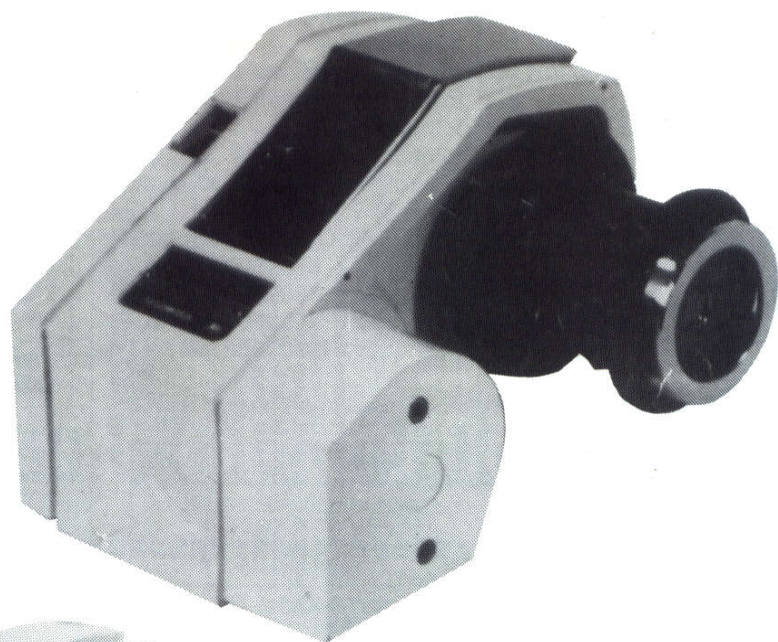


S-L Seawolf

520 ELECTRIC ANCHOR WINDLASS

Installation
Operation
Maintenance
and Parts List

2013 www.slspares.co.uk
0141 887 4122
(Paisley Scotland)



