

Service Manual

VOLUME

Introduction

Lewmar is the world's leading manufacturer of yacht winches. Our manufacturing facilities set the highest standards in quality materials and performance. Each Lewmar winch is tested to ensure that at all stages in the manufacturing process it conforms to the Lewmar requirements of dimensional accuracy, rated strength and operating efficiency. Our winches are approved to Lloyds standards and in fact the normal manufacturing processes and quality control procedures used by Lewmar were found to be in excess of the requirements of Lloyds.

Lewmar winches are in use around the world:— being tested in the latest racing competition, aboard the world's leading ocean racers.

Cruising the deep oceans or giving quiet security to the weekend cruiser. They are rated for their long life and performance.

However as with any precision engineered assembly, Lewmar winches need regular maintenance to operate at peak efficiency and without this attention permanent damage and premature wear can result.

This manual gives the most complete details of the sequence and techniques required to completely dismantle, service and assemble each winch in the Lewmar range.

Lewmar has a worldwide network of offices and distributors who carry stocks of spare parts and spares kits. Expert advice and assistance is available for any servicing or repair problem.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
tel Havant (070 12) 71841-5

The Lewmar range of single speed winches are designed and engineered for every application on racing and cruising yachts from 18' to 28' L.O.A.

The winches incorporate completely new concepts in materials and design which offer outstanding performance features.

- * Improved efficiency under heavy sheet loads.
- * Easy dismantling of the winch for maintenance and lubrication.
- * Lewmar hallmarks of quality and performance available for the smallest yachts.
- * New materials for corrosion free life.

Single Speed Winch Range Models 6 7 8 10

Materials Specification

Drums (all models)
High tensile chrome plated marine bronze.
High tensile aluminium alloy
Hard anodised.

Centre stems
Models 6 and 7 — high tensile moulded polybutylene terephthalate.
Models 8 and 10 — Marine Bronze.

Centre Spindle
Models 6 and 7 — extruded high tensile aluminium alloy — Hard anodised.
Models 8 and 10 — 316 type stainless steel.

Bearings
Models 6 and 7 — plain bearings
Models 8 and 10 — precision ground 316 type stainless steel roller bearings in moulded non-corroding bearing cage.

Pawls
(All models) — Sintered stainless steel.

Pawl Springs
(All models) — 316 type stainless steel.

Drum Retaining Circlip
(All models) — stainless steel.

Drum Top Cap
(All models) — stainless steel.

Mounting

All winches **must** be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a **FLAT CLEAN** surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a **LIGHT** coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened). The winch is self draining and care must be taken to ensure the drain holes are not blocked.

Operation

The winches are of the direct action type (i.e. non geared).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

The winch handle drives in a **CLOCKWISE** direction and ratchets freely in the **ANTI-CLOCKWISE** direction. This

allows the sheet or halyard to be pumped up to load.

Handles

All winches accept any standard International handle (Lewmar red grip handle).

Models 6 and 7

It is recommended these be used with the 8" Lewmar handles. Catalogue numbers 1365 Lock-in or 1366 Plain 1002 Plain or 1003 Lock-in.

Models 8 and 10

Any Lewmar handle.

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Models 6:7

Mounting Details

No 6 winch
4 x 1/4" c'sk head bolts on a 2.6" P.C.D.
4 x 6 mm c'sk head bolts on a 66 mm P.C.D.
No 7 winch
5 x 1/4" c'sk head bolts on a 3.15" P.C.D.
5 x 6 mm c'sk head bolts on a 80 mm P.C.D.

Spare Parts Kits

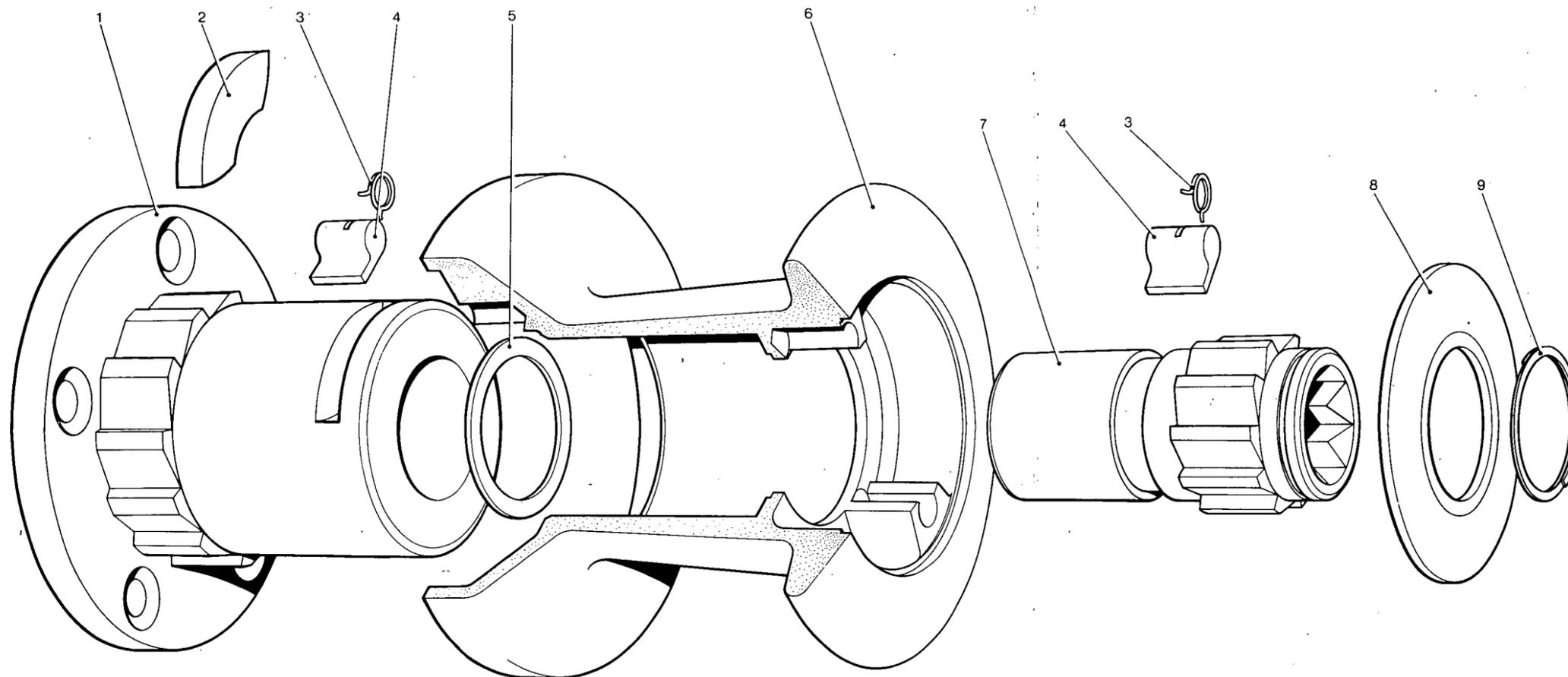
Model 6
Part No 19706400
Contents
1 x Key Pt No 15006005
4 x Spring Pt No 1260/7
4 x Pawl Pt No 1260/8
1 x Circlip Pt No B2075
Model 7
Part No 19707400
Contents
1 x Key Pt No 15010005
4 x Spring Pt No 1260/7
4 x Pawl Pt No 1260/8
1 x Circlip Pt No B2075

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



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**Maintenance**

A Remove circlip (9) using a small screwdriver or knife blade. Use a spiral motion to remove from groove.

B Lift drum (6) and cover plate (8) from centre stem (1).

C Remove cover plate (8) from drum (6).

The winch is now ready for routine monthly maintenance.

D Clean off excess grease and salt deposits from bearing surface of drum (6) and centre stem (1).

E Check free operation of pawls (4) in upper and lower parts of drum (6).

F Check free rotation of spindle (7) in centre stem (1).

G If satisfactory proceed with routine maintenance. If not continue with **FULL SERVICE PROCEDURE**.

H Lightly grease the bore of the drum (6) and the bearing surface of centre stem (1).

I Lightly oil the pawls.

J Lightly oil the centre spindle (7).

K Re-assemble drum (6) to centre stem (1) by introducing drum over centre spindle and turning clock-wise to engage lower pawls. Hold upper pawls

out with fingers to finally lower drum into position.

L Rotate drum (6) to check freedom of pawl movement and correct engagement.

Rotate spindle (1) to check complete engagement of top pawls.

M Replace top cap.

N Replace circlip (9) by entering one end into groove and winding circlip into position.

O Using handle check free operation of winch and correct engagement of pawls.

Full Annual Service

P Dismantle as per steps

A - C.

Q Remove four pawls (4) and pawl springs (3) from the winch drum (6).

R Remove spindle retaining key (2) from centre stem (1) with small screwdriver or knife blade.

S Remove spindle (7) and washer (5) from centre stem (1).

T Carefully wash drum, centre stem, spindle washer, pawls springs and spindle key.

U Lightly grease drum bore, centre stem bearing area, spindle.

V Assemble spindle (7) to centre stem (1) with washer (5) in position. Replace spindle retaining key (2).

W Replace four pawls (4) and four springs (3) in drum, and lightly oil.

X Complete reassembly and testing as points K - O.

Y If winch fails to perform correctly re-check servicing technique or contact your nearest Lewmar service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Parts list**No. 6**

Item Number	Part Number	Description	No. Off
1	15006001	Centre Stem	1
2	15006005	Key	1
3	1260/7	Pawl Spring	4
4	1260/8	Pawl	4
5	15006004	Washer	1
6	15006102	Drum, Bronze	1
	15006202	Drum, Alloy	
7	15006003	Spindle	1
8	15006006	Top Cap	1
9	B 2075	Circlip	1

No. 7

Item Number	Part Number	Description	No. Off
1	15007001	Centre Stem	1
2	15010005	Key	1
3	1260/7	Pawl Spring	4
4	1260/8	Pawl	4
5	15006004	Washer	1
6	15008102	Drum, Bronze	1
	15008202	Drum, Alloy	
7	15006003	Spindle	1
8	15006006	Top Cap	1
9	B2075	Circlip	1

The Lewmar range of single speed winches are designed and engineered for every application on racing and cruising yachts from 18' to 28' L.O.A.

The winches incorporate completely new concepts in materials and design which offer outstanding performance features.

* Improved efficiency under heavy sheet loads.

* Easy dismantling of the winch for maintenance and lubrication.

* Lewmar hallmarks of quality and performance available for the smallest yachts.

* New materials for corrosion free life.

Single Speed Winch Range Models 6 7 8 10

Materials Specification

Drums (all models)
High tensile chrome plated marine bronze.
High tensile aluminium alloy
Hard anodised.

Centre stems
Models 6 and 7 – high tensile moulded polybutylene terephthalate.
Models 8 and 10 – Marine Bronze.

Centre Spindle
Models 6 and 7 – extruded high tensile aluminium alloy – Hard anodised.
Models 8 and 10 – 316 type stainless steel.

Bearings
Models 6 and 7 – plain bearings
Models 8 and 10 – precision ground 316 type stainless steel roller bearings in moulded non-corroding bearing cage.

Pawls
(All models) – Sintered stainless steel.

Pawl Springs
(All models) – 316 type stainless steel.

Drum Retaining Circlip
(All models) – stainless steel.

Drum Top Cap
(All models) – stainless steel.

Mounting

All winches **must** be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened). The winch is self draining and care must be taken to ensure the drain holes are not blocked.

Operation

The winches are of the direct action type (i.e. non geared).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

The winch handle drives in a CLOCKWISE direction and ratchets freely in the ANTI-CLOCKWISE direction. This

allows the sheet or halyard to be pumped up to load.

Handles

All winches accept any standard International handle (Lewmar red grip handle).

Models 6 and 7

It is recommended these be used with the 8" Lewmar handles.
Catalogue numbers
1365 Lock-in or 1366 Plain
1002 Plain or 1003 Lock-in.

Models 8 and 10

Any Lewmar handle.

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Mounting Details

No 8 Winch
5 x 1/4" c'sk head bolts on a 3.15" P.C.D.
5 x 6 mm c'sk head bolts on a 80 mm P.C.D.
No 10 Winch
5 x 1/4" c'sk head bolts on a 3.74" P.C.D.
5 x 6 mm c'sk head bolts on a 95 mm P.C.D.

Spare parts kits

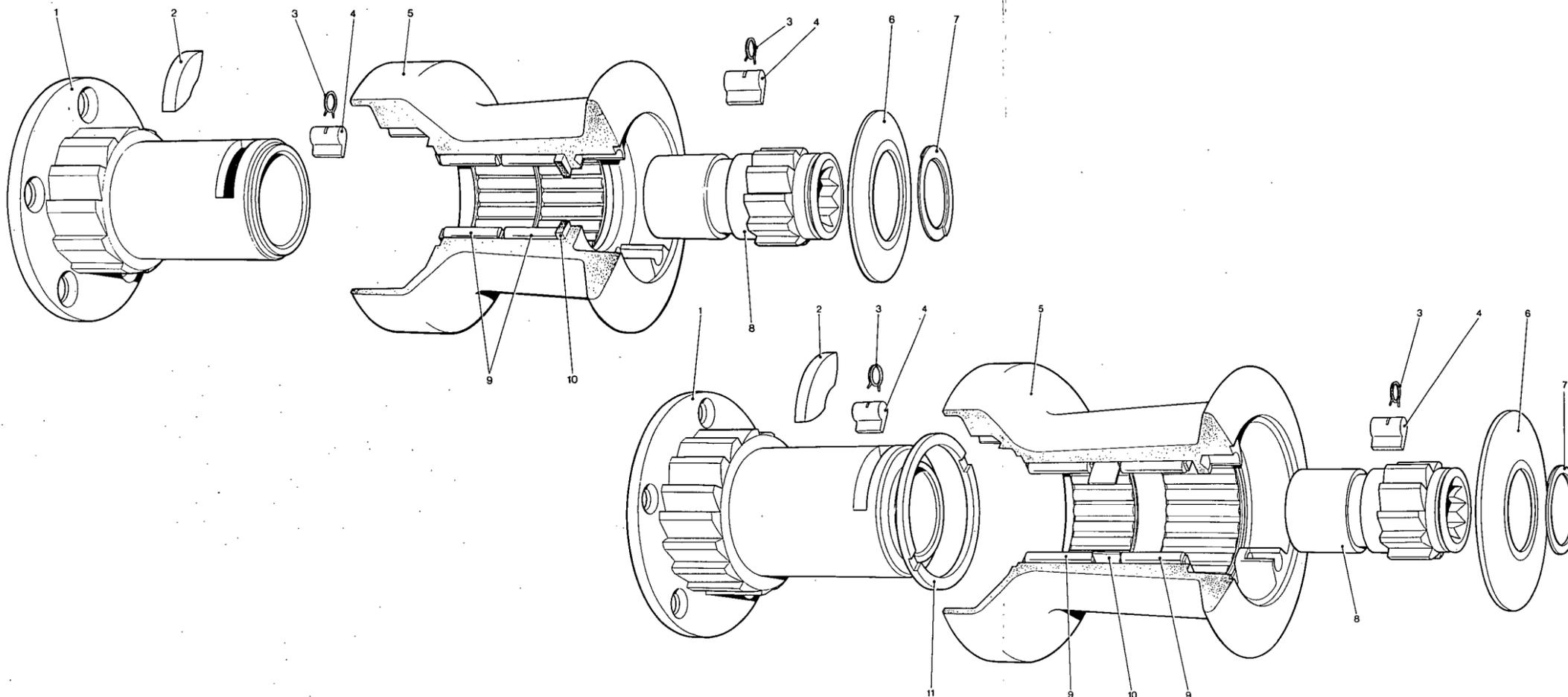
Model 8
Part No 19708400
Contents
1 x key Pt. No. 15008005
4 x spring Pt. No. 1260/7
4 x Pawl Pt. No. 1260/8
1 x Circlip Pt. No. B.2075
Model 10
Part No 19707400
Contents
1 x key Pt. No. 15010005
4 x spring Pt. No. 1260/7
4 x Pawl Pt. No. 1260/8
1 x Circlip Pt. No. B.2075

Pricing

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Parts list

No. 8

Item Number	Part Number	Description	No. Off
1	15008001	Centre Stem	1
2	15008005	Key	1
3	1260/7	Pawl Spring	4
4	1260/8	Pawl	4
5	15008102	Drum, Bronze	1
	15008202	Drum, Alloy	1
6	15006006	Top, Cap	1
7	B2075	Circlip	1
8	15008003	Spindle	1
9	15008007	Roller Bearing Assembly	2
10	15008004	Drum Washer	1

No. 10

Item Number	Part Number	Description	No. Off
1	15010001	Centre Stem	1
2	15010005	Key	1
3	1260/7	Pawl Spring	4
4	1260/8	Pawl	4
5	15010102	Drum, Bronze	1
	15010202	Drum, Alloy	1
6	15010006	Top Cap	1
7	B2075	Circlip	1
8	15008003	Spindle	1
9	15010007	Roller Bearing Assembly	2
10	15010008	Spacer	1
11	15010004	Drum Washer	1

Maintenance.

A Remove circlip (7) using a small screwdriver or knife blade. Use a spiral motion to remove from groove.

B Lift drum (5) and top cap (6) from centre stem (1).

C Slide roller bearings (9) and bearing spacer [(10) MODEL 10 ONLY] out of drum.

The winch is now ready for routine monthly maintenance.

D Clean off excess grease and salt deposits from bearing surface of drum (5), centre stem (1) and roller bearings (9).

E Check free operation of pawls (4) in upper and lower parts of drum (5).

F Check free rotation of spindle (8) in centre stem (1).

G If satisfactory proceed with routine maintenance. If not continue to Full Annual Service.

H Lightly grease the bore of the drum (5) bearing surface of Centre Stem (1) and the roller bearings (9).

I Lightly oil the pawls (4).

J Lightly oil the centre spindle (8).

K Slide bearings (9) onto centre stem (1) ensuring that for:

Model 8

The drum washer (10) is in place on the top of the roller bearings (9).

Model 10

The bearing spacer (10) separates the two roller bearings (9) and the drum washer (11) is in place on the bottom.

L Reassemble drum (5) to centre stem (1) by introducing drum over centre stem and turning CLOCK-WISE to engage lower pawls. (On model 10 ensure that drum washer (11) is in place and that the pawls engage in the slots provided to facilitate engagement with the lower pawl track.)

M Rotate drum (5) to check freedom of pawl movement and correct engagement. Rotate spindle (8) to check complete engagement of top pawls.

N Replace top cap (6).

O Replace circlip (7) by entering one end into groove and winding circlip into place.

P Using handle check free operation of winch and correct engagement of pawls.

Full Annual Service

Q Dismantle as steps A - C.

R Remove four pawls (4) four pawl springs (3) from the winch

drums.

S Remove spindle retaining key (2) from centre stem (1) with small screwdriver or knife blade.

T Remove spindle (8) from centre stem (1).

U Carefully wash drum, centre stem, spindle, washers, pawls springs, spindle key and roller bearings.

V Lightly grease drum bore, centre stem bearing area, spindle and roller bearings.

W Assemble spindle (8) to centre stem (1). Replace spindle retaining key (2).

X Replace four pawls (4) and four springs (3) in drum and lightly oil.

Y Reassemble and check winch as points K - P.

Z If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - use clean non-fluffy cloth.

Model 16

The Lewmar Range of two speed winches offer progressively sized winches with carefully optimised power ratios to fulfil any requirement as a sheet or halyard winch on yachts from 25' to 40' plus.

Their unique drum design, freewheel mechanism and balanced gear ratios ensure very rapid tailing and effortless final sheet trimming.

Two Speed Winch Range

Models 16 25 40 43

Material Specifications

Drum
High tensile chrome plated Marine Bronze.
High Tensile Aluminium alloy – hard anodised.
Stainless steel (Model 40 and 43).

Centre Stems
Marine Bronze

Centre Spindle
316 type stainless steel.

Bearings
Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears
Aluminium bronze or 316 type stainless steel.

Gear Shafts
316 type stainless steel.

Pawls
Sintered stainless steel.

Pawl Springs
316 type stainless steel.

Drum Retaining Circlip
Stainless steel.

Drum Top Cap
Chrome plated bronze or stainless steel.

Mounting
All winches must be mounted

using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

Operation

The winches are of the two speed type and have one HIGH GEAR (Direct Drive) and one LOW GEAR (Geared Drive).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

HIGH GEAR is engaged when the handle is rotated in a CLOCKWISE direction.

LOW GEAR is engaged when the handle is turned in an ANTI CLOCKWISE direction.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Mounting Details

5 x 6 mm c'sk head screws on 83 mm P.C.D.
5 x .25" c'sk head screws on 3.25" P.C.D.

Spare Parts Kit

Model 16
Part No. 19716400

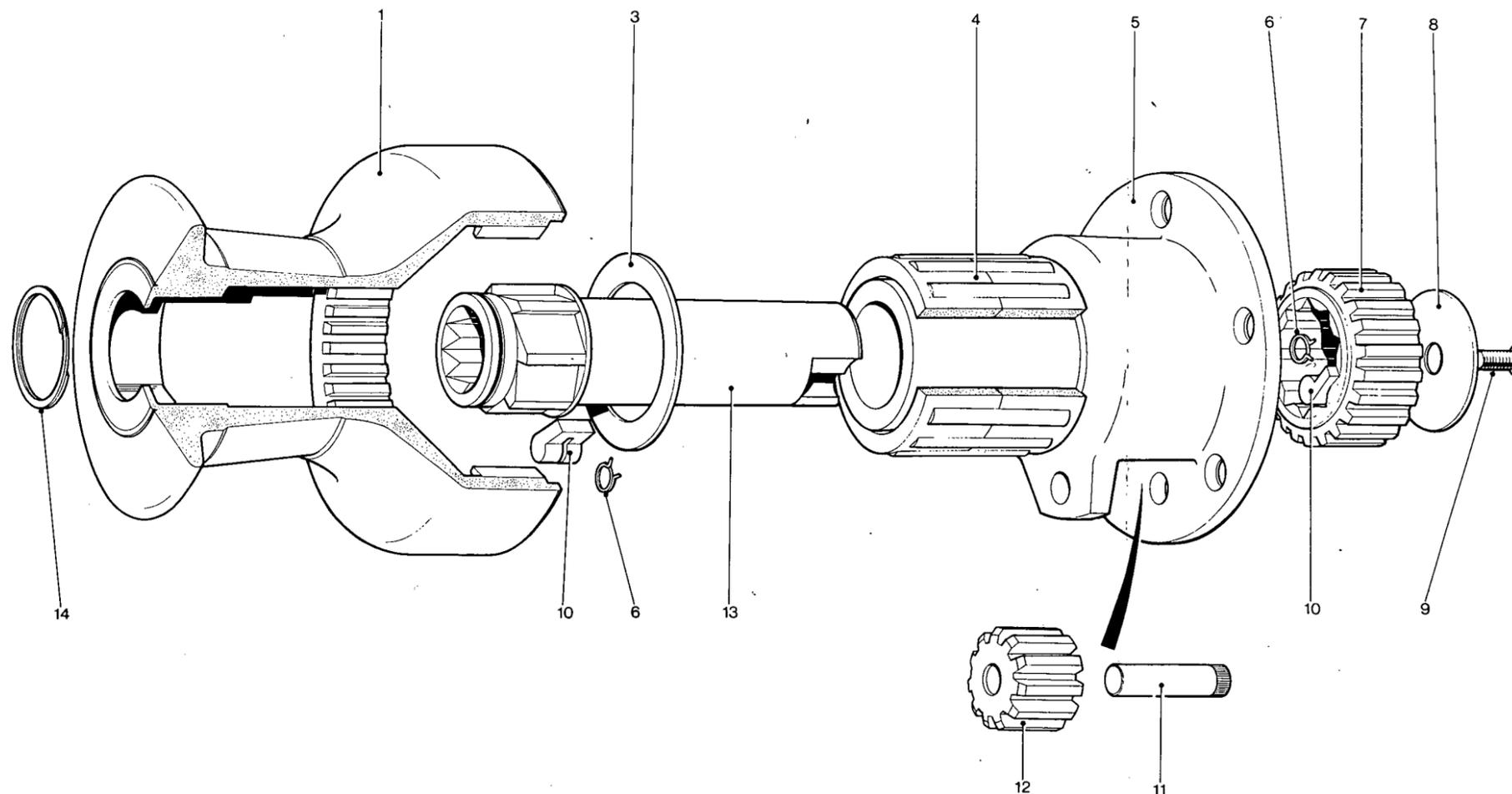
Contents
2 x Spring Pt No 1260/7
2 x Pawl Pt No 1260/8
1 x Washer Pt No 1266/4
1 x Circlip Pt No B2080
1 x Circlip Pt No B2076

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



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Item Number	Part Number	Description	No. Off
1	1284/2	Drum, Bronze	1
1	1291/2	Drum, Alloy	1
3	1284/9	Washer	1
4	1266/SA1	Cage Assembly	1
5	1284/1	Centre Stem	1
6	1260/7	Spring	4
7	1284/5	Ratchet Gear	1
8	1284/7	Plate	1
9	B0506	Screw, Countersunk Head 1/4" BSF x 1/2" Long	1
10	1260/8	Pawl	4
11	1284/6	Idler Gear Spindle	1
12	1284/4	Idler Gear	1
13	1284/3	Main Spindle	1
14	B2080	Circlip, Spirolox	1

Maintenance

A Remove circlip (14) using a small screwdriver or knife blade.
B Lift drum (1) from centre stem (5).
C Lift off washer (3) and slide off roller bearing (4).

The winch is now ready for routine monthly maintenance

D Clean off excess grease and salt deposits from bearing surface of drum (1) centre stem (5) and roller bearing (4).
E Check free operation of pawls (10) in upper part of drum.
F Check free rotation of spindle (13) in centre stem (5).
G Check free operation of ratchet assembly (6-10) by rotating output gear (12) and checking freedom of movement.
H If satisfactory proceed with routine maintenance. If not continue to FULL SERVICE PROCEDURE.
I Lightly grease bore of drum (1) and roller bearing (4).
J Lightly oil output gear pinion (11) and pawls (10) in top of drum (1).
K Reassemble roller bearing (4) and washer (3) to centre stem (5).
L Reassemble drum to centre

stem by holding pawls in the open position and lowering drum into place.
M Rotate drum to check freedom of pawl movement and correct engagement.
N Replace circlip (14) by entering one end into groove and winding circlip into position.
O Using handle check free operation of winch and correct engagement of pawls.

Full annual service

P To completely dismantle the winch the mounting bolts must be removed and the winch lifted from the deck.
Q Dismantle as steps (A-C).
R Remove two top pawls (10) and springs (6).
S Unscrew lower ratchet retaining screw (9).
T Withdraw centre spindle (13) whilst supporting ratchet gear (7).
U Remove ratchet gear (7).
V Remove 2 pawls (10) and 2 springs (6) from centre spindle (13).
W Support centre stem on a firm structure (work bench etc) ensure that the lower exit of gear spindle (11) is not covered. With a flat ended drift tap out gear spindle (11) DOWNWARDS. Remove

gear (12).
X Carefully wash Drum, Centre Stem, Spindle, Roller bearing, gears, washers, pawls and springs.
Y Lightly grease spindle (11) and gear (12). Support centre stem on the gear aperture shoulder and insert gear (12). Insert spindle (11) into engagement and with drift tap gear spindle into place.
Z Lightly grease drum base, roller bearing, centre stem bearing area and spindle.
A1 Reassemble 2 pawls (10) and springs (6) to spindle (13). Lightly oil.

B1 Lightly grease ratchet gear (7).
C1 Slide spindle (13) into centre stem (5) and hold ratchet gear (7) in position. Engage pawls into ratchet track (7) and slide spindle (13) fully home.
D1 Check correct pawl engagement visually and replace cover (8), retighten screw (9).
E1 Reassemble and check winch as points (I) to (O).
F1 If your winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.
B Lubrication
 Grease—Use Lewmar Grease (7385) or equivalent (Lubriplate Marine Lube 'A' etc.)
 Oil—Use light machine oil (3 in 1 or equivalent).
C Washing—Use Kerosene or Petroleum solvent.
D Cleaning—Use clean non-fluffy cloth.

Model 25

The Lewmar Range of two speed winches offer progressively sized winches with carefully optimised power ratios to fulfil any requirement as a sheet or halyard winch on yachts from 25' to 40' plus.

Their unique drum design, freewheel mechanism and balanced gear ratios ensure very rapid tailing and effortless final sheet trimming.

Two Speed Winch Range

Models 16 25 40 43

Material Specifications

Drum
High tensile chrome plated Marine Bronze.
High Tensile Aluminium alloy — hard anodised.
Stainless steel (Model 40 and 43).

Centre Stems
Marine Bronze

Centre Spindle
316 type stainless steel.

Bearings
Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears
Aluminium bronze or 316 type stainless steel.

Gear Shafts
316 type stainless steel.

Pawls
Sintered stainless steel.

Pawl Springs
316 type stainless steel.

Drum Retaining Circlip
Stainless steel.

Drum Top Cap
Chrome plated bronze or stainless steel.

Mounting
All winches must be mounted

using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

Operation

The winches are of the two speed type and have one HIGH GEAR (Direct Drive) and one LOW GEAR (Geared Drive).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

HIGH GEAR is engaged when the handle is rotated in a CLOCKWISE direction.

LOW GEAR is engaged when the handle is turned in an ANTI CLOCKWISE direction.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Mounting Details

5 x 1/4" c'sk head bolts on 3.312" P.C.D.

5 x 6 mm c'sk head bolts on 84 mm P.C.D.

Spare Parts Kit

Model 25
Part No 19725400

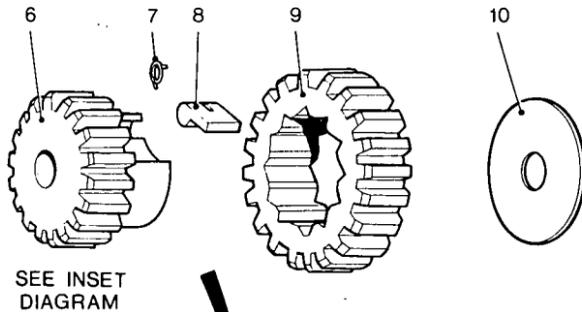
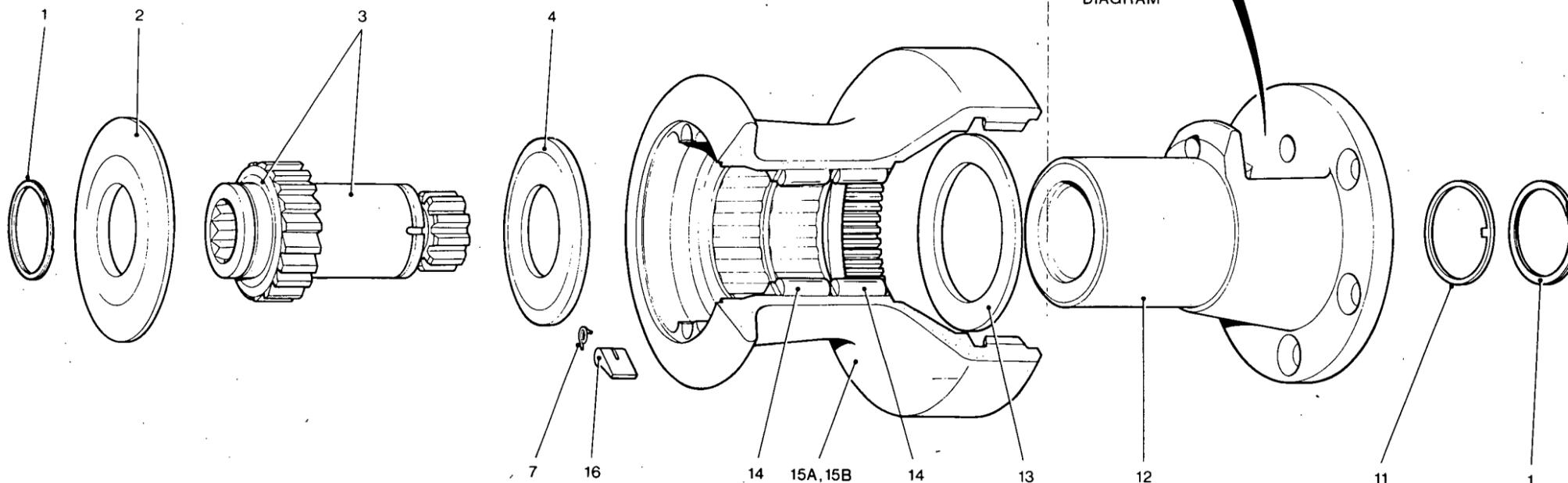
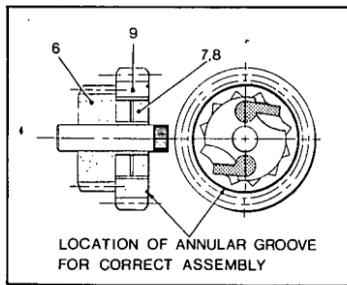
Contents
1 x Circlip Pt No B2075
2 x Spring Pt No 1260/7
2 x Pawl Pt No 1260/8
1 x Washer Pt No 1265/7
4 x Pawl Pt No 15001012
1 x Tab Washer 1260/19

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



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Maintenance.

