

# Maintenance on the fuel injection pump 32/40



MAN Diesel | PrimeServ Academy  
Augsburg

The fuel injection pump is an important part of our four-stroke diesel engine, so its important to regular checks to obtain:

- A safe operation of the plant/engine
- A economical operation of the plant
- An operation according to environmental requirements
- The availability of the plant

To fulfill all these requirements its essential to carry out the work in time according to the maintenance schedule and to ensure the correct execution of work.

This presentation should assist you in doing your maintenance job on the fuel injection pump 32/40



# Starting position



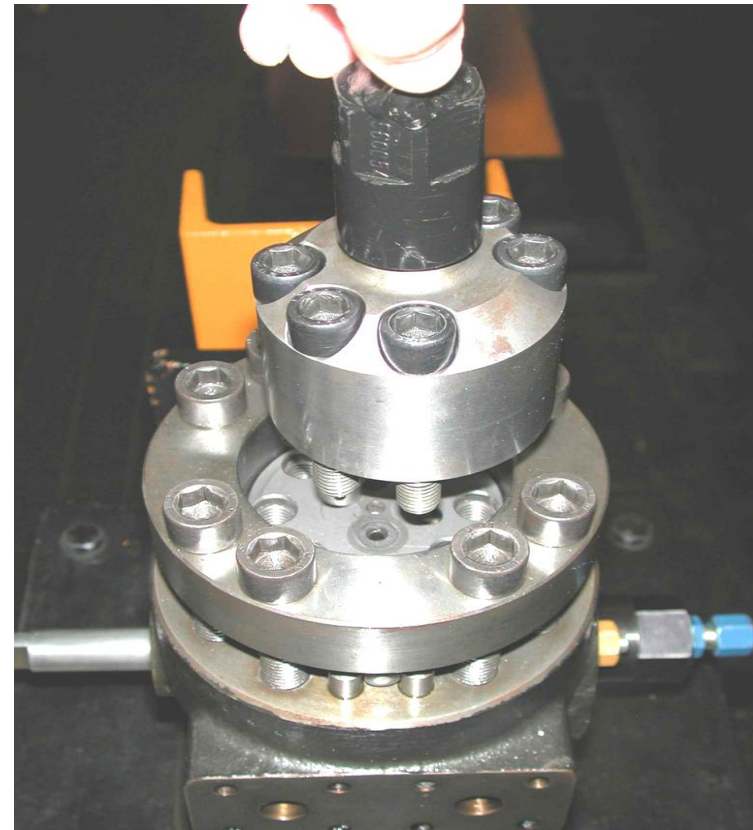
- Injection pump detached and cleaned on the turning device:



# Dismantle valve carrier



- Screw out the hexagon socket bolts, take off the valve support and put it down onto a clean support



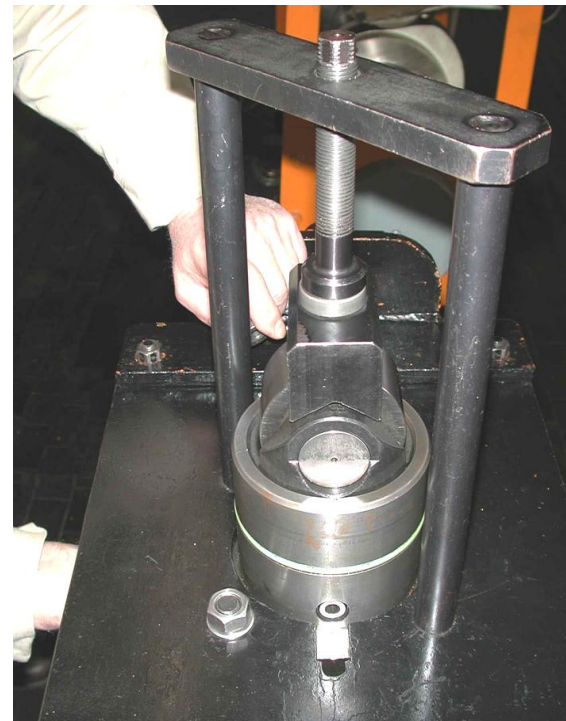
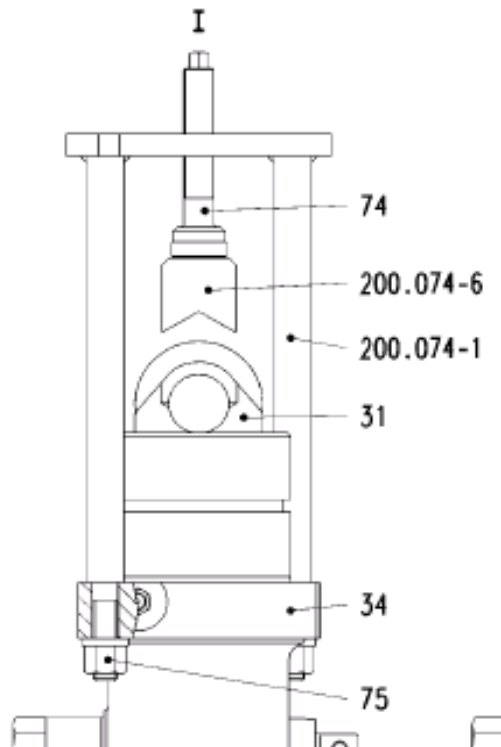
# Valve carrier dismantled



