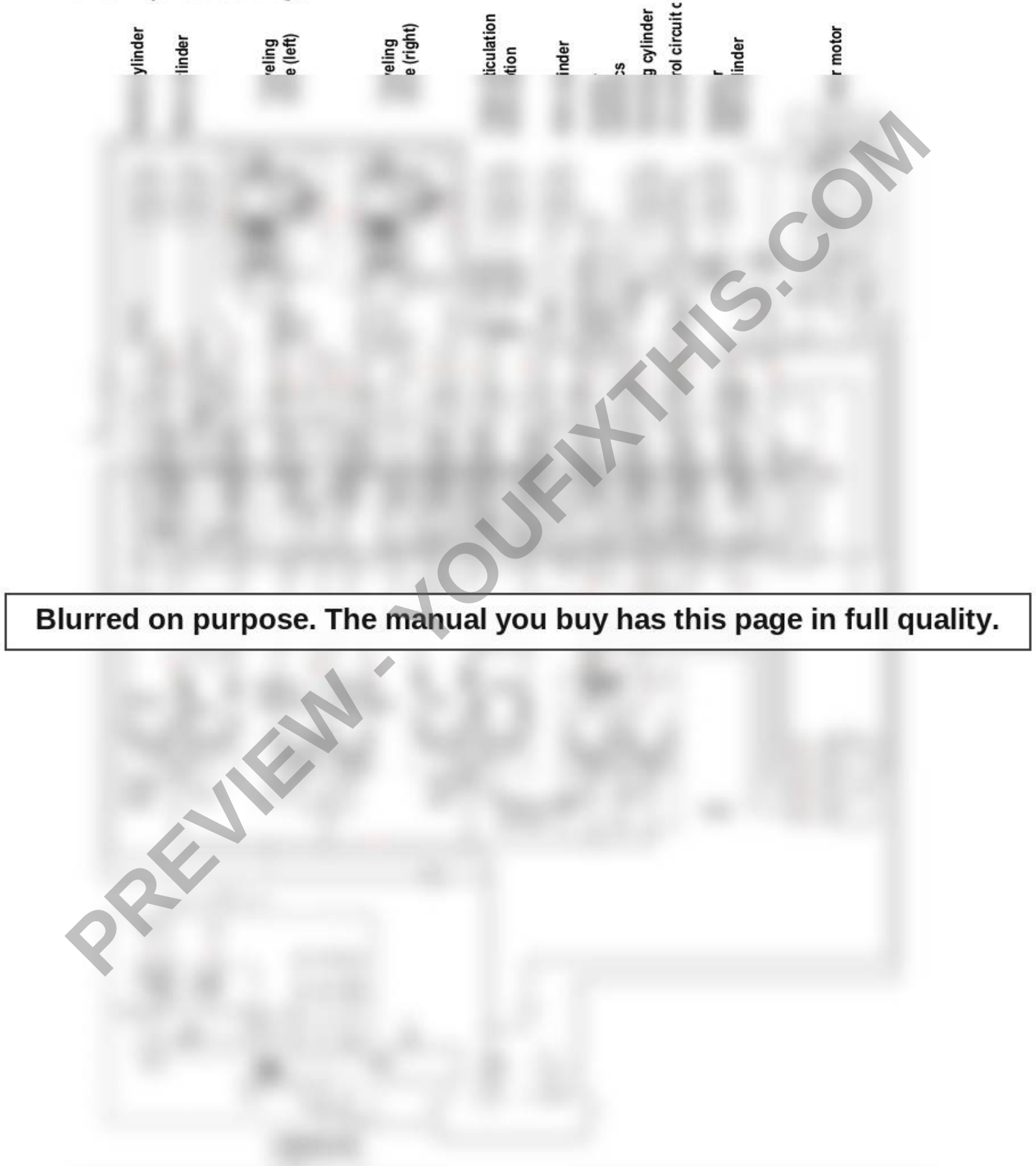


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5.16 Hydraulics diagram A4



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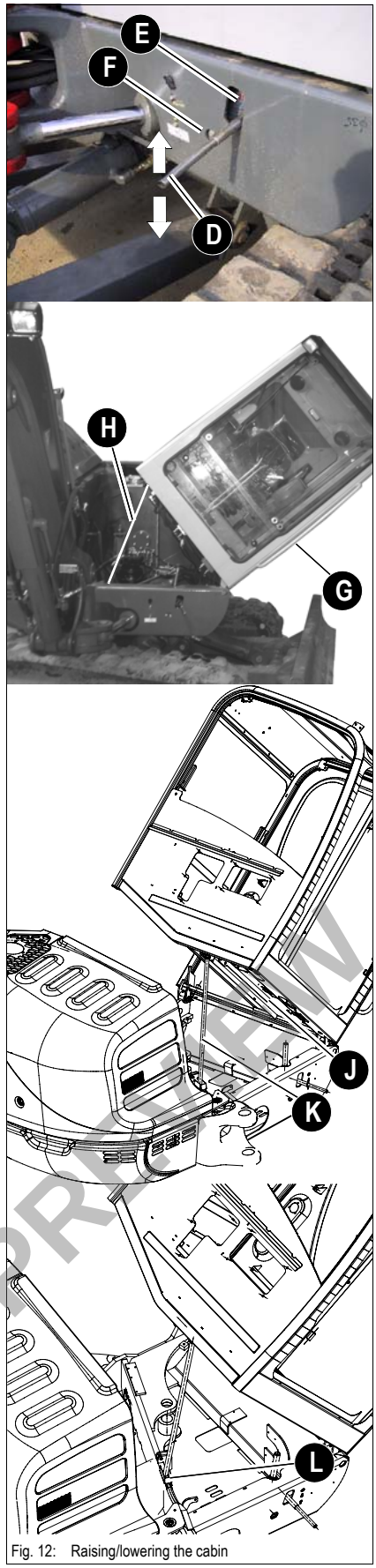


Fig. 12: Raising/lowering the cabin

Raising/lowering the cabin

Proceed as follows:

☞ *Insert tube **D** onto guide pin **E** and pump as far as it will go.*

➥ (jack function)

➥ The cabin is raised as far as the pump will go.

☞ *Pull handle **G** until the cabin is completely raised beyond the center of motion.*

➥ The cabin is secured with safety cable **H**.

☞ *Remove the split pin from bracket **J**.*

➥ Slide tilt rod **K** into guide **L**.

➥ Secure tilt rod **K** with the split pin in guide **L**.

Lowering the cabin:

☞ *Remove the split pin from guide **L**.*

➥ Pull tilt rod **K** into bracket **J**.

➥ Secure tilt rod **K** with the split pin in bracket **J**.

☞ *Use handle **G** to lower the cabin until it is back on the pump.*

☞ *Insert tube **D** on pin **F**.*

☞ *Slowly turn tube **D** anticlockwise (to the left).*

➥ The cabin is lowered by its own weight.

➥ **The lift pump must be opened when driving with the machine! (to prevent the lift piston from touching the cabin.)**

☞ *Install screws **A** (front) and **C** (rear) with suitable tools and the specific torque – see Tightening torques for high-resistance threaded fittings on page 2-11.*

Caution!

Check tilt rod **K**, the split pin and safety cable **H** at regular intervals for cracks and cuts.

☞ *Replace malfunctioning parts immediately.*

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3.3 Maintenance plan (overview)

Work description

For servicing and maintenance on the attachment, please refer to the operation and maintenance manual of the attachment manufacturer as well.

	Maintenance plan/operating hours (o/h)								
	Maintenance (once a day)	Every 50 o/h	Every 250 o/h	Every 500 o/h	Every 1000 o/h once a year	Every 1500 o/h	Every 2000 o/h	Customer	Authorized service center
Fluid and filter changes ( ):									
Perform the following oil and filter changes (check oil levels after test run):									
• Engine oil[1]		●		●					●
• Engine oil filter[2]		●		●					●
• Fuel filter[3]		●		●					●
• Air filter element as indicated by indicator light[4]				●				●	
• Coolant					●				●
• Hydraulic oil filter insert				●					●
• Hydraulic oil					●				●
• Hydraulic oil reservoir breather					●				●
• Drain the condensation water from the hydraulic oil reservoir				●					●
• Replace cabin air filter for heating and air conditioning					●			●	
• Drive gearbox oil [5]		●			●				●
Inspection work ( ):									
Check the following material. Refill if necessary:									
• Engine oil	●							●	
• Engine coolant	●							●	
• Hydraulic oil	●							●	
• Fuel	●							●	
• Drive gearbox oil		●							●
Clean water ducts							●		●
Check pedal function	●							●	
Check engine/hydraulic oil radiator and air conditioning for dirt. Clean if necessary	●							●	

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2.10 Model-specific tightening torques

6003		Nm (ft.lbs.)
Live ring	M14 10.9	180 (133)*

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Engine diagnosis codes				Page
Flash code		**Component**	**Troubleshooting**	**Error diagnosis**
7	Proportional injection pump solenoid (control rack) (Rack position sensor failure)	Loose connector	Tighten the connector	*4-35*
		Wiring error	Check and replace the malfunctioning component	
		Malfunctioning sensor	Contact a Wacker Neuson service center	
5	Manual throttle lever (Accelerator sensor failure)	Wiring error Sensor voltage: 4.6 V or more, or 0.2 V or less	Check and replace the malfunctioning component	*4-39*
		Malfunctioning manual throttle lever sensor	Replace the manual throttle lever sensor	
4-1	ECU internal (ECU internal)	Internal ECU error	Contact your dealer	*4-42*
	ECU failure (ECU failure)			*4-45*
2-5	ECU overheated (ECU overheat alarm)	ECU temperature too high	Allow to cool down	*4-45*
4	Coolant temperature sensor (Coolant temperature sensor failure)	Wiring harness error Sensor voltage: 4.8 V or more, or 0.2 V or less	Check and replace the malfunctioning component	*4-46*
		Malfunctioning coolant temperature sensor	Replace the sensor	
3-6	Coolant temperature too high (Coolant temperature high alarm)	Overheated engine	Let the engine cool down	*4-48*
		Not enough coolant	Add coolant	
		Malfunctioning engine cooling system	Check the engine cooling system and replace the malfunctioning component if necessary	
		Malfunctioning coolant temperature sensor	Replace the sensor	
2-4	5 V sensor (Sensor 5 V failure)	Wiring harness error Sensor voltage: less than 4.5 V or more than 5.5 V	Check and replace the malfunctioning component	*4-50*
		Internal ECU error	Contact a Wacker Neuson service center	
2-3	Power supply (Power supply voltage abnormal)	Old battery	Replace the battery	*4-53*
		Oxidized battery terminals	Clean the battery terminals	
		Malfunctioning alternator	Replace the alternator	
		Wiring harness error Battery voltage: more than 10 V or more than 16 V	Check and replace the malfunctioning component	

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1.19 Summer/winter operation

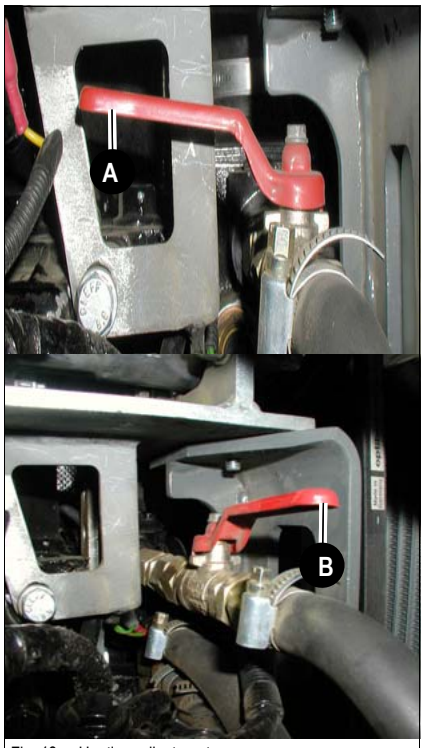


Fig. 13: Heating adjustment

Adjust cabin temperature as follows:

Position	Function	
A	Summer operation	Cooling
B	Winter operation	Heating water circuit open

☞ *Open the engine compartment.*

☞ *Turn the ball-type cock as described, to summer or winter operation.*

☞ *Close the engine compartment.*

Notice!