Simpson-Lawrence
INCORPORATING CHANNEL MARINE

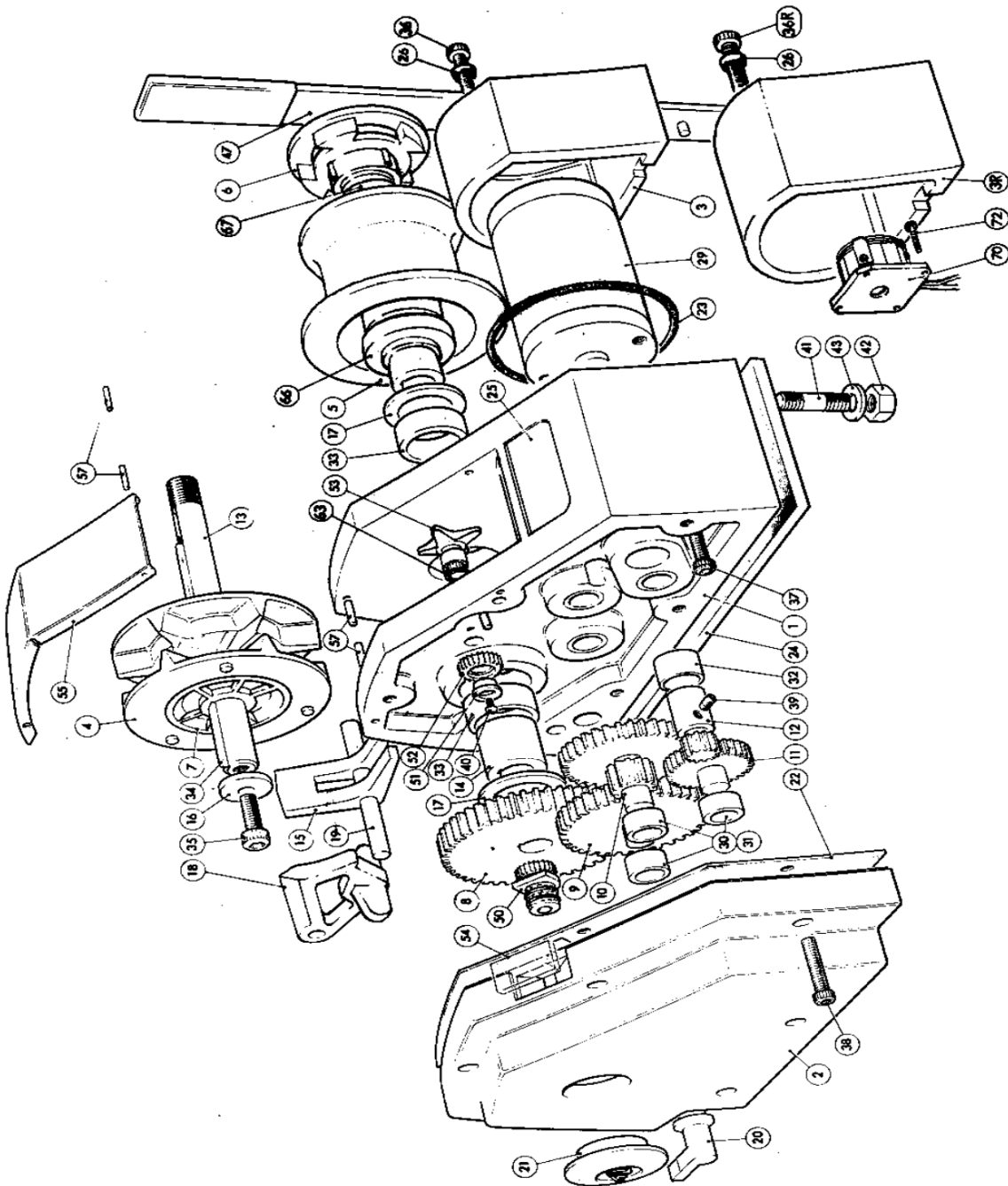
Marine Equipment

PARTS LIST

Part No.	Description	Qty.
1	Case, Main Body	1
2	Case, Motor Cover	1
3	Case, Motor Cover	1
4	Clipsy	1
5	Drum	1
6	Clutch Nut	1
7	Clutch Cone	2
8	Gear	1
9	Gear	1
10	Gear	1
11	Gear (M.I.T.O.C)	1
12	Gear	1
13	Mainshaft	1
14	Spacer	1
15	Pawl	1
16	Washer	1
17	Washer	2
18	Chain Stripper	1
19	Shaft, Pawl	1
20	Pawl Release Mechanism	1
21	Plug	1
22	Gasket, Case Cover	1
23	Seal, Motor Cover	1
24	Gasket, Base	1
25	Nameplate	1
26	Screw Seal	2
29	Motor	6
30	Bearing	6
31	Inner Fling	1
32	Roller Clutch	2
33	Bearing *HK 35-1162RS* 605 20253	1
34	Key	1
35	Screw	1
36	Screw	2
37	Screw	2
38	Screw	6
39	Screw	1
40	Screw	1
41	Studs	4
42	Nut	4
43	Washer	4
47	Clutch Operating Lever	1
50	Chain Run Indicator	1
51	Idler Gear Mount	1
52	Idler Gear	1
53	Gear, Actuator	1
54	Window	1
55	Stainless Steel Cover	1
57	Spring Pin	1
63	O Ring	4
66	Drum, Spacer Bearing	1
67	Spacer, Clutch Nut	1
78	Overload (Not Illustrated)	1

POWER REVERSING PARTS LIST

Part No.	Description	Qty.
3R	Case, Motor Cover	1
29R	Motor	1
32FR	Bearing	1
36FR	Screw	2
70	Electrically Released Brake	1
72	Screw	4



*Replacement motor is larger
So needs new cover
Motor for 245 + vat
cover for 60 + vat.*

NOTE:— When ordering spare parts it is essential to give Windlass Serial Number and Voltage. Please ensure that reference is made to reversing Seawolf.

The S-L 0520 Seawolf Electric Anchor Windlass of modern and compact design is manufactured to a high specification using first class materials throughout. A smartly styled main casing is diecast in light weight aluminium alloy. The side cover and motor cover are from corrosion free pressure moulded re-inforced resin. All gipsies are of the S-L patented rope/chain type to suit 7, 8, 10mm (1/4, 5/16, 3/8") short link calibrated chain and 3 strand rope 12-14mm diameter.

PERFORMANCE

Voltage	Pull	kg	lb	Vessel Suitability
12V	Line Pull	325	715	Approx.
	Chain Pull	275	600	12m (40 ft)
24V	Line Pull	385	850	Approx.
	Chain Pull	325	715	14m (46 ft)

SPECIFICATION

Shaft Stainless Steel
Gears Carbon Steel
Gipsy Stainless Steel electropolished
Drum Aluminium Alloy BS1490 LM25TF
 OR
 Aluminium Bronze BS1400 AB1 Chrome Plated.
Case Aluminium Alloy BS1490 LM6
Covers Pressure Moulded Reinforced Resin.
Weight 16.2 kg (36 lb).

