



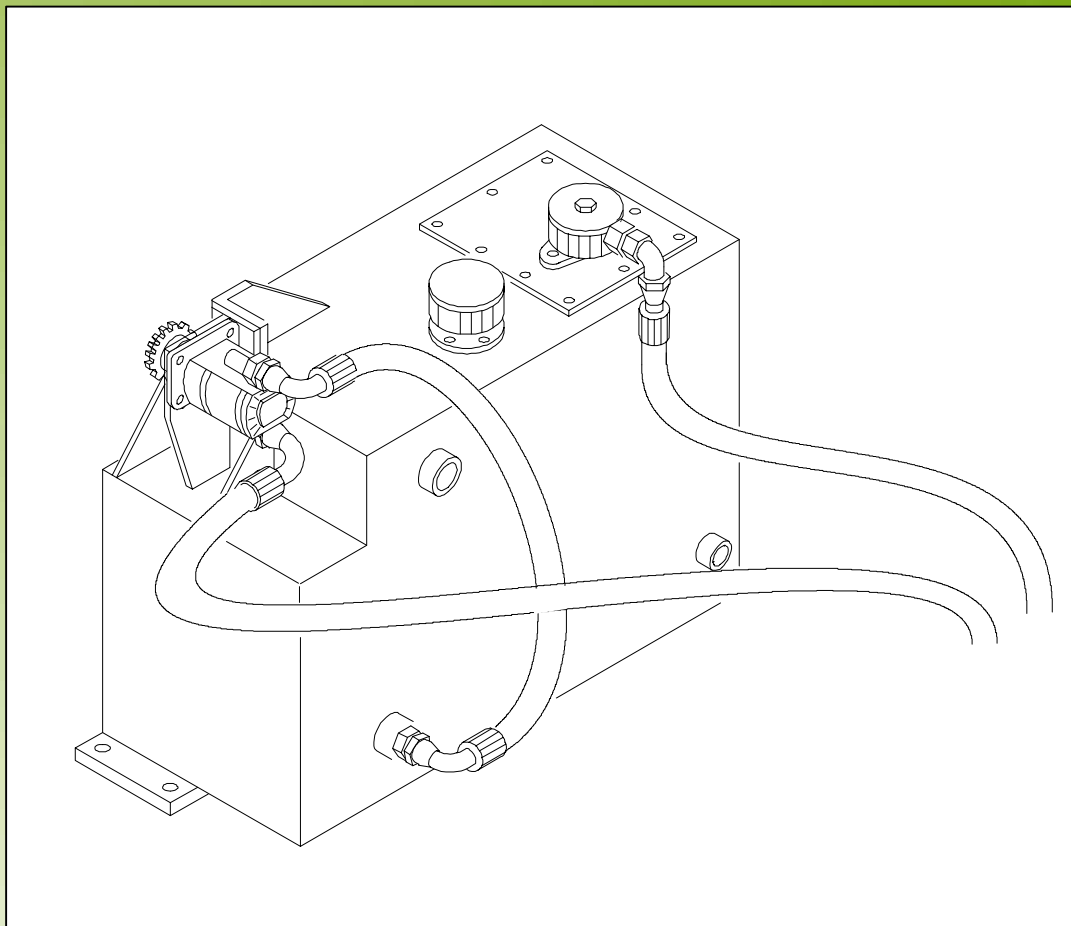
**HD 11**  
**OPERATION, MAINTENANCE AND**  
**SPARE PARTS MANUAL**



03342599

# VALBY

## HYDRAULIC UNIT HD 11



**It is very important to read this instruction handbook thoroughly before using the machine!**





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### 1. SAFETY INSTRUCTIONS

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- Before performing lubrication work on any equipment, consult the manufacturer's instruction manual and follow the recommended procedures.
- Before lubricating the machine, shut down the engine and stop the machine.
- Pressurized oil can be hazardous. Pressurized oil jet can penetrate skin and cause serious injuries or death.
- Occasional skin exposure with oil is not dangerous. If though you can not prevent long-time exposure use protective gloves and other protective clothing.
- Keep flammable material away from heat, sparks and open fire.
- Hot oil and oil spray can be hazardous. Small amounts swallowed or inhaled do not usually cause toxication. Old oil is more dangerous than new.
- If oil has got into eyes flush them with cool water after which go to doctor. Use safety goggles.
- Avoid mixing lubricants of different grade and quality. Use only recommended oils or oils with corresponding characters.



