

Anchorman Power 700

Installation, Operation and Maintenance Instructions



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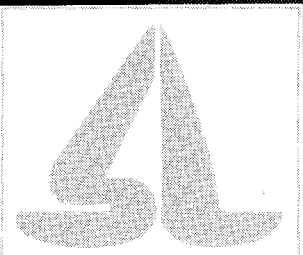
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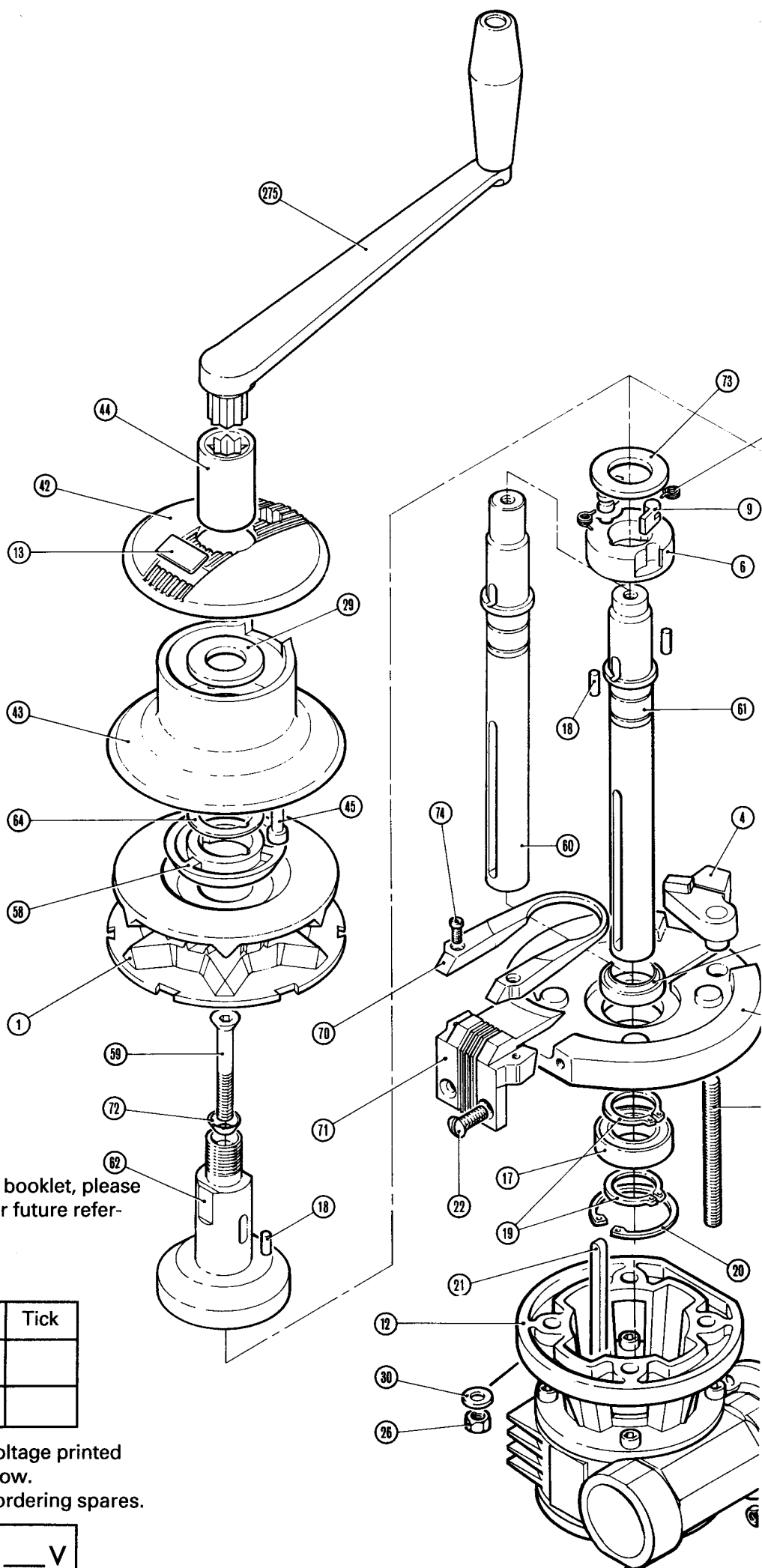
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1. PARTS

1.1 Exploded Diagram



1.2 For Future Reference

After you have read this instruction booklet, please keep it safe on board your vessel for future reference.

