CALIFORNIA

**Proposition 65 Warning**

**WARNING:** Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

**WARNING:** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. **Wash hands after handling.**

# *7400 tractor series*

*Models 7465-7475-7480*


AGCO S.A. - Beauvais - France - RC B562 104 539
MASSEY FERGUSON is a worldwide brand of AGCO

Original Operator's Manual

January 2011
No. 4373008M1
Issue 1
7400
Dyna-VT
NA - English

# 7400 tractor series

# 2. Safety instructions and safety points - Warranty

2

# 2.4 General safety instructions

## 2.4.1 Awareness of the safety instructions and symbols

T000880



Remember that you alone are responsible for safety. Good safety practices protect not only you, but also bystanders. Before using the tractor, study the instructions given in this book with care, as well as all of the safety signs and instructions fixed to the tractor. Make them an integral part of your safety procedure. Also note all the usual protective measures which should be taken when working and, above all, don't forget **Safety depends on you You can prevent accidents which could cause serious injury or death.**

***WARNING:***

***In some of the illustrations in this book, the safety panels and guards have been removed for reasons of clarity. Never use the tractor if these parts are not in place. If some of these parts have been removed for repair purposes, they must be refitted before use.***

## 2.4.2 Operator familiarity in the use of the tractor

T000881

- ***WARNING:***

  ***The operator must not drink alcohol or take any medication that may affect his concentration or co-ordination. If taking medication, whether prescribed or not, the operator must seek medical advice with regard to his ability to operate machinery safely.***

  To be able to use your tractor, it is first necessary:
  - to be familiar with operating an agricultural tractor
  - to have been trained in the operation of the tractor that you have just purchased
  - to have read and understood this entire book — always consult the dealer as soon as there is any doubt or lack of understanding *fig. 1*
  - find out about the rules and safety regulations applicable to the work you are doing. Some regulations specify that no one under the age of 16 may operate power machinery, for example. This includes tractors. It is your responsibility to know what these regulations are and to observe them in the operating area or situation. These rules include, but are not limited, to the safety instructions relating to correct operation of the tractor as described in this book.
- Do not allow children or unqualified persons to operate the tractor.
- Do not allow children to use the instructor seat.
- The instructor seat is only intended for short periods of use.

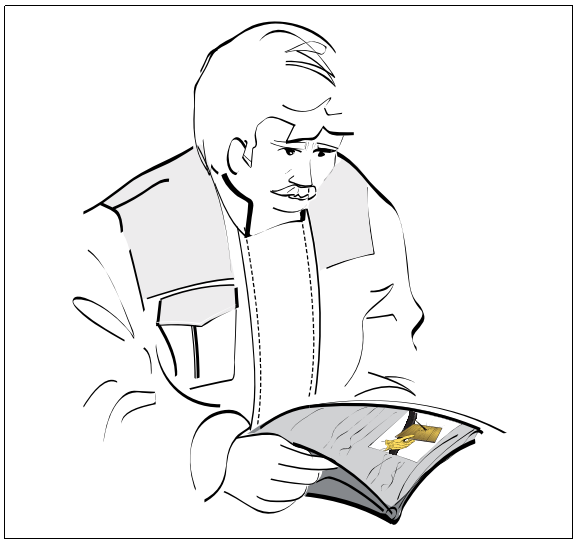


*Fig. 1.* I002903

# 2.7 Specific safety instructions for using the tractor

## 2.7.1 General instructions

T000875



- Tractors and implements are not toys. Always comply with the conditions of use defined by the manufacturers.
- Never exceed the tractor total permissible weight.
- Always consider the way in which the tractor is to be used and the fact that the center of gravity of the tractor/implement assembly changes according to the load being transported or towed.
- ***WARNING:***
  ***An unbalanced tractor could overturn and cause serious injury or death. Ensure that front frame counterweights, wheel weights and wheel ballasts are used as recommended by the manufacturer. Do not add extra counterweights to compensate for an overloaded tractor; the load must be reduced instead.***

  Check to ensure that the tractor is correctly balanced.
- Check that the PTO output speed is in keeping with the implement PTO input speed.
- Keep all parts of your body inside the safety zone defined by the cab or by the protective structure for platform tractors.
- Operate the controls smoothly — do not jerk the steering wheel or other controls.
- Always operate the controls from the operator's seat.
- Keep a firm grip on the steering wheel at all times, with your thumbs clear of the spokes when driving the tractor.
- Operate the tractor smoothly — avoid jerky turns, starts or stops.
- Do not turn at high speed.
- Avoid driving close to ditches and banks.
- Avoid taking slopes that are too steep.
- Reduce speed when negotiating turns and slopes and on rough, slippery or muddy surfaces.
- Carefully observe the areas surrounding the route.
- Ensure you have adequate clearance in all directions for the tractor and the implement.
- When using chemicals, follow the chemical manufacturer's instructions for use, storage and disposal carefully.
- Adapt the tractor speed according to visibility, weather conditions and the type of terrain.
- ***WARNING:***
  ***If a part breaks, loosens or does not operate correctly:***
  - ***stop work***
  - ***turn off the engine***
  - ***check the machine and make the necessary adjustments and repairs before resuming work.***

- ***DANGER:***
  ***Do not attempt to unplug the hydraulic connections or adjust an implement with the engine running or the PTO in operation. To do so may result in serious injury or death.***

# 2.9 Protective structures

## 2.9.1 Protective structures: use and accreditation

T000935



The protective structures (cab, ROPS, seat belts) limit injuries as far as possible in case of an accident or if the tractor overturns.
They meet all applicable standards for agricultural tractors.

## 2.9.2 Cab or ROPS (depending on model)

T000936

- The cab and ROPS have been designed to be suitable for this tractor series.
- Never weld parts onto the cab or ROPS.
- Never bend or straighten the cab or ROPS.
- Never drill or modify the cab or ROPS to fit accessories or implements.
  If other controls or displays have to be fitted in the operator's area, contact your Massey Ferguson dealer to find out what to do.
- Do not attach chains or ropes to the cab or to the ROPS in order to pull or tow anything.
- If the cab or the ROPS has been removed, refit it and tighten the fixings to the specified torque before using the tractor again.
- ***WARNING:***
  ***A cab or ROPS damaged as a result of an accident, overturning or other incident must be replaced before using the tractor again.***

## 2.9.3 Seat belt

T000934

- Wearing the seat belt is an important part of this protection.
- Always wear the seat belt adjusted correctly.

***WARNING:***
***A damaged seat belt must be replaced before using the tractor again.***

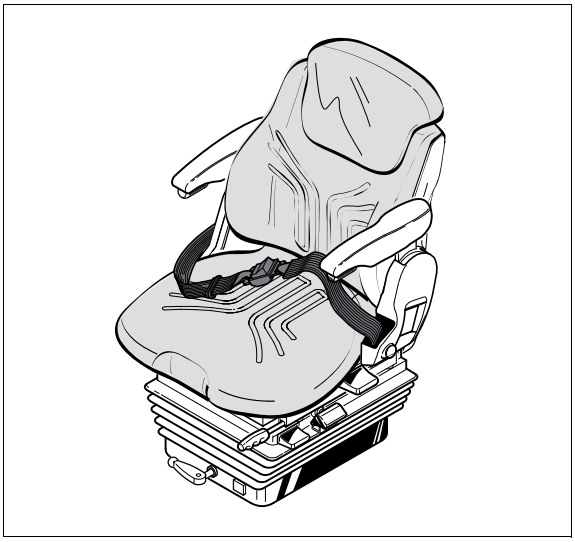


*Fig. 1.* I002857

# 3.1 Cab

## 3.1.1 Steering console

T001633




*Fig. 1.*

I005452

(1) Start switch *fig. 10*
(2) Control unit *fig. 9*
This assembly comprises the direction indicator, windshield wiper, front and rear windshield washer and horn.
(3) Steering wheel adjustment *fig. 12*
(4) DOT Matrix controls
(5) Parameter display selector switch
(6) High beams, sidelight/low beams activation switch
(7) Hazard warning lights switch
(8) Switch for high beams on hand rails (optional)
(9) Direction of travel and reverse shuttle control lever.
(10) Electro-mechanical brake control (ParkLock option).

## Armrest height and tilt adjustment (9)

You can tilt the armrest, raise it towards the rear or adjust its height as required.
To adjust the armrest tilt, turn the notched thumb wheel (A).
To adjust the height of the armrest, the protective disc (B) must first be removed in order to access the adjustment screw.
Then loosen the nut, position the armrest at the required height, retighten the nut and put back the protective disc.

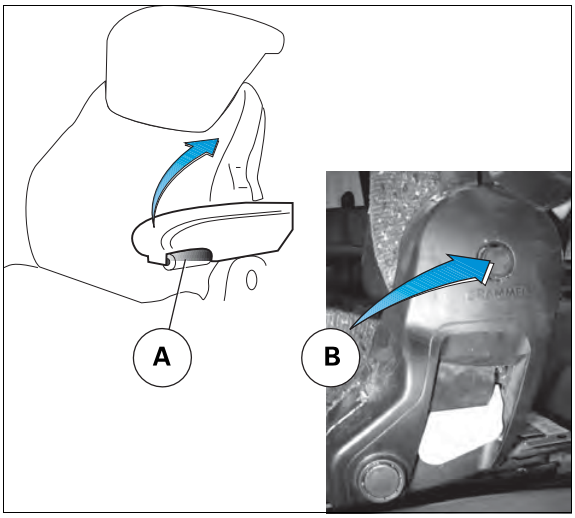



*Fig. 18.* I019049

## Seat damping adjustment (10)

- Position (C) (facing forwards) = soft setting
- Position (D) (facing backwards) = hard setting.

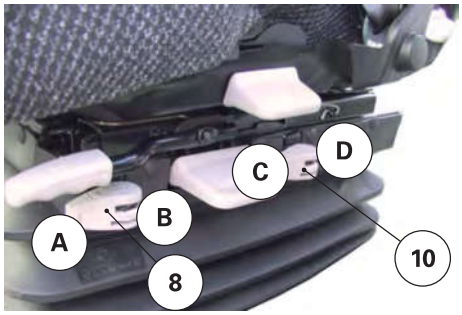



*Fig. 19.* I005364

## Seat tilt adjustment (11)

The seat tilt can be adjusted separately.
Pull on the left-hand button while exerting or releasing pressure on the seat in order to find a comfortable position.

## Seat depth adjustment (12)

The seat depth can be adjusted separately.
Pull on the right-hand knob and move the seat forwards or backwards to find the required position.

## Lumbar support adjustment (13)

Turn the handle to the left or right to adjust the height or depth of the lumbar support or to activate the electrical contactors.

## Seat heater (14)

Press the electrical contactor to start the seat heater.

*Operation at tractor start-up*

All manual actions carried out before the tractor is switched off are stored.

When the tractor is started, these actions are suggested in successive order (with the exception of the defrosting function).

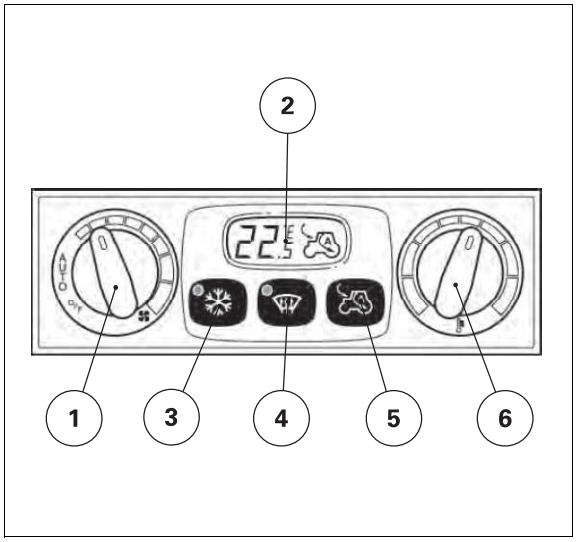



*Fig. 33.* I005374

*Pre-selecting the cab temperature*

Preselect the required temperature using knob (6). The preselected value is shown on the LCD display (2).

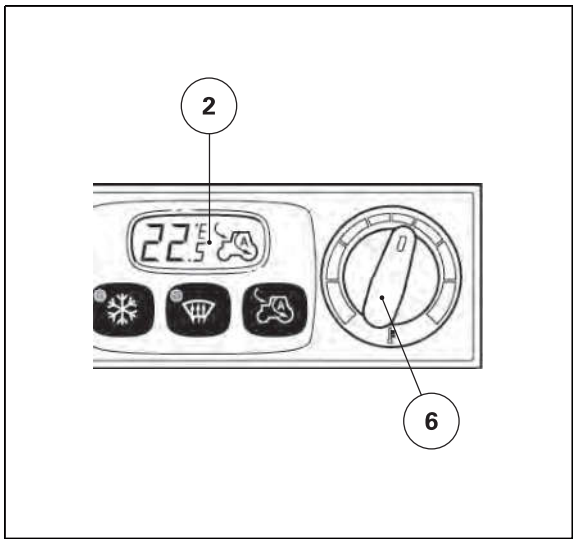



*Fig. 34.* I005375

*Changing the display from Celsius to Fahrenheit*

1. Switch off the tractor ignition.
2. Move fan switch (1) to OFF position
3. Move temperature knob (6) to maximum heat position (red)
4. Switch on ignition and, within 5 seconds, press defroster button (4) and recirculation button (5) simultaneously.
5. The temperature symbol (°C or °F) will appear on the LCD screen.
6. Turn the fan control knob (1) to the AUTO position.
7. Turn the knob (6) to adjust the temperature and confirm the unit of measurement.

***NOTE:*** *When there is a problem or error, an "E" symbol is displayed to warn the user. (Contact your dealer to determine the cause of the problem.)*

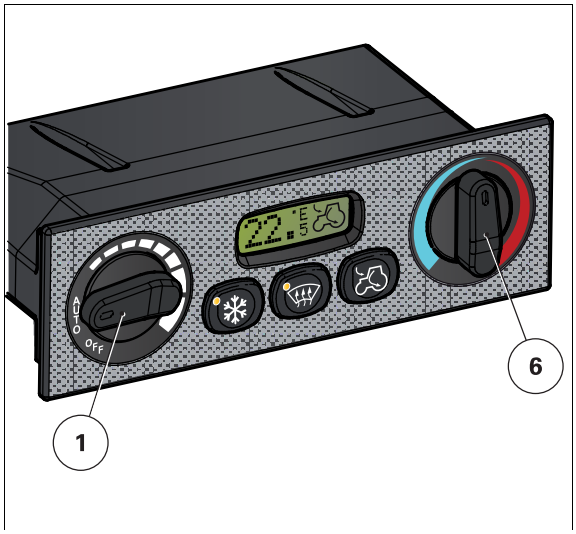
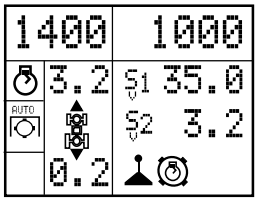
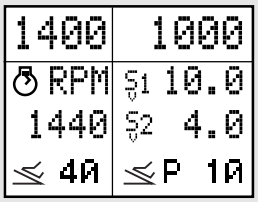
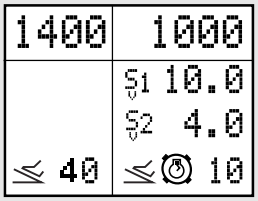
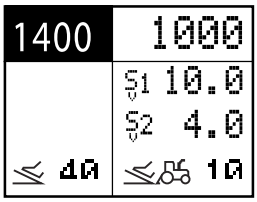
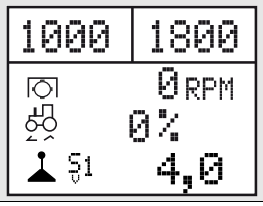
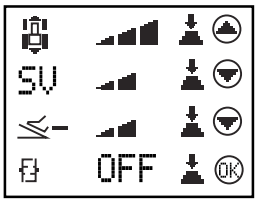
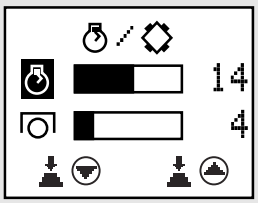



*Fig. 35.* I013144

## 3.2.2 Dot Matrix screens

T006639

| Screen | Function |
|---|---|
|  | **lever mode main screen (*see §3.1.2, page 62*)**<br>Displays the start-up speeds, the stored engine speeds, the stored speeds SV1 and SV2, the engine underspeed supervisor (if active), the automatic PTO, lever mode, and the Dyna-TM function (if active). |
|  <br>  | **pedal mode main screen**<br>Displays the stored engine speeds, the stored speeds SV1 and SV2, the maximum speed, actual speed, and the Dyna-TM function (if active). |
|  | **self-propelled mode main screen**<br>Displays the stored engine speeds, the stored speeds SV1 and SV2, the maximum speed, and the actual speed. |
|  | **Working mode main screen**<br>Displays the stored engine speeds, the selected PTO speed, the wheel slip percentage, and the stored speed SV1 |
|  | **Transmission settings screen (if Datatronic 3 is installed)**<br>Adjusts the reverse shuttle sensitivity (from 1 to 4).<br>Adjusts the sensitivity of speeds SV1 and SV2 (from 1 to 4).<br>Adjusts the sensitivity of pedal mode deceleration if this is active.<br>OK Activates or deactivates the coupler function. The reverse shuttle lever must be placed in neutral. Press down the clutch pedal and keep it depressed, then press OK for 5 seconds. |
|  | **Engine underspeed supervisor screen**<br>This screen is used to adjust the permissible percentage drop in engine speed before the transmission is regulated.<br>Transport mode active by default (priority given to forward speed)<br>PTO mode, active upon PTO engagement (priority given to engine speed)<br>Adjusts the value (from 0 to 30) |

Pre-selecting the required engine speed using the foot or hand throttle:

- Select the required engine speed using the foot or hand throttle
- Press and hold memory button "A" or "B" for 1 to 2 seconds. The speed is then stored
- The value of the stored speed is highlighted on the DOT Matrix screen (example: stored speed "A").
- The engine symbol appears on the digital display along with the letter "A" or "B", which indicates the active stored engine speed
- Carry out the same procedure for both memories "A" and "B".
- To change the value of the stored engine speed, press "+" or "-" on the switch. Each press increases the engine speed value by 10 rpm. Continuously apply pressure to rapidly increase or decrease the engine speed to be stored.
- To deactivate engine speed storage, press the activated memory switch again ("A" or "B").

If no engine speed has been pre-selected:

- Use the switch to select the engine speed stored for memory "A" or "B", irrespective of its value.
- Change the value of the stored engine speed by pressing "+" or "-" on the switch. Each press increases the engine speed value by 10 rpm. Continuously apply pressure to rapidly increase or decrease the engine speed to be stored. The engine speed is stored and activated.
- To deactivate engine speed storage, press the activated memory switch again ("A" or "B").

***NOTE:*** *The speed is saved even if the ignition is switched off.*

*If driving with stored speed "A" or "B" activated, press the brake pedals once to deactivate speed storage.*

I005890

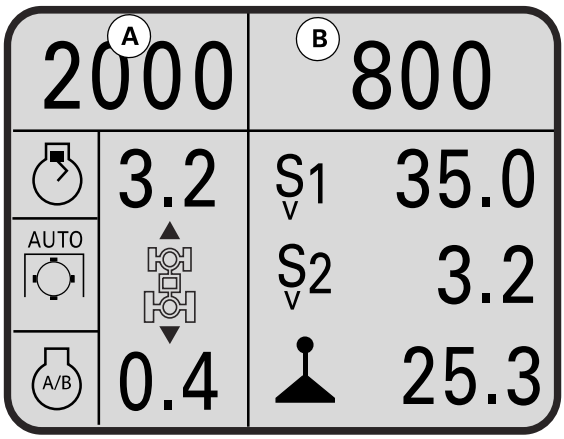



*Fig. 6.*

I018629

## 3.5.10 self-propelled mode

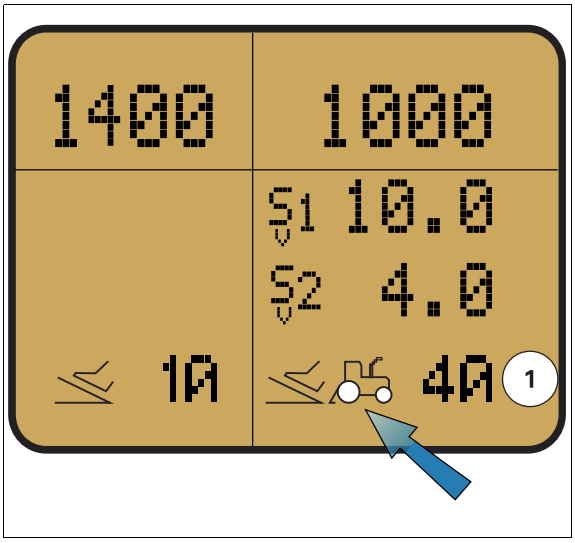
T001792

This mode can be accessed by:
- activating a stored engine speed (A or B)
- and by pressing the lever/pedal mode switch on the console

The self-propelled icon is displayed on the DOT Matrix screen

In self-propelled mode:
- the engine speed is determined by the memories (A or B)
- the maximum forward speed is controlled by the SV2 and displayed on the DOT Matrix screen, ref. (1)
- the forward speed is controlled by the throttle pedal or hand throttle

***NOTE:*** *All of these settings may be different, depending on the range engaged.*




I005764


*Fig. 18.*

I017209

## Disengaging the brake:

***IMPORTANT:*** *For the ParkLock to disengage after engine start-up, the electronic control must record a switch of the control (A) from the closed padlock position to the open padlock position fig. 3.*
*If this condition is ignored, the ParkLock will remain engaged even if the control is in the padlock open position.*

1. The ParkLock control should be **pulled** outwards according to **A** (open padlock symbol). The (P) indicator light goes out on the instrument panel.
   The P symbol remains on the right-hand screen of the instrument panel.
2. The ParkLock remains engaged and the tractor remains immobilized
3. To completely disengage the ParkLock, activate the brake pedals or shift the PowerShuttle lever to the forward or reverse position

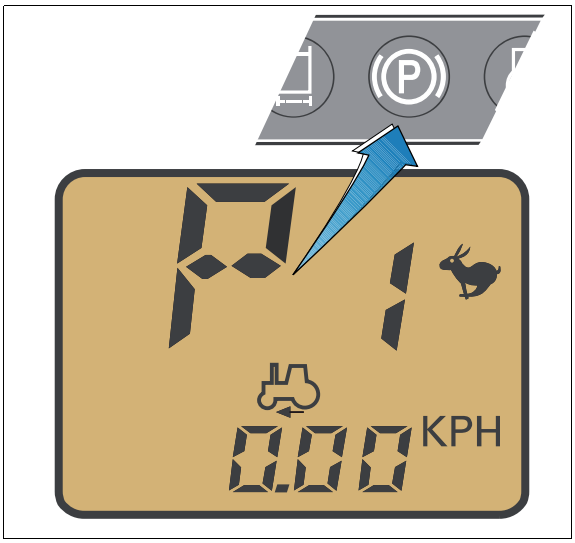



*Fig. 4.* I022015

## Engaging the brake:

***NOTE:*** *The ParkLock engages automatically when the engine is stopped.*

1. The PowerShuttle lever must be in neutral position. The letter **N** appears on the digital display indicating that the shuttle lever is in neutral position.
2. The forward speed must be less than 1 km/h (0.6 mile/h)

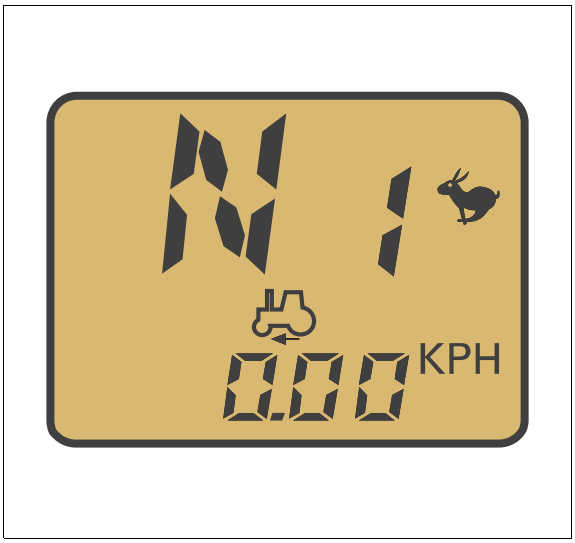
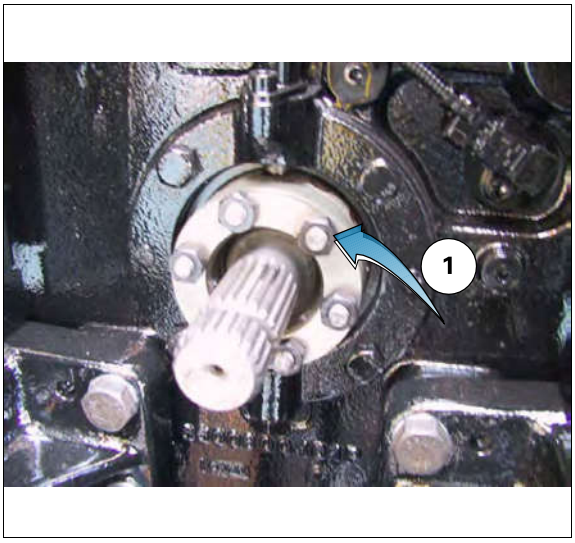



*Fig. 5.* I016455

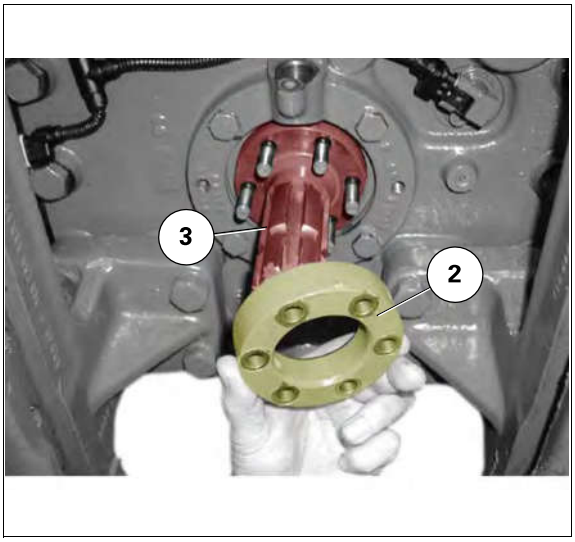
## Changing the shaft

***IMPORTANT:*** *When changing the spacer (2), the hexagon nuts (1) must be retightened to a torque of 69 Nm (51 lbf ft).*

1. Stop the shaft end fitting ((3)) from rotating using a M16X45 screw ((4)) fitted in the lower section.
2. Unscrew the nuts ((1)), remove the spacer ((2)) and remove the shaft end fitting ((3))
3. Fit the new shaft end fitting in place and refit the spacer.
4. Refit the nuts in place.
5. Retighten the nuts to a torque of 69 Nm (51 lbf ft).
6. Remove the screw ((4)) to allow the shaft to rotate.




I004724




I004725

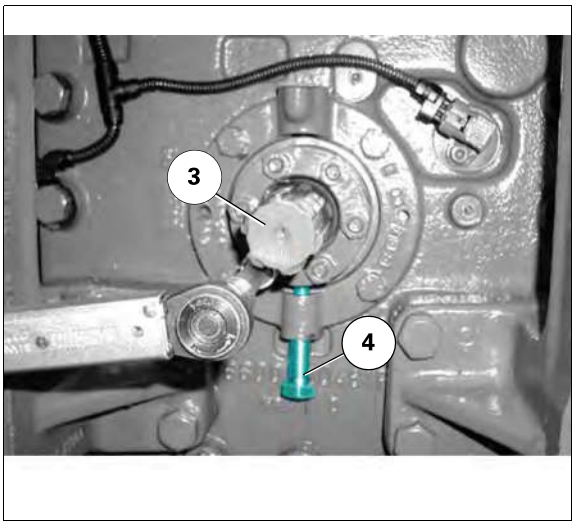



*Fig. 7.*

I004726

## External controls

**DANGER:**
***Operate the external controls with care, keeping a safe distance from the linkage arms.***

The external lifting/lowering controls (3) *fig. 14* can only operate with the engine running.

The following points must be observed before use:

- Before using the external controls, activate the joystick (indicator light (2) *fig. 13* off) and move the linkage switch to neutral or lower position.
- After each use of the external controls the joystick is locked (indicator light steady on).
- To use the cab controls again, the joystick must be activated (indicator light off).

***NOTE:*** *The external controls do not operate if the joystick is not activated after starting the tractor. However, if you move them, the linkage switches to safety mode (indicator light flashes) and the engine must be restarted.*

The oil outlets are controlled by the spool valve control located in the cab and have the same characteristics as those used at the rear.

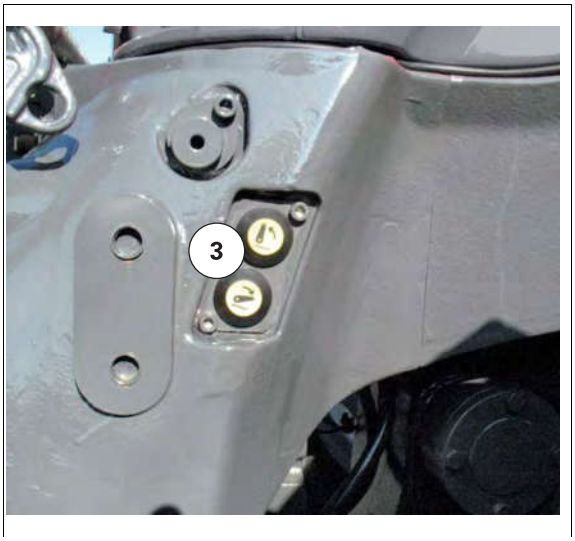



*Fig. 14.* I005824



## 3.11.15 Front linkage: Permissible loads on the front axle

T001567

The tractor's permitted load is restricted by the following two factors:

- the axle beam
- the tires

Using a long, heavy front implement can lead to overloading the front axle.
Do not exceed permissible front axle loads. To measure the maximum load supported by the front axle, place the front axle on a weighbridge, lift the front implement and lower the rear implement.

### Maximum permitted load on front axle (suspended or not):

Maximum permitted load on front axle (suspended or not) at 610 mm (24.0 in) from ball joints: 3500 kg (7716 lb)

### Permissible load on tires

The load supported by the tires depends on their inflation pressure, maximum travel speed and the torque to be transmitted. In general, the greater the load the tire must carry, the greater its volume should be.

***IMPORTANT:*** *This is the most common factor limiting front axle capacity. Tire manufacturers offer charts detailing permissible loads for a tire type depending on operating conditions. Failure to observe these limits can lead to tire damage, an unstable machine and poorer performance.*

*Examples for standard agricultural tires:*

| Tire dimension | Load on axle beam | Pressure | Speed |
|---|---|---|---|
| 14.9R24 | 1,9 t (2 US ton) | 0,6 bar (9 psi) | 30 km/h (19 mile/h) |
| 14.9R24 | 3 t (3 US ton) | 1,4 bar (20 psi) | 40 km/h (25 mile/h) |
| 480/65R28 | 2,1 t (2 US ton) | 0,4 bar (6 psi) | 30 km/h (19 mile/h) |
| 480/65R28 | 3,7 t (4 US ton) | 1 bar (15 psi) | 30 km/h (19 mile/h) |
| 480/65R28 | 4,5 t (5 US ton) | 1,6 bar (23 psi) | 40 km/h (25 mile/h) |
| 600/65R28 | 3 t (3 US ton) | 0,4 bar (6 psi) | 30 km/h (19 mile/h) |

## Description of the additional hydraulic unions

Tractors are fitted with additional hydraulic unions for connecting accessories hitched to the tractor.
(1) Direct outlet pressure ((P))
(2) Tank return ((T))
(3) LS line (Load Sensing) ((LS))
(4) Drain return (D)

The drain return (4) allows an implement to be connected requiring no loss of load and no return resistance.
The drain return (4) is connected directly to the auxiliary hydraulic oil tank. It is used to receive low flow rates.
The LS line allows you to have a load sensor on an external circuit. It is therefore possible to supply this directly via the variable displacement pump without passing through the spool valves.
Thanks to the LS line connection (3), a potato harvester-loader implement or a self-loading trailer, for example, will have a flow rate adapted to demand and that can reach the maximum level supplied by the tractor pump.

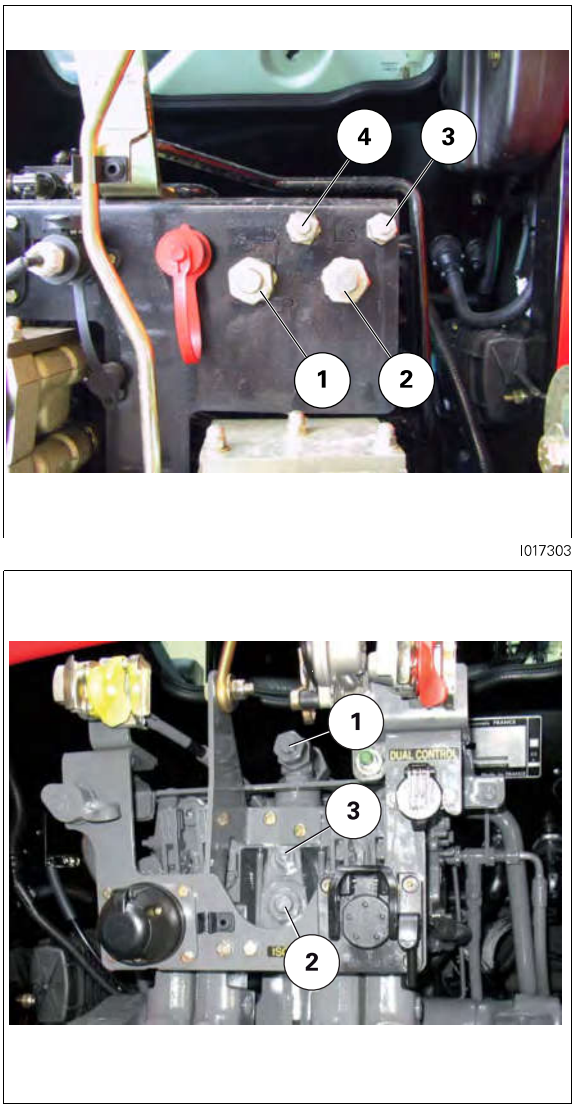



*Fig. 6.* I012867

## Using the couplers and additional unions

There are different connecting methods, depending on the implement to be connected to the tractor (see examples below).

*Implements fitted with two hydraulic rams and a hydraulic motor at the rear of the tractor*
(1) Ram 1
(2) Ram 2
(3) Hydraulic motor
(4) Tank return

***NOTE:*** *A spool valve can supply a flow rate of up to 95 l/min (25.1 gal/min (US)). If necessary, a hydraulic motor may be supplied by two spool valves (total of the two combined flow rates) as shown in the diagram.*

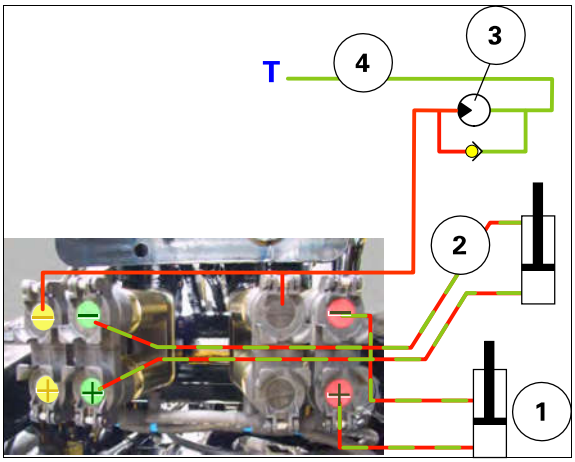



*Fig. 7.* I005699

## Operation

Activate one of the levers on the spool valves by pushing as shown (A) to lower or by pulling as shown (B) to lift.
Stop the engine, then restart it to reactivate the joystick.

***NOTE:*** *It is recommended to insert a pin or screwdriver in the corresponding lever hole to make it easier to move the spool valves.*

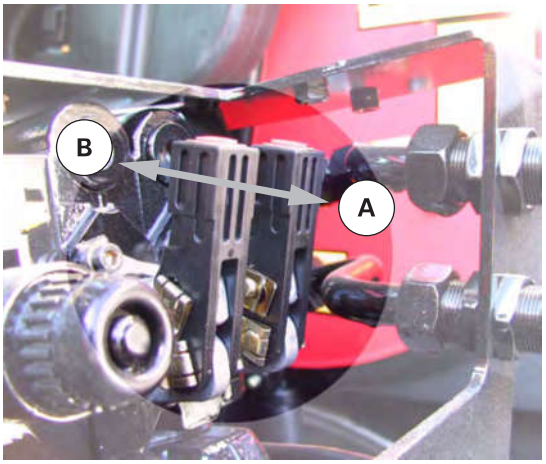
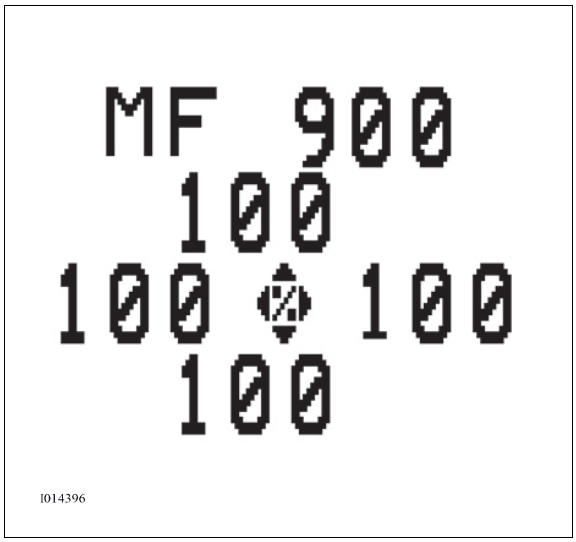



*Fig. 30.* I005714

## Setting flow rates

1. Go to the corresponding DOT Matrix screen
2. Move the joystick in the direction required and press the flow rate memory button (1)
3. The output flow rate required is stored
4. Repeat the operation for each function
   ***NOTE:*** *The flow rates are registered as a percentage.*
   *100% is the maximum flow.*
5. Press the memory button (1) for 5 seconds to cancel all of the stored values




I014396

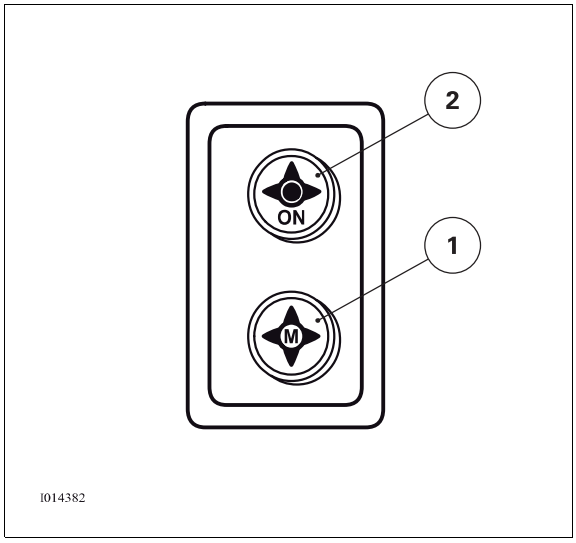



*Fig. 20.* I014382

## Increasing engine speed

This function is designed to increase the engine speed when the joystick is in use in order to increase the speed of loader movements.

***NOTE:*** *This function is only active if the engine speed is idling when the joystick is being used.*

| Dimensions | Pressure under load | | | | | |
|---|---|---|---|---|---|---|
| | Kleber Super 8 - 9 | | Michelin | | Goodyear | |
| | Max. | Min. | Max. | Min. | Max. | Min. |
| 650-75R38 | 2,4 bar (35 psi) | 0,4 bar (6 psi) | - | - | - | - |
| 650-85R38 | 2,4 bar (35 psi) | 0,4 bar (6 psi) | - | - | 3 bar (44 psi) | 0,6 bar (9 psi) |
| 710-70R38 | 2,1 bar (30 psi) | 0,4 bar (6 psi) | 1,9 bar (28 psi) | 0,4 bar (6 psi) | 3 bar (44 psi) | 0,6 bar (9 psi) |



## 3.15.9 Radial loads and standard inflation pressures

T001550

*Table of loads and inflation pressures for tires with a radial structure*

| Tire dimension | psi kPa | 12 80 | 14 100 | 16 110 | 18 120 | 20 140 | 22 150 | 23 160 | 26 180 | 28 190 | 30 210 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | PR symbol | | | | * | | | ** | | | *** |
| 14.9R28 | lbs<br>kg | 2630<br>1195 | 2880<br>1305 | 3120<br>1415 | 3300<br>1500 | 3560<br>1615 | 3760<br>1705 | 3960<br>1800 | 4140<br>1880 | 4320<br>1960 | 4540<br>2060 |
| 14.9R30 | lbs<br>kg | 2720<br>1235 | 2970<br>1345 | 3220<br>1460 | 3420<br>1550 | 3660<br>1660 | 3880<br>1760 | 4080<br>1850 | 4280<br>1940 | 4460<br>2025 | 4680<br>2120 |
| 14.9R46 | lbs<br>kg | 3420<br>1150 | 3740<br>1700 | 3960<br>1800 | 4300<br>1950 | 4540<br>2060 | 4800<br>2180 | 5080<br>2300 | 5360<br>2430 | 5580<br>2500 | 5840<br>2650 |
| 16.9R28 | lbs<br>kg | 3200<br>1450 | 3500<br>1590 | 3780<br>1715 | 4080<br>1850 | 4320<br>1960 | 4560<br>2070 | 4940<br>2240 | 5020<br>2275 | 5240<br>2375 | 5520<br>2500 |
| 18.4R38 | lbs<br>kg | 4440<br>2015 | 4860<br>2205 | 5260<br>2385 | 5680<br>2575 | 5980<br>2715 | 6350<br>2880 | 6600<br>3000 | 7000<br>3175 | 7300<br>3310 | 7600<br>3450 |
| 18.4R42 | lbs<br>kg | 4680<br>2125 | 5120<br>2320 | 5540<br>2515 | 6000<br>2725 | 6300<br>2860 | 6650<br>3015 | 6950<br>3150 | 7350<br>3335 | 7700<br>3495 | 8050<br>3650 |

***NOTE:*** ** Consult the tire manufacturer for loads lower than a pressure of 12 psi (80 kPa).*

1. The figures in bold represent the maximum load for the symbol indicated (*, **, ***).
2. For transporting purposes, the tire inflation pressure can be increased by 30 psi (210 kPa) (consult the tire manufacturer to obtain this minimum transport pressure). This increased tire inflation pressure must be decreased to the nominal value before the tractor is removed from the transport vehicle.
3. For dual wheels, the loads to the tires must be reduced. Multiply the figures in the above table by 0.88.
4. For the above tires, intended for a cyclic load without long periods of use at high torque nor at speeds exceeding 8 km/h (5 mile/h (mph)), the above values can be increased by 70% (inflation pressure is increased by 40 KPa (6psi)).
5. For FIELD WORK at high torque (ploughing for example), the basic loads can be increased by 7% PROVIDED THAT THE TRACTOR TRANSPORT SPEED IS LESS THAN32 KM/H (20 mile/h (mph)).
6. For transport purposes and during operations that do not require long periods of high torque, the following load limits at variable speeds must be applied without changing tire inflation pressure.

***IMPORTANT:*** *Because the size relationship between the front and rear tires is very important on 4WD tractors, only compatible sizes should be used.*

| Maximum speed | % difference in relation to the above values |
|---|---|
| 16 km/h (10 mile/h (mph)) | +34% |

## 4.2.3 Air-conditioning system: dryer

T001826

### Frequency

Replace the dryer every 1200 hours (consult your dealer).

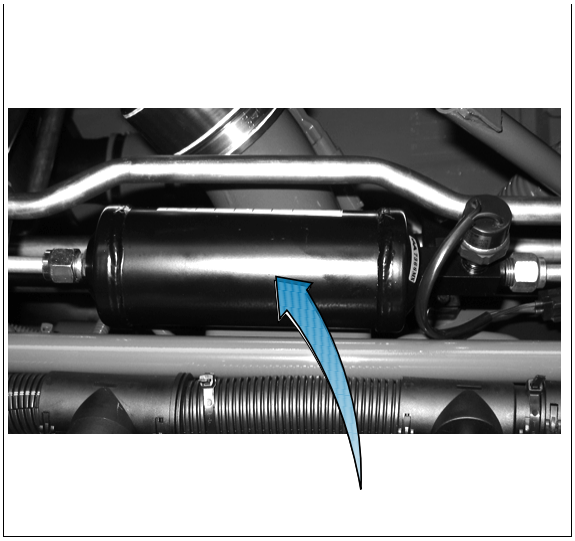


*Fig. 2.* I020124



## 4.2.4 Cab air filter

T001571

### Frequency

Clean the cab air filter every 400 hours, or more frequently, if necessary.
Change the cab filter every 1200 hours.

### Procedure

***WARNING:***

***The air filter element does not provide protection from chemical products. Please ask your dealer for information concerning the availability of the specific particle filter.***

1. To gain access to the cab air filter, open the hatch on the left-hand side of the cab roof.
2. Turn the handle and lift out the filter element.
3. Clean the filter by blowing it with compressed air.
4. Before refitting the filter, wipe out the compartment with a damp cloth to remove dust.

*Fig. 3.* I005508

**CAUTION:**
***Do not use tractor exhaust fumes to blow the main filter or secondary filter out. Never put oil in the main filter or secondary filter. Never use petrol, paraffin, or solvents to clean the main filter or secondary filter.***
***Before installing the main or secondary filter, visually check that there are no cuts, tears, or damage on the surface of the seals; do not install the filter if such damage is visible.***

1. Lift the hood panel.
2. ***IMPORTANT:*** *To clean the secondary filter, do not tap it against a hard surface.*

   Remove the main filter (2) and the secondary filter (3). To access the filters, unlock and remove the cover plate (1) .*fig. 8*
3. Carry out the same operations in reverse order to reassemble.



## 4.3.13 Cooling system

T001428

### Coolant quality

– The coolant quality can have a great effect on the efficiency and life of the cooling system (*see §4.3.1, page 194*).

– ***IMPORTANT:*** *Never use pure water as a coolant.*
*If an incorrect mixture is used, AGCO cannot be held responsible for damage caused.*
*Precautions against freezing: Check the protection level of the mix before the cold season.*

The antifreeze/water ratio must always be 40-50% antifreeze to 60-50% water.
The minimum 40/60 mixture must be used even in "non-cold" regions to raise the boiling point and protect the system from corrosion.
The water used should be clean, soft and non acidic.
Avoid the addition of pure water to the system, as this will dilute the mixture.

### Checking the level and quality of the coolant

1. Visually check the coolant level every day.
2. **CAUTION:**
   ***The quality of the coolant must be checked when the engine is cold.***

   Check the quality of the mixture regularly, especially during the cold season.

### Filling up to the coolant level

**CAUTION:**
***If the engine is very hot, loosen the plug to the first notch before removing it to lower the expansion tank pressure.***

***IMPORTANT:*** *If the correct procedures are not used, AGCO cannot be held responsible for damage caused.*

1. Lift the hood to access the expansion tank.
2. Open the expansion tank plug.
3. Fill the expansion tank with coolant up to mid-way between the max/min witness marks.
4. After filling, open the heater tap fully and run the engine at 1000 rpm for several minutes.
5. Switch off the engine, check the level and fill up if necessary, without exceeding the mid-way point on the tank.
   Refit the plug.

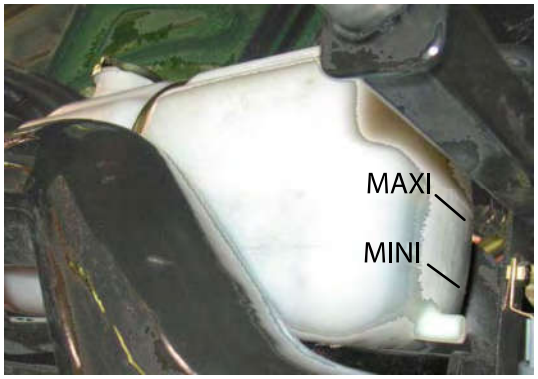



*Fig. 9.* I004092

## Replacing the filter strainer: Procedure

1. To access the strainer, the ParkLock cylinder needs to be moved out of the way once the 3 support screws have been loosened (1).
2. Unscrew the 3 screws on the retainer plate, remove the strainer and discard it.
3. Fit the new strainer in its place.
4. Fit the retainer plate and tighten the 3 screws.
5. Put the ParkLock cylinder back in position and retighten the 3 support screws (1).

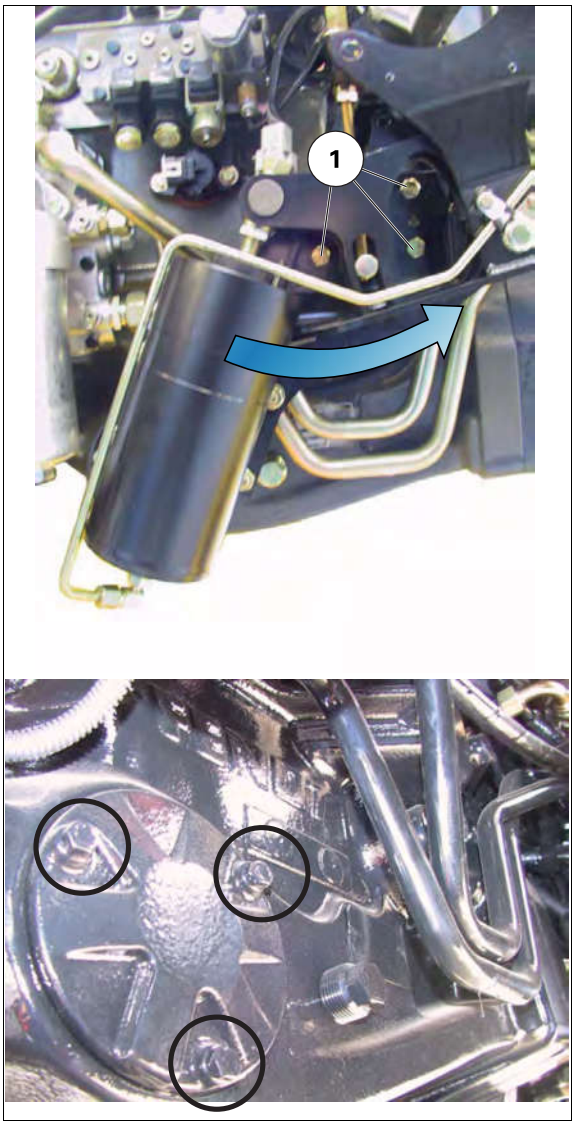



*Fig. 5.* I017783

## Replacing the high-pressure filter: Frequency

Replace the high-pressure filter (2) every 400 hours the first time, and then every 800 hours.

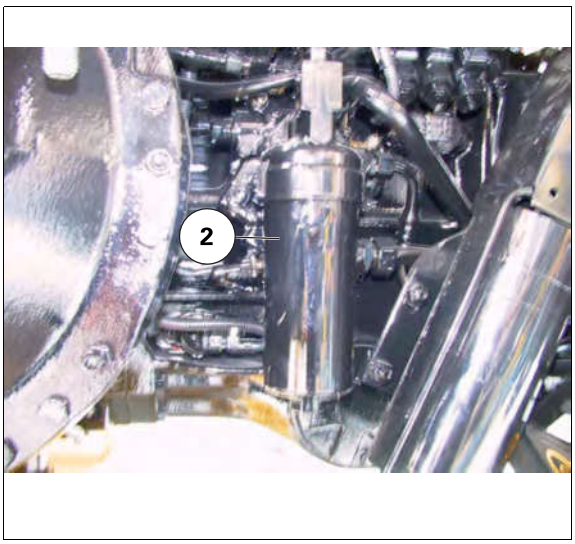



*Fig. 6.* I017794

# 4.8 Linkage

## 4.8.1 Recommended products

T002931

***IMPORTANT:*** *The warranty remains valid only as long as the lubricants used comply with the following classifications, and no other products are used.*

### Linkage shaft

SAE 10W40 or 15W40 oil.



## 4.8.2 Check the linkage shaft oil level

T001316

### Frequency

Check the linkage shaft oil level every 2000 hours or every 2 years.

### Procedure

1. Remove the plug located between the hydraulic spool valves (1).
2. The oil should be level with the port.
3. Fill up if necessary.

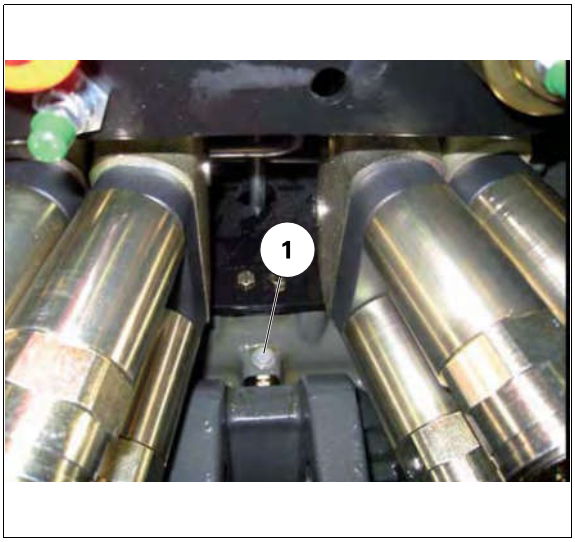



*Fig. 1.* I017833

## 4.11.4 Adjusting Xenon work lights (optional)

T001671

Certain precautions must be taken when replacing bulbs on models fitted with this option.

***WARNING:***

***The electrical connection between the headlight and the light ballast is under HIGH VOLTAGE and must not be disconnected. Before replacing the xenon bulb, always turn the headlights off and disconnect from the power supply. Never touch the light terminal.***

***The light ballast is to be attached next to the headlight. Install the headlight and light ballast in a way that does not have an adverse effect on engine cooling.***

***Ensure that the power supply cable between the headlight and the ballast is not twisted by more than 90° and/or bent by a radius smaller than 20 mm (0.79 in).***

The work lights are adjusted by screwing or unscrewing the 2 screws as required.

*Fig. 2.* I005478

## 4.11.5 Socket (ASAE)

T001069

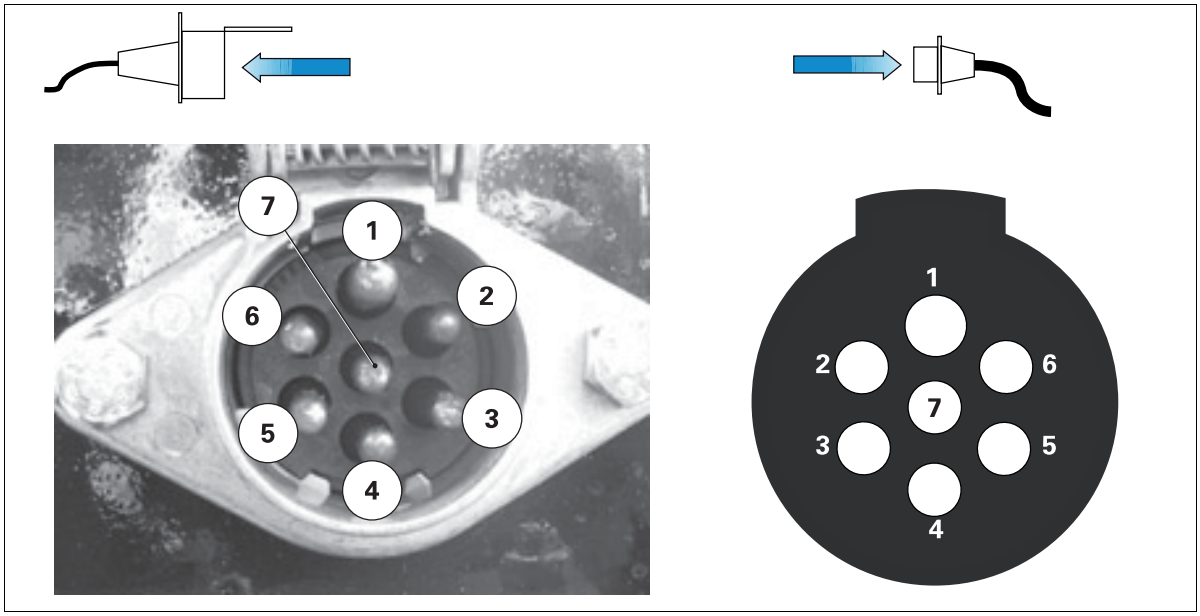



*Fig. 3.* I003555

| Reference | SAE circuit | Maximum electrical charge |
|---|---|---|
| (1) | Earth | - |
| (2) | Rear work light | 2x 55 W |
| (3) | Left-hand indicator and flashing warning light | 4x 21 W |
| (4) | Stop lights | Not known |
| (5) | Right-hand indicator and flashing warning light | 4x 21 W |
| (6) | Tail lights | 4x 6 W |
| (7) | Accessories | 20 A |

### Extended storage:

If the tractor is to remain out of service for an extended period, it is advisable to isolate the circuit to prevent the batteries from going flat.
To do so, turn the handle counterclockwise. Pull it towards you to remove it from its housing.

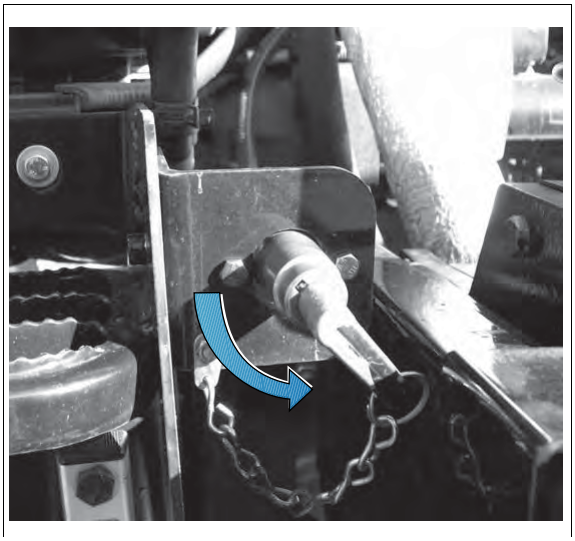


*Fig. 14.* I020225



## 4.11.9 Start-up assistance

T001801

### General

A positive terminal (+) is located on the starter in order to connect an booster battery if the tractor batteries fail.


*Fig. 15.* I017867

### Procedure

***WARNING:***

***The booster battery voltage must be identical to that of the tractor batteries.***

***DANGER:***

***Only start the engine when sitting in the operator's seat.***

1. Connect the positive end (+) of the booster battery to the terminal on the starter (*fig. 15*).
2. Connect the negative end (-) of the booster battery to the tractor earth.
3. Start the engine from the operator's seat following the start-up instructions.
4. When the engine is running, disconnect the wires from the booster battery in reverse order of connection.

# 5.1 General specifications

## 5.1.1 Model 7465

T007986

| Engine | |
|---|---|
| Brand | SisuDiesel |
| Type | 66 CTA |
| Number of cylinders | 6 |

| Transmission | |
|---|---|
| Gearbox type | Dyna-VT ML130 |
| Rear axle type | HA130 |
| Final drive type | HA130 |

| Power take-off | |
|---|---|
| PTO type | Flanged shaft |
| Speeds | 540/540ECO/1000 |

| Front axle | |
|---|---|
| Front axle type | DANA 735 (fixed)<br>DANA 735/612 (suspended) |
| Factor K | 1.327 |

| Hydraulics | |
|---|---|
| Hydraulic type | 110 l/min (29.1 gal/min (US)) / Closed center |
| Number of spool valves | 5 maximum |

| Electronics | |
|---|---|
| Transmission control | Autotronic 4 |
| Linkage control | Autotronic 5 |

| Cab | |
|---|---|
| Air conditioning | Standard or automatic |
| Roof | Standard or High Visibility (optional) |

## 5.1.2 Model 7475

T007987

| Engine | |
|---|---|
| Brand | SisuDiesel |
| Type | 66 CTA |
| Number of cylinders | 6 |

| | High speed range (Hare) | | | Slow speed range (Tortoise) | | | Creeper range (Snail) | | |
|---|---|---|---|---|---|---|---|---|---|
| Reverse travel | 800 rpm | 1900 rpm | 2200 rpm | 800 rpm | 1900 rpm | 2200 rpm | 800 rpm | 1900 rpm | 2200 rpm |
| **18 R** | | | | 7,7 km/h (5 mile/h) | 18,2 km/h (11 mile/h) | 21,1 km/h (13 mile/h) | 2,7 km/h (2 mile/h) | 6,4 km/h (4 mile/h) | 7,4 km/h (5 mile/h) |
| **19 R** | | | | | | | 3,0 km/h (2 mile/h) | 7,2 km/h (4 mile/h) | 8,3 km/h (5 mile/h) |
| **20 R** | | | | | | | 3,5 km/h (2 mile/h) | 8,4 km/h (5 mile/h) | 9,7 km/h (6 mile/h) |
| **21 R** | | | | | | | 4,2 km/h (3 mile/h) | 10,0 km/h (6 mile/h) | 11,6 km/h (7 mile/h) |



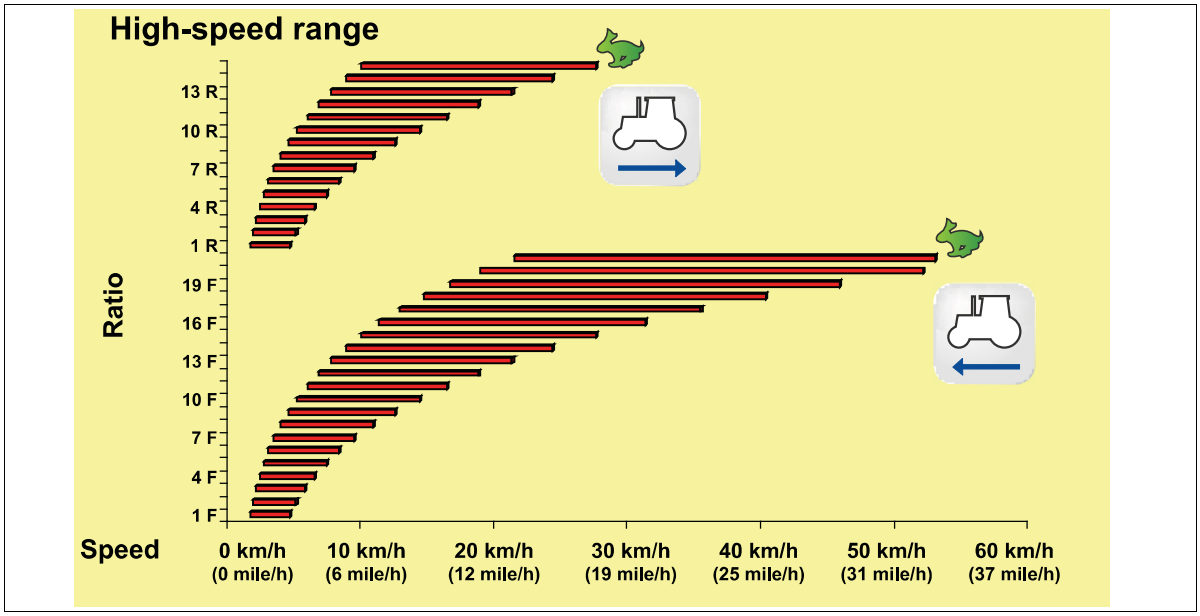



*Fig. 2.* I004784

# 5.11 Wheels and tires

## 5.11.1 Rim

T001347

| | |
|---|---|
| Four-wheel drive front axle | Welded steel rim/disc (2 settings depending on the position of the rim on the hub).<br>Mobile steel rim/disc (8 settings depending on the position of the disc on the rim and on the hub). |
| Rear wheels | Welded steel rims/disc (setting depending on the position on the straight shaft).<br>Steel rims/cast iron disc (setting of the disc position on the rim and depending on the position on the straight shaft). |



## 5.11.2 Tires

T001348

On an unequal 4-wheel drive tractor, the front wheels are smaller than the rear wheels, so they have to turn slightly faster than the rear wheels.
The synchronization ratio K specifies the difference between the rotation of the front and rear wheels.
For total compatibility between the front and rear tires, apply the synchronization ratio K (the value is displayed on the name plate).

The following formula is used to check that your choice of front/rear tire is correct.
The result should be between 1 and 1.05.
**Calculation formula:**
1<K x (rolling circumference of the front tire/rolling circumference of the rear tire)<1.05

## 5.11.3 Tightening torques

T001738

*Front axle*

| | Disc on hubs | Rim on disc with lugs | Rim on disc with slots | Rim on disc, fixed cast iron |
|---|---|---|---|---|
| 2WD | 160 Nm (118 lbf ft) to 210 Nm (155 lbf ft) | - | - | - |
| 4WD | – M18: 400 Nm (295 lbf ft) to 450 Nm (332 lbf ft)<br>– M22: 640 Nm (472 lbf ft) to 680 Nm (502 lbf ft) | 210 Nm (155 lbf ft) to 250 Nm (184 lbf ft) | 300 Nm (221 lbf ft) to 320 Nm (236 lbf ft) | - |

*Rear axle*

| | Disc on hubs | Rim on disc with lugs | Rim on disc with slots | Rim on disc, fixed cast iron |
|---|---|---|---|---|
| Flanged shaft | 400 Nm (295 lbf ft) to 450 Nm (332 lbf ft) | - | - | 250 Nm (184 lbf ft) to 350 Nm (258 lbf ft) |
| Straight shaft | – Hub on cone: 350 Nm (258 lbf ft) to 460 Nm (339 lbf ft)<br>– Steel disc on hub: 640 Nm (472 lbf ft) to 680 Nm (502 lbf ft) | - | - | - |

# 6.3 Front axle and steering accessories

## 6.3.1 Front axle and steering accessories

T001021

- Front fenders.
- Front weights: 10/12 or 14 x 55 kg (121 lb)
- Center weight: 205 kg (452 lb)
  ***NOTE:*** *The center weight is not compatible with the front PTO. Removal is not easy and the weight must remain fitted.*