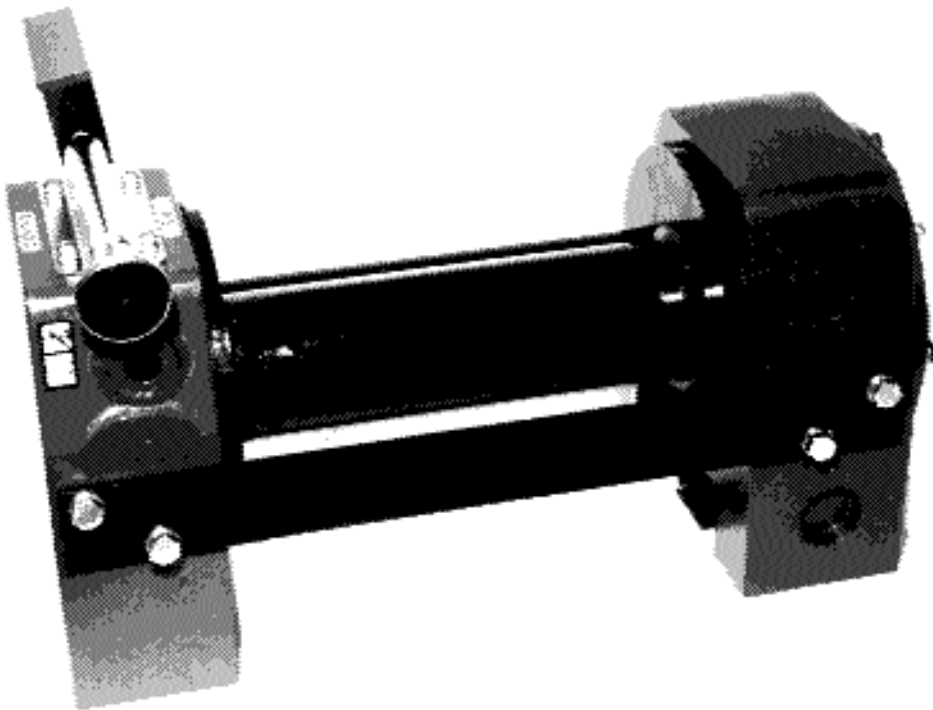


Owner's Handbook
H14W



**MECHANICAL DRIVE
WORM WINCH**



Owner's Handbook

Kit No:

7083



**These instructions cover kits from
20/02/2002**

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- 02 GENERAL SPECIFICATION DATA**

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- MISCELLANEOUS**

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INTRODUCTION

Thank you for purchasing a Superwinch. It has been designed and manufactured to provide years of trouble-free operation. Please read and understand this Owner's handbook before using your winch. Your winch is a very powerful machine. If used unsafely or improperly, there is a possibility that property damage or personal injury can result. We have included several unique features in the winch to minimize this possibility, however, your safety ultimately depends on your caution when using the product. Correct installation of your winch is a requirement for correct operation. Pay particular attention to the winch installation section in this handbook. Congratulations on your choice.

Superwinch reserve the right to alter model specifications without prior notice.

PLEASE KEEP THIS OWNER'S HANDBOOK WITH THE WINCH.

These instructions are designed to assist skilled technicians in the efficient installation of a Superwinch, using the appropriate trade tools.

WARNINGS, CAUTIONS AND NOTES

These are given through these instructions in the following form :



WARNING : Procedures which must be followed precisely in order to avoid the possibility of personal injury.



CAUTION : This calls attention to procedures which must be followed to avoid damage to components.



NOTE : This calls attention to methods which make a job easier or gives helpful information.

SUPERWINCH winches are not to be used to lift, support or otherwise transport personnel. Any such use shall be considered to invalidate the warranty and Superwinch shall not be responsible for any claims arising from such use.

REFERENCES

References to the left and right hand side in the instructions are made when viewing the vehicle from the rear.

REPAIRS AND REPLACEMENTS

Before you contact Superwinch or your nearest Dealer please have ready the following information :

Kit No.

Serial No. of winch

Part No. required

POISONOUS SUBSTANCES

Many liquids and other substances used should under no circumstances be consumed, and should be kept away from open wounds. These substances include (among others) hydraulic oil.

SYNTHETIC RUBBER

Many 'O' ring seals, flexible pipes and similar items, when subjected to fire or heat can become highly corrosive. Handle with seamless industrial gloves only. Should skin contact occur, remove contaminated clothing immediately and obtain medical assistance without delay. Meanwhile, wash the affected area with copious amounts of cold water or limewater for 15 to 60 minutes.

RECYCLING AND THE ENVIRONMENT

It is illegal to dispose of used oil in the ground, down sewers or drains or into waterways.

Dispose of used oil through authorised waste disposal contractors. If in doubt contact your local Authority for advice on disposal facilities.

GENERAL DESCRIPTION

The winch is hydraulically or mechanically driven, powered indirectly by the vehicle power take off system. The drum is driven via a worm & wheel reduction system. The winch is reversible with "power in" and "power out". The standard unit is supplied with anti-clockwise drum rotation on "winch in" when viewed from the gearbox end.

Gear reduction - steel centred phosphor bronze wormwheel driven by case hardened ground and polished nickel steel worm running in substantial ball and roller bearing, mounted in a heat treated aluminium housing. Oil lubricated for guarantee long life.