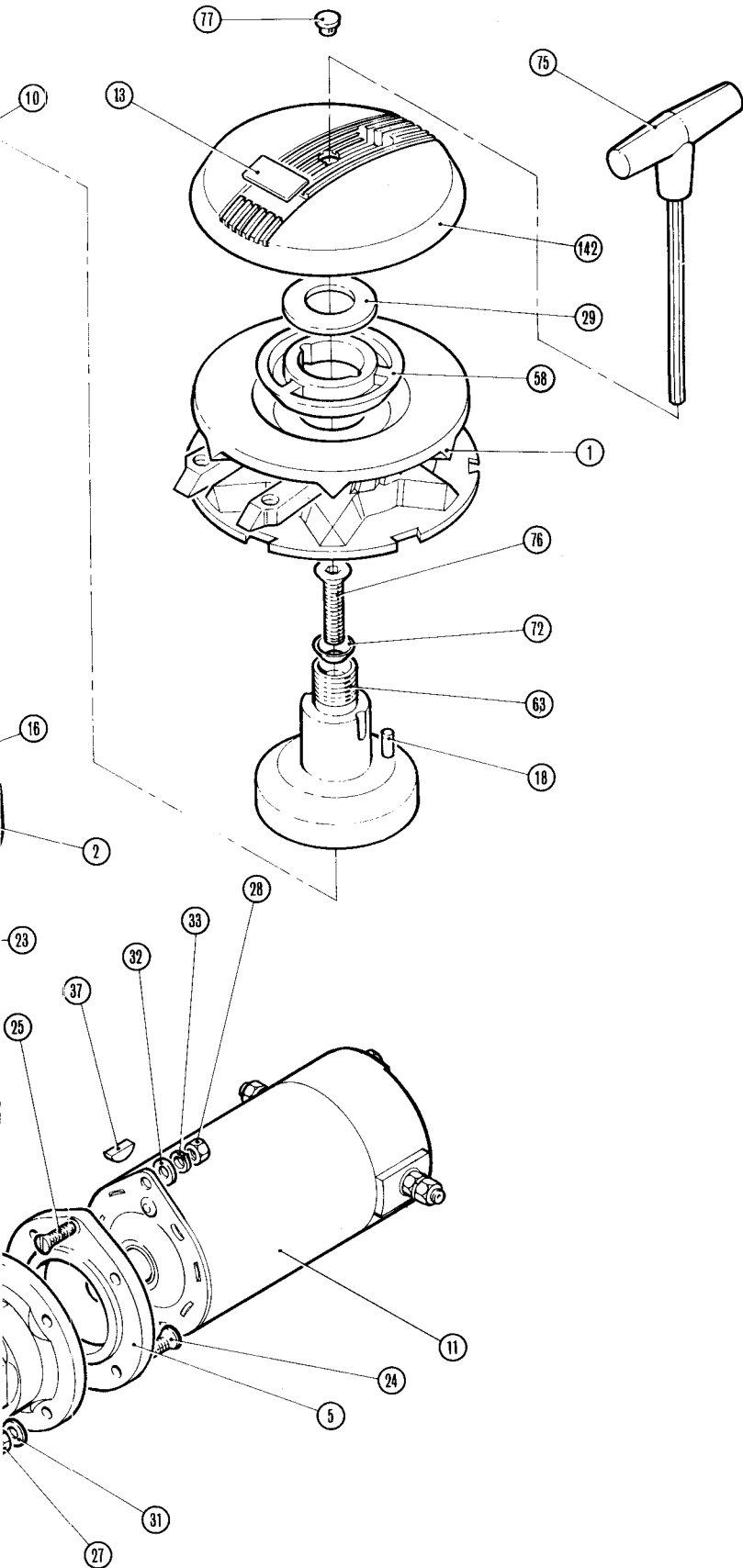
1.2.1 Identify your model

Model	List No.	Tick
Gipsy/Drum	0044500	
Gipsy only	0044600	

1.2.2 Please find the serial number and voltage printed on the gearbox label and note it below.
This information is essential when ordering spares.

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1.3 Parts List



Part Number	Description	Quantity	
		445	446
1	Gipsy	1	1
2	Baseplate	1	1
4	Gipsy Pawl	1	1
5	Motor Attachment Flange	1	1
6	Drive Pawl Carrier	1	1
9	Drive Pawl	2	2
10	Pawl Spring	2	2
11	Motor	1	1
12	Gearbox Assembly	1	1
13	Nameplate	1	1
16	Wiper Seal	1	1
17	Sealed Bearing	1	1
18	Drive Roller	4	4
19	External Circlip	2	2
20	Internal Circlip	1	1
21	Key	1	1
22	Screw	2	2
23	Stud	4	4
24	Screw	4	4
25	Screw	2	2
26	Nut	4	4
27	Nut	4	4
28	Nut	2	2
29	Washer	1	1
30	Washer	4	4
31	Washer	4	4
32	Washer	2	2
33	Spring Washer	2	2
37	Woodruff Key	1	1
40	Adaptor Plate	1	1
41	Distance Piece	1	1
42	Drum Cap	1	0
43	Drum	1	0
44	Clutch Nut	1	0
45	Screw	3	0
58	Clutch Cone	1	1
59	Socket Screw	1	0
60	Mainshaft (Gipsy/Drum)	1	0
61	Mainshaft (Gipsy Only)	0	1
62	Gipsy/Drum Carrier	1	0
63	Gipsy Carrier	0	1
64	Distance Piece	1	0
70	Fleming	1	1
71	Fleming Stripper	1	1
72	Friction Cone	1	1
73	Washer	1	1
74	Screw	2	2
75	Socket Screw Key	1	1
76	Socket Screw	0	1
77	Plug	0	1
142	Gipsy Cap	0	1
275	Sheet Winch Handle (Not included, see accessories)	1	1

2. Planning the installation

2.1 Gipsy Suitability

The rope/chain gipsy enables the windlass to be used for hauling rope and chain without the need to transfer from warping drum to gipsy.

It is ideally suited to anchor rodes which consist of rope with a chain tail.

Rope used with rope/chain gipsies should be three strand nylon.

The RC172 gipsy is designed to suit 12 mm (1/2") rope, the RC162 and RC152 gipsies to suit 16 mm (5/8") rope but they all may accept diameters that are plus or minus 3 mm (1/8") depending on the particular lay of the rope. The 180 & 181 gipsies handle chain only.

Chain should be chosen to suit gipsies as follows:-

GIPSY	CHAIN	
RC152	American NACM	5/16"
RC162	S-L 0058004	9.5 mm
	American Proof Coil	5/16"
	American BBB	3/8"
	American Proof Coil	3/8"
	American Hi Test	3/8"
	French NFE 26011	10 mm
	German DIN 766	9 & 10 mm
	Italian	10 mm
	Norwegian	1/4"
	Australian PWB & Beavers	8 mm
Australian Grade 'L'	10 mm	
RC172	S-L 0058002	1/4"
	S-L 0058003	8 mm
	American Transport	1/4"
	American BBB	5/16"
	American Hi Test	5/16"
	French NFE 26011	8 mm
	German DIN 766	8 mm
	Italian	8 mm
	Norwegian	1/4"
		5/16"
	8 mm	
	8 mm	
180	Accoloy	9/32"
181	German DIN 766(86)	6 mm

Depending on manufacture, other chains in the range from 6mm to 10mm and 1/4" to 3/8" may be suitable with one of the above gipsies. Should you have difficulty in matching a gipsy to your chain please consult your local agent or Simpson-Lawrence Ltd.

