# 6400 series tractors

*For models 6465/6475/6480*


OIB-07-03300

AGCO - SA - Beauvais - France - RC B562 104 539
MASSEY FERGUSON is a worldwide brand of AGCO Corporation

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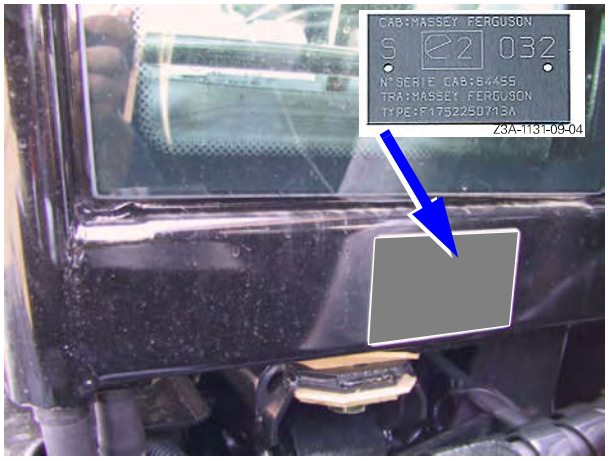
English

## 1.1 - SERIAL NUMBER

*IMPORTANT: PLEASE QUOTE THE SERIAL NUMBER OF YOUR TRACTOR IN ALL CORRESPONDENCE WITH YOUR DEALER OR AGENT.*

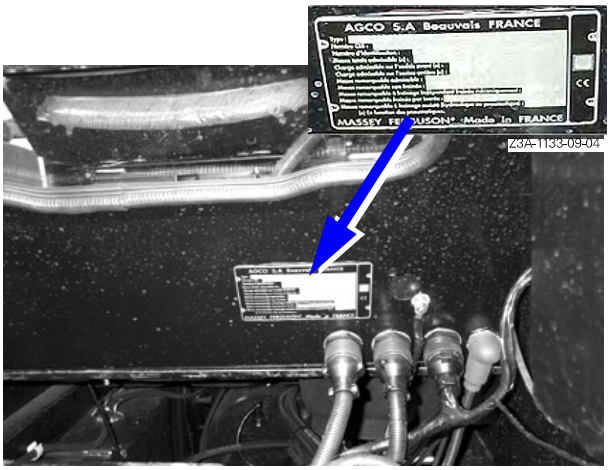
Homologation plate (according to country)




OIB-06-02034

Fig. 1

Name plate with serial number (according to country)




Z2-032

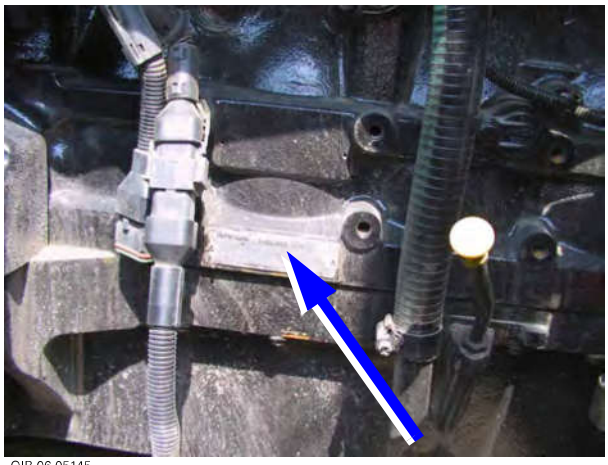
Fig. 2

Front axle serial number


OIB-06-04062

Fig. 3

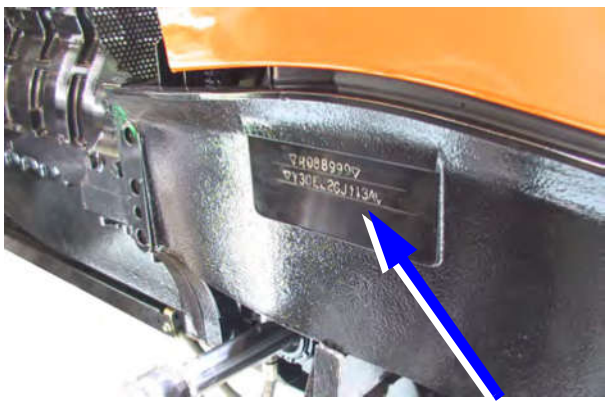
"PERKINS" engine serial number



OIB-06-05145

Fig. 4

Chassis No.



OIB-07-03299

Fig. 5

## 2.7 - SAFETY PROCEDURE

### 2.7.1 - Ensuring proper operation

To operate an agricultural tractor properly, you must be a qualified and approved operator. To be qualified, you must understand the written instructions supplied in this operator instruction book, have training in how to operate the tractor and know the safety rules and regulations applicable to the job.

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 regulations include, but are not limited to, the following instructions for safe tractor operation.

***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.***

### 2.7.2 - Observe the following instructions

- **DO NOT ALLOW** children or unqualified persons to operate the tractor. Move unauthorised persons away from the work area.
- Always wear your seat belt securely fastened.
- Where possible, avoid operating the tractor near ditches, embankments and holes. Reduce speed when negotiating turns and slopes and on rough, slippery or muddy surfaces.
- Stay off slopes that are too steep for safe operation.
- Watch where you are going, especially at row ends, on roads and around trees.
- The instructor seat is only intended for short periods of use.
- Do not allow children to use the instructor seat.
- **DO NOT PERMIT** others to ride on the tractor or the implement unless an approved instructor seat is fitted.
- Only hitch attachments to the drawbar and recommended hitch points and never above the centre line of the rear axle.
- Operate the tractor smoothly — avoid jerky turns, starts or stops. When the tractor is stopped, apply the hand brake securely. Lower the implement and remove the ignition key.
- **DO NOT MODIFY OR REMOVE** any part of the equipment and **DO NOT USE** attachments unless they are properly adapted to suit your tractor.

## 2.8 - PROTECTION

### 2.8.1 - Cab

The ROPS (Roll Over Protective Structure) has been designed for this tractor series and meets all legal safety and sound requirements.

The ROPS conforms to the various international safety standards. The ROPS must **NEVER** be drilled or modified to enable installation of accessories or implements. Welding components is **NOT PERMITTED. DO NOT ATTACH** chains or ropes to the main frame of the ROPS for pulling purposes.

If additional controls or displays must be added to the operator's area, contact your AGCO dealer for information.

The ROPS and the seat belt are effective in reducing injuries during overturn accidents. Wearing the seat belt is an important part of this protection.

- Always wear your seat belt and ensure it is correctly adjusted.
- Check the seat belt for damage. A damaged seat belt must be replaced (Fig. 1).

Z2-529-05-03

Fig. 1

### 2.8.2 - Damage to the ROPS

If there has been an accident with the tractor or if the tractor has overturned, the ROPS must be replaced, NOT repaired.

DO NOT USE the tractor if the ROPS has been damaged.