MODELS

Model	Gipsy Type	SPECIFICATION		
		List No.	Gipsy	Drum
Standard	Rope and Chain	0052000	Stainless Electro Pol	Aluminium Hard Anodised
Reversing	Rope and Chain	0052020	Stainless Electro Pol	Aluminium Hard Anodised
HS	Rope and Chain	0052050	Stainless Electro Pol	Bronze Chrome Plated
HS Rev	Rope and Chain	0052060	Stainless Electro Pol	Bronze Chrome Plated

Each windlass installation requires:

1. A solenoid for non reversing model, or a boxed double solenoid for reversing model.
2. A control switch (or switches) by preference.

Requirements and list numbers for control options are shown below:

Solenoids:

FOR NON REVERSING WINDLASS

List No. 0052505 12V
List No. 0052506 24V

FOR REVERSING WINDLASS

List No. 0052507 12V
List No. 0052508 24V

Hand and Foot Controls:

FOR NON REVERSING WINDLASS

Footswitch **List No. 0052509** .. 12/24V

Hand Remote Switch **List No. 0052500** .. 12/24V

FOR REVERSING WINDLASS

2 x Footswitch **List No. 0052509** .. 12/24V

Hand Remote Switch **List No. 0052510** .. 12/24V

Joystick Cockpit/Flying Bridge **List No. 0052501** .. 12/24V

Recommended Optional Extras

List No. 0052013 Windlass Cover, Non Reversing

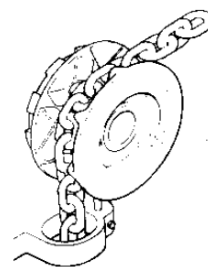
List No. 0052033 Windlass Cover, Reversing

List No. 6052047 Operating Handle (Spare)

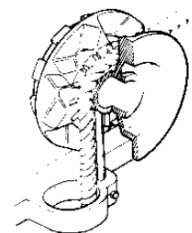
List No. 0052012 Emergency Hand Lever

Chain should be chosen to suit gipsies as follows:

GIPSY	CHAIN	
S.72	S-L 0058002/0058202	1/4"
	S-L 0058003/0058203	5/16"
	American BBB	1/4"
	Most European	8mm
S.60	S-L 0058004/0058204	9.5mm
	American BBB	5/16"
	American BBB	3/8"
	American Proof Coil	1/4"
	American Proof Coil	3/8"
American Hi Test	5/16"	
Most European	9-10mm	
S.50	American Proof Coil	3/8"
	American Hi Test	3/8"
	Most European	10mm



The action of the chain.



The rope gripping and stripping action.

Should difficulty be experienced in fitting a chain, please contact local agent.

Installation

The windlass is supplied with:

- Operating handle
- Overload Protection Unit
- Base Gasket
- Mounting Bolts
- Shrink Tube
- Information Pack

For a non reversing windlass you will require a solenoid and appropriate hand or foot switch. For a reversing you will require a boxed double solenoid. You will also require one off, or a combination of:

- Foot switch(s)
- Hand remote control
- Cockpit joystick control

If deck is cambered a suitable mounting pad may be required under windlass. Place windlass in the desired position on top of any mounting pad and on top of its gasket. (The base gasket will be used as a template for bolt holes). Check that the chain will line up correctly with the stemhead roller and that the chain will lead back into the locker below.

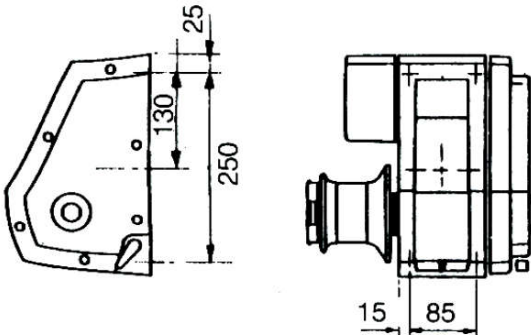
Remove the windlass taking care not to move the position of the mounting gasket. Using the gasket as a template, mark the position of the 4 mounting bolt holes, chain pipe hole and cable entry. 4 x 11mm (7/16") holes are required for

the holding down studs and 1 x 16mm (5/8") hole is required for wiring connection. The chain pipe hole is to the outline of the gasket.

