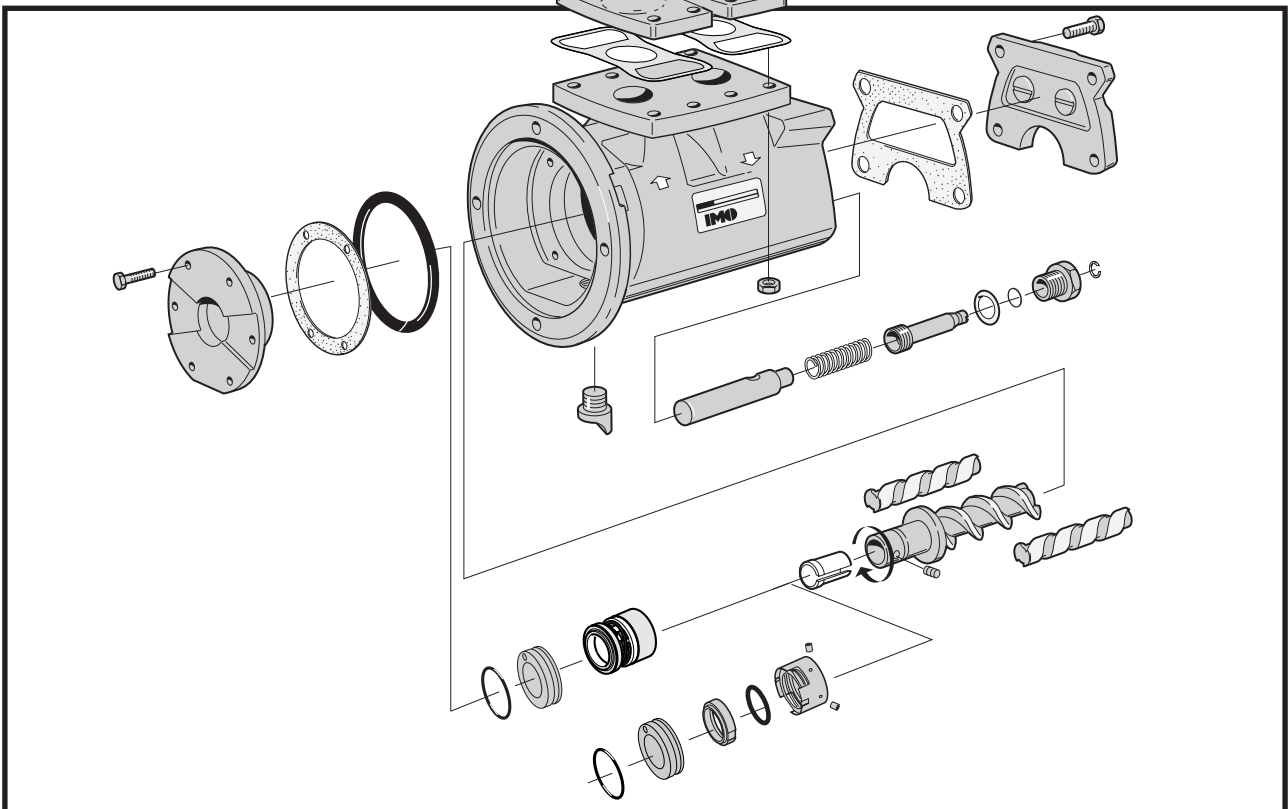


Maintenance and Service Instruction



This instruction is valid for all ACD pump models shown on page 2

| Contents | Page |
|---|------|
| List of components | 2 |
| Exploded view / Ordering code | 3 |
| Service intervals | 4 |
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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.

For 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 and Generation: L6/N6

With version codes:

I } T } B } P }
 N } V } }

The version code is composed of the letters in the 4 columns.

Example of pump designations std: ACD 025L6 IVBP

| Pos No | tity Denomination | Quan- G012 | Spare parts set: | | | | | Re- Joint kit | marks |
|--------|----------------------|---------------|----------------------|-----------------------|----------------------|----------------------|---|---------------------|-------|
| | | | G050 Rotor set | G053 Shaft seal | G054 Minor kit | G057 Major 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 | | | | | | | |
| 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 | Retaining ring | 1 | | | | | | | |
| 614 | Valve piston | 1 | | | | | | | |
| 615 | Valve spring | 1 | | | | | x | | |

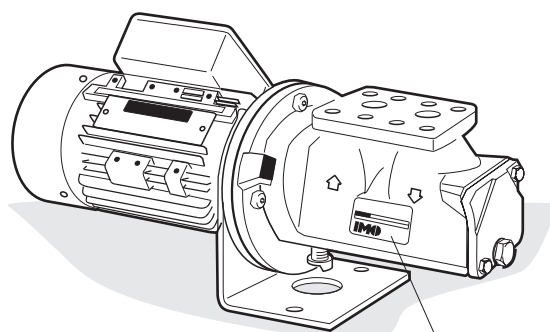
1) Delivered only as Rotor set G012.

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. 21 and 22 page 9.

