



## H700 SERIES HAND WINDLASS

The H 700 series hand windlass is a compact, lightweight unit offering the security and convenience of anchoring with chain but eliminating the cost and complexity of a power windlass. Each unit is fitted with a chain gypsy (optional chain sizes between 5/16" and 5/8") and warping drum.

Weight of unit complete with handles is 94lb.

The standard model is supplied with a 6" crank handle with rotating handgrip and a 4ft lever. With 50lbs effort on the crank handle, a pull of 250lbs is obtained on the chain (5:1 mechanical advantage). The same effort on the lever, which has an advantage of 14:1 exerts a pull of 700lbs. Provision is made for a second handle, allowing two-man operation. Alternatively one or two 10" crank handles may be supplied, providing a pull of 8 times input effort.

The gypsy has a built-in manually operated clutch/brake to enable controlled lowering of the mooring chain. This feature also allows the gypsy to be left supporting the chain and anchor while the warping drum is used.

The windlass is anchored to the deck with four 1/2" bolts, preferably stainless steel. If 10" crank handles are to be used, the windlass must be mounted on a pedestal 4" high. One large hole is required directly below the rear of the gypsy for the navel pipe.

Maintenance is reduced to a minimum by use of:

High tensile cast aluminium casing hard anodised, prepared and finished in White Polyurethane.

Stainless Steel shafts with self lubricating bushes and neoprene shaft seals.

Precision generated reduction gears running in an oil bath.

Cast polished bronze gypsy, warping drum, clutch nut ratchet and pawl.

Stainless steel fasteners.

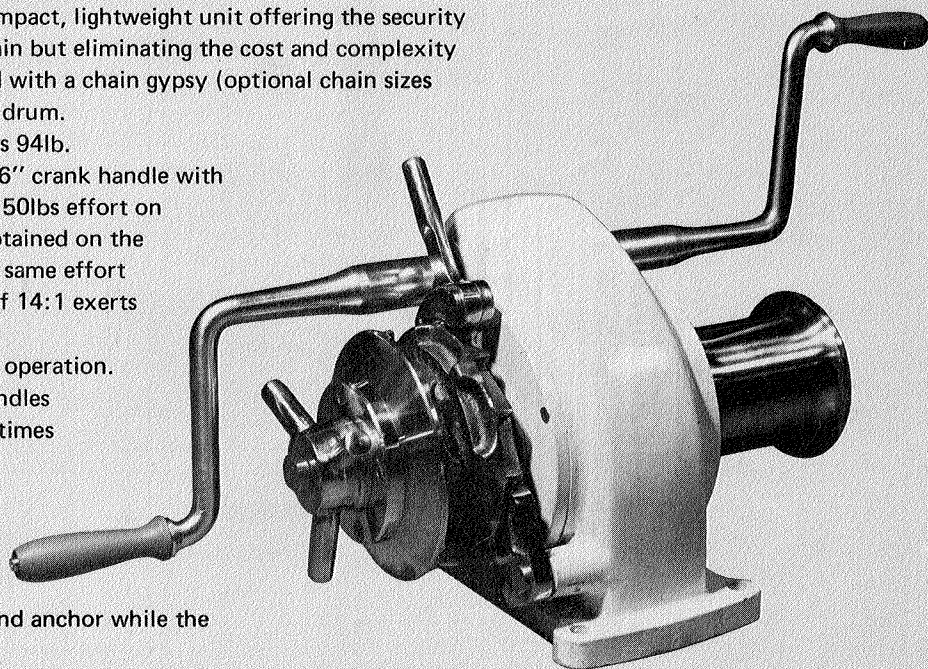
Sealemit fittings are provided on the gypsy clutch and ratchet bearing.

### Power Pack

12 & 24v power packs with 700lb — 80ft/min capacity are available for use with the H 700 series. These units attach with a quick connect bayonet type mounting and are interchangeable with the crank handle. All other features of the windlass are retained.

