Operator's Manual

MASSEY FERGUSON

Sprayer

MF9030

Canoas
AGCO do Brasil - Av. Guilherme Schell, 10260 – Canoas/ RS
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Original Operator's Manual

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Deceleration and Braking

For maximum durability, avoid abrupt braking and acceleration. Under normal operating conditions, brake and accelerate at the rate of 2 km/h, i.e., 10 seconds to accelerate from 0 to 20 km/h.

Position of the Booms and End Pieces

This equipment is not enabled to operate with only one boom open. Never open or close the booms with the machine in motion. Always try to simultaneously open the booms laterally to balance forces on the central frame.

Fig. 9

Noise level

Inside the cab: 85 to 86 dBA

Maximum tilt angle

During operation, the sprayer cannot exceed side or front tilt of 18° (eighteen degrees or 33%) because of the risk of tipping over.

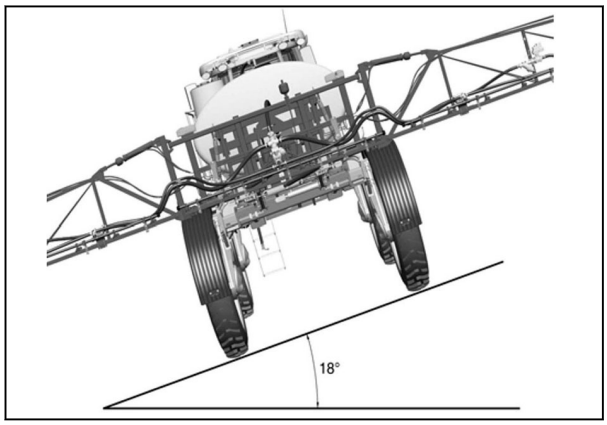

Fig. 10

If the crop allows, open the track as far as it will go when operating on uphill or downhill slopes. Do not perform abrupt movements. Do not travel at high speeds.

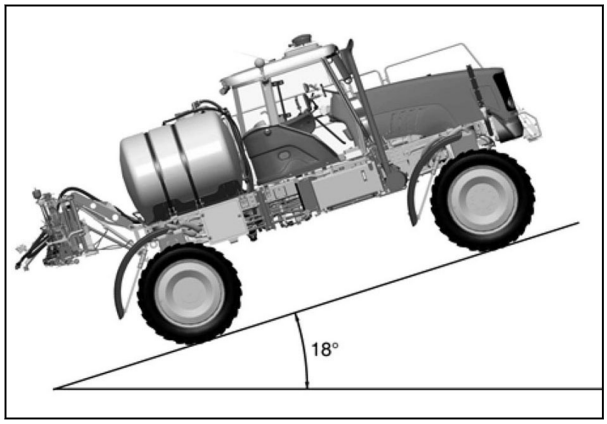

Fig. 11

1.3 Fuel

1.3.1 Storage, handling and cleaning

The purity and cleanliness of fuel are vital to the proper operation of the engine and the durability of the injection system. Therefore, to ensure that your fuel meets the requirements, follow the recommendations below:

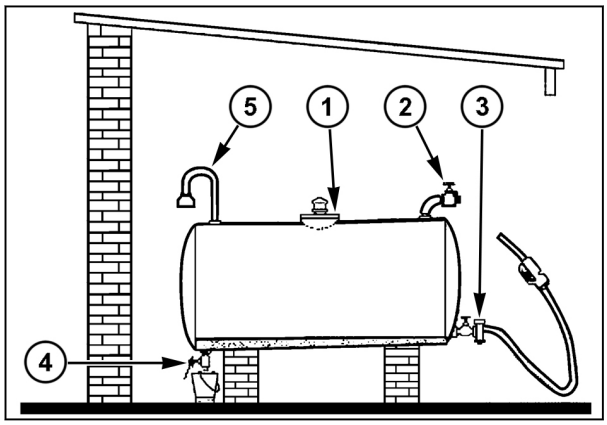

Fig. 28

- Use reservoirs equipped with two taps, one on each end. Plastic tanks are preferable. In the case of metallic tanks, use stainless steel tanks or tanks with an appropriate inside coating—not zinc—because it contaminates the fuel, affecting the life of the injection systems and engine.
- Never use galvanized tubes, registers, tanks or vessels because the coating reacts with the diesel, forming residues.
- The drum or reservoir in use must be protected from the sun, rain and dust. It must also be supported on stands and in a horizontal position, at a slight angle, so that the discharge side is around 10 cm higher than the other side. Thus, any water and impurities will be deposited at the bottom, being discharged by the tap on the opposite end.
- The reservoirs must have a waterproof vent located at the higher end.
- Ideally, two drums, each with capacity for a week of fuel, should be used. After filling, the oil must rest for two to three days for the impurities settle to the bottom. Thus, while one rests, the other is being used. If larger tanks are used, there must be an upper cover (1) for cleaning, at least 40 mm in diameter.
- The point for filling the tank (2) should be easily accessible and at least 65 mm in diameter. If there is a tube, it should end 15 cm from the bottom and may be equipped with a filter. The end cap should be the same as that used in vehicle tanks.
- A vent with a minimum diameter of 80 mm and fitted with a protective filter (5) should be installed in the upper part of the tank.
- The vehicle filling outlet (3) must be installed on the higher side of the drum, 80 mm from the bottom.
- The height must be sufficient to allow the filling to be done by gravity, and it must have a filler cap that allows access for cleaning.