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WHEN ORDERING SPARE PARTS, PLEASE INDICATE MACHINES TYPE FROM THE MACHINE PLATE, SPARE-PARTS ORDER NUMBER, DESCRIPTION AND QUANTITY REQUIRED.

EXAMPLE: HD 11, 54828199, Chain link, 1 pcs.



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A series of horizontal dashed lines spanning the width of the page, providing a guide for handwriting practice.

## 2. INTRODUCTION

### 2.1. FIELD OF APPLICATION

A separate hydraulic unit enables the chipper to work independently of the tractor hydraulics. This is particularly important when, for example, the use of the chipper is shared, as it ensures that there is no risk of mixing oils of different grade. It also facilitates the use of a hydraulic feeder with a separate hydraulic motor drive.

We recommend the use of a hydraulic unit in cases like:

- The chipper is used on more than one tractor; as this prevents impurities entering the hydraulic system of the feeder.
- The hydraulic system of the tractor is insufficient or inappropriate to run the chipper.
- The hydraulic pump output of the tractor is too high (risk of overheating).
- When using an electric or diesel motor to run the chipper; the hydraulic unit enables the use of the hydraulic feeder.

## 3. MAIN PARTS

1. Tank
2. Pump
3. Primary sprocket wheels
  - HF 260 z=30
  - HF 260 B (OEM) z=30
  - HF 160, HF150 z=19
4. Secondary sprocket wheel z= 11
5. Transmission
6. Mounting plate

