the feeder arm
2. Rotate the drum until the cutout in the upper crown is opposite the collets (size 40 only).
3. Lift off drum. Remember to take care in re-fitting the drum washer with bevel on underside.
4. Remove all screws holding centre stem to base. Using a flat bladed screwdriver in the drainage slots, lever off centre stem assembly clear of the two dowel pins.



5. Take care to hold the gear stack in position as shown. Keep pawls and pawl springs in place while rebuilding/ placing the centre stem onto the base.

NOTE: If pawl gear falls out, ensure shoulder face is down on re-assembly.

6. Remove the base plate cover. Lift the base and bed down with a light coating of sealing compound to prevent leaks.  
Avoid using excessive sealant.

⊘ DO NOT use a permanent adhesive/sealant eg. 5200

7. Consult the fastening guide for bolt type and length. Bolt the base plate to the deck ensuring that all fastening heads are countersunk then replace base plate cover.

NOTE: If using silicone or other rubbery type sealant, it is advisable to allow curing of the sealant before final tightening of the mounting nuts.

8. Refit the centre stem assembly, taking care to hold the gear stack in position as before. Rotating the gears will facilitate re-engagement of the pawls and ratchet tracks.

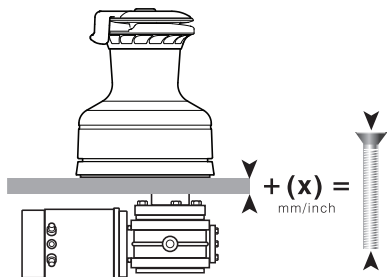
Replace the drum, collets and feeder arm in correct position and screw on the top cap.


### 3.4 Fastenings

Deck fastenings are not supplied.

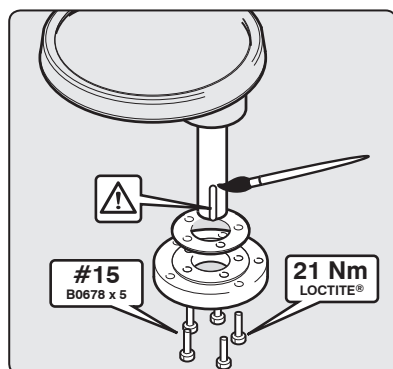
Fix the winch to the deck using CSK Head, stainless steel washers and locknuts.

Use the table to calculate the correct bolt length for your deck thickness.



| REVO® | (x)<br>mm<br>(Min.) | (x)<br>inch<br>(Min.) |  | Nm |
|-------|---------------------|-----------------------|---|----|
| 40    | 30                  | 1¼                    | 5 x M6 (¼")   | 9  |
| 45/50 | 33                  | 15/16                 | 5 x M8 (5/16")  | 21 |
| 55    | 33                  | 15/16                 | 6 x M8 (5/16")  | 21 |
| 65    | 38                  | 1½                    | 5 x M10 (¾")  | 43 |

### 3.5 Electric motor/gearbox coupling



These winches require the base motor coupling and shim to be fitted. Apply Loctite® threadlock to coupling bolts (# 15), insert isolation shim and secure to winch base plate. Assemble coupling bolts and washers, apply Loctite® threadlock and secure to 21 Nm.

Lightly coat the drive shaft with grease. Ensure the drive key is in place. Select the most suitable position and slide motor/gearbox into position, assemble bolts and washers, apply Loctite® threadlock and secure to 43Nm.

## 4- Electrical Wiring

### 4.1 Wiring

Plan the installation to suit the controls and give the operator a full view of the winch. The wiring system should be of the fully insulated type, which avoids possible electrolytic corrosion problems. We recommend the use of type III stranded, tinned copper wire with copper crimp terminals.

Most modern installations are negative return (negative ground) but polarity should be checked.

Overload protection, in the form of the circuit breaker/fuse (not supplied), must be built into the winch wiring circuit.

- ▶ The circuit breaker should be positioned close to the battery in a dry, readily accessible place.
- ▶ The breaker must be manually reset should an overload occur that causes it to trip to the off position.
- ▶ Lewmar recommends to source and install cable that meets the requirements of the standards and regulations relevant to the installation and codes of practice.
- ▶ The cable sizes are calculated in order to maintain a maximum overall voltage drop of 10% supply over whole cable installation at max load current as per ISO10133.
- ▶ If you are not sure you understand these guidelines, seek professional help. Ensure that the installation complies with USCG, ABYC, NMMA or other local regulations.

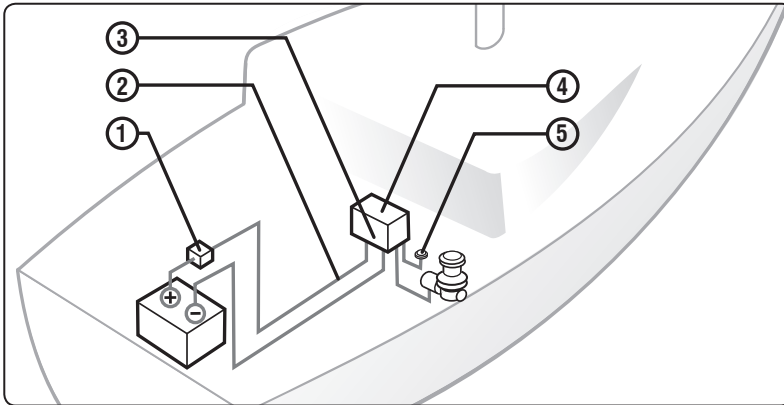
### 4.2 Control switch installation

For the latest information and list of electric deck switches visit: [www.lewmar.com](http://www.lewmar.com)

Follow the mounting instructions supplied with the switch.

### 4.3 Typical electrical layout

⚠ **WARNING!** All electrical work must be carried out with the power OFF.  
Isolate the REVO™ winch using circuit breaker / isolator.



