8.11 Changing engine oil and oil filter cartridge

⚠ Danger

Danger of scalding!

When draining off hot oil.

By hot oil when unscrewing the engine oil filter.

⚠ Caution

Drain the engine oil only when the engine is warm.

For quality and quantity of oil refer to the "table of fuels and lubricants".

Environment

Catch running out oil and dispose of environmentally together with the oil filter cartridge.

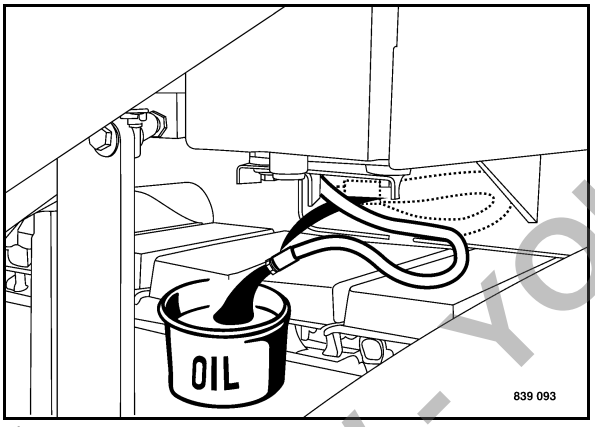


Fig. 13

- Unscrew the drain hose (Fig. 13) and catch running out oil.
- Fasten the drain hose again in place.

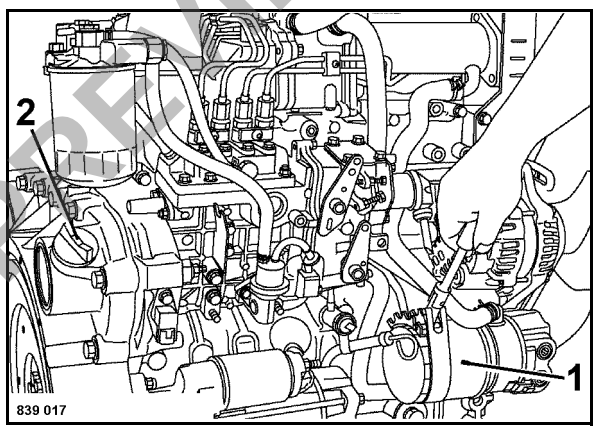


Fig. 14

- Unscrew the filter cartridge (1) (Fig. 14) using an appropriate filter wrench.
- Wipe the sealing face clean.
- Cover the rubber seal of the new engine oil filter slightly with clean oil.
- Spin the new fuel filter cartridge on and tighten it hand tight.
- Fill in new engine oil through the oil filler neck (2).
- Screw the cap back on again.

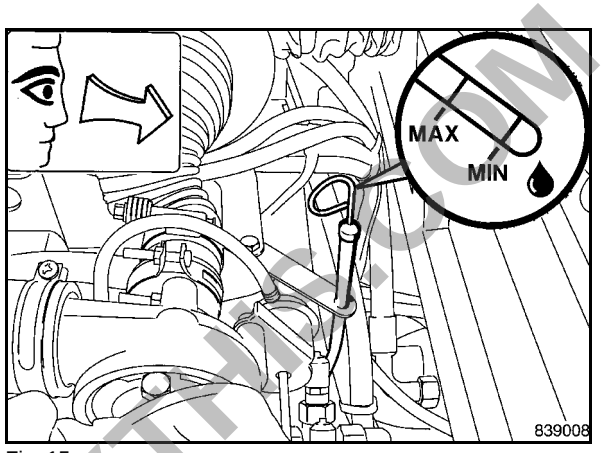
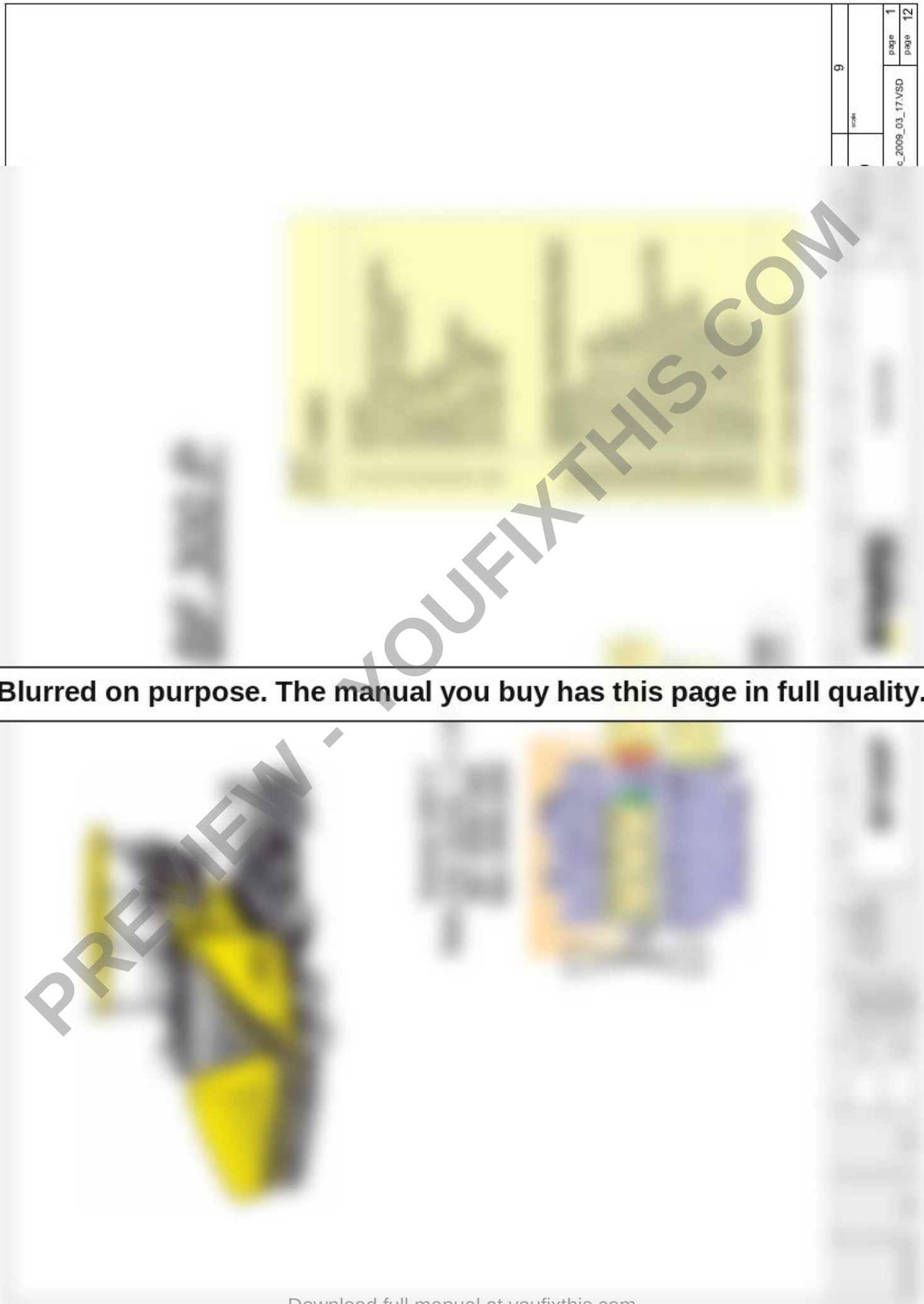


Fig. 15

- After a short test run check the oil level on the dipstick (Fig. 15). The oil level should reach the MAX-mark, top up oil if necessary.
- Check filter cartridge and drain plug for leaks.