Braking - self locking action of the worm and wheel assure reliable load security up to the full winch capacity - no brake pads to wear or delicate mechanisms to break. Using a Closed Centre Spool valve will increase braking by locking both motor ports in the off position.

Drum - fabricated steel running in plain copolymer maintenance free bearings with spring loaded brakes to prevent over-run when pulling out rope.

Drum Clutch - multi-splined for low contact pressure. Operated by easy action lever disengages the drum to

allow the rope to be pulled out without using any power.
Mounting - fixing positions allow for platform or in-chassis mounting.

WINCH SPECIFICATION

Model Designation	H14W
Part No	7083
Rating	Max SWL 3600 kgs
Recommended Rope \varnothing	9, 10 or 11 mm (23/64", 25/64" or 7/16")
Drum capacity	46 m (11 mm rope) / 54 m (10 mm rope) / 77 m (9 mm rope) 151 ' (7/16" rope) / 177 ' (25/64" rope) / 253 ' (23/64" rope)
Line Speed	Variable with input speed
Input Speed	Max input speed 1500 rpm
Freespool	Manual
Gear Reduction	Steel centred phosphor bronze wormwheel, case hardened, ground and polished worm.
Wormbox ratio	48 : 1
Drum	Fabricated steel mounted on maintenance - free plain bearings.
Braking	The irreversible action of the worm and wheel provide for substantial braking action.
Drum \varnothing	90 mm (3.54")

MOUNTING

It is important that the winch is mounted securely so that the motor mounting, drum and wormbox housing are accurately aligned.

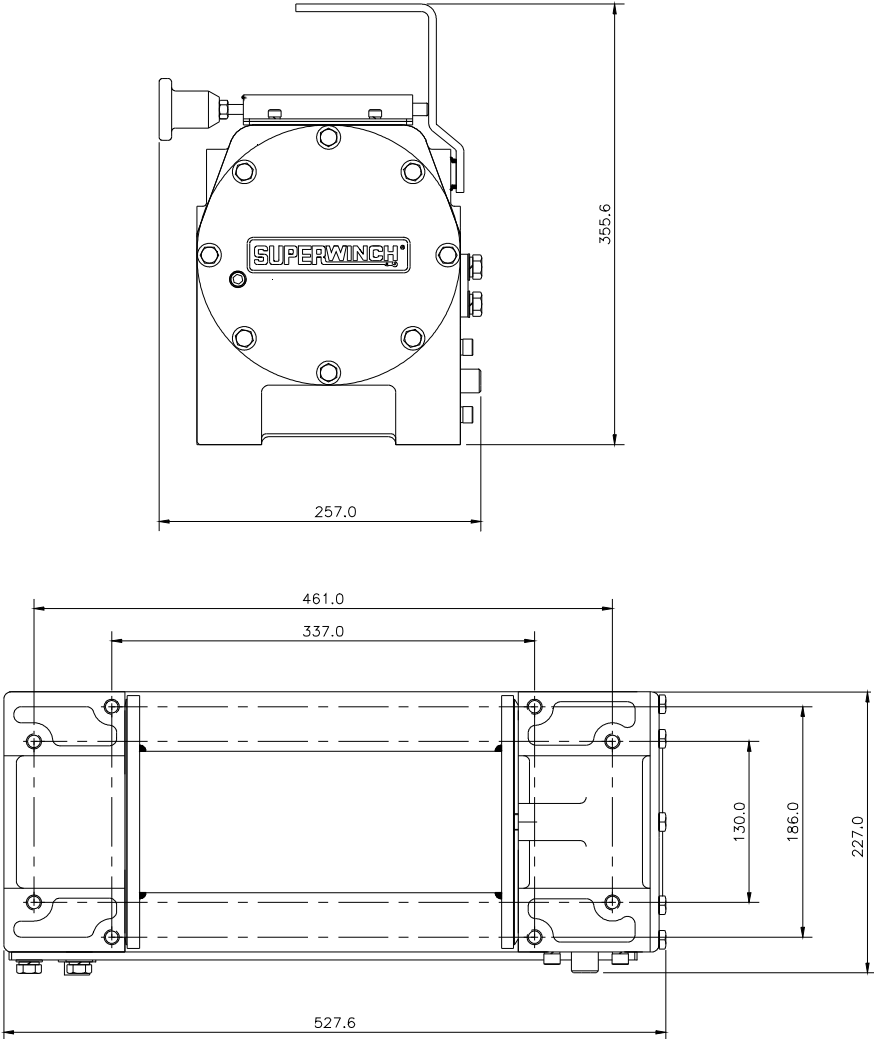
Normally this winch will come as part of a complete vehicle kit, in which case a mounting will be supplied.

However, if no mount kit is supplied, when foot mounting the winch, the surface must be flat within 0.5mm (.020 ins) and sufficiently stiff to prevent flexing. A minimum of 6.4mm (0.25 ins) thick steel plate should be used. The thicker the plate, the better the alignment between motor mounting, drum and gearbox housing.

MOUNTING BOLTS

Use 8 of M12 Bolts (Grade 8.8), M12 Spring Washers and M12 Plain Washers. Bolts must be of a suitable length to ensure between 17 and 19mm of thread is engaged in the winch.

Do not use overlong bolts that permit the end of the bolt to go beyond the end of the threaded holes - this will cause damage and incorrect operation.



ROPE INSTALLATION

Slacken off the Socket set screw on the winch drum and turn the drum so that the screw is uppermost. Unwind the rope and lay in a straight line on the ground.

NEVER wind the rope onto the drum from a coil.

Disengage the drum drive by pulling back the safety interlock handle and pulling the freespool handle towards the drum of the winch. The rope drum should now rotate freely. If it does not, rotate the drum until it does.

Facing the winch, feed the tapered end into the slot between the upper and lower roller on the roller fairlead and **under** the rope drum. Insert the tapered end (from the rear) into the cross-drilled hole, keeping the rope end inside the drum core diameter.

Tighten the set screw in this second hole. Re-engage the rope drum by applying light pressure to the freespool handle whilst slowly rotating the drum by pulling out the cable by hand. Ensure the lever snaps in and the safety interlock is fully engaged before proceeding (ENGAGE).

Start the engine, engage the P.T.O. and, while keeping a tension on the rope, start winching in, taking care to coil the rope neatly onto the drum with coils tight against each other.

Care taken at this stage will prolong the life of the rope.

Run the rope back until about two feet only remain. Ease off on the control lever on the wing if hydraulically powered or depress the clutch if mechanically powered, and carefully stow the hook into the lug on the winch frame or into the back of the bumper. Lightly tighten up the slack to ensure that the hook does not slip free when on the move.

Then :

IMPORTANT :

Disengage P.T.O.
Engage the transfer gear required.

Note : Normally the winch freespool handle is left in the "engage" position to prevent accidental spillage of rope when the winch is not in use.

MANUAL FREESPOOL OPERATION

WINCHING PROCEDURE FOR MECHANICALLY POWERED WINCHES

NOTE: PTO operation instructions apply to Superwinch PTO and Drive Line installations only.

Wherever possible, point vehicle directly at load to obtain even cable lay on drum.

Put both vehicle gearbox lever and transfer box lever into neutral. Engage the PTO by moving the horizontal lever fully forward. The PTO engagement lever protrudes from the seat box under the centre seat.

Engage reverse gear to release all tension (or load) in the wire rope.

Ensure gear lever is returned to neutral position.

Pull safety interlock pin out and move freespool lever towards drum (FREE).

IMPORTANT : *Ensure there is no load on the wire rope before operating Freespool Handle.*

Haul out rope and secure to load.

Re-engage freespool - apply light pressure to freespool handle whilst slowly rotating the drum by pulling out the cable by hand. Ensure lever snaps in and safety interlock is fully engaged before proceeding (ENGAGED).

IMPORTANT : *The Winch Freespool must NEVER be disengaged when winching in or out.*

Engage a forward gear and carefully take up the slack cable. Using the throttle, keep the engine at a fast tickover - 1000 / 1200 rpm and commence winching. Max. speed for the winch is 1500 rpm.

Note : All gears can be used, 2nd gear is usually better for heavy loads.

To secure winch after use, wind slack rope onto drum, using PAY-ON LEVER to ensure even lay.

Secure hook in stowage position and tighten rope. Disengage P.T.O. The freespool handle on the winch should remain in the engaged position to prevent unwinding of rope whilst driving.

OVERLOAD PROTECTION (With Superwinch P.T.O. ONLY)

The overload device fitted to this P.T.O. is a fully automatic torque limiter. When an overload condition is reached, an audible clicking will be heard coming from under the centre seat. When this clicking is heard, the clutch pedal must be depressed immediately. The winch is fully self sustaining and will not release the load. Engage reverse gear, to release tension in the rope it is obvious that the load is at maximum, reposition vehicle, or use a pulley system (snatch block). Re-engage the gear used in winching, recommence winching.

WINCHING PROCEDURE FOR HYDRAULICALLY POWERED WINCHES

(With Superwinch Hydraulic Control Kits ONLY)

The H14W Hydraulic winch is operated either from the driver's seat or from the control on the Left hand side front wing.

To Engage Winch Drive :

Select neutral with main gear lever. Select neutral with transfer box lever.

Start engine and engage P.T.O. by pulling Knob out (towards front of vehicle), depress clutch, engage fourth gear, release clutch slowly.

CAUTION : *DO NOT use reverse gear when PTO is engaged.*

The cable is normally stowed by hooking into winch frame or bumper and it is therefore important to remember to operate the control lever on the wing or in the cab to "Winch Out" in order to free the hook.

Pay out rope by moving the Freespool lever on the winch towards the centre of the vehicle into the "FREE" position. This disengages the drum at the dog clutch.

The rope can now be pulled out to the load.

Secure rope to load.

Return to vehicle and, while moving control lever on the wing to "Winch In" position, re-engage freespool - apply light pressure to freespool handle whilst slowly rotating the drum by pulling out the cable by hand.

Ensure lever snaps in and safety interlock is fully engaged before proceeding (ENGAGED).

Operate winch control lever either from vehicle wing or from inside cab. Both controls are proportional; a small lever movement gives a slow rope speed and full lever movement gives maximum rope speed.

When the load exceeds the rated maximum it is essential to reduce the load on the engine by moving the control lever towards neutral, ensuring the engine speed remains stable, i.e. engine speed does not begin to fall, while the winch continues to winch the rope.