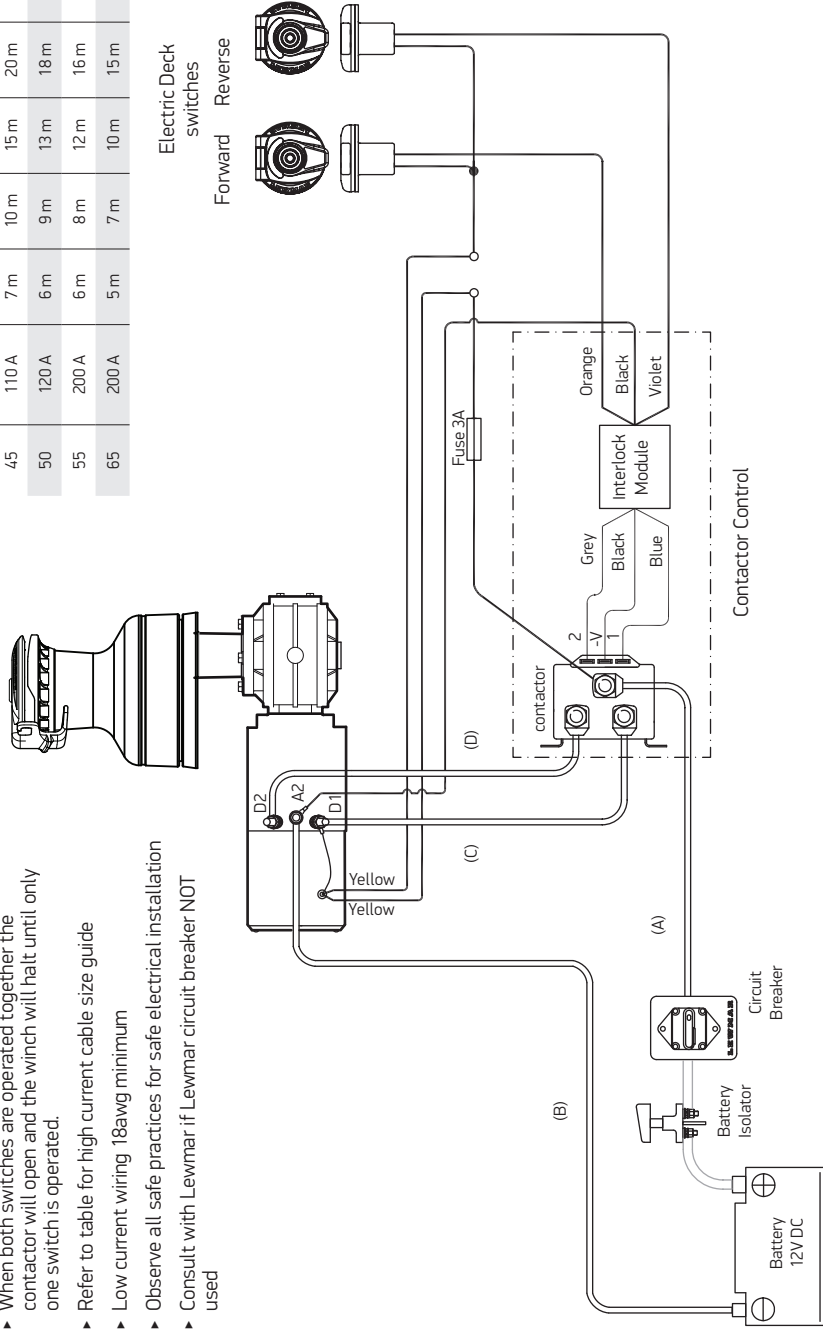
NOTE: This is not a wiring diagram.

1. Position the circuit breaker close to the battery.
2. Route 2 cables from battery to the control box.
3. Attach motor cables to control box using recommended cable sizes.
4. Position the controller near the winch ( $\pm 1$  metre) in a dry area for watertight security and accessible for maintenance.
5. Position deck switches in view of the winch. Route wire and attach to control box.

## 4.4 Wiring diagram

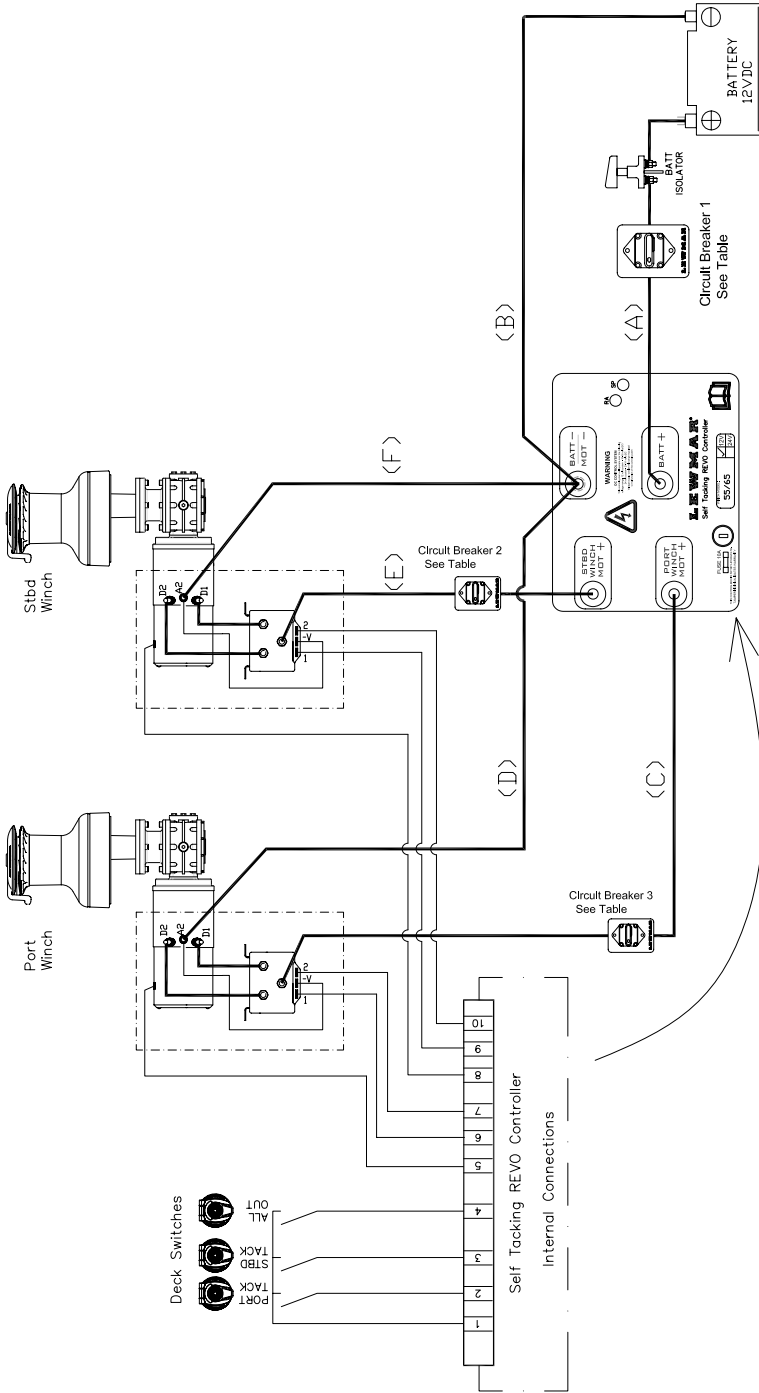
- ▶ An interlock module is provided to prevent faulty motor operation if both deck switches are operated at the same time.
- ▶ When both switches are operated together the motor will open and the winch will halt until only one switch is operated.
- ▶ Refer to table for high current cable size guide
- ▶ Low current wiring 18awg minimum
- ▶ Observe all safe practices for safe electrical installation
- ▶ Consult with Lewmar if Lewmar circuit breaker NOT used

| WINCH SIZE | CIRCUIT BREAKER | MAX DISTANCE FOR CABLE SIZE<br>(A)+(B)+(C) OR (A)+(B)+(D) |                    |                    |                    |                     |                     |
|------------|-----------------|---|--------------------|--------------------|--------------------|---------------------|---------------------|
|            |                 | 35 mm <sup>2</sup>  | 50 mm <sup>2</sup> | 70 mm <sup>2</sup> | 95 mm <sup>2</sup> | 120 mm <sup>2</sup> | 120 mm <sup>2</sup> |
| 40         | 90 A            | 8 m   | 12 m               | 17 m               | 23 m               | 29 m                | 29 m                |
| 45         | 110 A           | 7 m   | 10 m               | 15 m               | 20 m               | 25 m                | 25 m                |
| 50         | 120 A           | 6 m   | 9 m                | 13 m               | 18 m               | 23 m                | 23 m                |
| 55         | 200 A           | 6 m   | 8 m                | 12 m               | 16 m               | 20 m                | 20 m                |
| 65         | 200 A           | 5 m   | 7 m                | 10 m               | 15 m               | 19 m                | 19 m                |





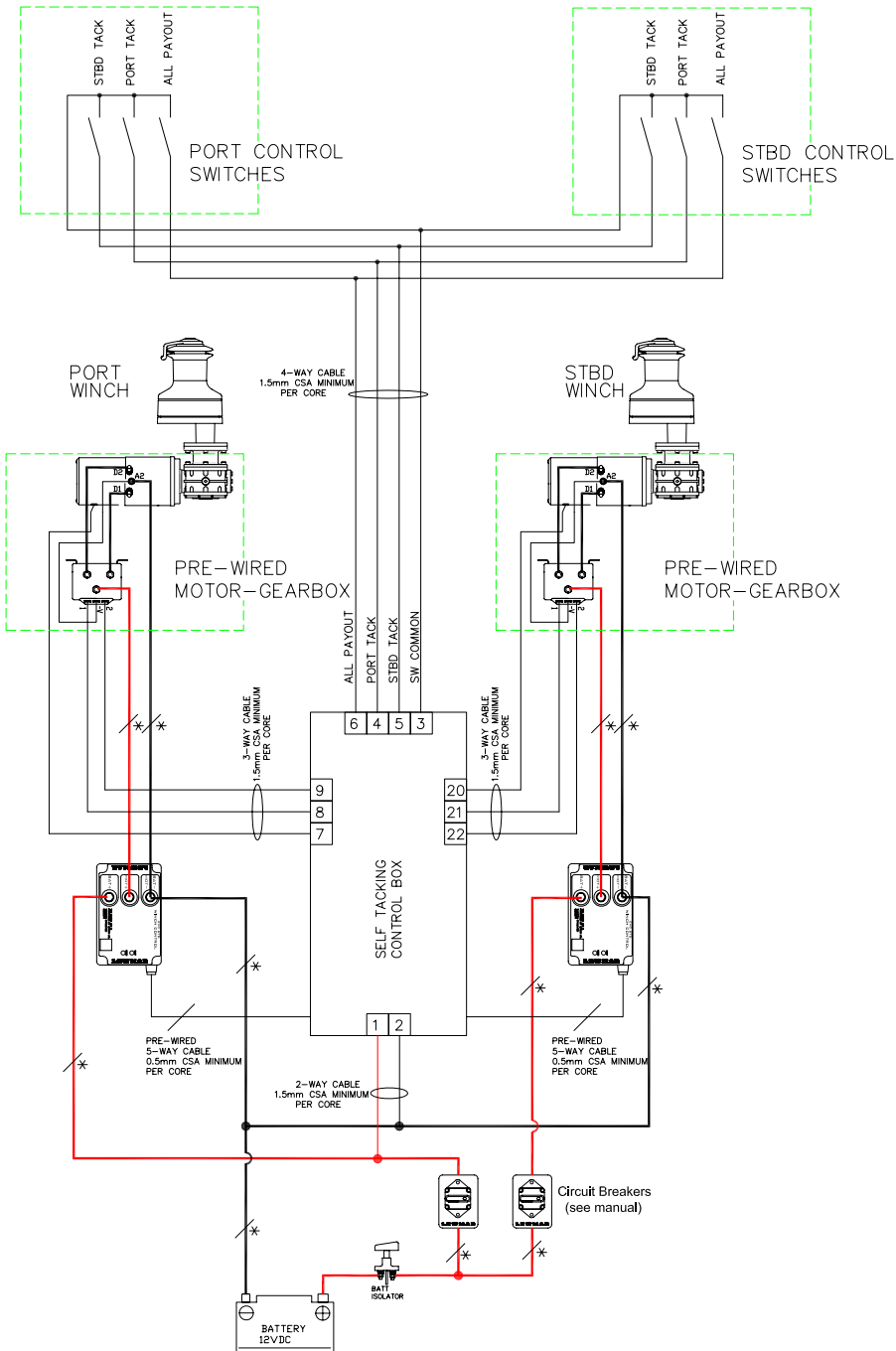
Self-Tacking Winch Control System Wiring Diagram



Installation Notes

1. Refer to manual for correct winch installation
2. Refer to table for High current cable size guide
3. Low current wiring 18awg minimum
4. Observe all safe practices for safe electrical installation

| Winch Size | Circuit Breaker Size | Maximum Distance for cable size: | (A)+(B) |    |    | (C)+(D)+(E)+(F)   |                   |                   |                    |     |
|------------|----------------------|----------------------------------|---------|----|----|-------------------|-------------------|-------------------|--------------------|-----|
|            |                      |                                  | 1       | 2  | 3  | 50mm <sup>2</sup> | 70mm <sup>2</sup> | 95mm <sup>2</sup> | 120mm <sup>2</sup> |     |
| 55         | 250A                 | 200A                             | 4m      | 6m | 8m | 9m                | 13m               | 18m               | 25m                | 31m |



\*-HEAVY DUTY CABLE 70mm CSA MINIMUM.

## 5- Operation

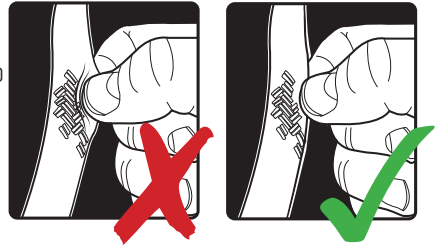
⚠ WARNING! Always remove handle when not in use

⚠ WARNING! Isolate the winch using circuit breaker/isolator when not in use

### 5.1 Rope Specifications

Choosing the correct sheet rope specification is vital to ensure your REVO product will work correctly. The following ropes must be used to ensure correct function :

|                         |                             |
|-------------------------|-----------------------------|
| GOTTIFREDI MAFFIOLI     | Globaltech 75 / Silvertech  |
| CORDERIE HENRI LANCELIN | Minos / Helios              |
| LIROS GmbH              | Dynamic Plus / Regatta 2000 |
| MARLOW ROPES            | D2 / Marlowbraid            |
| NEW ENGLAND ROPES       | T-900 / Endura              |
| SAMSON ROPES            | MLX / XLS Extra             |



In addition, the following rope diameters should be used :

|          |               |          |               |
|----------|---------------|----------|---------------|
| REVO™ 40 | 10mm diameter | REVO™ 55 | 10mm diameter |
| REVO™ 45 | 10mm diameter | REVO™ 65 | 10mm diameter |
| REVO™ 50 | 10mm diameter |          |               |

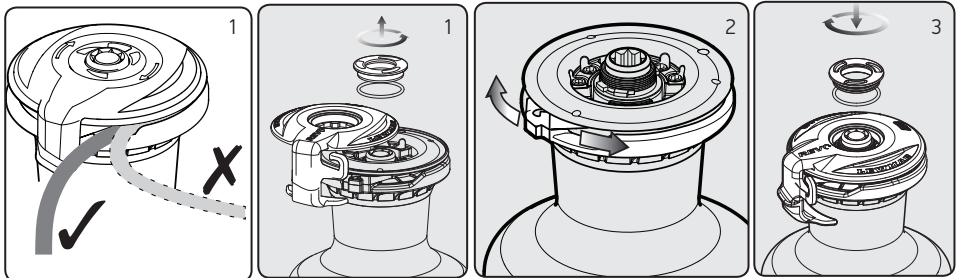
A 10mm line as suggested above will have a breaking load of approximately 4500kg, which is suitably strong when compared to the REVO 65 WLL of 1700kg. For a full list of winch Working Load Limits, see section 7.2

If the above ropes cannot be found, then it is advised that you choose the best possible quality rope for your sheets. A rope with a firm and rigid construction will perform better. The cover must be tightly plaited onto the core, with the cover being very difficult to pinch between thumb and forefinger (see illustration 1).

Tests have shown that Dyneema™ cored ropes perform better due to their tighter construction.

### 5.2 Feeder arm adjustment

Thought must be given to the most suitable feeder arm position



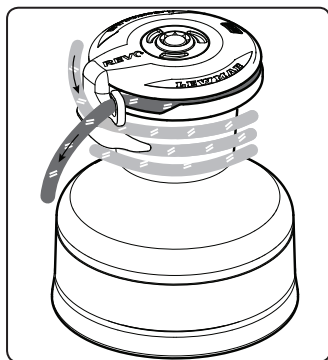
- ▶ The feed should be aligned so that when back-winding the rope enters the self-tailing mechanism at a tangent.
- ▶ To adjust the position of the feeder arm, remove top cap and feeder arm.

1. Unscrew the top cap anti-clockwise and remove feeder arm. Ensure O ring remains in top cap groove.
2. Rotate stripper ring to required position
3. Replace feeder arm and top cap.

## 5.3 Operating the REVO™ winch

⚠ WARNING! Never hold the incoming rope to the winch while the winch is operated. Only control the rope leaving the winch.

⚠ WARNING! Always remove handle when not in use



The rope should be wound around the drum in a clockwise rotation, then fed up over the feeder arm, into the self tailing jaws and then pulled through the hook so that the rope engages in the keeper ring

- ▶ It is recommended to use as few turns of rope on the drum as possible for the sailing conditions, adding wraps only when the line begins to slip when winding in. (see Paragraph 3.2).
- ▶ Release the rope from the jaw set with care as load will be present, ease the line away with care, then remove from the drum.
- ▶ Only use rope as recommended in section 5.1

⚠ WARNING!

The rope should be located fully into the crown, keeper ring and retaining hook for best performance and to reduce the risk of the rope releasing itself.

### Electrical Hauling

Lewmar uses a one-speed system, which offers high speed and full load pulling power.

- ▶ Check that nothing is obstructing the winch
- ▶ Hold the appropriate button to wind the winch until the desired line tension is achieved.

### Manual Hauling

NOTE: A locking winch handle is required for REVO winches

Simply put the winch-handle into the top of the winch, ensuring the locking mechanism engages properly against the spring.

- ▶ Manual mode is now active.
- ▶ Wind the winch handle anti-clockwise for 1st gear (highest gear = fastest speed) and clockwise for 2nd gear (lowest gear = slowest speed)

**\*Note that there is no manual back-wind facility\***

### Electric Back-Wind

- ▶ Ensure that any winch handle has been removed and ensure that the plunger has sprung back up. If this is not the case, a short press on the “in” button will release it
- ▶ Ensure that the rope tail is free to run
- ▶ Holding the “out” button activates backwind until the load is reduced to a level such that a ratcheting will be heard.

**\*Note: The winch only backwinds with load on the winch. If the rope does not backwind, but a clicking/ratcheting noise can be heard, then the load on the winch is too low.**

## 6- Servicing

### Monthly

- ▶ Hose down winch with fresh water. Remove drum, then lightly oil the pawls and grease the gears and bearings taking care not to get any grease in the pawls as they will stick in operation.

### Two or three times during active sailing season

- ▶ Strip, clean, check and lubricate.

### End of season or beginning of new season.

- ▶ Strip, clean and thoroughly check for damage, lubricate and reassemble as detailed in B2304 Manual.
- ▶ Check condition of motor/gearbox. In the event of corrosion, clean and repaint motor with marine grade oil based enamel paint.

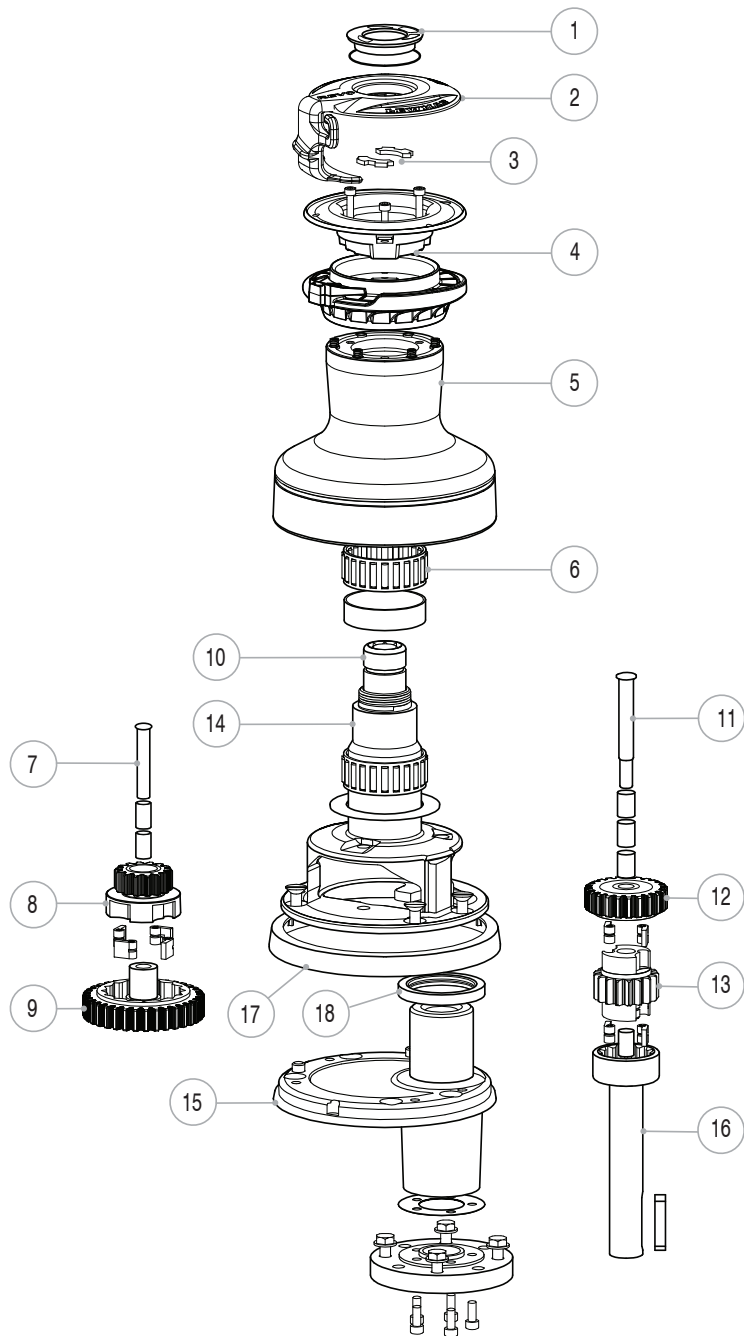
## 6.1 Spares

NOTE: see exploded views section 6.2 and 6.3

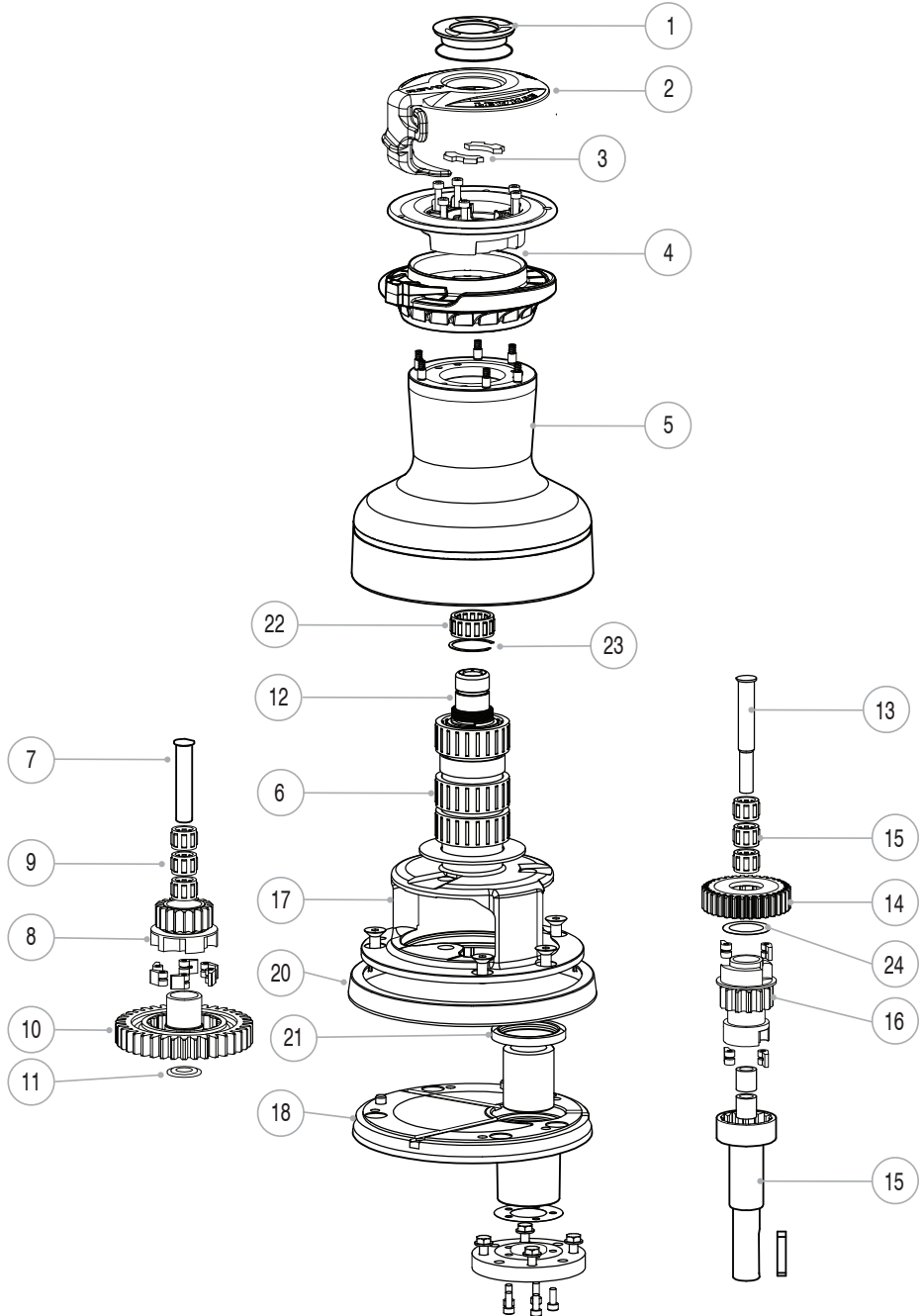
| ITEM | DESCRIPTION               | REVO™ 40<br>PART NO | REVO™ 45<br>PART NO | REVO™ 50<br>PART NO |
|------|---------------------------|---------------------|---------------------|---------------------|
| 1    | Top cap ☉ O-ring kit      | 48300080            | 48300080            | 48300080            |
| 2    | Feeder arm                | 45300100            | 45300101            | 45300102            |
| 3    | Collet kit                | 48000446            | 48000446            | 48000446            |
| 4    | Jaw kit                   | 48300081            | 48300082            | 48300083            |
| 5    | Drum - Black alloy        | 45300032            | 45300035            | 45300009            |
|      | Drum - Grey Alloy         | 45300033            | 45300036            | 45300018            |
|      | Drum - Chrome             | 45300034            | 45300037            | 45300019            |
| 6    | Drum Bearing kit          | 48000456            | 48000457            | 48000458            |
| 7    | Gear spindle kit          | 48300027            | 45000323            | 45000423            |
| 8    | Pawl gear 1 kit 11T       | 48300028            | 48300035            | 48300042            |
| 9    | Ratchet gear Kit          | 48300029            | 48300036            | 48300043            |
|      | Spares kit (16-66ST)      | 19700200            | 19700200            | 19700200            |
|      | Std small pawls ☉ springs | 19700501            | 19700501            | 19700501            |
| 10   | Main spindle              | 48300005            | 48300006            | 48300004            |
| 11   | Gear spindle kit          | 48300027            | 45000344            | 45000444            |
| 12   | Ratchet gear              | 45000222            | 45000333            | 45000422            |
| 13   | Pawl gear 2 kit 17T       | 48300030            | 48300037            | 48300044            |
| 14   | Centre stem kit           | 48300031            | 48300038            | 48300045            |
| 15   | Base kit                  | 48300032            | 48300039            | 48300046            |
| 16   | Drive shaft kit           | 48300033            | 48300040            | 48300047            |
| 17   | Base plate cover          | 45500212            | 45500312            | 45500412            |
| 18   | Seal                      | B6234               | B6234               | B6234               |

| ITEM | DESCRIPTION               | REVO™ 55<br>PART NO | REVO™ 65<br>PART NO |
|------|---------------------------|---------------------|---------------------|
| 1    | Top cap ☉ O-ring kit      | 48300080            | 48300080            |
| 2    | Feeder arm                | 45300103            | 45300104            |
| 3    | Collet kit                | 48000446            | 48000446            |
| 4    | Jaw kit                   | 48300084            | 48300085            |
| 5    | Drum - Black alloy        | 45300038            | 45300041            |
|      | Drum - Grey Alloy         | 45300039            | 45300042            |
|      | Drum - Chrome             | 45300040            | 45300043            |
| 6    | Drum Bearing kit          | 48000460            | 48000462            |
| 7    | Gear spindle kit          | 45000523            | 45000624            |
| 8    | Pawl gear 1 kit           | 48300049            | 48300055            |
| 9    | Roller Bearing kit (3)    | 1300/SA2            | 15000017            |
| 10   | Ratchet gear Kit          | 45000520            | 45000851            |
| 11   | Washer                    | 15000981            | 15000646            |
|      | Spares kit (16-66ST)      | 19700200            | 19700200            |
|      | Std large pawls ☉ springs | 19700401            | 19700401            |
| 12   | Main spindle              | 48300007            | 48300008            |
| 13   | Gear spindle kit          | 45000744            | 45000744            |
| 14   | Ratchet gear              | 45000522            | 45005183            |
| 15   | Roller Bearing kit (3)    | 15000017            | 15000017            |
| 16   | Pawl gear 2 kit           | 48300050            | 48300056            |
| 17   | Centre stem kit           | 48300051            | 48300057            |
| 18   | Base kit                  | 48300052            | 48300058            |
| 19   | Drive shaft kit           | 48300053            | 48300059            |
| 20   | Base plate cover          | 45500412            | 45500612            |
| 21   | Seal                      | B6234               | B6235               |
| 22   | Roller bearing kit        | 15000019            | 15000019            |
| 23   | Circlip                   | B2092               | B2092               |
| 24   | Washer                    | -                   | 45000533            |

6.2 Exploded views REVO™ 40 / 45 / 50



**6.3 Exploded views REVO™ 55 /65**

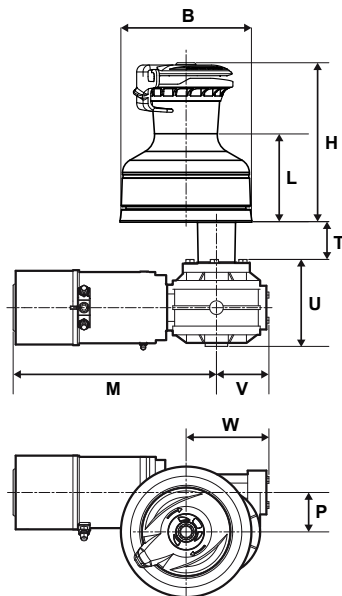


## 7- Specifications

### 7.1 Above/below deck dimensions

L = Line entry.

| REVO | B        |         | H      |         | L          |         |
|------|----------|---------|--------|---------|------------|---------|
|      | Base Dia |         | Height |         | Line Entry |         |
|      | mm       | in      | mm     | in      | mm         | in      |
| 40   | 154      | 6 1/16  | 176    | 6 15/16 | 98         | 3 7/8   |
| 45   | 174      | 6 27/32 | 193    | 7 19/32 | 103        | 4 1/16  |
| 50   | 186      | 7 11/32 | 215    | 8 15/32 | 109        | 4 9/32  |
| 55   | 209      | 8 1/4   | 253    | 9 31/32 | 140        | 5 1/2   |
| 65   | 234      | 9 7/32  | 268    | 10 9/16 | 144        | 5 11/16 |



| REVO | M   |          | P  |         | T  |         | U   |         | V  |        | W   |         |
|------|-----|----------|----|---------|----|---------|-----|---------|----|--------|-----|---------|
|      | mm  | in       | mm | in      | mm | in      | mm  | in      | mm | in     | mm  | in      |
| 40   | 306 | 12 1/16  | 50 | 1 31/32 | 35 | 1 3/8   | 127 | 5       | 73 | 2 7/8  | 111 | 4 3/8   |
| 45   | 306 | 12 1/16  | 50 | 1 31/32 | 65 | 2 9/16  | 127 | 5       | 73 | 2 7/8  | 115 | 4 17/32 |
| 50   | 306 | 12 1/16  | 50 | 1 31/32 | 65 | 2 9/16  | 127 | 5       | 73 | 2 7/8  | 117 | 4 5/8   |
| 55   | 325 | 12 13/16 | 63 | 2 15/32 | 61 | 2 13/32 | 139 | 5 15/32 | 84 | 3 5/16 | 133 | 5 1/4   |
| 65   | 325 | 12 13/16 | 63 | 2 15/32 | 61 | 2 13/32 | 139 | 5 15/32 | 84 | 3 5/16 | 137 | 5 13/32 |

### 7.2 REVO winch specifications

| REVO | ALLOY BLACK | ALLOY GREY | CHROME   | WLL  |      | WEIGHT (ALLOY) |      | WEIGHT (CHROME) |      | MTR/GBOX | MOTOR watts |
|------|-------------|------------|----------|------|------|----------------|------|-----------------|------|----------|-------------|
|      |             |            |          | Kg   | lb   | Kg             | lb   | Kg              | lb   |          |             |
| 40   | 48340210    | 48340200   | 48340201 | 795  | 1749 | 18.8           | 41.4 | 20.5            | 45.1 | 48300014 | 700         |
| 45   | 48345210    | 48345200   | 48345201 | 1200 | 2640 | 23.1           | 50.8 | 25.6            | 56.3 | 48300014 | 700         |
| 50   | 48350210    | 48350200   | 48350201 | 1250 | 2750 | 25.7           | 56.5 | 29.1            | 64.0 | 48300014 | 700         |
| 55   | 48355210    | 48355200   | 48355201 | 1480 | 3256 | 30             | 66.0 | 35.8            | 78.8 | 48300016 | 1600        |
| 65   | 48365210    | 48365200   | 48365201 | 1700 | 3740 | 34.6           | 76.1 | 41.8            | 92.0 | 48300016 | 1600        |

NOTE: WLL=Working Load Limit or maximum safe working load

WLL are recommended to be not more than those detailed above. This provides an acceptable safety margin for dynamic load surges in extreme sea conditions.



## 8- Troubleshooting

### **Winch will not operate manually**

- ▶ Check for correct assembly.
- ▶ Pawls stuck-over use of grease
- ▶ Strip and clean as necessary

### **Winch will not haul electrically**

1. Is winch handle in?  
Remove handle
2. Ensure that the metal plunger has popped up, if not press the “in” button momentarily.
3. Power at the battery.  
Check terminal connections, battery voltage - adequate reserve battery capacity.
4. Isolator switch/circuit breaker on.  
Switch on
5. Check fuse in control box.  
Change fuse (3 Amp), check wiring
6. Power at winch.  
Check circuit diagram, connections, clean and check cables
7. Check switch connection in control box.  
Reconnect

### **Motor will not back-wind electrically**

1. Can a clicking noise be heard?  
Check that the tail of the rope is free to pay out  
The load on the winch may be too low  
Reduce line diameter or wraps on drum to increase performance
2. Power at the battery.  
Check terminal connections, battery voltage - adequate reserve battery capacity.
3. Isolator switch/circuit breaker on.  
Switch on
4. Check fuse in control box.  
Change fuse (3 Amp), check wiring
5. Power at winch.  
Check circuit diagram, connections, clean and check cables
6. Check switch connection in control box.  
Reconnect



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## Notes

## 9- Warranty

### Limited Warranty and Key Terms of Supply by Lewmar

Lewmar warrants that in normal private pleasure boat usage and with proper maintenance its products will conform with their specification for a period of three years from the date of purchase by the end user, subject to the conditions, limitations and exceptions listed below. Any product, 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 the repair or replacement of any parts of the product which are defective in materials or workmanship.

ii Responsibility for the selection of products appropriate for the use intended by the Buyer shall rest solely with the Buyer and Lewmar accepts no responsibility for any such selection.

iii Lewmar shall not be liable in any way for Product failure, or any resulting loss or damage that arises from:

- a. use of a product in an application for which it was not designed or intended;
- b. corrosion, ultra violet degradation or wear and tear;
- c. a failure to service or maintain the product in accordance with Lewmar's recommendations;
- d. faulty or deficient installation of the product (unless conducted by Lewmar);
- e. any modification or alteration of the product;
- f. conditions that exceed the product's performance specifications or safe working loads.
- g. Abuse

iv Product subject to a warranty claim must be returned to the Lewmar outlet that supplied the product for examination unless otherwise approved by Lewmar in writing.

v This warranty does not cover any incidental costs incurred for the investigation, removal, carriage, transport or installation of product.

vi Service by anyone other than authorized 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 in the marine environment. Buyers intending to use them for any other purpose should seek independent professional advice as to their suitability. Lewmar accepts no liability arising from such other use.

#### B- EXCEPTIONS

Cover under this Warranty is limited to a period of one year from the date of purchase by the end user in the case of any of the following products or parts of products:

- ▶ Electric motors and associated electrical equipment
- ▶ Electronic controls
- ▶ Hydraulic pumps, valves and actuators
- ▶ Hatch & Portlight weather seals
- ▶ Products used in "Grand Prix" racing applications
- ▶ Products used in commercial or charter applications
- ▶ Anchor rodes

#### 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 loss of anticipated turnover or profit or indirect, consequential or economic loss;
- ▶ Damages, costs or expenses payable to any third party;
- ▶ Any damage to yachts or equipment;
- ▶ Death or personal Injury (unless caused by Lewmar's negligence).

Some states and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you

b. Lewmar grants no other warranties regarding the fitness for purpose, use, nature or satisfactory quality of the products.

ii Where applicable law does not permit a statutory or implied warranty to be excluded, then such warranty, if permitted by that state or country's law, shall be limited to a period of one year from the date of purchase by the end user. Some states and countries do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

#### D- PROCEDURE

Notice of a claim for service under this warranty shall be made promptly and in writing by the end user to the Lewmar outlet that supplied the product or to Lewmar Limited at Southmoor Lane, Havant, Hampshire PO9 1JJ, England.

#### E- SEVERANCE CLAUSE

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

#### F- OTHER RIGHTS

This warranty gives you specific legal rights, and you may also have other legal rights, which vary from state to state and country to country.

In the case of European States a Consumer customer (as defined nationally) has legal rights under the applicable national law governing the sale of Consumer Goods; this Warranty does not affect those rights.

#### G- LAW

This warranty shall be governed by and read in accordance with the laws of England or the state or country in which the first end user is domiciled at the time of purchase of the product.

#### H- DISPUTES

Any dispute arising under this warranty may, at the option of the end-user, be referred to alternative dispute resolution under the rules of the British Marine Federation or to the Courts of the State whose law shall govern the warranty or to the Courts of England and Wales.

The British Marine Federation may be contacted at Marine House, Thorpe Lea Road, Egham, England, TW20 8BF

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# **LEWMAR<sup>®</sup>**

**[www.lewmar.com](http://www.lewmar.com)**

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