## 2.9 - PREPARING FOR SAFE OPERATION

### 2.9.1 - Know your equipment

It is important to know the tractor and how to operate all its accessories, implements and attachments. It is also important to know how to use all the controls, gauges and dials, and to know the rated load capacity, speed range, braking and steering specifications, turning radius and operating clearances.

Remember that rain, snow, ice, loose gravel or soft ground can change the performance of the tractor.

## 2.14 - DESCRIPTION OF DECALS

**WARNING**
High pressure steam and hot water.
Remove filler cap with extreme care.

DO NOT REMOVE OR OBSCURE DECAL
3595685 M1

Located on top of the bonnet (access to radiator cap)

**WARNING**
Before working on the tractor, disconnect negative leads to all batteries.

**WARNING**
Before removing any battery, disconnect all negative leads before positive leads.

DO NOT REMOVE OR OBSCURE DECAL
3595679 M1

Located on the battery cover plate

**CAUTION**
Keep all shields, covers and guards fastened in place while engine is running.

**WARNING**
Beware hot parts.

DO NOT REMOVE OR OBSCURE DECAL
3595678 M1

Located on either side of the bonnet

**WARNING**
Always disengage PTO and stop engine before attaching or detaching PTO shafts or working on PTO driven equipment.
Always fit PTO cover when PTO is not in use.

**CAUTION**
Do not stand between tractor and equipment when operating controls.

Tow only with MF approved tractor drawbar or hitch.

DO NOT REMOVE OR OBSCURE DECAL
3581563 M1

Located at the rear of the tractor.

**WARNING**
Gears lever (1, 2, 3, 4) and the reverse/forward level must be in his neutral position:

- in order to use the external lift controls,

- when the driver is not in his seat.

**WARNING**
When the tractor is stationary, it is imperative to fully apply the handbrake because leaving the tractor in gear will not prevent movement.

When attempting to start the engine using a slave battery, ensure that the gear lever (1, 2, 3, 4) is in neutral.

Never connect a slave battery directly to the starter motor.

DO NOT REMOVE OR OBSCURE DECAL
3 713 705 M3

Located on the right-hand inner pillar of the cab

**WARNING**

Before operating, read operators instruction book thoroughly.

Do not start engine until everyone is a safe distance from tractor and equipment.

Keep all shields, covers and guards in place while engine is running.

Keep hands, feet and clothing away from power driven or moving parts.

Always drive with due care and attention.

If differential lock does not disengage automatically, depress clutch pedal brake pedals must always be coupled together when independent brakes are not being used.

Before leaving tractor, apply parking brake, lower equipment, stop engine and remove key from starter switch.

When attaching equipment check operator's instruction book for front and rear axle load limits.

Put the gears lever (1,2,3,4) and the reverse/forward level in neutral position in order to use the external lift controls.

Ensure that all wheel and rim nuts are tightened as specified in operator's instruction book.

On public roads, use SMV emblem and flashing warning lights where required by law.

DO NOT REMOVE OR OBSCURE DECAL
3 580 321 M5

Located on the right-hand inner pillar of the cab

4271915M1
Located at either side of the radiator


Located on the inside right-hand cab window

**CAUTION**
TO AVOID POSSIBLE TRACTOR OVERTURN, PULL ONLY FROM DRAWBAR OR LOWER LINKS OF THREE POINT HITCH.

2752579 M1

Located on the fenders at the rear of the cab

3782489 M1

Located on the right-hand inner pillar of the cab


3777021M2

Located on the accumulator

## 3.4 - DOT MATRIX SCREEN

Fig. 10:

1. Forward travel pre-selected speed display.
2. Reverse travel pre-selected speed display.
3. Ratio display of selected range.
4. Forward speed display.
5. PTO rotational speed
6. Wheel slip percentage display (optional)

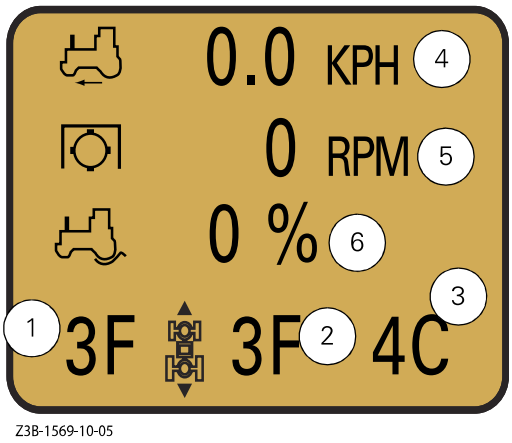



Fig. 10

Access controls to DOT MATRIX menus. Fig. 11

7. Up scrolling key.
8. Down scrolling key.
9. Left-hand adjustment key.
10. Right-hand adjustment key.
11. Confirmation key.
12. Cancel key.

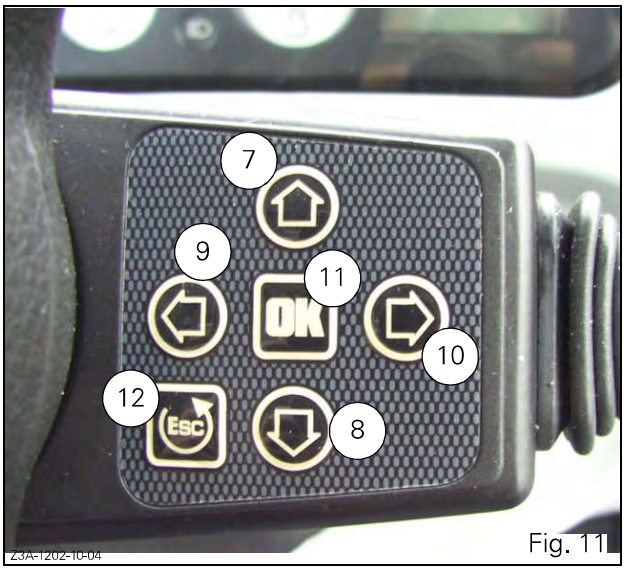



Fig. 11

## 3.5 - PEDALS

(Fig. 12)

1. Clutch pedal.
   This is fitted with a safety start switch. The clutch pedal must be depressed fully before operating the starter switch.

*NOTE: Never keep your foot on the clutch pedal or keep it halfway engaged.*

2. Brake pedals.
   The two brake pedals can be used either separately or locked together using latch 3.
3. Brake pedal locking latch.
4. Throttle pedal.
   Use of the throttle pedal enables a momentary increase of the engine speed set by the hand throttle.

***CAUTION: 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.***

***Check that the memorised A/B speed is not activated.***

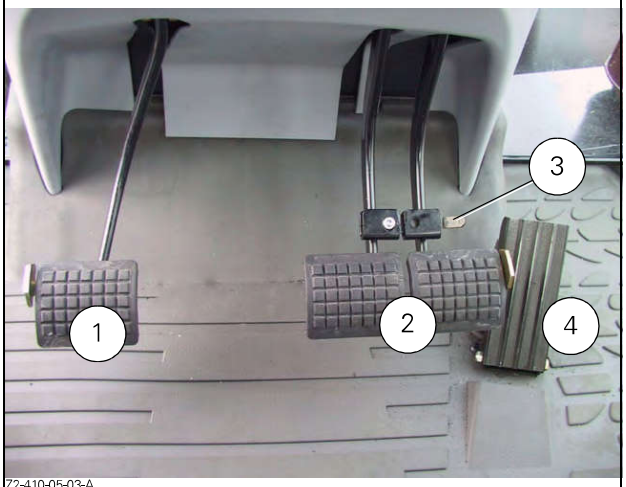



Fig. 12

## 3.12 - HIGH VISIBILITY GLAZED ROOF

Opening (Fig. 35): Turn the two safety locks 1 to release the roof, push upwards to partly open the roof along ref. 2, slide the glass backwards to open it completely along ref. 3.

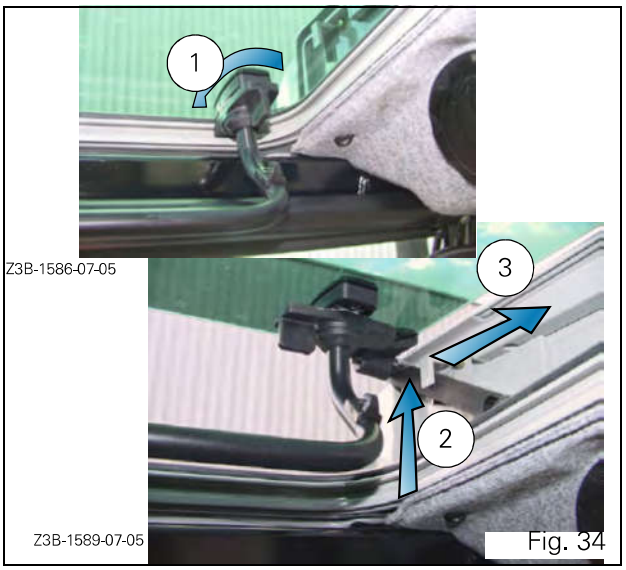


Fig. 34

### 3.12.1 - Air conditioning system

*IMPORTANT: When the air conditioning system is in use, the cab doors and windows must be closed. Do not use the air conditioning system when the temperature falls below 20°C. Switch off the system before starting up the engine. Ensure that the cab air filter is clean (see chapter 5).*

*NOTE: If the air conditioning system has not been used for some time, unlock the compressor before starting the engine by rotating the pulley nut with a wrench.*

*IMPORTANT: To prevent seizure of the compressor and keep the cooling system in good condition, the air conditioning must be operated for a few minutes at least once a week, even in winter.*

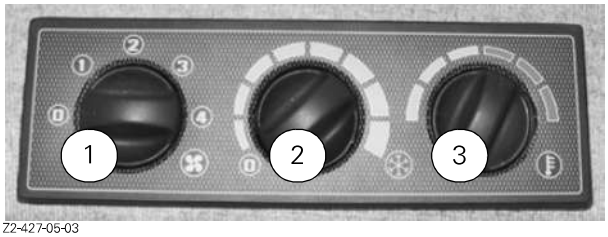
***ENSURE THAT THE COOLANT LEVEL IN THE SYSTEM IS CHECKED ONCE A YEAR BY YOUR DEALER.***

***WARNING: Do not attempt to disassemble any part of the air conditioning system.***

### 3.12.2 - Manual air conditioning system

#### 3.12.2.1 - Description

1. Manual ventilation control knob
2. Thermostat (minimum/maximum) control knob
3. Heating (minimum/maximum) control knob



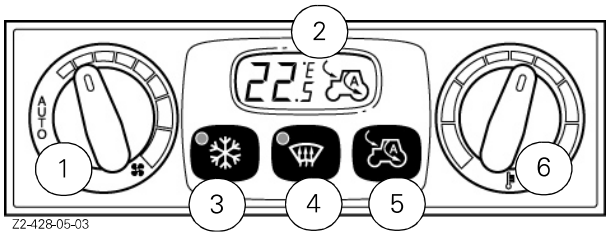

#### 3.12.2.2 - Operation

1. When the engine is running, turn knob 3 to the left (cold) and move knob 2 to minimum position.
2. Move fan switch 1 to fast position (fan symbol side).
3. When the required cab temperature is reached, adjust the heating knob and rotate knob 2 if required to maintain a comfortable temperature.
4. Reduce the speed of fan 1 using knob 3 to obtain a comfortable temperature.

Stopping the air conditioning: Move fan knob 1 and thermostat knob 2 to zero position to stop the air conditioning.

*NOTE: If a low fan speed and a low temperature are used for long periods, the evaporator may start to ice up. If icing occurs, adjust the temperature control knob to raise the temperature and, if the icing continues, increase the fan speed.*

### 3.12.3 - Automatic air conditioning system (optional)




#### 3.12.3.1 - Description

1. Manual/automatic fan control
2. Digital display (LCD)
3. Compressor ON/OFF button
4. Defroster button
5. Recirculation button
6. Temperature control knob

#### 3.12.3.2 - General specifications

The temperature inside the cab is controlled automatically by the air conditioning system, which controls the air temperature at the air vents, fan speed, recirculation and compressor operation.

The required temperature can vary by 0.5°C (1°F) between 20-24°C (68-76°F) and by 1°C (2°F) outside this temperature range.

Temperature scale in Celsius and Fahrenheit:

°C - LO/18/19/20/20.5/21/21.5/22/22.5/23 23.5/24/25/26/27/28/HI

°F - LO/64/66/68/69/70/71/72/73/74/75/76/78/80/82/84/HI

The HI and LO displays and tractor icon indicate the recirculation status.

## 4.1 - RUNNING-IN

### 4.1.1 - The following precautions should be taken during the running-in period

1. Experience has shown that the first 50 hours of tractor operation have a significant effect on the performance and life of the engine.
2. From the first operation, the tractor must run with the engine at almost full load. The engine should always be allowed to reach a temperature of 60°C (140°F) before being subjected to full load.
3. It is quite normal for oil consumption to be higher during the running-in period. Therefore, during running-in, the engine oil level must be checked twice a day during the first 50 hours of operation to avoid the risk of lubrication failure.
4. During running-in, check the tightness of all nuts, bolts and screws frequently. The wheel nuts must be retightened daily until their torque has stabilised (see chapter 6).

## 4.2 - START-UP

*IMPORTANT: Before starting the tractor, refer to the Service Guide, chapter 5.*

***DANGER: Never run the engine in an enclosed space. Never run the engine unless you are sitting at the steering wheel of the tractor.***

*IMPORTANT: After a long period of no use, run the engine on the starter for about ten seconds to ensure that the turbocharger bearings are lubricated.*

### 4.2.1 - Starting the engine

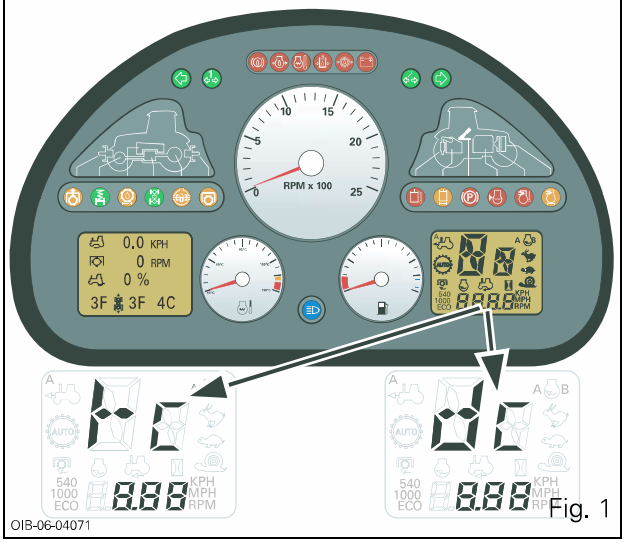
Follow the start-up procedure in Fig. 3.

***DANGER: Check that the reverse shuttle lever is in neutral and that the hand brake is on.***

1. When the ignition is turned on, the TC and DC symbols flash on the right-hand screen of the instrument panel (Fig. 1).

*NOTE: The numbers under TC and DC, required by the service engineer, refer to the software version installed.*

2. All the indicator lights on the instrument panel should light up. Consult your dealer if one of the indicator lights does not light up.



OIB-06-04071 Fig. 1

### 4.2.2 - Cold weather starting

A 1000 W heater and connection cable are intended to assist cold weather starting. The heater operates with 220 V and normally heats the engine coolant in two hours. In extreme cold, it may be required to operate all night.

***WARNING: DO NOT test the heating element unless it is immersed in coolant. It is dangerous to connect a heating element in the open air, as the heat released can cause injury and the element could explode.***


OIB-06-11227 Fig. 2

#### 4.8.8.2 - ROAD mode

Ref. 2, (Fig. 20). There are two types of transmission control in ROAD mode:

A. Speedmatching mode

B. Autodrive mode.

A. Speedmatching mode

Position the selector ref.1, Fig. 22 in SPEED position in ROAD mode and carry out the following operations:

- **Shifting Dyna-6 ratios and ranges Fig. 22:**

1. Pulse shifting: The six Dyna-6 ratios and the four ranges are changed by moving the control lever **in pulses** towards (+ to increase or - to decrease the ratio) or by moving the reverse shuttle lever through the range [+ or -] of the selected direction of travel.
   - Increase: 2D to 2E to 2F to 3B to 3C etc. (up to 4F is possible)
   - Decrease: 3B to 3A to 2E to 2D etc. (down to 1A is possible)
2. Sequential shifting: The six Dyna-6 ratios and four ranges can be changed in sequence by **holding** the control lever or the reverse shuttle lever in position (+ to increase or - to decrease the ratio).
   - Increase: 2D to 2E to 2F to 3B to 3C etc. (up to 4F is possible)
   - Decrease: 3B to 3A to 2E to 2D etc. (down to 1A is possible)


Z3B-112-01-05 Fig. 22

B. Autodrive mode

This mode manages the automatic increase [+] and decrease [-] in Dyna-6 ratios and ranges, depending on the engine speed and the load.


Z3B-113-01-05 Fig. 23

Operation, ref.1 (Fig. 23).

Move the selector switch ref.1 to the required speed (1600 to 2200 rpm) on ROAD mode side. The Dyna-6 ratios and ranges will adjust to the selected speed, taking into account the maximum ratio set in the DOT MATRIX.

As soon as the engine speed drops by 22% in relation to the selected speed, the Dyna-6 ratios and ranges decrease automatically until the restart speed is reached. Example: 1800 rpm selected, Dyna-6 ratios and ranges drop to 1400 rpm.

*NOTE: The 1600 and 1700 rpm speeds highlighted in blue indicate that the transmission will not be used optimally (the decrease in ratio occurs at a lower speed than that of maximum torque; use these speeds when the tractor is not loaded).*

Speeds highlighted in red indicate optimum operating conditions.

#### 4.8.8.3 - FIELD mode

In FIELD mode, as in ROAD mode, two types of transmission control are available (Speedmatching and Autodrive modes).

A. Speedmatching mode

Position the selector switch ref.1 (Fig. 24) in the SPEED position in FIELD mode and perform the following operations:

- **Shifting** Dyna-6

1. Pulse shifting (one pulse per ratio): The six Dyna-6 ratios are changed by moving the control lever **in pulses** towards (+ to increase or - to decrease) the ratio) or by moving the reverse shuttle lever through the range [+ or -] of the selected direction of travel.

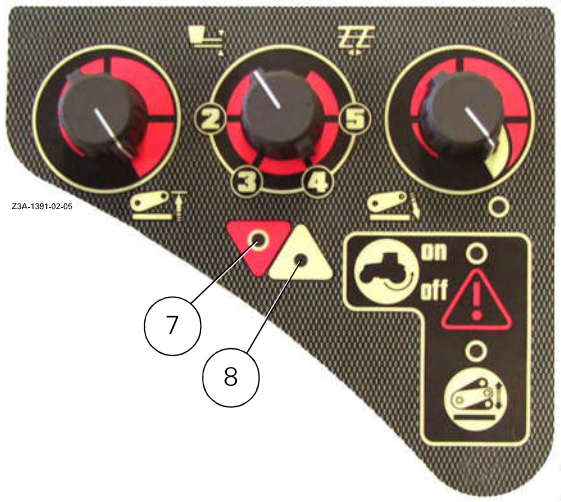



Fig. 42

*NOTE: To be able to use this control, ensure that the linkage controls are not locked (see section 4.14.3 Unlocking the linkage controls).*


Fig. 43

### 4.14.6 - Setting the depth limit

The positions 1 (min.) to 7 (max.) on the knob (1, Fig. 41) determine the implement working depth.
Between 8 and 9, the linkage is in floating position.
To vary the working depth, the linkage lowering control (5, Fig. 41) must be placed in the Lower position.

*NOTE: If the tractor is fitted with Datatronic 3 and DUAL CONTROL, the depth variation is automatically conveyed to the rear or front implement.*

*To use DUAL CONTROL, refer to the specific documentation in the relevant chapter.*

### 4.14.7 - Setting the height limit

This function is used to limit the raising of the linkage arms.
For example, when using a mounted PTO-driven implement, it is necessary to limit the linkage lifting height to avoid damaging the universal joint when it is moving.
This function can also be used to avoid having to lift the implement to the transport position during operations at headlands, saving time on the manoeuvre.

