Service Manual

Track excavator

803



Machine model	**803**
Edition	**1.1**
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Table of contents

Operation
Important information on this service manual ... 1-1
Identification of warnings and dangers ... 1-2
Designated use and exemption from liability ... 1-3
Type labels and component numbers ... 1-4
Machine: overview ... 1-6
Control stand overview ... 1-7
Display elements: overview ... 1-9
Engine compartment: overview ... 1-10

Specifications
Chassis ... 2-1
Engine ... 2-1
Fuel injection pump ... 2-2
Engine capacities ... 2-2
Engine tightening torques ... 2-2
Hydraulic system ... 2-2
Auxiliary hydraulics oil flow ... 2-2
Undercarriage and swivel unit ... 2-3
Stabiliser blade ... 2-3
Screwable hose burst valve ... 2-3
Electric system ... 2-3
Fuse box under side trim on the right ... 2-3
Relays ... 2-4
Noise levels ... 2-4
Vibration ... 2-4
Coolant compound table ... 2-5
Model-specific tightening torques ... 2-5
General tightening torques ... 2-6
Tightening torques for hydraulic screw connections (dry assembly) ... 2-6
Tightening torques for high-resistance screw connections ... 2-7
Dimensions model 803 ... 2-9
Lift capacity table 803 RD ... 2-10
Kinematics ... 2-10
Attachment compatibility ... 2-10

Maintenance
Fluids and lubricants ... 3-1
Additional oil change and filter replacement (hydraulics) ... 3-2
Maintenance label ... 3-3
Explanation of symbols on the maintenance label ... 3-3
Maintenance plan (overview) ... 3-5
Service package ... 3-8
Introduction ... 3-8
Fuel system ... 3-9
Specific safety instructions ... 3-9
Refuelling ... 3-9
Stationary fuel pumps ... 3-10
Diesel fuel specification ... 3-10
Bleeding the fuel system ... 3-10
Fuel prefilter with water separator ... 3-11
Replacing the fuel filter ... 3-11
Engine lubrication system ... 3-12
Checking the oil level ... 3-12
Filling up engine oil ... 3-13
Changing engine oil ... 3-14

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Replacing the engine oil filter cartridge ... 3-15
Cooling system ... 3-16
Specific safety instructions ... 3-16
Checking/filling up coolant ... 3-17
Draining coolant ... 3-18
Air filter ... 3-19
Replacing the filter ... 3-20
Functional check once a week of the dust valve ... 3-20
V-belt ... 3-21
Checking V-belt tension ... 3-21
Retightening the V-belt ... 3-22
Pressure check ... 3-23
General ... 3-23
Pressure check of gear pump P2 ... 3-23
Pressure check of gear pump P1 ... 3-24
Test report ... 3-25
Hydraulic system ... 3-27
Specific safety instructions ... 3-27
Checking the hydraulic oil level ... 3-28
Filling up hydraulic oil ... 3-29
Changing hydraulic oil ... 3-29
Replacing the filter cartridge ... 3-29
Checking hydraulic pressure lines ... 3-30
Chains ... 3-31
Checking chain tension ... 3-31
Setting the chains ... 3-32
Lubrication work ... 3-33
Stabiliser blade ... 3-33
Lubrication points on the boom ... 3-34
Lubrication strip ... 3-35
Maintenance of attachments ... 3-35
Electric system ... 3-36
Specific safety instructions ... 3-36
Service and maintenance work at regular intervals ... 3-36
Instructions concerning specific components ... 3-37
Dynamo ... 3-37
Battery ... 3-38
Cleaning ... 3-39
General instructions for all areas of the machine ... 3-39
Exterior of the machine ... 3-40
Engine compartment ... 3-40
Screw connections and attachments ... 3-40
Pivots and hinges ... 3-40

Engine

3TNV70-VNS engine overview ... 4-1
Fuel system ... 4-3
Checking and adjusting valve tip clearance ... 4-4
Tightening order for cylinder head bolts ... 4-5
Checking the injection nozzles ... 4-6
Pressure check ... 4-6
Checking the nozzle jet ... 4-6
Injection time ... 4-7
Checking and adjusting injection time ... 4-7
Replacement of fuel injection pump ... 4-8
... 4-8

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Adjusting engine revs 4-9
Compression 4-9
Checking the coolant thermostat 4-9
Checking the thermal switch 4-10
Oil pressure switch 4-10
Checking the coolant circuit 4-11
Engine trouble 4-11

Hydraulic system

Hydraulic pump PGP505B0050CA1H2NJ7J5C-505A00 5-1
Pump unit: exploded view 5-2
Main valve block 5-3
Ports 5-3
Legend 5-4
Main valve block diagram 5-5
Pressure limiting valves 5-6
Pump assignment 5-7
Travelling drive 5-8
Function 5-9
Swivel unit 5-11
Swivel unit 5-12
Swivel joint 5-13
Sealing 5-13
Mechanical control 5-14
Control lever 5-14
Drive levers 5-15
Troubleshooting in the hydraulic system 5-16
Removing the plastic trim 5-16
Hydraulics diagram: legend 5-17
Hydraulics diagram A4 5-18
Hydraulics diagram A3 5-19
Main valve block diagram 803 A3 5-20

Electric system

Ohm's Law (current, voltage, resistance); power 6-1
Measuring equipment, measuring methods 6-1
Cable colour coding 6-3
Relays 6-3
Use, mode of function 6-3
Electric system 6-4
Fuse box under side trim on the right 6-4
Relays 6-4
Control lever tip switch 6-5
Right-hand side handle 6-5

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Fuel injection pump

Type	
Design	In-line pump
Injection pressure	118 – 128 bar
Revs control	Mechanical
Lubrication system	Force-feed engine oil lubrication

Engine capacities

Capacities	Model 803
Fuel tank	11.5 l
Engine oil (max./effect.)	2.8 l/1.3 l
Coolant (with radiator)	2.9 l
Expansion tank	1.1 l

Overview of capacities: – *see Fluids and lubricants* on page 3-1

Engine tightening torques

Tightening torques	Model 803
Cylinder-head bolt[1]	54 – 58 Nm (M9x1.25)
Connecting rod bearing screw[1]	22.6 – 27.5 Nm (M7x1.0)
Main bearing screw	75.5 – 81.5 Nm (M10x1.25)
Flywheel screw	80.4 – 86.4 Nm (M10x1.25)

1. Screws must be oiled!

2.3 Hydraulic system

Hydraulics	Model 803
Pump	Twin gear pump
Flow rate	2 x 11.35 l/min at 2270 rpm
Control valve	9 sections
Main pressure limiting valve for pumps P1, P2	$170^{\pm 3}$ bar
Secondary pressure limiting valve for swivel unit	$70^{0/+0.5}$ bar at 11.5 l/min
Secondary pressure limiting valve, stick	$250^{\pm 5}$ bar
Hydraulic tank capacity	13.8 l

Auxiliary hydraulics oil flow

Pressure	P1 + P2
12.5 bar	22 l/min
37.8 bar	20.8 l/min
50 bar	20.4 l/min
79 bar	19.7 l/min
140 bar	18.5 l/min
160 bar	10.5 l/min
168 bar	5 l/min

Important!

Output indications for auxiliary hydraulics with unpressurised reflux line

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5.7 Troubleshooting in the hydraulic system

Problem	Possible causes
Hydraulic system without function	Hydraulic oil level too low
	Defective control lever lock
Hydraulic hammer does not work correctly	Quick couplers not connected correctly
	Hydraulic oil quantity too high/too low
	Hydraulic oil pressure too high/too low

5.8 Removing the plastic trim

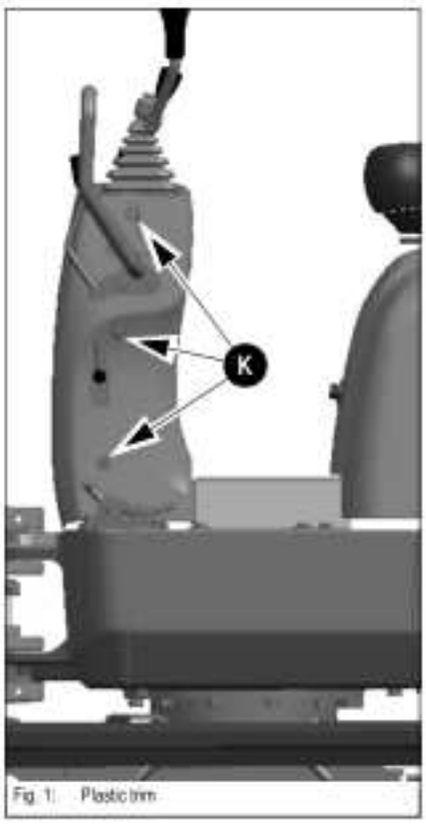


Fig. 1: Plastic trim

- *Stop and secure the excavator*
- *Slacken clamp screws **K** on either side of the excavator.*
- *Fold away the plastic trim to the front and rear.*

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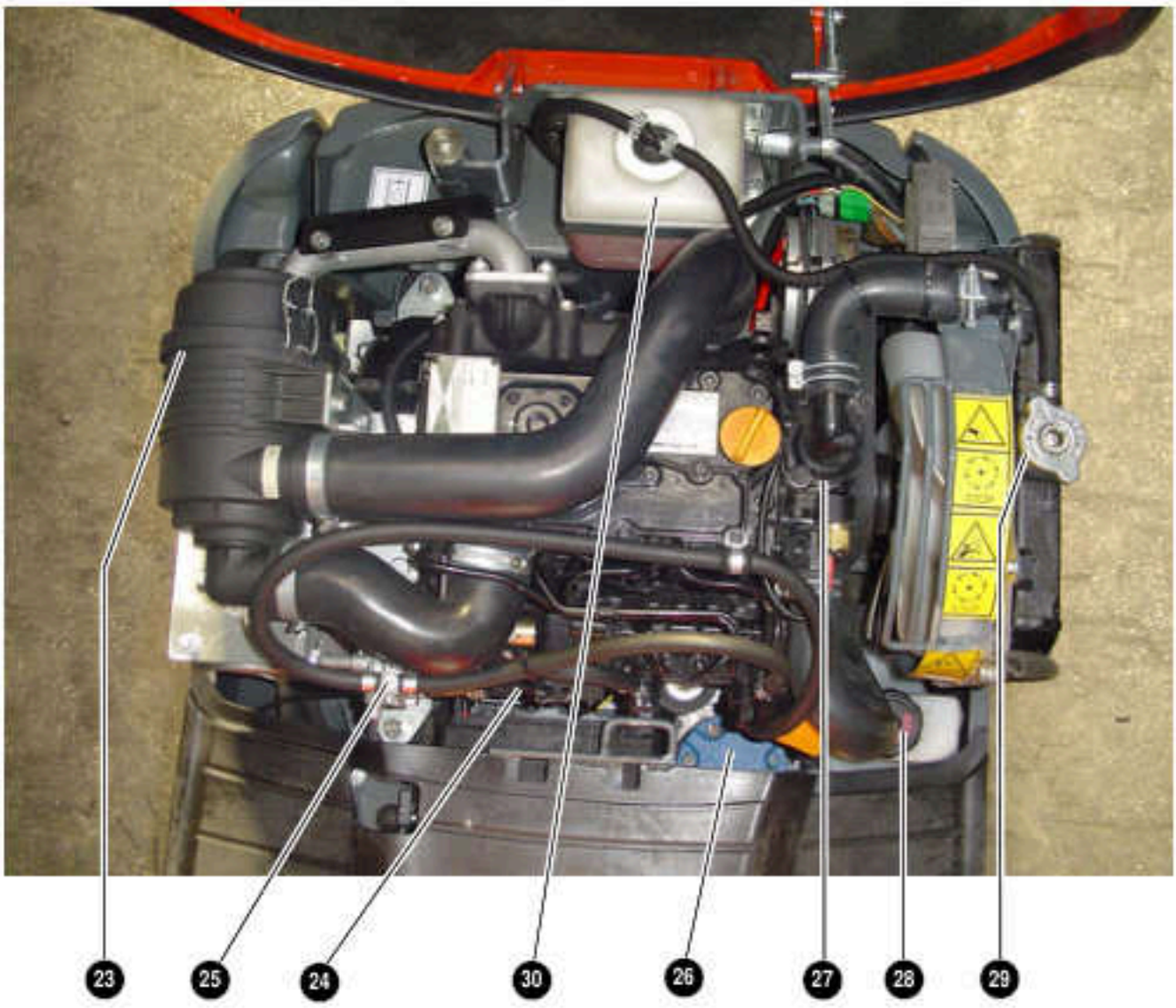
6.6 Wiring diagram A3: legend

No.	Description	Section	No.
A3	Regulator	B3	A3
B1	Fuel indicator	F12	B1
B2	Horn	D7	B2
E11	Working light	F11	E11
F1	Main fuse	E2	F1
F2	Fuse: relay, display, cutoff solenoid	B6	F2
F3	Fuse: horn, working light	B7	F3
G1	Dynamo	D2	G1
G2	Battery	F1	G2
H3	Engine temperature telltale	A11	H3
H4	Engine oil pressure telltale	A9	H4
H5	Dynamo charge function telltale	A12	H5
H10	Fuel level telltale	A12	H10
K7	Start high current relay	D3	K7
K8	Cutoff solenoid time lag relay 1s	D6	K8
K9	Cutoff solenoid switching relay	E5	K9
M1	Starter	F3	M1
M9	Fuel pump F8	F8	M9
P1	Hour meter	B10	P1
R1	Glow plug	F5	R1
S1	Preheating start switch	B2	S1
S2	Engine oil pressure switch	F9	S2
S3	Engine temperature switch	F10	S3
S55	Horn tip switch	D9	S55
Y1	Cutoff solenoid	F8	Y1

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1.8 Engine compartment: overview



Pos.	Description
23	Air filter
24	Throttle cable
25	Fuel filter
26	Swivel unit
27	Thermostat
28	Filler neck
29	Coolant filler inlet
30	Expansion tank

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Filling up hydraulic oil


Fig. 29: Hydraulic oil filler inlet with strainer

Do not fill up the hydraulic oil unless the engine is switched off. Otherwise, hydraulic oil will run out of the filler opening on the hydraulic tank.

☞ *Fill up as follows:*

- Park the machine on level ground
- Position the machine as shown in **fig. 27**
- Switch off the engine
- Fold the control lever base up
- Clean the area around filler opening with a cloth
- Open the filler opening
- Fill in clean hydraulic oil through the strainer
- Check the hydraulic oil level on sight glass **B**
- Fill up if necessary and check again
- Close the filler opening

Important!

You can also refill through the reflux filter to avoid contamination of the hydraulic oil as you fill up.

Important!

Only change the hydraulic oil if it is warm (about 50 °C).
Retract all hydraulic rams before changing the oil.