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

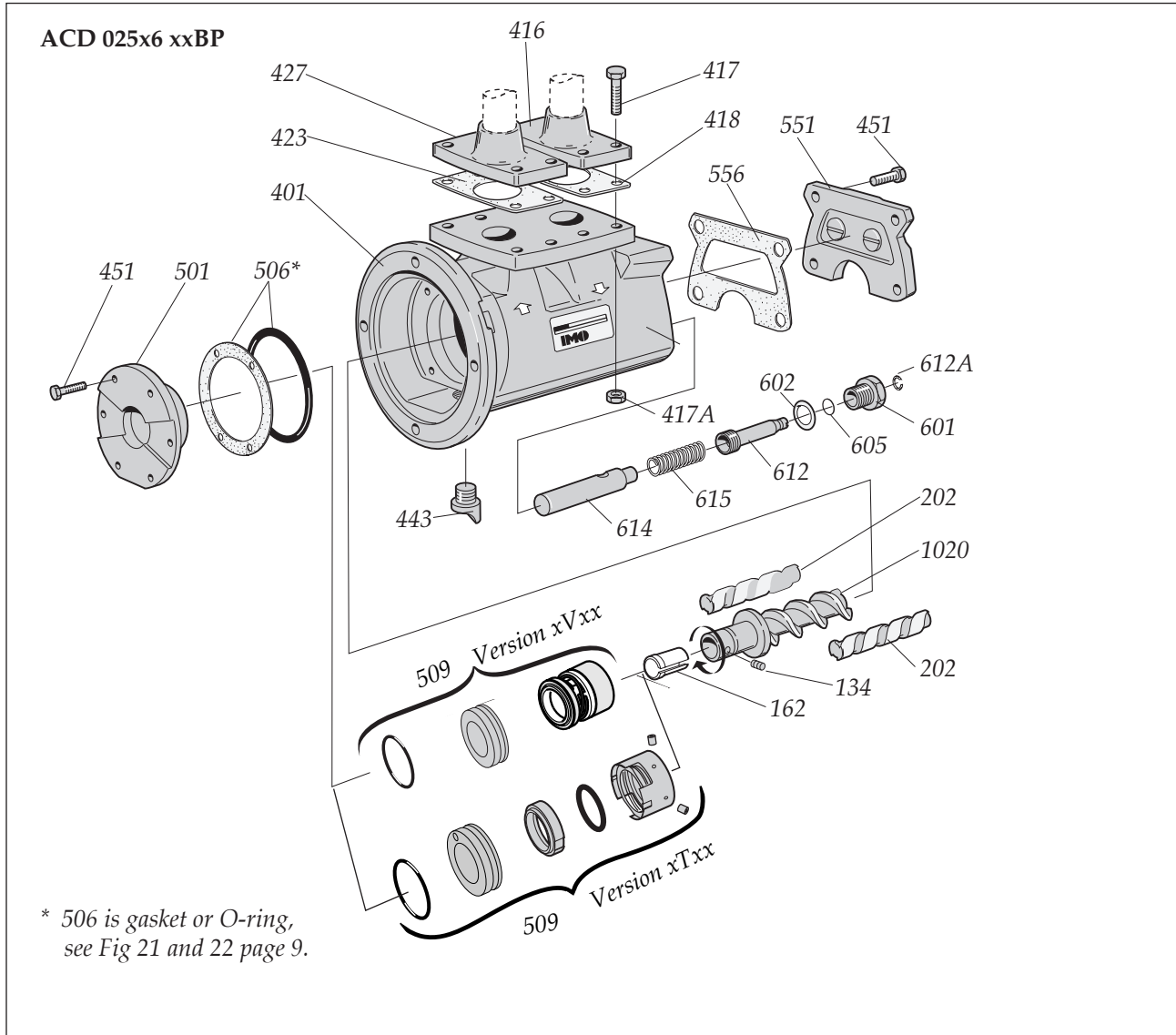


Fig. 1

Ordering code

| Pos No | Spare parts sets | Pump size 025 Part no |
|--------|--|-----------------------|
| G012 | Rotor set CW-rotation (std): | |
| | Normal lead - pump form N6 | 062885 |
| | Low lead - pump form L6 | 062893 |
| G050 | Complete shaft seal - version code xVxx - version code xTxx | 190848 190810 |
| G053 | Minor kit = G050+G057 | |
| G054 | Major kit = G012+G053+615 | |
| G057 | Joint kit | 183681 |
| 615 | Valve spring | 018523 |

Fig. 2

Ordering example:

For IMO-pump ACD 025L6 IVBP,
serial number 456789:

Shaft seal pos G050 p/n 190848
Valve spring pos 615 p/n 018523

Recommendation:

For maintenance the following spare part sets are recommended:

Set: / To be used:

G057 Joint kit

For dismantling of the pump.

G053 Minor kit

For service

G054 Major kit

For repair after damage or greater wear.

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

As the seal faces of a mechanical shaft seal are lubricated by the fluid a certain leakage will always be present. Ten drops per hour can be considered as acceptable.

An external visual inspection of the pump is advisable at least every two days to assure that the shaft seal is not leaking too much.

Excessively leaking shaft seals should be replaced without delay, as the leakage normally will grow worse and cause additional damage.

Follow the instructions in the dismantling/reassembly session.

When working with a shaft seal, cleanliness is of utmost importance. Avoid touching the seal faces.

If necessary, the seal faces should be cleaned immediately prior to assembly, using a dustfree cloth and clean solvent.

Never use grease on the seal faces.

O-rings

All O-rings found to be hard or damaged shall be replaced.



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.

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.

Internal clearances in the pump, which are vital for its proper function, may have been affected by wear.

Acceptable wear can be determined only by experience of the actual application. As a rule of thumb the following max clearance values may apply:

- Between rotor and bores or bushings: 0.2 mm
- Between rotor flanks: 0.4 mm

For light duties (low pressure, medium viscosity) even bigger clearances may be acceptable but for low visc./high pressure duties the limit will be lower.

Also check if there are major scratches on these parts.

If a more thorough investigation is needed, proceed as under "Dismantling and reassembly".