- A Remove circlip (1) using a small screwdriver or knife blade.
- B Lift drum (15) and top cap (2) from centre stem (12).
- C Remove cover plate (2) from drum (15).

The winch is now ready for routine monthly maintenance.

- D Clean off excess grease and salt deposits from bearing surface of drum (15) centre stem (12) and roller bearings (14).
- E Check free operation of pawls (16) in upper part of drum.
- F Check free operation of ratchet gear assembly (parts 5 - 10) by rotating large gear.
- G Check free rotation of spindle (3) in centre stem (12).
- H If satisfactory proceed with routine maintenance. If not continue to FULL ANNUAL SERVICE
- I Lightly grease the bore of the drum (15) and roller bearings (14).
- J Lightly oil ratchet gear assembly (5 - 10) and centre spindle (3).
- K Apply grease sparingly to gear teeth of ratchet assembly (5 - 10).
- L Lightly oil pawls (16).
- M Reassemble drum (15) to centre stem (12) by introducing

- drum over centre stem and holding top pawls in the open position to facilitate engagement with the spindle ratchet track.
- N Rotate drum to check freedom of pawl movement and correct engagement.
- O Replace top cap (2)
- P Replace circlip (1) by entering one end into groove and winding circlip into place.
- Q Using handle check free operation of winch and correct engagement of pawls.

Full Annual Service

- R To completely dismantle the winch the mounting bolts must be removed and the winch lifted from the deck.
- S Dismantle as steps A - C.
- T Remove two pawls (16) and two pawl springs (7) from drum.
- U Support the centre stem assembly (12) on its base on a firm structure (work bench, etc.). Ensure that the lower exit of bearing spindle (5) is not covered.
- V Using a flat ended drift tap out the bearing spindle DOWNWARDS.
- W Remove the ratchet gear assembly (6-10).
- X Separate the upper and lower gears (6) and (9) and gear washer (10).
- Y Remove two pawls (8) and

- two springs (7) from pawl gear (6).
- Z Remove lower circlip (1) and tab washer (11) with a small screwdriver or knife blade.
- A1 Withdraw spindle (3) from centre stem (12).
- B1 Withdraw washer (4) roller bearings (14) and drum washer (13) from centre stem (12).
- C1 Carefully wash drum, centre stem, spindle, roller bearings, gears, washers, pawls and pawl springs.
- D1 Lightly grease drum bore, roller bearings, centre stem bearing area and spindle.
- E1 Slide drum washer (13) roller bearings (14) and washer (4) onto centre stem (12).
- F1 Insert spindle (3) and replace tab washer (11) and lower circlip (1), making sure Tab is engaged in slot at bottom of spindle.
- G1 Replace two pawls (8) and springs (7) in pawl gear (6) lightly oil.
- H1 Reassemble the upper and lower ratchet gears (6-9) noting the location of the annular groove for correct assembly (see sketch). Put the washer (10) in place.
- I1 Support the centre stem on the gear aperture shoulder and insert the ratchet assembly (6-10) into engagement with the

- spindle (3).
- J1 Insert the gear spindle (5) into place and engage with the ratchet gear assembly (6-10). Ensure correct line up.
- K1 With drift tap the gear spindle into place.
- L1 Reassemble and check winch as per points I - Q.
- M1 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Notes

- A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.
- B Lubrication:
Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)
Oil - Use light machine oil (3 in 1 or equivalent).
- C Washing - Use Kerosene (Paraffin)
- D Cleaning - Use clean non-fluffy cloth.

Item Number	Part Number	Description	No. Off
1	B2075	Circlip, Spirolox	2
2	15010006	Cap	1
3	1265/SA1	Spindle Assembly	1
4	1300/19	Washer	1
5	1265/6	Gear Spindle	1
6	1265/4	Pawl Gear	1
7	1260/7	Spring	4
8	1265/9	Pawl	2
9	1265/5	Ratchet Gear	1
10	1265/7	Gear Washer	1
11	1260/19	Tab Washer	1
12	1265/1	Centre Stem	1
13	1260/10	Drum Washer	1
14	1265/SA2	Cage Assembly	2
15A	1265/2	Drum Bronze	1
15B	1254/2	Drum Alloy	1
16	1260/8	Pawl	2

Model 40

The Lewmar Range of two speed winches offer progressively sized winches with carefully optimised power ratios to fulfil any requirement as a sheet or halyard winch on yachts from 25' to 40' plus.

Their unique drum design, freewheel mechanism and balanced gear ratios ensure very rapid tailing and effortless final sheet trimming.

Two Speed Winch Range

Models 16 25 40 43

Material Specifications

Drum
High tensile chrome plated Marine Bronze.
High Tensile Aluminium alloy – hard anodised.
Stainless steel (Model 40 and 43).

Centre Stems
Marine Bronze

Centre Spindle
316 type stainless steel.

Bearings
Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears
Aluminium bronze or 316 type stainless steel.

Gear Shafts
316 type stainless steel.

Pawls
Sintered stainless steel.

Pawl Springs
316 type stainless steel.

Drum Retaining Circlip
Stainless steel.

Drum Top Cap
Chrome plated bronze or stainless steel.

Mounting
All winches must be mounted

using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

Operation

The winches are of the two speed type and have one HIGH GEAR (Direct Drive) and one LOW GEAR (Geared Drive).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

HIGH GEAR is engaged when the handle is rotated in a CLOCKWISE direction.

LOW GEAR is engaged when the handle is turned in an ANTI CLOCKWISE direction.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Mounting Details

5 x 5/16" c'sk head bolts on 4.125" P.C.D.
5 x 8 mm c'sk head bolts on 105 mm P.C.D.

Spare Parts Kits

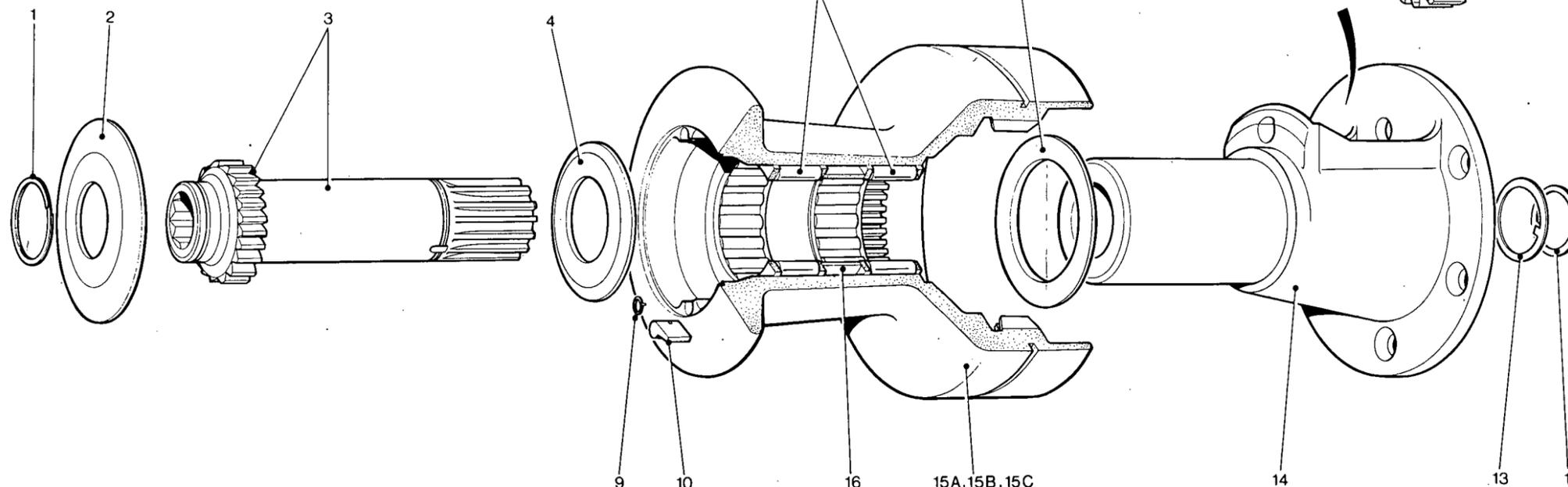
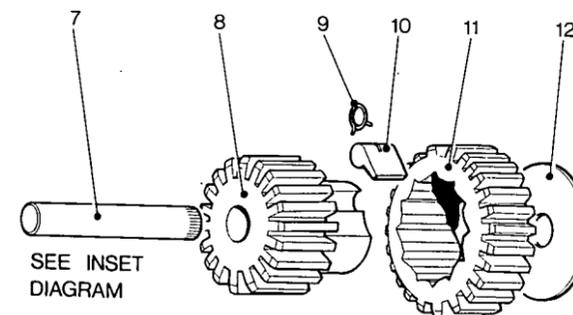
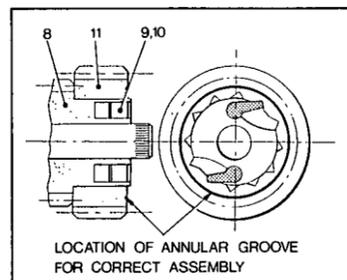
Model 40
Part No 19740400
Contents
1 x Circlip B2075
4 x Spring Pt No 1260/7
4 x Pawl Pt No 1260/8
1 x Washer Pt No 1260/9
2 x Pawl Pt No 15001012
1 x Tab washer Pt No 1260/19

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



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Item Number	Part Number	Description	No. Off
1	B2075	Circlip, Spirolox	2
2	15010006	Cap	1
3	1260/SA1	Spindle Assembly	1
4	1300/19	Washer	1
5	1260/SA2	Cage Assembly	2
6	1260/10	Drum Washer	1
7	1260/6	Gear Spindle	1
8	1260/4	Pawl Gear	1
9	1260/7	Spring	4
10	1260/8	Pawl	4
11	1260/5	Ratchet Gear	1
12	1260/9	Gear Washer	1
13	1260/19	Tab Washer	1
14	1260/1	Centre Stem	1
15A	1260/2	Drum, Bronze	1
15B	1255/2	Drum, Alloy	1
15C	1360/2	Drum, Stainless Steel	1
16	1260/11	Tube Spacer	1

Maintenance.

A Remove circlip (1) using a small screwdriver or knife blade.
B Lift drum (15) and cover plate (2) from centre stem (14).
C Remove cover plate (2) from drum (15).

The winch is now ready for routine monthly maintenance.

D Clean off excess grease and salt deposits from bearing surface of drum (15) centre stem (14) and roller bearings (5).

E Check free operation of pawls (10) in upper part of drum.

F Check free operation of ratchet gear assembly (parts 7-12) by rotating large gear.

G Check free rotation of spindle (3) in centre stem (14).

H If satisfactory proceed with routine maintenance. If not continue to **Full Annual Service**.

I Lightly grease the bore of the drum (15) and roller bearings (5).
J Lightly oil ratchet gear assembly (7-12) and centre spindle (3).

K Apply grease sparingly to gear teeth of ratchet assembly (7-12).

L Lightly oil pawls (10).

M Reassemble drum (15) to centre stem (14) by introducing drum over centre stem and

holding top pawls in the open position to facilitate engagement with the spindle ratchet track.
N Rotate drum to check freedom of pawl movement and correct engagement.

O Replace top cap.

P Replace circlip (1) by entering one end into groove and winding circlip into place.

Q Using handle check free operation of winch and correct engagement of pawls.

Full Annual Service.

R To completely dismantle the winch the mounting bolts must be removed and the winch lifted from the deck.

S Dismantle as steps A - C.

T Remove two pawls (10) and two pawl springs (9) from drum.

U Support the centre stem assembly (14) on its base on a firm structure (work bench etc.). Ensure the lower exit of bearing spindle (7) is not covered.

V Using a flat ended drift tap out the bearing spindle **DOWNWARDS**.

W Remove the ratchet gear assembly (8-12).

X Separate the upper and lower gears (8) and (11) and cover plate (12).

Y Remove two pawls (10) and two springs (9) from ratchet

gear (8).

Z Remove lower circlip (1) and tab washer (13) with a small screwdriver or knife blade.

A1 Withdraw spindle (3) from centre stem (14).

B1 Withdraw washer (6) roller bearings (5) spacer (16) and drum washer (4) from centre stem (14).

C1 Carefully wash drum, centre stem, spindle, roller bearings, gears, washers, pawls and pawl springs.

D1 Lightly grease drum bore, roller bearings, centre stem bearing area and spindle.

E1 Slide drum washer (6) roller bearings (5) spacer (16) and washer (4) onto centre stem (14). Ensure that roller bearings (5) are separated by spacer (16).

F1 Insert spindle (3) and replace tab washer (13) and lower circlip (1), making sure that Tab engages in slot in bottom of spindle.

G1 Replace two pawls (10) and springs (9) in ratchet gear (8) lightly oil.

H1 Reassemble the upper and lower ratchet gears (8-11) noting the location of the annular groove for correct assembly (see sketch). Put the washer (12) in place.

I1 Support the centre stem on the gear aperture shoulder and

insert the ratchet assembly (8-12) into engagement with the spindle (3).

J1 Insert the gear spindle (7) into place and engage with the ratchet gear assembly (8-12). Ensure correct line up.

K1 With drift tap the gear spindle into place.

L1 Reassemble and check winch as per points I - Q.

M1 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Model 43

The Lewmar Range of two speed winches offer progressively sized winches with carefully optimised power ratios to fulfil any requirement as a sheet or halyard winch on yachts from 25' to 40' plus.

Their unique drum design, freewheel mechanism and balanced gear ratios ensure very rapid tailing and effortless final sheet trimming.

Two Speed Winch Range

Models 16 25 40 43

Material Specifications

Drum
High tensile chrome plated Marine Bronze.
High Tensile Aluminium alloy – hard anodised.
Stainless steel (Model 40 and 43).

Centre Stems
Marine Bronze

Centre Spindle
316 type stainless steel.

Bearings
Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears
Aluminium bronze or 316 type stainless steel.

Gear Shafts
316 type stainless steel.

Pawls
Sintered stainless steel.

Pawl Springs
316 type stainless steel.

Drum Retaining Circlip
Stainless steel.

Drum Top Cap
Chrome plated bronze or stainless steel.

Mounting
All winches must be mounted

using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

Operation

The winches are of the two speed type and have one HIGH GEAR (Direct Drive) and one LOW GEAR (Geared Drive).

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

HIGH GEAR is engaged when the handle is rotated in a CLOCKWISE direction.

LOW GEAR is engaged when the handle is turned in an ANTI CLOCKWISE direction.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Mounting Details

5 x 5/16" c'sk head bolts on 5.125" P.C.D.
5 x 8 mm c'sk head bolts on 130 mm P.C.D.

Spare Parts Kit

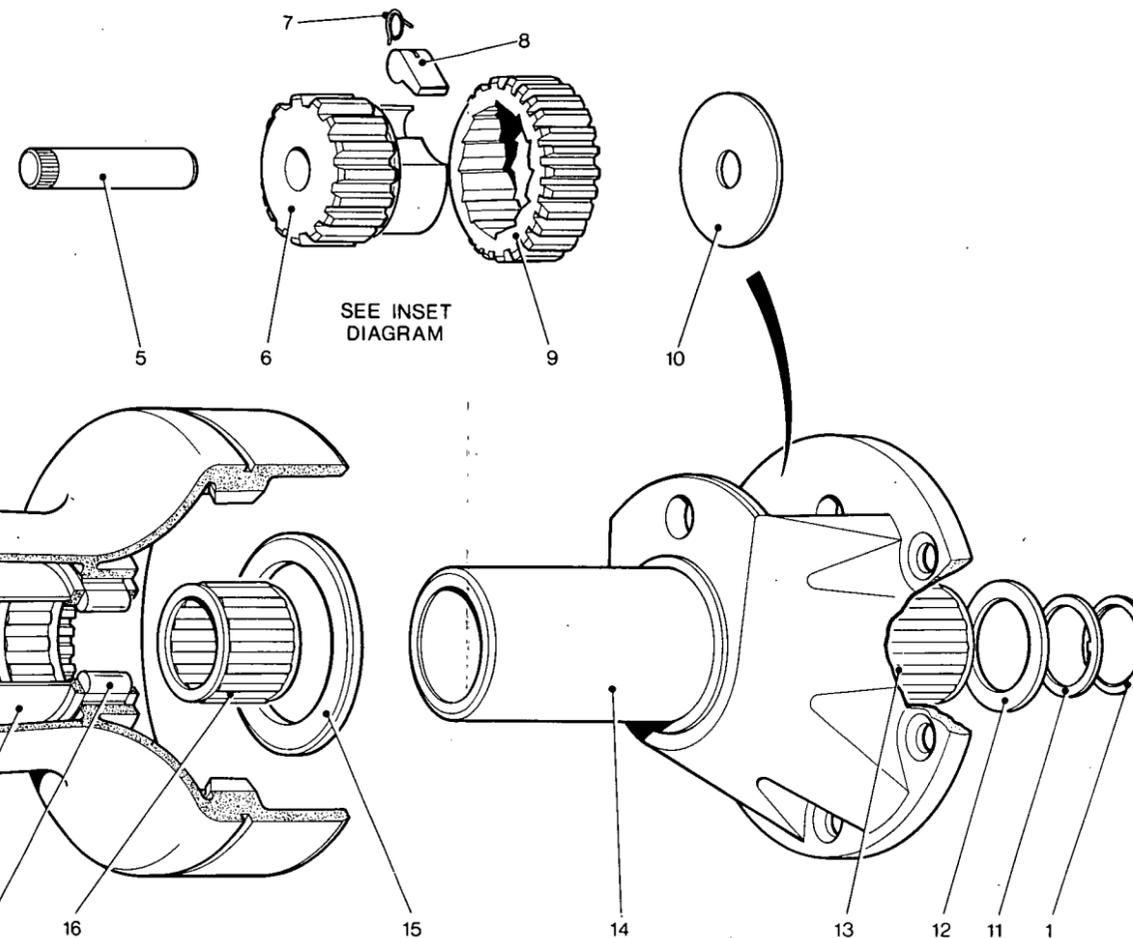
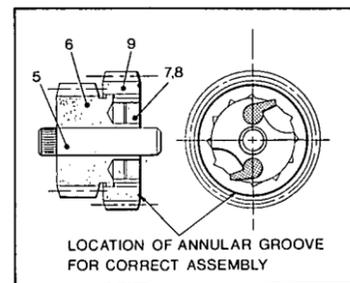
Model 43
Part No 19743400
Contents
4 x Spring Pt No 1260/7
2 x Pawl Pt No 15001012
2 x Pawl Pt No 1264/8
1 x Tab washer Pt No 1260/19
1 x Circlip Pt No B2075
1 x Washer 1264/7
2 x Pawl Pt No 1260/8

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



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**Maintenance.**

A Remove circlip (1) using a small screwdriver or knife blade.
B Lift drum (19) and cap (2) from centre stem (14).
C Remove cover plate (2) from drum (19).

The winch is now ready for routine monthly maintenance.

D Clean off excess grease and salt deposits from bearing surface of drum (19) centre stem (14) and roller bearings (17).

E Check free operation of pawls (20) in upper part of drum.

F Check free operation of ratchet gear assembly (parts 5-10) by rotating large gear.

G Check free rotation of spindle (3) in centre stem (14).

H If satisfactory proceed with routine maintenance. If not continue to **FULL ANNUAL SERVICE**

I Lightly grease the bore of the drum (19) and roller bearings (17).

J Lightly oil ratchet gear assembly (5-10) and centre spindle (3).

K Apply grease sparingly to gear teeth of ratchet assembly (5-10).

L Lightly oil pawls (20).

M Reassemble drum (19) to centre stem (14) by introducing

drum over centre stem and holding top pawls in the open position to facilitate engagement with the spindle ratchet track.
N Rotate drum to check freedom of pawl movement and correct engagement.

O Replace top cap (2).

P Replace circlip (1) by entering one end into groove and winding circlip into place.

Q Using handle check free operation of winch and correct engagement of pawls.

Full Annual Service.

R To completely dismantle the winch the mounting bolts must be removed and the winch lifted from the deck.

S Dismantle as steps A - C.

T Remove two pawls (20) and two pawl springs (7) from drum.

U Support the centre stem assembly (14) on the gear aperture shoulder on a firm structure (work bench, etc). Ensure that the lower exit of bearing spindle (5) is not covered.

V Using a flat ended drift tap out the bearing spindle DOWNWARDS.

W Remove the ratchet gear assembly (6-10).

X Separate the upper and lower

gears (6) and (9) and cover plate (10).

Y Remove two pawls (8) and two springs (7) from pawl gear (6).

Z Remove lower circlip (1) with a small screwdriver or knife blade. Remove tab washer (11) and washer (12).

A1 Withdraw spindle (3) from centre stem (14).

B1 Withdraw lower spindle bearing (13) from centre stem (14).

C1 Withdraw washer (4) roller bearings (17) spacer (18) and drum washer (15) from centre stem (14).

D1 Withdraw upper spindle bearing (16) from centre stem (14).

E1 Carefully wash drum, centre stem, spindle, roller bearings, gears, washers, pawls and pawl springs.

F1 Lightly grease drum bore, roller bearings, centre stem bearing area and spindle.

G1 Insert spindle roller bearings (16 and 13) into centre stem (14).

H1 Slide drum washer (15) roller bearings (17) spacer (18) and washer (4) onto centre stem (12). Ensure spacer (18) separates roller bearings (17).

I1 Insert spindle (3) and replace washer (12). Tab washer (11)

and lower circlip (1) making sure Tab is engaged in slot at bottom of spindle.

J1 Replace two pawls (8) and springs (7) in ratchet gear (6) lightly oil.

K1 Reassemble the upper and lower ratchet gears (6-9) noting the location of the annular groove for correct assembly (see sketch). Put the washer (10) in place.

L1 Support the centre stem on its base and insert the ratchet assembly (6-10) into engagement with the spindle (3).

M1 Insert the gear spindle (5) into place and engage with the ratchet gear assembly (6-10). Ensure correct line up.

N1 With drift tap the gear spindle into place.

O1 Reassemble and check winch as per points I - Q.

P1 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Item Number	Part Number	Description	No. Off
1	B2075	Circlip, Spirolox	2
2	15010006	Cap	1
3	1264/SA1	Spindle Assembly	1
4	1300/9	Washer	1
5	1264/6	Gear Spindle	1
6	1264/4	Pawl Gear	1
7	1260/7	Spring	4
8	1264/8	Pawl	2
9	1264/5	Ratchet Gear	1
10	1264/7	Washer	1
11	1260/19	Tab Washer	1
12	1300/21	Washer	1
13	1264/SA2	Cage Assembly	1
14	1264/1	Centre Stem	1
15	1260/10	Drum Washer	1
16	1287/SA1	Cage Assembly	1
17	1260/SA2	Cage Assembly	2
18	1264/10	Tube Spacer	1
19A	1264/2	Drum, Bronze	1
19B	1294/2	Drum, Alloy	1
19C	15043302	Drum, Stainless Steel	1
20	1260/8	Pawl	2

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin).

D Cleaning - Use clean non-fluffy cloth.

Model 44

Lewmar have designed a complete range of 3 speed automatic change winches, suitable for all sheet and halyard operations on yachts from 30' L.O.A. up to 70' plus.

The patented push button autochange mechanism is rapid and foolproof in operation. The winch man can preselect 1st gear and thereafter the winch cycles through the gear sequence merely by reversing the direction of handle rotation. The drum can be overtailed without tripping out the gear mechanism.

Three Speed Winch Range Models 44 48 55 65

Material Specifications

Drum

High tensile chrome plated

Marine Bronze.

High tensile aluminium alloy — hard anodised.

Stainless steel.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Drum Retaining Circlip

Stainless steel.

Drum Top Cap

Nylon moulding with aluminium bronzed pawl carrier. Stainless steel circlip and springs.

Mounting

All winches must be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

The winches are self draining and care must be taken not to block drain holes.

Operation

The winches are of the three speed type and have

1st gear (direct drive)

2nd gear (medium speed — geared drive)

3rd gear (low speed — geared drive.)

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

1st gear is preselected by depressing the white push button on the winch top cap. The winch drum can be overtailed without the 1st gear tripping out.

1st gear drive in a CLOCKWISE DIRECTION.

2nd gear drives in an ANTI—CLOCKWISE DIRECTION.

3rd gear drives in a CLOCKWISE DIRECTION.

The 1 - 2 - 3 sequence is

achieved by reversing the direction of handle rotation.

On completing the cycle the winch will remain in the 2nd/3rd GEAR MODE until the push button is again depressed to select 1st GEAR.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode

The winches are driven by the spindle top socket using a standard handle.

For CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request.)

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies and by our Distributors and Service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of material and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

To ensure continuous trouble-free functioning, it is recommended that the winch is maintained as follows:

1. Routine maintenance at frequent intervals during constant use.
2. Full service annually.

Routine Maintenance.

A Using a small penknife or screwdriver remove top circlip (1) from spindle (20).

B Lift off drum and top cap assembly complete.

C Separate drum (33) and top cap assembly (5).

D Check that top cap mechanism and pawls (22) are functioning freely; with top cap mechanism inverted and push-button (3) depressed, the pawls will be normally in the open position.

E Grip the spring pillar posts on closing ring (8) and rotate in an anti-clockwise direction. This will close the pawls (22) and raise the push button (3). Both pawls (22) should now be in the fully closed position with the push button (3) locked in the raised position.

F Depress the push button (3) and the closing rings should rotate sharply in a clockwise direction, allowing both pawls to open fully. Should the rotation be sluggish or the pawls not fully open, the top cap must be stripped and cleaned prior to lubrication. See full annual service instructions.

G If the top cap mechanism functions correctly, clean off all salt deposits and dirt then oil lightly.

H Clean off all grease and salt deposits from drum bore (33), centre stem bearings (16) and ratchet gears (24, 28, 31, 32).

I Check free rotation of spindle (20) in centre stem (15). Check free operation of ratchet gears (24, 28, 31, 32).

J If satisfactory proceed with routine maintenance. If not, continue with **Full Service Procedure**.

K Lightly grease bore of drum (33), centre stem bearings (16) and ratchet gears (24, 28, 31, 32).

L Apply oil to centre spindle (20) and ratchet gear pawls through interface of ratchet gears.

M Reassemble drum (33) to centre stem.

N Replace top cap assembly, ensuring that pawls are in the closed position i.e. push button (3) is raised. Align drive

slots in the top cap (5) with drive pin (21) in spindle. Push top cap into recess in drum (33).

O Replace circlip (1) by entering one end into groove in spindle (20) and winding circlip into place.

P Check free rotation of drum (33) and, using handle, centre spindle (20).

Full Annual Service.

Note

To service completely the winch must be removed from the deck by removal of the 6 x 5/16" UNC c'sk screws securing the centre stem.

Q Remove drum and top cap points A-C.

R Remove centre stem from deck.

S Slide out cross-mounted drive pin (21) and remove clutch plate (11).

T Remove two plungers (12) and two springs (14), taking care not to loose these.

U Remove bearings (16) and drum support washer (17).

V Support the centre stem assembly (15) by the base on a firm structure (work bench etc.).

W Ensure the lower exits of bearing spindles (27, 29) are not covered. Using a flat-ended drift, tap out bearing spindles **DOWNWARDS**.

X Before fully removing spindles (27, 29) drive out about 1mm and check that knurled end is projecting before driving through. Knurled end of spindles **MUST NOT** pass through gears. Drive out spindles to release gear assemblies.

Y Remove ratchet gear assemblies and washers.

Z Separate ratchet gears (24, 31), remove two pawls (22) and two pawl springs (7). Remove washer (30).

A1 Separate ratchet gears (28, 32), remove two pawls (22) and two pawl springs (7). Remove spacer (23) and washer (30).

B1 Prise out two collets (13) from centre stem (15).

C1 Withdraw centre spindle (20) from centre stem (15). Remove bearing (18) and washer (19).

D1 Remove c'sk screw (26), securing lower ratchet assembly. Withdraw ratchet gear (24) spacer (23) and spindle end cap (25) or coupling (in the case of linked winches).

E1 Remove two pawls (22) and two pawl springs (7) from spindle.

F1 Carefully wash drum, centre stem, spindle, roller bearings,

gears, spacers, washers, pawls and pawl springs.

G1 Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

H1 Reassemble two pawls (22) and two pawl springs (7) to spindle (20). Oil lightly.

I1 Reassemble spacer (23), ratchet gear (24) and spindle end cap (25) to spindle (20). Secure with screw (26) and firmly tighten.

NOTE: correct location of annular groove (see sketch).

J1 Place washer (19) and bearing (18) onto spindle (20). Slide into centre stem (15). Secure with two collets (13).

K1 Replace two pawls (22) and two pawl springs (7) in pawl gears (31, 28). Reassemble ratchet gear (24) to (31). Put washer (30) in place.

L1 Reassemble spacer (23) and ratchet gear (32) to (28). Put washer (30) in place.

NOTE: Correct location of annular groove (see sketch).

M1 Support centre stem on the gear aperture shoulder. Insert ratchet gear assemblies and engage ratchet spindle (20). Ensure correct line-up.

N1 Insert gear spindles (27, 29) and engage with ratchet gear assemblies.

O1 With drift, tap spindles into place.

P1 Replace drum support washer (17), roller bearings (16).

Q1 Replace springs (14) and two plungers (12). Replace clutch plate (11).

R1 Insert drive pin (21).

S1 Replace drum (33).

Top Cap Maintenance.

T1 To dismantle top cap assembly complete, remove large circlip (10), disengage two springs (9), close pawls and withdraw closing ring (8). Remove plunger (4) and compression spring (6). Remove two pawls (22) and two pawl springs (7).

U1 Carefully clean all components.

V1 Reassemble two pawls (22) and two pawl springs (7). Lightly oil.

W1 Replace plunger (4) and compression spring (6).

X1 Engage closing ring (8) with compression spring and plunger and holding pawls closed, insert closing ring into recess.

Y1 Ensure closing ring (8) seats correctly at base of recess. Reinsert circlip (10) and engage with groove provided.

Z1 Engage two springs (9) with

pillars provided on closing ring (8).
A2 Check top cap mechanism for correct operation, as prescribed in point (F). Oil lightly.

B2 Reassemble and check winch as points N-P.

B3 If winch fails to perform correctly, re-check servicing technique or contact your nearest Lewmar service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting Details

6 x 5/16" c'sk head bolts on 5.94" P.C.D.

6 x 8 mm c'sk head bolts on 151 mm P.C.D.

Spare Parts Kits

Model 44

Cat No 19744400

Contents

2 x Washer Pt No 15025106

1 x Pin Pt No 15044119

2 x Plunger Pt No 1300/24

2 x Spring Pt No 1300/20

8 x Pawl Pt No 1260/8

8 x Spring Pt No 1260/7

2 x Washer Pt No 15025107

1 x Plunger Pt No 15044111

1 x Spring Pt No 15044112

1 x Circlip Pt No B2083

1 x Circlip Pt No B2075

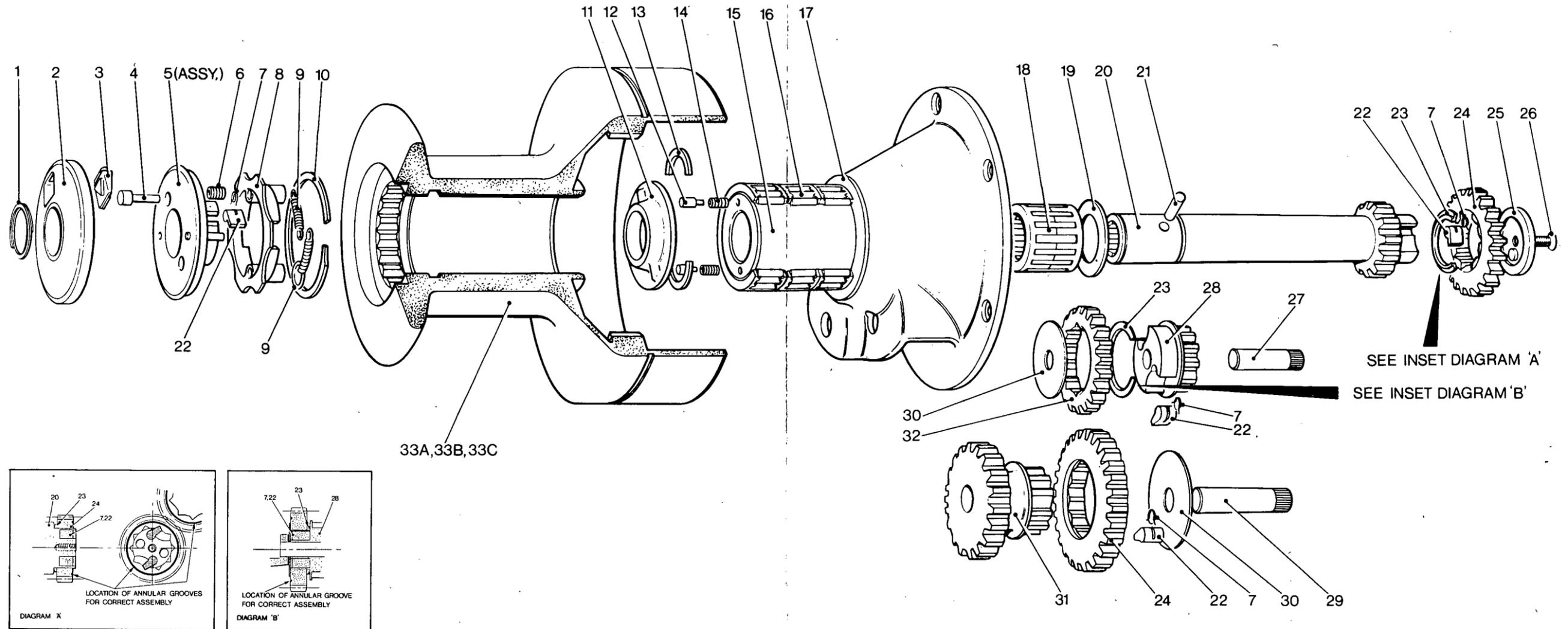
2 x Spring Pt No 15044113

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	No. Off
1	B2075	Circlip, Spirolox	1
2	15044117	Top Cap Cover	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	8
8	15044106	Closing Ring	1
9	15044115	Spring	2
10	B2083	Circlip	1
11	15044105	Clutch Plate	1
12	1300/24	Plunger	2
13	15044118	Collet	2
14	1300/20	Spring	2
15	15044101	Centre Stem	1
16	18044100	Cage Assembly	3
17	15044116	Drum Washer	1
18	1264/SA2	Cage Assembly	1
19	1300/21	Washer	1
20	15044103	Spindle	1
21	15044119	Drive Pin	1
22	1260/8	Pawl	8
23	15025107	Spacer	2
24	15016105	Ratchet Gear	2
25	15016107	Spindle End Cap	1

26	B0515	Countersunk Screw 1/4" U.N.C. x 1/2" long	1
27	15044108	Spindle	1
28	15025105	Pawl Gear	1
29	15044109	Spindle	1
30	15025106	Washer	2
31	15044107	Output Gear	1
32	15041105	Ratchet Gear	1
33A	15044102	Drum, Bronze	1
33B	15044202	Drum, Alloy	1
33C	15044302	Drum, Stainless Steel	1

Model 48

Lewmar have designed a complete range of 3 speed automatic change winches, suitable for all sheet and halyard operations on yachts from 30' L.O.A. up to 70' plus.

The patented push button autochange mechanism is rapid and foolproof in operation. The winch man can preselect 1st gear and thereafter the winch cycles through the gear sequence merely by reversing the direction of handle rotation. The drum can be overtailed without tripping out the gear mechanism.

Three Speed Winch Range

Models 44 48 55 65

Material Specifications

Drum

High tensile chrome plated Marine Bronze.
High tensile aluminium alloy — hard anodised.
Stainless steel.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Drum Retaining Circlip

Stainless steel.

Drum Top Cap

Nylon moulding with aluminium bronzed pawl carrier. Stainless steel circlip and springs.

Mounting

All winches must be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

The winches are self draining and care must be taken not to block drain holes.

Operation

The winches are of the three speed type and have
1st gear (direct drive)
2nd gear (medium speed — geared drive)
3rd gear (low speed — geared drive.)

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

1st gear is preselected by depressing the white push button on the winch top cap. The winch drum can be overtailed without the 1st gear tripping out.

1st gear drive in a CLOCKWISE DIRECTION.

2nd gear drives in an ANTI—CLOCKWISE DIRECTION.

3rd gear drives in a CLOCKWISE DIRECTION.

The 1 - 2 - 3 sequence is

achieved by reversing the direction of handle rotation.

On completing the cycle the winch will remain in the 2nd/3rd GEAR MODE until the push button is again depressed to select 1st GEAR.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode

The winches are driven by the spindle top socket using a standard handle.

For CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request.)

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies and by our Distributors and Service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of material and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

To ensure continuous trouble-free functioning, it is recommended that the winch be maintained as follows:

1. Routine maintenance at frequent intervals during constant use.
2. Full service annually.

Routine Maintenance.

A Using a small penknife or screwdriver remove top circlip (1) from spindle (22).

B Lift off drum and top cap assembly complete.

C Separate drum (11) and top cap assembly (5).

D Check that top cap mechanism and pawls (28) are functioning freely; with top cap mechanism inverted and push-button (3) depressed, the pawls will be normally in the open position.

E Grip the spring pillar posts on closing ring (8) and rotate in an anti-clockwise direction. This will close the pawls (28) and raise the push button (3). Both pawls (28) should now be in the fully closed position with the push button (3) locked in the raised position.

F Depress the push button (3) and the closing rings should rotate sharply in a clockwise direction, allowing both pawls to open fully. Should the rotation be sluggish or the pawls not fully open, the top cap must be stripped and cleaned prior to lubrication. See full annual service instructions.

G If the top cap mechanism functions correctly, clean off all salt deposits and dirt then oil lightly.

H Clean off all grease and salt deposits from drum bore (11), centre stem bearings (16) and ratchet gears (32, 34, 37, 38).

I Check free rotation of spindle (22) in centre stem (18). Check free operation of ratchet gears (32, 34, 37, 38).

J If satisfactory, proceed with routine maintenance. If not, continue with **Full Service Procedure**.

K Lightly grease bore of drum (11), centre stem bearings (16) and ratchet gears (32, 34, 37, 38).

L Apply oil to centre spindle (22) and ratchet gear pawls through interface of ratchet gears.

M Reassemble drum (11) to centre stem.

N Replace top cap assembly, ensuring that pawls are in the closed position i.e. push button

(3) is raised. Align drive slots in top cap (5) with drive pin (23) in spindle. Push top cap into recess in drum (11).

O Replace circlip (1) by entering one end into groove in spindle (22) and winding circlip into place.

P Check free rotation of drum (11) and, using handle, centre spindle (22).

Full Annual Service

Note.

To service completely the winch must be removed from the deck by removal of the 6 x 5/16" UNC C'sk screws securing the centre stem.

Q Remove drum and top cap as points A-C.

R Remove centre stem from deck.

S Slide out cross-mounted drive pin (23) and remove clutch plate (12).

T Remove two plungers (14) and two springs (15), taking care not to lose these.

U Remove bearings (16) and drum support washer (19).

V Support the centre stem assembly (18) by the base on a firm structure (work bench etc.).

W Ensure the lower exits of bearing spindles (29, 36) are not covered. Using a flat-ended drift, tap out bearing spindles **DOWNWARDS**.

X Before fully removing spindles (29, 36) drive out about 1mm and check that knurled end is projecting before driving through. Knurled end of spindles **MUST NOT** pass through gears. Drive out spindles to release gear assemblies.

Y Remove ratchet gear assemblies and washers.

Z Separate ratchet gears (37, 38), remove two pawls (33) and two pawl springs (7). Remove washers (30,35). Remove two bearings (31).

A1 Separate ratchet gears (32, 34), remove two pawls (33) and two pawl springs (7). Remove washers (30,35). Remove bearing (31).

B1 Prise out two collets (13) from centre stem (18).

C1 Withdraw centre spindle (22) from centre stem (18). Remove bearing (20) and washer (21).

D1 Remove C'sk screw (27) securing lower ratchet assembly. Withdraw ratchet gear (25), spacer (24) and spindle end cap (26) or coupling (in the case of linked winches).

E1 Remove two pawls (28), and two pawl springs (7) from spindle.

F1 Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls and pawl springs.

G1 Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

H1 Reassemble two pawls (28) and two pawl springs (7) to spindle (22). Oil lightly.

I1 Reassemble spacer (24), ratchet gear (25) and spindle end cap (26) to spindle (22). Secure with screw (27) and firmly tighten.

NOTE: correct location of annular groove (see sketch).

J1 Place washer (21) and bearing (20) onto spindle (22). Slide into centre stem (18). Secure with two collets (13).

K1 Replace two pawls (33) and two pawl springs (7) in pawl gears (32, 38). Reassemble ratchet gear (34) to (32). Put washer (35) in place. Replace bearing (31) and washer (30).

L1 Reassemble ratchet gear (37) to (38). Put washer (35) in place. Replace bearings (31) and washer (30).

M1 Support centre stem on the gear aperture shoulder. Insert ratchet gear assemblies and engage ratchet spindle (22). Ensure line-up.

N1 Insert gear spindles (29, 36) and engage with ratchet gear assemblies.

O1 With drift, tap spindles into place.

P1 Replace drum support washer (19), roller bearings (16).

Q1 Replace two springs (15) and two plungers (12). Replace clutch plate (12).

R1 Insert drive pin (23).

S1 Replace drum (11).

Top Cap Maintenance

T1 To dismantle top cap assembly completely, remove large circlip (10), disengage two springs (9), close pawls and withdraw closing ring (8). Remove plunger (4) and compression spring (6). Remove two pawls (28) and two pawl springs (7).

U1 Carefully clean all components.

V1 Reassemble two pawls (28) and two pawl springs (7). Lightly oil.

W1 Replace plunger (4) and compression spring (6).

X1 Engage closing ring (8) with compression spring and plunger and holding pawls closed, insert closing ring into recess.

Y1 Ensure closing ring (8) seats correctly at base of recess. Re-insert circlip (10) and engage

with groove provided.

Z1 Engage two springs (9) with pillars provided on closing ring (8).

A2 Check top cap mechanism for correct operation, as prescribed in point (F). Oil lightly.

B2 Reassemble and check winch as points (N-P).

C2 If winch fails to perform correctly, re-check servicing technique or contact your nearest Lewmar service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.
(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full-service facilities for their products. Details on request.

Mounting Details

6 x 5/16" c'sk head bolts on 6.75" P.C.D.

6 x 8 mm c'sk head bolts on 171 mm P.C.D.

Spare Parts Kits

Model 48

Cat No 19748400

Contents

4 x Pawl Pt No 1260/8

8 x Spring Pt No 1260/7

4 x Pawl Pt No 1264/8

2 x Washer Pt No 1300/22

2 x Washer Pt No 1264/7

2 x Plunger Pt No 1300/24

2 x Spring 1300/20

1 x Plunger Pt No 15044111

1 x Spring Pt No 15044112

1 x Washer Pt No 15025107

1 x Circlip Pt No B2083

1 x Circlip Pt No B2075

1 x Pin Pt No 15044119

2 x Spring Pt No 15044113

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



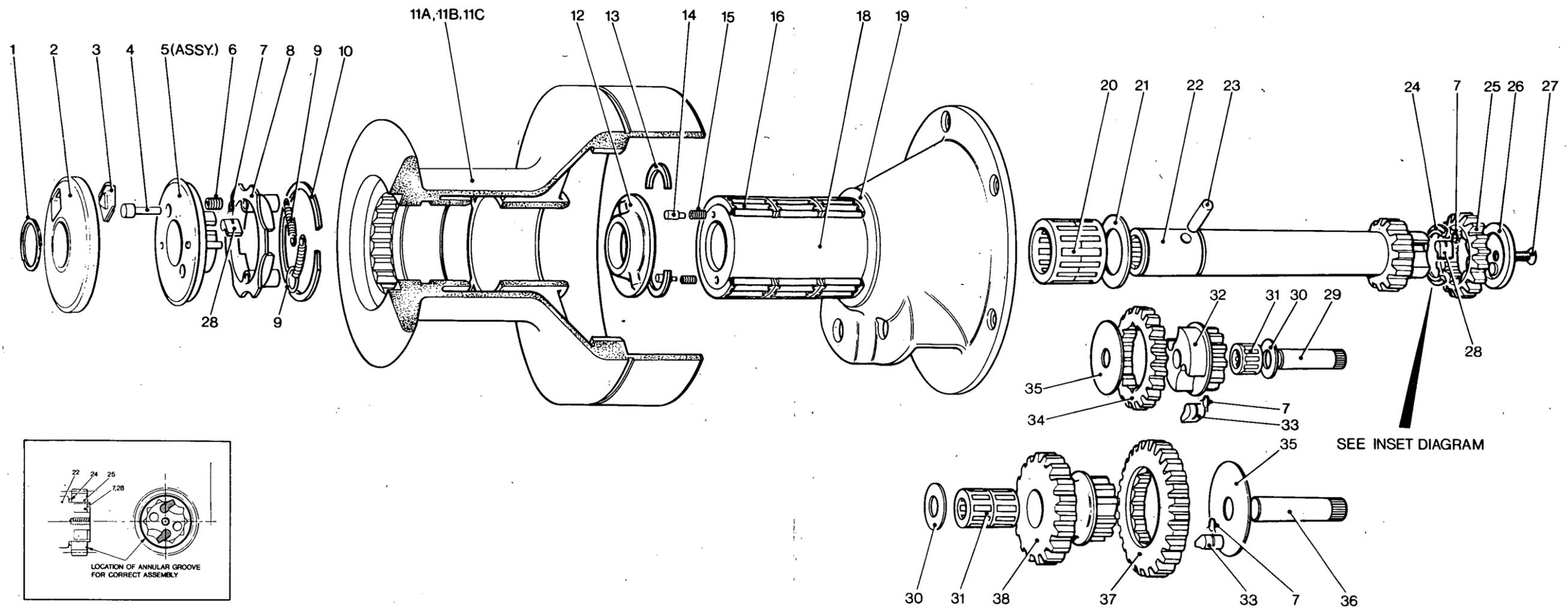
Lewmar Marine Limited

Southmoor Lane,
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Lewmar

Three speed winches

Model 48



Parts list

Item Number	Part Number	Description	No. Off
1	B2075	Circlip, Spirolox	1
2	15048106	Top Cap Cover	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	8
8	15044106	Closing Ring	1
9	15044113	Spring	2
10	B2083	Circlip	1
11A	15048102	Drum, Bronze	1
11B	15048202	Drum, Alloy	1
11C	15048302	Drum, Stainless Steel	1
12	15044105	Clutch Plate	1
13	15044118	Collet	2
14	1300/24	Plunger	2
15	1300/20	Spring	2
16	1301/SA3	Cage Assembly	3
18	15048101	Centre Stem	1
19	15044116	Washer	1
20	1264/SA2	Cage Assembly	1
21	1300/21	Washer	1
22	15048103	Spindle	1
23	15044119	Drive Pin	1
24	15025107	Spacer	1
25	15048104	Ratchet Gear	1
26	15016107	Spindle End Cap	1
27	B0515	Countersunk Screw 1/4" U.N.C. x 1/2" long	1
28	1260/8	Pawl	4
29	1300/10	Spindle	1
30	1300/22	Washer	2
31	1300/SA2	Cage Assembly	3
32	1300/8	Pawl Gear	1
33	1264/8	Pawl	4
34	1300/7	Ratchet Gear	1
35	1264/7	Washer	2
36	1300/9	Spindle	1
37	1300/5	Ratchet Gear	1
38	1300/6	Pawl Gear	1

Lewmar have designed a complete range of 3 speed automatic change winches, suitable for all sheet and halyard operations on yachts from 30' L.O.A. up to 70' plus.

The patented push button autochange mechanism is rapid and foolproof in operation. The winch man can preselect 1st gear and thereafter the winch cycles through the gear sequence merely by reversing the direction of handle rotation. The drum can be overtailed without tripping out the gear mechanism.

Three Speed Winch Range

Models 44 48 55 65

Material Specifications

Drum

High tensile chrome plated Marine Bronze.
High tensile aluminium alloy — hard anodised.
Stainless steel.

Centre Stems
Marine Bronze.

Centre Spindle
316 type stainless steel.

Bearings
Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears
Aluminium Bronze or 316 type stainless steel.

Gear Shafts
316 type stainless steel.

Pawls
Sintered stainless steel.

Pawl Springs
316 type stainless steel.

Drum Retaining Circlip
Stainless steel.

Drum Top Cap
Nylon moulding with aluminium bronzed pawl carrier. Stainless steel circlip and springs.

Mounting

All winches **must** be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a **FLAT CLEAN** surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a **LIGHT** coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

The winches are self draining and care must be taken not to block drain holes.

Operation

The winches are of the three speed type and have
1st gear (direct drive)
2nd gear (medium speed — geared drive)
3rd gear (low speed — geared drive.)

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

1st gear is preselected by depressing the white push button on the winch top cap. The winch drum can be overtailed without the 1st gear tripping out.

1st gear drive in a **CLOCKWISE DIRECTION**.

2nd gear drives in an **ANTI-CLOCKWISE DIRECTION**.

3rd gear drives in a **CLOCKWISE DIRECTION**.

The 1 - 2 - 3 sequence is

achieved by reversing the direction of handle rotation.

On completing the cycle the winch will remain in the 2nd/3rd GEAR MODE until the push button is again depressed to select 1st GEAR.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode

The winches are driven by the spindle top socket using a standard handle.

For **CROSS CONNECTING** each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the **LEWMAR MODULAR CROSS LINKING SYSTEM**. (Full details available on request.)

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies and by our Distributors and Service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of material and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

To ensure continuous trouble-free functioning, it is recommended that the winch be maintained as follows:

1. Routine maintenance at frequent intervals during constant use.
2. Full service annually.

Routine Maintenance.

A Using a small penknife or screwdriver remove top circlip (1) from spindle (20).

B Lift off drum and top cap assembly complete.

C Separate drum (33) and top cap assembly (5).

D Check that top cap mechanism and pawls (22) are functioning freely; with top cap mechanism inverted and push-button (3) depressed, the pawls will be normally in the open position.

E Grip the spring pillar posts on closing ring (8) and rotate in an anti-clockwise direction. This will close the pawls (22) and raise the push button (3). Both pawls (22) should now be in the fully closed position with the push button (3) locked in the raised position.

F Depress the push button (3) and the closing rings should rotate sharply in a clockwise direction, allowing both pawls to open fully. Should the rotation be sluggish or the pawls not fully open, the top cap must be stripped and cleaned prior to lubrication. See Full Annual Service Instructions.

G If the top cap mechanism functions correctly, clean off salt deposits and dirt then oil lightly.

H Clean off all grease and salt deposits from drum bore (48) centre stem bearings (47) and ratchet gears (35, 37, 43, 44).

I Check free rotation of spindle (20) in centre stem (15). Check free operation of ratchet gears (35, 37, 43, 44).

J If satisfactory, proceed with routine maintenance. If not, continue with **Full Service Procedure**.

K Lightly grease bore of drum (48), centre stem bearings (47) and ratchet gears (35, 37, 43, 44).

L Apply oil to centre spindle (20) and ratchet gear pawls through interface of ratchet gears.

M Reassemble drum (48) to centre stem.

N Replace top cap assembly, ensuring that pawls are in the closed position, i.e. push button (3) is raised. Align drive slots

in top cap (5) with drive pin (21) in spindle. Push top cap into recess in drum (48).

O Replace circlip (1) by entering one end into groove in spindle (20) and winding circlip into place.

P Check free rotation of drum (48) and, using handle, centre spindle (20).

Full Annual Service

Note.

To service completely the winch must be removed from the deck by removal of the 6 x 5/16" UNC C'sk screws securing the centre stem.

Q Remove drum/top cap assembly as points A-C.

R Slide out cross mounted drive pin (21) and remove clutch plate (11).

S Remove two plungers (12) and two springs (14) taking care not to lose them.

T Remove bearings (47) spacer (16) and drum support washer (46).

U Remove 3 x 3/8" UNC socket head screws (17) securing centre stem (15) to base (25) and lift off centre stem assembly complete.

V Invert the centre stem assembly and support in a firm way, ideally using a bench vice with soft faced jaws.

W Tap off the bridge piece (29) gently, taking care not to damage the spiral pins (28).

X Slide off gear assemblies from their spindles (35, 37, 43, 44).

Y Separate ratchet gear (44) from pawl gear (43) and remove washer (41) bearing (42) and washer (45). Remove two pawls (34) and two pawl springs (7) from pawl gear (43).

Z Remove circlip (36) and separate ratchet gear (37) from pawl gear (35). Remove washer (33), bearings (38) and washer (39).

A1 Remove two pawls (34) and two pawl springs (7) from pawl gear (35).

B1 Prise out two collets (13) from centre stem (15) and carefully withdraw centre spindle assembly.

C1 Undo c'sk screw (30) and remove spindle end cap (24) or coupling (in the case of linked winches).

D1 Remove ratchet gear (31) and spacer (23). Remove two pawls (22) and two pawl springs (7) from spindle (20).

E1 Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls

and pawl springs.

F1 Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

G1 Reassemble two pawls (22) and two pawl springs (7) to centre spindle (20). Lightly oil.

H1 Reassemble spacer (23) and ratchet gear (31) to centre spindle.

NOTE: Correct location of annular groove (see sketch).

I1 Replace spindle end cap (24) and firmly tighten c'sk screw (30).

J1 Place washer (19) and bearing (18) onto spindle (20), replace circlip (14). Slide centre spindle assembly into centre stem (19) and secure with two collets (13).

K1 Replace two pawls (34) and two springs (7) in pawl gear (43).

L1 Reassemble pawl gear (43) and ratchet gear (44).

M1 Replace washer (41), bearing (42) and washer (45).

N1 Reassemble gear assembly to spindle (40).

O1 Replace two pawls (34) and two pawl springs (7) in pawl gear (35).

P1 Replace ratchet gear (37) and secure with circlip (36).

Q1 Replace 3 bearings (38) and washer (39).

R1 Assemble gear assembly to spindle (32).

S1 Lightly grease all gear teeth (31, 35, 37, 20, 43, 44).

T1 Replace bridge piece, carefully lining up spiral pins (28) and gear assembly spindles (32, 40). Tap bridge piece gently into place.

U1 Take complete centre stem assembly and replace in base (25). Insert 3 x 3/8" UNC socket head screws and tighten firmly.

V1 Replace drum support washer (46), bearings (47) and spacer (10) noting correct separation.

W1 Replace two springs (14) and two plungers (12) replace clutch plate (11).

X1 Insert drive pin (21).

Y1 Replace drum (48).

Top Cap Maintenance.

Z1 To dismantle top cap assembly complete, remove large circlip (10) disengage two springs (9) close pawls and withdraw closing ring (8). Remove plunger (4) and compression spring (6). Remove two pawls (22) and two pawl springs (7).

A2 Carefully clean all components.

B2 Reassemble two pawls (22) and two pawl springs (7). Lightly oil.

- C2** Replace plunger (4) and compression spring (6).
D2 Engage closing ring (8) with compression spring and plunger and holding pawls closed, insert ring into recess.
E2 Ensure closing ring (8) seats correctly at base of recess. Re-insert circlip (10) and engage with groove provided.
F2 Engage two springs (9) with pillars provided on closing ring(8).
G2 Check top cap mechanism for correct operation, as prescribed in point (F). Oil lightly.
H2 Reassemble and check winch as points **N-P**.
I2 If winch fails to perform correctly, recheck servicing technique or contact your nearest Lewmar service point.

Notes

- A** When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.
B Lubrication:
 Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)
 Oil - Use light machine oil (3 in 1 or equivalent).
C Washing - Use Kerosene (Paraffin)
D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting Details

6 x 3/8" c'sk head bolts on 7.87" P.C.D.
 6 x 10 mm c'sk head bolts on 200 mm P.C.D.

Spare Parts Kits

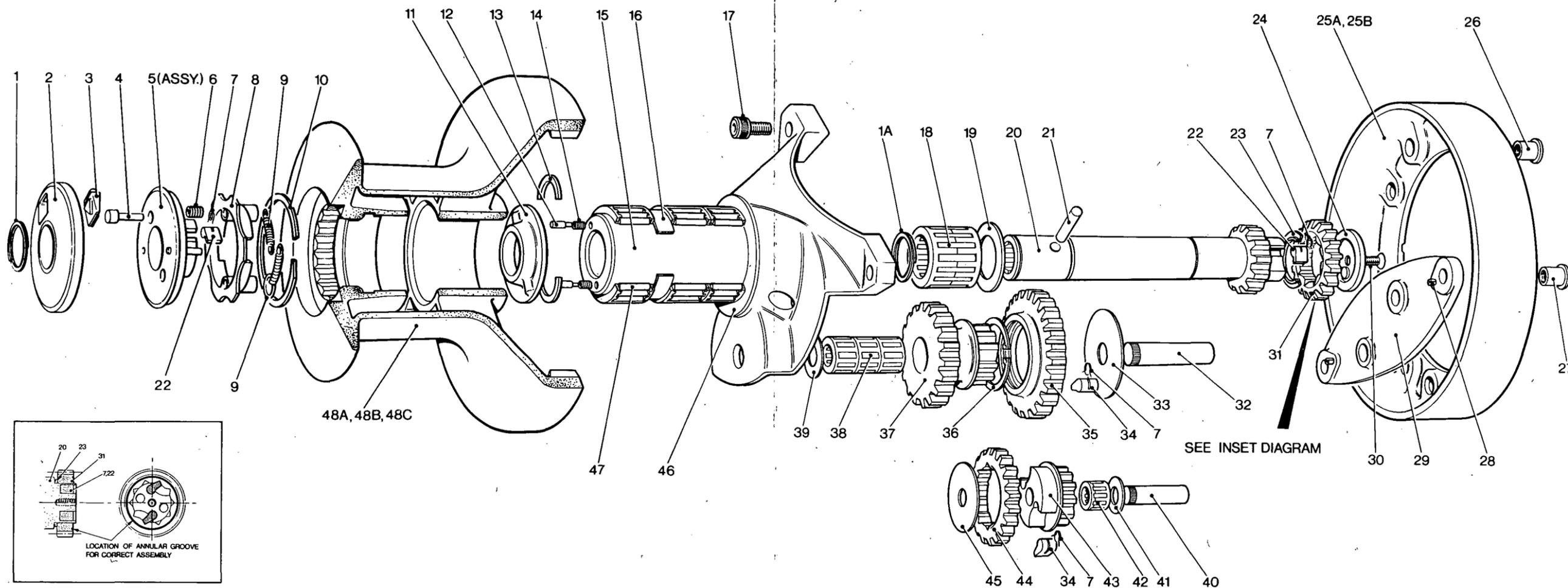
Model 55
 Cat No 19755400
 Contents
 1 x Pin Pt No 15044119
 1 x Washer Pt No 1301/19
 1 x Washer Pt No 1301/11
 1 x Washer Pt No 1300/22
 1 x Washer Pt No 15055119
 1 x Washer Pt No 15025107
 2 x Plunger 1300/24
 2 x Spring Pt No 1300/20
 1 x Plunger Pt No 15044111
 1 x Spring Pt No 15044112
 4 x Pawl Pt No 1264/8
 4 x Pawl Pt No 1260/8
 8 x Spring Part No 1260/7
 1 x Circlip Pt No B2075
 1 x Circlip Pt No B2083
 2 x Spring Pt No 15044113

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
 Southmoor Lane,
 Havant, Hants PO9 1JJ
 tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	No. Off
1	B02075	Circlip, Spirolox	1
1A	B02079	Circlip, Spirolox	1
2	15055106	Top Cap Assembly	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	8
8	15044106	Closing Ring	1
9	15044113	Spring	2
10	B2083	Circlip	1
11	15044105	Clutch Plate	1
12	1300/24	Plunger	2
13	15044118	Collet	2
14	1300/20	Spring	2
15	15055101	Centre Stem	1
16	15048105	Spacer	1
17	B0714	Socket Head Cap Screw 3/8" U.N.C. x 3/4" long	3
18	1264/SA2	Cage Assembly	1
19	1300/21	Washer	1
20	15055103	Spindle	1
21	15044119	Drive Pin	1
22	1260/8	Pawl	4

23	15025/107	Spacer	1
24	15016107	Spindle End Cap	1
25A	15055104	Base, Bronze	1
25B	15055204	Base, Alloy	1
26	1301/22	Dowel	1
27	1301/17	Dowel	2
28	B1506	Spirol Pin	2
29	15055105	Bridge Piece	1
30	B0515	Countersunk Screw 1/4" U.N.C. x 1/2" long	1
31	15048104	Ratchet Gear	1
32	1301/10	Shaft	1
33	1301/11	Washer	1
34	1264/8	Pawl	4
35	1301/7	Pawl Gear	1
36	B2077	Circlip	1
37	1301/6	Ratchet Gear	1
38	1301/SA2	Cage Assembly	3
39	1301/19	Washer	1
40	1264/6	Shaft	1
41	1300/22	Washer	1
42	1300/SA2	Cage Assembly	1
43	1300/8	Pawl Gear	1
44	1300/7	Ratchet Gear	1
45	15055119	Washer	1
46	15044116	Drum Washer	1

47	1301/SA3	Cage Assembly	3
48A	15055102	Drum, Bronze	1
48B	15055202	Drum, Alloy	1
48C	15055302	Drum, Stainless Steel	1

No. 65 Series 1

Lewmar have designed a complete range of 3 speed automatic change winches, suitable for all sheet and halyard operations on yachts from 30' L.O.A. up to 70' plus.

The patented push button autochange mechanism is rapid and foolproof in operation. The winch man can preselect 1st gear and thereafter the winch cycles through the gear sequence merely by reversing the direction of handle rotation. The drum can be overtailed without tripping out the gear mechanism.

Three Speed Winch Range

Models 44 48 55 65

Material Specifications

Drum

High tensile chrome plated Marine Bronze.
High tensile aluminium alloy — hard anodised.
Stainless steel.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Drum Retaining Circlip

Stainless steel.

Drum Top Cap

Nylon moulding with aluminium bronzed pawl carrier. Stainless steel circlip and springs.

Mounting

All winches **must** be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a **FLAT CLEAN** surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a **LIGHT** coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

The winches are self draining and care must be taken not to block drain holes.

Operation

The winches are of the three speed type and have
1st gear (direct drive)
2nd gear (medium speed — geared drive)
3rd gear (low speed — geared drive.)

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

1st gear is preselected by depressing the white push button on the winch top cap. The winch drum can be overtailed without the 1st gear tripping out.

1st gear drive in a **CLOCKWISE DIRECTION**.

2nd gear drives in an **ANTI—CLOCKWISE DIRECTION**.

3rd gear drives in a **CLOCKWISE DIRECTION**.

The 1 - 2 - 3 sequence is

achieved by reversing the direction of handle rotation.

On completing the cycle the winch will remain in the 2nd/3rd GEAR MODE until the push button is again depressed to select 1st GEAR.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode

The winches are driven by the spindle top socket using a standard handle.

For **CROSS CONNECTING** each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the **LEWMAR MODULAR CROSS LINKING SYSTEM**. (Full details available on request.)

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies and by our Distributors and Service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of material and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance

To ensure continuous trouble-free functioning it is recommended that the winch be maintained as follows:

A Routine maintenance, at frequent intervals during constant use.

B Full service annually.

Routine Maintenance

A Using a small penknife or screwdriver, remove top circlip (1) from spindle (21).

B Lift off drum and top cap assembly.

C Wash off salt deposits and check that top cap mechanism and pawls (33) are functioning freely. If necessary, strip top cap by removing large circlip (10), disengaging two springs (9), depressing pawls and withdrawing closing ring (8), taking care not to lose plunger and compression spring assembly (4, 6). Clean, reassemble and lubricate with light oil.

D Lightly grease all remaining moving parts using Lewmar Grease Part No 7385. Reassemble.

NOTE: When re-fitting top cap assembly ensure that pawls are closed, i.e. push button (3) is in raised position, and align drive slots in top cap (5), with drive pin (22) in spindle and push on.

Full Annual Service

E Lift off drum and top cap assembly as instructed in routine maintenance.

F Slide off cross-mounted drive pin (22) and remove clutch plate (47), taking care not to lose plungers and springs (12, 13).

G Slide off drum cage assemblies (14), spacer (15), washer (45).

H Remove six socket head cap screws 3/8" U.N.C. (17) securing centre stem (16) to base (30) and lift off centre stem assembly complete.

I Remove three socket head screws 5/16" U.N.C. (18) securing bridge piece (24) to centre stem and gently tap off.

J Slide off gear assemblies from their spindles (31, 40) including case assembly (38).