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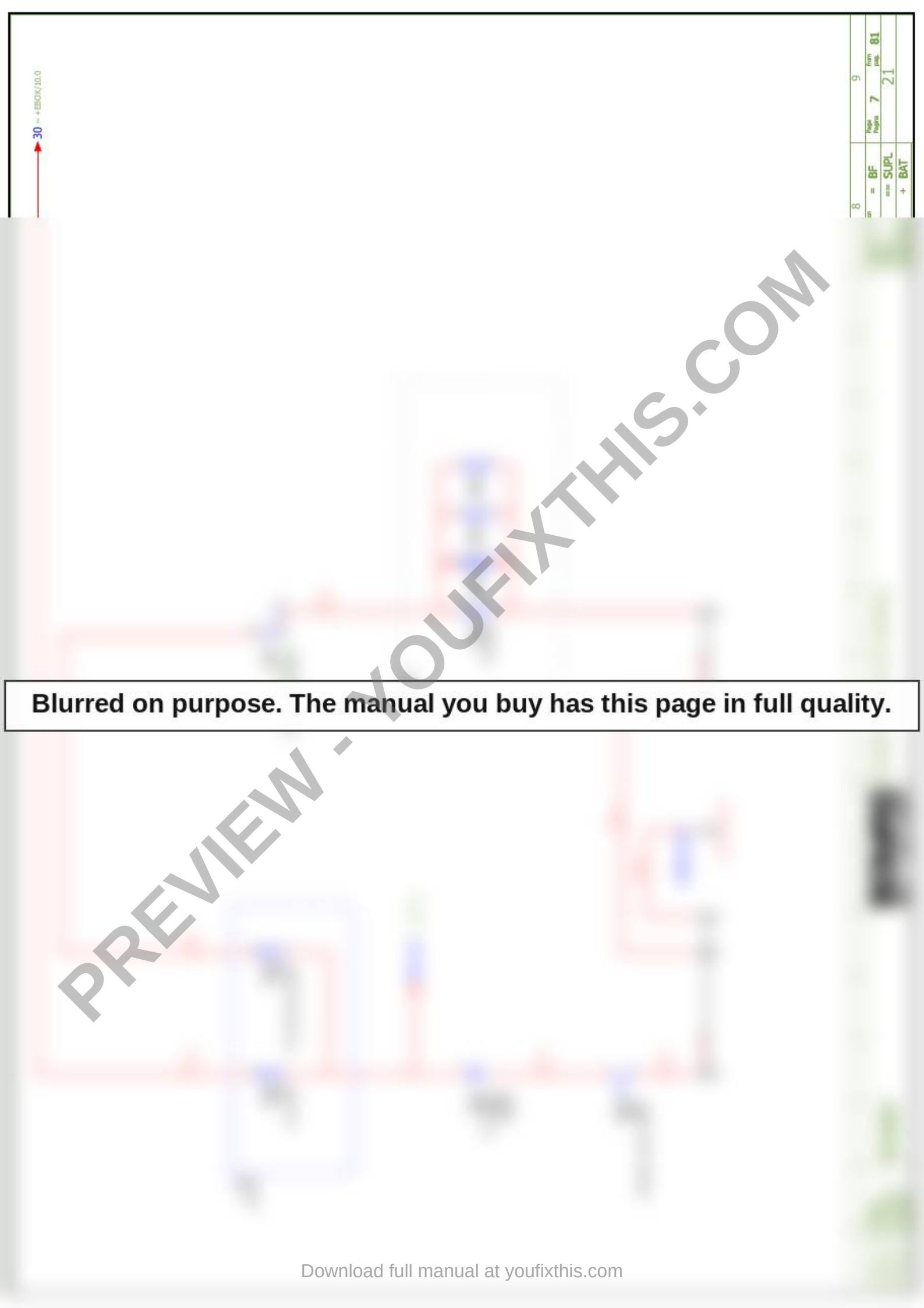
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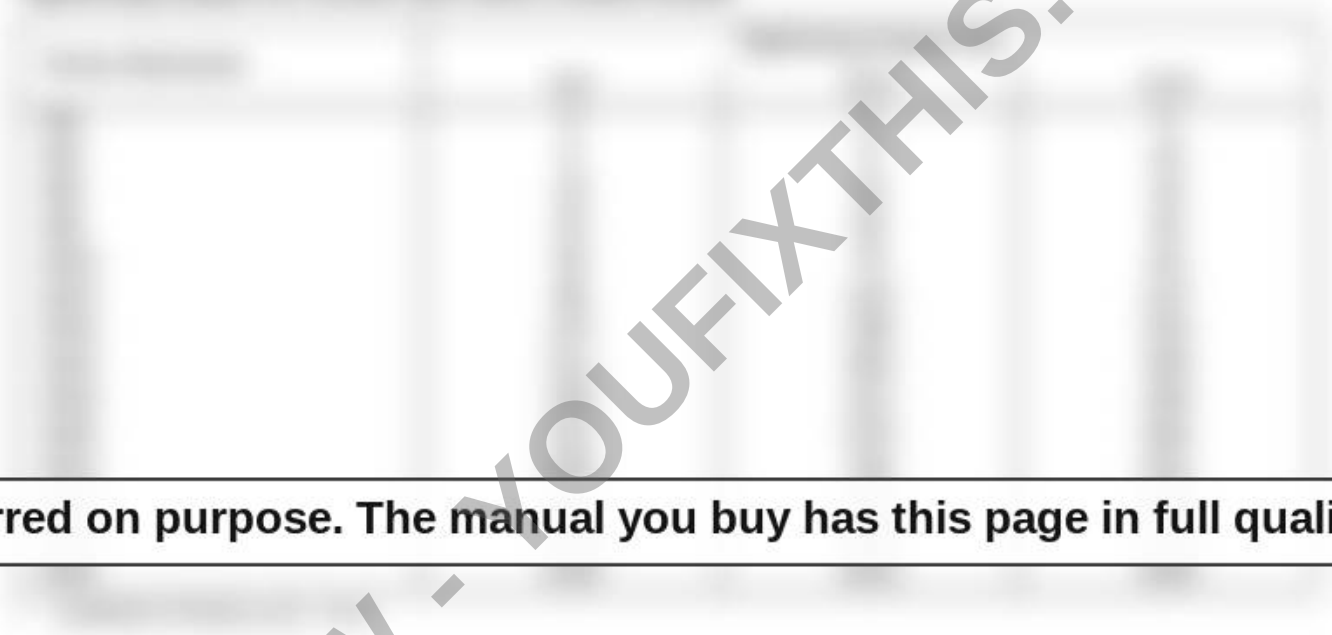
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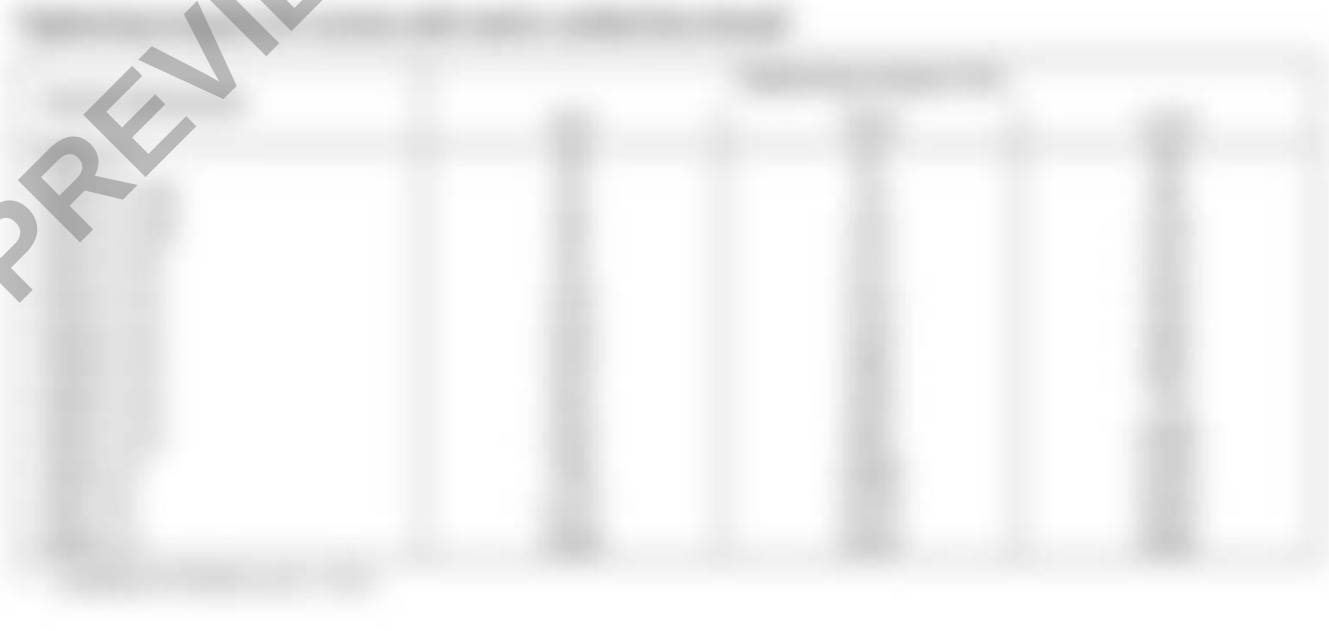
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The values specified in the table apply for screws:

- black oiled
- with surface protection A4C
- with surface protection DACROMET





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3.5 Maintenance table

No.	Maintenance work	Comment	every 10 operating hours, daily	every 50 oper. hours	every 250 oper. hours	every 500 oper. hours	every 1000 oper. hours	every 2000 oper. hours	every 3000 oper. hours	as required
5.6	Check the engine oil level	Dipstick mark	X							
5.7	Check the fuel level		X							
5.8	Check the coolant level		X							
5.9	Check the hydraulic oil level	Inspection glass	X							
5.10	Lubricating the machine		X							
5.11	Checking fuel lines and clamps			X						
5.12	Check the condition and tightness of the generator V-belt				X					
5.13	Check the radiator hoses and hose clamps				X					
5.14	Check/adjust the conveyor belt chain tension				X					
5.15	Grease the conveyor belt chain				X					
5.16	Auger drive chain, check / adjust tension				X					
5.17	Grease the sliding surfaces of the auger height adjustment				X					
5.18	Conveyor belt drive chain, check / adjust tension				X					
5.19	Grease the conveyor belt chain				X					
5.20	Clean the cooling fins on engine and hydraulic oil cooler				X					
5.21	Check the tire pressure				X					
5.22	Battery service	pole grease			X					
5.23	Check the condition and tension of the heating generator V-belt, replace the V-belt				X					
5.24	Check the central lubrication system, top up				X					
5.25	Lubricating the machine					X				
5.26	Change engine oil and oil filter cartridge*	min. 1x per year see foot note				X				

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Display functions and operation

The main LC-display (Fig. 22):

- Display of operating hours as well as error and input codes (1)
- Button right (2)
- Button left (3)
- Tool symbol (4) (only visible in Service mode)

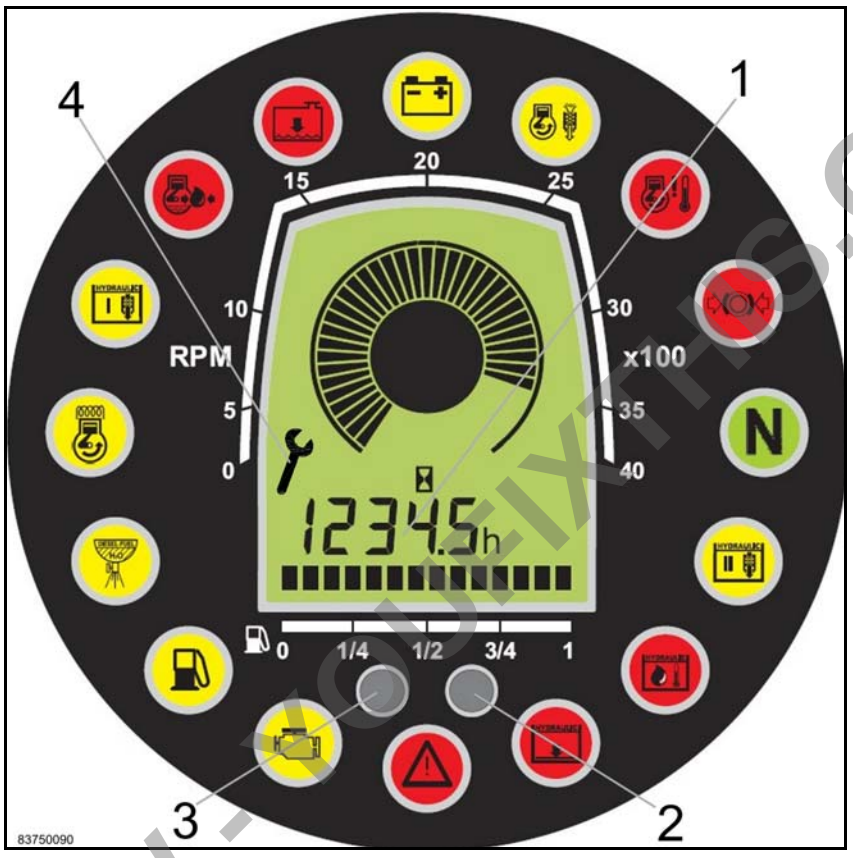


Fig. 22 LC-Display

Input of codes (input codes)

Note

The brake needs to be activated to be able to access input mode!

Calling up input mode

Action	Result
-- Press button left and button right **at the same time** for at least **two** seconds.	-- The display shows **"0000"** -- The left **"0"** is flashing.

Note

One can change the numerical value of the display by using the buttons one after the other:

The left hand button to change the numbers in ascending mode (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, ...).

*The right hand button to move on to the next digit (**0**000, 0**0**00, 00**0**0, 000**0**, **0**000, ...)*

Calling up service mode

Action	Result
-- Enter code **0001**.	-- The system changes to service mode. -- The display shows the tool symbol.

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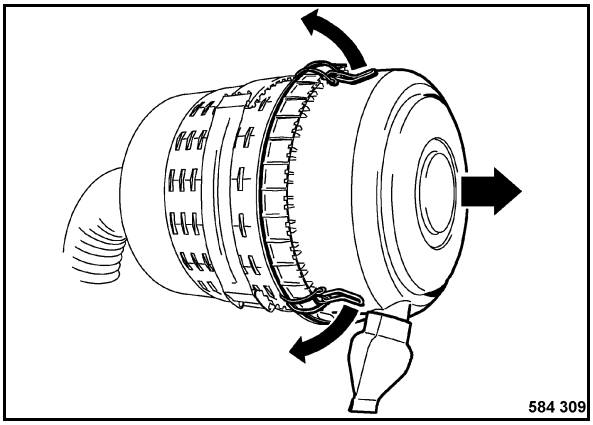


Fig. 29

- Loosen both locking hooks (Fig. 29) on the housing cover and take the cover off.