**Implement adjustment procedure 2, Fig. 44:**

- first place the rear implement in a low position using the linkage lowering control
- then turn the height limit control knob to the minimum height
- place the linkage control in the Lift position (the linkage is unable to lift as the control knob is in the minimum position)
- turn the control knob clockwise until the linkage lifts to the required position

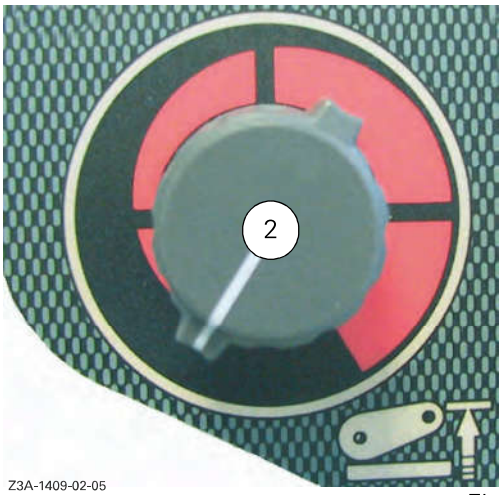



Fig. 44

### 4.14.8 - Setting the draft control/position control

Depending on the type of implement used and the type of soil, the draft control/position control must be set for optimum operation of the rear linkage.

#### 4.14.8.1 - Position control

If the implement hitched to the linkage arms has to be held in position (e.g. Fig. 45), the draft control/position control knob must be turned to position 1.

### 4.15.6.5 - Example of an assembly with a hydraulic motor and a flow rate control valve

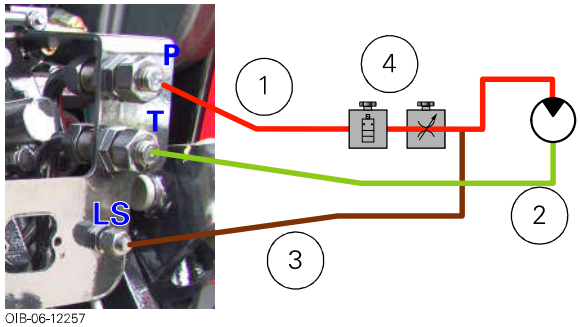



Fig. 64

1. Direct outlet pressure
2. Rear axle return
3. Connection to the load signal (LS)
4. Valve and flow rate control valve

### 4.15.7 - Unlocking hydraulic spool valve controls

### 4.15.7.1 - Using the external controls

*NOTE: If the tractor is not fitted with Datatronic 3, the flow rate storage button and unlocking button are fitted to the armrest (Fig. 65).*

**Tractors fitted with Datatronic 3:**

The red indicator light on the button (1, Fig. 65) is lit and the locking icons are displayed on the Datatronic 3 (2 and 3, Fig. 66).

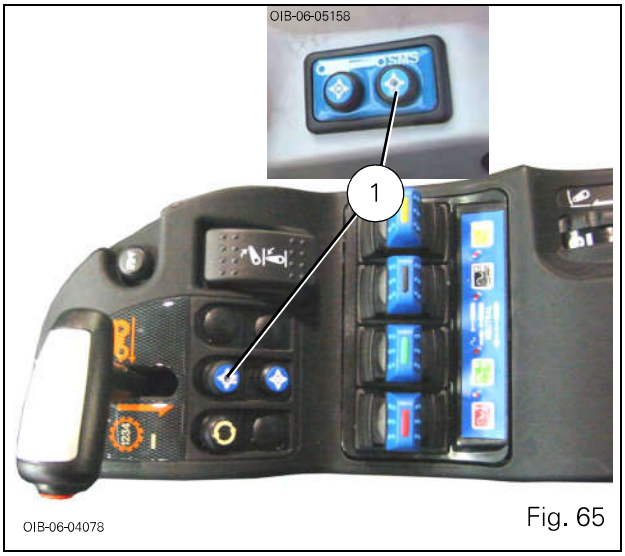



Fig. 65

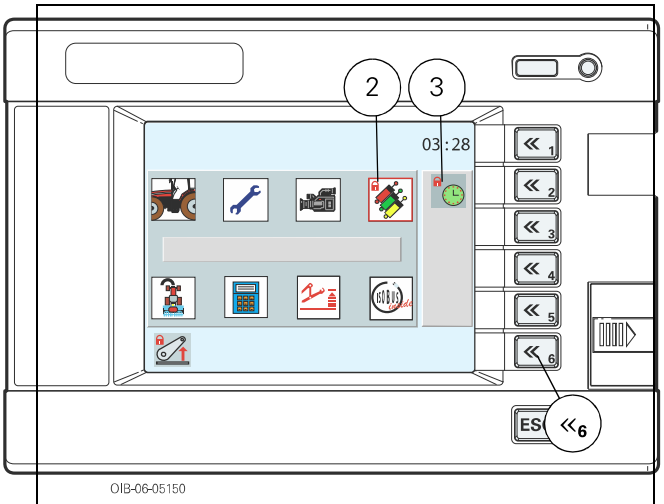



Fig. 66

To unlock the controls, press button (1, Fig. 65). The indicator light for this button goes out and the icon (2, Fig. 66) disappears. To unlock the spool valve activation time, press key «6 (Fig. 66). Icon 3 disappears and the spool valve controls can now be used.

*NOTE: To set the spool valves, refer to the specific Datatronic 3 documentation, in the "VALVES APPLICATION" chapter.*

**Tractors without Datatronic 3:**

The red indicator light on the button (5, Fig. 67) is lit. To unlock the controls, press the button (5, Fig. 67). Its indicator light goes out and the spool valve controls can now be used.

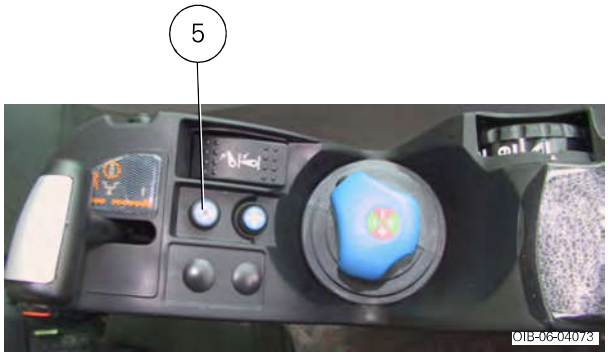



Fig. 67

*NOTE: To set the spool valves, see section 4.19.1 Using the DOT MATRIX screen.*

## 4.18 - RIGHT-HAND DIGITAL DISPLAY SCREEN

This display is located to the right of the instrument panel and provides the following information, which is required when driving (Fig. 95):

Ref. 1:

- P: Hand brake on and tractor in gear
- N: Transmission in neutral
- 1,2,3,4: Range selected

Ref. 2:

- Dyna-6 ratios (A, B, C, D, E and F).