K Prise out two collets (46) from spindle recesses and carefully withdraw spindle assembly, cage assembly (19) and washer (20) from centre stem. Remove ratchet gear (26) from spindle by unscrewing countersunk screw 1/4" U.N.C. (28) and pulling off spindle end cap (27) or coupling (in the case of linked winches). Wash all parts in paraffin

(Kerosene) and dry thoroughly using a clean non-fluffy cloth. Lightly grease all moving parts using Lewmar Grease Part No 7385, except pawls (29, 33). Check that pawls function properly and lubricate with light oil.

Reassemble in the reverse sequence to above.

After cleaning ensure that Pawl Gear and Ratchet are correctly assembled. Most Important.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting Details

6 x 3/8" c'sk head bolts on 9.5" P.C.D.

6 x 10 mm c'sk head bolts on 242 mm P.C.D.

Spare Parts Kits

Model 65 (Series 1)

Cat No 19765300

Contents

1 x Pin Pt No 1300/17

2 x Spring Pt No 15137204

2 x Plunger Pt No 15137203

1 x Washer Pt No 1301/11

3 x Washer Pt No 1301/19

2 x Circlip Pt No B2075

8 x Spring Pt No 1260/7

4 x Pawl 1260/8

4 x Pawl Pt No 1264/8

1 x 1/2-13 UNC Sckt Hd cap screw

x 1 1/2 LG Pt No B0710

2 x 1/2-13 UNC Sckt Hd cap screw

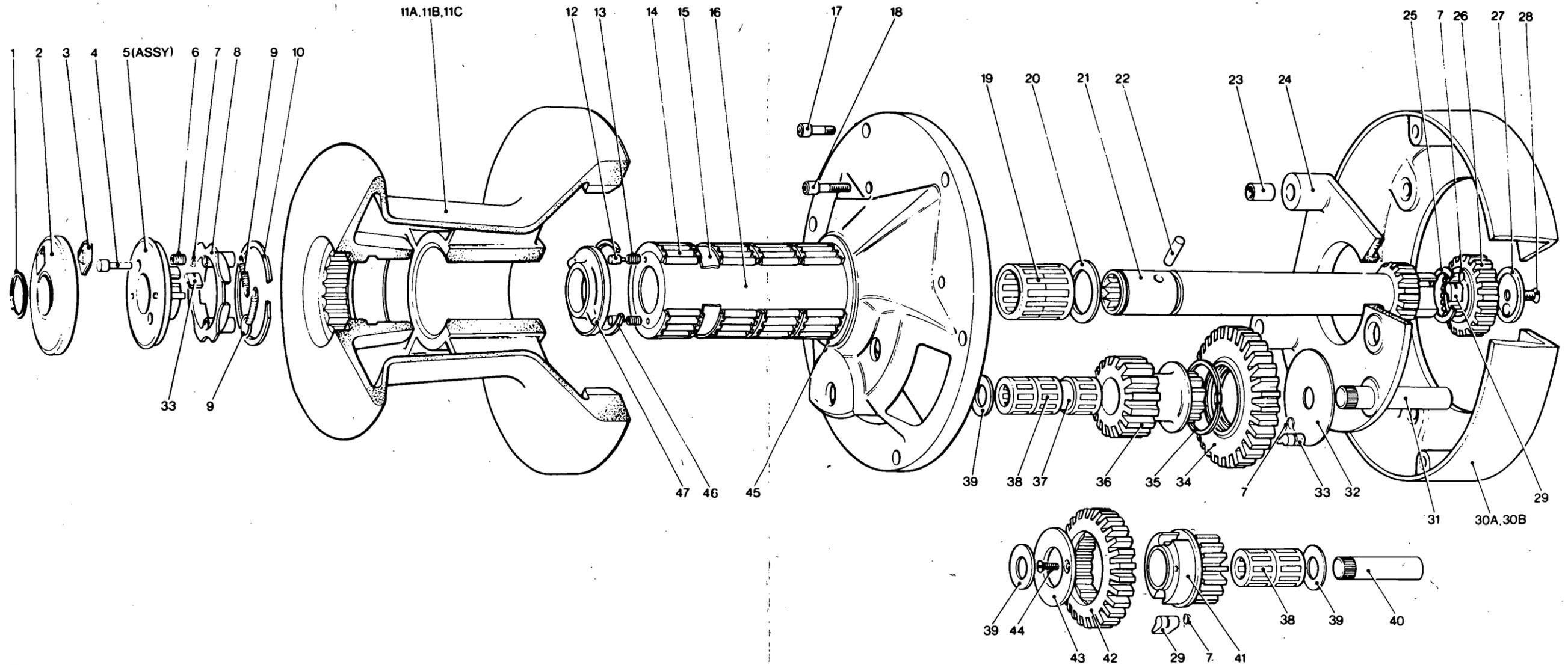
x 1" LONG Pt No B0716

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	No. Off
1	B0275	Circlip, Spirolox	1
2	15065106	Top Cap Cover	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	8
8	15044106	Closing Ring	1
9	15044113	Spring	2
10	B2083	Circlip	1
11A	15065102	Drum, Bronze	1
11B	15065202	Drum, Alloy	1
11C	15065302	Drum, Stainless Steel	1
12	1300/24	Plunger	2
13	1300/20	Spring	2
14	1301/SA3	Cage Assembly	4
15	15065115	Spacer	1
16	15065201	Centre Stem	1
17	B0714	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x $\frac{3}{4}$ " long	6
18	B0689	Socket Head Cap Screw $\frac{5}{16}$ " x 18 UNC x $1\frac{1}{2}$ " long	3

19	1264/SA2	Cage Assembly	1
20	1300/21	Washer	1
21	15065103	Spindle	1
22	15044119	Drive Pin	1
23	15065111	Hollow Dowel	3
24	15065105	Bridge Piece	1
25	15025107	Spacer	1
26	15065116	Ratchet Gear	1
27	15016107	Spindle End Cap	1
28	B0515	Countersunk Screw $\frac{1}{4}$ " x 20 UNC x $\frac{1}{2}$ " long	1
29	1260/8	Pawl	4
30A	15065104	Base, Bronze	1
30B	15065204	Base, Alloy	1
31	1302/14	Spindle	1
32	1301/11	Washer	1
33	1264/8	Pawl	4
34	1302/10	Pawl Gear	1
35	B2077	Circlip	1
36	1302/9	Output Gear	1
37	1301/18	Spacer	1
38	1301/SA2	Cage Assembly	5
39	1301/19	Washer	3
40	1302/13	Spindle	1
41	1302/8	Pawl Gear	1

42	1302/7	Ratchet Gear	1
43	1302/17	Retaining Plate	1
44	B0511	Countersunk Screw 2BA x $\frac{3}{8}$ " long	2
45	15044116	Washer	1
46	15044118	Collet	2
47	15044105	Clutch Plate	1

No. 65 Series 2

Lewmar have designed a complete range of 3 speed automatic change winches, suitable for all sheet and halyard operations on yachts from 30' L.O.A. up to 70' plus.

The patented push button autochange mechanism is rapid and foolproof in operation. The winch man can preselect 1st gear and thereafter the winch cycles through the gear sequence merely by reversing the direction of handle rotation. The drum can be overtailed without tripping out the gear mechanism.

Three Speed Winch Range

Models 44 48 55 65

Material Specifications**Drum**

High tensile chrome plated Marine Bronze.
High tensile aluminium alloy — hard anodised.
Stainless steel.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Drum Retaining Circlip

Stainless steel.

Drum Top Cap

Nylon moulding with aluminium bronzed pawl carrier. Stainless steel circlip and springs.

Mounting

All winches must be mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not overtightened).

The winches are self draining and care must be taken not to block drain holes.

Operation

The winches are of the three speed type and have
1st gear (direct drive)
2nd gear (medium speed — geared drive)
3rd gear (low speed — geared drive.)

The sheet or halyard is wrapped onto the drum in a clockwise direction starting with the lead-in turn low on the drum and adding sufficient turns to almost fill the roughened drum section. When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

1st gear is preselected by depressing the white push button on the winch top cap. The winch drum can be overtailed without the 1st gear tripping out.

1st gear drive in a CLOCKWISE DIRECTION.

2nd gear drives in an ANTI — CLOCKWISE DIRECTION.

3rd gear drives in a CLOCKWISE DIRECTION.

The 1 - 2 - 3 sequence is

achieved by reversing the direction of handle rotation.

On completing the cycle the winch will remain in the 2nd/3rd GEAR MODE until the push button is again depressed to select 1st GEAR.

Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode

The winches are driven by the spindle top socket using a standard handle.

For CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request.)

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our Factory, Subsidiary Companies and by our Distributors and Service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of material and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance

To ensure continuous trouble-free functioning, it is recommended that the winch be maintained as follows:

1. Routine maintenance at frequent intervals during constant use.
2. Full service annually.

Routine Maintenance.

A Using a small penknife or screwdriver remove top circlip (1) from spindle (21).
B Lift off drum and top cap assembly complete.
C Separate drum (11) and top cap assembly (5).
D Check that top cap mechanism and pawls (29) are functioning freely; with top cap mechanism inverted and push-button (3) depressed, the pawls will be normally in the open position.
E Grip the spring pillar posts on closing ring (8) and rotate in an anti-clockwise direction. This will close the pawls (29) and raise the push button (3). Both pawls (29) should now be in the fully closed position with the push button (3) locked in the raised position.
F Depress the push button (3) and the closing rings should rotate sharply in a clockwise direction, allowing both pawls to open fully. Should the rotation be sluggish or the pawls not fully open, the top cap must be stripped and cleaned prior to lubrication. See Full Annual Service Instructions.
G If the top cap mechanism functions correctly, clean off all salt deposits and dirt then oil lightly.
H Clean off all grease and salt deposits from drum bore (11), centre stem bearings (14) and output gear (37).
I Check free rotation of spindle (21) in centre stem (16). Check free operation of output gear (37).
J If satisfactory, proceed with routine maintenance. If not, continue with **Full Service Procedure**.
K Lightly grease bore of drum (11), centre stem bearings (14) and output gear (37).
L Apply oil to centre spindle (21) and ratchet gear pawls through interface of ratchet gears.
M Reassemble drum (11) to centre stem (16).
N Replace top cap assembly, ensuring that pawls are in the closed position i.e. push button (3) is raised. Align drive slots in

top cap (5) with drive pin (22) in spindle. Push top cap into recess in drum (11).
O Replace circlip (1) by entering one end into groove in spindle (21) and winding circlip into place.
P Check free rotation of drum (11) and, using handle, centre spindle (21).

Full Annual Service.

Q Remove drum/top cap assembly as points A-C.
R Slide out cross mounted drive pin (22) and remove clutch plate (49).
S Remove two plungers (12) and two springs (13) taking care not to lose these.
T Remove bearings (14) spacer (15) and drum support washer (47).
U Remove 6 x $\frac{3}{8}$ " UNC socket head screws $\frac{3}{4}$ " long (17) securing centre stem (16) to base (30).
V Lift off centre stem assembly complete. If necessary, tap top of centre stem assembly gently to assist removal.
W Invert centre stem assembly and support firmly, ideally using a vice with soft face jaws.
X Remove $\frac{1}{2}$ " BSF lock-nut (31) and washer (32) from underside of bridge piece (24).
Y Remove 3 x $\frac{5}{16}$ " UNC socket head screws $1\frac{1}{2}$ " long (18) securing bridge piece (24) to centre stem (16). Gently tap bridge piece and remove.
Z Slide off ratchet gear assemblies (35, 37, 43, 44).
A1 Separate pawl gear (35) and ratchet gear (37). Remove two bearings (38) and washers (34, 39).
B1 Remove 3 pawls (36) and three pawl springs (7) from pawl gear.
C1 Separate pawl gear (43) from ratchet gear (44) by removing 2 C'sk screws (46). Remove washer (41) retaining plate (45) and two bearings (42).
D1 Remove 2 pawls (36) and 2 pawl springs (7) from pawl gear.
E1 Drive out two collets (48) from centre stem (16) and carefully withdraw centre spindle assembly.
F1 Remove bearing (19) and washer (20) from centre spindle (21).
G1 Remove ratchet gear (26) from spindle (21) by removing C'sk screw (28) and withdrawing spindle end cap (27) or coupling (in the case of linked winches).
H1 Remove ratchet gear (26) and spacer (25).
I1 Remove two pawls (29) and two pawl springs (7) from spindle (21).
J1 Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls, and pawl springs.
K1 Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.
L1 Reassemble two pawls (29) and two pawl springs (7) to spindle (21). Oil lightly.
M1 Reassemble spacer (25) and ratchet gear (26) to spindle (21).
NOTE: Correct location of annular groove (see sketch).
N1 Replace spindle and cap (27) a C'sk screw (28). Tighten screw.
O1 Replace washer (20) and bearing (19) on spindle. Slide spindle into centre stem and secure with two collets (48).
P1 Replace two pawls (36) and two pawl springs (7) in pawl gear (43).
Q1 Reassemble ratchet gear (44) to pawl gear (43), secure by replacing retaining plate (45) inserting two C'sk screws (46) and tightening.
R1 Replace two bearings (42) and washers (41).
S1 Replace 3 pawls (36) and three pawl springs (7) in pawl gear (35). Oil lightly.
T1 Reassemble ratchet gear (37) to pawl gear (35).
U1 Replace two bearings (38) and washers (34, 39).
V1 Reassemble ratchet gear, assemble (43, 44) over spindle (40).
W1 Reassemble ratchet gear assembly (35, 37) over spindle (33).
X1 Replace bridge piece (24) and locate carefully over spindles (33, 40). Tap gently into position.
Y1 Replace 3 x $\frac{5}{16}$ " UNC socket head screws $1\frac{1}{2}$ " long (18) securing bridge piece (24) to centre stem (16). Tighten firmly.
Z1 Replace $\frac{1}{2}$ " BSF lock-nut (31) and washer (32) on spindle thread (33). Tighten firmly.
A2 Replace centre stem (16) onto base (30).
NOTE: Align holes carefully over screw threads in base for socket head screws (11).
B2 Insert 6 x $\frac{3}{8}$ " UNC socket head screws $\frac{3}{4}$ " long (17) and tighten firmly.
C2 Replace drum thrust washer (47), 4 bearings (14) and collar (15). Note correct spacing of bearings and collar.
D2 Replace drum on centre stem assembly.

Top Cap Maintenance.

E2 To dismantle top cap assembly complete, remove large circlip (10) disengage two springs (9) close pawls and withdraw closing ring (8). Remove plunger (4) and compression spring (6). Remove two pawls (29) and two pawl springs (7).

F2 Carefully clean all components.

G2 Reassemble two pawls (29) and two pawl springs (7). Lightly oil.

H2 Replace plunger (4) and compression spring (6).

I2 Engage closing ring (8) with compression spring and plunger and holding pawls closed, insert closing ring into recess.

J2 Ensure closing ring (8) seats correctly at base of recess.

Re-insert circlip (10) and engage with groove provided.

K2 Engage two springs (9) with pillars provided on closing ring (8).

L2 Check top cap mechanism for correct operation, as prescribed in point (F): Oil lightly.

M2 Reassemble and check winch as points N-P.

N2 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar service point.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting Details

6 x 3/8" c'sk head bolts on 9.5" P.C.D.

6 x 10 mm c'sk head bolts on 242 mm P.C.D.

Spare Parts Kits

Model 65 (Series 2)

Cat No 19765400

Contents

3 x Washer Pt No 1301/19

1 x Washer Pt No 1301/11

1 x Washer Pt No 15025107

4 x Pawl Pt No 1260/8

4 x Pawl Pt No 1264/8

8 x Spring Pt No 1260/7

2 x Plunger Pt No 1300/24

2 x Spring Pt No 1300/20

1 x Plunger Pt No 15044111

1 x Spring Pt No 15044112

1 x Pin Pt No 15044119

1 x Circlip Pt No B2077

1 x Circlip Pt No B2075

1 x Circlip Pt No B2083

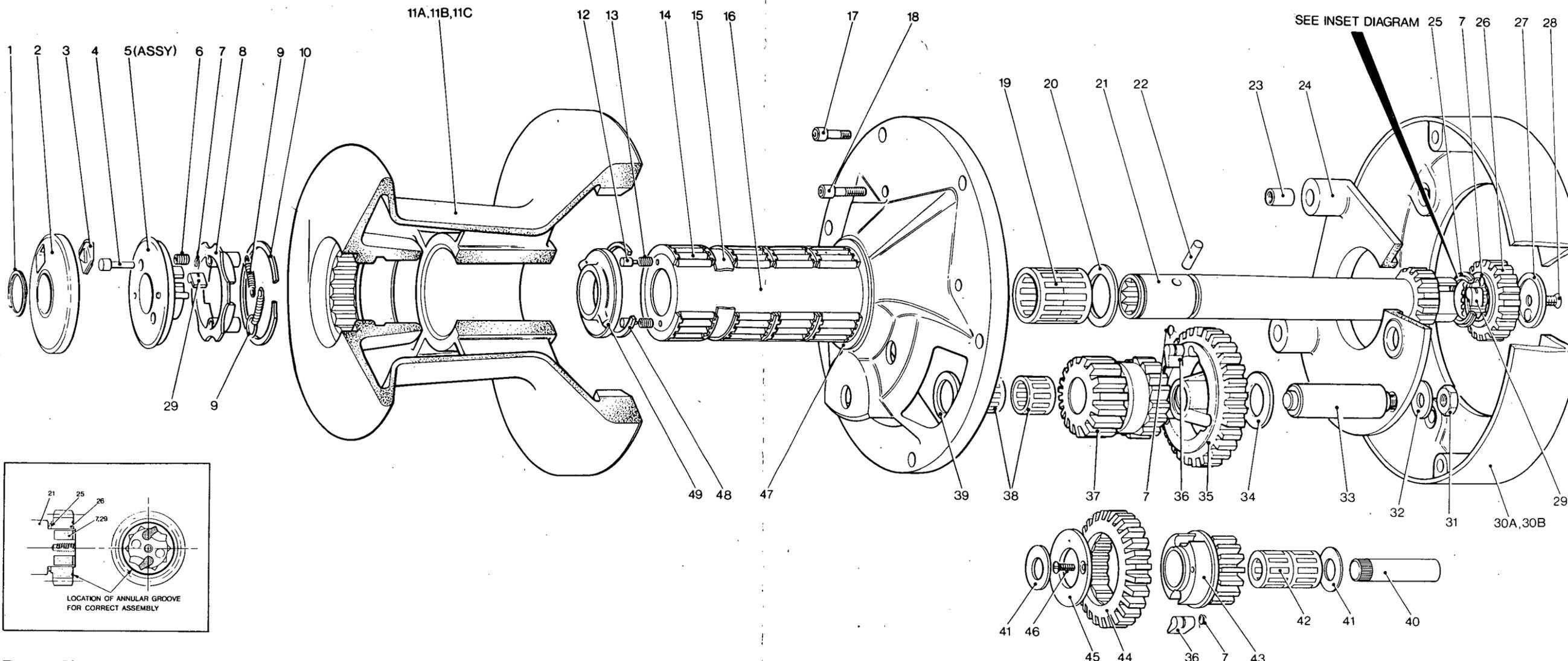
2 x Spring Pt No 15044113

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	No. Off
1	B0275	Circlip, Spirolox	1
2	15065106	Top Cap Cover	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	9
8	15044106	Closing Ring	1
9	15044113	Spring	2
10	B2083	Circlip	1
11A	15065102	Drum, Bronze	1
11B	15065202	Drum, Alloy	1
11C	15065302	Drum, Stainless Steel	1
12	1300/24	Plunger	2
13	1300/20	Spring	2
14	1301/SA3	Cage Assembly	4
15	15065115	Spacer	1
16	15065201	Centre Stem	1
17	B0714	Socket Head Cap Screw 3/8" 16 U.N.C. x 3/4" long	6
18	B0698	Socket Head Cap Screw 5/16" 18 U.N.C. x 1 1/2" long	3
19	1264/SA2	Cage Assembly	1
20	1300/21	Washer	1
21	15065103	Spindle	1
22	15044119	Drive Pin	1
23	15065111	Hollow Dowel	3
24	15065105	Bridge Piece	1
25	15025107	Spacer	1
26	15065116	Ratchet Gear	1
27	15016107	Spindle End Cap	1
28	B0515	Countersunk Screw 1/4" U.N.C. x 1/2" long	1
29	1260/8	Pawl	4
30A	15065104	Base, Bronze	1
30B	15065204	Base, Alloy	1
31	B1009	Locknut, 1/2" BSF	1
32	B1202	Washer	1
33	15080009	Spindle	1
34	B2451	Washer	1
35	5080008	Pawl Gear	1
36	1264/8	Pawl	5
37	15080007	Output Gear	1
38	1337/SA2	Cage Assembly	2
39	15080014	Washer	1
40	1302/13	Spindle	1
41	1301/19	Washer	2
42	1301/SA2	Cage Assembly	2

43	1302/8	Pawl Gear	1
44	1302/7	Ratchet Gear	1
45	1302/17	Retaining Plate	1
46	B0511	Countersunk Screw 2BA x 3/8" long	2
47	15044116	Washer	1
48	15044118	Collet	2
49	15044105	Clutch Plate	1

Lewmar introduce a range of Self Tailing winches designed to provide easy single handed operation of any winch without sheet slippage or the need to feed off loose sheet by hand. They are ideally suited for cruising applications, where ease and security of operation are demanded or on racing yachts where economy of crew effort and weight movement can be maximised.

Lewmar self tailing winches feature:—

- * Full drum depth for security of operation and reduced tailing loads;
- * Spring loaded self tailing jaws to accept a wide range of rope sizes.
- * Stripper arm adjusts easily to give correct sheet feed off position.
- * Drum easily removable for routine servicing without affecting adjustment.

Self Tailing Winch Range

Model 40 ST (Single Speed)
Model 44ST, 48ST, 55ST, 65ST
(Two speed)

Material Specifications

Drum

High tensile aluminium alloy — hard anodised Stainless steel.

Self Tailing Jaws

High tensile aluminium alloy
Hard anodised.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Mounting

All winches must be correctly mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not over tightened).

The winches are self draining and care must be taken not to block drain holes when bolting down.

Operation

Model 40 ST

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in an anti-clockwise direction and is free

to ratchet in a clockwise direction allowing the sheet or halyard to be "pumped" up to tension.

Models 44ST, 48ST, 55ST, and 65ST.

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in HIGH GEAR in an anti-clockwise direction and LOW GEAR in a clockwise direction.

The gearchange is automatic on reversal of the direction of handle rotation.

Range of Rope Sizes.

The adjustable jaws are designed to accept the following range of rope sizes. These sizes should not be exceeded for effective operation.

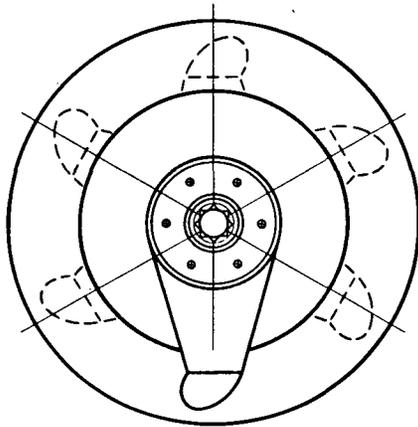
Model	Circ.	. Dia.
40ST	1¼" - 2"	10 - 16mm
44ST	1¼" - 2"	10 - 16mm
48ST	1½" - 2"	12 - 16mm
55ST	1½" - 2¼"	12 - 18mm
56ST	1¾" - 2½"	14 - 20mm

Stripper Arm Adjustment

The stripper arms must be adjusted to allow the sheet to feed off the winch to a secure stowage position.

Adjust by removing the six ¼" UNC socket head screws located on top of the winch. The stripper arm may now be rotated to the correct

position. Six positions are available located at an angular spacing of 60°. Reinsert the six 1/4" UNC socket head screws and retighten.



Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode (Except 40ST)

The winches are driven by the spindle top socket using a standard handle alternatively for CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our factory. Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Routine Maintenance.

A Loosen stripper plate (2) by firmly tapping in an anti-clockwise direction with soft faced mallet.

B Unscrew 6 x 1/4" UNC socket head screws (23) lift off top plate (1) and stripper plate (2). Unscrew nut (3) and remove thrust washer (22).

C Lift off drum (18).

D Clean off excess grease and salt deposits from bearing surface of drum (18), centre stem (8) and roller bearings (9).

E Check free operation of pawls (7) in upper part of drum.

F Check free operation of ratchet gear assembly (12-16) by rotating large gear.

G Check free rotation of spindle (11) in centre stem (8).

H If satisfactory proceed with routine maintenance. If not continue with **Full Service Procedure**.

I Lightly grease the bore of the drum (18) and roller bearings (9).

J Lightly oil ratchet gear assembly (12-16) and centre spindle (11).

K Apply grease sparingly to gear teeth of ratchet assembly (12-16). Lightly oil pawls (7). Reassemble drum (18) to centre stem (8) by introducing drum over centre stem and engaging pawls in the ratchet track by rotating the drum in a clockwise direction.

L Rotate drum to check freedom of pawl movement and correct engagement.

M Reassemble nut (3) and washer (22), and screw home. Replace stripper plate (2) and top plate (1). Insert 6 x 1/4" UNC socket head screws and tighten firmly. With soft faced mallet tap stripper plate clockwise to tighten. **DO NOT USE FORCE**.

N Check free rotation of drum (18) and using handle, centre spindle (11).

Full Annual Service

Note.

To service completely the winch must be removed from the deck by removal of the 5 x 1/4" UNC c'sk head bolts securing the centre stem.

O Remove the drum/stripper assembly as points A-C.

P Remove centre stem from deck.

Q Support the centre stem assembly (8) on its base on a firm structure. (Work bench etc.) Ensure the lower exit of bearing spindle (12) is not covered. Using a flat ended drift tap out the bearing spindle **Downwards**.

R Remove the ratchet gear assembly (14-16).

S Separate the upper and lower gears (14-16).

T Remove two pawls (15) and two springs (6) from pawl gear (16).

U Remove two bearings (9) and support washer (10) from centre stem (8).

V Carefully prise out retaining key (17) from centre stem (8).

W Withdraw centre spindle (11) from centre stem (8).

X Inspect three pawls (7) in upper portion of drum for freedom of movement. If pawls stick or are jammed the self tailing jaw mechanism must be removed to service (see later notes).

Y Carefully wash drum, centre stem, spindle, roller bearings, gears, washers, pawls and pawl springs. Lightly grease drum bore, roller bearings, centre stem bearing area and spindle.

Z Insert centre spindle (11) into centre stem (8). Replace key (17).

Replace two bearings (9) and washer (10) on centre stem (8).

A1 Replace two pawls and two pawl springs in pawl gear (16). Assemble to ratchet gear (14) noting correct location of annular groove (see sketch). Put washer (13) in place.

B1 Support the centre stem on the gear aperture shoulder and insert the ratchet gear assembly (13-16) into engagement with centre spindle (11).

C1 Insert the gear spindle (12) and engage with the ratchet gear assembly (13-16). Ensure correct line up.

D1 With drift tap the gear spindle into place.

E1 Reassemble and check winch as points (I-N).

F1 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar Service point.

Spring Loaded Self

Tailing Jaws Maintenance

The spring loaded jaws should require attention only infrequently. If it is necessary for any reason adopt the following procedure.

G1 Remove drum/stripper assembly as points A-C.

H1 Remove 3 x 1/4" UNC socket

head screws 1 1/4" long (4) from retaining plate (21).

Note.

When releasing screws, retaining plate must be restrained firmly against spring pressure. Use clamp or firm hand pressure.

I1 Lift off retaining plate (21) and remove 3 spacers (5) and six springs (20). Remove upper crown plate (19).

J1 Remove three pawls (7) and three pawl springs (6).

K1 The self tailing jaw components can now be cleaned and reassembled. Only the pawls require lubrication.

L1 Reassemble three pawls (7) and three pawl springs (6) to drum (18). Oil lightly.

M1 Replace upper crown plate (19) into recess in drum (18). Locate slots over screw holes for access.

N1 Replace six springs (20) over dimples in upper crown plate (19).

O1 Replace three spacers (5) in recesses in retaining plate (21). Locate retaining plate (21) and spacers (5) over springs. Align spacers with screw holes in drum (18).

P1 Insert 3 x 1/4" UNC socket screws 1 1/4" long (4) into retaining plate (21). Depress springs, engage screws and retighten firmly.

Q1 Reassemble drum/stripper plate assembly as points (I-N).

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting Details.

5 x 5/16" c'sk head bolts on 4.125" P.C.D.

5 x 8mm c'sk head bolts on 105mm P.C.D.

Spare Parts Kit.

Model 40 ST Cat. No. 19740700

Contents:-

2 x Pawl Pt. No. 1260/8

5 x Pawl Springs Pt. No. 1260/7

3 x Pawl Pt. No. 1264/8

1 x Washer Pt. No. 1260/9

1 x Key Pt. No. 15040605

1 x Washer Pt. No. B2454.

Pricing.

Parts pricing is subject to change. Apply to your nearest Lewmar Office or distributor for current price list.

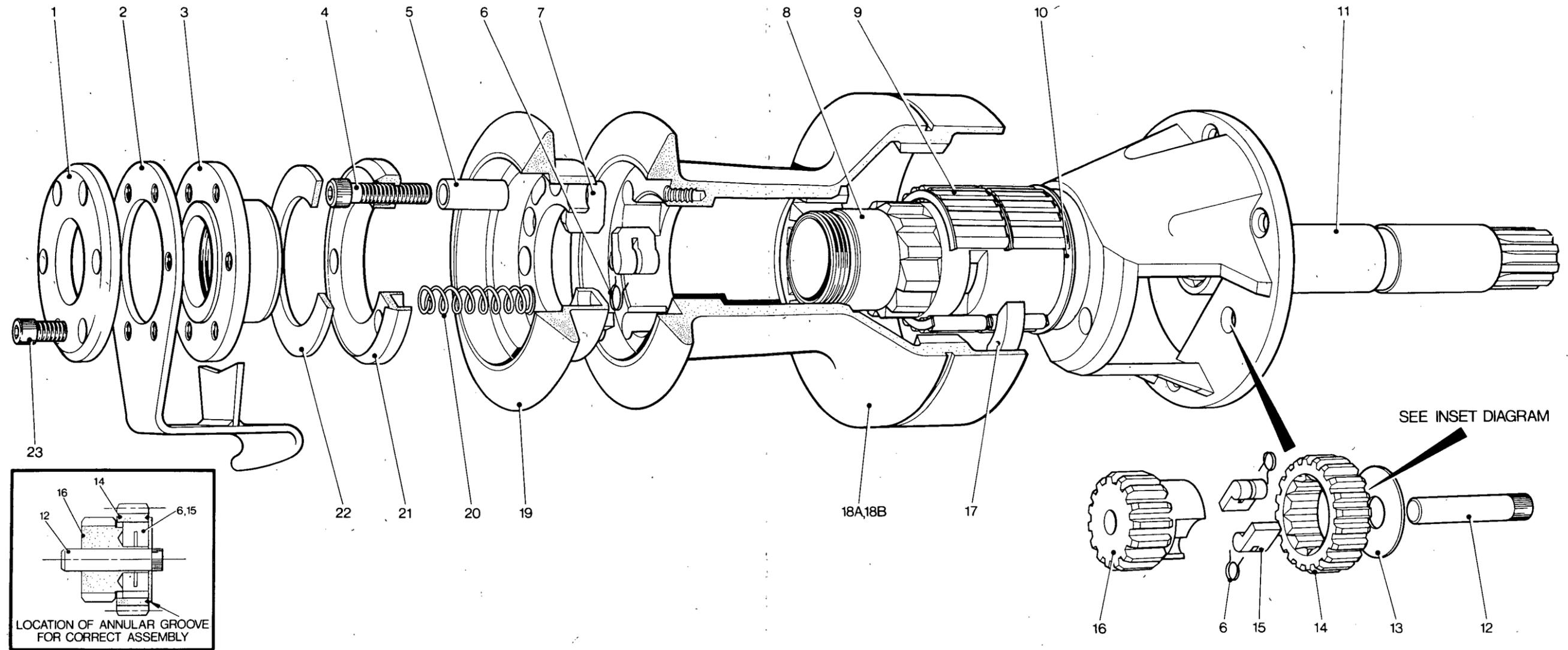


Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
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Lewmar

Self tailing winches

No. 40 ST



Parts list

Item Number	Part Number	Description	No. Off
1	15044611	Top Plate	1
2	15040610	Stripper Plate	1
3	15044607	Nut	1
4	B0724	Socket Head Cap Screw 1/4 x 20 UNC x 1 1/4 Long	3
5	15040612	Spacer	3
6	1260/7	Pawl Spring	5
7	1264/8	Pawl	3
8	15040601	Centre Stem	1
9	1260/SA2	Cage Assembly	2
10	1260/10	Thrust Washer	1
11	15040603	Spindle	1
12	1260/6	Intermediate Gear Spindle	1
13	1260/9	Intermediate Gear Washer	1
14	1260/5	Intermediate Gear Pawl Track	1
15	1260/8	Pawl	2
16	1260/4	Intermediate Gear Pawl Holder	1
17	15040605	Key	1
18A	15040502	Drum, K2	1

18B	15040602	Drum, Stainless Steel	2
19	15040604	Upper Crown Plate	1
20	15040613	Spring	6
21	15040609	Retaining Plate	1
22	B2454	Thrust Washer	1
23	B0723	Socket Head Cap Screw 1/4 x 20 UNC x 1/2 Long	6

Lewmar introduce a range of Self Tailing winches designed to provide easy single handed operation of any winch without sheet slippage or the need to feed off loose sheet by hand: They are ideally suited for cruising applications, where ease and security of operation are demanded or on racing yachts where economy of crew effort and weight movement can be maximised.

