# Service Manual

Track excavator

38Z3




| | |
|---|---|
| **Machine model** | **$38Z_3$** |
| **Edition** | **2.1** |
| **Language** | **English** |
| **Item no.** | **1000160891** |

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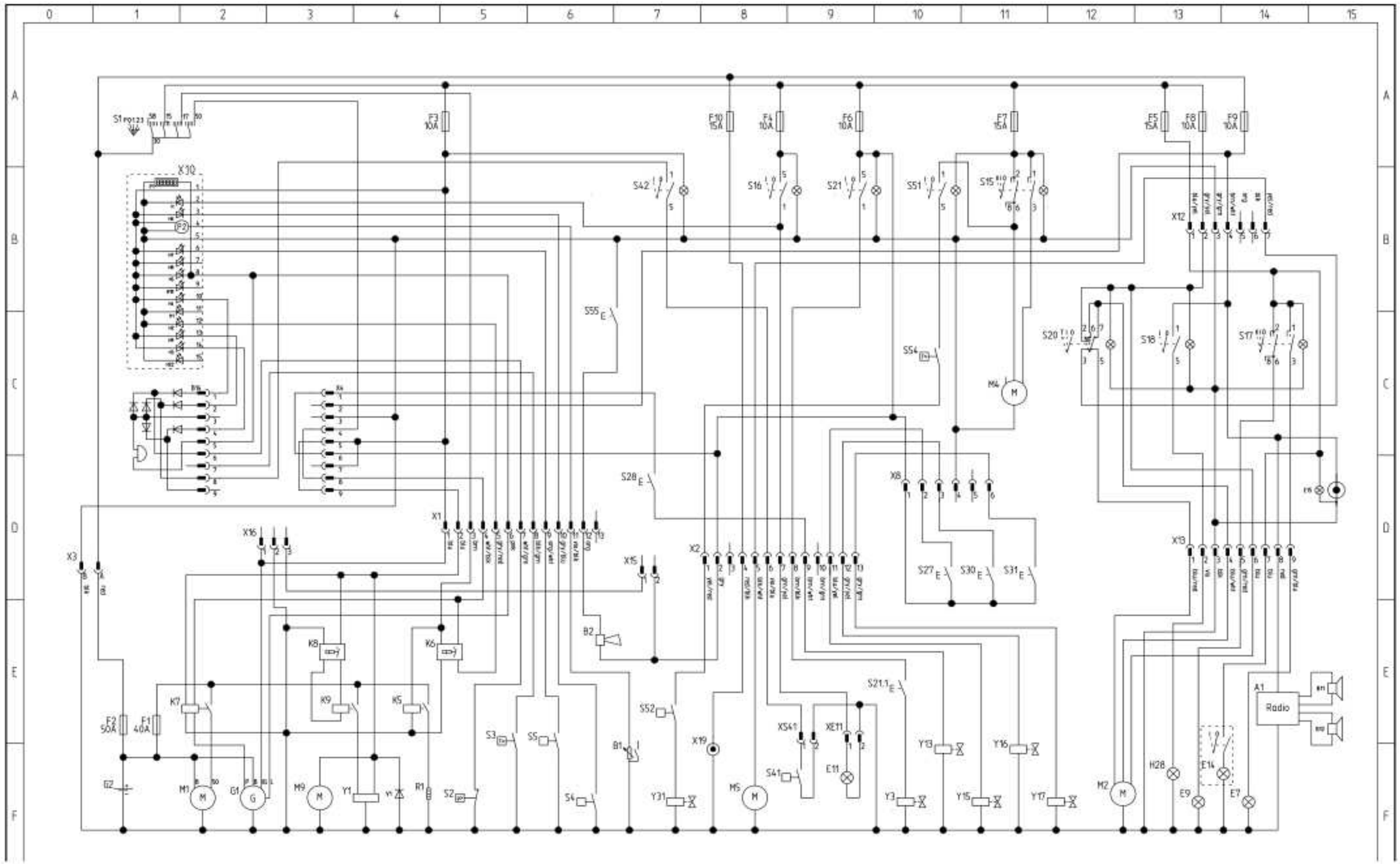
**Hydraulic system**

Hydraulic pump PVD-1B-32BP-11G5-4904A (up to AE02803)



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## 6.17 Wiring diagram A3






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| Problem | Possible causes | Troubleshooting |
|---|---|---|
| Insufficient cooling output | Fan duct obstructed | Check air intake and outlet for obstruction. Eliminate the cause for trouble |
| | Refrigerating agent level too low | Fill up refrigerating agent |
| | Humidity in system | Empty the air conditioning system, replace the dehumidifier, evacuate and fill up |
| | Dehumidifier saturated or clogged | Replace the dehumidifier |
| | Condenser fins contaminated | Clean the fins<br>Important: no use of high-pressure cleaner |
| System cools with interruptions | Line interruption | Check, repair and/or replace the lines |
| | Defective fan motor | Replace the fan |
| System runs very loudly | Loose or excessively worn V-belt | Retighten or replace the V-belt |
| | Loose compressor bracket or worn inside parts of the compressor | Repair the bracket, replace the compressor |
| | Excessive wear of fan motor | Replace the fan |
| | System too full | Suck off refrigerating agent |
| | Not enough refrigerating agent in the system | Check for leaks<br>Fill up the system |

## 7.2 Counterweight

**Specifications**

Lock the screw connection with Loctite S2420 or VaryBond 12-43

| Counterweight | Model 38Z3 |
|---|---|
| Weight | 152.5 kg (336 lbs) |
| Tightening torque for screws | 290 Nm (214 psi) |
| Max. tail end lateral projection over chains | 60 mm (2.4") |

**Important!**

Bear in mind the lift capacity table when using a counterweight!

## 7.3 Long stick

**Specifications**

| Long stick | Model 38Z3 |
|---|---|
| Short stick | 1400 mm (55") |
| Long stick | 1650 mm (65") |

**Important!**

Bear in mind the lift capacity table when using a long stick!



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### Safety features

- *Microcontroller ... diagnoses errors supplied by the output stage.*
- *Monitor...disables the output stage if the microcontroller breaks down.*
- *Output stage...controls the status of the supply lines from the pressure regulating valves*
- *Watchdog...disables the microcontroller in case the microcontroller breaks down*
- *Switch for valve supply...disables the power supply to the valves if a critical error is detected.*

### Measures to be taken in case of malfunctions

**Caution!**

System breakdowns can never be excluded, therefore:

- Disconnect the electronic controls from the power supply before carrying out repair work or maintenance on the hydraulic system
- Stay clear of areas and parts with danger of crushing
- Stay clear of in-between moving hydraulic components and fixed obstacles! DANGER OF CRUSHING!
- The operator of the machine or hydraulic system must be aware of possible machine or system errors

### Diagnosis display

The control valve status is displayed to the user by means of a flashing code.
The following errors are identified by the number of flash pulses:

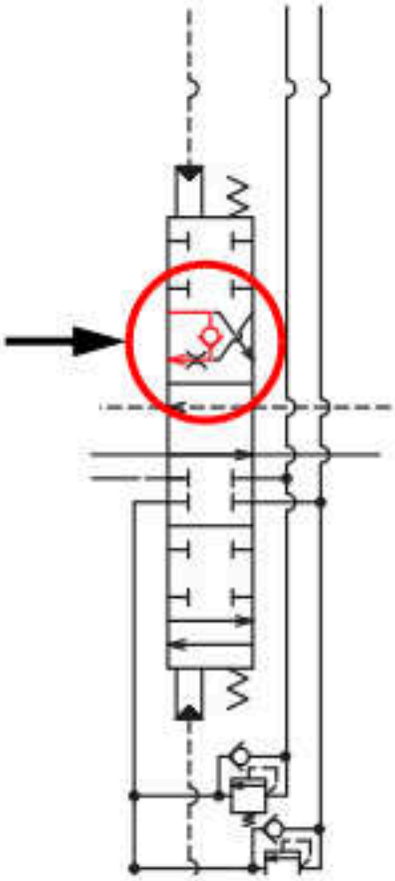
| No. | Pin no. | Description | Error | Troubleshooting | Critical error |
|---|---|---|---|---|---|
| 0 | - | - | No error | - | - |
| 1 | B 5 | Channel 1 input (left) | Defective input voltage | Check voltage, home position: 2.5 V deflected: 0.7 V – 4.3 V | - |
| 2 | A4, A9 | Channel 1 output; Y16/Y17 | Overload or overheating (output stage) | Check magnet on valve | - |
| 3 | A4, A9 | Channel 1 output; Y16/Y17 | Short circuit on earth or operating voltage | Check wiring | x |
| 4 | B4 | Channel 2 input (right) | Defective input voltage | Check voltage, home position: 2.5 V, deflected: 0.7 V – 4.3 V | - |
| 5 | A7, A8 | Channel 2 output; Y18/Y19 | Overload or overheating (output stage) | Check magnet on valve | - |
| 6 | A7, A8 | Channel 2 output; Y18/Y19 | Short circuit on earth or operating voltage | Check wiring | x |
| 7 | - | | System start | - | x |
| 8 | A10, A11 | Motor output | Overheating (output stage) | Check motor | x |
| 9 | - | - | EEProm data error | - | x |
| 10 | B6 | +5V joystick | Defective 5V supply | - | x |

The system switches off automatically if a critical error is detected. Activating the control unit is only possible by repeatedly switching on the supply voltage.



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## 5.4 Regeneration – stick section



**Problem**

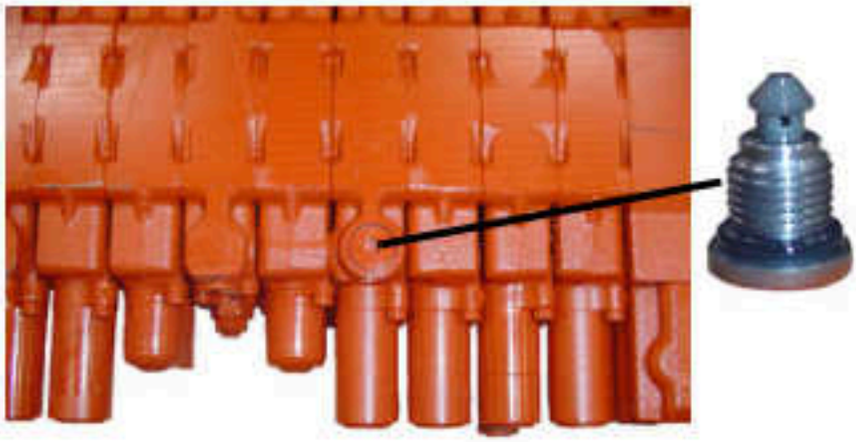
High loads on the stick can cause the stick ram to be "emptied" on the base side, which can cause the stick to stop in vertical position.

**Solution**

A non-return valve is integrated in the stick segment so the rod-side oil can flow to the base side.

**Location**

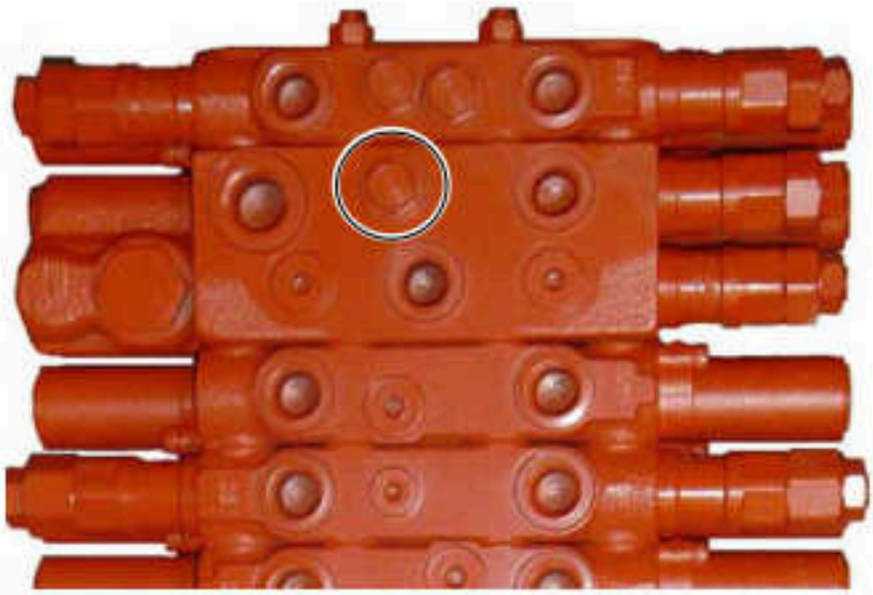
The regeneration valve is located in the stick segment on the lower side.



## 5.5 Bucket pre-tension

A nozzle is integrated in the pressure line of the bucket segment. If the bucket and the boom (both supplied with oil by the same pump) are actuated at the same time, both move simultaneously, and not the bucket (with its smaller mass) first, and then the boom with its larger mass – *see Main valve block diagram* on page 5-7.

Location





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## 7.12 Fuel-filling pump

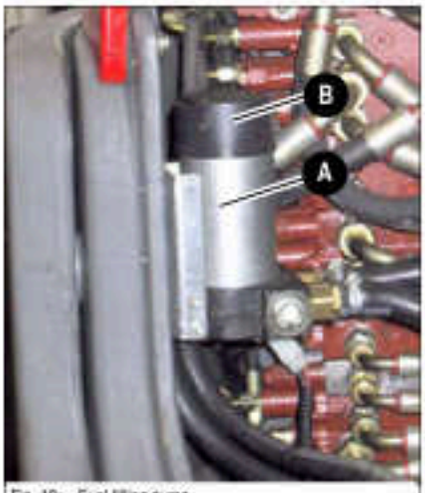


Fig. 10: Fuel-filling pump

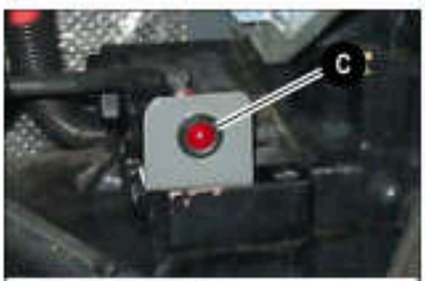


Fig. 11: Fuel-filling pump telltale


Fig. 12: Float switch

Refuel with the fuel-filling pump **A** as follows:

- *Place the machine on level ground*
- *Switch off the engine*
- *Open the engine cover*
- *Insert the hose of fuel-filling pump **A** into the container with the fuel*
  – see *Stationary fuel pumps on page 3-10*
- *Press button **B** to switch on fuel-filling pump **A***
- ➥ The fuel tank is full as soon as telltale **C** comes on
- *Press button **B** to switch off fuel-filling pump **A***

**Important!**

Switch off the fuel-filling pump as soon as telltale **C** comes on, otherwise the fuel tank may overflow and can be damaged.

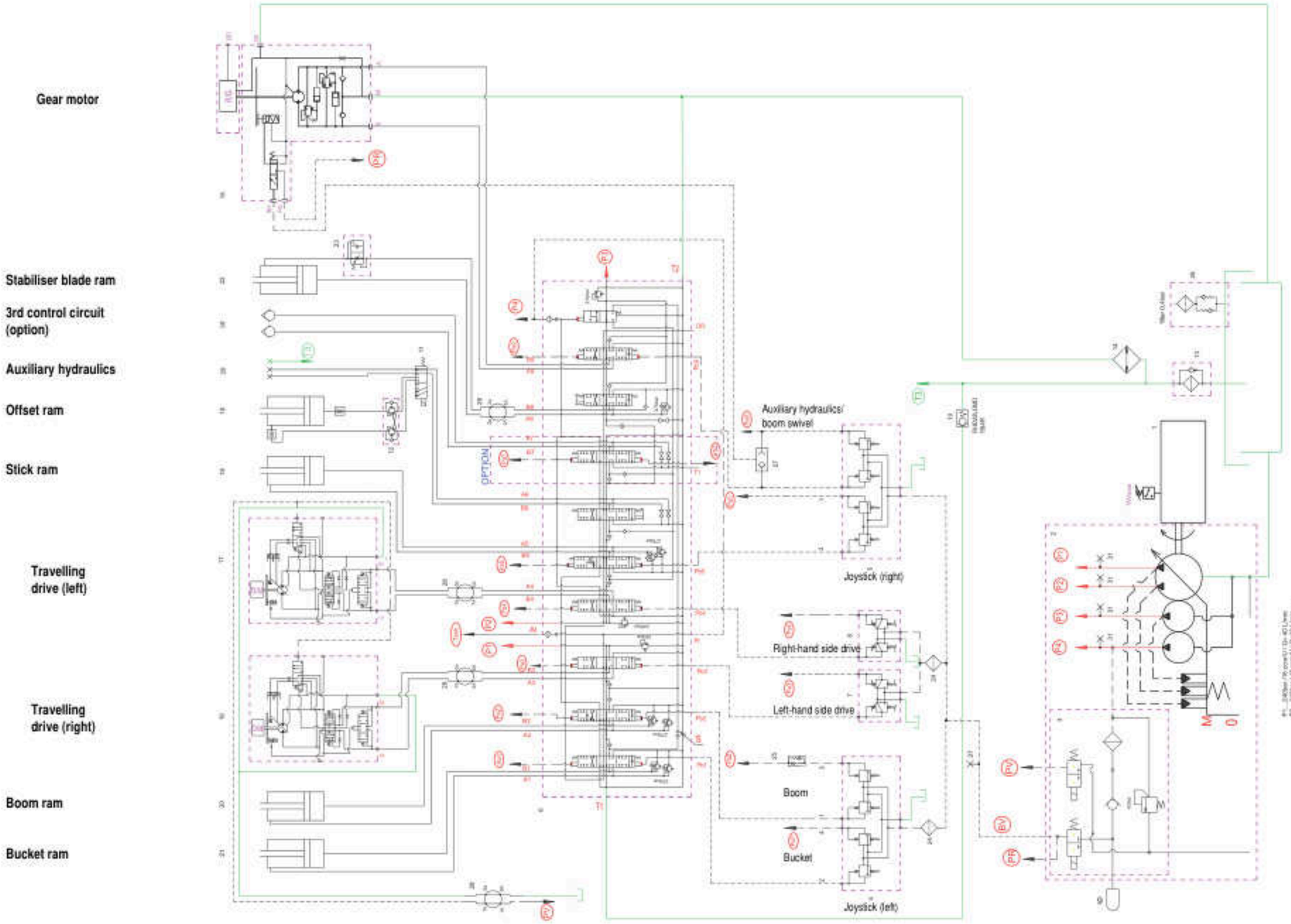
- Bear in mind the fuel tank's maximum capacity

The float switch screwed into the fuel tank triggers the telltale.



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## 5.17 Hydraulics diagram 38Z3 A3






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