2.2 Package Contents (Checklist)

Windlass Above Deck Assembly	
Motor & Gearbox Unit	
Mounting Studs, Washers & Nuts	
Socket Screw Key	
Safety Instructions	D1000-1
Instruction Manual	D1007-3
Mounting Template	D1018-1

2.3 Additional Requirements

Each windlass installation requires :

- A standard sheet winch handle.
- The following tools:
 - Flat Bladed Screwdriver
 - 9.5mm (3/8") Diameter Drill
 - Jig Saw or Trepanning Tool
 - 13mm AF Spanner
 - Crimping Pliers / Wire Stripper
- Sealant
- A Circuit Breaker for overload protection which can also be used as a main isolating switch. (We recommend the ones listed under '3. Accessories')
- A control switch (or switches) by preference.
- A solenoid for a single direction installation, or a boxed pair of solenoids for a reversing installation. (Unless the High Load Footswitch only is used)
- Suitable electrical cable and crimp terminals.

2.4 Electric Cable Selection

To achieve the best performance and safeguard your electrical system it is essential that any electric windlass is fitted with sufficiently large diameter cable to cope with the current draw imposed upon it and to keep the voltage drop within acceptable limits. In any circumstance voltage drop due entirely to cable resistance should not exceed 5%, roughly 0.5V for a 12V installation and 1.0V for a 24V one.

The following tables give recommended cable sizes. The recommendations are based on the total length of cable required, from the battery to the windlass and back to the battery, following the route of the cables. (See the Wiring diagram for the definition) DO NOT confuse Cable Length with the length of the vessel!

METRIC OR STARTER CABLE

VOLTAGE	Cable Length		Size mm
	m	ft.	
12	8.4	28	20
	11.7	38	25
	16.2	53	35
	18.0	59	40
	22.0	72	50
24	20.4	67	15
	22.1	73	16
	25.3	83	20
	35.1	115	25

AMERICAN CABLE

VOLTAGE	Cable Length ft.	Cable Size AWG
12	20	6
	32	4
	51	2
	65	1
	82	1/0
24	61	6
	97	4
	154	2

Thin wire of 2.5mm cross sectional area, 35/0.30 or 50/0.25 PVC covered (American equivalent 14 AWG) is required for the control switch circuits. This is used to connect the switch(es) to the solenoid(s) and the circuit breaker pilot light to the main circuit.

3. ACCESSORIES

List Number	Item
0044501	Windlass Cover - - - - White
0044502	Windlass Cover - - - - Blue
0044901	Rode Management System
0050711	70 Amp Circuit Breaker - 12 Volt Installation
0050710	50 Amp Circuit Breaker - 24 Volt Installation
0052505	12 Volt Solenoid - - - - Single direction
0052506	24 Volt Solenoid - - - - Single direction
0052509	12 Volt Solenoids - - - - Reversing
0052510	24 Volt Solenoids - - - - Reversing
0052512	Push Button Switch - - - Single direction
0052514	Foot Switch - - - - - Single direction
0052516	High Load Footswitch - - Single direction
0052511	Joystick Control Switch - Single or Reversing
0052515	Hand Remote Switch - - Single or Reversing
0052513	Push Button Switch - - - Reversing
0052514	Foot Switch X 2 - - - - Reversing
0052522	Touch Pad Control - - - Reversing
2417201	Chain Pipe - - - - - Flat type with cover
2417202	Chain Pipe - - - - - Hooded type
2756700	10" Operating Handle - - Autolock
2756900	10" Operating Handle - - Standard

4 Specification

4.1 Performance

Maximum Pull

	12V Model	24V Model
Chain in Gipsy	250kg (550lb)	350kg (770lb)
Rope in Gipsy	300kg (660lb)	400kg (880lb)
Rope on Drum	275kg (600lb)	375kg (825lb)

Typical Working Figures

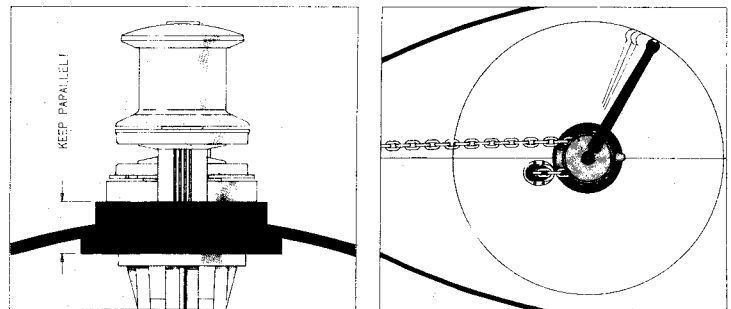
	Load	Speed	Current Draw
12V	50kg 110lb	16m/min 52.5ft/min	65 Amp
24V	50kg 110lb	17m/min 56ft/min	35 Amp

4.2 Materials

Drum/Cap	Hot Stamped Bronze
Gipsy	Hot Stamped Bronze
Internal Pawls	Stainless Steel
Base Plate	Hot Stamped Bronze
Mainshaft	Stainless Steel
Gearbox	Aluminium Case, Steel/Bronze Gear Set
Electric Motor	500W, 4 Pole Permanent Magnet
Weight	Gipsy/Drum Model 15.5kg (34lb) Gipsy Only Model 14.5kg (32lb)

5. INSTALLATION

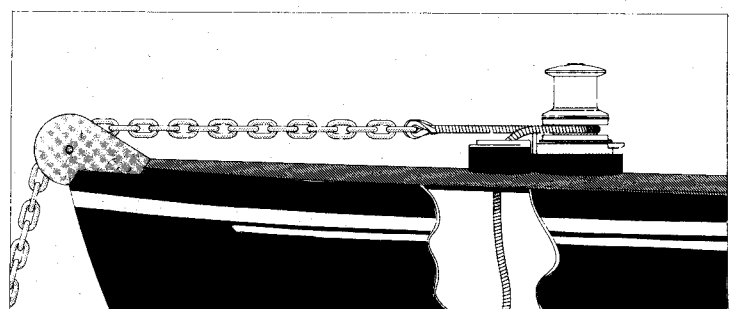
5.1 Fitting Windlass to Deck



5.1.1 If the deck top is not flat a suitable mounting pad may be required to take up camber or sheer. Decks which are thin, of foam or balsa laminate construction, will require a backing piece in order to spread the loads which will be applied locally to the deck while the windlass is in use. Care must be taken if the deck is of uneven thickness and a mounting pad and/or backing piece fitted that the top and bottom surfaces are parallel for correct alignment.