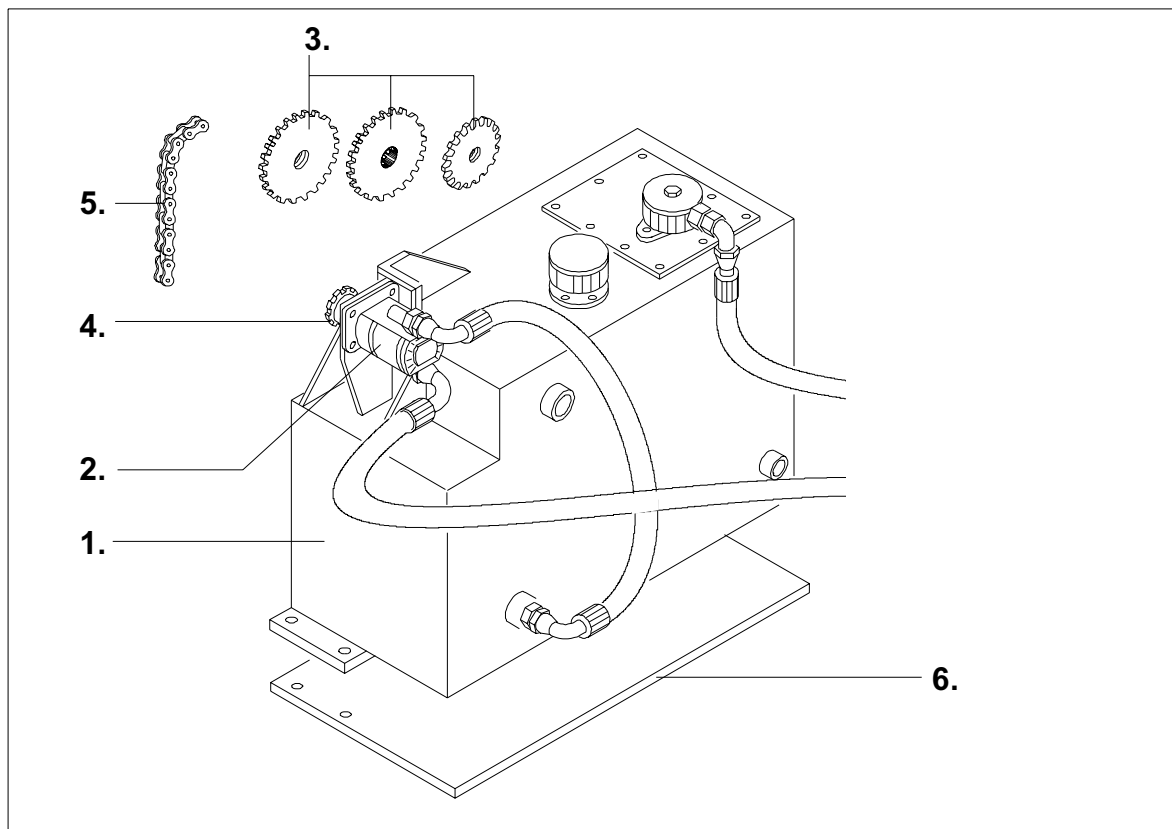


Fig.1.

### 4. ASSEMBLY

HD 11 is been assembled at a factory.

1. Fasten the primary sprocket wheel on the threaded end of the drive shaft, fig. 2.
2. Fasten the hydraulic unit on the bottom plate with the four M12x40 hex screws and M12 lock nuts, delivered with the adaptor kit, fig. 3.

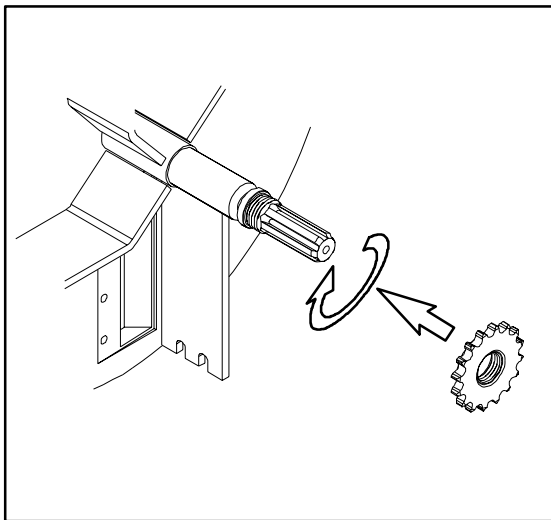


Fig.2.

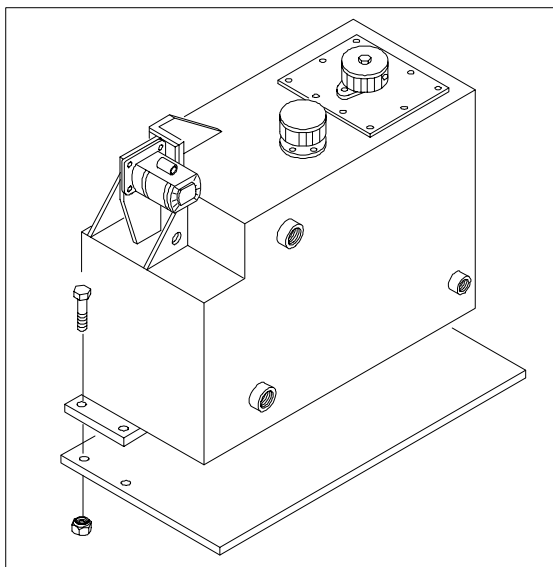


Fig.3.

### 5. ADJUSTMENT

1. Remove draw bar from the chipper
2. Mount chain to its place (note direction of connection link's locking against the rotation direction. The chain is delivered with 49 links plus one connecting link.).
3. Adjust chain tightening screw to its minimum position. See fig.4.

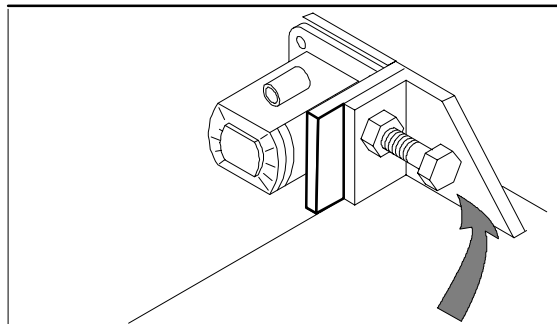


Fig.4.

4. Move hydraulic unit with its adaption plates to the left so that the chain is as tight as possible.
5. The sprockets must be lined up (fig.5.) before welding the adaptation plate to the chipper's legs when using the CH160 or CH260B (fig. 6. and 8.)
6. Tighten the chain tightening screw.

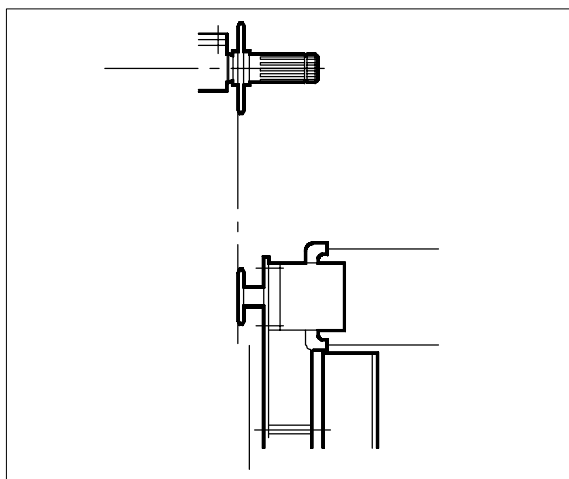


Fig.5. Line up the sprockets before welding the adaptation plate to the chipper's legs.



Fastening the HD11 to the CH160

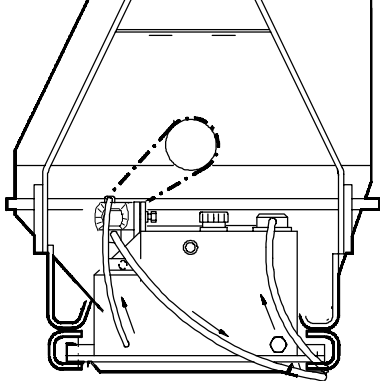


Fig.6. Fastening the hydraulic unit to the CH160

Fastening the HD11 to the CH260

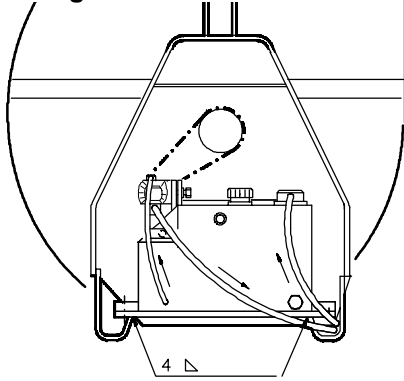


Fig.7. Fastening the hydraulic unit to the CH260

Fastening the HD11 to the CH260B

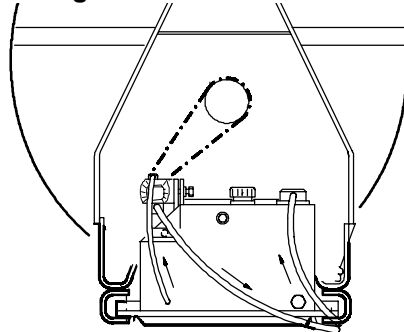


Fig.8. Fastening the hydraulic unit to the CH260B

7. Fasten the draw bar.

## 6. CONNECTING THE HOSES

1. Connect the 3/4" inlet hose coming from the hydraulic oil tank to the upper side of the pump, fig.9.
2. Connect the 1/2" pressure hose coming from under the pump to the E-connection of the flow regulator.
3. Connect the 1/2" return hose coming from the T-connection of the flow regulator to the return filter on the tank.
4. The control valve must be fitted with a pressure-relief valve of 175 bar.