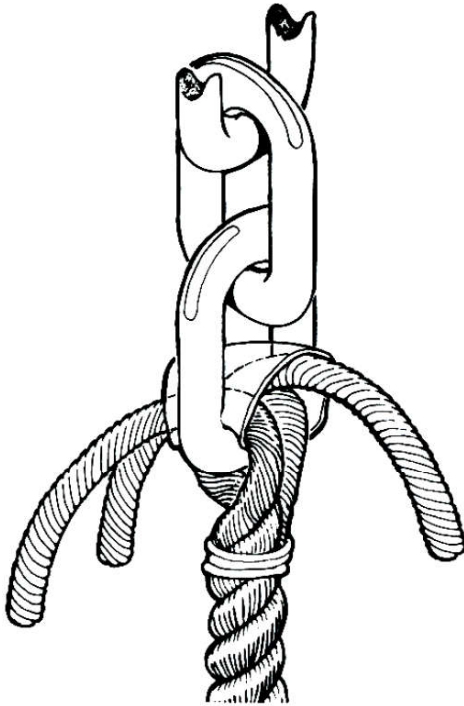
Screw the 4 studs completely into the underside of the case. It is recommended that Loctite 270 or equivalent is applied to the studs on fitting. Apply a small amount of jointing compound around the perimeter of the windlass and around the studs and electric cable. Place the gasket on to the studs and apply further jointing compound to the underside of the gasket. Place the windlass with its gasket on deck. Apply washers and nuts to the underside and tighten completely.

Should windlass be mounted in an anchor well, it is important to ensure that the anchor well is properly drained to avoid continuous flooding of the windlass. Also ensure that forward lead of chain from gipsy still allows a maximum of 90° wrap of chain on gipsy. For installations where windlass is set deep in a locker, it may be necessary to lift forward end of the windlass to achieve this angle.

S-L Seawolf Bolting Centres



JOINING ROPE TO CHAIN



As all gipsies supplied with the Seawolf are of the patented rope and chain variety you may wish to use a combined rope and chain scope to anchor your vessel. For most satisfactory joint between rope and chain proceed as follows:

1. With whipping twine or similar, seize rope 400mm (16") from rope end and unlay strands.
2. Place 20mm (3/4") of heat shrink sleeve supplied through last link of chain. Pass one strand through sleeve and chain from one side and the other two strands from opposite side. See sketch.
3. Pull all three strands tight and hold assembly in the heat of a hair dryer/fan heater, or immerse in boiling water until the sleeve shrinks tightly on to the rope.
4. Remove seizing and complete back splice in normal manner for two full tucks. With a hot knife pare down the 3 strands by 1/3rd and insert two further tucks. Pare down by another 1/3rd and finish with two tucks. Cut away remaining tails.

Note: 1. *This method of joining is designed to minimise chafe between rope and chain but as a matter of prudent seamanship should be checked regularly and remade if there is any evidence of wear.*

2. *For a windlass which is not used for anchoring regularly, it is essential that it be operated frequently to circulate the grease within the case.*

WIRING

To achieve the best performance from your windlass and safeguard your electrical system, it is essential that any powered windlass is fitted with sufficiently large cables to cope with current required and keep the voltage drop within acceptable limits. In any circumstance voltage drop should not exceed 5% ie. 12V/0.5V — 24V/1V. The following table gives suggested electric cable sizes.

Voltage	Cable size mm ²	Cable length	
		ft	m
12V	16	0-20	0-6
	25	20-35	6-10
	35	35-44	10-13
24V	16	0-47	0-14
	25	47-81	14-25

The table refers to the length of cable runs and should not be confused with boat length.

Study the wiring diagram.

The electrical system on your boat should be of the 2 wire or fully insulated return type to avoid possible electrolytic corrosion problems. This applies to all electrical and metallic equipment on board and for this reason modern systems are negative return.

The solenoids are splash proof but not watertight and they should be situated away from the possibility of water contamination such as from the chain as it comes through the deck. The underside of the deck is recommended, alternatively on an adjacent bulkhead.

An isolating switch should be incorporated between the battery and the windlass with its controls and should be kept in the OFF position except while the windlass is in use.

