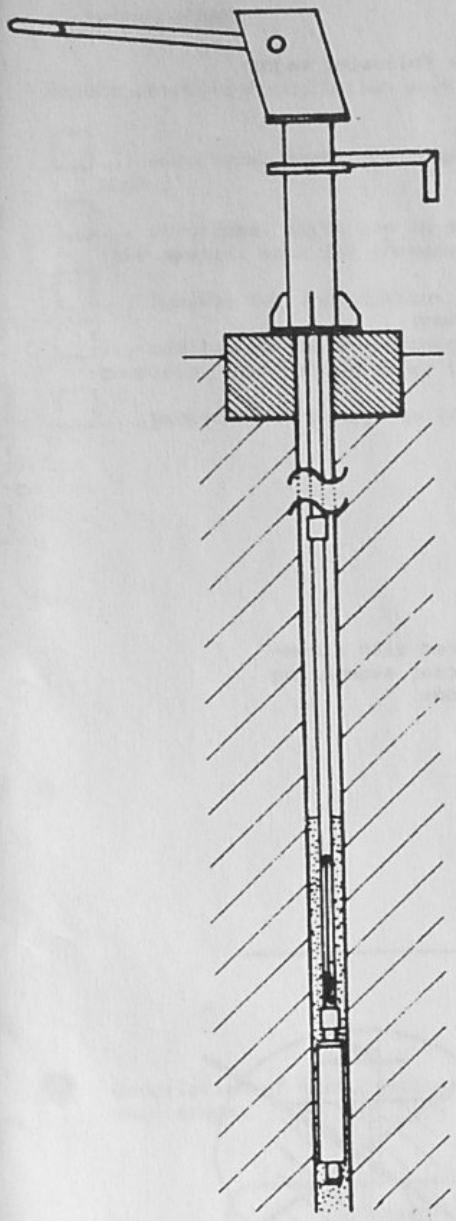
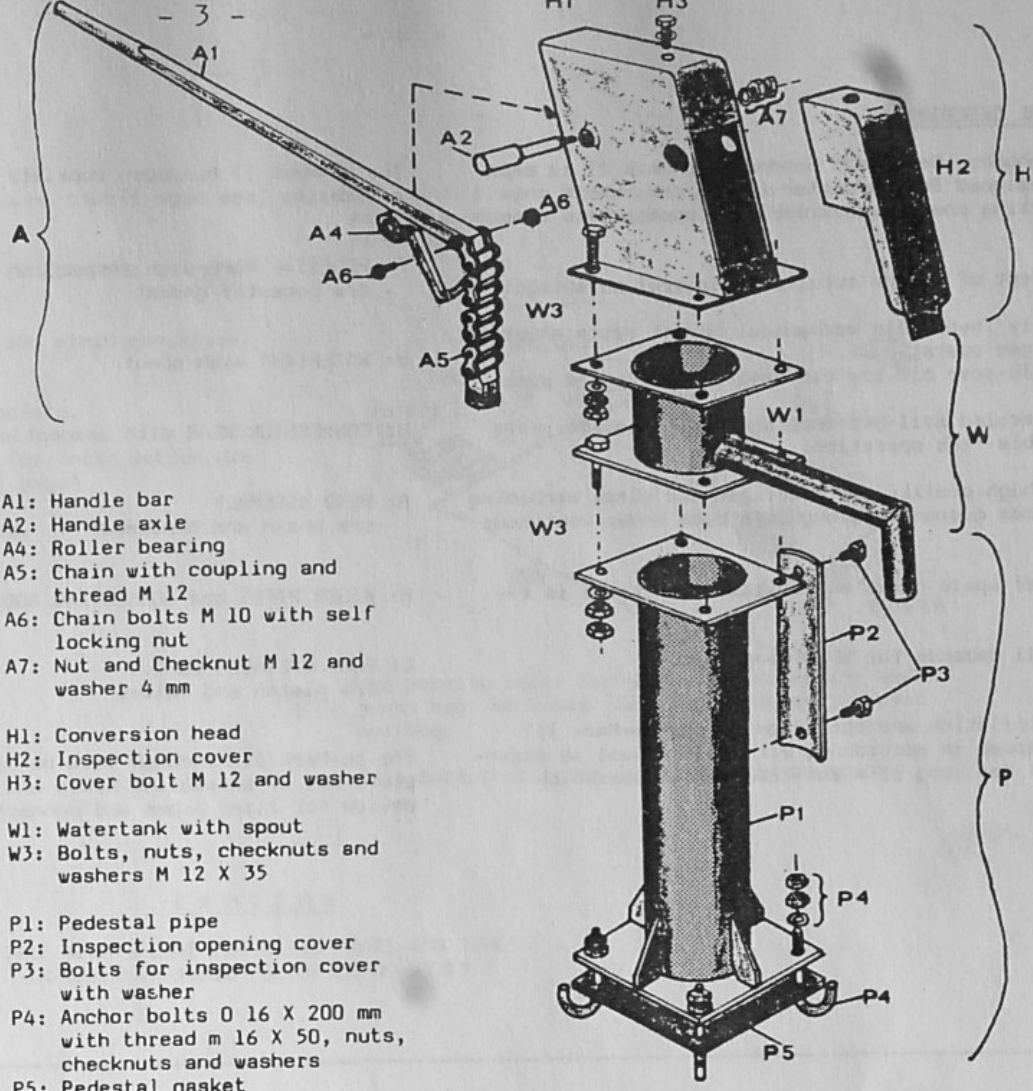


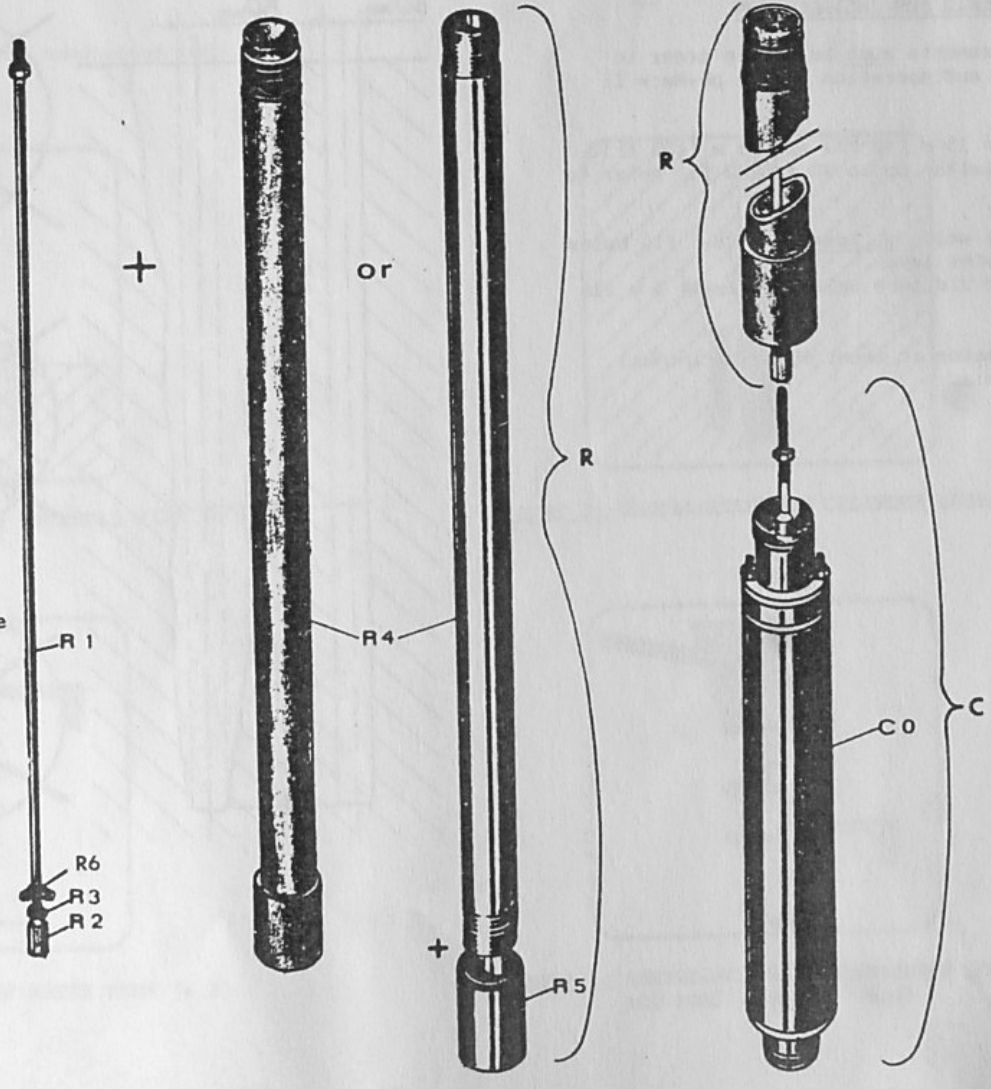


A1: Handle bar
A2: Handle axle
A4: Roller bearing
A5: Chain with coupling and thread M 12
A6: Chain bolts M 10 with self locking nut
A7: Nut and Checknut M 12 and washer 4 mm

