LEWMAR®

Anchor Windlass

3000

Installation and Service Manual

Vertical Electric and Hydraulic Models

PART 1 **Electrical Installation**

PART 2 **Hydraulic Installation**

PART 3 **Operation, Maintenance, Accessory Dimensions, and Deck Template.**

B2314 Issue 3

Contents Page Number

IMPORTANT - READ THIS BEFORE INSTALLING AND OPERATING YOUR WINDLASS

Please ensure that you thoroughly understand the operation and safety requirements of the windlass before commencing the installation.

Only persons who are completely familiar with the controls and proper use of the unit should be allowed to operate the windlass.

WARNING !
Classification societies require that a vessel lying at anchor should have its anchor Chain/Rope held by a chain stopper, bollard or equivalent strong point. The same rule applies to small craft. Windlasses are not designed to withstand the shock loads generated while at anchor in rough seas.

WARNING !
Do not attempt to pull a load greater than the maximum rated load of the windlass.

WARNING !
When the windlass is not in use the anchor must be tied off to a cleat or equivalent strong point to prevent loss or damage.

WARNING !
The vessels engine should always be used to aid anchor recovery. Do not attempt to pull your craft over the anchor using the Anchor windlass motor only.

WARNING !
A circuit breaker should always be fitted to a windlass electrical circuit to protect the motor and cables from overheating. We recommend a Lewmar 150Amp circuit breaker for correct operation and safety. (See electrical wiring diagrams for recommended position of the breaker)

WARNING !
Always switch the windlass off at the circuit breaker or isolation switch, when not in use to prevent accidental operation.

WARNING !
To avoid personal injury, keep well clear of the anchor rope, chain, and gypsy while they are in motion. **Never** hold a moving anchor rope or chain while the windlass is in operation.

WARNING !
Always remove any winch/windlass handles from the windlass when not in use and only use the rope/chain gypsy for anchoring.

WARNING !
Anchor rodes suffer extreme wear and should be checked regularly. Re-spliced if wear is evident.

WARNING !
Electric motors become **HOT** during and for some time after use, DO NOT TOUCH THE MOTOR/GEARBOX!

PART 1 DECK UNIT INSTALLATION.

1 Remove the anchor windlass from the packing case. Ensure that you have all necessary parts required to complete your system.

There are 5 items to position. The windlass deck unit, motor gearbox, chain pipe, control box and switches.

2 Position the windlass deck unit on deck, or in the anchor well such that the centre line of the chain on the gypsy, aligns with the bow roller in a horizontal plain. Any misalignment from the bow roller to the gypsy should be no more than 10^{o} (use the full size template provided in this manual to aid location and for hole positions and dimensions).

3 Cut \drill clearance holes for the deck unit and chain pipe. (see page 4 for details).

4 Screw studs into the deck unit and chain pipe tightly. Apply a bedding compound between the mating faces to seal the windlass and chain pipe to the deck.

5 Apply a small amount of grease to the deck unit drive shaft before bolting the motor gearbox into position. Tighten nuts/bolts to a maximum of 50Nm (40Lbs ft).

Ensure that the gearbox is mounted squarely on the shaft. If the underside of the deck is not parallel with the gearbox mounting flange, **packing must be used to correct any misalignment.**

NOTE **To permanently sustain a load on the Anchor Rode, a Chain Stopper must be used.**

Chain Pipes

Using the Correct template provided at the back of this manual. Drill and cut the holes required.

Fit the 4 studs provided to the Chain pipe using a NUT LOCK or similar compound and allow it to set.

Use a good quality bedding compound, to seal the chain pipe to the deck.
Use the nuts and washers provided or Nyloc Nuts to secure the chain pipe to the deck.

Types of Chain pipe

Please See Deck templates for details.

Standard Chain Pipe

This is a Left Handed, **close-coupled** Chain pipe, designed to take 10–12mm chains only. Part Number 68000023. Or Opposite hand Chain pipe for RH Version 68000637. See Template for details.

Remote Chain Pipes

Remote chain pipes are available for use with TWIN Windlasses. **NOTE:** These are not close-coupled units and must be mounted at least 300mm away from the windlass body.

For Chain sizes 10-13mm use the Remote Universal Chain Pipe (Lewmar Part Number 68000024)

For Larger chain sizes 14-16mm use the Remote Universal Chain Pipe (Lewmar Part Number 68000037).

Wiring

1 The wiring of your unit and switch controls are shown in the diagrams at the end of this section. Please ensure that you follow the diagram for your system (Dual Direction or Single Direction).

2 Mount the control box close to the motor, (within 1 Meter) Preferably in a dry environment.

3 Mount the deck switches close to the deck unit, so the that operator has a clear view of the deck unit during operation.

4 Connect the electrical cables from the control to the motor (customer supplied). Ensure that the cables are secure and that the Rubber Boots are fitted before final crimping of the terminal ends. Check that the cables are connected as per the wiring diagram, before operating the windlass under power.

5 Run the electrical cables from the control box to the batteries (customer supplied). Ensure that the cables are secure and that the Rubber Boots are fitted before final crimping of the terminal ends. Check that the cables are connected as per the wiring diagram, before operating the windlass under power.

6 Smear all terminals with grease, for extra protection against corrosion, before fitting the Rubber Boots.

NOTE

AIR Deck Switches

If using an AIR deck switch system. Please ensure that the small breather hole, located on the underside of the switch body, is kept clear and free from sealing compound on installation.

ELECTRIC Deck Switches

Use 16/0.2 wire to connect the deck switches to the control box.

Cable Sizes Lewmar recommend the use of the following cable sizes.

System	Distance from Battery to Motor	Cable Size mm^2	Wire (USA)
12v	1m – 10m	50	1/0
	10m – 15m	70	2/0
	15m – 20m	90	3/0
24V	1m – 10m	25	3
	10m – 15m	35	1
	15m – 20m	50	1/0

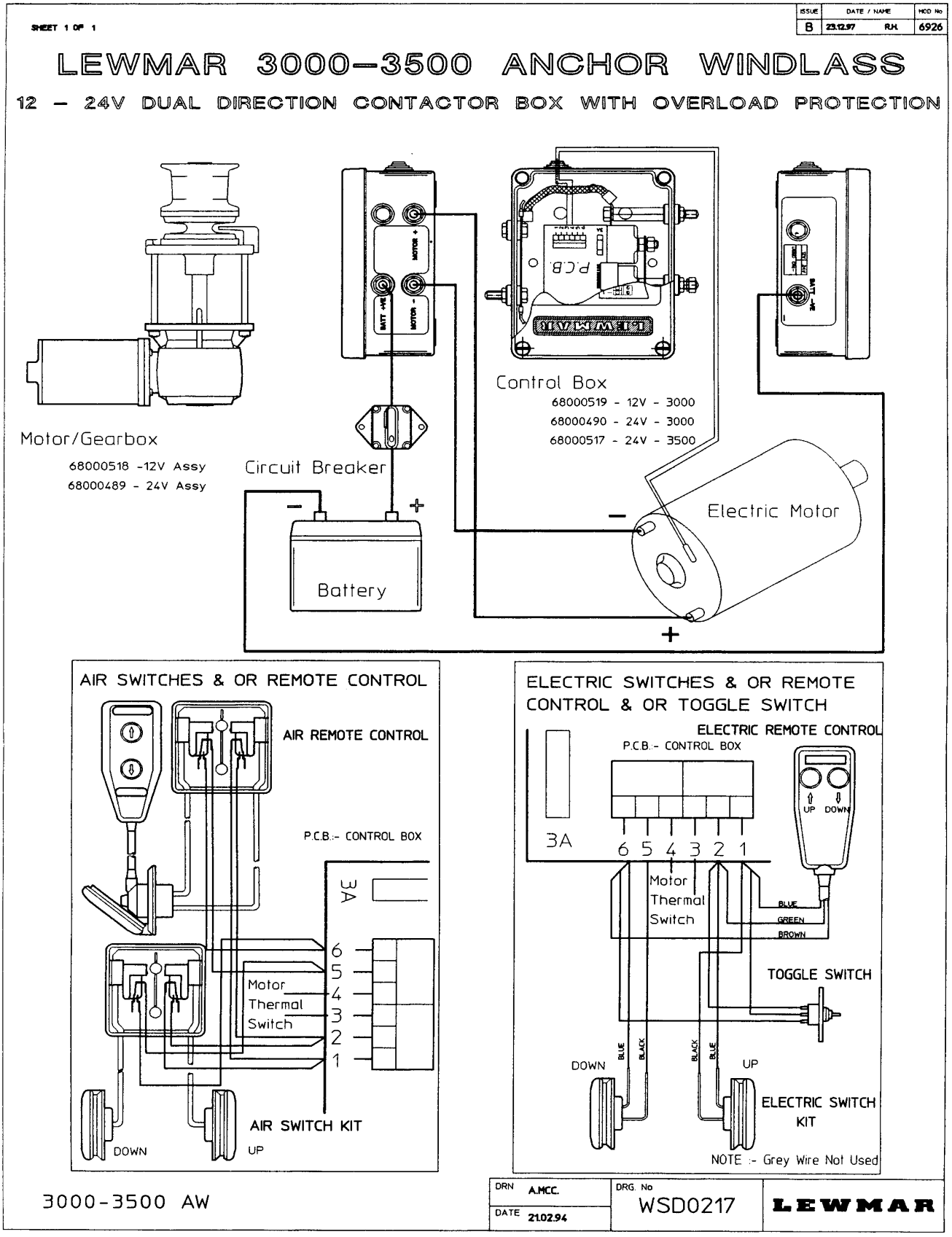
Note: The windlass performance is directly related to the cable size and its length. A voltage drop of more than 2 volts will increase the amps required to power the motor and will effect the performance of the unit. In all cases this will cause the motor to overheat and in some, to burn out. We recommend the use of PVC or Butyl Rubber Insulated cable. A larger cable will give increased performance.

The thermal cut-out on the motor **must be connected** to the switch wiring to protect the motor from overheating. **The Motor Warranty will be invalidated if the thermal cut-out is not connected as shown in the wiring diagrams supplied.**

Circuit Breaker. The windlass circuit **must be protected** by an in line **"Slow Blow"** Circuit Breaker fitted as shown in the wiring diagram

Model	System	Circuit Breaker Value (Slow Blow)
3000	12v	225 Amp (68000628)
3000	24v	160 Amp (68000627)

Isolator Switch An isolator switch (ON/OFF) switch **must be used** to isolate the unit when not in use, or when carrying out routine maintenance.

