TEREX ATLAS

Workshopmanual 1704 / 1804



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TEREX ATLAS

CONTENTS

Service manual for the

TEREX-ATLAS
Model 1704-1804

Backhoe and industrial rehandler range.
Including Mobile and Tracked variants.
Built from 1993 onwards

1. 935 series operators cabin

2. Deutz - Engine

3. Lubrication

4. 1704 - 1804. 372, 282 series

5. 1704 - 1804. 373, 283 series

6. 1704 - 1804. 374, 284 series

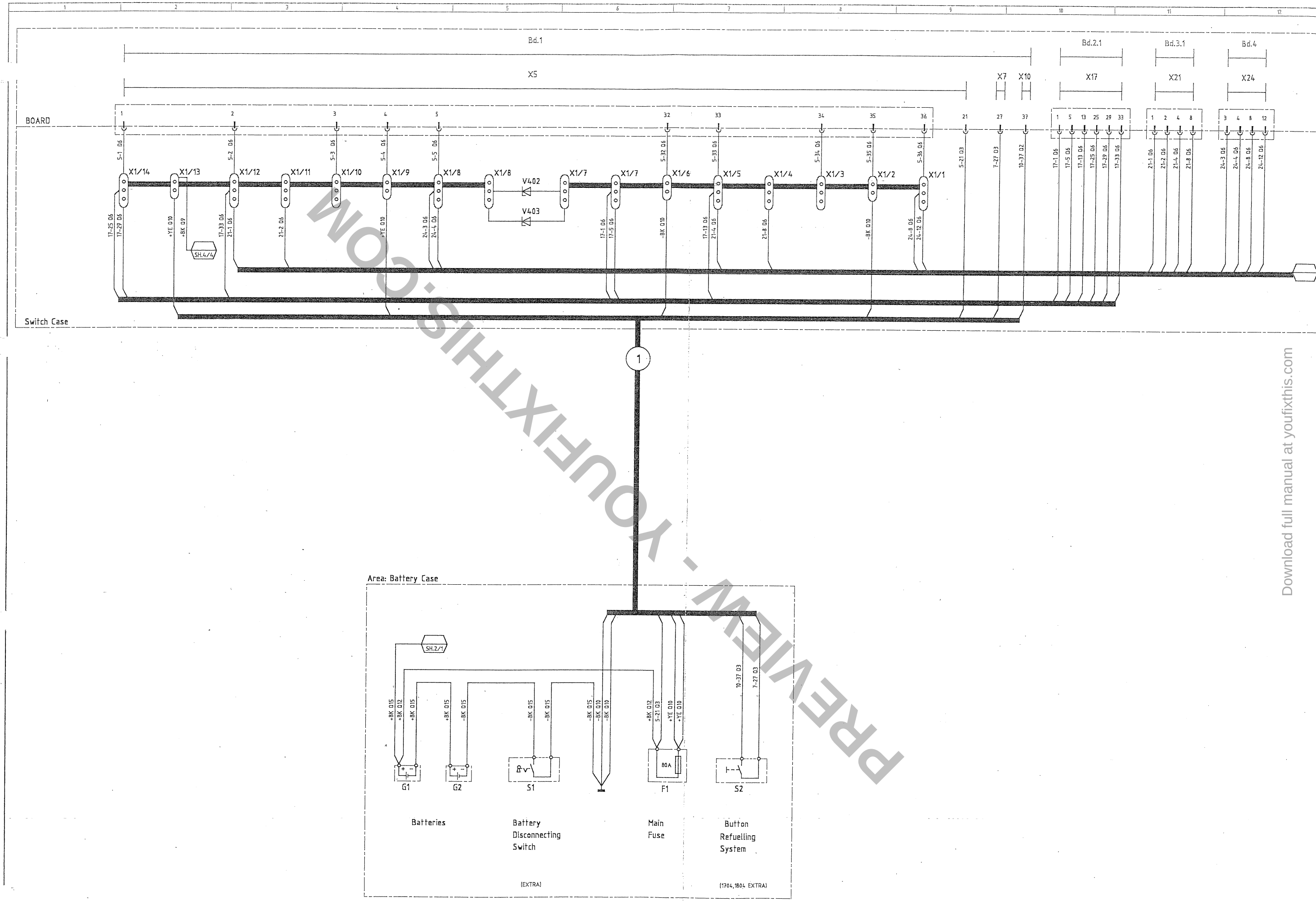
7. Welding

8. Electric - Electronic

9. Theory

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Cables with No. Q 2 have a Cross-section of 0.50mm²
Cables with No. Q 3 have a Cross-section of 0.75mm²
Cables with No. Q 4 have a Cross-section of 1.00mm²
Cables without No. Q have a Cross-section of 1.50mm²
Cables with No. Q 6 have a Cross-section of 2.50mm²

