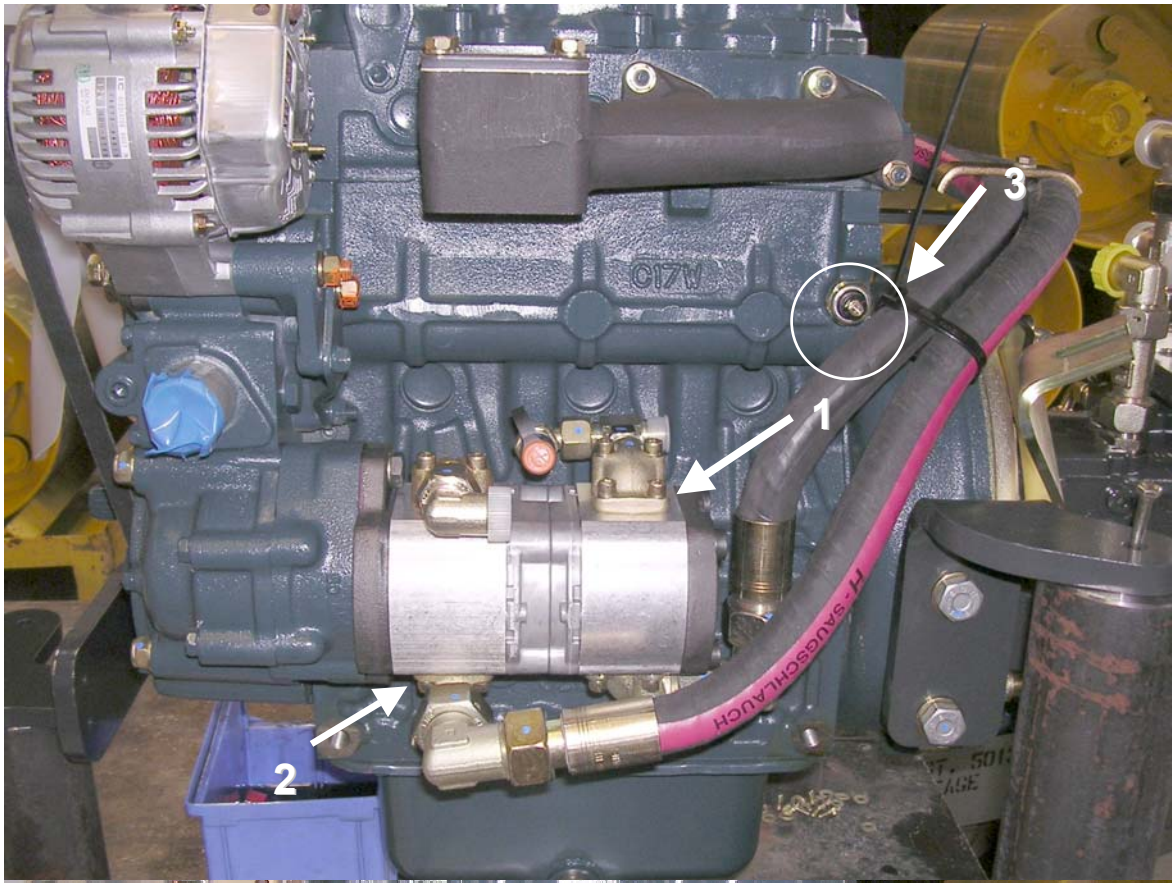
BOMAG

Service Training

BW 100 AD/AC Series 4
BW 120 AD/AC Series 4

P/N 008 099 86 **STATUS: 03/2004**

Pump installation on diesel engine



Pos. 1	*Charge pump*	
Pos. 2	*Vibration pump*	
Pos. 3	*Oil pressure switch*	*0.6 bar*

Besides its function of supplying the closed circuit with cool and filtered oil as replacement for leakage and flushing losses, the oil from the charge circuit is also used to release the travel motor integrated brakes:

All safety and control elements needed for the operation in a closed hydraulic circuit are integrated in the travel pump. These are:

High pressure relief valves (380 bar) with integrated boost check valves

Charge pressure relief valve (24 bar)

Servo control

The travel motors (on AD-machines) are hydraulically connected parallel to each other. On AC-machines all three motors are arranged parallel to each other.

