3.3 Flashing the travel circuit

Cleaning the hydraulic oil tank

Environment

Catch hydraulic oil and dispose of environmentally!

1. Pump the hydraulic oil from the hydraulic oil tank into a clean container or an oil bag using the filling and filtering unit.
2. Mark all hoses (Fig. 1) and disconnect them from the tank cover.
3. Unscrew the fastening screws for the cover and remove the cover.
4. Clean the hydraulic oil tank thoroughly from inside, reassemble cover and hoses.

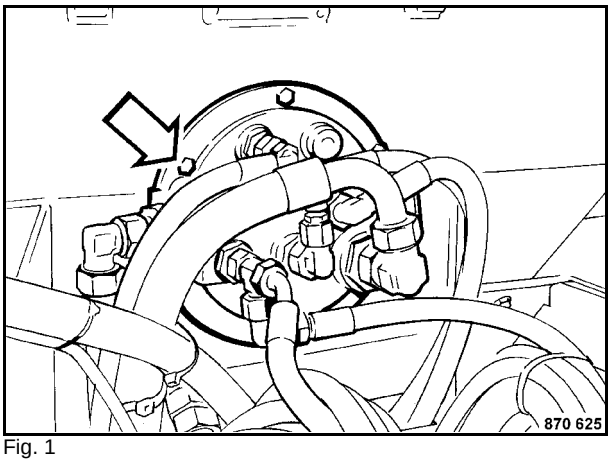


Fig. 1

Filter installation for flushing the travel circuit

Caution

Before installing the flushing filter check hoses and connections for cleanliness, clean if necessary.

1. Disconnect the high pressure hose (Fig. 2) from the travel pump.

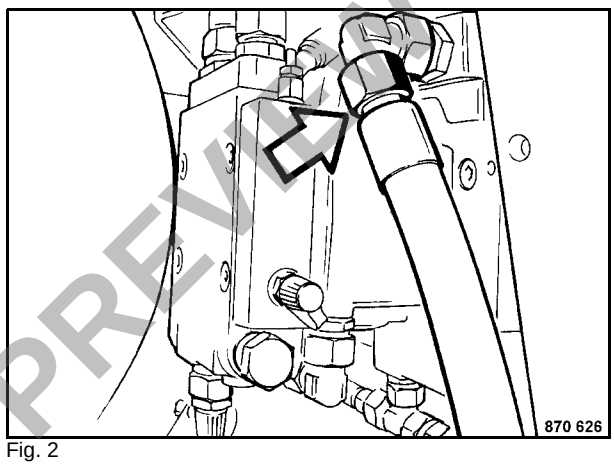


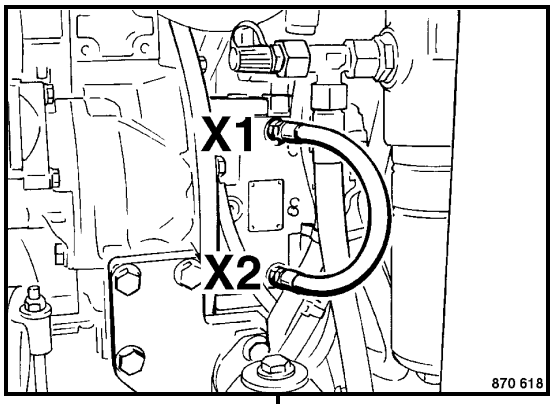
Fig. 2

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4.2 Trouble shooting diagram

The machine drives with the travel lever in „NEUTRAL“



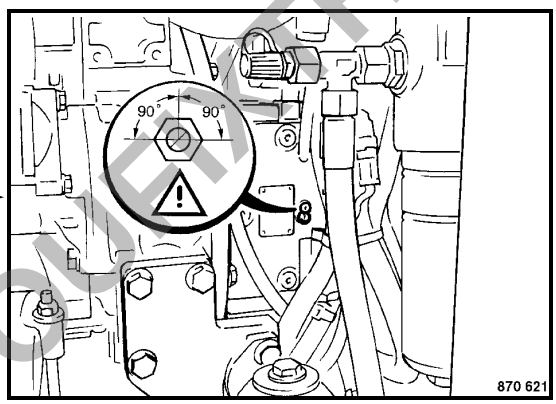
Check the mechanical neutral position

- Enter code number 500 to close the brake
- Connect control chamber ports X1 and X2 with a hose

Neutral position OK?

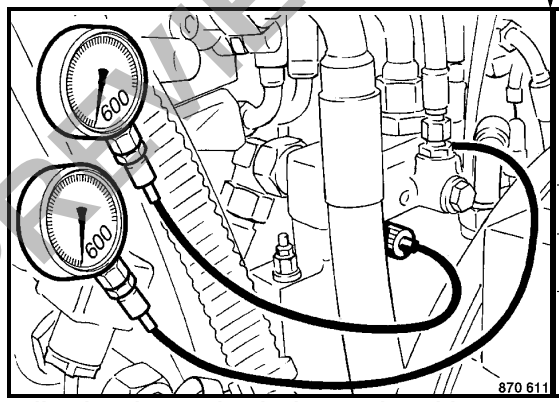
yes

no



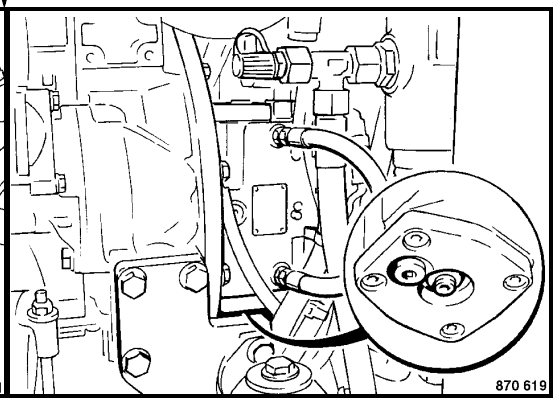
Adjust the hydraulic neutral position

- Remove the hose connecting X1 and X2
- Run the engine with maximum speed.
- Adjust the hydraulic neutral position so that identical pressures are indicated at MA and MB (charge pressure)



Adjusting the mechanical neutral position

- Connect 600 bar pressure gauges to MA and MB



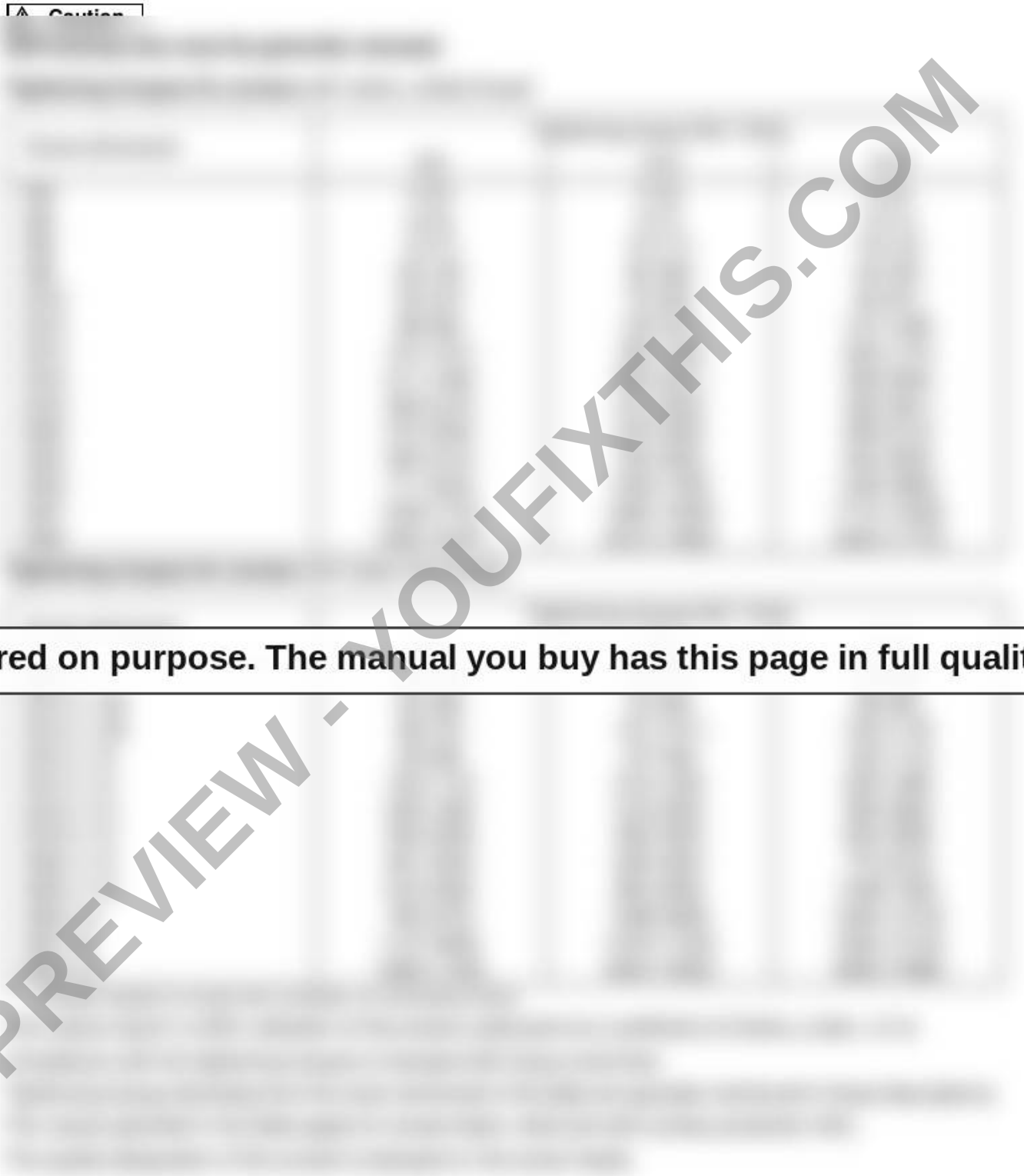
- Run the engine with maximum speed.
- Adjust the mechanical 0-position so that identical pressures are indicated at MA and MB (charge pressure)
- For a more exact adjustment repeat the test with 60 bar pressure gauges

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Tightening torques

- Tighten fastening screws and nuts according to the table of tightening torques.
- Tightening torques deviating from the ones in the table are specially mentioned in the repair instructions.



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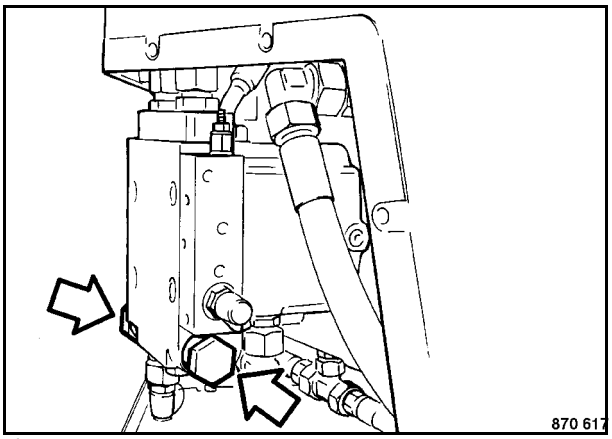


Fig. 4

Evaluation of test:

If the nominal value is only reached for one frequency, clean or replace the valve (Fig. 4) if necessary.

If the nominal value is not reached for both frequencies check the travel pump, replace if necessary.

Nominal value

400 ±5 bar

Adjusting the pressure override

⚠ Caution

To assure a reliable function of the pressure override, the pressure override valve must be adjusted 10% lower than the high pressure relief valve.

1. Turn the setscrew (Fig. 5) back out again, so that the start-up pressure for the vibrator shafts is limited to 380 bar.

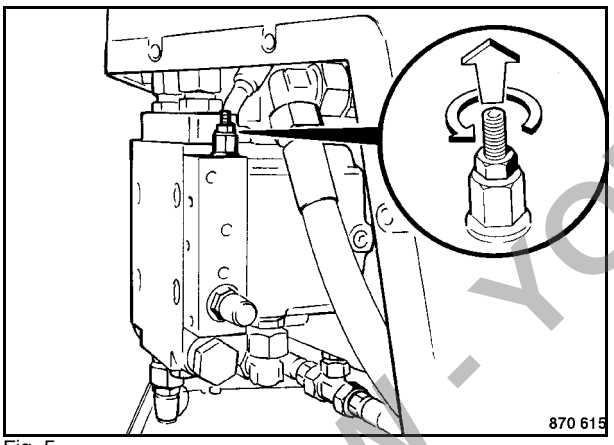
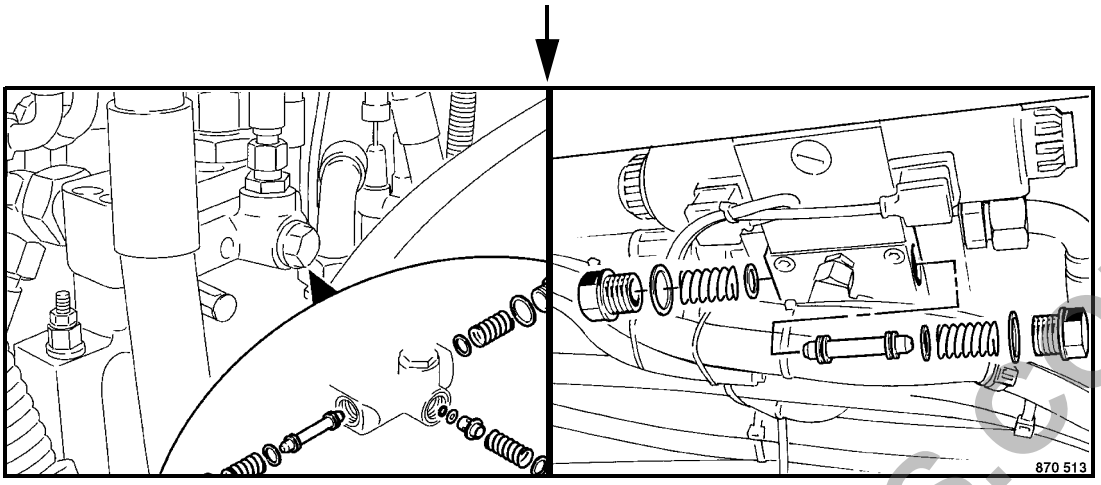


Fig. 5

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Check the flushing valve in the travel system

- Check the moveability of the flushing

Check the flushing valve in the vibration system

- Check the moveability of the flushing

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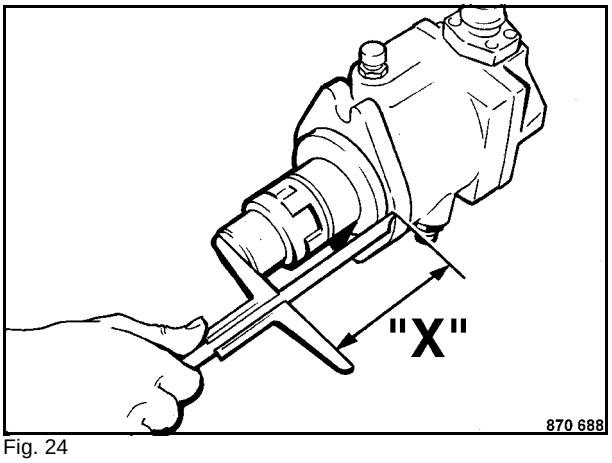


Fig. 24

12. Slide coupling element and coupling hub onto the exciter motor shaft (Fig. 24).
13. Measure the depth to the flange (measurement „X“).

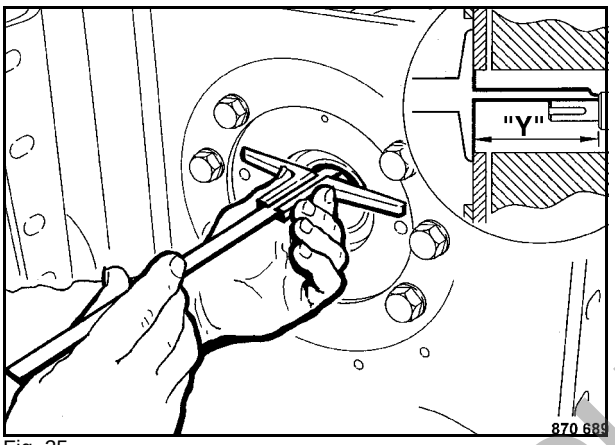


Fig. 25

14. On the vibration drive side of the drum measure the depth to the stop of the coupling hub on the exciter shaft (measurement „Y“) (Fig. 25).

    Calculating the shim thickness:

    Measurement „Y“ - measurement „X“
15. Compensate the difference with spacers between coupling hub and exciter shaft.

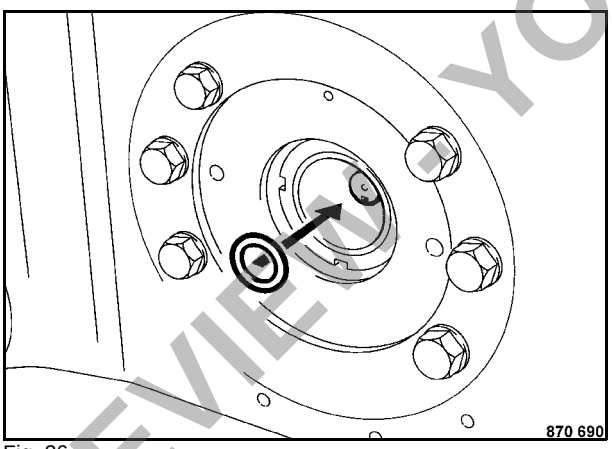


Fig. 26

16. Insert shims (Fig. 26) of calculated thickness.

    i Note

    If the fitting key is already assembled the shims must be punched out accordingly.

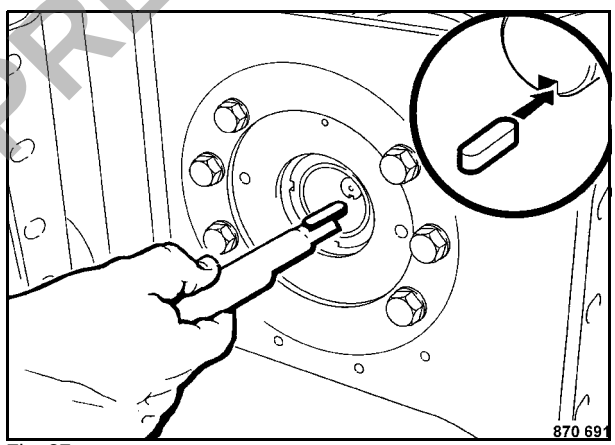


Fig. 27

17. Install the fitting key (Fig. 27).

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MK05 MK11 Remplacement de l'ensemble bloc-cylindres - came

Démontage

MK05 MK11 Replacement of the cylinder-block - cam assembly

Disassembly

1. Déposer le moteur.

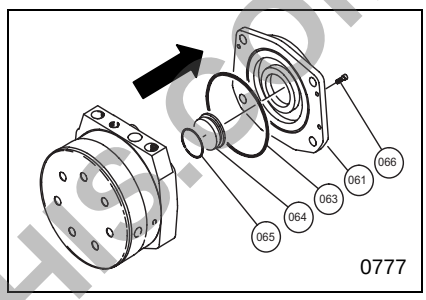
Si le moteur n'est pas freiné :