Cables with No. Q 7 have a Cross-section of 4.00mm²
Cables with No.Q 9 have a Cross-section of 6.00mm²
Cables with No. Q 10 have a Cross-section of 10.00mm²
Cables with No. Q 12 have a Cross-section of 25.00mm²
Cables with No. Q 15 have a Cross-section of 50.00mm²

PART-NR.:		4			8			Dwg with CAD	PURGE DATE FOR FABRICATION:	NAME:	
DIN		3			7			DATE 07.08.1996			
MATERIAL		2			6			DESIGN. U. Panzram			
		1			5			CHECKED			

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IND.	MODIFICAT.	DATE	NAME	IND.	MODIFICATION	DATE	NAME	DATE 27.10.1994

ATLAS-WEYHAUSEN
MASCHINENFABRIK GmbH
STEDINGER STR.324

GB

BAUSCHALTPLAN

7800.715.10.05/000

SHEET 1

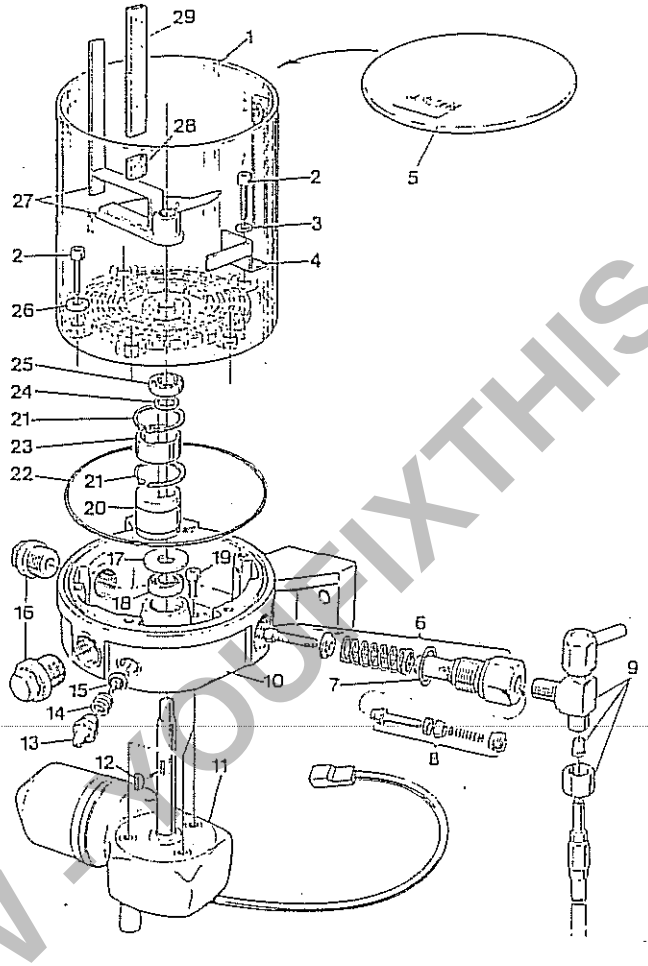
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1 Slewing
2 Jib folding
3 Bucket/Grab
4 Lifting/Lowering
5 Grab rotation
6 Shuttoff valve
7 Base plate with plate valves
8 Valve unit
9 Steering unit
10 Hydraulic oil cooler
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15 Cooling pump
16 Steering pump
17 Servo pump
18 Compressed air system
19 Emergency control
20 Driving-Foot operated
21 Servo units

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Individual components of QUICKLUB pump 103 CS, 2-litre container



1	Kit: container 2XNKF with items 2, 3, 26, 26
2	Hex bolt
3	Toothed washer
4	Vertical vane
5	Lid
6	Pump element with piston (6 mm dia.), complete
7	Sealing ring
8	Non-return valve, complete
9	Pressure valve, 350 bar
10	Housing
11	Repair kit: 12 V motor* with items 2, 3, 18, 26, 28, 27, 29 24 V motor with items 2, 3, 18, 26, 28, 27, 29 Repair kit for 12 V motor** Repair kit for 24 V motor**
12	Curved washer
13	Tapered lubricating nipple
14	Spring
15	Filter insert
16	Screw plug
17	Washer
18	Rotary shaft sealing ring
19	Hex bolt
20	Cam
21	Securing ring
22	O-type ring
23	Inner ring
24	Washer
25	Grooved ball bearing
26	Washer
27	Stirring vane
28	Rubber scraper, short
29	Rubber scraper, long

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Fault diagnosis

Only to be carried out following the warm-up phase and when the engine is running!
Not all faults in the electronic and load limit control systems are indicated by the telltale (GLR) coming on and staying on in the display zone.
These faults can, however, be detected by a "check function" in the electronic operating panel.
The "check function" is switched on by activating the MEMO (24) and pressure cut-in stage (14) keys at the same time. Faults are indicated by LED in the bar display (1, 4 or 7).