5.1.2 Place the windlass on the deck or mounting pad in the desired position and check the line up of the chain or rope with reference to the stemhead roller and the chain locker below. Check that there is sufficient room to fully rotate a bi-square winch handle without obstruction.

5.1.3 Rode lead from the bow roller should be in the same plane as the centre of the gipsy so any deck pad may also be required to be angled. There must be sufficient vertical fall for the chain or rope, even with a full locker, to draw the rode from the gipsy when hauling in.



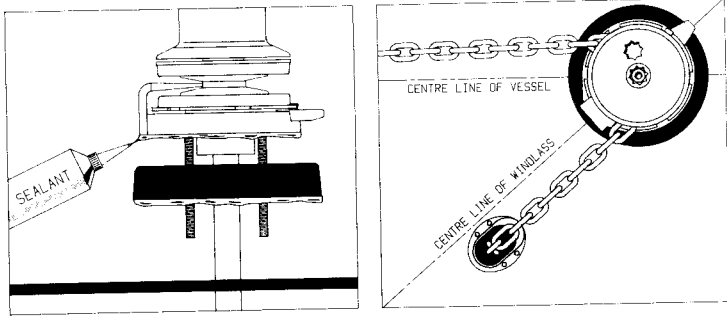
5.1.4 Place the mounting template in the desired position. Cut a 55mm diameter (2 3/8") clearance hole for the baseplate and mainshaft to pass through and four 9,5mm (3/8") holes for the studs. The studs supplied are 100mm (4") long to suit decks and mounting pads up to 70mm (2 3/4") thickness. For thinner decks or some installations without mounting pads it may be necessary to reduce the length of the mounting studs.

5.1.5 Screw the studs into the baseplate, this can best be done by putting two nuts on the opposite end, one of which acts as a lock nut. Use this technique on each of the four studs in turn.

5.1.6 Apply a suitable sealant to the bottom of the base plate, the mounting pad and around the studs. Place the windlass in position.

5.1.7 Apply grease to the mainshaft below deck then offer up the gearbox and secure it firmly to the studs with the nuts and washers supplied.

NB If using silicone or other rubbery type sealants it is advisable to allow curing of the sealant before final tightening of the mounting bolts.



5.1.8 Please note the following when fitting a chain pipe :

- a. When using rope or rope/chain combination rodes in the gipsy, we strongly recommend the chain pipe be fitted close to the stripper as shown on the mounting template.
- b. The chain pipe should, where possible, be fitted against the baseplate of the windlass in alignment with the stripper as detailed on the template. In certain installations this may not be possible - e.g. where the windlass cannot be sited directly over the chain locker - and under such restrictions, the

chain pipe can be fitted remotely (see note d. below) but must always be in direct alignment with the stripper so that the rode runs in a straight line off the gipsy (see diagram).

- c. It is essential that the rode leaves the gipsy and enters the chain pipe horizontally, this may entail placing packing below the chain pipe in order to achieve this, especially if the windlass has had to be mounted on a deck pad.
- d. If mounting the chain pipe remotely from the windlass, it is necessary to ensure that the minimum fall of rode within the full chain locker is still greater than the distance between the stripper and the chain pipe. This enables gravity to aid the stripping of the rode from the gipsy.

5.2 Wiring

5.2.1 General Recommendations

The wiring system should be of the two cable fully insulated return type, which avoids possible electrolytic corrosion problems. Most modern installations are negative return (negative earth) but polarity should be checked.

A Circuit Breaker **must** be included in the windlass wiring circuit. This protects the wiring and prevents undue damage to the windlass motor, in the event of it being stalled by an excessive load in service. The recommended Circuit Breaker should be mounted in a dry, readily accessible place, as it must be manually reset should an overload occur that causes it to trip to the off position. If not using the Circuit Breaker recommended, an alternative must have identical characteristics.

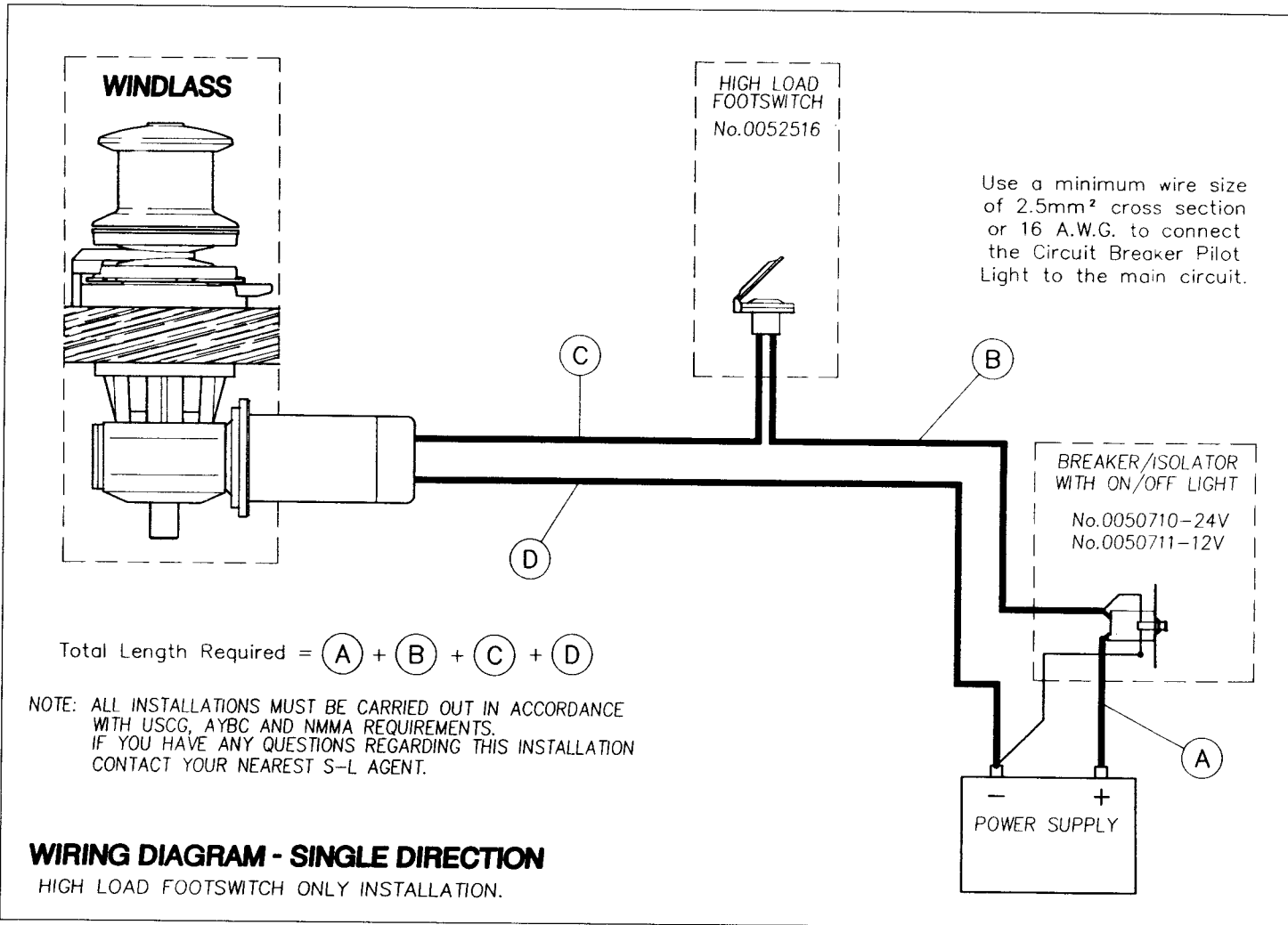
When fitted, Solenoids should be mounted as close to the battery as possible.

NB Crimp terminals should be used on **all** wire ends wherever possible for good electrical contacts.

5.2.2 Control Switch Installation

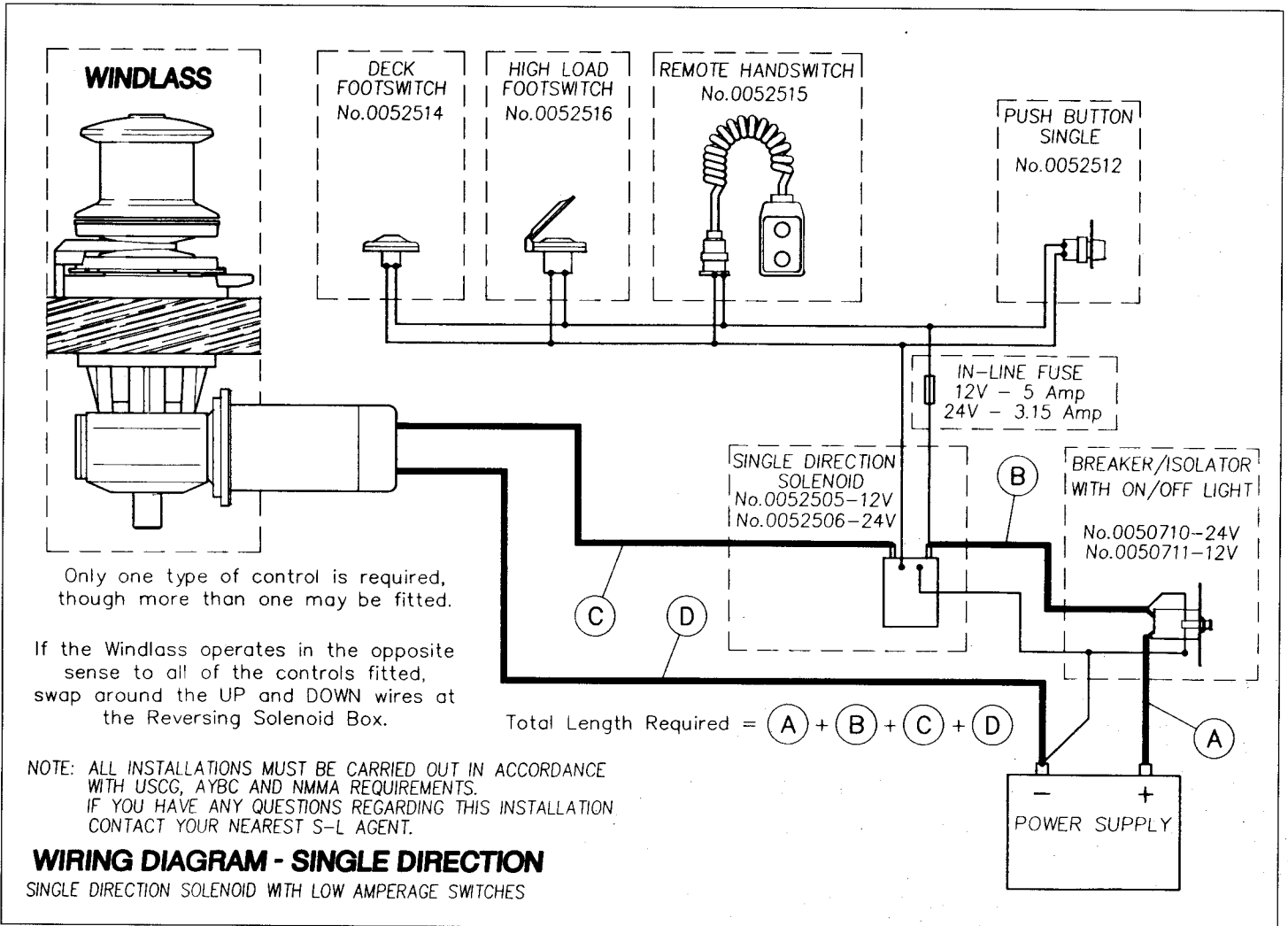
Follow the mounting instructions supplied with the switch. Remember, when using more than one Control Switch it is important to their correct operation that they are wired in a parallel circuit.

5.2.3 Single Direction Wiring (High Load Footswitch Only)



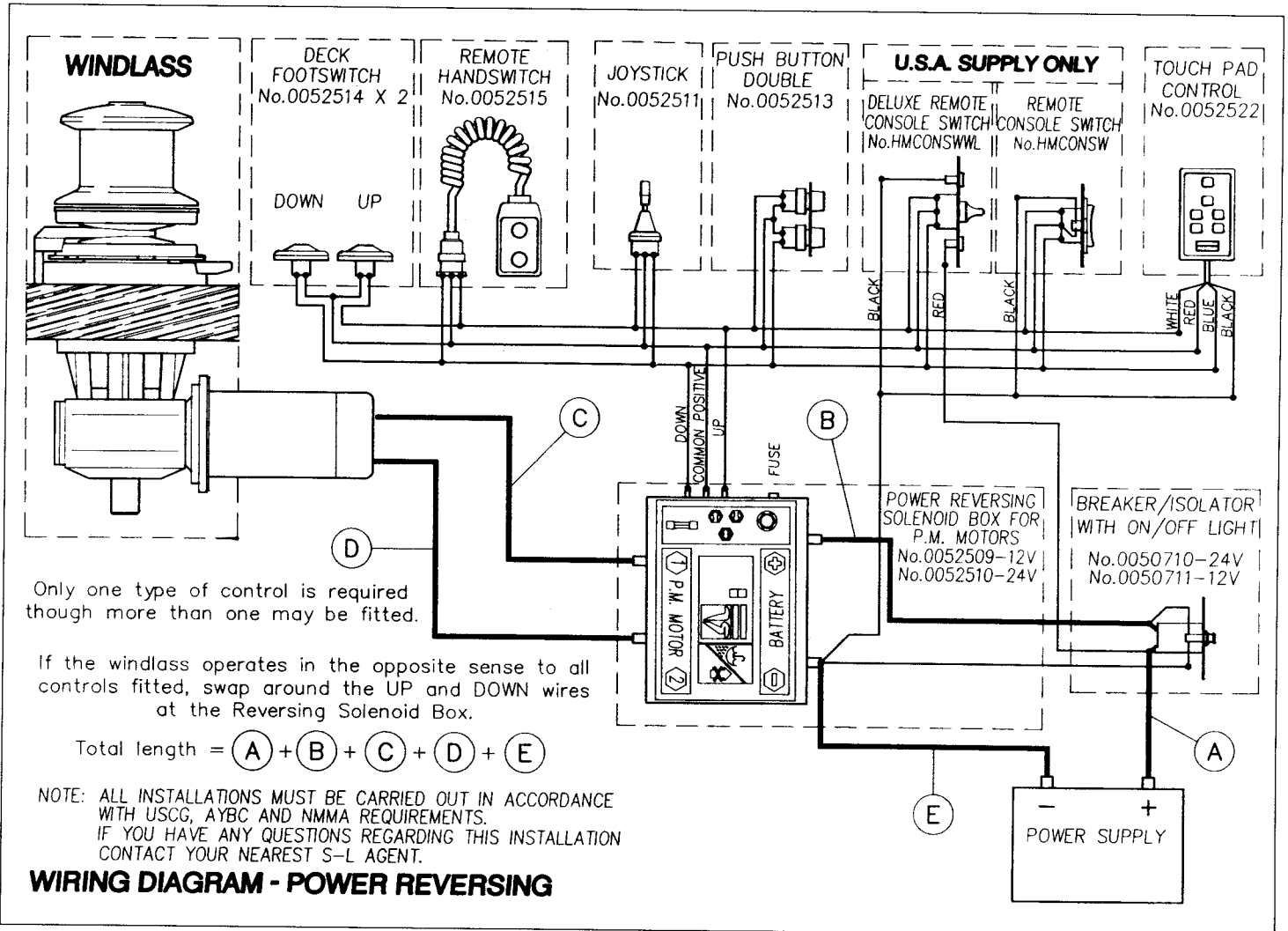
WIRE	FROM	TO
Thick cable	Positive battery terminal	Circuit Breaker
Thick cable	Circuit Breaker	High Load Footswitch
Thick cable	High Load Footswitch	Positive motor terminal
Thick cable	Negative battery terminal	Negative motor terminal
Thin wire	Circuit Breaker Pilot Light	Main circuit (positive)
Thin wire	Circuit Breaker Pilot Light	Main circuit (negative)

5.2.4 Single Direction Wiring



WIRE	FROM	TO
Thick cable	Positive battery terminal	Circuit Breaker
Thick cable	Circuit Breaker	Solenoid
Thick cable	Solenoid	Positive motor terminal
Thick cable	Negative battery terminal	Negative motor terminal
Thin wire	Solenoid	Control switch(es)
Thin wire	Control switch(es)	Main circuit (positive)
Thin wire	Solenoid	Main circuit (negative)

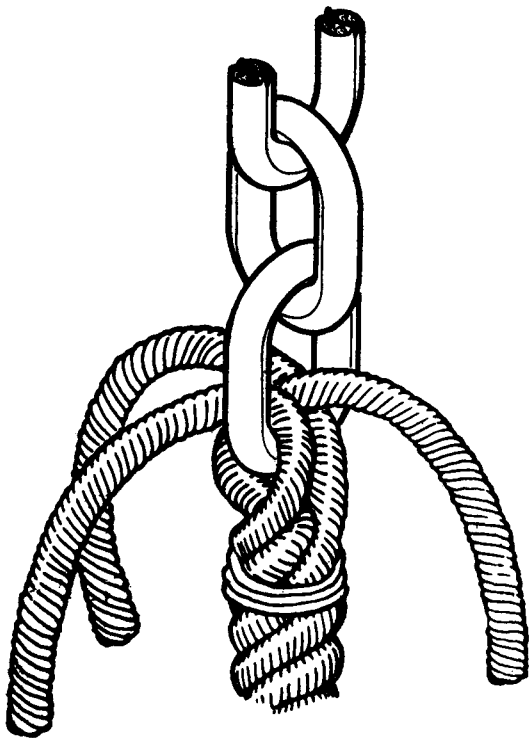
5.2.5 Power Reversing Wiring



WIRE	FROM	TO
Thick cable	Positive battery terminal	Circuit Breaker
Thick cable	Circuit Breaker	Reversing Solenoid box
Thick cable	Solenoid box	Motor
Thick cable	Negative battery terminal	Reversing Solenoid box
Thick cable	Solenoid box	Motor
Thin wire	Solenoid box	Control switch(es) common terminal
Thin wire	Solenoid box	Control switch(es) up terminal
Thin wire	Solenoid box	Control switch(es) down terminal

NB If you are not sure that you understand the above guidelines seek professional advice.

5.3 JOINING ROPE TO CHAIN



- 5.3.1 With whipping twine or similar, seize your rope 300 mm (12") from the rope's end and unlay strands.
- 5.3.2 Pass one strand through the chain end link from one side and the other two strands from the opposite side.
- 5.3.3 Remove seizing and complete back splice in normal manner for two full tucks.
- 5.3.4 With a hot knife pare down the three strands by one third and continue with two further tucks.
- 5.3.5 Pare strands down by another third and finish with another two tucks.
- 5.3.6 Cut away remaining tails.

This method of joining is designed to minimise chafe between rope and chain but as a matter of prudent seamanship it should be checked regularly and remade if there is any evidence of wear. Because of wide variations in rope type and construction some experimentation may be required.

6. OPERATING INSTRUCTIONS

6.1 Safety First!

Adopt the habit of removing the handle from the clutch nut, drum or gipsy cap, when it is not being used, to avoid personal injury and the possibility of inadvertently releasing the clutch!
Ensure that fingers and loose clothing are kept clear of the rode and gipsy whilst they are in motion to avoid personal injury also! Always ensure that there are no swimmers nearby when dropping your anchor.

6.2 Function of Clutch

The clutch engages and disengages the gipsy from the windlass drive. It is designed to operate with a standard sheet winch handle, if you do not possess such an item please refer to the 'Accessories' paragraph for further details.
Insert the sheet winch handle into the central clutch nut (gipsy/drum models), or offset bi-square hole

(gipsy only models). Disengage the clutch by rotating the handle anti-clockwise. Clockwise rotation engages the clutch, giving a breaking action which controls the speed at which rode runs out under gravity. To fully engage the clutch, lock the gipsy pawl into any notch on the gipsy flange whilst rotating the sheet winch handle clockwise.

6.3 Function of Gipsy Pawl

The gipsy pawl, item 4, swivels in and out of engagement. It has been designed such that when engaged in the gipsy, anti-clockwise rotation of the gipsy is resisted. However, clockwise rotation of the gipsy during hauling in will automatically disengage it. For this reason, when the pawl is being used to help in fully tightening the clutch, it must be actively held in position.

6.4 Function of Friction Cone

In normal use the Friction Cone, part 72 is compressed by the Socket Screw, part 59 or 76, depending on the model. This is achieved using the Socket Screw Key, part 75. The friction cone gives the gipsy a positive power out capability that enables it to haul the rode out from the chain locker. However, should there be an obstruction to the rode coming out of the locker, the friction cone slips to avoid damage to the deck or windlass. It is only necessary to disengage the friction cone when the windlass is to be operated manually (see 6.10 below).

6.5 Letting Go Under Gravity

- 6.5.1 Disengage the gipsy pawl.
- 6.5.2 Slacken the clutch slowly with the handle by turning it anticlockwise until the gipsy begins to turn and the rode runs out.
- 6.5.3 Note that the handle may also be used as a brake and the speed at which the rode runs out can easily be controlled by moving it clockwise or anti-clockwise.
- 6.5.4 When sufficient rode has been let out, fully tighten the clutch (see 6.2 above).
- 6.5.6 Re-engage the gipsy pawl.

6.6 Letting Go Under Power

- 6.6.1 With a power reversing installation the anchor and rode can be lowered without slackening off the clutch.
- 6.6.2 Check that the clutch is fully tightened by inserting the handle and rotating it clockwise (see 6.2 above).
- 6.6.3 Disengage the gipsy pawl.
- 6.6.4 Activate a 'down' control switch.
- 6.6.5 Should the windlass turn, yet fail to power out, ensure that the rode has not become jammed in the chain pipe below deck and that the Socket Screw (part 59/76) is fully tightened by inserting the Socket Screw Key (part 75) through the clutch nut or gipsy cap hole as appropriate until the key engages with the Screw. The key should be turned clockwise to fully tighten the Screw.
- 6.6.6 Release the 'down' control switch when sufficient rode has been lowered.
- 6.6.7 Please note, activating both UP and DOWN controls

simultaneously will stop the windlass if it is connected correctly to the Simpson-Lawrence solenoid box listed earlier.

6.7 Lying to Anchor Safely

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

6.8 Hauling In

- 6.8.1 Ensure the clutch nut or gipsy cap is fully tightened by turning the clutch handle clockwise.
- 6.8.2 Press an 'up' control. The speed of hauling depends on the load on the anchor and will increase after the anchor breaks out.
- 6.8.3 Avoid damage caused by bringing the anchor hard up against the stemhead fitting. The rode should be inched by careful use of the controls.
- 6.8.4 Should the windlass stall, switch off and wait a few seconds before trying again. If the windlass fails to operate at all check to see if the Circuit Breaker needs to be reset. It is important to the future good performance of the windlass' motor that the windlass is not allowed to stall for more than a few seconds. It is sensible to avoid stalling your windlass whenever possible.

6.9 Warping (Gipsy/Drum Only)

- 6.9.1 If the gipsy is in use, ensure that the gipsy pawl is engaged.
- 6.9.2 Slacken the clutch nut to disengage the gipsy clutch.
- 6.9.3 The warping drum can now be made to revolve independently of the gipsy under power.
- 6.9.4 Rope/drum slippage can normally be overcome by increasing the number of turns of rope on the drum.

6.10 Emergency Manual Operation (Loss of Power)

- 6.10.1 Insert the Socket Screw Key (part 75) through the centre of the clutch nut (GD models), or gipsy cap (G models, after removing the hole plug, part 77) until the key engages with the Socket Screw (part 59 or 76).
- 6.10.2 Turn the key anti-clockwise and slacken the Screw by one revolution.
- 6.10.3 Insert a Sheet Winch Handle into the clutch nut (GD models) or offset hole (G models) and rotate it clock-wise.
- 6.10.4 The above procedure allows rapid recovery of the rode and anchor under light loads as well as emergency recovery in the event of power failure.
- 6.10.5 When finished using the windlass in manual mode, remove the Sheet Winch Handle from the windlass and retighten the central Socket Screw (see 6.4 above).

6.11 Operating Tips

- 6.11.1 When anchoring, it is best to allow the rode to run out slowly, allowing the vessel to take up sternway before full scope is let out. This helps prevent the rode from becoming tangled on top of your anchor on the sea bed.
- 6.11.2 To aid anchor recovery, we recommend that the vessel's engine be used to assist by moving the vessel towards the anchor. We do not recommend that the vessel is motored over and beyond the anchor, as this can cause the rode to damage your topsides.
- 6.11.3 When mooring stern to, at a suitable distance from the jetty, deploy the anchor to prevent the bows from swinging. Gently pay out the rode under the influence of the stern way of the vessel. By stopping the windlass, the anchor can be used to restrain the vessel as it approaches the jetty. Make fast your vessel with warps from the stern.

7. IMPORTANT USER INFORMATION

Classification Societies require that a vessel lying to anchor should have its rode held by a chain stopper or equivalent strong point as windlasses are not designed to withstand the loads generated under storm conditions. This rule should be applied to all craft!

Whilst under way it is the responsibility of the boat user to ensure that the anchor and rode are properly stowed for the prevailing sea conditions. This is particularly important with high speed power boats.

An anchor windlass is mounted in the most exposed position on a vessel and is thus subject to severe atmospheric attack resulting in a possibility of corrosion in excess of that experienced with most other items of deck equipment. As the windlass may only be used infrequently, the risk of corrosion is further increased. When the windlass is mounted in an anchor well with a closing lid, due to lack of ventilation and consequent high saline conditions the rate of corrosion is accelerated. It is essential that the windlass motor and gearbox is given the necessary maintenance to avoid external corrosion. This is of even greater importance when the windlass is installed in an anchor well!

8. MAINTENANCE

8.1 General Recommendations

Isolate the windlass electrically, before carrying out any maintenance work. After the first two or three anchor recoveries, check that the windlass is still fastened tightly to your deck as it should now be 'bedded-in'. For smoothest operation of the clutch ensure that the clutch mechanism and gipsy exterior is kept free from excess salt deposits. Regularly wash down the exterior of your windlass with fresh water. The gearbox and its bearings have been lubricated for you and should require no internal attention. As with all types of similar equipment it is advisable to run the windlass occasionally to circulate the lubricant if

nothing else. External moving parts should have a few drops of oil applied occasionally. Examine all electrical connections for possible corrosion. Clean and lightly grease as necessary.

8.2 Dismantling

At least once a year dismantle the above deck parts. Clean them thoroughly and apply a small amount of marine grade teflon grease to all bearing surfaces, then re-assemble. In particular apply grease around the exterior of the deck seal, part 16.

8.3 Winter Laying Up

As with all items of marine equipment poor installation or neglect is often responsible for damage caused during the winter lay up period. Given correct installation and maintenance your windlass will require little attention prior to, or after, winter lay up. Check between the windlass deck housing and deck for signs of water ingress. Should it occur, remove, clean and reseal the deck plate.

9. WARRANTY

The Simpson-Lawrence warranty covers your unit for a period of one year from the 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 booklet. Our current catalogue contains our full "Conditions of Sale". A copy of these conditions can be obtained by application to any of our branches or our agents.

The models described in this document are subject to a policy of continual improvement. Simpson-Lawrence Ltd. reserve the right to alter specifications and recommendations without notice. For the latest information regarding any aspect of your windlass please contact your local agent or:-

Simpson-Lawrence Limited,

218/228 Edmiston Drive, Glasgow, G51 2YT, United Kingdom.

Telephone No. Domestic : 041-427-5331/8

International : Code+44-41-427-5331/8

Fax No. Domestic : 041-427-5419

International : Code+44-41-427-5419

Telex No. : 778312 AFLOAT G

Simpson Lawrence USA Inc.,

PO Box 11210, Brandenton, Florida, 34282-1210, USA.

Telephone # Domestic : 813-746-7161

International : Code+1-813-746-7161

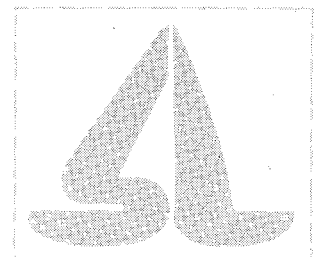
Fax # Domestic : 813-746-7166

International : Code+1-813-746-7166

Telex # : 0230808778

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**SIMPSON
LAWRENCE**