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3.2.3 Allowed axle loads

The allowed axle loads depend on the ground speed and the tyres used.

The values specified apply to 650/85 R38 tyres, index radius 955mm.

	Unit	Ground speed				
		0 km/h	10 km/h	25 km/h	**40 km/h**	**50 km/h**
Gross vehicle weight rating according to German Regulations Authorising the Use of Vehicles for Road Traffic	kg	18000[1]				
Allowed axle load according to German Regulations Authorising the Use of Vehicles for Road Traffic	kg	11500[1]				
Technically allowed axle load	kg	22000	18000	14000	12000	11600
Minimum axle load of floating axle[2]	kg	0.3 G				
Minimum axle load of rigid axle[2]	kg	0.4 G				

1 Weight increase is possible with a special permit.
2 Guideline value with G = Actual total weight of vehicle including implements.

43768

3.2.4 Allowed wheel loads

The allowed wheel loads shall be taken from the tyre characteristics provided by the tyre producer.

3.3 Engine

43762

3.3.1 Engine specifications

	Unit	XERION 3300	XERION 3300	XERION 3800
Type		**CATERPILLAR C9**		
Design		6-cylinder ATAAC		
		ADEM III HEUI-B	ADEM IV HEUI-B	
		TIER 2 Stage II	**TIER 3** Stage IIIA	
Cubic capacity	cm^3	8804	8804	8804
Rated speed	rpm	2100	2100	2100
Max. no-load speed	rpm	2184	2184	2184
Slow idling speed	rpm	800	800	800
Rated capacity at 2100 rpm (ECE – R24 – 03)	kW (HP)	224 (305)	224 (305)	253 (344)
Rated capacity at 2100 rpm	kW (HP)	236 (321)	246 (335)	268 (364)

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13.2 Maintenance schedules

14223

13.2.1 Hydraulic system / Steering

Maintenance Operations	Service intervals						
	Every day	after the first 50 working hours	every 500 working hours	annually = every 1500 working hours	every 2 years = every 3000 working hours	As required	Specialist workshop only
– Check hydraulic oil level	•						
– Changing the hydraulic oil				•			
– Top up hydraulic oil level						•	
– Replacing the return flow filter				•		•	
– Replace pressure filter		•			•	•	
– Replacing the suction filter						•	
– Replacing the venting filter				•		•	
– Check hydraulic system for any leaks		•	•				
– Drain front / tail leakage oil collecting container						•	
– Check steering system for damage (visual inspection)			•				
– Repair steering system						•	•

14226

13.2.2 Transmission

Maintenance Operations	Service intervals						
	Every day	after the first 50 working hours	every 500 working hours	annually = every 1500 working hours	every 2 years = every 3000 working hours	As required	Specialist workshop only
– Check transmission oil level	•						
– Change transmission oil				•			
– Replace transmission oil fine filter		•		•		•	
– Have transmission calibrated			•*			•	•
– Checking the p.t.o. transmissions oil level			•				

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7.4 Driving off

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7.4.1 Before driving off

Danger!

Unusual steering behaviour of machine.

Death or serious injury.

- Always select the standard steering mode.
- Change the special steering only when the standard steering mode is not suited for the current working or ambient conditions.
- Thoroughly read and observe the operating instructions and recommendations for use.

Danger!

Brake problems.

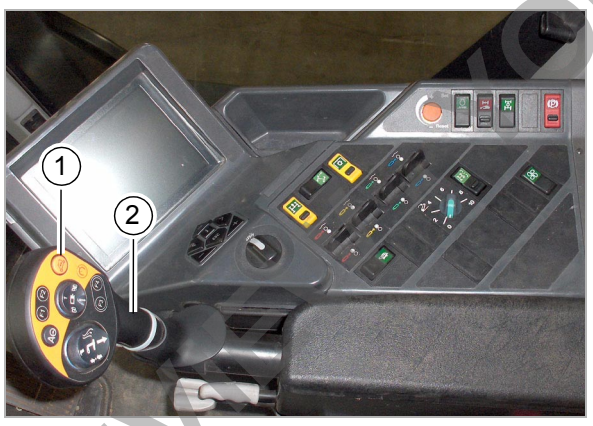
Death or serious injury.

- Check brakes every time before driving off.