Fault table

Bar display (1)
Display reads from left to right.

LED	Component	GLR telltale
1	Speed sensor	Comes on
2	Voltage supply, travelling	-
3	-	-
4	Temperature sensor, diesel engine	Comes on
5	Temperature sensor, hydraulic fluid	Comes on
6	LS magnet, load limit control valve	Comes on
7	Magnetic actuator, diesel engine	Comes on
8	Relay for pressure cut-in stage	-
9	Output signal, load limit control	-
10	Output signal, temperature monitoring, diesel engine	-
11	Supply voltage, electronics box < 20 Volt	-
12	Electronics box	-
13	Electronics box, reset	-
14	Data line, electronic operating panel	Comes on
15	Electronic operating panel, pressed	-
16	Electronics box, switch contact, switched on	-

Information on diagnosis - LED 16
The following functions are assigned to this LED:
pressure switch - automatic idling
Kick-down key - in the right-hand operating lever

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Troubleshooting

Problem	Solution
1. **Blockage in the system or at any connected bearing.** 1.1 Manual Systems. It is difficult or even impossible to move the hand lever. 1.2 Systems with pneumatic pumps. System cycles, however no delivery. 1.3 Systems with electrical pumps. Safety valve actuated, grease emerges. 1.4 Indicator pin on metering device does not move or electrical control is actuated.	**Trace source of blockage and rectify.** **PROCEDURE** 1. First check that delivery pump is operating and delivering lubricant correctly into primary metering device. Commence loosening pump outlet and let pump run. As soon as pump operates properly, reassemble pump outlet. (Conclusion: pump operates satisfactorily.) 2. Let pump run until blockage occurs or until pressure increases to inadmissably high value. Let pump continue to run, do not relieve the pressure. Loosen the inlet fittings at the metering devices one after the other. The metering device from which lubricant suddenly emerges under pressure (with inlet fittings being loosened), leads to the source of malfunction. Re-tighten the inlet fittings. Then loosen the respective inlet fittings of the bearings one after the other. The bearing from which lubricant suddenly emerges under pressure (with inlet fittings being loosened) is the blokked one. Clear bearing blockage.
2. **Blocked metering device.** 2.1 After all outlets of the primary metering device and/or those of the secondary metering devices have been loosened, no lubricant is emerging from the outlets; the metering device is blocked.	1. Replace the blocked metering device. 2. In the case of emergency, the metering device may be cleaned on condition that the following instructions are observed: 2.1 The working place must be clean. 2.2 Remove all tube connection fittings. 2.3 Remove the piston closure plugs using a strong screwdriver, possibly hammer at the screw. 2.4 The pistons are to be driven out by means of a smooth triblet (possibly made of plastic, whose dia. is less than 6 mm). **Very important:** It must be marked which piston belongs to which hole because the pistons must not be exchanged. 2.5 Carefully rinse the metering device body in fat-solvent detergent several times and blow through with air. 2.6 At the thread ends of the piston closure holes there are slant channels of 1.5 mm dia. which must be punched through using a wire or a pin. 2.7 The metering device must again be rinsed and blown through. 2.8 Remove any hardened grease which may be in the piston closure plugs. 2.9 Reassemble the metering device while replacing all copper washers. 2.10 Before the tube outlet fittings are being reassembled, oil must be pumped several times into the metering device by means of a hand pump or similar pump. The back pressure should not exceed 25 bar, otherwise the metering device is not properly clean or the piston holes are damaged. If, in spite of all efforts, the operating pressure of the metering device will not fall below 25 bar, the metering device has become unserviceable and must be replaced.

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1704 - 1804 ("93" generation)

1. System bleeding
2. Diesel engine speed - actuator
3. Pilot control
4. Emergency circuit
5. Load limit control valve
6. Row of measuring sockets
7. LS controller
8. Pressure cutoff
9. Pressure cut-in stage
10. Secondary valves
11. Back pressure - travel brake valve
12. Reverse flow throttles
13. Auxiliary assemblies
14. Pressure adjustment table

General information:

a) All adjustments must be made using an electronic measuring device. The measuring device must permit at least two pressure displays to be read off at the same time.

b) The temperature of the hydraulic fluid must be between 40 - 60 °C.

The hydraulic system is warmed up by activating individual working movements in the normal way; limit positions should only be held for a brief period.

c) Before opening existing locking screws etc., the preload pressure of the hydraulic fluid reservoir must be allowed to escape.