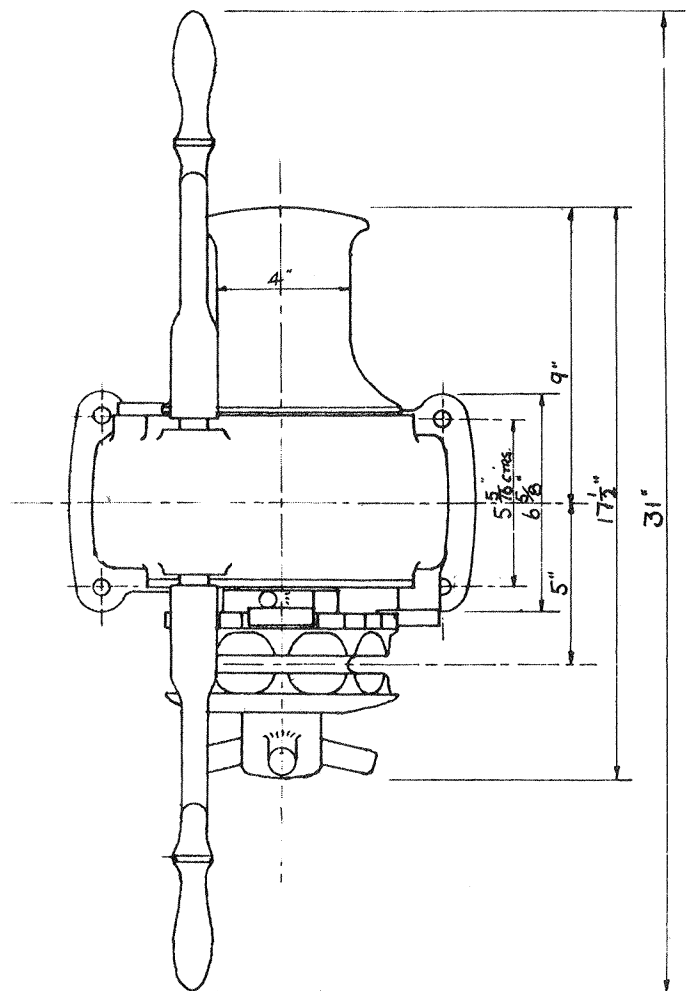
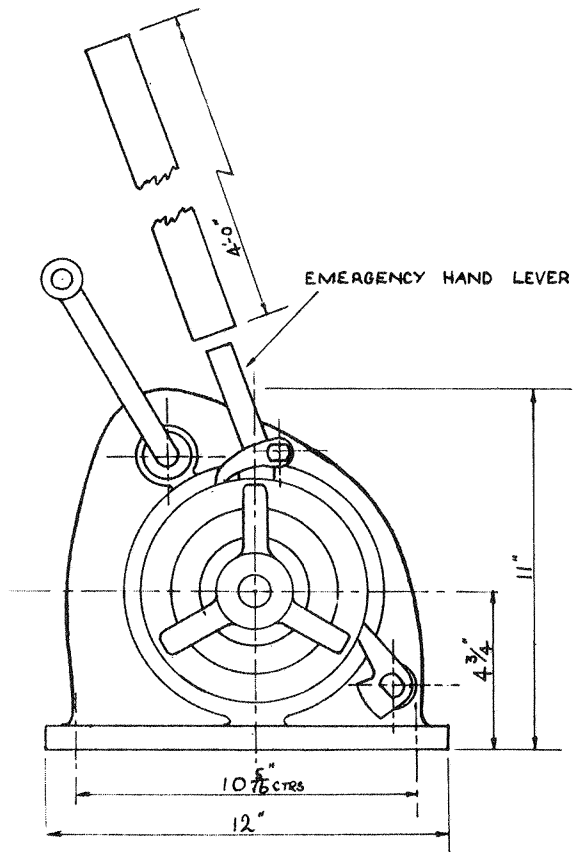
Foot operated on/off switch for deck mounting is available where permanent or plug in power connections are desired.

Approximate weight of power pack is 20lb.



## NILSSON WINCHES LTD.

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# NILSSON H700 M HANDWINDLASS

## INSTALLATION & OPERATING INSTRUCTIONS

**LOCATION** Mounted on the foredeck in such a position to allow a clear run for the chain and warp, from the fairlead to the gypsy and warp drum. Enough room must be left to remove, replace, and use the crank handles.

