



How To Service Your Ocean Winch

LEWMAR

Dear Owner

Lewmar winches are known worldwide 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. In addition, 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 secondary to the pure joy of sailing a fine craft equipped with the best yacht hardware in the world.

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 pleasure, your winches will contribute that extra level of performance that is the hallmark of their design. Your Lewmar winches have been built to perform in the best possible manner in all sailing conditions. With care and attention they will give many years of service.

Service details contained in this booklet apply to the current range of Lewmar winches. The same overall servicing principles may be used for earlier versions, although the detailed construction of the winches may be different.

Lewmar's Ocean winches belong to the Ocean range of products which include winches, windlasses, hardware, hatches and portlights; all designed to complement each other in function and appearance.

Lewmar wish you good sailing for many years to come.




Simon Hartley
Managing Director
Lewmar Marine Limited

Our guarantee of quality

Lewmar winches have been developed over many years by extensive testing aboard the world's finest ocean racers, long distance cruising yachts and match racing yachts. They are manufactured to the highest quality standards and only the finest materials are used. If installed, used and maintained as described in this booklet, they will give outstanding performance. Full details of our 3 year warranty and conditions of sale are described on page 19.



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WHEN TO 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 can easily reach 1000 lbs. Regular servicing with attention to correct assembly and condition of parts is vital to the safety and performance of your boat.

When?

1. **TWO OR THREE TIMES DURING ACTIVE SAILING SEASON:** Lewmar winches should be stripped, cleaned and re-lubricated.
2. **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 with reference to the information provided in the Lewmar Volume 7 Service Manual.

External cleaning of drum

Chromed winches - Wash drum regularly with fresh water and dry with a cloth.

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

Anodised aluminium winches - Wash drum regularly with fresh water and dry with a cloth. **DO NOT USE POLISHES OR ABRASIVES.**

Stainless Steel Winches - Wash drum regularly with fresh water and dry with a cloth.

Occasionally use non abrasive liquid cleaner to remove dirt deposits.

WHAT YOU NEED

Winch spares kit

Lewmar provide a maintenance kit for every winch in their range. Each kit is complete and parts are not sold separately.

Spares kits

19700100 Basic Winch Servicing Kit.
4 Circlips, 4 Pawls, 4 Pawl Springs.

19700200 Winch Servicing Kit.
4 Circlips, 8 Pawls, 12 pawl springs, 3 keys, 2 pan head screws (self tailers).

19700300 Three Speed Winch Servicing Kit.

19700401 Pawl Springs x 50.

19700501 Pawls small x 25.

19700900 Allen Key Set.

19701000 GearGrease™
Packed in handy 100g plastic tube.

19701100 GearGrease™
Packed in handy 300g plastic tub. This waterproof grease contains solid activation which aids the load carrying characteristics of a winch. It is also suitable for trailer wheel bearings, steering gear, hydraulic equipment, outboard engines and many other marine applications.

19701300 Naval Jelly. Packed in handy 200ml jar. Removes tarnishing from stainless steel surfaces and protects the material.

19701600 Racelube™. Packed in a handy 55ml plastic bottle. Special formula for winch pawls, springs and similar applications where the use of grease is not advised.

Winch Maintenance Packs *

100g Tube of geargrease™, 55ml RaceLube™, Brush, 'How To' Booklet, Pawl Springs x 10.

19701410 German*

19701420 French*

19701430 Swedish*

19701440 Spanish*

19701500 English*

Tools

All winches are designed according to Lewmar's "strip from the top" philosophy, so that any winch can be stripped for servicing in seconds, without the need to remove the winch from its fittings, using a very basic set of tools as described in the table below.

Tools required for routine servicing

Model	Tools
All models - basic requirement	Small flat bladed screwdriver. Clean soft cotton cloth. Cleaning fluid - White Spirit, Paraffin (not petrol). Light machine oil. Lewmar winch grease.
6,7,8,16,24,30,40 & 43	Basic requirement only.
16ST,30ST,40ST,44ST, 48ST	Basic requirement plus cross-headed screwdriver.
50ST, 54ST,58ST,62ST,64ST	Basic requirement plus a 5mm A/F Allen key.
66ST	Basic requirement plus a 6mm and 8mm A/F Allen key.

Servicing Pre-Ocean models

Servicing instructions for earlier models of Lewmar winches are contained in Service Manuals No's 5 & 6. Please consult the table on page 18 of this manual for the appropriate publication, or alternatively contact your Lewmar offices for service details.