# Place the bridge on to the casing



- Screw the spindle back, place the bridge diagonally onto the casing and attach it by means of the hexagon nuts





# Unload the screw plug



- Turn the spindle to depress the tappet far enough to unload the screw plug so that the latter can be removed by means of the eye bolt



# Removal tappet and pump plunger



- Disassemble the tappet together with the pump plunger and put them down onto a clean support



**Attention:** Do not touch the pump plunger with your bare hands.  
Protect the control edges on the pump plunger from damage.



# Tappet and pump plunger



- Screw off the hexagon bolts and take off the tappet



# Tappet and pump plunger



- Take the pressure plate out and pull the piston spring plate off the pump plunger



# Removal of internal parts



- Take the compression spring out of the casing, disassemble the spring plate and the regulating sleeve





# Removal baffle screw



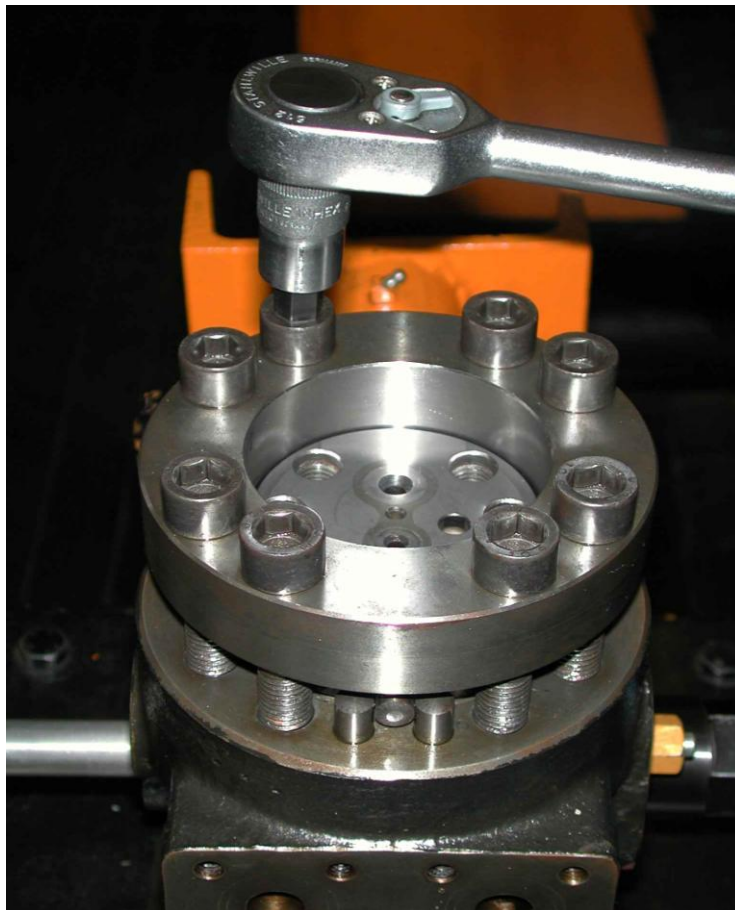
- Remove the locking wires, and screw out both baffle screws



