

## Maintenance and Servicing

For the type of thread locker used and the required tightening torques, observe the table in the exploded view

### Special tools required

The following special tools are required for assembly:

- Tool-15
- Pull-out tool size 3

### Suction and Discharge Valves

#### Discharge Valves:

Remove plugs (32) with a socket wrench.

Remove the exposed spring tension cap (30) from valve seat by pushing it sideways using a screwdriver. Remove spring tension cap (30), valve spring (29) and valve plate (28).

Pull out valve seat (27) with a size 3 extractor tool.

#### Suction Valves:

Remove hexagon socket screws (34) and remove valve casing (26) by pulling it off to the front.



If the seal casing (25) does not separate from the valve casing (26), press both casings apart by placing two flat screwdrivers in the side notches on the seal casing.

Be careful not to damage casing surfaces.

Using two screwdrivers, pry out seal sleeves (21) out of the valve casing (26).



When extracting the valve holders (22), make sure not to scratch the outer bore diameter as this is a sealing surface.

The exposed suction valve parts are to be removed the same way as the discharge valves as described above.

Check valve components for wear and damage.

Check O-rings (21A, 31, 33). Replace worn parts. Pay attention to the sequence of installation when reassembling.

New O-rings slightly coated with oil should be preferably used.

Coat O-rings (25B) with silicon grease and place them in their recesses.

Insert seal sleeves (21) into valve casing (26) before affixing the whole unit by passing it through the plungers.

Tighten screws (34) crosswise and evenly to the required torque.

Tighten plugs (32) to the required torque.

### Seals and Plunger pipe

Remove hexagon socket screws (34) and take off valve casing (26).

The seal retainers (20) will remain in the crankcase. Using two screwdrivers, lever the seal casing (25) off the valve casing.

Using two screwdrivers, lever the seal sleeves (21) out of the valve casing (26) or the intermediate casing (25).

Press the grooved rings (23/23A) and support rings (24) out of the intermediate casing (25) using a screwdriver.

Examine O-rings (21A/25B) and seals (23/23A).

Replace seals if worn.

Wet new seals and O-rings thinly with silicone grease or mineral oil and carefully install with Tool-15.

Check plunger surfaces (16).

Damaged surfaces lead to accelerated seal wear.

Deposits of all kinds must be removed from the plungers.



Plunger surfaces are not to be damaged. If there are lime deposits in the pump, care must be taken that the drip-return bore in parts (25) and (26) ensure trouble-free drip-return.

If the plunger pipe (16B) is worn, screw off tension screw (16D) and remove together with plunger pipe. Check and clean plunger (16A) surfaces and mount new plunger pipe.

Cover thread of tension screw (16D) with a thin film of thread-locker and tighten carefully to the required torque.



Under no circumstances should thread-locker get between the plunger pipe (16B) and the centring neck on the plunger (16A).

Tensioning of the plunger pipe due to eccentric tightening of the tensioning screw or due to dirt or damage to the contact surface can lead to breakage of the plunger pipe.



When refitting the seal sleeves (21), the long neck side must be put into the valve casing (26) firstly.

When reassembling, tighten the screws (34) to the required torque.

**If required, supplementary Assembly Instructions can be requested from Giant Industries, Inc.**