Lewmar self tailing winches feature:—

- * Full drum depth for security of operation and reduced tailing loads;
- * Spring loaded self tailing jaws to accept a wide range of rope sizes.
- * Stripper arm adjusts easily to give correct sheet feed off position.
- * Drum easily removable for routine servicing without affecting adjustment.

Self Tailing Winch Range

Model 40 ST (Single Speed)
Model 44ST, 48ST, 55ST, 65ST
(Two speed)

Material Specifications

Drum

High tensile aluminium alloy — hard anodised Stainless steel.

Self Tailing Jaws

High tensile aluminium alloy
Hard anodised.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Mounting

All winches **must** be correctly mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not over tightened).

The winches are self draining and care must be taken not to block drain holes when bolting down.

Operation

Model 40 ST

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in an anti-clockwise direction and is free

to ratchet in a clockwise direction allowing the sheet or halyard to be "pumped" up to tension.

Models 44ST, 48ST, 55ST, and 65ST.

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in HIGH GEAR in an anti-clockwise direction and LOW GEAR in a clockwise direction.

The gearchange is automatic on reversal of the direction of handle rotation.

Range of Rope Sizes.

The adjustable jaws are designed to accept the following range of rope sizes. These sizes should not be exceeded for effective operation.

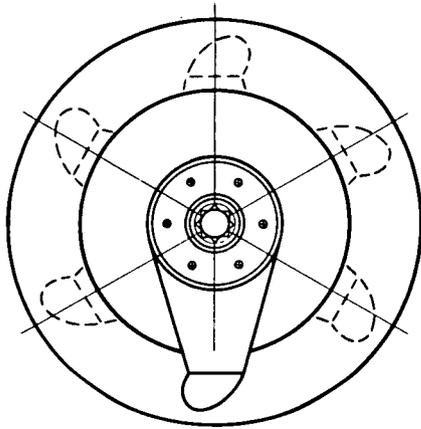
Model	Circ.	· Dia.
40ST	1¼" - 2"	10 - 16mm
44ST	1¼" - 2"	10 - 16mm
48ST	1½" - 2"	12 - 16mm
55ST	1½" - 2¼"	12 - 18mm
56ST	1¾" - 2½"	14 - 20mm

Stripper Arm Adjustment

The stripper arms must be adjusted to allow the sheet to feed off the winch to a secure stowage position.

Adjust by removing the six ¼" UNC socket head screws located on top of the winch. The stripper arm may now be rotated to the correct

position. Six positions are available located at an angular spacing of 60°. Reinsert the six ¼" UNC socket head screws and retighten.



Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode (Except 40ST)

The winches are driven by the spindle top socket using a standard handle alternatively for CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our factory. Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Routine Maintenance.

A Loosen stripper plate (32) by firmly tapping in an anti-clockwise direction with a soft faced mallet.

B Unscrew 6 x ¼" UNC socket head screws (33). Lift off top plate (1) and stripper plate (32). Unscrew nut (2) and remove thrust washer (3).

C Lift off drum (27).

D Clean off excess grease and salt deposits from bearing surface of drum (27), centre stem bearings (9) and ratchet gears (17, 21, 22, 25).

E Check free rotation of spindle (13) in centre stem (8). Check free operation of ratchet gears (17, 25, 21, 22).

F If satisfactory proceed with routine maintenance. If not continue with Full Service Procedure.

G Lightly grease bore of drum (27), centre stem bearings (9) and ratchet gears (17, 21, 22, 25).

H Apply oil to centre spindle (13) and ratchet gear pawls through interface of ratchet gears.

I Reassemble drum (27) to centre stem (8). Reassemble nut (2), washer (3) and screw home. Replace stripper plate (32) and top plate (1). Insert 6 x ¼" UNC socket head screws and tighten firmly. With soft faced mallet tap stripper plate clockwise to tighten. DO NOT USE FORCE.

J Check free rotation of drum (27) and using handle, centre spindle (13).

Full Annual Service.

NOTE:

To service completely the winch must be removed from the deck by removal of the 6 x ⅝" UNC c'sk screws securing the centre stem.

K Remove the drum/stripper assembly as points A-C.

L Remove centre stem from deck.

M Remove bearings (9), collar (7) and drum support washer (10).

N Support the centre stem assembly (8) by the base on a firm structure (work bench etc.). Ensure the lower exits of bearing spindles (20) and (24) are not covered.

O Using a flat ended drift tap out the bearing spindles DOWNWARDS.

P Remove ratchet assemblies and washers.

Q Separate ratchet gears (25) and (17). Remove two pawls (14) and two pawl springs (16). Remove washer (23).

R Separate ratchet gears (21; 22). Remove two pawls (14) and two pawl springs (16). Remove spacer (15). Remove washer (23).

S Remove two spindle retaining keys (26). Withdraw spindle (13), washer (12) and bearing (11) from centre stem.

T Remove c'sk screw (19) securing lower ratchet assembly.

U Withdraw ratchet gear (17), spacer (15) and cover plate (18). Remove two pawls (14) and two pawl springs (16).

V Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls and pawl springs.

W Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

X Reassemble two pawls (14) and two pawl springs (16) to centre spindle (13) lightly oil.

Y Reassemble spacer (15), ratchet gear (17) and cover plate (18) to spindle. Secure with screw (19) and firmly tighten.

Z Place spacer (12) and bearing (11) onto centre spindle and slide into centre stem (8).

Secure with two keys (26).

NOTE: Correct location of annular groove (see sketch).

A1 Replace two pawls (14) and two springs (16) in pawl gears (25) and (21). Lightly oil.

B1 Reassemble ratchet gear (17) to (25), put washer (23) in place.

C1 Reassemble ratchet gear (22), spacer (15) and pawl gear (21). Put washer (23) in place.

NOTE: Correct location of annular groove (see sketch).

D1 Support centre stem on the gear aperture shoulder. Insert ratchet gear assemblies and engage with spindle (15). Ensure correct line up.

E1 Insert gear spindles (20) and (24) and engage with ratchet gear assemblies.

F1 With a drift tap gear spindles into place.

G1 Replace roller bearings (9), collar (7) and washer (10).

H1 Reassemble winch completely as points I-J.

I1 If winch fails to perform correctly recheck servicing technique or contact your nearest Lewmar service point.

Spring Loaded Self

Tailing Jaws Maintenance

The spring loaded jaws should

require attention only infrequently. If it is necessary for any reason adopt the following procedure.

J1 Remove drum/stripper assembly as points A-C.

K1 Remove 3 x 1/4" UNC socket head screws 1 1/4" long (4) from retaining plate (31).

NOTE:

When releasing screws, retaining plate must be restrained firmly against spring pressure. Use clamp or firm hand pressure.

L1 Lift off retaining plate (31) and remove 3 spacers (5) and 6 springs (30). Remove upper crown plate (29).

M1 If necessary remove lower crown plate (6) from drum (27) by removing 3 x 1/4" UNC socket head screws (28). With soft faced mallet tap lower crown plate (6) free from drum (27).

N1 The self tailing jaw components can now be cleaned and reassembled. No lubrication is required.

O1 Reassemble lower crown plate (6) to drum (27). Replace and tighten 3 x 1/4" UNC screws (28).

P1 Place upper crown plate (29) into recess in lower crown plate (6). Locate slots over screw holes for access.

Q1 Replace 6 springs (30) over dimples in upper crown plate (29).

R1 Place 3 spacers (5) in recesses in retaining plate (31). Locate retaining plate (31) and spacers (5) over springs. Align spacers with screw holes in lower crown plate (6).

S1 Insert 3 x 1/4" UNC socket screws 1 1/4" (4) long into retaining plate (31). Depress springs, engage screws and retighten firmly.

T1 Reassemble Drum/Stripper plate assembly as points I-J.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.
(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting details.

6 x 5/16" c'sk head bolts on 5.94" P.C.D.

6 x 8mm c'sk head bolts on 151mm P.C.D.

Spare Parts Kit.

Model 44ST Cat. No. 19744700

Contents:-

2 x Washer Pt. No. 15025106

2 x Washer Pt. No. 15025107

2 x Key Pt. No. 15008005

6 x Pawl Pt. No. 1260/8

6 x Pawl Spring Pt. No. 1260/7

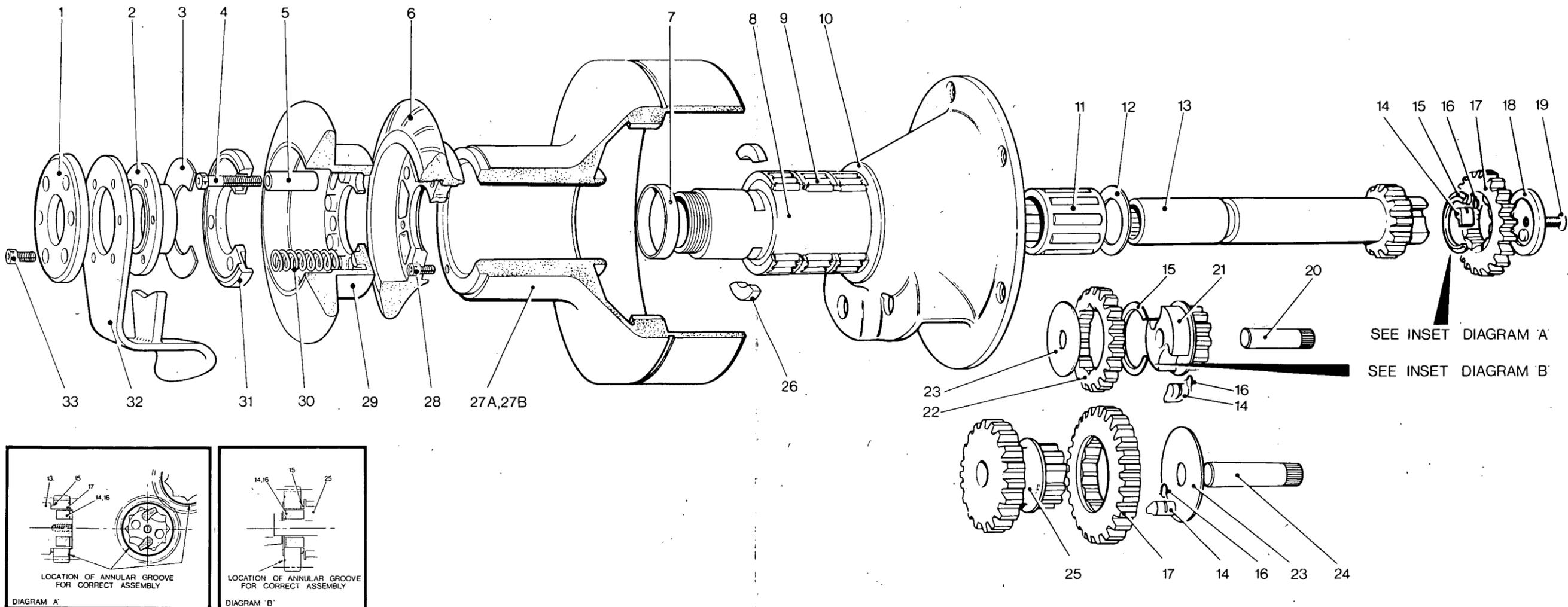
1 x Washer Pt. No. B2454

Pricing.

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
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Parts list

Item Number	Part Number	Description	No. Off
1	15044611	Top Plate	1
2	15044607	Nut	1
3	B2454	Thrust Washer	1
4	B0731	Socket Head Cap Screw 1/4" x 20 UNC x 1 1/4" long	3
5	15044612	Spacer	3
6	15044605	Lower Crown Plate	1
7	15044608	Collar	1
8	18044601	Centre Stem	1
9	18044100	Cage Assembly	3
10	15044116	Washer	1
11	1264/SA2	Cage Assembly	1
12	1300/21	Washer	1
13	15044603	Spindle	1
14	1260/8	Pawl	6
15	15025107	Spacer	2
16	1260/7	Pawl Spring	6
17	15016105	Ratchet Gear	2
18	15016107	Spindle End Cap	1
19	B0515	Countersunk Screw 1/4" x 20 UNC x 1/2" long	1
20	15044108	Spindle	1
21	15025105	Pawl Gear	1

22	15041105	Ratchet Gear	1
23	15025106	Washer	2
24	15044109	Spindle	1
25	15044107	Output Gear	1
26	15008005	Key	2
27A	15044602	Drum, Stainless Steel	1
27B	15044502	Drum, Alloy	1
28	B0709	Socket Head Cap Screw 1/4" x 20 UNC x 3/4" long	3
29	15044604	Upper Crown Plate	1
30	15044613	Spring	6
31	15044609	Retaining Plate	1
32	15044610	Stripper Plate	1
33	B0723	Socket Head Cap Screw 1/4" x 20 UNC x 1/2" long	6

Lewmar introduce a range of Self Tailing winches designed to provide easy single handed operation of any winch without sheet slippage or the need to feed off loose sheet by hand. They are ideally suited for cruising applications, where ease and security of operation are demanded or on racing yachts where economy of crew effort and weight movement can be maximised.

Lewmar self tailing winches feature:—

- * Full drum depth for security of operation and reduced tailing loads;
- * Spring loaded self tailing jaws to accept a wide range of rope sizes.
- * Stripper arm adjusts easily to give correct sheet feed off position.
- * Drum easily removable for routine servicing without affecting adjustment.

Self Tailing Winch Range

Model 40 ST (Single Speed)
Model 44ST, 48ST, 55ST, 65ST (Two speed)

Material Specifications

Drum

High tensile aluminium alloy — hard anodised Stainless steel.

Self Tailing Jaws

High tensile aluminium alloy
Hard anodised.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Mounting

All winches must be correctly mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a FLAT CLEAN surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a LIGHT coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not over tightened).

The winches are self draining and care must be taken not to block drain holes when bolting down.

Operation

Model 40 ST

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in an anti-clockwise direction and is free

to ratchet in a clockwise direction allowing the sheet or halyard to be "pumped" up to tension.

Models 44ST, 48ST, 55ST, and 65ST.

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in HIGH GEAR in an anti-clockwise direction and LOW GEAR in a clockwise direction.

The gearchange is automatic on reversal of the direction of handle rotation.

Range of Rope Sizes.

The adjustable jaws are designed to accept the following range of rope sizes. These sizes should not be exceeded for effective operation.

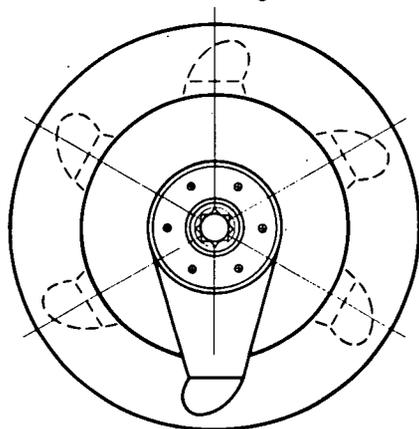
Model	Circ.	Dia.
40ST	1¼" - 2"	10 - 16mm
44ST	1¼" - 2"	10 - 16mm
48ST	1½" - 2"	12 - 16mm
55ST	1½" - 2¼"	12 - 18mm
56ST	1¾" - 2½"	14 - 20mm

Stripper Arm Adjustment

The stripper arms must be adjusted to allow the sheet to feed off the winch to a secure stowage position.

Adjust by removing the six ¼" UNC socket head screws located on top of the winch. The stripper arm may now be rotated to the correct

position. Six positions are available located at an angular spacing of 60°. Reinsert the six ¼" UNC socket head screws and retighten.



Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode (Except 40ST)

The winches are driven by the spindle top socket using a standard handle alternatively for CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our factory. Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Routine Maintenance.

A Loosen stripper plate (36) by firmly tapping in an anti-clockwise direction with a soft faced mallet.

B Unscrew 6 x ¼" UNC socket head screws (37), lift off top plate (1) and stripper plate (36).

Unscrew nut (2) and remove complete with washer (3).

C Lift off drum (7).

D Clean off excess grease and salt deposits from bearing surface of drum (7), centre stem bearings (10) and ratchet gears (25, 27, 30, 31).

E Check free rotation of spindle (15) in centre stem (11). Check free operation of ratchet gears (25, 27, 30, 31).

F If satisfactory proceed with routine maintenance. If not continue with **Full Service Procedure**.

G Lightly grease bore of drum (7), centre stem bearings (10) and ratchet gears (25, 27, 30, 31).

H Apply oil to centre spindle (15) and ratchet gear pawls through interface of ratchet gears.

I Reassemble drum (7) to centre stem. Reassemble nut (2), washer (3) and screw home. Replace stripper plate (36) and top plate (1). Insert 6 x ¼" UNC socket head screws and tighten firmly. With soft faced mallet tap stripper plate clockwise to tighten. **DO NOT USE FORCE.**

J Check free rotation of drum (7) and using handle, centre spindle (15).

Full Annual Service

NOTE:

To service completely the winch must be removed from the deck by removal of the 6 x 5/16" UNC c'sk screws securing the centre stem.

K Remove drum/stripper assembly as points A-C.

L Remove centre stem from deck.

M Remove bearings (10), collar (8) and drum support washer (12).

N Support the centre stem assembly (11) by the base on a firm structure (work bench etc.). Ensure the lower exits of bearing spindles (22) and (29) are not covered.

O Using a flat ended drift tap out bearing spindles DOWNWARDS.

P Remove ratchet assemblies and washers.

Q Separate ratchet gears (30) and (31). Remove washer (23) and bearings (24). Remove two pawls (26) and two pawl springs (17). Remove washer (28).

R Separate ratchet gears (25) and (27). Remove washer (23) and bearing (24). Remove two pawls (26) and two pawl springs (17). Remove washer (28).

S Remove two spindle retaining keys (9). Withdraw spindle (15), washer (14) and bearing (13) from centre stem (11).

T Remove c'sk screw (20) securing lower ratchet assembly.

U Withdraw ratchet gear (18), spacer (16) and cover plate (19). Remove two pawls (21) and two pawl springs (17).

V Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls and pawl springs.

W Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

X Reassemble two pawls (21) and two pawl springs (17) to centre spindle (15) lightly oil.

NOTE: Correct location of annular groove (see sketch).

Y Reassemble spacer (16), ratchet gear (18) and cover plate (19) to spindle. Secure with screw (20) and firmly tighten.

Z Place washer (14) and bearing (13) onto centre spindle and slide into centre stem (11). Secure with two keys (9).

A1 Replace two pawls (26) and two springs (17) in pawl gears (31) and (25). Lightly oil.

B1 Reassemble ratchet gear (27) and pawl gear (25).

C1 Insert bearings (24) and put washer (23) in place.

D1 Reassemble ratchet gear (30) to (31), put washer (28) in place.

E1 Insert bearing (24) and put washer (23) in place

F1 Support centre stem on the gear aperture shoulder. Insert ratchet gear assemblies and engage with spindle (15). Ensure correct line up.

G1 Insert gear spindles (22) and (29) and engage with ratchet gear assemblies.

H1 With drift tap gear spindles into place.

I1 Replace roller bearings (10), collar (8) and support washer (12).

J1 Reassemble winch completely as points I-J.

K1 If winch fails to perform correctly recheck servicing

technique or contact your nearest Lewmar service point.

D Cleaning — Use clean non-fluffy cloth.

Spring Loaded Self

Tailing Jaws Maintenance

The spring loaded jaws should require attention only infrequently. If it is necessary for any reason adopt the following procedure.

L1 Remove drum/stripper assembly as points A-C.

M1 Remove 3 x 1/4" UNC socket head screws 1 3/4" long (4) from retaining plate (35).

NOTE:

When releasing screws, retaining plate must be restrained firmly against spring pressure. Use clamp or firm hand pressure.

N1 Lift off retaining plate (35) and remove 3 spacers (5) and six springs (34). Remove upper crown plate (33).

O1 If necessary remove lower crown plate (6) from drum (7) by removing 3 x 1/4" UNC socket head screws (32). With soft faced mallet tap lower crown plate (6) free from drum (7).

P1 The self tailing jaw components can now be cleaned and reassembled. No lubrication is required.

Q1 Reassemble lower crown plate (6) to drum (7). Replace and tighten 3 x 1/4" UNC screws (32).

R1 Place upper crown plate (33) into recess in lower crown plate (6). Locate slots over screw poles for access.

S1 Replace 6 springs (34) over dimples in upper crown plate (33).

T1 Place 3 spacers (5) in recesses in retaining plate (35). Locate retaining plate (35) and spacers (5) over springs. Align spacers with screw holes in lower crown plate (6).

U1 Insert 3 x 1/4" UNC socket screws 1 3/4" long (4) into retaining plate (35). Depress springs, engage screws and retighten firmly.

V1 Reassemble drum/stripper plate assembly as points I-J.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil — Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting details

6 x 3/16" c'sk head bolts on 6.75" P.C.D.

6 x 8mm c'sk head bolts on 171mm.

Spare parts kits

Model 48ST Cat No. 19748700

Contents:—

2 x Washer Pt. No. 1300/22

1 x Washer Pt. No. 15025107

2 x Key Pt. No. 15008005

2 x Pawl Pt. No. 1260/8

6 x Spring Pt. No. 1260/7

4 x Pawl Pt. No. 1264/8

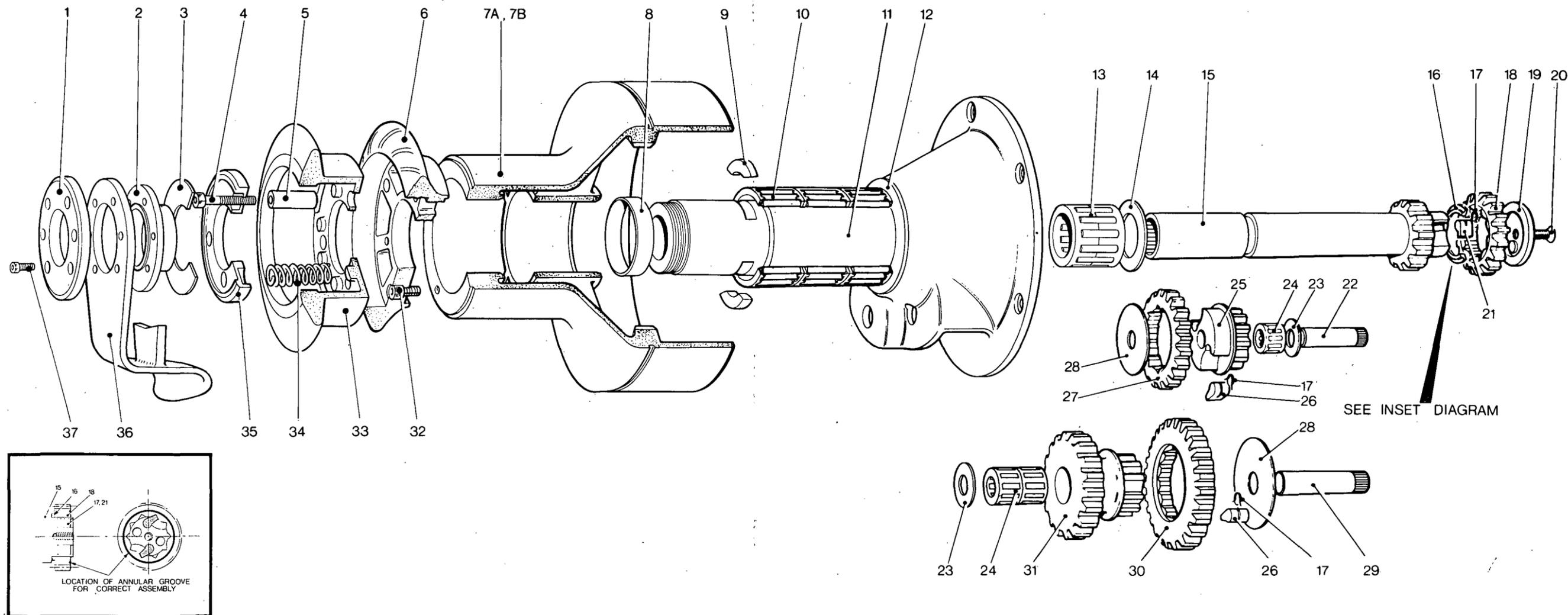
1 x Washer Pt. No. B2454

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
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Parts list

Item Number	Part Number	Description	No. Off
1	15044611	Top Plate	1
2	15044607	Nut	1
3	B2454	Thrust Washer	1
4	B0731	Socket Head Cap Screw 1/4" x 20 UNC x 1 1/4" long	3
5	15044612	Spacer	3
6	15048605	Lower Crown Plate	1
7A	15048602	Drum, Stainless Steel	1
7B	15048502	Drum, Alloy	1
8	15044608	Collar	1
9	15008005	Key	2
10	1301/SA3	Cage Assembly	3
11	18048601	Centre Stem	1
12	15044116	Washer	1
13	1264/SA2	Cage Assembly	1
14	1300/21	Washer	1
15	15048603	Spindle	1
16	15025107	Spacer	1
17	1260/7	Pawl Spring	6
18	15048104	Ratchet Gear	1
19	15016107	Spindle End Cap	1
20	B0515	Countersunk Screw 1/4" x 20 UNC x 1/2" long	1

21	1260/8	Pawl	2
22	1300/10	Spindle	1
23	1300/22	Washer	2
24	1300/SA2	Cage Assembly	3
25	1300/8	Pawl Gear	1
26	1264/8	Pawl	4
27	1300/7	Ratchet Gear	1
28	1264/7	Washer	2
29	1300/9	Spindle	1
30	1300/5	Ratchet Gear	1
31	1300/6	Pawl Gear	1
32	B0709	Socket Head Cap Screw 1/4" x 20 UNC x 3/4" long	3
33	15048604	Upper Crown Plate	1
34	15044613	Spring	6
35	15044609	Retaining Plate	1
36	15048610	Stripper Plate	1
37	B0723	Socket Head Cap Screw 1/4" x 20 UNC x 1/2" long	6

Lewmar introduce a range of Self Tailing winches designed to provide easy single handed operation of any winch without sheet slippage or the need to feed off loose sheet by hand. They are ideally suited for cruising applications, where ease and security of operation are demanded or on racing yachts where economy of crew effort and weight movement can be maximised.

Lewmar self tailing winches feature:—

- * Full drum depth for security of operation and reduced tailing loads;
- * Spring loaded self tailing jaws to accept a wide range of rope sizes.
- * Stripper arm adjusts easily to give correct sheet feed off position.
- * Drum easily removable for routine servicing without affecting adjustment.

Self Tailing Winch Range

Model 40 ST (Single Speed)
Model 44ST, 48ST, 55ST, 65ST (Two speed)

Material Specifications

Drum

High tensile aluminium alloy — hard anodised Stainless steel.

Self Tailing Jaws

High tensile aluminium alloy
Hard anodised.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type stainless steel roller bearings in moulded non corroding bearing cage.

Gears

Aluminium Bronze or 316 type stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Mounting

All winches **must** be correctly mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a **FLAT CLEAN** surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a **LIGHT** coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not over tightened).

The winches are self draining and care must be taken not to block drain holes when bolting down.

Operation

Model 40 ST

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in an anti-clockwise direction and is free

to ratchet in a clockwise direction allowing the sheet or halyard to be "pumped" up to tension.

Models 44ST, 48ST, 55ST, and 65ST.

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in **HIGH GEAR** in an anti-clockwise direction and **LOW GEAR** in a clockwise direction.

The gearchange is automatic on reversal of the direction of handle rotation.

Range of Rope Sizes.

The adjustable jaws are designed to accept the following range of rope sizes. These sizes should not be exceeded for effective operation.

Model	Circ.	.Dia.
40ST	1¼" - 2"	10 - 16mm
44ST	1¼" - 2"	10 - 16mm
48ST	1½" - 2"	12 - 16mm
55ST	1½" - 2¼"	12 - 18mm
56ST	1¾"-2½"	14 - 20mm

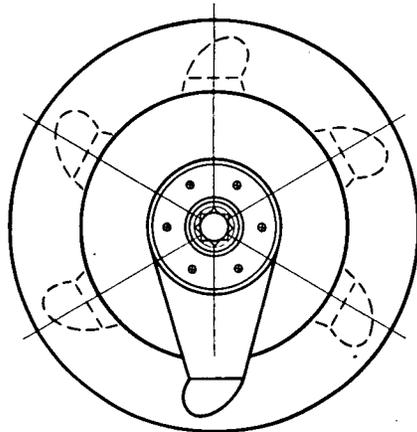
Stripper Arm Adjustment

The stripper arms must be adjusted to allow the sheet to feed off the winch to a secure stowage position.

Adjust by removing the six ¼" UNC socket head screws located on top of the winch. The stripper arm may now be rotated to the correct

position. Six positions are available located at an angular spacing of 60°.

Reinsert the six ¼" UNC socket head screws and retighten.



Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode (Except 40ST)

The winches are driven by the spindle top socket using a standard handle alternatively for CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our factory. Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Routine maintenance.

A Loosen stripper plate (48) by firmly tapping in an anticlockwise direction with a soft faced mallet.

B Unscrew the 6 x ¼" UNC socket head screws (49), lift off top plate (1) and stripper plate (48). Unscrew nut (2) and remove thrust washer (3).

C Lift off drum (43).

D Clean off excess grease and salt deposits from bearing surface of drum (43), centre stem bearings (42) and ratchet gears (30, 32, 38, 39).

E Check free rotation of spindle (15) in centre stem (9). Check free operation of ratchet gears (30, 32, 38, 39).

F If satisfactory proceed with routine maintenance. If not continue with **Full Service Procedure**.

G Lightly grease bore of drum (43), centre stem bearings (42) and ratchet gears (30, 32, 38, 39).

H Apply oil to centre spindle (15) and ratchet gear pawls through interface of ratchet gears.

I Reassemble drum (43) to centre stem. Reassemble nut (2), washer (3) and screw home. Replace stripper plate (48) and top plate (1). Insert 6 x ¼" UNC socket head screws and tighten firmly. With soft faced mallet tap stripper plate clockwise to tighten. **DO NOT USE FORCE.**

J Check free rotation of drum (43) and using handle, centre spindle (15).

Full Annual Service.

K Remove drum/stripper plate assembly as points **A-C**.

L Remove collar (7), bearings (42), spacer (10) and drum support washer (41) from centre stem (9).

M Remove 3 x ⅜" UNC socket head screws (11) securing centre stem (9) to base (20) and lift off centre stem assembly complete.

N Invert the centre stem assembly and support firmly, ideally using a bench vice with soft faced jaws.

O Tap off the bridge piece (24) gently, taking care not to damage spiral pins (23).

P Slide off gear assemblies from

their spindles (30, 32, 38, 39).

Q Separate ratchet gear (39) from pawl gear (38) and remove washer (40), bearing (37) and washer (36). Remove two pawls (29) and two pawl springs (18) from pawl gear (38).

R Remove circlip (31) and separate ratchet gear (32) from pawl gear (30). Remove washer (34) and bearings (33). Remove washer (28).

S Remove two pawls (29) and two pawl springs (18) from pawl gear (30).

T Remove two keys (8) from centre stem (9) and carefully withdraw centre spindle assembly.

U Remove circlip (12) and withdraw bearing (13) and washer (14).

V Undo c'sk screw (25) and remove spindle end cap (19) or coupling (in the case of linked winches).

W Remove ratchet gear (26) and spacer (17). Remove two pawls (16) and two pawl springs (18) from spindle (15).

X Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls and pawl springs.

Y Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

Z Reassemble two pawls (16) and two pawl springs (18) to centre spindle (15). Lightly oil.

A1 Reassemble spacer (17) and ratchet gear (26) to centre spindle.

NOTE: Correct location of annular groove (see sketch).

B1 Replace spindle end cap (19) and firmly tighten c'sk screw (25).

C1 Place washer (14) and bearing (13) onto spindle (15), replace circlip (12). Slide centre spindle assembly into centre stem (9) and secure with two keys.

D1 Replace two pawls (29) and two springs (18) in pawl gear (38). Lightly oil.

E1 Reassemble pawl gear (38) and ratchet gear (39).

F1 Replace washer (40), bearing (37) and washer (36).

G1 Reassemble gear assembly to spindle (35).

H1 Replace two pawls (29) and two pawl springs (18) in pawl gear (30). Lightly oil.

I1 Replace ratchet gear (32) and secure with circlip (31).

J1 Replace 3 bearings (33) and washer (34).

K1 Assemble gear assembly to spindle (27).

L1 Lightly grease all gear teeth (26, 15, 30, 32, 38, 39).

M1 Replace bridge piece, carefully

lining up spiral pins (23) and gear assembly spindles (27, 35). Tap bridge piece gently into place.

N1 Take complete centre stem assembly and replace in base (20). Insert 3 x 3/8" UNC socket head screws and tighten firmly.
O1 Replace bearings (42), spacer (10) (noting correct separation) and collar (7).

P1 Reassemble winch completely as points I-J.

Q1 If winch fails to perform correctly, recheck servicing technique or contact your nearest Lewmar service point.

Spring Loaded Self

Tailing Jaws Maintenance

The spring loaded jaws should require attention only infrequently. If it is necessary for any reason adopt the following procedure.

R1 Remove drum/stripper assembly as points A-C.

S1 Remove 3 x 1/4" UNC socket head screws 1 1/4" long (4) from retaining plate (47).

NOTE:

When releasing screws retaining plate must be restrained firmly against spring pressure. Use clamp or firm hand pressure.

T1 Lift off retaining plate (47) and remove 3 spacers (5) and 6 springs (46). Remove upper crown plate (45).

U1 If necessary remove lower crown plate (6) from drum (43) by removing 3 x 1/4" UNC socket head screws (44). With soft faced mallet tap lower crown plate (6) free from drum (43).

V1 The self tailing jaw components can now be cleaned and reassembled. No lubrication is required.

W1 Reassemble lower crown plate (6) to drum (43). Replace and tighten 3 x 1/4" UNC screws (44).

X1 Place upper crown plate (45) into recess in lower crown plate (6). Locate slots over screw holes for access.

Y1 Replace 6 springs (46) over dimples in upper crown plate (45).

Z1 Place 3 spacers (5) in recesses in retaining plate (47). Locate retaining plate (47) and spacers (5) over springs. Align spacers with screw holes in lower crown plate (6).

A2 Insert 3 x 1/4" UNC socket screws 1 1/4" long (4) into retaining plate (47). Depress springs, engage screws and retighten firmly.

B2 Reassemble drum/stripper plate assembly as point I.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.
(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting details

6 x 3/8" c'sk head bolts on 7.87 P.C.D.

6 x 10mm c'sk head bolts on 200mm P.C.D.

Spare Parts Kits

Model 55ST Cat No. 19755700

Contents:-

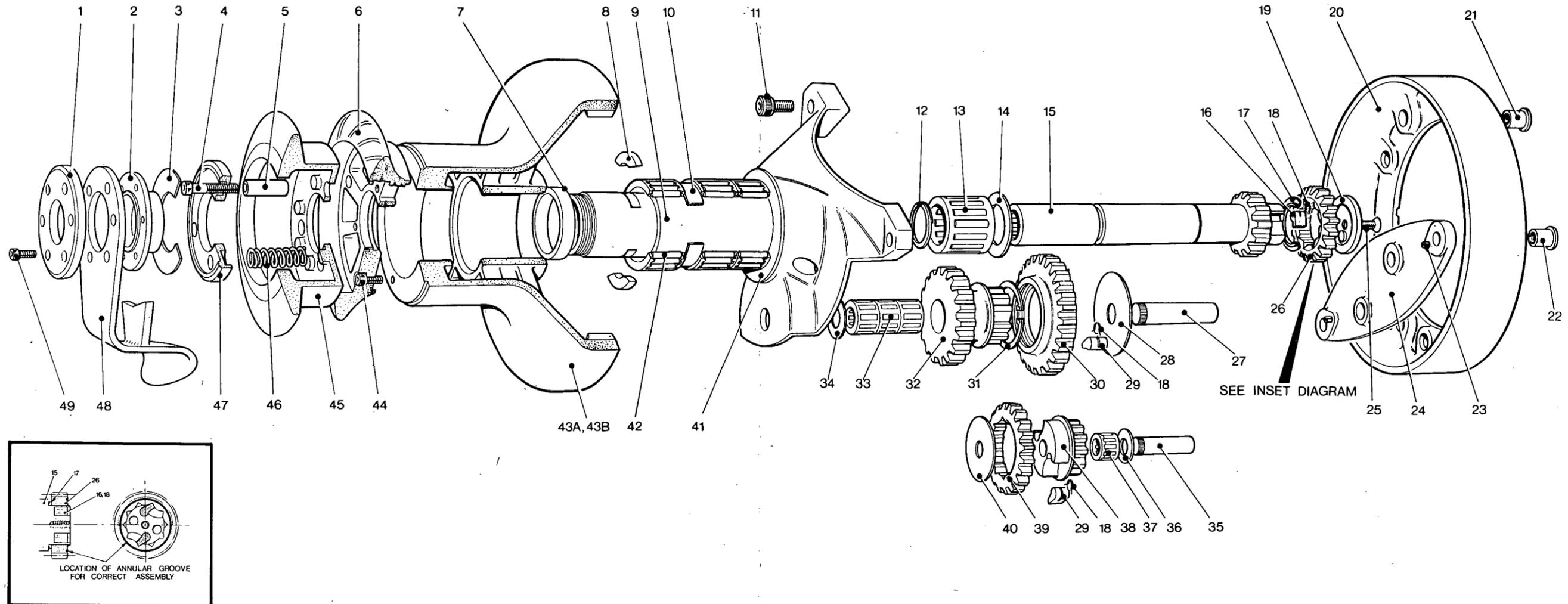
1 x Washer Pt. No. 1301/19
1 x Washer Pt. No. 1301/11
1 x Washer Pt. No. 1300/22
1 x Washer Pt. No. 15055119
4 x Pawl Pt. No. 1264/8
6 x Pawl Spring Pt. No. 1260/7
2 x Pawl Pt. No. 1260/8
2 x Key Pt. No. 15008005
1 x Washer Pt. No. 15025107
1 x Washer Pt. No. B2454

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
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Parts list

Item Number	Part Number	Description	No. Off
1	15044611	Top Plate	1
2	15044607	Nut	1
3	B2454	Thrust Washer	1
4	B0731	Socket Head Cap Screw 1/4" x 20 UNC x 1 3/4" long	3
5	15044612	Spacer	3
6	15055605	Lower Crown Plate	1
7	15044608	Collar	1
8	15008005	Key	2
9	18055601	Centre Stem	1
10	15048105	Spacer	1
11	B0714	Socket Head Cap Screw 3/8" x 16 UNC x 3/4" long	3
12	B2079	Circlip, Spirolox	1
13	1264/SA2	Cage Assembly	1
14	1300/21	Washer	1
15	15055603	Spindle	1
16	1260/8	Pawl	2
17	15025107	Spacer	1
18	1260/7	Pawl Spring	6
19	15016107	Spindle End Cap	1
20	15055204	Base	1
21	1301/22	Dowel	1

22	1301/17	Dowel	2
23	B1506	Spirol Pin	2
24	15055105	Bridge Piece	1
25	B0515	Countersunk Screw 1/4" x 20 UNC x 1/2" long	1
26	15048104	Ratchet Gear	1
27	1301/10	Shaft	1
28	1301/11	Washer	1
29	1264/8	Pawl	4
30	1301/7	Pawl Gear	1
31	B2077	Circlip	1
32	1301/6	Ratchet Gear	1
33	1301/SA2	Cage Assembly	3
34	1301/19	Washer	1
35	1264/6	Shaft	1
36	1300/22	Washer	1
37	1300/SA2	Cage Assembly	1
38	1300/8	Pawl Gear	1
39	1300/7	Ratchet Gear	1
40	15055119	Washer	1
41	15044116	Washer, Drum	1
42	1301/SA3	Cage Assembly	3
43A	15055602	Drum, Stainless Steel	1
43B	15055502	Drum, Alloy	1

44	B0709	Socket Head Cap Screw 1/4" x 20 UNC x 3/4" long	3
45	15055604	Upper Crown Plate	1
46	15044613	Spring	6
47	15044609	Retaining Plate	1
48	15055610	Stripper Plate	1
49	B0723	Socket Head Cap Screw 1/4" x 20 UNC x 1/2" long	6

Lewmar introduce a range of Self Tailing winches designed to provide easy single handed operation of any winch without sheet slippage or the need to feed off loose sheet by hand. They are ideally suited for cruising applications, where ease and security of operation are demanded or on racing yachts where economy of crew effort and weight movement can be maximised.

Lewmar self tailing winches feature:—

- * Full drum depth for security of operation and reduced tailing loads;
- * Spring loaded self tailing jaws to accept a wide range of rope sizes.
- * Stripper arm adjusts easily to give correct sheet feed off position.
- * Drum easily removable for routine servicing without affecting adjustment.

Self Tailing Winch Range

Model 40 ST (Single Speed)
Model 44ST, 48ST, 55ST, 65ST
(Two speed)

Material Specifications

Drum

High tensile aluminium alloy —
hard anodised Stainless steel.

Self Tailing Jaws

High tensile aluminium alloy
Hard anodised.

Centre Stems

Marine Bronze.

Centre Spindle

316 type stainless steel.

Bearings

Precision ground 316 type
stainless steel roller bearings in
moulded non corroding bearing
cage.

Gears

Aluminium Bronze or 316 type
stainless steel.

Gear Shafts

316 type stainless steel.

Pawls

Sintered stainless steel.

Pawl Springs

316 type stainless steel.

Mounting

All winches **must** be correctly mounted using the correct size and type of retaining bolts.

Having decided on the correct winch position the drum must be removed as detailed in the maintenance instructions for mounting. The winch must be mounted on a **FLAT CLEAN** surface.

The hole centres for the winch retaining bolts must be marked off and drilled separately. The winch should be bedded on a **LIGHT** coating of sealing compound to avoid leakage.

The winch retaining fastenings must be securely tightened (but not over tightened).

The winches are self draining and care must be taken not to block drain holes when bolting down.

Operation

Model 40 ST

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in an anti-clockwise direction and is free

to ratchet in a clockwise direction allowing the sheet or halyard to be "pumped" up to tension.

Models 44ST, 48ST, 55ST, and 65ST.

The rope is placed around the drum in a clockwise direction, passed across the stripper mechanism and placed into the self tailing jaws.

When tailing in loose sheet or halyard it is an advantage to use only one or two turns for high speed tailing and wrap additional turns as the load increases.

NOTE:—

For best results the drum should be fully loaded with sheet/halyard turns before placing rope in self tailing jaws and applying maximum load.

The winch drives in **HIGH GEAR** in an anti-clockwise direction and **LOW GEAR** in a clockwise direction.

The gearchange is automatic on reversal of the direction of handle rotation.

Range of Rope Sizes.

The adjustable jaws are designed to accept the following range of rope sizes. These sizes should not be exceeded for effective operation.

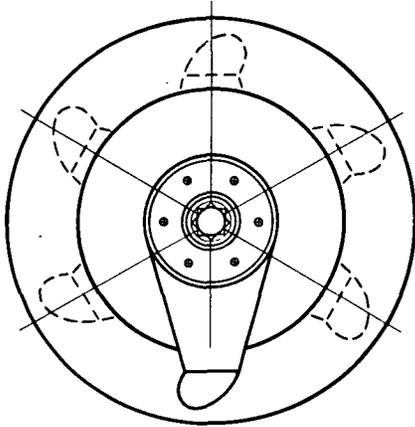
Model	Circ.	· Dia.
40ST	1¼" - 2"	10 - 16mm
44ST	1¼" - 2"	10 - 16mm
48ST	1½" - 2"	12 - 16mm
55ST	1½" - 2¼"	12 - 18mm
56ST	1¾" - 2½"	14 - 20mm

Stripper Arm Adjustment

The stripper arms must be adjusted to allow the sheet to feed off the winch to a secure stowage position.

Adjust by removing the six ¼" UNC socket head screws located on top of the winch. The stripper arm may now be rotated to the correct

position. Six positions are available located at an angular spacing of 60°. Reinsert the six ¼" UNC socket head screws and retighten.



Handles

All winches accept any standard "International" handle (Lewmar red grip handle).

Drive Mode (Except 40ST)

The winches are driven by the spindle top socket using a standard handle alternatively for CROSS CONNECTING each winch has a standard provision for fitment of a coupling and Adaptor Plate to the winch base enabling it to be used with the LEWMAR MODULAR CROSS LINKING SYSTEM. (Full details available on request).

Maintenance

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedure described on the individual maintenance leaflets.

Service and Spares

Full service facilities for Lewmar winches are provided at our factory. Subsidiary Companies, and by our Distributors and service centres world wide. A full listing is provided in this manual.

Spares kits for each winch are available and are listed on the individual maintenance leaflets.

Warranty

All products are fully guaranteed against defects of materials and workmanship. Full details are provided in this manual. Any warranty expressed or implied is ineffective unless the winch has been installed, used and regularly serviced in accordance with our instructions.

Maintenance.

For satisfactory long term performance and product life these winches must be given the routine and full maintenance procedures described on the individual maintenance leaflets.

Routine Maintenance.

A Loosen stripper plate (47) by firmly tapping in an anti-clockwise direction with a soft faced mallet.

B Unscrew 6 x ¼" UNC socket head screws (48). Lift off top plate (1) and stripper plate (47). Unscrew nut (2) and remove thrust washer (3).

C Lift off drum (7).

D Clean off excess grease and salt deposits from bearing surfaces of drum (7), centre stem bearings (10) and output gear (31).

E Check free rotation of spindle (15) in centre stem (9). Check free operation of output gear (31).

F If satisfactory proceed with routine maintenance. If not continue with **Full Service Procedure**.

G Lightly grease bore of drum (7), centre stem bearings (10) and output gear (31).

H Apply oil to centre spindle (15) and ratchet gear pawls on output gear (31) through interface of ratchet gears.

I Reassemble drum (7) to centre stem (9). Reassemble nut (2), washer (3) and screw home.

Replace stripper plate (47) and top plate (1). Insert 6 x ¼" UNC socket head screws (48) and tighten firmly. With soft faced mallet tap stripper plate clockwise to tighten. **DO NOT USE FORCE**.

J Check free rotation of drum (7) and using handle, centre spindle (15).

Full Annual Service

K Remove drum/stripper plate assembly as points **A-C**.

L Remove collar (8), bearings (10) and drum support washer (41).

M Remove 6 x ¾" UNC socket head screws ¾" long (11) securing centre stem (9) to base (24).

N Lift off centre stem assembly complete. If necessary, tap top of centre stem assembly gently to assist removal.

O Invert centre stem assembly and support firmly, ideally using a vice with soft faced jaws.

P Remove ½" BSF lock-nut (25) and washer (26) from underside of bridge piece (17).

Q Remove 3 x 5/16" UNC socket head screws 1½" long (12)

securing bridge piece (17) to centre stem (9). Gently tap bridge and remove.

R Slide off ratchet gear assemblies (29, 31, 37, 38).

S Separate pawl gear (29) and ratchet gear (31). Remove two bearings (32) and washers (28, 33).

T Remove 3 pawls (30) and three pawl springs (19) from pawl gear.

U Separate pawl gear (37) from ratchet gear (38) by removing 2 c'sk screws (40). Remove washers (35), retaining plate (39), two bearings (36) and washer (35).

V Remove 2 pawls (30) and 2 pawl springs (19) from pawl gear (37).

W Remove 2 keys (42) retaining spindle in centre stem. Withdraw spindle and remove bearing (13) and washer (14).

X Remove ratchet gear (20) and spacer (19) from spindle (15) by removing c'sk screw (22) and withdrawing spindle end cap (21) or coupling (in the case of linked winches).

Y Remove two pawls (23) and two pawl springs (19) from spindle (15).

Z Carefully wash drum, centre stem, spindle, roller bearings, gears, spacers, washers, pawls and pawl springs.

A1 Lightly grease drum bore, roller bearings, centre spindle and centre stem bearing area.

B1 Reassemble two pawls (23) and two pawl springs (19) to spindle (15). Oil lightly.

C1 Reassemble spacer (18) and ratchet gear (20) to spindle (15).

D1 Replace spindle end cap (21) and c'sk screw (22). Tighten screw.

E1 Replace washer (14) and bearing (13) on spindle (15).

Slide spindle into centre stem (9) and secure with two keys (42).

F1 Replace two pawls (30) and two pawl springs (19) in pawl gear (37). Lightly oil.

G1 Reassemble ratchet gear (38) to pawl gear (37). Secure by replacing retaining plate (39), inserting two c'sk screws (40) and tightening.

H1 Replace two bearings (36) and washers (35).

I1 Replace 3 pawls (30) and 3 pawl springs (19) in pawl gear (29). Oil lightly.

J1 Reassemble ratchet gear (31) to pawl gear (29).

K1 Replace two bearings (32) and washers (28, 33).

L1 Reassemble ratchet gear

assembly (29, 31) over spindle (27).

M1 Reassemble ratchet gear assembly (37, 38) over spindle (34).

N1 Replace bridge piece (17) and locate carefully over spindles (27, 34). Tap gently into position.

O1 Replace 3 x $\frac{5}{16}$ " UNC socket head screws $1\frac{3}{4}$ " long (12) securing bridge piece (17) to centre stem (9). Tighten firmly.

P1 Replace $\frac{1}{2}$ " BSF lock-nut (25) and washer (26) on spindle thread (27). Tighten firmly.

Q1 Replace centre stem (9) onto base (24).

NOTE: Align holes carefully over screw threads in base for socket head screws (11).

R1 Insert 6 x $\frac{3}{8}$ " UNC socket head screws $\frac{3}{4}$ " long (11) and tighten firmly.

S1 Replace drum thrust washer (41), 4 bearings (10) and collar (8).

T1 Replace drum (7) on centre stem assembly (9) and reassemble as points I-J.

U1 If winch fails to perform correctly, recheck servicing techniques or contact your nearest Lewmar service point.

Spring Loaded Self

Tailing Jaws Maintenance

The spring loaded jaws should require attention only infrequently. If it is necessary for any reason adopt the following procedure.

V1 Remove drum/stripper assembly as points A-C.

W1 Remove 3 x $\frac{1}{4}$ " UNC socket head screws $1\frac{3}{4}$ " long (4) from retaining plate (46).

NOTE:

When releasing screws, retaining plate must be restrained firmly against spring pressure. Use clamp or firm hand pressure.

X1 Lift off retaining plate (46) and remove 3 spacers (5) and 6 springs (45). Remove upper crown plate (44).

Y1 If necessary remove lower crown plate (6) from drum (7) by removing 3 x $\frac{1}{4}$ " UNC socket head screws (43). With soft faced mallet tap lower crown plate (6) free from drum (7).

Z1 The self tailing jaw components can now be cleaned and reassembled. No lubrication is required.

A2 Reassemble lower crown plate (6) to drum (7). Replace and tighten 3 x $\frac{1}{4}$ " UNC screws (43).

B2 Place upper crown plate (44) into recess in lower crown plate

(6). Locate slots over screw holes for access.

C2 Replace 6 springs (45) over dimples in upper crown plate (44).

D2 Place 3 spacers (5) in recesses in retaining plate (46). Locate retaining plate (46) and spacers (5) over springs. Align spacers with screw holes in lower crown plate (6).

E2 Insert 3 x $\frac{1}{4}$ " UNC socket screws $1\frac{3}{4}$ " long (4) into retaining plate (46). Depress springs, engage screws and retighten firmly.

F2 Reassemble drum/stripper plate assembly as point I.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Mounting details:

6 x $\frac{3}{8}$ " c'sk head bolts on 9.5" P.C.D.

6 x 10mm c'sk head bolts on 242mm P.C.D.

Spare Parts Kits

Model 65ST Cat. No. 19765700

Contents:

2 x Washer Pt. No. 1301/19

1 x Washer Pt. No. 1301/11

1 x Washer Pt. No. 15025107

2 x Pawl Pt. No. 1260/8

7 x Pawl Spring Pt. No. 1260/7

5 x Pawl Pt. No. 1264/8

2 x Key Pt. No. 15008550

1 x Washer Pt. No. B2451

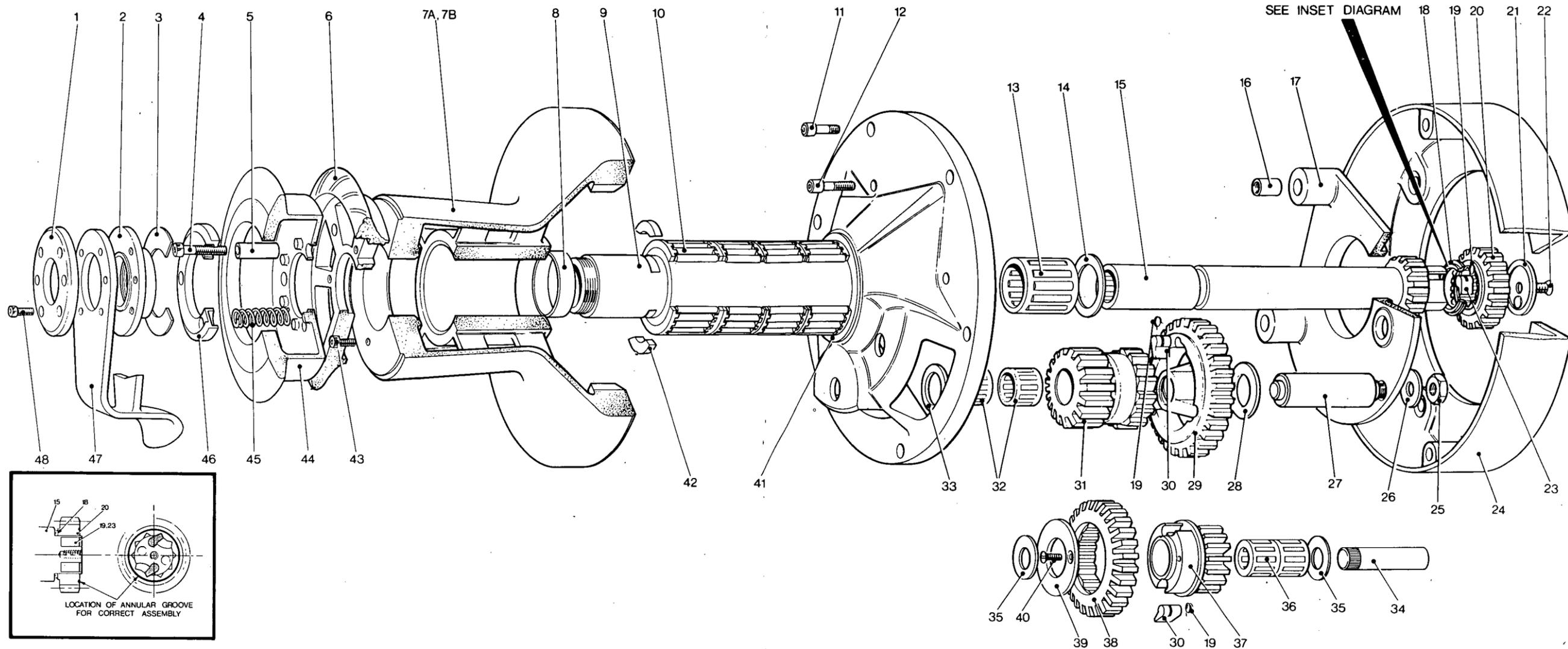
1 x Washer Pt. No. B2454

Pricing.

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
Southmoor Lane,
Havant, Hants PO9 1JJ
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Parts list

Item Number	Part Number	Description	No. Off
1	15044611	Top Plate	1
2	15044607	Nut	1
3	B2454	Thrust Washer	1
4	B0731	Socket Head Cap Screw 1/4" x 20 UNC x 1 1/4" long	3
5	15044612	Spacer	3
6	15065605	Lower Crown Plate	1
7A	15065602	Drum, Stainless Steel	1
7B	15065502	Drum, Alloy	1
8	15044608	Collar	1
9	18065601	Centre Stem	1
10	1301/SA3	Cage Assembly	4
11	B0714	Socket Head Cap Screw 3/8" x 16 UNC x 3/4" long	6
12	B0698	Socket Head Cap Screw 5/16" x 18 UNC x 1 1/2" long	3
13	1264/SA2	Cage Assembly	1
14	1300/21	Washer	1
15	15065603	Spindle	1
16	15065111	Hollow Dowel	3
17	15065105	Bridge Piece	1

18	15025107	Spacer	1
19	1260/7	Pawl Spring	6
20	15065116	Ratchet Gear	1
21	15016107	Spindle End Cap	1
22	B0515	Countersunk Screw 1/4" x 20 UNC x 1/2" long	1
23	1260/8	Pawl	2
24	15065204	Base, Alloy	1
25	B1009	Locknut	1
26	B1202	Washer	1
27	15080009	Spindle	1
28	B2451	Washer	1
29	15080008	Pawl Gear	1
30	1264/8	Pawl	4
31	15080007	Output Gear	1
32	1337/SA2	Cage Assembly	2
33	15080014	Washer	1
34	1302/13	Spindle	1
35	1301/19	Washer	2
36	1301/SA2	Cage Assembly	2
37	1302/8	Pawl Gear	1
38	1302/7	Ratchet Gear	1
39	1302/17	Retaining Plate	1
40	B0511	Countersunk Screw 2BA x 3/8" long	2

41	15044116	Washer	1
42	15008005	Key	2
43	B0709	Socket Head Cap Screw 1/4" x 20 UNC x 3/4" long	3
44	15065604	Upper Crown Plate	1
45	15044613	Spring	6
46	15044609	Retaining Plate	1
47	15065610	Stripper Plate	1
48	B0723	Socket Head Cap Screw 1/4" x 20 UNC x 1/2" long	6

Model 80

The Lewmar No 80 Mini Coffee Grinder has been developed for simple efficient operation. Functional design and precision engineering ensure that it can withstand heavy sheet loads. An easily accessible push button, built into the winch top cap, enables the operator to select first gear, and thereafter, second and third gears are engaged automatically by winding anti-clockwise and clockwise respectively.

The Coffee Grinder is designed for use with the Lewmar Modular Link System where greater power input is required. This added power is provided by using pedestal or molehill drives.

Given simple maintenance, the grinder will give trouble-free service over long periods.

Specification and Construction

Overall base diameter
12.5" (317 mm)

Overall drum diameter
11.0" (279 mm)

Overall height from deck
11.3" (287 mm)

All up weight
74 lb. (33.6 kg)

Input through bi-square spindle top socket, using standard red grip handle, and by coupling through lower end.

Deck mounting by six 3/8" (10 mm) countersunk screws on a 9.5" (242 mm) P.C.D. Minimum sheet height above deck 5.5" (140 mm).

Gear ratios
1:1 1st speed
6.9:1 2nd speed
17.8:1 3rd speed

Power ratios (using pedestal)
2.25:1 1st speed
15.5:1 2nd speed
40:1 3rd speed

Power ratios (using handle)
2.5:1 1st speed
17.25:1 2nd speed
44.5:1 3rd speed

Power ratios (using pedestal and special 1.375:1 gearbox)

3:1 1st speed
21:1 2nd speed
55:1 3rd speed

The drum is made in two parts (stainless steel and aluminium).

The stainless steel lower half considerably strengthens the gear teeth drive at the drum base, and reduces wear to a minimum when used with wire sheets.

The aluminium top section and cleat substantially reduce weight in an area where no great loads are involved.

The drive is through stainless steel and aluminium bronze shafts and gears. All materials used in this unit are selected specifically for their resistance to sea water corrosion and good wearing properties, and, in particular, their ability to withstand severe operational loads.

Installation

Mini Coffee Grinders are installed by bolting through the deck or superstructure of the yacht with recommended fastenings.

Having decided deck position of the Grinder, the drum must be removed as detailed in the maintenance notes for mounting.

Take out six 3/8" U.N.C. cap screws and lift off the centre stem assembly to reveal six bolting down holes for 3/8" (10 mm) countersunk headed screws on a 9.5" (242 mm) P.C.D. through the base. It is important that the water drain channels in the winch base are kept free from all obstructions, bedding compound, etc, to allow discharge of any water seepage which otherwise collects in the base.

It is also strongly recommended that the 3/8" (10 mm) nuts (or screwplate), used in conjunction with the holding

down screws, are held captive to the underside of the deck to prevent problems of re-engaging the screws in the event of the Mini Grinder base having to be removed and re-fitted.

Operation

First gear is selected by pressing the gear selector button on top of the Mini Grinder. Thereafter, second and third gears are engaged automatically. A Wind clockwise, button down, first gear.

B Wind anti-clockwise, second gear.

C Wind clockwise, third gear.

The winder can return to first gear at any time by depressing the button. A unique feature is that the tailer can "override" the winchman, spinning the drum faster without first gear tripping out.

Maintenance

To ensure continuous trouble-free functioning, it is recommended that the winch be maintained as follows:

A Routine maintenance, at frequent intervals during constant use.

B Full service annually.

Routine Maintenance

A Using a small penknife or screwdriver, remove top circlip (1) from spindle (27).

B Lift off drum (14, 57), cleat (11) and top cap assembly.

C Wash off salt deposits and check that top cap mechanism and pawls (29) are functioning freely. If necessary, strip top cap by removing large circlip (10), disengaging two springs (9), depressing pawls and withdrawing closing ring (8), taking care not to lose plunger and compression spring assembly (4, 6). Clean, re-assemble and lubricate with light oil.

D Lightly grease all remaining moving parts using Lewmar grease Part No 1385.

Reassemble.

NOTE: When re-fitting top cap assembly ensure that pawls are closed, i.e. push button (3) is in raised position, and align drive slots in top cap (5) with drive pin (27) in spindle and push on.

Full Annual Service

E Lift off drum and top cap assembly as instructed in routine maintenance.

F Slide out cross mounted drive pin (27) and remove clutch plate (12), taking care not to lose plungers and springs (16, 17).

G Slide off drum cage assemblies (19), spacer (18) and washer (22).

H Remove six socket head cap screws 3/8" U.N.C. (21) securing centre stem (23) to base (42) and lift off centre stem assembly complete.

I Remove 1/2" BSF locknut (40) and washer (41) from underside of bridge piece.

J Remove three socket head cap screws 5/16" U.N.C. (20) securing bridge end piece to centre stem and gently tap off.

K Slide off gear assemblies from their spindles (43, 50) including case assembly (43).

L Prise out two collets (13) from spindle recess and carefully withdraw spindle assembly, cage assembly (24) and washer (25), from centre stem. Remove ratchet gear (30) from spindle by unscrewing shoulder screw 1/4" U.N.C. (34) and pulling off dog plate.

M Using a small penknife or screwdriver, remove circlip (1) and washer (25) from splined sleeve (35). Remove splined sleeve, washer (37) and cage assembly (38).

N Reassemble in the reverse sequence to above.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.