58913

7.4.2 Driving in automotive mode

- *Starting the engine, see page 93*.
- Ensure that the vehicle is standing still.
- Keep starting/reversing button (1) pressed and move ground speed control lever (2) to the desired direction of travel.



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WARNING:

If the operator sits properly on the operator's seat, the parking brake will be released automatically after the clutch has engaged successfully.

The vehicle will drive off.

- Depress the foot brake.

The current direction of travel is displayed on the CEBIS monitor.

- Depress the ground drive pedal (3) to drive off in the desired direction and to vary the ground speed.



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Note!

If the operator does not sit properly on the driver's seat, the ground speed is restricted to 2 km/h.

- Sit down properly on the driver's seat.

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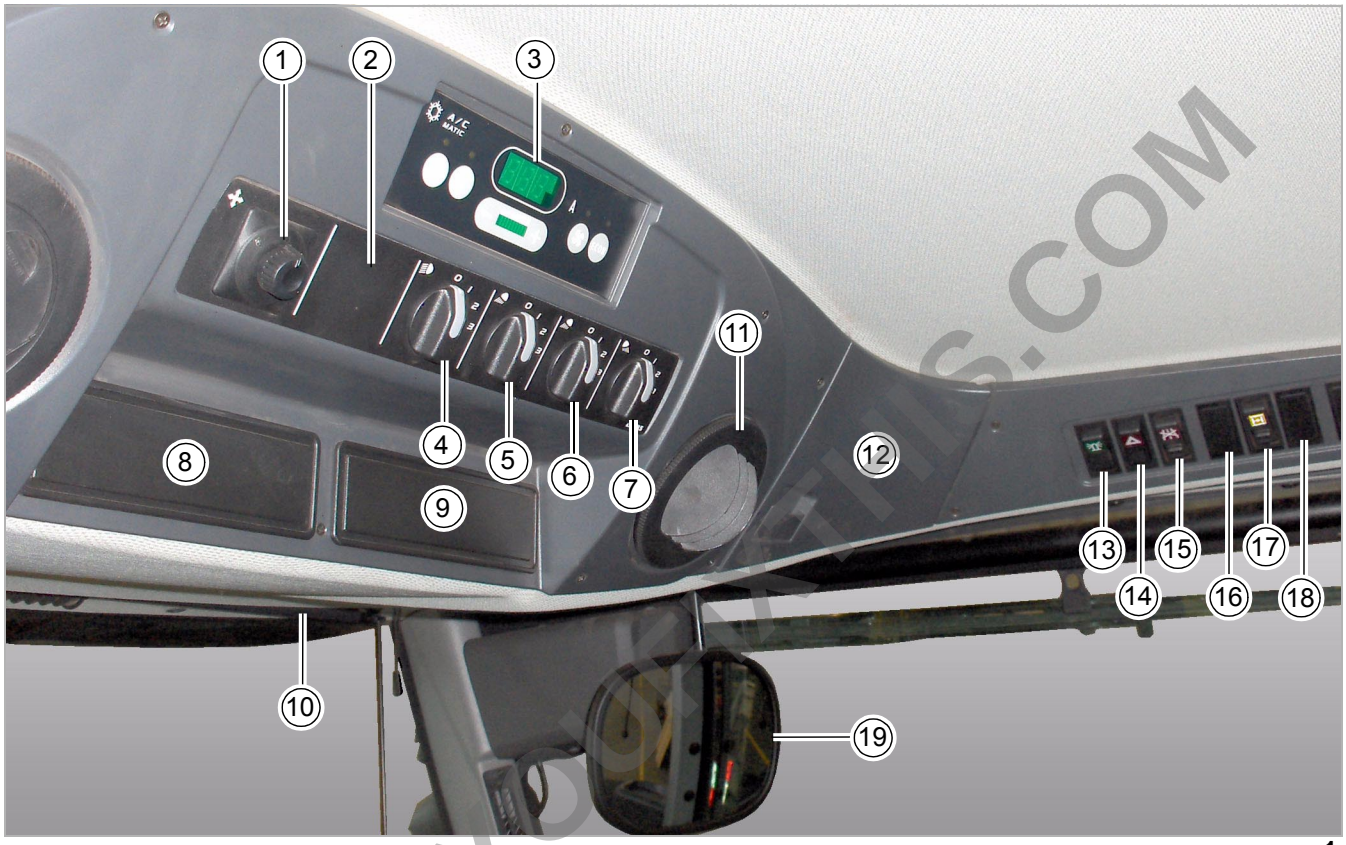
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6 Overview of controls