- Démonter les vis de fixation (066), décoller le flasque (061), puis éliminer le joint torique (063)
- Puis passer à la page 45

1. Remove the motor.

Motor without brake :

- *Remove the mounting screws (066), separate the flange (061) and discard the O-ring (063)*
- *Then go to the page 45*

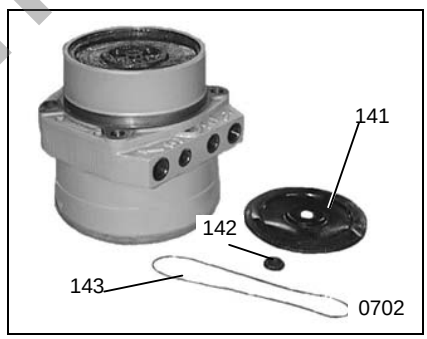


Si le moteur est freiné.

- Extraire le bouchon (142), éliminer la coiffe (141) et le joint torique (143)

Motor with brake.

- *Extract the plug (142), discard the cover (141) and the O-ring (143)*



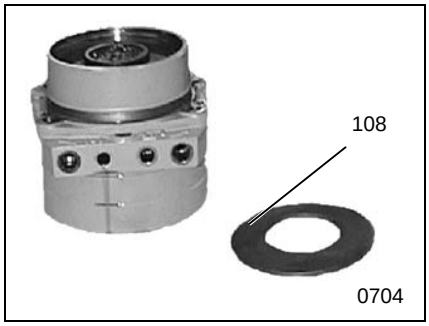
- Comprimer la rondelle élastique (108) à l'aide du mandrin (voir outillage page 45), en plaçant l'ensemble sous une presse (effort F)
- Démonter l'anneau d'arrêt (109) à l'aide d'une pince à anneau d'arrêt intérieur. (voir outillage page 45).

- *Compress the spring washer (108) using the mandrel (see tools page 45). This is done by placing the assembly under a press (F force).*
- *Remove the snap ring (109) using internal snap ring pliers (see tools page 45).*



- Extraire :
- la rondelle élastique (108)

- *Extract :*
- *the spring washer (108),*



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Auswechseln des Nockenrings (026)

Demontage

Dazu die im Kapitel « Auswechseln des Lagerteils » unter « Demontage » beschriebenen Arbeiten ausführen, Seite 16

Wiedereinbau

Dazu die im Kapitel « Auswechseln des Lagerteils » unter " Wiedereinbau " beschriebenen Arbeiten ausführen, Seite 18.
Allerdings muß bei Motoren mit 2 Schluckvolumen mit einem Schluckvolumenverhältnis über oder unter 2 die Winkelposition berücksichtigt werden.
Beispiel: Motor MS18, Schluckvolumen 1747-1049-698
Kleines Schluckvolumen: 698 cm^3 Buchstabe P
Mittleres Schluckvolumen: 1 049 cm^3 Buchstabe M
Die Buchstaben P oder M müssen sich in der Achse befinden und in Richtung des Schiebers für das Wechseln des Schluckvolumens zeigen, auf der der Nockenring auf dem Lagerteil befestigt ist.

Replacement of the cam (026)

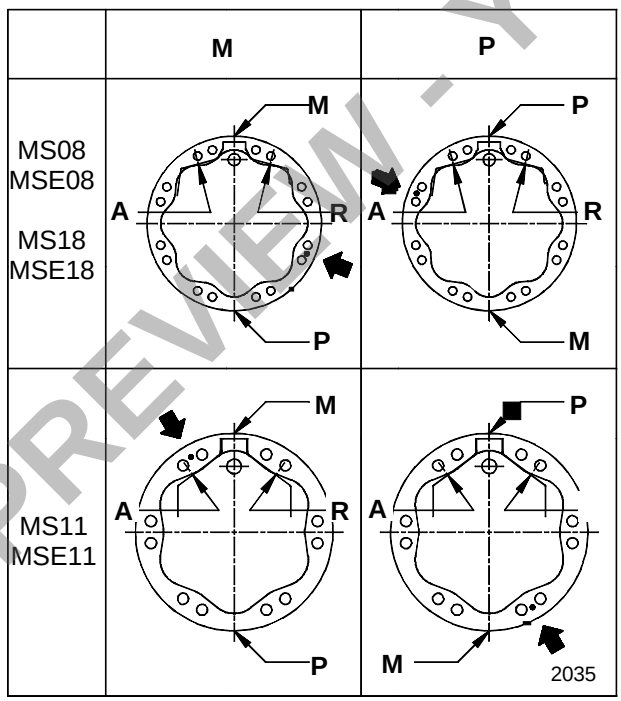
Disassembly

Do operations described in chapter "replacement of the bearing support" section "disassembly" page 16

Reassembly

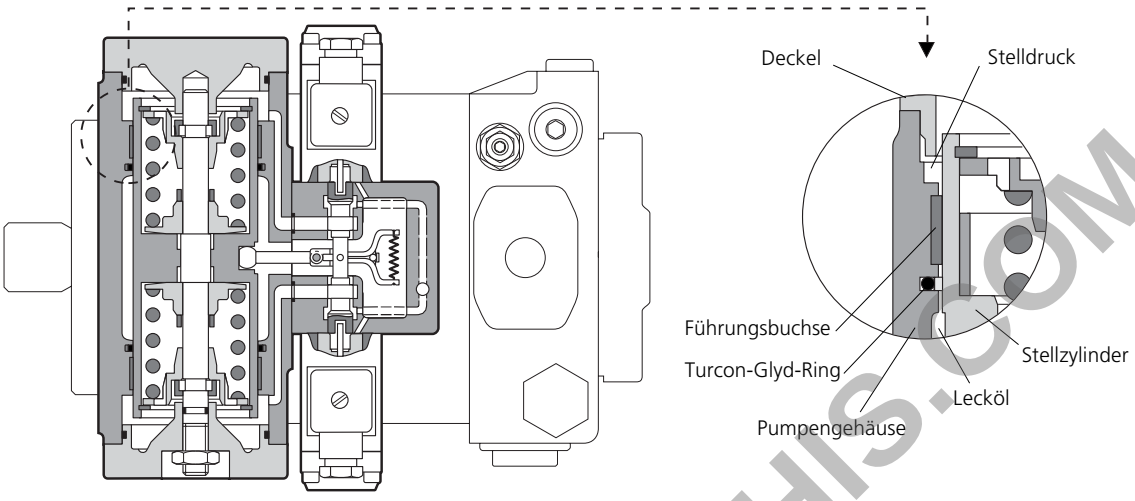
Do operations described in chapter "replacement of the bearing support" section "reassembly" page 18.
The angular position of the cam must be respected on dual displacement motors with a displacement ratio different from 2.

Example : Motor MS18 with displacement 1747-1049-698.
Small displacement : 698 cm^3 [42.59 cu.in] letter P
Medium displacement : 1049 cm^3 [64.01 cu.in] letter M.
The letter P or M must be located in the axis and towards the displacement change spool, with the blind hole towards the fixing of the cam on the bearing support.



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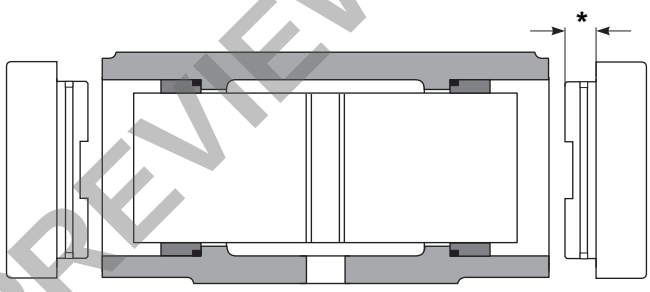
Bei den Verstellpumpen A4VG erfolgt zur Zeit die Umstellung der Verstellung auf Turcon-Dichtungen.
Die Stückliste der kompletten Einheit erhält dabei eine neue Ident.- Nummer.
Typenschlüssel, Typnummer und Außenabmeßungen bleiben dabei unverändert. (Pumpengehäuse ändert sich nur im Bereich vom Stellkolben. Stellkolben ändert sich in eine angefaste Ausführung).

⚠ Alten Stellkolben nicht bei Turcon-Dichtung verwenden (scharfkantig - Dichtungen werden beschädigt).

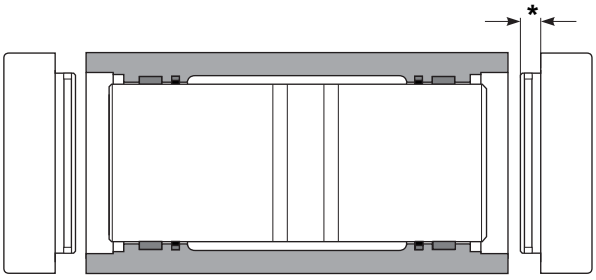
At present the change of the control into Turcon seal is made for A4VG.
The parts list of the complete unit will receive a new identification number.
Type reference and outside dimensions remain unchanged (pump housing will change at the area of the positioning piston. Positioning piston will change into chamfering design).

⚠ Do not use old positioning piston with Turcon seal (sharp edged - seal will be damaged)

Pumpengehäuse / Pump housing
mit Lagerbuchse / with bush **ALT / OLD**



Pumpengehäuse / Pump housing
mit Turcon-Dichtung / with Turcon seal **NEU / NEW**



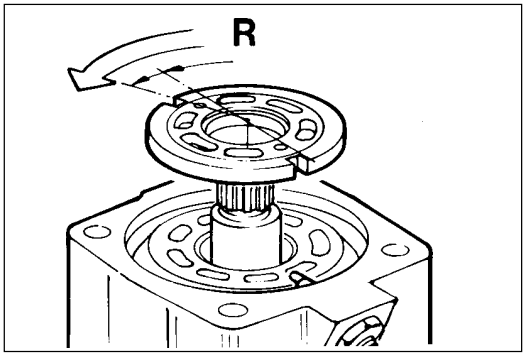
⚠ Die Umstellung der Verstellung auf Turcon-Dichtung ist im allgemeinen mit einer Funktionsverbesserung verbunden (DA-Verhalten, geringerer Temperatureinfluß auf Stellzeiten).