Ref. 3:

- Engine speed/forward speed/rear power take-off speed/working time/engine hours

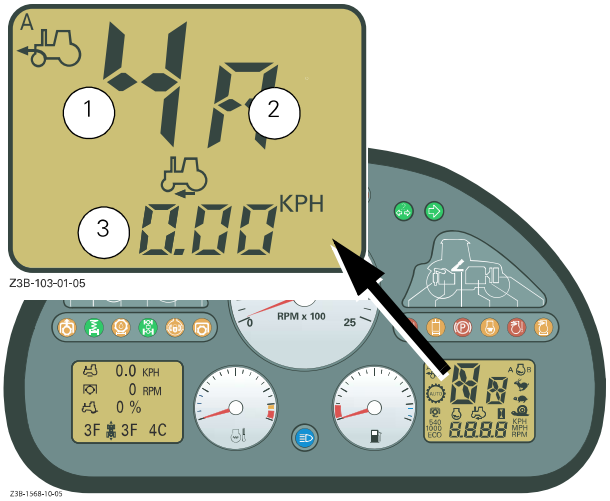



Fig. 95

## 4.19 - "DOT MATRIX" LEFT-HAND DIGITAL DISPLAY SCREEN

The DOT MATRIX screen, located on the left of the instrument panel initialises when the tractor is started (4 Fig. 97).

To access the different menus, press the DOT MATRIX control buttons (5) and follow the instructions given in the table on the next page.

### 4.19.1 - Description of the DOT MATRIX screen

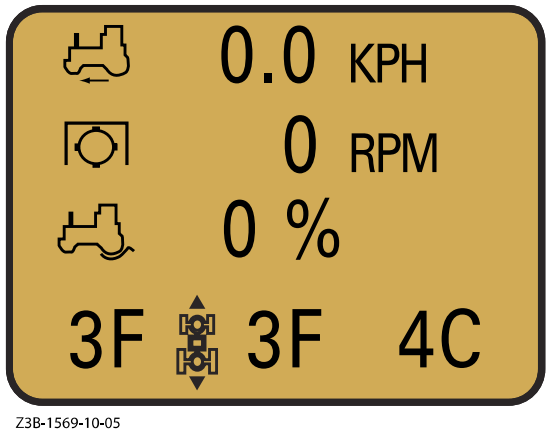



Fig. 96

Ref. 4: DOT MATRIX screen (Fig. 97)

Ref. 5: DOT MATRIX controls

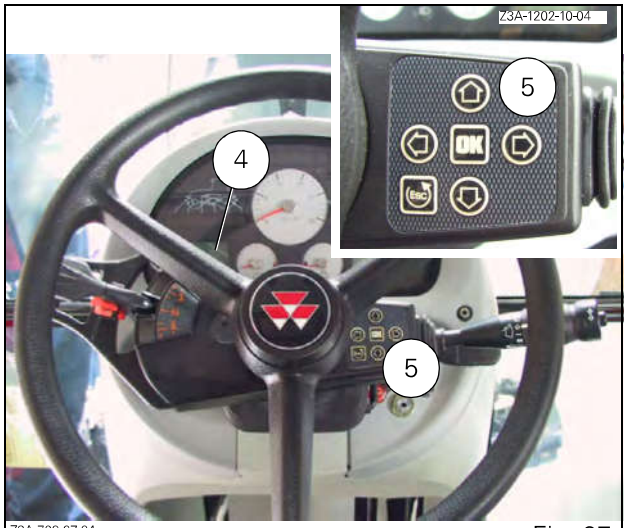



Fig. 97

## 5.1 - INITIAL 50 HOUR SERVICE INSPECTION

Consult your service record book.
The following operations must be carried out, as applicable, by the **Service Engineer**. A charge will be made for service items such as filter elements, lubricants, seals etc.

### 5.1.1 - Engine, fuel and cooling systems

1. Change the fuel filter.
2. Change the fuel prefilter.
3. Check the tension and condition of the alternator/fan belt(s).
4. Check/clean the dry air filter elements.
5. Check the radiator coolant level.
6. Check the tension and condition of the air conditioning compressor belt, if applicable.

### 5.1.2 - Electrical circuit and instruments

7. Check the condition of the battery and the electrolyte level.
8. Check the tightness of the battery connections and battery safety.
9. Check all the safety start switches for correct operation.
10. Check all the instruments, indicator lights and acoustic alarms for correct operation.
11. Check all the lights and indicator lights for correct operation and adjustment.
12. Check all electrically-powered devices (heater/fan, radio, windscreen wipers etc.) for correct operation.
13. Check all electronically controlled systems for correct operation.

### 5.1.3 - Front axle and steering

14. Change the oil in the front axle and final drives (4WD).
15. Lubricate the driveshaft/universal joints (4WD).
16. Lubricate the steering pivots/suspended front axle.

### 5.1.4 - Transmission and hydraulics

17. Check the transmission/auxiliary hydraulics oil level.
18. Check the oil in the rear final drive units (according to model).
19. Change the transmission high-pressure filter(s).
20. Change the 60-micron Power Shuttle control filter element.
21. Check the auto-hitch for correct operation (optional).
22. Change the "ZUIDBERG" front PTO oil.
23. Clean the "ZUIDBERG" front PTO filter.

### 5.1.5 - Clutches and brakes

24. Check the clutch pedal and gearbox ratio engagement for correct operation.
25. Check the condition of the brake pipes.
26. Check the hand brake adjustment.
27. Check the trailer brake valve for correct operation.
28. Check the PTO for correct operation.

### 5.1.6 - General

29. Check and top up the windscreen washer bottle.
30. Check the air conditioning system for correct operation.
31. Check the torque of all wheel and rim nuts and bolts.
32. Lubricate all points with grease or oil as specified in the Operator Instruction Book.
33. Check that all safety guards are in place and that decals are secure and legible.
34. Road test the tractor to check all instruments and systems for correct operation.
35. Road test the tractor to check the steering and brakes for correct operation.
36. Check the PTO and hydraulic systems for correct operation.
37. After the road test, check for any leaks of oil, fuel or coolant.
38. Enquire if the operator has any operational difficulties and correct or demonstrate the solution as necessary.
39. Complete the owner's Service Record Book.

### 5.7.4 - Change the engine oil filter every 400 hours

To change the filter 4 (Fig. 15)

1. Unscrew and discard the filter assembly.
2. Fill the new filter slowly with clean oil.
3. Smear a few drops of clean engine oil on the new seal ring, then place the ring in the new housing on top of the new filter.
4. Screw the filter onto the filter head until the seal ring touches the filter head, then tighten it a further half-turn by hand only (do not overtighten).
5. Ensure that there is oil in the sump.

***CAUTION: After changing the oil and the filter, ensure that the engine will not start and operate the starter motor until oil pressure is obtained. Wait for the 5 baroil pressure light to go out. To ensure that the engine will not start, disconnect the electrical stop control from the fuel injection pump. Run the engine and check for leaks, then recheck the oil level and top up if necessary. The valve clearance should be checked by your dealer or agent initially at 400 hours and then every 1200 hours.***

## 5.8 - FUEL SYSTEM

*IMPORTANT: Recover and dispose of any residue from the bleed and drainage operations in accordance with directives on environmental protection.*

### 5.8.1 - Fuel prefilter

Check the filter bowl for water at regular intervals and drain as necessary (5 Fig. 18).

Change the 150-micron element every 400 hours.