# Thrust ring



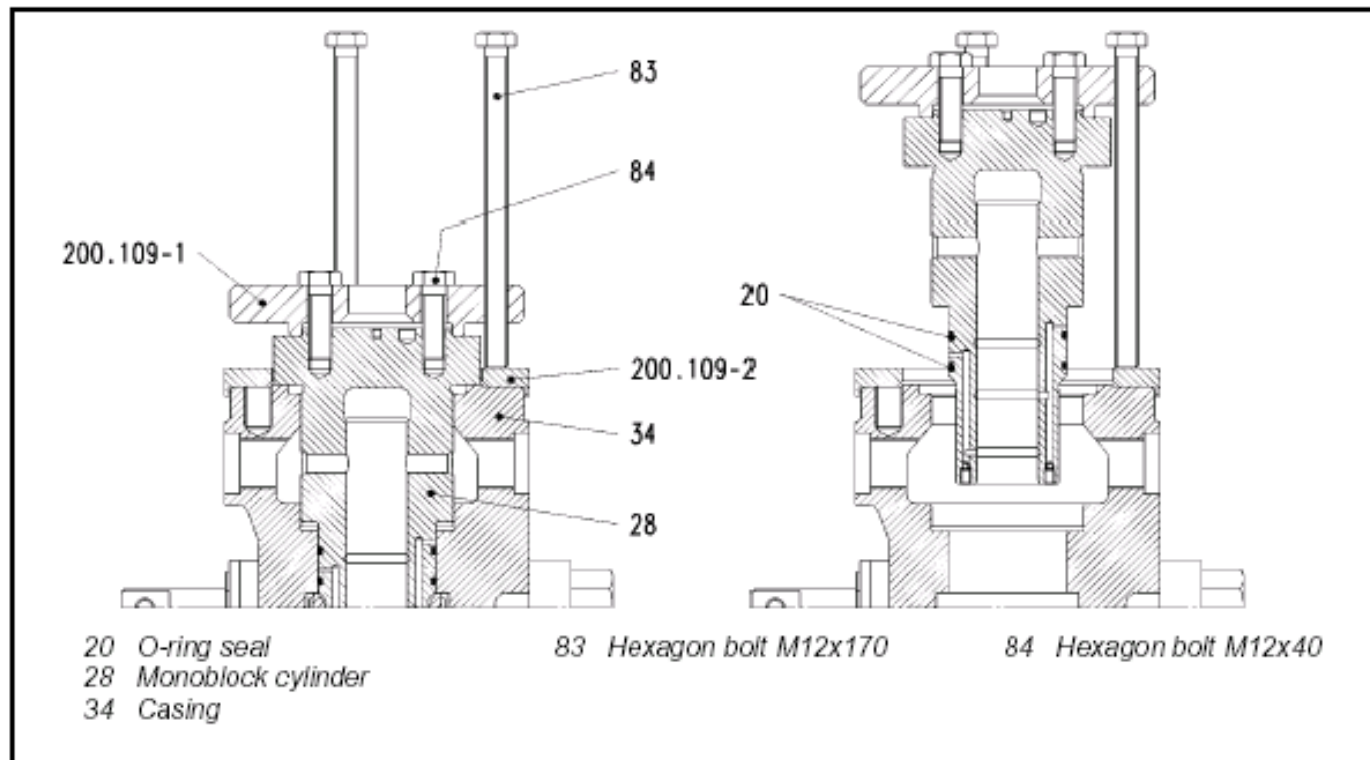
- Unscrew the hexagon bolts and take the thrust ring off



# Removal of the monoblock cylinder



- Put the pressure plate onto the monoblock cylinder and fix it in place by means of hexagon bolts