⚠ Bei gleicher Düsenbestückung können sich die Stellzeiten geringfügig verändern.

⚠ The change of the control into Turcon seal design improves in general the function (DA-behaviour, lower temperature-influence on control times).

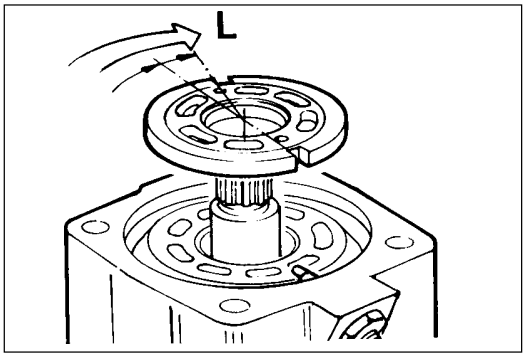
⚠ The control times will slightly change with the same throttle sections. Therefore our customers have to be informed about this change.

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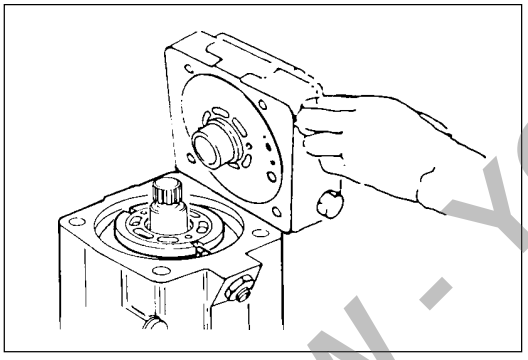
94 Steuerplatte einsetzen - Rechtslauf.

Insert the control plate - clockwise rotation.



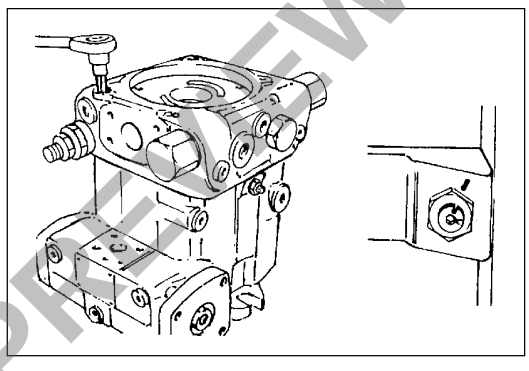
95 Steuerplatte einsetzen - Linkslauf.

Insert the control plate - Counter- clockwise rotation.



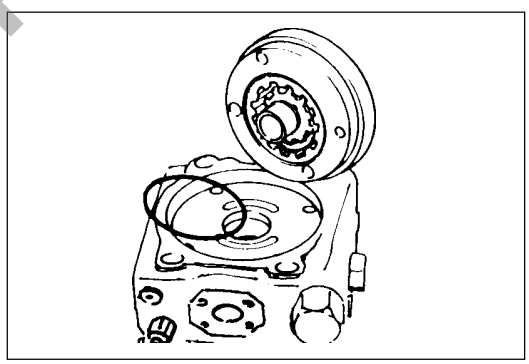
96 Lagerichtig aufsetzen.
Hinweis:
HW, HD, EP - Steuerplatte mit Fett auf Anschlußplatte.

Place in correct position.
Note:
HW, HD, EP - Put control plate with greas to the port block.



97 Schrauben über Kreuz anziehen.
Verdrillschraube auf Markierung drehen.

Tighten screws (Cross-corner).
Turn the indexing screw to marking.

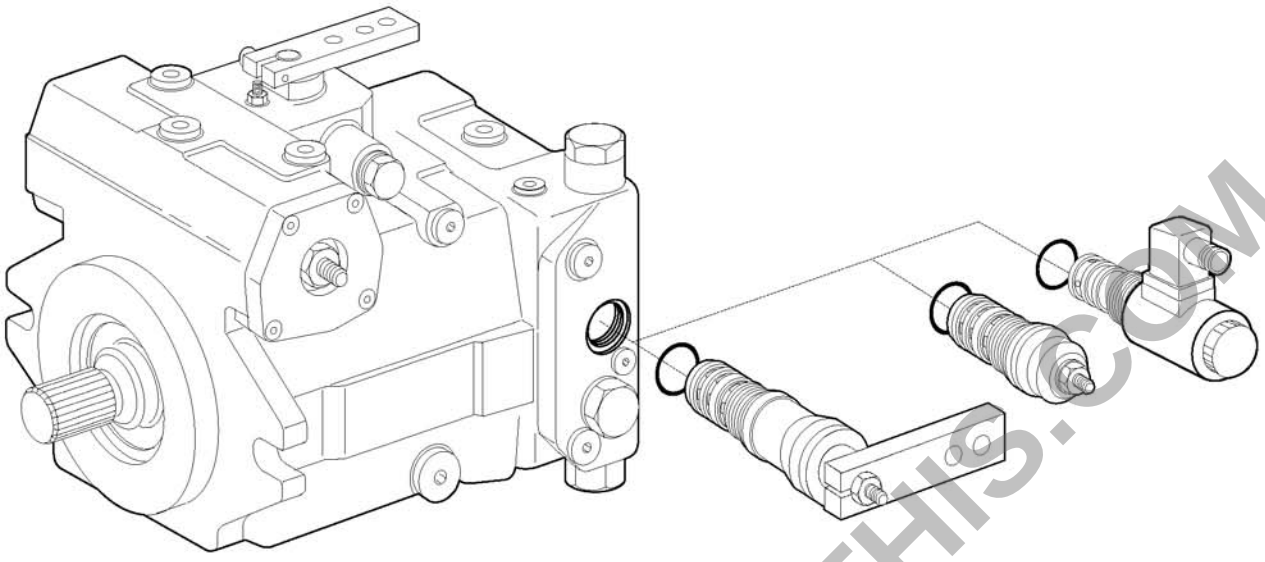


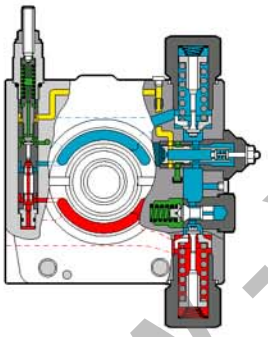
98 Hilfspumpe montieren.

Assemble boost pump.

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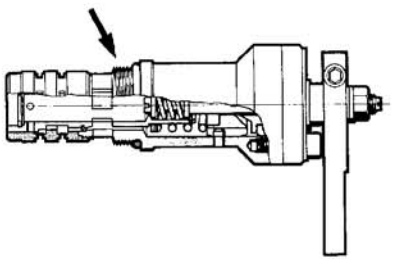
Regelventil ausbauen.

Remove control valve.



Blendendurchmesser nicht beschädigen.
Kontrolle:
Blendendurchmesser

Do not damage the orifice diameter.
Check: Orifice diameter.



Gewinde vor Montage des neuen O-Ringes abkleben.

Before fitting the new O-ring cover the threads (e.g. tape).

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Allgemein

- Machen Sie sich mit der Ausstattung der Maschine vertraut.
- Fahren Sie die Maschine nur, wenn Sie sich völlig mit den Bedien- und Steuerelementen sowie der Arbeitsweise der Maschine vertraut gemacht haben.
- Benutzen Sie Ihre Schutzausrüstung wie Schutzhelm, Sicherheitsschuhe und Gehörschutz.
- Machen Sie sich mit Ihrem Arbeitsgebiet vertraut.
- Benutzen Sie die Maschine nur für den ihr zugedachten Zweck.

Beachten Sie bitte die Richtlinien der Berufsgenossenschaft und des Maschinenherstellers



General advice

- Familiarise yourself with the equipment which the machine is fitted.
- Only operate the machine if your are completely familiar with the operating and control elements as well as the function of the machine.
- Use your safety equipment, such as safety helmet, safety shoes and ear protectors.
- Make yourself familiar with your work area.
- Only operate the machine for its intended purpose.

Please observe the guidelines of the Professional Association and the machine manufacturer.



Vor dem Start

- Beachten Sie die Bedienungshinweise vor dem Starten.
- Prüfen Sie die Maschine auf auffällige Fehler.
- Fahren Sie die Maschine nicht mit defekten Instrumenten, Kontrolleuchten oder Steuerorganen.
- Alle Schutzvorrichtungen müssen fest auf ihrem Platz sein.
- Nehmen Sie keine losen Gegenstände mit bzw. befestigen Sie diese an der Maschine.
- Halten Sie die Maschine von öligem und zündfähigem Material frei.
- Prüfen Sie vor dem Besteigen der Maschine, ob sich Personen oder Hindernisse neben oder unter der Maschine befinden.
- Vorsicht beim Besteigen der Maschine, benützen Sie Treppen und Griffe.
- Stellen Sie vor dem Start Ihren Sitz ein.

Before starting

- Observe the operating instructions before starting.
- Check the machine for obvious faults.
- Do not operate the machine with defective instruments, warning lights or control elements.
- All safety devices must be in place and secure.
- Do not carry with you loose objects, if necessary fix them to the machine.
- Keep the machine free of oily and inflammable material.
- Before entering thc driver's cabin, check if persons or obstacles are beside or beneath the machine.
- Be careful when entering the driver's cabin, use steps and handles.
- Adjust your seat before starting.

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