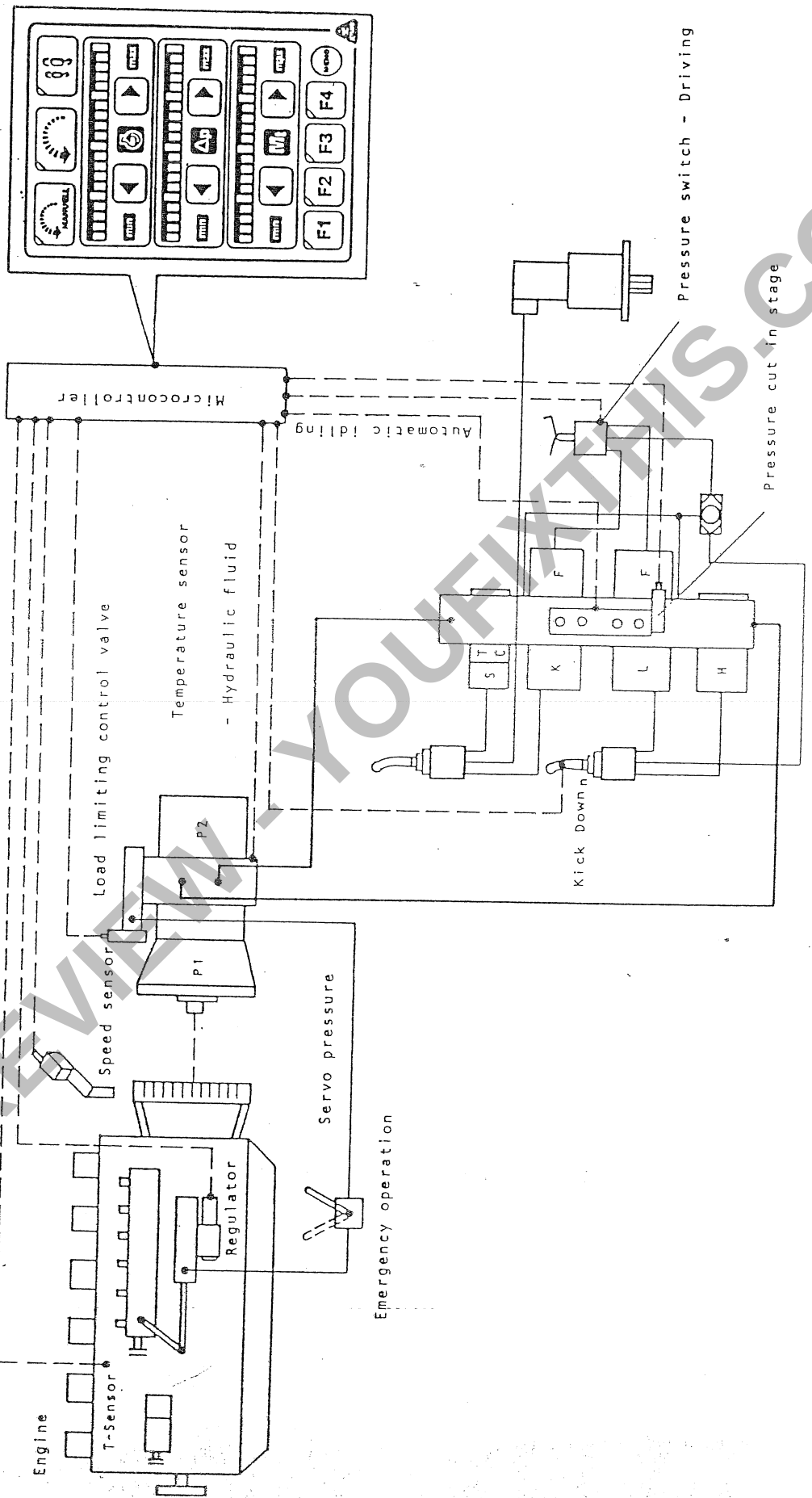
d) See the pressure adjustment table for individual settings.

SAFETY INFORMATION

Making adjustments involves working at high pressure. Take suitable safety precautions, e.g. wear protective goggles. See German VBG 1 § 4.

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* Check / adjust at max. engine speed
** Check / adjust with pressure cut-in stage engaged
*** Check with hand pump.
Figures shown in bar or in rpm
Hydraulic fluid temp. 40-60° C.

		Electronics box Type CEB 10/03 _AB	_D
	ENGINE SPEEDS		
	Min. idle speed	980	1050
	Max. idle speed - F1	1890	1905
	- F2	2090	2103
	- F3	2300	2300
	- F4	1680	1708
	- Pressure cut-in stage	1680	1708
	- Operating temp. speed	1480	1511
	- Emergency shift	2350	2350
	Min. idle speed - automatic idle	1140	1182
	PRIMARY VALVES		
*	Pump - P1	60	60
	- P2	60	60
*	Pressure cut-off - P1	320	320
	- P2	320	320
*	Pressure cut-off - P1	380	380
	stage - P2	380	380
*	Pilot pump	25 - 27	25 - 27
*	Pr. lim. valve - emergency shift	15	15
*	Fan pump	100	100
*	Steering pump	160	160
	POWER-SHIFT CONTROLLER (deltap		
*	Pump, P1 and P2 - F1	17	17
	- F2	20	20
	- F3	23	23
	- F4	14	14
*	Pressure cut-in stage	10	13
	SECONDARY VALVES		
**	Lifting rams - raising	435+20	435+20
	- leak-free cut-off - plate valve	415+20	415+20
	- lowering	365+20	365+20
**	Folding ram	365+20	365+20
**	Grab operating ram	365+20	365+20
	Slewing motor (fixed setting)	80/280	115/310
*	TC plate	265	265
**	Drive motor - wheeled	380+20	380+20
	- tracked	415+20	415+20
**	Gripper rotary motor - plate valve	160	160
	- motor	75	75
**	Actuating ram - extend	435+20	435+20
	- leak-free cut-off - plate valve	415+20	415+20
	- retract	415+20	415+20
**	Dozer blade support ram	395+20	395+20
**	Stabilizer support pad ram	365+20	365+20
***	Steering ram	200	200