Sectional view

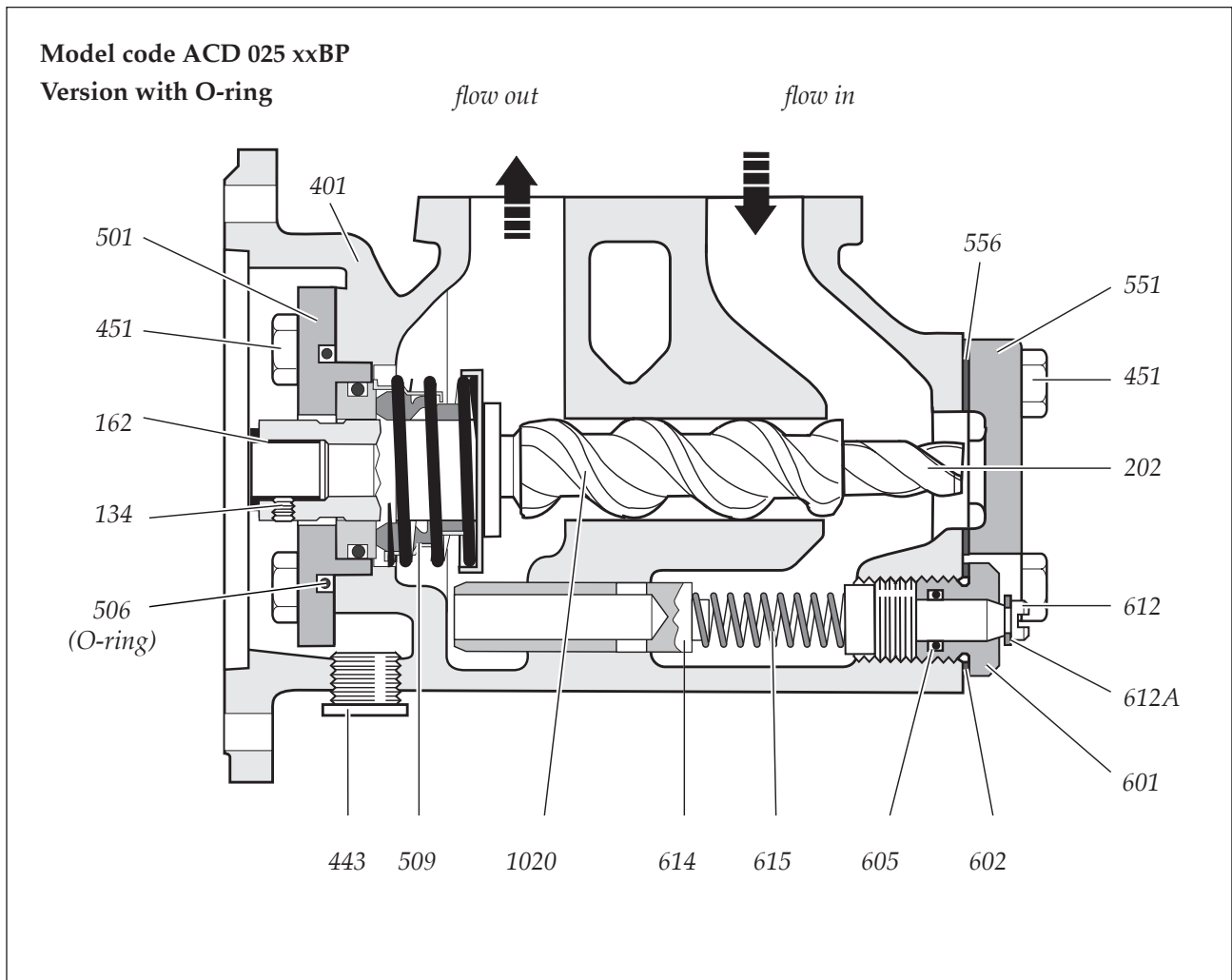


Fig. 3

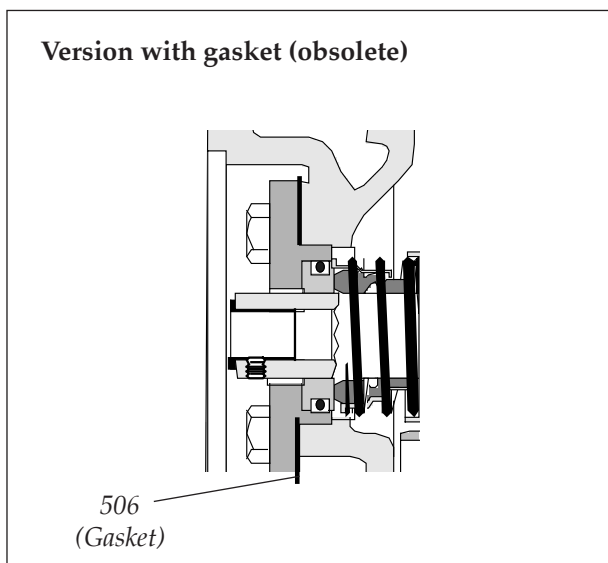


Fig. 4

Useful tools

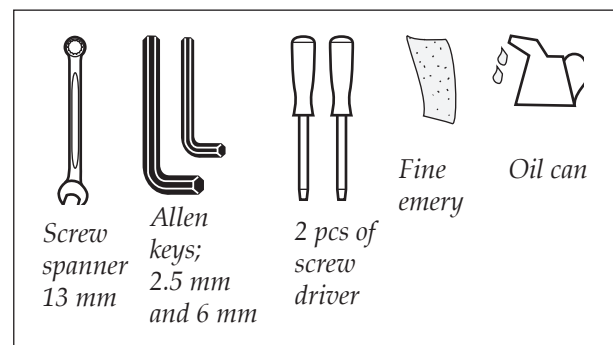


Fig. 5

! 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.

