

# CR(N) 32, 45, 64 & 90



## Assembly Instructions

Group Product Training, 1999

**GRUNDFOS**<sup>®</sup>



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# Assembly of pump base



1

Pump base including all parts.



2

Required tools for assembly of pump base.



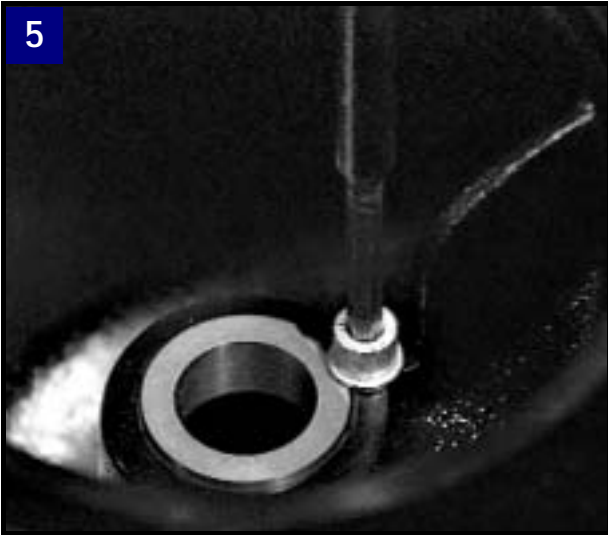
3

Bottom bearing recess must point upwards and towards M6 threaded hole in base.



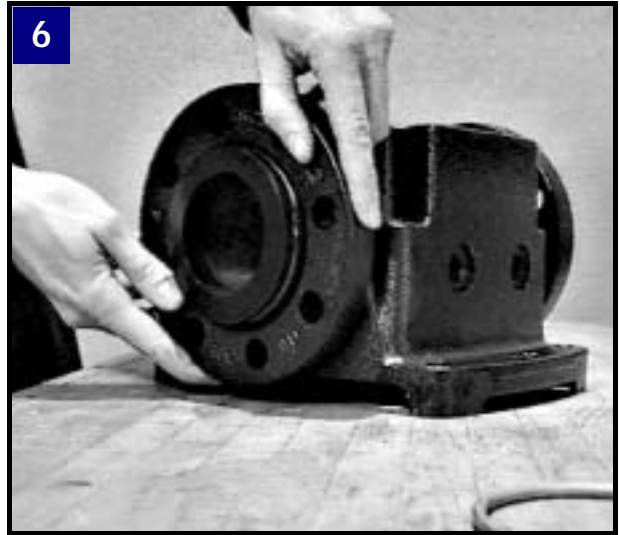
4

Knock bottom bearing in correct position. Bearing recess is 0.1–0.3 mm above hole.



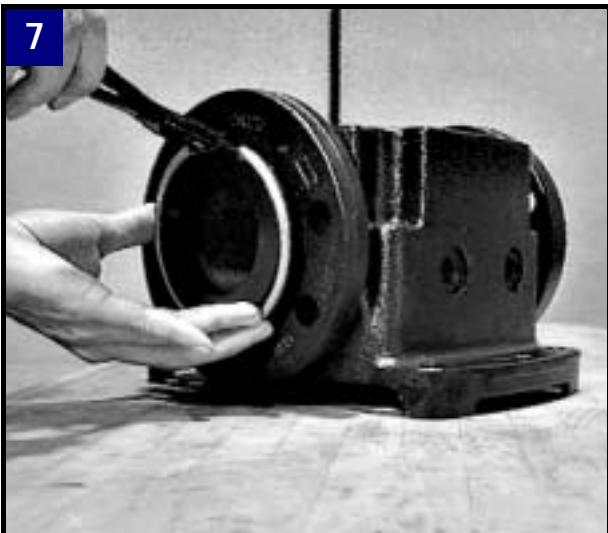
5

Tighten Allen screw including washer at prescribed torque.



6

Fit flange.



7

Fit lock ring.



8

Fit O-rings on plugs.  
Make sure that they do not twist.



9

Lubricate O-rings with water before plugs are fitted.



10

Tighten plugs.



11  
Check that groove for O-ring is clean.  
Fit O-ring properly in groove.



12  
Grease O-ring with Unisilicone L641  
to ease fitting of sleeve.

# Assembly of bearing on shaft



1 Shaft and parts for rotating bottom bearing.



2 Fit rotating bottom bearing (bearing ring).



3 Fit washer.  
Important that teeth on washers interlock.



4 Fit Allen screw with lock washer and tighten at prescribed torque.

# Assembly of chamber stack



Parts for assembly of chamber stack.