Summer and winter operation does not depend on the season, adjust according to your personal requirements.

Preheated fresh air

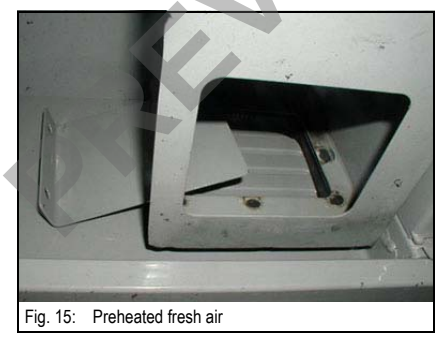

Fig. 14: Fresh air

Selection of “cold” or “preheated” fresh air in winter.

A deflector plate on the heater can be set to two different positions.

➥ Fresh air: heater takes in air from outside the cabin **fig. 14.**

➥ Preheated fresh air: heater takes in air from the chassis **fig. 15.**


Fig. 15: Preheated fresh air

Change from fresh air to preheated fresh air as follows:

☞ *Raise the cabin – see Raising/lowering the cabin on page 1-22.*

➥ The deflector plate is located on the heater under the cabin.

☞ *Loosen both fastening screws.*

☞ *Reposition and fit the deflector plate back on again.*

☞ *Lower the cabin again and secure it.*

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Replacing the fuel filter

Old engine type (up to serial no. AD07210):

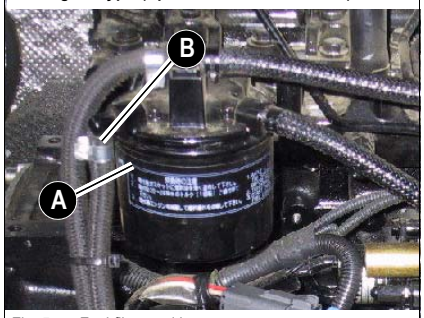
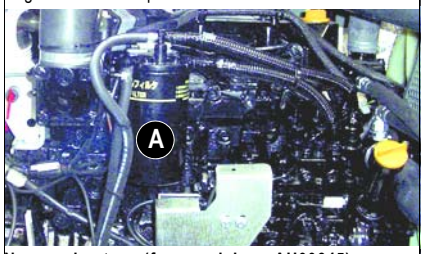


Fig. 5: Fuel filter position



New engine type (from serial no. AH00645):

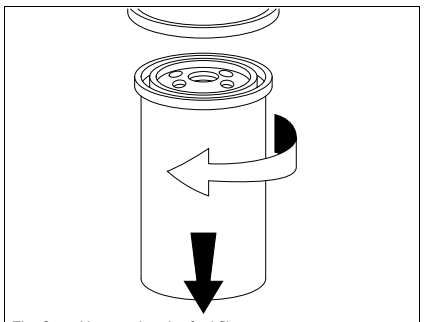


Fig. 6: Unscrewing the fuel filter

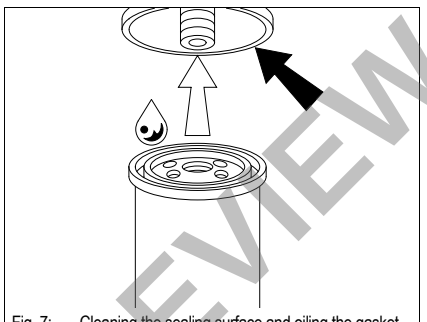


Fig. 7: Cleaning the sealing surface and oiling the gasket

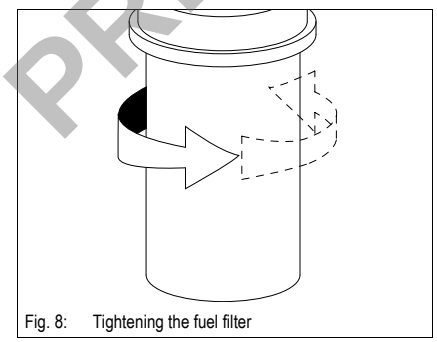


Fig. 8: Tightening the fuel filter

Danger!

If the fuel, as it drains, comes into contact with hot engine parts or the exhaust system, there is an increased

Fire hazard!

☞ *Never change the fuel filter if the engine is hot.*

Environment!

Use a suitable container to collect the fuel as it drains and dispose of it in an environmentally friendly manner.

☞ *Change fuel filter 5/**A** as follows:*

- Close the fuel feed line with the stop cock on the fuel prefilter.
- Thoroughly clean the outside surfaces of fuel filter 5/**A**.
- Place a suitable container under the filter.
- Loosen and unscrew fuel filter cartridge using a commercially available tool.
- Collect the fuel as it drains.
- Clean the sealing surface of the filter carrier if it is dirty.
- Lightly oil the rubber gasket of the new filter cartridge or apply a thin coat of clean diesel fuel to it.
- Screw on the cartridge by hand until the gasket makes contact.
- Tighten the fuel filter cartridge by turning it a further half revolution.
- Open the stop cock on the water separator again.
- Bleed the fuel system – *see Bleeding the fuel system* on page 3-14.
- Make a test run – and check for tightness.
- Dispose of the old fuel filter cartridge by an ecologically safe method.

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Setting the tracks

Danger!

The lubricating valve can be squeezed out due to the high grease pressure in the hydraulic cylinder.

Injury hazard!

☞ *Do not loosen and unscrew the lubricating valve by more than one turn.*

☞ *Loosen no other component except the lubricating valve.*

☞ *Keep your face away from the lubricating valve connection.*

➥ Contact your Neuson dealer if this does not reduce the tension of the rubber sliding block.

Caution!

Excessive tension of the tracks causes serious damage to the cylinder and the track.

☞ *Tighten the tracks only up to the prescribed measuring distance.*

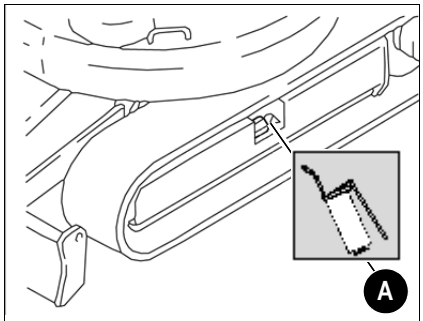


Fig. 49: Tightening the tracks

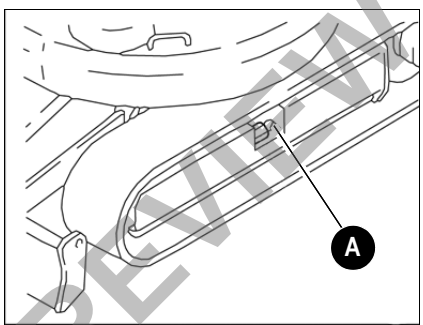


Fig. 50: Releasing grease

Tightening the tracks

☞ *Inject grease with the pump through lubricating valve **A**.*

☞ *Check the tension is correct by starting the engine, letting it run at idling speed and slowly moving the machine forward and reverse and switching it off again.*

☞ *Check the tension of the tracks again.*

➥ If it is not correct:

☞ Adjust again.

☞ *Should the track still be loose after injecting more grease, replace the track or the seal in the cylinder. Contact a Neuson dealer in this case.*

Reducing tension

- Draining grease in a way different from the one described below is very dangerous. Also bear in mind the safety instructions on this page.

☞ *Slowly open the lubricating valve **A** by 1 turn to allow the grease to flow out.*

☞ Place a suitable container underneath to collect the grease.

➥ The grease flows out of the groove of the lubricating valve.

☞ *Retighten lubricating valve **A**.*

☞ *Check the tension is correct by starting the engine, letting it run at idling speed and slowly moving the machine forward and reverse and switching it off again.*

☞ *Check the tension of the tracks again.*

➥ If it is not correct:

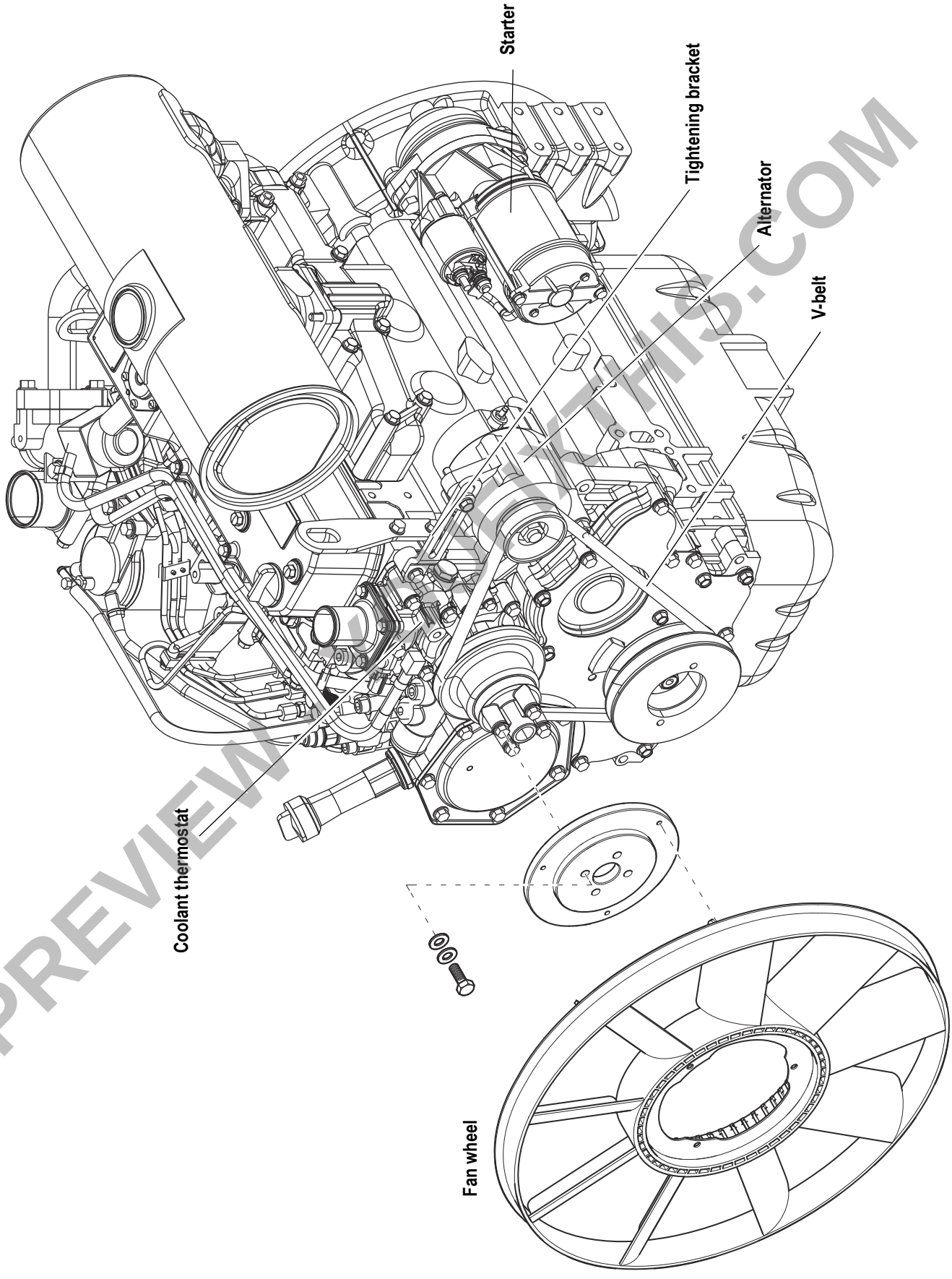
☞ Adjust again.

Environment!

Use a suitable container to collect the grease as it flows out and dispose of it in an environmentally friendly manner.

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Work description

1. Check the sensor resistance value (sensor only)

- Disconnect the wiring harness from the coolant temperature sensor.
- Measure the resistance between the terminals A and B of the coolant temperature sensor by means of a multimeter.
- Check whether the measured resistance value is within the normal range. See the following table <Parameters of coolant temperature sensor>.

Parameters of coolant temperature sensor

- Ratio between coolant temperature and sensor resistance:

Temperature (°C/°F)	Resistance (kΩ)
	High accuracy
-30/-22	25.4
-20/- 4	15.04
-10/14	9.16
0/32	5.74
10/50	3.7
20/68	2.45
30/86	1.66
40/104	1.15
50/122	0.811
60/140	0.584
70/158	0.428
80/176	0.318
90/194	0.24
100/212	0.1836
110/230	0.1417
120/248	0.1108

NG	Replace the coolant temperature sensor.
OK	Check the sensor resistance with the sensor and the wiring harness connected. -> Next: [2. Check the sensor resistance value (sensor + wiring harness):]

2. Check the sensor resistance value (sensor + wiring harness):

- Connect the coolant temperature sensor and the wiring harness, and disconnect E-ECU from the wiring harness.
- Measure the resistance between the E-ECU connector terminals E16 and E28 on the wiring harness side by means of a multimeter.
- Check whether the measured resistance value is within the normal range. See the previous table <Parameters of coolant temperature sensor>.

NG	Check the wiring harness for continuity. -> Next: [3. Check the wiring harness for continuity:]
OK	Check the output voltage of the coolant temperature sensor. -> Next: [4. Check the output voltage of the coolant temperature sensor:]

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4. Check the oil pressure switch for movement:

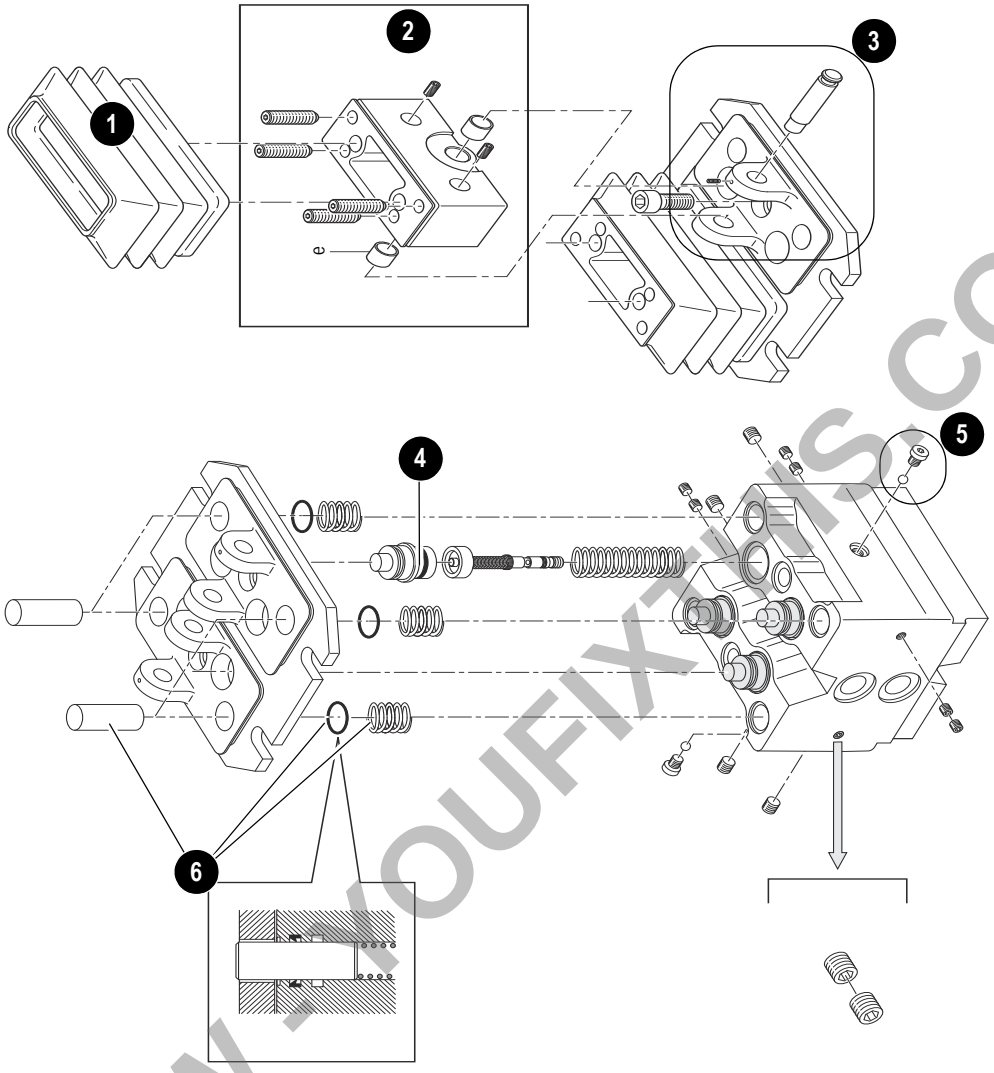
- Connect all connectors (oil pressure switch, E-ECU).
- Connect the diagnosis tool, switch on the starter and log in to the diagnosis tool.
- Monitor the separate components displayed with the diagnosis tool “Diagnosis test: digital input, etc.”. Check ON/OFF display of the oil pressure switch under the circumstances indicated.

Pos.	Check conditions	ON/OFF display	Status
Oil pressure switch	Before engine start	ON	OK: normal
		OFF	NG: wiring harness error or internal circuit error
	With the engine running	OFF	OK: normal
		ON	NG: wiring harness error or internal circuit error

NG	• Check whether the wiring harness is damaged, or whether the wiring is correct. • Replace the wiring harness. • Replace the oil pressure switch.
OK	Replace the E-ECU.

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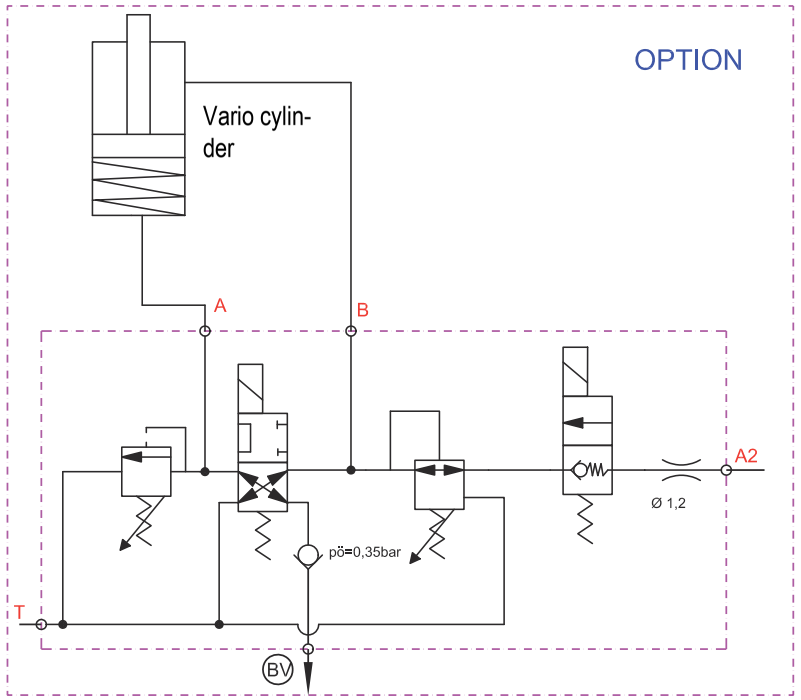
Pos.	Designation
1	Bellows
2	Shift unit (kit)
3	Plate (kit)
4	Tappet
5	Non-return valve (also bleeds the pedal)
6	Damping

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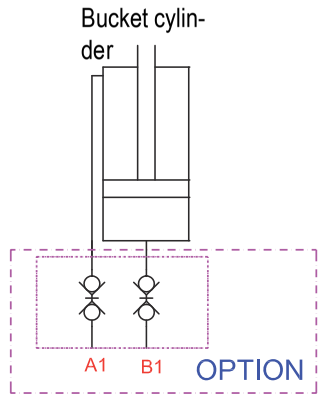
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5.20 Options diagrams 2 from serial no. AC04070

Vario

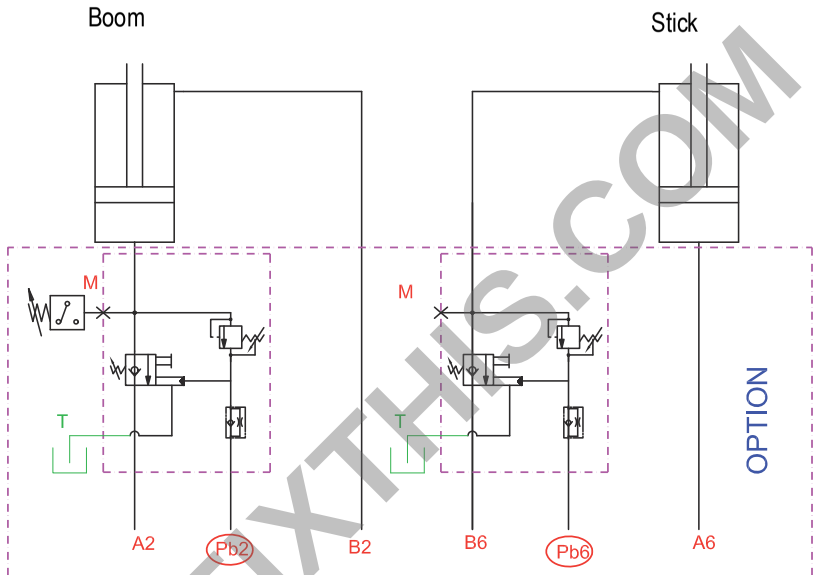


Grab

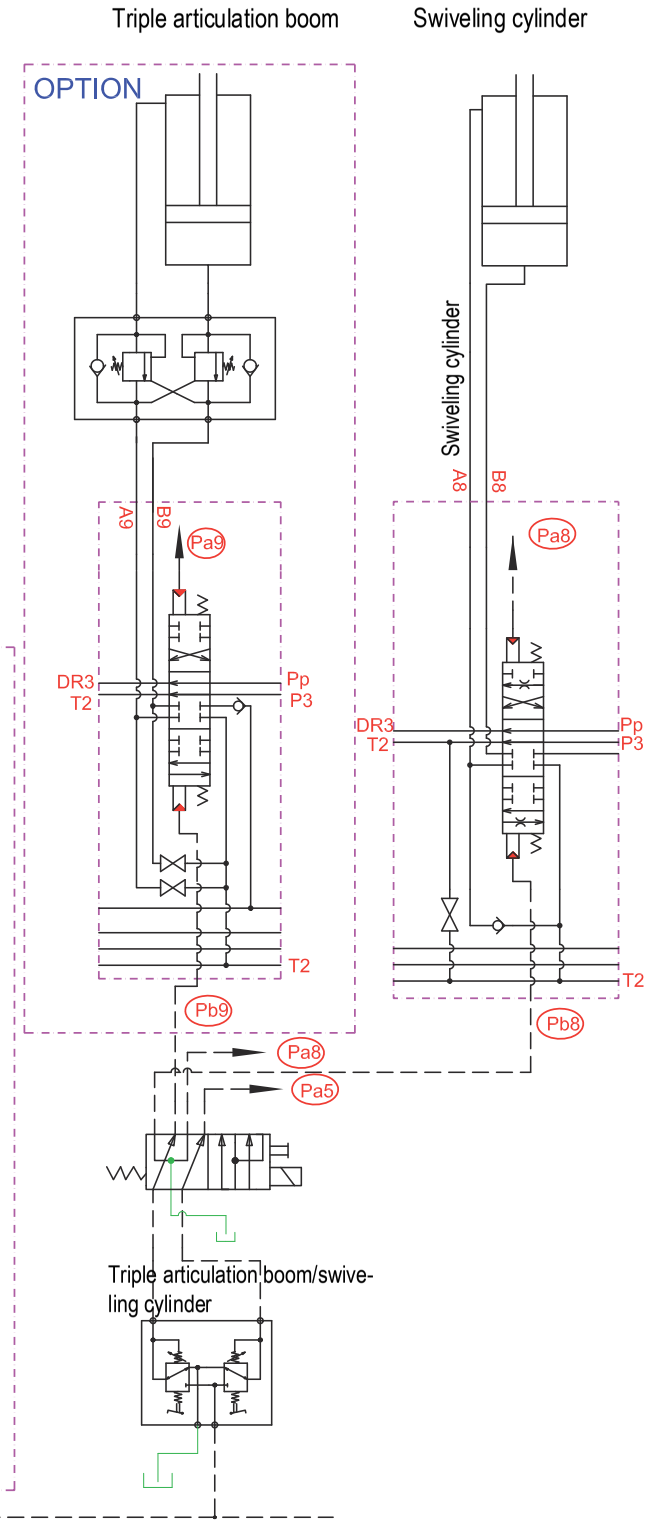


The grab is controlled by the bucket pilot valve.

