

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Travel system



Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

10 Fault codes of the ESX control

10.1 Overview

Fault code	Fault description
0000 - 0999	General faults / warnings / machine tests
1000 - 1999	Fault in travel system
2000 - 2499	Fault in steering system
2500 - 2999	Fault in remote control
3000 - 4499	Fault of work functions (vibration, rotor, dozer blade, chip spreader)
4500 - 4999	Fault in measuring systems
5000 - 5499	Fault diesel engine
5500 - 5999	Fault hydraulic system
6000 - 6999	Fault anti-theft warning system, locating system, access system, time calculation, etc.
7000 - 7499	Input of machine codes
7500 - 7899	Input of measuring technology codes
7900 - 7999	Operating hours, load spectrum, etc.
8000 - 8999	Severe software fault
9000 - 9999	Fault of external I/O-nodes (joystick, data collector, Dios-module, LCD-display, etc.)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Fig. 16:

2. Remove the engine solenoid

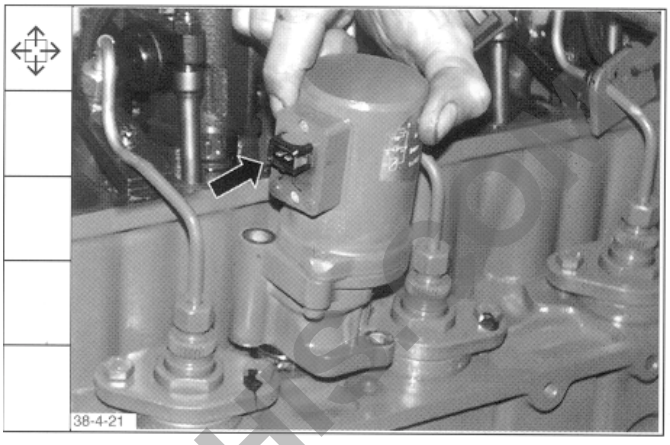


Fig. 17:

3. Insert the pressing device WILBÄR No. 100 830 carefully into the groove of the governor rod and fasten it.

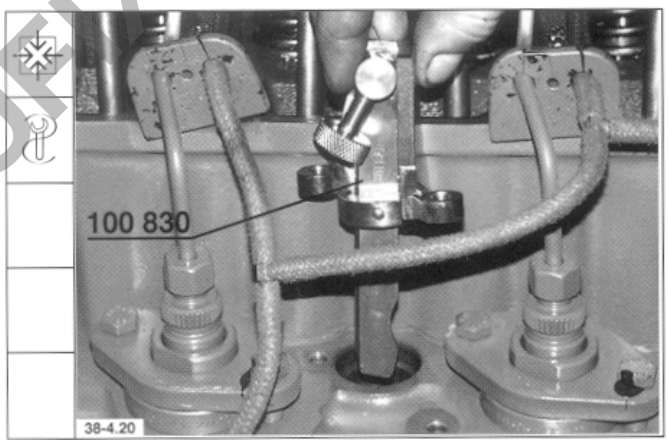


Fig. 18:

4. Turn the knurled fastening screw to press the governor rod to stop position.

Note:

Tighten the knurled fastening screw by hand.

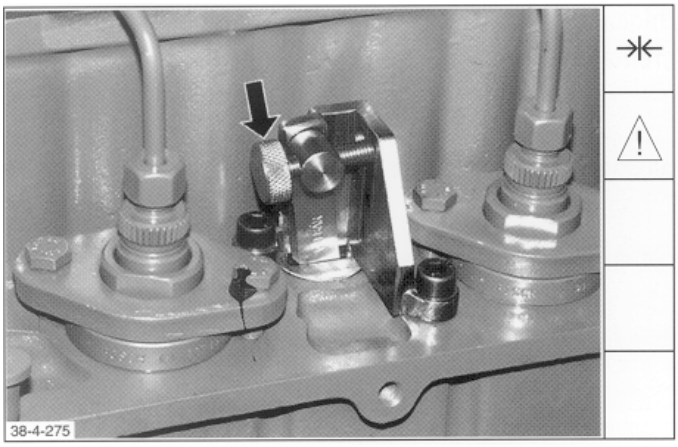


Fig. 19:

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Maintenance table

No.	Maintenance work	Remark	Running in instructions after 50 operating hours	every 10 op. hours, daily	every 250 oper. hours	every 500 oper. hours	every 1000 oper. hours	every 2000 oper. hours	every 3000 oper. hours	every 5000 oper. hours	as required
5.6	Check the engine oil level	Dipstick mark		X							
5.7	Check the water separator			X							
5.8	Check the fuel level			X							
5.9	Check the hydraulic oil level	Inspection glass		X							
5.10	Check dust precleaner			X							
5.11	Check tire pressure				X						
5.12	Clean engine oil, fuel and hydraulic oil cooler				X						
5.13	Check the drive axle oil level				X						
5.14	Check oil level in wheel hubs				X						
5.15	Check oil level in vibration bearings				X						
5.16	Change engine oil and oil filter element[a]	min. 1x per year				X					
5.17	Battery service	pole grease				X					
5.18	Drain the fuel tank sludge					X					
5.19	Change the fuel prefilter element					X					
5.20	Check V-belt tension, tighten, replace					X					
5.21	Check tension of refrigerant compressor V-belt , tighten, replace					X					
5.22	Service the air conditioning					X					
5.23	Check, adjust the valve clearance	Inlet = 0,3 mm exhaust = 0,5 mm on cold engine					X				

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Table of contents

Foreword	**A 1**
Documentation	A 2
General	A 3
New developments	**A 5**
Technical data and adjustment values	**B 1**
Maintenance	C1
Maintenance chart	C2
DEUTZ diesel engine with EMR	**D 1**
Service side	D 2
Starter side	D 3
Lubrication oil circuit	D 4
Coolant circuit	D 5
Fuel system	D 6
EMR	D10
Trouble shooting	D22
Diagnose SERDIA	D24
Checking and adjusting the valve clearance	D26
Assembly of the plug-in injection pump	D28
Engine components	D44
Travel system	**E 1**
Travel pump	E 3
Control	E 7
Charge pressure relief valve	E 8
High pressure relief valve	E 9
Pressure override	E11
Axle drive motor	E14
Drum drive motor	E17
Test and adjustment points, travel system	E19
Trouble shooting travel system	E27

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Foreword and novelties

Reliable construction equipment is of greatest advantage for all parties involved:

- for the customer/user it is a basis for an exact calculation of utilization periods and the completion of projects as scheduled.
- in the rental business it means that the equipment can be reliably used and planned without having to stock a large number of stand-by machines.
- for the manufacturer it means that customers are satisfied, provides him with a good image and gives him a feeling of confidence.

It is BOMAG's philosophy to design and produce the machines with highest possible reliability. This aspect of simple and easy maintenance was one of the key issues when developing and designing the machine:

- the location of components in the machine eases maintenance work,
- the high quality standard of BOMAG is the basis for the considerable extension of the service and maintenance intervals.
- the After Sales Service of BOMAG, including excellent operating and maintenance instruction manuals, high quality training courses and on-site machine demonstrations helps the customer to maintain their machines in good condition over a long period of time.

Permanent training of BOMAG's own service personnel as well as the service personnel of BOMAG Profit Centres and dealers is therefore a general prerequisite for BOMAG's excellent world-wide service.

This program of permanent training is only possible with appropriate and up-to-date training material for trainers as well as persons attending the training courses.

This training manual has not only been written as a support for the professional work of the trainer, but also for the trainees attending these training courses.

The different levels of product training demand, that the training performed by BOMAG, its Profit Centres or its dealers reflects the high quality of the training conducted at the Training Centre at BOMAG in Boppard. For this reason we invested a lot of time in the preparation of these materials .

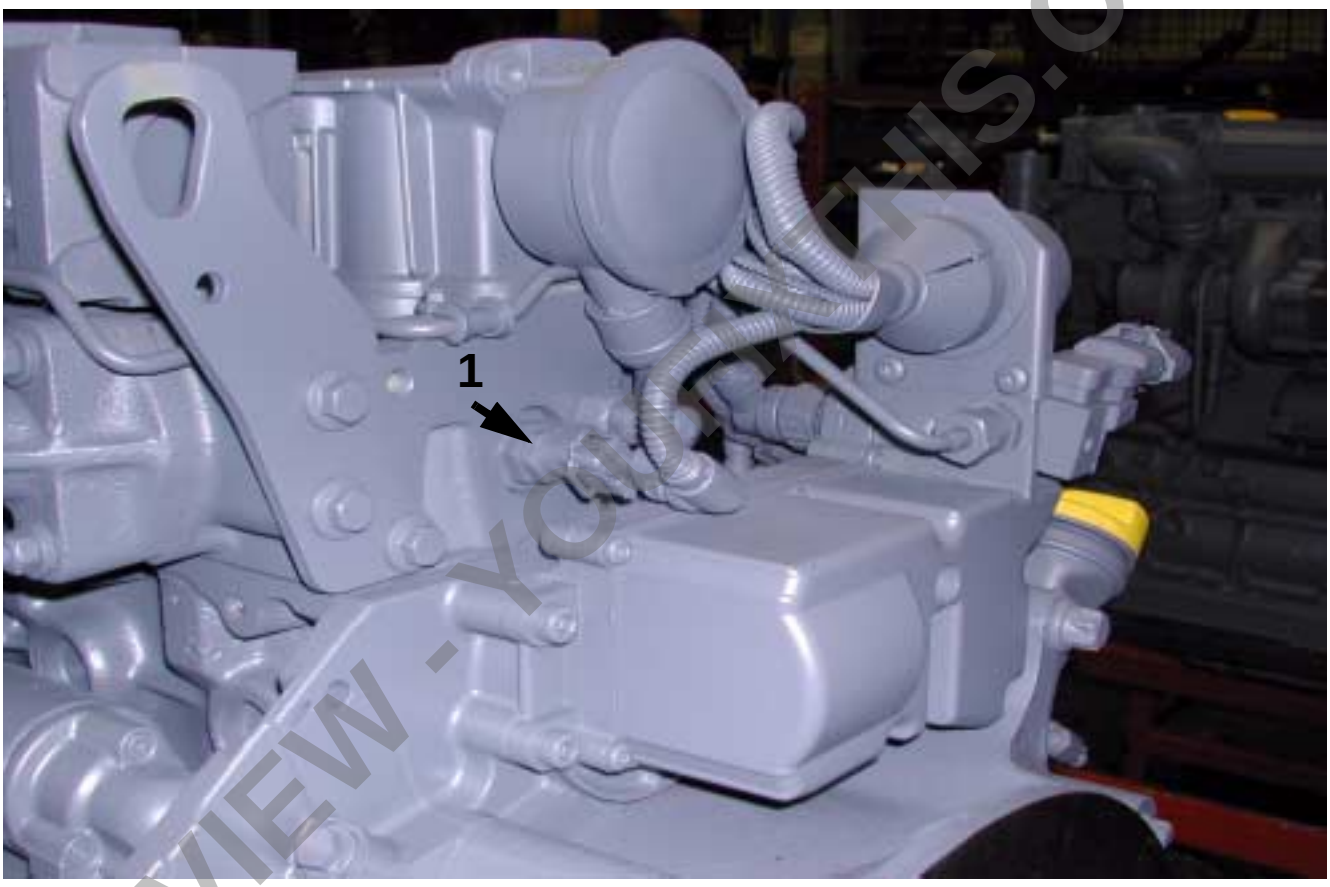
The structure of this training manual enables us to change or up-date individual chapters in case of alterations to the machine.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

The coolant temperature influences the calculated injection quantity of the EMR.
Except for the EMR itself the EMR sensor value is also used by the control light for too high coolant temperature in the display.

- In case of a too high temperature the EMR will shut the engine down and the display will show and error code.
- In case of a sensor failure the engine will continue to run and an error code is displayed.



Pos.	Designation	Pos. in wiring diagram	Deutz designation	Measuring values
1	EMR temperature sensor for coolant	B 113		

Speed sensors: Camshaft B114 and crankshaft B 130

The sensors for camshaft and crankshaft speeds are installed on the side of the engine block.
The sensor delivers the actual engine speed value for the EMR control unit.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

High pressure relief valves

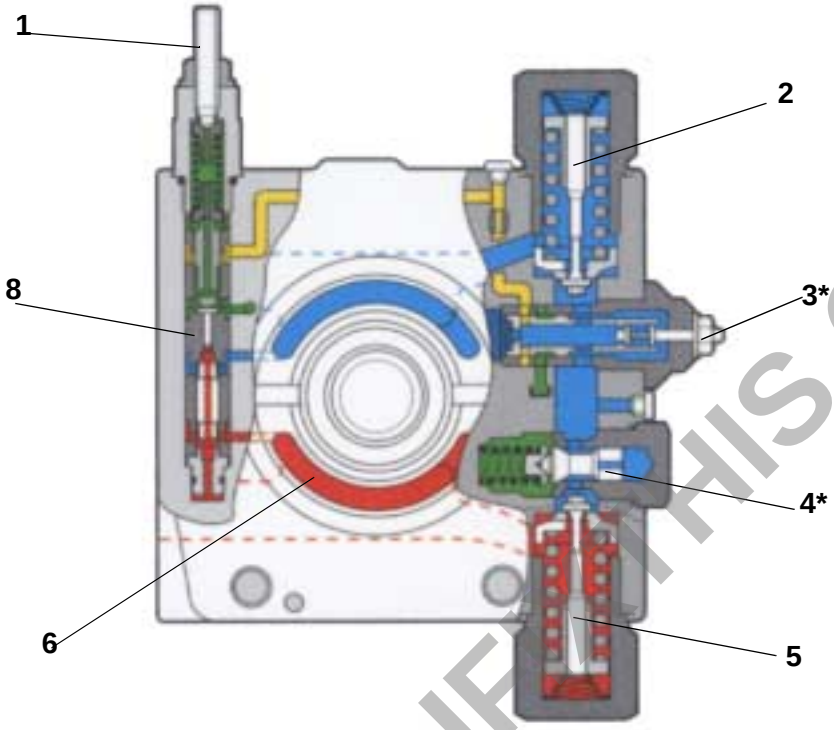


Fig. 5 High pressure relief valves

1 Setscrew for pressure override

2 High pressure relief valve with integrated boost check valve

3 ****(not in vibration pump)***

4 ****(not in vibration pump)*** *(charge pressure relief valve)*

5 High pressure relief valve with integrated boost check valve

6 Valve plate

7 Pressure override

When switching the vibration off the vibration motors for a short while have the function of a pump. They pump the oil back to the vibration pump. This effect is caused by the rotating exciter shafts with the attached eccentric weights.

Since the vibration pump is already in neutral position, the oil cannot pass through the pump. In this case the pressure override valve has no function. Under this condition the high pressure relief valves work as brake valves.

The functions of pressure override valve and high pressure relief valves in the vibration circuit are identical with the functions of these valves in the travel circuit. The description of these components does therefore not need to be repeated.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

3.5 Teaching the travel direction sensor

Teaching of the travel direction sensor is required for first commissioning or after replacing a travel motor. Use the following procedure.

- Turn the travel stage switch to "MAX"
- Slowly displace the travel lever, until the speedometer shows a reading of approx. 1 km/h.
- If one of the two travel direction sensors detects an opposed direction after the machine has travelled approx. one machine length, fault code 1106 or/and 1116 is displayed. Otherwise no fault code is displayed. The travel direction detection has now been automatically set.
  However, should one of these error messages still be displayed after this measure, there must be a sensor fault present.

3.6 Automatic detection of surge currents in the travel system

This function sequence is only valid from software version 1.09!

For a sensitive and exact travel function the surge currents in the travel system must be determined for both travel directions. The surge currents are automatically determined after entering a code number, so that no electric meter is required.
The surge currents must only be determined during initial commissioning in the factory, after a service during which the control on a steering valve or the complete steering valve has been replaced and after the replacement of the ESX-control.