Spare Parts Supply

Supplies of spare parts are available either pre-packed in spares kits or separately from Lewmar Marine Limited or one of its Subsidiary Companies.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

Spare Parts Kits

Model 80

Cat No 19765400

Contents

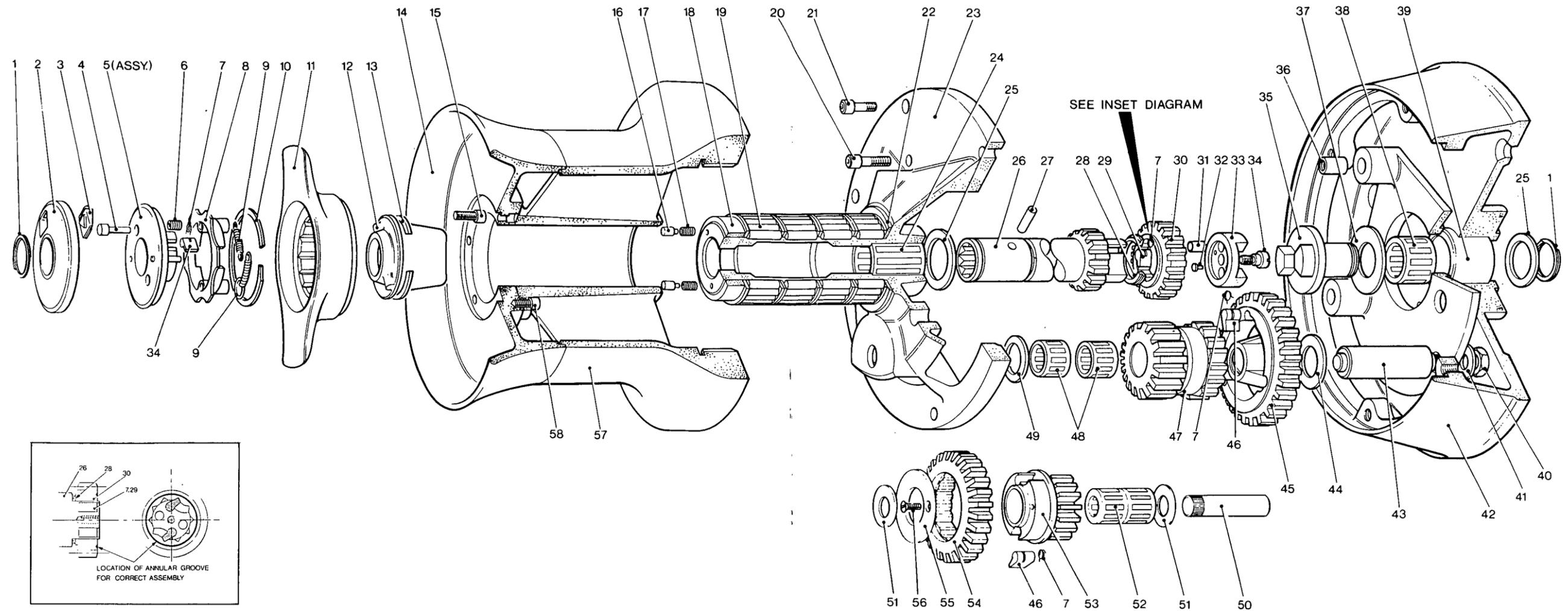
3 x Washer Pt No 1301/19
1 x Washer Pt No 1301/11
1 x Washer Pt No 15025107
4 x Pawl Pt No 1260/8
4 x Pawl Pt No 1264/8
8 x Spring Pt No 1260/7
2 x Plunger Pt No 15137203
2 x Spring Pt No 15137204
1 x Plunger Pt No 15044111
1 x Spring Pt No 15044112
1 x Pin Pt No 15044119
1 x Circlip Pt No B2077
1 x Circlip Pt No B2075
1 x Circlip Pt No B2083
2 x Spring Pt No 15044113

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
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Parts list

Item Number	Part Number	Description	No. Off
1	B0275	Circlip, Spirolox	1
2	15080106	Top Cap Cover	1
3	15044114	Push Button	1
4	15044111	Plunger	1
5	15044104	Top Cap Assembly	1
6	15044112	Spring	1
7	1260/7	Pawl Spring	9
8	15044106	Closing Ring	1
9	15044113	Spring	2
10	B2083	Circlip, Spirolox	1
11	15080001	Cleat	1
12	15044105	Clutch Plate	1
13	15044118	Collet	2
14	15080004	Drum Top	1
15	B0730	Socket Head Cap Screw $\frac{5}{16}$ " x 18 UNC x $\frac{5}{8}$ " long	4
16	1300/24	Plunger	2
17	1300/20	Spring	2
18	15080005	Spacer	1
19	1301/SA3	Cage Assembly	4
20	B0698	Socket Head Cap Screw $\frac{5}{16}$ " x 18 UNC x $1\frac{1}{2}$ " long	3
21	B0714	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x $\frac{3}{4}$ " long	6

22	15044116	Drum Washer	1
23	15065201	Centre Stem	1
24	1264/SA2	Cage Assembly	1
25	1300/21	Washer	2
26	15065103	Spindle	1
27	15044119	Drive Pin	1
28	15025107	Spacer	1
29	1260/8	Pawl	4
30	15065116	Ratchet Gear	1
31	15336002	Dowel	2
32	15336003	Button	2
33	15080010	Dog Plate	1
34	15080013	Shoulder Screw $\frac{1}{4}$ " x 20 UNC	1
35	15080011	Splined Sleeve	1
36	15065111	Hollow Dowel	3
37	B2450	Washer	1
38	1287/SA1	Cage Assembly	1
39	15080012	Sleeve (bonded to Item 42)	1
40	B1009	Locknut $\frac{1}{2}$ " BSF	1
41	B1202	Washer	1
42	15080003	Base	1
43	15080009	Spindle	1
44	B2451	Washer	1
45	15080008	Pawl Gear	1
46	1264/8	Pawl	5
47	15080007	Output Gear	1

48	1337/SA2	Cage Assembly	2
49	15080014	Washer	1
50	1302/13	Spindle	1
51	1301/19	Washer	2
52	1301/SA2	Cage Assembly	2
53	1302/8	Pawl Gear	1
54	1302/7	Ratchet Gear	1
55	1302/17	Retaining Plate	1
56	B0511	Countersunk Screw 2BA x $\frac{3}{8}$ " long	2
57	15080002	Drum	1
58	B0719	Socket Head Cap Screw $\frac{5}{16}$ " x 18 UNC x $\frac{3}{4}$ " long	4

Model 94

Introduction

The Lewmar No. 94 Modular Coffee Grinder has been designed for use in combination with the latest range of Lewmar Modular Link Equipment.

The Modular system enables the Designer to devise Inter-coupling systems that best suite his own ideas and Deck layout concepts.

Functional design and precision engineering ensure that the winch unit can withstand heavy sheet loads. An easily accessible Push Button built into the drum cleat, enables the operator to select first gear; and thereafter, second and third gears are engaged automatically by winding anti-clockwise and clockwise respectively.

Given simple maintenance, the Grinder will give trouble free service over long periods.

Operation

First Gear is selected by Pressing the Gear selection button on the Top of the Winch. Thereafter, all operations are automatic:

Stage 1.

Wind clockwise..... First Gear

Stage 2.

Wind anti-clockwise. Second Gear

Stage 3.

Wind clockwise..... Third Gear

The Gears are changed automatically; no action is required other than pressing the Button to engage first gear before commencing the winding sequence. This sequence is irreversible except for Stages 2 and 3 which are permanently engaged until the gear selection button is again depressed.

Installation

All Coffee Grinder Modules are installed by through bolting.

When designing the installation,

care must be taken to ensure that the deck/cockpit area selected for mounting the drums is adequately supported and reinforced. The efficiency of the unit will be improved if no mis-alignment of shaft occurs due to structure twisting. The Pedestal/Remote Drive unit must also be securely mounted.

Winch Installation

Having decided on the deck position of the Winch, consideration must be given to the rotational sense of its input shaft relative to cranking direction, particularly when using a central pedestal drive system to out-board Coffee Grinders.

With such a system the Winch bevel boxes must be mounted in the same sense — to obtain matched rotation, (i.e. similar drum rotation sense Port and Starboard for the same handle rotation/gear.)

The Winch is secured to the deck with 8-off ½" (12 mm) countersunk Head Screws and Hexagon Nuts. Care should be taken to ensure that all screws are securely tightened and correct back up washers and reinforcing plates fitted.

The radial water drain holes in the Winch base are essential for continuous trouble-free functioning of the Winch. The radial holes, which discharge water seepage, must be kept free from Mounting Mastic etc.

Connecting Shaft Installation

After the basic Modules have been installed, the exact shaft lengths can be gauged. The shafts should be cut to length so that there is a total of ¼" (6 mm) end float on all shaft/universal coupling assemblies. It is vital that the above end float be allowed for to permit relative movement between adjacent gearboxes which

will inevitably occur when the system is loaded.

After the shafts have been trimmed to length, the couplings should be pinned into position at either end with the heavy duty roll pins supplied with each coupling. The coupling and shaft should be drilled together using a ⅜" dia drill (9.5 mm). The pins may be pressed into position using a heavy duty vice and jaw protectors, or a suitable work shop press. To ensure smooth running and maximum coupling life the universal couplings should be phased by drilling the pin holes in the same plane on each shaft.

The universal couplings allow a certain degree of non alignment of shafts and gearboxes to allow for deck camber, equipment positioning. It is essential that any angular non-alignment should under no circumstances exceed 15° and that for maximum efficiency should be no more than 7/10°.

Specification and Construction

Overall Base Plate diameter	16.80" (427 mm)
Drum diameter	11.00" (279 mm)
Overall Drum diameter	13.75" (349 mm)
All up weight	94 lbs (42.5 Kg)

Deck Mounting by 8 - 1/2" (12 mm) diameter countersunk Head fixing screws on a	15.60" (396 mm) P.C.D.
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Minimum sheet height above deck	5.00" (127 mm)
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Gear Ratios	1:8
1st Speed	11:5
2nd Speed	30:1
3rd Speed	

Power Ratios	3:1
1st Speed	19:1
2nd Speed	50:1
3rd Speed	

The Drive is through stainless steel and aluminium bronze shafts and gears. All materials used in this unit are selected specifically for their resistance to sea water corrosion and good wearing properties, and, in particular, their ability to withstand severe operational loads.

Maintenance

To ensure continuous trouble free functioning, it is recommended that the Winch be maintained as follows:—

- Routine maintenance, at frequent intervals during constant use.
- Full service annually.

Routine Maintenance

- Remove 4 socket head cap screws (1) securing cleat (4) and lift off.
- Rotate clutch drive sleeve (6) and align the 3/8" diameter clearance holes with the two socket cap screws (63) securing ratchet plate assy. Remove screws and lift off Ratchet Plate Assy.
- Unscrew drum retaining nut (15) from centre stem (24) using special key provided and lift off drum and Washer (16) needle roller bearing assemblies (21, 22 and 23) and washer (25) may then be stripped off centre stem.
- Wash off salt deposits and check that the first Gear Ratchet assy., and Pawls (8) are functioning freely. If necessary strip Ratchet Assy., by removing circlip (14) and ratchet plunger assy., by removing three grub screws (62) take care not to lose Plunger and spring (66 and 64) then slide off items (13) and (15) and return spring (11) clean, lightly grease with Lewmar Grease Cat. No. 7385 and re-assemble. Lightly grease all remaining parts with special grease and re-assemble in reverse order.

Note: When re-fitting cleat, rotate in a clockwise direction for ease of first gear pawl engagement.

Full Annual Service

Remove Winch from deck and proceed to strip winch as per routine maintenance instructions 1 to 4 inclusive.

- Remove 6 Cap Head socket screws (27) from centre stem base (30), replace the drum retaining nut (15) and gently tap upwards and from side to side with a soft mallet. This will gradually remove centre stem from locating diameter and gear spindles.
- Remove thrust washer (34) and washer (36), slide off gear clusters (40/42) together with associate bearings and washers. Remove counter-

sunk Head Screws (37) and bearing washer (39), Pawls (8) and Springs (7).

- Remove spindle (57) and slide out gear cluster (59/60) together with associate bearings and washers. Remove countersunk Head Screws (37), bearing washers (58), Pawls (8) and Springs (7).
- Lift out spindle assy. (56, 41 and 53) together with associate bearings and washers. Remove two cap head socket screws (43) from gear wheel (53) and slide off together with Ratchet Gear (41). Remove Pawls (9) and Springs (8) from spindle (56).
- Remove 4 Cap Head Socket Screws from base underside and withdraw bearing housing (48), input gear (54), bearings (38 and 51) and thrust washers (33 and 44).
- Clean all parts with a kerosene wash, dry with a non-fluffy cloth, lightly grease with Lewmar Grease Cat.No. 1385 and re-assemble in reverse order.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

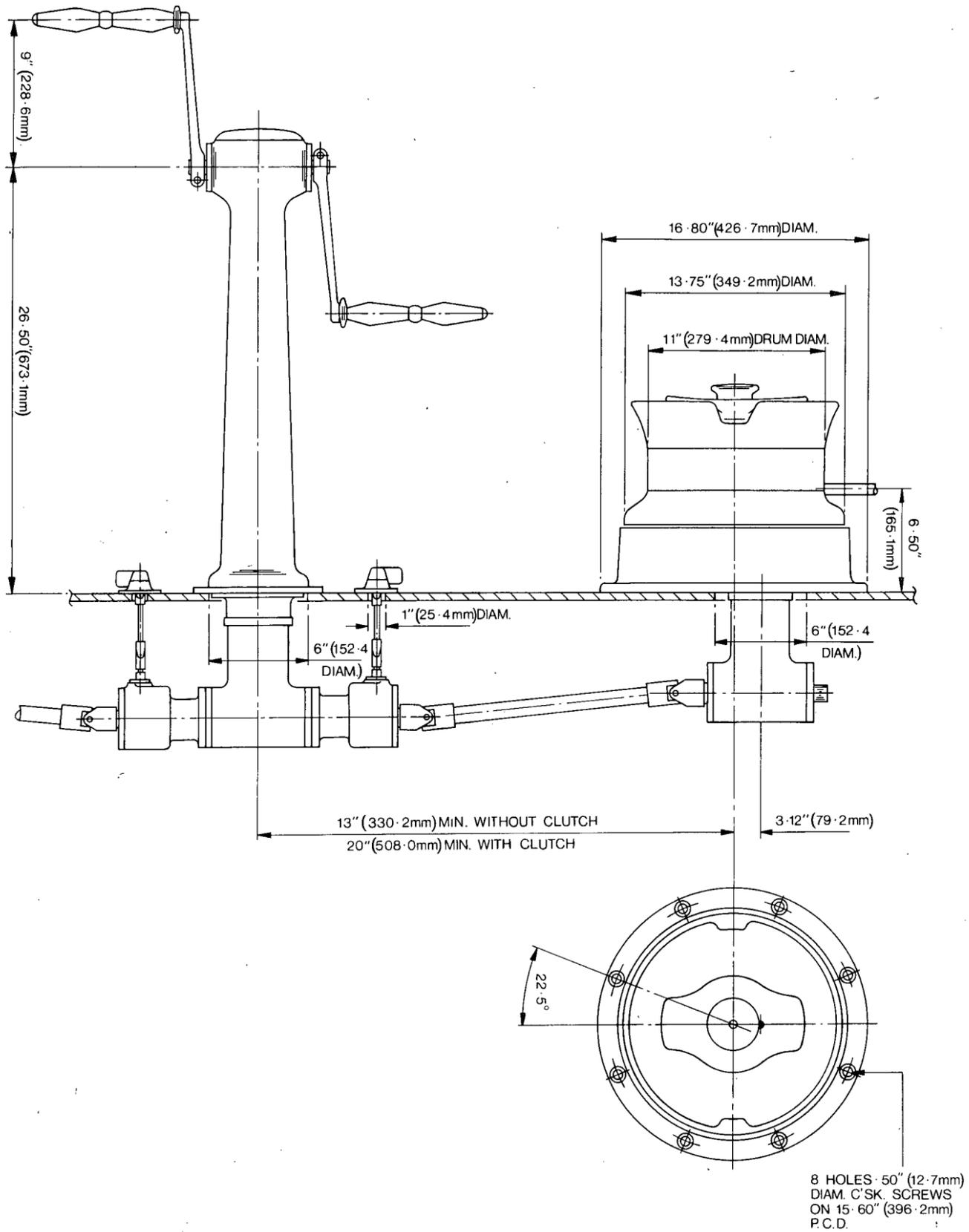
B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent.
(Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.



Spare Parts Supply

Spare parts kits are not available for these winches due to the complexity of construction. Any necessary spare parts are readily available from Lewmar Limited on request and should be accompanied with specific parts reference number taken from the spare parts list accompanying this manual.

Service

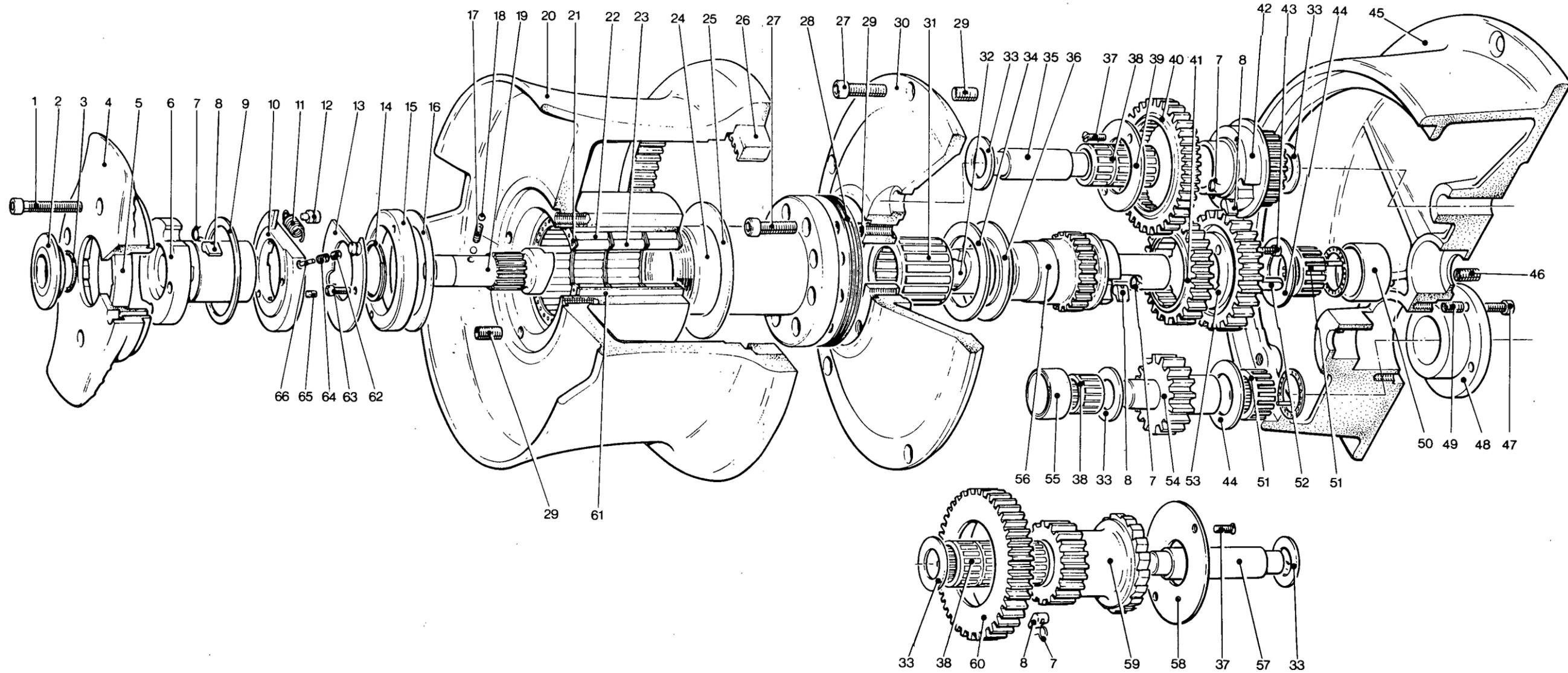
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Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
 Southmoor Lane,
 Havant, Hants PO9 1JJ
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Parts list

Item Number	Part Number	Description	No. Off
1	B0725	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x $1\frac{1}{4}$ " long	4
2	1415/24	Bezel	1
3	B2575	Nu-Lip Seal	1
4	1407/2	Cleat	1
5	1415/19	Ratchet Ring	1
6	1386/66	Clutch Drive Sleeve	1
7	1260/7	Spring	9
8	1264/8	Pawl	9
9	1415/25	Thrust Washer	1
10	1415/17	Ratchet Plate	1
11	1407/27	Tension Spring	1
12	1407/18	Spring Anchor Pin	2
13	1415/16	Anchor Plate	1
14	B2082	Circlip, Spirolox	1
15	1407/16	Drum Retaining Nut	1
16	1386/43	Washer	1
17	1386/57	Spring	1
18	B1651	Ball	2
19	1386/67	Clutch Dog	1
20	1386/2	Drum, Alloy	
	1386/2(S)	Drum, Stainless Steel	

	1386/69	Drum, Top	1
21	1386/45	Cage Ring	6
22	1407/24	Spacer	12
23	1407/25	Needle Roller	84
24	1415/34	Centre Stem Pillar	1
25	1386/49	Washer	1
26	1407/10	Gear Ring	1
27	B0708	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x 1" long	14
28	1407/19	Shim	4
29	B2400	Heli-coil Insert $\frac{3}{8}$ " 18 x 16 UNC x $\frac{3}{4}$ " long	
30	1386/1	Centre Stem Base	1
31	1266/SA1	Roller Bearing Assembly	1
32	1407/23	Bearing Pin	1
33	B2451	Thrust Washer	5
34	B2453	Thrust Washer	1
35	1386/39	Gear Spindle	1
36	1407/13	Washer	1
37	B0502	Countersunk Head Screw 2BA x $\frac{1}{2}$ " long	4
38	1337/SA2	Roller Bearing Assembly	8

39	1386/48	Bearing Washer	1
40	1386/30	Ratchet Gear	1
41	1386/31	Ratchet Gear	1
42	1407/21	Pawl Gear	1
43	B0722	Socket Head Cap Screw 2BA x 1" long	2
44	B2450	Thrust Washer	2
45	1407/1	Base	1
46	B2402	Heli-coil Insert $\frac{5}{16}$ " 4 x 18 UNC x $\frac{5}{8}$ " long	4
47	B0720	Socket Head Cap Screw $\frac{1}{4}$ " x 20 UNC x $\frac{5}{8}$ " long	4
48	1407/6	Bearing Housing	1
49	B2403	Heli-coil Insert $\frac{1}{4}$ " 4 x 20 UNC x $\frac{1}{2}$ " long	4
50	1386/40	Bearing Bush	1
51	1287/SA1	Roller Bearing Assembly	2
52	1386/41	Key	1
53	1407/5	Gear Wheel	1
54	1407/7	Input Gear	1
55	1386/21	Bearing Bush	1
56	1407/9	Spindle	1
57	1386/38	Gear Spindle	1

58	1386/42	Bearing Washer	1
59	1386/27	Output Gear	1
60	1386/28	Ratchet Gear	1
61	1407/17	Bearing Liner	1
62	B0902	Socket Head Grub Screw 2BA x $\frac{5}{16}$ " long	3
63	B0706	Socket Head Cap Screw 4BA x $\frac{3}{8}$ " long	2
64	1300/20	Spring	3
65	1407/22	Pin	1
66	1300/24	Plunger	3

Model 96

The Lewmar Modular Backwind Grinder has been designed for use in combination with the latest range of Lewmar Modular Link Equipment. The Grinder Gearbox features two inputs, one for primary power input, (i.e. Pedestal Drive) whilst the other can be used in conjunction with a remote drive socket (Molehill) as a trimming station or as an additional Power Source.

The Modular system enables the Designer to devise Intercoupling systems that best suit his own ideas and Deck layout concepts.

Specification and Construction

O/All Base Plate Diameter
18.50" (470 mm)
O/All Drum Diameter
11.00" (279 mm)
O/All Height from Deck
11.62" (295 mm)
All up Weight
150 lb. (68 kg).
Deck mounting by 7 - 1/2"
(12 mm) Diameter countersunk
Head Fixing Screws on a 17.00"
(432 mm) P.C.D.
Minimum sheet height above
deck 5.00" (127 mm).

Gear Ratios

2:1 1st speed
13:1 2nd speed
33:1 3rd speed

Reverse Trim 45:1**Power Ratios**

3:1 1st speed
21:1 2nd speed
54:1 3rd speed

The Drum is made in two parts – (Stainless Steel and Aluminium).

The Stainless Steel lower half considerably strengthens the Gear Teeth Drive at the Drum Base and reduces wear to a minimum when used with Wire Sheets. The Aluminium Top section and cleat substantially

reduce weight in an area where no Great Loads are involved.

The Drive is through Stainless Steel and Aluminium Bronze Shafts and Gears. All materials used in this unit are selected specifically for their resistance to sea water corrosion and good wearing properties, and, in particular their ability to withstand severe operational loads.

Installation Notes

All Coffee Grinder Modules are installed by through bolting.

When designing the installation, care must be taken to ensure that the Deck/Cockpit area selected for mounting the drums is adequately supported and reinforced. The efficiency of the unit will be impaired if non alignment of shafts occurs due to structure twisting. The Pedestal/Remote drive unit must also be securely mounted.

Winch Installation

Having decided on the Deck position of the Winch, consideration must be given to the rotational sense of its input shaft relative to cranking direction, particularly when using a central pedestal drive system to outboard Coffee Grinders. With such a system the opposite ends of Winch input shafts must connect to Pedestal Drive to obtain matched rotation. (i.e. Similar drum rotation sense Port and Starboard for the same handle rotation/gear).

The Winch is secured to the deck with 7 off 1/2" (12 mm) countersunk Head Screws and Hexagon Nuts. Care should be taken to ensure that all screws are securely tightened, and correct back up washers and reinforcing plates fitted.

The three radial water drain holes (positioned just above

the mounting flange) and the drain plug in the module gearbox base are essential for continuous trouble-free functioning of the Winch. The radial holes, which discharge most water seepage, must be kept free from obstruction. Plastic Pipe should be secured to the Drain Plug and placed so that all excess water that may collect in the Lower Housing drains away, thus avoiding possibility of salt build-up.

Connecting Shaft Installation

After the basic Modules have been installed, the exact shaft lengths can be gauged. The shafts should be cut to length so that there is a total of 1/4" (6 mm) end float on all shaft/universal coupling assemblies. It is vital that the above end float be allowed for to permit relative movement between adjacent gearboxes which will inevitably occur when the system is loaded.

After the shafts have been trimmed to length, the couplings should be pinned into position at either end with the heavy duty roll pins supplied with each coupling. The coupling and shaft should be drilled together using a 3/8" dia drill (9.5 mm). The pins may be pressed into position using a heavy duty vice and jaw protectors, or a suitable work shop press. To ensure smooth running and maximum coupling life the universal couplings should be phased by drilling the pin holes in the same plane on each shaft.

The universal couplings allow a certain degree of non alignment of shafts and gearboxes to allow for deck camber, equipment positioning. It is essential that any angular non-alignment should under no circumstances exceed 15° and that for maximum efficiency should be no

more than 7/10°.

Operation

First Gear is selected by Pressing the Gear selection button on the Top of the Winch. Thereafter, all operations are automatic:

A Wind clockwise First Gear

B Wind anti-clockwise Second Gear

C Wind clockwise Third gear

D Wind anti-clockwise Backwind.

The Gears are changed automatically; no action is required other than pressing the Button to engage first gear before commencing the winding sequence. This sequence is irreversible except for Stages 3 and 4 which are permanently engaged until the gear selection button is again depressed.

Maintenance

To ensure continuous trouble-free functioning, it is recommended that the Winch is maintained as follows:—

a) Full service annually.
b) "Top End" Service six monthly or as required depending on operating conditions.

During the annual full service, the Friction Washer (60) mounted in the Worm Housing must be replaced, due to wear. Failure to replace this washer may result in a major malfunction of the Winch.

Top End Service with Winch in Position

With Top Push Button (No. 7) in "Up" Position,

A Remove 4 - $\frac{3}{8}$ " Cap Head Socket Screws (2) and lift off cleat (4)

B Withdraw Push Button and Push Rod (81)

C Insert Penknife Blade or small screwdriver beneath end of circlip (8) and prise off carefully.

D Remove first Gear Clutch assembly (10, 13 etc.) from splined end of centre shaft (79)
E Unscrew Drum retaining nut (82) from centre stem (20), using special key provided, and lift off Drum. Needle Roller Bearing assemblies (16) and P.T.F.E. Washer (21) may then be stripped off Centre Stem.

F Remove 6 - $\frac{3}{8}$ " Cap Head Socket Screws (14) from Centre Stem Base (20). Replace the drum retaining Nut and gently tap upwards and from side to side with a soft mallet. This will gradually remove centre stem from locating diameter and gear spindles.

G Remove 3 - 2BA Cap Head Socket Screws (22) from bearing ring (23) and lift off. Ensuring that Pawls are clear of ratchet track, remove gear (24).

H Remove Gear Cluster (34 and 35).

I Slide off Gear (27), remove spindle (33) and gear (32) Wash all Pawls, Springs, bearings and parts that require cleaning, and lightly grease using Lewmar Grease (Part No. 7385), re-assemble.

Full Service

Uncouple Drive and remove winch from Deck proceed to strip winch as per Top End service instructions A to I inclusive.

J Jack off Lower Base Housing (39) from upper base housing (28) using Jack Screw Holes

($\frac{3}{8}$ " - 16 UNC) and screws (14). When clear of Location Diameter, move sideways to clear ratchet gear (77).

K Remove Plate (51) and bearing Housing (62)

L Rotate drive shaft (46) to screw out worm (58)

M Remove circlip (44), washer (43) and end cap (42) by gently tapping opposite end of shaft.

N Partially withdraw shaft in reverse direction, thus disengaging the bevel gear which may then be removed through lower aperture. Slide shaft free.

O Remove grub screw (57) to face bearing sleeve, plunger (55) and spring (54).

P Remove 1 - Cap Head Socket Screw (49) and Washer (50). Tap end of shaft to free bevel gear.

The shaft may then be withdrawn from the top.

Q Lift out Worm Wheel (76), gears (77) and spindle (72).

Service all parts in the manner stated previously.

Re-Assemble.

IMPORTANT

When re-assembling Push Button (7) with first Gear clutch assembly (10, 13 etc.) in position, Pawl ring (13) should be rotated clockwise against spring tension to allow the Push Button Cam pillar to engage with slot in pawl closure ring (13), and cut outs in Push Button Flange to clear pins (85).

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

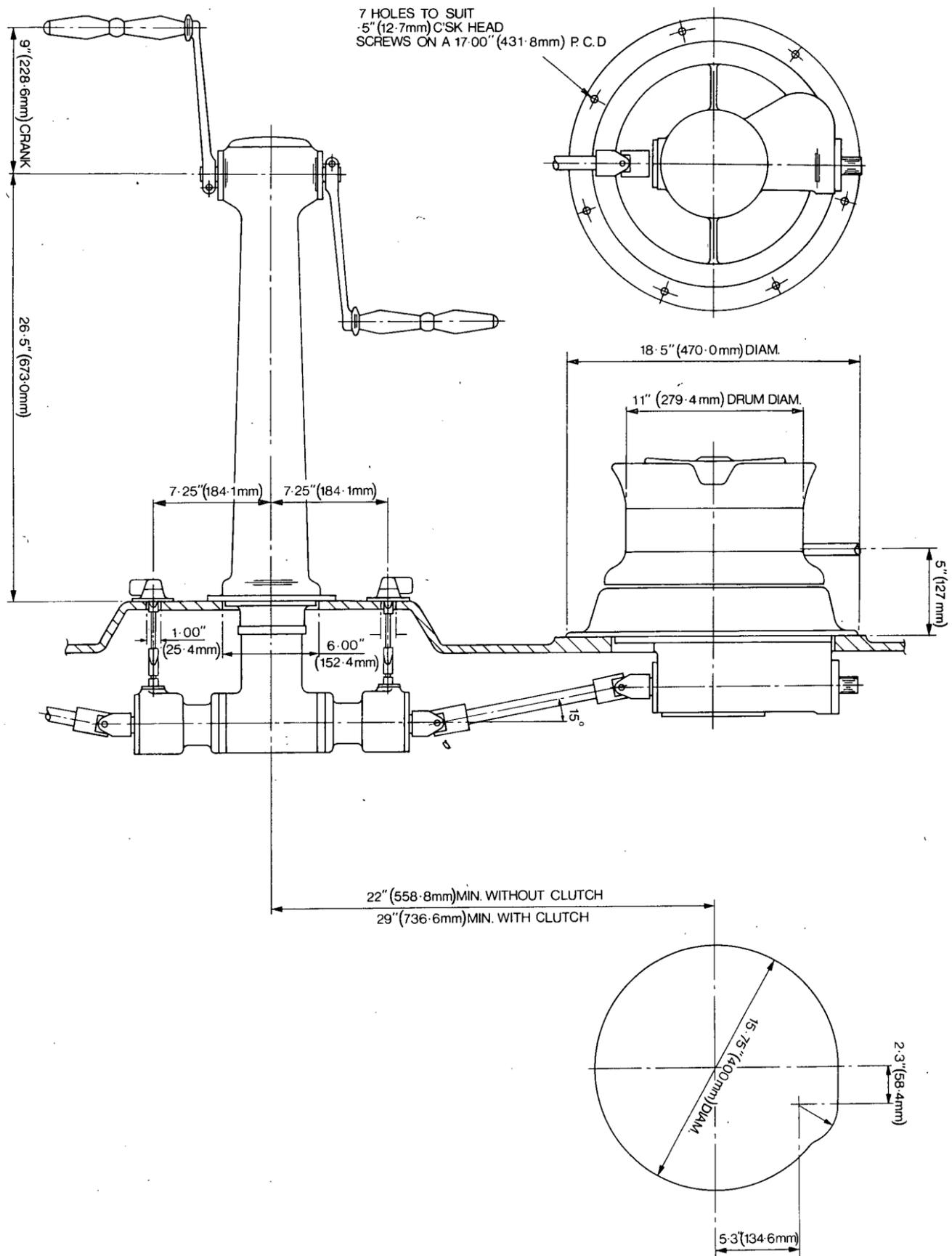
B Lubrication:

Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)

Oil - Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning - Use clean non-fluffy cloth.