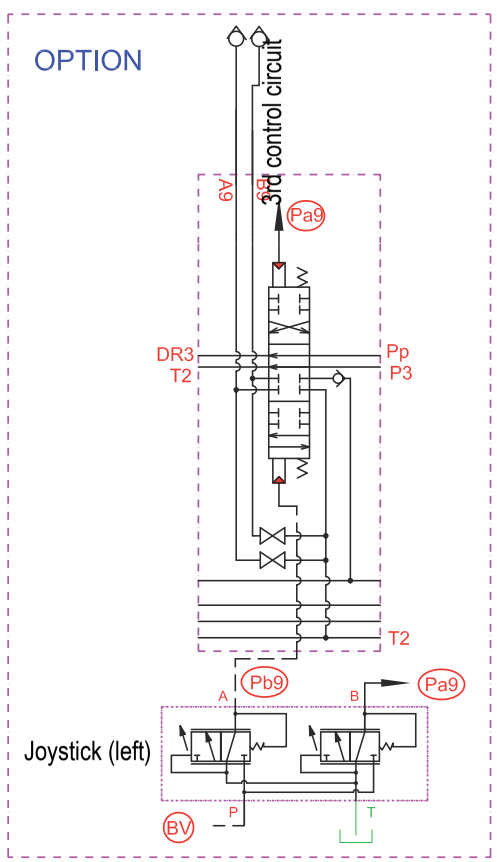
Safe load indicator FR



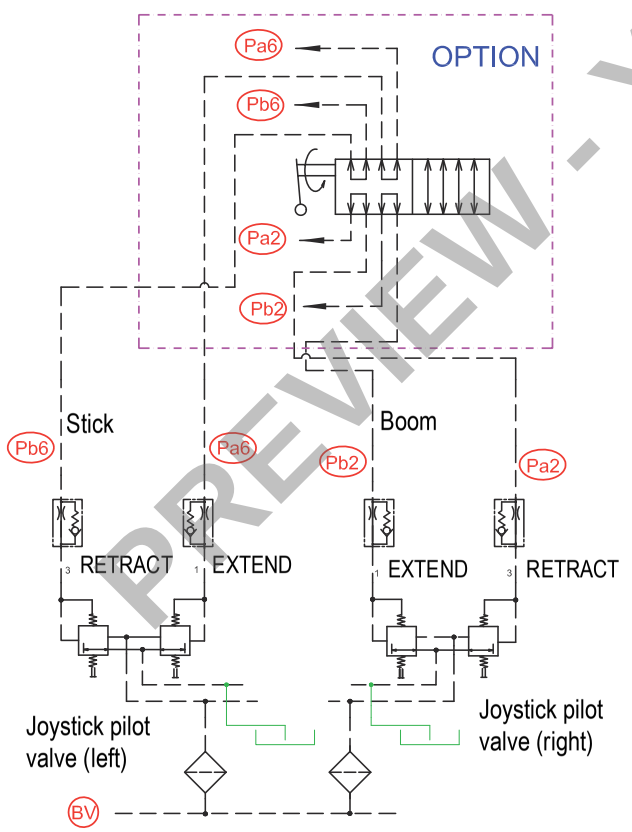
Triple articulation boom + 3rd control circuit (proportional) + proportional controls



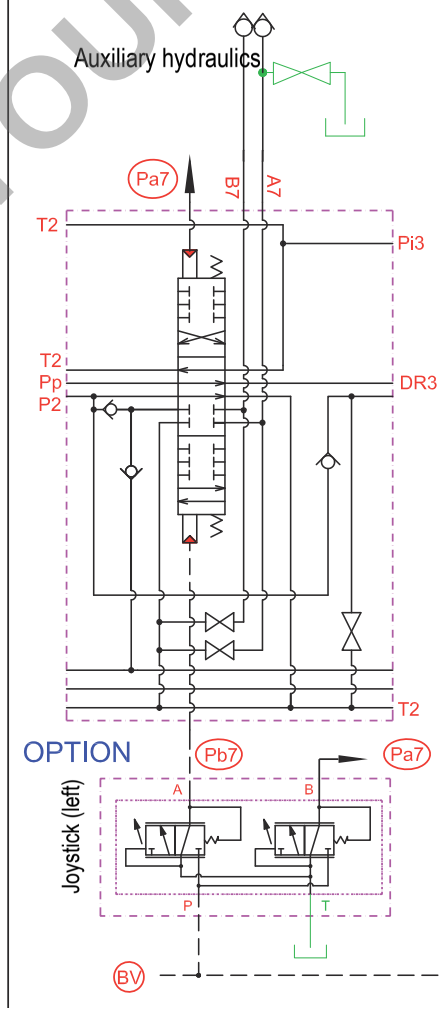
3rd control circuit



SAE valve



Auxiliary hydraulics



3rd control circuit

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6.36 Wiring diagram A3 up to serial no. AC02888 (legend)