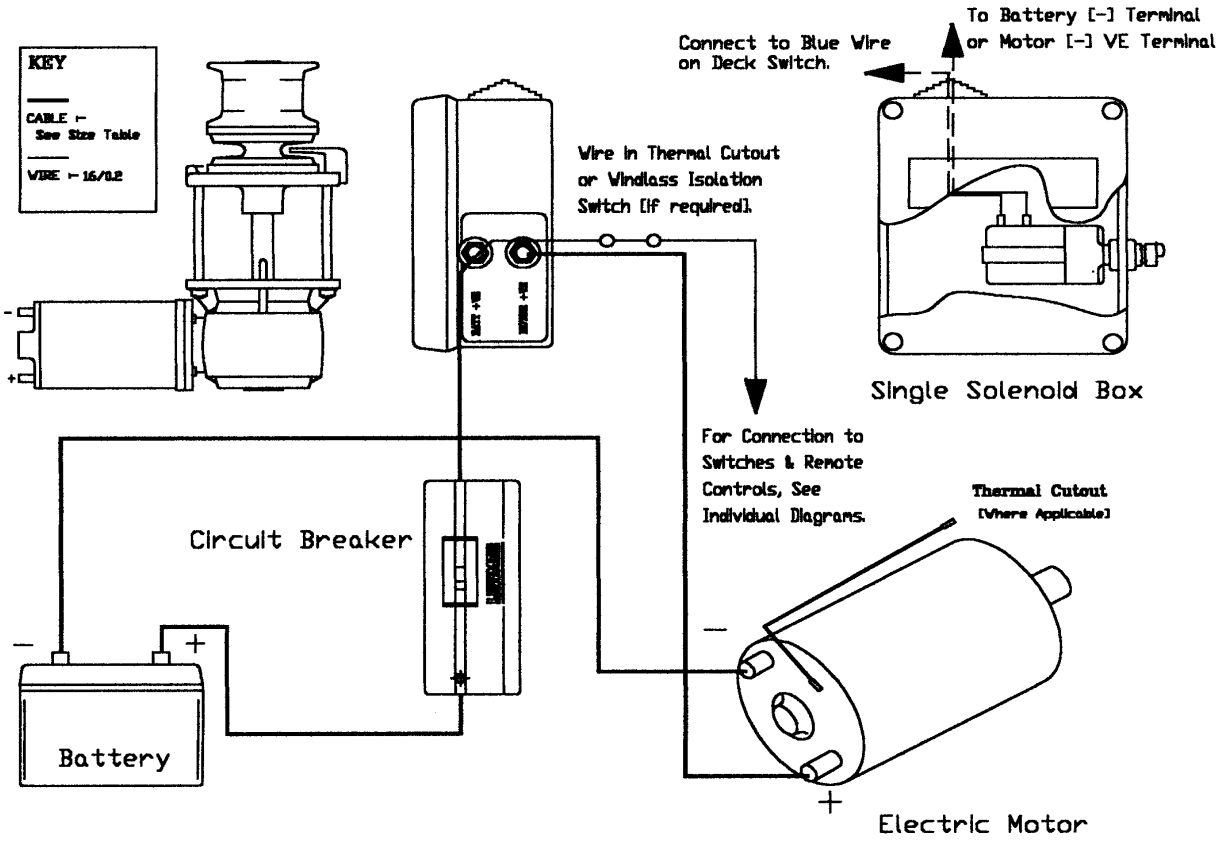

SHEET 1 OF 1
ISSUE B
DATE / NAME 23.12.97 R.H.
MOD No 6926
LEWMAR 3000–3500 ANCHOR WINDLASS
12 – 24V DUAL DIRECTION CONTACTOR BOX WITH OVERLOAD PROTECTION
Motor/Gearbox
68000518 -12V Assy
68000489 - 24V Assy
Circuit Breaker
Control Box
68000519 - 12V - 3000
68000490 - 24V - 3000
68000517 - 24V - 3500
Electric Motor
Battery
AIR SWITCHES & OR REMOTE CONTROL
AIR REMOTE CONTROL
P.C.B.:- CONTROL BOX
3A
6
5
4
3
2
1
Motor
Thermal
Switch
AIR SWITCH KIT
DOWN
UP
ELECTRIC SWITCHES & OR REMOTE CONTROL & OR TOGGLE SWITCH
ELECTRIC REMOTE CONTROL
P.C.B.:- CONTROL BOX
UP
DOWN
3A
6 5 4 3 2 1
Motor
Thermal
Switch
BLUE
GREEN
BROWN
TOGGLE SWITCH
DOWN
BLUE
BLACK
BLACK
BLUE
UP
ELECTRIC SWITCH KIT
NOTE :- Grey Wire Not Used
3000-3500 AW
DRN A.MCC.
DATE 21.02.94
DRG. No WSD0217
LEWMAR

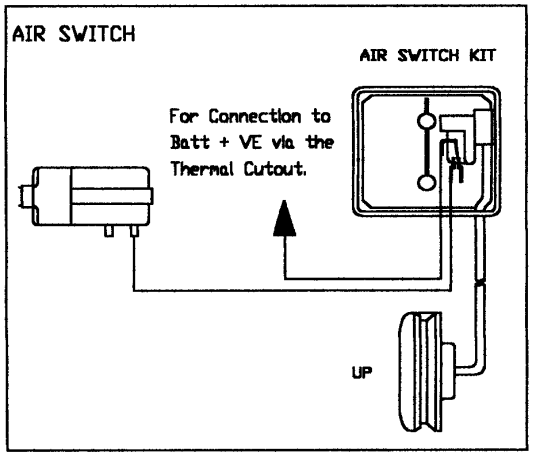
SHEET 1 OF 1

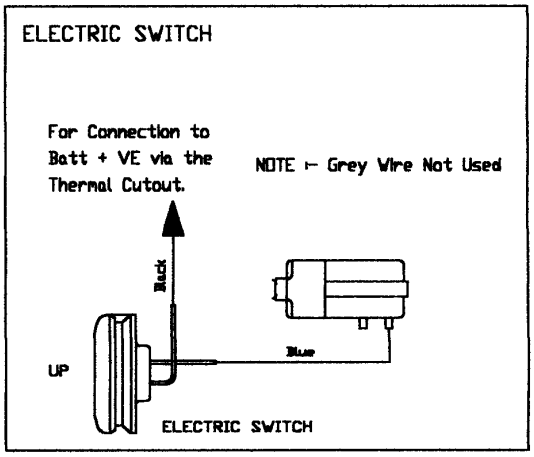
A	12.05.00 GFS	N/A

LEWMAR 3000–3500 ANCHOR WINDLASS

12V & 24V SINGLE DIRECTION SOLENOID BOX WITHOUT OVERLOAD PROTECTION







WIRING

DRN GFS	DRG. No 58400454	LEWMAR
DATE 12.05.00		

PART 2 HYDRAULIC DECK UNIT INSTALLATION.

Deck Unit

1 Remove the anchor windlass from the packing case.
Ensure that you have all necessary parts required to complete your system.

There are 5 items to position. The windlass deck unit, motor gearbox, chain pipe, control box and switches.

2 Position the windlass deck unit on deck, or in the anchor well such that the centre line of the chain (at the point of contact with the gypsy) aligns with the bow roller in a horizontal plain.
Any misalignment from the bow roller to the gypsy should be no more than 10^{o} (use the full size template provided in this manual to aid location and for hole positions and dimensions).

3 Cut \drill clearance holes for the deck unit and chain pipe. (see template for hole details).

4 Screw the studs supplied, into the deck unit and chain pipe tightly. Apply a bedding compound between the mating faces to seal the windlass and chain pipe to the deck. These items may have to be removed for servicing. Do not use a bonding compound

5 Apply a small amount of grease to the deck unit drive shaft before bolting the motor gearbox and chain pipe into position. Tighten nuts/bolts to a maximum of 50Nm (40Lbs ft).

Ensure that the gearbox is mounted squarely on the shaft. If the underside of the deck is not parallel with the gearbox mounting flange, **packing must be used to correct any misalignment.**

PART 2 HYDRAULIC INSTALLATION.

6 The Lewmar 3000 Hydraulic windlasses are designed to be powered by Power Packs from the Lewmar commander range. They can however, be powered from any hydraulic power source, provided that the flow and pressure are regulated to the limits specified on page 12.

Plan the routing of the hydraulic lines, including drain lines (if required). Keep hose runs as short and a straight a possible. Ensure there are no kinks or sharp bends (avoid 90^{o} elbows). Ensure that the pipe diameter is of adequate size for the required flow rate. See hydraulic specifications for recommended hose types and sizes.

7 Connect the feed and return lines to and from the windlass hydraulic motor. Ensure that all connections are secure. For trouble free operation. Ensure that the pipe work is flushed through to remove any dirt and grit before final connection to the motor and Power Pack.

8 Connect the case drain from windlass hydraulic motor back to the supply tank. Ensure it is of adequate size and is run directly back to the supply tank. (See DRAIN LINE in this section of the manual)

Air Deck Switch

Find a convenient position below deck for the sub box System (within 2m of the deck switch). Drill holes for grommets as required.

Fix the 2 micro switches supplied (1 for single direction option) using the self adhesive pads provided.

Fit the PVC air tubing between the deck switch/s and sub box. Ensure their are no kinks or bends to restrict the air flow.

Switch wiring (customer supplied) should be 16/0.2 or equivalent. Refer to your hydraulic power pack installation manual for switch wiring details.

Electric Deck Switch

See Hydraulic power pack installation manual for system switch wiring details.

Hydraulic Specifications

Hydraulic Motors The Hydraulic Motor/Gearbox consists of a low speed, high torque, "Gerotor" type hydraulic Motor (80ml/Rev displacement). With a **Maximum Pressure rating of 200 Bar**. Fitted to a 90^{o} reduction gearbox (7:1 reduction ratio).
The Motor/Gearbox is not self-sustaining and a "dual Pilot Operated Check Valve" (POCV) must be installed in the system to temporarily sustain any load.
This can either be line mounted between the Directional control valve (DCV) and the hydraulic motor. Or, "Modular Stock" mounted under the DCV, if the DCV is of the gasket mounted type (CETOP 3 or CETOP 5) dependent on size.

NOTE **To permanently sustain a load, a Chain Stopper must be used.**

Hose Types For reliable operation and safety. It is essential to use reinforced braid hose, which conforms to **SAE100R2A or DIN 20 021 Part 2.**

Hose Size The recommended hose sizes are: -

Up to 30 L/Min = ½ " (13mm) Bore Diameter

Up to 40 L/Min = $^{5}/_{8}$" (16mm) Bore Diameter

Up to 60 L/Min = ¾" (19mm) Bore Diameter.

NOTE All hydraulic motors have internal leakage paths that permit the motor to creep under load. This is quite normal.

It is important that the correct hose specification is used, as this will affect the efficiency of the hydraulic motor and the performance of the Windlass.

3.78 litres = 1 US gallon.
4.54 litres = 1 Imperial gallon.

DRAIN LINE

A drain line is not required for the current 3000 hydraulic motor. On older hydraulic motors a drain line was required. The drain line connection on the motor **(if required)** is the central nut at the rear of the motor. If the motor has provision to fit a case drain, a drain line must be installed. Any pressure in the motor or drain line will cause the motor shaft seal to leak.

Minimum drain line bore diameter : 6mm (¼ “)

Safe working pressure : 10 bar (145 psi)

Tubing material : Oil compatible semi rigid plastic tube, braided hose or steel pipe

Drain lines may be linked using `T' connections to reduce the amount of line to the supply tank.

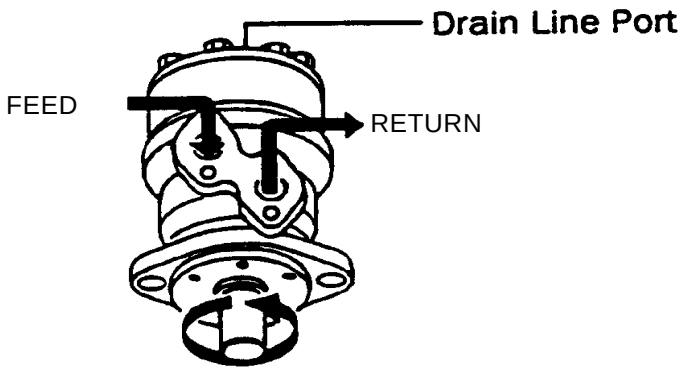
Hydraulic Adaptors

The Lewmar hydraulic motor accepts the following fittings :-

Motor Ports ½" BSP (G ½)
Drain Line Port $^{1}/_{4}$" BSP (G ¼)

Lewmar supply ½ “ BSP male - ½ " BSP male (US = ½ " BSP male - ¾ " JIC male) adapters for pipe connections.

The feed and return line should be connected as illustrated below.