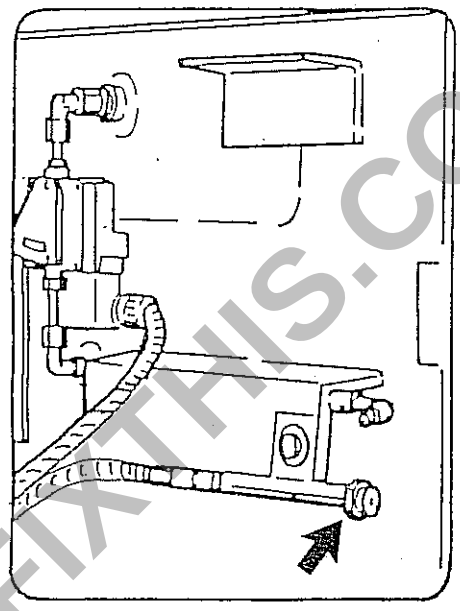
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Lubrication

Various lubricants are used:
„Regular grease" - for ball track
„Special grease" - for gear teeth

In order to avoid confusion when lubricating, a flat nipple is fitted to the lubricating point for the gear teeth.

A suitable reinforced hose is included with the accessories.



Repeat lubrication

Top up approx. 15 - 20 % of the pinion area every 100 operating hours.

For 1304 approx. 0,2 kg = ½ cartridge
1704 approx. 0,4 kg = 1 cartridge
1804 approx. 0,6 kg = 1 ½ cartridges

EDP numbers:	Flat nipple	-	0392650
	Reinforced hose	-	3625987
	Cartridge of „special grease"	-	3620153

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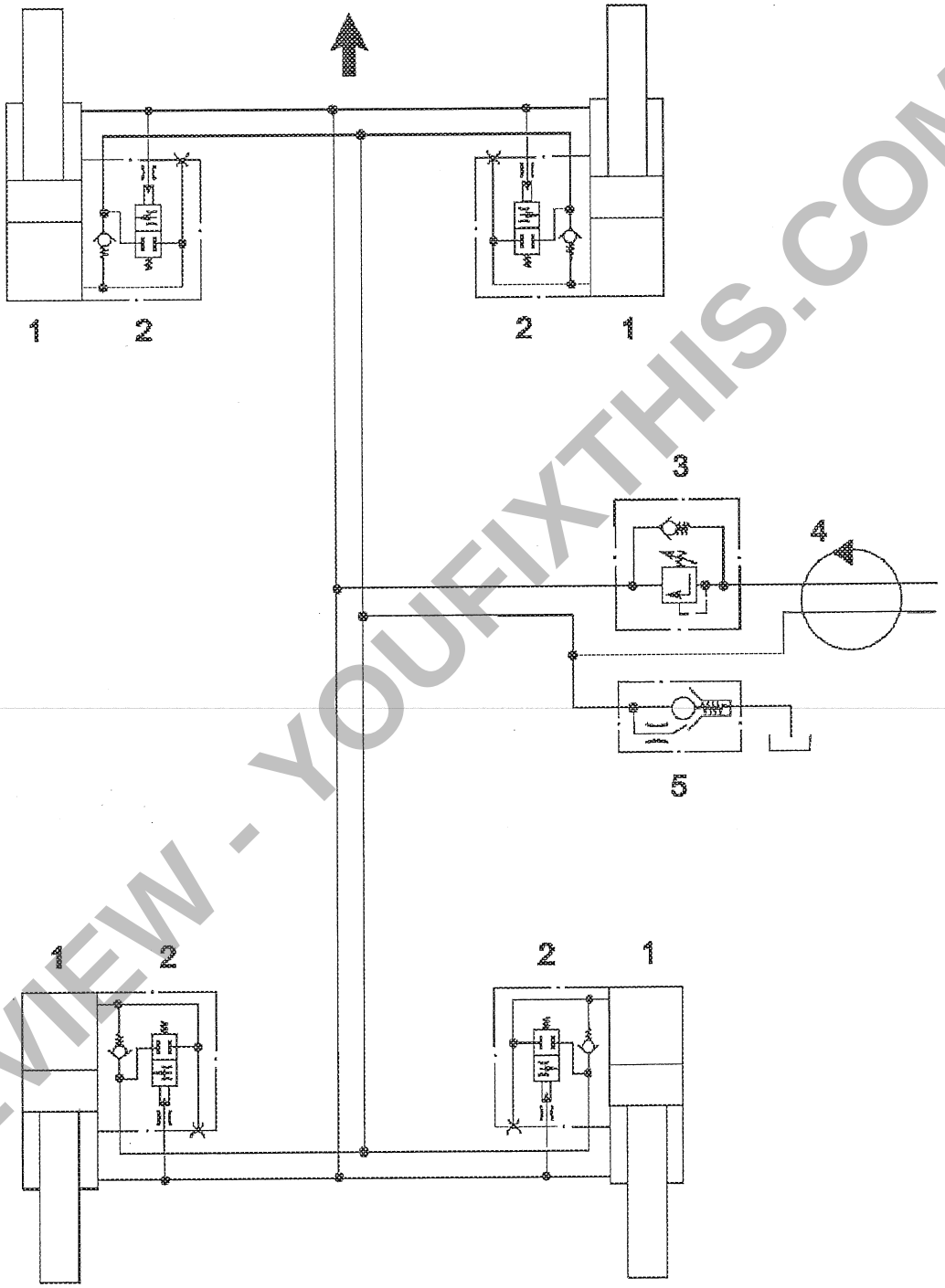
Page	
1 - 5	General view of mobile and tracked operators cabin
6	Right hand switch panel
7	Left hand switch panel
8 - 9	Functions (standard and optional) left / right hand panels
10	Multifunction levers (mobile only)
11	Adjustable steering column (mobile only)
12 - 22	Displays and controls

