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, and other reproductive harm. **Wash hands after handling.**

# *Challenger*
# *Deluxe and Premium versions*
# *MT500D - Operation*

**MT 525D**
**MT 535D**
**MT 545D**

**TechStar CVT**

AGCO S.A. - Beauvais - France - RC B562 104 539

Original Operator's Manual

June 2013
No. ACT0001120
Issue 1
MT500D TechStar CVT - NA
English

1

# 1.1 Locating serial numbers

## 1.1.1 Locating serial numbers

T002039

***IMPORTANT:*** *Please quote the serial number of your tractor in all correspondence with your dealer or agent.*

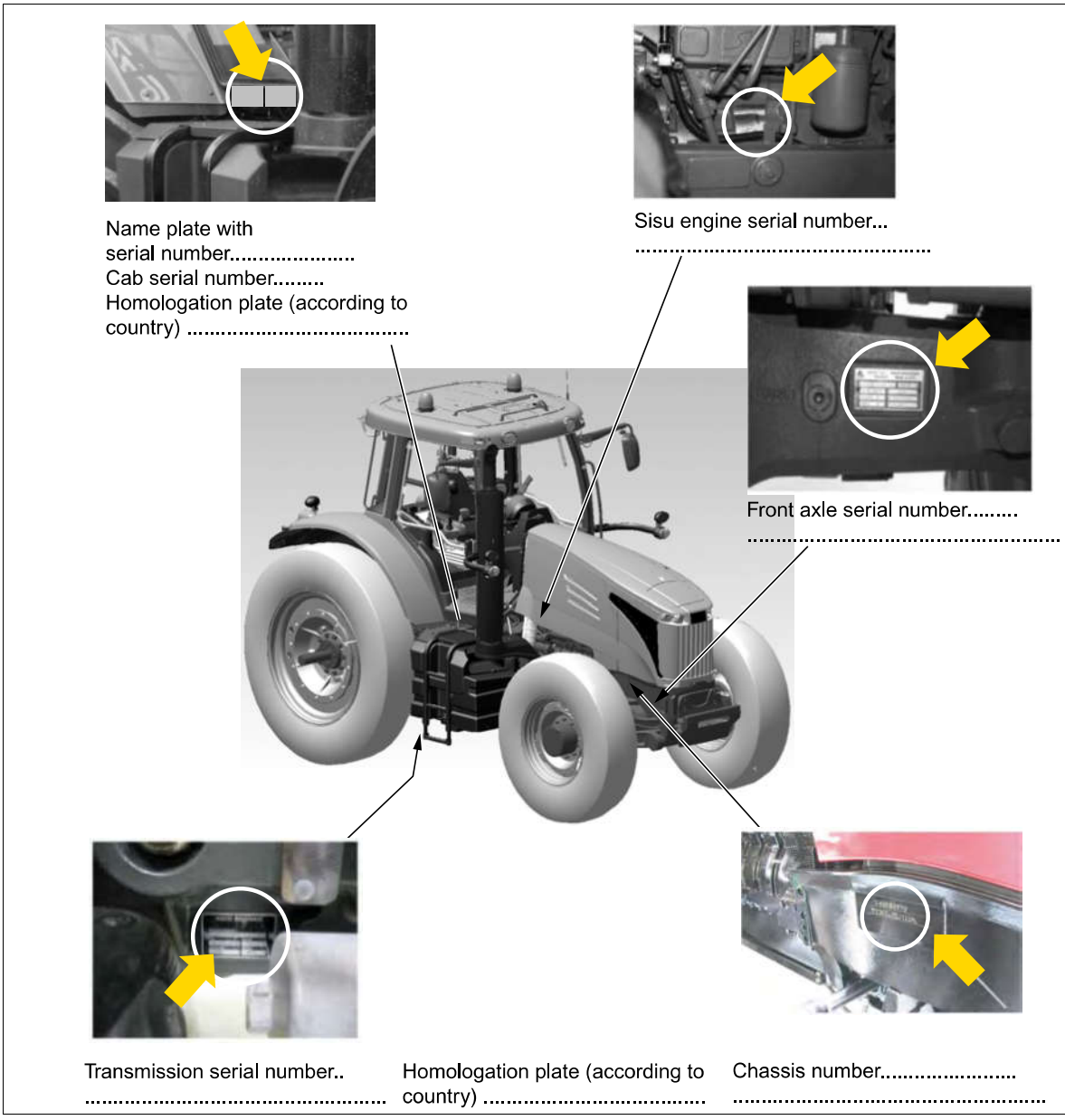
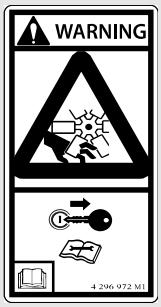
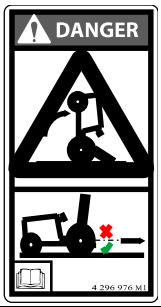



*Fig. 1.*

I033176

| | |
|---|---|
|  | – **4296959M1** ((P) *fig. 1*)<br>–<br>**WARNING:** Risk of being crushed under tractor in the event of a rollover.<br>Keep seat belt fastened snugly when operating, do not jump if tractor starts to tip. |
|  | – **4296968M1** ((C) *fig. 1*)<br>– **WARNING:** Burn hazard – hot surfaces.<br>Keep away from hot engine components when engine has been running.<br>Shut off engine, remove key, and wait for system to cool before performing maintenance or repair work. |
|  | – **4296970M1** ((M) *fig. 1*)<br>– **WARNING**: Crushing hazard between tractor and implement.<br>Stand outside of tractor tire when using external controls for 3-point hitch.<br>Do not stand between tractor and implement. |
|  | – **4296972M1** ((B) *fig. 1*)<br>– **WARNING:** Shearing hazard – engine fan.<br>Keep your hands away from the fan and the belts when the engine is running.<br>Shut off engine and remove key before performing maintenance or repair work. |
|  | – **4296976M1** ((K) *fig. 1*)<br>– **DANGER:** Rear overturn hazard, which may result in personal injury or death.<br>Pull only from approved drawbar or bottom links of 3-point hitch at horizontal position or below.<br>Never pull from above rear axle centerline. |

– **WARNING:**
***Fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause serious physical injury, blindness or death.***
***Leaks of pressurized fluid may not be visible. Use a piece of cardboard or wood to detect leaks. DO NOT USE YOUR BARE HANDS. Wear safety goggles for eye protection. If any fluid penetrates the skin, seek medical advice within a few hours from a doctor familiar with this type of injury fig. 3.***

**WARNING:**
***Release the pressure of the hydraulic or fuel systems before disconnecting them.***

Check the hydraulic system for the tractor and the implement as well as the tractor fuel system: Correct tightening of all the unions; check that there is no damage to the lines, pipes, or hoses; ensure that the hydraulic systems do not cross one another.
Have any leakages or damaged parts repaired or replaced. Do this before each working day

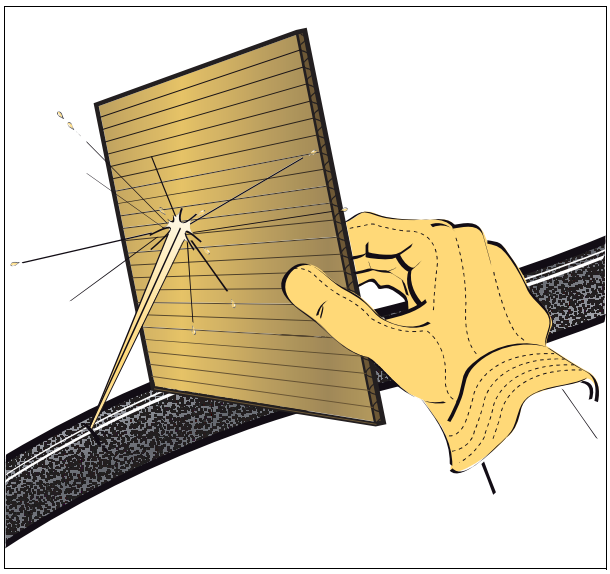


*Fig. 3.* I002860

– **WARNING:**
***The liquid cooling system builds up pressure as the temperature increases. Stop the engine and let the system cool before removing the radiator cap.***

Check the engine cooling system and add coolant if required.

– All maintenance procedures must have been complied with.

– Check that the weight of the tractor/implement assembly is less than the tractor total permissible load.

When using a loader, avoid sudden stops, starts, turns or changes in direction. Keep loads close to the ground when transporting.

- Never lift loads above someone.
- Implements fitted to the three-point hitch or to the side of the tractor make a much larger arc when turning than trailed implements. Ensure there is enough room to maneuver in complete safety.
- Always use implements suitably adapted to the desired conditions of use (load to transport, speed, slope, etc.) to ensure that work is carried out in complete safety.
- Always read the implement instruction books fully for implements to be used with the tractor and comply with the safety instructions they contain. If these instructions cannot be observed in full, do not use the tractor fitted with the machine or trailer.
- Do not modify or remove any parts of an implement.
- Do not touch the mechanism of an implement or lean over it or attempt to reach it. Do not allow anyone else to do this either.
- Do not allow anyone (including yourself) to stand or pass in front of, under or behind an implement.
- If the tractor is not immobilized according to the "mandatory procedure before dismounting the tractor" *see §2.4.5, page 26*, never stand or allow any person to stand between the tractor and the implement.
- Always use implements that are capable of safely carrying the load that you wish to place in it. (See information given on the name plate )and the chapter on the hitch.
- Do not overload a trailed implement. Use appropriate counterweights to maintain tractor stability.
- The top link and the lift rods must never be taken beyond the point where the thread starts to appear.
- When using chemicals, follow the chemical manufacturer's instructions for use, storage and disposal carefully.
- All trailed implements and trailers should be connected to the tractor by a safety chain (1) *fig. 9*.

  Should a trailed implement accidentally become separated from the drawbar during transport, this safety chain will help to retain the trailed implement. Using the appropriate adapter parts, attach the chain to the tractor's drawbar anchor or any other specified anchor point. Leave only enough slack in the chain to allow for maneuvering.
  The safety chain must have a strength equal or greater than the weight of the trailed implement: contact your Challenger dealer to obtain a suitable chain.

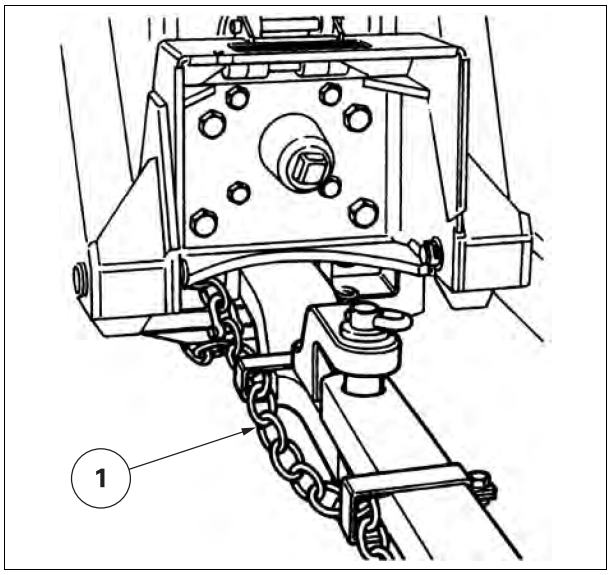



*Fig. 9.* I002872

If the customer leaves the region covered by the original dealer without having taken these steps, the new dealer will offer its services if needed, but may invoice them at the normal rate unless:

– the customer has clearly stated that the warranty period has not expired, and

– the repair dealer has been given the possibility of taking the necessary steps with the selling dealer.



## 2.10.5 Servicing during and after the warranty period

T000857

During the warranty period, all servicing and repair work must be carried out by the dealer, who will carefully carry out detailed checks of the progress and performance of the new tractor.

To obtain best results from a Challenger tractor, it is important to continue regular servicing and periodic inspections after the warranty has expired. All major overhaul work on the tractor must be carried out by a local dealer; an experienced technician will detect any problems which may arise between one overhaul and the next. Technicians regularly follow training courses to update their knowledge of the product and servicing and repair techniques, and the use of special tools and modern diagnostic equipment. They receive regular Service Bulletins and have access to all the workshop manuals and technical publications required to carry out repairs or servicing in accordance with the quality standards required by Challenger.

## 2.10.6 California emission control warranty statement

T001333

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The **California Air Resources Board (CARB)** and AGCO are pleased to explain the **emission control system warranty** on your **2012** and later engine. In California, new heavy-duty off-road engines must be designed, built, and equipped to meet the State's stringent anti-smog standards. AGCO must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel-injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, AGCO will repair your heavy-duty off-road engine at no cost to you including diagnosis, parts, and labor.

### MANUFACTURER'S WARRANTY COVERAGE:

The emission related devices on your 2012 and later heavy-duty off-road engines are warranted for five (5) years or 3000 hours of operation for all engines 19KW or greater, whichever occurs first from the date of delivery of the engine to the initial purchaser.

If any emission-related part on your engine is defective, the part will be repaired or replaced by AGCO within the warranty period.

1. General Emissions Warranty Coverage
   AGCO warrants to the ultimate purchaser and each subsequent purchaser of each off-road compression-ignition engine that the engine is:
   a. Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority in Chapters 1 and 2, Part 5, Division 26 of the Health and Safety Code; and
   b. Free from defects in materials and workmanship which cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for a period of five years or 3000 hours of operation, whichever occurs first, for all engines rated at 19KW and greater, except as noted below. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.
2. Warranty on emissions-related parts shall be interpreted as follows:
   a. Any warranted part which is not scheduled for replacement as required maintenance shall be warranted for the warranty period defined in Subsection (A)(2). If any such part fails during the period of warranty coverage, it shall be repaired or replaced by the engine manufacturer according to Subsection (4) below. Any such part repaired or replaced under the warranty shall be warranted for the remaining warranty period.

## 3.1.6 Operator presence detector

T013805

### Operator presence detector

A presence detection system is built into the operator's seat. When the tractor is moving, if the operator leaves the seat, a specific icon appears on the TMC Dash Display screen.
The tables below summarize the operating conditions for the detector.

Operator seat detection sensor status:
- OFF = No operator detected on seat
- ON = Operator detected on seat

*Logic of operation:*

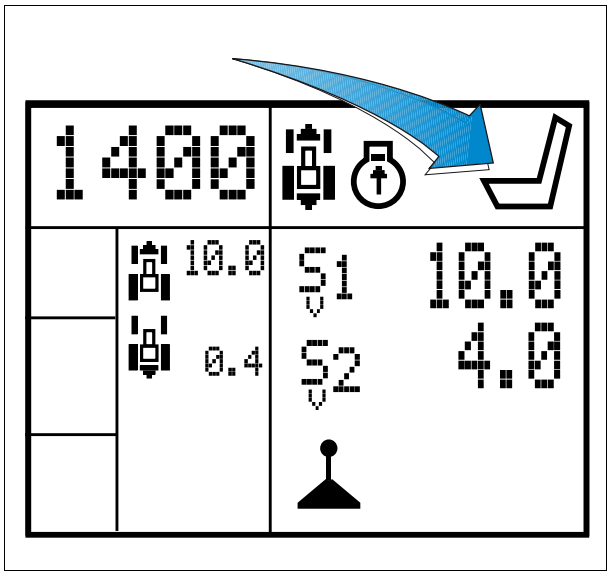



*Fig. 14.* I033787

| Rear PTO status | Status of presence detector in the seat | Position of the ParkLock parking brake | Result |
|---|---|---|---|
| OFF | OFF | OFF | Power take-off cannot be engaged |
| OFF | OFF | ON | – Power take-off cannot be engaged using the cab control<br>– Can be engaged using the power take-off switch on the fender |
| OFF | ON | ON or OFF | – Power take-off can be engaged using the cab control<br>– Cannot be engaged using the power take-off switch on the fender |
| ON | ON | ON or OFF | The power take-off is in operation |
| ON | OFF > 2 seconds and < 5 seconds | ON or OFF | The power take-off (PTO) continues to operate but an audible signal sounds (ten seconds) and a symbol is displayed on the TMC Dash Display screen |
| ON | OFF > 5 seconds | ON | The power take-off continues to operate |
| ON | OFF > 5 seconds | OFF | The PTO stops<br>If there is a presence detector fault, depressing and keeping the clutch pedal pressed will re-engage the PTO in the cab, using the ON/OFF switch to unblock/clean an implement (for example: a round baler). The power take-off stops for five seconds after the clutch pedal is released. |

## 3.1.8 Right-hand console

T015446

(A) Multi function armrest (*see §3.1.9, page 81*)
(B) TechStar CVT control module (*see §3.5.7, page 124*)/(*see §3.5.8, page 127*)/(*see §3.5.9, page 130*)/(*see §3.5.10, page 131*).
(C) Auxiliary hydraulics controls (*see §3.13.5, page 200*).
(D) Front PTO on/off switch *see §3.10.1, page 154*/rear PTO on/off switch, automatic PTO switch (*see §3.10.2, page 155*).
(E) Fuse box location (see fuse box description in the Maintenance section of the Operator's Manual).
(F) TMC Display onboard computer, consult the specific Operator's Manual.


*Fig. 28.* I042409

## 3.1.9 Armrest TMC Armrest

T013104

### Version with T-handle lever

(1) Transmission cycling control.
(2) Range or road/field mode shift switch
(3) 1st spool valve control
(4) 2nd spool valve control

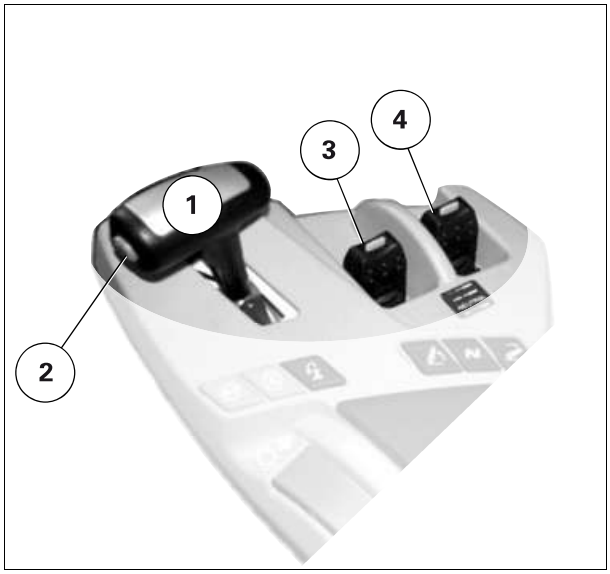



*Fig. 29.* I033102

*Defrosting function*

The defrosting function is activated by pressing button (4).
The relevant indicator lights up.
The compressor is activated (A/C LED is lit)
"HI" is displayed on the LCD screen.

To deactivate the defrosting function and return to the previous state, press the button (4) again (the indicator light goes out); otherwise, it will switch off automatically after 3 minutes.

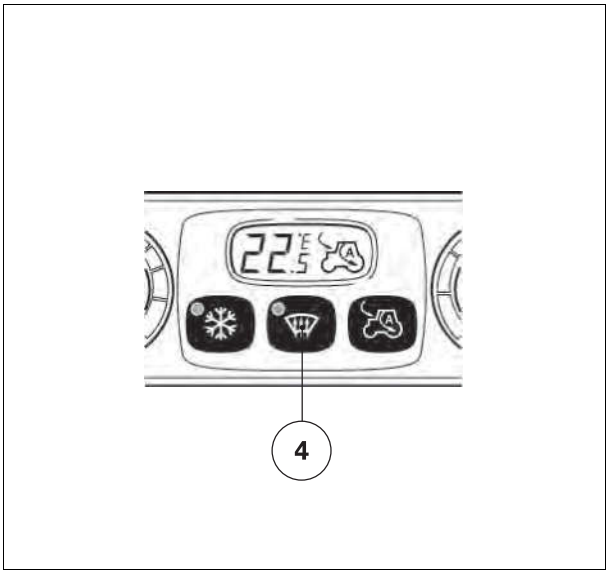



*Fig. 47.* I005378

*Air flow adjustment*

When the fan control knob (1) is in auto position (A), air flow is selected automatically. Air flow changes are gradual.
It is possible to manually select an air flow that is different from the air flow selected automatically. When the knob is moved to a different position, air flow change is instantaneous.
Depending on the level of solar radiation, the air flow adjusts automatically if the required temperature is lower than the outside temperature, and the LCD temperature display flashes.
Air flow can be adjusted to maintain the temperature inside the cab at pre-selected levels.

Stopping the automatic function. Move the fan control knob (1) to the OFF position (B).

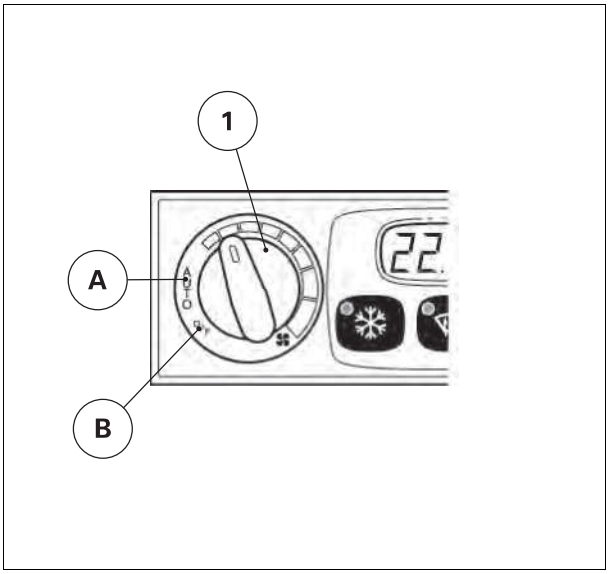



*Fig. 48.* I005379

*Air conditioning button*

Turn on the cab air conditioning by pressing the button (3). The corresponding indicator light comes on.
The air conditioning compressor is activated to maintain the required temperature level.
To deactivate it, press the button (3).

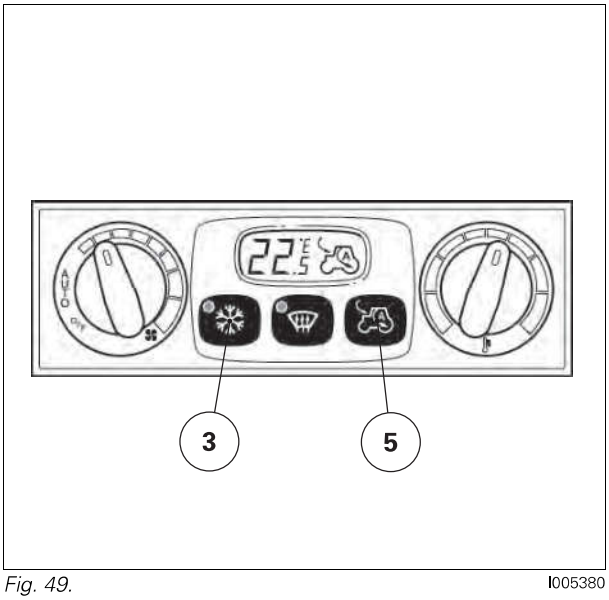
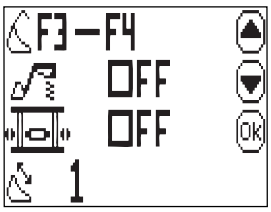
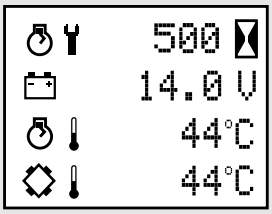
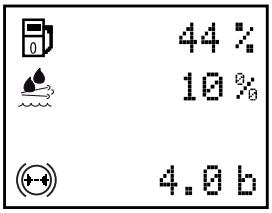
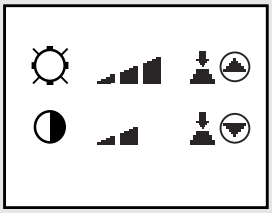
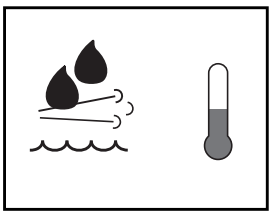
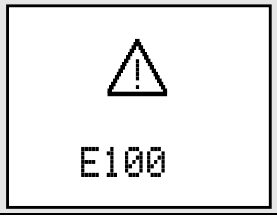



*Fig. 49.* I005380

| Screen | Function |
|---|---|
|  | **Front-end loader screen (if this option is fitted)**<br>Displays hydraulic functions F3/F4, the loader suspension, the locking and unlocking of the installed accessory and the shaker function.<br>To select the operating mode for loader hydraulic functions F3-F4 (mode F3 or mode F3-F4).<br>To activate/deactivate the front-end loader suspension<br>OK To lock/unlock the installed accessory.<br>Use the potentiometer SV1 to change the value from 0 to 5 (0 = shaker function deactivated)<br>"ON" function active<br>"OFF" function inactive<br>***NOTE:*** *For more details on these functions,see §3.14.3, page 209.* |
|  | **Diagnostics screen 1**<br>Number of hours until the next service period<br>The default value of 500 hours can be reset by pressing the OK key for 5 seconds.<br>Battery voltage<br>Engine temperature<br>Transmission temperature.<br>***NOTE:*** |
|  | **Diagnostics screen 2**<br>Diesel fuel tank level<br>DEF (urea) tank level<br>Pneumatic brake system pressure. |
|  | **Brightness adjustment screen**<br>This screen is used to set the instrument panel brightness and contrast<br>Sets the instrument panel brightness<br>Sets the instrument panel contrast. |
|  | **Error code screen; cold-weather starting of e3 SCR Technology** engine<br>*see §3.4.7, page 111* |
|  | **Error code screen**<br>This screen appears as soon as a tractor-related error is active. |

## 3.4.7 Information about the various operating modes of the e3 SCR Technology engine

T009027

### Normal mode

Display of the DEF level.

### Degraded mode 1

When degraded mode 1 is activated, engine power is limited.

- Degraded mode 1 is activated after detection and confirmation of a fault on the system.
  The delay between confirmation and activation can vary from 10 to 30 minutes depending on the type of fault.
- The engine torque is limited to 75% within 30 minutes of activation of degraded mode.
- Activation of degraded mode 1 is related to the appearance of the symbol on the TMC Dash Display accompanied by the illumination of the indicator light on the instrument panel, an error code and a consecutive beep.
- If no action is taken to correct this situation within the next three hours, final degraded mode is activated.

### Final degraded mode

- Final degraded mode limits the engine speed to idle and the torque to 50%.
- This mode is activated either after mode 1 or directly after detection and confirmation of a fault in the system. The confirmation time varies depending on the fault. The activation of final mode is indicated by the symbol displayed in the TMC Dash Display, the alarm warning light on the instrument panel, an error code and an audible alarm.

***NOTE:*** *In the event of activation related to the level of DEF in the tank, an additional symbol indicates the fault.*

***NOTE:*** *Degraded mode is deactivated when the DEF tank is filled to above 10% or when the fault is corrected.*

### Operator information

The operator is informed of the operating condition of the system on the TMC Dash Display.

- The engine indicator light illuminates on the instrument panel (see instrument panel)
- Display of the level of DEF.
- Display of an alert message on the TMC Dash Display for the level being too low *fig. 10*
- Display of fault codes on the TMC Dash Display

***NOTE:*** *Fault codes are deleted as the faults are corrected.*

### Start-up ratios in Dyna-Step mode

| | Start-up ratio in road mode (hare) | Start-up ratio in field mode (tortoise) | Start-up ratio in creeper range (snail) |
|---|---|---|---|
| Forward | 0 to 12 | 0 to 16 | 0 to 21 |
| Reverse | 0 to 12 | 0 to 16 | 0 to 21 |

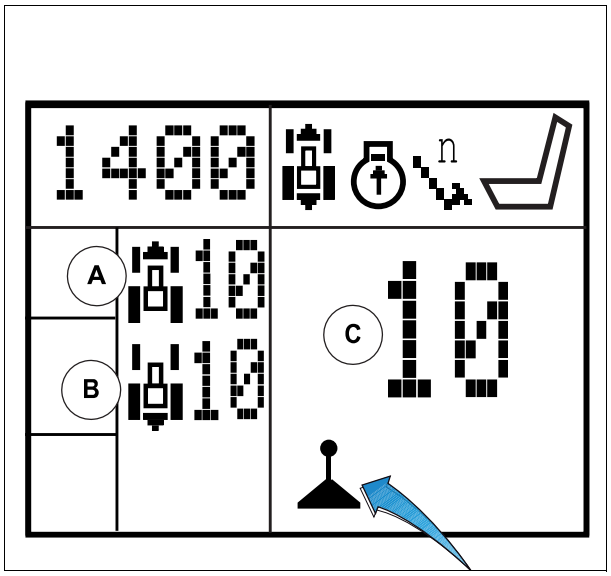



*Fig. 7.* I043105

## 3.5.5 Storage of forward speeds

T001784

It is possible to store two forward speeds (SV1 and SV2) in the following modes and for both directions of travel, and to recall these speeds with ease.

- Lever
- Pedal
- Self-propelled

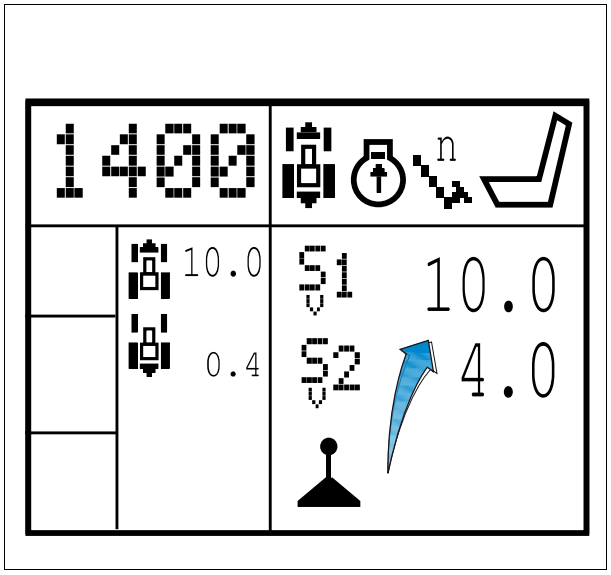



*Fig. 8.* I032675

(A) Stored engine speed
(B) Maximum forward speed
(C) Forward speed of the tractor

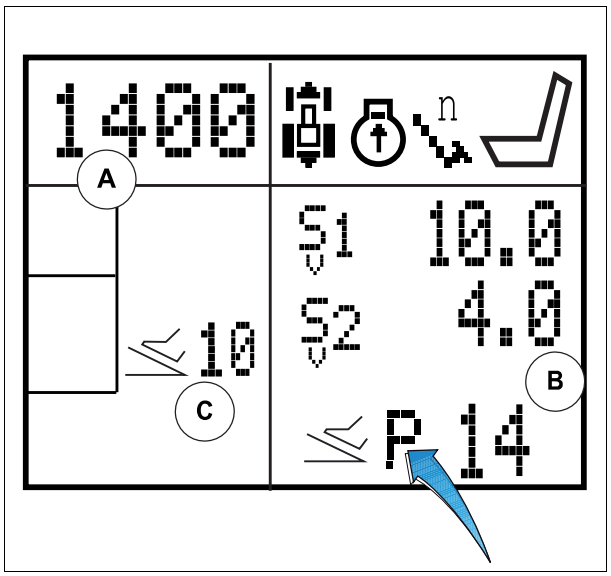



*Fig. 26.* I043107

## 3.5.10 Dyna-Step mode

T018381

This mode is used to change from a continuous variable transmission to a 21-ratio stepped sequential transmission.
This mode is accessed by simultaneously pressing the Lever/Pedal mode switch and the clutch pedal for 5 seconds.
To exit Dyna-Step mode, simultaneously press the switch and clutch pedal again for 5 seconds.

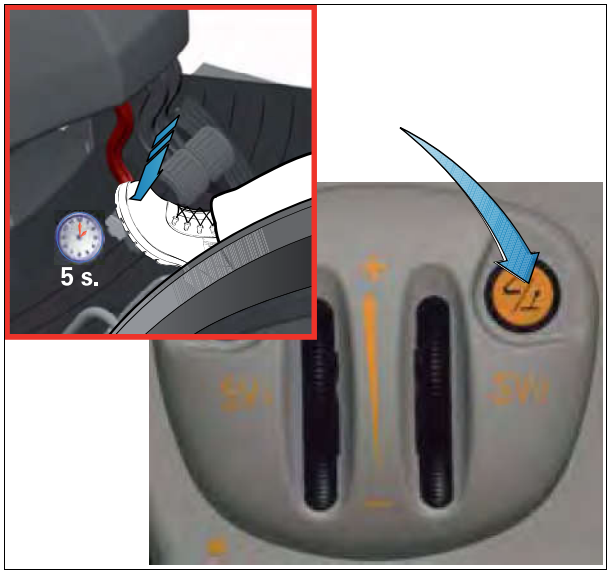



*Fig. 27.* I043102

3. "CAL" should appear on the screen *fig. 42*.
4. Drive the tractor forwards at normal working speed.
   ***NOTE:*** *The tractor must always be moving at a constant speed before starting out on the measured course; otherwise calibration will be incorrect.*
5. Press the display selector switch (A) when crossing the starting line of the 100 m (328 ft) course.

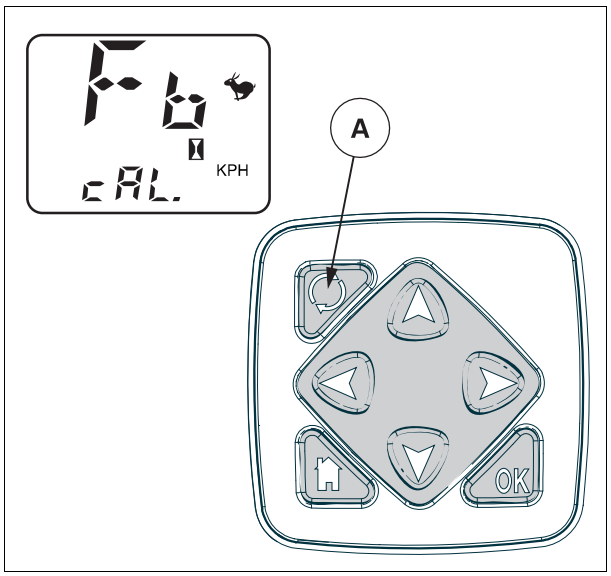



*Fig. 42.* I007510

6. "run" should appear on the screen *fig. 43*
7. Press the display selector switch (A) when crossing the finish line of the course.
8. Press the display selector switch (A); the constant forward speed (theoretical) measured during calibration is displayed.
9. Press the display selector switch (A) again; the actual constant forward speed (radar) measured during calibration is displayed on tractors fitted with radar.
10. Press the display selector switch (A) one final time to return the instrument panel to normal operating mode.

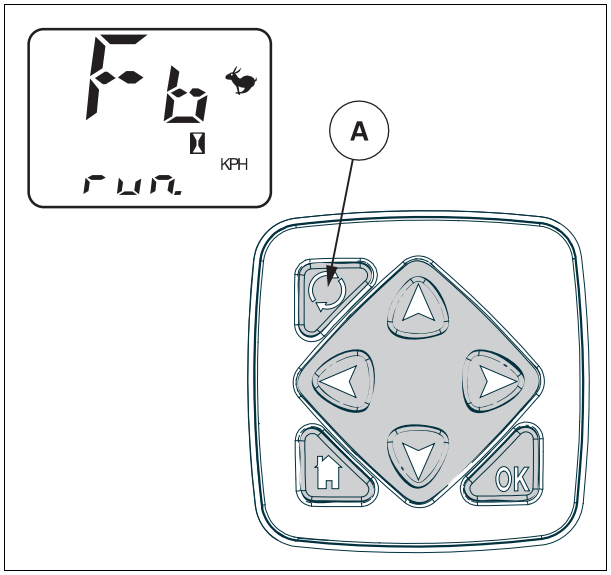



*Fig. 43.* I007511

## Operation

- On starting the engine, the axle suspension remains in the position (activated or deactivated) that it was in when the engine was stopped.
- The suspension is activated by pressing the switch (7); the indicator light (5) lights up on the instrument panel and the front axle is raised a few seconds later.
- To deactivate the suspension, press the switch (7); the indicator light (5) goes out and the front axle lowers onto its mechanical stops.
- The front axle suspension is activated automatically when the speed exceeds 30 km/h (19 mile/h).

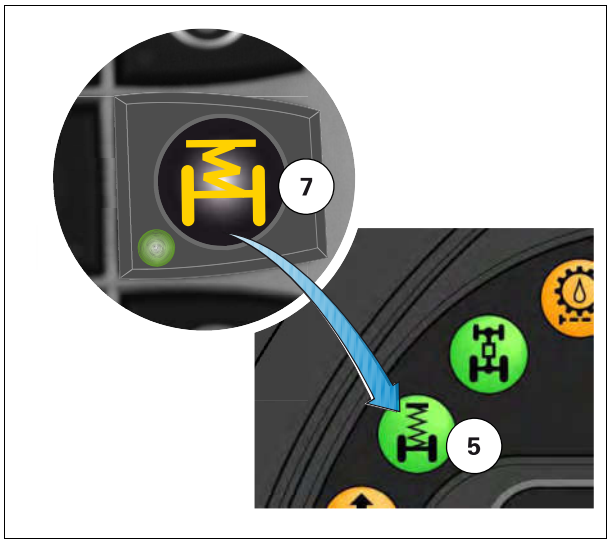



*Fig. 3.* I031442

## 3.10.5 PTO external control

T015798

***DANGER:***
***Keep at a safe distance from the PTO drive shaft when operating the external control.***

The PTO external control (1) is located on the left-hand fender.
It is used to engage the PTO, stop rotation and restart the PTO.

(1) Engaging the power take-off
To engage the PTO, press the switch (1) for a minimum of five seconds (see description of seat)

(2) Stopping rotation
Pressing the switch (1) temporarily disengages the PTO
The PTO indicator light on the instrument panel comes on.

(3) Restarting
To re-engage the PTO, press the switch (1) for a minimum of five seconds (restriction on use: (see description of seat).

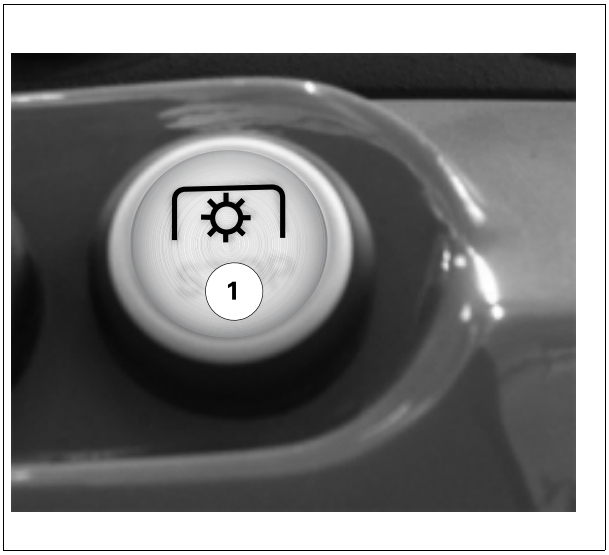



*Fig. 8.* I028386

***NOTE:*** *To engage the rear PTO from the fenders, you must deactivate the rear PTO brake and engage the parking brake.*

### Rear PTO/engine speed automation

This screen is available in the TMC Dash Display and is used to engage an engine speed when the rear PTO is activated using the controls located on the fenders.

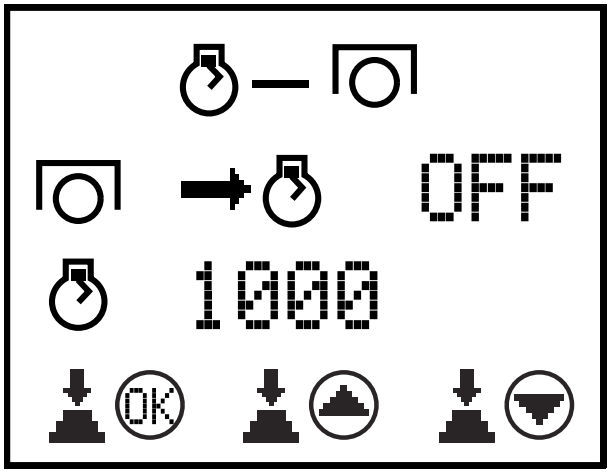



*Fig. 9.* I004937

## 3.10.6 Power take-off electronic controls

T001402

***NOTE:*** *The PTO electronic controls are designed to protect the tractor and the implement.*

– If the main PTO selector switch is in the "engaged" position when starting the engine, the PTO is disengaged and the PTO indicator light on the instrument panel flashes. No error will be transmitted or displayed. To start the PTO, the PTO selector switch must be moved to the OFF position and then to the ON position.

### Hydraulics priority to the linkage

This function can be accessed from the TMC Dash Display settings window.
This screen is used to prioritize the hydraulic flow rate to the rear linkage; it increases or decreases the lifting speed.
The remaining flow displayed is for the hydraulic spool valves (only when the rear linkage is in use).

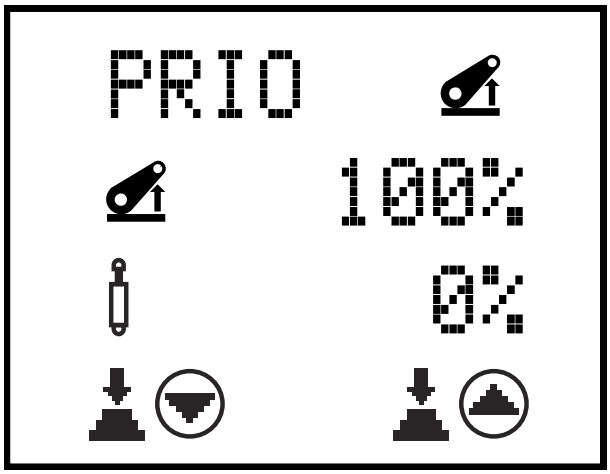



*Fig. 17.* I004934

## 3.11.4 Rear linkage external controls

T001891

The linkage lifting controls (2) and lowering controls (1) located on the rear left and rear right fenders are used to activate the linkage.

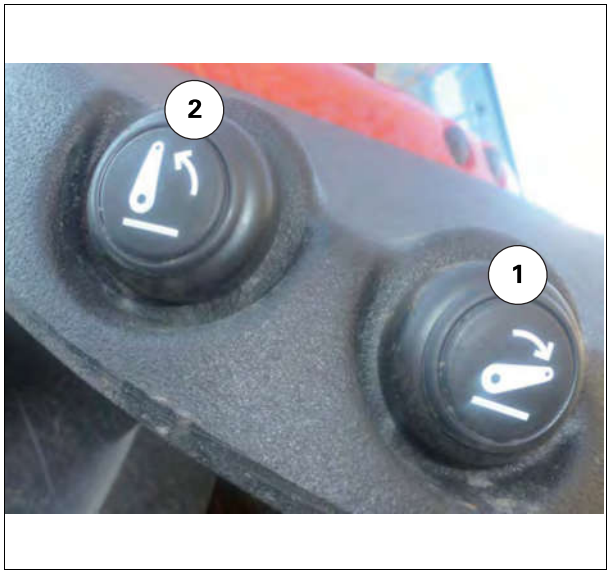



*Fig. 18.* I043448

| Initial setting | Actions |
|---|---|
| Cab controls for the rear linkage are locked | Press the external lowering switch then lifting switch to activate the rear linkage |
| Cab control for the rear linkage is in lifting position | Impossible to use the external switches |
| Cab controls for the rear linkage are in neutral or lower position | Press the external lowering switch then lifting switch to activate the rear linkage |

## Position of lift rods on the bottom links

The lift rods can be set to different bottom link positions based on use.

Put the lift rods (1) into the hole (2) to achieve maximum lift capacity; the linkage height is then decreased.
For maximum lift height, put the lift rods (1) into the hole (3) (closest to the tractor); the lift capacity is then decreased.

***NOTE:*** *Make sure there is enough clearance between the cab and rear window (in open or closed position) when hitching a mounted or semi-mounted implement to the rear linkage and when there is any change in the position of the lift rods on the bottom links.*

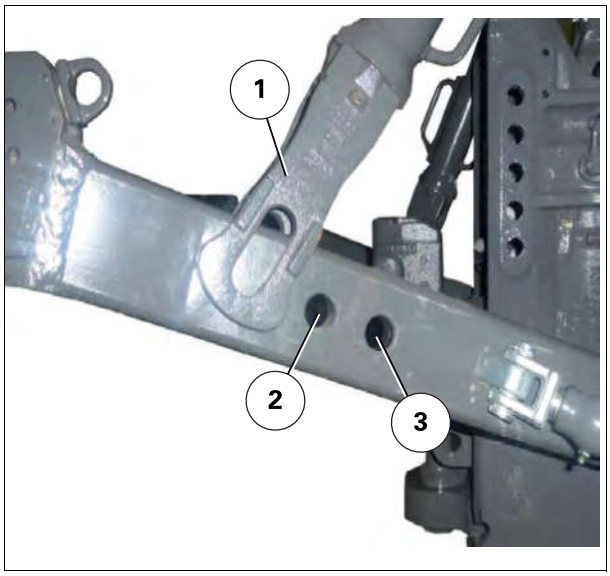



*Fig. 34.* I042165



# 3.11.9 Stabilizers

T015486

## Description

Stabilizers are used to restrict the lateral movement of the rear bottom links.

Two models are available:
(1) Automatic stabilizer:
(2) Stabilizer with manual telescopic adjustment

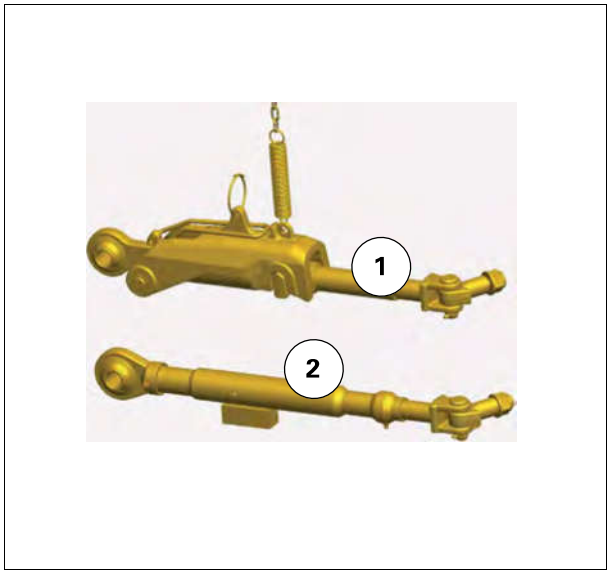



*Fig. 35.* I034962

## Stabilizers with manual telescopic adjustment

***CAUTION:***

***The rear linkage must be in work position (low position) in order to adjust the stabilizers. Noncompliance with these instructions can lead to material damage or serious accidents.***

# 3.13 Auxiliary hydraulics

## 3.13.1 General

T015843

The MT500D are sold with the 110 l/min (29.1 gal/min (US)), 200 bar (2901 psi) Closed Center hydraulic system.

The tractor may be fitted with a maximum of 4 spool valves. It may be fitted with up to 4 pairs of couplers at the rear and 2 pairs of couplers at the front.

The spool valve controls are grouped together on the right-hand console and/or on the armrest (depending on the option fitted).

***IMPORTANT:*** *Do not operate the hydraulics unless the oil is warm. If necessary, allow the engine to run for several minutes before use.*
*In the event of the hydraulics overheating, stop the tractor immediately.*

## 3.13.2 Description of hydraulic couplers on Closed Center system (Load Sensing)

T015473

The tractor is fitted with rear couplers and front couplers.

### Description of the rear couplers

*Valves*

(1) Spool valve No. 1
(2) Spool valve No. 2
(3) Spool valve No. 3
(4) Spool valve No. 4

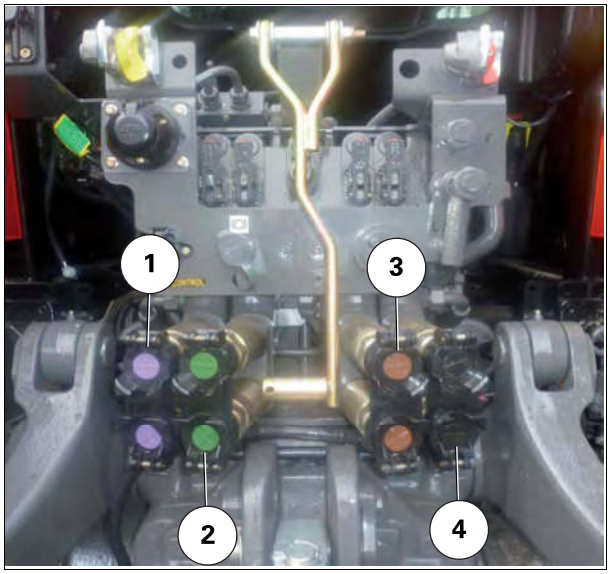



*Fig. 1.* I043217

Hydraulic functions controlled by a Multi Function Joystick on the armrest and two mechanical levers on the console.

(A/B) Spool valves 1 and 2 at the rear or at the front, or front linkage as allocated

(C) Lever no. 3: Spool valve 3 at the rear or at the front of the tractor

(D) Lever no. 4: Spool valve 4 at the rear of the tractor

(E) Spool valve flow rate control and memory switch

(F) Auxiliary hydraulics locking/unlocking switch

(G) Switch for the third hydraulic function or adjustable advanced function in the TMC Display (option)

(H) Switch for the fourth hydraulic function or adjustable advanced function in the TMC Display (option)

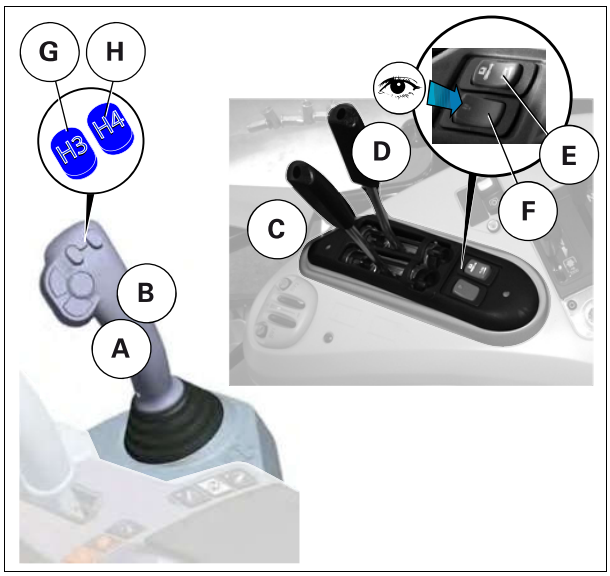



*Fig. 21.* I032846

Hydraulic functions controlled by a Multi Function Joystick on the armrest and two FingerTIPs on the console.

(A/B) Spool valves 1 and 2 at the rear or at the front, or front linkage as allocated

(C) FingerTIP no. 3: Spool valve 3 at the rear or at the front of the tractor

(D) FingerTIP no. 4: Spool valve 4 at the rear of the tractor

(E) Spool valve flow rate control and memory switch

(F) Auxiliary hydraulics locking/unlocking switch

(G) Switch for the third hydraulic function or adjustable advanced function in the TMC Display (option)

(H) Switch for the fourth hydraulic function or adjustable advanced function in the TMC Display (option)

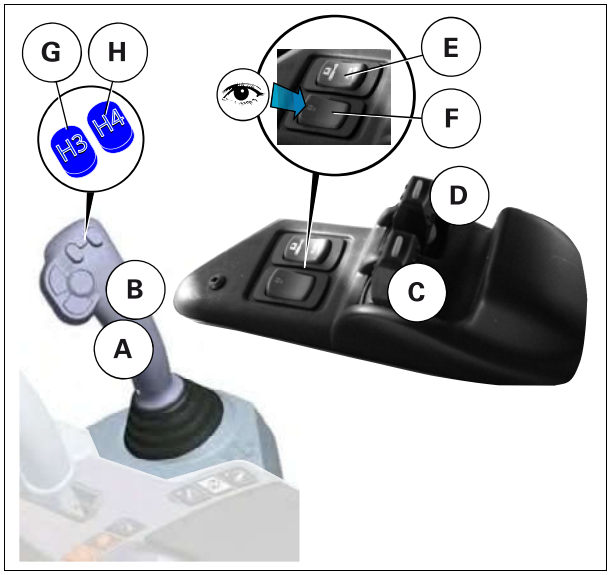



*Fig. 22.* I032845

*Cancelling*

2. Pull the joystick towards (3) to cancel the floating position.

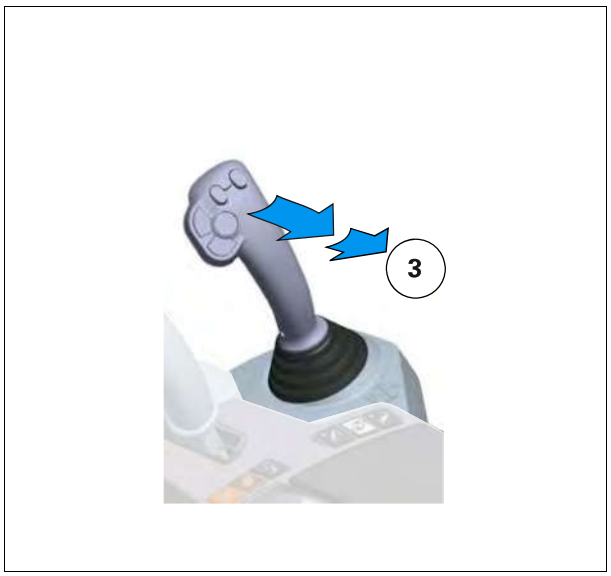



*Fig. 6.* I032932

## 3rd and 4th functions

***IMPORTANT:*** *The 3rd and 4th functions are activated temporarily.*

*Selecting the operating mode*

1. Go to the corresponding TMC Dash Display screen
2. Use the top arrow of the control keypad to select the required operating mode:
   - F3 mode
   - F3-F4 mode

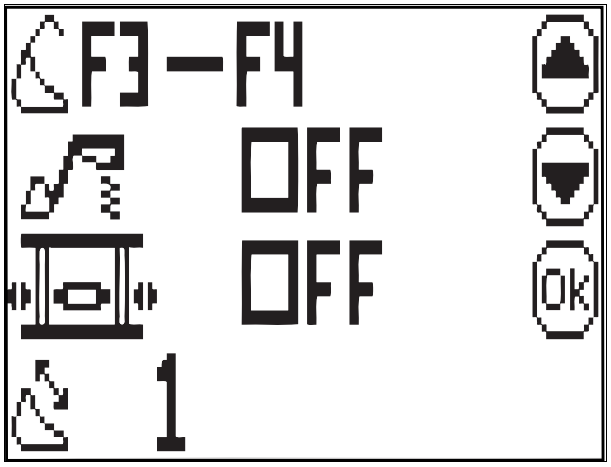



*Fig. 7.* I031320

Eight track widths can be obtained by changing the position of the rim in relation to the disc or by reversing the wheels.

| Position | Rims | Plate-to-plate distance | | | | | |
|---|---|---|---|---|---|---|---|
| | | DANA 735:1800 mm (70.9 in) | | DANA 740:1892 mm (74.5 in) | | DANA 740:1784 mm (70.3 in) | |
| | | Disc offset 42 mm (1.7 in) | Disc offset 100 mm (3.9 in) | Disc offset 42 mm (1.7 in) | Disc offset 100 mm (3.9 in) | Disc offset 42 mm (1.7 in) | Disc offset 100 mm (3.9 in) |
| Wheel disc facing inwards | (1) | 1566 mm (61.7 in) | 1456 mm (57.4 in) | 1658 mm (65.3 in) | 1548 mm (61.0 in) | 1550 mm (61.1 in) | 1440 mm (56.7 in) |
| | (2) | 1680 mm (66.2 in) | 1560 mm (61.5 in) | 1772 mm (69.8 in) | 1652 mm (65.1 in) | 1664 mm (65.6 in) | 1544 mm (60.8 in) |
| | (3) | 1734 mm (68.3 in) | 1660 mm (65.4 in) | 1826 mm (71.9 in) | 1752 mm (69.0 in) | 1718 mm (67.7 in) | 1644 mm (64.8 in) |
| | (4) | 1772 mm (69.8 in) | 1764 mm (63.1 in) | 1864 mm (73.4 in) | 1856 mm (73.1 in) | 1756 mm (69.2 in) | 1748 mm (68.9 in) |
| Wheel disc facing outwards | (5) | 1848 mm (72.8 in) | 1856 mm (73.1 in) | 1940 mm (76.4 in) | 1948 mm (76.8 in) | 1832 mm (72.2 in) | 1840 mm (72.5 in) |
| | (6) | 1886 mm (74.3 in) | 1960 mm (77.2 in) | 1978 mm (77.9 in) | 2052 mm (80.8 in) | 1870 mm (73.7 in) | 1944 mm (76.6 in) |
| | (7) | 1940 mm (76.4 in) | 2060 mm (81.2 in) | 2032 mm (80.1 in) | 2152 mm (84.8 in) | 1924 mm (75.8 in) | 2044 mm (80.5 in) |
| | (8) | 2054 mm (80.9 in) | 2164 mm (85.3 in) | 2146 mm (84.6 in) | 2256 mm (88.9 in) | 2038 mm (80.3 in) | 2148 mm (84.6 in) |

When refitting, gradually tighten the nuts to the torque setting according to the recommendations in the table of tightening torques (see tightening torque in the Maintenance section of the Operator's Manual).

## Adjustment after changing track widths

***NOTE:*** *With narrow track widths and with certain tire fittings, the wheels may touch the hood when turning at maximum lock. To prevent this contact, the hubs are fitted with threaded stops (1)- that can be adjusted to limit the steering angle.*
*The adjustment made in the factory complies with the modification requirements for tractor transport (see §3.17.4, page 222).*

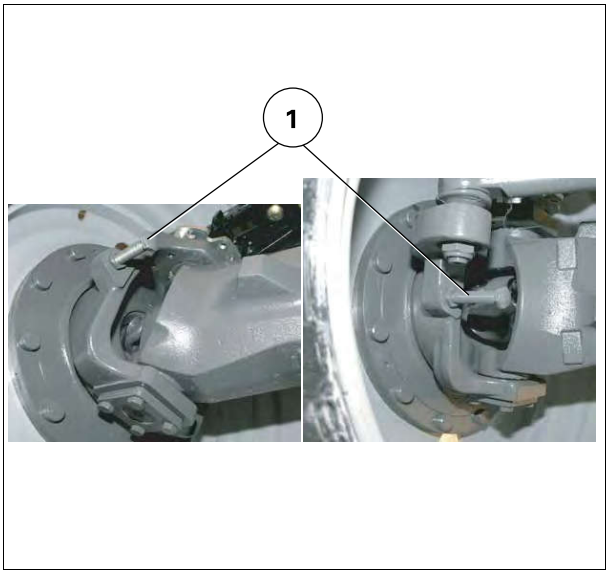



*Fig. 6.* I006121

**CAUTION:**

***The distance between the side of the inner tire and the cab must always be higher than or equal to 40 mm (1.6 in) (European Directive 89-173)***

*Track widths possible with rims with cast iron disc*

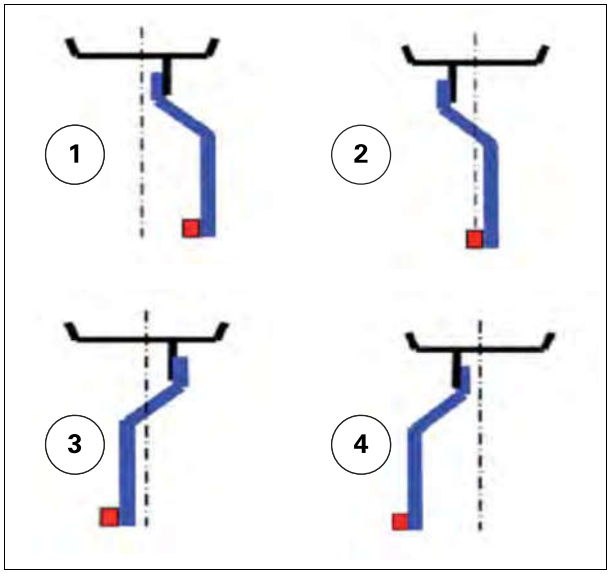



*Fig. 9.* I042543

| Rear axle type | Rim in position (1) | | Rim in position (2) | | Rim in position (3) | | Rim in position (4) | |
|---|---|---|---|---|---|---|---|---|
| | Minimum track width with plate-to-plate distance of 1832 mm (72.2 in) | Maximum track width with plate-to-plate distance of 2277 mm (89.7 in) | Minimum track width with plate-to-plate distance of 1832 mm (72.2 in) | Maximum track width with plate-to-plate distance of 2277 mm (89.7 in) | Minimum track width with plate-to-plate distance of 1832 mm (72.2 in) | Maximum track width with plate-to-plate distance of 2277 mm (89.7 in) | Minimum track width with plate-to-plate distance of 1832 mm (72.2 in) | Maximum track width with plate-to-plate distance of 2277 mm (89.7 in) |
| HA 130 | 1467.6 mm (578.2 in) | 1912,6 mm (75.4 in) | 1793,6 mm (70.7 in) | 2238,6 mm (88.2 in) | 1972,4 mm (77.7 in) | 2417,4 mm (95.2 in) | 2298,4 mm (90.6 in) | 2743,4 mm (108.1 in) |

When refitting, gradually tighten the nuts to the torque setting according to the recommendations in the table of tightening torques (see tightening torque in the Maintenance section of the Operator's Manual).

## 3.18.5 Rear track width with long straight shafts

T018018

### General

The various track widths are obtained by changing the position of the rim in relation to the disc or by reversing the wheels.

(A) Center of the tractor
(B) External dimension
The external dimension is the longest distance between the outer sides of the tires
(C) Outer track width
The outer track width is the distance between the center of the right outer tire and the center of the left outer tire
(D) Outer plate-to-plate distance
The outer plate-to-plate distance is the distance between the two bearing faces of the left and right outer rims
(E) Inner plate-to-plate distance
The inner plate-to-plate distance is the distance between the two bearing faces of the left and right inner rims
(F) Inner track width
The inner track width is the distance between the center of the right inner tire and the center of the left inner tire
(G) Wheel to wheel distance
The wheel to wheel distance is the inner distance between the two rear tires
(H) Free space
Free space is the distance between two cone/hub assemblies from the same side allowing variation in twinned track widths
(I) Wheel to wheel distance of the dual wheels
The wheel to wheel distance of the dual wheels is the free space between two tires on the same side of the tractor

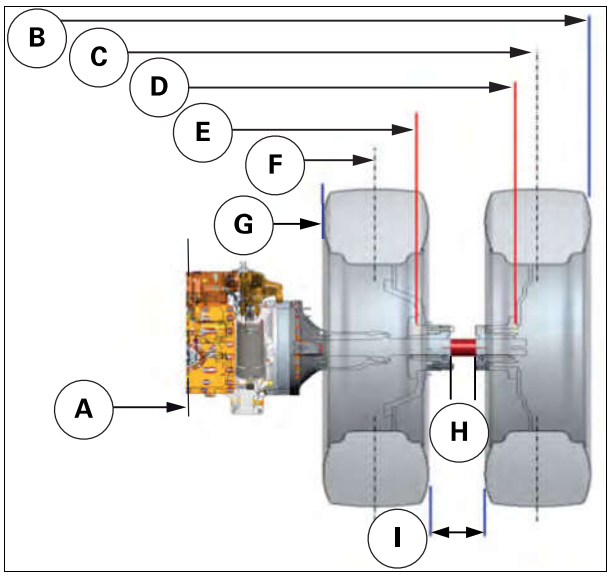


*Fig. 4.* I042655

| Rear axle type | Diameter of the straight shaft | Inner plate-to-plate distance | Outer plate-to-plate distance | Free space |
|---|---|---|---|---|
| | | Min. | Max. | |
| HA 130 | 95 mm (3.7 in) | 1832 mm (72.2 in) | 3359 mm (132.3 in) | 64,5 mm (2.5 in) |