Shaft seal – assembly drawing

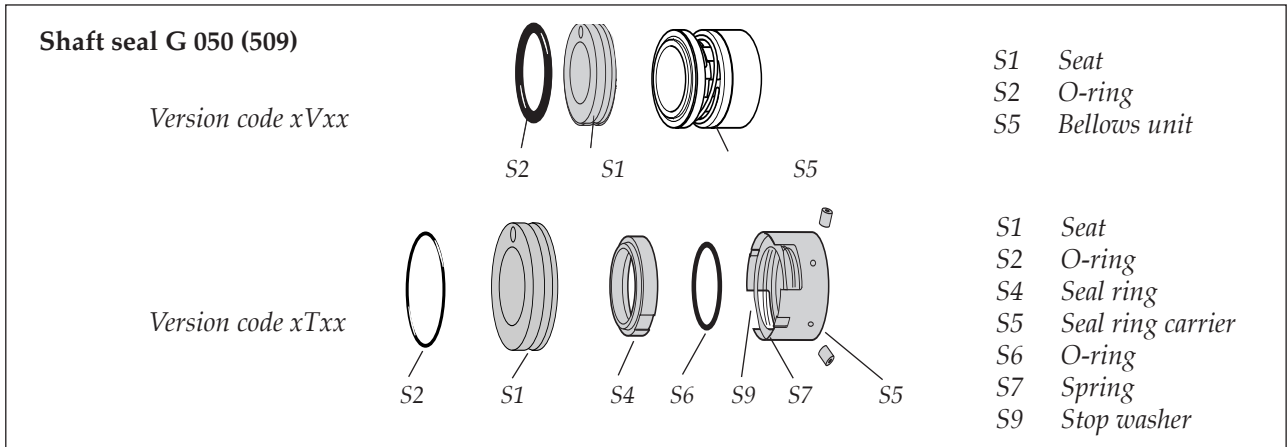


Fig. 6

Dismantling

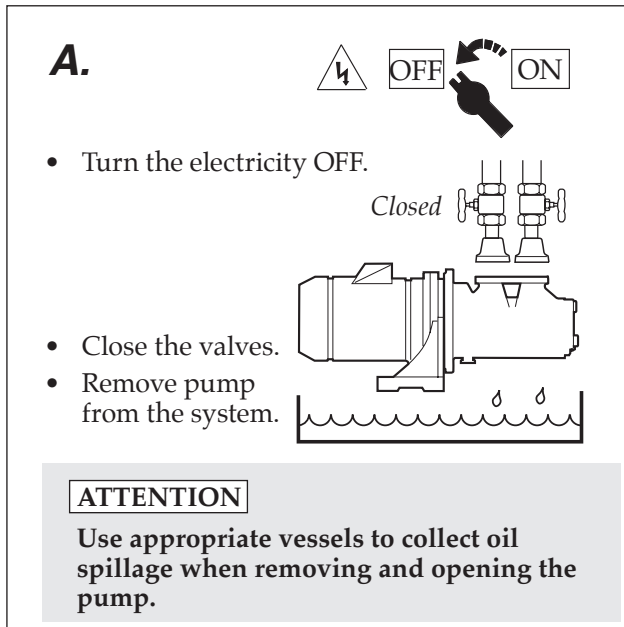


Fig. 7

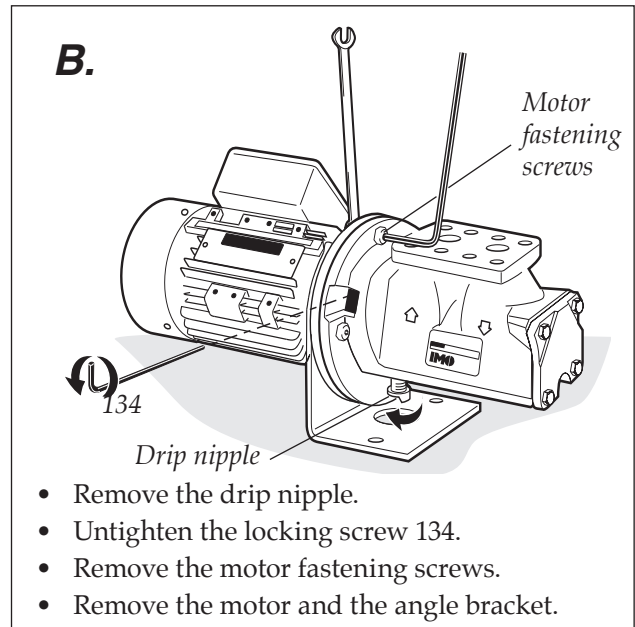


Fig. 8

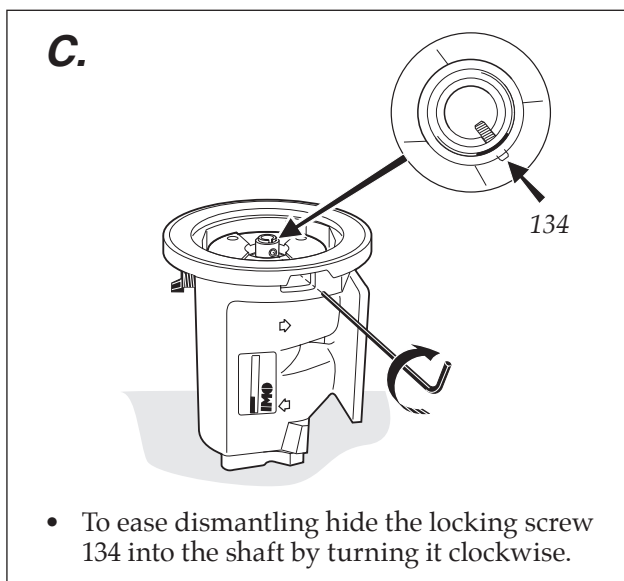


Fig. 9

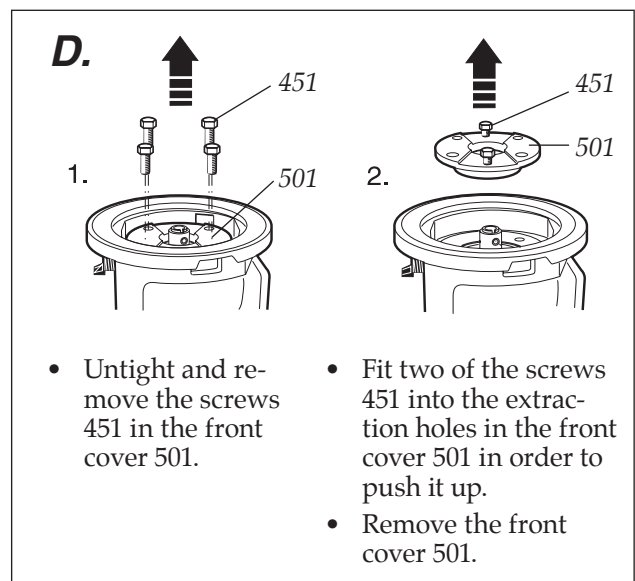


Fig. 10