Spare Parts Supply

Spare parts kits are not available for these winches due to the complexity of construction. Any necessary spare parts are readily available from Lewmar Limited on request and should be accompanied with specific parts reference number taken from the spare parts list accompanying this manual.

Service

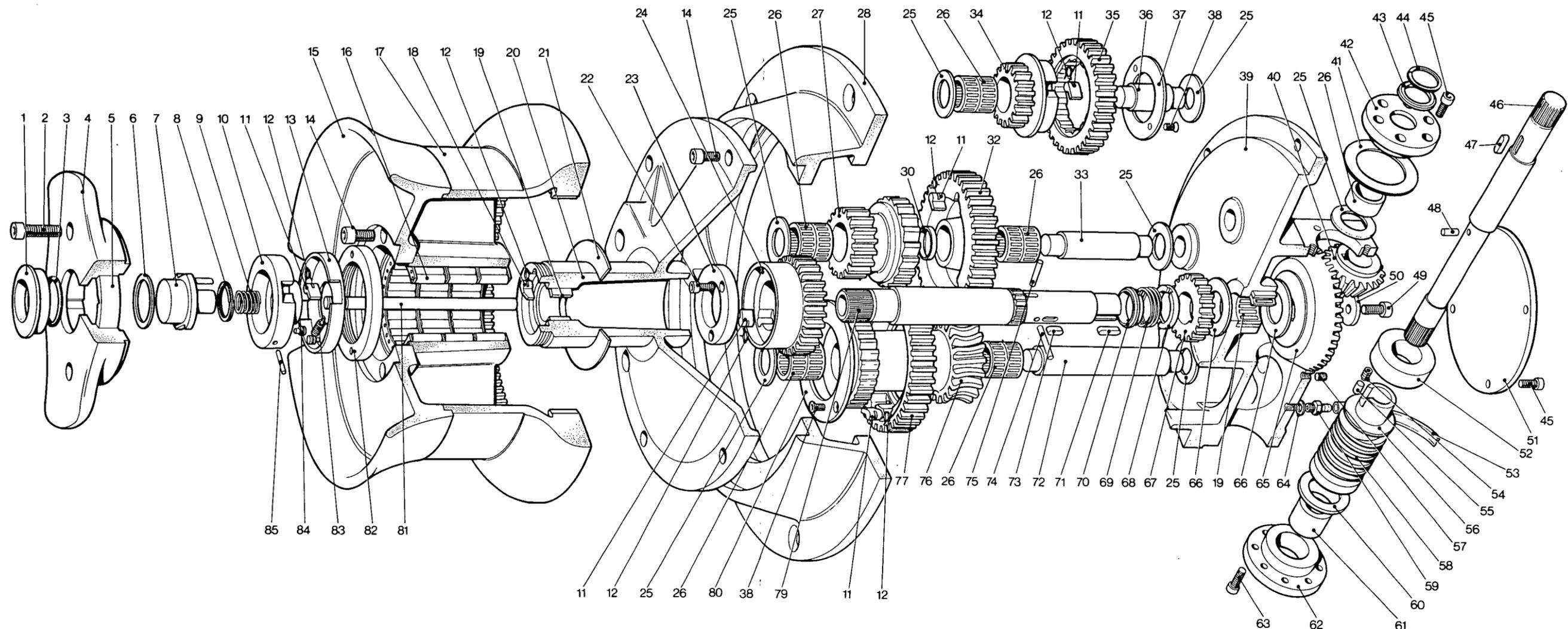
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Pricing

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 tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	N Off
1	1415/57	Bezel	1
2	B.0727	Soc. Cap Screw 3/8" UNC x 1 1/2" ST.ST.	4
3	B.2576	Nu-Lip Seal	1
4	1415/14	Cleat	1
5	1407/12	Ratchet Ring	1
6	1415/20	Washer	1
7	1415/23	Push Button	1
8	B.2075	Circlip	2
9	1415/55	Spring	1
10	1415/32	Pawl Ring	1
11	1264/8	Pawl	18
12	1260/7	Spring	19
13	1415/22	Pawl Closure Ring	1
14	B.0714	Soc. Cap Screw 3/8" UNC x 3/4" S/S	16
15	1386/69	Drum Top	1
16	1386/45	Cage Ring	6
16	1407/25	Needle Roller	84
16	1407/24	Spacer (respectively)	12
17	1386/2	Drum	1
18	1415/49	Pawl	1
19	1287/SA1	Needle Roller Assembly	2

20	1415/1	Centre Stem	1
21	1386/49	Washer	1
22	B.0705	Soc. Cap Screw 2BA x 1/2" S/S	3
23	1415/47	Bearing Ring	1
24	1415/18	Pawl Gear	1
25	B.2451	Thrust Washer	7
26	1337/SA2	Needle Roller Assembly	11
27	1415/7	Ratchet Gear	1
28	1415/3	Base Casting (Upper)	1
29	-		
30	1415/38	Spacer	1
31	-		
32	1415/28	Pawl Gear	1
33	1415/4	Spindle	1
34	1415/39	Pawl Gear	1
35	1415/26	Ratchet Gear	1
36	1415/13	Spindle	1
37	1386/48	Bearing Washer	1
38	B.0502	C'SK Soc. Screw 2BA x 1/2" S/S	4
39	1415/2	Base Casting (Lower)	1
40	1415/11	Bevel Gear	1
41	1386/55	Shim	6

42	1386/12	Bearing Cap	1
43	1415/27	Washer	1
44	B.2078	Circlip	1
45	B.0720	Soc. Cap Screw 1/4" x 5/8" S/S	10
46	1415/40	Input Shaft	1
47	1415/37	Key	1
48	1415/51	Pin	1
49	B.0708	Soc. Cap Screw 3/8" UNC x 1" S/S	1
50	1415/30	Washer	1
51	1415/33	Cover Plate	1
52	1415/8	Bearing Sleeve	1
53	B.1801	Drain Tube	1
54	233/5	Spring	4
55	1415/60	Plunger	4
56	1415/53	Washer	1
57	B.0907	Grub Screw 5/16" UNC x 1/2" S/S	1
58	1415/10	Worm	1
59	1415/61	Drain Plug	1
60	1415/43	Friction Washer	1
61	1415/59	Bearing	1
62	1415/6	Bearing Housing	1
63	B.0719	Soc. Cap Screw 5/16" UNC x 3/4" S/S	8
64	B.1275	Washer	1

65	1415/12	Bevel Gear	1
66	B.2450	Thrust Washer	2
67	1415/41	Gear Wheel	1
68	1415/45	Thrust Collar	1
69	1415/56	Spring	1
70	1415/44	Bush	1
71	1415/31	Key	1
72	1415/5	Spindle	1
73	1415/46	Key	1
74	1415/50	Pin	1
75	1415/52	Pin	1
76	1415/9	Worm Wheel	1
77	1415/35	Pawl Gear	1
78	-		
79	1415/15	Centre Shaft	1
80	1415/36	Bearing Washer	1
81	1415/21	Push Rod	1
82	1407/16	Drum Retaining Nut	1
83	1415/54	Tension Spring	1
84	1415/42	Anchor Pin	2
85	1415/29	Pin	1

Model 95

Introduction

The Lewmar No. 95 Coffee Grinder has been designed for simple efficient operation. Functional design and precision engineering ensure that it can withstand heavy sheet loads. An easily accessible Push Button, built into the drum cleat, enables the operator to select first gear; and thereafter second and third gears are engaged automatically by winding anti-clockwise and clockwise respectively.

Installation

Coffee Grinders should be through bolted to a deck or cockpit area that has been carefully selected, to provide adequate support for the degree of sheet loads expected.

It is strongly recommended that the ½" (12 mm) nuts (or screwplate) used in conjunction with the holding down bolts, are held captive to the underside of the deck to facilitate removal of winch for servicing.

Specification and Construction

Drum diameter	11.0" (279 mm)
Overall Drum diameter	13.75" (349 mm)
Sheet Height from Deck	6.5" (165 mm)
Pedestal Crank Centre Height from Deck	29.5" (749 mm)
All Up Weight	138 lbs (62.9 Kg)

Deck mounting by
10 – ½" (12 mm)
deck bolts.

Power Ratios	3:1
	1st Speed
	19:1
	2nd Speed
	50:1
	3rd Speed

The drive from Pedestal to winch is via a stainless steel chain and stainless steel sprockets and shafts. All materials used in this unit are selected specifically for their resistance to sea water corrosion and good wearing properties, and in particular, their ability to withstand severe operational loads.

Gear Ratios	1.8:1
	1st Speed
	11.5:1
	2nd Speed
	30:1
	3rd Speed

Maintenance

To ensure continuous trouble free functioning, it is recommended that the Winch be maintained as follows:—

- a. Routine maintenance, at frequent intervals during constant use.
- b. Full service annually.

Routine Maintenance

1. Remove 4 Socket head cap screws (2) securing cleat (5) and lift off.
2. Rotate clutch drive sleeve (7) and align the $\frac{3}{8}$ " dia clearance holes with the two socket cap screws (71) securing ratchet plate assy. Remove screws and lift off Ratchet Plate Assy.
3. Unscrew drum retaining nut (16) from centre stem (25) using special key provided and lift off drum, needle roller bearing assemblies (23) and washer (26) may then be stripped off centre stem.
4. Wash off salt deposits and check that the first Gear Ratchet assy., and Pawls (9) are functioning freely. If necessary strip ratchet assy., by removing circlip (15) and ratchet plunger assy by removing three Grub screws (70) then slide off items 11 and 14. Clean, lightly grease with Lewmar Grease Part No. 7385 and re-assemble.
5. Lightly grease all remaining parts with special grease and re-assemble in reverse order.

Note: When re-fitting cleat, rotate in a clockwise direction for ease of first gear pawl engagement.

Full Service Winch

Remove Winch from Deck and proceed to strip winch as per routine maintenance instructions 1 – 5 inclusive.

6. Remove 6 cap head socket screws (28) from centre stem base (31), replace the drum retaining nut (16) and gently tap upwards and from side to side with a soft mallet. This will gradually remove centre stem from locating diameter and gear spindles.
7. Remove thrust washers (35) and washer (36), slide off gear clusters (41/42) together with associated bearings and washers. Remove countersunk head screws (38) and bearing washer (40), Pawls (9) and springs (8).
8. Remove spindle (59) and slide out gear cluster (66/67) together with associate bearings and washers. Remove counter-

sunk head screws (38), bearing washers (63), Pawls (9) and springs (8).

9. Slacken chain adjuster nut (52) to release chain tension and lift out centre spindle assy. (68, 65, 64). Remove two Cap head socket screws from chain wheel (64) and slide off together with ratchet gear (65). Remove Pawls (9) and springs (8) from spindle (68) and bearing (43) from base. Service all parts in the manner stated previously, re-assemble in reverse order.

Notes

A When dismantling winch, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.

B Lubrication:

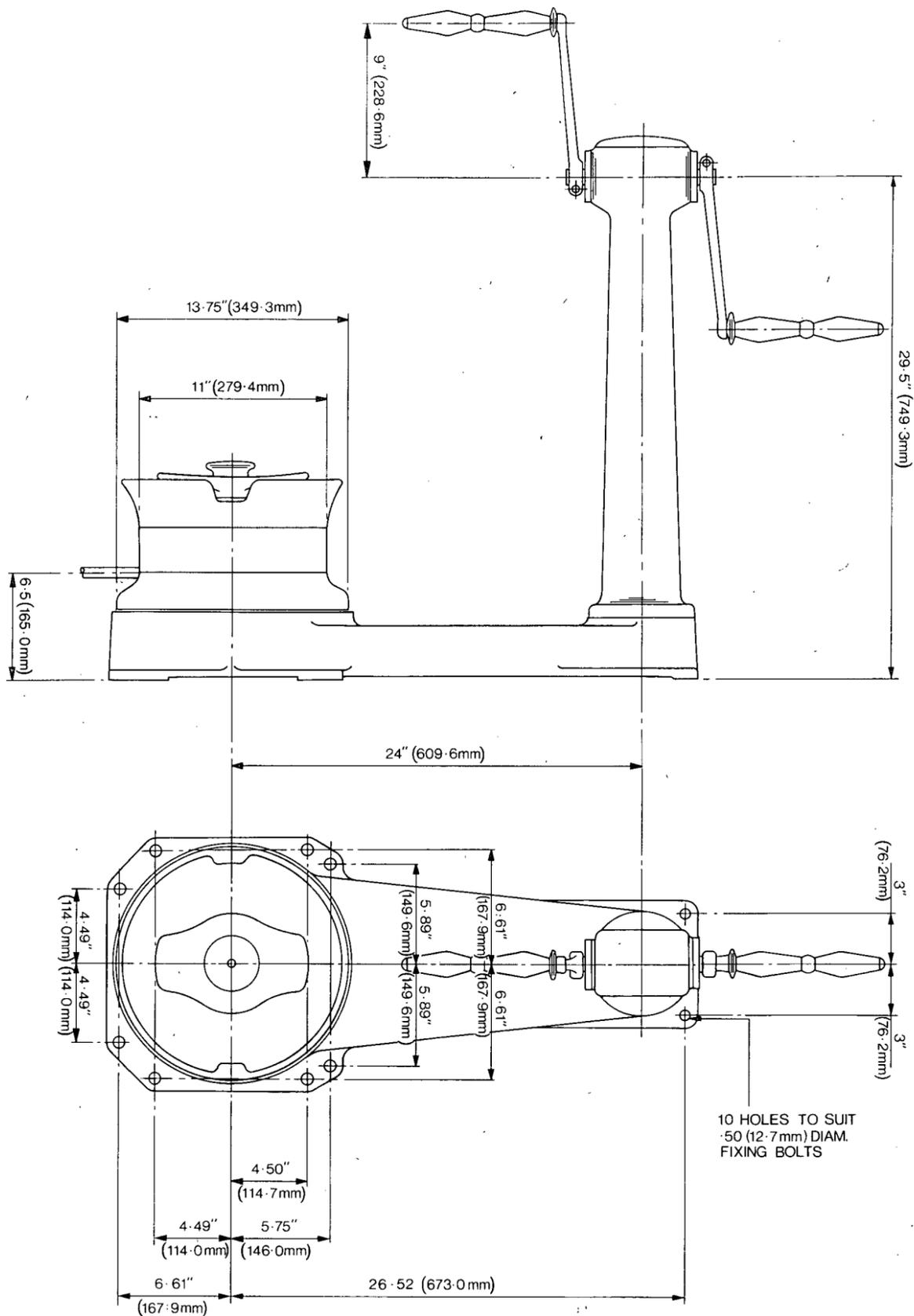
Grease - Use Lewmar Grease (7385) or equivalent.

(Lubriplate Marine Lube 'A' etc.)

Oil — Use light machine oil (3 in 1 or equivalent).

C Washing - Use Kerosene (Paraffin)

D Cleaning — Use clean non-fluffy cloth.



Spare Parts Supply

Spare parts kits are not available for these winches due to the complexity of construction. Any necessary spare parts are readily available from Lewmar Limited on request and should be accompanied with specific parts reference number taken from the spare parts list accompanying this manual.

Service

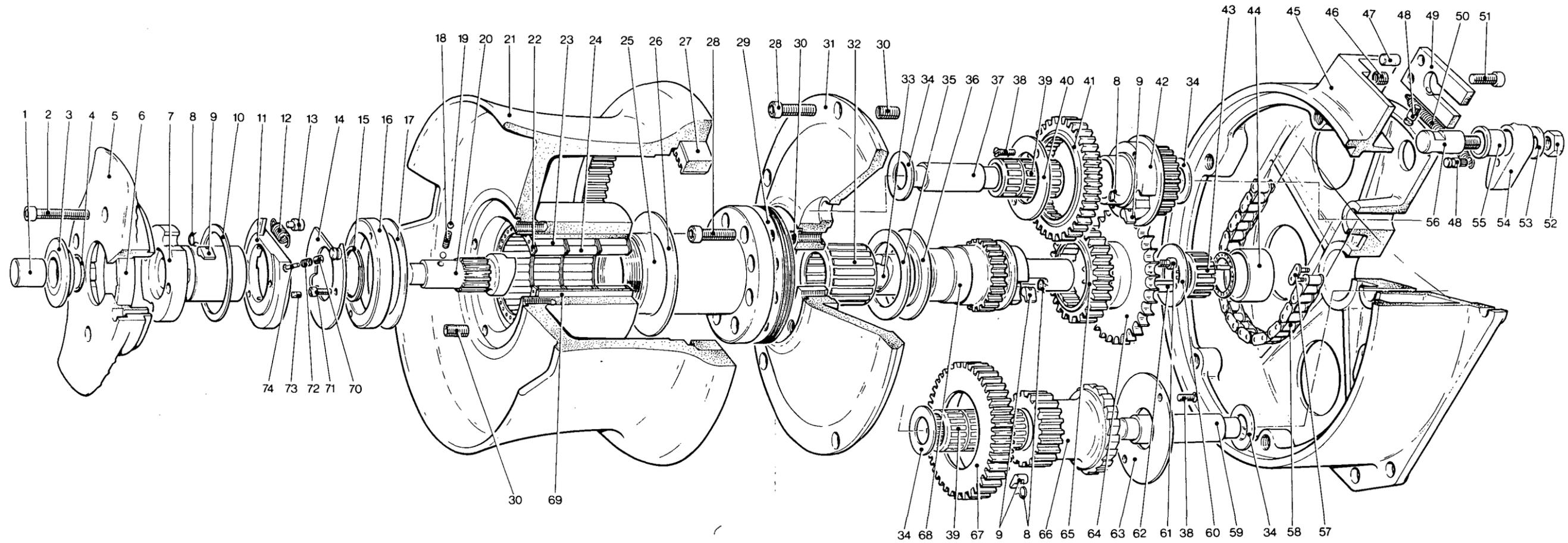
Lewmar Marine Limited operate full service facilities for their products. Details on request.

Pricing

Parts pricing is subject to change. Apply to your nearest Lewmar office or Distributor for current price lists.



Lewmar Marine Limited
 Southmoor Lane,
 Havant, Hants PO9 1JJ
 tel Havant (070 12) 71841-5



Parts list

Item Number	Part Number	Description	No. Off
1	1386/68	Push Button	1
2	B0725	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x $1\frac{1}{4}$ " long	4
3	1415/24	Bezel	1
4	B2575	Nu-lip Seal	1
5	1407/2	Cleat	1
6	1415/19	Ratchet Ring	1
7	1386/66	Clutch Drive Sleeve	1
8	1260/7	Spring	9
9	1264/8	Pawl	9
10	1415/25	Thrust Washer	1
11	1415/17	Ratchet Plate	1
12	1407/27	Tension Spring	1
13	1407/18	Spring Anchor Pin	2
14	1415/16	Anchor Plate	1
15	B2082	Circlip, Spirolox	1
16	1407/16	Drum Retaining Nut	1
17	1386/43	Thrust Washer	1
18	1386/57	Spring	1
19	B1651	Ball	2
20	1386/67	Clutch Dog	1
21	1386/2	Drum, Alloy	
	1386/2(S)	Drum, Stainless Steel	1
	1386/69	Drum, Top	

22	1386/45	Cage Ring	6
23	1407/24	Spacer	12
24	1407/25	Needle Roller	84
25	1415/34	Centre Stem Pillar	1
26	1386/49	Washer	1
27	1407/10	Gear Ring	1
28	B0708	Socket Head Cap Screw $\frac{3}{8}$ " x 16 UNC x 1" long	16
29	1407/19	Shim	4
30	B2400	Heli-coil Insert $\frac{3}{8}$ " UNC x $\frac{3}{4}$ " long	18
31	1386/1	Centre Stem Base	1
32	1266/SA1	Roller Bearing Assembly	1
33	1407/23	Bearing Pin	1
34	B2451	Thrust Washer	7
35	B2453	Thrust Washer	1
36	1407/13	Washer	1
37	1386/39	Gear Spindle	1
38	B0502	Countersunk Head Screw 2BA x $\frac{1}{2}$ " long	6
39	1337/SA2	Roller Bearing Assembly	11
40	1386/48	Bearing Washer	1

41	1386/30	Ratchet Gear	1
42	1407/21	Pawl Gear	1
43	1287/SA1	Roller Bearing Assembly	1
44	1386/40	Bearing Bush	1
45	1386/4	Base	1
46	B2401	Heli-coil Insert $\frac{5}{16}$ " x 18 UNC x $\frac{5}{32}$ " long	2
47	1386/61	Dowel	2
48	1386/64	Anchor Pin	2
49	1386/7	Bridge Plate	1
50	1386/65	Tension Spring	1
51	B0719	Socket Head Cap Screw $\frac{5}{16}$ " x 18 UNC x $\frac{3}{4}$ " long	2
52	B1008	Nut $\frac{1}{2}$ " UNC	1
53	1386/44	Washer	1
54	1386/24	Chain Tensioner	1
55	1386/25	Bearing Bush	1
56	1386/26	Bearing Pin	1
57	B2501	Chain Link	1
58	B2500	Chain	1
59	1386/38	Gear Spindle	1
60	B2450	Thrust Washer	2
61	B0722	Socket Head Cap Screw 2BA x 1" long	2

62	1386/41	Key	1
63	1386/42	Bearing Washer	1
64	1386/14	Chain Wheel	1
65	1386/31	Ratchet Gear	1
66	1386/27	Output Gear	1
67	1386/28	Ratchet Gear	1
68	1407/9	Spindle	1
69	1407/17	Bearing Liner	1
70	B0902	Socket Head Grub Screw 2BA x $\frac{5}{16}$ " long	5
71	B0706	Socket Head Cap Screw 4BA x $\frac{3}{8}$ " long	2
72	1300/20	Spring	3
73	1407/22	Pin	1
74	1300/24	Plunger	3

Drive Pedestals
Cat. Nos. 1379/3840

Designed for use in conjunction with either Integral or Modular Coffee grinders (94, 95 or 96) or alternatively with the Lewmar Modular cross linked winch system the Lewmar Drive pedestal is an efficient way of achieving remote winch drive with single or two man inputs. The Drive pedestal is available in two standard heights.

Deck mounting	8 bolts	$\frac{3}{8}$ " Dia. (10mm.)
Bolt PCD		7" (178mm.)
Deck Cut out		6" (152mm.)

Standard Pedestal
Cat. No. 1379 – 26.6" (675mm.)

Mini Pedestal
Cat. No. 3840 – 15.50" (394mm.)

The handle drive is transmitted via a bevel gear and drive shaft to the pedestal base. Here the unit can either be coupled direct to a coffee grinder via chain drive (Model 95) or to a standard Lewmar gear box for modular or cross linked applications.

The cross shaft/drive shaft are supported on needle roller bearings for efficiency. All gears, shafts, bearings etc. are of high tensile bronze or stainless steel. Body castings are of aluminium alloy, anodised and stove enamelled.

Installation

When used for remote drive applications the pedestal must be securely mounted to the deck structure. The deck must be adequately reinforced in way of the pedestal mounting point. Adequate clearance must be provided for gear boxes and shafting etc.

Specification

Crank c/L to Deck	1379	26.6" (675mm.)
	3840	15.50" (394mm.)
Crank Arm Radius	9"	(228mm.)
Width across handles	26"	(660mm.)

Spare Parts Supply

Spare parts kits are not available for these winches due to the complexity of construction. Any necessary spare parts are readily available from Lewmar Limited on request and should be accompanied with specific parts reference number taken from the spare parts list accompanying this manual.

Service

Lewmar Marine Limited operate full service facilities for their products. Details on request.

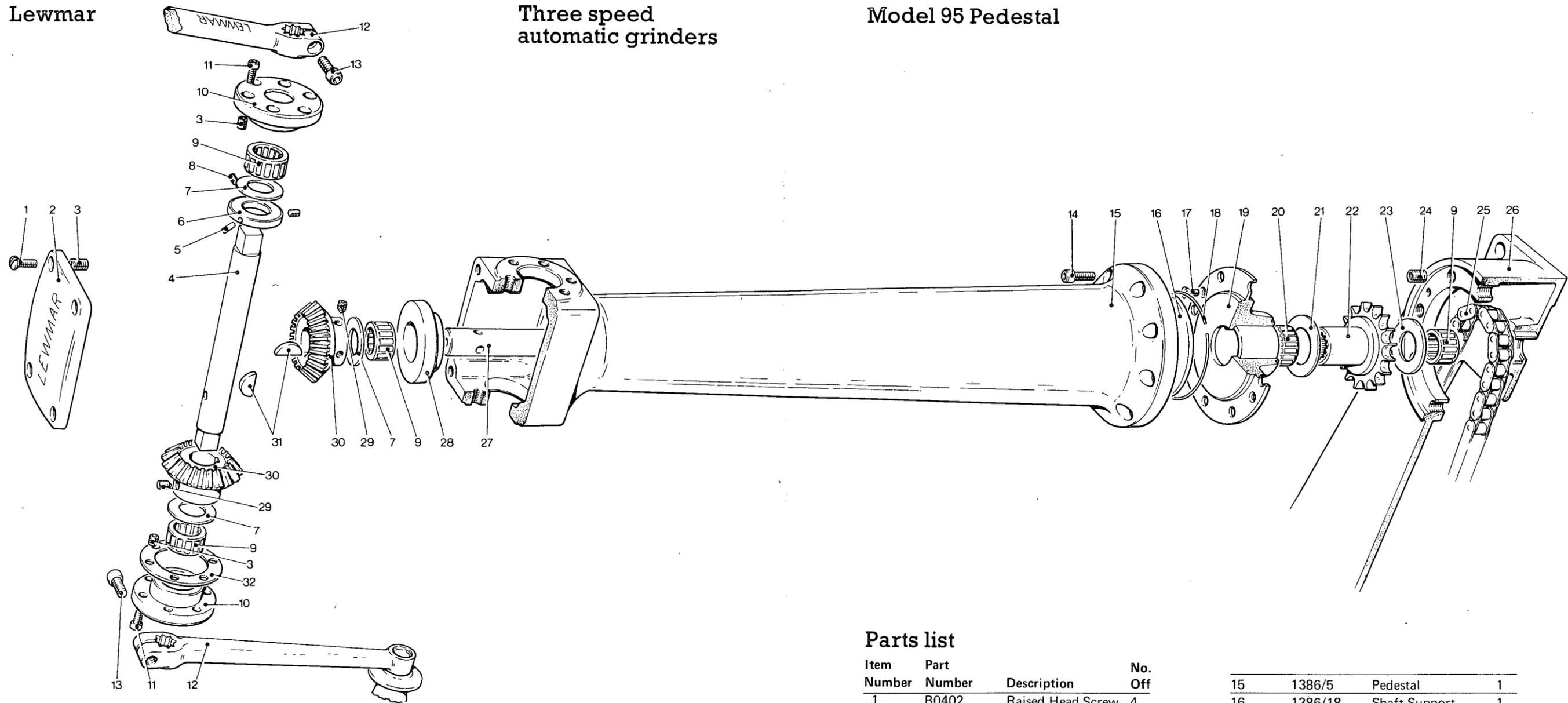
Pricing

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Fold out

**Full Service – Pedestal**

1. Remove 4 – screws (1) from Top Cap (2) and lift off.
2. Release handle clamp screws (13) and remove handle assemblies.
3. Remove 6 – cap head socket screws (11) and tap out bearing caps (10) taking care not to lose any of the thin shims (32) which provide the Bevel Gear Adjustment.
4. Remove 2 – grub screws (29) from bevel gear (30), gently tap bevel drive shaft (4) clear and withdraw through bearing cap location hole, taking care not to lose key (31). Remove bevel gear (30) through pedestal top.
5. Withdraw vertical bevel gear/bevel driven shaft (27/30) assy., through pedestal top. Remove thrust washer (7) and bearing (9).
6. Remove 8 – cap head screws (14) from pedestal (15) and lift off. Remove 2 countersunk head screws (17) from bottom

- bearing housing (19) and withdraw together with thrust washer (21) and bearing (20).
7. Free slackened chain from Drive chain wheel (22) and lift out. Remove thrust washer (23) and bearing (9).
8. Clean all components, lightly grease with Lewmar Grease Part No. 7385 and re-assemble in reverse order.

Notes

- A** When dismantling pedestal, parts removed should be placed carefully on a clean piece of non-fluffy cloth to avoid loss.
- B** Lubrication:
Grease - Use Lewmar Grease (7385) or equivalent. (Lubriplate Marine Lube 'A' etc.)
Oil – Use light machine oil (3 in 1 or equivalent).
- C** Washing - Use Kerosene (Paraffin)
- D** Cleaning – Use clean non-fluffy cloth.

Parts list

Item Number	Part Number	Description	No. Off
1	B0402	Raised Head Screw ¼" x 20 UNC x ¾" long	4
2	1386/6	Top Cap	1
3	B2403	Heli-coil Insert ¼" x 20 UNC x ¾" long	16
4	1386/13	Bevel Drive Shaft	1
5	B1508	Spirol Pin ⅛" Dia. x 1" long	1
6	1386/11	Thrust Collar	1
7	B2451	Thrust Washer	7
8	B0902	Socket Head Grub Screw 2BA x ⅝" long	5
9	1337/SA2	Roller Bearing Assembly	4
10	1386/12	Bearing Cap	2
11	B0720	Socket Head Cap Screw ¼" x 20 UNC x ⅝" long	12
12	1386/20	Handle	2
13	B0708	Socket Head Cap Screw ⅜" x 16 UNC x 1" long	16
14	B0717	Socket Head Cap Screw ⅜" UNC x 1" long	8

15	1386/5	Pedestal	1
16	1386/18	Shaft Support Washer	1
17	B0502	Countersunk Head Screw 2BA x ½" long	6
18	1386/19	Wire Circlip	1
19	1386/8	Bottom Bearing Housing	1
20	1264/SA2	Roller Bearing Assembly	1
21	B2450	Thrust Washer	2
22	1386/15	Drive Chain Wheel	1
23	1386/54	Thrust Washer	1
24	B2402	Heli-coil Insert ⅝" x 18 UNC x ⅜" long	8
25	B2500	Chain	1
26	1386/4	Base	1
27	1386/16	Bevel Driven Shaft	1
28	1386/9	Bearing Housing	1
29	B0907	Socket Head Grub Screw ⅝" x 18 UNC x ½" long	4
30	1386/17	Bevel Gear	2
31	B0950	Woodruff Key	2
32	1386/55	Shim	6

Lewmar Worldwide

Lewmar has world wide sales and service organisation. For any information on Lewmar products contact your nearest Lewmar subsidiary company or Distributor. If any case of difficulty write direct to our Head Office in England.

United Kingdom

Head Office Lewmar Marine Limited
Southmoor Lane, Havant, Hants. PO9 1JJ.
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Montague Smith Limited

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tel: Southampton (0703) 24667

Yacht Tests Limited

22 High Street, Burnham-on-Crouch,
Essex tel: Maldon (0621) 782236.
tlx: 995494

Marinac Yacht Fittings Limited

7 Scotland Street, Glasgow G5 8NL
tel: 041 4295517

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Box 60, Kirunaplan 5, 162 11 Vallingby,
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Direct service from Lewmar UK and
our distributors in France/Italy and
Spain

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Societe Soferac

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203 Front Street, Greenport,
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tlx: 255102206316

R B Grove Inc.,

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tlx: 230515615

Lewmar Marine Inc (West Coast)

892 West 18th Street, Costa Mesa,
Calif 92627 tel: (714) 642 2655
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Canada

Lewmar (Canada) Limited

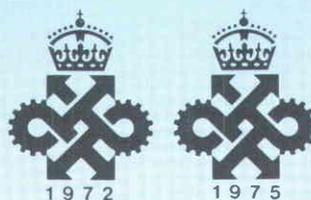
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Canada M5C 1L6 tel: (416) 363 6151
tlx: 2106524332



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Her Majesty Queen Elizabeth II
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Lewmar Marine Limited**

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the United Kingdom**

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Warrant of Appointment to
H.M. The Queen.



Queens Award to Industry

Lewmar received this Award in 1972 and 1975 in recognition of "outstanding achievements in industry, either in increasing exports or in technological innovation".

Less than 100 Awards are made each year to the cream of British industry, and we are proud to be permitted to display these two further symbols of Her Majesty's favour.



Lloyd's Certificate

We have recently made arrangements with Lloyd's Register of Shipping to issue their certificate for our winches. Lloyd's made a very careful examination of the material, design, construction, quality control and test procedures used by Lewmar and approved all the existing systems without alteration. Lewmar's existing standards proved to be higher than were required by Lloyd's.



Lewmar Service Manual