6.1 Cab

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6.1.1 Cab roof



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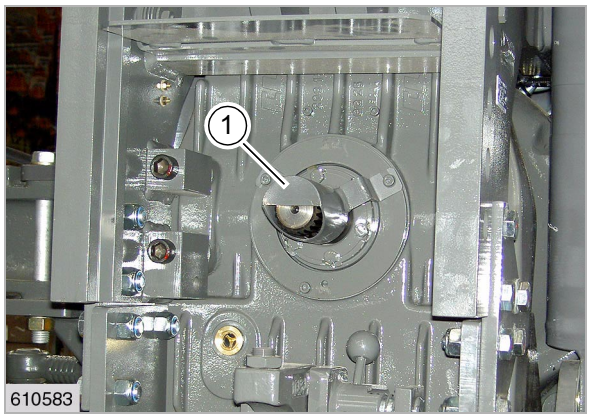
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	Operation
1	Electric mirror adjustment
2	Intended for a handsfree unit holder
3	Control unit for automatic climate control
4	Parking lights and drive lights • Position 1 = Parking light • Position 2 = Top drive lights • Position 3 = Bottom drive lights Position 2 is added to position 1. Position 3 replaces position 2.
5	Roof worklights: • Position 1 = Cab roof, inside • Position 2 = Cab roof, outside Position 2 is added to position 1.
6	Front worklights • Position 1 = A-column, top • Position 2 = A-column, bottom Position 2 is added to position 1.

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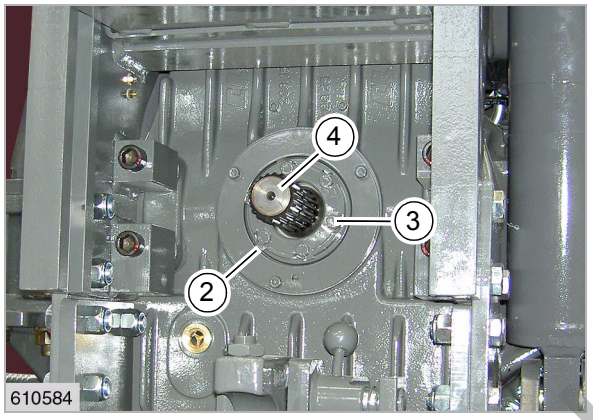
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8.6.1 Replacing the stub of p.t.o. shaft



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Available stubs of p.t.o. shaft: See *Specifications*.

Replacing the stub of p.t.o. shaft:

– Remove the protective cap (1) from the p.t.o. shaft.
  Rotate the protective cap to release the lock.
– Bend back the safety tabs (2) at the 6 mounting bolts (3) using a suitable tool.
– Unscrew the 6 bolts (3).
– Pull out the stub of p.t.o. shaft (4) completely with the tab washer.
– Insert new stub of p.t.o. shaft including its tab washer and mount it with 6 bolts.
– Tighten bolts and secure them with safety tabs (2).

19917

8.6.2 Installing the universal drive shaft

WARNING:

Exceeding of permissible torque.

Transmission damage.

– Observe the allowed torque – see *Specifications*!
– When the allowed torque may be exceeded in a given application:
  Use a universal drive shaft provided with an overload protection.

– Lower implement to the ground.
– Diesel engine OFF
– Secure the vehicle so it will not roll away:
  Parking brake, wheel chocks.

When using the tail p.t.o. shaft:

– *Removing the trailer hitch, see page 147*.

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2 Safety precautions

2.1 Safety rules

Danger!

Failure to comply with safety instructions.

Death or serious injury.

Before putting the vehicle into operation:

– Read and observe the Operator's Manual and especially the safety instructions.
  This applies to all persons using, servicing, repairing or checking the machine.

Danger!

Use of components not checked and approved by CLAAS.

Reduced vehicle functions and less driving and working safety.

CLAAS is in no way liable for any damage caused through the use of other than genuine or approved CLAAS parts.

– Use genuine spare parts, accessories and additional units!

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2.1.1 Identification of warning and danger signs

All parts of this operator's manual having to do with your safety or the safe operation of the front attachment or the machine are marked with the following signs. Please pass on all safety precautions to any other users of the machine as well.

Danger!

Nature and source of danger

Consequences: death or serious injury

– Countermeasures

Warning!

Nature and source of danger

Consequences: injuries

– Countermeasures

Caution!

Nature and source of danger

Consequences: material damage

– Countermeasures

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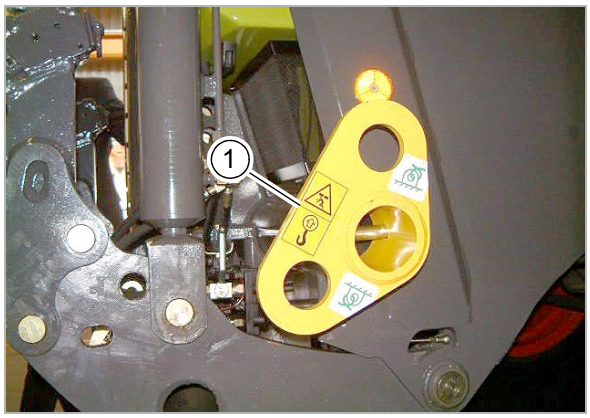
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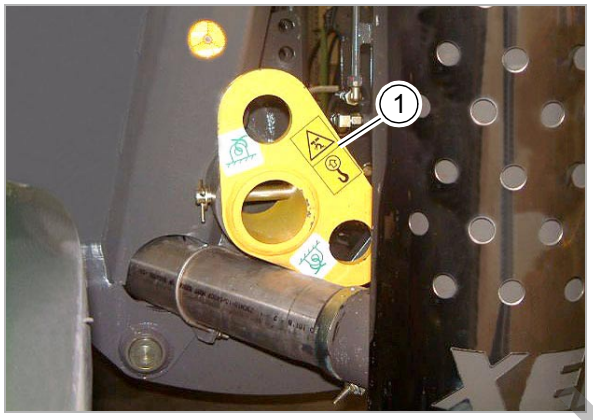
2.3.2 Positioning on the vehicle

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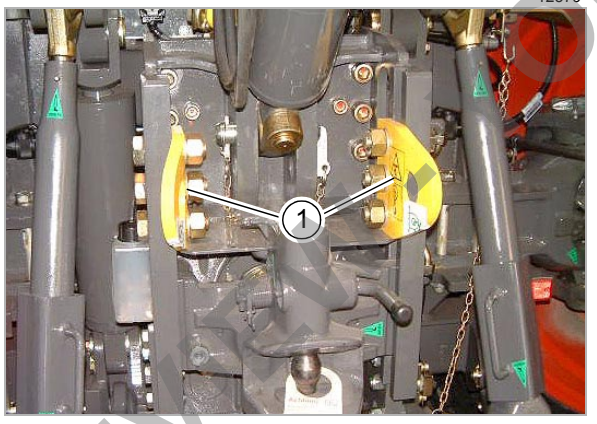
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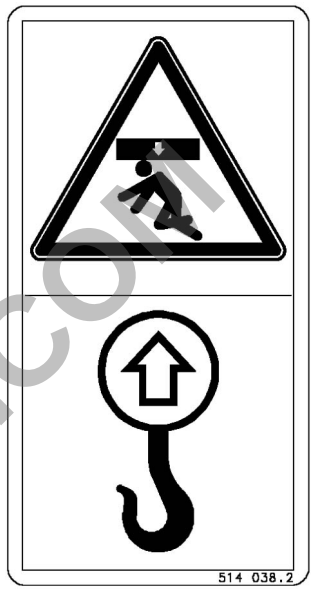
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Use the marked points only to lift the machine. Never stand in the hazardous area below the suspended machine.

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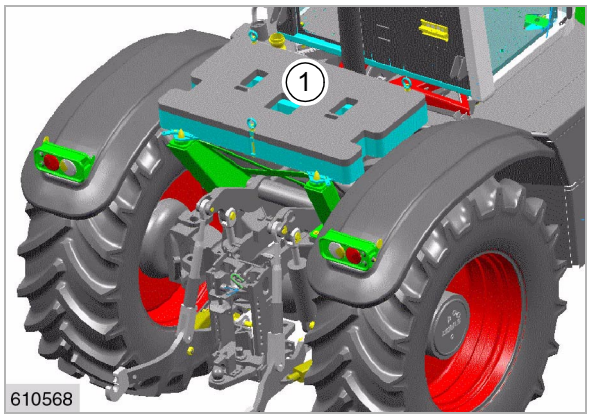
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5.4.1 Tail weights

CLAAS offers weight packs of 1.6 t and 2.3 t, each comprised of a base plate and 2 to 3 mounted plates. See spare parts list.

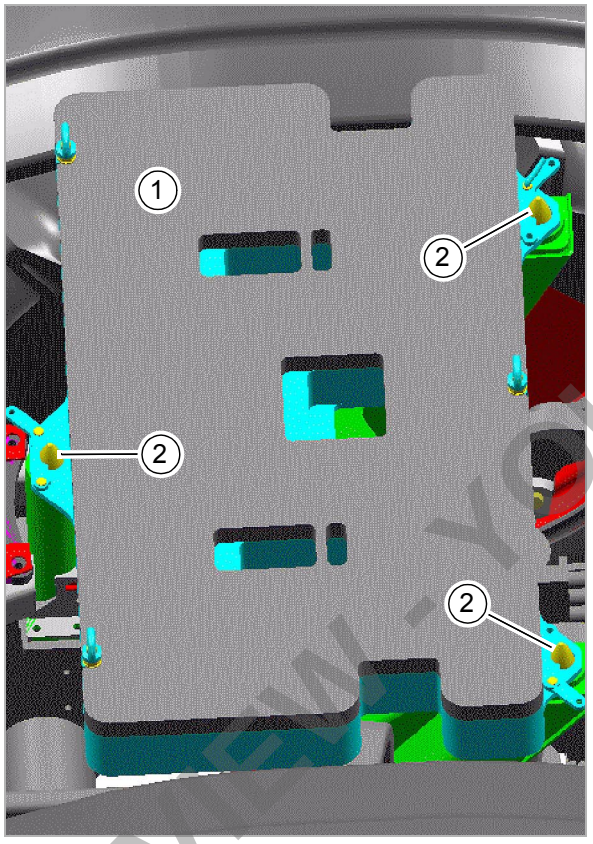
The tail weights are mounted directly behind the cab with the cab in centre position.

– Use a suitable lifting device to place the additional weights (1) on the three pins (2) and lock them as shown.



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– Ensure that the vehicle is standing still.
– Keep starting/reversing button (1) pressed and move ground speed control lever (2) to the desired direction of travel.

The engine speed is increased to 1000 rpm.

– Move the ground speed control lever for setting the transmission ratio.
  The longer the ground speed control lever is moved to the current direction of travel, the higher the transmission ratio.
– Increasing the transmission ratio:
  - Move ground speed control lever forward while driving forward.
  - Move ground speed control lever backward while reversing.
– Decreasing the transmission ratio:
  - Move ground speed control lever backward while driving forward.
  - Move ground speed control lever forward while reversing.

The current direction of travel is displayed on the CEBIS monitor.

WARNING:

If the operator sits properly on the operator's seat, the parking brake will be released automatically after the clutch has engaged successfully.

The vehicle will drive off.

– Depress the foot brake.



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– Depress the ground drive pedal (4) to vary the engine speed.
– Increase or reduce the ground speed control lever movement to vary the transmission ratio and the ground speed.

Note!

At engine speeds below 1400 rpm, the ground speed is limited.

To increase the oil supply in the transmission and drive freely:

– Depress the ground drive pedal until the engine speed is 1400 rpm min.

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8.2.5 Hitching an implement

Danger!

Pinch and shear points near the power lift.

Before entering the hazard area:

– Secure the machine so it will not roll away:
Parking brake, wheel chocks.

The lower links can be controlled either from the cab or by the external pushbuttons in the left engine panel.

Hitching up using the external pushbuttons

WARNING:

The safety latches of the catch hooks may tilt.

Material damage.

Before hitching up:

– Push the unlocking plate in completely.
The safety latch is spring-loaded and releases the catch hook when a load occurs.

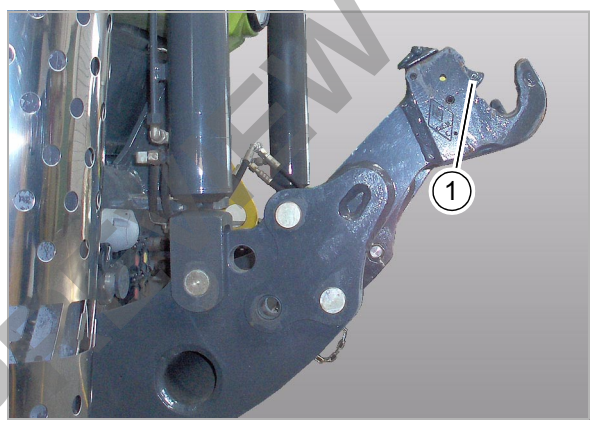
WARNING:

Lifting the implement using the lower links.

The implement may fall over.

Before lifting using the lower links:

– Connect upper links.



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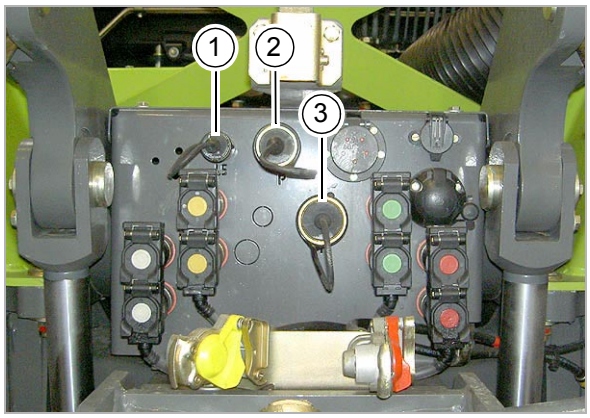
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– Push external Down pushbutton until the lower links are fully lowered.
– Drive the Xerion towards the implement until the lower link hooks are below the connecting pins of the implement.
– Secure the machine so it will not roll away:
Parking brake, wheel chocks.
– Press external Up pushbutton until the ball splines of the implement catch in the lower link hooks.
– Ensure that the safety latches (1) lock the catch hooks.

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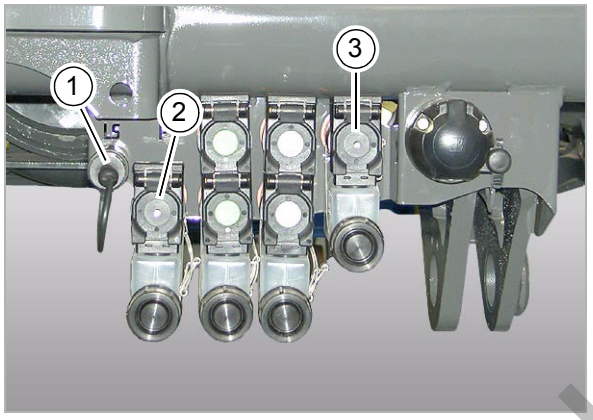
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8.7.3 Load Sensing

External consumers with a valve control with load sensing capability can directly be connected to the oil flow from the pump via port (2).

– Connect the load signal line (highest consumer pressure) to port (1).
– Connect the return oil line from the external consumer to the tank port (3).

Connecting sizes:

- (1): 1/4”
- (2): 3/4”
- (3): 1”

The required pressure difference at the pressure output flow controller is 26 bar.

Adjust the pressure accordingly at the load signal line by testing. Observe the operating instruction for the external consumer.

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8.7.4 White hydraulic ports

The white hydraulic ports are reserved for operating the front power lift. However, they can be used if the front power lift is not needed.

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9.4.6 Implement menu

			
Menu	**Sub-menu**	**Operation**	**Example / Note**
		Working width configuration.	The working width is required for calculating the ground area covered or cultivated with an implement: Counted area = Working width x Distance travelled with implement in working position
		Defining the working position. The implement is in working position when one of the following conditions has been met: • Tail power lift in working position • PTO shaft ON • Auxiliary power take-off ON • Blue, green, yellow, red or white hydraulic port in working position	It depends on the hydraulic port used if *Lowering* or *Lifting* must be adjusted: • Top port = Lifting • Bottom port = Lowering Permanent lowering / Permanent lifting: The *Permanent lowering* and *Permanent lifting* functions can be used e.g. when using a hydraulic motor. Area counting is active when the hydraulic motor is running. Lowering pulse / Lifting pulse: The *Lowering pulse* and *Lifting pulse* functions can be used with rigidly hitched soil cultivation implements. Area counting starts when the axis of the implement is raised.
		Configuring the distance calculation: • Radar speed • Wheel speed	Recommendation: In case of slip-susceptible uses, e.g. heavy traction work, set area counting by means of Radar speed. When working in high crops, set area counting by means of Wheel speed.
		Implement management	
		Saving the implement settings. All adjustable CEBIS variables are saved.	The current implement configuration is saved under the active implement. When no implement is active, the configuration is saved under *My Xerion*. Loading the configuration: – Load own implement, or: – Load CLAAS implement.

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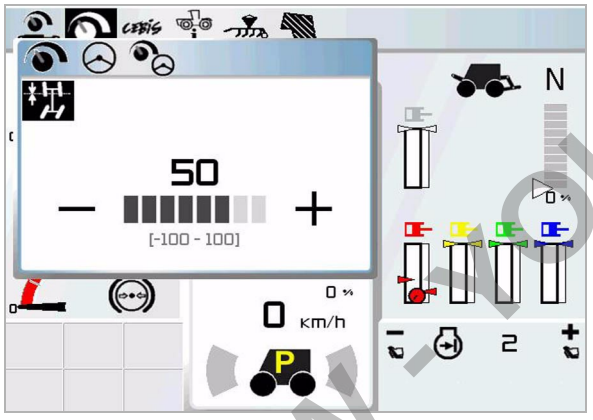
Centering aid On/Off

To cancel the steering angle set by the ground speed control lever briefly and to drive straight ahead, a straight ahead travel circuit can be activated in the following steering programs:

- Rear axle offset steering
- Diagonal crab steering
- Crab steering
- Ground speed control lever

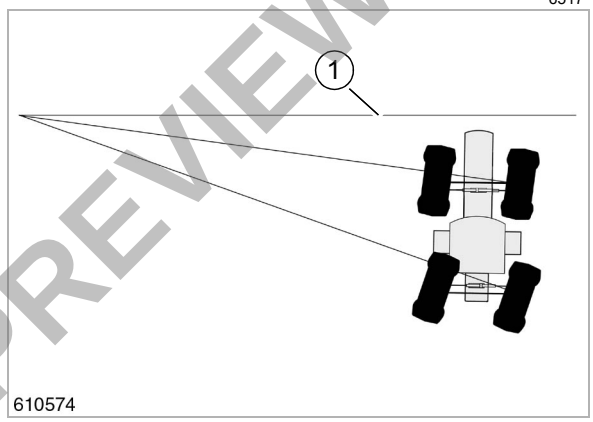
To cancel the steering angle of the axle(s) controlled by the ground speed control lever briefly:

– Activate centering aid.
– Move ground speed control lever in opposite direction until the steering angle display on the monitor has no black colour any more.
When straight ahead travel is On, the axles automatically stop at the straight ahead travel position.
– Move ground speed control lever one more time to steer the axles again to the settings of the active steering program.



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Position of steering pole axis

Position of steering pole axis (L) for synchronous steering.

Negative values relocate the steering pole axis (L) to the front, positive values relocate it to the rear.

A value of 100% corresponds to a displacement of roughly 1 m in front of or behind the machine.

When using a 50% setting, the steering pole axis goes exactly through the front or rear axle of the vehicle, depending on the sign.

Examples of applications:

Front axle steering in the crop, but full manoeuvrability on the turning area:

– Setting the steering pole axis to the rear axle steering:
+ 50 %

Optimising the steering behaviour of the entire vehicle/implement combination:

– Shift the steering pole axis into the working or pivot point of the implement.

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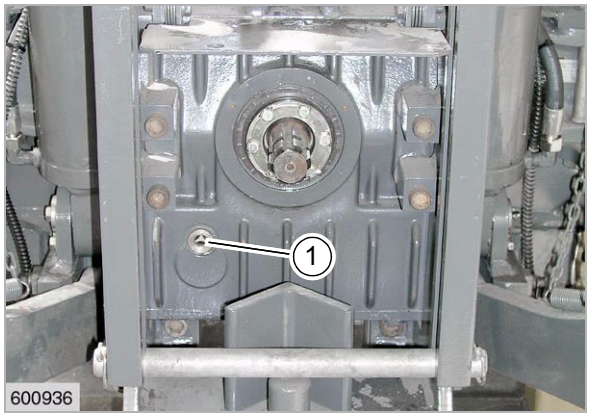
F	Consumer	
F11	Steering control unit (EHL), pulse width modulation (PWM), load	15A
F12	Steering control unit (EHL), digital outputs (DA), load	15A
F13	Steering control unit (EHL), microprocessor	3A
F14	Power hydraulics, GPS pilot, 8-pin CEBIS diagnosis socket, B-column	7.5A
F15	Relay 15a/b	3A
F16	Alternator charging light	7.5A
F17	CEBIS monitor +	7.5A
F19	Transmission control, constant plus	7.5A
F20	Transmission control, load	7.5A
F21	From serial no. 78100322: Road travel switch +, Working hydraulics modules	15A
	Up to serial no. 78100321: Fieldwork +, Working hydraulics modules	
F22	Power lift control (EHR), constant plus	10A
F23	Engine, 50a	7.5A
F24	Engine, load	30A
F25	Engine, microprocessor	3A
F27	From serial no. 78100322: Radar	10A
	Up to serial no. 78100321: Radar, switched fan	
F28	From serial no. 78100322: Fieldwork +, Connector DF/DG/DH	20A
F29	From serial no. 78100322: External devices via connector DG	30A
F30	Ignition switch	30A
Socket outlets		
F31	Trailer socket 12 V	15A
F32	12V socket outlet B-column +	15A
F33	12V socket outlet B-column, cigarette lighter D+	25A
F34	B-column, 3-pin	30A
F35	Front/tail, 3-pin	30A

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13.5.5 Checking the PTO transmission oil level



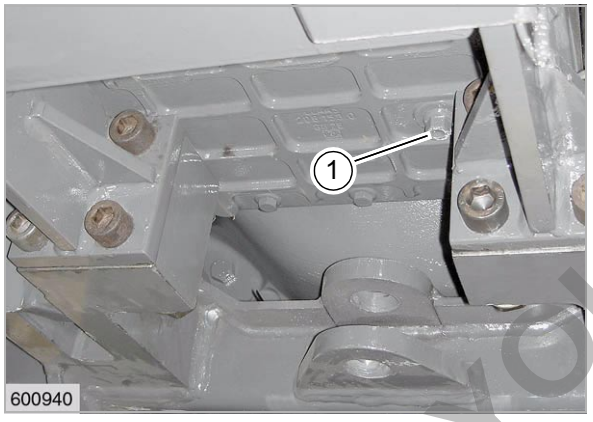
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– Park the vehicle in a horizontal position.
– *Parking the vehicle safely, see page 268*.

The oil sight glass (1) must be filled up halfway. If required

– *Topping up PTO transmission oil, see page 292*.

13.5.6 Changing the PTO transmission oil



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– Park the vehicle in a horizontal position.
– *Parking the vehicle safely, see page 268*.
– Place a sufficiently large container beneath the oil drain plug (1).
– Unscrew the oil drain plug and drain the oil completely.
– Screw the oil drain plug back in and tighten it to be oil-tight.

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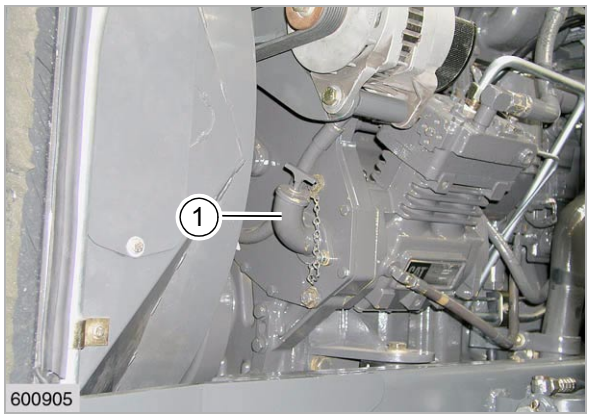
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– Manually screw in the filter cartridge until the seal makes contact with the filter head.
– Then tighten the filter cartridge for another 3/4 of a turn by hand.
  Do not use tools.

Refer also to the Operator's Manual of the engine manufacturer.

15699

14.7.4 Topping up engine oil



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– Fill in engine oil up to the FULL mark (maximum) on the oil level dipstick through the oil filler neck (1).
– Refit cap of oil filler neck (1).
– Run the engine in the slow idle speed for a short time.
– Stop the engine.
– Check engine and oil filter for leaks.
– After about five minutes, check the engine oil level again and if necessary top up to the FULL mark on the oil level dipstick.

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