**Bleeding the prefilter (5 Fig. 18):**

1. Position a container under the prefilter, then open the valve on the lower part (A, Fig. 18) to allow water and sediment to drain out
2. When draining has stopped, retighten the valve and activate the pump (7) to fill the prefilter
3. Start the engine and allow it to run at idle speed for five minutes to bleed the system properly
4. Check there are no leaks

### 5.8.2 - Fuel filter

**Drain the water every 100 hours.**

**Replace the filter element every 400 hours** (6 Fig. 18).

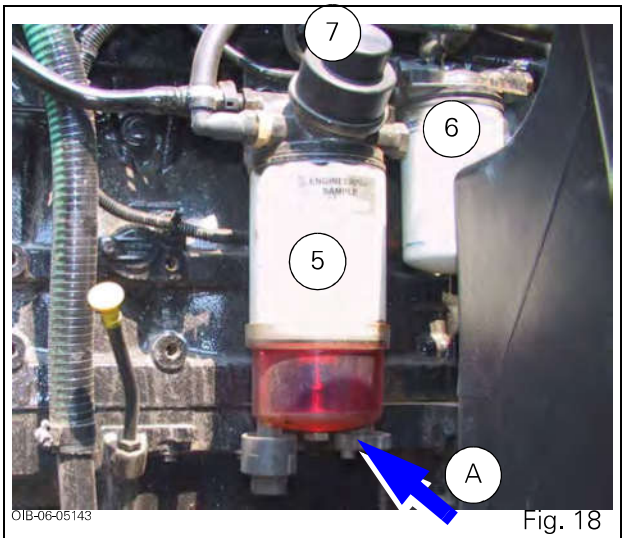


Fig. 18

**Replacing the prefilter (5) and the filter (6) (Fig. 18):**

*IMPORTANT: Dispose of any old filter elements in accordance with environmental protection regulations.*

1. Clean the filters and surrounding area
2. Disconnect the lower sensor connection
3. Remove any elements that need replacing
4. Fill and fit the new filter, fit the new prefilter (ensure the seals are positioned correctly), reconnect the lower sensor connection
5. Operate the pump (7) at maximum 100 times to fill the filter
6. Start the engine and allow it to run at idle speed for five minutes to bleed the system fully
7. Check there are no leaks

*NOTE: To avoid water condensation in the fuel tank, refill with fuel at the end of the working day.*

### 5.8.3 - Water filter (optional)

This filter prefilters the particles contained in the fuel and is fitted on the left-hand side of the engine (Fig. 19).

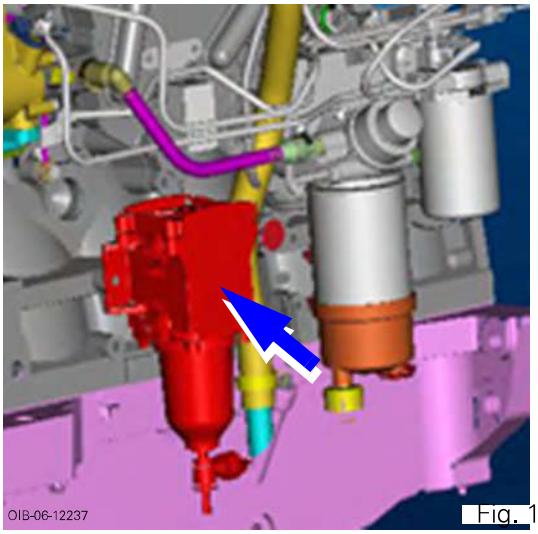


Fig. 19

## 5.13 - "ZUIDBERG" FRONT POWER TAKE-OFF

This PTO functions hydraulically in a separate, independent system; the entire system is cooled by an oil cooler.
**Drain the PTO after 50 hours of operation, then every 400 hours** using the two drain plugs ref.1 (Fig. 50).

Fig. 50

Clean pump strainer 2 each time it is drained. Remove the circlip and unscrew the screw retaining the strainer cover, remove and clean the strainer. Refit the assembly, replacing the circlip with a new one.
In the event of a leak, check the oil level using the plug ref. 3, top up and consult your dealer.

## 5.14 - CLUTCH AND BRAKES

### 5.14.1 - Adjustments

The clutch and brakes are operated hydraulically and require no adjustment. If necessary, consult your dealer or agent.
Bleed the brake/piston system every 1200 hours and after every servicing operation.

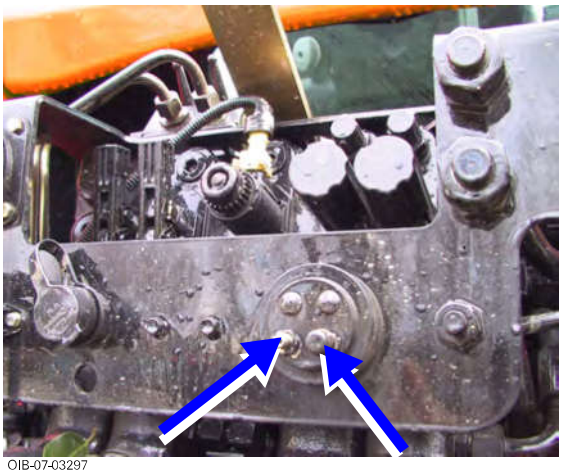


Fig. 51

## 5.15 - AIR CONDITIONING SYSTEM

### 5.15.1 - Condenser

(Fig. 52)
Clean regularly with compressed air.

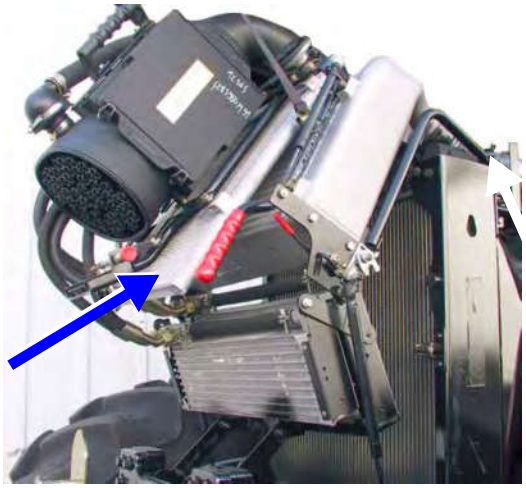


Fig. 52

### 5.20.2 - Rear track width

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

*NOTE: The minimum track widths are theoretical and vary according to tyre dimension. Ensure there is a sufficient gap between the tyres and the inside of the fenders (at least 50 mm).*

*If the wheels are reversed they must be transferred to the opposite side of the tractor.*

When refitting, tighten the nuts progressively to the correct torques. See tightening torque table (chapter 6).

**Flanged shaft, steel rims.**
**Theoretical track widths (mm), hub Ø 275 mm**

Offset X = 75 mm
Thickness of rim Y = 15 mm

| Theoretical track widths | 1 | 2 |
|---|---|---|
| Version Normal Duty GPA 40 | 1758 | 2088 |
| Version Heavy Duty GPA 40 | 1790 | 2120 |

Spacer: All dimensions can be increased by 25 mm on each side using specific spacers (if fitted).