If the winch is mounted square to the centre line of the boat, (and most installations are this way) it should not be closer than 4–5 ft to the fairlead, as the angular misalignment of chain and gypsy will increase to the point where the chain will have a tendency to ride out of the gypsy sideways. For distances less than those mentioned, the windlass will require offsetting or angling to bring the angular misalignment within the above limits. Provided the angular misalignment given above is not increased, the windlass can be mounted anywhere else on the foredeck that is convenient. If the chain sags onto the deck on longer runs, a stainless steel or similar rubbing strip may be necessary to prevent damage to the deck.

The warping drum will still work quite efficiently at much greater misalignments than applies to the gypsy. In fact, so long as the warp does not foul the paint work of the windlass casing the drum will work satisfactorily.

**INSTALLATION** The Base of the windlass is drilled to take 4 x ½" mounting bolts. These must be made of 300 series stainless steel; nuts and washers must also be stainless. On no account should brass or bronze bolts, nuts, or washers be used. The mounting bolts are not supplied as standard equipment because of the great variation in deck thickness; however they can be supplied as extra equipment if the overall deck thickness is given. Hold-down bolts are made from ½" Ø stock threaded one end to accommodate a nut and washer only, and threaded the other end with plenty of length to allow the nut to firmly clamp the windlass in place.

It is preferable to mount the windlass on a pedestal at least 1" high; this gives better drainage to the base and also allows our standard navel pipe, and chain stripper to be used. (refer options)

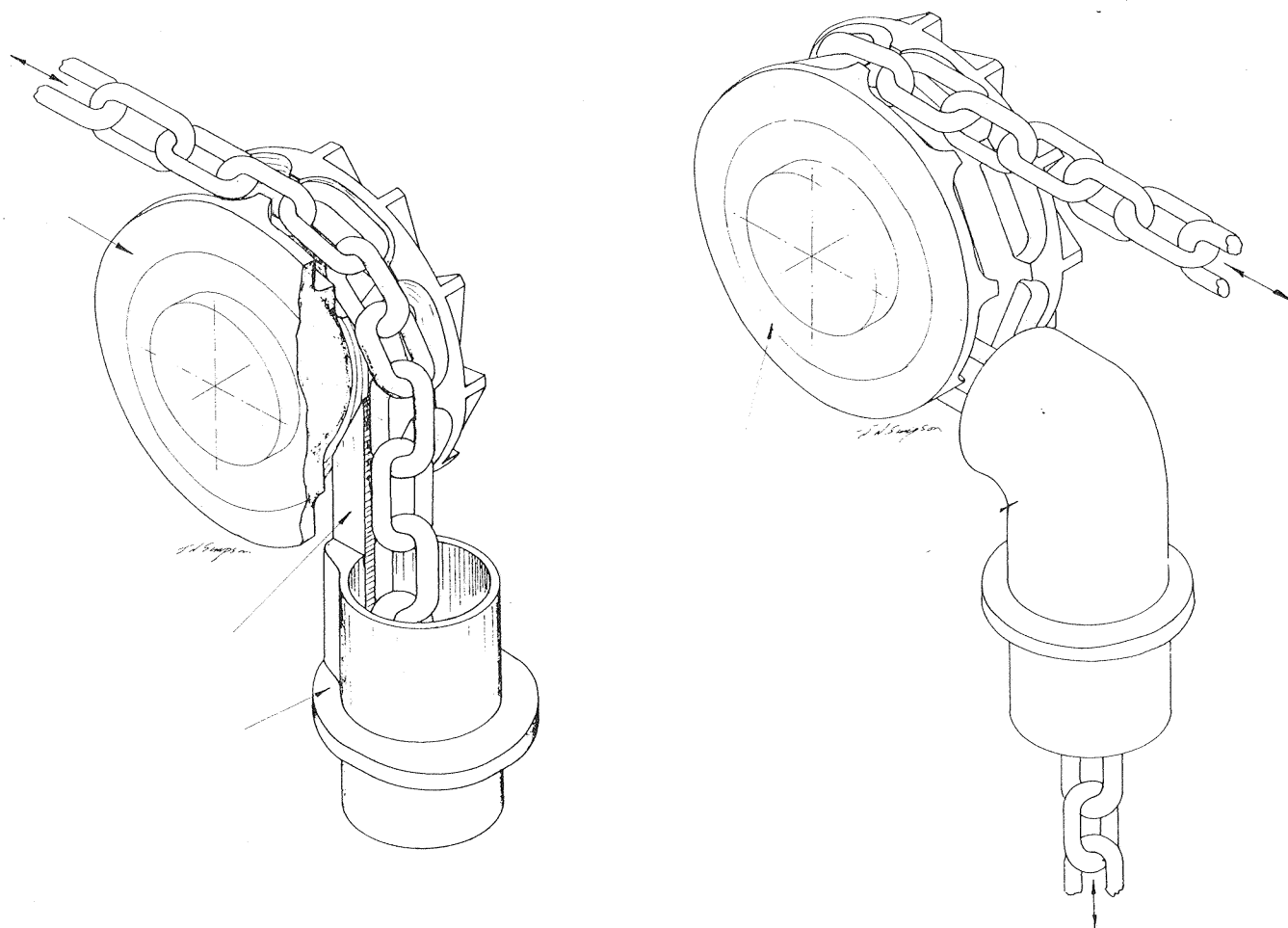
If 12" crank handles are to be used it is essential to mount the windlass on a 4" high pedestal; the block is best made to cover the area where the navel pipe goes as this allows our standard navel pipe and chain stripper to be used.

The Navel Pipe is mounted directly under the aft end of the gypsy so that the chain falling straight down after disengaging from the gypsy goes right through the centre of the navel pipe and down below decks to the chain locker. If for various reasons the navel pipe and winch cannot be mounted directly over the chain locker, alkathene pipe or similar tube of approx. 2" – 3" Ø can be used to direct the chain under the deck to the required area. This system will work surprisingly well even at angles of 45°. If the alkathene pipe system is to be used, particularly at steep angles, a trial should be made by feeding the chain through a pipe held at the correct angle, the chain must slip through the pipe absolutely unaided otherwise jamming will occur at the most inopportune moments. Depending on the length of chain used, sufficient room must be left for the chain to heap up naturally, and be fed out again without fouling the mouth of any pipes that may be used. If the chain is stowed directly under the winch then no additional pipes are necessary.

NILSSON Navel Pipes have built in stripper; this is a piece of Stainless steel rectangular section firmly attached to the body of the navel pipe; its function is to protrude into the bottom Ø of the gypsy teeth and disengage any links of the chain which may stick. (refer Fig. 1)

Some chains will feed without a stripper, others will need it in certain sections of the chain only, and others won't feed at all without a stripper, although the latter case would be better with another gypsy.

Some owners have used a curved type navel pipe mounted just in front of the gypsy with its mouth facing aft to feed the chain below decks. This system works well and has the advantage that water (either salt or rain) doesn't go straight down the hole. (Fig. 2) All the above fittings, including the winch, should be bedded in, using one of the rubberized sealants intended for this purpose.

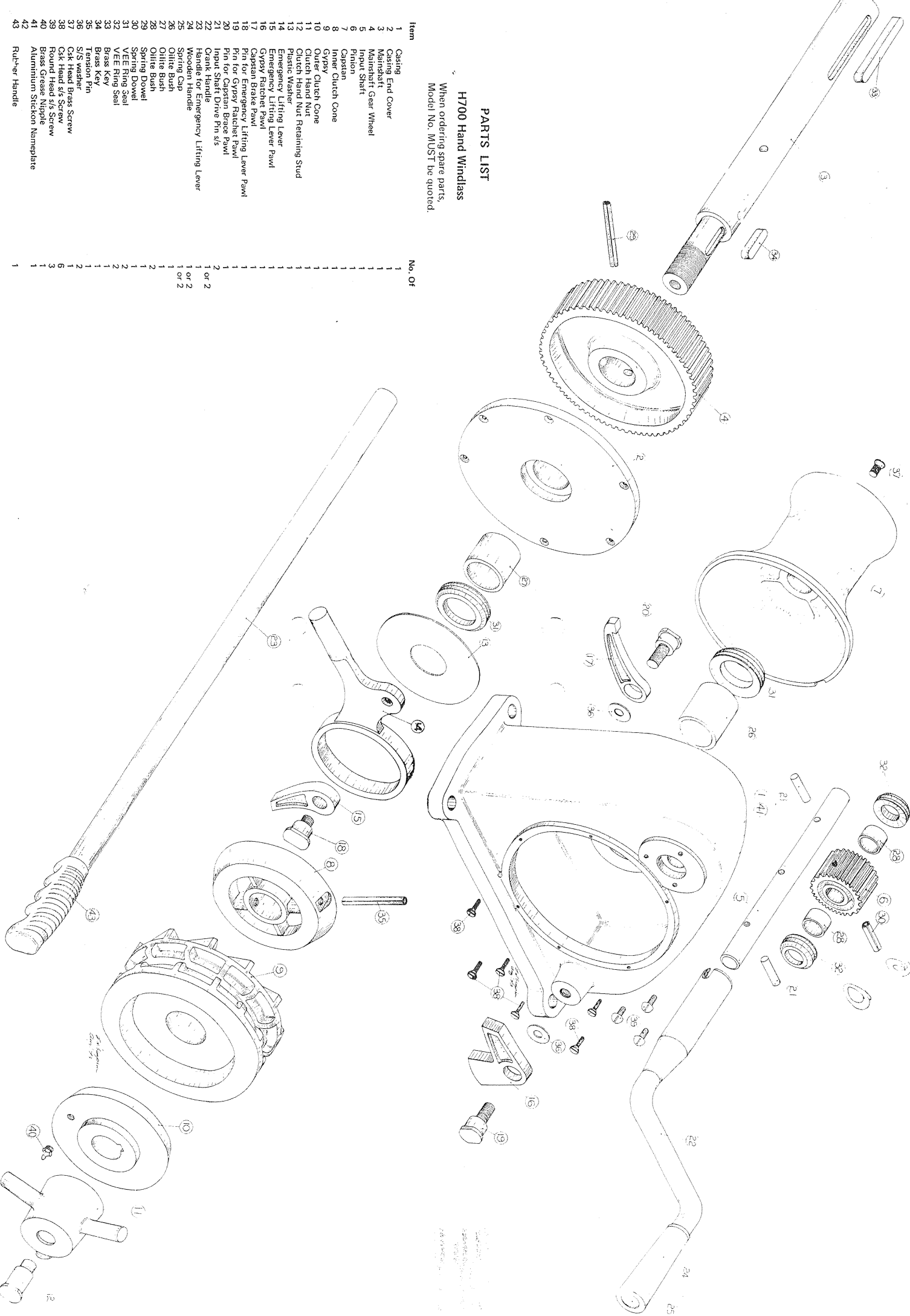


# PARTS LIST

## H700 Hand Windlass

When ordering spare parts,  
Model No. MUST be quoted.

Item		No. Of
1	Casing End Cover	1
2	Mainshaft	1
3	Mainshaft Gear Wheel	1
4	Input Shaft	1
5	Pinion	1
6	Capstan	1
7	Inner Clutch Cone	1
8	Gypsy	1
9	Outer Clutch Cone	1
10	Clutch Hand Nut	1
11	Clutch Hand Nut Retaining Stud	1
12	Plastic Washer	1
13	Emergency Lifting Lever	1
14	Emergency Lifting Lever Pawl	1
15	Gypsy Ratchet Pawl	1
16	Capstan Brake Pawl	1
17	Pin for Emergency Lifting Lever Pawl	1
18	Pin for Gypsy Ratchet Pawl	1
19	Pin for Capstan Brake Pawl	1
20	Input Shaft Drive Pin s/s	2
21	Crank Handle	1 or 2
22	Handle for Emergency Lifting Lever	1 or 2
23	Washer	1 or 2
24	Spring Cap	1
25	Oilite Bush	1
26	Oilite Bush	1
27	Oilite Bush	1
28	Spring Dowel	2
29	Spring Dowel	1
30	VEE Ring Seal	2
31	Brass Key	1
32	Tension Pin	1
33	S/S washer	1
34	Csk Head s/s Screw	2
35	Round Head s/s Screw	1
36	Brass Grease Nipple	6
37	Aluminium Stickon Nameplate	3
38	Rubber Handle	1
39		1
40		1
41		1
42		1
43		1



#### FIT OF CHAIN ON GYPSY

This can only be guaranteed where a sample of the actual chain being used has been supplied to the manufacturer. A large number of people buy the winch and fit it before they purchase their chain. In these cases when the chain is obtained it usually won't fit the gypsy; to cover these situations we offer, for a small charge, an exchange service on gypsies that are returned to us, all freight prepaid, plus a sample of chain 12" long. In some cases there may be a 2-3 week delay as the required gypsy may be out of stock and new castings would be required.

