



INSTRUCTION BOOK

Agrotion  **TTV 1145 1160**



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CHAPTER 0

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IX



Pre-delivery operations to be done in the workshop

- Check all oil levels and top up with oil if necessary (engine, transmission, rear axle end drive, front drive, wheel hubs of front drive, supply tank for brake).
- Check the charge of the air-conditioning system for the tractor cab.

Delivering the tractor to the customer

- Tell the customer there are safety instructions in the owner's handbook for tractor operation.
- Tell the customer how important it is to comply with current local standards, especially as regards speed limits and trailer braking systems.
- Provide detailed explanations of the instructions given in the handbook on using the controls, transmission, digital display, maintenance, starting and stopping the tractor, using components such as the hoist, front and rear PTO.



CAUTION: CAREFULLY READ ALL SAFETY INSTRUCTIONS CONTAINED IN THE OPERATING AND MAINTENANCE HANDBOOK AND FOLLOW THE INSTRUCTIONS LISTED ON THE TRACTOR'S DECALS.

avv008gb



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

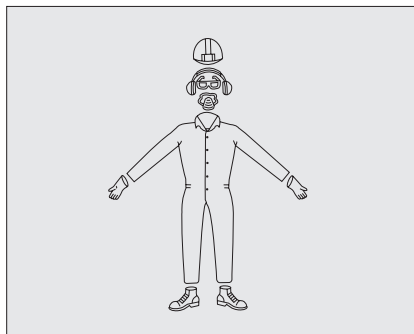
Whenever you see the words and symbols shown below, used in this book and on decals, you **MUST** take note of their instructions as they relate to personal safety.

**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.

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- 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.

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XLIX



Chapter 2 - Tractor identification

Original replacement part	LX
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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.

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LIX





International symbols (PART. 1)

SYMBOLS FOR PRIMARY CONTROLS					
Rockshaft Up	Rockshaft Down	Power Take-Off (On)	Power Take-Off (Off)	Remote Cyl Extend	Remote Cyl Retract
SYMBOLS FOR SECONDARY CONTROLS - LIGHTS					
Headlight Upper Beam	Headlight Lower Beam	Work Light	Park Light	Instrument Light	Emergency Light
LIGHTS (CONTINUED)			BRAKES		
Dome Light		Brake	Parking Brake	Hand Brake Engaged	Hand Brake Disengage
CLIMATE CONTROL					
Heater	Air Conditioning	Ventilating Fan	Outside Air Circulation	Inside Air Circulation	Temperature Hot
CLIMATE CONTROL (CONTINUED)			WINDOWS		
Temperature Cold		Windshield Wiper	Windshield Washer	Washer and Wiper	Windshield Defroster



Driver's seat

The driver's seat is available in the following configuration:

- AEROMAT SEAT MAXIMO MSG 95 A with air suspension and multi-functional armrests.

Comment: As a result of the drivers' seats being further developed, the position of the adjustment elements may vary slightly from that shown. Your DEUTZ-FAHR dealer will be only too pleased to advise you of such cases.

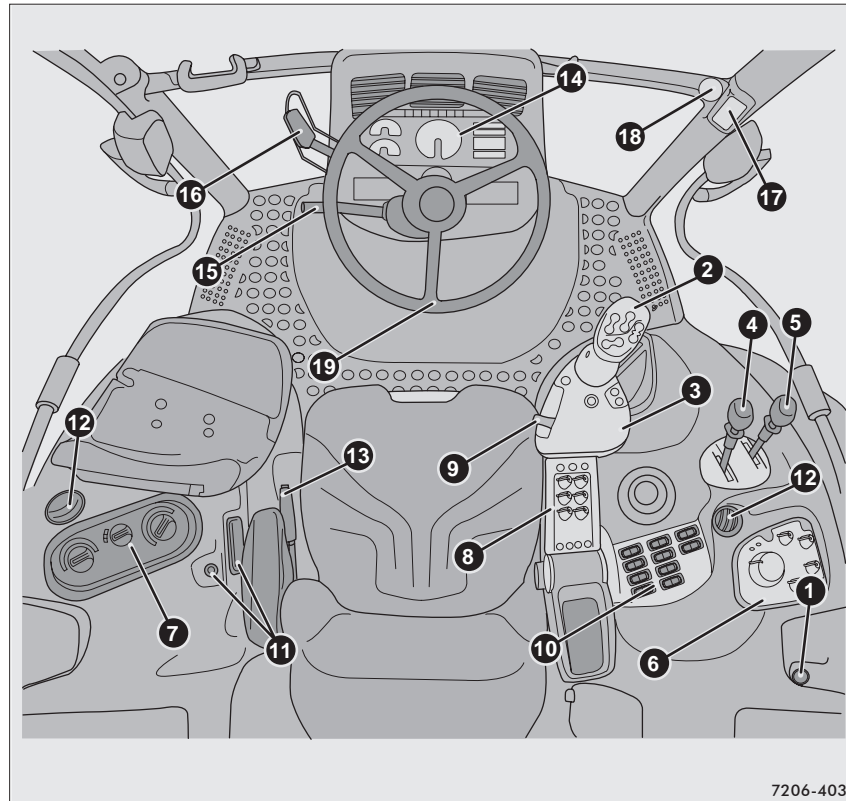
Safety instructions

- To avoid doing damage to your back, before starting up the vehicle and whenever drivers change over, the seat's weight setting should always be set to the individual weight of the driver.
- To avoid injury, objects must not be stored in the area within which the driver's seat swings.
- Before starting up the vehicle, to avoid the risk of accidents, you should always check that all the adjustment mechanisms are snapped in correctly.
- The adjustment fixtures of the driver's seat must not be adjusted during operations.
- Seat belts must be fastened before the vehicle is started up. The seat belts must be replaced if they have been involved in an accident. If the seat belts are fitted to the driver's seat, the driver's seat and driver's seat mounting must also be checked by experts if involved in an accident.
- Screw connections should be checked regularly to ensure that they are tight. If the seat mounting wobbles, this may indicate loose screw connections or other defects. If irregularities are established in the seat function (e.g. regarding the seat's springs), contact a specialist workshop immediately to rectify the cause. Non-compliance with this instruction will result in you putting your health at risk and the increased risk of accidents.



DANGER: NEVER ADJUST THE SEAT WHILE THE TRACTOR IS IN MOTION!

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**Cab overview**

- | | |
|---|--------------------------------------|
| 1 = Ignition switch | 12 = External air control |
| 2 = Multifunction control | 13 = Handbrake |
| 3 = Armrest | 14 = INFOCENTER |
| 4 = PTO 540/1000 control | 15 = Multifunction switch |
| 5 = PTO norm/eco control | 16 = Shuttle lever* |
| 6 = Rear power lift control panel | 17 = Transmission display |
| 7 = Heater/Air conditioning system | 18 = Compressed air pressure gauge * |
| 8 = Control panel on the multifunction armrest | 19 = Steering wheel |
| 9 = Hand throttle | |
| 10 = Electrical controls located to the right of the driver | |
| 11 = Ashtray and cigar lighter | |



Check and warning lights

Green function lights



Left direction indicators of the tractor



Right direction indicators of the tractor



1st trailer direction indicators



2nd trailer direction indicators



Differential lock



4-wheel drive engaged



Front wheel drive suspension device engaged



AUTOMATIC PTO engaged

Blue function lights



High-beam headlights, lamps flashing

Yellow function lights



Engine pre-heating. This indicator light comes on when you turn the ignition key onto 1, showing engine pre-heating. When it then goes out, starting is possible

Red alarm warning lights



The alternator fails to charge.



Insufficient engine oil pressure. Switch off the engine immediately!



General alarm warning light. **Flashing:** alarm does not jeopardize machine operation.

On steady: serious alarm, stop the machine.

At the same time: when the warning light comes on there is also an audible warning. An explanation of the cause of the alarm may appear simultaneously on the on-board display (6 on page 16).



Upon activation, the symbol in the switch comes up for monitoring; the high beams in the front grille are automatically extinguished. They serve as additional high beams during the attachment of front implements. Their function is that of the parking light/low beam/high beam.

With the ignition OFF:

- Lateral clearance lamps and parking light of the auxiliary top headlights * switched on.

With the ignition ON:

- Parking light and low or high beam switched on.
Reversing between high and low beam is done via the multi-purpose switch lever.
Lamp position depending on the version:
- Cab roof, front or
 - Cab access (flashing sidelight)



WARNING: WHEN TRAVELLING ON THE PUBLIC HIGHWAY BY NIGHT WITH THE LOWER HEADLIGHTS OBSCURED BY A FRONT MOUNTED IMPLEMENT, SWITCH ON THE SUPPLEMENTARY HEADLIGHTS.

avv121gb



DANGER: WHEN HANDLING BATTERIES:

- AVOID BREATHING IN FUMES PRODUCED BY THE ACID SOLUTION (IF THE ACID IS ACCIDENTALLY SWALLOWED, DRINK PLENTY OF WATER OR MILK, THEN DRINK BEATEN EGGS OR VEGETAL OIL; SEEK MEDICAL ATTENTION IMMEDIATELY)
- USE THE APPROPRIATE PROCEDURE WHEN CHARGING
- CLEAN ALL PARTS WHERE ACID SOLUTION MIGHT HAVE SPILLED. IF IT SPILLS ON THE HANDS, NEUTRALIZE IT WITH HYDRATED LIME OR SODIUM BICARBONATE. IF IT HITS THE EYES, RINSE REPEATEDLY FOR 10-15 MINUTES, THEN SEEK MEDICAL ATTENTION IMMEDIATELY.

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Transmission ratio

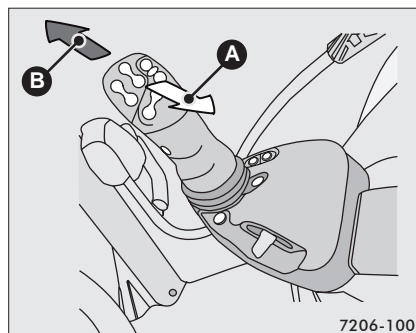
The transmission ratio is selected by the driver using the multifunction lever. Move the lever forward to increase the ratio and the tractor will accelerate.

Pull the lever back to decrease the ratio and the tractor will decelerate.

The extent to which the transmission ratio is shifted up or down will depend on how long the driver holds the lever in the forward or back position.

If the lever is operated just briefly, there will only be a minimal shift in the transmission ratio. Consequently there will only be a small change in the tractor speed. If the multifunction lever is operated for a longer period of time, the shift in transmission ratio will be that much greater, and the change in tractor speed will consequently be more marked.

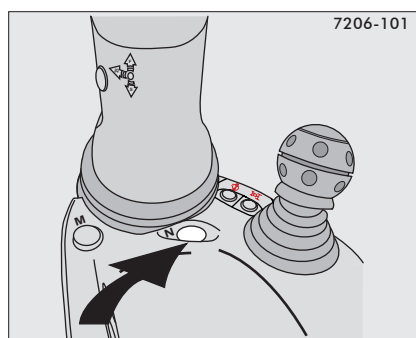
Warning: in both forward and reverse drive, the tractor will accelerate when the multifunction lever is pushed forwards. In the same way, in both forward and reverse drive, the tractor will decelerate when the multifunction lever is pulled back!



A: slower B: faster

«NEUTRAL» transmission control

Pressing the N button puts the transmission into neutral. This button functions in all transmission modes.



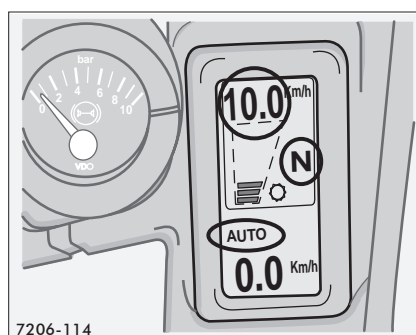
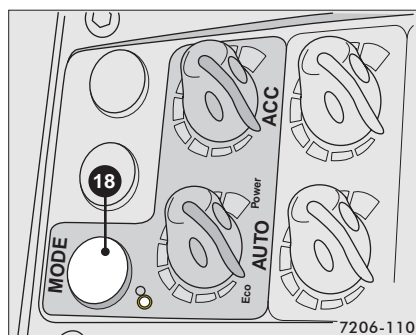


Use of the different transmission modes - Automatic mode

Mode selection

Before selecting automatic operating mode, the transmission must be put in NEUTRAL.

To select automatic operating mode, press button «18» until «AUTO» appears on the transmission display. The default transmission ratio setting allows a speed of 10 km/h (6.21 mph) to be attained at maximum engine speed.



WARNING: PULLING THE MULTIFUNCTION LEVER BACK FOR TOO LONG AND THUS GREATLY REDUCING THE GEAR RATIO IN THRUST MODE (E.G. DECELERATION WITH TRAILER) CAN, ABOVE ALL IN THE LOW SPEED RANGE, CAUSE WHEELSLIP OF THE REAR DRIVE WHEELS (DANGER OF SKIDDING).

avv181gb



WARNING: IN WINTER OPERATION, DURING JOURNEYS WITH A HEAVY LOAD OR ON VERY SLIPPERY GROUND, IT IS RECOMMENDED THAT ACCELERATION IS SET TO THE MINIMUM SETTING (=LEFT-HAND STOP). OTHERWISE TOO RAPID ACCELERATING OR DECELERATING CAN CAUSE A DANGER OF SKIDDING.

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**PTO operation in auto mode**

If the power take-off is switched on during speeds of up to 15 km/h (9.32 mph) or when the tractor is at a standstill, then the system automatically switches over to PTO mode. Consequently there is the possibility of pre-setting the desired engine speed with the hand throttle lever or the engine speed storage, to maintain constant PTO speeds (see page 129).

As soon as the PTO shaft is switched off again, the tractor is again in auto mode. However, for safety reasons, the hand throttle (= accelerator function) is disabled until it is returned to the neutral position by the driver.

If the PTO shaft is switched on at speeds of more than 15 km/h (9.32 mph), then the gears remain in auto mode and the driver has no control over the engine speed and consequently the PTO shaft speed. This is especially sensible if the PTO shaft is required during road transportation (manure spreaders, for example).



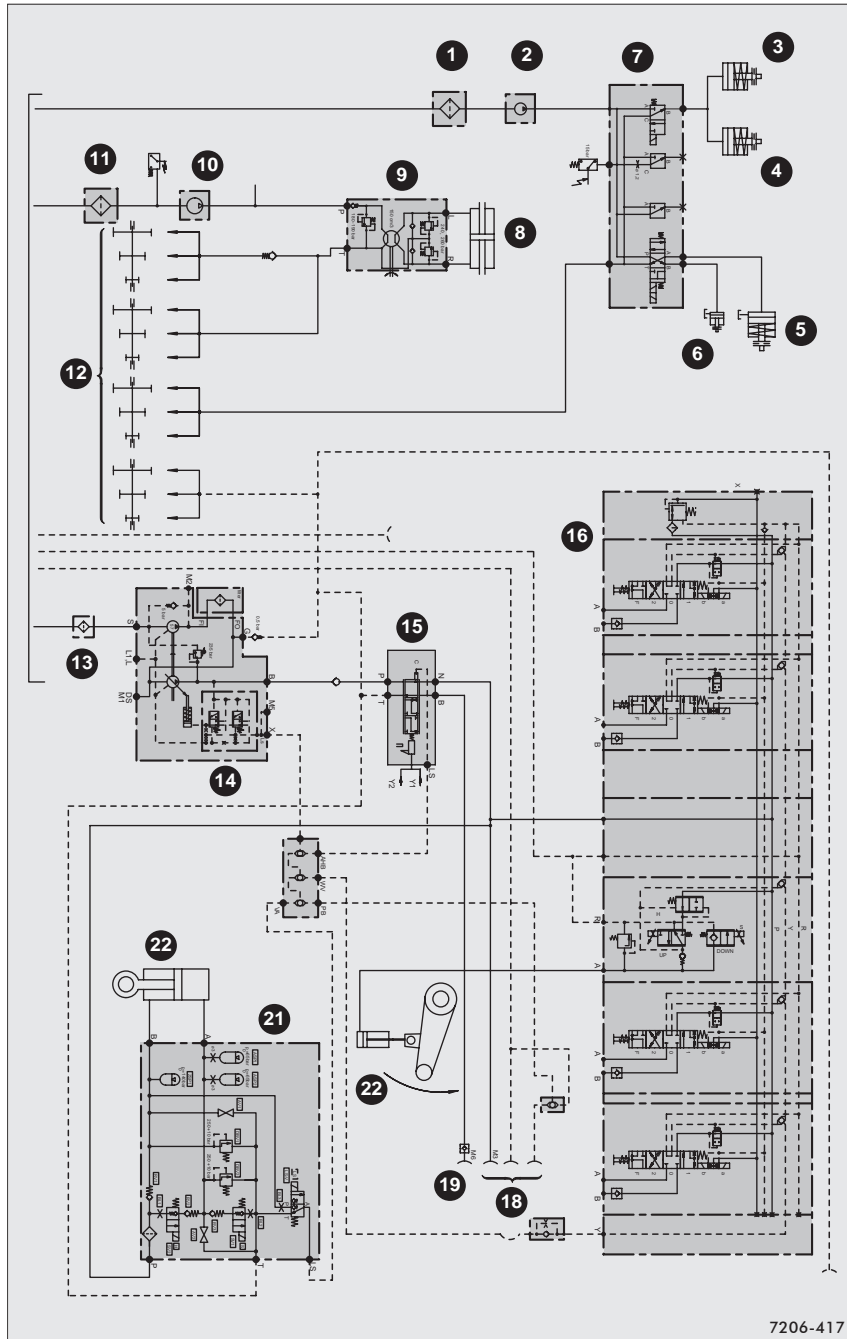
WARNING: WHEN THE NATURAL RETARDATION IS REDUCED, THE TRACTOR MAY NOT NECESSARILY BE ABLE TO COME TO A HALT BY ITSELF WHEN THE ACCELERATOR IS RELEASED WITHOUT THE SERVICE BRAKE BEING ACTIVATED. TO BRING THE TRACTOR TO A HALT, THE SERVICE BRAKE SHOULD ALWAYS BE ACTIVATED AT THE SAME TIME.

avv195gb



WARNING: OPENING THE MAIN COUPLING ON RISING AND FALLING SLOPES CAN BRIEFLY CAUSE UNEXPECTED MOVEMENTS OF THE TRACTOR. THIS MODE SHOULD THEREFORE ONLY BE USED ON LEVEL GROUND, TO PREVENT DANGER TO PERSONS AND MATERIAL.

avv188gb



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Remote couplers rear and front *

Connect consumers correctly

Generally, couple up single- and double-acting cylinders so that the correct shifting sequence – Raising – Neutral – Lowering – Floating – is kept.

NOTE: Only connect implements with hydraulic hoses that meet ISO 7241 requirements to the POWERBEYOND* (P; LS; R) couplers.



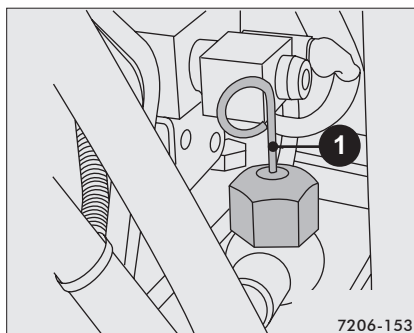


CAUTION: Before connecting implement hoses to the service couplers, stop the engine and check that the connection fittings are clean. After having connected the hoses and started the engine, check that the hydraulic system is functioning correctly.

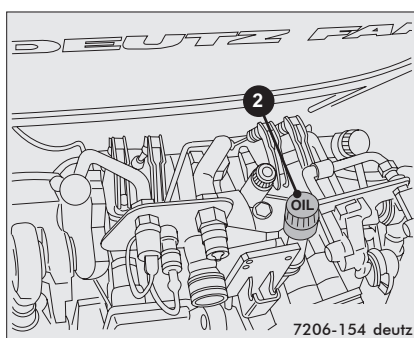
Then, after having operated the cylinders a few times to equalise the pressure (moving the control lever to the lowering position, then to the lifting position and then back to neutral - or operating the pushbuttons for valves 1 and 2), check the transmission oil level by unscrewing the cap with dipstick on the rear supports, with the cylinders both extended (raising) and retracted (lowering).

The transmission oil should never be allowed to fall below the minimum level (with cylinders extended) and should not ever greatly exceed the maximum level, as the same oil supplies both the external hydraulic services and the transmission.

NOTE: using the tractor with too little oil in the gearbox can cause serious damage.



1 - Checking the transmission oil level



2 - Transmission oil filling



DANGER: FLUIDS THAT ARE UNDER PRESSURE CAN PENETRATE HUMAN TISSUE CAUSING SERIOUS INJURY. IT IS RECOMMENDED TO ALWAYS STOP THE ENGINE AND RELIEVE THE PRESSURE BEFORE CONNECTING OR DISCONNECTING LINES.

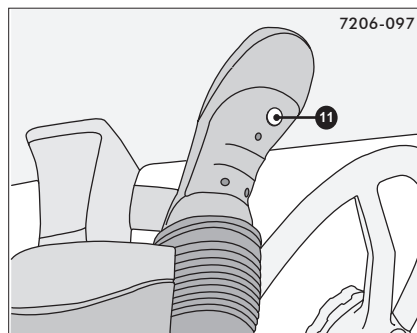
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Programming a command sequence

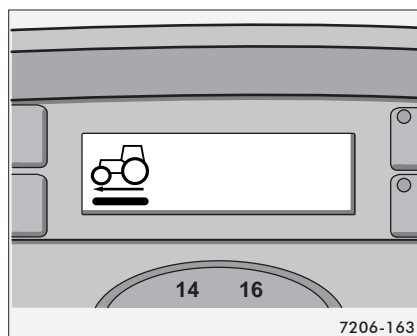
To enter the command sequence programming function, move the multifunction lever to the left while simultaneously holding the Enable button **11** pressed for at least 3 seconds.

A buzzer will sound to signal that you have entered the programming function.



Now perform the sequence of commands you wish to program (operating each individual control in turn).

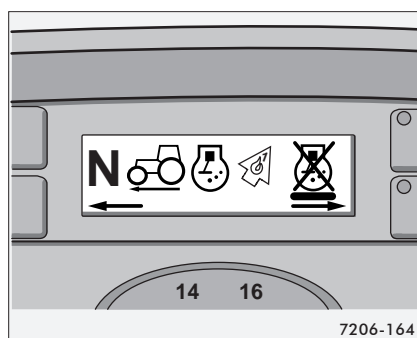
The chosen functions are displayed on the Infocenter, from left to right, (see **6** on page 16) in the form of icons, in the order in which they were programmed.



The user can program a sequence of up to 16 commands, which may be chosen from the total of 26 possible commands recognised by the system (see page 103).

The Infocenter can only display a maximum of 5 icons at a time. If the programmed sequence requires more than 5 icons, the presence of additional icons is indicated by arrows.

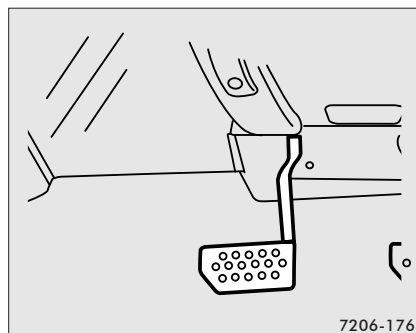
The programming operation will terminate automatically after 16 commands have been set (maximum number of commands in one sequence) or on pressing the Enable button and moving the multifunction lever briefly to the left.





Main clutch

To operate the clutch fully depress pedal. For starting slowly release pedal.



CAUTION: AVOID KEEPING THE CLUTCH PEDAL DEPRESSED WHEN THE TRACTOR IS STATIONARY. SELECT NEUTRAL, EVEN WHEN STOPPING FOR BRIEF PERIODS.

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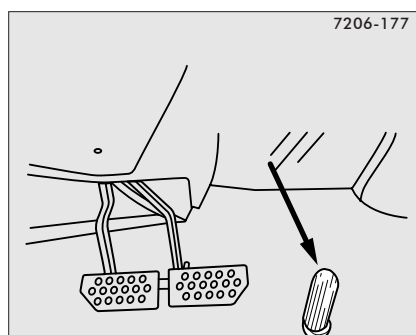


CAUTION: DO NOT REST YOUR FOOT ON CLUTCH PEDAL OR PARTIALLY DEPRESS CLUTCH PEDAL. PREMATURE CLUTCH WEAR WILL RESULT.

avv021gb

Accelerator pedal

For on-road tractor operation and working at variable speeds.





Moving off

If the tractor is equipped with a trailer air braking system *, wait until the air pressure in the braking circuit has reached the correct operating pressure.

Select the drive direction and select the required transmission operating mode (automatic, PTO or manual).

NOTE: in low ambient temperatures, to ensure correct operation of the hydraulic systems, after starting the engine, wait with the tractor stationary for about 10 minutes to allow the transmission oil to reach operating temperature. A safety system will in any case inhibit movement of the tractor if the oil temperature is below -7°C (44.6°F).

On starting the engine, the transmission is always in automatic mode. In this mode, the gear is changed using the multifunction control lever; push the lever forward to shift up or pull it back to shift down.

Only brief pressure is required on the control lever to change up or down through the ratios. Alternatively you can apply pressure for longer on the lever to shift up or down through more ratios at a time.

To work with the transmission in PTO or manual mode, operate the multifunction control lever as described on page 50.

Once the engine speed has been selected (see specific heading), the accelerator pedal controls the speed of the vehicle by changing the transmission ratio, starting from zero up to the selected top speed shown at the top of the transmission display.



WARNING: REDUCE YOUR SPEED, ENGAGING A LOWER GEAR, WHEN TRAVEL DOWNHILL OR OVER ROUGH GROUND AND BEFORE TO TURN.

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CAUTION: BY LOW TEMPERATURE, AFTER STARTING KEEP THE ENGINE NOT ABOVE 1800 REV/MIN, UNTIL IT HAS REACHED THE NORMAL WORKING TEMPERATURE.

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NOTE: When working on steep gradients, take care to ensure that all moving parts receive adequate lubrication.

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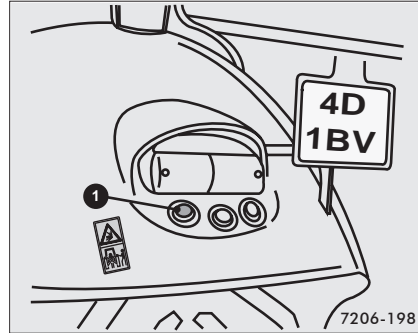
External operation of rear P.T.O.

To engage the rear PTO when standing on the ground alongside the tractor, press button 1 located on the RH or LH rear fender for more than 3 seconds.

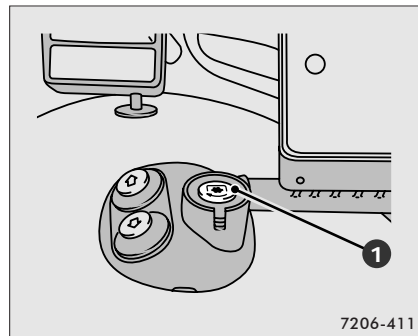
If button 1 is pressed for less than 3 seconds the PTO is engaged immediately, but is disengaged on releasing the button.

To disengage the rear PTO when standing on the ground alongside the tractor press button 1 located on the RH or LH rear fender.

The PTO is also disengaged when button 1 is pressed for more than 10 seconds.



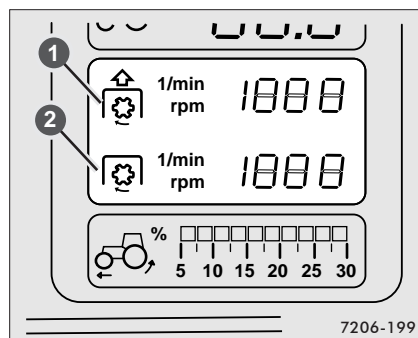
version with wide fenders



version with standard fenders

PT.O. type and speed are indicated in the INFOCENTER.

- 1 = Indication front P.T.O. speed
- 2 = Indication rear P.T.O. speed

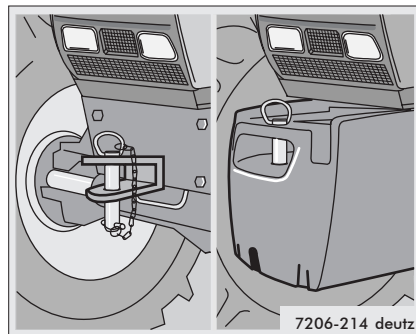


Front towing and manoeuvring hitch

The front towing and manoeuvring hitch is provided for manoeuvring jobs and for towing the tractor. Do not use for heavy traction work. Use the towing devices at the rear of the vehicle for heavy traction work. Use only tested linkages of sufficient strength for manoeuvring and towing. Connecting pins must be secured against loss. Observe country-specific regulations.

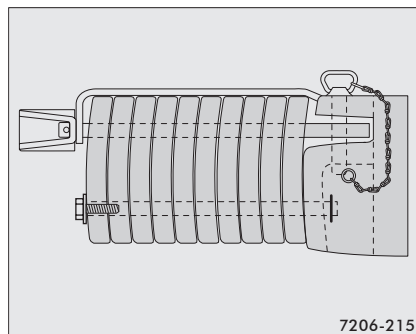
Front towing and manoeuvring hitch with bolt

For tractors without ballast carrier.
For towing and manoeuvring works.
Only use original bolts.



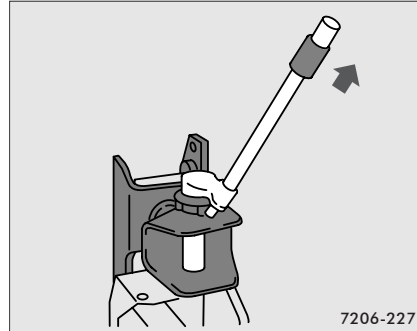
Front towing and manoeuvring hitch with ballast carrier and ballast weights *

The towing and manoeuvring hitch can be integrated and is arranged between the weights.
For towing and manoeuvring works. Only use original bolts.



**Mechanical * trailer hitch**

The trailer hitch serves to couple up heavy or nosing implements and trailers the coupling height of which is above the height of the swinging drawbar.

**Automatic * trailer hitch**

Diameter of the pivot to choice:

- 32 mm (1.26 in)
- 38 mm (1.50 in)

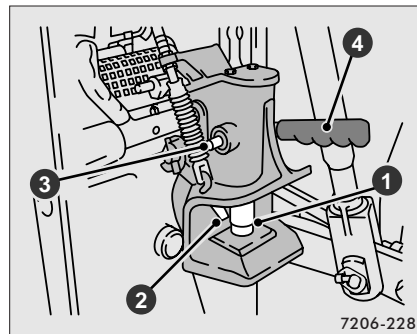
(the 38 mm (1.50 in) pin is also available with a 50 mm (1.97 in) eye)

Automatic coupling:

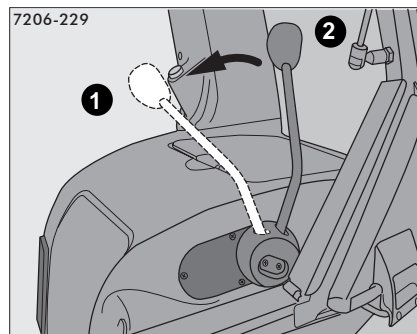
When inserting the trailer coupling hook against the spring-loaded tongue **2**, the coupling pin **1** will couple up automatically.

Manual coupling:

Pull down the coupling lever **4**.
The coupling pin **1** will be released.

**Remote control of automatic trailer hitch ***

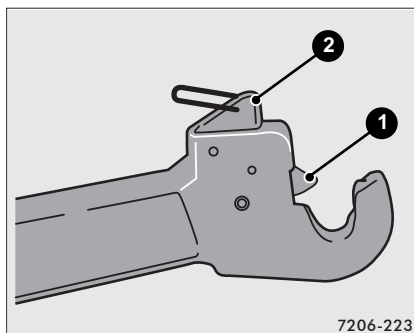
To open the trailer hitch clevis, pull lever inward and move into position **1**, then let lever go. Lever returns automatically into the normal position.



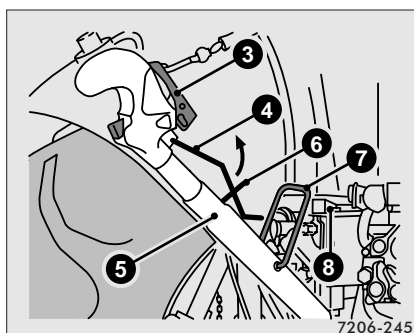
**Removing implements - with rapid-release couplings ***

Ropes must be fitted in the lugs of interlock flaps **2** and **3**.

- Lower implement until safely secured with no residual load on the upper control arm.
- Remove upper control arm by pulling interlock flap **3** up and off implement.
- Attach upper control arm and bracket **7** in support **8**.



- Pull up interlock flap **2** of towbar / arrester hook on lower control arms, fold back and attach – towbar / arrester hook unlocked.
- Further lower front powerlift and slowly move tractor forwards



WARNING: DO NOT REMOVE OR OBSCURE DANGER, WARNING, CAUTION OR INSTRUCTION DECALS. REPLACE ANY DANGER, WARNING, CAUTION OR INSTRUCTION DECALS THAT ARE NOT READABLE OR ARE MISSING. REPLACEMENT DECALS ARE AVAILABLE FROM YOUR DEALER IN THE EVENT OF LOSS OR DAMAGE. THE ACTUAL LOCATION AND ORDERING CODE OF THESE SAFETY DECALS IS ILLUSTRATED AT THE END OF THIS SECTION. WHEN YOU REPLACE A PART THAT CARRIES A SAFETY LABEL, MAKE SURE THAT THE SAME LABEL IS APPLIED TO THE NEW PART. DO NOT USE FUEL OR SOLVENTS ETC. TO CLEAN SAFETY LABELS. USE A CLEAN CLOTH DAMPED IN SOAPY WATER.

avv147gb

**Air conditioning system**

The air conditioning system operates with R134a refrigerant (ecological)

The refrigerant circulates in a closed pressurised circuit.

Under no circumstances must the user open the refrigerant circuit.

- Under no circumstances must the user open the refrigerant circuit.
- To obtain maximum efficiency from the system, close all the windows.
- The temperature of the air inside the cab should not be more than 6-8°C (42.8-46.4°F) below the outside air temperature.
- With greater temperature differences there is a risk of physical discomfort.
- If the system does not seem to be operating efficiently, contact a specialist service centre.
- All servicing of the air conditioning system must only be carried out by specially trained personnel.



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

avv088gb



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: ONLY USE THE PROTECTIVE COOLING SYSTEM AGENT SPECIFIED BY THE MANUFACTURER. THIS CAN BE ORDERED FROM SAME DEUTZ-FAHR OR FROM DEUTZ AG. THE PROTECTIVE COOLING SYSTEM AGENT SHOULD BE USED ALL YEAR ROUND AT THE SPECIFIED CONCENTRATION.

avv138gb

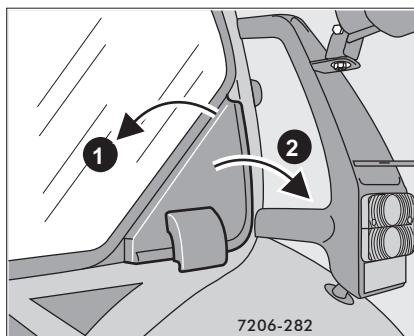
**Instrument introduction flap**

To open the instrument introduction flap, open rear window.

Turn yoke **1**.

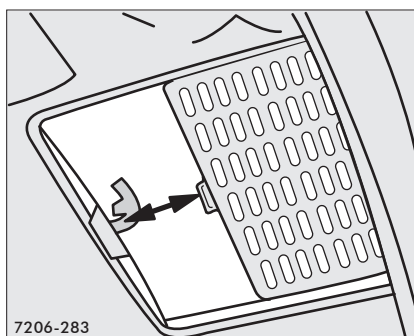
Fold instrument introduction flap **2** backward.

Close rear window again.

**Upper sun visor**

The plastic sun visor serves to avoid excessive heat radiation inside the cab.

Slide the sun visor along the guides to adjust to the required position.



CAUTION: IT IS IMPORTANT TO ALWAYS HAVE FIRST-AID EQUIPMENT READ-ILY AVAILABLE:

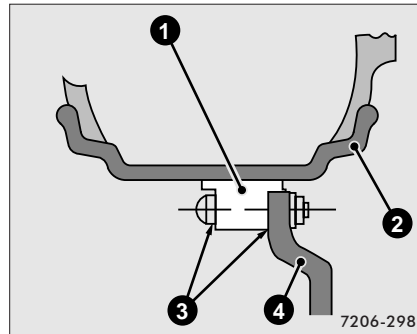
- **FIRST-AID KIT WITH MEDICAMENTS;**
- **FIRE EXTINGUISHER;**
- **EMERGENCY TELEPHONE NUMBERS ON HAND (DOCTOR, HOSPITAL, AMBULANCE, FIREMEN).**

avv018gb

**Adjustable track wheels**

- 1 = Bracket
- 2 = Rim
- 3 = Bracket thickness
- 4 = Wheel disc

The support bracket **1** on the rim **2** is fixed offset with respect to the centreline of the rim (and therefore with respect to the tyre too).



During fitting, the bracket can be fitted in contact with the wheel disc **4** on both sides.

This allows for two different track widths.

Two more track widths can be achieved by turning round the rim **2** relative to the wheel disc **4**.

This means that there are 4 possible ways of fitting the rim **1** to the wheel disc **4**.

If you then fit the assembled wheel on to the hub (or rear half-shaft) with the bell facing inside or outside you can actually achieve 8 different configurations (see the figures on pages 197 and 198) for distance between the centreline of the wheel and the contact surface on the wheel hub or half-shaft flange. There are therefore 8 possible track widths.

**WARNING:**

SERIOUS INJURY OR DEATH MAY RESULT FROM:

EXPLOSION OF TIRE/RIM/WHEEL ASSEMBLY DUE TO IMPROPER MOUNTING – NEVER EXCEED 35 PSI (2.41 BAR) (AIR PRESSURE) WHEN SEATING BEADS. – ALWAYS USE SAFETY CAGE OR OTHER RESTRAINING DEVICE AND CLIP-ON EXTENSION HOSE. ONLY SPECIALLY TRAINED PERSONS SHOULD MOUNT TIRES.

TIRE FAILURE DUE TO MISAPPLICATION/IMPROPER INFLATION/ OVERLOADING/EXCEEDING MAXIMUM SPEED – FOLLOW TIRE MANUFACTURER'S INSTRUCTIONS. CHECK INFLATION PRESSURE FREQUENTLY WITH GAUGE.

EXPLOSION OF THE TIRE/RIM/WHEEL ASSEMBLY DUE TO WELDING THE RIM WITHOUT FIRST REMOVING THE TIRE – NEVER REWORK, WELD, HEAT OR BRAZE THE RIM OF A TIRE/RIM/WHEEL ASSEMBLY.

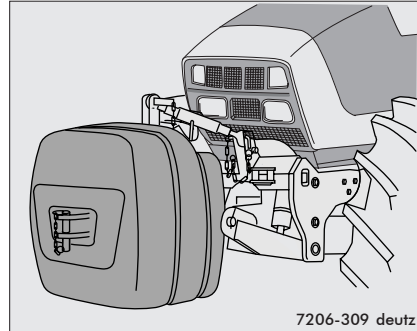
avv132gb

**Front ballast for front hydraulic lift**

One-piece concrete ballast for tractors equipped with front lift.

Total weight of ballast: 600 Kg
(1322.76 lb)

Total weight of ballast: 1000 Kg
(2204.60 lb)

**Rear ballast**

The concrete ballast weight can also be used for the rear powerlift.

Other forms of ballast

Note: observe any country-specific specifications. If necessary, contact your dealer for more details. When filling water, mix with calcium chloride. Ballast weights on the rims are not provided for this tractor.



WARNING: AN UNBALANCED TRACTOR COULD OVERTURN AND CAUSE INJURY OR DEATH. MAKE SURE FRONT FRAME COUNTERWEIGHTS, WHEEL WEIGHTS AND WHEEL BALLAST ARE USED AS RECOMMENDED BY THE MANUFACTURER. DO NOT ADD EXTRA COUNTERWEIGHTS TO COMPENSATE FOR AN OVERLOADED TRACTOR, IT IS RECOMMENDED TO REDUCE THE LOAD. KEEP ALL PARTS OF YOUR BODY INSIDE THE OPERATOR'S COMPARTMENT WHILE OPERATING THE TRACTOR.

avv150gb



CAUTION: ALWAYS WEAR CLOTHING SUITABLE FOR THE TYPE OF WORK TO BE PERFORMED. IF NECESSARY, USE HEARING PROTECTION PLUGS AND WEAR EYE PROTECTION.

avv090gb



DANGER: TAKE CARE NOT TO CAUSE DANGEROUS SPARKS WHEN WORKING IN PROXIMITY TO FUEL DEPOSITS OR OTHER FLAMMABLE MATERIAL.

avv042gb



CAUTION: DISCONNECT THE BATTERY CABLES, BEFORE TO VERIFY OR REPAIR THE ELECTRICAL WIRING OR BEFORE TO START WELDING OPERATIONS ON TRACTOR OR ON ATTACHED IMPLEMENTS.

avv043gb



CAUTION: IT IS IMPORTANT TO ALWAYS HAVE FIRST-AID EQUIPMENT READ-ILY AVAILABLE:

- FIRST-AID KIT WITH MEDICAMENTS;
- FIRE EXTINGUISHER;
- EMERGENCY TELEPHONE NUMBERS ON HAND (DOCTOR, HOSPITAL, AMBULANCE, FIREMEN).

avv018gb

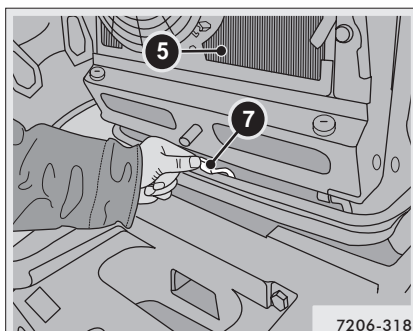
NOTE: Always switch off the engine before checking or replacing fuses and relays.

NOTE: Only use original fuses. The electrical system could be irreparably damaged by fitting an unsuitable fuse.

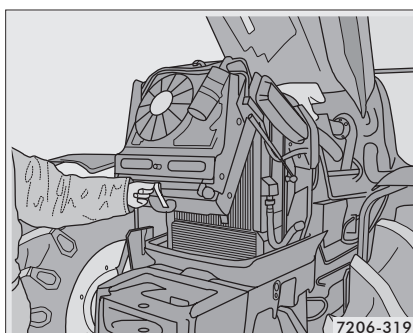


Cleaning the gearbox oil and fuel coolers and the engine radiator

For cleaning of the air conditioning condenser **5** see page 262.
To clean the coolers and the radiator, remove the safety clips **11**, move the release/lock lever **7** sideways then pull it upwards to raise the air conditioning condenser and the intercooler to the maximum height allowed by the two dampers **10**.



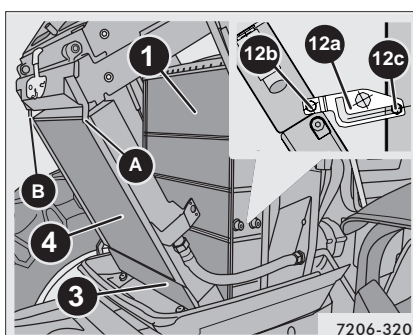
Now loosen screw **12b**, raise bracket **12a** (located on the front left side of the tractor) and move forward the coolers **3** and **4** (fuel cooler and gearbox oil cooler) to the point determined by screw **12c**. At the same time the gearbox oil cooler **4** will come to rest against the brackets **A** and **B** located at the base of the intercooler.



Clean using a compressed air jet and, if necessary, a steam or water jet (do not exceed a pressure of 6.0 bar/87.02 psi).

If you also wish to clean the engine at the same time, cover and protect the air cleaner, the alternator and the starter motor.

After cleaning, replace all the parts by following the steps of the procedure above in reverse order. Start the engine and run it for a few minutes to dry off any wet components.



**Engine coolant****Water quality**

The values stated below must not be exceeded.

Water quality	min.		max.	
	l	U.S. gal	l	U.S. gal
pH-value at 20°C (68°F)	6.5	1.72	8.5	2.24
Content of chloride ions (mg /dm ³)	–	–	100	26.4
Content of sulfate ions (mg /dm ³)	–	–	100	26.4
Total hardness (°dGH)	3	0.79	12	3.17

Liquid-cooled engines require that the coolant is prepared and controlled with special care, as otherwise premature engine damage due to corrosion, cavitation and freezing may occur.

The coolant is prepared by adding antifreeze to the cooling water.

The cooling system requires steady checking. In addition to the coolant liquid level checks this also includes a regular check of the antifreeze concentration in the cooling water.

To check the antifreeze concentration commercial testing equipment (for example: gefo glycomat®) may be used.

The Original-DEUTZ-FAHR cooler antifreeze (free of nitrite, amine and phosphate) effectively protects the cooling system against corrosion, cavitation and freezing.

The percentage of antifreeze in the coolant must be as specified below for the various temperatures:



WARNING: DO NOT REMOVE RADIATOR CAP WHILE ENGINE IS HOT. RADIATOR IS PRESSURIZED AND IF OPENED WHILE HOT, STEAM AND BOILING LIQUID WILL BE SPRAYED OUT, WHICH MAY INJURY YOU AND OTHERS WHICH MAY BE CLOSE BY. THERE CAN ALSO BE A EXCESSIVE AMOUNT OF COOLANT LOSS.

avv162gb



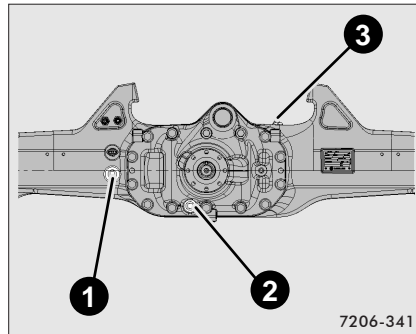
WARNING: ONLY USE THE PROTECTIVE COOLING SYSTEM AGENT SPECIFIED BY THE MANUFACTURER. THIS CAN BE ORDERED FROM SAME DEUTZ-FAHR OR FROM DEUTZ AG. THE PROTECTIVE COOLING SYSTEM AGENT SHOULD BE USED ALL YEAR ROUND AT THE SPECIFIED CONCENTRATION.

avv138gb

**Checking and changing the front axle oil**

CAUTION: perform all oil drain, filling and checking operations with the axle perfectly horizontal.

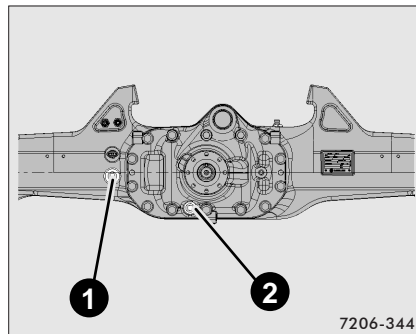
DANGER: risk of violent expulsion of high pressure jets of oil: follow all the safety procedures specified in this manual and by the axle manufacturer.

**- Oil drain**

To drain the oil from the central housing, first unscrew level plug **1** and then drain plug **2**.

Drain off all the oil.

Clean plug **2** and tighten to the required torque (60 Nm - 44.28 lbf ft).

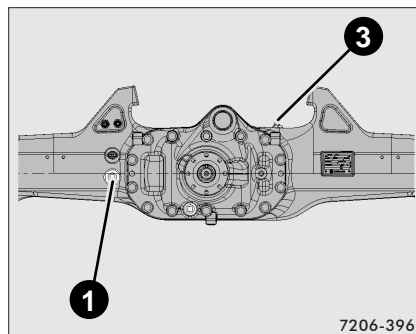
**- Filling**

Always loosen breather **3** to eliminate any internal pressure.

Unscrew oil filler plug **1** and fill with prescribed oil until the oil reaches the lower rim of the level hole.

Wait for the oil to flow through the axle then check the oil level again and top up if necessary.

Tighten plug **1** to the prescribed torque (60 Nm - 44.28 lbf ft).



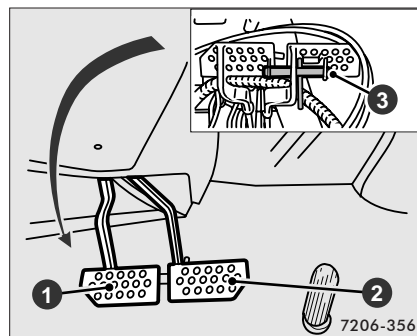


Brakes system maintenance

For reasons of safety in public road traffic, it is absolutely necessary to have the function of all brake systems checked most thoroughly at regular intervals. This kind of work is required to be carried out at a DEUTZ-FAHR service workshop. Adjusting and repair work on parking (hand) and service (foot) brake systems must be left to a DEUTZ-FAHR dealership or an authorized brake servicing shop. Only genuine DEUTZ-FAHR replacement brake linings shall be used, in order to maintain the vehicle's operating license and the manufacturer's product liability.

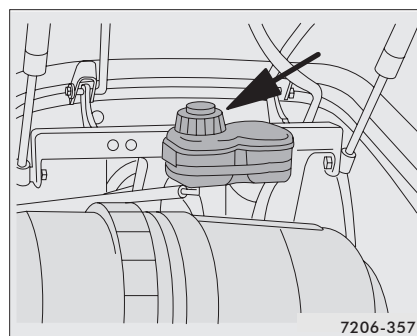
Checking the service brake

Daily before your start work or move off check service brake for proper function and braking effect.



Checking brake fluid for service brake and main clutch

Check the brake fluid level periodically.
The oil level should be up to the "max" mark; if not, top up.
Type of oil to use: see page 216.





WARNING: FOR WHEELS DISASSEMBLING AND FOR MAINTENANCE AND REPAIR, LIFT THE TRACTOR, USING SPECIFIC TOOLS ONLY.

avv047gb



CAUTION: APPLY THE PARKING BRAKE AFTER THE ENGINE HAS STOPPED AND BEFORE LEAVING THE TRACTOR.

avv017gb



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

avv088gb



WARNING: DO NOT REMOVE OR OBSCURE DANGER, WARNING, CAUTION OR INSTRUCTION DECALS. REPLACE ANY DANGER, WARNING, CAUTION OR INSTRUCTION DECALS THAT ARE NOT READABLE OR ARE MISSING. REPLACEMENT DECALS ARE AVAILABLE FROM YOUR DEALER IN THE EVENT OF LOSS OR DAMAGE. THE ACTUAL LOCATION AND ORDERING CODE OF THESE SAFETY DECALS IS ILLUSTRATED AT THE END OF THIS SECTION. WHEN YOU REPLACE A PART THAT CARRIES A SAFETY LABEL, MAKE SURE THAT THE SAME LABEL IS APPLIED TO THE NEW PART. DO NOT USE FUEL OR SOLVENTS ETC. TO CLEAN SAFETY LABELS. USE A CLEAN CLOTH DAMPED IN SOAPY WATER.

avv147gb

**Relay assignment**

- 1 = Diagnosis plug
- RL 1 = Terminal 15; 40A
- RL 2 = Worklights rear; 40A
- RL 3 = Worklights front; 40A
- RL 4 = Interval wiper front; 10A
- RL 5 = Parking light; 10A
- RL 6 = Reversing low beam bottom/top; 10A
- RL 7 = Low beam; 10A
- RL 8 = Brake light; 10A
- RL 9 = Solenoid valve 4-WD; 10A
- RL 10 = High beam; 10A
- RL 11 = Reversing high beam bottom/top; 10A
- RL 14 = Direction indicator, hazard flashlight; 10A
- RL 00 = Solenoid switch at starter; 70A
- RL 99 = Fan blower stage 4; 70A
- RL100 = Additional fan for air-conditioning condenser; 70 A

NOTE: Always switch off the engine before checking or replacing fuses and relays.

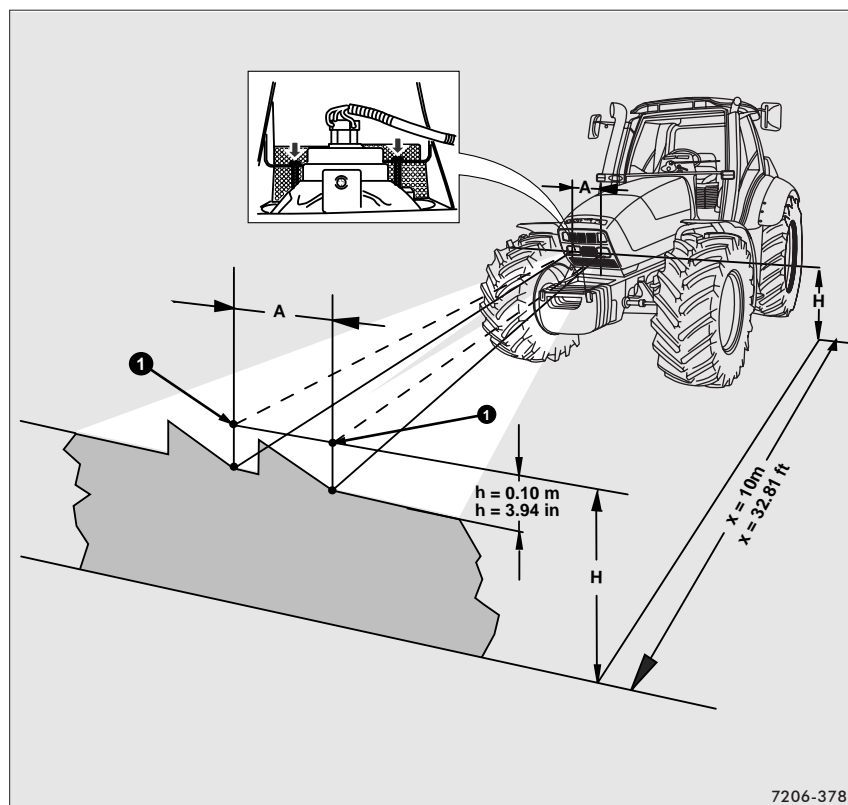
**DANGER: WHEN HANDLING BATTERIES:**

- AVOID BREATHING IN FUMES PRODUCED BY THE ACID SOLUTION (IF THE ACID IS ACCIDENTALLY SWALLOWED, DRINK PLENTY OF WATER OR MILK, THEN DRINK BEATEN EGGS OR VEGETAL OIL; SEEK MEDICAL ATTENTION IMMEDIATELY)
- USE THE APPROPRIATE PROCEDURE WHEN CHARGING
- CLEAN ALL PARTS WHERE ACID SOLUTION MIGHT HAVE SPILLED. IF IT SPILLS ON THE HANDS, NEUTRALIZE IT WITH HYDRATED LIME OR SODIUM BICARBONATE. IF IT HITS THE EYES, RINSE REPEATEDLY FOR 10-15 MINUTES, THEN SEEK MEDICAL ATTENTION IMMEDIATELY.

avv119gb

**Key**

- | | |
|--|--|
| 1 - Cigar lighter | 36 - Supplementary outlet socket |
| 2 - Engine control unit | 37 - ISO7 socket (power supply to external equipment) |
| 3 - Cigar lighter | 38 - Supplementary outlet socket |
| 4 - To fuses and relays control unit | 39 - Lift control console |
| 5 - To fuses and relays control unit | 40 - To front instrument panel wiring harness |
| 6 - To fuses and relays control unit | 41 - To lights selector switch wiring loom |
| 7 - Handbrake switch | 42 - ISO socket power (Power supply to external equipment) |
| 8 - Engine control unit | 43 - Hazard warning lights control unit |
| 9 - To air conditioning system wiring loom (Cab) | 44 - Clean Fix control switch (Not utilised) |
| 10 - To air conditioning system wiring loom (Cab) | 45 - To display line wiring loom |
| 11 - Seat pneumatic suspension compressor | 46 - Front PTO pushbutton (in cab) |
| 12 - Diagnostics connector | 47 - To front instrument panel wiring loom |
| 13 - To fuses and relays control unit | 48 - To front instrument panel wiring loom |
| 14 - To roof line wiring loom | 49 - Preheating indicator lamp relay (RL60) |
| 15 - To transmission line wiring loom | 50 - PTO ENABLE command switch |
| 16 - To cab power supply line wiring loom | 51 - Transmission control unit |
| 17 - To transmission line wiring loom | 52 - To fuses and relays control unit |
| 18 - JCG | 53 - To fuses and relays control unit |
| 19 - Front axle | 54 - To fuses and relays control unit |
| 20 - Front axle | 55 - AUTO PTO control switch |
| 21 - Front axle | 56 - Rear PTO pushbutton (in cab) |
| 22 - Power connector | 57 - PTO brake control switch |
| 23 - Heating system power supply fuse (F99-30 Amp) | 58 - Rotating beacon on/off switch |
| 24 - Starter switch | 59 - Rear window wiper switch |
| 25 - JCE - JCF | 60 - Rear worklights switch |
| 26 - To fuses and relays control unit | 61 - Driver seated sensor |
| 27 - To fuses and relays control unit | |
| 28 - To engine line wiring loom | |
| 29 - To front suspension control unit line wiring loom | |
| 30 - Ground | |
| 31 - To front instrument panel wiring loom | |
| 32 - HPSA control unit | |
| 33 - Supplementary outlet socket | |
| 34 - Armrest | |
| 35 - Ground | |

**Headlight alignment**

The tractor must be in normal road-going conditions and parked on a level surface at a distance of 10 m (32.81 ft) from a wall (tyres must be inflated to the correct pressures and the front wheels must be positioned for travel in a straight line).

Switch on the dipped beam headlights.

- 1** - points on the wall corresponding to the centres of the headlights
- A** - distance apart of headlights
- H** - height of headlights
- h** - distance of the centre of the beam from the horizontal axis
- X** - distance between headlights and wall



**Rear power take off**

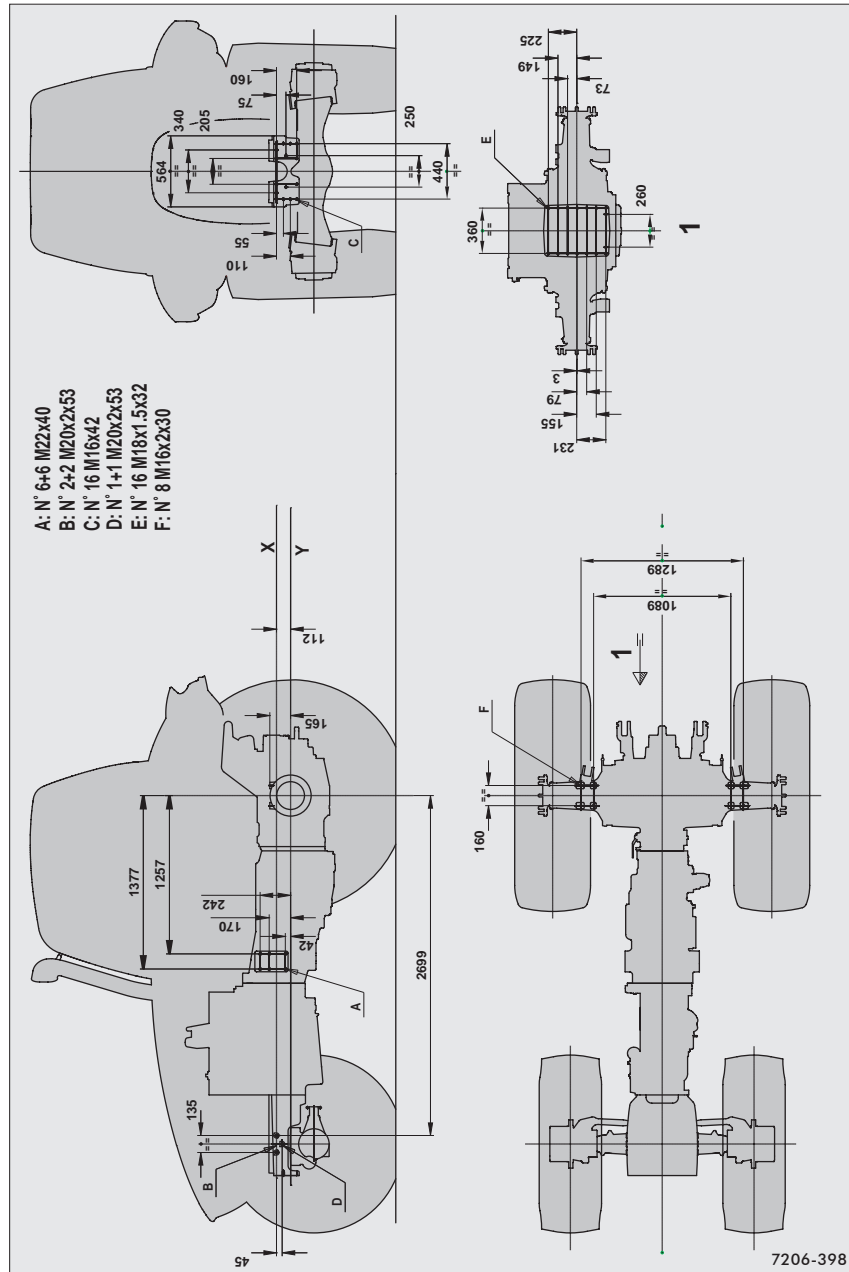
X = Standard O = Optional

Description	AGROTRON	
	TTV 1145	TTV 1160
Clutch	oil-immersed progressive starting	
Control	Electrohydraulic	
Output shaft	Interchangeable	
Profile	1 3/8 with 6 splines 3 3/8 with 21 splines 3 3/4 with 20 splines	
Engine speed		
- 540	rpm	2024
- 1000	rpm	2036
- 540 ECO (750)	rpm	1647
- 1000 ECO (1400)	rpm	1656
Ground control (rear fender)		
- standard fenders		LH side
- wide fenders		LH and RH side

Front Power take Off

X = Standard O = Optional

Description	AGROTRON	
	TTV 1145	TTV 1160
Clutch	oil-immersed progressive starting	
Control	Electrohydraulic	
Output shaft	Interchangeable	
Profile	1 3/8 with 6 splines	
Engine speed		
- 1000	rpm	2130
Maximum transmissible power	CV / Kw	150 / 110
Rotation direction	to the right, in the travel direction	



Attachment points on the AGROTRON TTV with fixed front axle (X=engine axis; Y= rear wheel axis)





Important

Sockets for data transfer and diagnostics

Located on the multifunction console on the right of the driver, there is a 5-pin socket, which, in conjunction with a special tester, allows diagnosis of the entire tractor electronic system.

Furthermore, in the event of a malfunction of a mechanical or hydraulic component, the electronic control unit will signal any alarm conditions relayed from the corresponding sensors or actuators on the performance monitor.





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