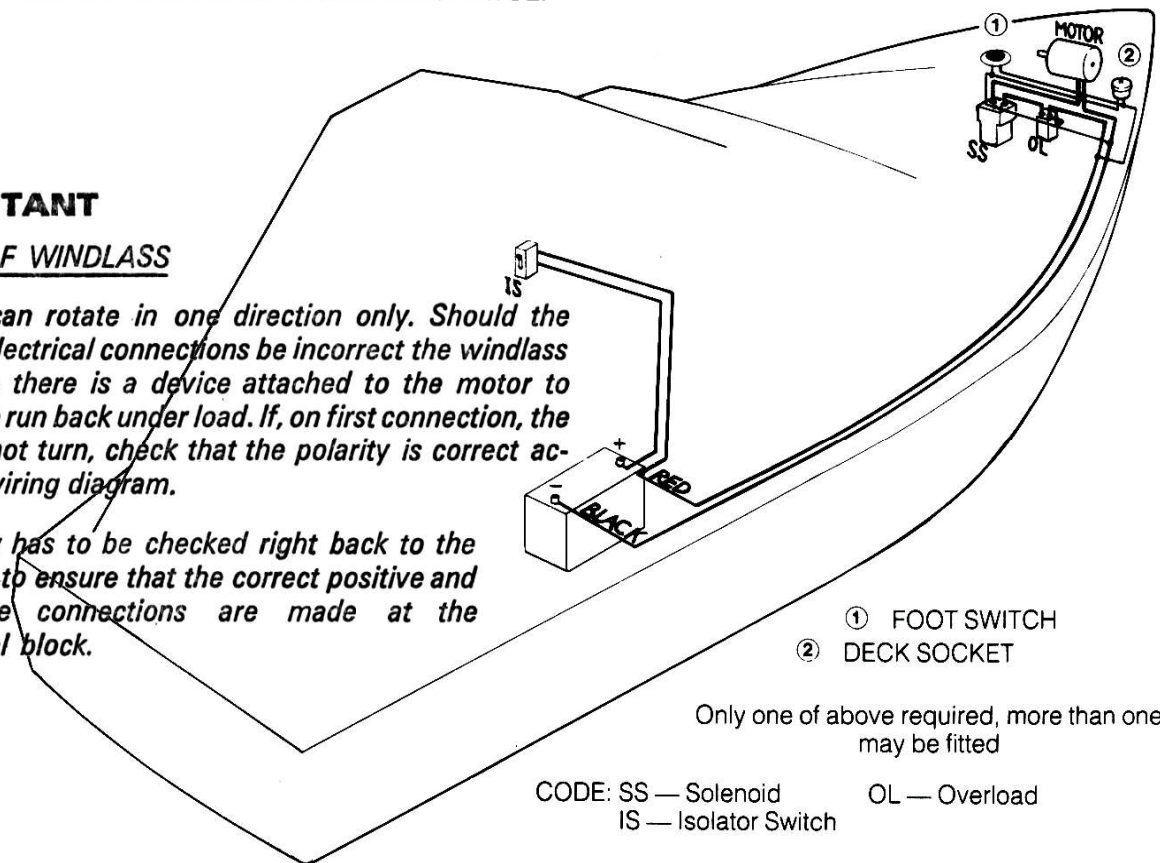
WIRING DIAGRAM OF STANDARD SEAWOLF

IMPORTANT

0520 SEAWOLF WINDLASS

This windlass can rotate in one direction only. Should the polarity of the electrical connections be incorrect the windlass will not turn as there is a device attached to the motor to prevent possible run back under load. If, on first connection, the windlass does not turn, check that the polarity is correct according to the wiring diagram.

NOTE: *Polarity has to be checked right back to the battery to ensure that the correct positive and negative connections are made at the terminal block.*