If the situation arises when the load exceeds the pulling capacity of the winch, i.e. the rope stops winching in, and it is required to maintain the load on the rope, then the Control Lever must be moved towards neutral until winch holds the load without the engine speed falling, failing to do this can result in damage to the pump. As soon as the load is reduced, the Control Lever can then be used to increase the winch speed as required. Should you require greater pulling than the Winch rating, this can be obtained with the use of a snatch block.

When winching is complete, run the rope back until about two feet only remain. Ease off on Control Lever on wing and carefully stow hook into lug on winch frame or into back of bumper. Lightly tighten up slack to ensure that hook does not slip free when on the move.

Then :

IMPORTANT: *Disengage P.T.O. Engage the transfer gear required.*

Note: Normally the winch free wheeling lever (red handle on the winch) is left in the "engage" position to prevent accidental spillage of rope when winch is not in use.

MAINTENANCE**After the first hour of operation :**

Change Gearbox oil. Check tightness of mounting bolts.

Monthly :

Check oil level in gearbox. Oil level should be maintained to the lower edge of the level plug hole with the winch in the upright position.

After 10 hours of winching or annually :

Change Gearbox oil. (Approx. 3/4 Litre (0.2 U.S. gal)). Check tightness of mounting bolts and hydraulic connections.

Wormbox :

The winch is delivered from the factory filled with the correct type and quantity of oil. Change the oil in the gearbox at least once a year. The oil specification recommended is BP ENERGOL GR-XP150 or equivalent, using approx. 3/4 Litre (0.2 U.S. gal).

Rope

Check the wire rope for damage during and after all winching operations.

SERVICING

Before you contact Superwinch or your nearest Dealer for parts, please have ready the following information :
Kit No.

Serial No. of winch

Part No. required

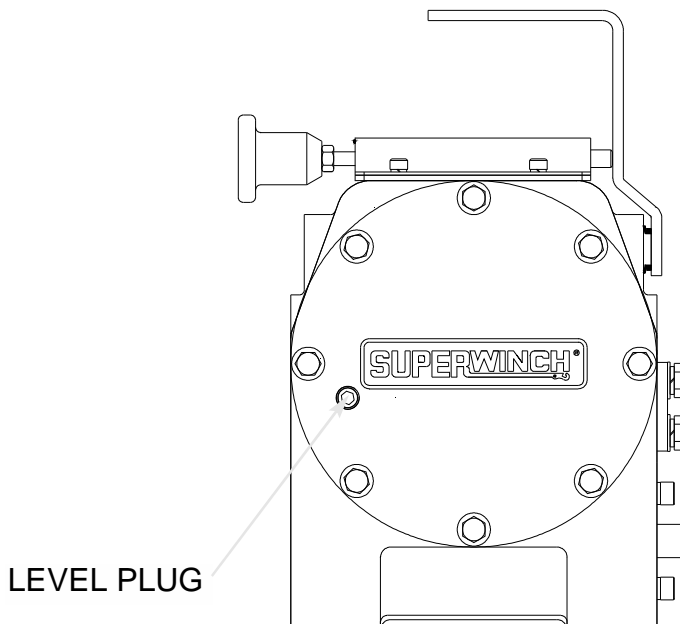
LUBRICATION

CLIMATE	TEMPERATURE	GEARBOX OIL
Arctic	-13°C to 15°C (8°F to 59°F)	SAE 90
Temperate	-16°C to 29°C (3°F to 85°F)	SAE 85/140
Tropical	19°C to 43°C (66°F to 110°F)	SAE 140

NOTE : EP (Extreme Pressure) additives can damage copper based alloys like phosphor bronze used for the worm gear and we do not recommend their use in the worm gearbox. If any doubt exists, consult your lubricant supplier's technical department.

Freespool Handle - lubricate regularly with light oil.

Drum Bearings - these are lubricated with molydisulphide loaded bearing grease when assembled.



1. **For the best life** and performance from the winch it is recommended not to pull maximum loads during the first hour of operation.

2. **KEEP A TIGHTLY WOUND ROPE DRUM.** Do not allow the windings on the drum to become loosely wound. A loosely-wound spool allows a rope under load to work its way down into the layers of wire rope on the drum. When this happens, the lower layers become damaged and the rope may become wedged within the body of the windings. To prevent this problem, keep tension on the rope at all times. A good practice is to rewind the rope under tension after each use.

3. **PREVENT KINKS BEFORE THEY OCCUR.**

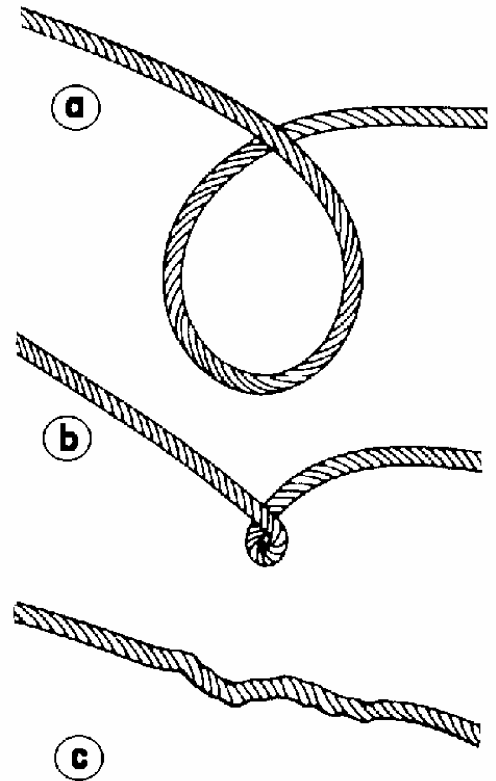
(a) This is the start of a kink. At this time, the rope should be straightened.

(b) The rope was pulled and the loop has tightened to a kink. The rope is now permanently damaged.

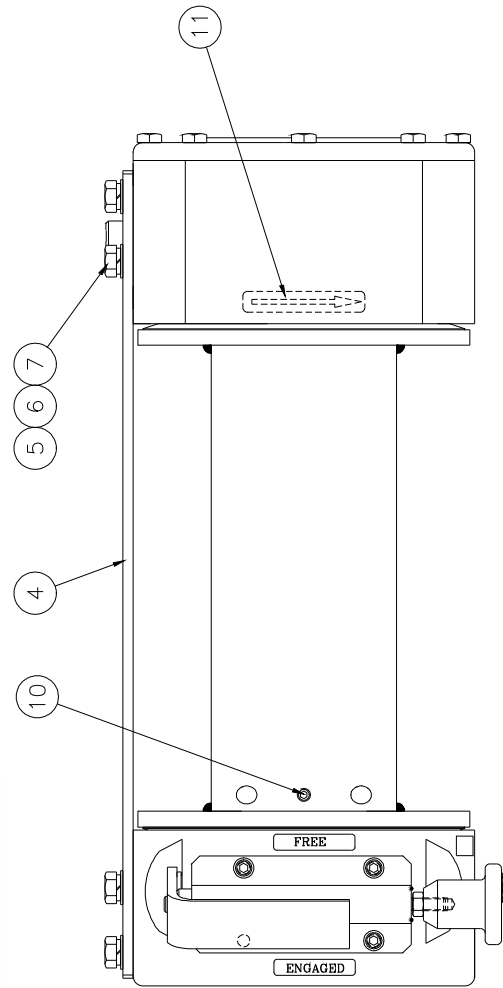
(c) The result of kinking is that each strand pulls a different amount causing the strands under greatest tension to break and reduce load capacity of the wire rope.

5. **USE A SNATCH BLOCK FOR HEAVY LOADS.** To keep wear to a minimum, use a snatch block to double line heavy loads. Double lining reduces the work required of the gears by one half which in turn reduces wear.

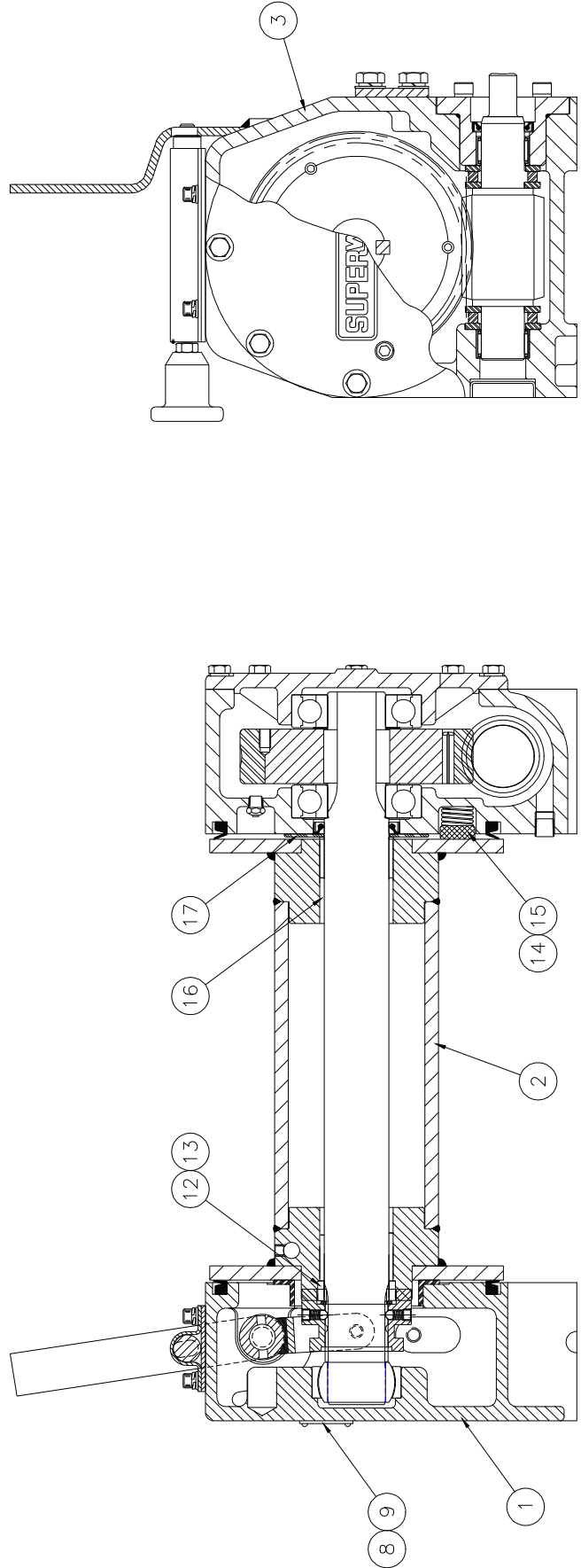
6. The pull required to start a load moving is often much greater than the load to keep it moving. Try to **AVOID STOPPING AND STARTING** during a pull.



