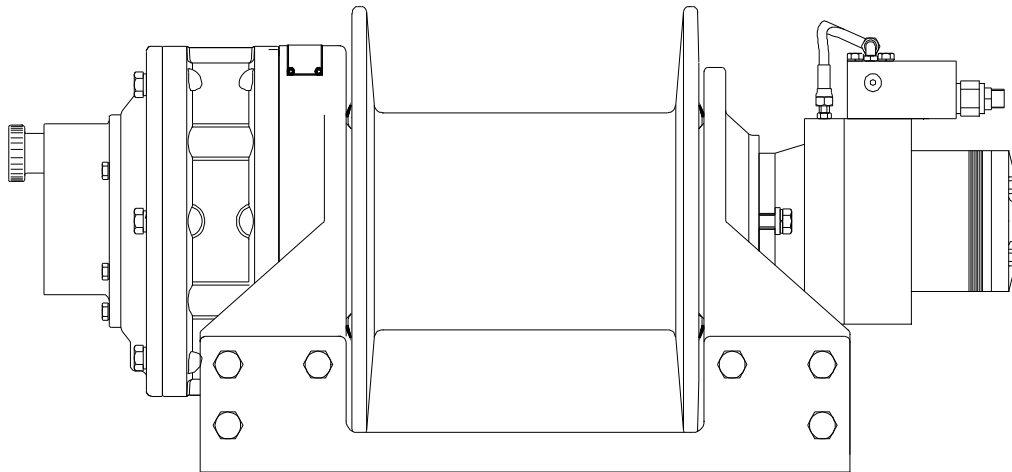


# Owner's Manual

H20P / H25P / H30P



**HYDRAULICALLY  
POWERED  
PLANETARY  
WINCHES**

**SUPERWINCH<sup>®</sup>**



# Owner's Handbook

Kit Nos. 5440, 5441, 5442,  
5450, 5451, 5452, 5460, 5461 & 5462



**These instructions cover kits from  
April 2006**

- 01 INTRODUCTION**
- 02 GENERAL SPECIFICATION DATA**
- INSTALLATION**
- 03 HYDRAULIC SYSTEM**
- 04 WINCH INSTALLATION**
- 05 ROPE INSTALLATION**
- 06 PNEUMATIC FREESPOOL**
- COMMISSIONING AND USE**
- 07 FREESPOOL USE**
- 08 RUNNING IN, MAINTENANCE & SERVICING**
- 09 TIPS FOR EXTENDING THE LIFE OF YOUR WINCH**
- MAINTENANCE**
- 10 OPERATION TROUBLESHOOTING**
- PARTS**
- 11 ASSEMBLY DRAWINGS**
- MISCELLANEOUS**
- 12 GUARANTEE**

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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.***

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.

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## 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 give 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.

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## REFERENCES

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

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## 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

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## 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.

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## 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.

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## 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.

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## GENERAL DESCRIPTION

The winch is hydraulically driven. Hydraulic power is transmitted to the winch motor. The hydraulic winch motor drives the drum through a double reduction planetary gearbox.

The drum can be disengaged by operation of the pneumatic, hydraulic or manual freespool mechanism (if fitted) to enable the rope to be pulled out easily and quickly.

The hydraulic motor is fitted with load control valves close coupled to a hydraulically released spring applied safety brake capable of holding the full rated load. The brake will activate automatically to prevent the winch 'back-driving' under load. The brake is self adjusting and oil immersed for optimum heat dissipation. The brake linings are of high performance asbestos free material.

The winch is reversible with 'power-in' 'power-out' via a directional control valve mounted on the vehicle.

**WINCH SPECIFICATION**

Gear Reduction	Double reduction planetary.			
Gearbox Ratio	36 : 1			
Drum	Spheroidal graphite iron running in substantial roller bearings.			
Braking	Multi-disc type spring applied, hydraulically released.			
Drum ø	195 mm			
Model Designation	<b>H20P</b>	<b>H25P</b>	<b>H30P</b>	<b>H30P-BG</b>
Part No.	5440, 5441 , 5442	5450, 5451, 5452	5460, 5461, 5462	5470, 5470G
Weight (Less Rope)	200 kg	200 kg	200 kg	200 kg
Recommended Rope ø	16 mm	18 mm	20 mm	20 mm
Drum Capacity to BS 7901	53 m	34 m	30 m	30 m
Approx. Line Speed (Top Layer)	13.8 m/min	11.3 m/min	9.7 m/min	9.7 m
Line Pull (Bottom Layer)	90 kN	111 kN	133 kN	118 kN
Oil Supply Pressure	180 bar	180 bar	180 bar	160 bar
Max. Operating Pressure	175 bar	175 bar	175 bar	155 bar
Oil Flow	76 l/min	76 l/min	76 l/min	76 l/min
Freespool	<b>Part No.</b> 5440, 5450, 5460, 5470, 5470G  5441, 5451, 5461  5442, 5452, 5462	<b>Type</b> Hydraulic or Pneumatic  Manual  None		

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## HYDRAULIC SYSTEM SPECIFICATION

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System Type:	Open loop system with return line filter.
Relief Valve:	Relief valve set at the operating pressure of the winch. Refer to the winch specification for your model, or the winches rating plate.
Pump:	To have a maximum flow rate at full speed not exceeding that stated in the winch specification for your winch. To have a maximum operating pressure that exceeds the relief valve setting by at least 5%.
Reservoir:	The hydraulic reservoir should be designed to have a usable storage volume that takes into account all appropriate factors, including, but limited to duty cycles, heat gain caused by and flow rates of the equipment it supplies, local system characteristics, cooling methods, filtration systems used and oil type.
Oil Type:	Castrol CRML or equivalent. Typical viscosity to be 150-175 cST at 100 degrees C.
Hoses:	Hoses diameters should be sized to ensure that pressure and flow losses are kept to a minimum. Hoses shall be selected with appropriate working pressure ratings. The following connections for hoses are provide on your winch. <ol style="list-style-type: none"><li>1. The valve block or directly onto the motor, depending on product specification, 3/4"BSPP of a male or female variety.</li><li>2. On drain lines, depending on product specification, 1/4" BSPP, of a male or female variety.</li></ol> <p>Note, if a product is supplied with a motor or brake combination that includes a drain line point, a drain line must always be connected and piped directly back to tank. Superwinch recommends the all hydraulics systems installers employ a competent hydraulic systems engineer to design and specify a system appropriate to the machine needs and verify it to the appropriate standards and directives in force at the time of installation.</p>
Control valve:	4 way, 3 position, control valves with built in relief valve. The controls must be self centring to the neutral position upon release, ports A and B are to be open to tank when in the neutral position. The relief valve to be set to no more than the maximum operating pressure specified for your winch.
Back Pressure:	Hydraulic circuit to be designed to use appropriate equipment to ensure that back pressure on the winch is kept to below 7 bar.
Suction Filter Rating:	To filter down to at least 250 microns.
Return Line Filter Rating:	To filter down to at least 25 microns.
Minimum Winch Service Temperature:	Minimum winch service temperature -20 degrees C. Note - Superwinch recommends that customers contract the factory for technical support prior to using the winch at operating temperatures below -10 degrees C.

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## FREESPOOL MECHANISM SPECIFICATION

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Supply can be pneumatic or hydraulic:	If Pneumatic, ensure that the system air supply is lubricated else corrosion will occur.
Control Valve:	Use manually or electrically operated. Must be protected against unintentional operation (i.e. interlock).
Connect Hose:	To the freespool mechanism must be 6mm bore or larger.
Supply Pressure:	Must be limited to 7 bar maximum, 5 bar minimum.

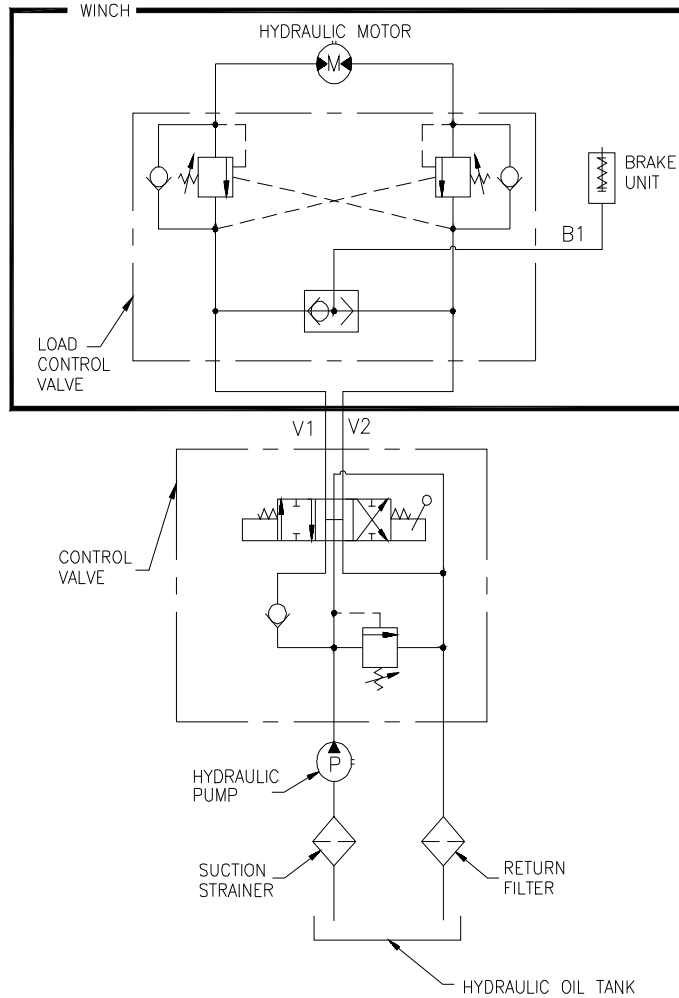
**INSTALLATION**

**IMPORTANT:** It is vital to ensure that all hose lengths are kept to a minimum. Pressure and flow loss is increased as hose length increases and/or bore size decreases. Pressure and return lines in excess of 3.5 metres (11.5') should be compensated with an increase in nominal bore size.