Required tools for assembly of chamber stack.



Place proper assembly tool in vice.  
Secure shaft by means of pin.



Note that there are two positions on the tool:  
one for **assembly** and one for **dismantling**.



5

Fit inlet part in tool. Check that holders for straps are properly located in tool.



6

Remove nut and split cone from impeller.



7

Fit impeller properly in neck ring.  
Fit split cone.



8

Knock cautiously split cone down into cone for fixation of impeller in correct position.



9

Fit nut. No grease when fitted the first time.  
In other situations, use Bonderlube.



10

Tighten impeller at prescribed torque.  
Hold impeller by means of hook spanner.





11

Fit intermediate chamber. Concerning intermediate bearing, see Service Manual.



12

Fit top chamber.  
Opening in chamber must be ...



13

... right above the two holders for straps on inlet part.



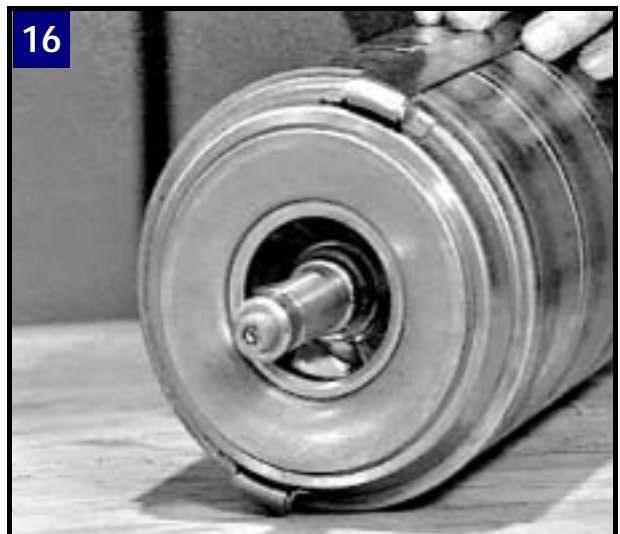
14

Fit straps at an angle of 30° which will facilitate assembly.



15

Tighten straps by turns at prescribed torque.  
If dismantled before, use Bonderlube.



16

Ensure free rotation of shaft with impellers and axial clearance of shaft of min. 5 mm.

# Assembly of pump head



1

Pump head including all parts,  
required tool and lubricants.



2

Fit O-ring properly in groove  
and grease with Unisilicone L641.



3

Fit the four rubber springs carefully so that  
they do not fall out when turning pump  
head.

4



Lubricate O-rings with water.  
Fit and tighten plugs at prescribed torque.

# Assembly of basic unit



1

Pump parts, required tools and lubricant for assembly of basic unit.



2

Fit staybolts. Grease threads: Thread-Eze for CR and Bonderlube for CRN.



3

Mount chamber stack in base.



4

Centerline of straps must be the same as centerline of pump inlet and outlet.



5

Mount sleeve.  
Make sure that O-ring is in correct position.



6

Press or knock sleeve in position  
by means of a soft hammer.



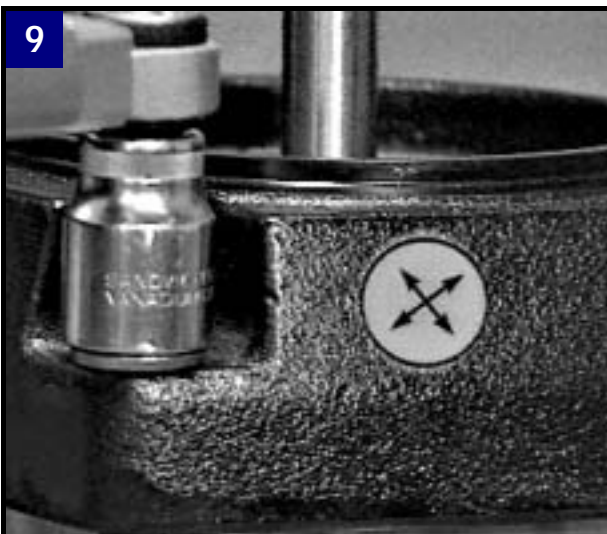
7

Check that rubber springs and O-ring are in  
correct position. Mount pump head.



8

Grease thread with Thread-Eze.



9

Tighten diagonally at prescribed torque.

# Assembly of shaft seal



1  
Parts, tools and lubricants required for assembly of shaft seal.



2  
Grease shaft end with Unisilicone L641 to prevent damage of O-ring.



3  
Grease O-rings on shaft seal with Unisilicone L641.



4  
Remove forked distance piece from shaft seal.



5 Fit shaft seal and press it into bottom position without use of any tools.



6 Fit seal carrier.



7 Tighten Allen screws diagonally at prescribed torque.



8 Ensure free movement of shaft. Tighten seal driver and check free rotation again.



9 Raise shaft and insert forked distance piece under seal driver.

# Assembly of motor stool and motor



1

Parts, tool and lubricant required for assembly of motor stool.



2

Place motor stool so that openings for coupling are accessible.



3

Lubricate bolts with Thread-Eze and tighten diagonally at prescribed torque.



4

Mount motor with terminal box at suction side of pump and tighten bolts diagonally.



# Assembly of coupling



1  
Parts, tool and lubricant for assembly of coupling.



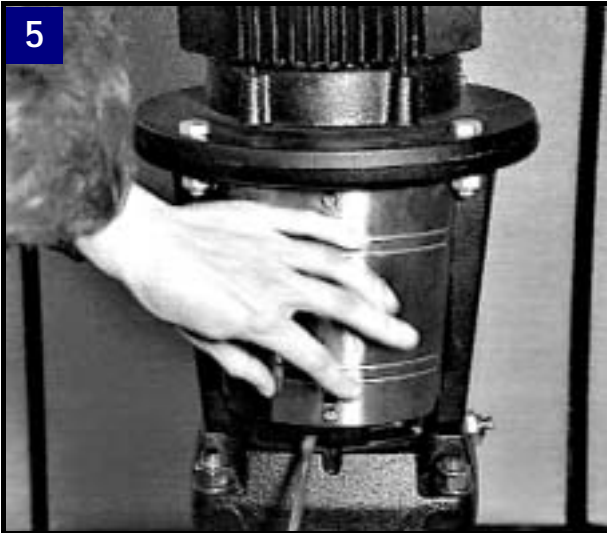
2  
Fit coupling so that pump shaft end is level with bore in coupling.



3  
Tighten one side at a time so that air gap between the two halves is the same.



4  
Remove forked distance piece (place under bolt head) and ensure trouble-free rotation.



5

Fit coupling guard.



6

Place adhesive label according to drawing No. 98.83 34.

# Replacement of neck ring



1

Chamber with worn neck ring and new neck ring.



2

Remove worn neck ring (loosen all way round).



3

Place new neck ring in chamber.



4

Knock neck ring in position using one of the tools mentioned. See Service Manual.



5

Remove retainer for neck ring.



6

Remove worn neck ring.



7

Fit new neck ring and retainer for neck ring.



8

SV 00 25, SV 00 27  
SV 00 28, SV 00 29

Knock retainer in position using one of the tools mentioned. See Service Manual.

# Replacement of bush/bearing in intermediate chamber



Parts and tools for replacement of bush/bearing in intermediate chamber.



Use thick end of tool SV0015 to remove worn bush/bearing.



Removal of worn bush/bearing.



Place new bush/bearing in bearing retainer and fit lock ring.



5

Use tool SV0015 to fit bush/bearing.



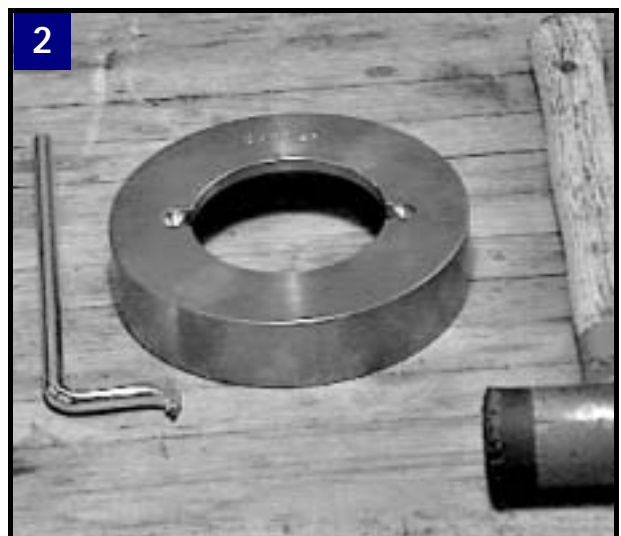
6

Fitting of bush/bearing.