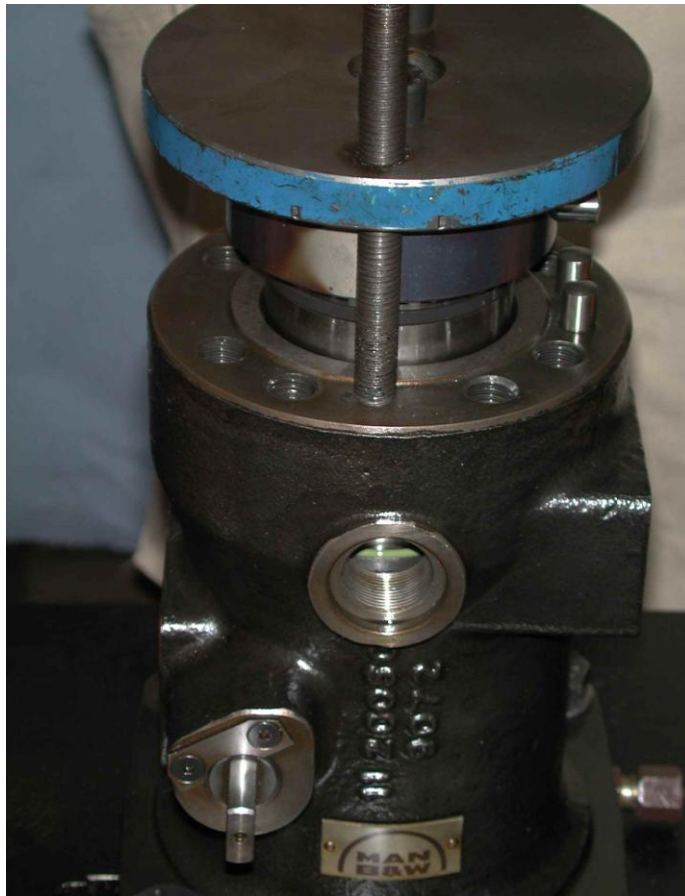




# Removal of the monoblock cylinder



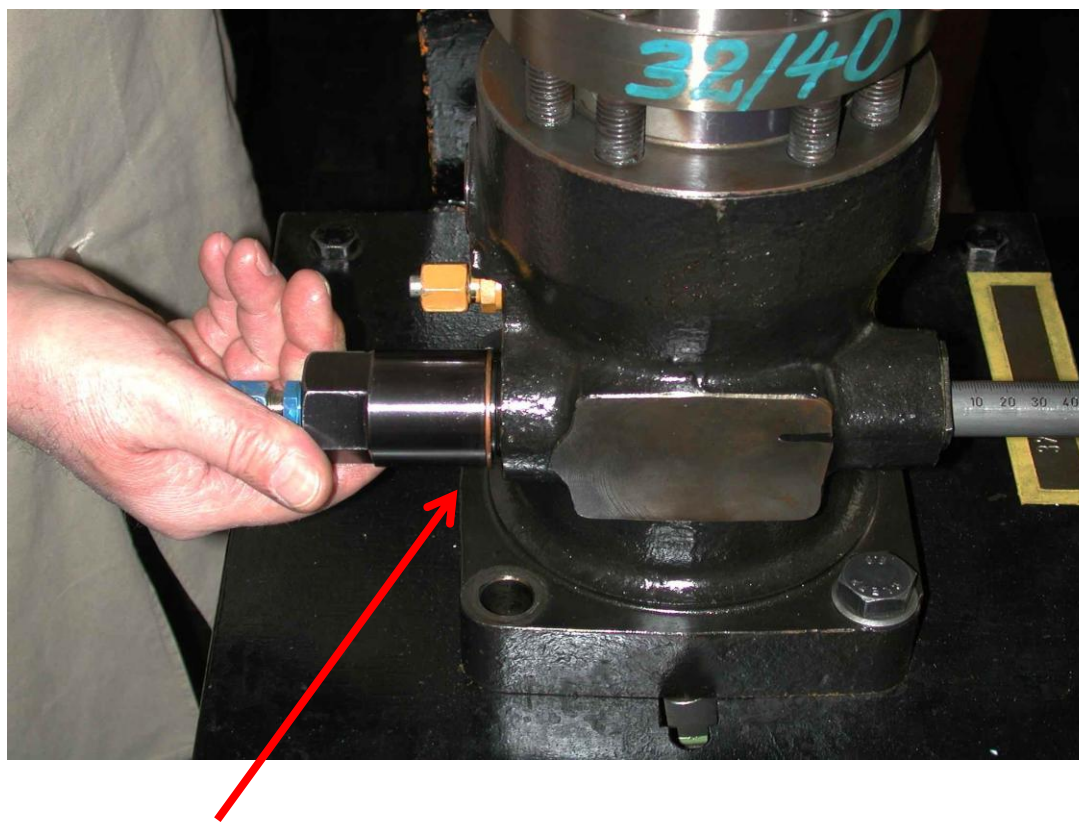
- Pull the monoblock cylinder out of the casing and put it down onto a clean support



# Removal control rod



- Screw the cylinder off, and dismantle the control rod



The control rod will be removed to the left hand side

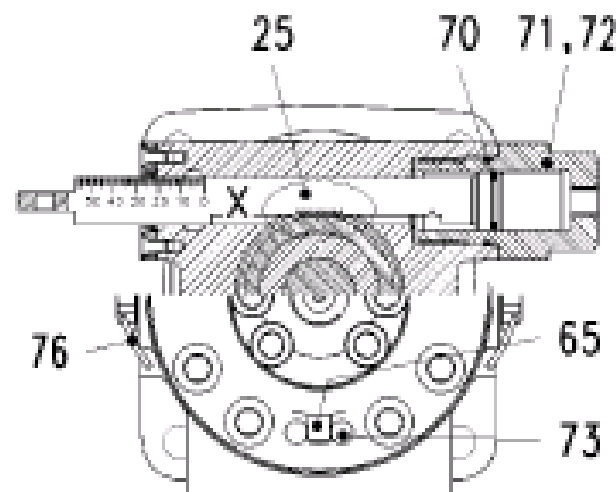
- Take care of following points before starting with the assembly:
  - Clean all the parts with clean diesel fuel, and check them for wear and / or damage
  - Important! A pump element consists of the pump plunger and monoblock cylinder. Pump plunger and monoblock cylinder and can only be replaced together because both parts are fitted together.
  - Important: Metallic sealing and contact faces must be absolutely dry when assembled.



# Assembly of the control rod



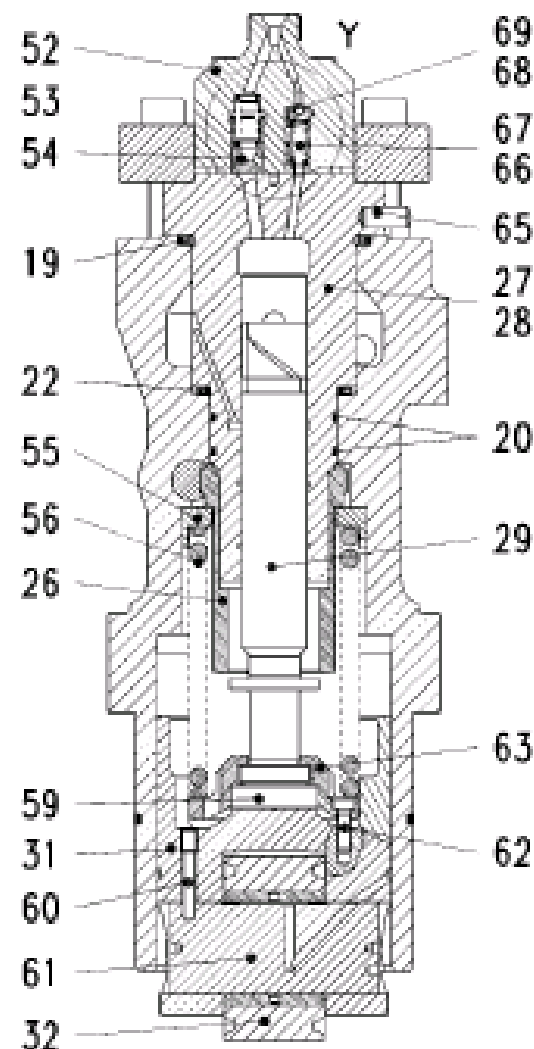
- Fit a new plunger packing (70) in the ring groove
- Install the control rod (25) in the casing (34)
- Coat the thread of the cylinder (71) over a length of 6 mm with Loctite 243 securing compound, screw it into the casing with a new seal (72) fitted.



# Assembly monoblock



- Treat new O-rings seals (20) with acid free grease, and insert them into the ring groove, making sure that the O-ring seals are evenly tensioned over the whole circumference, and not twisted.
- Insert new Variseal sealing rings (19 and 22) into the casing (34) and/or monoblock cylinder (28).
- Introduce the monoblock cylinder (28) into the casing (34), taking note of the position of the parallel pin (65)



# Assembly monoblock



- Press the monoblock cylinder into the casing, making sure that parallel pin (65) is located between parallel pins (73)



## Important:

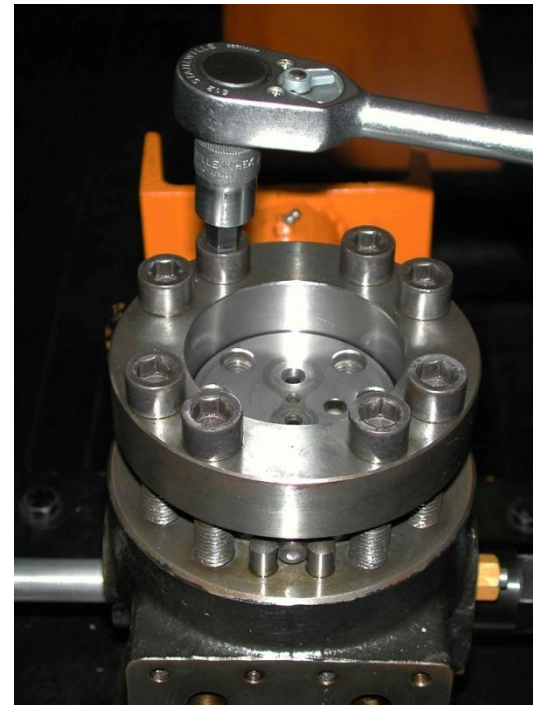
When forcing the monoblock cylinder into the casing, prevent from tilting.



# Tightening monoblock



- Slip the thrust ring onto the monoblock cylinder.
- Apply MoS<sub>2</sub> lubricant to the threads and contact faces of the hexagon socket bolts, screw the bolts into the casing, hand-tight, and tighten them to the specified torque (see work card 000.30)



# Complete the valve carrier



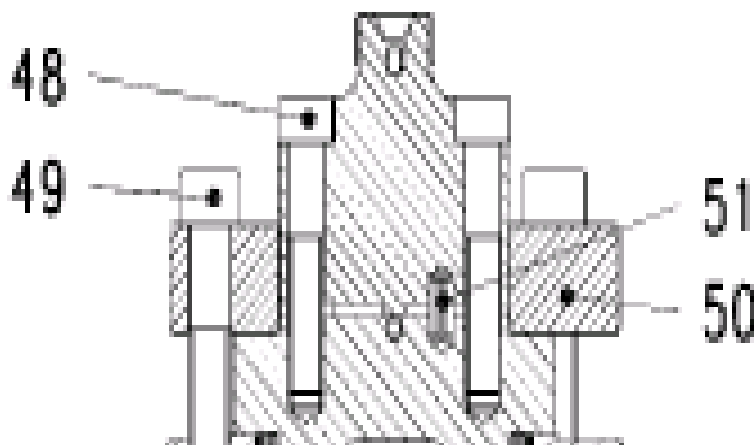
- Observe the correct assembly sequence of both valves in the valve carrier



# Assembly of the valve carrier



- Place the valve support(52) onto the monoblock cylinder, taking note of the position of bore hole/parallel pin (51)
- Apply MoS<sub>2</sub> lubricant to the threads and contact faces of the hexagon socket bolts (48) screw the bolts in, hand tight and tighten them to the specified torque in three stages ( see work card 000.30)