Drum drive motor:

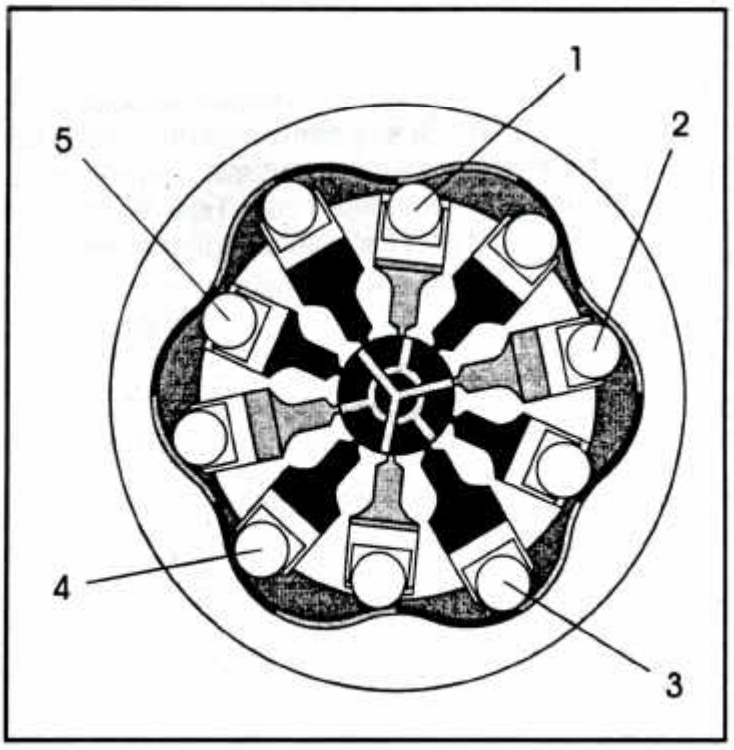
Poclain travel motor type MK04

Both drums are driven by Poclain travel motors type MK04. These are radial piston motors. These drive motors consist of the outer housing, the flat distributor, the cylinder block with the working pistons, the output shaft and the brake. The brake is designed as a Hirth-toothing.

The housing consists of

- bearing section (bearings for output shaft)
- torque module (cam race)
- oil distributor and
- Hirth brake

The function of the radial piston motor is described hereunder. The piston positions mentioned in the description are shown in the corresponding illustration.



The movement of a piston along the cam race must be examined during various phases of the rotation.

If the charge pressure is correct check the high pressure of the travel pump.

Attention! The following test must not exceed 5 seconds !

> Close high pressure ports A and B.

> Connect 600 bar pressure gauges to the high pressure test ports

> Run the engine in idle speed and actuate the travel pump quickly to both directions.

> Read the pressure gauges.

Nominal value: approx. 400 bar

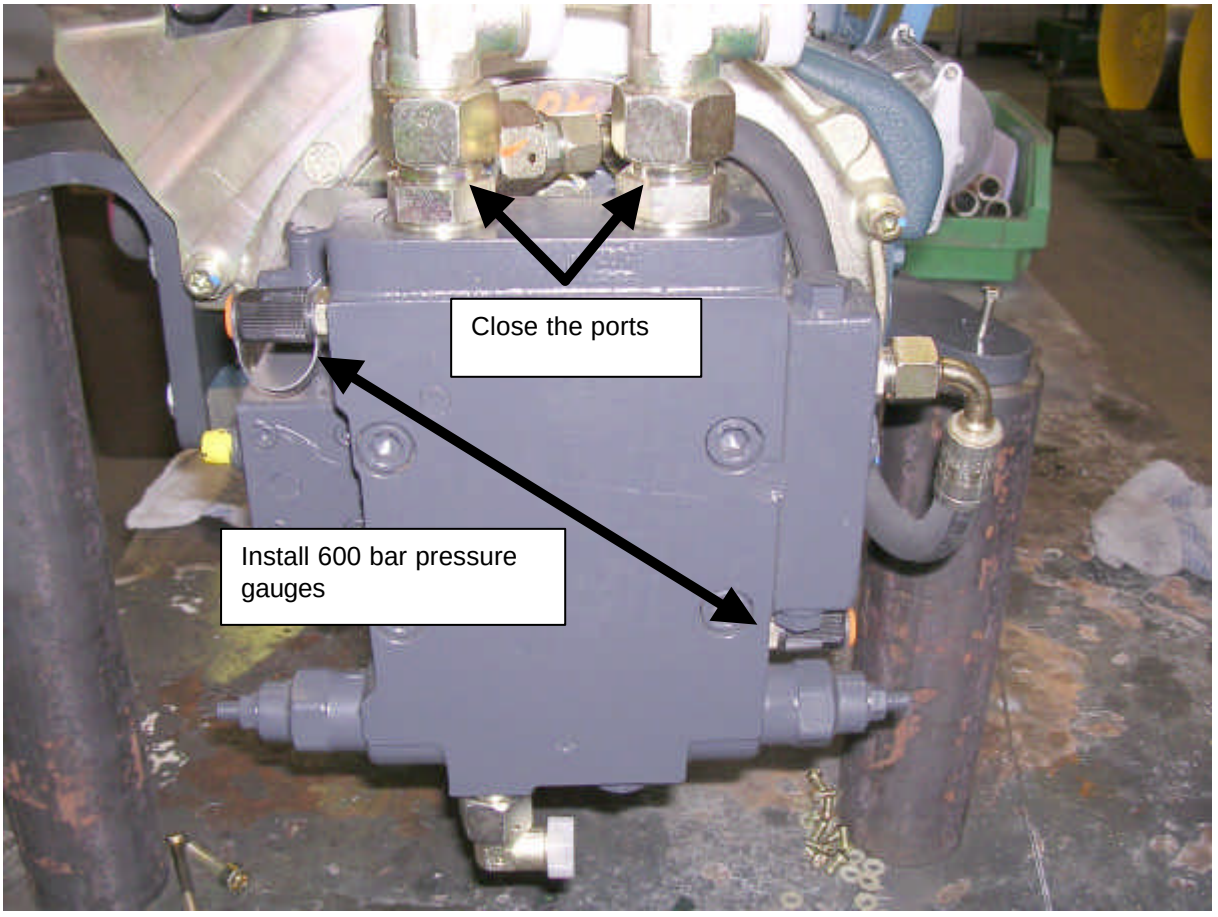


Fig 6:

If the bores are in line check the mechanical neutral position.

> Join both control chambers of the travel pump (X1 and X2)

Note: *The resulting condition of equilibrium must bring the machine to standstill.*

If the neutral position is reached by this measure replace or repair the servo control on the machine.

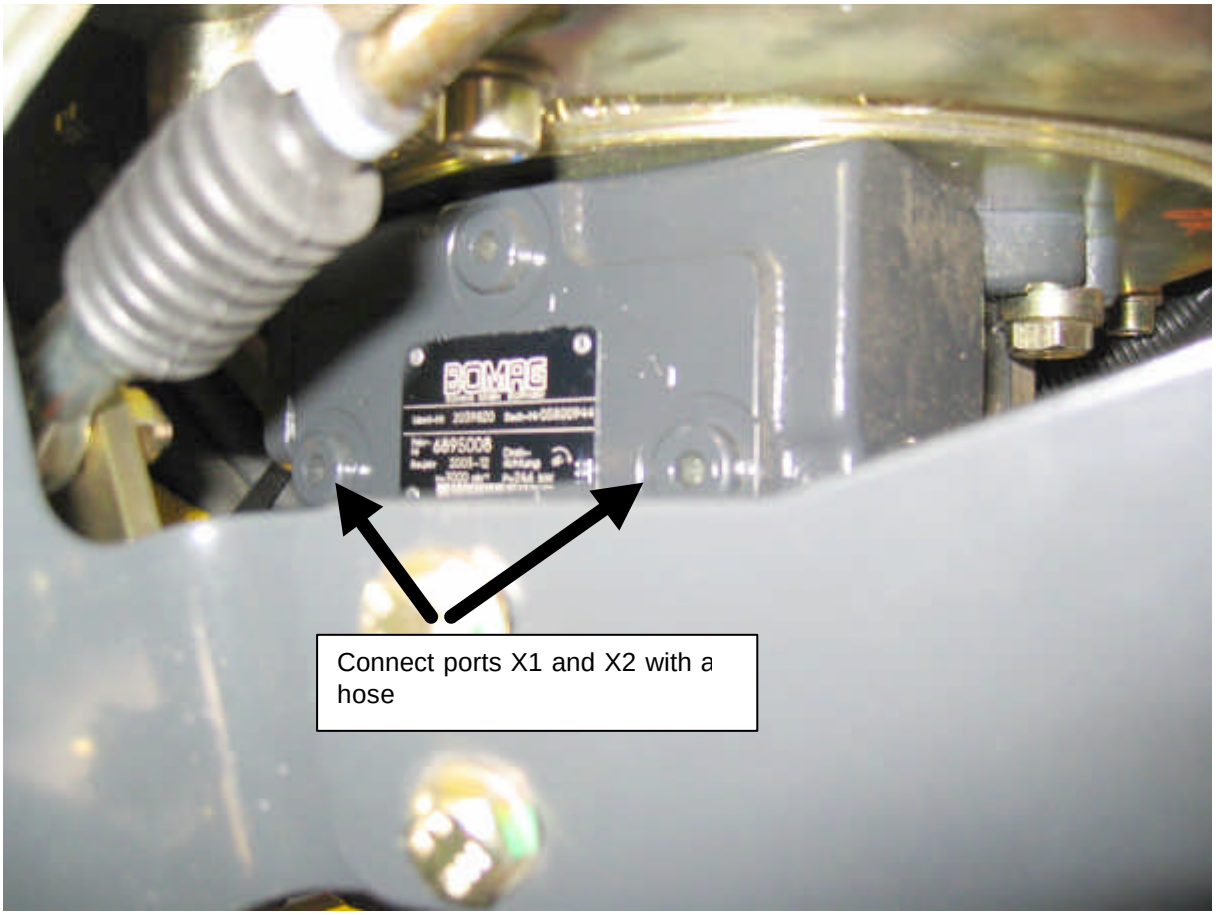


Fig 16:

If the pressure value is not reached subject the vibration pump to a high pressure check.

> Install a 200 bar pressure relief valve with a 600 bar pressure gauge between vibration pump and vibration valve.

> Start the engine and switch on the vibration

Nominal value : approx. 200 bar

If the pressure is reached replace the vibration valve block.

If the pressure value is not reached replace the vibration pump.

Electric circuit diagrams

Electric circuit diagrams are graphic presentations of control logical conditions in the electric system. They do not contain any information on the type of wiring, their purpose is solely the clarification of control logics. Circuit diagrams are of help when performing trouble shooting and enable the fault free connection during modifications or changes to the electric equipment of the machine.

Structure:

1. Table of contents

2. Function groups

3. List of components

1. Table of contents

The table of contents lists all function groups and component lists of the machine.

The arrangement of all sheets in a sequence results in the total wiring diagram.

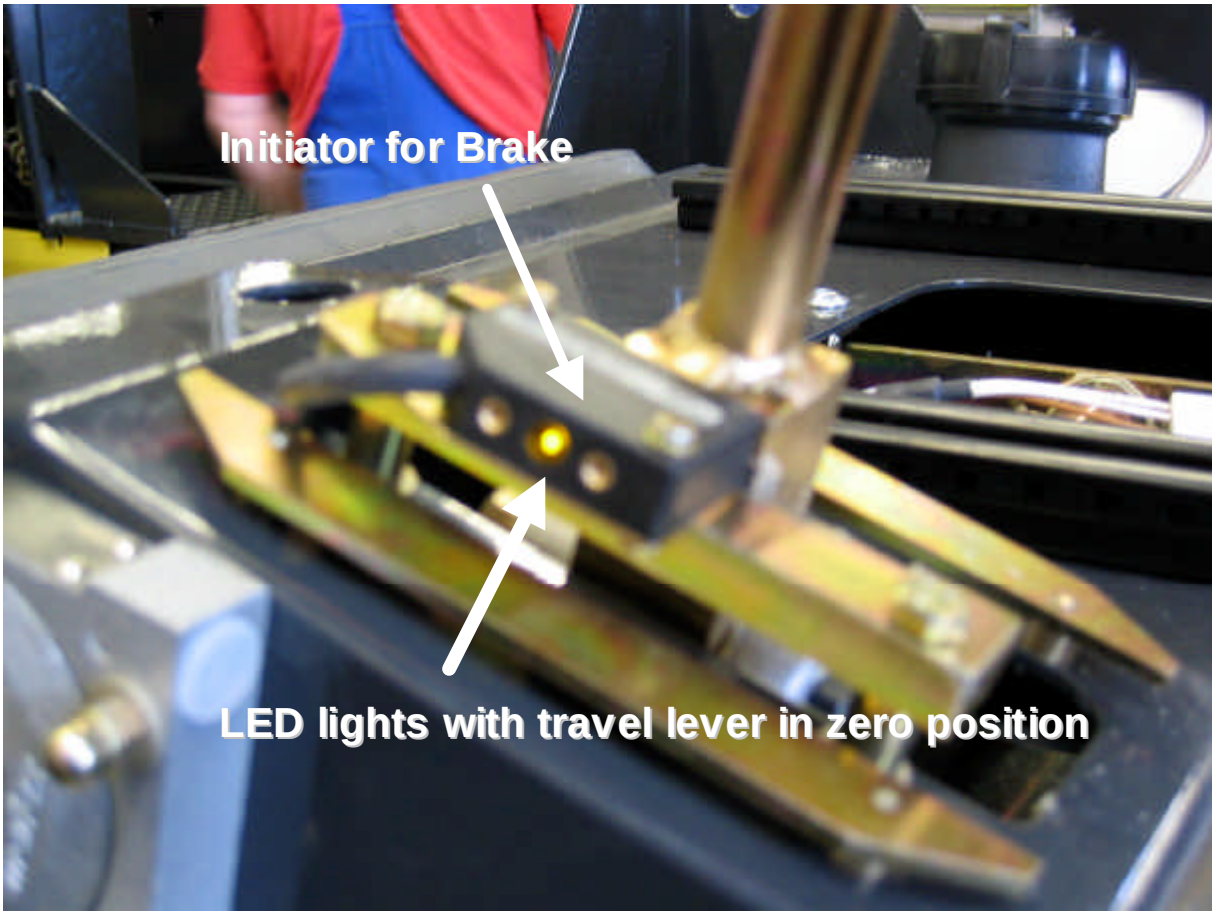
Example:

Function group ”brake”, drawing number 880,100 51 is found on sheet 4

Components list on sheet 101

Neutral position of angle sensor

The zero point of the angle sensor is automatically adjusted via the module. Once the travel lever is in neutral position the brake initiator (on the travel lever) (Pin 12) is actuated. The zero position is thereby recognized. Should the brake initiator be defective or a cable is broken the last value is set as default for the zero point.
If LED2 (on the module) flashes in intervals of one second and LED3 lights permanently, the zero point is reached.



Standardverkabelung: standard wireing:	dicke Linien thick lines	Platinenverdrahtung: connection on printed circuit board:	dünne Linien thin lines

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table of contents: BW 100 AD/AC−4, BW 120 AD/AC−4

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Gez.: 4.2.2004
Name: Kneip

Gepr.: 4.2.2004
Name: Nallin

Stromlaufplan
circuit diagram

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page: from:

Ers.f.:
Replaces:

880 100 51

Blatt Nr.: 001
sheet no.: