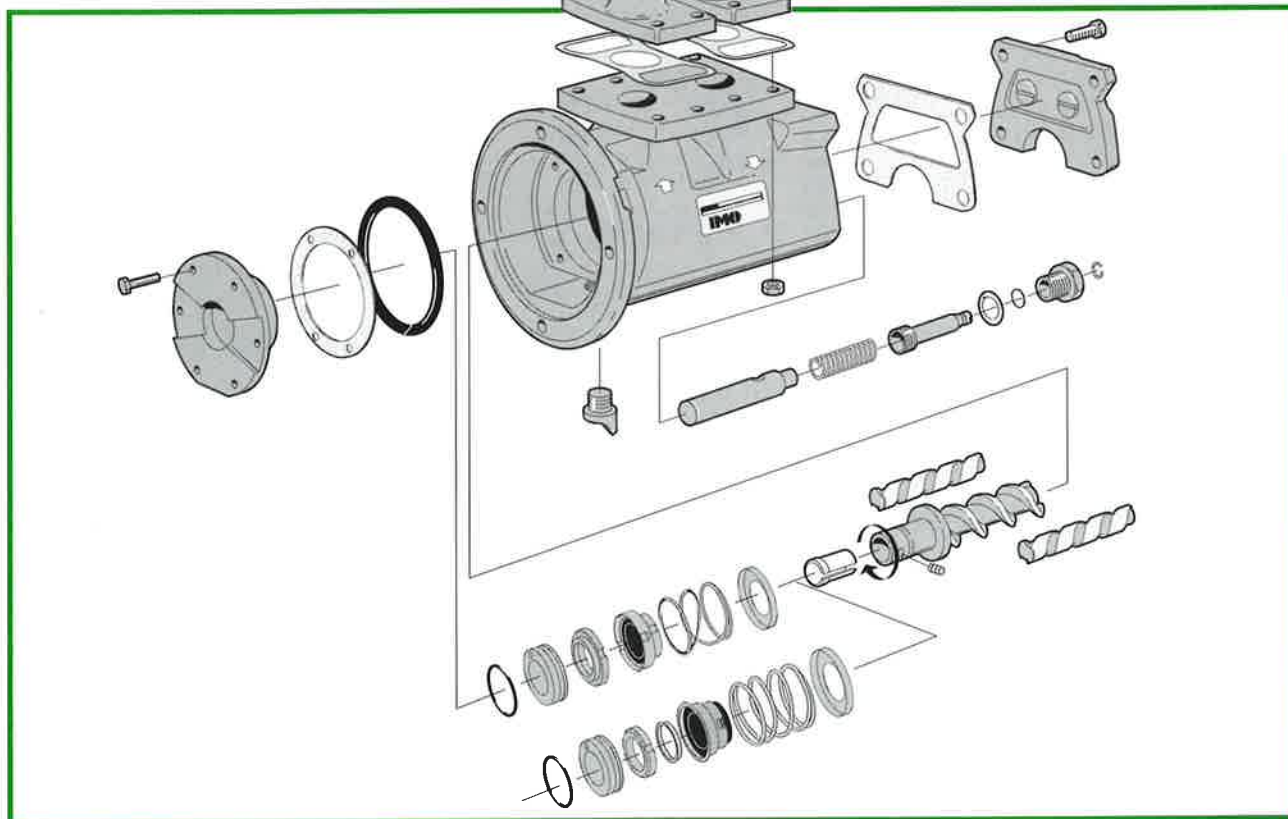




# Screw pumps

## ACD series

### Maintenance and Service Instruction



Types of pumps	This instruction is valid for all ACD pump models shown on page 2	
Contents	List of components	2
	Assembly drawing/Ordering code	3
	Inspection	4
	Sectional view/List of tools	5
	Changing shaft seal	6
	Pressure relief valve	11

**⚠ Before commencing any work, read this instruction carefully! Failure to comply with these instructions may cause damage and personal injury!**

For more information about the pumps identification code, technical data and performance we refer to the ACD Product description.

Fore more information about the pumps installation, start-up and trouble shooting we refer to the IMO Installation and Start-up instruction for low pressure pumps.

## List of components

Valid for all ACD pumps, size 025. Rotor lead & Generation: L6/N6

With version codes:  $\left. \begin{matrix} I \\ N \end{matrix} \right\} \left. \begin{matrix} T \\ V \end{matrix} \right\} \left. \begin{matrix} B \\ \end{matrix} \right\} \left. \begin{matrix} P \\ \end{matrix} \right\}$  The version code is composed of the letters in the 4 columns.

Example of pump designations std: ACD 025L6 IVBP

Pos No	Denomination	Quantity	Spare parts set:					Remarks
			G012 Rotor set	G050 Shaft seal	G053 Minor kit	G054 Major kit	G057 Joint kit	
1020	Power rotor	1	x			x		1)
134	Locking screw	1	x		x	x	x	
162	Nylon sleeve socket	1	x		x	x	x	
202	Idler rotor	2	x			x		1)
401	Pump body	1						
416	Inlet flange	1						
417	Screw	8						
417A	Nut	8						
417B	Washer	8						
418	Gasket	1			x	x	x	
423	Gasket	1			x	x	x	
427	Outlet flange	1						
443	Drip nipple	1						
451	Screw	8						
501	Front cover	1						
506	O-ring alt. gasket	1			x	x	x	2)
509	Shaft seal	1		x	x	x		
551	Rear cover	1						
556	Gasket	1			x	x	x	
601	Valve cover	1						
602	Sealing washer	1			x	x	x	
605	O-ring	1			x	x	x	
612	Regulating screw	1						
612A	Set screw	1						
614	Valve piston	1						
615	Valve spring	1				x		

1) Delivered only as Rotor set G012.

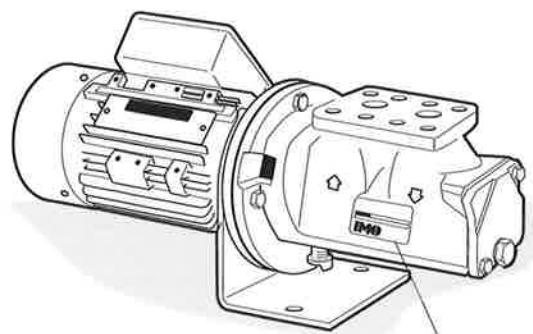
When ordering spare parts, please state the complete pump identification according to its name plate and required spare part set or the required parts position number.

2) The spare part set includes both O-ring and gasket see Fig. 11 page 7.

### ATTENTION

The o-ring is to be used in the version with o-ring. The gasket is to be used in the version with gasket.

**Never fit both o-ring and gasket in one pump!**



Name plate of the pump

# Exploded view

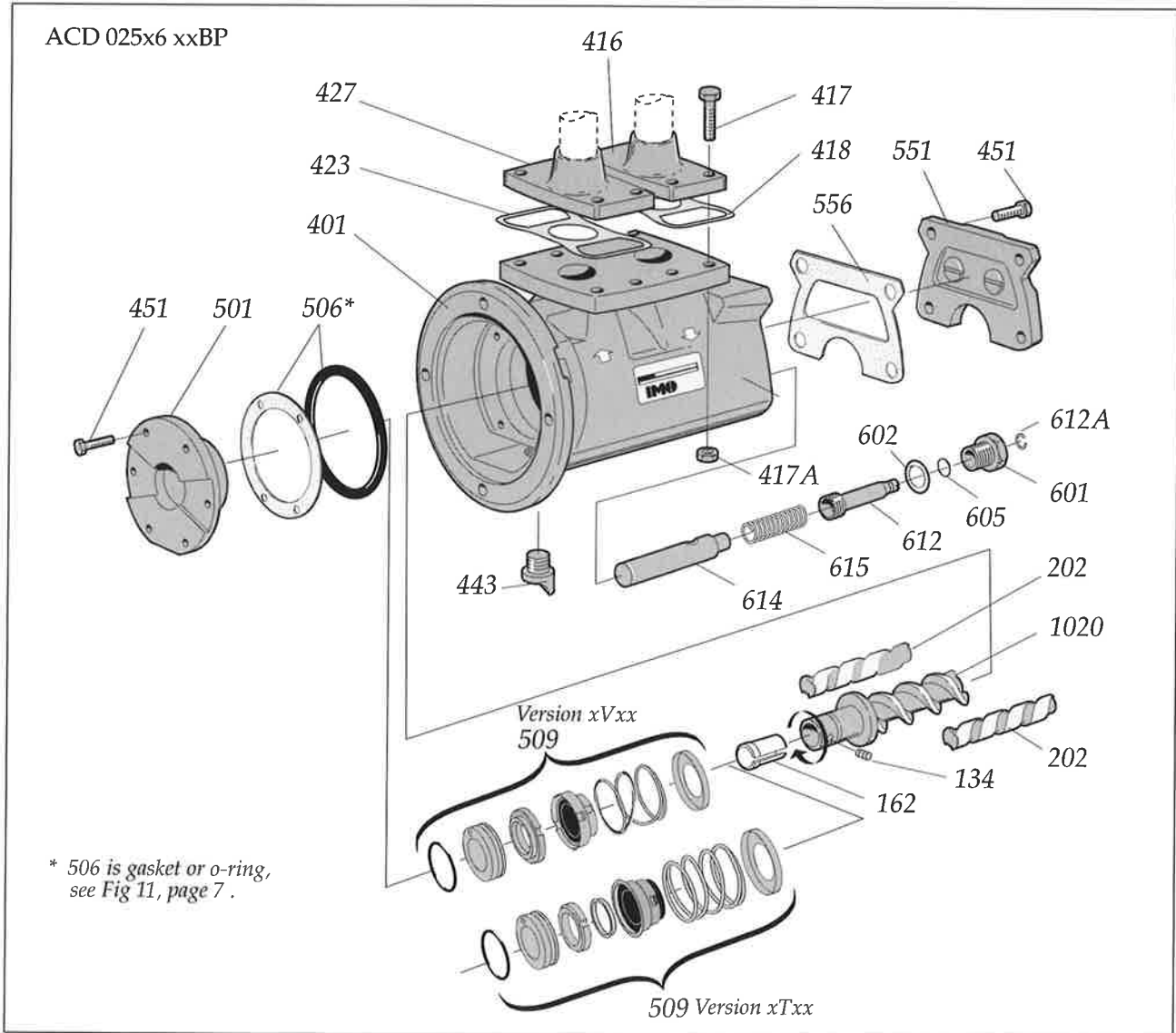


Fig.1

## Ordering code

Spare parts sets		Pump size	025	Recommendation:
<b>Pos No</b>	<b>Rotor set CW-rotation (std):</b>		<b>Part No</b>	For maintenance the following spare part sets are recommended:
G012	Normal lead	- pump form N6	062885	Set: / To be used:
	Low lead	- pump form L6	062893	<b>G057 Joint kit</b>
G050	Complete shaft seal	- version code xVxx	081323	For dismantling of the pump
		- version code xTxx	188805	
G053	Minor kit	= G050+G057		<b>G053 Minor kit</b>
G054	Major kit	= G012+G053+615		For service
G057	Joint kit		183681	<b>G054 Major kit</b>
615	Valve spring		018523	For repair after damage or greater wear.

Fig.2

### Ordering example:

For IMO-pump ACD 025L6 IVBP,  
serial number 456789:  
Shaft seal pos G050 p/n 081323  
Valve spring pos 615 p/n 018523

## Service intervals

The intervals for inspection and replacement of wear parts vary greatly with the properties of the pumped liquid and can only be determined by experience. All internal parts of the ACD-pump are lubricated by the pumped liquid. Pumping liquid which contains abrasive materials, or liquid that is corrosive, will significantly reduce service life and call for shorter service intervals.

Wear in the pump may be indicated by:

- Vibration
- Noise
- Loss of capacity
- Reduction in flow/pressure
- Leakage

In installations where unplanned shut downs must be avoided, it is advisable to have a complete pump available for replacement, should any malfunction occur. Furthermore we recommend planned inspection and overhaul at regular intervals, not exceeding 3 years.

It is recommended always to have the spares included in minor spare part kit available.

## Inspection of shaft seal

A visual inspection of the shaft seal is advisable at least every two days.


Excessively leaking shaft seals should be changed without delay.


## Inspection of rotors


If an indication of a worn pump is noticed (see service intervals above), a brief inspection of the idler rotors is recommended.


A quick inspection of the idler rotors can be made simply by removing the rear cover. Note that the driver must be deenergized and the pump hydraulically isolated before the rear cover is removed.


If a more thorough investigation is needed, proceed as under "Changing shaft seal".


 If the pumps operating temperature exceeds 60°C let the pump cool off before any service, maintenance or dismantling work is commenced to avoid burn injury.

 All work carried out on the pump has to be performed in such a manner that risks for personal injury are observed!

 When handling liquids that may harm skin use gloves and/or protective clothing.

 When handling liquids which may involve fire hazards appropriate precautions to avoid danger are to be taken.

 In case of failure for a system with elevated pressure, fluid jets may cause injury and/or damage.

 Oil leakage may make the floor slippery and cause personal injury.

# Sectional view

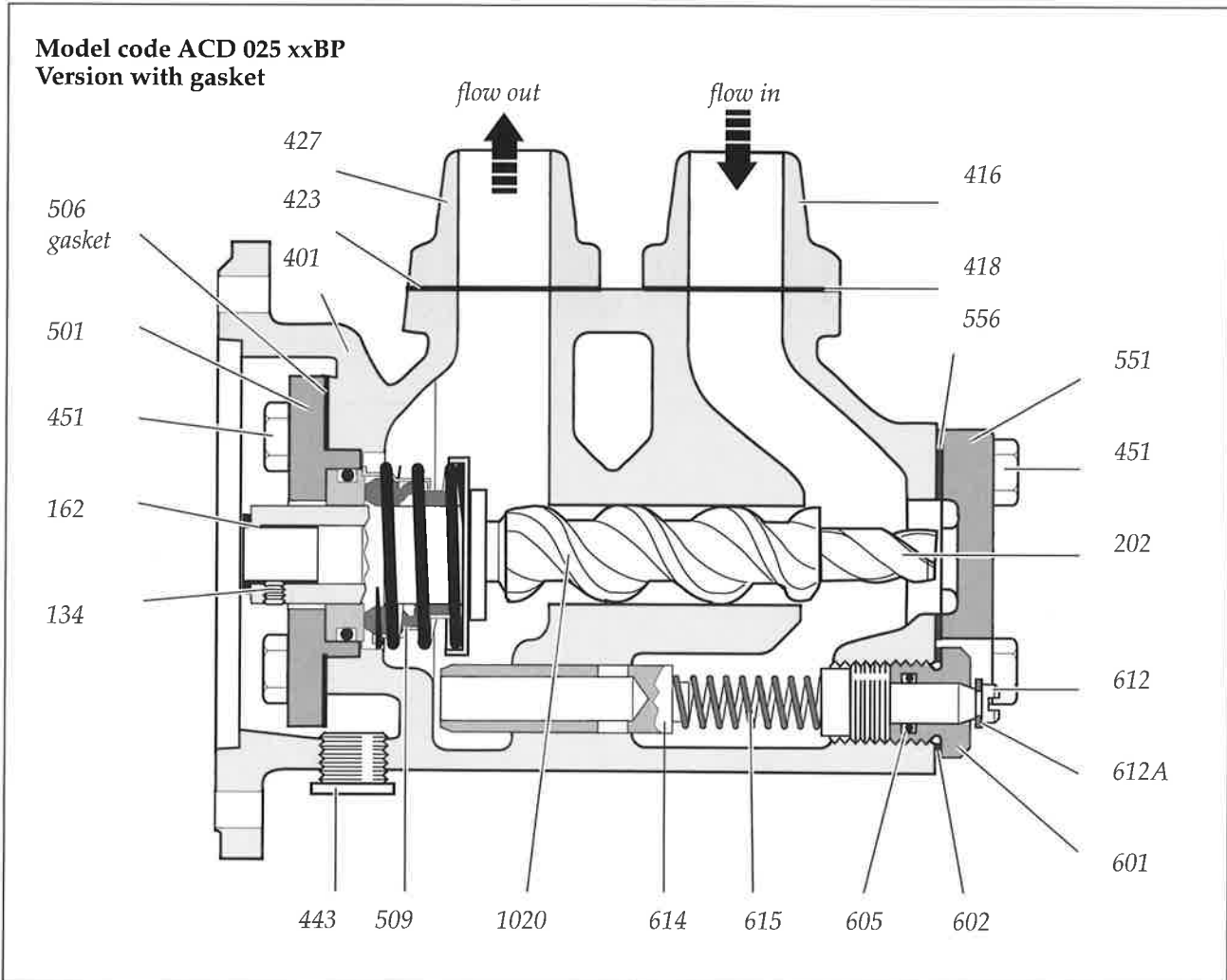


Fig. 3a

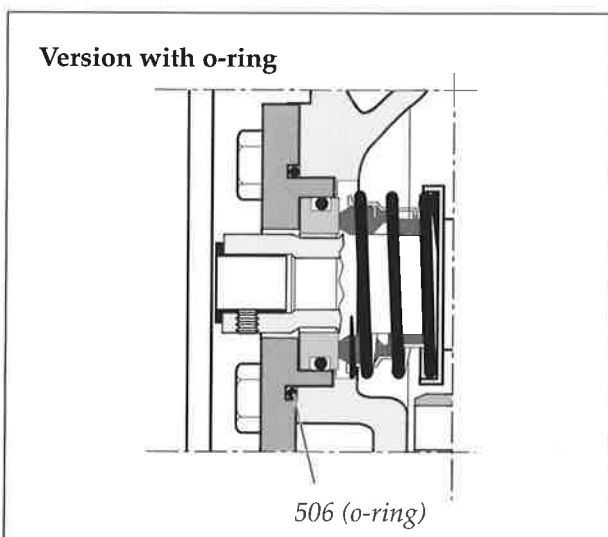


Fig. 3b

## List of tools

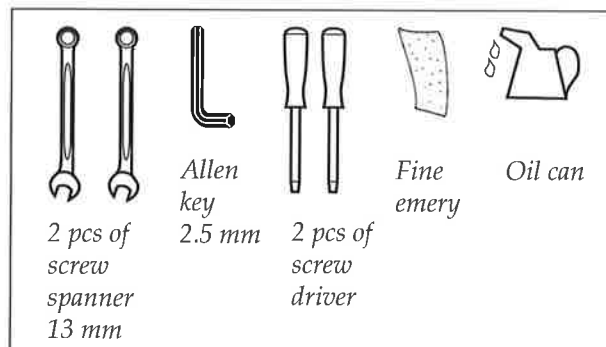


Fig.4

**⚠** Before any maintenance work, ensure that the driver is deenergized and the pump hydraulically isolated.

**⚡** Connecting and disconnecting of electric cables must be done only by personnel authorized to do such work.

# Changing shaft seal

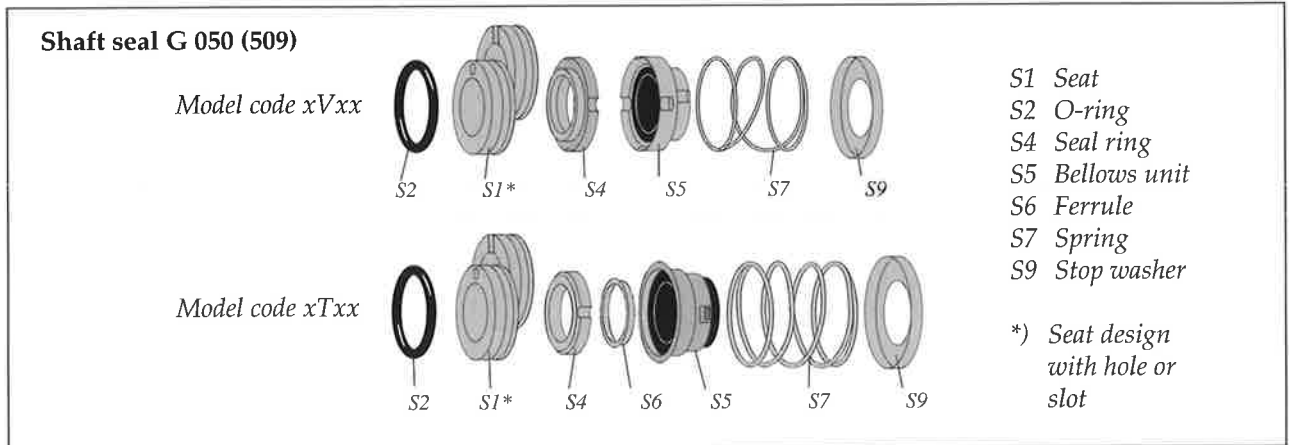


Fig. 5

## Dismantling

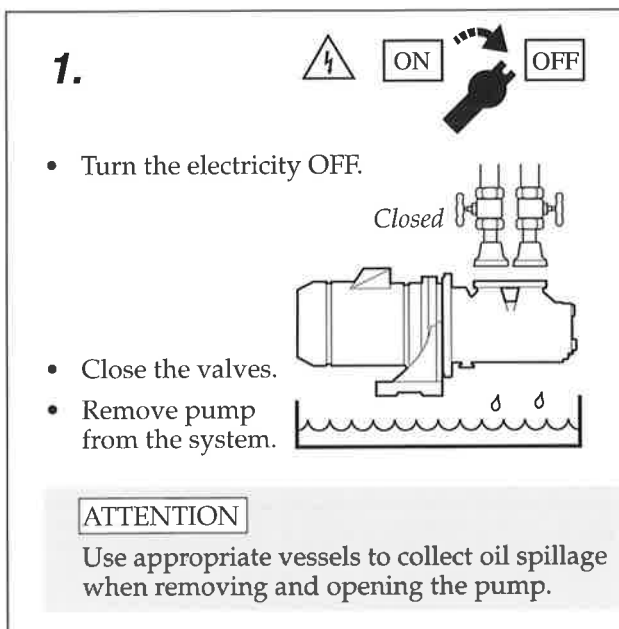


Fig. 6

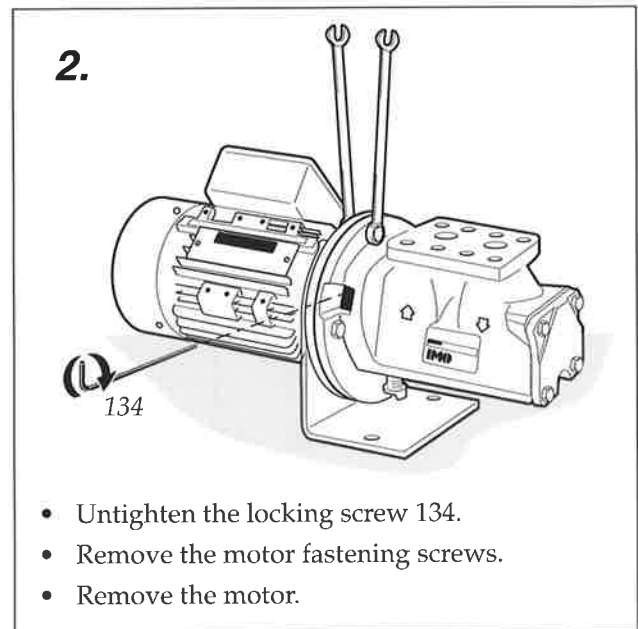


Fig. 7

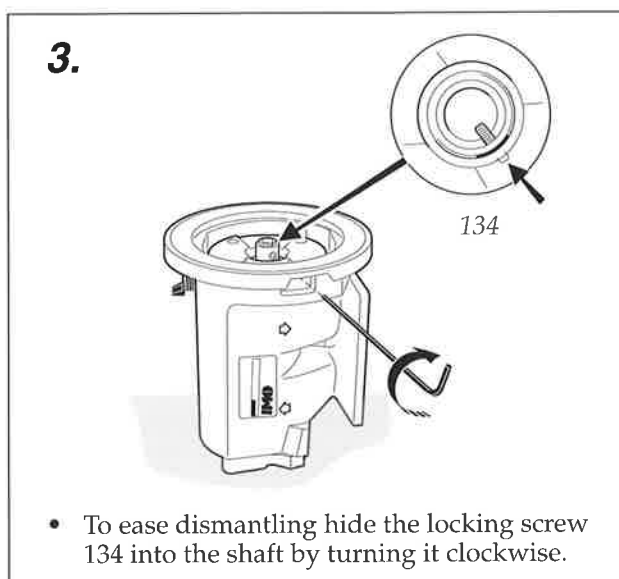


Fig. 8

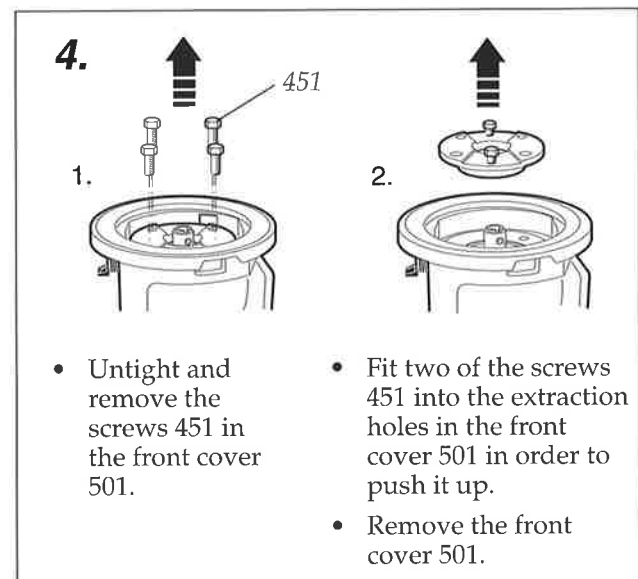


Fig. 9

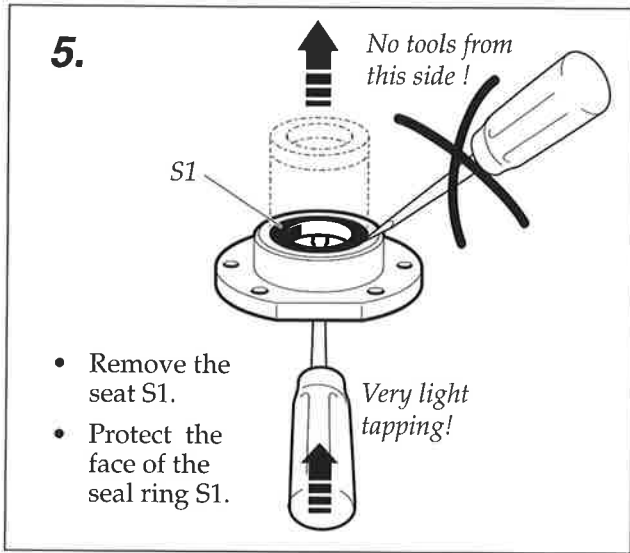


Fig.10

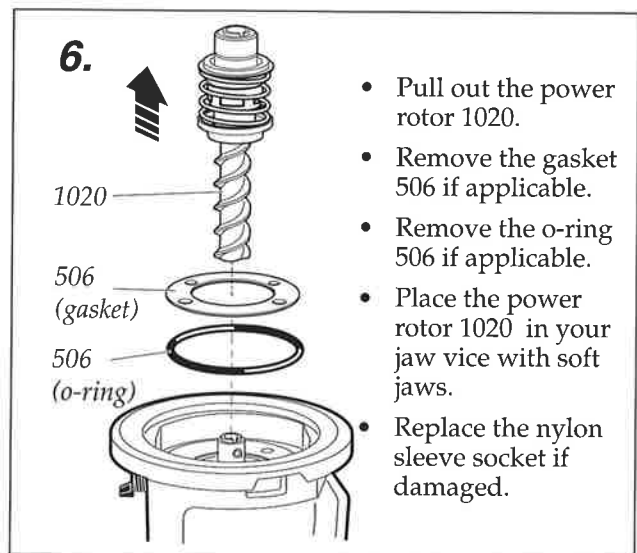


Fig.11

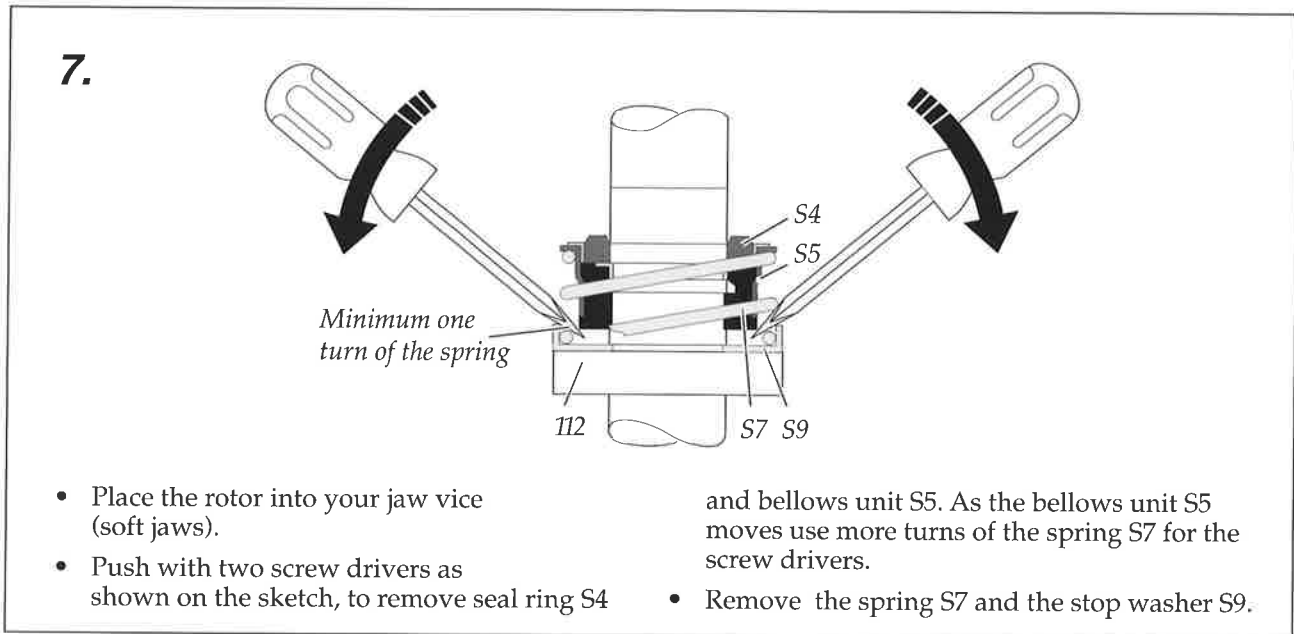


Fig.12

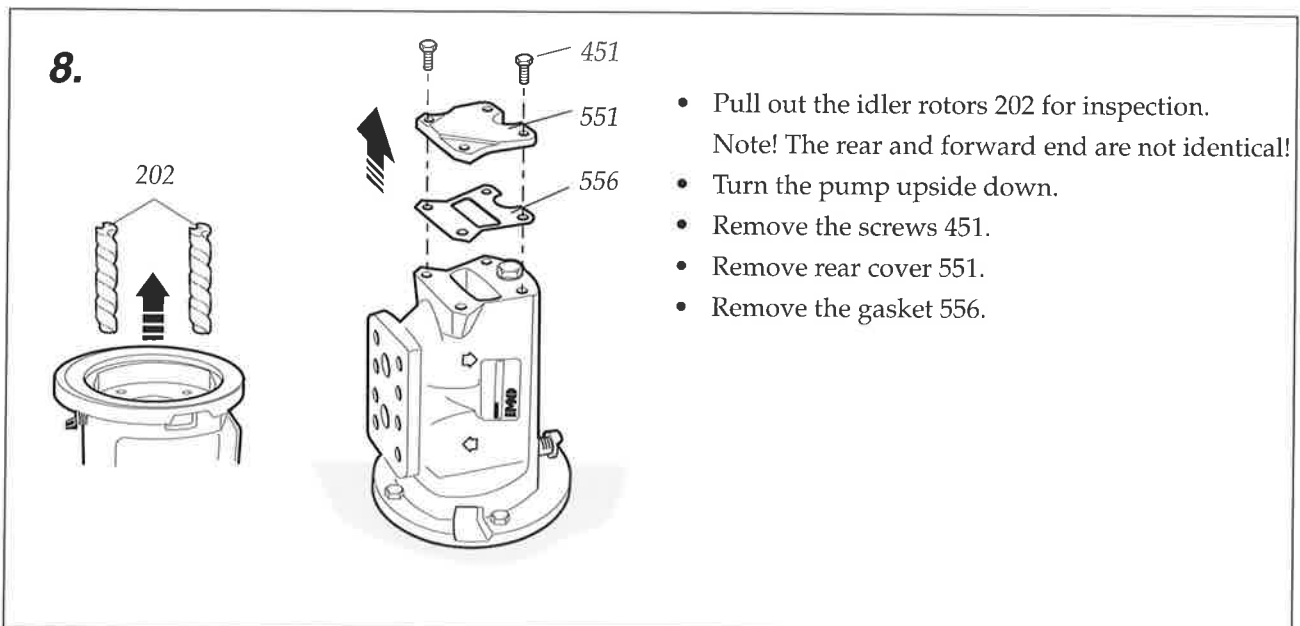


Fig.13

## Assembly

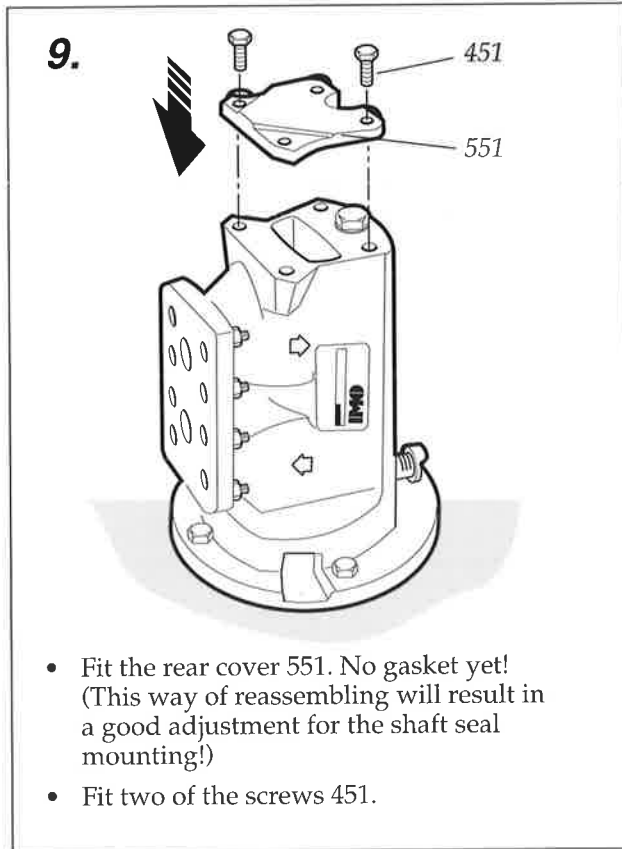


Fig. 14

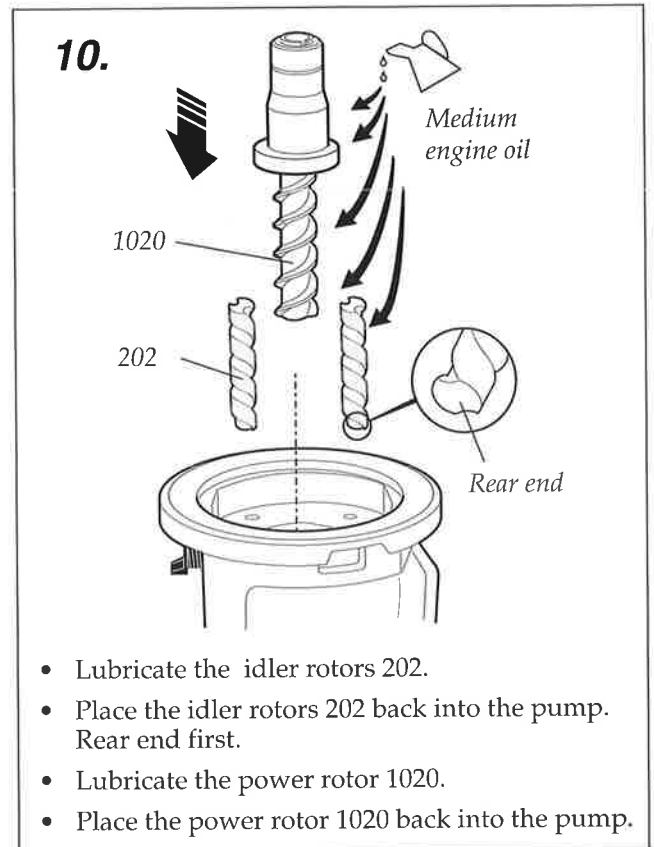


Fig. 15

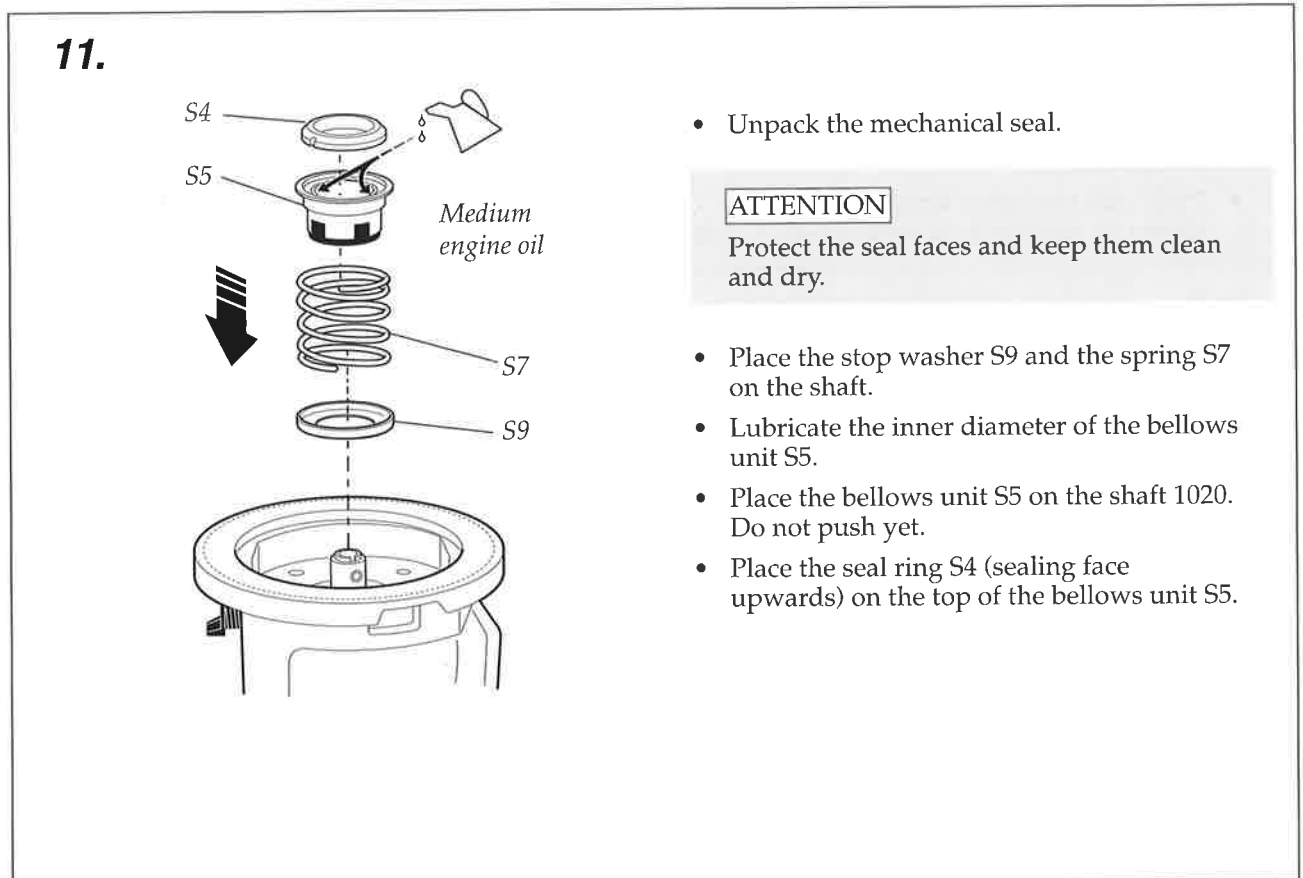
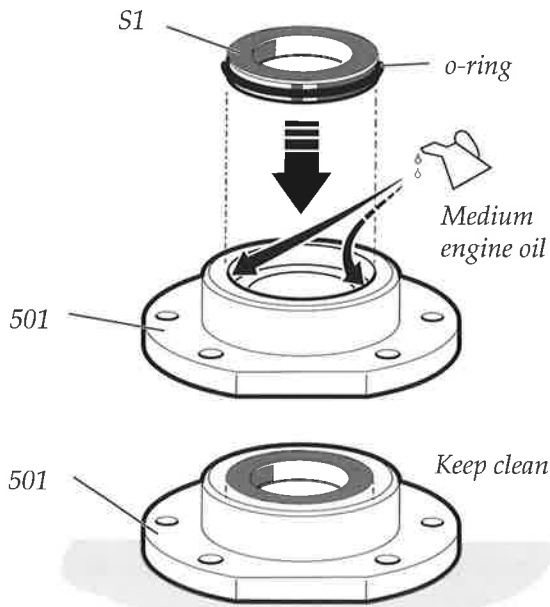


Fig. 16



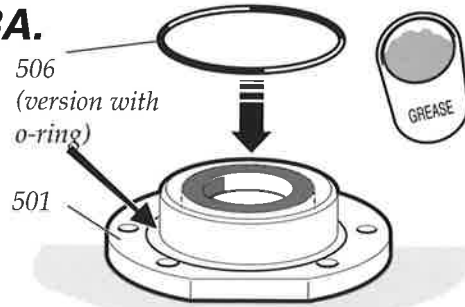
**12.**



- Lubricate the front covers 501 seat recess.
- Fit the seat into the front cover 501.

Fig. 17

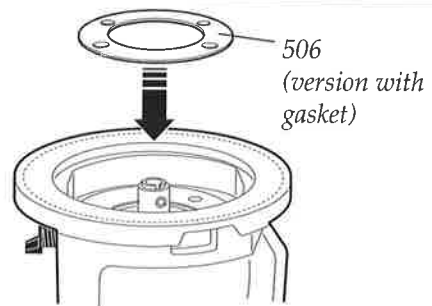
**13A.**



- Fit a new o-ring 506 in replacement for the old o-ring (see fig.3b). Lubricate the o-ring with grease in order that the o-ring is remaining in the front cover when turning it up-side down.

Fig. 18 A

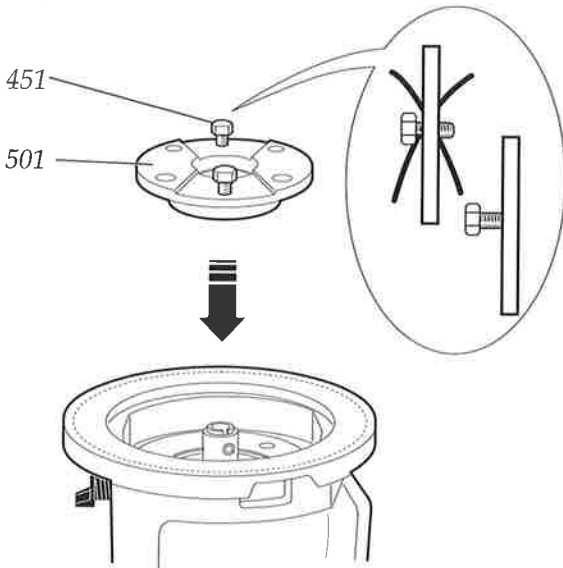
**13B.**



- Fit a new gasket 506 into place in replacement for the old gasket.

Fig. 18 B

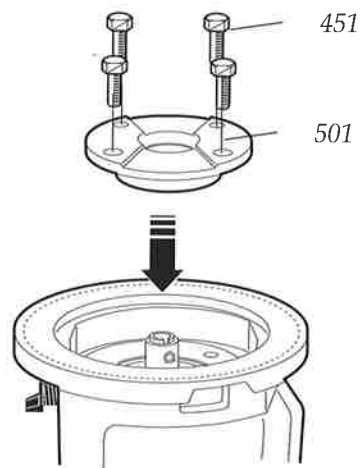
**14.**



- Untight the screws 451 until the end is inside the front cover 501 in order to not to damage the socket.

Fig. 19

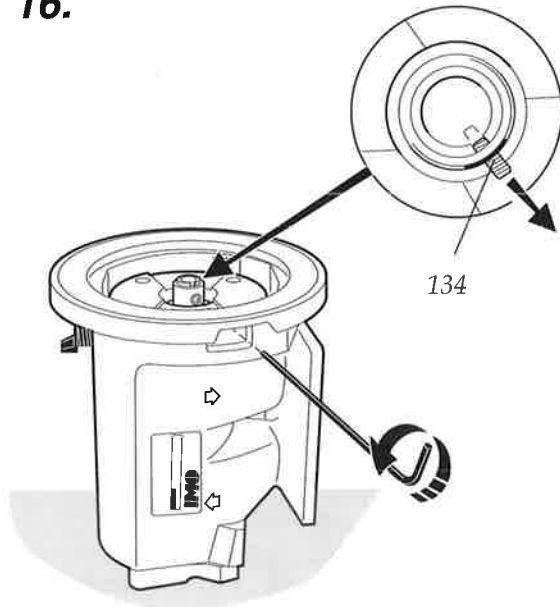
**15.**



- Fit the screws 451 and tighten them crosswise.
- Turn the front cover 501 assembly up side down and place it on the pump and push it tight against it.

Fig. 20

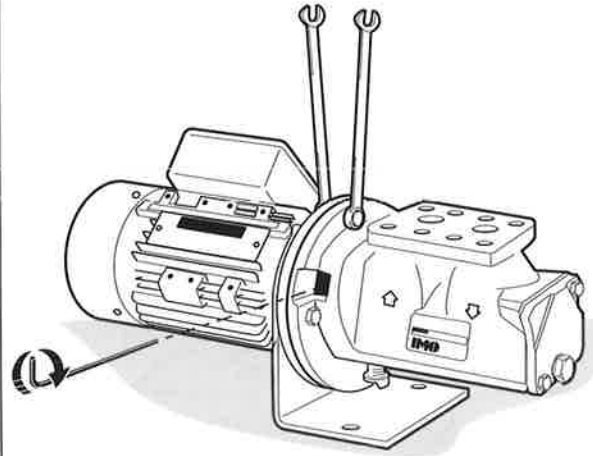
16.



- Adjust location of the locking screw 134 to the opening in the pump body 401.
- Turn the locking screw 134 so it fits into the motor shaft key slot.

Fig. 21

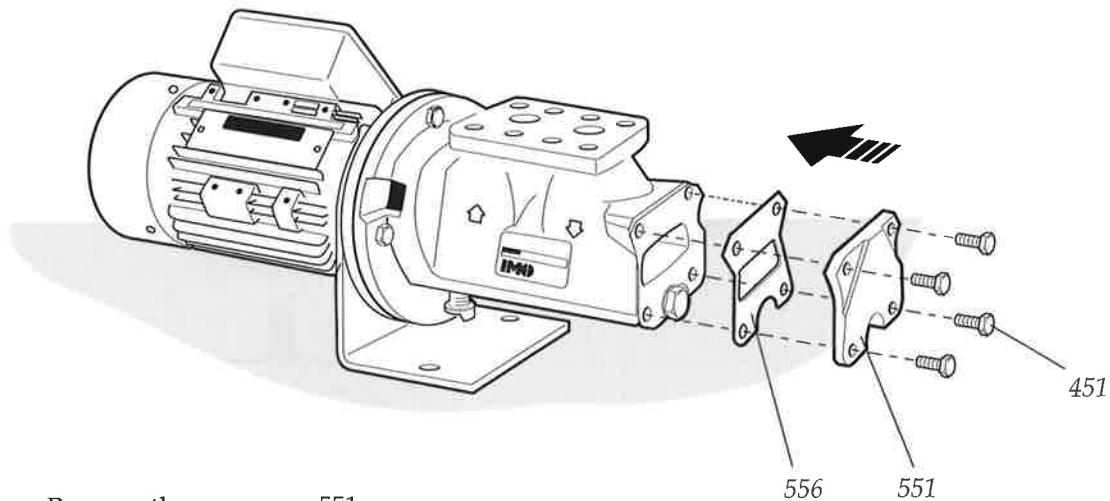
17.



- Fit the electric motor and make sure that the locking screw 134 has entered the motor shaft key slot.
- Tighten the motor fastening screws.
- Tighten the locking screw 134.

Fig. 22

18.



- Remove the rear cover 551.
- Fit the gasket 556 and put the rear cover 551 back in place.
- Tighten the screws 451 crosswise (24 Nm).
- Put the pump back into the system. Proceed according to the instructions in the IMO AB Installation and Start up instruction for low pressure pumps.

Fig. 23

## Pressure relief valve

- The valve piston 614 and valve spring 615 can be pulled out by unscrewing the plug 601. Should the set screw 612 need to be removed, (for instance to change o-ring 605) the retaining ring 612A must be removed first.
- Readjust the valve pressure according to the installation and Start-up Instruction for IMO Low pressure pumps.

 Spring tension.

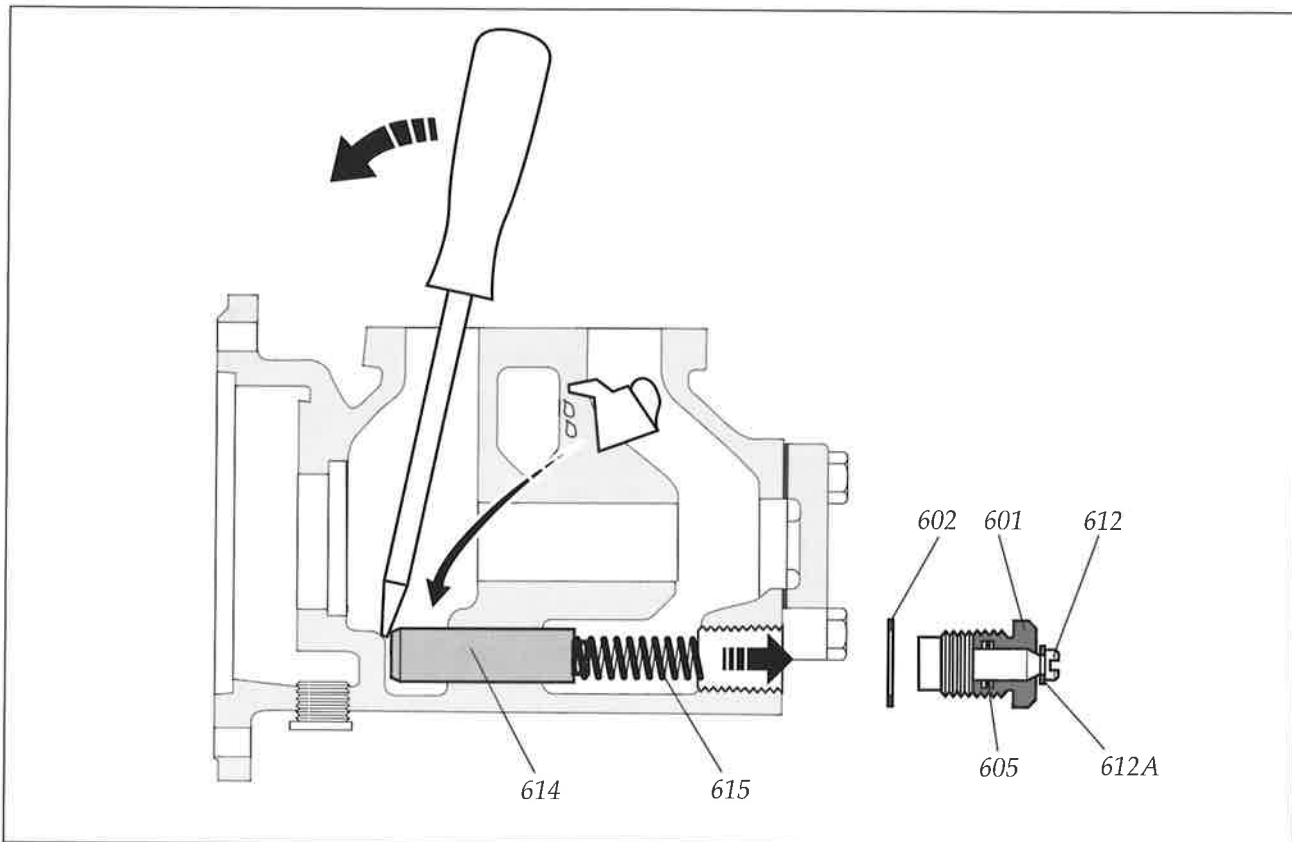


Fig. 24

- If the valve piston 614 does not come out by its own weight push it with a screw driver as far as possible and pull it out together with the valve spring 615.

If it is not possible to pull out the valve piston with the spring push it back again, lubricate and push it back and forwards until it moves freely and can be pulled out with the spring.

# Sales and Service

## **Australia**

Alfa Laval Eng. Pty. Ltd.  
Private Bag No. 40  
Post Office  
HOMEBUSH  
N.S.W. 2140  
Tel: 02-746 27 44  
Fax: 02-746 21 79

## **Austria**

See Switzerland

## **Belgium**

Alfa Laval NV  
Vosseschijnstraat 40  
Haven 140  
B-2030 ANTWERPEN  
Tel: 03-541 17 17  
Fax: 03-541 80 27

## **Bulgaria**

Alfa Laval International  
Engineering AB  
P.O. Box 54  
Dobri Voinikov Street 19  
1000 SOFIA  
Tel: 02-492 11 93  
Fax: 02-492 11 94

## **Canada**

Imo Industries (Canada) Inc.  
1401 Meyerside Drive, Unit A  
MISSISSAUGA,  
Ontario L5T 1G8  
Tel: 905-564 33 44  
Fax: 905-564 35 77

## **Croatia**

Alfa Laval Separation AB  
Marine & Power Division  
Postfach 182  
Lamezanstrasse 17  
A-1232 WIEN  
Tel: 01-67 75 11 (316)  
Fax: 01-615 53 64 (325)  
(Marine Sales)

## **Denmark**

Alfa Laval A/S  
Kronalvej 7  
DK-2610 RÖDOVRE  
Tel: 042-84 28 00  
Fax: 042-84 11 41

## **Finland**

Alfa Laval Oy  
P.O.B. 51 (Luotejsrinne 4C)  
FIN-02271 ESPOO  
Tel: 90-804 28 42  
Fax: 90-804 041

## **France \***

GEC Alsthom Bergeron  
SCAM-IMO Pump Dept.  
10-12, Av des Olympiades  
F-94134 FONTENAY SOUS  
BOIS CÉDEX  
Tel: 01-43 94 86 00  
Fax: 01-43 94 22 95

## **Germany**

IMO Pumpen  
Postfach 1228  
D-32678 BARNTRUP  
Tel: 05263-3067  
Fax: 05263-3096

## **Greece**

Alfa Laval AEBE  
262 Messoghion Avenue  
GR-15562 CHOLARGOS  
Tel: 01-652 32 01  
Fax: 01-652 55 14

## **Hong Kong/P.R.C.**

Alfa Laval (Hong Kong) Ltd.  
P O Box 47112  
Morrison Post Office  
HONG KONG  
Tel: 857 70 00  
Fax: 834 90 32

## **Hungary**

Alfa Laval Kft  
Postfach 16  
Béké Tér 4  
2040 BUDAÖRS  
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Fax: 01-185 22 13

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Heatly & Gresham (India) Ltd.  
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P.T. Controls System  
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3rd Fl Cilandak  
JAKARTA 12560  
Tel: 021-780 78 81-3  
Fax: 021-780 78 79

## **Italy**

Imo Industries s. r. l.  
IMO AB Sales office  
Via Corregio, 19  
I-20149 MILANO  
Tel: 02-480 086 15  
Fax: 02-480 139 28

Pompe Garbarino S.p.A.

Via San Lazzaro, 3  
I-15011 ACQUI TERME (AL)  
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Fax: 0039-144-552 60  
(Marine Sales)

## **Korea**

Taehwa Industry Ltd.  
P.O. Box 596  
Tongwoon bldg, room 907  
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Dong Ku  
PUSAN  
Tel: 51-463 66 31  
Fax: 51-463 66 32  
(Marine Sales)

## **Netherlands**

A. De Jong T.H.B.V.  
Postbus 11001  
NL-3004 EA ROTTERDAM  
Tel: 010-446 06 00  
Fax: 010-415 38 50

## **Norway**

Alfa Laval AS  
P O Box 162-Skøyen  
N-0212 OSLO 2  
Tel: 022-50 11 00  
Fax: 022-50 78 75

## **Poland**

Alfa Laval Polska Sp.  
Ul. Zgoda 8  
81-361 GDYNIA  
Tel: 058-21 89 23  
Fax: 058-21 89 38

## **Romania**

Alfa Laval International  
Engineering AB  
Olimpului 30  
Sector 4  
75111 Bucharest  
Tel: 013-37 08 71  
Fax: 013-378 28 03

## **Singapore**

Imo Industries Inc  
30, Pioneer Road  
SINGAPORE 2262  
Tel: 861 07 41  
Fax: 861 35 65  
(Industrial Sales)

## **Switzerland**

IMO-Pumpen AG  
Schürlistr. 8  
CH-8344 BÄRETSWIL/ZH  
Tel: 01-939 29 69 /70  
Fax: 01-939 29 71

## **United Kingdom \***

Weir Pumps Ltd.  
Cathcart Works  
GLASGOW G44 4EX  
Tel: 041-637 71 41  
Fax: 041-637 73 58

## **USA**

Imo Industries Inc.  
IMO Pump Division  
P O Box 5020  
MONROE, N.C. 28110-0527  
Tel: 704-289 65 21  
Fax: 704-289 92 73

\* By IMO AB authorized manufacturer  
of the Original IMO Screw Pumps.



**IMO AB:** P.O. Box 42090, S-126 14 Stockholm, Sweden. Telephone + 46 8 19 01 60  
Telex: 11548 IMO S, Telefax: + 46 8 645 15 09

**IMO AB SERVICE:** P.O. Box 185, S-551 13 Jönköping, Sweden. Telephone + 46 36 10 07 70  
Telefax: + 46 36 12 53 79

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