As a general rule:

Bigger Nominal Bore Hose = Better Winch Performance.

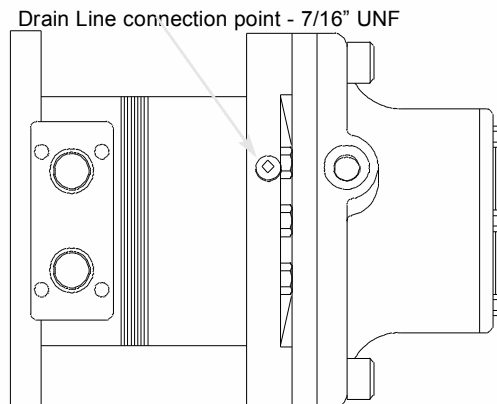
In all installation work on a hydraulic system, cleanliness and accuracy are essential so that the hydraulic system functions properly.



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**Important Note To Users Of Older Winches**

Users of winches fitted with a motor as pictured below must ensure that a drain line connection point is piped directly to the tank in all instances. Failure to do so may result in damage to the motor seals.



Winches with this motor (as pictured) must have case drain plumbed directly to tank

0000129

### MOUNTING

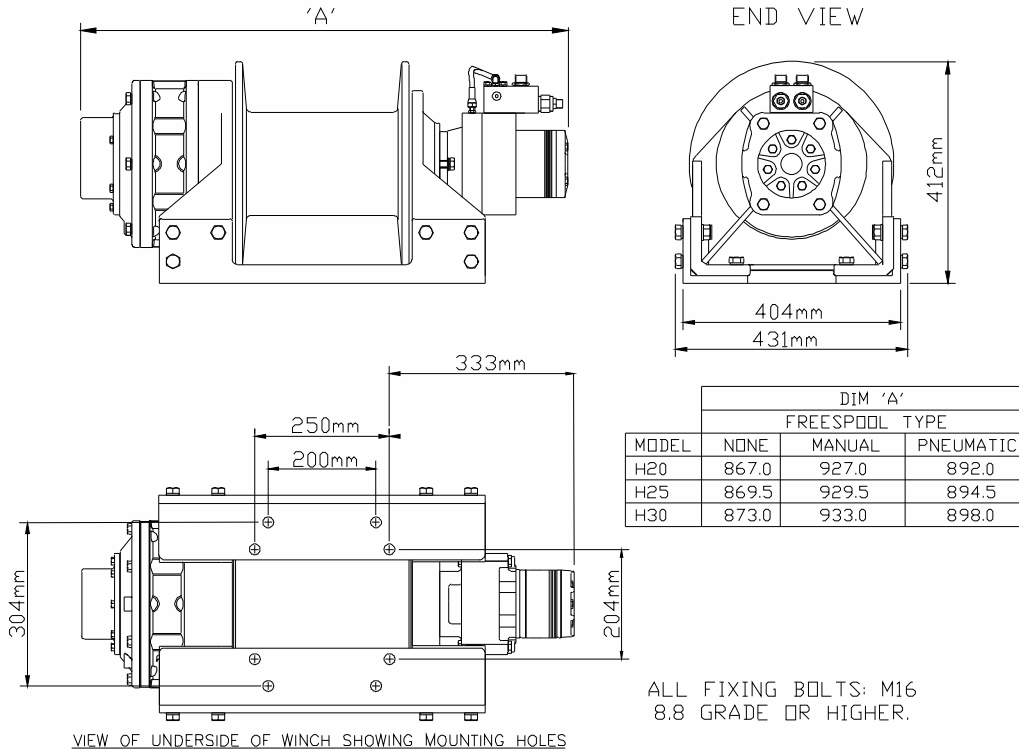
Because of the heavy duty rating of this winch, it is important that mountings are secure.

Superwinch recommend that 8 bolts are used, using the holes provided.

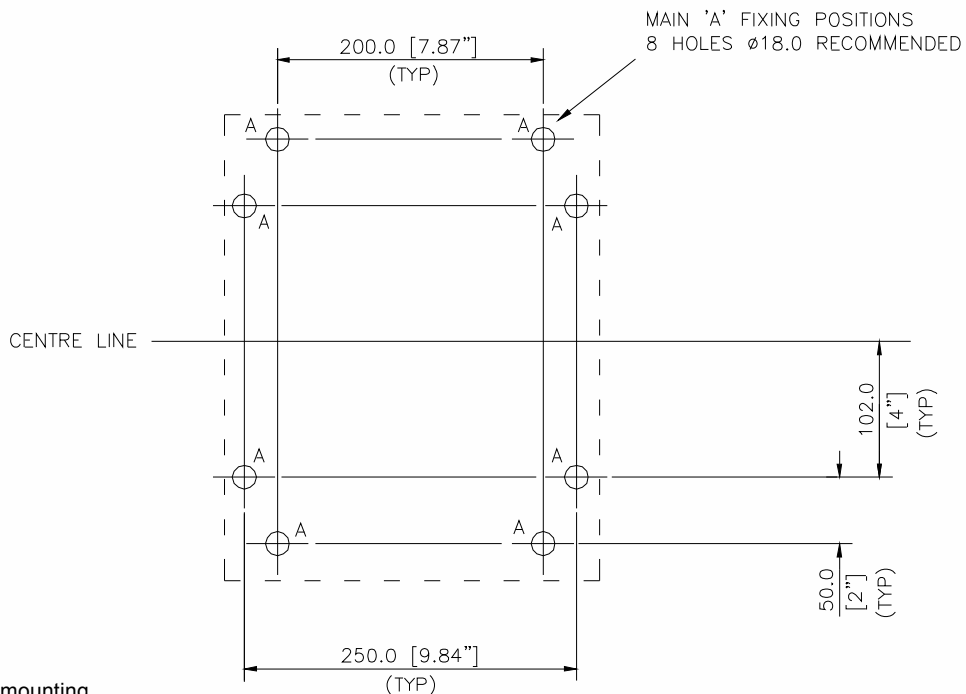
**For any other installation or configuration, please contact Superwinch Ltd.**

M16 x 2.0 pitch 8.8 Grade High Tensile Steel bolts must be used in order to sustain the substantial loads imposed on the winch mounting. **Remember that the winch is only as strong as its mountings.**

**The angle mounts fitted to the winch should not be removed as they form an integral part of the winch assembly.** If you intend to use your winch for a special application where the standard mountings are not suitable, contact Superwinch for advice.



Dwg No: 389a



Drilling pattern for mounting

Dwg No: 132a



**ROPE INSTALLATION**

	<b>H20P</b>	<b>H25P</b>	<b>H30P</b>
Required Rope	5440, 5441, 5442	5450, 5451, 5452	5460, 5461, 5662 5470, 5470G, 5472G
Diameter	16 mm	18 mm	20 mm
Maximum Length* *To BS 7901	53 m	34 m	30 m
Minimum Tensile Grade	1960 N/mm <sup>2</sup>	1960 N/mm <sup>2</sup>	1960 N/mm <sup>2</sup>
Minimum Breaking Force	179 kN	226 kN	279 kN

1. Unwind the rope by rolling it along the ground with the tapered end nearest to the winch. **NEVER** wind the rope straight onto the drum from a coil.
2. Dis-engage the Freespool.
3. Insert the tapered end of the rope into the cross-hole in the end of the drum and secure by tightening the setscrews.
4. Re-engage the Freespool.
5. Carefully running the winch in the "Winch-In" direction and keeping tension on the rope, spool 5 or 6 wraps of rope neatly onto the drum.
6. Apply moderate tension (approx. 700 kg (1500 lb)) to the rope. Carefully run the winch in the "Winch In" direction. Ensure the layers are neatly wrapped onto the drum. This will minimize damage to the lower layers of rope when a load is applied.

**PULLING OUT THE WIRE ROPE**

Disengage the freespool. With a pair of gloves on, pull out the rope and secure to anchor or load, check that there are at least 5 turns on the drum. Re-engage the freespool.

