

Short Instructions Loading and Driving Panther 2S

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ROPA

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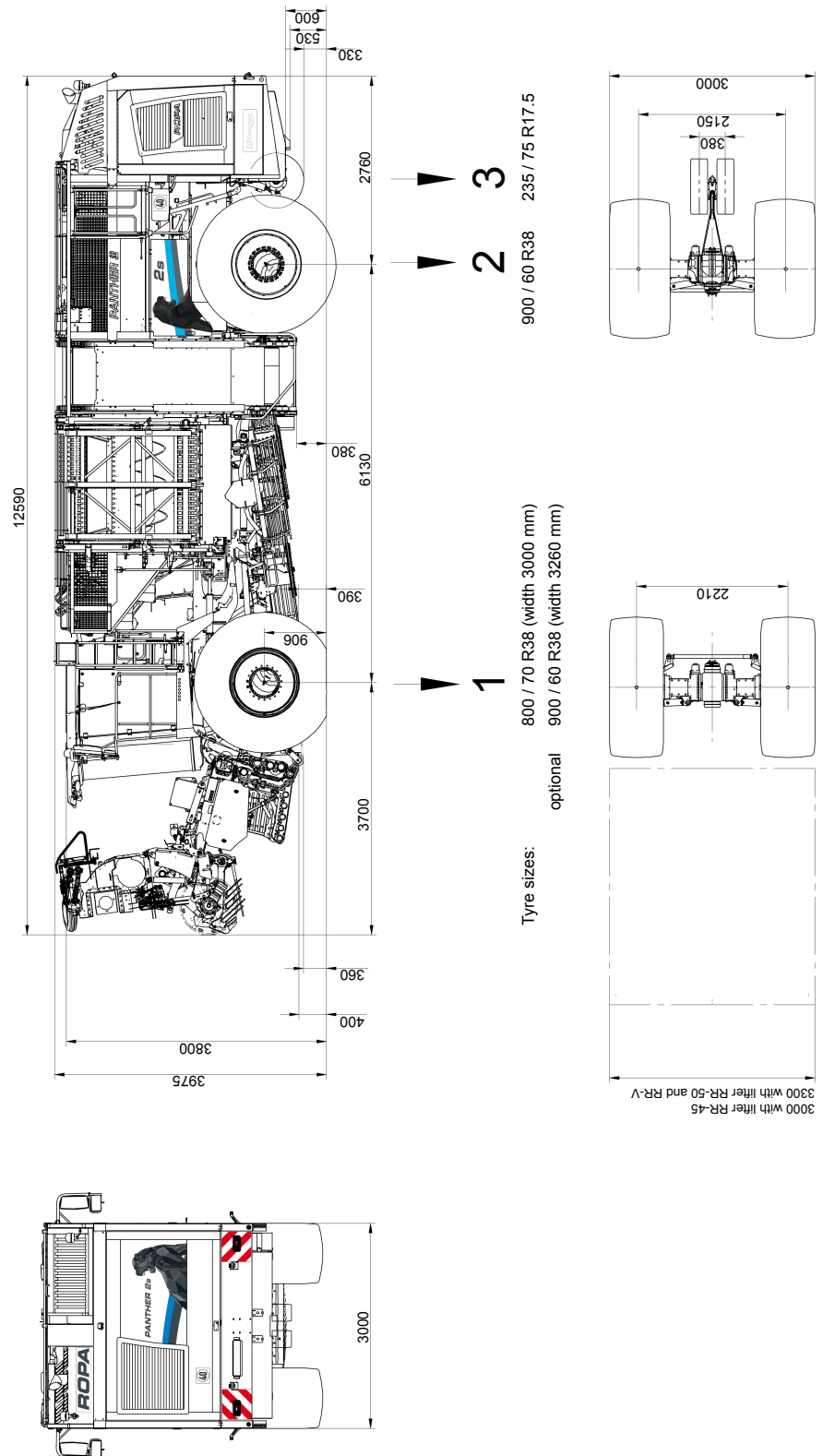
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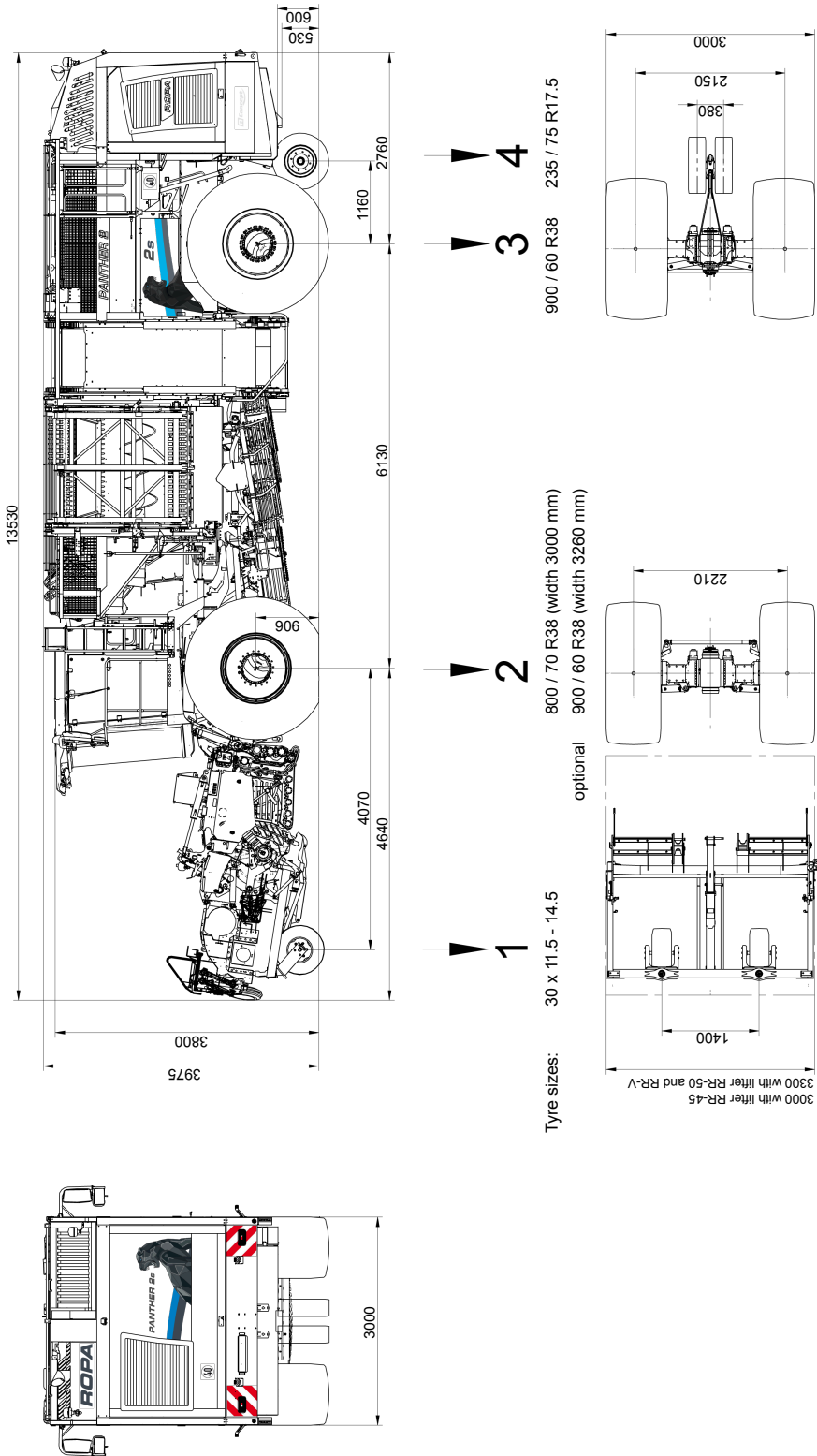
1 Loading

1.1 Transport draft for low-loader transport of machine without additional chassis



All data in mm.

1.2 Transport draft for low-loader transport of machine with additional chassis



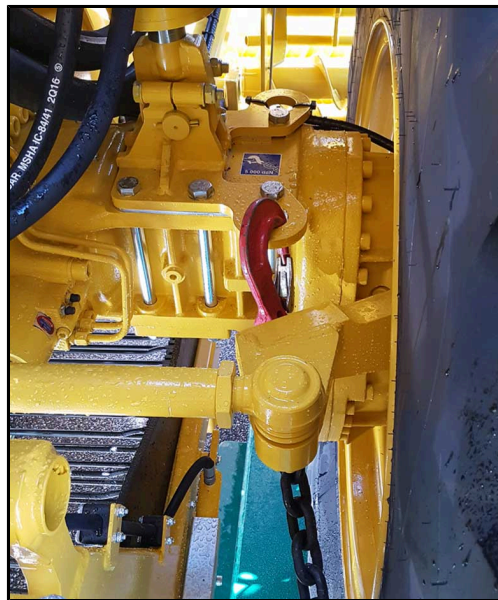
All data in mm.

1.3 Lashing eyes for transport by low-loader/ship

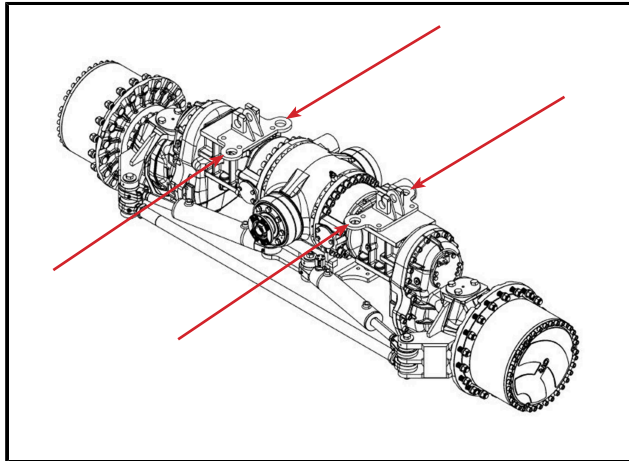
The front and rear axles are fitted with eyelets for clamping down the machine. The eyelets are located on the right and left next of the attachment point for the axle support cylinders. Each eyelet may be loaded with a maximum tensile force of 5000 daN. Clamping chains etc. must not be stretched over mechanical parts.



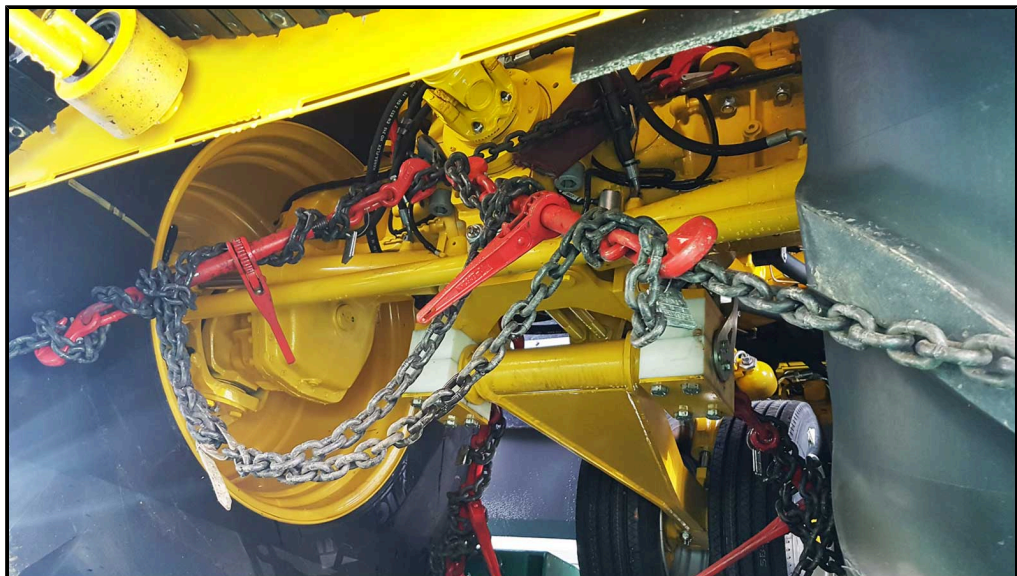
Regular low loader for road transport with minimum transport height



Lashing eye on the front axle



Lashing eyes on the front axle



Lashing of the rear axle with clamping chains on the low loader



Image shows as an example euro-Tiger (MAN)

The machine has no attachment points by which it can be lifted. For hoisting it into a ship for example, special, approved and TÜV-approved lifting devices are necessary.

2 Driving

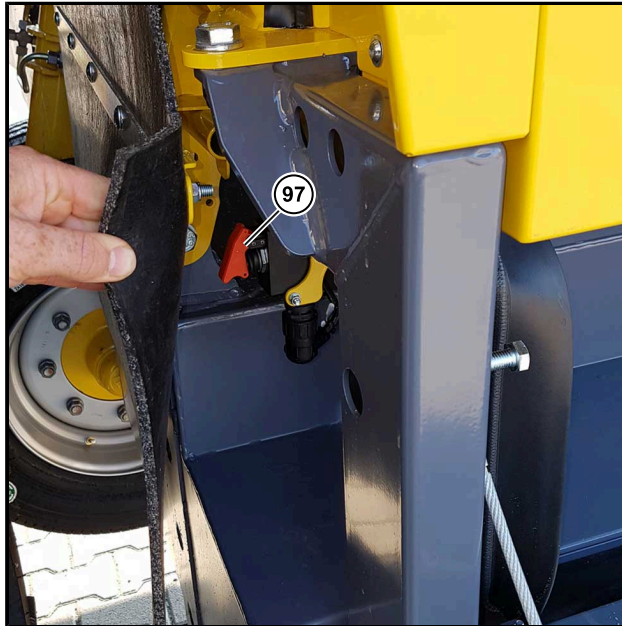
2.1 Steps to drive a Panther

- Switch on the Power supply at the emergency switch. ([See Page 16](#))
- Lift the climbing ladder driver's cabin downwards. ([See Page 17](#))
- Adjust the steering column ([See Page 18](#))
- Turn on battery main switch. ([See Page 20](#))
- Turn on the rotating beacons. Fold out and adjust the mirror. Turn on driving light. ([See Page 21](#))
- Inform you about the operating components on the floor of the driver's cabin. ([See Page 23](#))
- Start diesel engine. ([See Page 24](#))
- Make sure that operating mode "Field" is switched on. ([See Page 26](#))
- Release the parking brake. ([See Page 27](#))
- Select the driving direction. ([See Page 30](#))
- Raise the lifting unit with the additional chassis until stop. ([See Page 30](#))
- Unlock the main steering switch. ([See Page 31](#))
- Steering rear wheels with joystick ([See Page 32](#)) or select a steering mode. ([See Page 33](#)) ([See Page 34](#)) ([See Page 34](#))

Drive slowly and carefully!

- Engage the parking brake. ([See Page 27](#))
- Shut down the diesel engine. ([See Page 24](#))
- Switch off the ignition. ([See Page 24](#))
- Switch off the main battery switch. ([See Page 20](#))
- Close the driver's cabin.

2.2 Battery emergency shutdown



*Power supply at the emergency switch turned on ("**Battery emergency shutdown**")*

ATTENTION



Risk of machine damage.

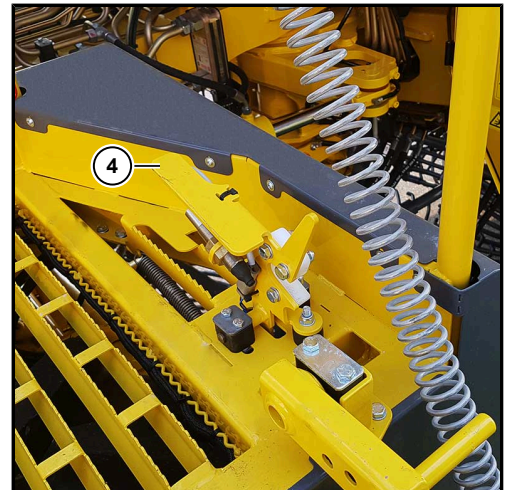
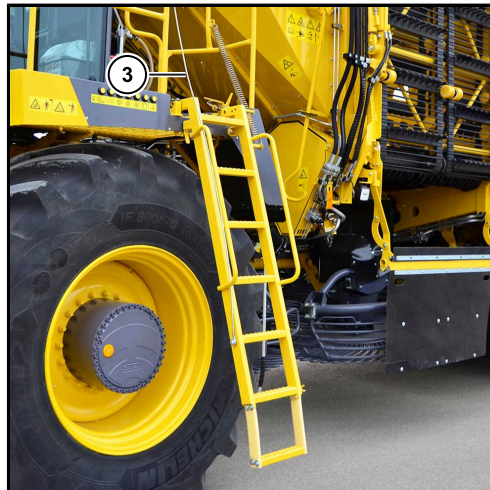
If this switch is tilted upward while the ignition is on, it can lead to data loss.

It may also seriously damage the exhaust gas after-treatment system (SCR system) (only RP2Sd).

2.3 Ladder driver's cabin



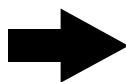
Ladder to driver's cabin in transport respectively working position



- (1) Release lever driver's cabin ladder
- (2) Rod driver's cabin ladder
- (3) Rope driver's cabin ladder

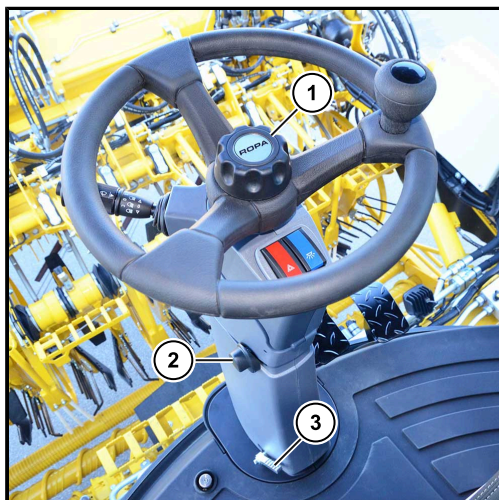
- Unlock ladder by pulling the release lever (1), fold it down by pulling the rod (2).
- To unlock when descending, press the lever on the lock (4) with your foot.

ADVICE



We recommend to fold up and lock this ladder during lifting! Thus, the forbidden climbing on the machine is not possible while driving!

2.4 Steering column



DANGER



Hazard of deadly injuries if the steering column is moved while driving.

In this case, the machine can go out of control and cause the severest damages.

- Therefore, NEVER move the steering column while driving!

Rotating handle (1) height adjustment

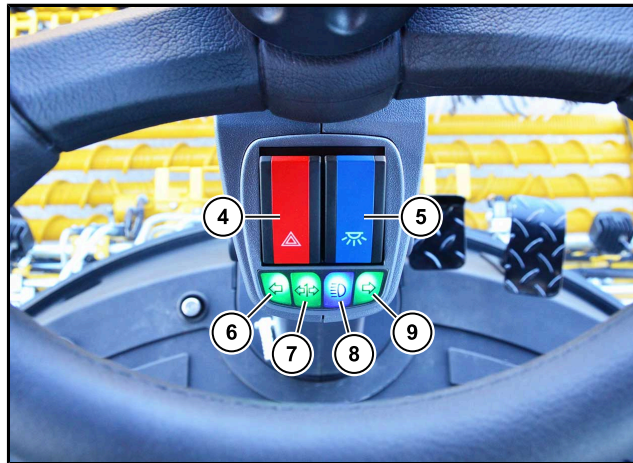
Release rotating handle (1) (turn to the left), move the steering column to the desired height, retighten the rotating handle (turn to the right) and block the steering column. Check if the steering column is securely fixed in the desired position.

Lever (2) incline adjustment top

Push lever (2) upward and pull or push steering column into the desired position. Release lever (2). Check if the steering column is securely fixed in the desired position.

Lever (3) incline adjustment bottom

Push lever (3) using the foot, move the steering column into the desired position. Release lever (3). Check if the steering column is securely fixed in the desired position.

Switches on the steering column

- (4) Switch flashing warning system
- (5) Switch parking lights/dimmed headlight
- (6) Control light direction indicator left
- (7) Control light direction indicator for RR-XL transporter
- (8) Control light high beam
- (9) Control light direction indicator right

2.5 Battery main switch function

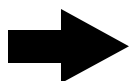
When you disconnect the power supply from the main battery switch (77) the power supply does not switch off until 6 minutes later (provided the ignition lock is in 0-position). If you forget to switch off the main battery switch (77) the battery disconnect relay will switch off automatically 120 hours after switching off the ignition. In this case you have to switch the main battery switch (77) OFF/ON once before the next time you turn on the ignition.



swung upward = OFF

swung downward = ON

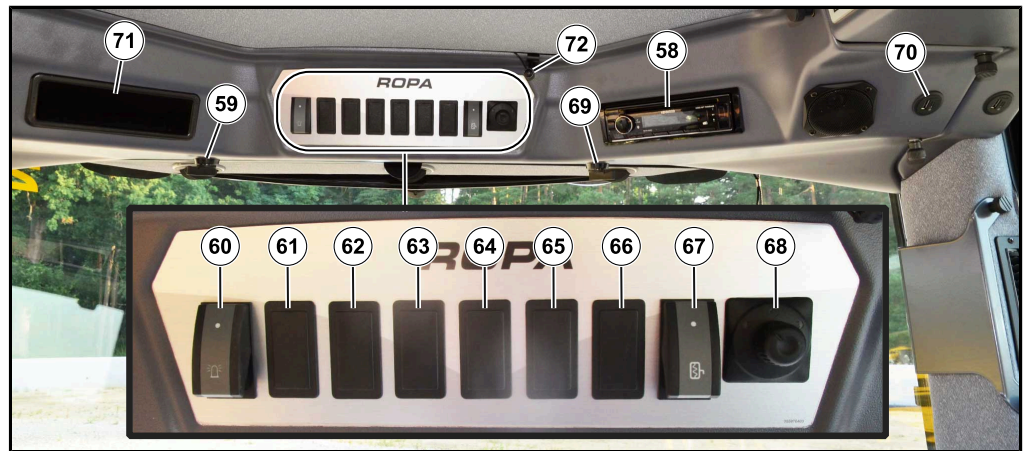
ADVICE



The function of the battery main switch can be overridden by the following systems:

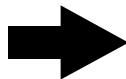
- Control device diesel engine exhaust after-treatment
- Telematics
- Park heating
- Ladder light
- Engine compartment lighting

2.6 Switches on roof console



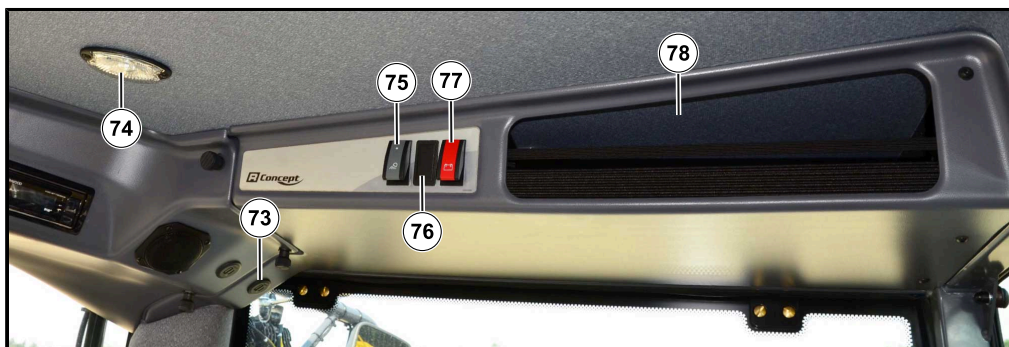
- (58) Radio with Bluetooth and USB (see separate operating manual)
- (59) Rotating switch to fold in/out the left rearview mirror
- (60) Switch for rotating beacons
- (61) Not used
- (62) Not used
- (63) Not used
- (64) Not used
- (65) Not used
- (66) Not used
- (67) Switch mirror heating

ADVICE



The mirror heating switches off to conserve battery life in few minutes with the stopped diesel engine.

- (68) Four-way switch for electrical adjustment of right and left outer mirrors.
- (69) Rotating switch to fold in/out the right rearview mirror
- (70) USB double socket 5V / 3.6A (USB-A and USB-C)
- (71) Dummy cap, installation option for radio equipment, cable for voltage supply located behind the dummy cap in the roof console
- (72) Hands-free communication microphone



ATTENTION



The voltage transformer can become damaged if these USB ports are overloaded.

- (73) USB double socket 5V / 3.6A (USB-A and USB-C)
- (74) Internal lamps on driver's cabin ceiling LED
- (75) Switch for LED internal lamps on driver's cabin ceiling
- (76) Not used
- (77) Battery main switch ([See Page 20](#))
- (78) Roof console storage compartment

WARNING

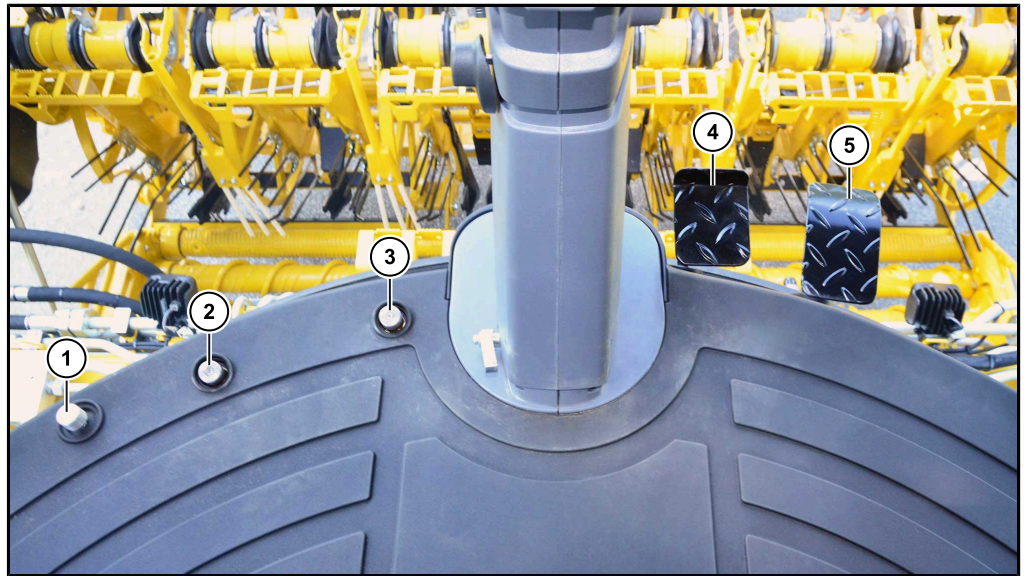


Hazard of objects falling down from the storage compartment in the roof console.

During jerky movements of the machine or driving around curves, these objects may fall out and severely injure the driver.

- Do not put any heavy or sharp objects in this storage compartment. Whenever possible, place such items in the storage compartment on the cabin rear panel.

2.7 Operating components on the floor of the driver's cabin



- (1) Opener for cleaning flap
- (2) Foot switch autopilot
- (3) Foot switch driving direction
- (4) Brake pedal
- (5) Drive pedal

2.8 Start/shut down diesel engine

If the drive pedal is not in resting position during starting, then for safety reasons, traction drive is blocked. The block remains for so long until the drive pedal is completely released and pressed again.

ATTENTION

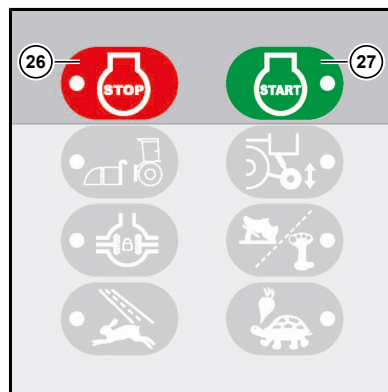




Risk of machine damage.

Use of chemical starting aids (e.g. Startpilot etc.) is expressly prohibited, because this may lead to injuries and to damage to the machine.

The ignition lock has three switching positions:

- Position 0: Shut down diesel engine/ignition off – the key may be removed
- Position I: Ignition on, the diesel engine is ready for start
- Position II: Start diesel engine (not connected)



The diesel engine is started with the START key  and shut down with the STOP key .

If the diesel engine does not start immediately, then the electronic system switches off the starter after a certain period of time. In this case, wait at least 2 minutes until the next try to start so that the starter can sufficiently cool down.

Help for engine starting *"Jump starting and charging the battery"*

CAUTION




It is necessary for the safe operation of the control units that the ignition is switched off at least once every 24 hours (position 0). Wait until the green LED on the colour terminal goes off before switching the machine on again. Only then the machine is considered to be switched off completely.





ADVICE



To start the diesel engine press and hold the START key (27) for at least 3 sec.. If the START key is pressed too briefly, a note appears on the terminal.

If the diesel engine cannot be started due to a starting block, the R-Touch displays the following warning icon: 

This warning icon and one of the following alternately flash on the R-Touch:

	Please close engine housing door left		Please close engine housing door right
	Please close rear cover		Please close bunker door

Let the diesel engine idle for a short time before shutting it down. If the diesel engine is shut down at high speed, then the turbo charger runs on after the oil pressure has already fallen.

This leads to lack of lubricant and therefore to unnecessary wear on bearings of the fast-running turbine of the turbocharger.

To shut down the diesel engine

- Press STOP key (18).
- Only in case of emergency, shut down the diesel engine by moving the ignition lock to position 0.

ADVICE



The diesel engine can be started and shut down from the ground.

There must be no one in the driver's seat and the ignition must be on.

Press and hold the deadman switch (1) and press and hold the two keys (8), (9) until the diesel engine has started and the beeping of the reversing signal has stopped or the working floodlights on the cabin roof stop flashing. If the keys are released before the reversing beeper has stopped or the working floodlights on the cabin roof have stopped flashing, the engine will shut down immediately.

To shut down the diesel engine press and hold the same three keys.



2.9 Switching gears

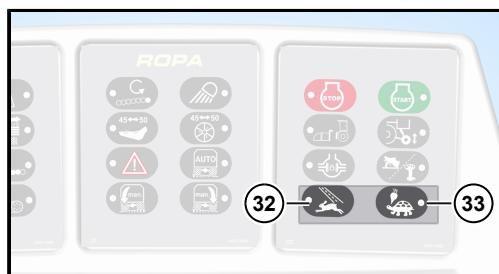


The operating modes „Field“ or „Road“, as well as all-wheel drive are switched using the gear box. The icon ("Field"/"Road") of the currently active operating mode is displayed on the R-Touch.



Switching process „Road“/„Field“:

- To switch the operating mode completely release the drive pedal and stop the vehicle.
- Select the desired operating mode using keys **(32)** and **(33)** on the keypad III.
- When switching to another operating mode, a sound may be heard ("clack"). Once the operating mode is correctly switched, the corresponding symbol or appears on the R-Touch.
- If after switching the operating mode, the symbol or flashes on the R-Touch, then the gear is not engaged. Should this happen, press again the key **(32)** or **(33)** to switch to the requested operating mode.



- (32)** Operating mode "Road"
(33) Operating mode "Field":

ATTENTION



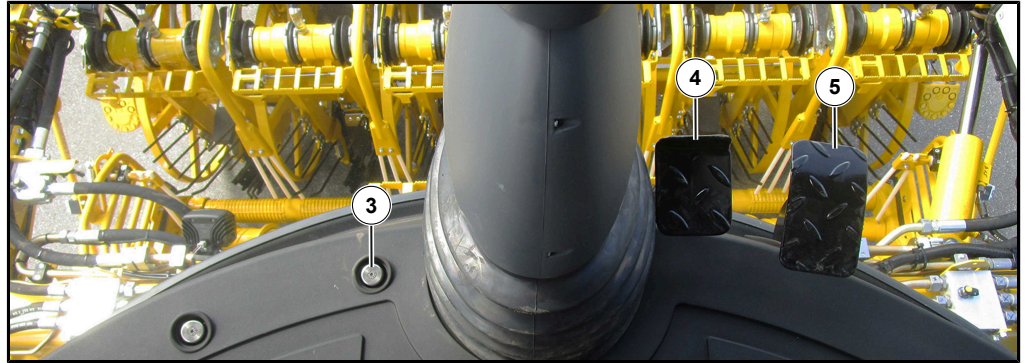
Hazard of heavy damage to the gear box.

Please observe the above hints in any case! Damage to the gearbox caused because the above hints were not or only imprecisely complied with are excluded from any warranty!

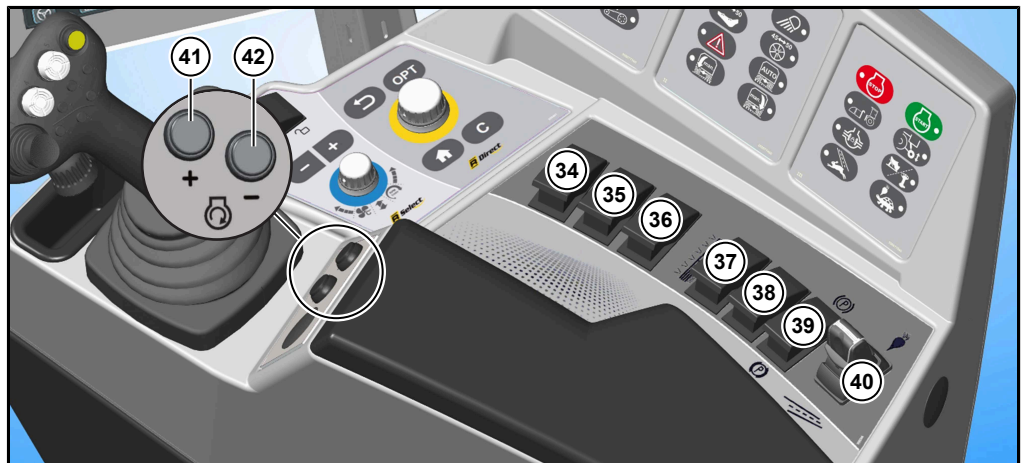
- The switch for switching between the "Road" and "Field" operating modes may ONLY be used when the machine is completely stationary (0.0 km/h). If you do not comply with this hint, then this may lead to destruction of the gearbox. Additionally, sufficient pressure must be present in the compressed air system. This is the case if the following icon disappears from the R-Touch.

2.10 Driving

You control the driving speed of the machine using the gas pedal. The more you press on the pedal, the faster the machine drives. When you completely release the gas pedal, the machine strongly brakes due to the hydrostatic drive.



- (3) Foot switch driving direction
- (4) Brake pedal
- (5) Drive pedal



- (39) Parking brake (hand brake)

Hydrostatic drives are deemed very safe. The following measure additionally increases this safety, if there should be any operating faults of the drive. If, when releasing the driving pedal, the machine should neither reduce driving speed nor stand still, then a safety circuit is activated by engaging the parking brake (39).



This safety circuit bypasses the standard control behaviour of the hydraulic system and opens a safety valve that quickly shuts off the traction drive. If, in the extremely improbable case of failure of all safety devices, the machine still does not stop, then shut off the diesel engine with the STOP key (26) or ignition key as quickly as possible. ("Ignition lock") ("")


DANGER



Danger of severe rear-end collisions with injuries hazardous to life or even deadly when engaging the parking brake or shutting off the diesel engine, while the machine is driving.


- Therefore, take this EMERGENCY-STOP measure only in extreme emergencies and try to warn following traffic by pressing the foot brake pedal several times and switching on the hazard warning system.














If the vehicle should move only very slowly after switching to the operating mode "Road", then the R-Touch displays the icon: .

Fold the unloading conveyor articulation part completely in.



If the supply pressure in hydrostatic drive is too low (15 bar) the orange warning icon appears:  Please stop and call customer service!

If it is not possible to move the vehicle, then the cause for this is shown on the R-Touch:

	Please release parking brake.	
	Please release brake pedal.	
	Error of the drive pedal sensors!	Call customer service
	Brake-air of pressure brake reservoir too low!	
	Release pressure parking brake too low!	
	Supply pressure in hydrostatic drive is very low (12 bar)!	
	Coupling pressure of multiple disc clutch CVR gearbox too low!	
	Lubrication CVR gearbox failed!	
	Temperature in CVR gearbox is too high!	
	TR5 reduction gears lubrication failed!	
	Temperature in TR5 reduction gears too high!	

2.11 Selection of the driving direction (forward+/backward)

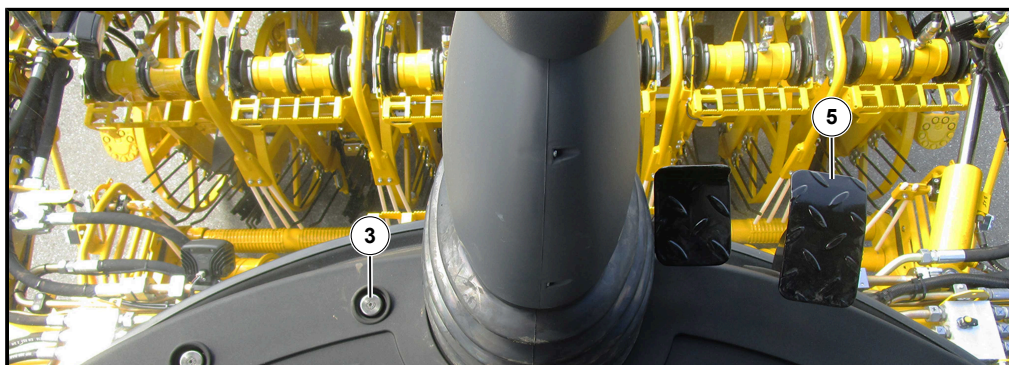
Foot switch driving direction (3):

NOT PRESSED

Driving direction "forwards"

PRESSED

Driving direction "backwards"



(3) Foot switch driving direction


(5) Drive pedal

ADVICE



For driving backwards in the operating mode "Road", the drive pedal must be released completely. Then, wait until the machine comes to a complete standstill (0.0 km/h). Only then the foot switch "Driving direction" may be pushed and held in this position.



If the lifting unit is still lowered (i.e. the scalper is still on the ground), then an automated reversing block is in effect. This avoids damage which otherwise could be caused by driving backwards with the lifting unit lowered. The R-Touch displays the icon .

To override the back run lock *"Additional chassis coupling"*

While driving backwards, a warning signal sounds drawing attention of other people to the reversing movement.

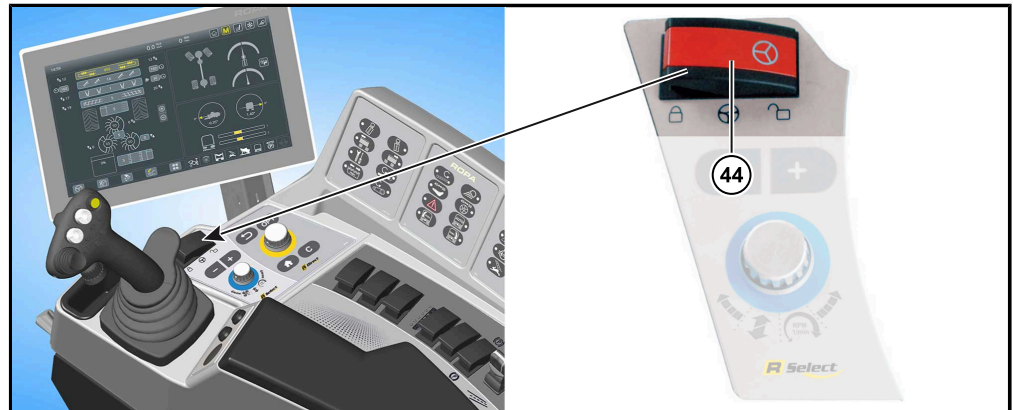


Mini joystick (1) forward/backward (lower/raise three-point suspension, only with engine running)

FORWARD: To lower the lifter slow proportionally, press the mini joystick (1) forward. The further you press the mini joystick (1) forward, the higher the lowering speed is.

BACKWARD: Raise three-point suspension (lifter and topper).

2.12 Main steering switch



(44) Main steering switch

DANGER

When the main steering switch is unlocked the driving speed of the machine is limited.

- When driving on public roads and paths, the main steering switch must generally be locked.
- It may ONLY be unlocked for driving through narrow curves and at low speed (below 12 km/h).

swung right = unlocked

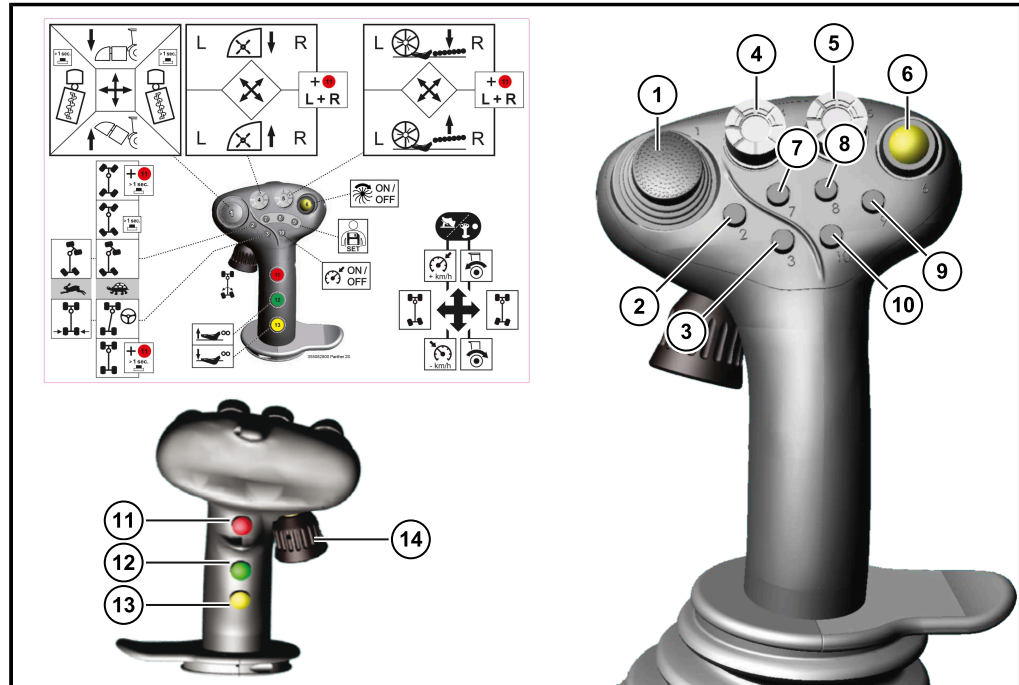
Articulating and rear axles are steerable.

swung left = locked

Articulating and rear axle steering is locked.



2.13 Joystick with multi-functional handle

For better orientation, a transparent sticker is located on the side window of the driver's cabin containing the following schematic overview of all functions of the joystick with multifunctional handle.



Joystick movements



-  Press joystick to the left = Rear axle steers to the left ("*Steering rear wheels with joystick*").
-  Push joystick to the right = Rear axle steers to the right ("*Steering rear wheels with joystick*").

2.14 Steering in operating mode "Road"

In the operating mode "Road", the rear wheels may be steered by moving the joystick back and forth, if the main steering switch (44) is unlocked. When driving on public roads and paths, the main steering switch must generally be locked. It may ONLY be unlocked for driving through narrow curves and at low speed (below 12 km/h). When the main steering switch is unlocked the driving speed of the machine is limited.

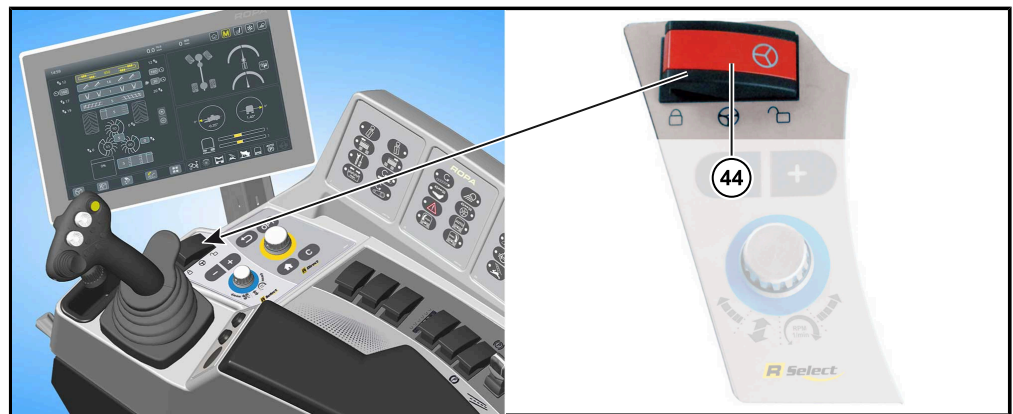
DANGER



Hazard of deadly injuries when driving with unlocked main steering switch.

In case of some technical faults, uncontrolled swinging movements of the vehicle at higher speeds may occur. This might seriously endanger or cause deadly injuries to other participants in traffic.

- Therefore, the main steering switch may be unlocked on public roads and paths only under the conditions stated above and only for as long as indispensably required.

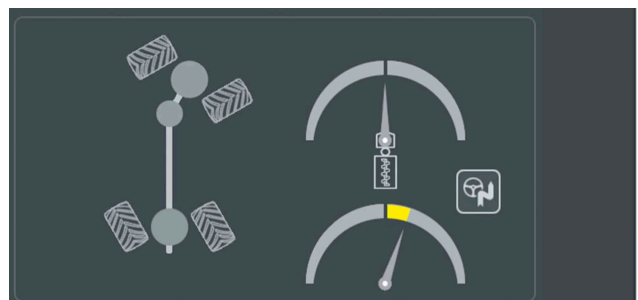


2.14.1 U-turn steer



The conditions already mentioned for activation of offset-steer apply here. As the name implies, the steering variant U-turn serves almost exclusively for turning the machine in the smallest space.

In this variant the vehicle is programmed so that the machine U-turn can be relatively simply performed without further switching even in a limited space. Once the steering variant "U-turn" is activated shortly pressing the key (2) on the joystick, the articulated joint bends always matching the front wheels. Thus, it follows any movement of the front wheels. At the same time, the rear wheels move opposite to the front wheels. Thus, the manoeuvrability of the machine is significantly improved.

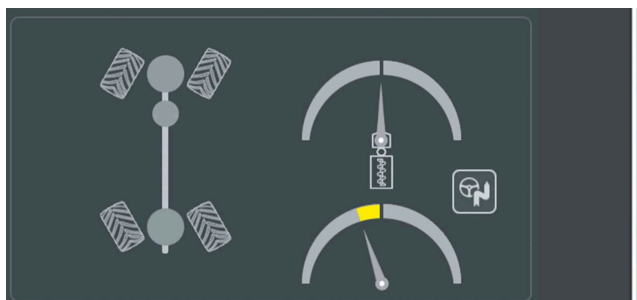


2.14.2

Steering w/o offset



The conditions already mentioned for activation of offset-steer apply here. When the steering variant "Steering w/o offset" is activated (press key (2) on the joystick for 1 second), then the articulation joint is automatically moved to 0° position and remains in this position. The rear wheels move opposite to the front wheels and so support the steering movement of the front wheels. The steering behaviour of the machine during steering without offset is therefore the same as for U-turn, with the difference, that the articulation does not also steer during steering without offset.

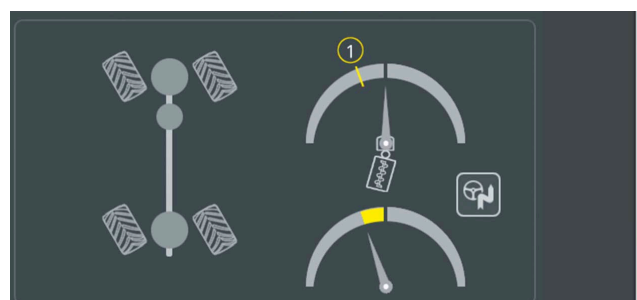


2.14.3

Crab steering



The conditions already mentioned for activation of offset-steer apply here. To activate the steering variant "Crab steering" press the multi-key (11), hold it and then press the key (2) on the joystick for 1 sec.. Now the rear wheels move in the same direction as the front wheels. Thus, the vehicle can drive diagonally (e.g. to the pile).



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