LP 11 P HYDRAULIC POWERPACK
OPERATING MANUAL

Serial Nos. P00011-
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- ***Introduction and Description***
- ***Technical Data***
- ***Instruments***
- ***Parts Identification***
- ***Hydraulic Settings***
- ***Operation***
- ***Recommended Hydraulic Oil***
- ***Safety Precautions***
- ***Maintenance***
- ***Fault Location***
- ***Spare Parts List***
- ***EC Declaration of Conformity***
- ***Warranty Conditions***

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Introduction and Description

This manual is intended to provide operation and service information necessary for safe and efficient use of the hydraulic powerpack LIFTON LP 11 P.

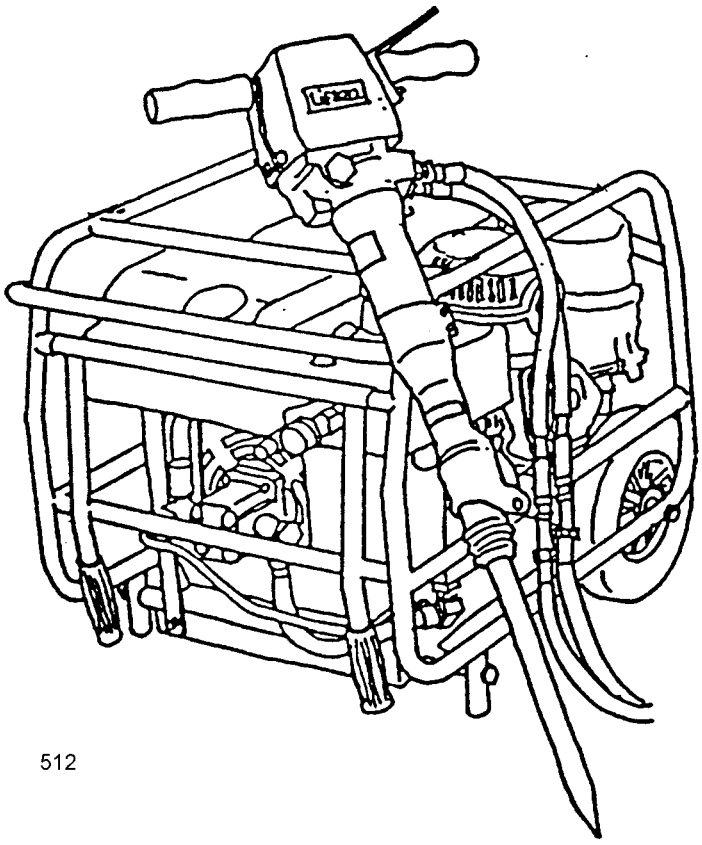
Hydraulic powerpacks are of course subject to wear with service life dependent on maintenance and severity of operation. It is therefore important to observe the following before attempting to use the LIFTON powerpack.

Operation and service other than in accordance with the instructions given may subject the powerpack to conditions beyond the design capability, which may result in system failure or personal injury.

1. ***Before attempting to use the powerpack, carefully read the entire operating manual and warranty conditions.***
   Special attention should be paid to the section "Safety Precautions".
2. ***Read the operating manual for the powerpack engine.***
3. ***Read the operating manual for the connected tools.***
4. ***Make sure that the powerpack is correctly sized for the tool.***

The LIFTON LP 11 P is a hydraulic powerpack designed for the operation of LIFTON handheld breakers and other hydraulic tools with an oil flow of 20 l.p.m. (EHTMA Category C), but the powerpack can be adjusted up to 28 l.p.m.

Year of manufacture: See the ID-tag.



512

Technical Data LIFTON LP 11 P

Measures	(HxWxL)	705x600x745 mm
Weight	Incl. oil	91 kg
Noise Emission	Sound pressure level 1 m (ISO 11203)	L_{PA} = 92 dB
	Measured sound power level (2000/14/EC)	L_{WA} = 102 dB
	Guaranteed sound power level (2000/14/EC)	L_{WA} = 104 dB
Construction	Chassis/tank	Combined welded steel section with integrated fan housing, epoxy powder coated
	Frame	Welded stainless steel tube with foldable handles
	Wheels	270 mm solid rubber tyres
Hydraulics	Flow	20 l.p.m. at 2300 r.p.m. ±200 Variable by means of internal by-pass valve, up to 28 l.p.m. at 3100 r.p.m. ±100
	Pressure relief valve	Set at 155 bar, adjustable
	Nominal pressure	120 bar
	Type	Open centre
	Pump	Gear pump, directly driven from the engine crank shaft by means of flexible coupling
	Oil tank capacity	7 litres
	Oil level gauge	Automatic low-level engine cut-off
	Filtration	25 Micron return line filter Return line filter by-pass in valve block
	Filter indicator	Return line filter gauge
	Cooling system	Thermostatically controlled air blast oil cooler
Engine	Honda GX 390 QX, air cooled, 1 cylinder 4-stroke petrol engine with oil alert system and transistor ignition system	
	Displacement	390 ccm
	Horse power	13 HP (9.6 kW) at 3600 r.p.m.
	Lubrication	Refer to engine manual
	Starter	Recoil handstart
	Fuel tank	6.5 litres
	Fuel	Unleaded or commercial grade petrol

Instruments

Power on Demand System (POD)
The POD cylinder will operate the engine throttle lever to the maximum ”on-load” pre-set level, when the connected tool is operated, and the pressure has risen to approx. 30-50 bar. When operating water pumps, cut-off saws or other tools, which will not give sufficient pressure to operate the POD system, it can be necessary to set the engine throttle lever manually at ”full-load” level.

Ignition Switch
mounted on the side of the engine casing has two positions – OFF and ON.

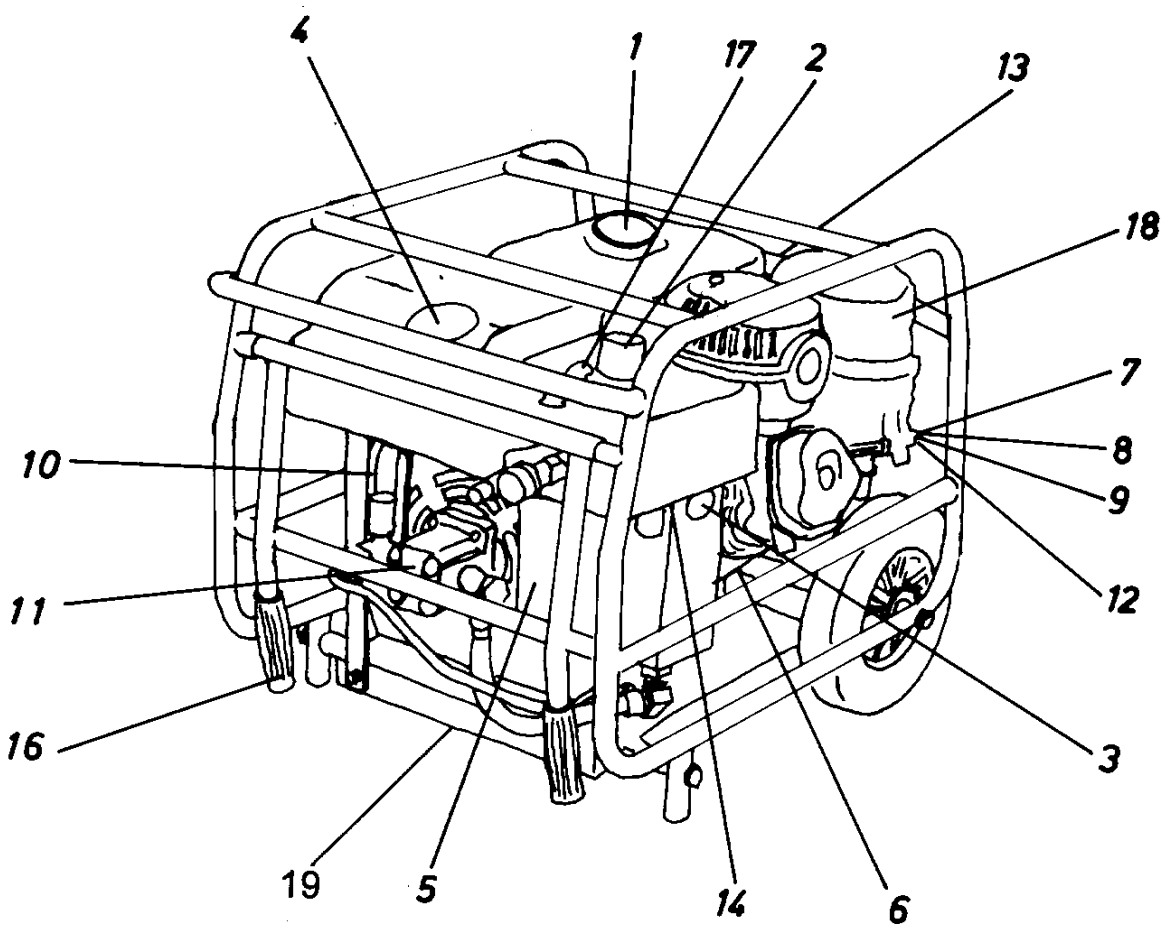
Automatic Low Level Cut-Out Switches
operating on both engine and hydraulic oil levels coupled to the warning light prevent engine starting if either level is too low. Correct oil level is the top position of the sight glass.

Filter Condition Gauge
The filter condition gauge, which is mounted in the cowl, indicates the condition of the return line filter. The filter element should be changed when the needle is in the red sector (at working temperature).

By-Pass Valve
The by-pass valve allows change of tool during operation. Move the valve to the OFF position for change of tool or engine start. The by-pass valve can also be used to adjust the oil flow to the tool (setting part way between OFF and ON), if less than 20 l.p.m. is required.

Automatic Hydraulic Oil Thermostat
The thermostat ensures that the hydraulic oil has the correct temperature under all weather conditions.

Parts Identification



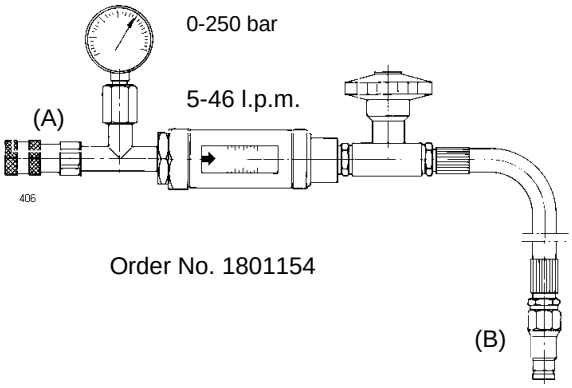
(1) Filler cap, fuel
(2) Filler cap, hydraulic oil
(3) Sight glass, hydraulic oil level
(4) Filter condition gauge
(5) Hydraulic oil filter
(6) Engine oil, dipstick
(7) Ignition switch OFF and ON
(8) Oil alert lamp
(9) Fuel tap 0 and 1
(10) Oil cooler
(11) Pump
(12) Choke control
(13) Recoil start
(14) Pressure relief valve
(16) Foldable handles
(17) By-pass valve
(18) Air filter
(19) Drain plug

Hydraulic Settings

Once correctly set, the powerpack will maintain its performance for a long time. The oil flow and the pressure relief valve should, however, be checked once a year.

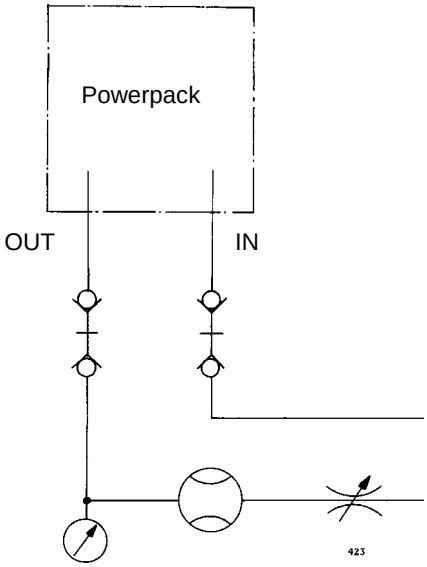
To set the oil flow and the pressure we recommend using LIFTON test equipment or similar test equipment.

LIFTON Test Equipment



Order No. 1801154

Test Set-Up



(1) Connect the test equipment to the quick-release couplings ”OUT” and ”IN” on the powerpack, ensuring that the loading valve of the test equipment is fully open.

(2) Carry out the starting procedure.

(3) Move the by-pass valve on the powerpack to ”ON”.

(4) Turn the loading valve, until the gauge shows approx. 70 bar and allow the unit to warm up for 3-4 minutes.

(5) Slowly close the loading valve.

(6) Adjustment of the pressure relief valve (mounted to the right on the valve block behind the hose connections) is carried out as follows:

   (a) Use two spanners: 9/16” (15 mm) for the lock nut and 1/2” (13 mm) to adjust the setting (”IN” to increase pressure – ”OUT” to decrease pressure).

   (b) Retighten the lock nut.

(7) After having adjusted to correct pressure slowly close the loading valve. The flow indicator should not start to drop (the valve starts opening) until the pressure is approx. 20 bar below the setting of the pressure relief valve in order to secure full performance of the unit.

(8) After having checked and adjusted the pressure relief valve check that the flow is correct according to the technical data. The filter condition gauge should be in the green sector.

(9) If the flow is incorrect, the engine r.p.m. must be adjusted (refer to engine manual) by means of the throttle grub stop. The engine r.p.m. may not exceed the maximum value stated in the engine manual.

Operation

Starting

1. Check fuel level and top up if required.
2. Check engine oil level and top up if required.
3. Check hydraulic oil level (the sight glass at the side of the hydraulic tank should be filled to its top position).
4. Clean quick-release couplings if necessary and connect the tail-hoses to the power-pack and the tool (refer to operating manual).
5. Switch fuel tap to the 1 position.
6. Operate choke level if required.
7. Check that the by-pass valve is in the OFF position.
8. Turn the ignition switch to ON.
9. Firmly pull recoil starter until engine fires.
10. Return choke progressively back to the initial position.
11. Allow the engine to warm up for 3-4 minutes.
12. The powerpack is now ready for use, and the by-pass valve can be moved to the ON position.