PART 3 OPERATION, MAINTENANCE, AND ACCESSORIES

Operating Your Windlass

Power UP Press deck switch (**UP**)

Power DOWN Press deck switch (**DOWN**)

Manual Chain Release Place a winch handle in the cleat nut and carefully undo one half of a turn. This will allow the chain gypsy to run free. The decent of the chain can be slowed, or stopped by tightening the cleat nut.

WARNING! Keep hands and feet clear of free running anchor chain.

Capstan Operation To use the capstan independently, first lock the gypsy in position by locating the gypsy locking pawl in the gypsy.
Undo the top nut one full turn, to free the gypsy from the capstan. This will allow the capstan to rotate independently.

NOTE When operating the capstan **only**, the anchor chain should be locked off to prevent the anchor chain from paying out.

Remember to re-tighten the top nut, before releasing the gypsy-locking pawl.

DO NOT use the chain gypsy to recover rope. The model 3000 gypsies are designed specifically to handle chain only.

MAINTENANCE

The isolator switch **must be in the OFF position** to isolate the unit, when carrying out routine maintenance to the deck unit and Motor/Gearbox.

At least every 6 months, wash the windlass with fresh water to remove any dirt, sand and salt deposits.

Lightly grease the main shaft.

Check all electrical connections for corrosion. Clean if necessary and grease terminals after tightening, to protect against further corrosion.

The motor gearbox assembly is 2 part epoxy painted for protection. The motor is necessarily constructed of mild steel and lives in the harshest environment on you craft....BE WARNED ! If corrosion on the motor is evident, clean and repaint with a marine grade oil based enamel paint.

Friction Washers

Check the condition of the friction washers for excess wear or cracks. Replace if necessary (items 19 & 22 on the parts list drawing).

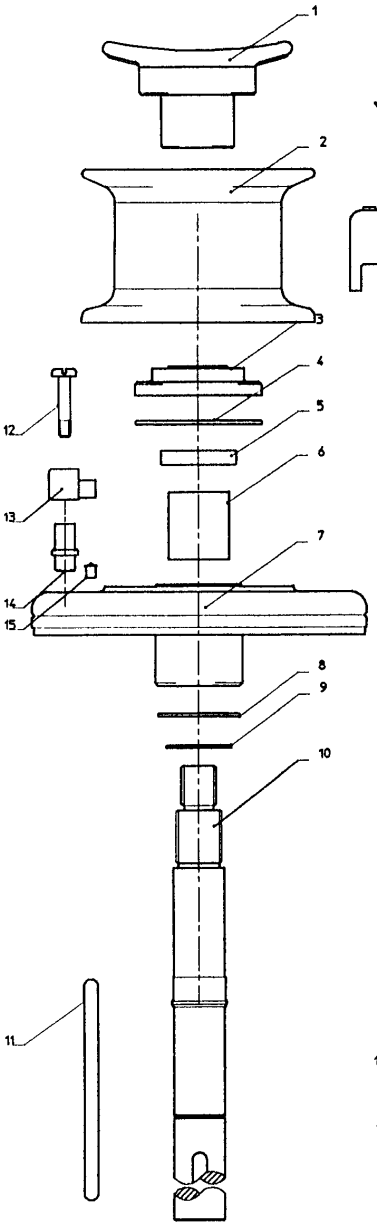
NOTE **DO NOT** use grease on friction washers, or on the brake band lining. These are designed to provide friction when necessary and do not need any form of lubrication.

ISSUE	DATE / NAME	MOD No
A	21.02.94 A.MCC.	N/A

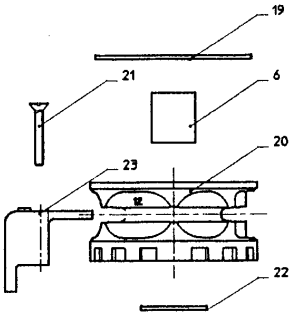
SHEET 1 OF 3

ANCHOR WINDLASS 3000

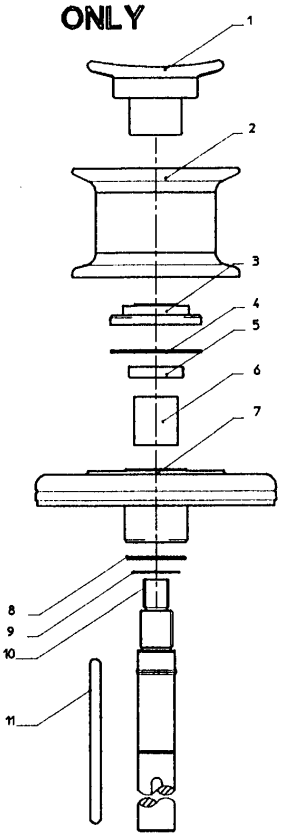
GYPSY–CAPSTAN



GYPSY KIT[CHROME]