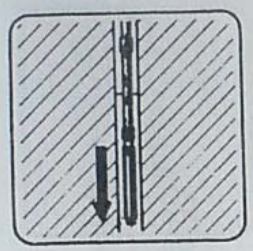
H1: Conversion head
H2: Inspection cover
H3: Cover bolt M 12 and washer

W1: Watertank with spout
W3: Bolts, nuts, checknuts and washers M 12 X 35

P1: Pedestal pipe
P2: Inspection opening cover
P3: Bolts for inspection cover with washer
P4: Anchor bolts O 16 X 200 mm with thread m 16 X 50, nuts, checknuts and washers
P5: Pedestal gasket



R1: connecting rod Ø 12mm X 3m
R2: Hexagonal coupling M 12 X 50mm
R3: Checknut M 12 X 10mm
R4: Riser pipe Ø 42mm X 3m
STEEL: male thread $1^1/_4$" at both ends
pb-schaub: male thread $1^1/_4$" at one end, with o-ring welded-on pipe coupling at other end
R5: STEEL PIPES ONLY: pipe coupling
R6: Center plate
CO: pump cylinder pb 2,5



STEP 2: INSTALLATION OF CYLINDER ASSEMBLY (4.2)
4.2.1) Determination of installation depth

YOU NEED: Parts: -
Materials: TM7, TM14

NOTE: Reference level for all measurements is flange plate level !

Flange plate
Fixing point for Installation depth

Anchor bolts, Pedestal gasket P4 / P5

Concrete slap

Sealing

Well casing min. 3"

gravel

Waterlevel

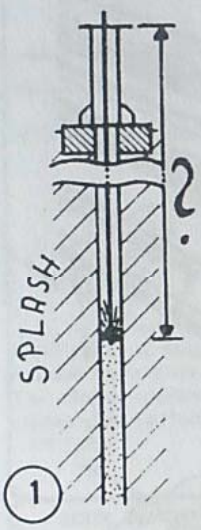
min. 3 m

Optimum Installation depth

Well screen

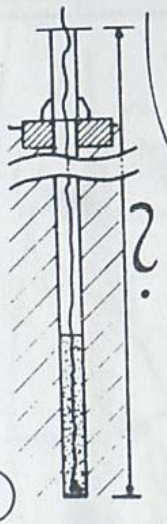
Max. Installation depth

Sand trap pipe



1

Measure minimum water level with plummet (or string and weight)
Take into account, that water level varies over the year.
Ask villagers !



2

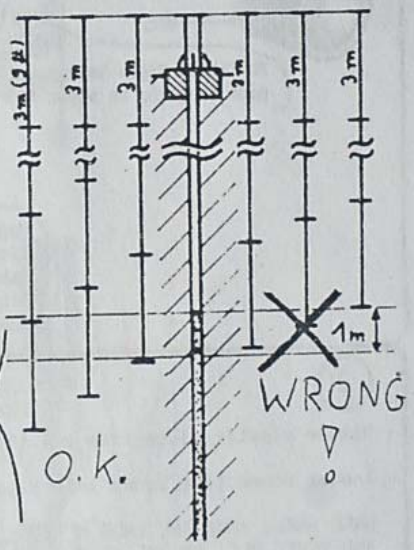
Measure total depth of well.

3

Determine installation depth:

Installation depth must be a multiple of three.

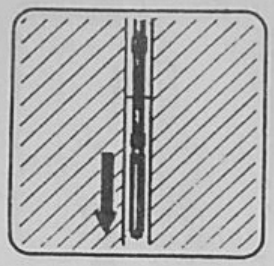
Optimum installation depth is between upper edge of well screen and 1 m (3 ft) below minimum water level



If optimum installation depth can't be obtained:

Position cylinder at least 0.3 m (1 ft) above bottom of well.
(Hand dug wells or old tube wells: at least 3 m (10 ft))

WARNING: Deep installation of cylinder can cause particles to float into cylinder !



STEP 2: INSTALLATION OF CYLINDER ASSEMBLY (4.2)

4.2.2) Preparing Parts for Installation

YOU NEED: Parts: R1 - R5, CO (PB 2,5)
Materials: ST3, ST4, ST13, TM5, TM16, TM17

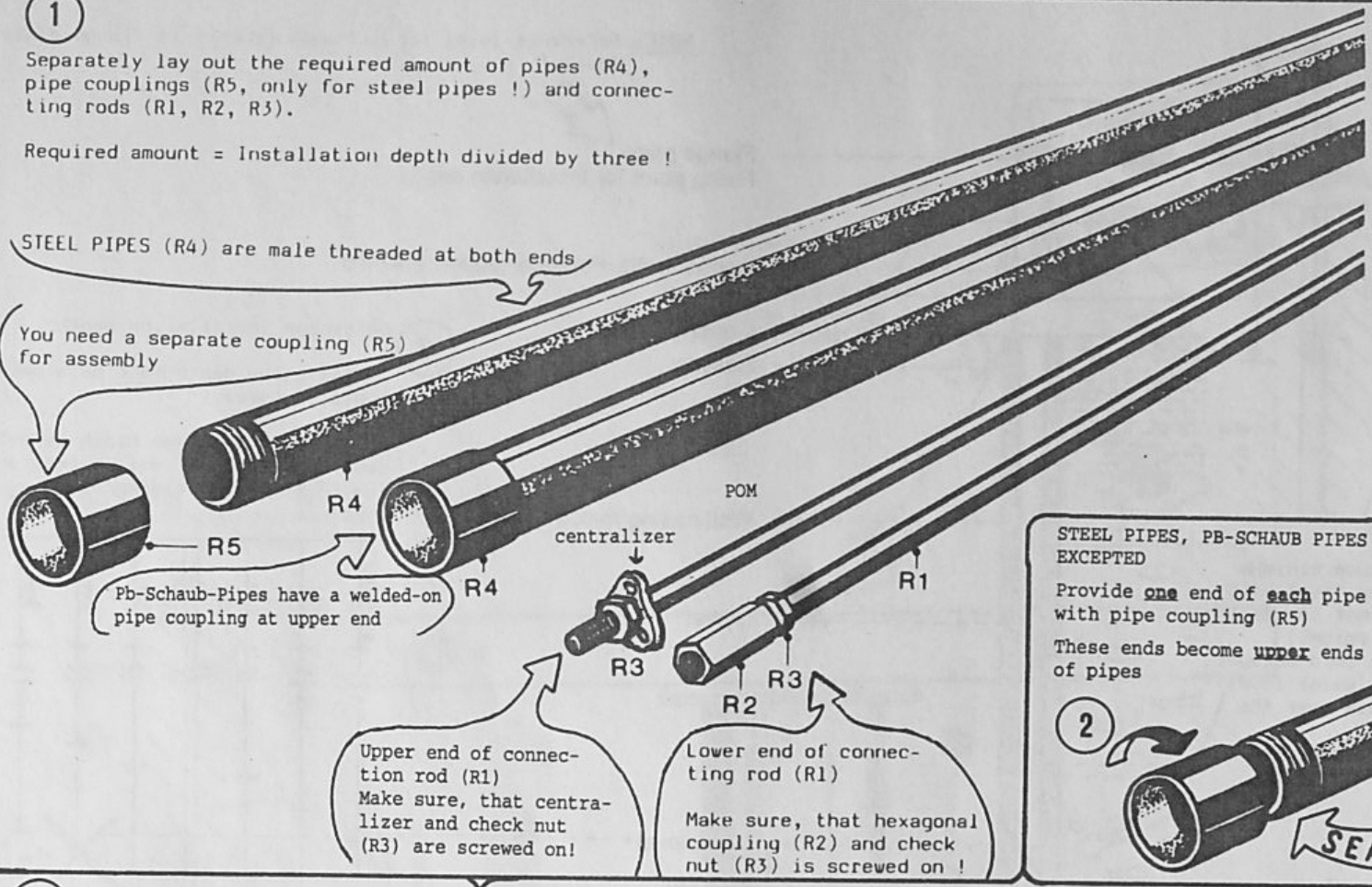
1

Separately lay out the required amount of pipes (R4), pipe couplings (R5, only for steel pipes !) and connecting rods (R1, R2, R3).

Required amount = Installation depth divided by three !

STEEL PIPES (R4) are male threaded at both ends

You need a separate coupling (R5) for assembly



Pb-Schaub-Pipes have a welded-on pipe coupling at upper end

Upper end of connection rod (R1)
Make sure, that centralizer and check nut (R3) are screwed on!

Lower end of connecting rod (R1)

Make sure, that hexagonal coupling (R2) and check nut (R3) is screwed on !

STEEL PIPES, PB-SCHAUB PIPES EXCEPTED

Provide **one** end of **each** pipe with pipe coupling (R5)

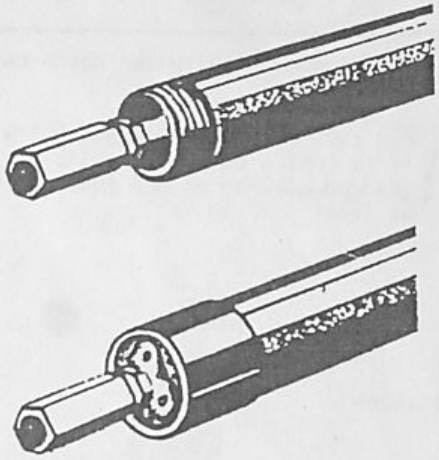
These ends become **upper** ends of pipes

2

3

- Remove plastic plugs from all threads
- Insert connecting rodes into pipes

MAKE SURE, THAT THE ENDS OF RODS AND PIPES MEET IN THE RIGHT WAY !



4

Cylinder is delivered ready for installation. Nevertheless a function test should be performed:

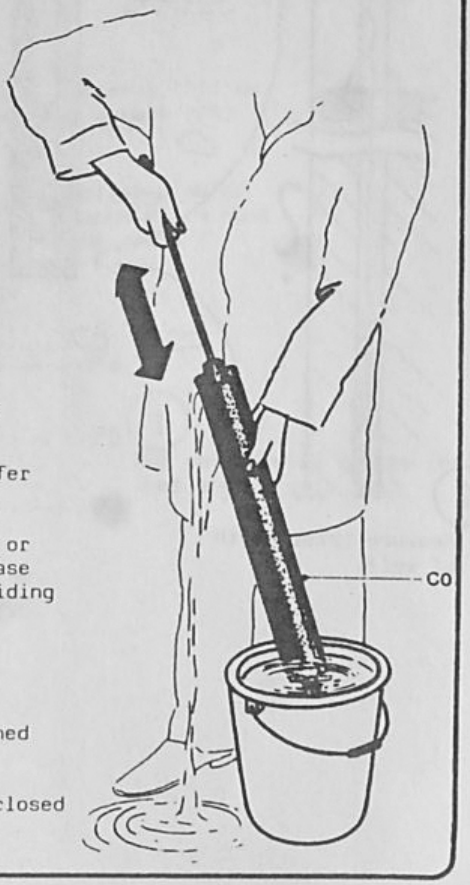
- Remove plastic plugs at upper and lower end of cylinder (CO)
- Immerse bottom (end piece) of cylinder in a bucket of water (TM 5)
- Move piston rod up and down
- After some strokes water must flow out of discharge piece
- If cylinder does not work properly, refer to chapter 7 (Maintenance) for repair.

NOTE: If you have any problems with sand or other particles in your water, please check back with manufacturer, providing information about particle size.

Various strainers are available, depending on particle size.

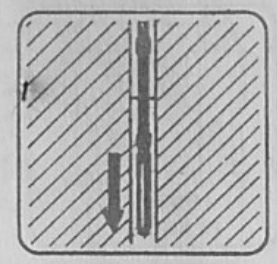
Bottom thread of cylinder is designed for attaching strainer.

The valve flap will be absolutely closed at 0,5 bar (5m) water pressure.



5

MAKE SURE YOU HAVE SPARE CHECK NUTS !



STEP 2: INSTALLATION OF CYLINDER ASSEMBLY (4.2)
4.2.3) Assembling cylinder and STEEL PIPES

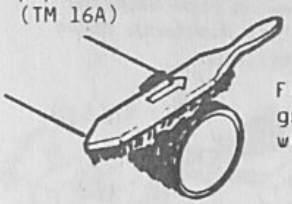
YOU NEED: Parts: R1 - R5, CO (PB 2,5)
Materials: ST3, ST4, ST13, 2 X ST2, TM16, TM16A, TM17

4.2.3.1 NOTE: STEEL PIPES, HOWEVER NOT THE PB-SCHAUB PIPES

HOW TO SEAL THREADED STEEL PIPE JOINTS !

Clean male thread with wire brush (ST13)

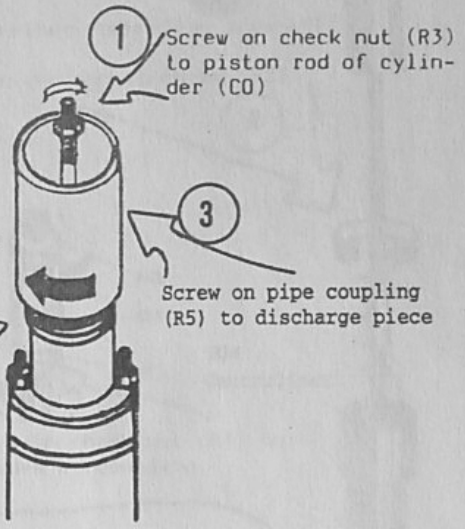
Wind taft of hemp (TM16) around male thread
For chrome-nickel-steel pipes use teflon ribbon (TM 16A)