Stopping

1. Turn the by-pass valve to OFF.
2. Turn the ignition switch to OFF.
3. Turn off the fuel.

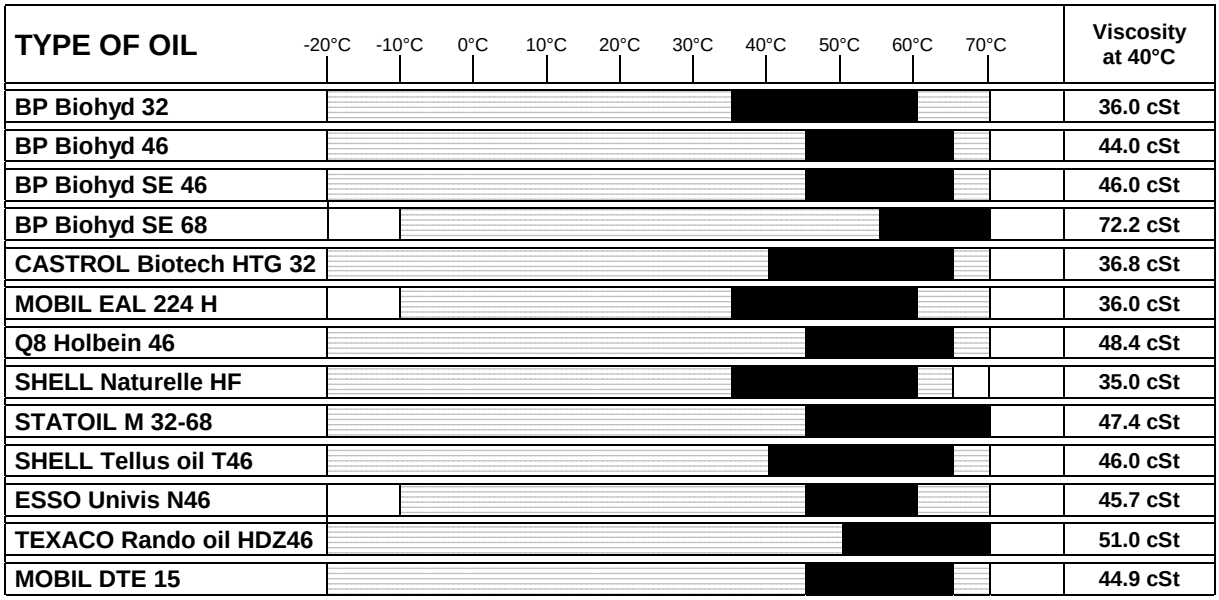
Recommended Hydraulic Oil

To protect the environment, LIFTON recommends the use of biodegradable oil.

Viscosity (ideal)..... 20-40 cSt
Viscosity (allowable)..... 15-1000 cSt
Viscosity index .....Min. 100
Standard mineral or synthetic oil can be used.

When the tool works continuously, the oil temperature will steady at a certain level called the oil working temperature. This will, depending on the nature of the job and the cooling capacity of the system, be 20-40°C above the air temperature. At working temperature, the oil viscosity must be within the ideal area. The tool may not be operated, if the oil viscosity is not within the allowable area, or if the temperature is not within ÷20°→+70°C. The viscosity index expresses the dependence of the viscosity on the temperature. That is the reason why a high viscosity index is preferable, so that the oil can be used within a wide temperature interval.

Applicable oil types



Permitted oil temperature

Recommended oil temperature

Safety Precautions

The design of the LIFTON powerpack guarantees maximum operator safety, and the noise level has been kept as low as possible.

The following safety precautions must be taken:

1. Do not use the powerpack longer than prescribed in your local environmental working regulations. The noise load from extensive daily use may result in hearing defects.

2. Always use protective earplugs, goggles, gloves, shoes and hard hat.

3. Always disconnect the hydraulic circuit before dismounting hoses or servicing the powerpack.

4. Fine jets of hydraulic oil at high pressure can penetrate the skin. Do not use your fingers to check for hydraulic oil leaks. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic oil. If hydraulic oil penetrates your skin, get medical help quickly.

5. Never leave the powerpack turned on.

6. Avoid lifting the powerpack more than allowed according to your local environmental working regulations.

7. Operation without tool may lead to damage of hydraulic parts due to development of heat.

8. In case of oil spill, cleaning must be done according to local regulations.

9. If the powerpack is connected with new hoses, or if a new tool is being used for the first time, the hydraulic oil level will drop and requires topping up.

10. Never add oil or fuel while engine is running.

Maintenance

Service interval	Before starting	Every 300 hours or yearly
Fuel	A	
Hydraulic oil	A	B
Hydraulic filter	A	B

A = Inspection, adjustment or refilling
B = Replacement

Engine
Refer to technical data in the engine manual.

Hydraulic Oil Filter
When the filter gauge needle remains in the red sector (while the powerpack is running and the oil is warm), the filter must be replaced. The old filter is removed by turning it clockwise (use a filter strap wrench if necessary). Tilting the powerpack rearwards will minimise oil spill. Before mounting the new filter, it is recommended to grease the surface of the seal with oil in order to ease correct tightening of the filter.

Hydraulic Oil
It is recommended to exchange the hydraulic oil after one year of operation or if the oil becomes contaminated with water (the oil has a milky appearance). Drain off the oil by disconnecting the drain plug from below the oil tank.

Fault Location

SYMPTOM	POSSIBLE CAUSE	ACTION
Engine turns over but does not start	No fuel	Top up tank
	Fuel line blocked	Clear line
	Ignition switch in OFF position	Turn switch to ON
	Low engine oil	Top up
	Low hydraulic oil	Top up
	Fuel tap in 0 position	Turn tap to 1
	Choke not tripped	Trip choke
	Engine malfunction	Refer to engine manual
Engine does not turn over or is difficult to turn	By-pass valve in ON position	Turn valve to OFF
	Engine malfunction	Refer to engine manual
Low hydraulic oil level	Damaged hoses	Check and replace if needed
	Leaking connections	Check for tightness/leaks
	Defect hose couplings	Replace couplings
Poor tool performance	Low pressure relief valve setting	Adjust valve
	High back pressure	Check hose system for blockage/ defects
	Worn hydraulic pump	Replace pump
	Incorrect POD setting	Adjust to increase engine speed
Frothy or creamy coloured hydraulic oil	Air or water in oil	Check for loose connections on line to pump
		Make sure that filler cap on tank is not loose
		Check that oil level is at the top of the sight glass
Tool runs hot	Poor siting of powerpack causing warm air to recirculate	Resite powerpack for free air circulation
	Blocked oil cooler	Blow cooler clean. NEVER use a wire brush
	Defect fan	Replace fan
	Back pressure too high	Check hose system
	Tool defect	Check and service tool
Pack stops suddenly	Out of fuel	Top up tank
	Low hydraulic oil - tripping float switch	Add hydraulic oil
	Low engine oil – tripping oil alert	Add engine oil

84 05-05-00 Serial-No. P00011-
* Only from serial No. P07648

Pos.	Part No.	Description	Quantity
Fig 1			
1	7000080	Frame	1
2	7104010	Washer 3/8x35	2
3	7120010	Screw M10x50	4
4	7005704	Plastic pipe plug Only for frames w/hose rack	4
5	7005160	Handle	2
6	7100010	Washer ø10	4
190	1807747	Loctite 495	
191	1807737	Loctite 245 50 ml	
Fig 2			
10	7000051	Cowl	1
11	7005259	Filler cap	1
12	7100006	Washer ø6	8
13	7000401	Screw M5x16	3
14	7000400	Screw M6x12	8
15	7000402	Gauge hose L=210 mm	1
16	7000458	Washer ø5	3
17	7005080	Filter gauge clamp + ring	1
18	7000404	Fitting 04	1
19	1814717	Nut M5	3
191	1807737	Loctite 245 50 ml	
192	7000454	Labels	1
193	1807746	Sealing tape	

84	05-05-00	Serial-No. P00011- * Only from serial No. P07648	
Pos.	**Part No.**	**Description**	**Quantity**
Fig 3			
20	7000457	Cooler guard	1
21	7000506	Seal	1
22	7005702	Oil cooler	1
25	7000407	Washer ø6	16
26	7110006	Nut M6	8
27	7123206	Screw M6x12	8
28	7000060	Tank/chassis complete	1
29	7000412	Wheel Only available in pairs	2
30	7000456	Washer ø25	2
31	7000069	Seal	1
32	7016375	Seal ring 3/8"	1
33	1803707	Fitting 06	1
34	7700003	Float switch complete	1
37	7000405	Rubber feet	2
40	7005072	Sight glass	1
41	7005087	Rubber grommet	2
42	7100010	Washer ø10	2
43	7000406	Screw M10x14	2
44	7000448	Junction cable	1
45	7000452	Fuse f/float switch	1
46	1803047	ID-tag	1
191	1807737	Loctite 245 50 ml	

84 05-05-00 Serial-No. P00011-
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Pos.	Part No.	Description	Quantity
Fig 4			
50	7001535	Pump plate	1
51	7002685	Fan inlet ring	1
52	7000420	Screw UNC3/8x83	4
53	7002621	Fan	1
54	7000250	Spacer ring	1
55	1814743	Washer ø10	4
56	7004667	Engine shaft extension	1
57	7000421	Engine Honda GX390QX	1
58	7000465	Washer 3/8	1
59	7000411	Washer ø10	4
60	7100010	Washer ø10	4
61	7000436	Screw M10x70	4
62	1806702	Nut M10	4
63	7000415	Screw M8x10	2
64	7005168	Engine half coupling	1
65	7005169	Coupling spider	1
66	7005171	Pump half coupling	1
67	7111008	Nut M8	4
68	7103008	Washer ø8	4
69	7000477	Screw M8x35	4
70	7000467	Pump 8.5 CC	1
71	7000464	Distance bushing	1
72	7000466	Screw UNF3/8x51	1
73	7103008	Washer ø8	4
74	7121508	Screw M8x16	4
75	7004720	Spacer	2
76	7000413	Screw M4x4	1
77	7000414	Spring 0.9x9.1x23	1
78	7000569	Parallel key B	1

84 05-05-00 Serial-No. P00011-
* Only from serial No. P07648

Pos.	Part No.	Description	Quantity
Fig 5			
80	7222311	Adaptor 12-06	2
81	7016019	Seal ring ø19	2
82	7000417	Adaptor 02-02	1
83	7016125	Seal ring 1/8"	1
84	7001198*	Valve block	1
84	7001189	Valve block	1
85	7005075	Filter 25 Mikron	1
86	7005082	Thermostat complete	1
87	7100016	Washer 5/8	1
89	7005263	Filter adaptor	1
91	7004084	Thermostat end cap	1
92	7005128	Locking ring M36x1.5	1
93	7122008	Screw M8x30	3
94	7111008	Nut M8	3
96	7004050	Clamp plate	1
97	7004051	Seal	1
98	7004134	Handle	1
99	7000416	O-Ring ø9.6x2.4	1
100	7013604	Roll pin ø4x16	2
101	7013604	Roll pin ø4x16	1
102	7001190	Spool	1
103	7005172	Pressure relief valve	1
104	7005113	Seal ring ø5/ø9x1	1
105	7121005	Screw M5x10	1
106	7016375	Seal ring 3/8"	2
107	1805137	Q.R. coupling 06 female	1
108	1805733	Protective cap 1/2" female	1
109	1805138	Q.R. coupling 06 male	1
110	1805728	Protective cap 3/8" male	1
111	7000418	Screw M5x8	1
112	7000433*	Coupling 08-08 Hitrak	1
113	1805714*	Seal ring 1/2"	1
115	7005113	Seal ring ø5/ø9x1	1
116	7000435	Fitting 02	1
117	7004747	By-pass valve	1
118	7000588	Filter washer	1

84	05-05-00	Serial-No. P00011- * Only from serial No. P07648	
Pos.	**Part No.**	**Description**	**Quantity**
119	7001191	Valve block complete Pos. 80-81/84-93/98-116	1
191	1807737	Loctite 245 50 ml	

84 05-05-00 Serial-No. P00011-
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Pos.	Part No.	Description	Quantity
Fig 6			
120	7000208	Cylinder POD complete	1
121	7000121	Seal kit POD Both for new and old POD	1
Fig 7			
140	7005711	Clip	1
142	7000206	Bracket POD	1
143	7000422	Screw M6x35	2
144	7000423	Nut M6	1
145	7123206	Screw M6x12	2
146	7000407	Washer ø6	4
147	7050694	Hose POD	1
149	7000425	Pipe holder	1

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84	05-05-00	Serial-No. P00011- * Only from serial No. P07648

Pos.	Part No.	Description	Quantity
Fig 8		**High pressure hose with banjo**	
170	7000447	Hose clip 19-28	4
171	7000455	Cooler return line	1
172	7000113	Nipple	1
173	1805714	Seal ring 1/2"	2
174	7000446	Cooler feed line	1
175	7000461	Fitting 12-08 KRG	1
176	7000449	Suction hose	1
177	7000462	Coupling 08-12 Hitrak	1
178	7000112	High pressure hose	1
179	7000463	Coupling 12-12 Hitrak	1
180	7000428	Hose clip 13-20	2
181	7000725	Banjo bolt 1/2" BSP	1
182	7016019	Seal ring ø19	1
183	7000111	High pressure hose compl. Incl. pos. 172-173/178/181/182	1
191	1807737	Loctite 245 50 ml	
194	7000497	Seal kit Pos. 31-32/34/81/83/97/99/104/121/123/173/182	1
Fig 8		**High pressure hose without banjo**	
170	7000447	Hose clip 19-28	4
171	7000455	Cooler return line	1
172	1805711	Adaptor 08-08	1
173	1805714	Seal ring 1/2"	1
174	7000446	Cooler feed line	1
175	7000461	Fitting 12-08 KRG	1
176	7000449	Suction hose	1
177	7000462	Coupling 08-12 Hitrak	1
178	7000445	High pressure hose Replaced by 7000111	1
179	7000463	Coupling 12-12 Hitrak	1
180	7000428	Hose clip 13-20	2
181	7016019	Seal ring ø19	1
191	1807737	Loctite 245 50 ml	
194	7000497	Seal kit	1

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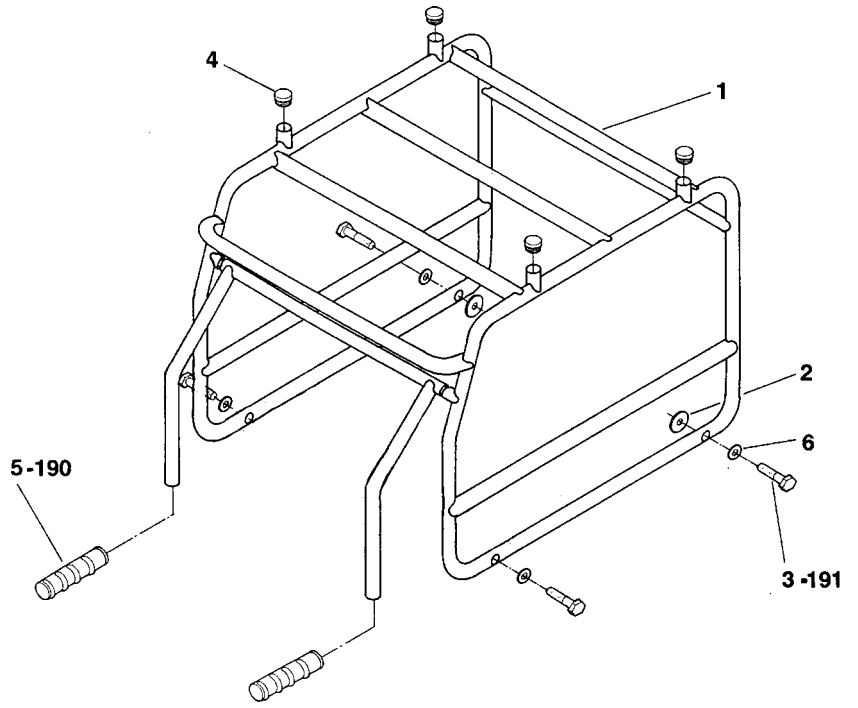
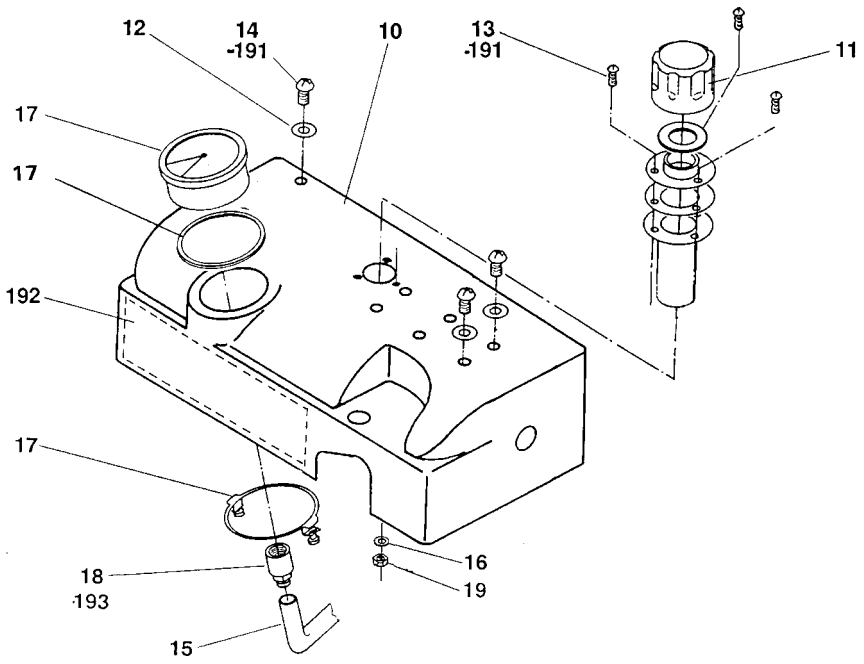
LP 11 P drivstation **Fig. 1 + 2** **84 4-7800014**
LP 11 P Powerpack **4-7800015b**
LP 11 P Kraftstation





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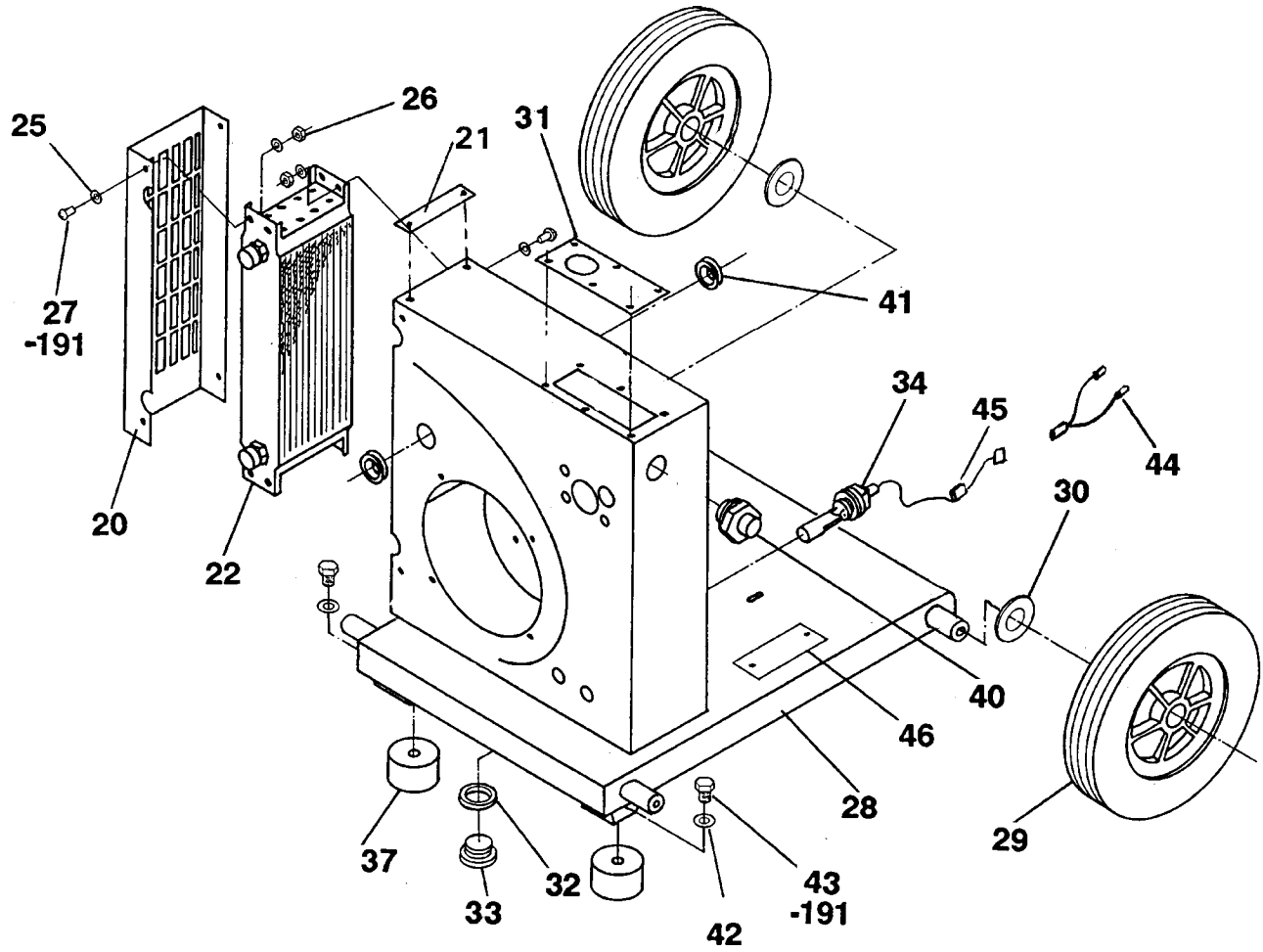
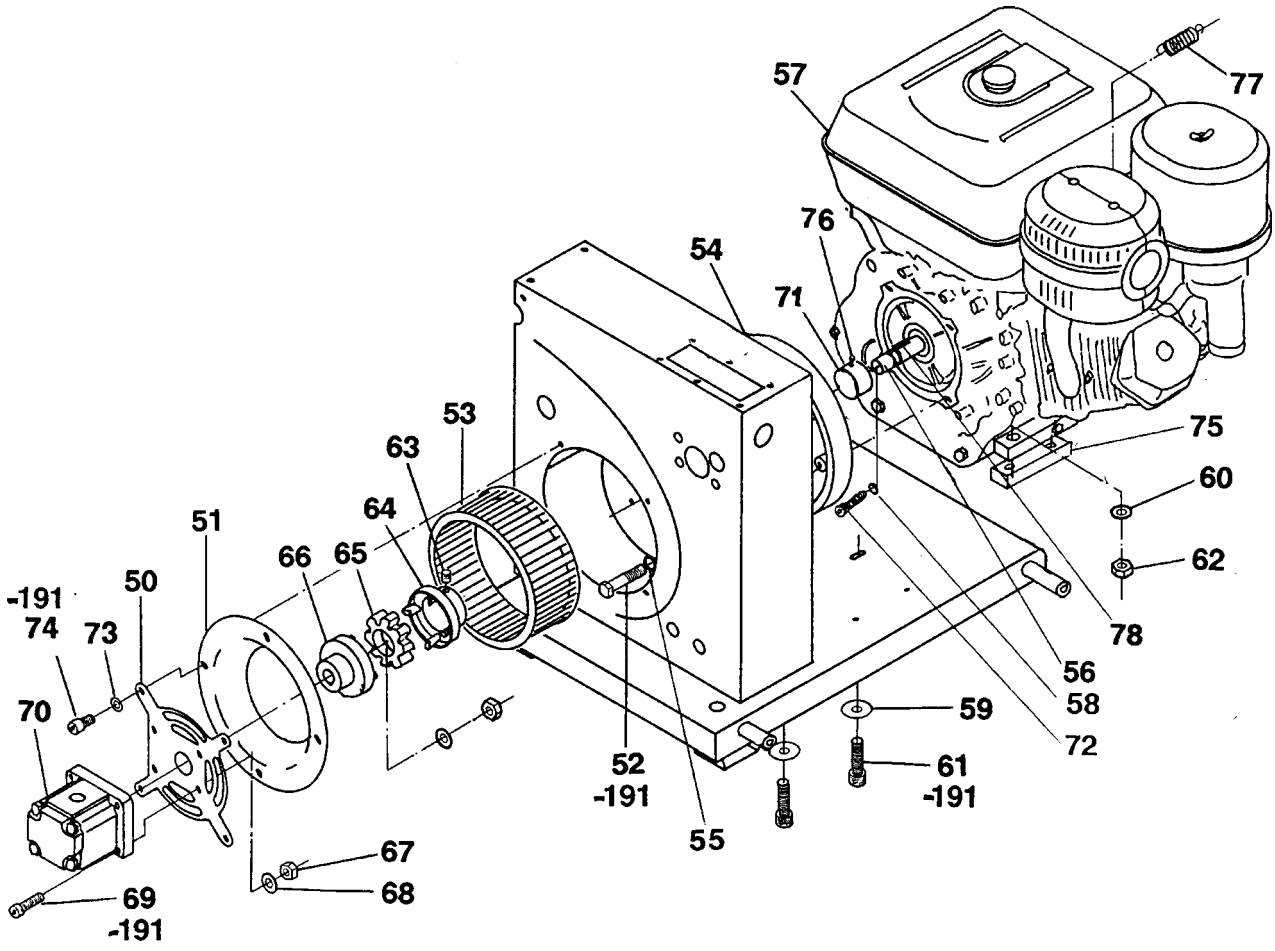
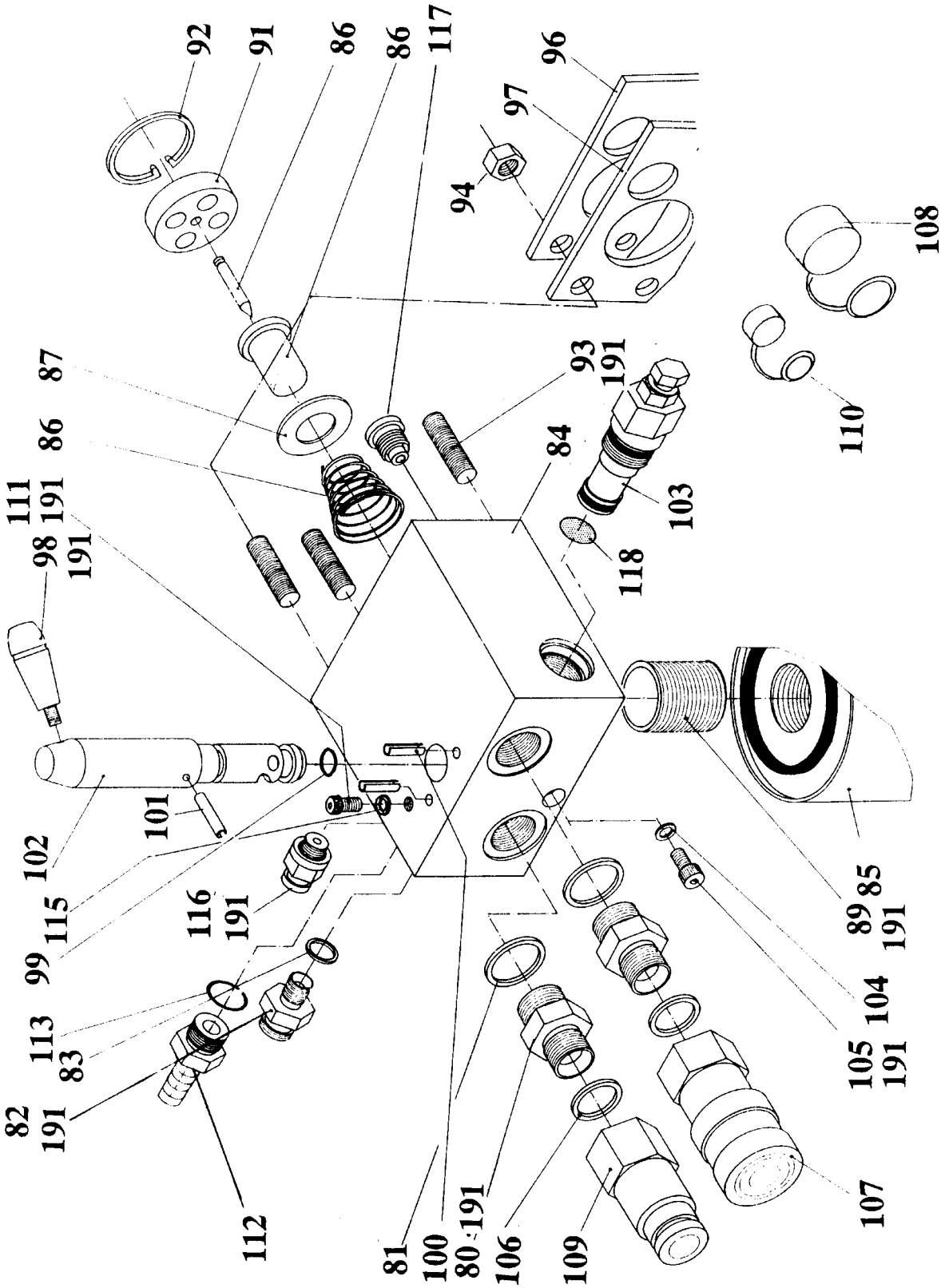
LP 11 P drivstation **Fig. 3** **84 4-7800016**
LP 11 P Powerpack
LP 11 P Kraftstation



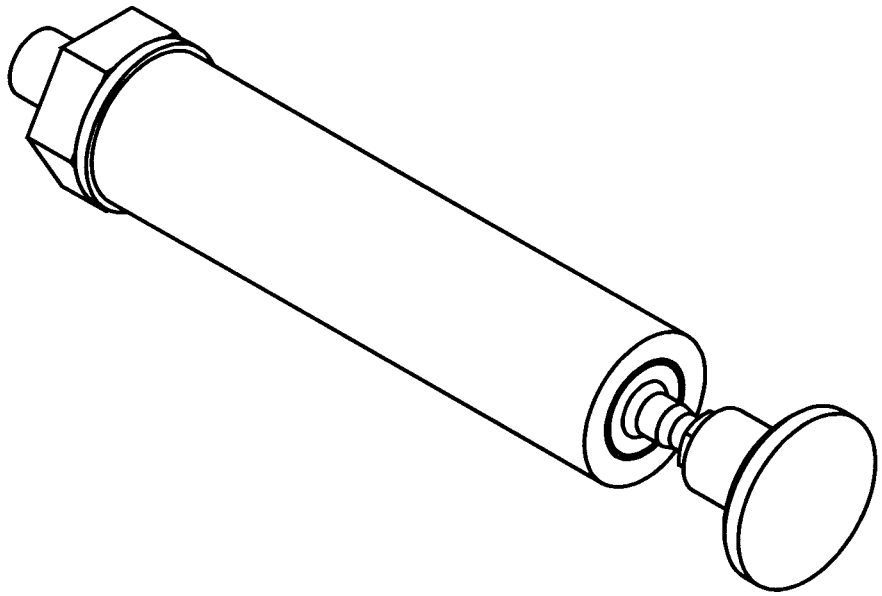
LP 11 P drivstation **Fig. 4** **84 4-7800017**
LP 11 P Powerpack
LP 11 P Kraftstation

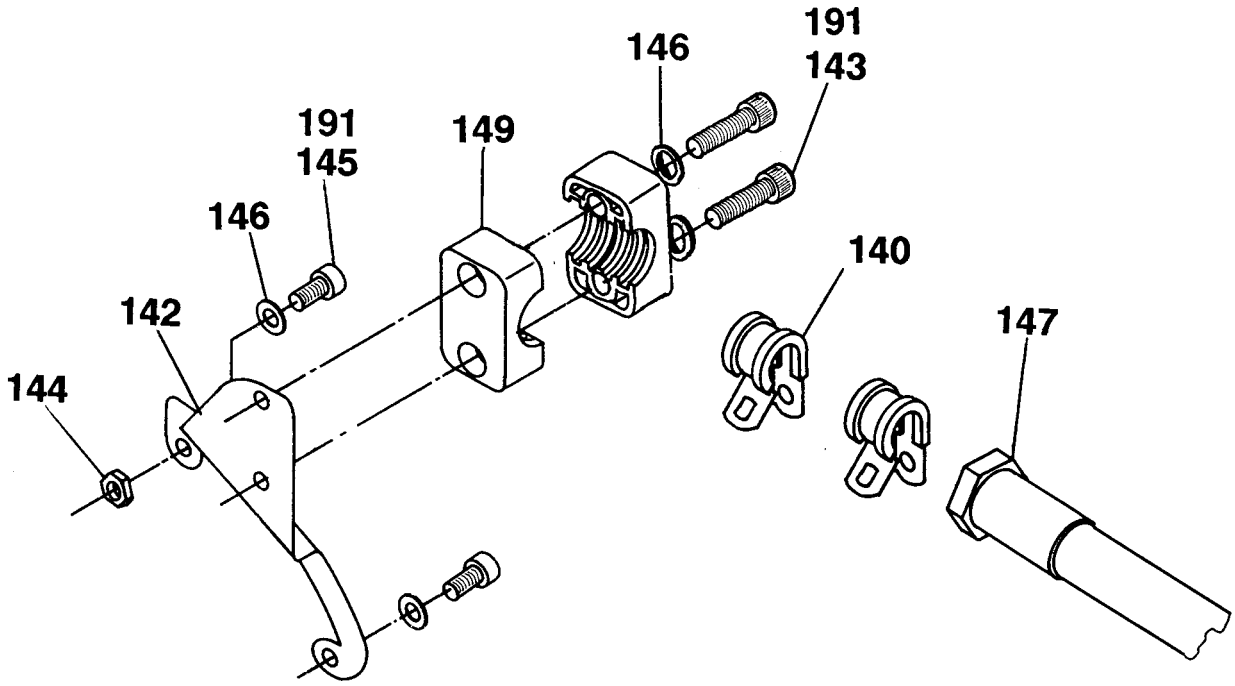


LP 11 P drivstation **Fig. 5** **84 4-7800005a**
LP 11 P Powerpack
LP 11 P Kraftstation



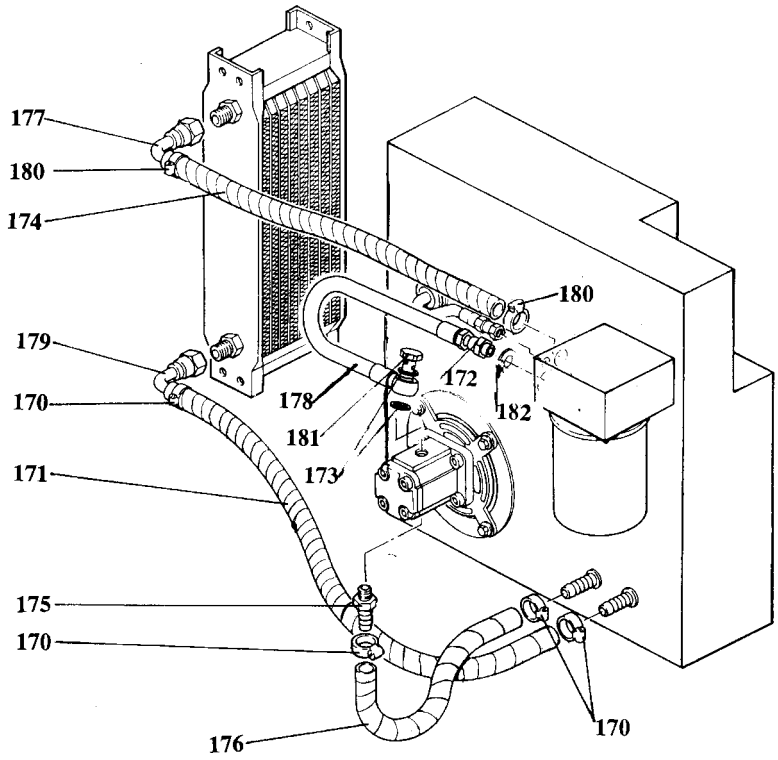
LP 11 P drivstation **Fig. 6 + 7** **84 3-7000208a**
LP 11 P Powerpack **4-7800013**
LP 11 P Kraftstation



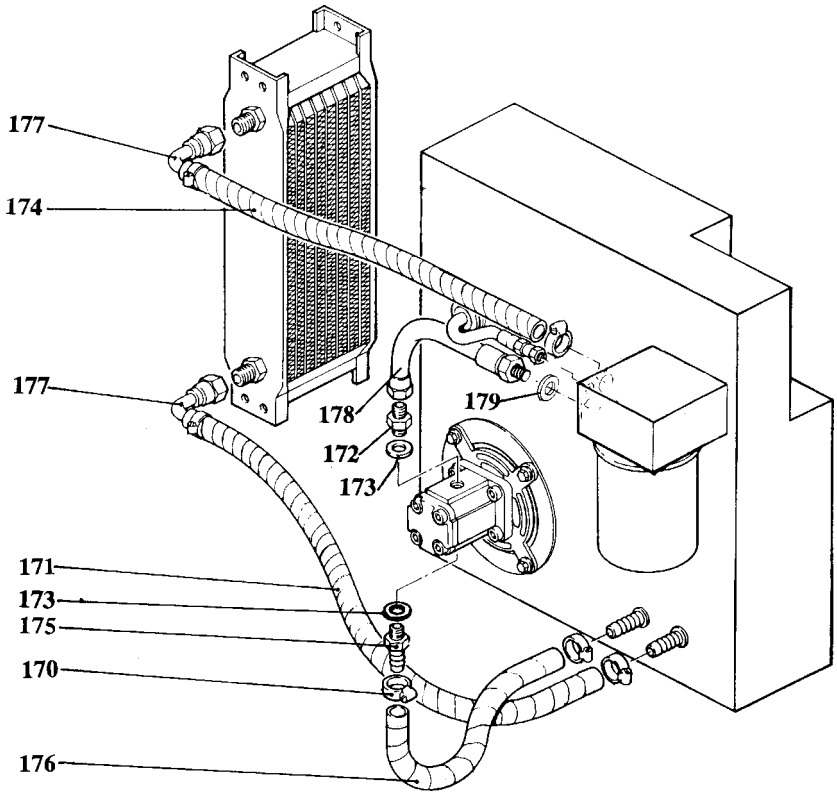


LP 11 P drivstation **Fig. 8** **84 4-7800018a**
LP 11 P Powerpack **4-7800105**
LP 11 P Kraftstation

Højtryksslange med banjo
High pressure hose with banjo
Hochdruckschlauch mit Banjo



Højtryksslange uden banjo
High pressure hose without banjo
Hochdruckschlauch ohne Banjo



EC Declaration of Conformity

EC-Declaration of Conformity

Manufacturer:
Breakers A/S
Anker Engelundsvej 3
DK - 9200 Aalborg SV
DENMARK

Phone: +45 98 181722
Fax: +45 98 188922

hereby declares that

Machine: LIFTON LP 11 P hydraulic powerpack Serial No.: P15181-

was manufactured in conformity with the

Directive 98/37/EC and
Directive 2000/14/EC

The machine is fitted with a 9.6 kW petrol engine.

Notified body No. 0404:
SMP Svensk maskinprovning AB
Fyrisborgsgatan 3
S - 754 50 Uppsala
Sweden

Measured sound power level: 102 dB
Guaranteed sound power level: 104 dB

Signature: General Manager Lone Mejlgaard **Date:** 02/2002

In accordance with the regulations of the Directive, Breakers A/S undertakes to keep up a technical dossier, which by request and at due notice can be placed at the disposal of competent national authorities for inspection for at least 10 years after the production date of the machine.

LIFTON WARRANTY CONDITIONS

The production of LIFTON hydraulic equipment is based on many years of experience and the use of high quality material, which enables the equipment to resist the mechanical and thermic stress occurring under normal working conditions.

Should, however, in spite of thorough testing procedures, defects in material or manufacture occur, these will be covered in accordance with ORGALIME S 2000/NL 92.

General Warranty Conditions

- From the delivery date there is a twelve-month warranty
- The warranty covers all functional disturbances caused by defects in material or manufacture
- When liable under the warranty, the factory is free to decide whether to offer repayment, replacement or repair
- Shipping costs are to be paid by the purchaser
- Any parts replaced are the property of the factory
- The factory assumes no liability for indirect damage and other costs such as loss of production
- Warranty claims will be considered only when reported to the dealer immediately upon discovery of the defect

The Warranty Does Not Cover

- Damage caused by faulty connection or improper handling
- Costs to cover repairs undertaken by a non-authorized LIFTON dealer
- Damage caused by imperfect maintenance, improper use or damage in transit
- Fair wear and tear
- Damage to hoses and quick-release couplings caused by wear or imperfect maintenance

The warranty ceases on change of ownership of the equipment and in case of repairs undertaken by a non-authorized LIFTON shop without the factory's express authorization.

NOTES