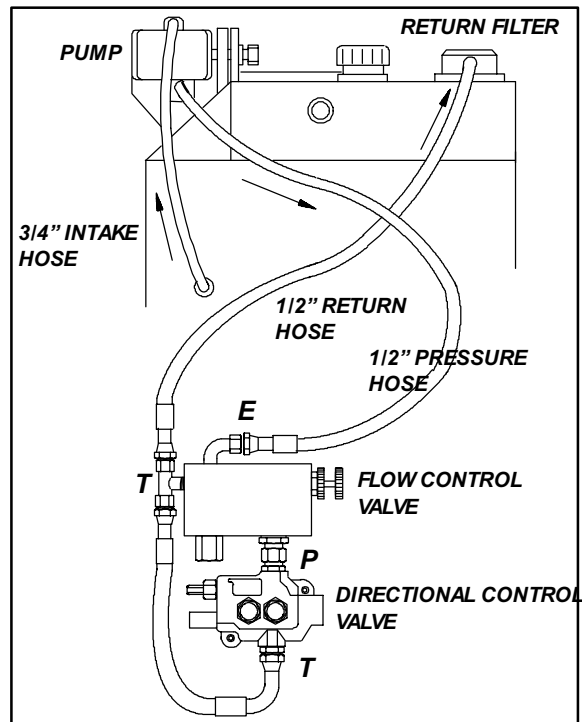


Fig.9. Connecting of the hoses.



# HD 11 MOUNTING, OPERATION AND MAINTENANCE

## 7. FILLING THE TANK

Fill the tank with oil until the upper edge of the oil gauge. After having run the hydraulic system for a couple of minutes, refill oil to the upper edge of the oil gauge. Refer to oil recommendations (chapter 9.1.).



**Prior to operating always check the oil quantity. The oil level shall be at the upper edge of the oil gauge.**

**After the first few hours of use check for possible leaks and, before tightening the connections, relieve the pressure!**

## 8. SAFETY MAINTENANCE



**Prior to every procedure always recall the general safety instructions given in chapter NO TAG**

**Always read and understand the maintenance instructions prior to any maintenance.**

**Should you be in the slightest uncertain, contact a person familiar with the hydraulics to do the maintenance work.**



**Do not ever maintain the hydraulic system until you are sure there is no pressure.**

**Do not tighten or repair leaking hydraulic hoses and connections while the system is pressurized.**

**Pressurized oil jet can penetrate skin and cause serious injuries or death.**



**Keep flammable material away from heat, sparks and open fire.**

**Always follow the instructions of the manufacturer and the authorities when handling hydraulic oils.**

**Always wear safety goggles and protective clothing during maintenance.**



**Avoid mixing oils of different grade and quality. Use only recommended oils or oils with corresponding characters.**

**Do not pollute the environment by spilling oil. Send the waste oil from service and repairs to be duly treated.**

## 9. GENERAL ON HYDRAULIC OILS

**Avoid entry of impurities into the oil!**

**Impurities, at its worst leading to component damage, might be caused of oil and transport containers, storage, maintenance, etc. Even new hydraulic oil might contain impurities.**

**Keep the working area, hands and tools clean.**

**To prevent water condensing, do not store the oil containers outdoors.**

**Pump or pour the oil directly from the original container into the tank. If you must pour the oil in other containers, make sure they are clean.**

Also ensure the cleanness of all filling equipment (holes and funnels).

To prevent slipping and stumbling keep the working area clean from oil and loose objects.

### 9.1. OIL RECOMMENDATION

The HD 11 is factory-filled with SAE 10W30 agricultural oil.



**Always use high quality oils made by well-known manufacturers. The proper viscosity for HD11 is 10W/30.**

General oils for agriculture:

<b>SAE 10W30</b>	API : CD/SF API : GL-4
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For example: EXXON Unifarm SAE 10W30

Mineral-based hydraulic oils:

<b>SAE 10W30</b>	ISO VG 46S
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For example: EXXON Unisvis N46

Biodegradable oils:

<b>SAE 10W30</b>	ISO VG 46
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For example: Hydraulic Oil Bio S 46



**Do not mix oils of different grades, or different oils.**

## 10. MAINTENANCE

- Always check the oil level before using the device. The oil level should be at the level of the oil gauge.
- The replacement element of the return filter must be changed after 500 hours of use. When changing the oil, clean the magnet which is in the drain plug.
- After the first few hours of use check for possible leaks and tighten the joints, if necessary.

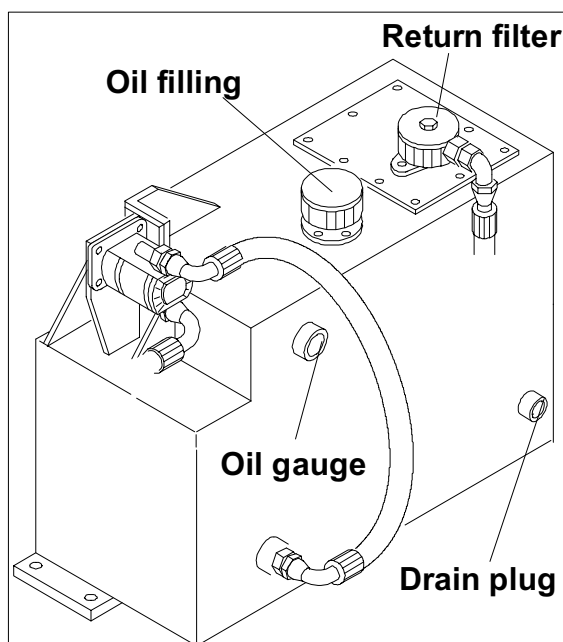


Fig.10. Maintenance



# HD 11

## MOUNTING, OPERATION AND MAINTENANCE

### 10.1. MAINTENANCE SCHEME

GENERAL	EVERY 8 HOURS	EVERY 20 HOURS	EVERY 40 HOURS	EVERY 2000 HOURS OR 1 YEAR	PROCEDURE	SEE PAGE
Check hoses and couplings for leakages	X					
Check oil quantity	X					
Change oil and clean the magnet of the oil drainage plug				X	Oil viscosity 10W/30, 30 liters (8 gallon)	
Return filter				X	Change the filter cartridge, order no. 560 47464	
Check condition of the chains	X				Add grease daily. Change when not working properly.	

### 10.2. TROUBLE SHOOTING

PROBLEM	PROPABLE CAUSES	SOLUTIONS
THE FEEDER DOES NOT FEED PROPERLY / POWERLESS FEED ROLLER	INSUFFICIENT PRESSURE	CHECK OIL QUANTITY, ADD IF NEEDED. CHECK FILTER CONDITION, CLEAN / REPLACE FILTER. CHECK PRESSURE SETTINGS OF VALVE, ADJUST, IF NEEDED.
	LOOSENED OIL TANK	FASTEN THE OIL TANK
PUMP BROKEN (NO OUTPUT)	TOO HIGH RPM'S	REDUCE RPM'S.
	CLOGGED RETURN FILTER	CHECK FILTER CONDITION, CLEAN / REPLACE FILTER.
	PUMP NOT PROPERLY FASTENED	TIGHTEN FASTENING BOLTS OF PUMP.
	INLET LEAKAGE, LETTING AIR INTO THE SYSTEM -> CAVITATION WILL BREAK THE PUMP.	CHECK HOSES AND CONNECTORS. REPLACE, IF NEEDED.
	NOT ENOUGH OIL	ADD OIL.
STRANGE NOISES FROM TRANSMISSION OR SPROCKET WHEELS	INCORRECT LINE UP BETWEEN SPROCKET WHEELS	CHECK LINE UP AND ADJUST.
	LOOSENED TRANSMISSION	TIGHTEN TRANSMISSION
	WORN SPROCKET WHEELS	CHECK THE WHEELS AND REPLACE.
	BROKEN OR WORN TRANSMISSION	REPLACE
OVERHEATING	WRONG OIL QUALITY (FOAMING, COLOR CHANGES)	CHANGE OIL!
	TOO HIGH RPM'S.	REDUCE RPM'S.



# HD 11

## MOUNTING, OPERATION AND MAINTENANCE

### 11. TECHNICAL DATA

Weight	50 kg (110 lbs)
Oil grade, quantity	10 W/30, 30 litres (8 gallon)
Pump: – delivery	11 cm <sup>3</sup> /n
HF260 ..... 30:11	30 l /1000 rpm
HF260 B (OEM) ..... 30:11	30 l / 1000 rpm
HF160 / HF150 ..... 19:11	19 l / 1000rpm





