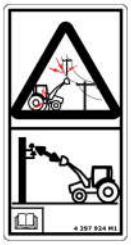
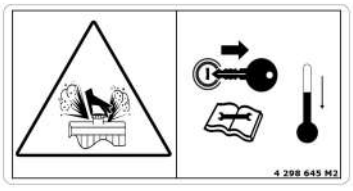
MASSEY FERGUSON

# MF 6700 R

MF 6711 R/6712 R/6713 R
Dyna-4


# OPERATOR'S MANUAL

FROM MASSEY FERGUSON

| | |
|---|---|
|  | • **4296979M1** ((I))<br>• **DANGER:** Lead-acid battery hazards:<br>- Explosive gasses.<br>- Corrosive liquid (sulphuric acid).<br>Keep away from all naked flames or sparks<br>Shield eyes when working on or around battery.<br>Read safety and operating instructions in the Operator Instruction Book for further information. |
|  | • **4296981M2** ((G))<br>• **DANGER:** Runaway machine and runover hazards.<br>Only start the engine when seated in the seat with the PTO disengaged and the transmission in the neutral position.<br>DO NOT short across starter terminals to start engine. |
|  | • **4296985M1** ((E))<br>• **WARNING:** Pinch point hazard due to moving parts.<br>Keep hands clear of joints when pivoting coolers. |
|  | • **4297148M1** ((N))<br>• **WARNING:** Falling hazard.<br>Do not step on PTO shield. |
|  | • **4297924M1** ((S))<br>• **DANGER:** Electrocution hazard.<br>Tractors fitted with a front loader: Exercise extreme caution to avoid coming into contact with power lines. |
|  | • **4298645M2** ((F))<br>• **WARNING:** Scalding hazard – high pressure steam and hot water.<br>Shut off engine, remove key and wait for system to cool before removing radiator cap.<br>Remove the filler cap with extreme care. |

### Starting assistance

**WARNING: Using starter fluid or aerosol sprays can cause an explosion and serious injury.**

**Never use starter fluid or aerosol sprays.**

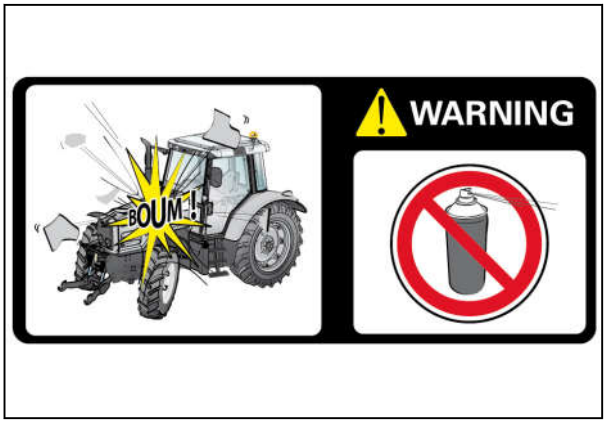



*Fig. 8*

## 2.6.3 Checks to be carried out after start-up

### Controls and indicator lights

After having started the engine, check all the controls and all the indicator lights again. Ensure everything is functioning correctly.

**WARNING:**
**In case of malfunction of a control or an indicator light, resolve the problem before using the tractor.**

### Mastering of the tractor

Move slowly until you are sure that everything is operating correctly. Be certain that you have full control of the steering and brakes. If the differential is locked, unlock it before continuing your route.

- Only tow using the drawbar. Attaching the trailed implement to another location could cause the tractor to overturn.

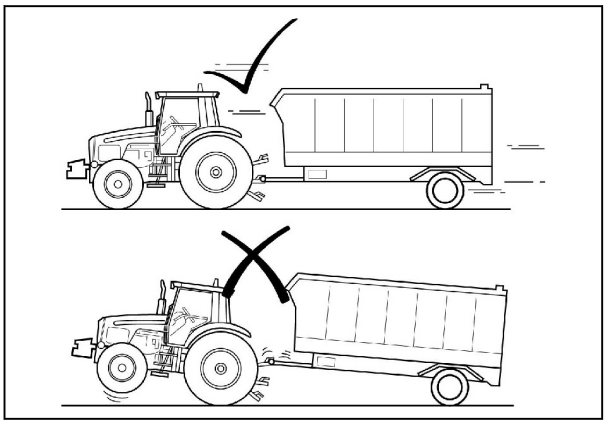


*Fig. 19*

**Towing: permissible load and speed**

**WARNING: The stopping distance increases with the speed and weight of the trailed implements, and also on a slope.**

**Whether they are fitted with a brake system or not, trailed implements that are too heavy for the tractor or that are towed at too high a speed may lead to a loss of control.**

**Take account of the total weight of the trailed implement (including the load).**

The maximum permitted trailed weights are indicated on the name plate. In particular, do not exceed the loads specified in ***Regulatory data on maximum permitted trailed weights***

**Towed equipment without brakes:**

Do not tow equipment that does not have brakes:

- at speeds of more than 32 km/h; or
- at speeds above those recommended by the manufacturer; or
- with a mass (weight) that is over 1.5 t when fully loaded and is more than 1.5 times the mass (weight) of the tractor.

**Towed equipment with brakes:**

Do not tow equipment that has brakes:

- at speeds of more than 50 km/h; or
- at speeds above those recommended by the manufacturer; or
- with a mass (weight) more than 4.5 times the mass (weight) of the tractor when fully loaded;
- at speeds of more than 40 km/h if, when fully loaded, it has a mass (weight) more than 3 times the mass (weight) of the tractor.

## 2.7.9 Front-end loader

**WARNING:**
**Equip the tractor with a FOPS (Falling Object Protective Structure) roof if using a loader.**
**The programmable functions of the joystick or any other control MUST NOT be used to operate a loader. In order to prevent involuntary loader movement, the loader joystick controller must be of the self-cancelling type. When the operator releases his grip on the joystick, the joystick must return to a neutral position - except for floating detent position when the loader is being lowered.**
**Read the implement instruction books for implements to be used with the tractor and comply with the safety instructions specified.**
**For the attachment points, refer to the specifications chapter.**

*Fig. 20*

**Throttle pedal.**

Use of the throttle pedal enables a momentary increase of the engine speed set by the hand throttle.

**WARNING: When travelling on the road, only the throttle pedal should be used.**

**The throttle lever should be moved to the idle position so that engine braking can be operational.**

## 3.1.4 Steering wheel

The steering wheel tilt and height can be adjusted. Both adjustments are made using a single lever :

- height adjustment: pull the lever upward to adjust the height (1)
- tilt angle adjustment: press the lever downward to adjust the tilt angle (2).

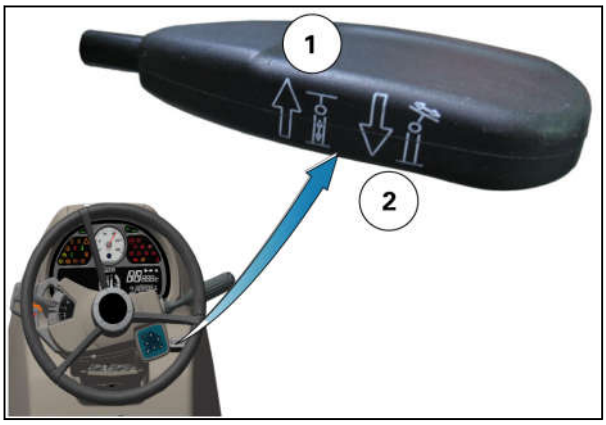



*Fig. 10*

## 3.1.5 Operator presence detector

**Operator presence detector**

A presence detection system is incorporated into the operator's seat. When the tractor is in motion, should the operator leave the seat, a specific icon will be displayed on the instrument panel. The tables below summarize the detector's operating conditions.

Detection sensor status of the operator's seat:

- OFF = No operator detected on the seat
- ON = Operator detected on the seat


*Fig. 11*

**Storage space for books and user instructions**

The storage compartment or storage pocket (depending on model) is located on the back of the seat. To open the compartment, first pull the tab (A) upwards and then pull the cover backwards (B).

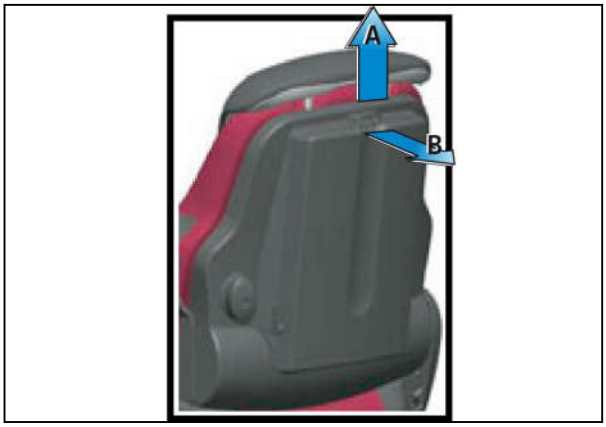



*Fig. 30*

**Seat belt**

Wearing the seat belt plays an essential role in protecting the operator.

**IMPORTANT:** *Always wear the seat belt adjusted correctly.*

## 3.1.8 Instructor seat

- Use of the instructor seat is exclusively reserved for an instructor or technician. The seat is NOT suitable for children.
- The seat belt must always be worn and correctly adjusted when using the instructor seat.

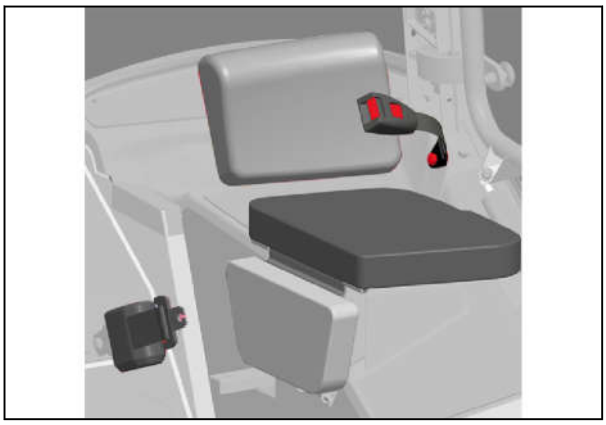


*Fig. 31*

## 3.1.9 Right-hand console

(A) Transmission loop control
(B) Control module Dyna-4
(C) Auxiliary hydraulics controls
(D) Rear power take-off on/off switch and automatic power take-off switch
(E) Creeper unit switch (optional)

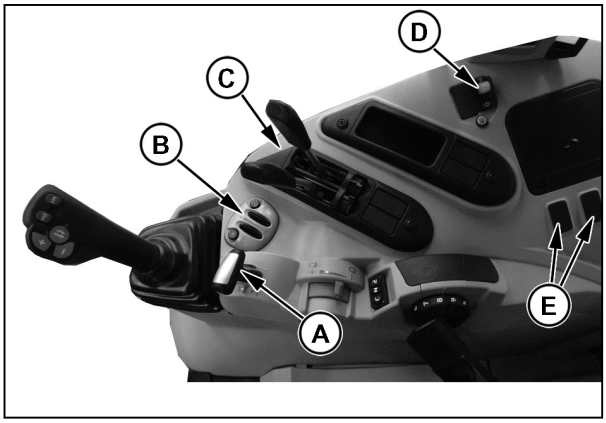



*Fig. 32*

## 3.1.16 Emergency exits

To open, turn the lever 90° and push the window outwards.

*Fig. 53*

## 3.1.17 Sun visor

The front sun visor can be adjusted in stages.

To change its position, pull the sun visor (1) down until it reaches the desired position.

To raise the sun visor, pull the cord (2).

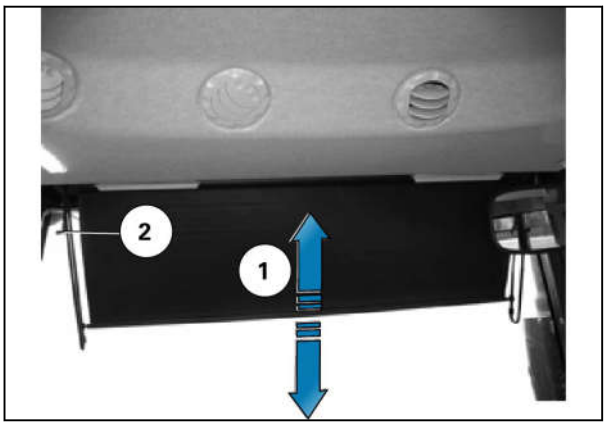



*Fig. 54*

### 3.3.2.2 Adjusting the arm extensions (depending on model)

**Procedure**

1. The length of the rear-view mirror arms can be adjusted to improve rear visibility according to the size of the implements hitched to the tractor.
2. Loosen the notched thumb wheel (2) and move the extension in the direction required.
3. Retighten the notched thumb wheel to lock the arm extension in place.

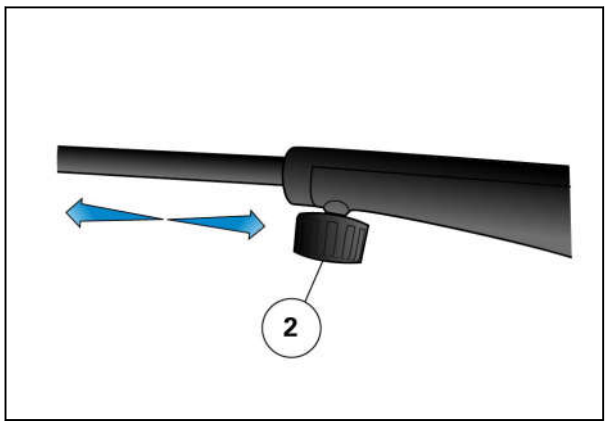



*Fig. 61*

### 3.3.2.3 Adjusting the rear-view mirrors (depending on model)

**Procedure**

1. Manual rear-view mirror adjustment Loosen the notched thumb wheel (1) or the screws (3) in order to move the rear-view mirror.
2. Retighten the notched thumb wheel or the screws to lock the rear-view mirror in place.
3. The rear-view mirror can be manually adjusted on mirrors not fitted with an electric control: Use both hands, diagonally opposed, to turn the rear-view mirror in the direction required.

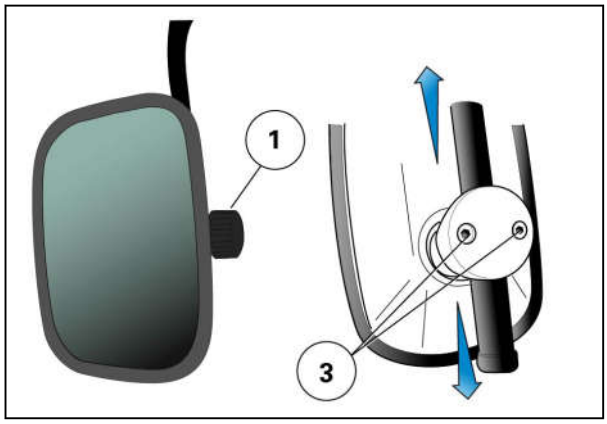



*Fig. 62*

**NOTE:**
*Depending on the model, it may be necessary to loosen the notched thumb wheel* (1) *or the screws* (3) *to make the adjustment.*

### 3.5.4.5 Pedal (AutoDrive) mode

When the tractor is started, release the throttle and press the Pedal (AutoDrive)/Lever (Speedmatching) mode switch (1). The selected mode appears on the screen.

The transmission can be controlled by the throttle pedal/Power Control lever or the hand throttle.

The maximum transmission ratio (C) is set using the C2 potentiometer (B):

- Ranges and ratios 1A to 4D in road mode (hare) for Dyna 4.
- Ratios A to D only in field mode (tortoise) for Dyna 4.

The engine speed to change the transmission gear (D) is adjusted using the C1 potentiometer (A):

- "Auto": Transmission ratios are shifted automatically between 1550 rpm and 2000 rpm, depending on the engine load.
- 1400 to 2000 rpm: Transmission ratios are shifted based on the operator's choice

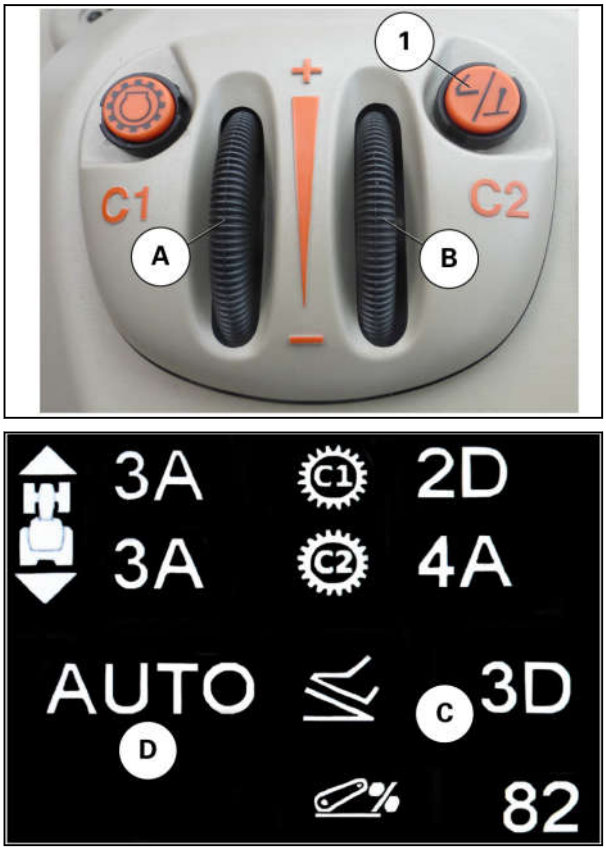



*Fig. 76*

In Lever mode, two modes can be selected according to tractor use

Mode choices:

- field mode (tortoise) (A) for field use
- road mode (hare) (B) for road use

**NOTE:**
*See forward speeds in the Maintenance section of the Operator's Manual*

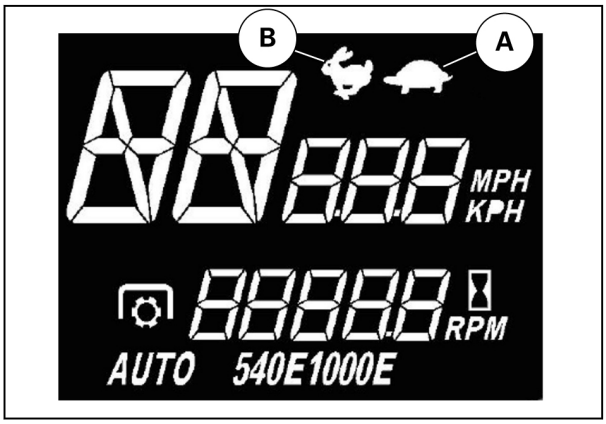



*Fig. 77*

| Actions | Consequences |
|---|---|
| Press the left-hand side or right-hand side brake pedal (uncoupled) | The differential lock is temporarily disengaged |
| Press the left-hand side or right-hand side brake pedal (coupled) | The differential lock is permanently disengaged |
| The tractor's forward speed is greater than 20 km/h | The differential lock is permanently disengaged |
| Steering angle greater than 10° (with the steering angle sensor option) | The differential lock is temporarily disengaged |
| Steering angle less than 10° (with the steering angle sensor option) | The differential lock is engaged again |
| The rear hydraulic lift is in the lift position or the hydraulic lift is in the high position | The differential lock is temporarily disengaged |
| The rear hydraulic lift is in the descent position or the hydraulic lift is in the low position | The differential lock is engaged again |

# 3.10 Hydraulic lift

## 3.10.1 General features of the hydraulic lift

The tractor is supplied with ball studs or category 2 quick linkages.

(1) Leveler arm
(2) Lower linkage
(3) Ball studs
(4) Rear hydraulic lift travel

To increase the height of the hydraulic lift, place the leveling arms on the lift bars in position T1. Thus, the capacity of the hydraulic lift is reduced.

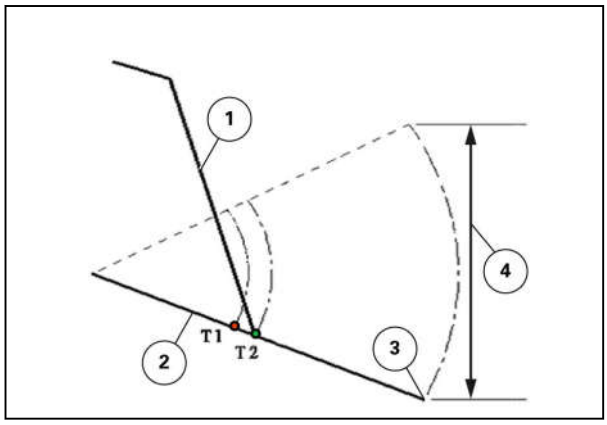



*Fig. 105*

**IMPORTANT:**
*To prevent damage to the hydraulic lift when operating trailers, take care when driving around bends to prevent interference between the draw bar and the hydraulic lift.*
*When the external controls are used, make sure that you are outside the area of movement of the three-point hydraulic lift.*

| Models | Rear axle type | Category | Leveling arm position | Ball stud linkage capacity | Ball stud hydraulic lifting capacity of 610 mm |
|---|---|---|---|---|---|
| | | | | Capacity throughout the entire length of the hydraulic lift's travel | Capacity throughout the entire length of the hydraulic lift's travel |
| MF 6711 Dyna-4 | GPA 54 | Category 2 | T2 | 4.950 kg | 4.260 kg |
| MF 6712 R Dyna-4 | GPA 54 | Category 2 | T2 | 4.950 kg | 4.260 kg |
| MF 6713 R Dyna-4 | GPA 54 | Category 2 | T2 | 4.950 kg | 4.260 kg |

## 3.10.2 Rear linkage electronic controls

The tractor may be fitted with two linkage systems:

- A rear linkage, which is fully incorporated into the rear axle.
- A front linkage built into the front of the tractor.

The two linkages are electronically controlled and are equipped with their own hydraulic spool valve.

### Adjusting the stabilisers for work

**8.** Start the engine

**9.** Activate the linkage and press the lowering switch for the rear linkage

**10.** Apply the parking brake

**11.** For particular conditions of use, such as with a plough, tighten the tube of the stabiliser in direction B to unlock the bottom link. Carry out the same operation for the other stabiliser.

**NOTE:** *Make sure the bottom links and stabilisers cannot strike the rear tyres.*

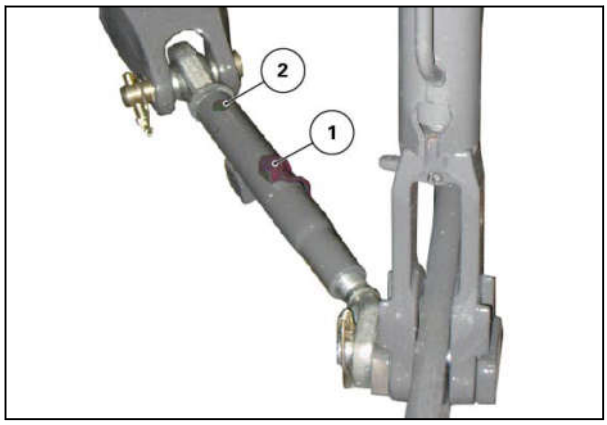



*Fig. 129*

**12.** For particular conditions of use, such as with a seeder, unscrew the tube (1) of the stabiliser in direction (A) to lock and centre the bottom link and prevent lateral movement. Carry out the same operation for the other stabiliser.

**NOTE:**
*Check that the two stabilisers have the same length. The rear implement must be centred with respect to the top link.*

## 3.10.8.2 Automatic stabilisers

### Position of the stabilisers for transport

When the rear linkage is in the transport (high) position, the clevis lock (1) is lowered onto the threaded section (2) so that the stabilisers (4) cannot move.

The chain (3) is then slack when the rear linkage is in the transport (high) position.

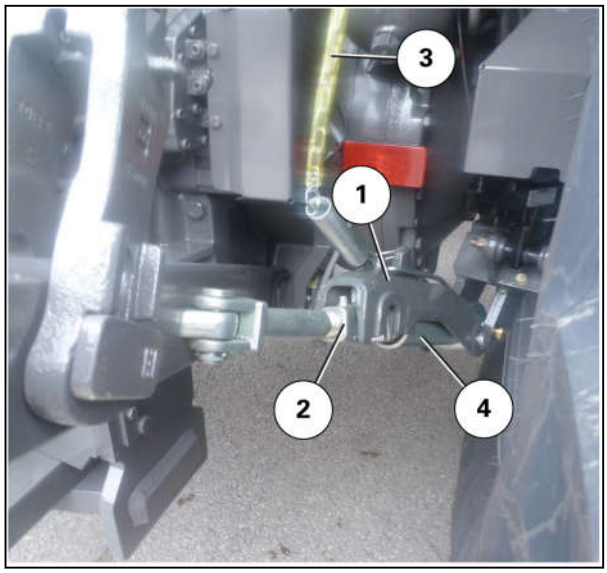



*Fig. 130*

**CAUTION: Do not connect the drain to the return hose as the hydraulic motor can operate in both directions of rotation.**

**There must be no pressure in the drain as it may damage the hydraulic motor.**

**NOTE:**
*The hydraulic flow can be adjusted so that the hydraulic system only supplies the quantity of oil required by the hydraulic motor (see Adjusting the flows).*

## 3.12.6 Description and use of the cab controls

### Description

**Mechanical controls (98 L/min on Open Centre system or 105 L/min on Closed Centre (Load Sensing) system)**

(1) 1st or 3rd spool valve manual control (1)
(2) 2nd or 4th spool valve manual control (2)
(3) Hydraulic spool valve locking control (3)

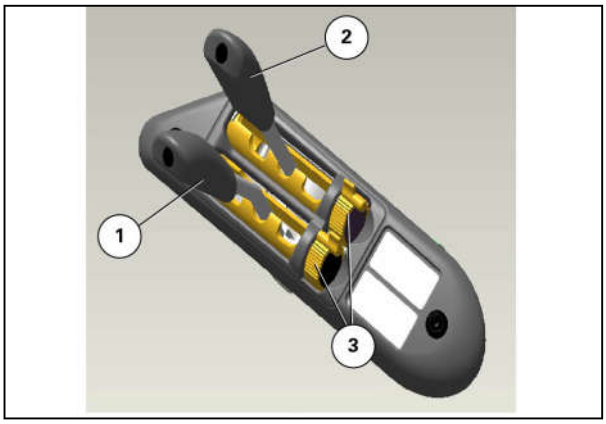



*Fig. 147*

**Electrical and mechanical controls (only with front loader)**

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

(A/B) Front-end loader control
(C) Lever No. 3: Spool valve 3 at the rear of the tractor
(D) Lever No. 4: Spool valve 4 at the rear of the tractor

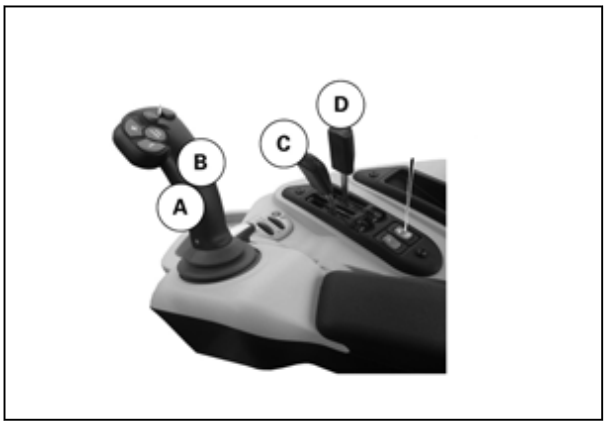



*Fig. 148*

# 3.14 Lighting

## 3.14.1 Main lighting control module

(1) Side lights: switch and indicator light only for operation of side lights

- The indicator light illuminates when the lights are on: press the switch to operate the side lights (all work lights stored the last time the engine was turned off will also illuminate).
- The indicator light turns off when the lights are off: press the switch to turn all lights off, including those activated by the switch (2) (all work lights in operation at this time will be stored when the engine is turned off).

(2) Dipped beam lights/main headlamp lights: activation switch and dipped beam lights indicator light

- The indicator light illuminates when the lights are on: press the switch (2) to activate the dipped beam lights and the side lights (all work lights stored the last time the engine was turned off are erased, but can be reactivated manually).

  To select the positions of the dipped lights (3) and the main headlight (4), use the control unit.
- The indicator light turns off when the lights are off: Press the switch (2) to turn the dipped beam lights off and leave the side lights on automatically.

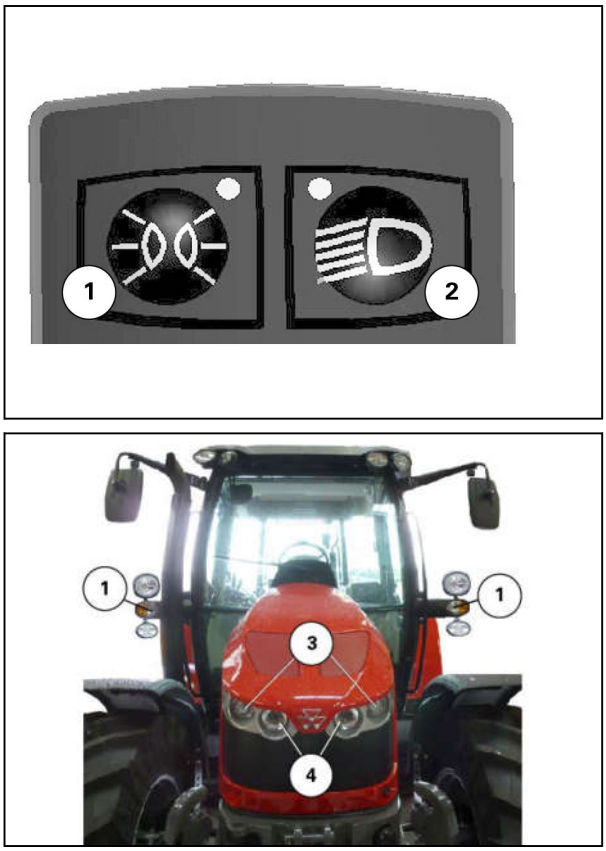



*Fig. 170*

## 3.14.2 Work lights module

**NOTE:** *The work lights can only be turned on when the main beam is on.*

**Rims with fixed disk**

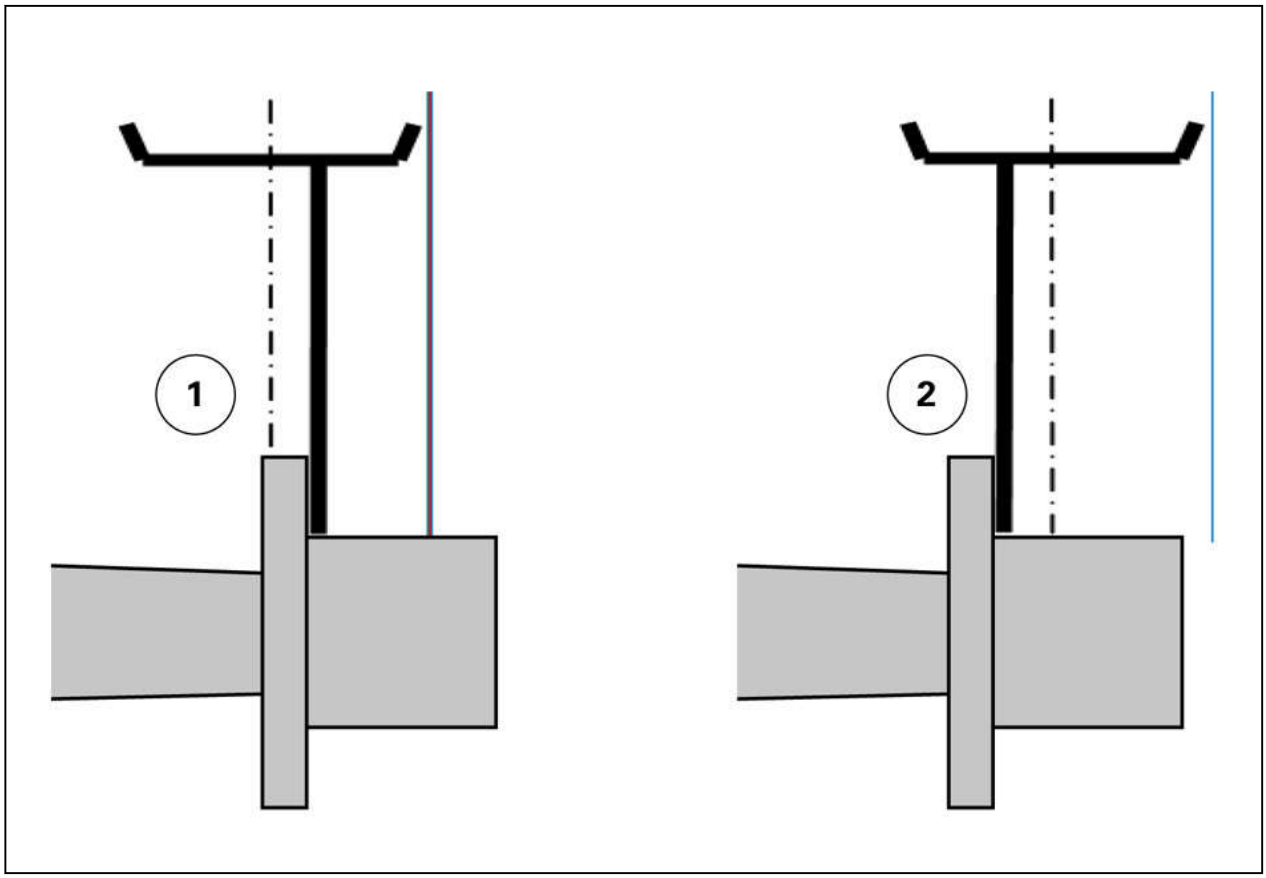



*Fig. 185*

Two range widths can be obtained by inverting the rims:

| Rear axle | Position of the rims | Distance from plate to plate |
|---|---|---|
| | | 1.680 mm (GPA 54) |
| | | Tread widths (in mm) |
| Without spacer | Minimum (1) | 1608 mm |
| | Maximum (2) | 1778 mm |
| With one spacer (43 mm) | Minimum (1) | 1694 mm |
| | Maximum (2) | 1864 mm |

*Possible track widths with welded wheels (rims with fixed disk)*

To reinstall, gradually tighten the nuts with the torque configuration given in the recommendations in the tightening torques table (see tightening torque in the Maintenance section of the Operator's Manual).

| | 10 hours or daily | 50 hours or weekly | 400 hours or annually | 800 hours or annually | 1200 hours or every two years |
|---|---|---|---|---|---|
| Clean the crankcase vent hose | | | | ° | |
| Empty, clean and refill the fuel tank | | | | ° | |
| Check the slack of the engine valves (replace the grease seal from the cover whenever checking valve slack) | | | °° | | ° |
| Drain, rinse and refill the radiator with coolant +and demineralized water | | | | | ° |
| Inspect the turbocharger and intercooler at an authorized workshop | Every 4000 hours | | | | |
| Clean and inspect the secondary air filter elements | Whenever the indicator light comes on (located on the panel) | | | | |
| Replace the primary air filter element | Replace after every fifth cleaning, every 1000 hours or once a year, whichever occurs first | | | | |
| Replace the secondary air filter element | Replace after the second primary filter replacement or every two years | | | | |

### 4.1.3 Transmission and hydraulic system

| | 10 hours or daily | 50 hours or weekly | 400 hours or annually | 800 hours or annually | 1200 hours or every two years |
|---|---|---|---|---|---|
| Check the oil level in the transmission/hydraulic system. | ° | °° | | | |
| Lubricate the rear hydraulic lift linkages (or whenever needed) | ° | °° | | | |
| Change the 15-micron high-pressure transmission filter | | °° | ° | | |
| Check the clutch pedal and clutch sensor calibration. | | °° | ° | | |
| Lubricate the axle bearings on the rear axle (depending on the model). | | | ° | | |

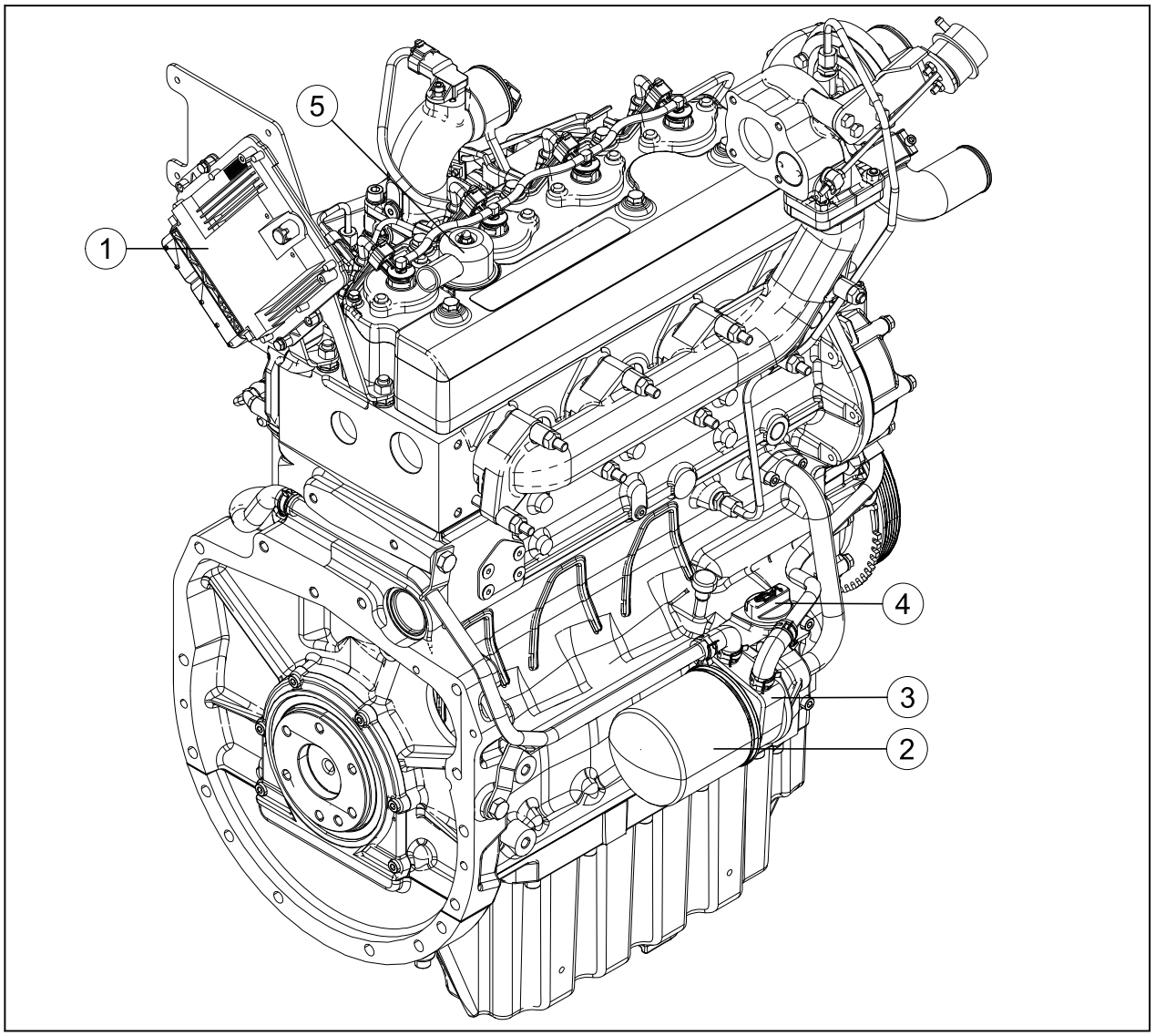



*Fig. 8 Right-hand side*

(1) Engine Control Unit (ECU)
(2) Oil filter
(3) Oil cooler
(4) Oil plug
(5) Breather

## 4.3.3 Engine oil level check

### Frequency

Check the engine oil level daily.

**Procedure**

1. With the engine stopped, manually press the belt halfway between the fan pulley and the crankshaft pulley.
2. If the tension is not correct, slightly loosen the attachment screws (1) on the roller tensioner.
3. Tension the belt by applying pressure to the roller tensioner (2) in the direction of the belt.
4. Retighten the screws (1) on the roller tensioner securely to a torque of 35 Nm.

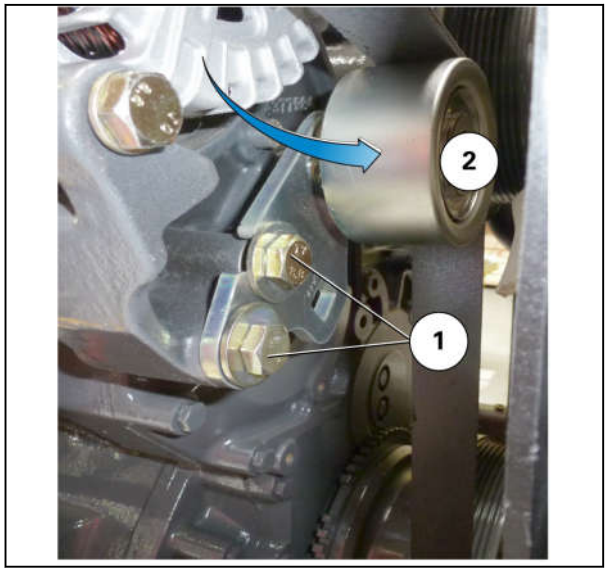



*Fig. 20*

### 4.3.16.2 Procedure for replacing the Poly-V main belt

**NOTE:**
*A new belt will have a tendency to slacken after approximately half an hour of operation.*
*A belt tension gauge can be used.*

**Procedure**

1. Remove the protective guards.
2. Loosen the attachment screws to release the roller tensioner (2).
3. Replace the belt (1).
4. When reassembling, tension the belt correctly (see see chapter *Procedure for tensioning the Poly-V main belt,* page 195 ).

   **NOTE:**
   *If the tractor is equipped with a front PTO, contact your AGCO dealer to replace the belt.*

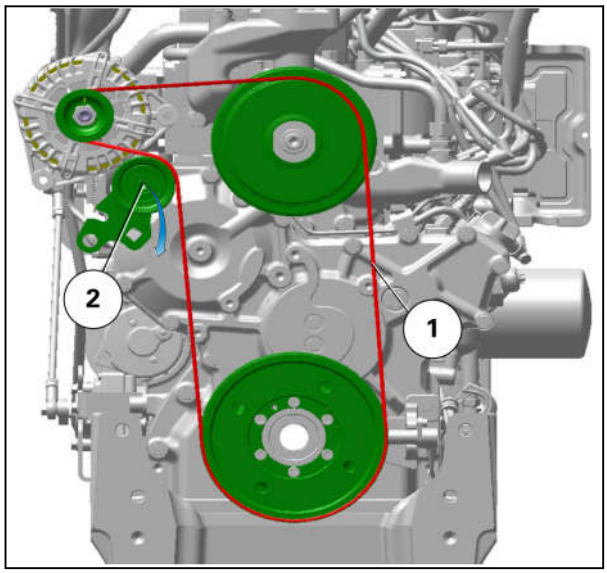



*Fig. 21*

## 4.3.17 Check and replace the air conditioning Poly-V accessories belt

**Frequency**

Check the belt tension every 100 hours.

Replace the belt as soon as it shows signs of wear or every 1000 hours.

## 4.4.6 Transmission breather

The breather is located behind the hydraulic spool valves on the transmission.

Regularly check that the breather hole is not obstructed.

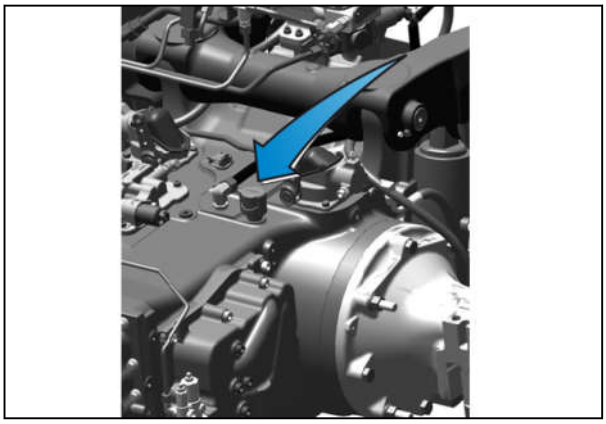


*Fig. 29*

## 4.4.7 Transmission oil cooler

**Procedure**

Clean by blowing compressed air several centimetres from the cooler.

**NOTE:**
*Take care not to damage the cooler fins.*


*Fig. 30*

## 4.4.8 Lubricating the rear axle shaft bearings

| Number | Amperage | Size | Protected function |
|---|---|---|---|
| F1 | 5A | Small | Fuse board earth |
| F2 | 3 A | Small | Functions:<br>• K6 relay control circuit supplying the +ACC [1] for the tractor<br>• Battery isolator "wake-up" via the +ACC[1] position of the ignition key<br><br>[1] + ACC = + 12 V accessory |
| F3 | 10 A | Small | + BAT [2] Radio supply |
| F4 | 15 A | Small | Power supply:<br>• Rear windscreen wiper motor and switch<br>• Extreme cold weather pump motor |
| F5 | 25 A | Average | Front windscreen wiper motor and control unit |
| F6 | 25 A | Average | Main beam lights on hand rail and grille |
| F7 | 15 A | Small | Dipped beam lights on hand rail and grille |
| F8 | 30 A | Average | Right-hand pillar power socket + BAT[2] |
| F9 | 10 A | Small | Not used |
| F10 | 5 A | Small | Battery circuit breaker and emergency stop switch |
| F11 | 15 A | Small | Switches for functions 3 and 4 on Multi Function Joystick |
| F12 | 10 A | Small | Functions:<br>• K6 relay power circuit supplying the +ACC[1] for the tractor<br>• Battery circuit breaker +ACC[1] |
| F13 | 5 A | Small | + BAT[2] Auto-Guide™ |
| F14 | 10 A | Small | + APC[3] Right-hand pillar power socket |
| F15 | 30 A | Average | Hazard warning light unit +BAT[2] |
| F16 | 25 A | Average | • Work lights on hand rails<br>• Work lights on fenders<br>• Indicator light for work lights |
| F17 | 30 A | Average | • Work lights on bottom hand rails<br>• Work light on front power socket<br>• Information about the work light module on the bottom hand rail |
| F18 | 20 A | Average | • Roof rotary beacons<br>• Rotary beacon on front power socket<br>• Keypad information for rotary beacons on roof and on front power socket |

# 4.10 How to store your tractor

## 4.10.1 Storing your tractor

When the tractor is not used for several months, follow these precautions to provide proper protection:

1. It is preferable to protect the tractor from inclement weather by storing it under cover.
2. Each linkage must be fully lowered to avoid any pressure building up in the rams.
3. Fill the tank with fuel to prevent any water entering the fuel tank due to condensation.
4. Protect the air inlet and exhaust from humidity.
5. Remove the battery and store it in a dry location.
6. Clean the tractor.
7. Carry out the maintenance indicated in the Operator's Manual (oil changes, filters etc.)
8. Lubricate all the points as indicated in the Operator's Manual.
9. Use grease to protect metal parts that are not painted (ram rods).
10. If possible, slacken off the engine accessories belt tensioner.
11. Chock the tractor so that the wheels are no longer in contact with the ground.
12. Use cloth to protect the instrument panel and coverings from direct sunlight (only if the tractor is stored outside).
13. Use water-resistant products (e.g. wax) to protect the tractor from moisture (only if the tractor is stored outside).

**NOTE:**
*Only error codes relating to the automatic air conditioning system are not displayed on the Setup and Information Screen. These error codes are only displayed on the air conditioning control module.*

### Reading the error code number

The code is represented by three sections of characters separated by dots.

Example: 8.1.22:

- **8**: Rear lift function
- **1**: Severity level
- **22**: Error code number

| Type of function concerned | Display of error number on the Setup and Information Screen |
|---|---|
| Instrument panel | No. 0 |
| Engine/Tier 4F/Stage IV SCR Technology engine | |
| Transmission | No. 4 |
| 4WD/differential lock/suspended front axle | No. 5 |
| Rear power take-off (PTO) | No. 6 |
| ParkLock | No. 13 |
| Rear linkage | No. 8 |
| Front linkage | No. 9 |
| Hydraulic valves | No. A.Y |
| Suspended Cab | No. 15 |
| Command Control Armrest | No. 3 |
| Air conditioning | No. 10 |
| Right-hand pillar keypad | No. 1B |

## 4.11.4 Description of error code format

### Reading the error code

The error code is composed of three parts separated by dots: the function, severity and fault code.

For example: 5.YX.31

- **5** corresponds to the function on the tractor that is faulty
- **YX** corresponds to the severity
  - **X** corresponds to the severity level of the error code
  - **Y** corresponds to the number of the hydraulic spool valve affected by the error code.

    If the error code does not relate to a hydraulic spool valve, the number displayed is 0
- **31** corresponds to the fault code

**IMPORTANT:**
*When describing error codes, the number corresponding to the severity is replaced by the letter **"X"** to cover a change in severity of the error code in the software.*

### Function

A number is assigned to each of the tractor functions:

### 5.3.3 Final drive

| | |
|---|---|
| Drive | Epicyclic, located inside the rear axle housing |
| Ratio | 1: 5.357 |

### 5.3.4 Rear differential lock

| | |
|---|---|
| Type | Dog clutch lock |
| Control | Hydraulic, with electric control |