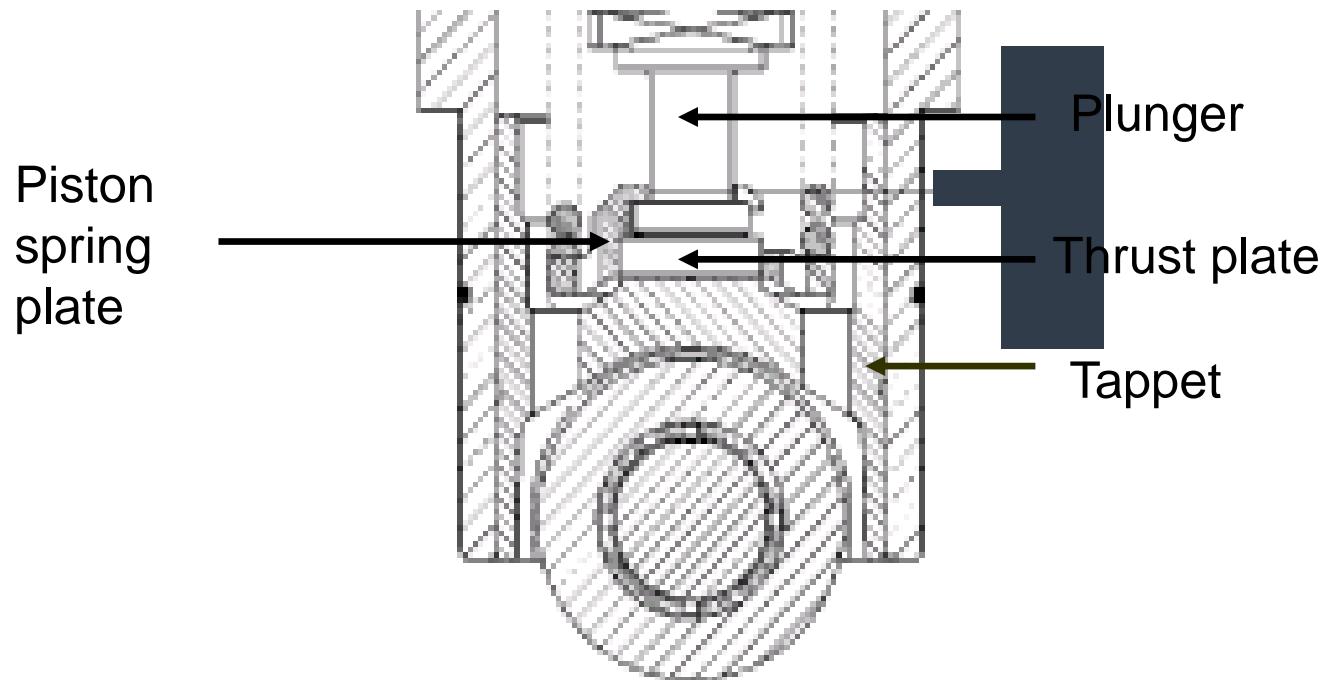




# Assembly roller tappet & plunger



- Assemble the correct thrust plate to the corresponding cylinder (see slide 27)



# Assembly roller tappet & plunger



# Thrust plate thickness



- Observe that the thickness of the thrust plate correspond to values mentioned in the acceptance test paper
- Note: Always assemble the correct thrust plate to the corresponding cylinder

Thickness of thrust plate (mm) if existing								
Cyl. no	1	2	3	4	5	6	7	
A-site	11,0	11,2	11,2	11,0	11,0	11,2		
B-site	11,0	11,0	11,0	11,0	11,0	11,2		

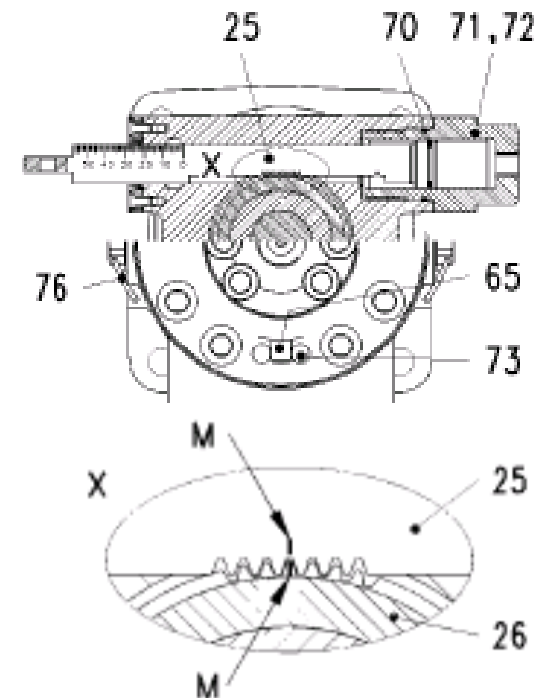
Example of a 12 V 32/40



# Regulating sleeve



- Fit the regulating sleeve so that the markings (M) on the control rod and regulating sleeve coincide.



25 control rod  
26 Regulating sleeve

# Spring washer and spring



- Install the spring plate through the regulating sleeve into the casing
- Important:
  - Prior to installing the spring plate, verify again that the markings of regulating sleeve and control rod coincide.
- Install the compression spring



# Pump plunger - monoblock



- Carefully push the pump plunger and tappet into the monoblock cylinder and/or casing, taking note of the position of the longitudinal groove in the tappet provided for the screw plug





# Assembly screw plug



- Place the bridge diagonally onto the casing and fasten it by means of hexagon nuts.
- Turn the spindle to depress the tappet far enough to allow the screw plug equipped with a new seal to be fitted.



# Assembly of the baffle screw



- Screw the baffle screws complete with new seals into the casing and tighten them. Fit the lock wires.



# Conclusion



- We hope this presentation is of assistance to you for carrying out your maintenance work.
- We wish you an successful overhaul.
- Thank you very much for your attention

# PrimeServ Academy Augsburg



Thank you for your attention!!