No.	Designation	Section	
A1	Radio	E14	Option
B1	Fuel indicator	F6	
B2	Horn	D/E10	
B6	Engine oil temperature sensor	E6	
B11	Loudspeaker	E15	Option
B12	Loudspeaker	E15	Option
E7	Rear roof light	F14	Option
E9	Front roof light	F13	Option
E10	Front roof light		Option
E11	Boom light	F8/9	
E14	Interior light	E/F13	
E15	12 V power outlet	A14	
F1	Main fuse: starter, preheating	E2	
F2	Main fuse + fuel-filling pump	E1	
F3	Indicators, engine relay	A5	
F4	Boom working light	A7	
F5	Cabin working lights	A8	
F6	Valves, horn	A9	
F7	Fan, air conditioning	A10	
F8	Wiper, interior light	A12	
F9	Rotating beacon, radio, immobilizer	A13	
F10	12 V power outlet	A14	
G1	Alternator	F3	
G2	Battery	F1	
H2	Preheating indicator light	B3	
H3	Engine temperature indicator light	B3	
H4	Engine oil pressure indicator light	B3	
H5	Alternator charge function indicator light	B3	
H6	Air filter indicator light	B3	
H7	Hydraulic oil filter indicator light	B3	
H9	Safe load indicator light	C3	Option
H28	Rotating beacon	F13	Option
H33	Spare indicator light	B3	
H30	Spare indicator light	C3	
K5	Preheating high-current relay	E4	
K6	Preheating time lag relay	D5	
K7	Start high-current relay	E2	
K8	Cutoff solenoid time lag relay	D3	
K9	Cutoff solenoid switching relay	E3	
M1	Starter	F2	
M2	Wiper motor	F13	Option
M4	Fan	C12	Option
M5	Washer pump	F8	Option
M7	Fuel-filling pump	F1	Option
M9	Fuel pump	F3	
P1	Hour meter	B3	
P2	Fuel level indicator	B3	
P3	Engine oil temperature gage	A3	
R1	Glow plug	F5	
S1	Preheating start switch	A1	

No.	Designation	Section	
S2	Engine oil pressure switch	F5	
S3	Engine temperature switch	E5	
S4	Air filter pressure switch	F6	
S5	Hydraulic oil pressure switch	F7	
S8	Battery master switch	F1	
S15	Ventilation switch	A10	
S16	Boom working light switch	A7	
S17	Cabin working light switch	A8	Option
S18	Rotating beacon switch	A13	Option
S20	Wiper/washer switch	A12	Option
S21	High speed switch	A9	
S21.1	High-speed push button (prepared)	E9	Option
S27	Additional hydraulics/swivel push button	D10	
S28	Safety switch	C28	
S30	Additional control circuit push button	D9	Option
S31	Additional control circuit push button	D9	Option
S41	Safe load indicator pressure switch	E8	Option
S42	Safe load indicator switch	A6	Option
S48	Automatic idling speed push button	C9	Option
S51	Air conditioning switch	A11	Option
S52	Air conditioning pressure switch	E12	Option
S54	Air conditioning thermostat	D12	Option
S55	Horn push button	C10	
V1	Recovery diode	E4	
X1	13 pole connection – engine/chassis	D4-6	
X2	11 pole connection – engine/chassis	D7-9	
X3	2 pole main connection	D0	
X4	9 pole connection – immobilizer	C/D1	
X5	7 pole connection – armrest/chassis	D11/12	
X6	5 pole connection – armrest switch	C11/12	
X7	6 pole connection – joystick (right)	C/D 11	
X8	6 pole connection – joystick (left)	D11	
X10	15 pole indicating instrument connection	B/C3	
X11	2 pole connection – Vario indicator	B6	
X12	9 pole connection – cabin	C13/14	
X13	5 pole connection – engine temperature	A3	
X14	2 pole connection – automatic engine speed setting	C/D3	
X15	1 pole connection – drive alarm	D/E 1	
X16	3 pole connection – drive alarm	E2	
X19	1 pole connection – socket	F7	
XE11	2 pole connection – boom working light	E9	
XS41	2 pole connection – safe load indicator	E8	
Y1	Cutoff solenoid	F4	
Y3	High-speed solenoid valve	F9	
Y13	Solenoid valve for safety valve	F11	
Y14	Solenoid valve – automatic idling speed setting	F9	Option
Y15	Solenoid valve – auxiliary hydraulics/swivel	F10	
Y16	Solenoid valve – additional control circuit	F10	Option
Y17	Solenoid valve – additional control circuit	F11	Option
Y31	Solenoid valve – air conditioning	F12	Option

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7.8 Neuson Vario



Using the Neuson Vario feature

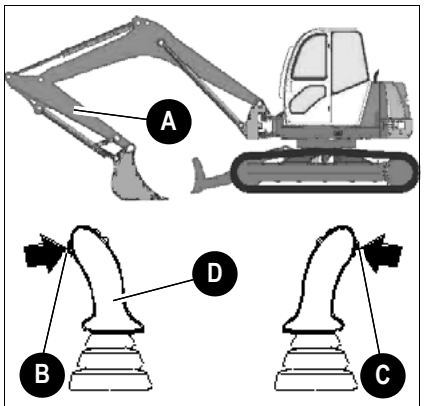


Fig. 7: Using the Neuson Vario feature

Danger!

Lower the excavator arm to the ground when using the Neuson Vario feature, otherwise

Accident hazard

☞ *Support the machine with the excavator arm when using the Vario feature.*

The following steps must be followed under all circumstances when changing the eccentric position:

☞ *Brace excavator arm* **6/A** *on the ground with the boom cylinder.*

☞ *To unlock the Neuson Vario feature, press and hold both front switches on the left-hand* **6/B** *and right-hand* **6/C** *joystick.*

☞ Press and hold both buttons **B** and **C** about 5 seconds without moving the joysticks to unlock.

The Neuson Vario feature has four lock positions at offset positions of 90° each (0°/360°, 90°, 180°, 270°).

☞ *Press the joystick on the left* ***D*** *to the left or right for a 90° rotation, press and hold buttons* ***B*** *and* ***C*** *as you do so.*

☞ Both buttons **B** and **C** can be released once the excavator has moved.

➥ The Neuson Vario feature automatically engages after a 90° rotation.

☞ *If repositioning beyond 90° is required with the Neuson Vario feature, press buttons* ***B*** *and* ***C*** *beyond the 90° lock position.*

➥ As soon as buttons **B** and **C** are released, the Neuson Vario feature engages in the next possible lock position.

Notice!

Always check whether the lock position is engaged.

For improved driving features on slopes, reposition the center of gravity toward the slope with the Neuson Vario feature.

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