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Support pads - 4-fold

Simultaneously switchable



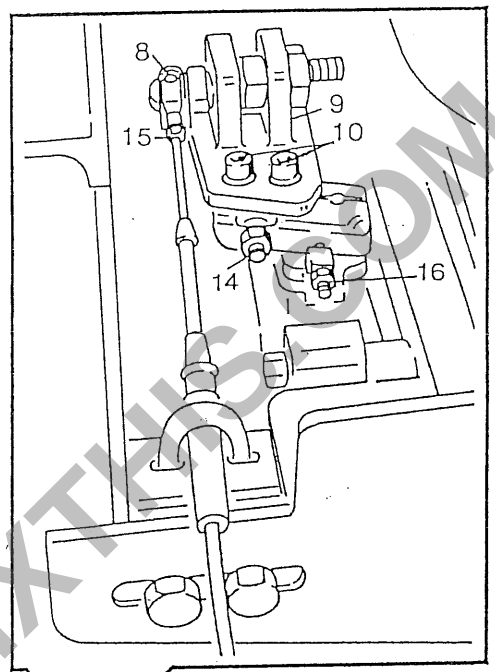
1 Support cylinder
2 Check valve, pilot-controlled
3 Pilot-controlled valve
4 Main rotary connection
5 Check valve, auto-unlock

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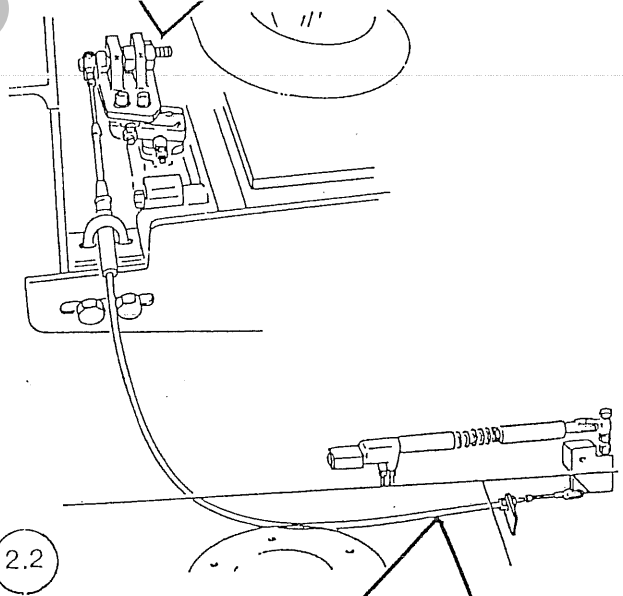
2.2 Diesel actuator

Basic adjustment
Disconnect the fork head (8) from the speed adjusting lever (9).
The speed adjusting lever must be set at 90° to the crankshaft. Correct if necessary at the adjusting screws (10). The reversing lever (11) at the diesel actuator (12) must be vertical. Correct if necessary at the piston rod (13).