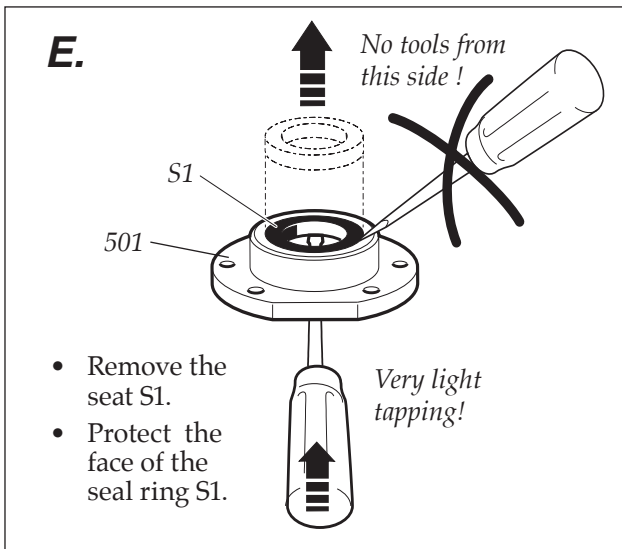


Fig. 11

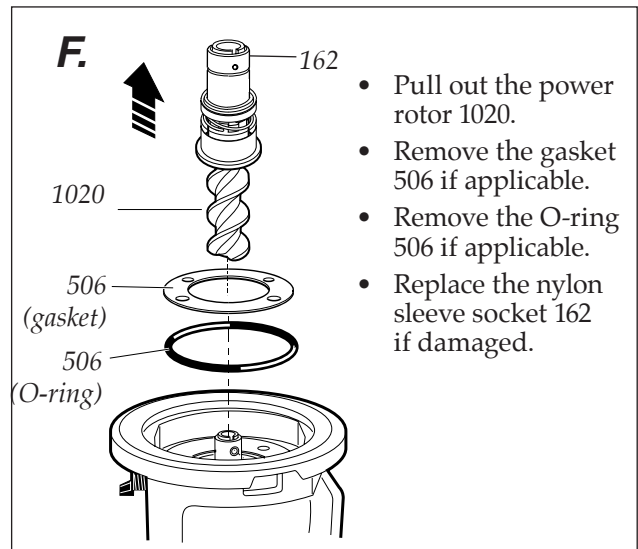


Fig. 12

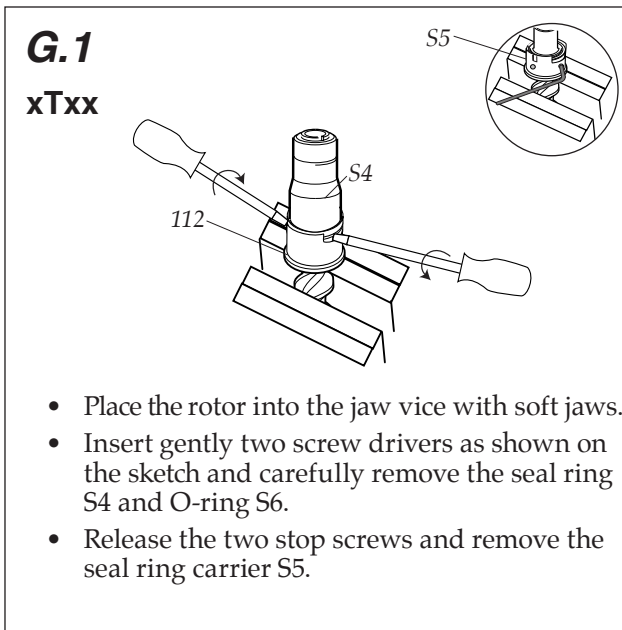


Fig. 13 A

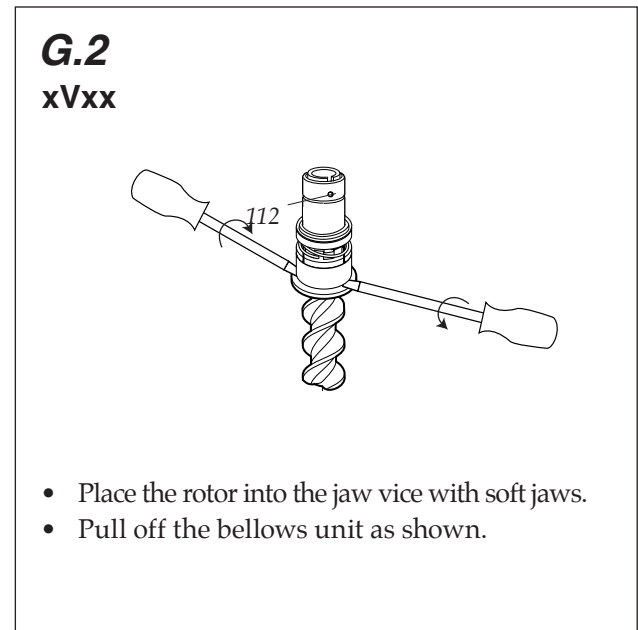


Fig. 13 B

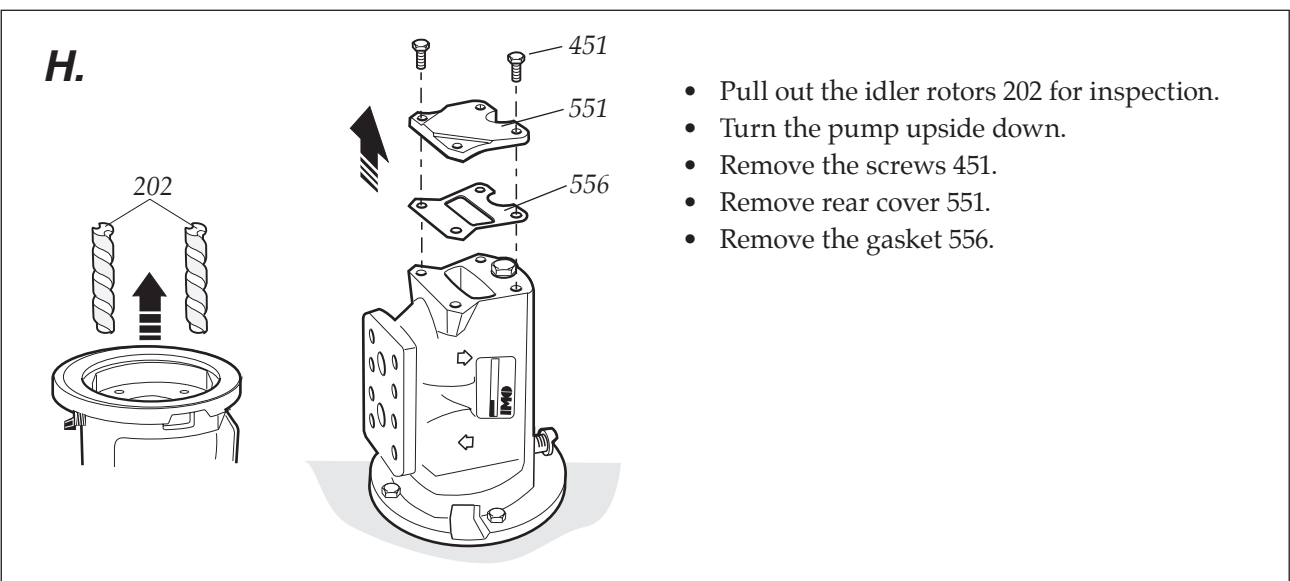


Fig. 14

Reassembly

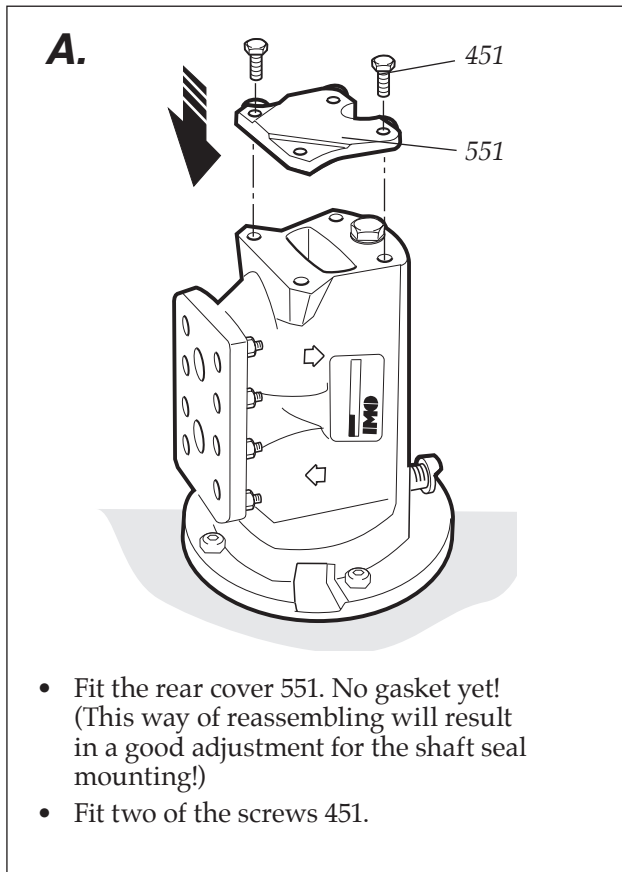


Fig. 15

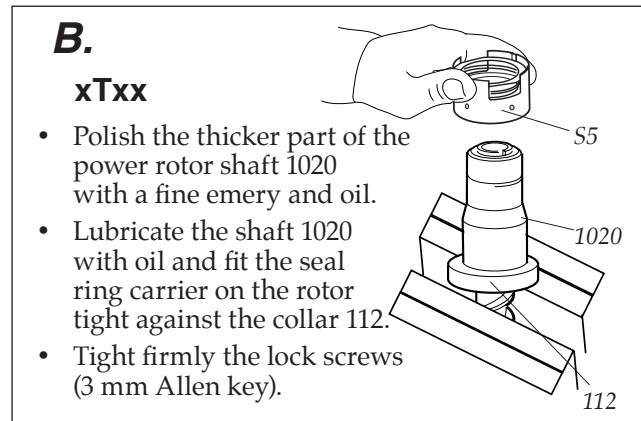


Fig. 16

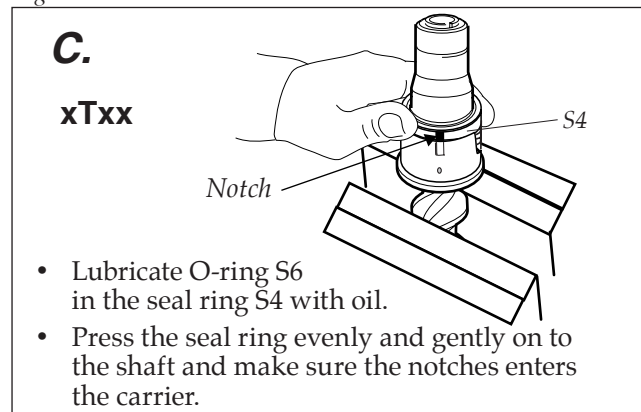


Fig. 17

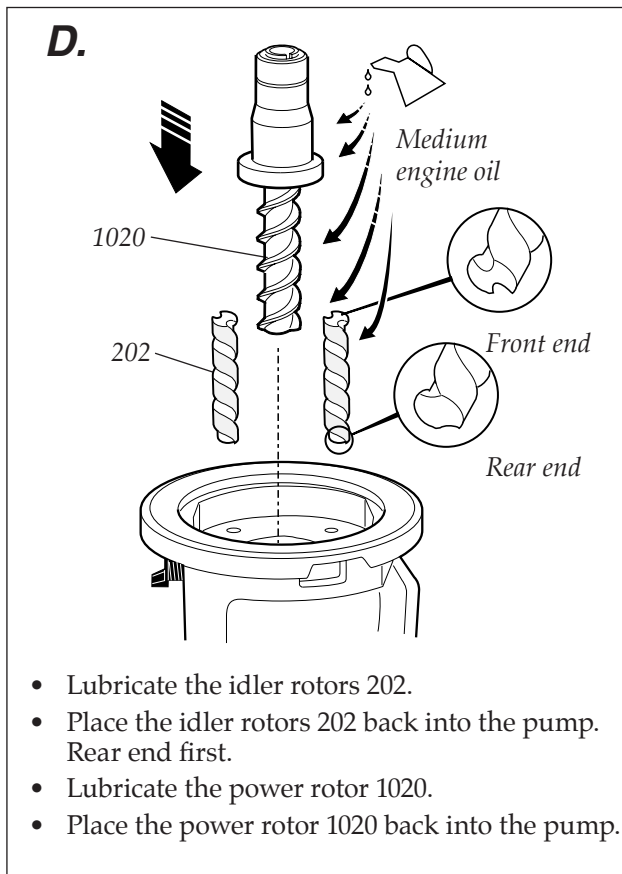


Fig. 18

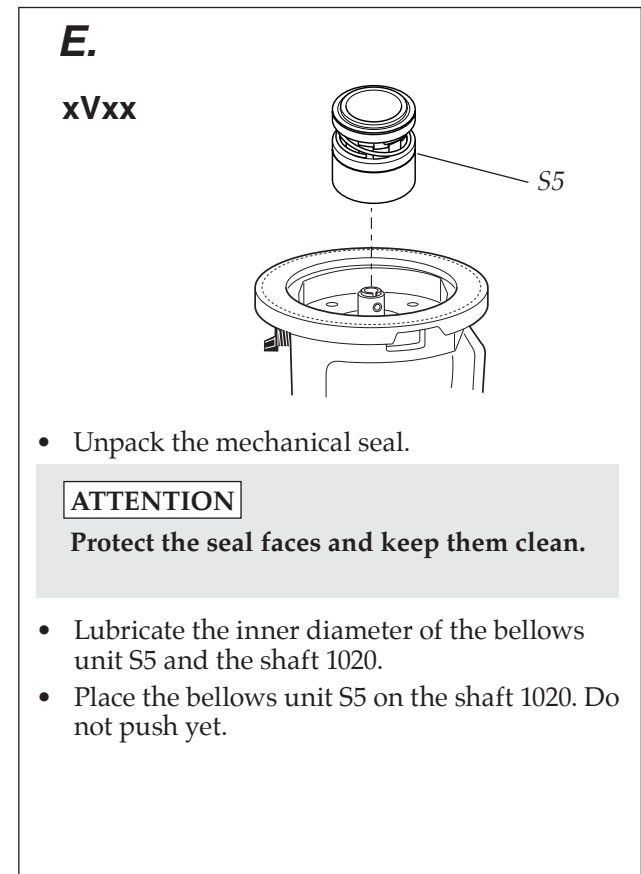


Fig. 19

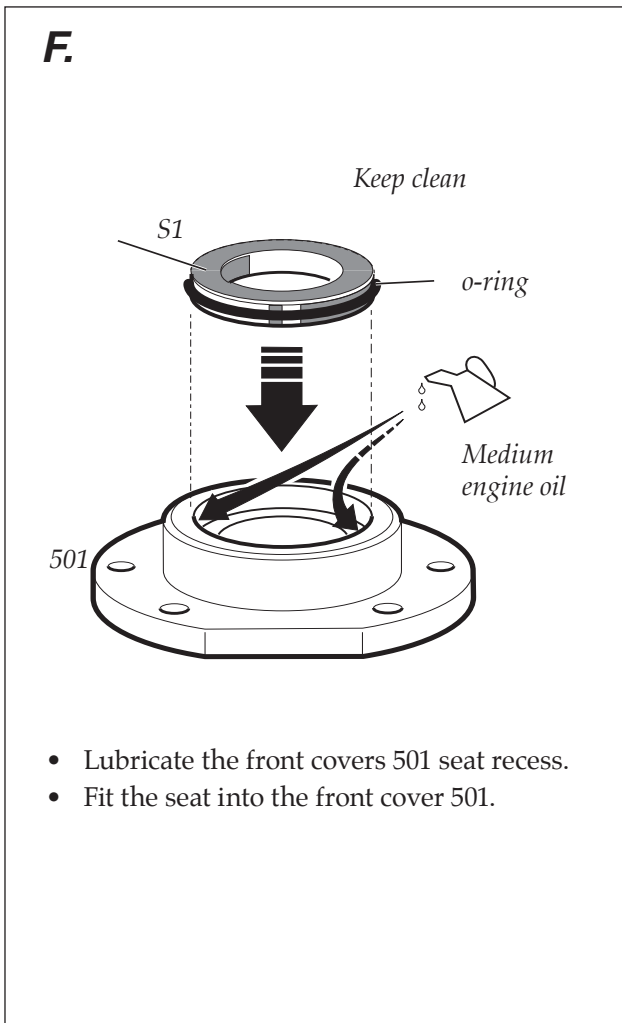


Fig. 20

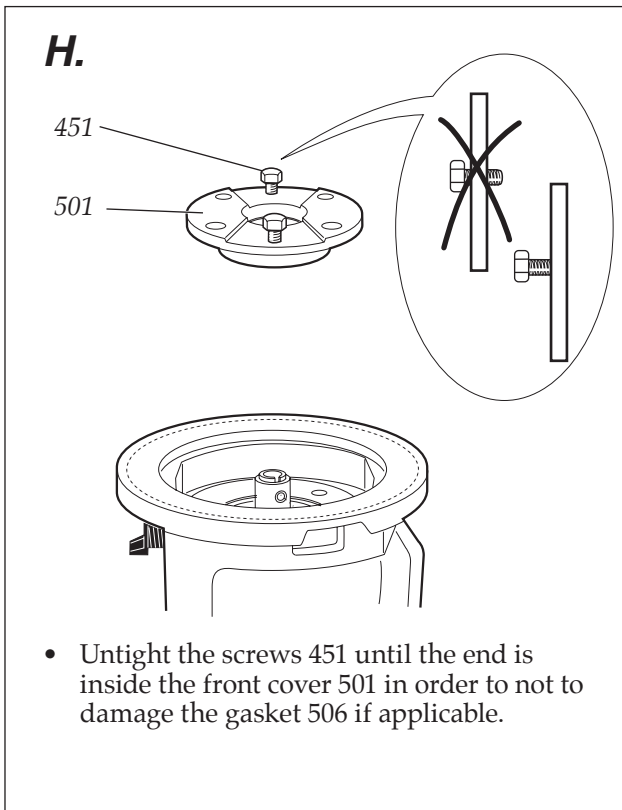


Fig. 23

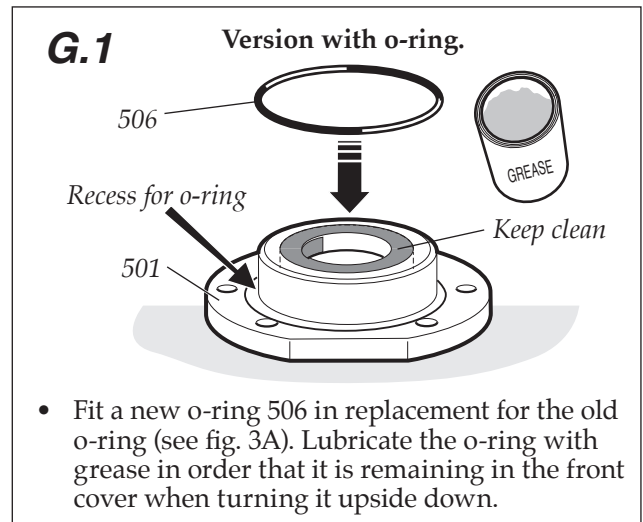


Fig. 21

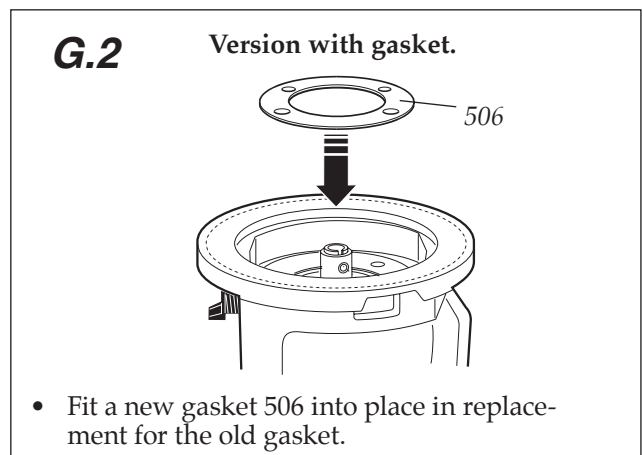


Fig. 22

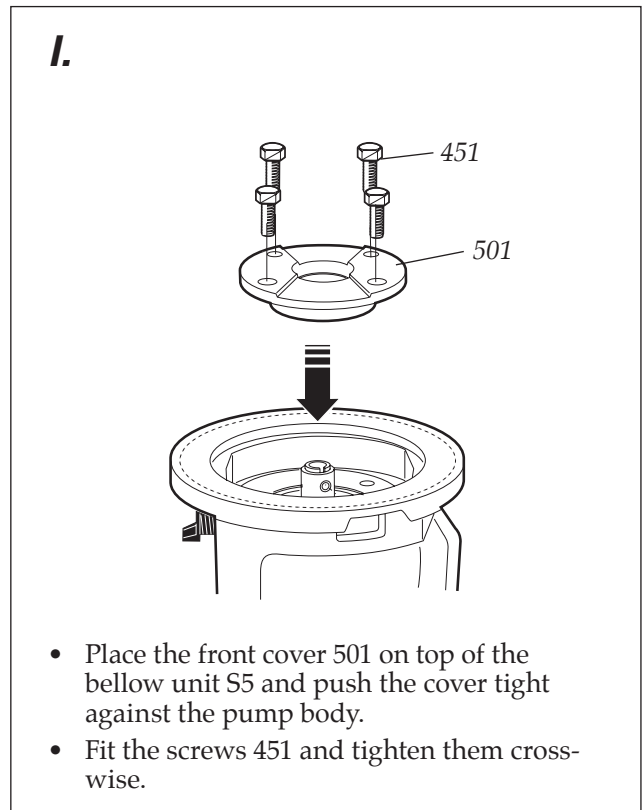


Fig. 24

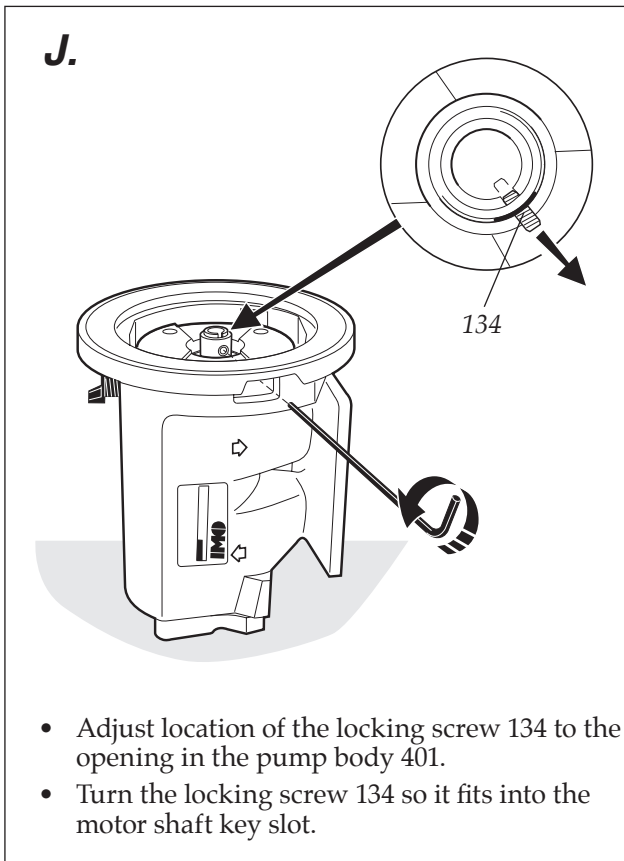


Fig. 25

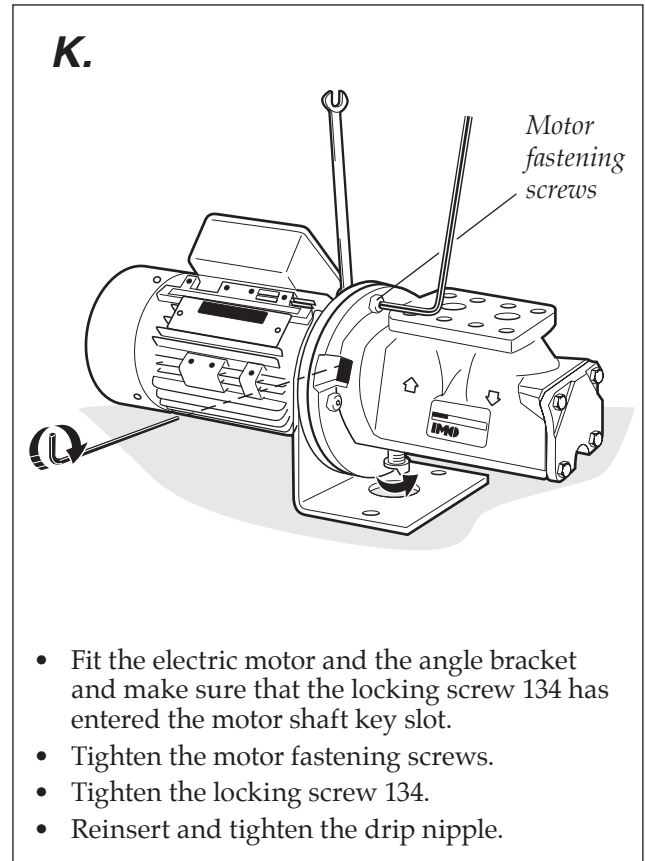


Fig. 26