# Replacement of impeller wear ring



Impeller and wear ring.



Tools for replacement of wear ring.



Tool numbers.



Remove worn wear ring by loosening all way round (to protect impeller neck).



5

Fit new wear ring ....



6

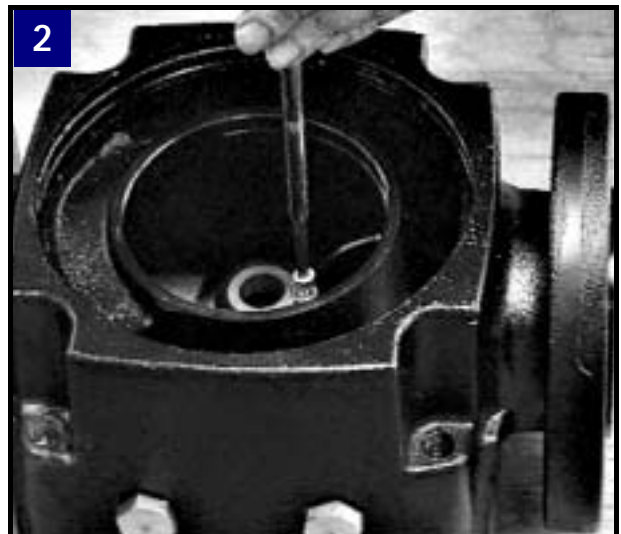
.... by knocking it all way round.



# Replacement of bearing in base



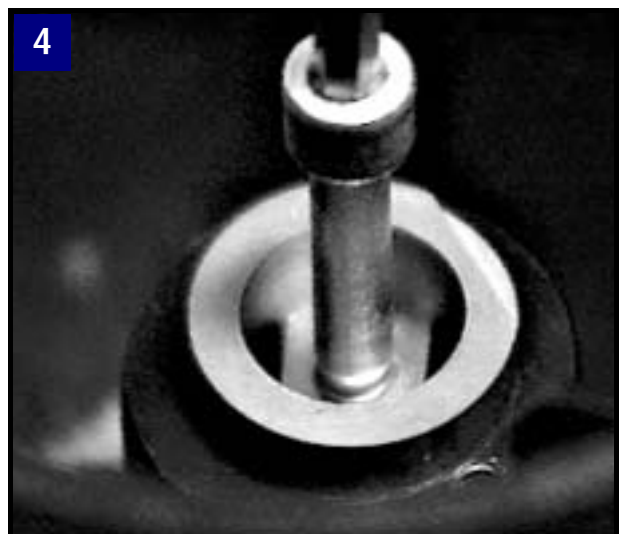
Parts and tools for replacement of bearing in base.



Remove screw.



Use tool No. SV0002 for replacing worn bottom bearing.



Remove bottom bearing.



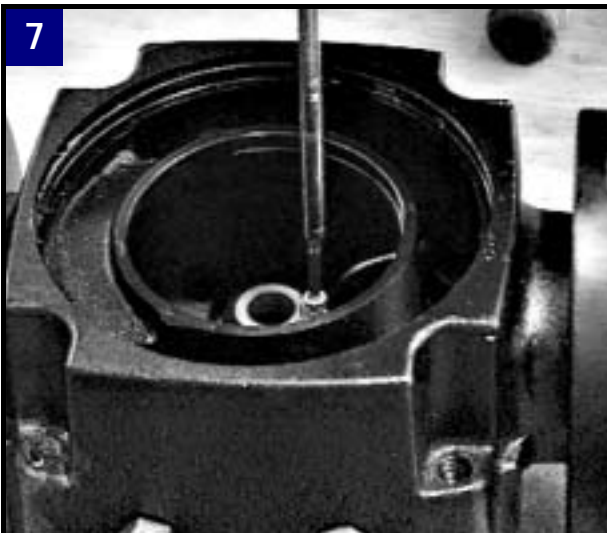
5

Parts and tool for assembly of bottom bearing.



6

Fit bottom bearing. Bearing recess must be 0.1–0.3 mm above hole.



7

Fit and tighten Allen screw including washer at prescribed torque.