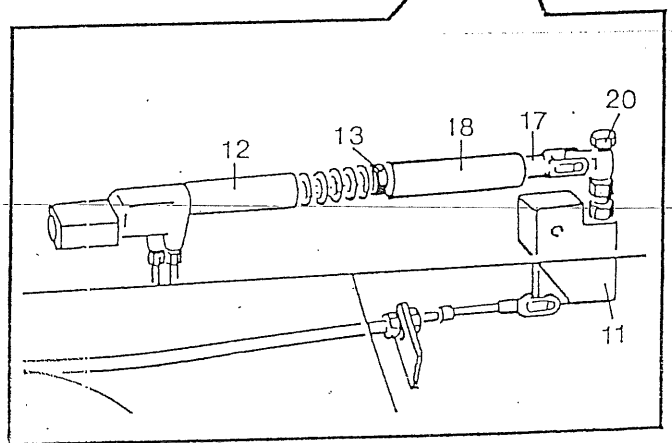
Start the engine.
Press the **MEMO** and **MANUAL** keys. See 2.1.
The minimum engine speed displayed must be 1030 ± 10 rpm.
Correct if necessary at the adjusting screw (14).
Attach the fork head (8) without any play; the wire cable should not hang down slack.
Correct if necessary at the adjusting nuts (15).

Press key (3).
Engine speed must be 2350 rpm. The speed adjusting lever (9) must be in contact with the maximum speed adjusting screw (16).
Correct if necessary at the adjusting screw (16).



Damper/diesel actuator
At maximum speed, the ring-groove markings must be visible for approx. 2 - 3 mm at the piston rod (17) of damper (18).
Adjust at screw (20).
Tighten - ring groove clearance greater
Slacken off - ring groove clearance smaller

2.2

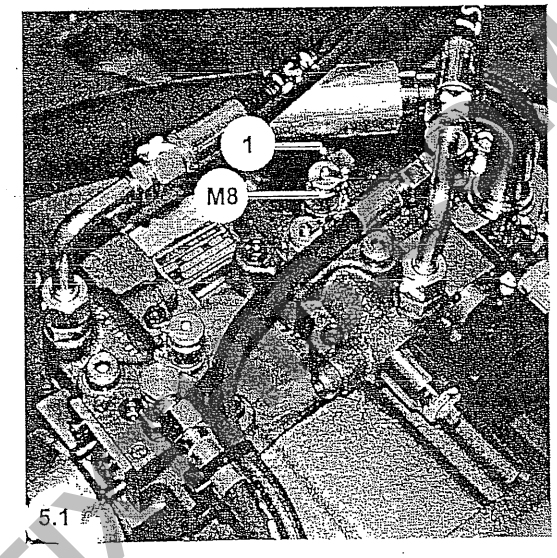


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5. Load limit control valve

5.1 Checking and adjusting



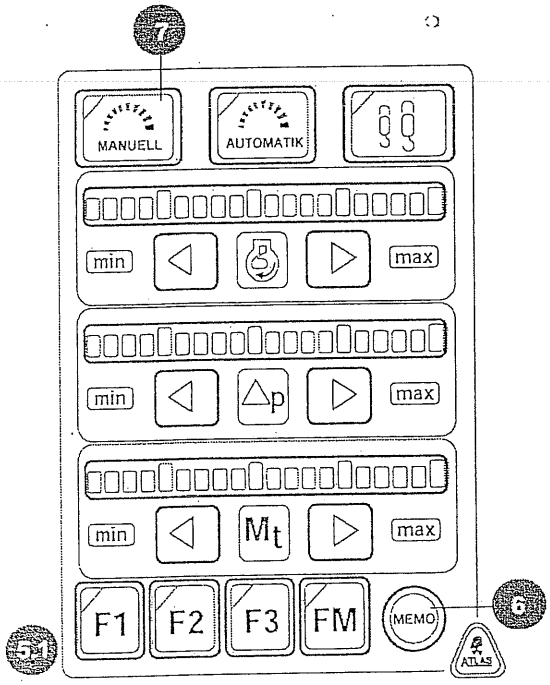
5.1

Connect the electronic measuring device to the measuring union (M8).

Start the engine.
Press the **MEMO** (6) and **MANUAL** (7) switches (fine adjustment function).

A pre-set control current from the electronics (300mA) now controls the load limit control valve.

The control pressure displayed must be 8.5 bar ± 0.2 plus tank pre-load.