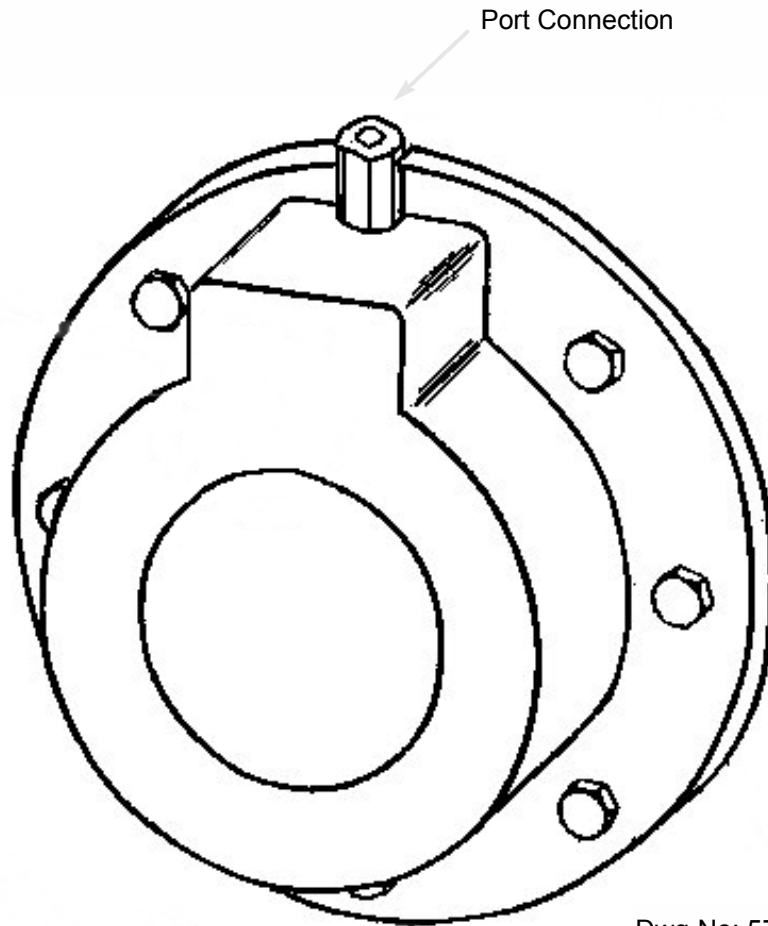
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**PNEUMATIC FREESPOOL INSTALLATION**

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**INSTALLATION**

For specification refer to Section 2. The connection port size is 1/8" BSP.



Dwg No: 570

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**PNEUMATIC & HYDRAULIC**

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1. Disengage the drum by operating the pneumatic control valve.
2. Pull out the cable by hand, but leave **at least** 5 wraps on the drum.
3. Attach the load.
4. Engage the drum by moving the control valve lever to the appropriate position. The freespool mechanism will spring return but the drum will not engage until it has been rotated a little, by hand.

**DO NOT ATTEMPT to pull a load until the drum is properly engaged .**

**NOTE:** The mechanism is designed such that it cannot be disengaged when the drum is under load greater than 50 kg (100 lb).

5. Operate the winch.

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**MANUAL**

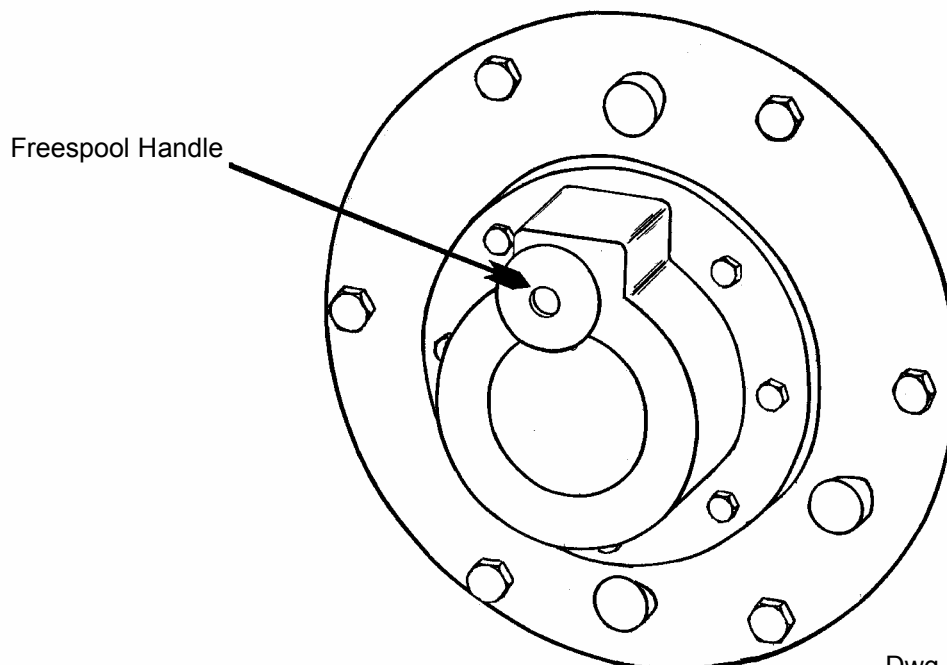
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1. Disengage the freespool (if engaged) pull the freespool handle and turn 90 degrees ensuring that the freespool handle stays **OUT**.
2. Pull out the cable by hand, but leave **at least** 5 wraps on the drum.
3. Attach the load.
4. Engage the freespool by turning the freespool handle 90 degrees and then rotating the drum by hand until the freespool handle springs **IN**.

**DO NOT ATTEMPT to pull a load until the drum is properly engaged .**

**NOTE:** The mechanism is designed such that it cannot be disengaged when the drum is under load greater than 50 kg (100 lb).

5. Operate the winch.



Dwg No: 109

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## RUNNING IN

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For optimum performance all hydraulic motors need running in. Run for approximately 1 hour at 30% of maximum oil pressure.

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## MAINTENANCE

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After the first hour of operation:

Change the gearbox oil. Check tightness of mounting bolts and hydraulic connections. Mounting bolts (M16). **Torque to 240 Nm<sup>2</sup>.**

Monthly:

Check the oil level. The oil level should be maintained to the lower edge of the level plug hole with the winch in the upright position. Mounting bolts (M16).

After 10 hours of winching or annually:

Change the gearbox oil. (Approximately 3/4 Litre (0.2 U.S. gal). Check tightness of mounting bolts and hydraulic connections. **Torque to 240 Nm<sup>2</sup>.**

Planetary Gearbox:

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 approximately 3/4 Litre (0.2 U.S. gal).

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## REPAIR & OVERHAULING OF WINCHES

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It is recommended that, in the unlikely event that your winch should require repairs or overhaul, the unit should be returned to a Superwinch Factory or an Authorised Service Centre. There, experienced technicians can quantify the extent of work required, carry out the necessary repairs and retest your winch.

Undertaking Your Own Repairs and Overhaul

Superwinch **do not** recommend that users undertake their own repairs and overhaul of their winch. In undertaking your own repairs, modification or overhaul of a winch, Superwinch consider all warranties, expressed or implied, to be null and void, and will take no responsibility for any incidental or consequential damages, however caused.

Additionally, some assemblies require special care and tools to dismantle and reassemble. These are considered as unservicable assemblies for the purpose of this manual. Dismantling, adjustment or repair of unservicable assemblies is not to be undertaken under any circumstances. Failure to comply may result in damage to equipment or injury to personnel.

These unservicable assemblies include but are not limited to:

Hydraulic Motor / Brake Units	1st Stage Planet Carrier Assembly	Drum Assembly
Superblock	2nd Stage Planet Carrier Assembly	

Before a winch re-enters service following repairs and overhaul, the unit must be fully tested. This should include, but is not limited to, ensuring that:

Winch Certificated Rating (See your Certificate of Performance) is achieved within the rated hydraulic pressures for your winch.

The brake will hold the Winch Certified Rating.

Special facilities are required to undertake these tests. Superwinch will not retest customer's winches that have not been overhauled at Superwinch.

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## SERVICING

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Before you contact Superwinch or your nearest dealer for parts, please have ready the following information:

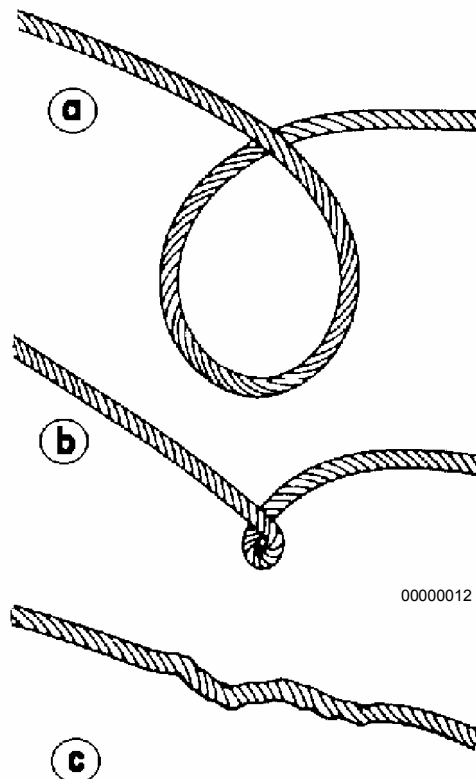
Kit No.  
Serial No. of Winch  
Part No. Required

To aid the servicing of your winch, Superwinch has grouped a number of spares into special kits. These kits have been arranged to provide you with all the small parts and seals required when reassembling sections of your winch. These kits are detailed in Section 12.

1. It is **essential** that the winch is run in before use to achieve the performance figures stated in this manual. We recommend running for approximately 1 hour at 30% of maximum oil pressure followed by at least 350m (1200 feet) of pulling, the first 100m (350 feet) with approximately 230 - 460 kg (500 - 1000 lbs) load, the remainder with the load being progressively increased.

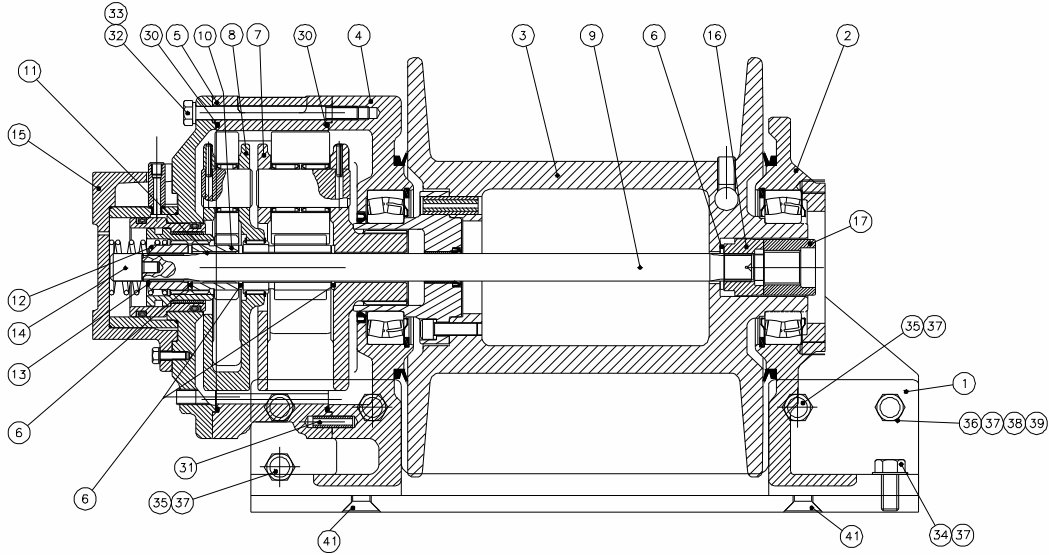
**NOTE:** A Installing the wire rope is not included in the running-in period.  
 B Check tightness of all mounting bolts after running-in.

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 layers of wire rope on the drum. When this happens, the lower layers become damaged and the rope may become wedged with 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.



Condition	Possible Cause	Correction
Low Line Pull	Pump pressure output insufficient.	Refer to "Hydraulic Installation" Section.
	Hydraulic hose is too long or bore sizes insufficient in size.	Refer to "Hydraulic Installation" Section.
Drum Will Not Rotate Under Load	Load greater than rated capacity	Refer to "Specifications" Section for line pull rating.
Winch Runs Too Slow	Motor worn out	Replace motor
Cable Drum Will Not Freespool	Damaged freespool mechanism	See your Superwinch Distributor.
Oil Leakage Around Drum Flange	Damaged gearbox and drum flange seals	Replace gearbox and drum flange seals.
Excessive Noise	Low oil level	Check oil level, add oil if necessary.
Motor Runs but Drum Does Not Turn	Freespool not engaged	Check alignment of freespool mechanism.

54-90210 MOTORLESS WINCH



ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICE NOTES
1	MOUNTING ANGLE	54-52140	2	-----
2	MOTOR/BRAKE HOUSING ASSY	54-90220	1	-----
3	ROPE DRUM ASSEMBLY	54-90217	1	UNSERVICEABLE ASSEMBLY
4	GEARBOX HOUSING ASSY	54-90219	1	-----
5	RING GEAR	54-54057	1	-----
6	THRUST WASHER	54-50011	4	-----
7	CARRIER ASSY 2nd ST	54-90083	1	UNSERVICEABLE ASSEMBLY
8	CARRIER ASSY 1st ST	54-90082	1	UNSERVICEABLE ASSEMBLY
9	INPUT DRIVE SHAFT	54-50261	1	-----
10	SUN GEAR	54-50019	1	-----
11	BEARING, PLAIN BUSH	4-10-2529253	1	-----
12	INPUT GEAR	54-50020	1	-----
13	CIRCLIP	4-26-2517123	1	-----
14	THRUST PAD	54-50256	1	-----
15	FREESPOOL ASSEMBLY	54-90647	1	-----
16	COUPLING, INPUT SHAFT	54-50254	1	-----
17	COUPLING, MOTOR/BRAKE	54-50255	1	-----

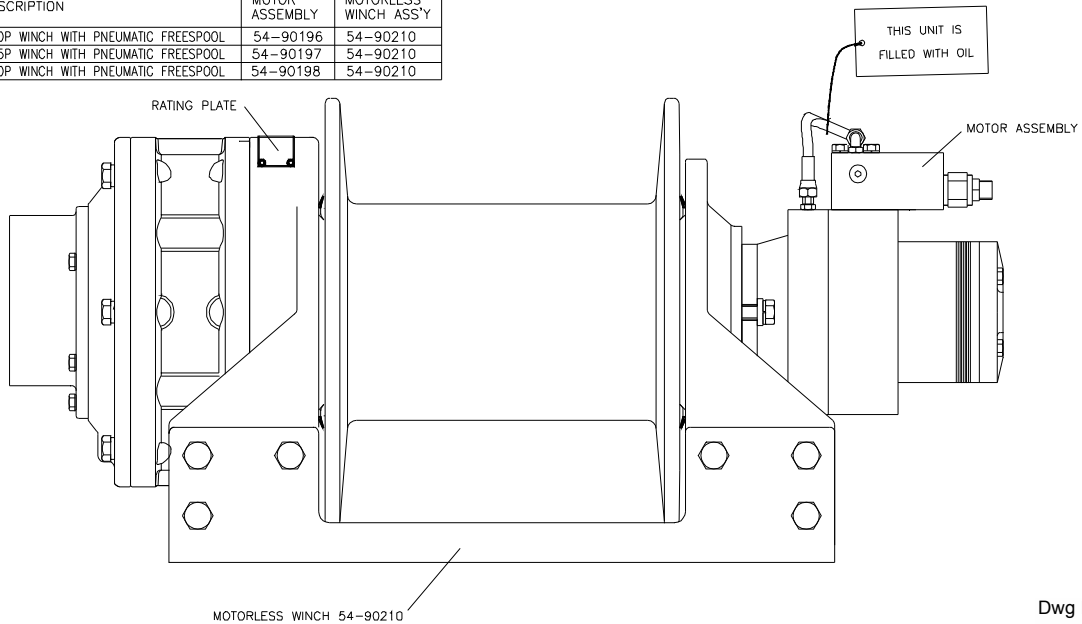
ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICE NOTES
30	O' RING	4-21-8053	2	-----
31	ROLL PIN	4-56-104003	6	-----
32	BOLT M12 x 150	4-33-1215022	6	-----
33	WASHER, SPRING, M12	4-51-1223	6	-----
34	M16 x 35 SET SCREW	4-32-1603522	4	-----
35	BOLT M16 x 45	4-33-1604522	8	-----
36	M16 x 60 HEX HD BOLT	4-33-1606022	4	-----
37	WASHER, SPRING M16	4-51-1623	16	-----
38	M16 PLAIN WASHER	4-50-1603	4	-----
39	M16 NYLOC NUT	4-48-1623	4	-----
41	M16 x 50 C/SUNK SET SCREW	4-37-165003	4	-----
50	GEARBOX OIL	4-142-020	0.75	-----

Dwg No: 688

WINCH MODELS WITH PNEUMATIC FREESPOOL

MODEL	DESCRIPTION	MOTOR ASSEMBLY	MOTORLESS WINCH ASS'Y
5440	H20P WINCH WITH PNEUMATIC FREESPOOL	54-90196	54-90210
5450	H25P WINCH WITH PNEUMATIC FREESPOOL	54-90197	54-90210
5460	H30P WINCH WITH PNEUMATIC FREESPOOL	54-90198	54-90210

**⚠** DISMANTLING, ADJUSTMENT OR REPAIR OF UNSERVICEABLE ASSEMBLIES NOT TO BE UNDERTAKEN UNDER ANY CIRCUMSTANCES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR INJURY TO PERSONEL

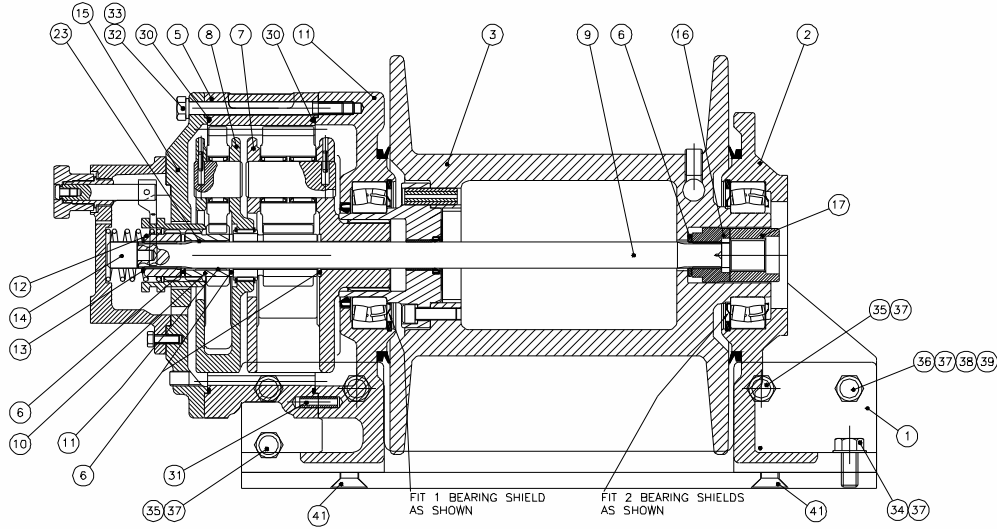


Dwg No: 140

ASSEMBLY NOTES:

1. Lubricate planet shafts, bearings, gear teeth and splines with B.P. ENERGOL GR-XP150 or equivalent before assembly.
2. Lubricate couplings, input shaft, 'V' ring seals, input shaft, bearings and seal (input gear and drum) with energrease L21M before assembly.
3. Fill gearbox with the required quantity of ENERGOL GR-XP150 or equivalent.
4. Torque ring gear bolts to 70Nm.

### 54-90211 MOTORLESS WINCH



ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICING NOTES
1	MOUNTING ANGLE	54-52140	2	-----
2	MOTOR/BRAKE HOUSING ASSY	54-90220	1	-----
3	ROPE DRUM ASSEMBLY	54-90217	1	UNSERVICEABLE ITEM
4	GEARBOX HOUSING ASSY	54-90219	1	-----
5	RING GEAR	54-54057	1	-----
6	THRUST WASHER	54-50011	4	-----
7	CARRIER ASSY 2nd ST	54-90083	1	UNSERVICEABLE ITEM
8	CARRIER ASSY 1st ST	54-90082	1	UNSERVICEABLE ITEM
9	INPUT DRIVE SHAFT	54-50261	1	-----
10	SUN GEAR	54-50019	1	-----
11	BEARING, PLAIN BUSH	4-10-2529253	1	-----
12	INPUT GEAR	54-50020	1	-----
13	CIRCLIP	4-26-2517123	1	-----
14	THRUST PAD	54-50296	1	-----
15	FREESPOOL ASSEMBLY	54-90218	1	-----
16	COUPLING, INPUT SHAFT	54-50254	1	-----
17	COUPLING, MOTOR/BRAKE	54-50255	1	-----

ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICING NOTES
30	O' RING	4-21-B053	2	-----
31	ROLL PIN	4-56-104003	6	-----
32	BOLT M12 x 150	4-33-1215022	6	-----
33	WASHER, SPRING, M12	4-51-1223	6	-----
34	M16 x 35 SET SCREW	4-32-1603522	4	-----
35	BOLT M16 x 45	4-33-1604522	8	-----
36	M16 x 60 HEX HD BOLT	4-33-1606022	4	-----
37	WASHER, SPRING M16	4-51-1623	16	-----
38	M16 PLAIN WASHER	4-50-1603	4	-----
39	M16 NYLOC NUT	4-48-1623	4	-----
41	M16 x 50 C/SUNK SET SCREW	4-37-165003	4	-----
50	GEARBOX OIL	4-142-020	0,75	-----

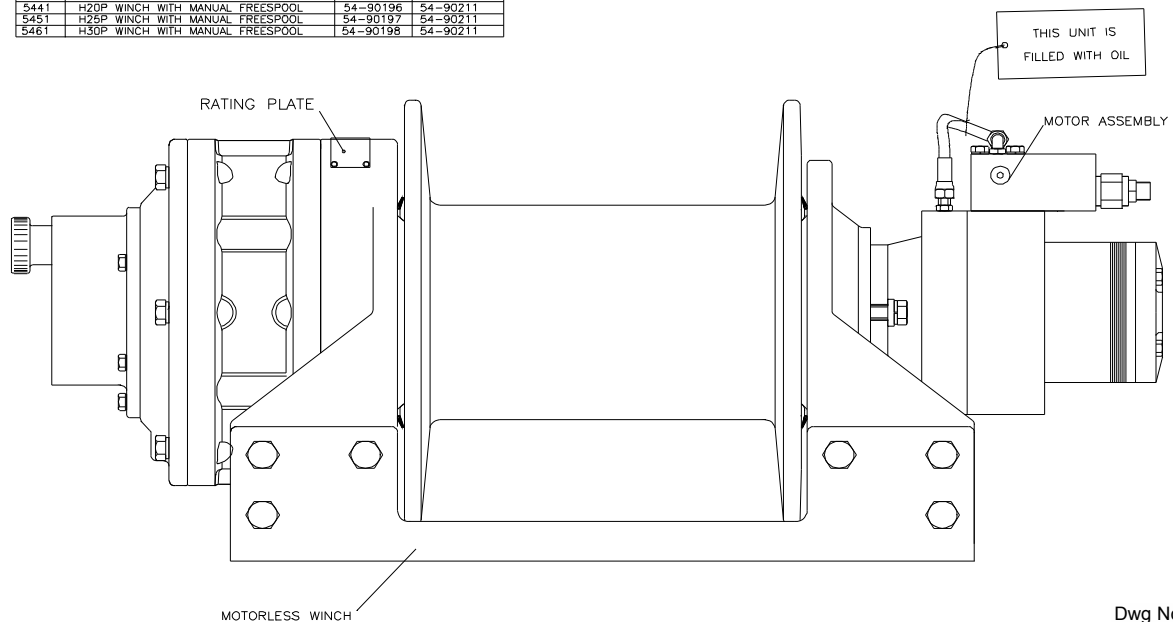
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### WINCH MODELS WITH MANUAL FREESPOOL

MODEL	DESCRIPTION	MOTOR ASSEMBLY	MOTORLESS WINCH ASS'Y
5441	H2DP WINCH WITH MANUAL FREESPOOL	54-90196	54-90211
5451	H2SP WINCH WITH MANUAL FREESPOOL	54-90197	54-90211
5461	H3DP WINCH WITH MANUAL FREESPOOL	54-90198	54-90211



DISMANTLING, ADJUSTMENT OR REPAIR OF UNSERVICEABLE ASSEMBLIES NOT TO BE UNDERTAKEN UNDER ANY CIRCUMSTANCES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR INJURY TO PERSONNEL



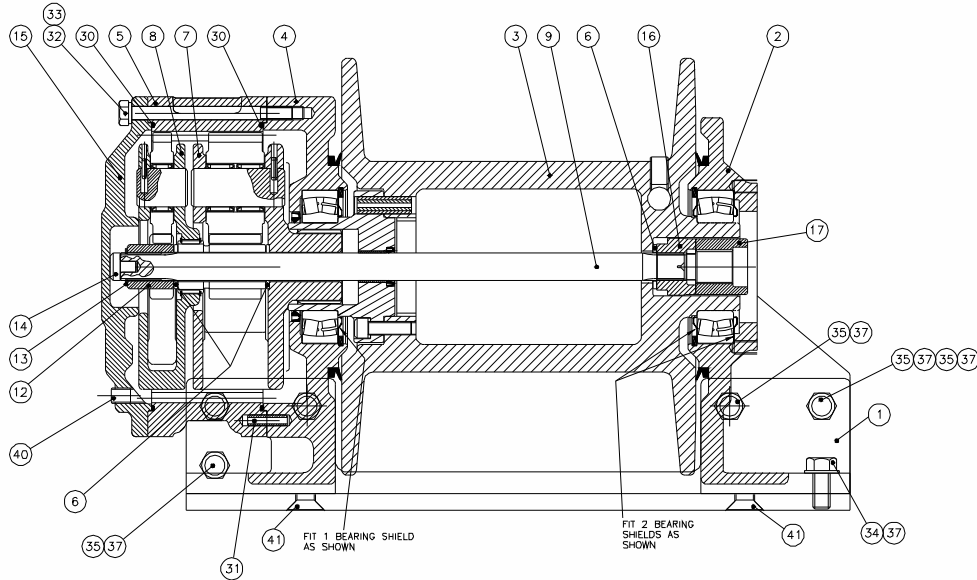
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#### ASSEMBLY NOTES:

1. Lubricate planet shafts, bearings, gear teeth and splines with B.P. ENERGOL GR-XP150 or equivalent before assembly.
2. Lubricate couplings, input shaft, 'V' ring seals, input shaft, bearings and seal (input gear and drum) with energrease L21M before assembly.
3. Fill gearbox with the required quantity of ENERGOL GR-XP150 or equivalent.
4. Torque ring gear bolts to 70Nm.



54-90212 MOTORLESS WINCH



ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICE NOTES
1	MOUNTING ANGLE	54-52140	2	-----
2	MOTOR/BRAKE HOUSING ASSY	54-90220	1	-----
3	ROPE DRUM ASSEMBLY	54-90217	1	UNSERVICEABLE ASSEMBLY
4	GEARBOX HOUSING ASSY	54-90219	1	-----
5	RING GEAR	54-54057	1	-----
6	THRUST WASHER	54-50011	3	-----
7	CARRIER ASSY 2nd ST	54-90083	1	UNSERVICEABLE ASSEMBLY
8	CARRIER ASSY 1st ST	54-90082	1	UNSERVICEABLE ASSEMBLY
9	INPUT DRIVE SHAFT	54-50263	1	-----
12	INPUT GEAR	54-50206	1	-----
13	CIRCLIP	4-26-2517123	1	-----
14	THRUST PAD	54-50264	1	-----
15	GEARBOX COVER	54-25047	1	-----
16	COUPLING, INPUT SHAFT	54-50254	1	-----
17	COUPLING, MOTOR/BRAKE	54-50255	1	-----

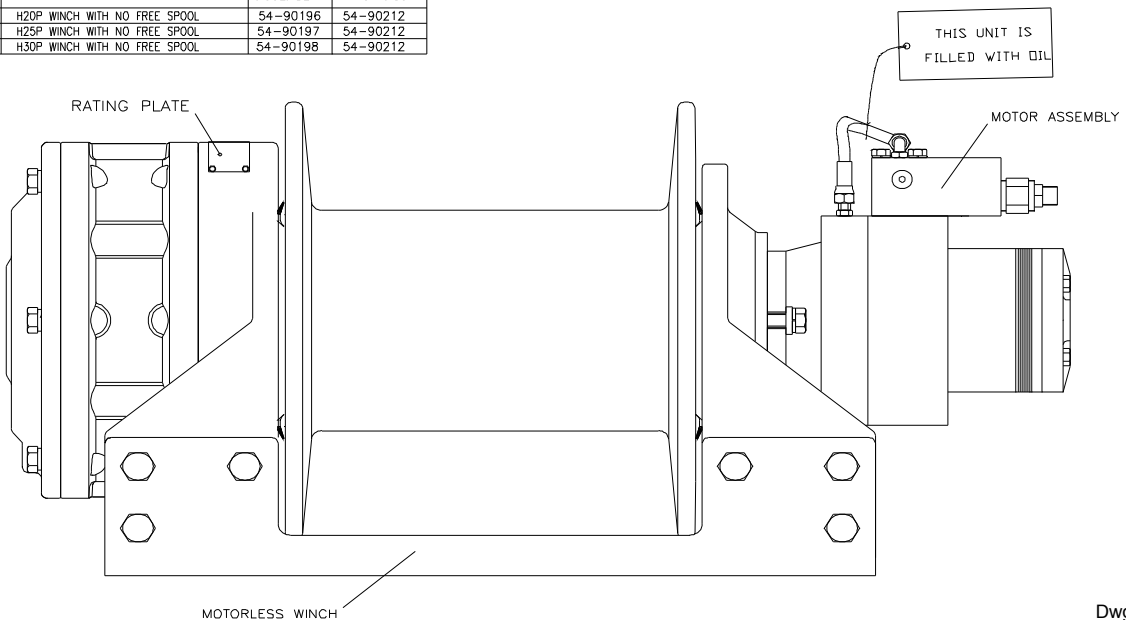
ITEM	DESCRIPTION	PART NUMBER	QTY	SERVICE NOTES
30	'O' RING	4-21-8053	2	-----
31	ROLL PIN	4-56-104003	6	-----
32	BOLT M12 x 150	4-33-1215022	6	-----
33	WASHER, SPRING, M12	4-51-1223	6	-----
34	M16 x 35 SET SCREW	4-32-1603522	4	-----
35	BOLT M16 x 45	4-33-1604522	8	-----
36	M16 x 80 HEX HD BOLT	4-33-1606022	4	-----
37	WASHER, SPRING M16	4-51-1623	16	-----
38	M16 PLAIN WASHER	4-50-1603	4	-----
39	M16 NYLOC NUT	4-48-1623	4	-----
40	PLUG	4-29-224	3	-----
41	M16 x 50 c/SUNK SET SCREW	4-37-162003	4	-----
50	GEARBOX OIL	4-142-020	0,75	-----

Dwg No: 690

WINCH MODELS WITH NO FREESPOOL

MODEL	DESCRIPTION	MOTOR ASSEMBLY	MOTORLESS WINCH ASS'Y
5442	H20P WINCH WITH NO FREE SPOOL	54-90196	54-90212
5452	H25P WINCH WITH NO FREE SPOOL	54-90197	54-90212
5462	H30P WINCH WITH NO FREE SPOOL	54-90198	54-90212

**⚠** DISMANTLING, ADJUSTMENT OR REPAIR OF UNSERVICEABLE ASSEMBLIES NOT TO BE UNDERTAKEN UNDER ANY CIRCUMSTANCES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR INJURY TO PERSONNEL



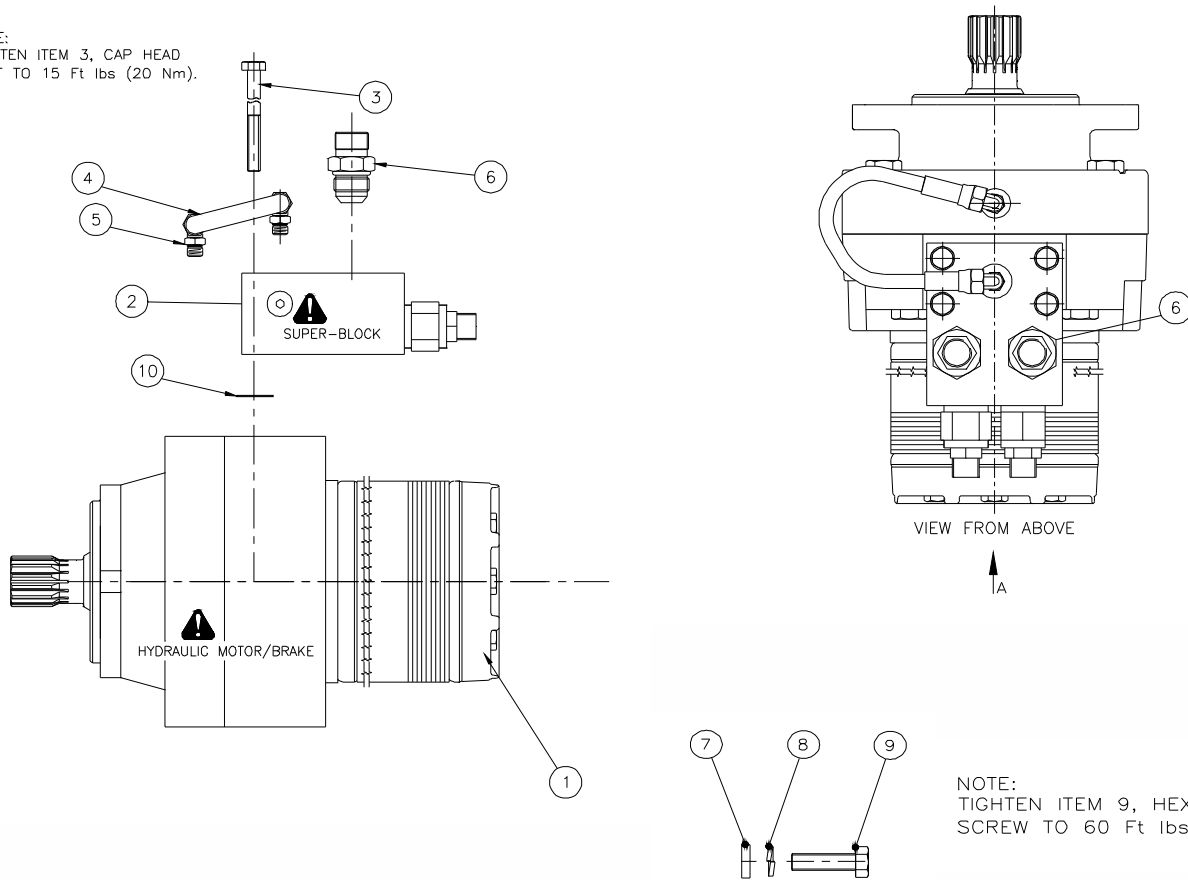
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ASSEMBLY NOTES:

1. Lubricate planet shafts, bearings, gear teeth and splines with B.P. ENERGOL GR-XP150 or equivalent before assembly.
2. Lubricate couplings, input shaft, 'V' ring seals, input shaft, bearings and seal (input gear and drum) with energrease L21M before assembly.
3. Fill gearbox with the required quantity of ENERGOL GR-XP150 or equivalent.
4. Torque ring gear bolts to 70Nm.