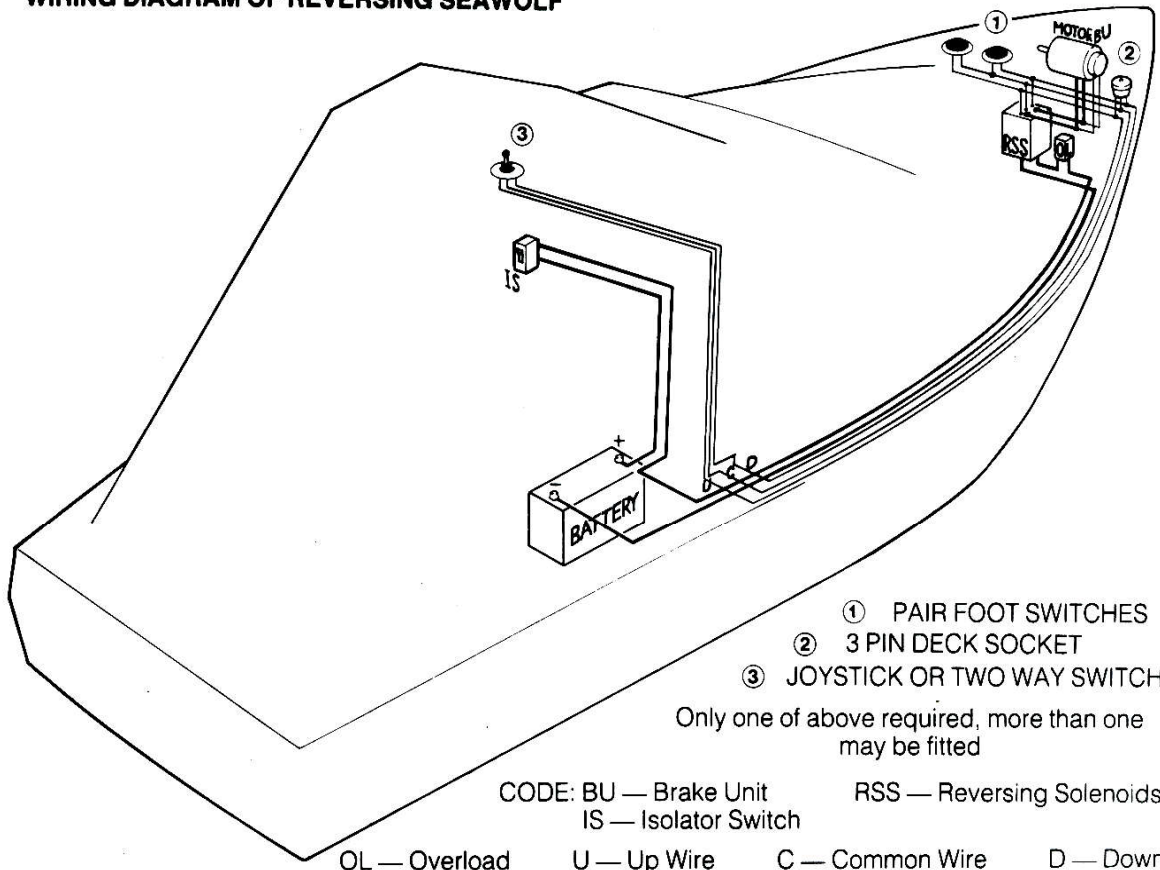
- ① FOOT SWITCH
- ② DECK SOCKET

Only one of above required, more than one may be fitted

CODE: SS — Solenoid OL — Overload
IS — Isolator Switch

CORRECT POLARITY MUST BE MAINTAINED TO AVOID DAMAGE TO ROLLER CLUTCH, PART No. 32

WIRING DIAGRAM OF REVERSING SEAWOLF



- ① PAIR FOOT SWITCHES
- ② 3 PIN DECK SOCKET
- ③ JOYSTICK OR TWO WAY SWITCH

Only one of above required, more than one may be fitted

CODE: BU — Brake Unit RSS — Reversing Solenoids
IS — Isolator Switch

OL — Overload U — Up Wire C — Common Wire D — Down Wire

IF WINDLASS OPERATES IN REVERSE CHANGE OVER WIRES U & D AT RSS

WIRING DIAGRAM OF STANDARD SEAWOLF

Take 1 cable from the positive battery terminal through an isolating switch to one of the terminals of the overload switch, (supplied with the windlass). Take the other wire from the overload to one of the large terminals on the solenoid. Connect the positive motor lead to the other large terminal of the solenoid. A second cable should be taken from the negative battery terminal to the negative motor lead. A wire of 2.5mm cross sectional area 30/0.30 or 50/0.25 PVC covered (American equivalent 14 AWG), should be taken from either of the small leads from the solenoid and connected to one side of the deck foot switch or deck socket or a combination of both. The second small wire from the solenoid should be connected to the other side of the deck foot switch or deck socket and linked to the positive line from the battery at a convenient position which should be between the overload and the battery. A final wire should be taken from the remaining small lead on the solenoid and linked into the negative line from the battery.