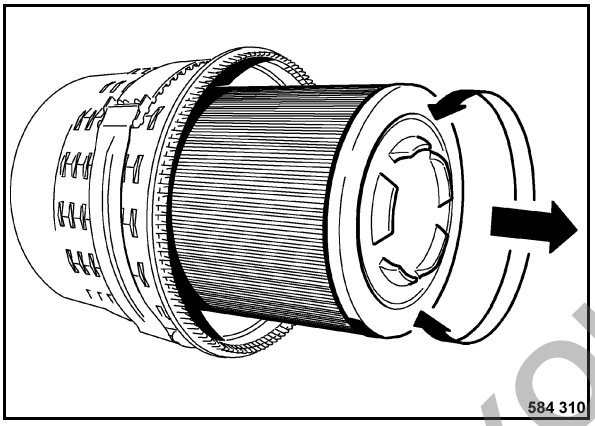


Fig. 30

- Pull out the main filter element (Fig. 30) with light turning movements.
- Clean housing, housing cover and dust discharge valve.

⚠ Danger

Danger of injury!

Wear protective clothing (goggles, gloves).

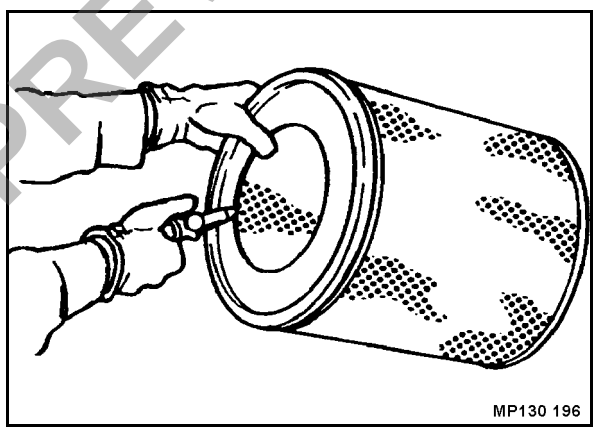


Fig. 31

- Blow the air filter (Fig. 31) out with dry compressed air (max. 2.1 bar (30 psi)) from inside to outside by moving the gun up and down inside the element, until it if free of dust.

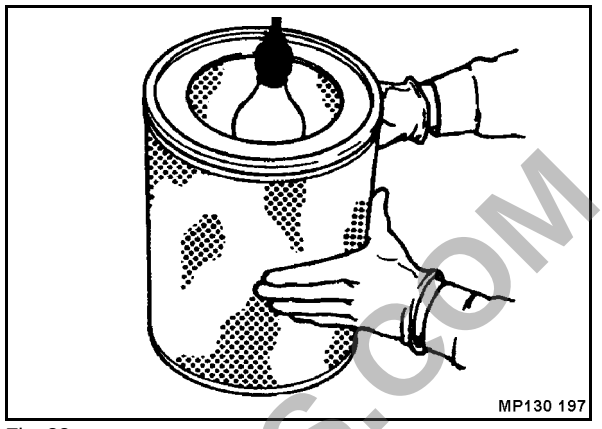


Fig. 32

- Examine the air filter with a torch for cracks and holes in the paper bellows (Fig. 32).
- In case of damage replace the air filter and the safety element.

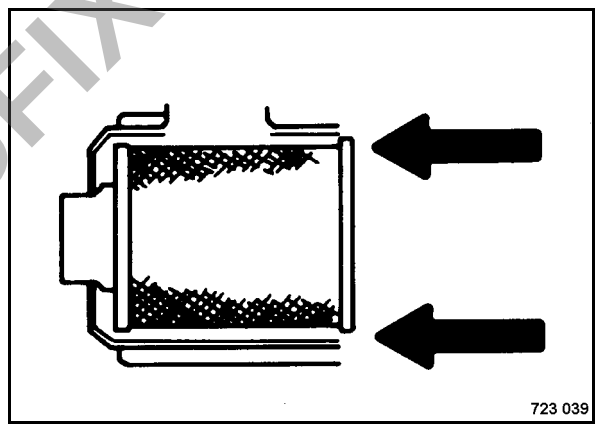


Fig. 33

- Slide the air filter carefully into the housing (Fig. 33).

⚠ Caution

The dust discharge valve must point vertically downwards.

Make sure that the cover locks engage correctly.

- Reassemble the housing cover.

Replacing the safety element

⚠ Caution

The safety element must not be cleaned and should not be used again after it has been removed.

The safety element must be replaced:

- **if the air filter is damaged or has been replaced replaced.**

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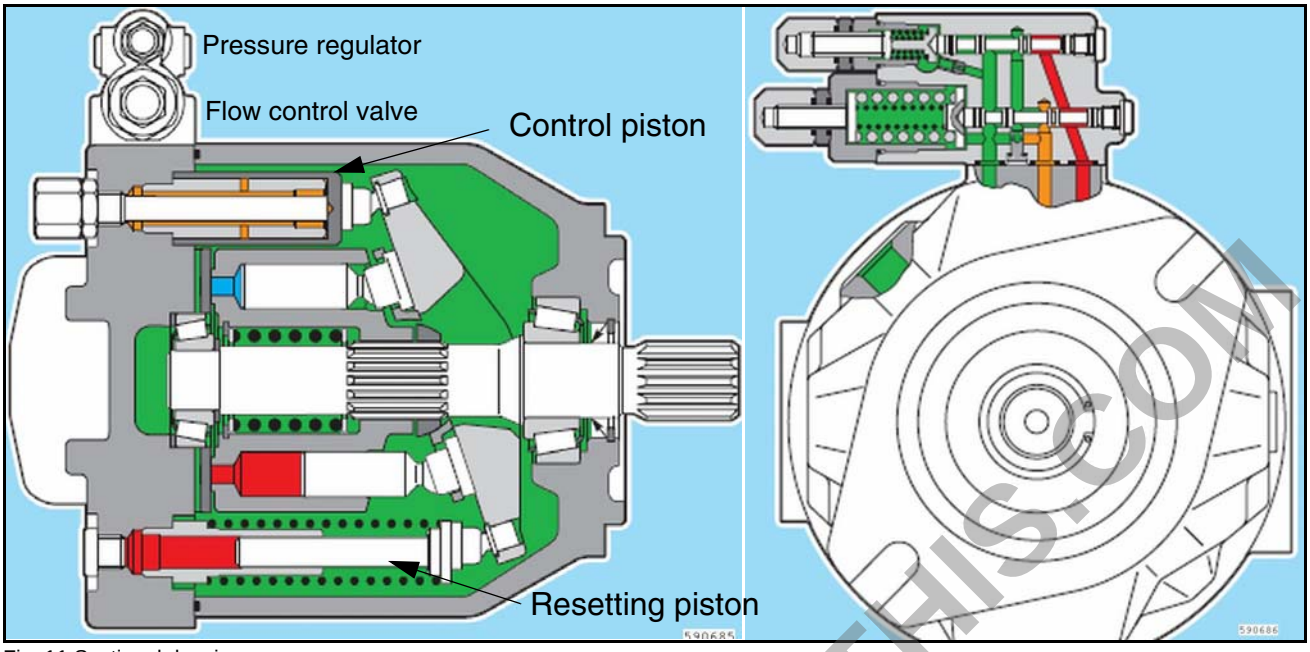


