



## INSTRUCTION BOOK

# *Agrotion*

**120 130**  
**150 150.1 165.1**



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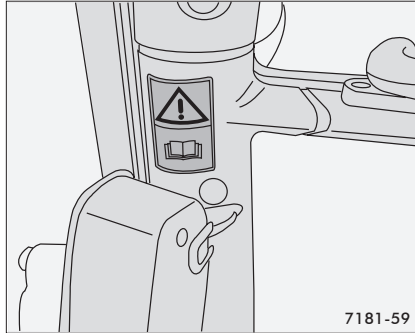


## CHAPTER 0

## Table of contents


- External connection (POWERBEYOND)* .....	85
- Hydraulic control valve levers .....	86
- Remote connections .....	86
- Locking remote valves .....	87
- Hydraulic control valve levers .....	87
Cross shifting lever .....	88
- Operating the cross shifting lever .....	88
- Parallel operation .....	89
- Floating position with the cross shifting facility in use .....	90
- Permanent consumers .....	91
- Hydraulic trailer brake * .....	92
- Instrument introduction flap .....	92
Combination of tractor and mounted implement .....	93
- Consideration of rear mounted implement and front/rear combinations .....	94
- Table .....	95
Front towing and manoeuvring hitch .....	95
Front towing and manoeuvring hitch .....	96
- Front towing and manoeuvring hitch with bolt .....	96
- Front towing and manoeuvring hitch with ballast carrier and ballast weights * .....	96
- Front towing and manoeuvring hitch front with front ballast weight 600 kg (1322.76 lbs) 1000 kg (2204,60 lbs) * .....	97
- Front towing and manoeuvring hitch with bolt .....	97
Front power lift * .....	98
- Coupling the catching hook .....	99
- Mounting the upper link .....	100
- Adjusting the upper link .....	100
- On-road travel with front-mounted implement .....	102
Front loader * .....	104
Trailer hitch, rear * .....	104
- Mechanical * trailer hitch .....	104
- Automatic * trailer hitch .....	105
- Remote control of automatic trailer hitch * .....	105
- Height adjustment * with adjusting rail .....	106
- PICK-UP HITCH drawbar and towing hitch .....	107
- Class „C“ towing hitch .....	109
- Class „D2“ AND „D3“ towing hitches .....	110
- Drawbar* and Piton Fix* towing hitch .....	111
- Piton Fix * .....	113
Three-point hitch .....	114
- Mounting implements .....	115
- Safety measures for coupling and uncoupling of implements .....	117
- Adjusting upper link .....	117
- Adjusting lift rods .....	118
Implement Stabilization .....	119
- Side stabilisation, right .....	119
- Lateral stabilization, automatic * .....	119

IX



**CAUTION: CAREFULLY READ ALL THE INSTRUCTIONS GIVEN IN THE TRACTOR OPERATING INSTRUCTIONS AND MAINTENANCE HANDBOOK BEFORE USE AND FOLLOW THEM CAREFULLY DURING OPERATION.**



**CAUTION: ALL THE WARNINGS GIVEN IN THIS MANUAL:**  
\* THAT REFER TO POSSIBLE ACCIDENTS  
\* THAT SIGNAL WORKING CONDITIONS WHERE IT IS NECESSARY TO PROCEED APPROPRIATELY SO AS NOT TO DAMAGE THE TRACTOR ARE PRECEDED BY THIS SYMBOL  AND SURROUNDED BY A FRAME. ALL THE USERS OF THE TRACTOR MUST BE FAMILIAR WITH THESE WARNINGS.



**WARNING: LEARN TO USE THE TRACTOR BEFORE OPERATING IT. DO NOT ALLOW OTHERS TO USE THE TRACTOR IF THEY ARE NOT FAMILIAR WITH THE SPECIAL INSTRUCTIONS REGARDING ITS USE.**

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**CAUTION: BEFORE CARRYING OUT ANY OPERATIONS, READ THE INSTRUCTIONS IN THIS MANUAL. FOLLOW THE INSTRUCTIONS CAREFULLY DURING OPERATION OF THE TRACTOR.**

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## Introduction to Safety

This safety section of your Operator Instruction Book is intended to point out some of the basic safety situations which may be encountered during the normal operation and maintenance of your FOOTSTEP (ROPS) or CAB tractor, and to suggest possible ways of dealing with these situations. This section is NOT a replacement for other safety practices featured in other sections of this book.

Additional precautions may be necessary, depending on attachments used and conditions at the work site or in the service area. The tractor maker has no direct control over tractor application, operation, inspection, lubrication, or maintenance. Therefore it is YOUR responsibility to use good safety practices in these areas.

## Safety

The safety of the operator is one of the main concerns in designing and developing a new tractor. Designers incorporate as many safety features as is possible in constructing our tractors. However, every year many accidents occur which could have been avoided by a few seconds thought and a more careful approach to handling farm machinery and implements.

Read and practice the safety instructions detailed in the next pages of this book.

## A Word to the Operator

It is YOUR responsibility to read and understand the safety section in this book before operating your tractor.

You must follow these safety instructions that take you step by step through your working day.

Remember that YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Study the features in this manual and make them a working part of your safety programme. Keep in mind that this safety section is written only for this type of machine. Practice all other usual and customary safe working precautions, and above all - REMEMBER - SAFETY IS YOUR RESPONSIBILITY. YOU CAN PREVENT SERIOUS INJURY OR DEATH.

Use only SAME DEUTZ-FAHR approved attachments and equipment.

## Danger, Warning, Caution

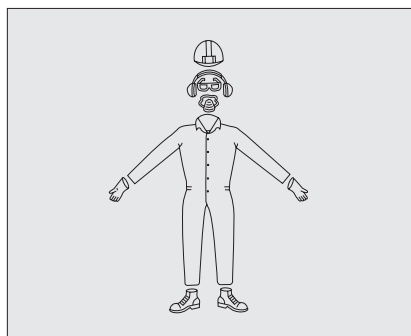
Whenever you see the words and symbols shown below, used in this book and on decals, you **MUST** take note of their instructions as they relate to personal safety.

**Prepare for Safe Operation****Protect Yourself**

Wear all the protective clothing and personal safety devices issued to you or called for by job conditions. Don't take chances.

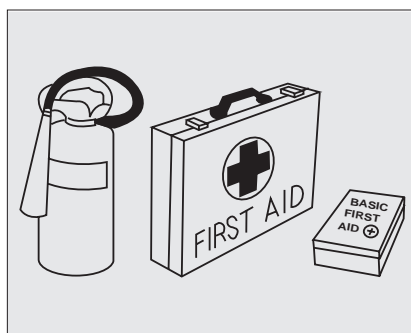
You may need:

- A hard hat.
- Safety glasses, goggles, or face shield.
- Hearing protection.
- Respirator or filter mask.
- Foul weather clothing.
- Reflective clothing.
- Heavy gloves (neoprene for chemicals, leather for rough work).
- Safety boots.



**Note** where fire extinguishers and first-aid or emergency equipment is kept and get to know where to find help in a hurry. Make sure you know how to use this equipment.

**DO NOT** wear loose clothing, jewellery or other items and tie up long hair which could entangle in controls or other parts of the tractor.

**Risks from exposure to noise**

The tractor and any implements attached to it constitute a source of noise of which the intensity and frequency can be measured using the appropriate instruments. Anyone who uses the tractor must know that:

- exposure to excessive and/or prolonged noise can cause serious damage, not just to the hearing but also to general health. The higher the noise level (dba) and the greater the duration of exposure, the higher the risk. The combination of both these factors can be expressed in the value LEP (level of personal exposure to noise).
- you therefore need to know the noise level generated by the tractor. This information can be found in the Use and Maintenance Handbook, under the chapter heading "Technical Data".



**WARNING: YOUR TRACTOR IS A ONE-PERSON MACHINE. DO NOT PERMIT OTHERS TO RIDE ON THE TRACTOR OR THE IMPLEMENT. IN SOME TERRITORIES A PASSENGER SEAT MUST BE FITTED TO CARRY PASSENGERS. DO NOT ALLOW ANYONE TO RIDE ON THE IMPLEMENTS OR OTHER EQUIPMENT INCLUDING TRAILERS, EXCEPT ON CERTAIN HARVESTING EQUIPMENT, SPECIFICALLY DESIGNED FOR RIDERS DURING THE ACTUAL HARVEST OPERATION ONLY (NOT DURING TRANSPORT). SUCH EQUIPMENT MUST HAVE PROVISION FOR A SAFE RIDING AREA. DO NOT ALLOW CHILDREN ON THE TRACTOR.**

avv151gb

- Be certain you can control both speed and direction before moving. Move slowly until you are sure that everything is operating properly. After starting, recheck the steering, right and left. Be certain you have full steering and brake control. If differential is locked, **DO NOT** operate at high speed or turn the tractor until the differential lock is disengaged.
- **DO NOT** lift a load over anyone.
- Keep others away from your operation. **DO NOT** allow anyone to stand or pass under a raised implement.
- **DO NOT** lift objects that can not be contained in the bucket, get the appropriate attachment. **DO NOT** allow anyone to stand on the ROPS or fenders.
- When using a loader, avoid sudden stops, starts, turns, or change of direction. Keep loads close to the ground when transporting.
- **DO NOT** stand (or allow anyone else to stand) in front of, under, or behind loaded or loading equipment. **DO NOT** drive a tractor up to someone standing in front of a fixed object.
- Keep others away from universal joints, hitches, drawbar, lift arms, P.T.O. drives, cylinders, belts, pulleys, and other moving parts. Keep all shields and guards in place.



**WARNING: DO NOT STAND, OR ALLOW ANYONE ELSE TO STAND, BETWEEN THE TRACTOR AND IMPLEMENT UNLESS THE ENGINE IS TURNED OFF AND THE PARKING BRAKE IS ENGAGED, THE LOWEST GEAR IS ENGAGED, THE KEY IS REMOVED, AND ALL ATTACHMENTS OR IMPLEMENTS ARE LOWERED TO THE GROUND.**

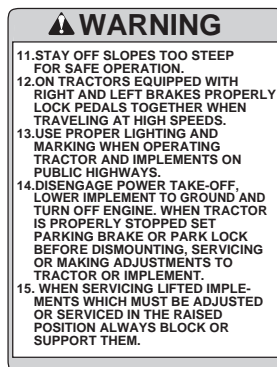
XLIX



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**1 - P/N 2.9929.289.0**

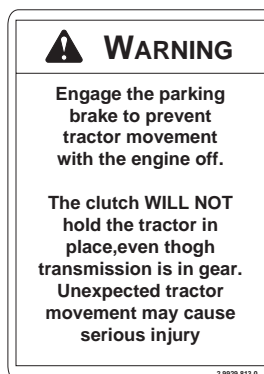
Location: On the cab B-upright left.



7214-74

**2 - P/N 2.9929.290.0**

Location: On the cab B-upright left.

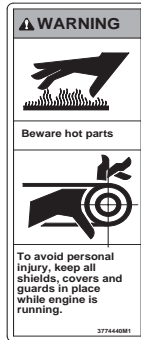


7214-79

**3 - P/N 2.9929.813.0**

Location: On the cab B-upright left.

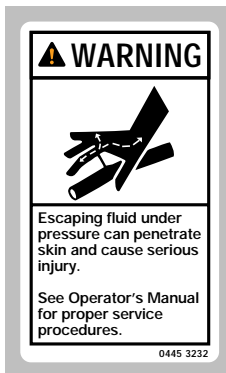
LIX



**30 - P/N 2.9929.791.0**

7214-77

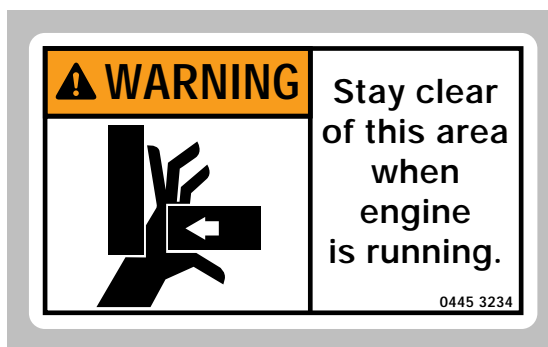
Location: On left side of engine near the alternator.  
Location: On left side and right side of cooler.



**31 - P/N 0445 3232**

7216-46

Location: On left side and rear side of front axle (With front axle suspension only).



**32 - P/N 0445 3234**

7216-47

Location: On left side and rear side of front axle (With front axle suspension only).

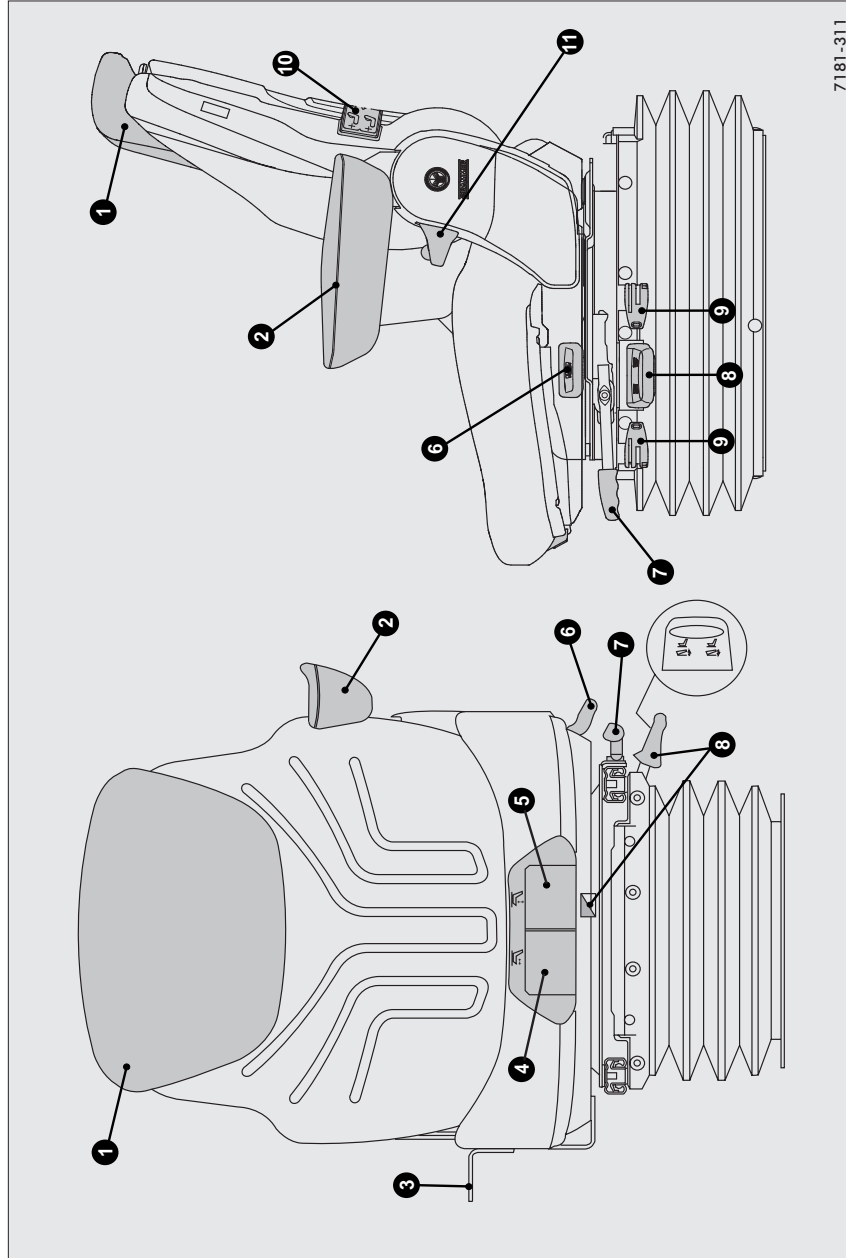
LXIX

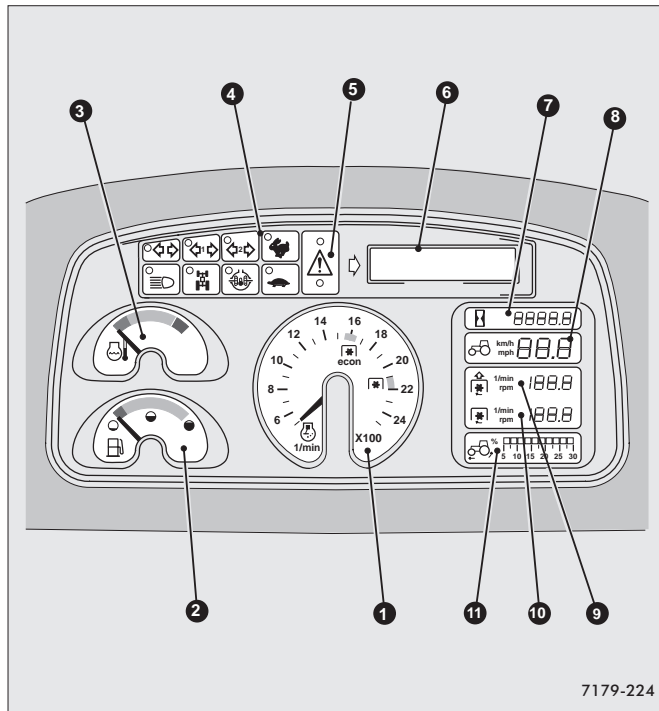




**INTERNATIONAL SYMBOLS (PART. 2)**

GENERAL					
Volume Empty	Volume Half-Full	Volume Full	Battery	Hourmeter	Seatbelt
Turn Signal	Read Oper Manual	Brake Failure	Air Filter	Engine Speed	Fast
Slow	Continuously Variable	Clutch Engage	Clutch Disengage	Differential Locked	Diff. Lock Disengage
Machine Travel Direction - Forward	Machine Travel Direction - Rearward	Axle Connect	Axle Disconnect	Control Lever Operating Direction	Clockwise Rotation
Counterclockwise Rotation	Horn	Lighter			





**INFOCENTER 3 \***

Page

1 = Engine speed .....	17
2 = Fuel level in tank .....	16
3 = Engine temperature .....	16
4 = Warning and pilot lights .....	23
5 = Central warning light .....	21
6 = Warning and servicing display.. ..	21
7 = Hours in operation .....	17
8 = Ground speed .....	19
9 = Front P.T.O. speed .....	18
10 = Rear P.T.O. speed .....	18
11 = Wheel slip (only when tractor is equipped with a radar sensor) ....	19



**CAUTION: NEVER LEAVE THE TRACTOR WITH THE ENGINE RUNNING, UNLESS ABSOLUTELY NECESSARY. IN THIS CASE, PUT ALL TRANSMISSION SHIFT LEVERS IN THE NO LOAD POSITION, SWITCH ON THE ALL-WHEEL DRIVE AND PULL THE HAND BRAKE UP TO THE STOP.**

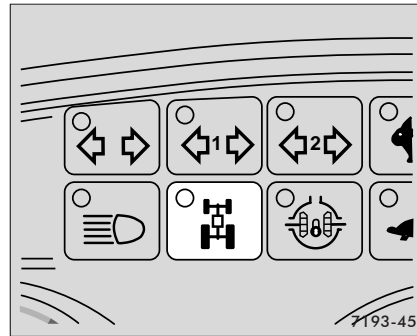
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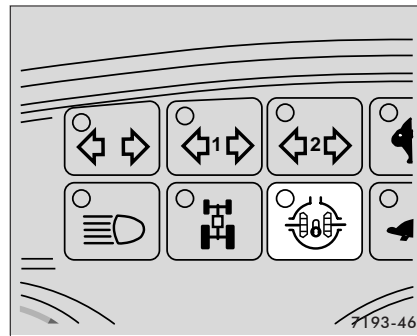
### 4-WD pilot light

The green pilot light goes on to signal that the 4-WD is engaged.



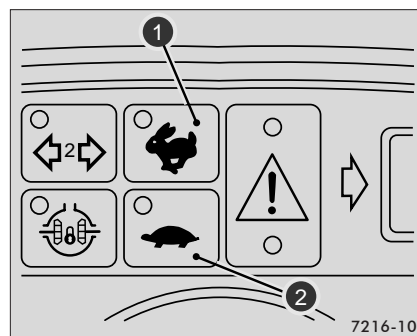
### Differential lock pilot light

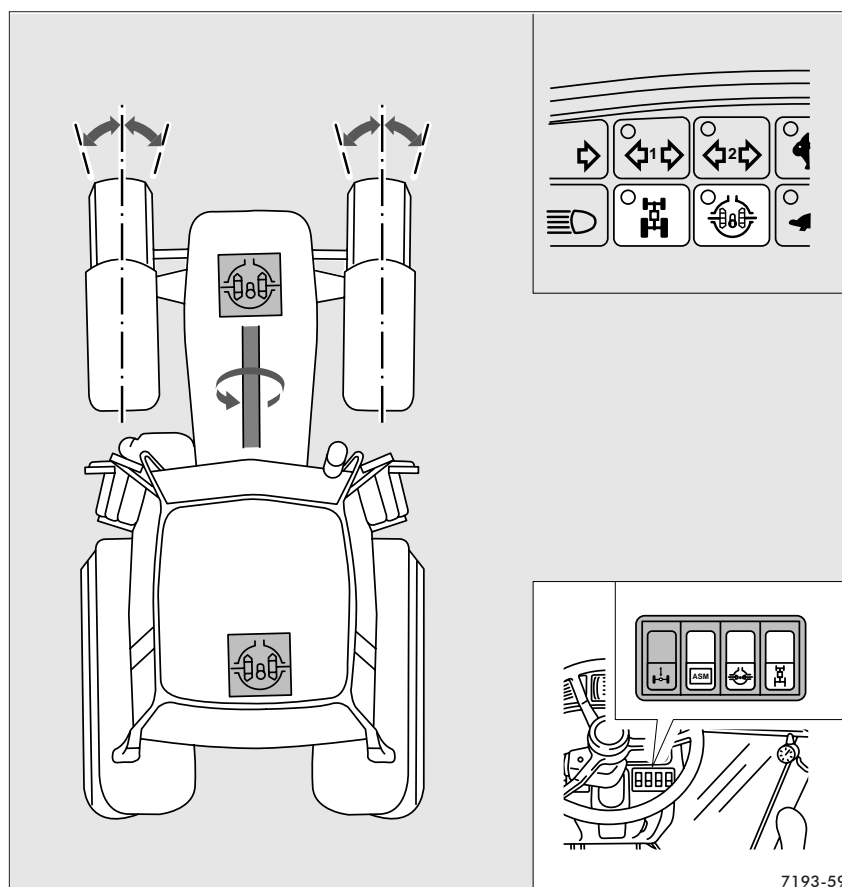
The green pilot light goes on to signal that the differential lock is engaged. Simultaneously the 4-WD is engaged automatically – the green pilot light for the 4-WD comes on as well.



### Shifting range pilot light

The telltales (1) and (2) are not used in these tractors.





### Front axle drive, differential lock, driveline management (ASM)

The front axle drive and the differential lock serve for improving the driving power e.g. on rough ground, on slippery fields or upon cross ploughing on the slope.

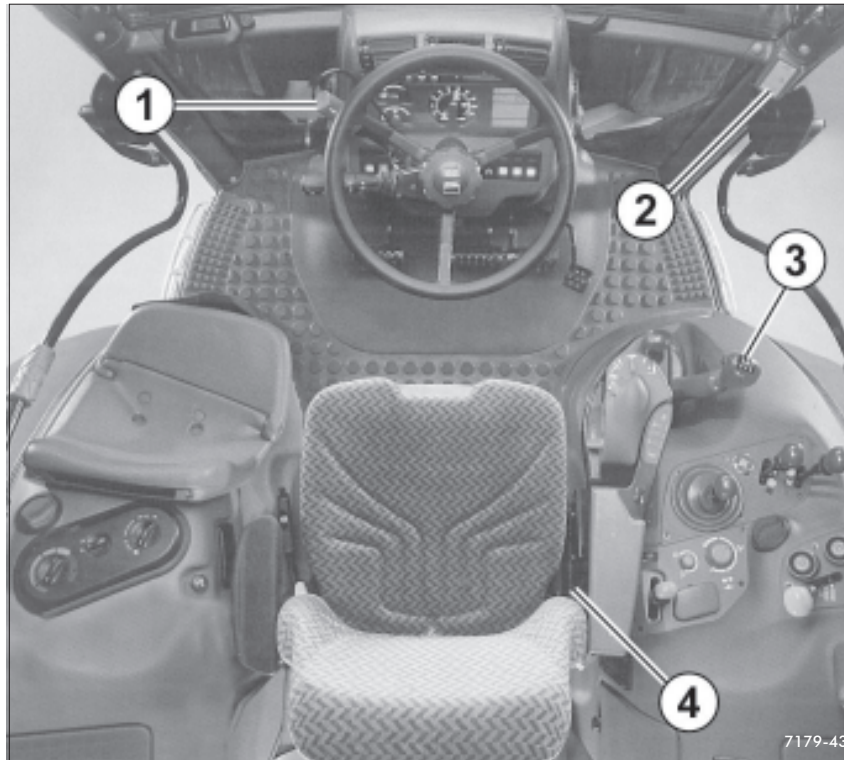
The ASM automatically engages/disengages front axle drive and differential lock in response to ground speed, steer angle and wheel slip.

Engaging/disengaging takes place upon activating the respective switch.

The operating condition is indicated by pilot lights in the respective LED in the INFOCENTER.

**NOTE: If front-wheel drive is selected and the diff lock is engaged when the ASM system is deactivated, the front-wheel drive and diff lock will operate independently of the steering angle and the ground speed. We therefore recommend disengaging front-wheel drive and the diff lock before switching off the ASM system.**





### Transmission gear shifting with PowerShuttle

The powershift transmission with PowerShuttle is operated with an electro-hydraulically controlled clutch. Such, starting and changing the driving direction is possible with or without operating the clutch pedal.

While the driver initiates the change of the driving direction with the commutator switch, the electronic control automatically reverses the vehicle.

- 1 = Commutator switch F-N-R
- 2 = POWERSHIFT display
- 3 = Transmission shifting lever
- 4 = Shifting lever creeper speeds

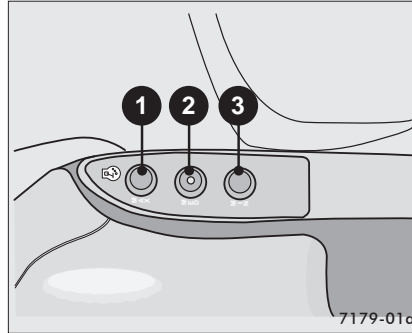
The creeper speed range must only be selected for driving speeds of up to 2 km/h (1,24 mph) and with the commutator switch in the neutral position or disengaged clutch.

**Functional description**

The engine speed controller has a tempomat function. For example with increasing engine load the speed controller automatically performs a re-adjustment. Such, constant engine and P.T.O. speeds are ensured during the work.

Moreover, the engine speed controller permits to store different engine speeds preselected via the accelerator pedal which can be recalled, if required.

When shutting down the engine, the speeds stored last remain stored.

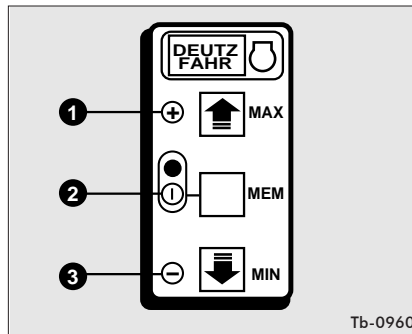


Cab with multi-function armrest

**Storing and recalling the upper speed**

Storing of the upper desired speed is only possible from  $1500 \text{ min}^{-1}$ .

- With the accelerator pedal, set the desired upper speed (at least  $1500 \text{ min}^{-1}$ )
- Keep key **1** (MAX) pressed for about 5 seconds
- Release key **1**
- Release accelerator pedal



Cab without multi-function armrest

The desired upper speed is now stored. To reach again the idle speed, shortly press key **2** (MEM).

When again shortly pressing the MAX key, the engine is automatically controlled to the upper stored speed.

The MAX store can only be recalled, if the hand throttle is in the "0" position. When operating the hand throttle, the speed cannot be stored.

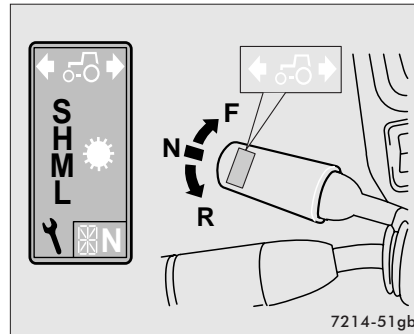
By storing a new upper speed, the actual store is overwritten.

**Changing the driving direction**

For changing the driving direction, pull lever towards the steering wheel and activate it to the opposite driving direction.

The driving direction can only be changed up to a driving speed of 12.5 km/h (7,77 mph).

Upon a change of the driving direction above 12.5 km/h (7,77 mph), the drive system is set to "NEUTRAL". This is indicated to the driver in the POWERSHIFT display. In addition, an acoustical signal will sound.

**Changing the driving direction with clutch**

- Driving speed below 12.5 km/h (7,77 mph),
- Activate clutch,
- Activate commutator switch to the opposite driving direction,
- Slowly release clutch,
- Tractor will change the driving direction.

**Changing the driving direction without clutch**

- Driving speed below 12.5 km/h (7,77 mph),
- Activate commutator switch to the opposite driving direction,
- Tractor will change the driving direction.

When changing the driving direction, generally select a synchronous gear suiting the load. Otherwise, the engine will be killed.

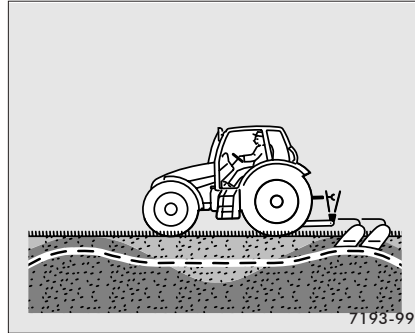
For the tractors the driving direction is changed to "reverse" always in the same powershift range as to "forward". The powershift ranges can be shifted.

If, upon a mistaken change of the driving direction above 12.5 km/h (7,77 mph), the original driving direction is immediately selected again, the power flux from the drive system is generated again.

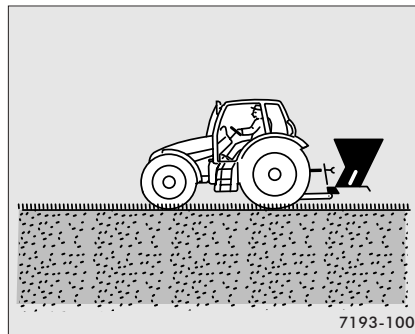
In case of external temperatures below  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ), after a cold start upon reversing, neutral shifting may occur also below 12.5 km/h (7,77 mph). In this case, do not fully load the tractor and have it run warm at medium speed.

**Draft/position intermix**

The combined draft/position control is infinitely variable and allows the draft and position of the implement to be optimally matched to the ground conditions.

**Position control**

This function keeps the implement hydraulically in the preset position. The desired working depth/height of the implement is preselected with the preselector knob.

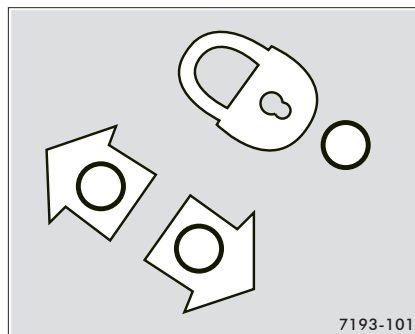
**LEDs**

red = raising  
green = lowering  
yellow = diagnostic system/interlocked

When trouble occurs, this is signalled by flashing of the yellow LED. The flashing code is to be interpreted as follows:

Long pause – 1 flash  
Short pause – 9 flashes = Error 19

In case of trouble check into your DEUTZ-FAHR service workshop.



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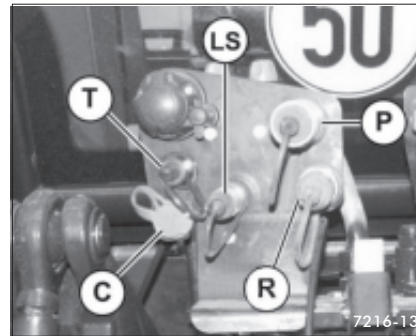
**External connection  
(POWERBEYOND)\***

P = Connection POWERBEYOND\*  
(pressure connection pump)

LS = Connection LS control line  
(Load-Sensing)

T = Pressureless oil return

R = Return

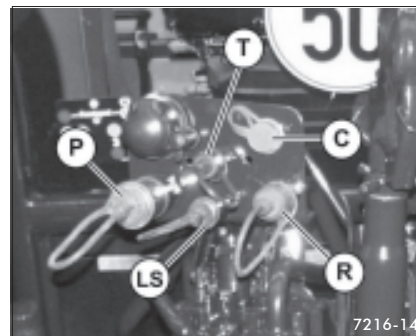


AGROTRON 120-130

Depending on its equipment, the tractor with a load-sensing system is provided with an external hydraulic connection. Via the connection POWERBEYOND P, implements can be connected which avail on their own control system suitable for LS. With this hydraulic connection, implements such as pick-up loaders can directly be supplied with oil from the hydraulic pump.

The LS control line of the implement must be connected with the LS control line of the tractor.

If required, the line of the pressureless oil return must be connected.



AGROTRON 150-150.7-165.7

To avoid exchanging by mistake, the connections POWERBEYOND and LS control line have been executed as coupling sockets, the connection of the pressureless oil return however as coupling plug.

To avoid pressure losses upon large volumetric flows, the size of the line and the connector POWERBEYOND P is 1 inch.



TABLE	Real value according to calculation	Permissible value according to instruction handbook	Double permissible tyre load carrying capacity (two tyres)
Minimum ballasting front/tear	kg/lb	---	---
Total weight	kg/lb	≤ kg/lb	---
Front axle load	kg/lb	≤ kg/lb	≤ kg/lb
Rear axle load	kg/lb	≤ kg/lb	≤ kg/lb

**The minimum ballasting has to be attached to the tractor either in form of a mounted implement or ballasting weight!**

**The calculated values must be less or equal ( $\leq$ ) the permissible values!**

### Front towing and manoeuvring hitch



**WARNING: FOR THE WHEELS REPLACEMENT AND FOR SOME MAINTAINING OR REPAIRING OPERATIONS, THE TRACTOR MUST LIFTED, USING SPECIFIC SAFETY SUPPORTS. NEVER USE AS SUPPORT THE IMPLEMENTS ATTACHED TO THE TRACTOR. DO NOT ALLOW ANYONE TO GET ON THE TRACTOR, WHEN LIFTED FROM THE GROUND FOR MAINTENANCE OR REPAIR OPERATIONS.** avv101gb

**Automatic \* trailer hitch**

Diameter of the pivot to choice:

- 32 mm (1.26 in)

- 38 mm (1.50 in)

(the 38 mm (1.50 in) pin is also available with a 50 mm (1.97 in) eye)

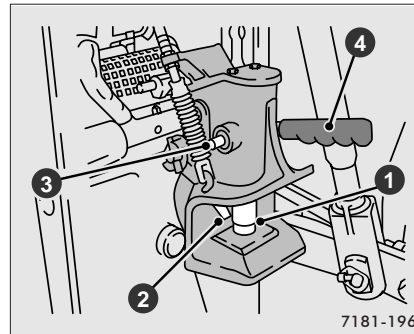
Automatic coupling:

When inserting the trailer coupling hook against the spring-loaded tongue 2, the coupling pin 1 will couple up automatically.

Manual coupling:

Pull down the coupling lever 4.

The coupling pin 1 will be released.



**NOTE: The maximum permissible load on the towing hitch is 20000N = 2000 kg (4409.2 lb). Only use original pins! The tractor is equipped with a pivoting towing hitch, the height of which can be adjusted if necessary; when using mounted implements, remove the towing hitch to prevent interference with the implement.**



**CAUTION: ALL IMPLEMENTS MOUNTED TO THE TRACTOR MUST BE SAFELY ATTACHED.**

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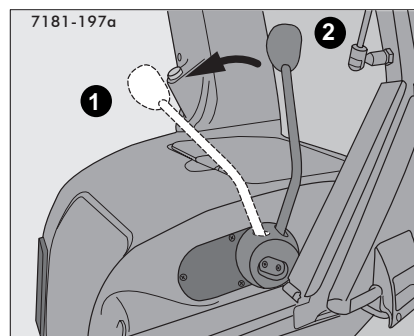
**Remote control of automatic trailer hitch \***

1 = Uncoupling

2 = Normal position

To open the trailer hitch clevis, pull lever inward and move into position 1, then let lever go.

Lever returns automatically into the normal position.

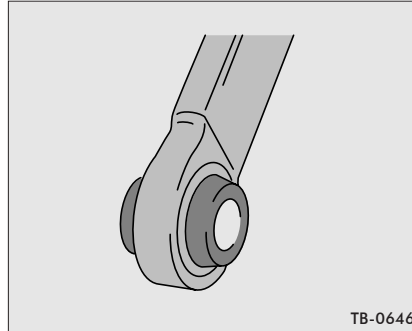


**Mounting implements - standard design**

Move the tractor towards the implement such that the coupling balls of the lower links are positioned underneath the coupling pins of the implement.

Operate parking brake.

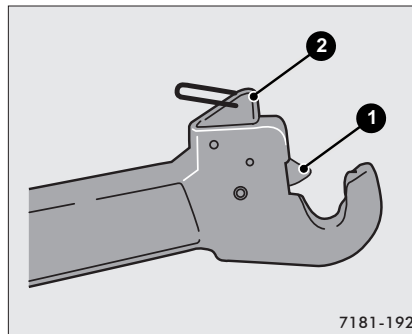
Couple lower link to the implement and secure with linch pins. In case of unilaterally supported implements, e.g. plough, first couple the supported side.

**Coupling implements - with rapid couplers \***

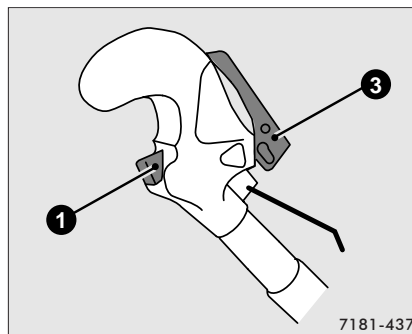
– Completely lower the lower link of the powerlift.

– Drive tractor back to the implement with lowered lower links until the catching hook is underneath the coupling points of the implement.

– Slightly lift powerlift until the implement is seized by the catching hooks. The locking nose 1 of the catching hook is pressed back.



- Attach upper control arm to upper attachment point of attachment device. To do this, briefly raise lever 3. The locking lug must then return to its lock position.

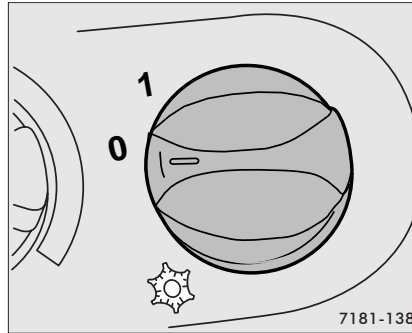


**Air conditioning controls**

Position 1: air conditioning on  
Position 0: air conditioning off

On switching the air conditioning on, the blower will start operating at minimum speed.

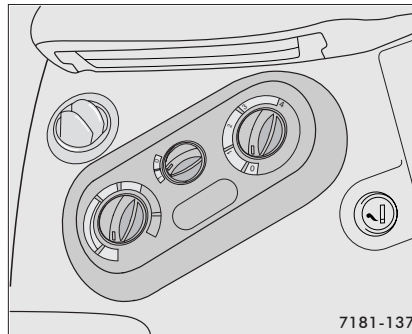
**The air conditioning system can provide cool, dehumidified air. Heating and air conditioning can be combined to reduce the humidity in warm-wet climates.**

**Heating system**

It is designed to ensure a uniform temperature inside the cab and is efficient even at low-medium engine speeds.

It provides effective defrosting and demisting of all cab windows (front, rear and side).

The air heating system utilises engine coolant heat.



avv088gb

**DANGER: DO NOT WELD, DRILL, BEND OR MODIFY THE ROPS OR THE CABIN. TO DO SO REDUCES THE PROTECTION IT OFFERS.**



**DANGER: SHOULD THE SYSTEM DEVELOP A VISIBLE LEAK, DO NOT APPROACH WITH A NAKED FLAME. REFRIGERANT GAS IS FLAMMABLE AND ON COMBUSTION PRODUCES HIGHLY TOXIC SUBSTANCES.**

avv095gb



**WARNING: CONTACT WITH REFRIGERANT CAN CAUSE SEVERE SKIN LESIONS. IN CASE OF CONTACT WITH THE EYES, DO NOT RUB EYES, SEEK IMMEDIATE MEDICAL ASSISTANCE.**

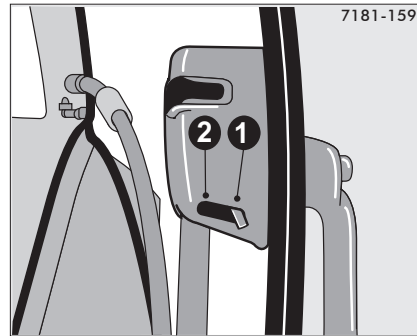
avv075gb



**Children's guard \***

To lock the cabin door from inside – children's guard – operate lever at the lower end of door handle.

- 1 = Door unlocked – may be opened from outside and inside
- 2 = Door locked – may be opened only from outside



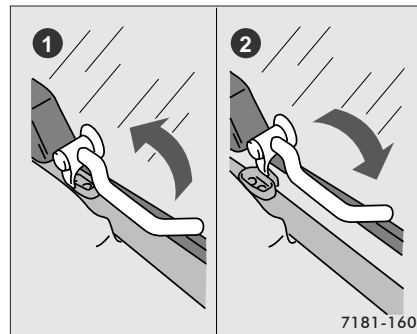
**Front window**

**Gap opening**

Lock locking toggle in section 2 of the lock holder.

**Closing the window**

Lock locking toggle in section 1 of lock holder.  
Front window can also be opened all the way up.



**Permissible tyre combinations****Tyres with adjustable rim wheels**

Id*	Tires Front/rear	Model				
		120	130	150	150.7	165.7
1	9.5R32-115 A8 / 9.5R48-136 A8	•	•			
2	230/95R32-139 A2 / 230/95R48-147 A2	•	•			
3	270/95R32-146 A2 / 270/95R48-154 A2	•	•			
4	270/95R32-146 A2 / 300/95R46-158 A2	•	•			
5	14.9R24-126 A8 / 16.9R38-141 A8	•	•			
6	16.9R24-134 A8 / 18.4R38-146 A8	•	•			
7	16.9R24-134 A8 / 18.4R38-159 A8	•	•			
8	420/70R24-130 A8 / 16.9R38-141 A8	•	•			
9	420/70R24-130 A8 / 520/70R34-148 A8	•	•			
10	480/70R24-138 A8 / 520/70R38-150 A8	•	•			
11	540/65R24-140 A8 / 600/65R38-153 A8	•	•			
12	230/95R32-128 A8 / 230/95R48-136 A8			•		
13	270/95R32-146 A2 / 270/95R48-154 A2			•		
14	230/95R36-141 A2 / 270/95R48-154 A2			•	•	
15	270/95R32-146 A2 / 300/95R46-158 A2			•	•	
16	420/70R28-133 A8 / 18.4R38-146 A8			•	•	
17	420/70R28-133 A8 / 18.4R38-159 A8			•	•	
18	480/65R28-136 A8 / 600/65R38-153 A8			•	•	
19	16.9R28-136 A8 / 20.8R38-153 A8			•	•	
20	480/70R28-140 A8 / 20.8R38-153 A8			•	•	
21	480/70R28-140 A8 / 580/70R38-155 A8			•	•	
22	230/95R36-141 A2 / 270/95R48-154 A2					•
23	270/95R32-146 A2 / 300/95R46-158 A2					•
24	420/70R28-133 A8 / 18.4R38-146 A8					•
25	420/70R28-133 A8 / 18.4R38-159 A8					•
26	16.9R28-136 A8 / 20.8R38-153 A8					•
27	480/70R28-140 A8 / 20.8R38-153 A8					•
28	420/70R28-140 A8 / 580/70R38-155 A8					•

\*: The letters 1, 2, 3, etc. refer to the tables on pages 149 - 153.



CHAPTER 4

Wheels

Table 5

Track widths		front	rear
		14.9R24 126 A8	16.9R38 141 A8
A	mm (in)	-	-
B	mm (in)	1700 (66.98)	1700 (66.98)

Table 6

Track widths		front	rear
		14.9R24 126 A8	18.4R34 144 A8
A	mm (in)	-	-
B	mm (in)	1800 (70.92)	1800 (70.92)

Table 7

Track widths		front	rear
		16.9R24 134 A8	18,4R38 146 A8
A	mm (in)	-	-
B	mm (in)	1800 (70.92)	1800 (70.92)

Table 8

Track widths		front	rear
		16.9R24 134 A8	18,4R38 159 A8
A	mm (in)	-	-
B	mm (in)	1800 (70.92)	1800 (70.92)

Table 9

Track widths		front	rear
		420/70R24 130 A8	16.9R38 141 A8
A	mm (in)	-	-
B	mm (in)	1700 (66.98)	1700 (66.98)

Table 10

Track widths		front	rear
		420/70R24 130 A8	520/70R34 148 A8
A	mm (in)	-	-
B	mm (in)	1700 (66.98)	1700 (66.98)

Table 11

Track widths		front	rear
		480/70R24 138 A8	520/70R38 150 A8
A	mm (in)	-	-
B	mm (in)	1800 (70.92)	1800 (70.92)

Table 12

Track widths		front	rear
		540/65R24 140 A8	600/65R38 153 A8
A	mm (in)	-	-
B	mm (in)	1900 (74.86)	1850 (72.89)

Table 13

Track widths		front	rear
		230/95R32 128 A8	230/95R48 136 A8
A	mm (in)	1600 (63.04)	1500(59.10)
B	mm (in)	1800 (70.92)	1800 (70.92)

Table 14

Track widths		front	rear
		230/95R36 141 A8	270/95R48 154 A8
A	mm (in)	1600 (63.04)	1500(59.10)
B	mm (in)	1820 (71.71)	1800 (70.92)

Table 15

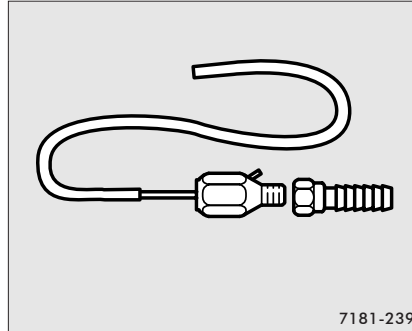
Track widths		front	rear
		420/70R28 133 A8	18,4R38 146 A8
A	mm (in)	1600 (63.04)	-
B	mm (in)	1800 (70.92)	1800 (70.92)

Tables 1, 2, etc. refer to the tyre combinations denoted by these letters on page 146.



The liquid must be introduced into the tyre using a special adapter specifically designed for this purpose.

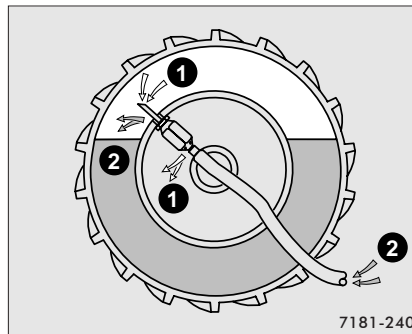
(These adapters are supplied by tyre manufacturers).



#### Filling tires with water

- 1 = Air
- 2 = Water

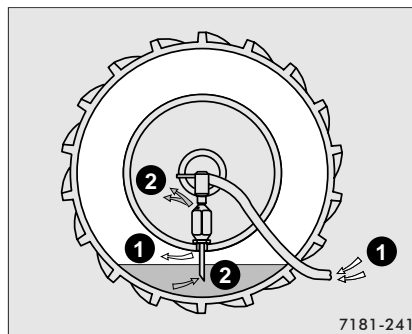
Raise the tractor from the ground  
Turn the wheel to bring the valve to the highest position. Unscrew the inner part of the valve. Fit the special adaptor for adding water ballast to the valve. Connect the water hose and fill until the water starts to come out of the breather at the bottom of the valve. Remove the adaptor and screw in the inner part of the valve. Fill the tyre with air to the specified pressure.



#### Draining tires

- 1 = Air
- 2 = Water

Jack up tractor. Rotate wheel so that the inner-tube tire valve comes down. Screw out tire valve insert. Allow water to drain. Screw on combined valve. Inflate tire. The air pressure will force out any remaining water through the bleeder bore. Screw off combined valve. Refit tire valve insert. Inflate tire to specified pressure.



## Checks and maintenance table

	Take over	Hours in operation										
		50	250	500	750	1000*	1250	1500	1750	2000		
<b>Only to be performed by authorized DEUTZ-FAHR workshops</b>												
<b>1. Engine</b>	●	●		●		●		●		●		●
1.1 Change engine oil (at least once a year)		●		●		●		●		●		●
1.2 Replace engine oil filter cartridge/oil filter element		●		●		●		●		●		●
1.3 Check valve clearance ***		●										
1.4 Check oil level	●											
1.5 Check coolant level	●											
1.6 Replace coolant												
1.7 Check V-belt condition and tension	●	●		●		●		●		●		●
1.8 Single-bowl fuel filter: replace filter cartridge	●											
1.9 Double-bowl filter:	Stage 1 – replace filter cartridge	●										
	Stage 2 – replace filter cartridge	●										
1.10 Inspect fuel oil leakage pipe incl. connecting parts, change as required												
1.11 Check air cleaner system, clean filter cartridge												
1.12 Replace air cleaner cartridge (at least once a year)												
1.13 Replace air cleaner safety cartridge												

\* or once a year

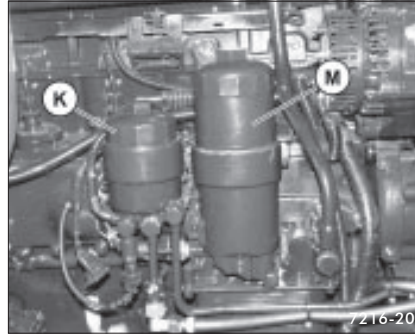
\*\* the intervals must be reduced by 50% if fuel with a sulfur content above 0.5% is used

\*\*\* 2 hours after standstill of the engine at the earliest



**Changing engine oil filter**

- Clean filter housing and surrounding area thoroughly
- Place oil drip tray under the filter
- Unscrew cover M
- Replace filter insert
- If necessary, lubricate seal with small amount of oil
- Hand-tighten the cover
- After running the engine briefly, check filter for seal integrity
- Check engine oil level



**AGROTRON 120-130-150**

**Changing fuel filter**

- Clean filter housing and surrounding area thoroughly
- Place oil drip tray under the filter
- Unscrew cover K
- Replace filter insert
- If necessary, lubricate seal with small amount of oil
- Hand-tighten the cover
- After running the engine briefly, check filter for seal integrity.



**WARNING: ALWAYS SWITCH THE ENGINE OFF BEFORE CARRYING OUT ANY MAINTENANCE OPERATIONS. FOR ADDITIONAL SAFETY, REMOVE THE KEY FROM THE IGNITION.**

avv103gb



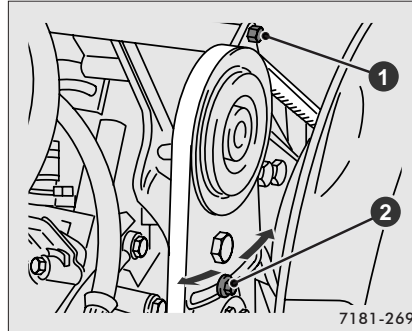
### Checking the drivebelts

To check the tension of the radiator fan drivebelt, press with your finger at the mid-point of the longest belt run between pulleys.

The tension is correct if the belt deflection does not exceed 5-10 mm (0.20-0.39 in).

To adjust the tension, loosen bolts **1** and **2** and move the bracket fixed by bolt **2** to obtain the correct belt tension.

Tighten bolts **1** and **2**.



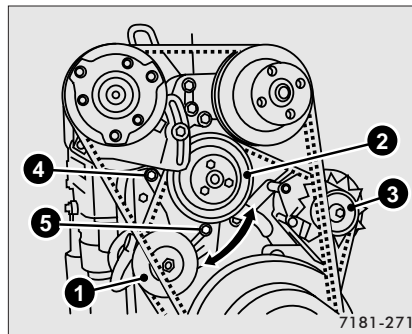
AGROTRON 150.7-165.7

### Fuel supply pump, water pump and generator

- 1 = Fuel supply pump
- 2 = Water pump
- 3 = Generator

Relax bolts **4** and **5**. The belt is tensioned by moving the fuel supply pump.

After tensioning, tighten bolts again.



AGROTRON 150.7-165.7

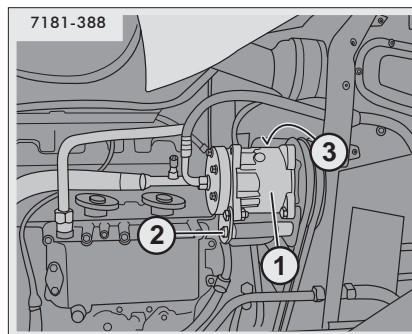
### Fan with air conditioning system

- 1 = Compressor air conditioning system

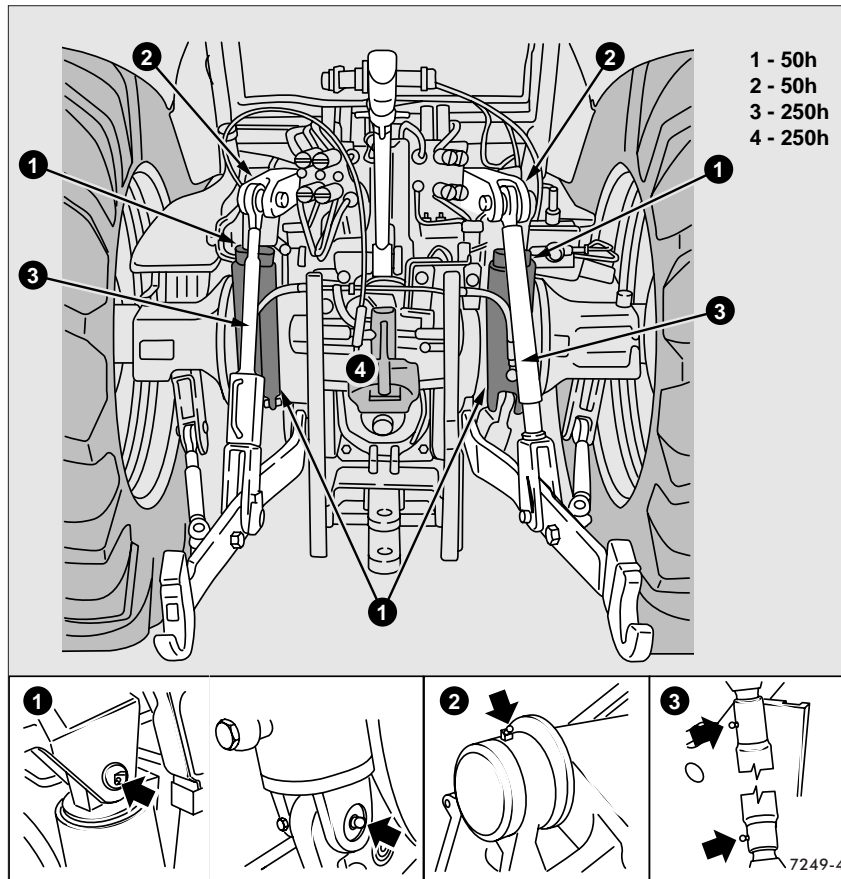
Relax bolts **2** and **3** and tension V-belt by moving the compressor.

After tensioning, tighten bolts again.

Air conditioning system: ( R134 a )  
1950 g (688.35 oz).



AGROTRON 150.7-165.7



### Grease lubrication for front axle and cardan shaft

Lubricant nipples 1 need to be regreased with approx. 1 cm<sup>3</sup> (0,061 in<sup>3</sup>) of multigrade grease (AKROS GREASE T2) every 500 operating hours or once a year. Stop the greasing operation as soon as a film of grease appears at the sealing lip.

Apply more grease to lubricant nipples 2 and 3 every 250 hours or once a year. The cardan shaft protection has to be removed to reach lubricant nipple 2. Apply more grease to lubricant nipples 4\* and 5\* every 500 hours or once a year.

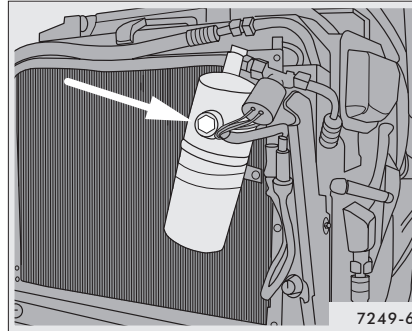
**Note:** Once the tractor has been cleaned using high-pressure cleaners, all open lubrication points should be lubricated to remove any dampness which may have penetrated.

**Air conditioning system check**

- To be carried out every year at a specialised service centre

Any air and water in the refrigerant circuit will impair the efficiency of the system:

- the air is compressed unnecessarily and does not produce any refrigerating effect.
- water tends to freeze in the coldest parts of the circuit and thereby create obstructions that impair the cooling action.



The system check begins by inspecting the condition of the refrigerant through the inspection window on top of the receiver-drier.

The refrigerant, as seen through the inspection window, should be clear and free of bubbles.

There are 2 balls in the sight glass. They provide information about the condition of the system.

- White ball - filling
- Blue ball - indicator for humidity

The system is filled correctly if the white ball is floating in the sight glass when the air conditioning compressor is on.

The dryer (humidity container) should be replaced if it is soaked through. This is indicated by the blue ball being discoloured (violet).

Have maintenance work undertaken in a specialist workshop!

Check that the compressor is firmly fixed to the tractor and that the pulleys are perfectly aligned.

**IMPORTANT** - Should it be necessary to remove the receiver-drier or the air conditioning unit, immediately plug the ends of the inlet and outlet pipes to prevent the ingress of dust or humidity.



**CAUTION: REPAIRS TO THE AIR CONDITIONING SYSTEM MUST ONLY BE CARRIED OUT BY A SPECIALIZED SERVICE CENTRE.** avv094gb

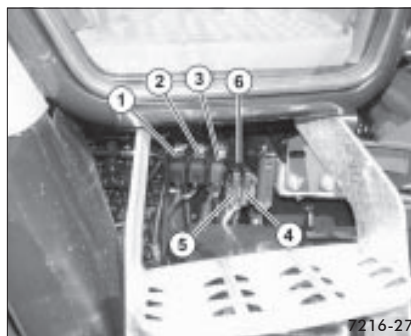


**DANGER: WHILE MIXING THE ANTIFREEZE SOLUTION AND FILLING THE TYRE, IT IS ESSENTIAL TO WEAR SAFETY GOGGLES AND PROTECTIVE CLOTHING. STAY CLEAR OF RAISED BOOM AND BUCKET.** avv130gb



**Fuse box**

- 1 - Starter relay
- 2 - Air-conditioning capacitor fan
- 3 - Front working headlamp
- 4 - Fuse front working headlight
- 5 - Fuse fan
- 6 - Preheat control unit 100 amp

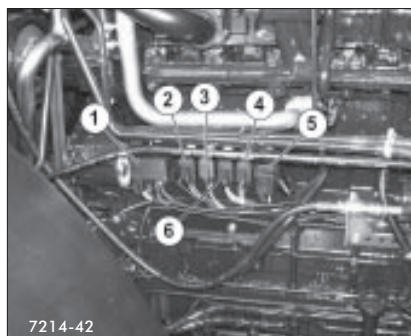


**AGROTRON 120-130-150**

**Fuse box**

The engine preheating control unit and the engine's electrical equipment relays are located to the left of the engine, protected by a metal partition.

- 1 - Preheat control unit
- 2 - Air-conditioning capacitor fan
- 3 - Front working headlamp
- 4 - Starter relay
- 5 - Fuse F100 30-amp air-conditioning capacitor fan
- 6 - Fuse front working headlight



**AGROTRON 150.7-165.7**



**DANGER: BATTERIES PRODUCE EXPLOSIVE GASES. KEEP FLAMES, SPARKS AND SMOKING MATERIAL AWAY FROM BATTERIES. VENTILATION IS REQUIRED, WHEN CHARGING OR STORING BATTERIES. AVOID CONTACT BETWEEN ACID AND SKIN OR CLOTHES.**

avv118gb



**DANGER: MAKE SURE YOU CONNECT THE BATTERY TERMINALS CORRECTLY. DANGER OF SHORT-CIRCUIT!**

avv044gb



## Chapter 7 - STORAGE OF THE TRACTOR

Cleaning .....	236
Operations prior to garaging the tractor for a long period .....	236
Storing the tractor .....	237
Preparing the tractor for use after a long period of storage .....	238



The equipment marked with an asterisk may be standard or optional items for all the models or just for some depending on the type of market.



**CAUTION: BEFORE CARRYING OUT ANY OPERATIONS, READ THE INSTRUCTIONS IN THIS MANUAL. FOLLOW THE INSTRUCTIONS CAREFULLY DURING OPERATION OF THE TRACTOR.**

avv001i





### **Attachment of implements to the tractor**

To allow full use in the widest possible range of applications, the structural frame of the tractor has been designed to afford a solid, safe mounting for agricultural or semi-industrial implements.

In the case of particularly heavy applications, contact your authorised service centre to check suitability.

The tyres supplied with the tractor may not be suitable for special applications.

If this is the case, we advise that you consult your dealer before fitting a combination of tyres other than that authorised in the relative section of this manual.

Before attaching the implement, check that the tyres are capable of supporting the load.

Check the markings on the walls of the tyres and consult the tyre manufacturer's load tables.





## CHAPTER 9

## Fault diagnosis

### Noisy gearbox::

- Check level and type of oil. Top up or change oil for recommended type.
- Check gear teeth and bearings for excessive wear. Replace worn parts (operation to be carried out by a specialised service centre).
- Check backlash between crown wheel and pinion. Adjust backlash (operation to be carried out by a specialised service centre).

### Oil leaks:

- Check that oil level is not too high.  
Restore correct level.
- Check that the breather valve is not blocked. Clean or replace as necessary.
- Check the oil seals for wear.  
Replace (operation to be carried out at a specialised service centre).
- Check gaskets.  
Replace (operation to be carried out at a specialised service centre).

### Front and rear P.T.O.

(All checks of the front and rear P.T.O.s must be carried by a specialised service centre)

#### The clutch slips:

- Check the clutch hydraulic system:  
Renew worn clutch springs. Inspect and, if necessary, renew the seal rings on the piston and the manifold. At the same time, check that the piston slides freely.
- Inspect clutch disks for wear:  
Renew disks.

#### The clutch fails to disengage:

- Check that the piston completes a full stroke.  
Check the control device, adjust or replace defective parts, including also the clutch disks if necessary.
- Piston stuck in housing:  
Remove any rough spots on the outer surface of the piston.
- P.T.O. fails to stop on disengaging the clutch:  
Poor sealing of piston; overhaul complete assembly.

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