## ..... HD 11 Hydraulic unit

Part	Order no.	Description	Remarks	Qty.
1.	23342603	Tank		1
2.	33342676	Tank fastener		1
3.	03343680	Adapting kit, complete	For HF260B (OEM)	1
3.1	43343660	Adapting piece	Right	1
3.2	43343670	Adapting piece	Left	1
3.3	52062023	Scew	M12x30	4
3.4	52117124	Nut	M12	4
4.	43343630	Small sprocket	z= 11 (For all models)	1
5.	43342732	Axle		1
6.	52813201	Cotter pin	6 x 30 DIN 94	2
7.	52062122	Screw	M16 x 50 DIN 933	1
8.	52110079	Nut	M16 DIN 934	1
9.	52060167	Screw	M8 x 60 DIN 933	4
10.	52117082	Self locking nut	M8	5
11.	54828181	Roller-chain for HF260 / HF260B	3/4", D= 60	1
	54820618	Roller-chain for HF160	3/4", D= 47	1
12.	54828199	Chain link	3/4	1
13.	56017536	Filler filter	UCC-5561-10	1
14.	52050077	Screw	5,5 x 16 DIN 7976	6
15.	52080819	Plug	R1/2" DIN 910	1
16.	52390200	Ring	21,5 x 28,7 x 2,5	3
17.	56025323	Hydraulic pump	Sep. parts list in page 18	1
18.	56047456	Return filter	OMTF40-20	1
19.	52060035	Screw	M6 x 16 DIN 933	10
20.	52432051	Double fitting	R1/2"	2
21.	52442175	Connecting angle fitting	RK1/2-R1/2	1
22.	52432325	Double fitting	R3/4	1
23.	56526320	Hose assy.	K1/2" S l= 2,7m	1
24.	56534027	Hose assy.	K3/4" S l= 0,35m	1
25.	56526288	Hose assy.	K1/2" S l= 2,3m	1
26.	52442241	Angle fitting	RK3/4-R3/4	1
27.	56047464	Filter cartridge	CR40-20	1
28.	52062031	Screw	M12 x 40	4
29.	52117124	Self-locking nut	M12	4
30.	43342765	Mounting plate	(CH150)	1
31.	43342740	Cover		1
32.	43342757	Cover gasket		1
33.	43342815	Chain guard		1
34.	52060126	Screw	M8 x 20	4
35.	52460037	Oil control glass	R3/4"	1



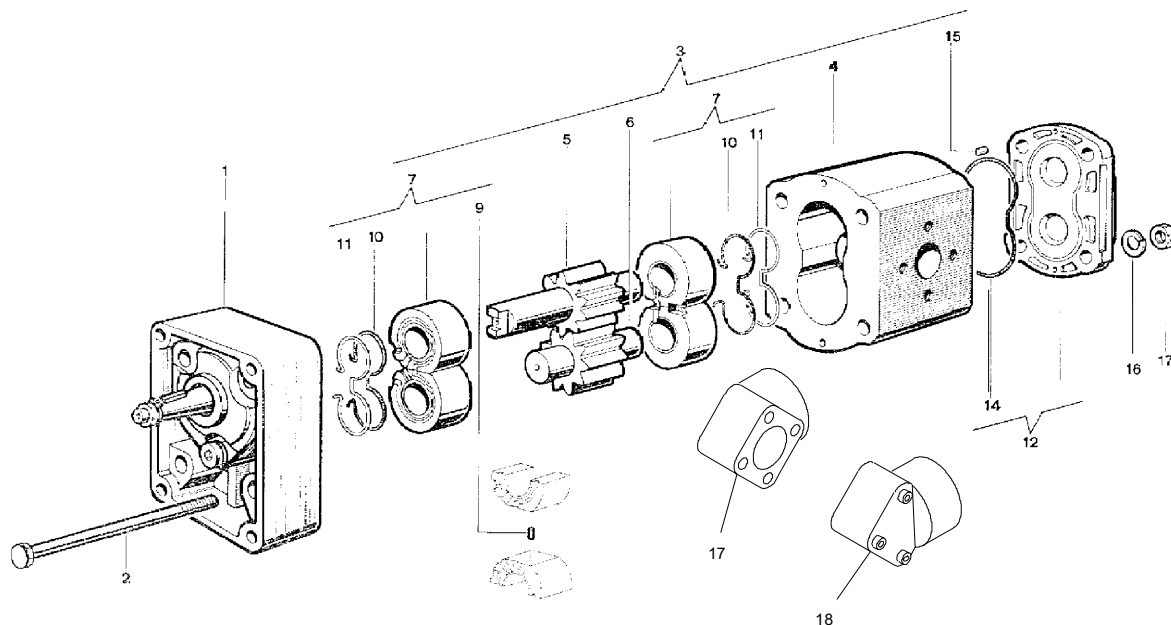


**HD 11****SPARE PARTS****FARMI®****03342599**
**Forest**  
Made in Finland

..... HD 11 Hydraulic unit

Part	Order no.	Description	Remarks	Qty.
36. ...	52060043	Screw	M6 x 25 DIN 933	2
37. ...	-	-	-	-
38. ...	52200219	Washer	SS22 x 32 x 2,0 DIN988	2
39. ...	-			
40. ...	-			
41. ...	03512470	Sprocket for HF160, HF150, compl.	Contains parts 41.1, 11, 12	1
41.1 ..	43512460	Sprocket for HF160, HF150	z= 19	1
42. ...	03512480	Sprocket for HF260, complete	Contains parts 42.1, 11, 12	1
42.1 ..	43342708	Sprocket for HF260	z= 30	1
43. ...	03512500	Sprocket for HF260B, complete	Contains parts 43.1, 11, 12	1
43.1 ..	43298130	Sprocket for HF260	z= 30	1

56025323 Pump, AP2/11



Part	Order. no.	Description	Remarks	Qty.
1.	57606923	Front plate		1
2.	52060498	Bolt	M10 x 1,5 x 120 DIN931	4
3.	57607020	Pump part		1
4.	57607046	Pump housing		1
5.	57607053	Drive gear		1
6.	57607061	Free gear		1
7.	57606980	Bearing kit		2
8.	-	-	-	-
9.	57606998	Bearings guide pin		2
10.	-	Shaped seal		2
11.	-	Seal holder		2
12.	57607004	Back plate	Incl. part 14	1
13.	-	-	-	-
14.	-	Seal ring		1
15.	57607012	Housing guide pin		2
16.	52211042	Washer	10x1,5x8 DIN934	4
17.	58205113	Flange	Tank side	1
18.	58205105	Flange	Pressure side	1
19.	52358025	Seal kit	Incl. parts: 10,11,14	



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## LIMITED WARRANTY

Valby products are warranted to be free from defects in materials and workmanship for 12 months from the date of purchase, or one month from in-service, whichever is longer. The warranty covers parts replacement only. The free replacement of parts is exclusive. The manufacturer is not liable for any incidental or consequential damages. No labor costs are included. This warranty does not cover defects resulting from:

- \* misuse of the product
- \* inadequate maintenance or
- \* modifications of the product.

The warranty is effective only, if the lower portion of this card is completed and returned to the importer within 14 days of receipt of the product.

**IMPORTANT:** Do not operate your machine without reading the operators manual! If the operators manual was lost, a new manual can be obtained from importer (write address below or call 607-589-6160).



**normet**



**NORTHEAST IMPLEMENT CORP.**

476 Halsey Valley Road  
SPENCER, NEW YORK 14883

Date of delivery \_\_\_\_ / \_\_\_\_ 20 \_\_\_\_

Dealer: \_\_\_\_\_

Dealer's address: \_\_\_\_\_

Tel: \_\_\_\_\_

Customer: \_\_\_\_\_

Customer's address: \_\_\_\_\_

Tel: \_\_\_\_\_

Product: \_\_\_\_\_

Serial No: \_\_\_\_\_

Notes: \_\_\_\_\_



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**74510 Peltosalmi**  
**Finland**  
**Tel. +358-17-83241**  
**Telefax +358-17-823606**

Return to the manufacturer:

Date of delivery \_\_\_\_ / \_\_\_\_ 20 \_\_\_\_

Dealer: \_\_\_\_\_

Dealer's address: \_\_\_\_\_

Tel: \_\_\_\_\_

Customer: \_\_\_\_\_

Customer's address: \_\_\_\_\_

Tel: \_\_\_\_\_

Product: \_\_\_\_\_

Serial No: \_\_\_\_\_

Notes: \_\_\_\_\_



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