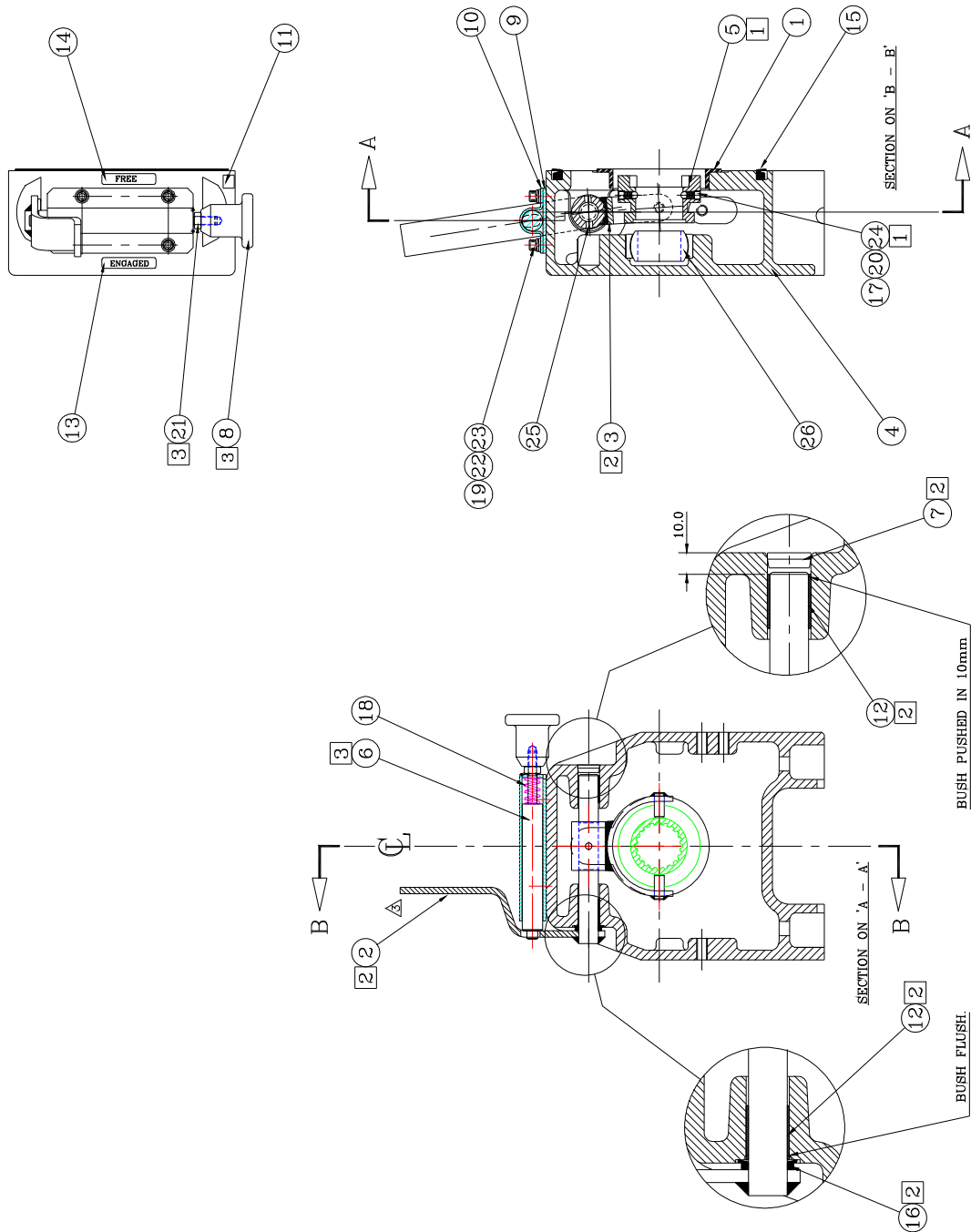
7083 WINCH ASSEMBLY



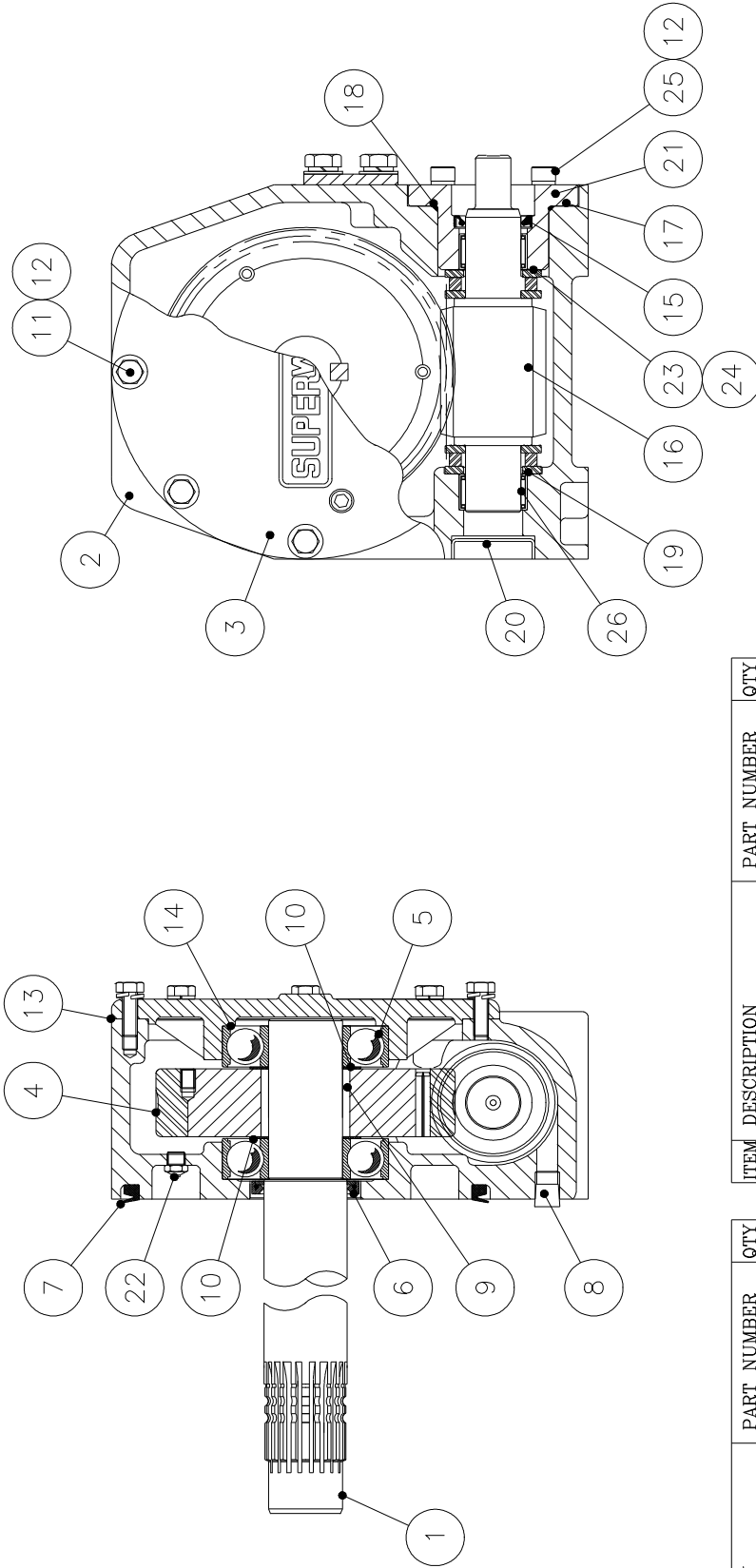
ITEM	DESCRIPTION	PART NUMBER	QTY
1	CLUTCH HOUSING ASSEMBLY	70-90264	1
2	DRUM	70-90006	1
3	WORMBOX ASSEMBLY	70-90498	1
4	TIE BAR	70-52146	1
5	M10 x 25 SET SCREWS	4-32-1002522	4
6	M10 PLAIN WASHERS	4-50-1023	4
7	M10 SPRING WASHERS	4-51-1023	4
8	RATING PLATE	4-160-026	1
9	DRIVE SCREWS	498	4
10	M8 x 12 GRUB SCREW	4-40-081203	1
11	DRUM DIRECTION LABEL	4-160-007	1
12	SPACER	70-50081	1
13	CIRCLIP	4-24-4556183	1
14	BRAKE SHOE	317	2
15	BRAKE SPRING	320	2
16	PLAIN BEARING	4-62-4550303	2
17	DRUM SPACER	70-60012	1
NS	LABEL, FILLED WITH OIL	8634	1
NS	SUPERWINCH LABEL	9505	1
NS	HANDBSAVER	89-32300	1
NS	OWNERS MANUAL	5-001-012	1
NS	CERTIFICATE OF CONFORMITY	5-010-124	1



70-90264 ASSEMBLY