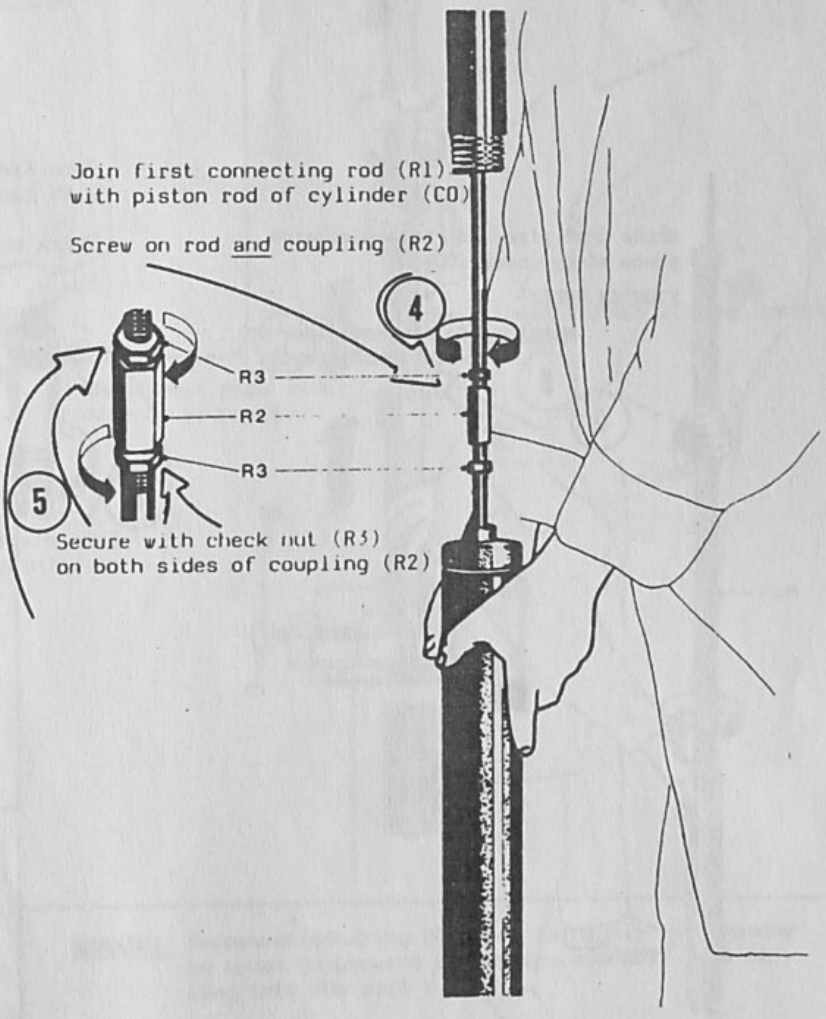


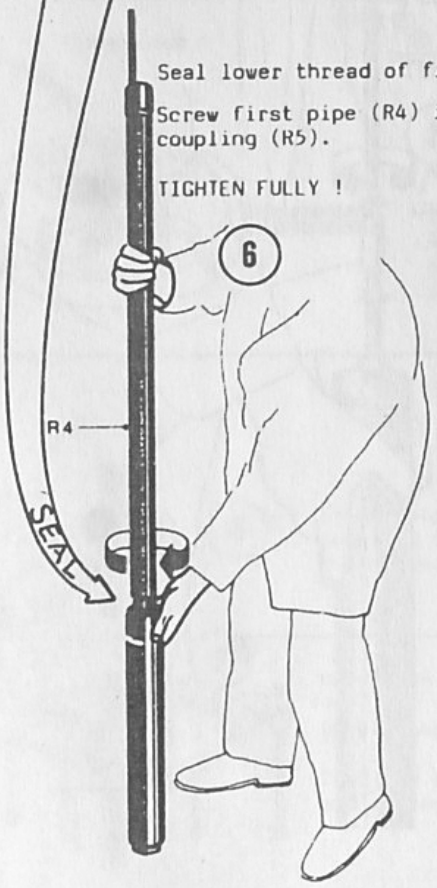
Firmly brush hemp into ground of thread with wire brush

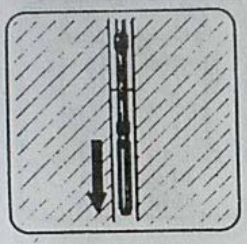
Apply jointing compound (TM17) to entire thread

CAUTION: Do not forget to wipe off excess jointing compound after each single assembling step !









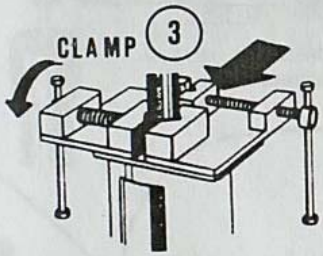
STEP 2: INSTALLATION OF CYLINDER ASSEMBLY (4.2)
4.2.4) Assembling RISER PIPES

YOU NEED: Parts: R1 - R5
Materials: ST0, ST3, ST4, ST13, ST19,
2 X ST2, ST10A, ST11A,
TM16, TM17

4.2.4.1 NOTE: STEEL PIPES, HOWEVER NOT THE PB-SCHAUB PIPES

Secure pipe (R4) with securing device (ST19) while lowering.

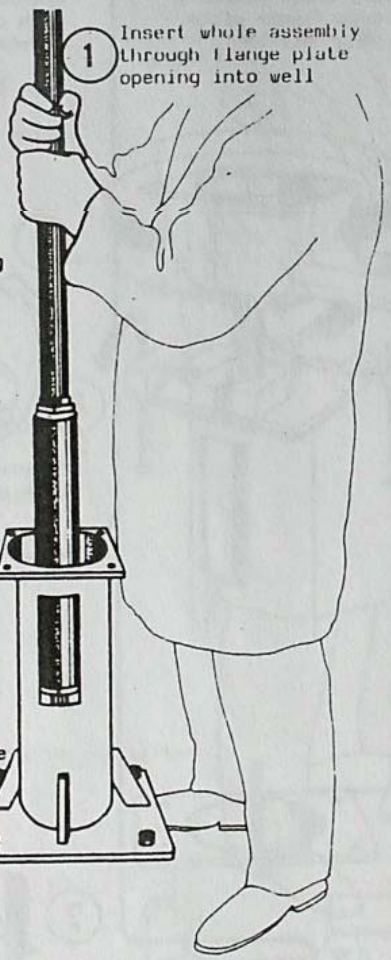
Lower assembly until it is fixed by securing device



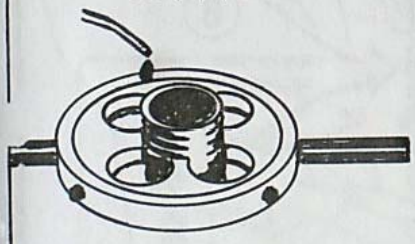
Lift assembly and install heavy duty-double clamp (ST0) by inserting attached pins into boreholes of flange plate

Position large clamp around pipe

Clamp pipe !



Insert whole assembly through flange plate opening into well

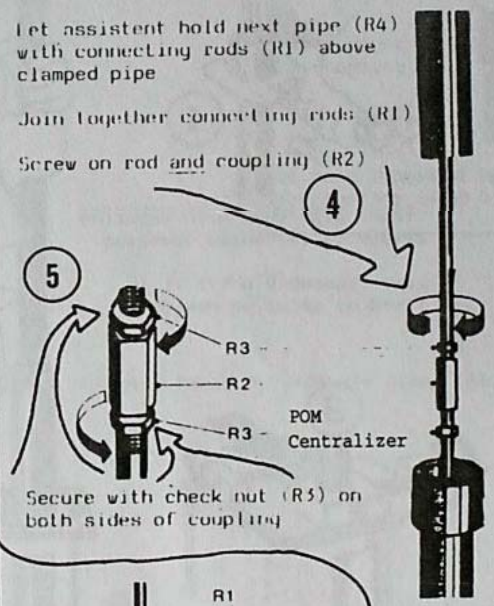


NOTE:
Cut and thread pipe, if necessary (ST10A, ST11A)

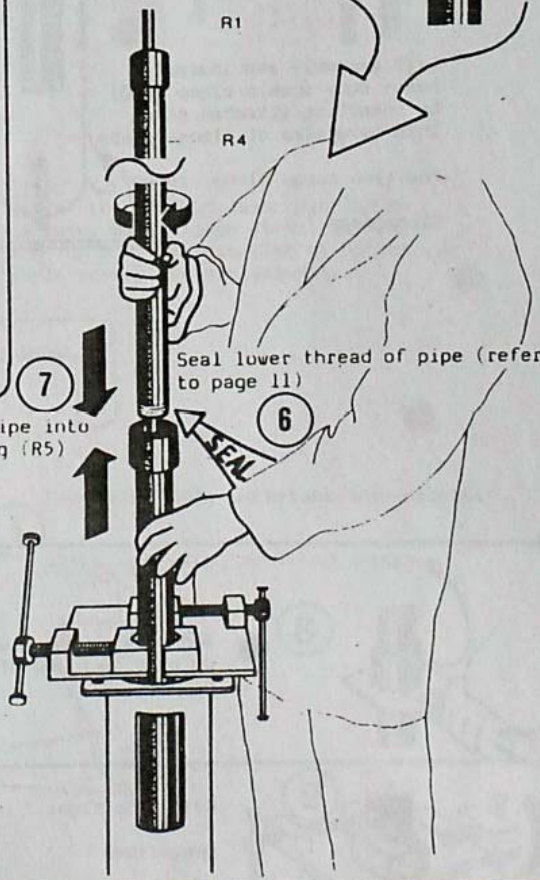
Let assistent hold next pipe (R4) with connecting rods (R1) above clamped pipe

Join together connecting rods (R1)

Screw on rod and coupling (R2)

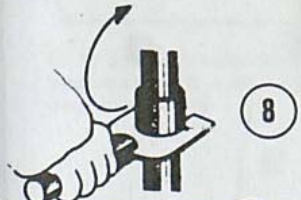


Secure with check nut (R3) on both sides of coupling

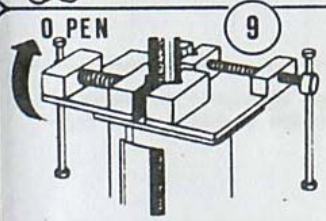


Screw next pipe into pipe coupling (R5)

Seal lower thread of pipe (refer to page 11)



Secure pipe above pipe coupling (R5) with securing device (ST19)

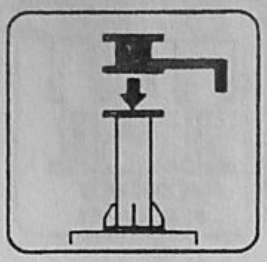


Hold pipe tight !

Open clamp

Continue to last pipe and connecting rod

WARNING: **Permanent securing of pipes is highly recommended in order to prevent the entire assembly from falling into the well !**



STEP 3: **INSTALLATION OF WATER TANK (4.3)**
4.3.1) Mounting water tank on flange plate

YOU NEED: Parts: W1, W3
Materials: ST0, ST2, ST3, ST4, ST13, ST18, ST20, TM16, TM17

(1) **Pb-schaub pipes only**

Screw on nipple pipe

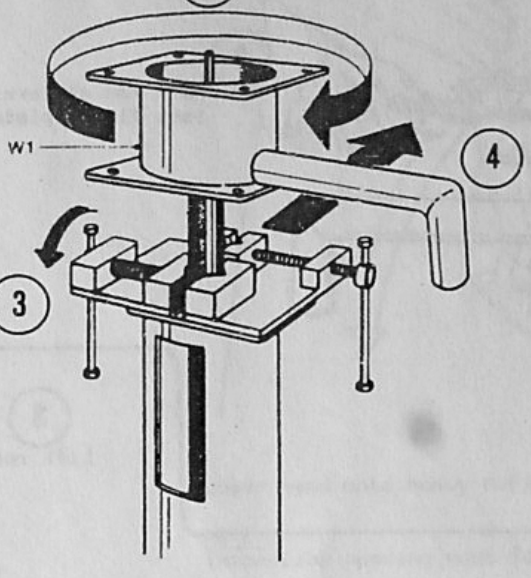
STEEL PIPES only: (1)

Unscrew upper pipe coupling (R5)

Seal male thread of upper pipe coupling (page 11)

Screw on water tank W1
Tighten fully

(2)



Loosen clamp

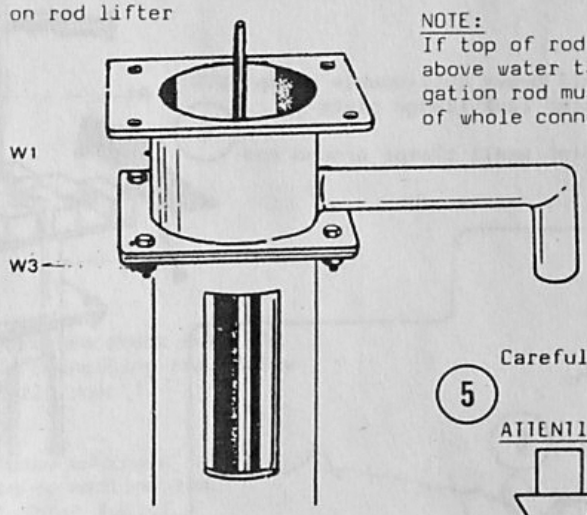
CAUTION: HOLD WATERTANK

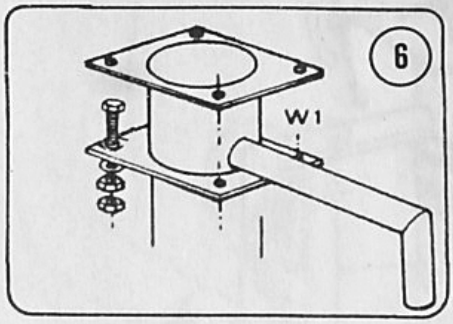
Lift watertank evenly

Remove heavy duty-double clamp (ST0)

(7) Screw on rod lifter

NOTE:
If top of rod (R1) is less than 200 mm above water tank flange plate, an elongation rod must be installed at bottom of whole connecting rod assembly.



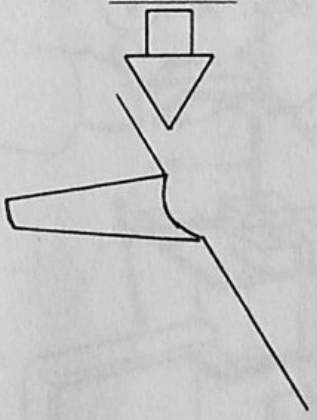


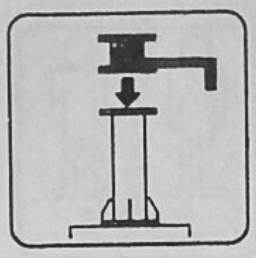
Bolt on watertank to flange plate of pedestal with 4 bolts, washers, nuts and check nuts

Carefully lower watertank onto pedestal

(5)

ATTENTION: SPOUT MUST FACE DRAIN !

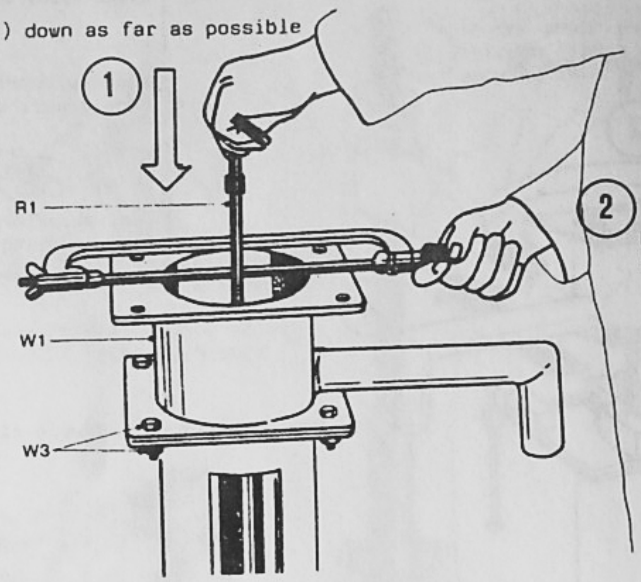




STEP 3: INSTALLATION OF WATER TANK (4.3)
4.3.2) Adjustment of the Connecting rod

YOU NEED: Parts: R3
Materials: ST0, ST5, - ST8, ST10, ST11
ST14, TM10, TM11, TM14, TM15

Push rod (R1) down as far as possible

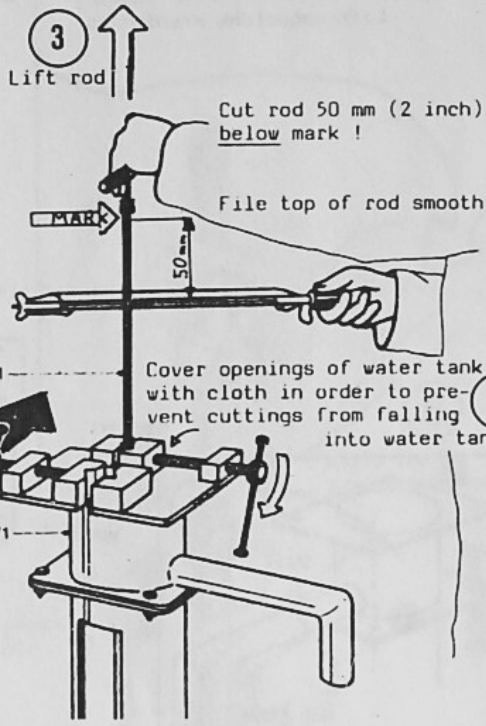


2 Mark rod at level of water tank flange plate (ST5)

3 Lift rod

Cut rod 50 mm (2 inch) (ST5) below mark !