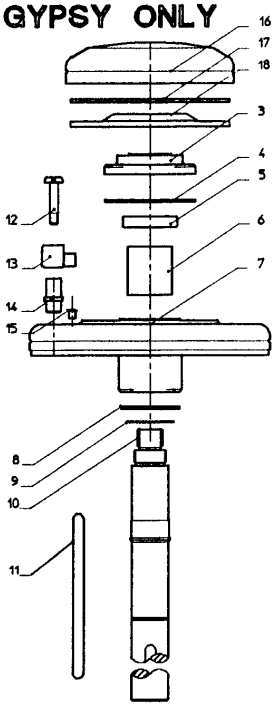
CAPSTAN ONLY



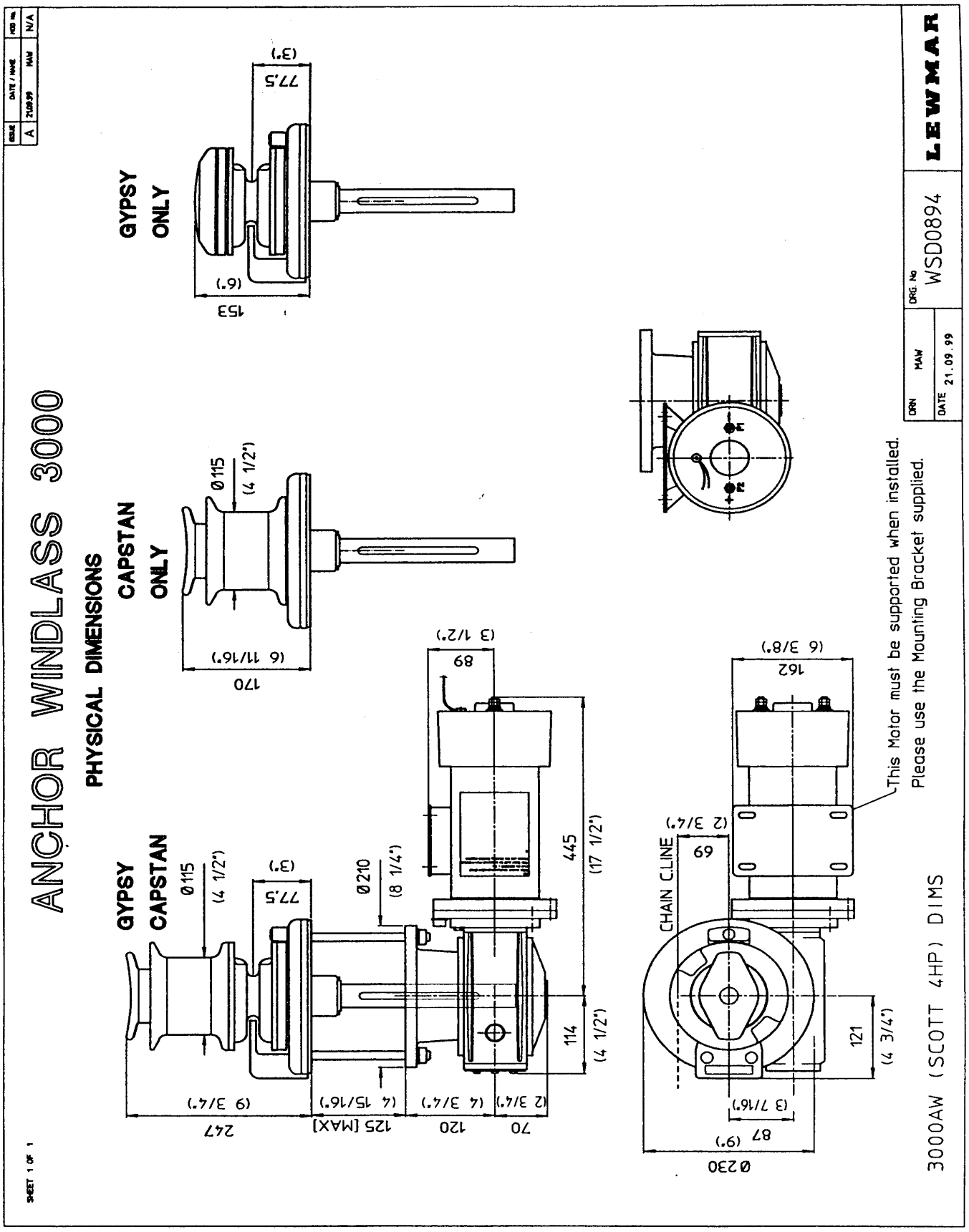
PARTS LIST

ITEM NO.	PART NO.	QTY.	GYPSY-CAPSTAN	CAPSTAN	GYPSY
1	Cleat Nut	1	15003570	15003570	
2	Capstan	1	15003569	65000062	
3	Rubbing Washer	1	15003573	15003573	15003573
4	Washer	1	15003715	15003715	15003715
5	Seal	1	B 7030	B 7030	B 7030
6	Bearing	*	65000262	65000261	65000262
7	Base	1	15003571	65000060	15003571
8	Washer	1	15003572	15003572	15003572
9	Circlip	1	B 2352	B 2352	B 2352
10	Drive Shaft	1	15003576	65000061	65000059
11	Key	1	15003577	15003577	15003577
12	Pawl Pin	1	15003581		15003581
13	Pawl	1	15003580		15003580
14	Pawl Boss	1	15003603		15003603
15	Ball Spring	2	B 1554		B 1554
16	Top Nut	1			65000056
17	Washer (large)	1			65000057
18	Drive Plate	1			65000058
19	Friction Washer	1	15003574		15003574
20	Gypsy	VARIABLE REFER TO ORIGINAL ORDER			
21	Csk.Screw	2	B 0407		B 0407
22	Friction Washer	1	15003575		15003575
23	Stripper	VARIABLE REFER TO ORIGINAL ORDER			

GYPSY ONLY

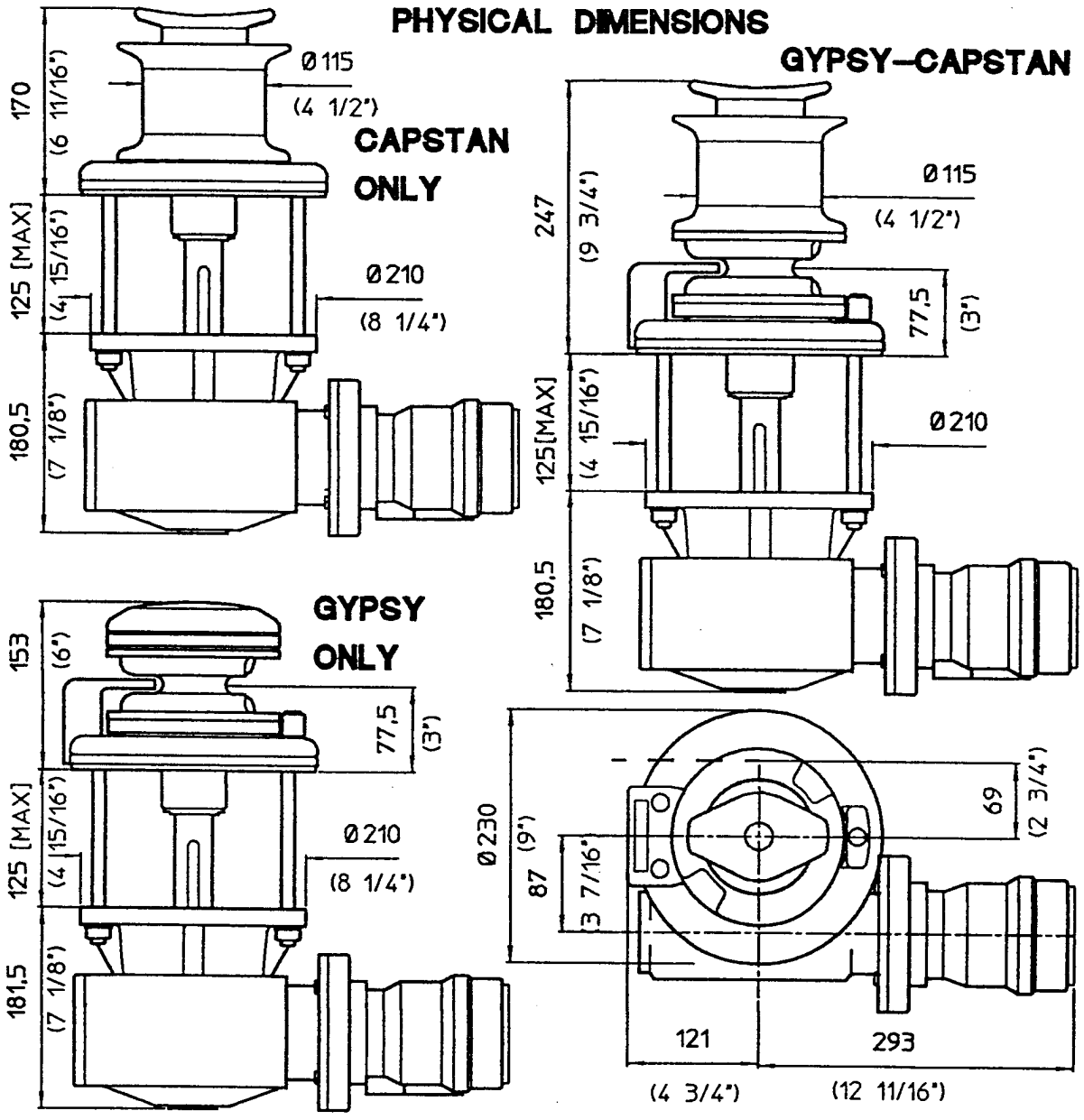


DRN	A.MCC.	DRG. No	
DATE	21.02.94	WSD0200	LEWMAR


ANCHOR WINDLASS 3000
PHYSICAL DIMENSIONS
GYPSY ONLY
CAPSTAN ONLY
GYPSY CAPSTAN
3000AW (SCOTT 4HP) DIMS
This Motor must be supported when installed.
Please use the Mounting Bracket supplied.
CHAIN C.LINE
LEWMAR
DRG No WSD0894
DRN MAW
DATE 21.09.99
ISSUE A 21/09/99 MAW N/A
SHEET 1 OF 1

ANCHOR WINDLASS 3000
HYDRAULIC

PHYSICAL DIMENSIONS



WSD 0200

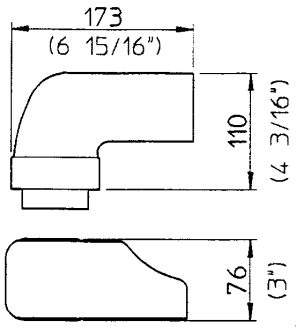
SHEET 2 OF

ISSUE	DATE / NAME	MOD No.
B	12.07.00 T.B.	8209

CHAIN PIPE DIMENSIONS

3000 ANCHOR WINDLASS

10-13mm (3/8"-1/2") CHAIN PIPE PART No.68000023 (CHROME)
No.68000075 (BRONZE)

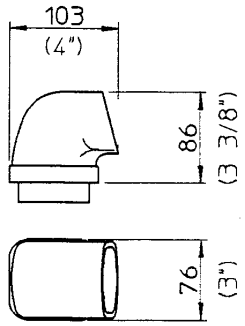


NOTES

1. SEE CUTOUT TEMPLATE FOR INSTALLATION DETAILS.

3000/3500 ANCHOR WINDLASS

8-13mm (5/16"-1/2") UNIVERSAL CHAIN PIPE PART No.68000024 (CHROME)
PART No.68000065 (BRONZE)

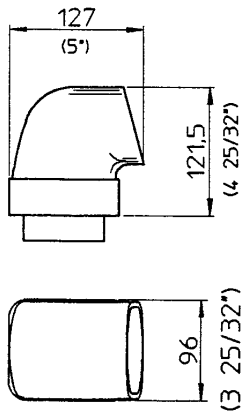


NOTES

1. THE UNIVERSAL CHAIN PIPE IS DUAL HANDED (LH + RH) AND IS SUITIBLE FOR DUAL WINDLASS INSTALLATIONS AND/OR REMOTE CHAIN PIPE POSITIONING.
2. FOR UNIVERSAL CHAIN PIPE INSTALLATON TEMPLATE USE 3000 CHAIN PIPE FOOTPRINT.

3000/3500 ANCHOR WINDLASS

14-16mm (9/16"-41/64") UNIVERSAL CHAIN PIPE PART No.65000066 (CHROME)
PART No.65000088 (BRONZE)



NOTES

1. SEE CUTOUT TEMPLATE FOR INSTALLATION DETAILS.

DRN A.MCC.	DRG. No WSD0262	IM LEWMAR
DATE 22.02.94		

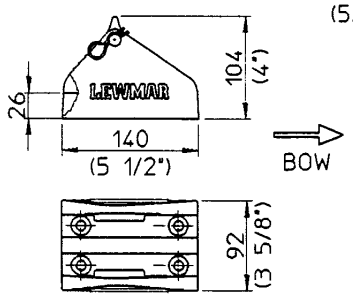
SHEET 1 OF

ISSUE	DATE / NAME	MOD No.
C	12.07.00 T.S.	8210

CONTROLS AND ACCESSORIES DIMENSIONS

LEWMAR CHAIN :	SIZE	WEIGHT
	8mm (5/16")	1.4 Kg/M (0.94 lb/ft)
	10mm (3/8")	2.0 Kg/M (1.34 lb/ft)
	12mm (7/16")	3.5 Kg/M (2.35 lb/ft)

CHAINSTOPPER (8mm / 10mm / 12mm) (5/16"/ 3/8"/ 7/16")

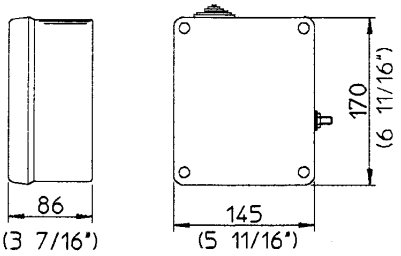


A CHAINSTOPPER IS RECCOMENDED FOR SAFE ANCHORING AND TO PROTECT YOUR WINDLASS WHILST AT ANCHOR.

FIXINGS : 4 x M10 COUNTERSUNK HEAD MACHINE SCREWS.

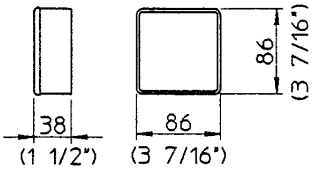
WEIGHT : 4.2 Kg (9.25lb)

CONTROL BOX (ALL MODELS)



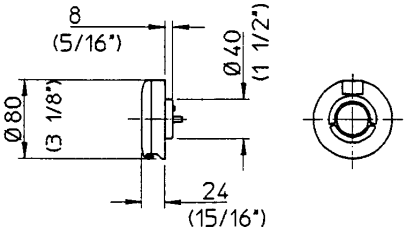
WEIGHT : 1.6 Kg (3.5lb)

SUB BOX (INCLUDED IN AIR SWITCH KITS)



WEIGHT : 0.1Kg (0.3lb)

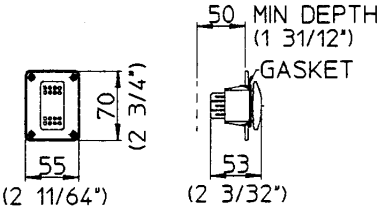
AIR AND ELECTRIC SWITHCHES



FIXINGS : 3 x M4 COUNTERSUNK HEAD MACHINE SCREWS

WEIGHT : 0.1 Kg (0.3lb)

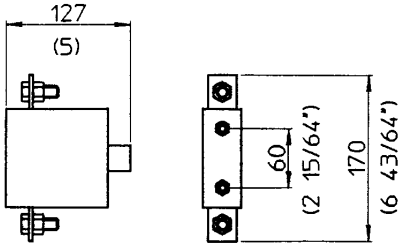
ROCKER SWITCHES



FIXINGS : 4 x M3 COUNTERSUNK HEAD MACHINE SCREWS

WEIGHT : 0.1Kg (0.3lb)

CIRCUIT BREAKER



FIXINGS : 2 x M8 HEX HD MACHINE SCREWS

WEIGHT : 0.85Kg (1.87lb)

DRN A.M.C.C.	DRG. No	IM LEWMAR
DATE 22.02.94	WSD0239	

LEWMAR LIMITED 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 labor 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 authorization 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

LEWMAR SALES OFFICES

Lewmar UK/Rest of World
Lewmar Ltd, Southmoor Lane, Havant, Hampshire PO9 1JJ. UK
Tel +44 (0) 23 92 485700 *Fax* +44 (0) 23 92 485710
e-mail **info@uk.lewmar.com**

Lewmar USA
Lewmar Inc, 351 New Whitfield Street, Guilford, CT 06437, USA
Tel +1 203 458 6200 ext 100 *Fax* +1 203 453 5669
e-mail info@usa.lewmar.com

Lewmar Mid Europe
Lewmar Ltd, Branderweg 19, 8042 PD Zwolle, The Netherlands
Tel +31 (0) 38 427 34 90 *Fax* +31 (0) 38 421 56 42
e-mail info@holland.lewmar.com

Lewmar Southern Europe
Lewmar Ltd, Place Bernard Moitessier, 17000 La Rochelle, France
Tel +33 (0) 5 46 50 50 46 *Fax* +33 (0) 5 46 50 59 04
e-mail info@france.lewmar.com

Lewmar Southern Europe (Cannes)
Lewmar Ltd, Allée Charles Nungesser, Parc D'Activités de la Siagne 06210 Mandelieu, France
Tel +33 (0) 4 93 48 80 48 *Fax* +33 (0) 4 93 48 37 50 *e-mail* info@france.lewmar.com

Lewmar Southern Europe (Spain)
Lewmar Ltd, Sucursal en Espana, Joan de Borbó 92,
08039 Barcelona, Spain *Tel* +34 93 221 94 37 *Fax* +34 93 225 19 49
e-mail info@spain.lewmar.com

Lewmar Northern Europe
Lewmar Marin AB, Hälleflundregatan 24, S - 426 58, Västra Frölunda, Sweden
Tel +46 (0) 31 277130 *Fax* +46 (0) 31 273116
e-mail info@sweden.lewmar.com

Lewmar Northern Europe (Finland)
Lewmar Marin AB (Finland), Laaksotie 10 A-B, 02700 Kauniainen, Finland
Tel +358 (0) 9 5489 5110 *Fax* +358 (0) 9 5489 5111
e-mail info@finland.lewmar.com