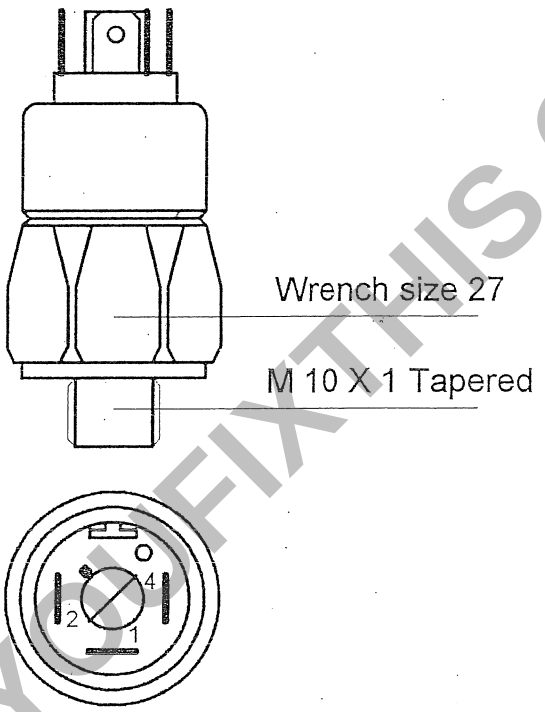
Correction is by tightening or loosening adjusting screw (1).
Press the **MEMO** (6) and **MANUAL** (7) switches to end the fine adjustment function.

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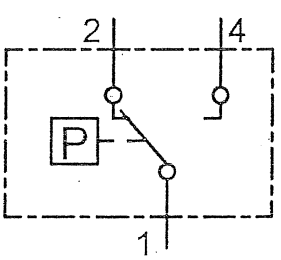
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Pressure switch

Pressure warning switch for power brake pressure accumulator.



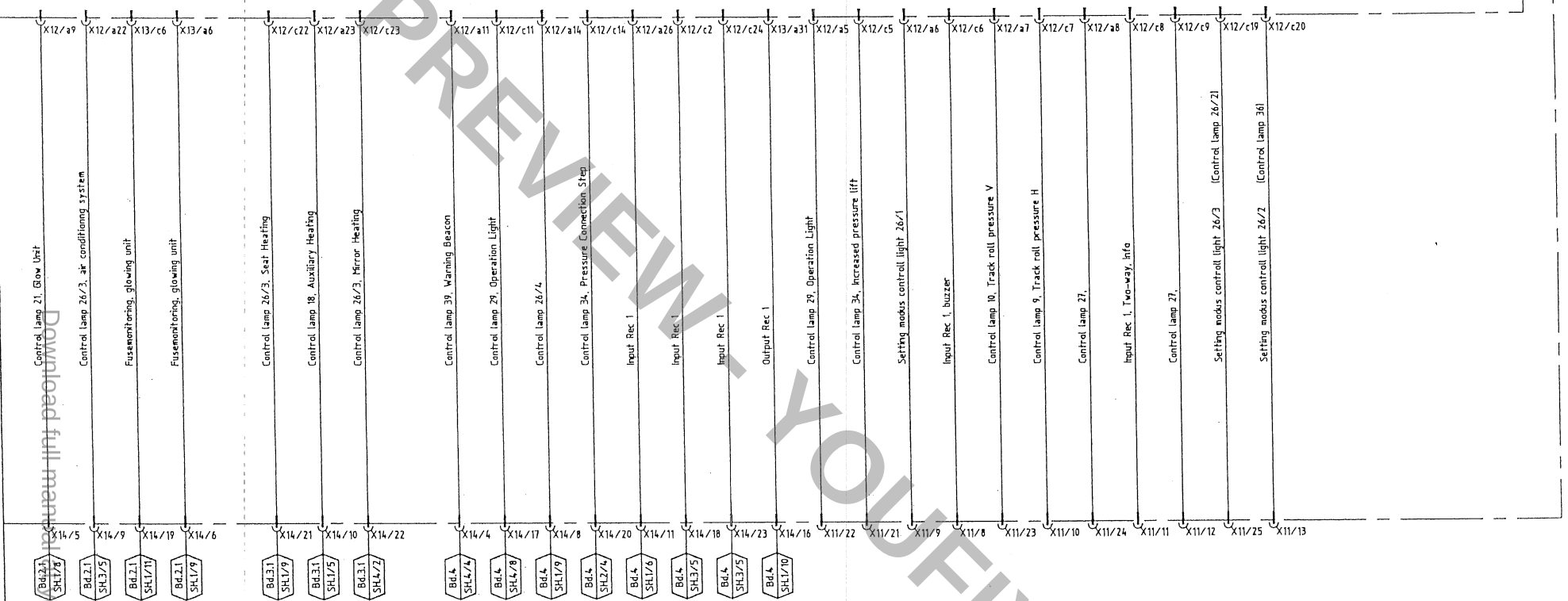
Wiring diagram



Nominal voltage 42 V
Measuring range 50 - 200 bar
Set pressure value 100 bar
Switching capacity 96 W (4 A)

EDP - No. 4638213

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Bd.2.1 | Bd.3.1 | Bd.4 | Two-way Digger

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Rohmasse		1				5				Gepr.				7800.715.20.18/000		Blatt 19	
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