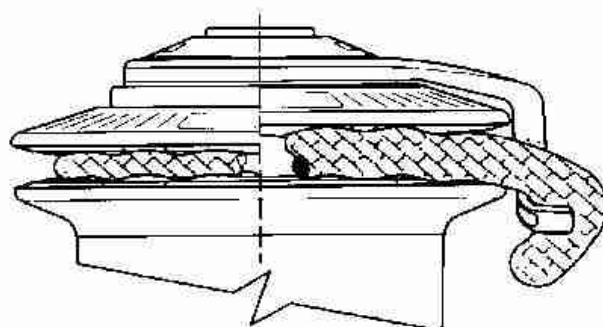
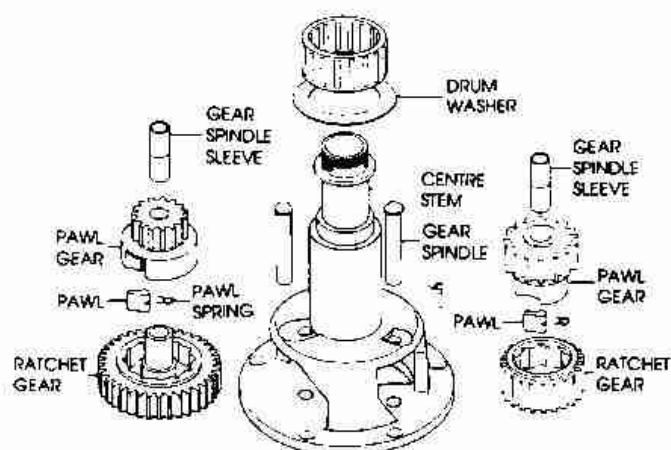
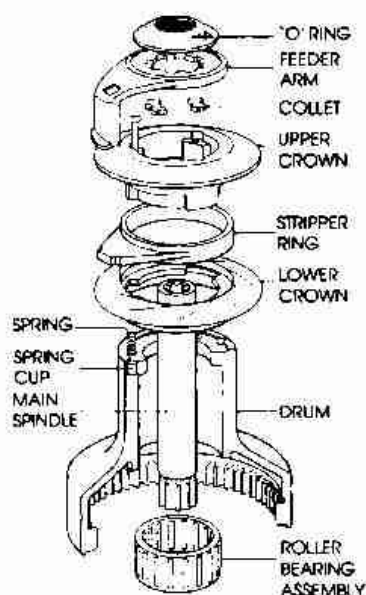


KNOW YOUR WINCH

ABOUT WAVESPRING™

Self tailer convenience

A self tailer enables you to use both hands to wind, by freeing you of the necessity to tail the sheet. Lewmar's patented Wavespring™ concept is a simple, safe and convenient method of self tailing.



A closer look - self tailing with Lewmar

The Wavespring™ design is the second generation of Lewmar self tailing systems. It combines the renowned and gentle Wavegrip feature with the automatic self adjusting action that only springs can provide. This enables the Wavespring™ self tailing system to handle a large variety of rope diameters and textures without the need for adjustment, yet still allows the valued ability to "tail through", giving even faster sail control. The sleek new feeder and stripper design assures absolute snag free operation, and the unique jaw design eliminates the possibility of damage caused by too few rope turns (always use a minimum of three turns) being loaded on the drum.



Self tailers - How they work

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 sheet stripping.

There must be a minimum of three turns on the drum. The turn leading from the drum must then be passed across the stripper mechanism and placed into the spring jaws as shown above.

Release the rope from the jaw set with care as LOAD will be present - ease the line away, then remove the turns from the drum.

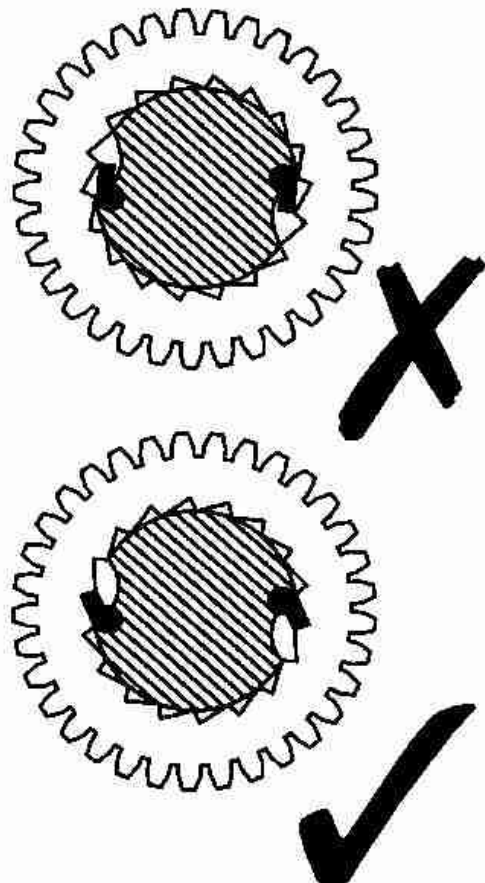
The jaws of each Lewmar winch are designed to accept a range of rope diameters. Winches should only be used with ropes of recommended size, as set out in the table following.

Rope Range

16ST/30ST/40ST/	8-12mm $\frac{5}{16}$ " - $\frac{1}{2}$ "
44ST/48ST	8-14mm $\frac{5}{16}$ " - $\frac{9}{16}$ "
50ST/54ST	8-16mm $\frac{5}{16}$ " - $\frac{5}{8}$ "
58ST/62ST/64ST	8-18mm $\frac{5}{16}$ " - $\frac{11}{16}$ "
66ST	12-22mm $\frac{1}{2}$ " - $\frac{7}{8}$ "

Ratchet Gears - Pawl Engagement

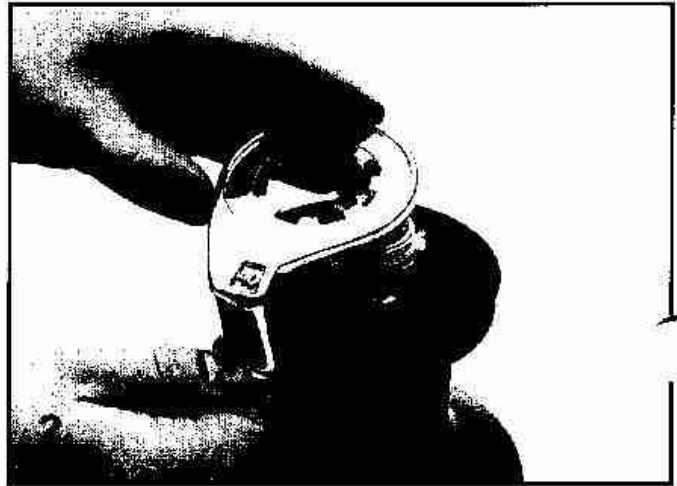
When assembling ratchet gears, check pawl engagement as shown below. Incorrect assembly will lead to back winding of the winch. This is very dangerous for obvious reasons, so extreme care should be taken.



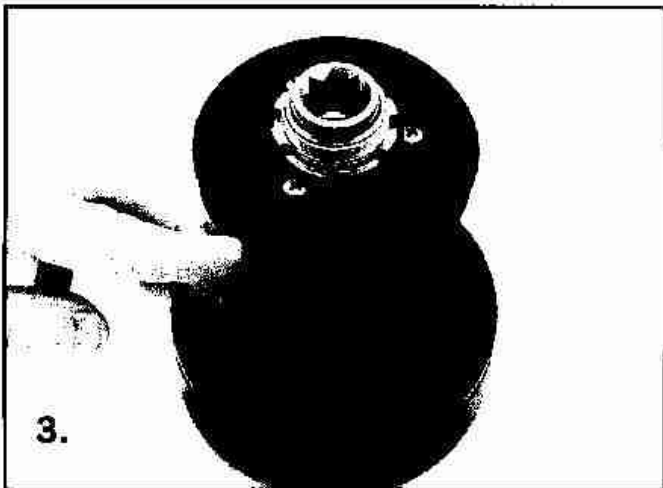
POSITIONING THE WAVESPRING™ FEEDER ARM 16, 30, 40, 44, 48, 50, 54, 58, 62, 64, 66



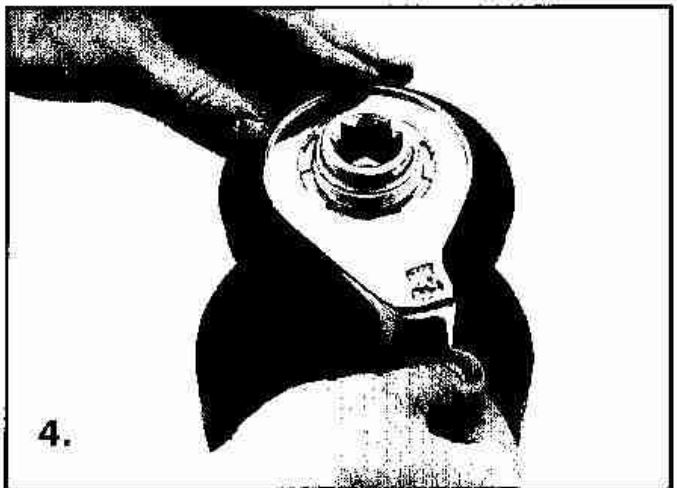
Unscrew the top cap.



Lift off the feeder arm.



Rotate the stripper ring to the required position.



Replace the feeder arm in the correct position to suit the stowage of the loose sheet (see note).



Check the condition of the 'O' ring in the top cap. Replace if necessary. Lubricate with a light smear of Lewmar winch grease and replace the top cap.

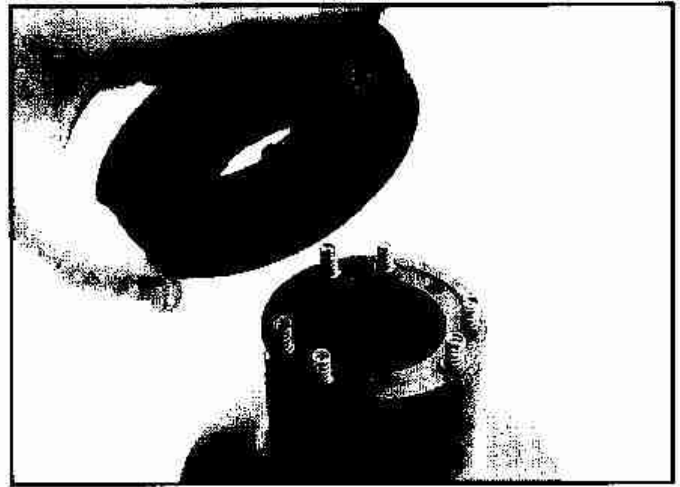
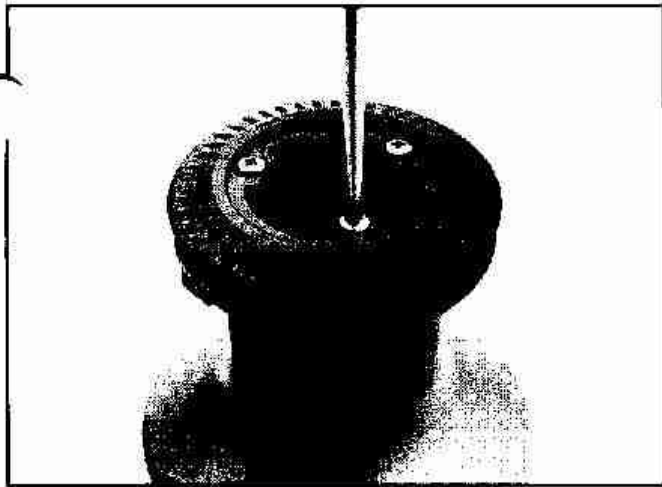
Note: When replacing the feeder arm, ensure the stripper ring is correctly located within the groove on the back of the feeder arm.

SERVICING THE WAVESPRING™ SELF TAILER

Winches from 16ST to 48ST have lower sprung jaws

Using a cross headed screw driver, remove the 3 cross headed screws which secure the crown assembly to the drum.

Lift the crowns clear of the drum. Care should be taken not to lose any springs that may adhere to the lower crown. Separate the crowns and clean with fresh water. Check crowns and stripper ring for wear. Replace if necessary. Reassemble in reverse order.

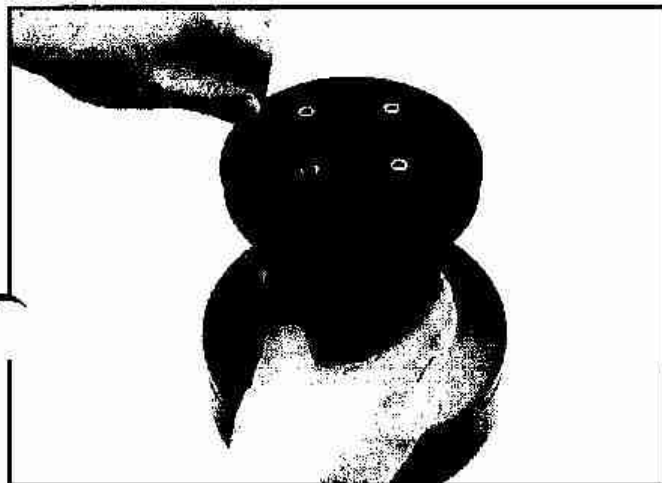


Winches from 50ST to 66ST have upper sprung jaws

Using an Allen key, undo the 4 cap headed retaining screws evenly (5 screws on 66ST).

Lift off the top plate together with the retaining screws. Also remove the springs and spring pillars. Next, remove and separate the crown assembly, and clean with fresh water. Check crowns and stripper ring for wear. Replace where necessary. Reassemble in reverse order.

Note: When rebuilding the crown assembly, care should be taken to engage the locating lug on the underside of the lower crown within its locating hole in the drum top.



SERVICING: NOTES AND CAUTIONS

The performance and safety of your yacht relies upon the efficient function of its winches. A jammed or disabled winch can constitute a severe hazard, therefore any part which appears damaged or displays signs of excessive wear should be replaced immediately.

Only use genuine Lewmar parts which are available from your Lewmar Distributor Office.

Pawls and pawl springs

The pawls and their springs need inspecting at regular intervals.

Remember they are among the most important internal parts of your winch and the least costly to replace. Don't wait for them to break before changing them.

Always check for broken or worn pawl springs, jammed or sticking pawls.

Lubricate the pawls with a good, light grade machine oil.

Cleaning

All components should be removed and cleaned in a paraffin bath in the course of servicing. If you do not have access to a paraffin bath, use half of an old plastic container with an old toothbrush. Even a cotton cloth soaked in paraffin or white spirit will suffice.

Caution

Some Lewmar winches contain plastic components which may be damaged by inappropriate cleaning agents. Always check the manufacturer's directions before using any cleaning agents.

Greasing

Never use grease to lubricate your pawls, as this can lead to pawls sticking in their pockets and disabling the winch. Instead, lubricate with a light engine oil.

Use only a light smear of winch grease when lubricating ratchet tracks, gear teeth and bearings. Otherwise, excess grease will be forced out and will collect in potentially dangerous areas, such as pawl pockets.

Assembly

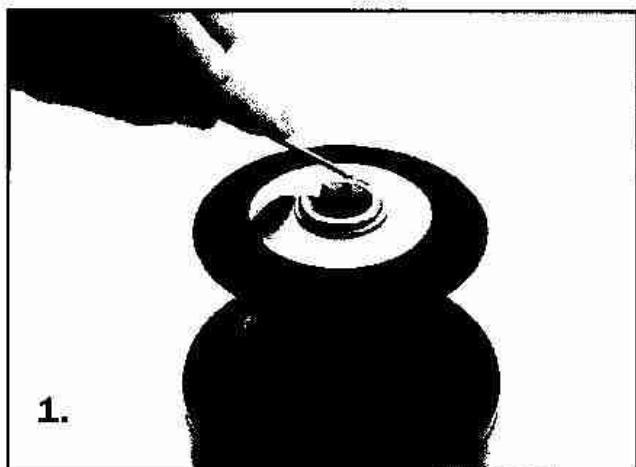
Winches must be reassembled in the reverse sequence to the order of dismantling. After re-assembly, immediately check the winch functions correctly.

Mounting

Winches must be fitted in the manner laid out in leaflet B2189 (supplied with every winch) shown below. Winches are self draining and care should be taken to ensure the drain holes are not obstructed.

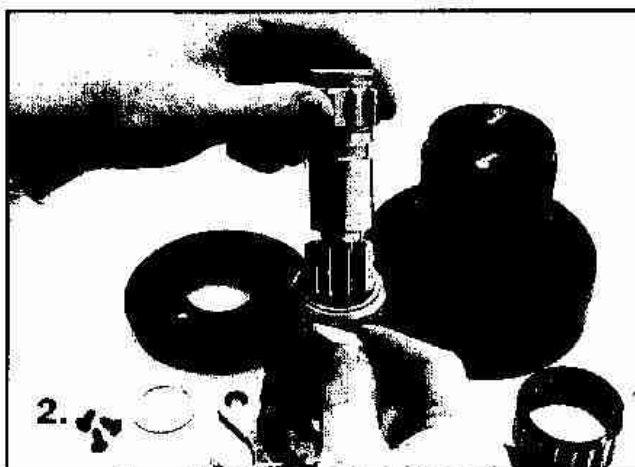


SERVICING TWO SPEED 16, 24, 30 & 40



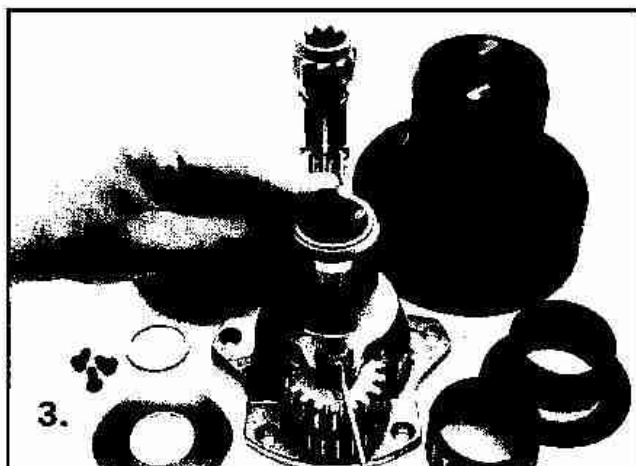
1.

Remove the circlip and top plate then lift off the drum. Remove the 3 x 5mm screws holding the crown, remove, clean and oil the two pawls.



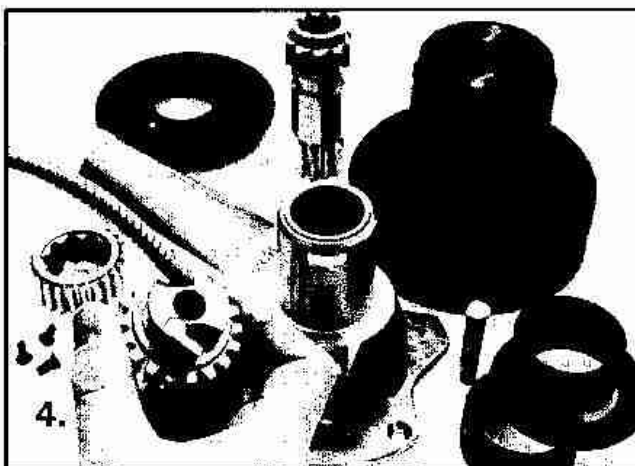
2.

Remove and clean the retaining key and main spindle.



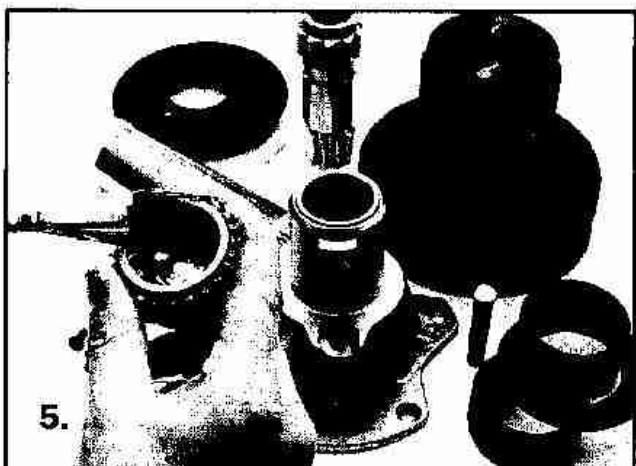
3.

Using a small, thin bladed screwdriver lift out the gear spindle. Remove the gears.



4.

Separate the gears. Remove, clean and inspect the pawls and springs, replace if necessary. Lubricate the pawls with a light machine oil.



5.

Lightly regrease the inside of the ratchet gear with Lewmar winch grease.



6.

Reassemble the gears, rotating as you do so to aid assembly. Reassemble winch in reverse sequence.

SERVICING TWO SPEED 30ST, 40ST, 44ST,



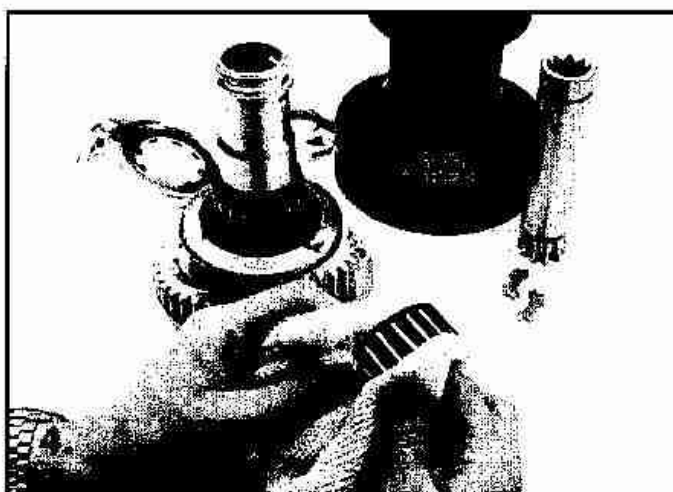
1. Unscrew top cap.



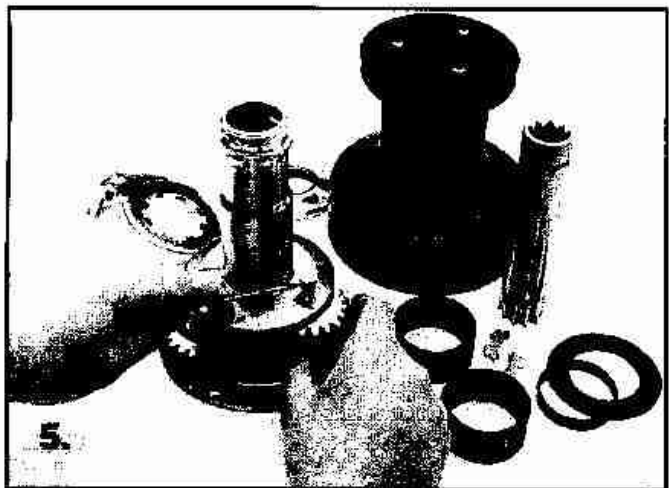
2. Lift and remove the feeder arm.



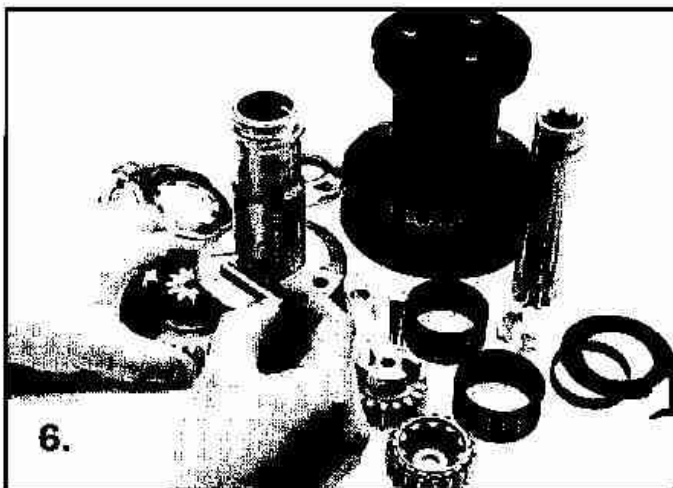
Remove the two retaining collets, lift out the main spindle.



Remove and clean the drum bearings and washer.

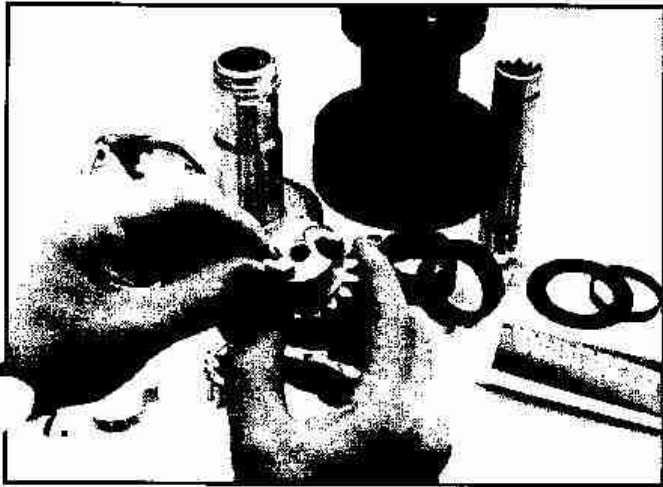


5. Using Lewmar winch grease, lightly grease the gear ratchets and internal bearing surfaces. Reassemble the gears.

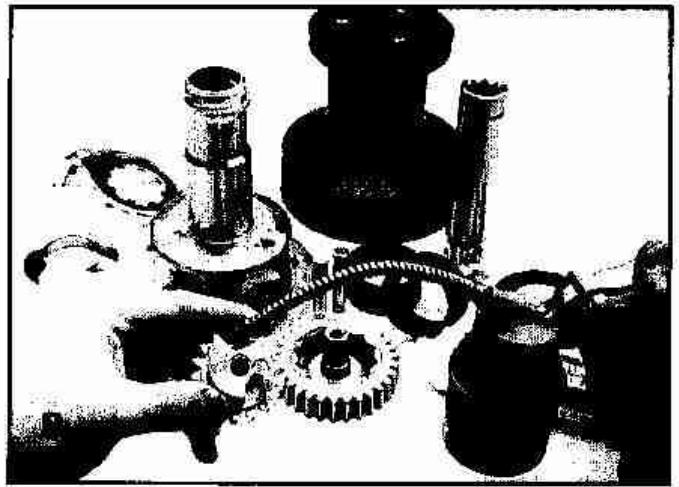


6. Lift out the gear spindles and remove the gear assemblies.

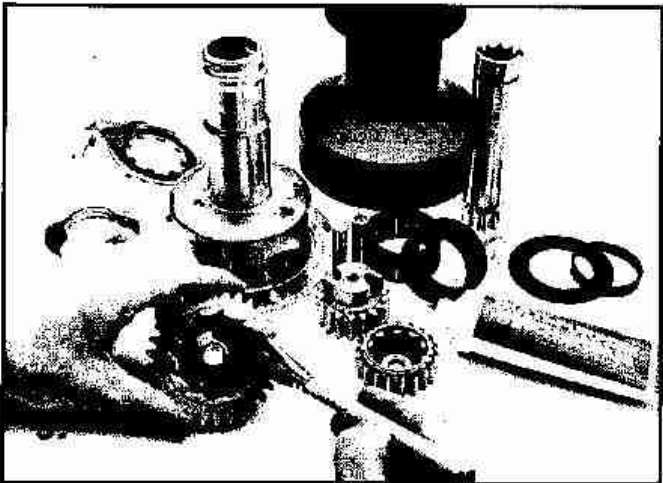
48ST, 50ST, 54ST, 58ST, 62ST, 64ST



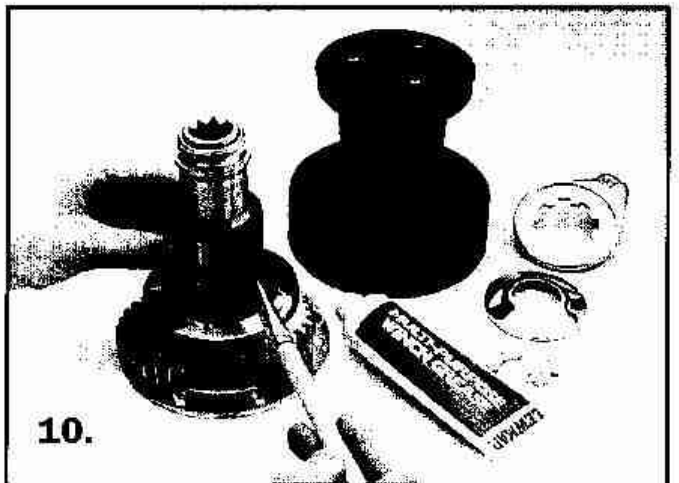
Remove and inspect the pawls and pawl springs, replace if necessary.



Assemble the pawls and springs, lightly oil the pawls, check for correct operation (no sticking).

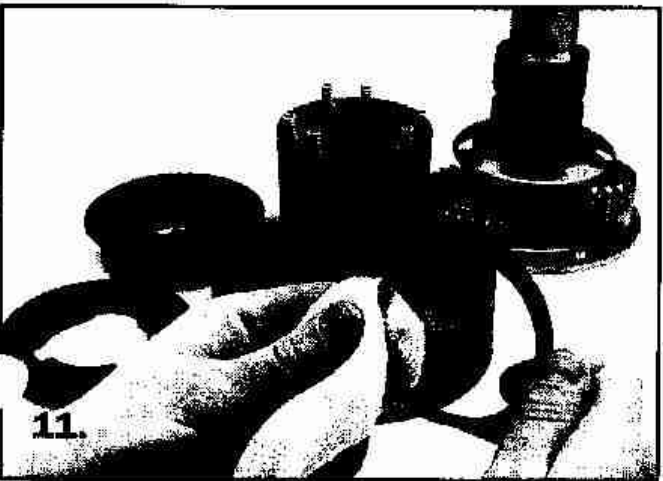


Lightly grease the ratchet and bearing surfaces, reassemble the gears.



10.

Lightly grease and fit the gears, gear spindles and the main spindle.



11.

Strip and clean crown assembly. See the Servicing Wavespring section in this manual.



Reassemble the drum, main spindle retaining collets and feeder arm. Lightly grease the 'O' ring and top cap thread before fitting.

LEWMAR LIMITED WARRANTY

1. 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 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 due to use of products in applications for which they are not intended.
- b Failures due to corrosion, ultra violet degradation, wear and tear or improper installation.
- c Failures due to incorrect maintenance.
- d Failures due to conditions that exceed the product's performance specifications.

- iv Product subject to warranty claim must be returned to Lewmar for examination unless otherwise agreed by Lewmar in writing.

- v Lewmar shall not be responsible for shipping charges nor installation labour associated with any warranty claim.

- vi Service by anyone other than authorised Lewmar representatives shall void this warranty unless it accords with Lewmar guideline's and standards of workmanship.

B. Exceptions

Warranty is limited to one year 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

2. There are no warranties of merchantability fitness for purpose, or any other kind, express or implied, and none shall be implied by law. The duration of any such warranties that are nonetheless implied by law for the benefit of a consumer shall be limited to a period of one year from original purchase by the user. Some countries do not allow limitations on how long an implied warranty lasts, so the above may not apply to you.

3. Lewmar shall not be liable for consequential damages to yachts, equipment or other property or persons due to any failure of Lewmar equipment. Some countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation exclusion may not apply to you.

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

Lewmar Marine Ltd. reserve the right to alter design and specification without prior notice.

- * This warranty covers all products depicted in Lewmar's catalogue from 1992/3 and purchased after July 1st 1992.

General Conditions of Sale

Our comprehensive Conditions of Sale are available from our registered office in Havant.

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 subject to acceptance within 30 days from the date of quotation. Quotations can only be regarded as firm when they are put in writing (Verbal estimates are made purely for indicative purposes).

Return of goods

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

An authorisation will be issued on approval of return.

All carriage charges on returned goods must be prepaid.

All returned goods accepted and subsequently returned to our stock will be subject to a 15% restocking charge. Items returned in a damaged condition will not be credited at full value.

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

Catalogues

Product leaflets are available from Lewmar on request.

Availability

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

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Full service care, spare parts and assistance
are available worldwide. In case of any
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