WIRING DIAGRAM OF REVERSING SEAWOLF

Take 1 cable from the positive battery terminal through an isolating switch to one side of the overload (supplied with windlass). The other cable from the overload should be connected to the large input terminal in a double boxed solenoid. A second cable should be taken from the negative battery terminal to the large negative input in the double boxed solenoid. The motor and brake unit leads are supplied taped together and should be connected to the large output terminals in the double boxed solenoids. Control circuit wiring of 2.5mm cross sectional area 30/0.30 or 50/0.25 PVC covered (American equivalent 14 AWG) is required to complete the installation. Connect the common terminal in the double boxed solenoid to the common terminal of the deck socket or pair of foot switches (2 required for reversing). Connect the other two small terminals in the double boxed solenoid to the remaining connections of the deck socket or pair of foot switches. Further control options can be added in parallel as shown in diagram.

Note: The above installation principles should be used as a guideline for fitting your windlass. If you are not sure that you understand them — seek professional advice.

OPERATING INSTRUCTIONS

VEERING (LETTING GO)

Ensure that fingers or loose clothing are kept clear of the chain and gipsy to avoid personal injury.

Disengage the gipsy pawl by pushing downwards on the plastic lever on the port side of the windlass. Slacken the clutch nut with the handle provided, until the cable begins to run out. The double cone clutch also acts as a brake and the speed at which the chain runs out can be easily controlled by the handle. The length of chain being let out is shown on the chain run indicator. When sufficient chain has been let out, stop the chain by pulling the clutch handle backwards and re-engage the gipsy pawl by pulling the plastic lever up to the engaged position. When using rope, the warp should be removed from the gipsy and made fast to a sampson post, bollard or mooring cleat. We do not advise lying to an anchor with the warp left in the gipsy.

It is more satisfactory to allow the chain to run out slowly allowing the vessel to take up sternway before full scope is let out.

HAULING IN CABLE

When using rope, remove the warp from the sampson post, bollard or mooring cleat and replace in the gipsy.

Ensure that the clutch nut is tightened and that the gipsy pawl is in the engaged position. Press on the deck foot switch or the hand held remote control switch. The speed of hauling depends on the load on the chain and will increase after the anchor breaks out and approaches the stemhead. As the anchor approaches the stemhead the cable can be inched in by pressing and releasing the control.

Should the windlass stall, switch off and wait a few seconds before again operating. **It is important that the windlass should not be allowed to stall for more than a few seconds.**

If the windlass continues to stall then the anchor may be foul and any attempt to clear should be made as indicated under 'Hand Operation'.

POWER REVERSING (For Power Reversing models only)

Ensure that the gipsy pawl is in the disengaged position and that the gipsy clutch is engaged. The anchor and chain can be lowered by pressing the DOWN button on the remote control switch or pressing the DOWN foot switch of the 2 foot switches you have mounted on your deck. This allows the chain to pay out slowly under power control. A most useful asset when mooring stern-to, or close manoeuvring under difficult circumstances. Operation of the UP button on the remote control or UP button on the foot switch brings in the chain.

On no account should both UP and DOWN buttons be pressed simultaneously.

WARPING

Ensure that the gipsy pawl is engaged. Slacken the clutch nut. The warping drum can now be made to revolve independently of the gipsy. Operate the windlass as above. Ensure that sufficient turns of rope are taken on the drum to avoid slipping between the rope and the drum.

CHAIN RUN INDICATOR

This should be set at zero before letting go the chain. To do so it is necessary to remove the chain from the gipsy and rotate the gipsy with the clutch lever pulled fully back. Replace chain when indicator is at zero.

Note: Since the indicator is designed to cater for a wide variety of chain types the accuracy is + or -4%, depending on the chain being used. It is therefore better to err on the safe side and allow a little extra to run out when anchoring.

EMERGENCY HAND OPERATION

The emergency hand lever can be supplied as an extra see page 3. Engage the open end of the lever around the windlass shaft directly to starboard of the gipsy such that the tongue on the side of the lever engages in a gipsy pocket. Ensure that the gipsy pawl is engaged and slacken clutch nut. The gipsy can now be turned one tooth at a time by engaging and disengaging the hand lever. Whilst slow, considerable leverage can be applied to the gipsy by this method.