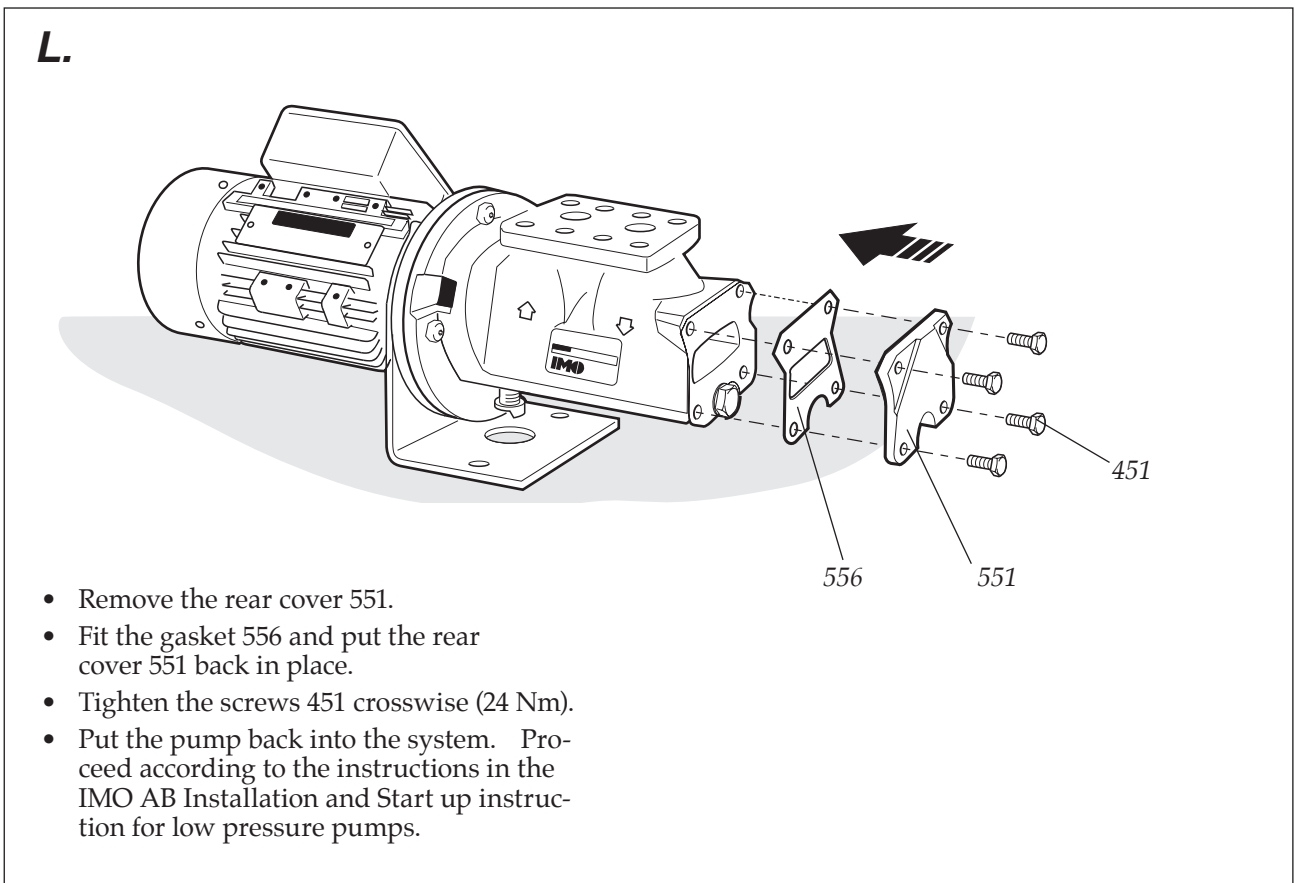


Fig. 27

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.

- If the valve piston 614 does not come out by its

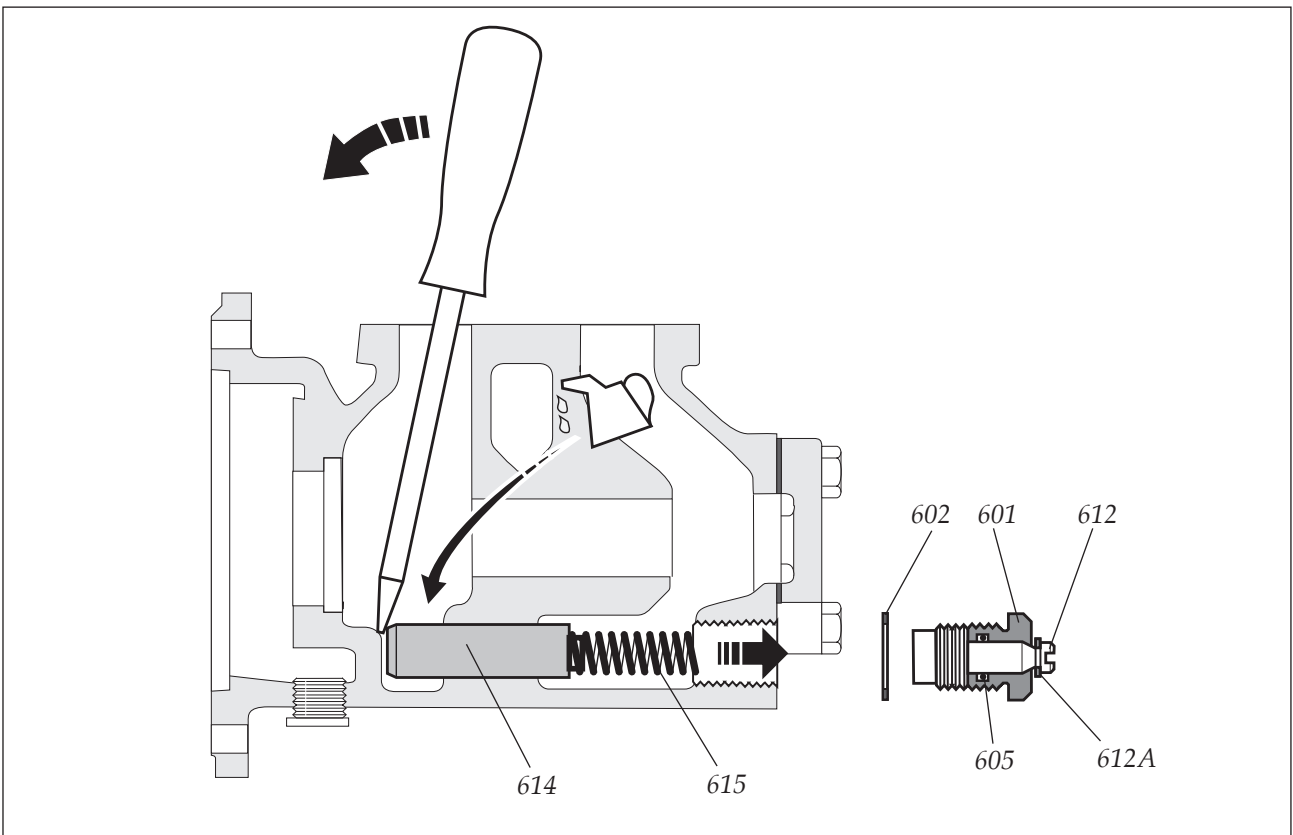


Fig. 28

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.



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