Changing hydraulic oil



Fig. 30: Hydraulic oil drain plug

☞ *Open the filler plug to release pressure*
☞ *Open drain plug **30/B** to let the oil drain into a container*
☞ *Check the hydraulic oil tank for contamination and clean if necessary*
☞ *Screw the drain plug back in correctly*
☞ *Fill in clean hydraulic oil through the strainer*
– see Filling up hydraulic oil on page 3-29
☞ *Close the hydraulic oil tank correctly*
☞ *Let the machine run at idling speed without load for some minutes*

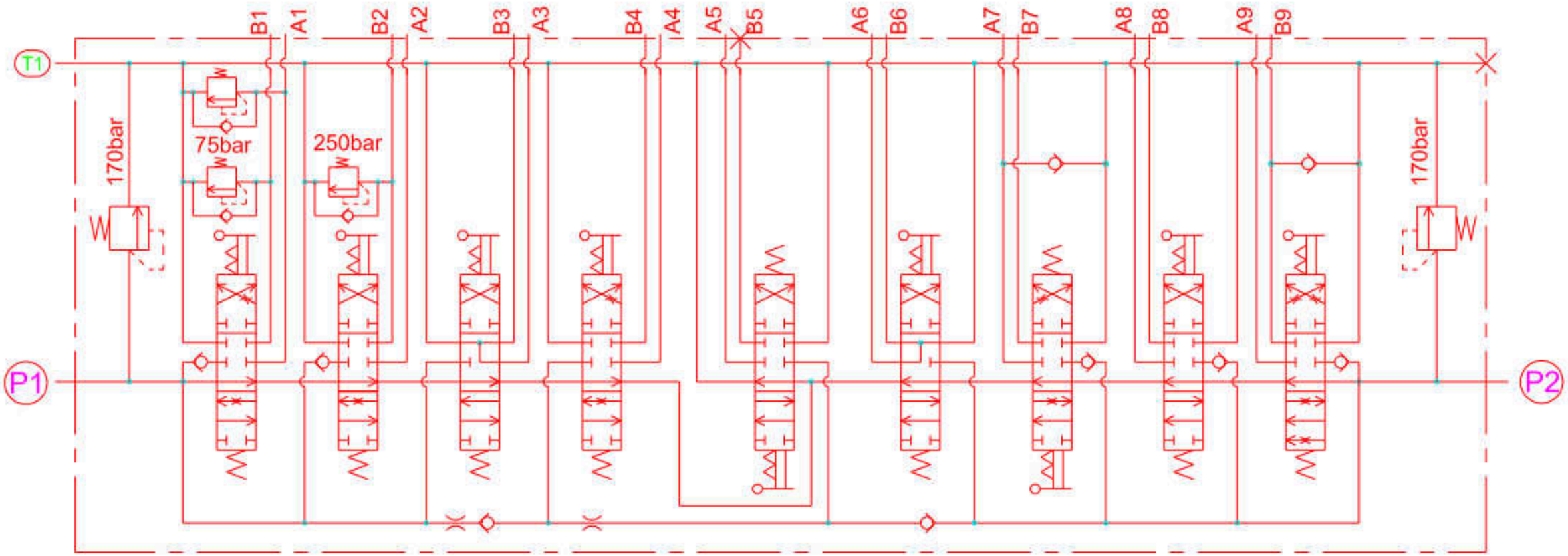
Replacing the filter cartridge



☞ *Open the engine cover*
☞ *Remove the expansion tank*
☞ *Unscrew the reflux line from the filler cap*
☞ *Slacken the filler cap of the hydraulic oil tank*
☞ *Remove the cover with the connection piece and the filler cartridge*
☞ *Replace the filter*
☞ *Reassemble in the reverse order*
☞ *Check for tightness after a short test run*
☞ *Check the fluid levels*

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5.12 Main valve block diagram 803 A3



Main control lines

Port	Legend
A1, B1	Swivel unit
A2, B2	Stick
A3, B3	Travelling drive (left)
A4, B4	Stabiliser blade/telescopic undercarriage
A5	Auxiliary hydraulics
A6, B6	Travelling drive (right)
A7, B7	Offset ram
A8, B8	Bucket ram
A9, B9	Boom ram

Pump/tank lines

Port	Legend
P1	Pump 1 port
P2	Pump 2 port
T1 and T2	Tank line via non-return valve and filter in tank

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