The measurement is identical for both travel directions: After entering the respective code number the current is increased by the control solenoid on the travel pump in steps of 5 mA, starting from 250 mA.. After each current increase the system waits for 3 seconds. If a considerable drum movement is measured during the waiting time, the surge current is reached. In order to enhance the measuring result this measurement is performed three times. The final surge current is the mean value of these three measurements. This surge current is automatically stored and is valid from the next start of the machine.

Before the measurement you should strictly make sure that the machine is parked on level ground and has a sufficient distance for movement to front and back, because the machine will move to the respective direction when performing the measurement.

Attention! Set the machine to input mode first (code **9999**). It must be strictly assured that the speed sensor (in front right hand hydraulic motor) is working correctly. For a function test enter code number **1106** at the display module. This code can be used to display the number path pulses from the speed sensor. The displayed value must change when the machine is driven.
If this value does not change even though the machine is moving, the measurement must not be performed!
The state of the speed sensor must first be corrected, as otherwise the movement of the drum will not be detected. (See also: „Resetting the surge currents in the travel system")

Attention!
During the measurement the machine will move when the surge current is reached!
Do not leave the machine while the measurement is progressing!
During the measurement keep an eye on your environment!
To stop the machine reset the travel lever to neutral position!

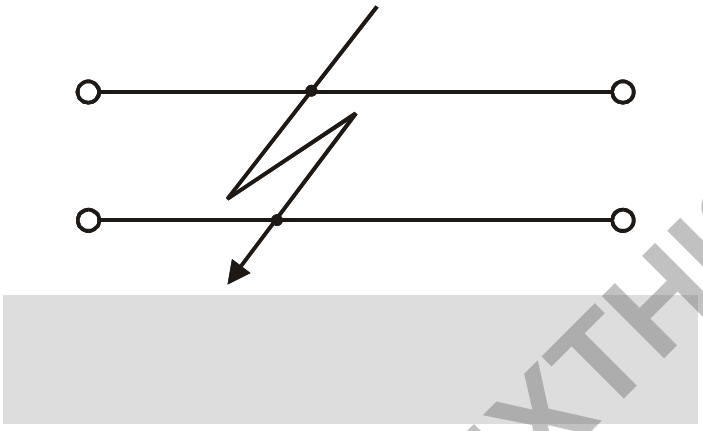
The automatic measurement of the travel system surge currents is performed as follows:

- The switch for rotary speed preselection **must** be set to ECO
- If necessary enter code number **9999** to enter into service mode.
- Then enter **1090**. This code number activates the function "Automatic detection of surge currents"; the display now shows the value **0000** with the first zero flashing. This code number **must** be entered before the following steps can be performed. **From this point the machine can**

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

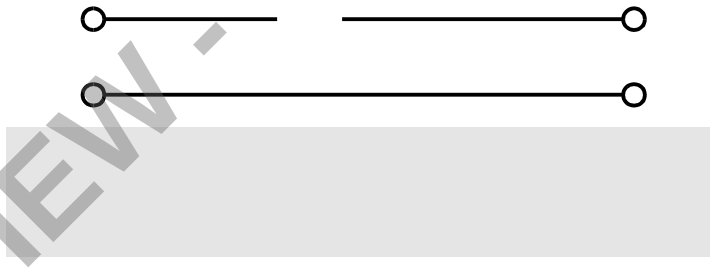
12 Terminology in connection with ESX

Short circuit
A direct, unwanted connection between two different cables or between machine and cables.
Examples:
Two lines rub against each other until the insulation has worn off.
A conductive line rubs off the insulation at the vehicle ground.



Wire breakage
This generally means that a connection is interrupted. Possible reasons may be:

Line:
- torn (not necessarily visible from outside)
- rubbed through
- chafed mostly in connection with a *short circuit to ground*



Terminal, cable lug
- loosened, slipped off
- broken off,
- corroded,
- socket / plug faulty

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 11 of 201 pages

The full manual includes:

- All 201 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Bomag BW 177, BW 179, BW 179 DH, PDH-4 Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual