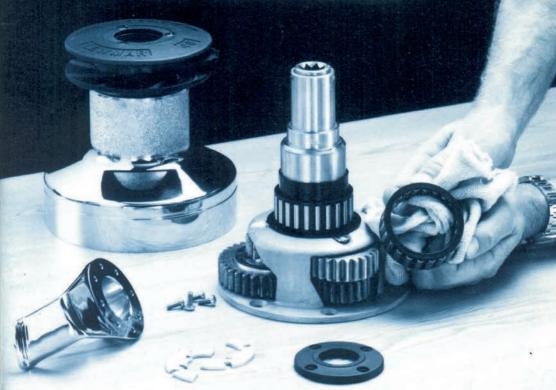
# HOWICE SERVICE YOUR LEWINGHAR WINCH



# Dear Owner

Lewmar winches are known world wide for their quality, technical innovation and performance. They have been tested to their limits by our engineers in the laboratory and by racing crews in their search for victory. They have given years of outstanding service to many thousands of yachtsmen to whom the ultimate performance of a yacht or its equipment is perhaps not so important as the pure joy of sailing a fine craft equipped with the best yacht hardware.

This booklet tells you how to give your Lewmar winches the care and attention they need to ensure that whether you sail for results, records or just pleasure, your winches will contribute that extra level of performance that is designed into each Lewmar winch.

Service details of the current range of Lewmar winches are illustrated in this booklet.

The overall servicing principles may be used for earlier versions although the detailed construction of the winches may be different.

Your Lewmar winches have been selected to perform in the best possible manner, with care and attention they will give nuny years use.

Incidentally, you may like to know that we're the only winchmaker to offer a total sailing system...system Lewmar. System Lewmar includes winches, blocks, shackles, travellers and hatches, portlight, all designed as a family, all working together in harmony. Included in System Lewmar is our range of patented 'WAVEGRIP'® Self Tailing Winches.

If you've ever found yourself short of hands, space, or just plain old muscle power a couple of Lewmar self tailing winches will make all the difference. By freeing you of the necessity to tail the sheet a self tailer enables you to use both hands to wind.

Lewmar's patented Wavegrip concept is simple, safe, and convenient...aren't those the features you're looking for.

All precision-engineered by Lewmar to take you closer to the ultimate sailing experience. For further details, see page 26.

Lewmar wish you good sailing for many years to come.

Lewmar Marine Ltd.

Our guarantee of guality

Lewmar winches have been developed over many years by extensive testing aboard the world's finest racers, long distance cruising yachts and match racing yachts such as 12 metres. They are manufactured to quality standards in excess of those required by Lloyds and only the finest materials are used.

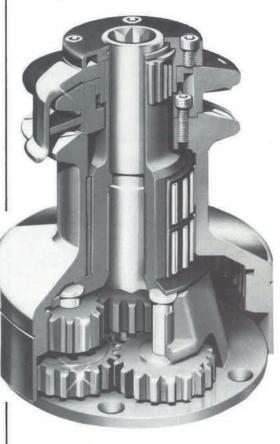


If installed, used and maintained as described in this booklet, they will give outstanding performance.

Lewmar undertake that any winch which proves defective in materials or workmanship within I year of the date of supply will be repaired

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or replaced FREE OF CHARGE provided that the winch is returned by the registered owner to the nearest Lewmar office or distributor for examination. Lewmar reserve all rights on determining the nature of the alleged fault and their decision is final.



# LEWMAR

Integrated Sailing Systems

# WHENTO SERVICE.

Frequency of Servicing

Lewmar winches, like any other precision engineered product, must be serviced regularly. Yacht winches are required to carry deceptively high loads. For example the genoa sheet load on a 40 foot cruising yacht could easily be 10001bs. Regular servicing with attention to correct assembly and condition of parts is vital.

#### When?

 MONTHLY: All Lewmar sheet winches should be lightly oiled and greased as shown.

- TWO OR THREE TIMES DURING ACTIVE SAILING SEASON: All Lewmar winches should be stripped, cleaned and re-lubricated.
- 3. AT THE END OF EACH SAILING SEASON AND BEFORE STARTING THE NEW SAILING SEASON: All Lewmar winches should be completely stripped, cleaned, thoroughly checked for damage and lubricated using the full maintenance manual.

General External Cleaning of Drum

Chromed Winches – Wash drum regularly with fresh water and dry with chamois leather.

OCCASIONALLY use non abrasive liquid chrome cleaner to remove dirt deposits.

Anodised Aluminium Winches – Wash drum regularly with fresh water and dry with chamois leather. DO NOT USE POLISHES OR ABRASIVES.

Stainless Steel Winches – Wash drum regularly with fresh water and dry with

chamois leather.

OCCASIONALLY use non abrasive liquid cleaner to remove dirt deposits.

# WHAT YOU NEED.

#### WINCH SPARES KIT

Lewmar provide a maintenance kit for each winch in their range. These kits contain parts which owners may damage or mislay. Each kit is complete and parts are not sold separately.

Typical parts include:-

Pawls, springs, circlips, washers, locking caps, etc.

#### Spares Kits

Ref.

7001 Single speed winches.

7002 Two speed and small self tailing winches up to and including 43 ST.

7003 Three speed push button winches.

7004 Self tailing winches 46ST and above.

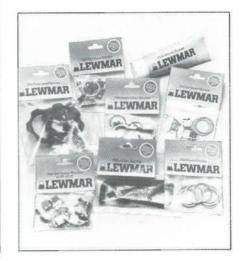
7008 Various circlips (Owners are strongly recommended to carry spare circlips for all winches).

7009 Allen key set.

7010 Grease 100g tube.

7011 Grease 300 g tub.

Don't forget to get your spares kit from your local dealer before starting a major end of season service.



#### WHAT TOOLS DO I NEED?

Any winch can be stripped for servicing in seconds, using a very basic set of tools as described in the table below, and winches introduced from December 1983 onwards need nothing more than a cross head screwdriver and cleaning materials.

Tools required, for routine servicing

Model	Tools
All models – basic requirement	Small screwdriver or knife blade Clean non-fluffy cloth Cleaning fluid Lubricants
6, 7, 8, 10, 16, 24, 30, 40, 42, 1H	basic requirement only
16ST, 30ST, 34ST	plus soft mallet
40ST, 42ST	plus 3 / A/F Allen Key
44, 48, 44ST, 48ST	plus $\frac{7}{32}$ " or $\frac{5}{16}$ " A/F Allen Key
55, 65, 55 ST, 65 ST	plus 3" A/F Allen Key
From Dec. 1983 – 16, 24, 30, 40, 43, 46, 52, 16ST, 30ST, 40ST, 43ST, 46ST, 52ST	basic plus cross head screwdriver

#### SERVICE MANUALS

A full service manual is available from your nearest Lewmar distributor office.
Your dealer can supply the correct manual for your particular winch. Full servicing of any winch should not be undertaken without reference to this manual.

For models not mentioned here, please contact your Lewmar offices for service details.

Service Manual V	ol IV applies	
Winch	Start	End
6, 7, 8	Jan 76	( <del></del> )
16, 24, 30, 40	Mar 84	-
43, 46	Jan 84	2.7
52	Dec 84	_
48, 55, 65	LEWMAR	-
16ST, 40ST	Jan 84	_
30ST, 43ST, 46ST	Mar 83	
48ST, 55ST, 65ST	Jan 81	_
52ST	Dec 84	-
No. 1 Halliard	Jan 78	

Winch	Start	End
6	Jan 83	_
7, 8	Jan 85	_
16, 24, 30, 40	May 85	_
43, 46	Mar 85	_
52	Dec 84	-
48, 55, 65	Jan 84	127
16ST, 40ST	Mar 85	-
30ST, 43ST, 46ST	Mar 85	E
48ST, 55ST, 65ST	Jan 84	( <del>-)</del>
52ST	Dec 84	-
No. 1 Halliard	Jan 78	N=S

Winch		Start	End
3 speed	3 gear		
55/3, 65	/3	Jan 85	-
3 speed 55 ST, 65	3 gear ST	Jan 89 Jahren	tw

SERVICE MANUAL Volume 5

SERVICE MANUAL Volume 5 Specials

-LEWMAR

# FITTING WINCHES



Fitting your winch

To achieve the best bolt and output gear support to optimise performance, we suggest you fit your Lewmar winches in the following manner:-

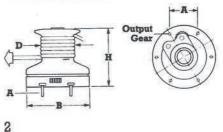
- 1. Remove the drum
- 2. Locate the winch base to achieve the best possible bolt support (see 1,2).

  3. Mark the location of the bolt holes
- 4. Remove the winch
- 5. Drill the bolt holes
- 6. Apply bedding compound to the underside, ensuring that each bolt is bedded but keeping the gear spindles
- 7. Bolt the winch into place, progressively tightening the bolts in a clockwise direction
- 8. Clean off surplus bedding compound
- 9. Refit the drum
- 10. Check that the winch is operating correctly

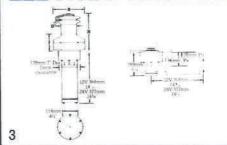
Note: Please refer to the special instructions provided with every Lewmar Self Tailing and Electric Winch. 3 speed winches are self draining, but care should be taken to ensure that the drain holes (on the underside of the base) are not 6 blocked.

# 1 SPEED

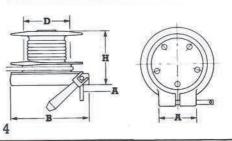
2 SPEED/3 SPEED



**ELECTRIC WINCHES** 



**HALLIARD WINCH** 



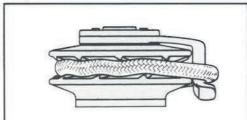
# **USING WAVEGRIP**

Self-tailer convenience

If you've ever found yourself short of hands, space or just plain old musclepower, a couple of Lewmar self-tailing winches will make all the difference. By freeing you of the necessity to tail the sheet, a self-tailer enables you to use both hands to wind. Lewmar's patented Wavegrip concept is simple, safe and convenient.

A closer Look: Self-tailing with Lewmar's Wavegrip®

Ever since its introduction, Lewmar's patented Wavegrip mechanism has set the world standard for self-tailing performance. Other winchmakers had been playing with brawny, rope-chewing spring-loaded jaws; typically, Lewmar engineers used brains instead.



Wavegrip's carefully designed radial 'teeth', set in a wave form, takes ropes of different diameters without adjustment. Each rope finds its own optimum position and is held there, not by cumbersome spring-loaded jaws, but by the load in the line itself. The higher the load, the firmer the grip, yet releasing the rope requires little or no musclepower... just ease it out of the Wavegrip jaws.

Wavegrip handles the rope gently, so there's less wear and tear on your sheets. Another big feature: the low-friction design means you can set the winch up before you tack, and tail the first few metres of slack in by hand...through Wavegrip! Try that on any other self-tailer!



Self Tailers - How they work

1. The rope must be placed in the jaws correctly. The turn leading from the drum must be passed across the stripper mechanism as shown and placed into the jaws.

2. The winch must be mounted so that the loose sheet falls correctly into a secure stowage position. The position of the stripper arm can be adjusted to give correct feed off of the sheet.

3. There must be a minimum of 3 turns of rope on the barrel.

4. The jaws are designed to accept a range of rope diameters. The winch should only be used with ropes of the sizes recommended.

Range of rope diameters

Cat.	Circun	nference	Diame	ter
Nos.	(mm)	(ins)	(mm)	(ins)
16ST	26/45	1/13/4	8/14	5 / 9 16 / 16
30ST	26/45	1/13/4	8/14	16/16
40ST	32/45	11/4/13/4	10/14	3/8/9
43ST	32/51	11/4/2	10/16	3/8 / 5/8
46ST	32/51	11/4/2	10/16	3/8/5/8
48ST	32/51	11/4/2	10/16	3/8 / 5/8
52ST	38/57	11/2/21/4	12/18	1/2/3/4
55ST	38/57	11/2/21/4	12/18	1/2 / 3/4
65ST	45/64	13/4/21/2	14/20	9/13

# **ADJUSTING SELF TAILERS**

16, 30, 40, 43, 46 48, 52, 55, 65



Remove 4 screws, in top cap. Remove top cap.



Remove 4 socket head screws with a 38 A/F Allen Key. Lift off top cap.



Rotate stripper arm to required position, (it can be moved in 8 × 45° increments, with the winch bolted in place).



Remove both collets. Lift off stripper arm and place in required position, ensuring that the stripper arm is placed over the stripper ring in the jaw assembly.



Replace top cap and screws.



Replace collets, top cap and screws.

## Single Speed 6,7,8



Remove circlip with a small screwdriver or knife blade.



Wash centre stem, roller bearings and drum bore with kerosene (paraffin). Dry with a non-fluffy cloth.



Lift off the drum, (Remove roller bearings and drum washer on model 8).



Oil pawls in top and bottom of the drum.



Ease out keyway and remove centre spindle.



Grease all parts lightly (including bearings on model 8).

Reassemble winch in reverse sequence. Check for correct operation.

#### 2 Speed 16, 24, 30, 40



Remove circlip with a small screwdriver or knife blade.



Grease spindle and all other moving parts lightly.



Remove top cap, screws, crown and drum. Oil pawls in drum.



Remove gear spindle.



Remove bearings, drum washer and spindle. Clean all parts with kerosene (paraffin). Dry with a non-fluffy cloth, oil spindle pawls.



Remove gears, clean and oil gear pawls and lightly grease other parts.

Reassemble winch in reverse sequence. Check for correct operation.

#### 2 Speed 43, 46



Remove circlip with a small screwdriver or knife blade.



Lift out gear spindles and gears, wash and clean all parts.



Remove drum, top cap and crown. Refit crown (use anti-seize on crown screws). Remove bearings and drum washer.



Wash, clean, grease gears, bearings and centre spindle.



Remove collets from top of centre stem and remove centre spindle.



Oil pawls in both gears.

Reassemble winch in reverse sequence. Check for correct operation.

## 2 Speed 52



Remove circlip with a small screwdriver or knife blade. Lift off drum. Remove crown (see p. 11-2).



Wash, clean all parts, grease all 8 bearings and all moving parts.



Remove bearings and drum washer. Remove collets from top of centre stem and remove centre spindle.



Oil pawls in both gear sets.



Lift out gear spindles and gears taking 12 care that the gear bearings don't fall out.

Reassemble winch in reverse sequence. Check for correct operation.



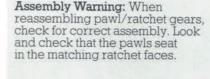
When reassembling take care to place the washers on the bottom of both gear sets (see also p. 21, 6). NOTE: It may help to remove centre stem from base (3 allen screws.)

## 3 Speed 48, 55, 65 Top Action



Servicing Top Cap Assembly

With drum already removed, lift off top cap assembly.



Servicing Ratchet Gears



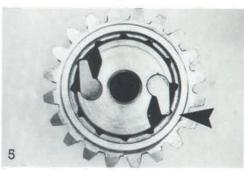
Remove large circlip, lift springs and remove plastic closing ring.



Correct location of ratchet gears.



Check that closing ring and plunger pin are in good condition.



Incorrect location of ratchet gears.

## 3 Speed 48, 55, 65 Top Action



Remove circlip with a small screwdriver or knife blade.



Remove collets from top of centre stem and lift off centre stem.



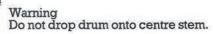
Remove drum and top cap (see p. 13, 1-3), remove cross pin and clutch plate. Remove bearings, wash, clean and grease.



Ensure correct location of plastic end cap studs in pawl sockets.



Remove allen screws.





Remove gears with bearings, clean and oil pawls, and lightly grease all moving parts.

Reassemble winch in reverse sequence. Check for correct operation. See also p. 22, 6.

## 3 Speed 48, 55, 65 Top Action



Remove circlip, drum and top cap assembly. Remove cross pin and clutch plate.



Remove each gear, wash, clean, and grease all moving parts in winch.
NOTE: When reassembling, gear order – mid-large-small.



Remove bearings, spacer, drum washer. Release outer screws in base and lift out centre stem assembly.



Oil all pawls (including top cap – see also p. 13, 1–3), also pawls at bottom of centre spindle



Remove 3 inner screws in centre stem, release bridge piece (below centre stem). Remove centre spindle, complete with all bearings. Wash, clean and grease.



Make sure gear spindle location pins are in the correct position before fitting bridge piece to centre stem. Place main spindle onto smallest gear.

#### No 1 Halliard



Remove the halliard, releasing the bitter end by unscrewing the 2  $\times$   $\frac{1}{4}$  " UNC grub screws.



Remove circlip with a small screwdriver or knife blade.



Remove drum, clean all parts, grease bearings and drive spindle lightly.



Remove brake band and ratchet ring, clean with light abrasive and wash with kerosene (paraffin). Dry with a non-fluffy cloth.

Primary and Secondary Drums – The main body of the halliard is stored on the primary drum and the turns should be stacked evenly. When the sail is nearly fully hoisted, i.e. within 2 or 3 feet of the black band the final turns should be wound on the secondary drum to avoid crushing the wire.

Warning

The brake should be tightened firmly before hoisting the sail. When lowering the sail the brake is released as described and the rate of descent controlled with the brake lever. THE HANDLE MUST NOT BE LEFT IN THE WINCH WHEN THE BRAKE IS RELEASED AS IT WILL REVOLVE. THIS IS DANGEROUS AND CAN CAUSE INJURY.

OIL OR GREASE MUST NOT BE APPLIED TO THE BRAKE
MECHANISM ON ANY HALLIARD WINCH.

#### NOTE:

When reassembling, ensure pawls engage correctly into ratchet ring.

Reassemble winch in reverse sequence. Check for correct operation.

#### Single Speed 16ST



Remove top cap, collets, stripper arm and drum.



Remove gear spindle, output gear and drive gear. Wash and clean.



Remove self tailing jaw assembly, clean all parts, oil pawls in drum and refit.



Start to reassemble. Grease all moving parts lightly and oil pawls in main spindle. Replace bearings and drum.



Remove bearings, drum washer and spindle, wash and clean all parts.

Reassemble winch in reverse sequence. Check for correct operation.



Make sure stripper arm is over stripper ring in jaw assembly (see p. 19, 6). Replace collets by lifting centre spindle. Replace top cap and screws.

## 2 Speed 30ST, 40ST



Remove 4 screws in top cap. Remove top cap.



Lift out gear spindles, remove gears. Wash, clean and grease the gears.



Remove collets, lift out centre spindle.



Oil all pawls.



Remove stripper arm, drum. Release self tailing jaw assembly. Clean and refit. Remove bearings and drum washer. Wash, clean and grease bearings. Reassemble winch in reverse sequence.



When reassembling take care that 'small' gear is on top (see pic) and stripper arm is over stripper ring in jaw assembly (see p. 19, 6).

Check for correct operation.

#### 2 Speed 43ST, 46ST



Remove 4 screws in top cap. Remove top cap.



Lift out gear spindles, remove gears. Wash, clean and grease the gears.



Remove collets, lift out centre spindle.



Oil all pawls.



Remove stripper arm, drum. Release self tailing jaw assembly, clean and refit. Remove bearings and drum washer. Wash, clean and grease bearings.



When reassembling take care that stripper arm is over stripper ring in jaw assembly.

Reassemble winch in reverse sequence.

Check for correct operation.

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# 2 Speed 48ST



Remove 4 screws in top cap  $(\frac{3}{16}"$  A/F Allen Key). Remove top cap.



Lift off centre stem upper. Remove centre spindle, unscrew plastic end cap and oil pawls at end of centre spindle.



Remove stripper arm. Lift off drum assembly, release self tailing jaw assembly, clean and refit. Remove bearings and drum washer. Wash, clean and grease bearings.



Remove gears, oil pawls, grease all moving parts. When reassembling carefully locate centre spindle in gears before replacing centre stem upper.



Remove allen screws in centre stem. Ease out plastic key.

#### **Assembly Warning**

When reassembling pawl/ratchet gears ensure correct assembly. Look and check that pawls seat in the matching ratchet faces (see also p. 13, 4–5).

Reassemble winch in reverse sequence. Make sure stripper arm is over stripper ring in jaw assembly (see p. 19, 6). Check for correct operation.

#### 2 Speed 52ST



Remove 4 screws in top cap  $(\frac{3}{16}$  " A/F Allen Key). Remove top cap.



Lift out gear spindles and gears taking care that the gear bearings don't fall out.



Remove stripper arm. Lift off drum assembly, release self tailing jaw assembly, clean and refit. Remove collets and lift out centre spindle.



Oil pawls in both gear sets.



Remove bearings and drum washer. Wash, clean and grease bearings.

Reassemble winch in reverse sequence. Check for correct operation.



When reassembling take care to place the washers on the bottom of both gear sets and that stripper arm is over stripper ring in jaw assembly (see p. 12–6 and p. 19–6).

#### 2 Speed 55ST, 65ST



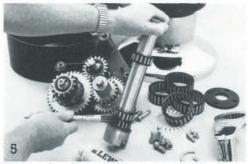
Remove 4 screws in top cap  $(\frac{3}{16}"$  A/F Allen Key). Remove top cap.



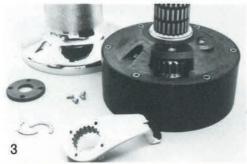
Remove 3 inner screws in centre stem, release bridge piece (below centre stem). Remove centre spindle, complete with bearings. Wash, clean and grease.



Remove collets, stripper arm. Lift off drum assembly, releasing self tailing jaw assembly, clean and refit.



Proceed and read p. 15, 4-6, p. 19, 6.



Remove bearings, spacer, drum washer. Release outer screws in base and lift out centre stem assembly.

#### Warning

The winch is self draining, but care should be taken to ensure that the drain holes (on the underside of the base) are not blocked.

Do not drop drum onto centre stem.

Reassemble winch in reverse sequence. Check for correct operation.

## 3 Speed 55/3, 65/3, 55/3ST, 65/3ST



General service as described on p. 15, 1–6 and p. 22, 1–6. (For adjustment ease plastic cover off bottom push button (in base) with a small screwdriver). \*see 6.



Plunger shown in engaged position. Oil and work plunger so that oil migrates and smooth action results.



Close up showing nut and screw. Plunger is adjusted to effect smooth gear selection. (If in doubt contact nearest Lewmar office).



When reassembling complete centre stem to base. The gear change fork (indicated) must line up with the plunger when the plunger is disengaged.



Adjustment and locking of plunger assembly using box spanner and screwdriver. Tighten nut without moving screw position.

Warning

The winch is self draining, but care should be taken to ensure that the drain holes (on the underside of the base) are not blocked.

Do not drop drum onto centre stem.

\*If gear change works smoothly leave alone and proceed to 4.

6

Reassemble winch in reverse sequence. Check for correct operation.

#### **Electric Winches**

For general servicing instructions, follow pages 20, 22 and 23. For specific problems, follow the chart below, or contact your nearest Lewmar office.

#### Fault Finding Guide

Symptom	Probable Cause	Remedy
		F-55-5000 5-50-5
Winch works only n one speed	Motor polarity	Check wiring polarity to moto and reverse if necessary
Winch does not work at all	a. Bad connection	Check all wiring connections especially to battery
2	b. Blown fuse or circuit breaker	Check circuit breaker
N.		Check fuse on encapsulated PC board and replace if blown
	ĺ	NOTE: Do not alter or interfere with sealed trimmer
		If fuse blows again immediately – contact your Lewmar Agent
The state of the s	c. Micro-switch in control unit not operating	Check that air switch bellow is operating the micro-switch in control unit
		Adjust for sensitivity if necessary
	d. Insufficient power	Check battery for charge
	e. Worn brushes or brush hung up	Check brushes and commutator on motor and release or replace if necessary

NOTE:

If the winch requires further servicing, please contact your nearest Lewmar office.

#### YOUR LEWMAR GUARANTEE.

#### Guarantee Counterfoil

The following particulars will be registered under the terms of our guarantee.

Name	
Address	
Boat Type	
LOA	
Built by	
Winches Model	
Model	
Winches Supplied (Please  ☐ came with boat	e tick)
☐ fitted by boatyard/deal	ler
purchased form dealer	/chandler
Date	

# YOUR LEWMAR GUARANTEE.

The following particulars will be registered under the terms of our guarantee.

Name
Address
Boat Type
LOA
Built by
Winches Model
Model
Winches Supplied (Please tick)  ☐ came with boat
☐ fitted by boatyard/dealer
☐ purchased form dealer/chandler
Please complete reverse also Date

NOTE

Please return to your nearest Lewmar office – shown overleaf

#### **FURTHER INFORMATION**

I am interested to receive more details of System Lewmar to compliment my Winches. Please send me details and brochures, as shown on the back page.

Deck Hardware	
Super Hatch	
Winches	
Performance Winches	
Service Manual IV	
Service Manual V	
Service Manual V Specials	
Navtec Rigging	
Navtec Hydraulics	
Commander Hydraulic Power Packs	
Portlight	
New Products	
Newsletter	
Ball Bearing Handles	
Performance Deck Hardware	
Self Tailing Winches	

#### Lewmar Subsidiary Companies, Regional Distributors and Distributors/ Service Centres in the USA

#### LEWMAR Head Office:-

Lewmar Marine Limited Southmoor Lane, Havant Hampshire PO9 IJI, England tel: Havant (0705) 471841-3 tlx: 86342 LEWMAR G

#### Subsidiaries:-

Lewmar Sud Europe SARL Avenue Louis Lumiere ZI de Perigny 17000 La Rochelle, France tel (46) 44 4944 tlx 792202 YACHTEQ F

Lewmar Marine Inc. (East Coast) 23 Broad Common Road, Bristol Rhode Island 02809, USA tei (401) 253 6200 tlx 7103871155 LEWMAR BROL

Lewmar Marine Inc. (West Coast) 876 West 16th Street Newport Beach, California 92663 USA tel (714) 6317260 tlx 6836047 LMRWC

Lewmar Marin AB Box 6073. S-172 06 Sundbyberg

Sweden tel (08) 98 04 75 1k 15184 LEWMARS Lewmar Marine Limited 1410 Speers Road, No. 2 Oakville Ontario, Canada L&L 5M1 tel. (416) 827 8910

tix 06982297 LEWMAR CDA OKVL

#### Lewmar World Service

Full service care, spare parts and assistance are available worldwide. In case of any difficulty please contact your nearest Lewmar office or distributor.

#### Regional Distributors:

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Marinac Yacht Fittings Limited tel: 041-810 4848

X-M Yachting Polegate, East Sussex tel 0323 870092 tlx 878144 XMYOTS G Yacht Tests Limited

Burnham on Crouch, Essex tel: 0621-782236 tlx: 995494 YOTEST G

ARGENTINA Delta Finn Marine SRL

Prov. de Buenos Aires tel. 745-3567 tlx 26282 CAMOU-AR Navitronic Buenos Aires

11x 26085 NAVI AR

AUSTRALIA Warwick Hoban & Associates Brighton Beach Victoria 3186 tel. (03) 592 7077

tlx 38077 YACHT AA AUSTRIA/EASTERN EUROPE Horst Welebny

A 4020 Linz tel (732) 42666/7 tlx 22276 WELEBN A

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