Tightening torque:
A. 400 to 450 Nm

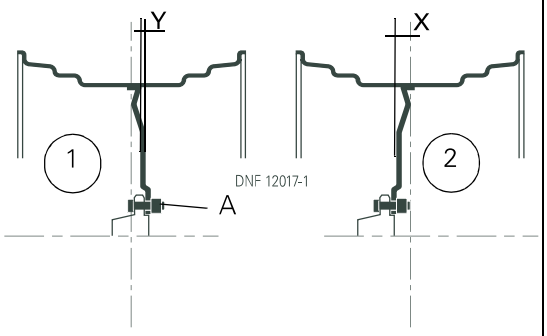



Fig. 63

**Smooth shaft, steel rim, cast iron disc**

| Theoretical track widths 1 | MIN. | MAX. |
|---|---|---|
| Version Heavy Duty GPA 40 Ø 95 | 1504 | 1808 |

| Theoretical track widths 2 | MIN. | MAX. |
|---|---|---|
| Version Heavy Duty GPA 40 Ø 95 | 1834 | 2138 |

| Theoretical track widths 3 | MIN. | MAX. |
|---|---|---|
| Version Heavy Duty GPA 40 Ø 95 | 1784 | 2088 |

| Theoretical track widths 4 | MIN. | MAX. |
|---|---|---|
| Version Heavy Duty GPA 40 Ø 95 | 2114 | 2417 |

Tightening torque:
B. 250 to 350 Nm
C. 640 to 680 NmD. 350 to 450 Nm

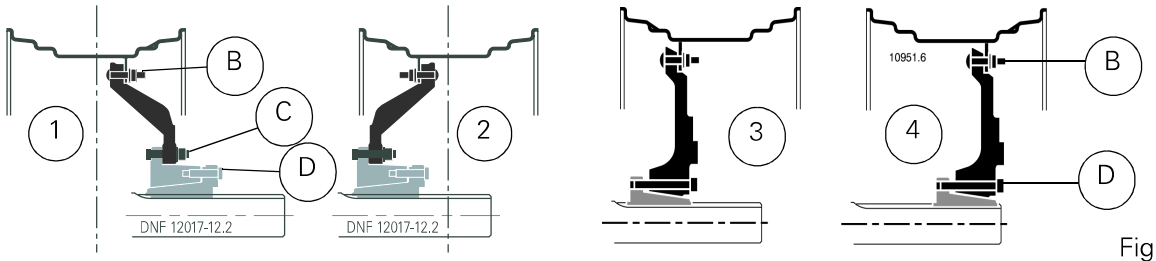


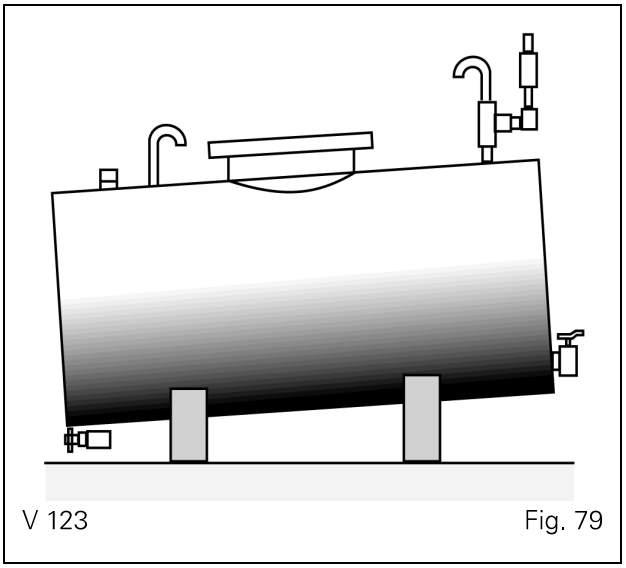

Fig. 64

### 5.23.2 - Fuel storage

(Fig. 79)

The utmost care must be taken to keep fuel clean.

1. Never clean the inside of containers or other fuel system components with a fluffy cloth.
2. Bulk storage tanks should not be overfilled: approximately 10,000 litres (2640 US gallons).
3. The storage tank should be under cover and supported on a cradle high enough for the tractor fuel tank to be filled by gravity. It should have a suitable manhole to provide access for cleaning. The outlet tap should be about 75 mm (3 in) above the bottom of the tank to allow water and sludge to settle. It should have a removable strainer. The storage tank should have a fall of about 4 cm per metre (1/2 in/ft) towards the rear (drain plug side).
4. Let the fuel settle in the storage tank for 24 hours before use after any servicing or refilling the tank.
5. Clean out the storage tanks regularly; normally every five years, more frequently in cold climates.
6. Bleed the tanks frequently to drain off any water formed by condensation.
7. Rotate fuel stocks to prevent deterioration of old fuel and the accumulation of water or foreign matter.
8. Bring in fresh supplies without waiting for stocks to run out; refuelling from the bottom of the tank may cause a blockage.



V 123 Fig. 79

**Advice on the use of fuel in cold weather**

1. In cold weather, diesel fuel increases in viscosity and wax particles form. This may lead to operating problems if precautions are not taken.
2. Underground storage is preferable.

*IMPORTANT: Environmental protection — you must comply with local regulations in force relating to underground storage.*

   If this is not possible, place the storage tank in a location which is protected from the cold, wind and damp.
3. After filling the storage tank, drain the first 5 litres (1.2 US gallons) into a drum before filling the fuel tank. Then return the fuel in the drum to the storage tank.
4. Insulate all exposed pipework. Ensure that any pipework is short in length and designed to be disassembled if necessary.
5. Only stock "winter" quality fuel during the cold weather season.

Frequently clean the fuel filter bowl.

Do not puncture the fuel filter.

Ensure a spare filter is always available. If a blockage occurs, due to fuel waxing, changing the fuel filter will enable restarting.

## 5.24 - STORING YOUR TRACTOR

If a tractor is not going to be used for a long time, certain precautions must be taken to protect it. Consult your Dealer or Agent for further information.

## 6.3 - ELECTRICAL CIRCUIT

| | |
|---|---|
| Voltage: | 12 volts. Negative earth |
| Batteries: | 2 x 420 A maintenance-free batteries |
| Alternator: | 150 Amp. according to model |
| Safety start switch: | Operated by the clutch pedal. |
| Headlights: | European code H4 60/55W |
| Side lights: | 5 W |
| Indicators: | 21 W |
| Number plate light: | 10 W |
| Work lights: | 55 W - H3<br>35 W (Xenon bulbs optional) |
| Instrument panel lighting and indicator lights: | 3 W - 2 W - 1.2 W |
| Roof light: | 10 W |

## 6.4 - COOLING

| | |
|---|---|
| Method: | Centrifugal pump and pressurised radiator. Regulated and controlled by a thermostat. Opening temperature: 82°C. |
| Fan: | Vistronic or viscostatic clutch fan, according to model.<br>Gear-driven water pump. |
| Belts: | Fan: Driven by Poly-V ribbed belt.<br>Air conditioning compressor: Driven by Poly-V ribbed belt. |

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