### MOTOR/BRAKE ASSEMBLY SPARES

NOTE:  
TIGHTEN ITEM 3, CAP HEAD  
BOLT TO 15 Ft lbs (20 Nm).



NOTE:  
TIGHTEN ITEM 9, HEX HEAD  
SCREW TO 60 Ft lbs (80 Nm).

WINCH MODEL FAMILY	MOTOR BRAKE ASSEMBLY	ITEM	DESCRIPTION	PART NUMBER	QTY
H20 WINCHES	54-90196	1	HYDRAULIC MOTOR/BRAKE	94-50003-20	1
H25 WINCHES	54-90197	1	HYDRAULIC MOTOR/BRAKE	94-50003-25	1
H30 WINCHES	54-90198	1	HYDRAULIC MOTOR/BRAKE	94-50003-30	1
		2	SUPER-BLOCK	94-30054	1
		3	CAP HD BOLT, 5/16UNC	88-23226-15	4
		4	HYDRAULIC HOSE	94-20263	1
		5	SAE #4 ADAPTOR	88-23299-01	2
		6	ADAPTERS BSP - SAE	4.105.083	2
		7	THICK WASHER, M12	54-50598	2
		8	SPRING WASHER, M12	4-51-1223	2
		9	HEX HD SCREW M12 x 40	4-33-1204022	2
		10	PORT 'O' RING SEAL	94-23320-14	2

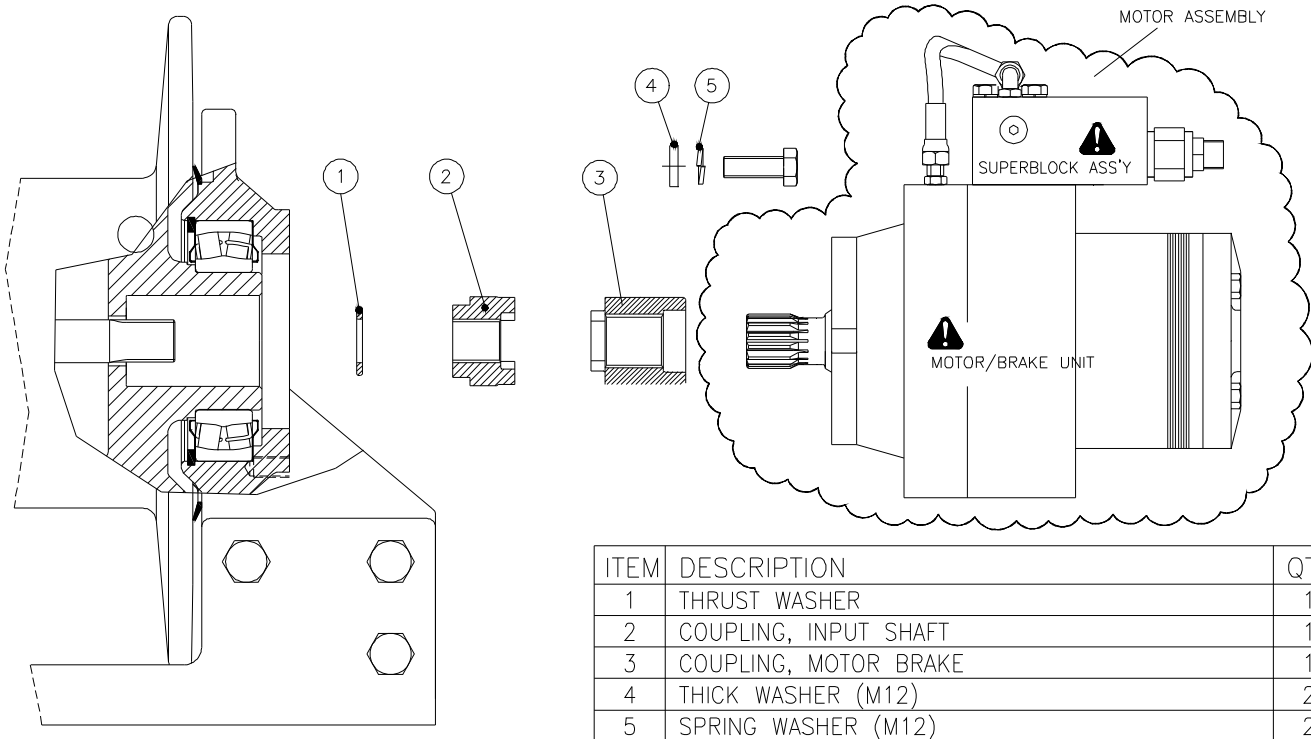
**⚠** DISMANTLING, ADJUSTMENT OR REPAIR OF THESE ASSEMBLIES, NOT TO BE UNDERTAKEN UNDER ANY CIRCUMSTANCES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR INJURY TO PERSONNEL.

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**SERVICE KIT 54-95054**

For the renewal of the motor/input coupling.



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Parts supplied only as a kit

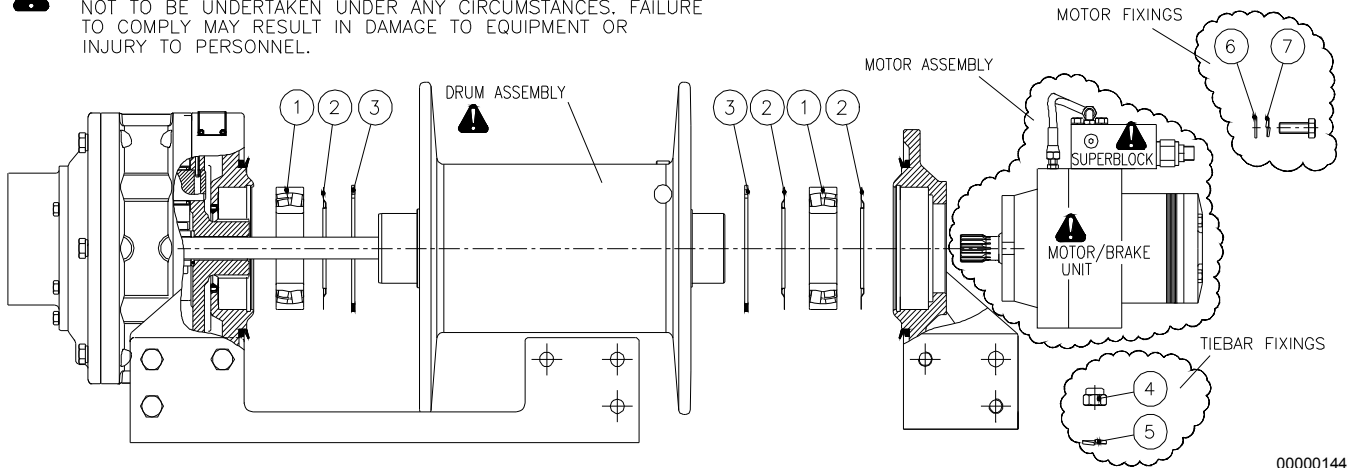
**ASSEMBLY NOTES:**

1. Couplings should always be replaced in pairs.
2. Always renew the thrust washer.
3. The input shaft and motor should be replaced if the splines are showing signs of wear.
4. Liberally coat all surfaces of both couplings and the thrust washer, with B.P. ENERGREASE L21M or equivalent before assembly.

### SERVICE KIT 54-95055

For the renewal of the winch drum bearings.

**!** DISMANTLING, ADJUSTMENT OR REPAIR OF THESE ASSEMBLIES, NOT TO BE UNDERTAKEN UNDER ANY CIRCUMSTANCES. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT OR INJURY TO PERSONNEL.