File top of rod smooth (ST7)



Install heavy duty-double clamp (ST0) on water tank flange plate

Position small clamps around rod

4

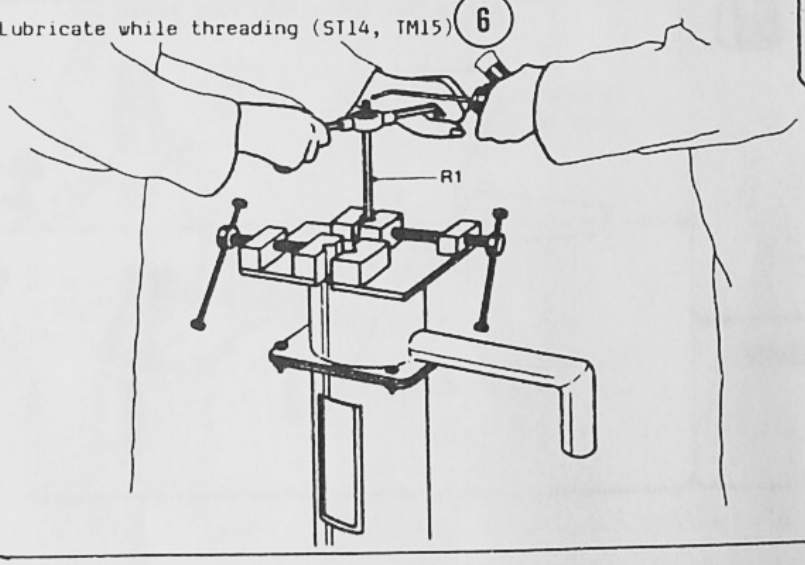
5 Cover openings of water tank with cloth in order to prevent cuttings from falling into water tank

Steps ⑥⑦⑧ only for rod without thread

Thread upper end of connecting rod with M 12 for at least 50 mm (2 inch) (ST10, ST11)

Lubricate while threading (ST14, TM15)

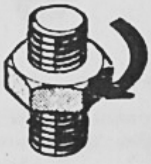
6



Clean thread and lubricate again

7

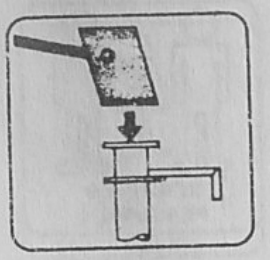
Check quality of thread with check nut



NOTE: You must be able to screw it all the way down !

8 Remove check nut

Remove cloth !



STEP 4: INSTALLATION OF CONVERSION HEAD AND HEAD ASSEMBLY (4.4)

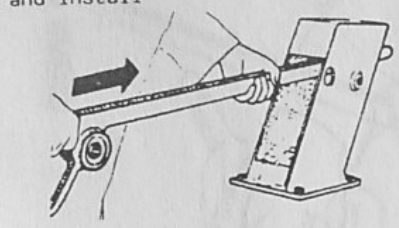
4.4.1) Attaching head assembly

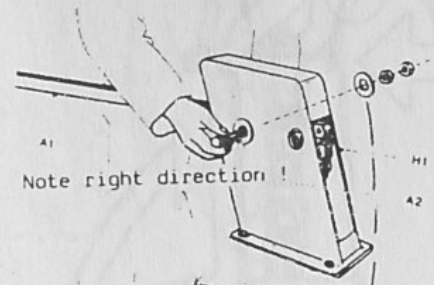
YOU NEED: Parts: A1 - A6, H1 - H3
Materials: ST0, ST2, ST17

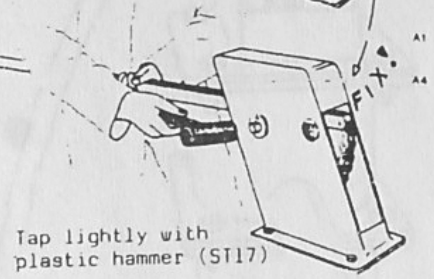
ONLY APPLICABLE, IF HEAD ASSEMBLY IS DISCONNECTED FROM HEAD

(2)

Insert handle bar (A1) and install

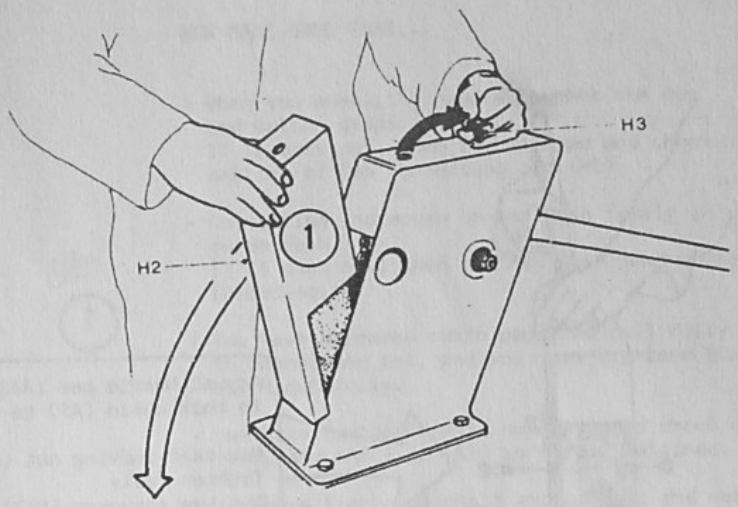






Tap lightly with plastic hammer (ST17)

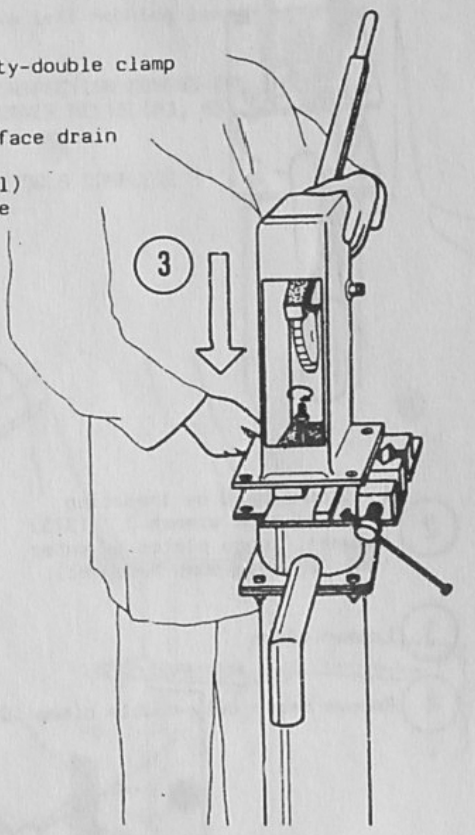
Remove inspection cover (H2) of head (H1)

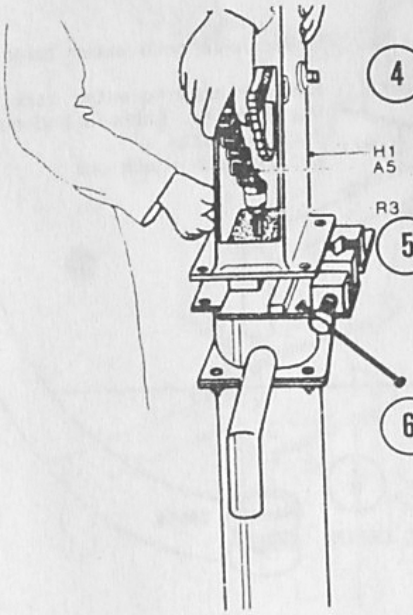


Lower head onto heavy duty-double clamp

NOTE:
Inspection opening must face drain

Insert connecting rod (R1) end into guide bush while lowering!





(4) Screw on check nut (R3) to connecting rod. Screw fully down !

(5) Screw on chain (A5) to connecting rod. Tighten fully!

NOTE:
Disconnect chain in case it is connected to handle bar!