Fig. 11 Sectional drawing

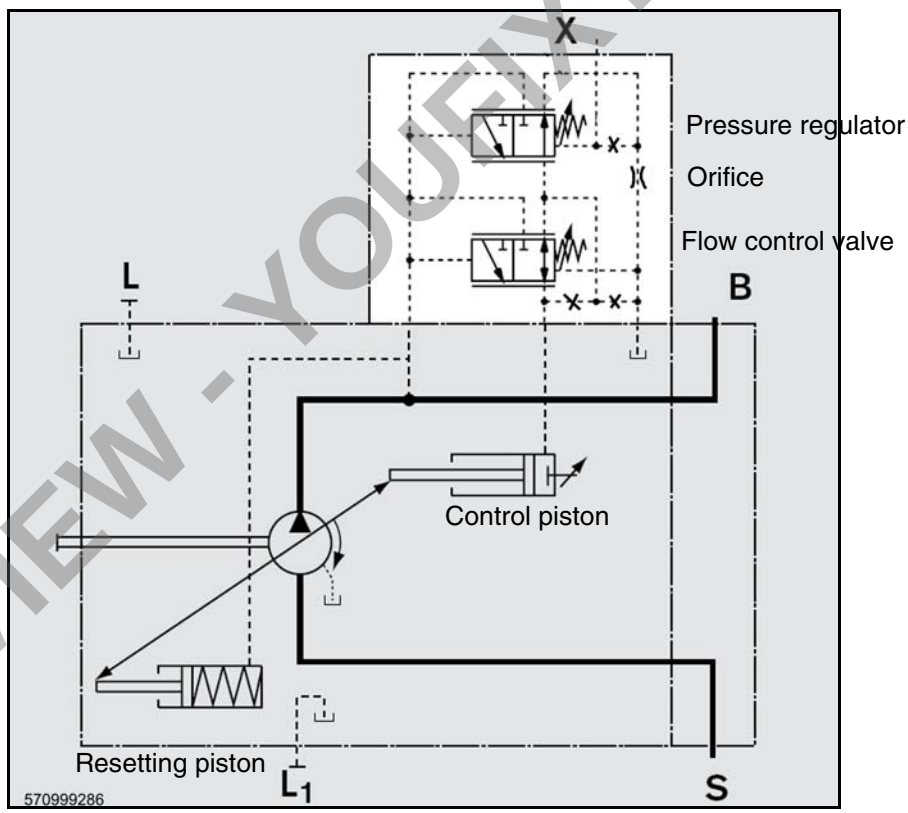


Fig. 12 Hydraulic diagram

B	Working line	S	Suction
L / L1	Leak oil	X	Pilot pressure

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14.1 Special tools, tests and adjustments

i Note

The following list informs about special tools for testing and adjustment work. You should choose the corresponding tool for the work to be carried out.

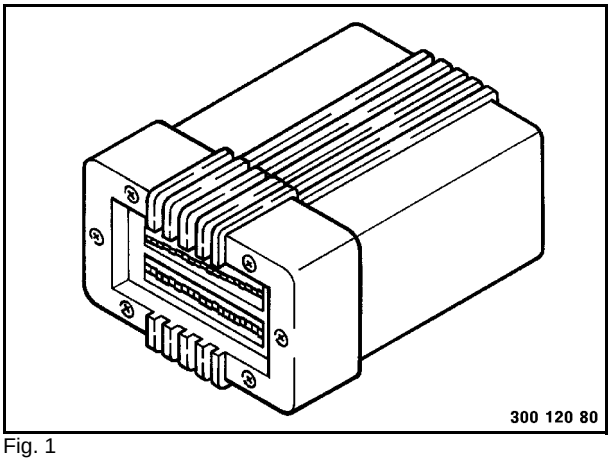


Fig. 1

58. Vibration reed frequency meter

    1000 - 4.000 rpm

    17 - 67 Hz

    BOMAG part-no.: 300 120 80



Fig. 2

59. Sirometer (frequency meter)

    800 - 50.000 rpm

    14 - 750 Hz

    BOMAG part-no.: 059 710 02



Fig. 3

60. Anti-freeze tester, quick and accurate measuring, sturdy plastic housing, automatic temperature correction, no after-dripping, instructions for use on unit, reading down to -40 °C. Plastic, temperature range: down to -40 °C

    BOMAG part-no.: 050 100 75

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2. Solenoid valve (Y210, Y211 (right auger: Y212, Y213)) - check electrical control and mechanical function.

3. Check the gear pump ("defect?").

i Note

The arrangement of hydraulic components is shown in chapter "Hydraulics" under section "Hydraulics overview of components".

11. Turn the switch to position "MIN" and shut down the engine (Fig. 16).

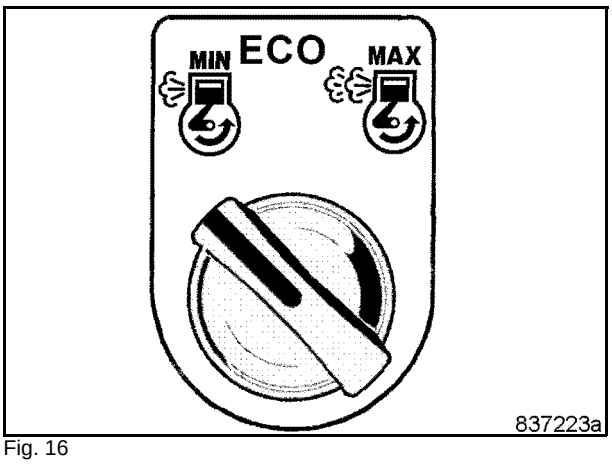


Fig. 16

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Lubrication times:

1 to 16 min. (16 contacts for 1 min. each)

2 to 32 min. (16 contacts for 2 min. each)

2 to 32 sec. (16 contacts for 2 sec. each)

Cycle times:

0.5 to 8 h (16 contacts for 0.5 h each)

2 to 32 min. (16 contacts for 2 min. each)

2 to 32 h (16 contacts for 2 h each)

Pump revolutions:

1 to 16 revolutions (16 contacts for 1 revolution each)

10 to 160 revolutions (16 contacts for 10 revolution each)

170 to 320 revolutions (16 contacts for 10 revolution each)

Summary of signal displays

Two control LEDs (green/red) in the inspection window of the motor shell show the functions of the pump, whereby the red LED always indicates a fault in the program sequence.

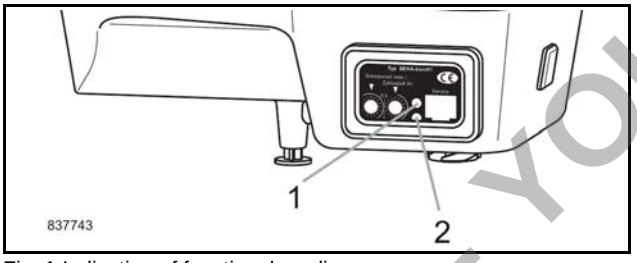


Fig. 1 Indication of functional readiness

1 Red LED to indicate faults

2 Green LED to indicate function

a) Functional readiness



Fig. 2 Indication of functional readiness

b) Lubrication active

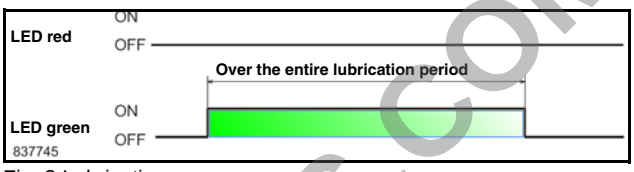


Fig. 3 Lubrication sequence

c) Rotary speed fault

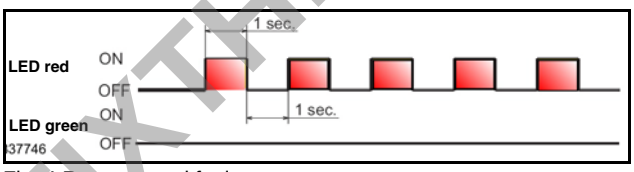


Fig. 4 Rotary speed fault on pump motor

d) Fault CPU/memory

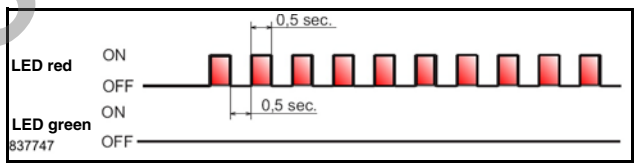


Fig. 5 Fault CPU/memory

e) Test lubrication (permanent lubrication)

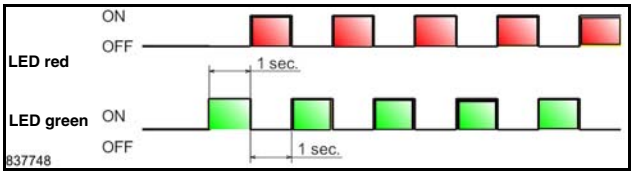


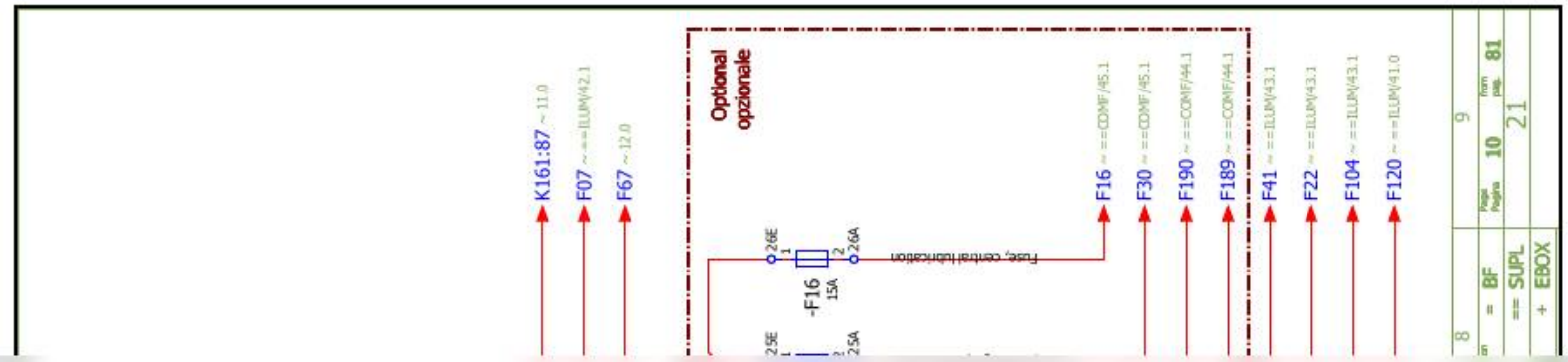
Fig. 6 Test lubrication

i Note

In order to be able to trigger permanent lubrication for service purposes in "Timer controlled" mode, the lubrication time must be set to a value that is higher than the cycle time.

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Device tag list
l'elenco componenti

Device tag SEF	Page pagina	Path col	Mounting location montaggio località	Higher-level function impianto	Function text	testo funzione	characteristics caratteristiche
E25	43	5	+ROOF	=BF	Working head light, front, rh		55W
E27	43	6	+ROOF	=BF	Working head light, rear, lh		55W
E28	43	6	+ROOF	=BF	Working head light, rear, rh		55W
E32	43	8	+FRA	=BF	Rotary beacon		60W
E32	43	9	+ROOF	=BF	-- " --	-- " --	60W
E33	41	8	+FRA	=BF	Brake light, lh		21W
E33	43	4	+ROOF	=BF	Dashboard illumination light,lh		
E34	41	8	+FRA	=BF	Brake light, rh		21W
E34	43	4	+ROOF	=BF	Dashboard illumination light,rh		
E72	41	6	+SEAT	=BF	Illumination switches		Only if requested
E80	41	3	+FRA	=BF	Tail light, plate		5W
F05	10	1	+EBOX	=BF	Fuse, Socket		15A
F07	10	5	+EBOX	=BF	Fuse, hazard light		10A
F09	41	3	+EBOX	=BF	Fuse, parking and tail light, lh		10A
F10	41	5	+EBOX	=BF	Fuse, parking and tail light, rh		10A
F11	10	4	+EBOX	=BF	Fuse, head light front		15A
F13	10	2	+EBOX	=BF	Fuse, ignition Switch		15A
F16	10	8	+EBOX	=BF	Fuse, central lubrication		15A
F22	10	6	+EBOX	=BF	Fuse, working lights rear		15A
F23	10	2	+EBOX	=BF	Fuse, warning horns		10A
F30	10	8	+EBOX	=BF	Fuse, heating operators seat		15A
F41	10	6	+EBOX	=BF	Fuse, rotary beacon		10A
F67	10	4	+EBOX	=BF	Fuse, controller (pot.30)		15A
F70	10	4	+EBOX	=BF	Fuse, indicators		10A
F104	10	5	+EBOX	=BF	Fuse, working lights front		15A
F120	10	5	+EBOX	=BF	Fuse, brake light		10A
F148	10	2	+EBOX	=BF	Fuse, controller (Pot. 15)		10A
F157	10	3	+EBOX	=BF	Fuse, solenoid valve starter		30A
F170	10	6	+EBOX	=BF	Fuse, GEN-ON	fusibile, GEN-ON	40A
F171	11	1	+EBOX	=BF	Fuse, traction		10A
F173	11	1	+EBOX	=BF	Fuse, automatic functions		15A
F174	11	2	+EBOX	=BF	Fuse, conveying system		15A
F175	10	3	+EBOX	=BF	Fuse, screed heating pot. 15		15A
F177	11	1	+EBOX	=BF	Fuse, adjustment hoppers		10A
F179	11	4	+EBOX	=BF	Fuse, conveyor		10A
F180	11	4	+EBOX	=BF	Fuse, sensors		10A
F181	11	5	+EBOX	=BF	Fuse, augers		10A

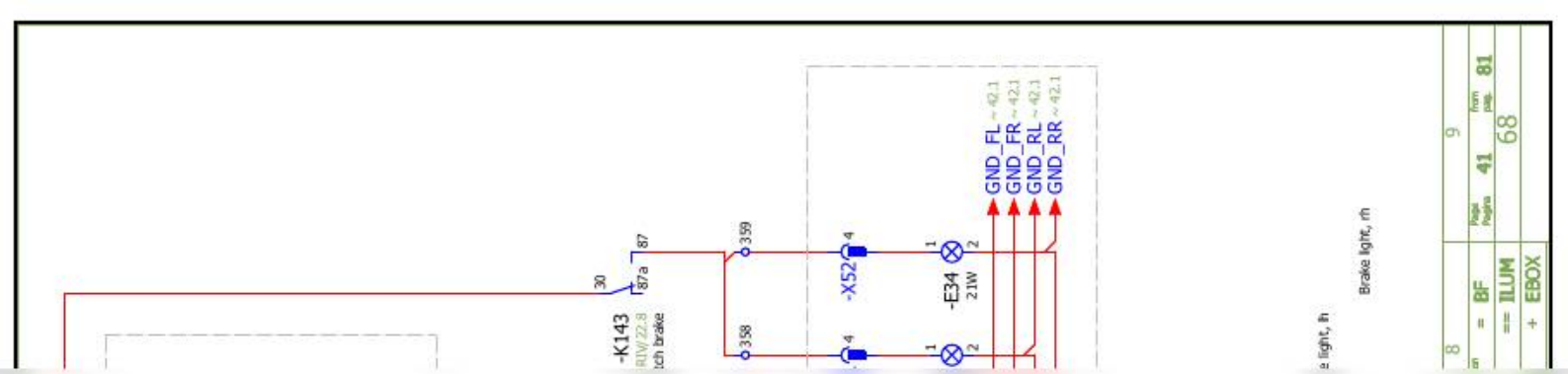
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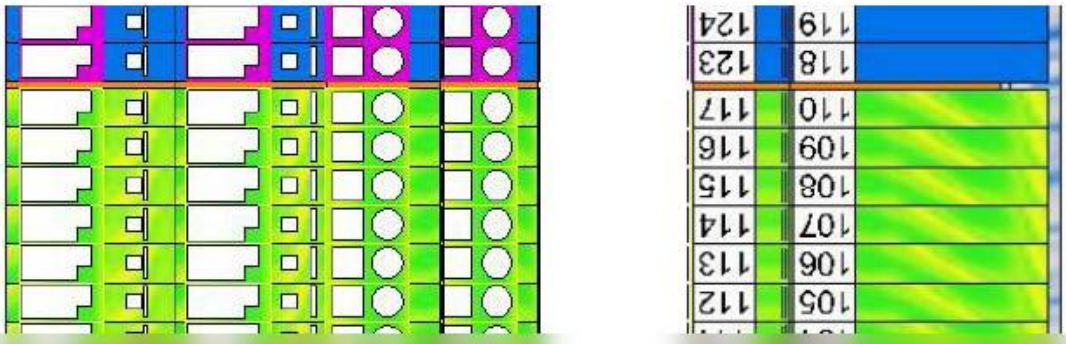
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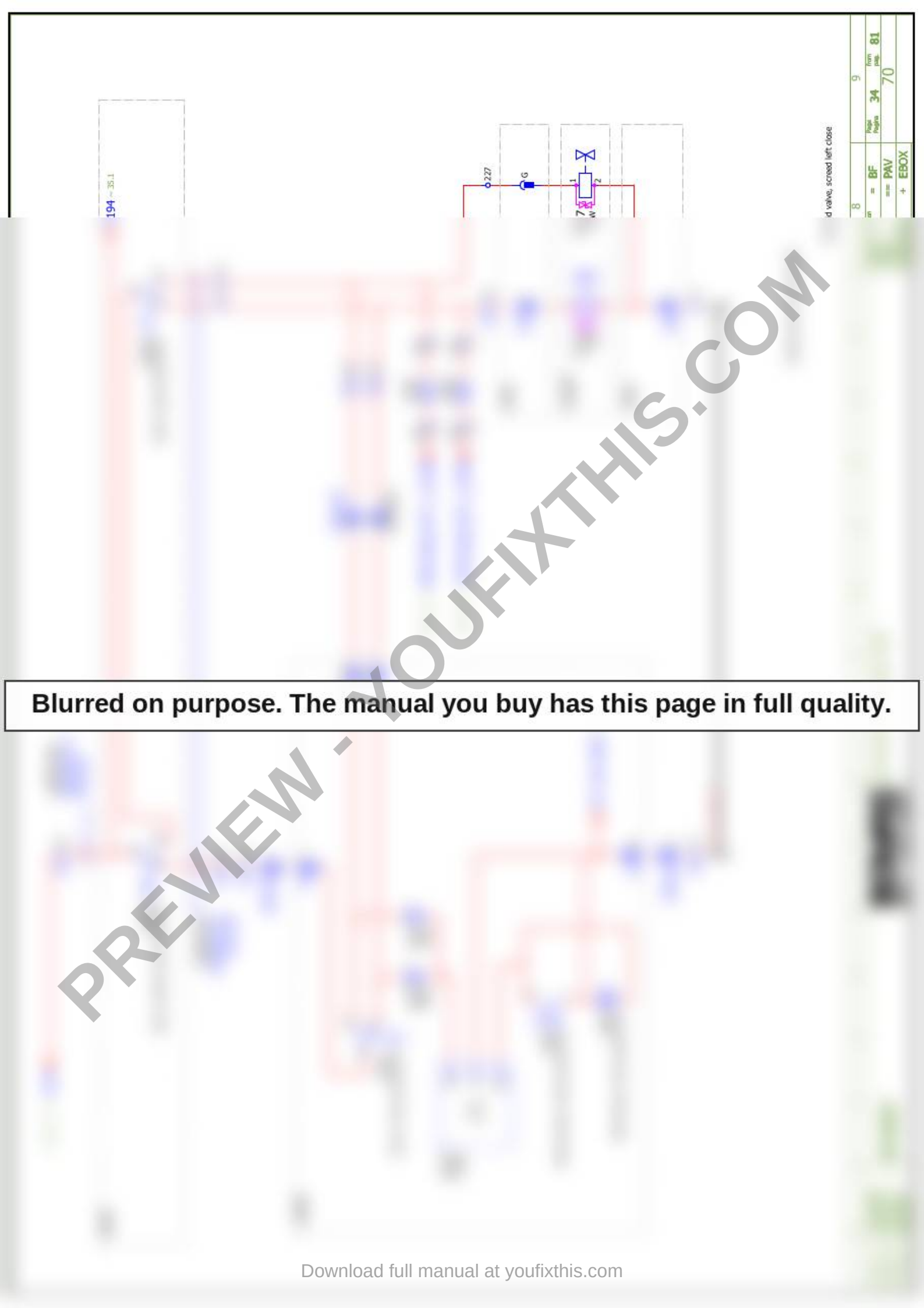
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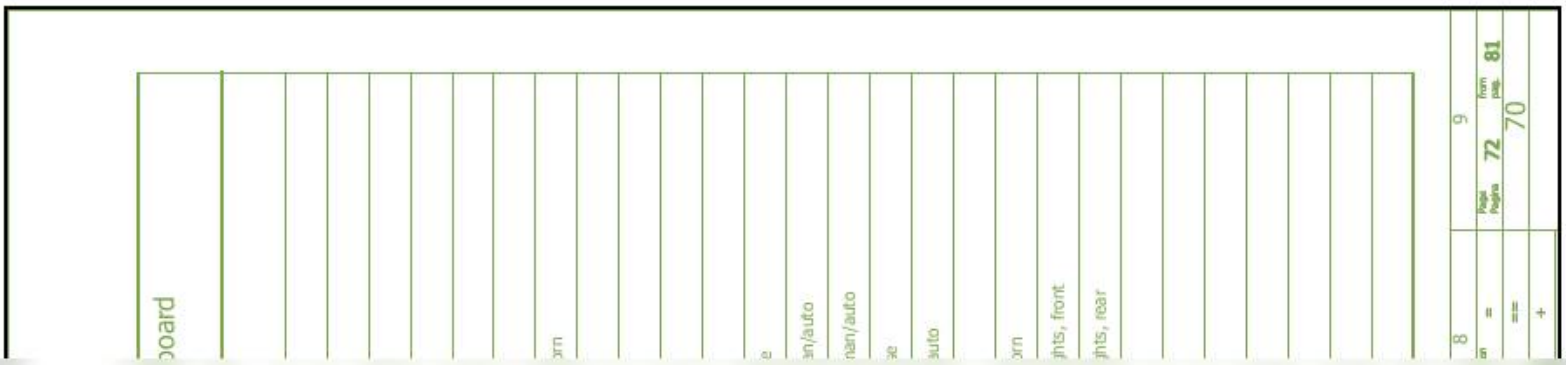
