

## Bxxx Issue 3

### Electric/Hydraulic Stern Thruster

Owner's Installation, Operation & Basic Servicing Manual

GB

### Electric Stern Thruster

Owners Installation, Operation & Basic Servicing Manual

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Owners Installation, Operation & Basic Servicing Manual

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GB

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# Introduction

Dear Customer,

Thank you for choosing Lewmar TT Thrusters. Lewmar products are world renowned for their quality, technical innovation and proven performance. With a Lewmar winch you will be provided with many years of outstanding service. We wish you happy sailing.

## 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)

## 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.

The type of warnings, what they look like, and how they are used in this manual are explained as follows:



### Warning!

This is a warning against anything which may cause injury to people if the warning is ignored. You are informed about what you must or must not do in order to reduce the risk of injury to yourself and others.



### Safety Symbol

When you see the safety symbol it means: "Do not..."; "Do not do this"; or "Do not let this happen".

## CE Approvals

For CE approval certificates contact Lewmar.

# Safety notices

## General

Please ensure that you thoroughly understand the operation and safety requirements of the thruster 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 thruster 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.

- Please ensure that you thoroughly understand the operation and safety requirements of the thruster.
- Your thruster should not be operated close to swimmers, as a powerful suction of water is generated when in use.
- The tunnel installation and any hull modifications should only be carried out by a specialist. This manual is based on a GRP tunnel installation.
- We recommend that a qualified person install the thruster. Faulty installation will place the boat and crew in danger and make the warranty invalid.
- 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.
- It is the unavoidable responsibility of the owner or master or other responsible party to assess the risk of any operation on the vessel.
- Lewmar recommends the use of appropriate Personal Protective Equipment and hands free communication equipment by any person going aloft, and only then where the person going aloft is properly trained in the use of that equipment and where there remain sufficient trained and experienced personnel on deck to ensure constant observation and the continued safe conduct both of the vessel and the hoisting operation.

## Fitting

- 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.
- Electric bow thrusters use powerful electric motors, it is very important that there is sufficient battery capacity and large enough cables for safe operation. Using smaller than recommended battery and cables will cause loss of performance and may cause dangerous overheating.
- Electric motors spark and run hot. Do not place near flammable or sealed areas.
- Main battery must not be connected and power must not be switched on until all covers and terminal protectors are correctly fitted.
- It is very dangerous to run the thruster out of the water, even for a few seconds, the motor will over speed by 300%, causing damage to the seals etc. and the propeller will cause serious damage to whatever comes into contact with it and invalidate the warranty.
- Consult the boat manufacturer if you have any doubt about the strength or suitability of the mounting location.

## Electrical

- Make sure you have switched off the power before you start installing this product.
- If in doubt about installing electrical equipment please seek advice from a suitably qualified electrical engineer.

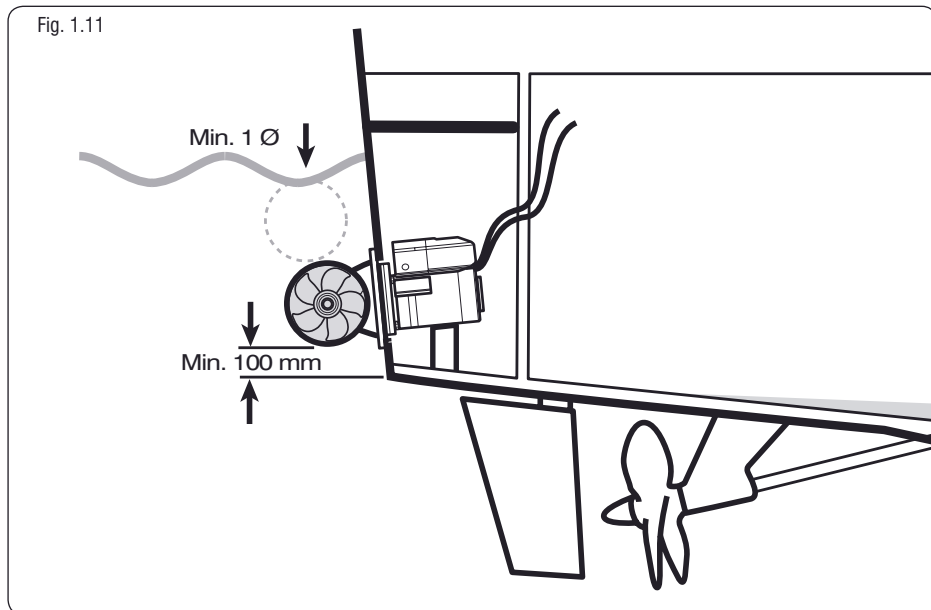


This manual forms part of the product and **MUST BE RETAINED** along with, OR incorporated into, the Owner's Manual for the vessel to which the windlass is fitted.

To the best of our knowledge, the information in this manual was correct when it went to press. However, Lewmar cannot accept liability for any inaccuracies or omissions it may contain. In addition, our policy of continuous product improvement may change specifications without notice. As a result, Lewmar cannot accept liability for any differences between the product and the manual.

# 1. Installation

Fig. 1.11



## 1.1 Choosing location

**NOTE:** This manual is to be read in conjunction with the main manual supplied with the TT Thruster, which has important information on installation and use.

Ø = Tunnel Diameter.

For optimal performance the Thruster unit should be mounted within the following:

- Chose position, ensure it is at least 1Ø below the waterline to prevent air being sucked into the tunnel.
- That the chosen area is flat.
- Check internal position is free of mechanical, electrical or bulkhead obstructions.

## 1.2 Internal structure

Fig 1.21

- The thruster must be in a watertight enclosure that is a minimum of 150 mm (6") above the waterline. This space must also have adequate ventilation. Access should be from above and the entrance should not allow water in.

**NOTE:** Ensure all drainage ducts are sealed and routed around the enclosure.

Fig. 1.21

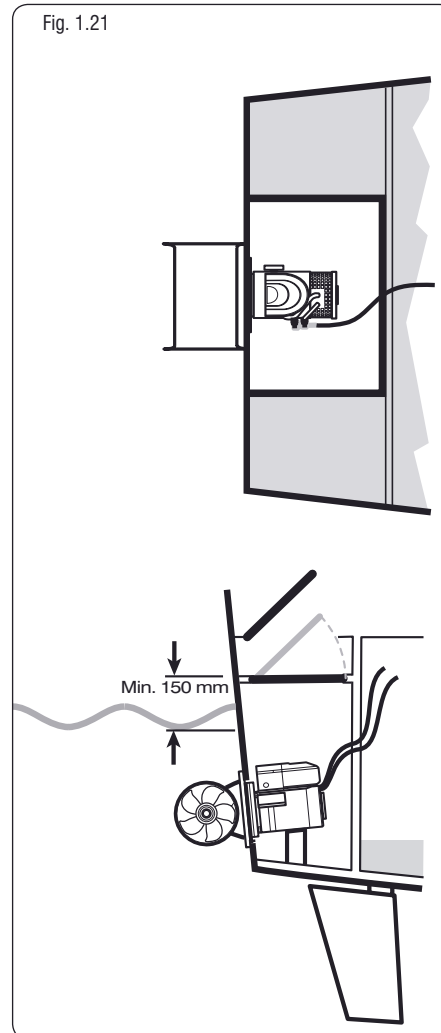
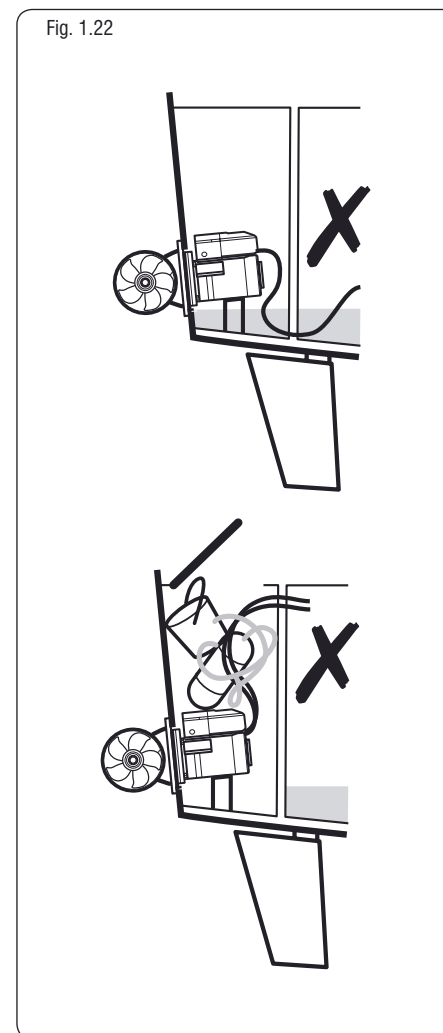


Fig 1.22

The internal compartment must be watertight. Do not use the compartment as storage.

Fig. 1.22



### 1.3 Preparing for fitting

⊘ The boat must be out of the water, levelled and secure in its cradle.

⚠ A competent, marine engineer must carry out any work on the hull of your boat.

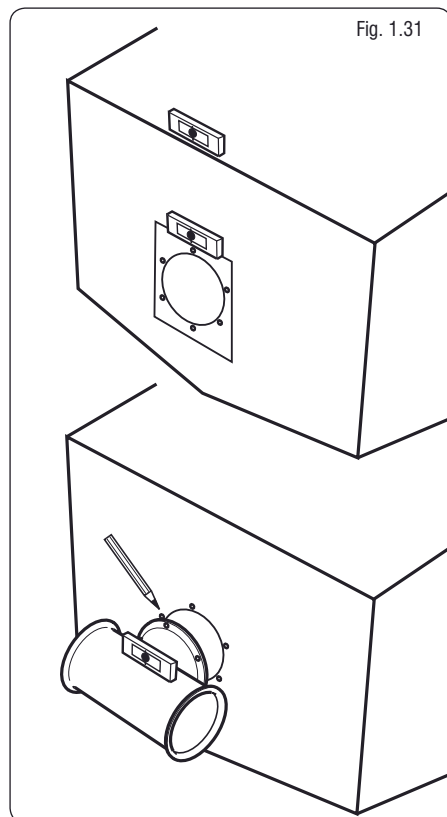
Problems caused by faulty installation of the tunnel are the installers full responsibility.

**NOTE:** Lewmar stern tubes are constructed of polyester resin and glass fibre with a white gell coat. Mounting template is provided with the kit.

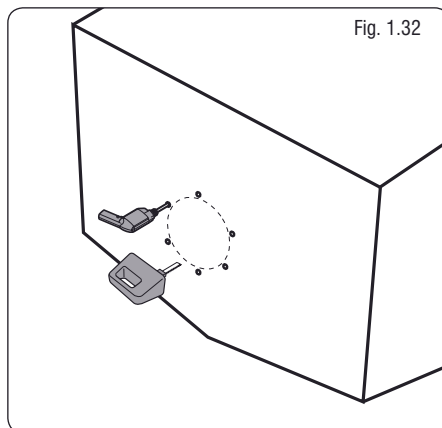
- Align template horizontally on transom.

OR

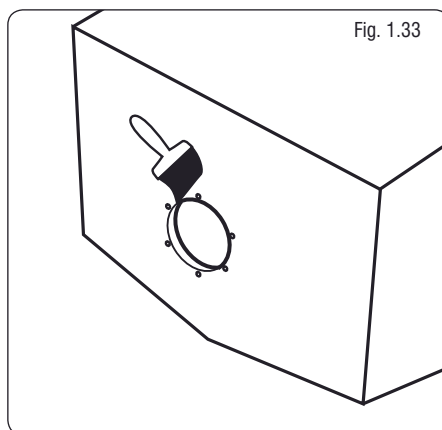
Offer up stern tube and level, mark holes for drilling.



- Drill and cut all holes.



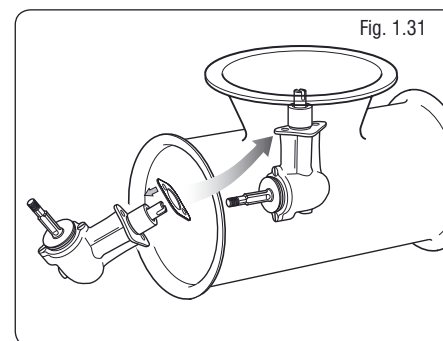
- Seal all cut surfaces. (GRP Only).



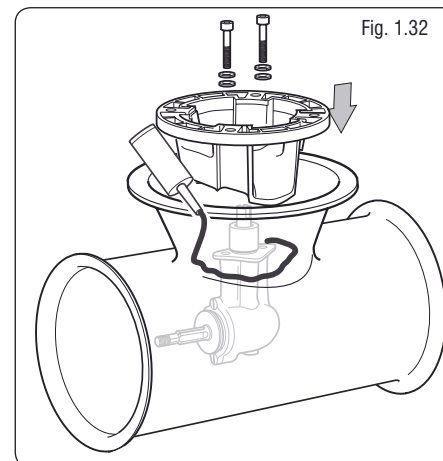
⚠ Stern tubes may be bonded in place. We recommend that a qualified person carry out any work to the hull. Faulty installation will place the boat and crew in danger and make the warranty invalid.

### 1.4 140TT & 185TT Installing hub unit

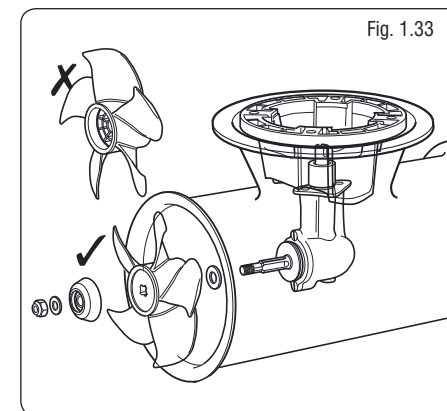
- Place gasket on hub and locate through centre hole.



- Apply zinc chromate paste or marine grease to location bore and assemble saddle onto hub (sicoflex or similar maybe used to seal saddle in place). Apply blue loctite to bolts and hand tighten along with supplied washers.

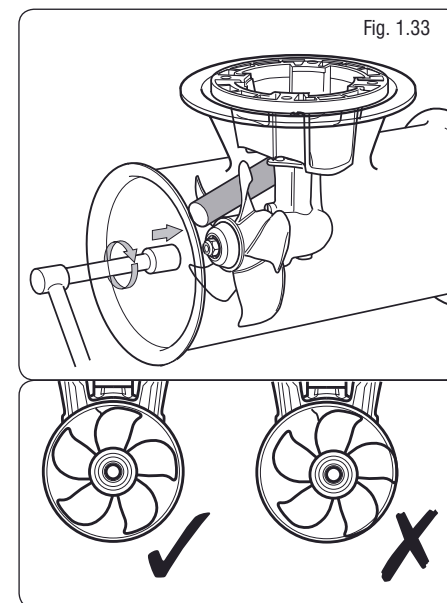


- Assemble anode kit and propeller in this order: large washer, propeller, anode, small washer and nyloc nut onto propeller shaft. Tighten hub/saddle bolts to 7Nm (x.xlbs.ft) 140TT - 21Nm (15.5lbs.ft) 185TT. Check that propeller is centred and free turning (within 10 minutes of applying Blue Loctite).



- Tighten prop nut to 10Nm (7.4lbs.ft) 140TT - 15Nm (11lbs.ft) 185TT, a length of wood placed between prop blade and tunnel will stop movement.

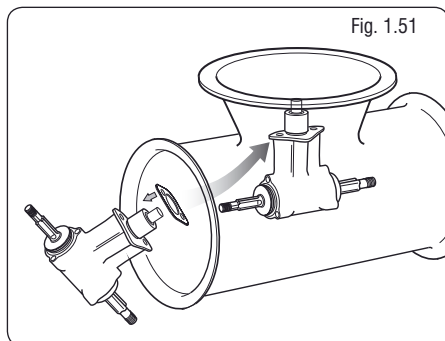
**NOTE:** Poor internal tunnel surface could cause leakage. Apply sealant to this area and gasket if in doubt.



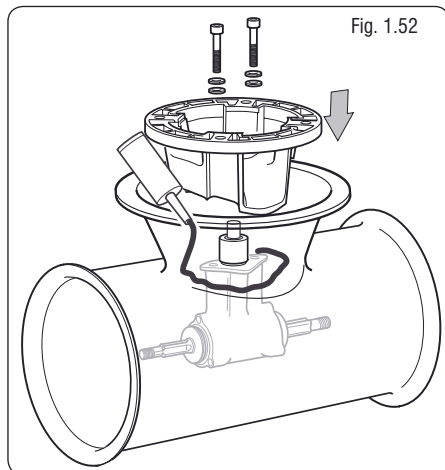
- Antifoul bronze hub.

## 1.5 250TT & 300TT Installing hub unit

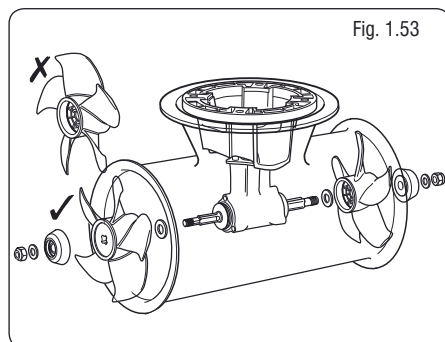
- Place gasket on hub and locate through centre hole.



- Apply zinc chromate paste or marine grease to location bore and assemble saddle onto hub (sicoflex or similar maybe used to seal saddle in place). Apply blue loctite to bolts and hand tighten along with supplied washers.

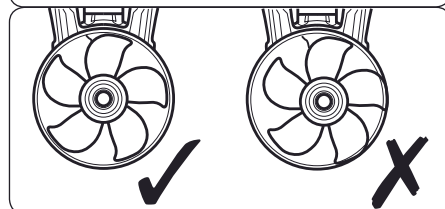
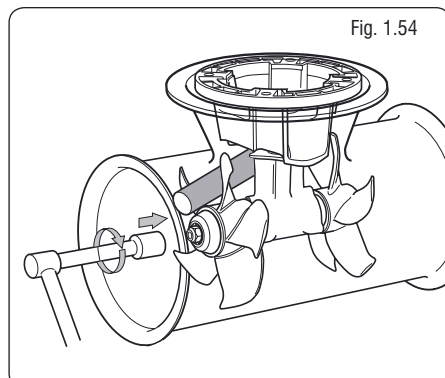


- Assemble anode kit and propeller in this order: large washer, propeller, anode, small washer and nyloc nut onto propeller shaft. Tighten hub/saddle bolts as instructed in main thruster installation manual.



- Tighten hub/saddle bolts as instructed in main thruster installation manual.

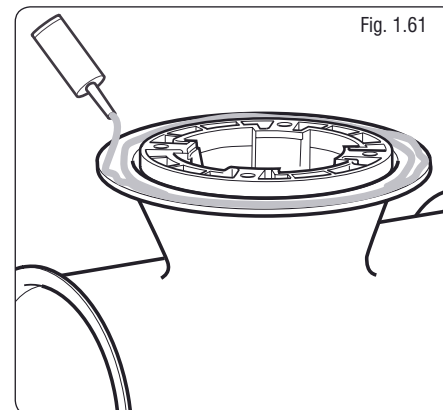
**NOTE:** Poor internal tunnel surface could cause leakage. Apply sealant to this area and gasket if in doubt.



- Antifoul bronze hub.

## 1.6 Preparing for final assembly

- Before final assembly of stern tube, check surfaces are clean, smooth and free from grease. Completely fill sealing grooves with a continuous bead of Sikaflex or equivalent.



- Bolt stern tube assembly in place large thick washers plus springs at a length to suit transom thickness. Bolt holes and heads must be sealed with Sikaflex or equivalent.

A4 Stainless Steel Property class 70 or greater	
Thruster	Bolt
140	M8 (5/16")
185	M10 (3/8")
250	M10 (3/8")
300	M10 (3/8")

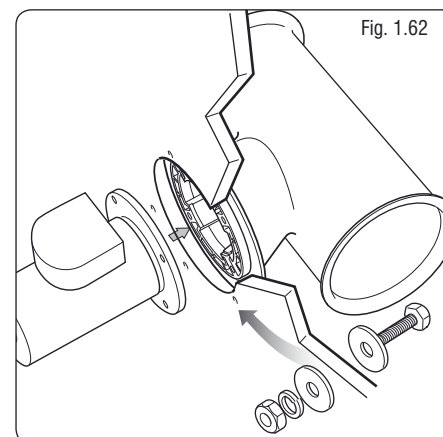
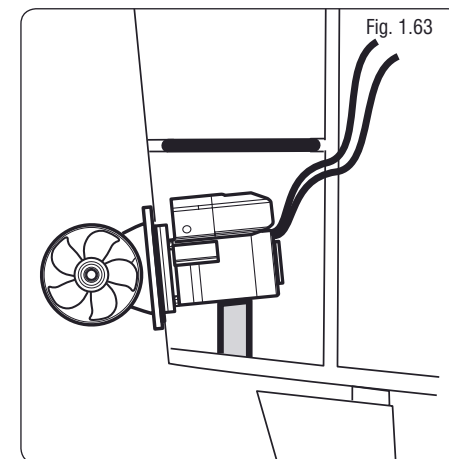


Fig 1.63

The electric motor must be supported as it is being installed horizontally.

- Fit the motor and cables (see relevant section in main installation manual).



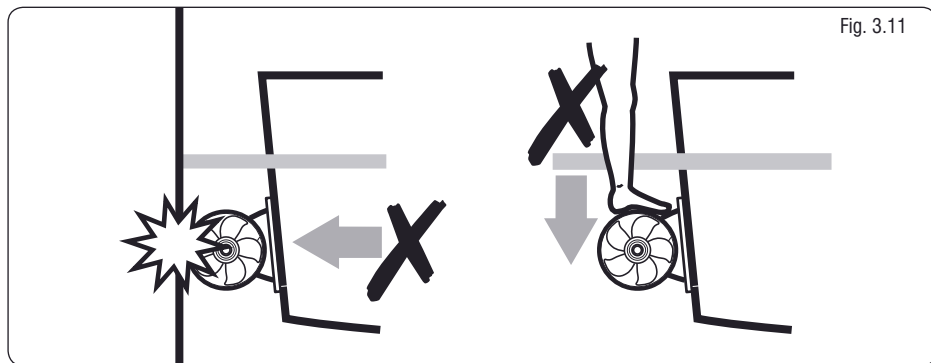
It is important that all power cables enter the sealed installed area at a high point to avoid possible water ingress.



## 13



## 3. Operating your thruster



**NOTE:** Refer to the main thruster manual for control options.

- Please ensure that you thoroughly understand the operation and safety requirements of the thruster.



Your thruster should not be operated close to swimmers, as a powerful suction of water is generated when in use.

## 4. Servicing your thruster

**NOTE:** Stern thrusters are more likely to attract 'debris', so it is necessary to regularly check the tunnel.

**At the annual boat service.**

- Remove any debris from tunnel, prop and hub.
- Replace the anode.
- If the prop is damaged or heavily contaminated, replace it, best to be safe.
- Inspect motor, ensure all leads are still tight.
- Check all bolts and nuts are to correct torque.
- Check the motor assembly is dry and that the compartment is water tight.
- Check stern tube for cracks or damage.
- Check and clean out thruster compartment.



# 13. Lewmar limited warranty

## LIMITED WARRANTY and

### KEY TERMS OF SUPPLY BY LEWMAR

Lewmar warrants that in normal 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 which 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.
- iv Product subject to a warranty claim must be returned to the Lewmar outlet which supplied the product for examination unless otherwise agreed 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 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 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
- 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 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 which supplied the product or to Lewmar at Southmoor Lane, Havant, Hampshire, England PO9 1JJ.

## 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