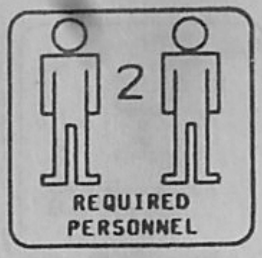
(6) Fully tighten check nut against chain coupling

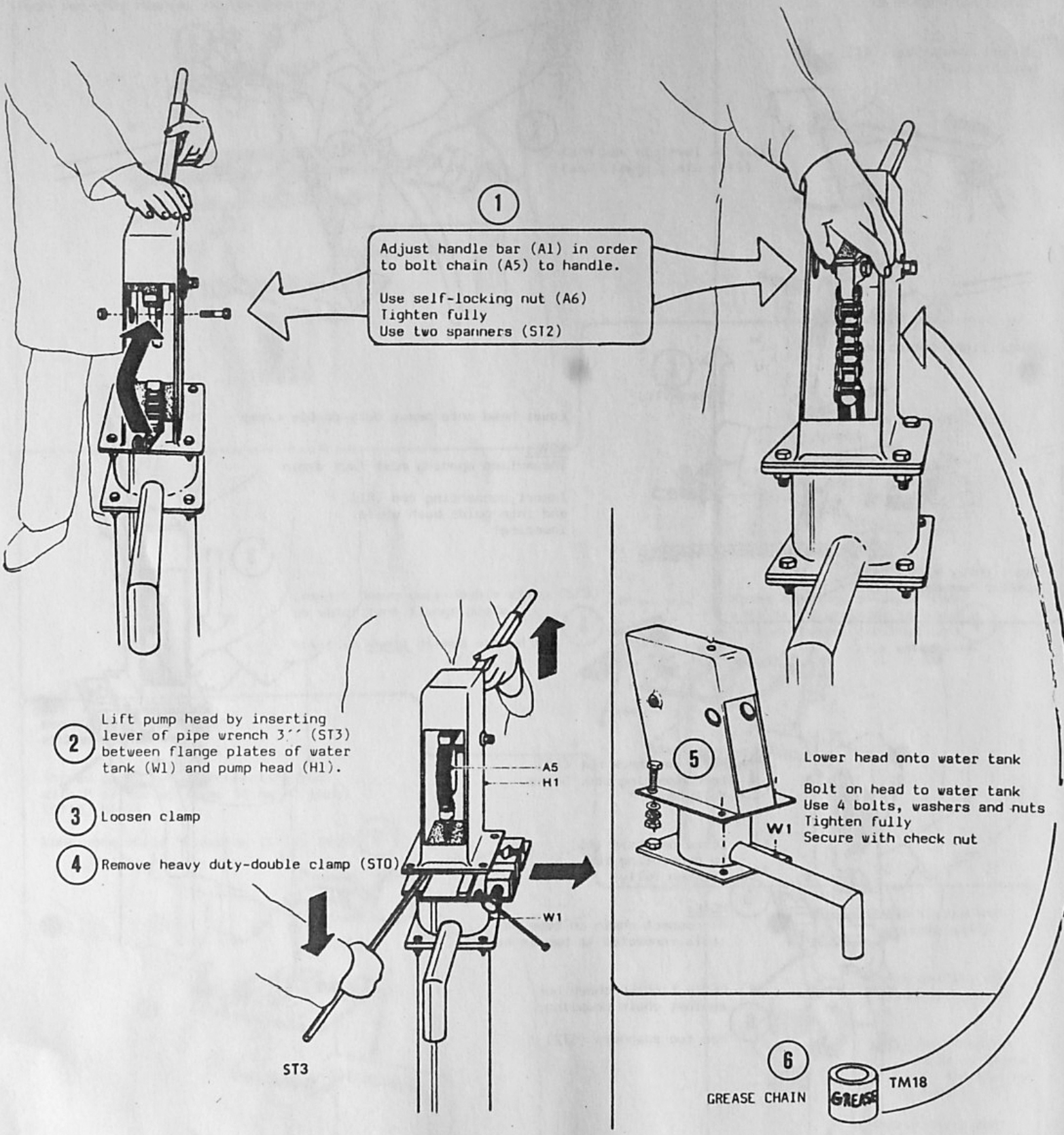
Use two spanners (ST2) !

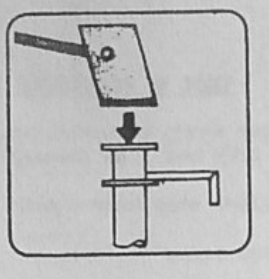
STEP 4: INSTALLATION OF CONVERSION HEAD AND HEAD ASSEMBLY (4.4)

4.4.2) Mounting head on water tank

YOU NEED: Parts: A1 - A6, H1 - H3, W3
Materials: ST0, ST2, ST3, TM18

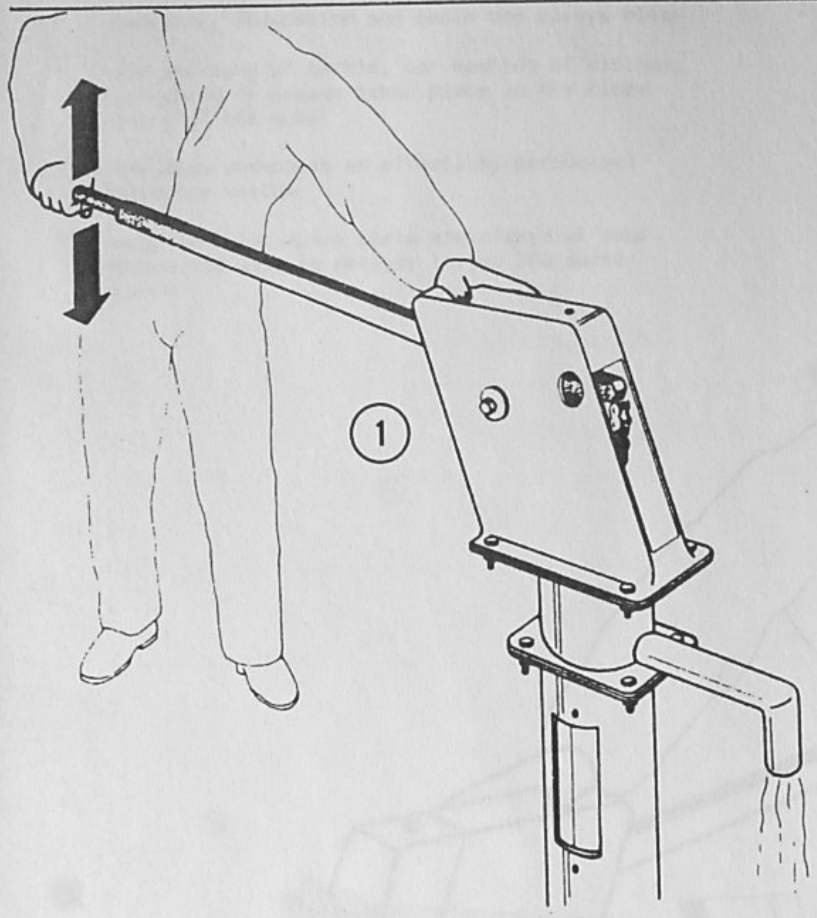






STEP 4: INSTALLATION OF CONVERSION HEAD AND HEAD ASSEMBLY (4.4)
4.4.3) Final assembly

YOU NEED: Parts: H2, H3, P2, P3
Materials: ST2

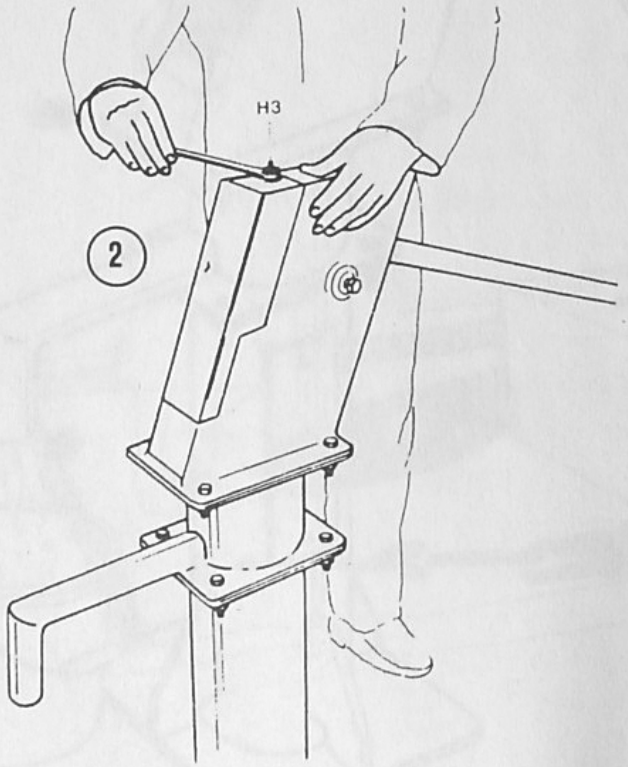


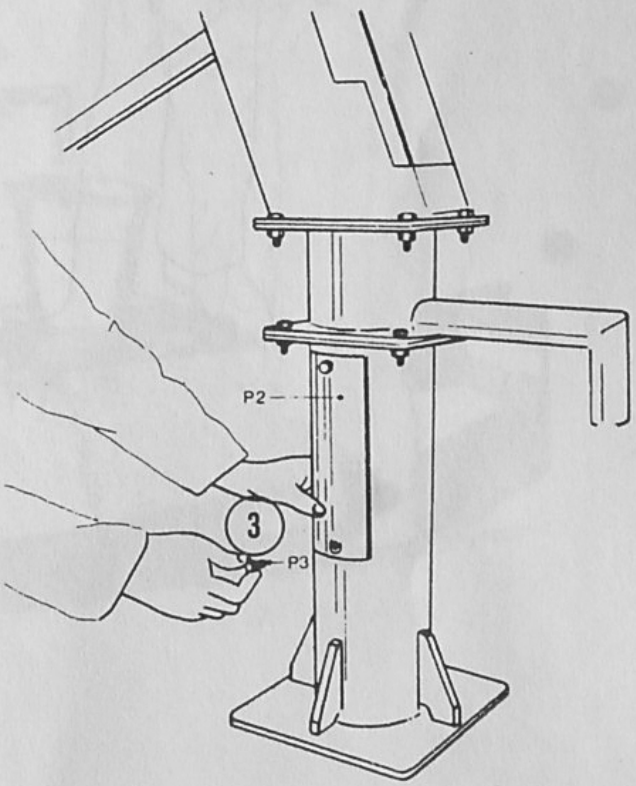
NOW MAKE SURE THAT...

- When you pump, the handle touches the top and bottom stops.
  If it does not, then remove head and check setting of top connecting rod (R1)
- Connecting rod moves up and down freely in guide bush.
  If it does not, then rod has been bend while threading.
- You have threaded chain coupling (A5) fully on to connecting rod, and you have tightend the check nut fully.
- You have tightened axle nut (A7) and check nut fully and the axle (A2) is firmly retained.
- You have tightened chain anchor bolt and nut (A6) fully
- You have left nothing inside the head.

NOW FIT INSPECTION COVERS (P2, H2).
TIGHTEN COVER BOLTS (P3, H3) FULLY !

ARE YOUR TOOLS COMPLETE ?





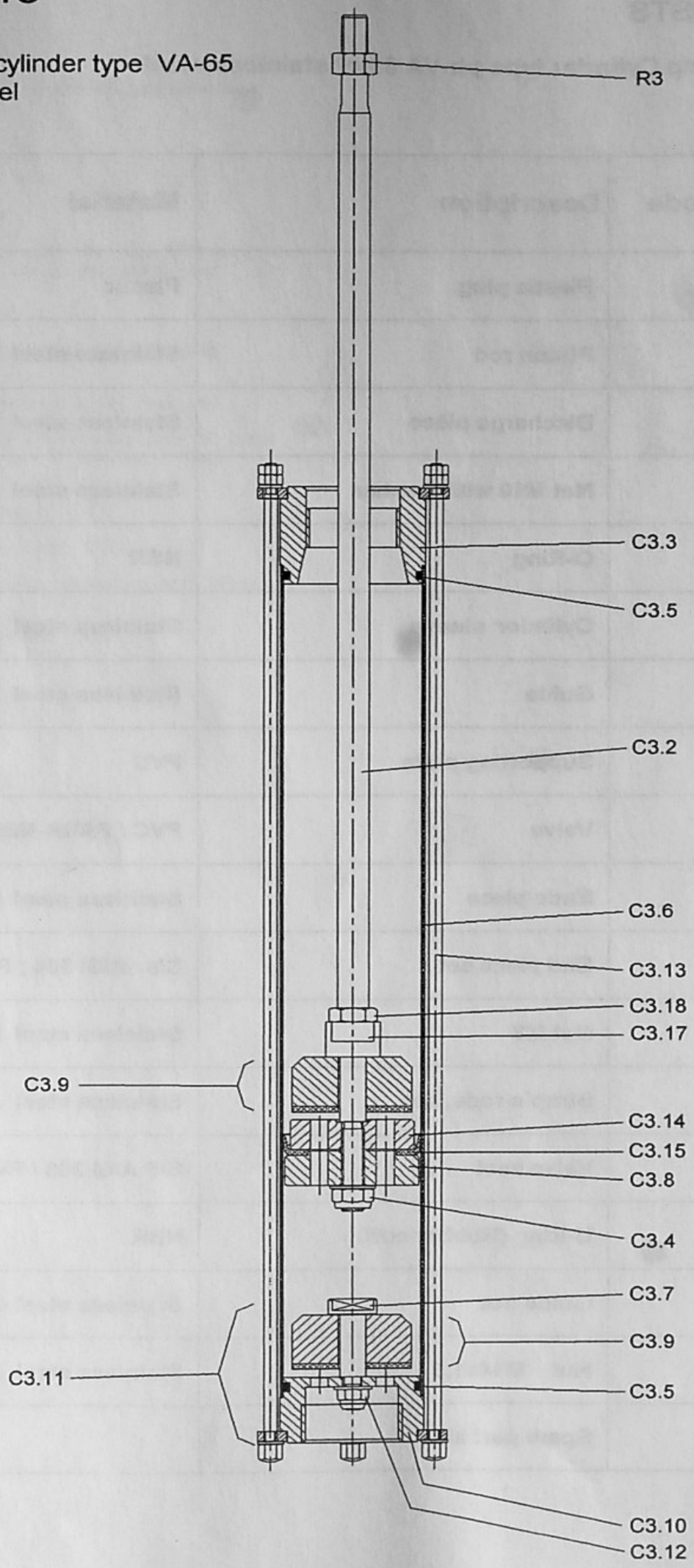
6. PARTS LISTS

6.3 pb-Handpump Cylinder type pb-VA 65 of stainless steel

Product No.	Code	Description	Material
C3.1		Plastic plug	Plastic
C3.2		Piston rod	Stainless steel AISI 304
C3.3		Discharge pièce	Stainless steel AISI 304
C3.4		Nut M10 with washer	Stainless steel AISI 316
C3.5		O-Ring	NBR
C3.6		Cylinder sleeve	Stainless steel AISI 304
C3.7		Guide	Stainless steel AISI 304
C3.8		Supporting plate	PVC
C3.9		Valve	PVC / PARA-NBR
C3.10		Ende piece	Stainless steel AISI 303
C3.11		End piece set	S/s AISI 304 ; PVC /PARA-NBR
C3.12		Nut M8	Stainless steel AISI 316
C3.13		Strap´s rods, set	Stainless steel AISI 316
C3.14		Valve seat	S/S AISI 303 / PVC
C3.15		U-Ring (Rubber cuff)	NBR
C3.17		Guide nut	Stainless steel AISI 316
C3.18		Nut M14x1,5	Stainless steel AISI 316
C3.16		Spare part kit	

6. PARTS LISTS

6.4 spare parts
pb handpump cylinder type VA-65
of stainless steel



6. PARTS LISTS

6.5 spare part list of the cylinder

pb handpump-cylinder type VA 65
of stainless steel