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Parts supplied only as a kit

ITEM	DESCRIPTION	QTY
1	DRUM SUPPORT BEARING	2
2	BEARING SHIELD	3
3	CIRCLIP	2
4	NYLOC NUT (M16)	2
5	SPRING WASHER (M16)	8
6	THICK WASHER (M12)	2
7	SPRING WASHER (M12)	2

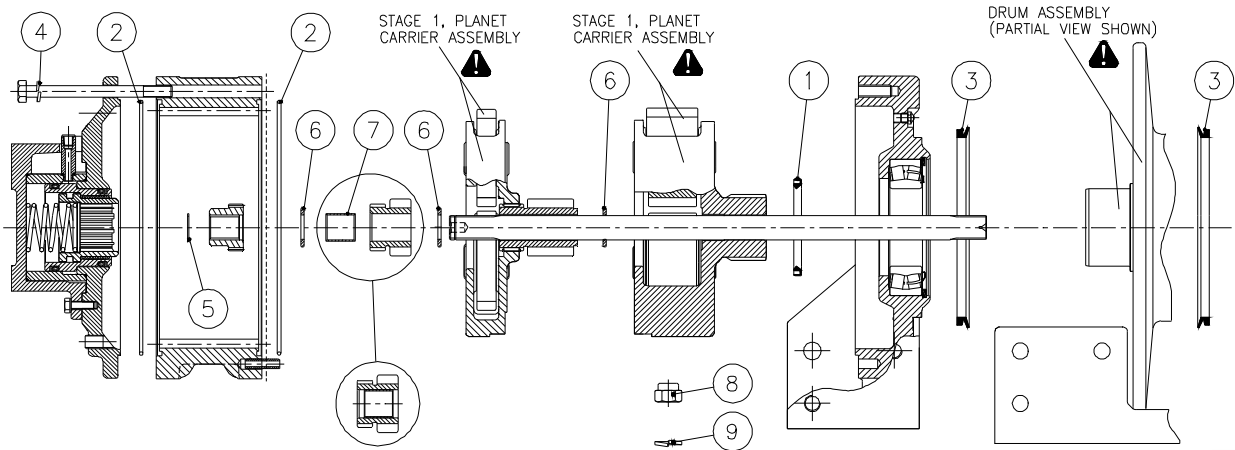
#### DIS-ASSEMBLY AND ASSEMBLY GUIDANCE NOTES

1. When drawing the drum on or off the input shaft, great care must be taken. Failure to do so will result in damage to the oil seal inside the drum assembly.
2. Removal of the motor assembly will aid handling.
3. The drum support bearings (Item 1) and bearing shields (Item 2) to be packed with B.P. ENERGREASE L21M prior to assembly. Assemble in the order shown. Ensure the circlip fully snaps into its groove.
4. Ensure the drum is held without float between the gearbox and motor/brake housing assemblies, before and after tightening the tiebar fixings. Ensure the nyloc nuts and spring washers are renewed on reassembly. Replace bolts and set screws if damaged. The tiebar fixings to be torqued to 160Nm.
5. Renew spring and plain washers. renew motor set screws if damaged. Tighten the motor fixings to 70Nm.

**SERVICE KIT 54-95056**

Main gearbox seals and small parts.

The main gearbox and small parts kit provides parts to replace all winch seals excluding those in the pneumatic freespool and a set of small consumable parts. Parts included are as shown below.



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ITEM	DESCRIPTION	QTY
1	GEARBOX OIL SEAL	1
2	RING GEAR 'O' RING	3*
3	V-RING FACE SEAL	2
4	M12 SPRING WASHER	6
5	INPUT SHAFT CIRCLIP	1
6	THRUST WASHER	3
7	INPUT GEAR BEARING	1
8	NYLOC NUT (M16)	2
9	SPRING WASHER (M16)	8

\* THREE 'O' RINGS ALLOW SERVICING OF OBSOLETE TWIN RING-GEAR MODELS.

Parts supplied only as a kit

**ASSEMBLY NOTES:**

1. When drawing the drum on and off the input shaft, great care must be taken. Failure to do so will result in damage to the oil seal inside the drum assembly.
2. Ensure all parts are clean prior to reassembly.
3. 'V' ring seals and drum sealing faces to be liberally coated with B.P. ENERGREASE L21M prior to and after assembly to the gearbox and motor/brake housing assemblies.
4. Ring-gear 'O' rings to be retained in their recess during assembly operations by a liberal coating of grease.
5. Ensure all gearbox components are lubricated liberally with B.P. ENERGOL GR-XP150 prior to assembly.
6. Renew ring-gear bolt spring washers. Renew ring-gear bolts if damaged. Tighten these bolts to 70Nm.
7. Ensure the drum is held without float between the gearbox and motor/brake housing assemblies, before and after tightening the tiebar fixings. Ensure that nyloc nuts and spring washers are renewed on reassembly. Replace bolts and set screws if damaged. The tiebar fixings to be torqued to 160Nm.
8. Refill gearbox with 0.75 Ltr of B.P. ENERGOL GR-XP150 following assembly.

### SERVICE KIT 54-95090 / 91

For the renewal of pneumatic freespool seals.

Kit part no: 54-95090

Pneumatic Freespool Seal Service Kit

Item	Description	Qty
1	Gasket	1
2	'O' Ring	1
3	'O' Ring	1
4	Copper washer	1
5	'O' Ring	1
6	'O' Ring	1
7	Washer, spring M8	7
8	Set Screw	7

The "pneumatic freespool seal kit" provides sufficient components for the replacement of all seals in this assembly. If the piston or cylinder are damaged in any way the alternative "pneumatic piston and cylinder renewal kit" should be procured.

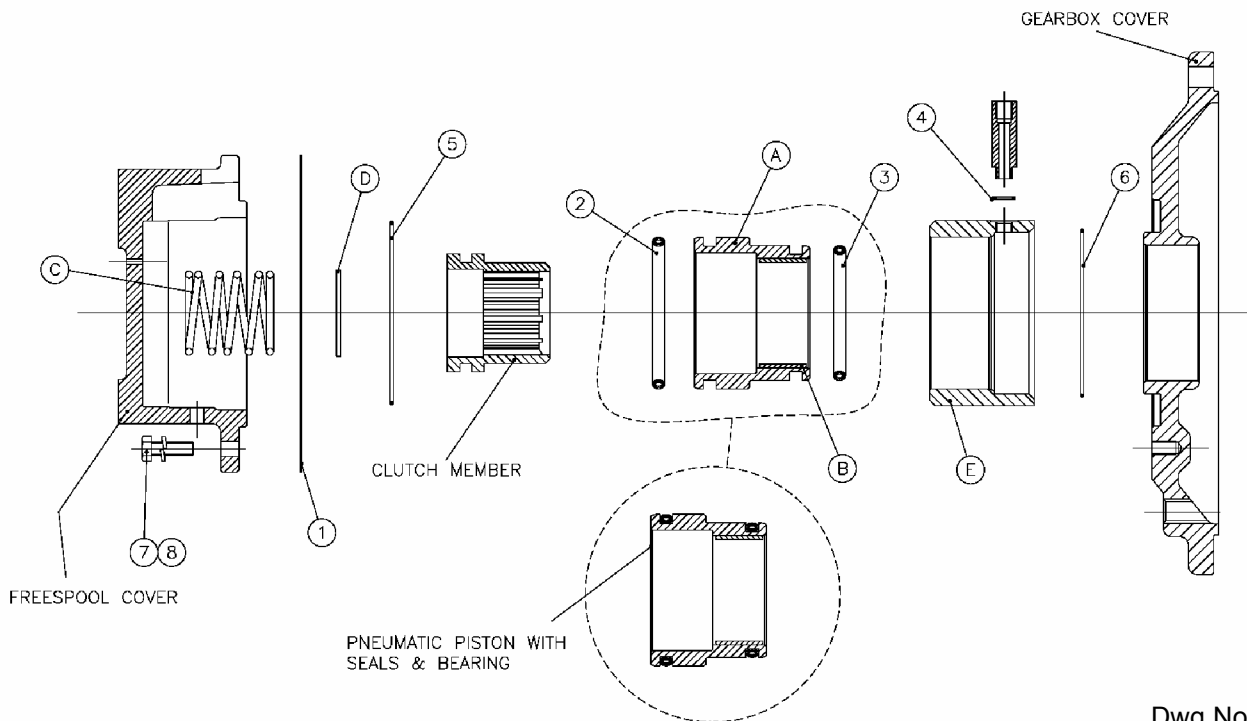
Kit part no: 54-95091

Pneumatic Piston & Cylinder Renewal Kit

Item	Description	Qty
A	Piston	1
B	Bearing, plain	1
C	Spring	1
D	Support washer	1
E	Cylinder	1
1-8	Seal Service Kit, 54-95090	1

For the renewal of the pneumatic freespool piston  
Kit includes seal kit 54-95090

The "pneumatic freespool piston renewal kit" provides components to renew the freespool piston and cylinder, plus all the seals required in the rebuild of the pneumatic freespool assembly.



Dwg No: 571

Parts Supplied Only As A Kit

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#### ASSEMBLY NOTES

1. If the pneumatic piston o/d or the i/d are corroded or the surfaces damaged in any way, they require replacement to ensure longevity of the repairs undertaken.
2. Lubricate all 'O' rings, anti extrusion rings and grooves with B.P. ENERGREASE L21M or equivalent prior to assembly. Take care not to damage seals during assembly.
3. Lubricate the bore of the "piston and bearings" assembly and the clutch member with B.P. ENERGOL GR-XP150 or equivalent prior to assembly.
4. Replace freespool cover gasket (Item 1) and spring washer prior to tightening the freespool cover fastenings to 20Nm.

**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, expressed 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 a 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 charge 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 constructed 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 extended 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 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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Issue No.  
**9**

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