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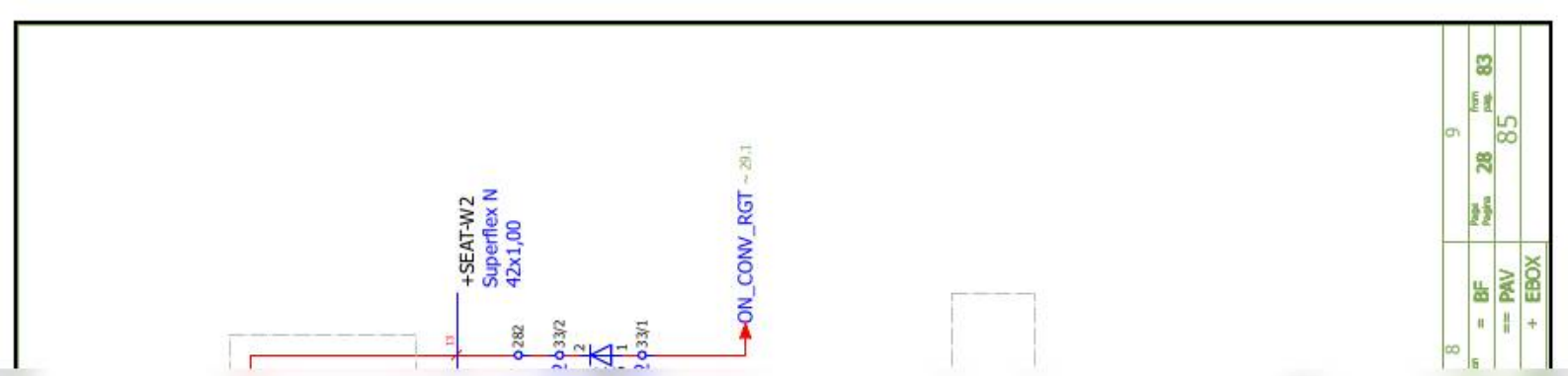
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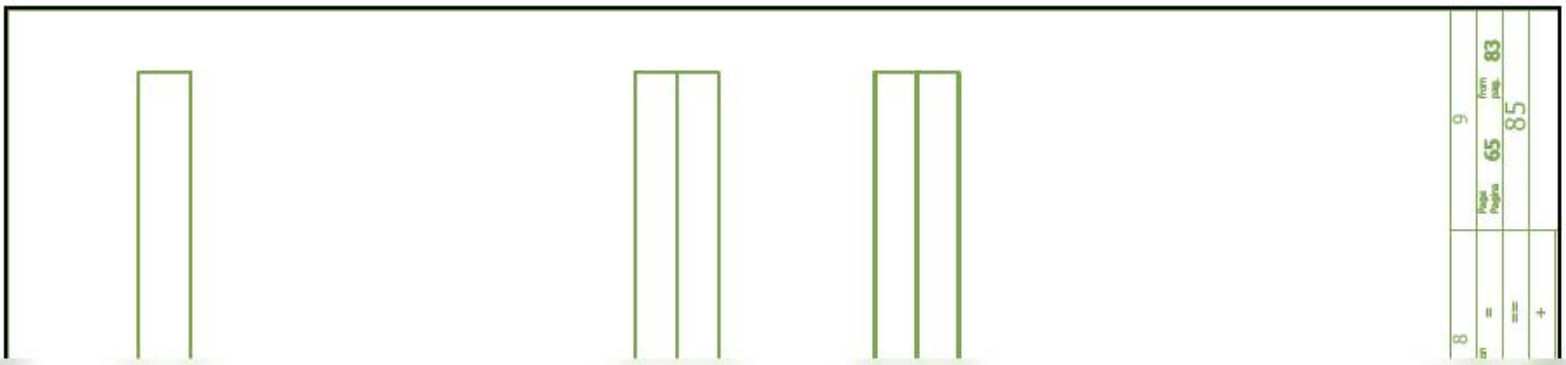
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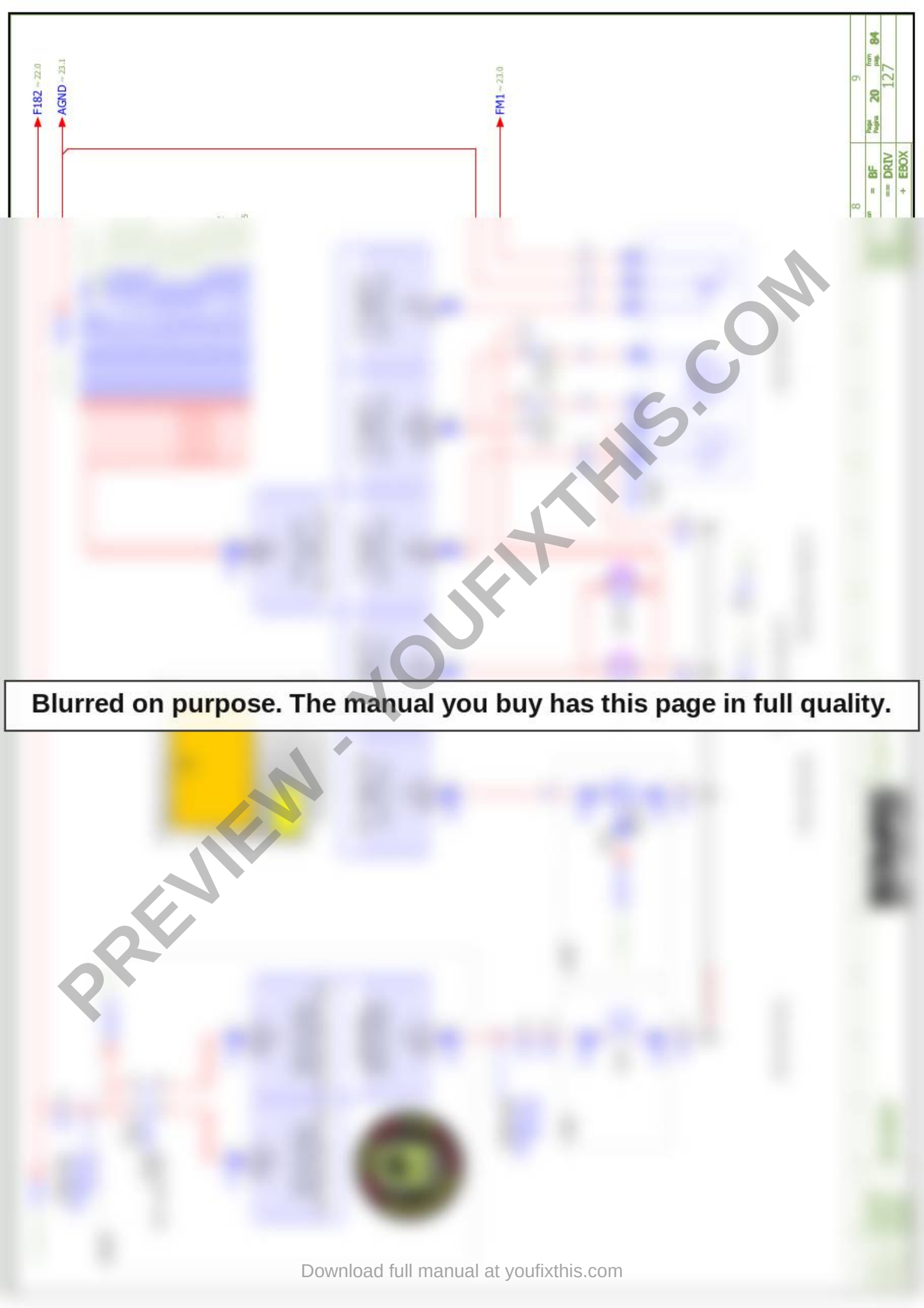
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