ITEM	DESCRIPTION	PART NUMBER	QTY
1	BEARING FLANGED	10049	1
2	FREESPOOL OP LEVER	70-30087	1
3	SELECTOR FORK ASSY	70-30082	1
4	CLUTCH HOUSING	70-25065	1
5	SELECTOR DOG	70-50317	1
6	INTERLOCK PIN	70-50406	1
7	PLUG - FREESPOOL	70-50398	1
8	INTERLOCK HANDLE	70-50400	1
9	INTERLOCK BASE PLATE	70-52205	1
10	INTERLOCK HOUSING	70-60146	1
11	HANDSAVER LABEL	90-12417	1
12	BUSH	4-10-1820263	2
13	LABEL, ENGAGED	4-160-029	1
14	LABEL, FREE	4-160-034	1
15	SEAL 'V' RING	4-22-180204143	1
16	SEAL 'V' RING	4-22-182763	1
17	SPRING	4-31-6579891623	2
18	SPRING	4-31-1129512523	1
19	SKT HD SET SCREW	4-36-0601622	4
20	GRUB SCREW	4-40-080633	2
21	MB LOCK NUT	4-49-0623	1
22	PLAIN WASHER	4-80-0623	4
23	MG SPRING WASHER	4-51-0623	4
24	1/4" BALL	4-54-63524	2
25	ROLL PIN	4-56-603203	1
26	SPHERICAL PLAIN BEARING	4-99-0406628	1



ITEM	DESCRIPTION	PART NUMBER	QTY
1	DRIVESHAFT	70-50032	1
2	WORMBOX	70-25009	1
3	WORMBOX COVER	70-25010	1
4	WORMWHEEL	70-54007	1
5	BALL BEARING	4.13.040090233	2
6	OIL SEAL	4.22.4560083	1
7	V-RING SEAL	4.22.180204143	1
8	TAPER PLUG	4.29.224	2
9	KEY	557	2
10	THRUST WASHER	4.03.4060103	2
11	M8 x 25 HEX HD SCREW	4.32.0802522	8
12	M8 SPRING WASHER	4.51.0823	12
13	COVER GASKET	70-60011	1
14	SHIM	4.01.8090073	A/R
15	OIL SEAL	4.22.3042073	1

ITEM	DESCRIPTION	PART NUMBER	QTY
16	WORMSHAFT	70-54006	1
17	GASKET	70-60010	1
18	O-RING	4.21.05963	1
19	THRUST BEARING	4.09.3052163	2
20	CORE PLUG	4.149.002	1
21	MECH. DRIVE ADAPTER	70-50076	1
22	ONE WAY BREATHER ASSY	70-90561	1
23	SHIM	4.01.3047133	A/R
24	SHIM	4.01.3047053	A/R
25	M8 x 25 CAP HD SCREW	4.36.0802522	4
26	NEEDLE ROLLER BEARING	4.12.30372013	2

Superwinch Limited Warranty Valid World Wide

LIMITED WARRANTY. Superwinch ("Seller") warrants to the original buyer ("you") all parts and components except wire rope to be free from defects in materials and workmanship for a period of (one) 1 year from the provable date of purchase. Any Superwinch product which is defective will be repaired or replaced without charge to you, upon compliance with these procedures. The warranties set forth herein are exclusive and in lieu of all other warranties, whether oral or written, express or implied.

LIMITED WARRANTY PERFORMANCE PROCEDURE. Upon discovery of a defective Superwinch product, you shall mail to the Seller at his factory or any Factory Authorized Service Centre written notice of such defect and mail, ship or otherwise deliver the defective Superwinch, postage or shipping prepaid. Repairs or replacements by Seller under this limited Warranty will normally be accomplished within fifteen (15) business days after receipt of the defective Superwinch. Seller or its Authorized Agents may make reasonable charges for parts and labour for repairs not covered by this limited warranty.

WARRANTY AND REMEDY LIMITATIONS AND EXCLUSIONS. Repair and/or replacement of the defective Superwinch or component thereof as provided herein is the exclusive remedy for the Buyer. The following exclusions or limitations of warranties and limitations of remedies shall be expressly applicable:

A. Express warranties. Seller Warrants that the Superwinch is as described in the "Superwinch Owner's Manual" provided herewith; no other express warranty is made in respect to the Superwinch. If any model or sample was shown to the Buyer, such model or sample was used for illustrative purposes only, and shall not be construed as a warranty that the Superwinch will conform to the sample or model. SELLER MAKES NO EXPRESS WARRANTY WITH RESPECT TO WIRE ROPE INCORPORATED IN THE PRODUCT.

B. Implied Warranties. THE IMPLIED WARRANTY OF MERCHANTABILITY AND ALL OTHER IMPLIED WARRANTIES SHALL ONLY EXTEND FROM THE PROVABLE DATE OF PURCHASE FOR ONE (1) YEAR. THE WIRE ROPE IS SOLD "AS IS", WITHOUT ANY IMPLIED WARRANTIES. SOME STATES WITHIN THE USA DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

C. Incidental and Consequential Damages. SUBJECT TO SELLER'S LIMITED WARRANTY OBLIGATIONS SET FORTH HEREIN, SELLER SHALL NOT BE RESPONSIBLE FOR INCIDENTAL DAMAGES OF ANY KIND, OR FOR CONSEQUENTIAL DAMAGES TO PROPERTY, LOSS OF PROFITS AND LOSS OF USE WHICH MAY BE CAUSED BY ANY DEFECT IN, OR MALFUNCTION, OR FAILURE OF ENCLOSED SUPERWINCH. SOME STATES WITHIN THE USA DO NOT ALLOW EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

D. Condition of Warranty. Seller shall not be required to comply with its warranty duties provided herein if the defect, malfunction, or failure of the Superwinch was caused by damage (not resulting from defective or malfunctioning components) or unreasonable use by you. Unreasonable use shall include, but is not limited to, installation or use of the Superwinch without compliance with the instructions contained in the Superwinch Owner's Manual for the particular model number. Seller's liability under this warranty or for any loss or damage to the Superwinch product shall not exceed the cost of correcting defects in or replacing the Superwinch product, and upon expiration of the warranty period, all such liability shall terminate. The agents, dealers and employees of the Seller are not authorized to make modifications to this warranty, or additional warranties binding on the Seller. Accordingly additional statements, whether oral or written, do not constitute warranties and should not be relied upon.

LEGAL REMEDIES OF BUYER. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from State to State within the USA and from country to country. You may also have implied warranty rights. In the event of a problem with Limited Warranty service or performance, the Buyer may be able to go to small claims court, a state Court or a federal district court in the USA or to appropriate jurisdictions outside the USA.

INQUIRES. Any enquires regarding compliance with the warranties provided herein may be addressed in writing to:

Superwinch Ltd., Abbey Rise, Whitchurch Road, Tavistock, Devon PL19 9DR, UK.

or to:

Superwinch Inc., Winch Drive, Putnam, CT 06260, USA



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2

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