SAFETY INSTRUCTION

Boats lying to their anchor in high swell or heavy weather conditions will snub on the anchor or mooring rope and this can cause the chain to slip or apply excessive loads to the windlass. For safety, when lying to an anchor, the windlass must not be left to take the entire load and a bridle should be used to transfer the load to a mooring bollard or cleat. Alternatively, the chain can be removed from the windlass gipsy and made fast directly to the bollard or cleat.

This instruction is in keeping with good seamanship.

OPERATING HINTS AND TIPS

1. To aid manoeuvrability we recommend that the vessels engine is run while lifting anchor.
2. When mooring stern-to, drop the anchor at the required distance from the jetty and gently ease off the gipsy clutch just enough to allow the chain to run out under the influence of the stern way of the vessel. Maintain sufficient chain tension to control the vessel and prevent the bows from swinging. By engaging the clutch, the anchor chain can be used as a brake for the vessel as it approaches the jetty. Make fast with warps from the stern.

MAINTENANCE

Regularly wash down the exterior of your windlass with fresh water.

The windlass requires very little servicing. It is advisable to apply a small amount of waterproof grease to the mainshaft where it enters the windlass case. As with all marine equipment regular inspection of moving parts is advisable and a little grease placed on the clutch nut will help to keep this free acting.

The windlass case and its bearings have been greased with WGL marine formula Teflon lubricant which requires no regular attention.

For smoothest engagement and disengagement of clutch cones and gipsy ensure that faces of cones and interior faces of gipsy are kept free from excess salt deposits.

DISMANTLING PROCEDURES

Removal of Gipsy

Unscrew clutch nut, 8. Remove drum, 5, by withdrawing from mainshaft, 13. Gently tap the mainshaft towards the port side of the windlass until it comes into contact with the plastic plug, 21, and continue to tap until the plug is removed. The mainshaft can now slide right through the windlass until it is clear of the gipsy and clutch cones. Do not remove the mainshaft completely unless further dismantling is required. The gipsy, 4, and clutch cones, 7, can now be lifted out vertically.

To replace the gipsy and cones, carefully line the mainshaft key with the keyways on the clutch cones, gently tap the mainshaft through as far as it will go. Slide the drum on the mainshaft and ensure that the ground diameter correctly fits in the mainshaft bearing, 33. Replace the clutch nut.

A small amount of grease should be applied to all moving parts on re-assembly.

Removal of chain stripper, 18, and pawl, 15.

Remove gipsy as above. Tap shaft pawl, 19, from the port side through to the starboard side until it comes clear of the chain stripper and pawl. These can now be lifted vertically out. Re-assemble in reverse order.

Replacing chain run indicator actuator, 53.

Remove gipsy as above. Pull actuator straight out from case. Replace with small amount of grease. It will be necessary to insert with a pushing and twisting motion to properly engage gear teeth.

Removal of chain run indicator

Remove side cover, 2, by unscrewing socket head cap screws, 38. Withdraw side cover from case. Chain run indicator assembly, 50, can now be pulled out from the side cover. When re-assembling push the indicator from the centre until it locates in its housing correctly. Replace side cover.

Removal of motor

Remove side cover as above. Remove motor cover, 3, by unscrewing screws, 36. Remove gear, 12, by unscrewing grub screw, 39, and slide from motor shaft. Unscrew cap screws, 37, and remove motor. Re-assemble in reverse order and finally tighten cap screws to obtain minimum resonance when motor is run without gears. Re-assemble side cover and tighten screws, 38, for minimum resonance.

Removal of cover, 55.

Swing cover fully aft, grip pivot in self grip wrench or pliers and tap pivot to port side. The cover can then be manipulated from the pivot. Re-assemble in reverse order.

WARRANTY

The Simpson-Lawrence warranty covers windlasses, for a period of one year from date of purchase, to be free from defects in material and workmanship. This warranty is subject to proper installation and use in service as described in this literature. Incorrect polarity nullifies warranty.

S-L ROPE CHAIN GIPSIES

The grip of the gipsy on the rope depends on the lead angle of the rope to the gipsy. Under no circumstances should the wrap of the rope be greater than 90° included angle. It will also be necessary to tail the rope sufficiently taught to give satisfactory performance.



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Simpson-Lawrence
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Marine Equipment