This offer is made assuming the returned gypsy is in new condition. If it is tarnished or damaged in any way a charge will be made to cover the cost of whatever work is necessary to restore it to new condition. When returning the gypsy the s/s shoulder bolt, item No. 12 on the spare parts list, should also be included as this sometimes requires replacing if a wider gypsy is necessary.

**MAINTENANCE** The gearbox of every winch is filled at the factory prior to despatch and no further attention is necessary. All main and crank handle shafts run on oil impregnated bushes sealed from ingress of salt water and require no maintenance. A grease point is provided on the outer gypsy clutch, this requires 2-3 shots of any general purpose grease every week. If the vessel is used continually every 2nd day would be better. A clutch/brake of this type relies on lubrication to operate effectively. The emergency lifting lever and ratchet pawls will all operate smoother if they are given a drop or 2 of any oil 2 or 3 times a season. The warping drum should be removed once per year, and the shaft and internal diameter of the drum lightly greased and replaced on the shaft. This helps stop any action between drum and shaft. Covering the winch when not in use is not essential. Experience has shown that if a cover is going to be used it must be made of material that will breath and not encourage sweating. An occasional spray with CRC, especially where shafts and bolts enter the main casing, will help to keep it clean and free from corrosion.

**OPERATION** To lift the anchor the clutch nut is tightened, in a clockwise direction, by hand. If there is a lot of weight to be lifted it may require more tension, which can be applied by fitting the hollow end of the crank handle over one of the 3 prongs on the clutch nut and tightening further, using the main gypsy ratchet Pawl to stop the whole shaft rotating.

Next fit the crank or cranks onto the top shaft for single cranks, either side will do. Leave the main gypsy ratchet Pawl engaged and wind the crank handle the appropriate direction to bring the chain in.

By leaving the ratchet Pawl engaged the chain won't rush back to the bottom should you stop cranking. When the anchor has reached the top and before removing the crank handle the main shaft should be rotated so as the drum locking pawl (refer spare parts dwg) is engaged in its slot.

To pay out chain it is best to put your foot on the drum locking pawl just to make sure it doesn't become disengaged, disengage the gypsy Pawl, fit the crank handle over one of the prongs on the clutch nut and ease it undone in an anticlockwise direction. Once the tension is eased the chain will start to run out, turn the nut slowly clockwise and it will brake the speed of the chain. With just a little practice you can control the chain to whatever speed you require.

Having payed out as much chain as necessary engage the gypsy pawl.

If the vessel is to be left overnight or unattended the chain should be tied off to the main bollard or samson post.

To use the warping drum without removing the chain from the gypsy, simply engage the gypsy pawl and undo the clutch nut; this leaves the gypsy to freewheel while the warping drum is used.

Crank handles must never be left in position when the winch is not being used. A little vasoline smeared inside the crank handle will keep them nice and free.

The 4ft Breaking out lever fits over the emergency lifting lever (refer spare parts dwg) and is for use only if the strain becomes more than can be applied on the crank handles. The crank handle is best removed while using the braking out lever.

#### OPTIONAL EXTRAS

- Extra 6" crank handles
- Extra 10" crank handles
- S/S 6" & 10" crank handles
- Bronze navel pipe and integral s/s chain stripper.
- ½" s/s holding down bolts (lengths required)

Power Pack :12 and 24v Power Packs with approx. 700lb capacity are available and can be fitted by the average person as no machining is required. They attach with a quick connect bayonet type mounting and are interchangeable with the crank handle. All other features of the windlass are retained. A Foot operated deck switch is also supplied.

It should be noted that the power pack is not intended to be permanently fitted to the winch it is intended to be stored under the deck, handy to the windlass and used when long or heavy lifts are anticipated.

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