1.6.3 Fuel reservoir and filter decals

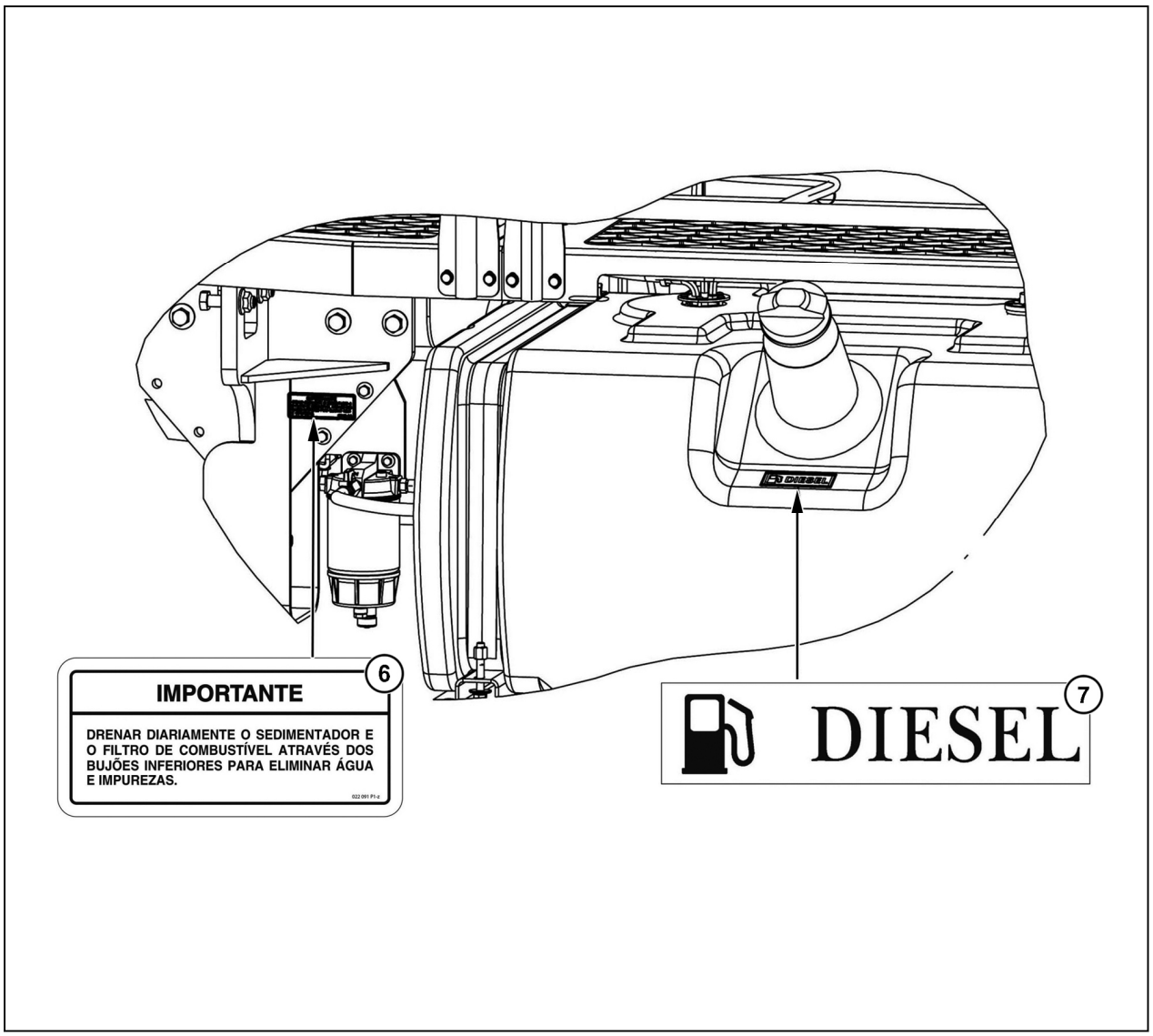

Fig. 33

(6) Fuel filter decal

(7) Diesel decal

1.6.12 Decals on the spray boom's central frame

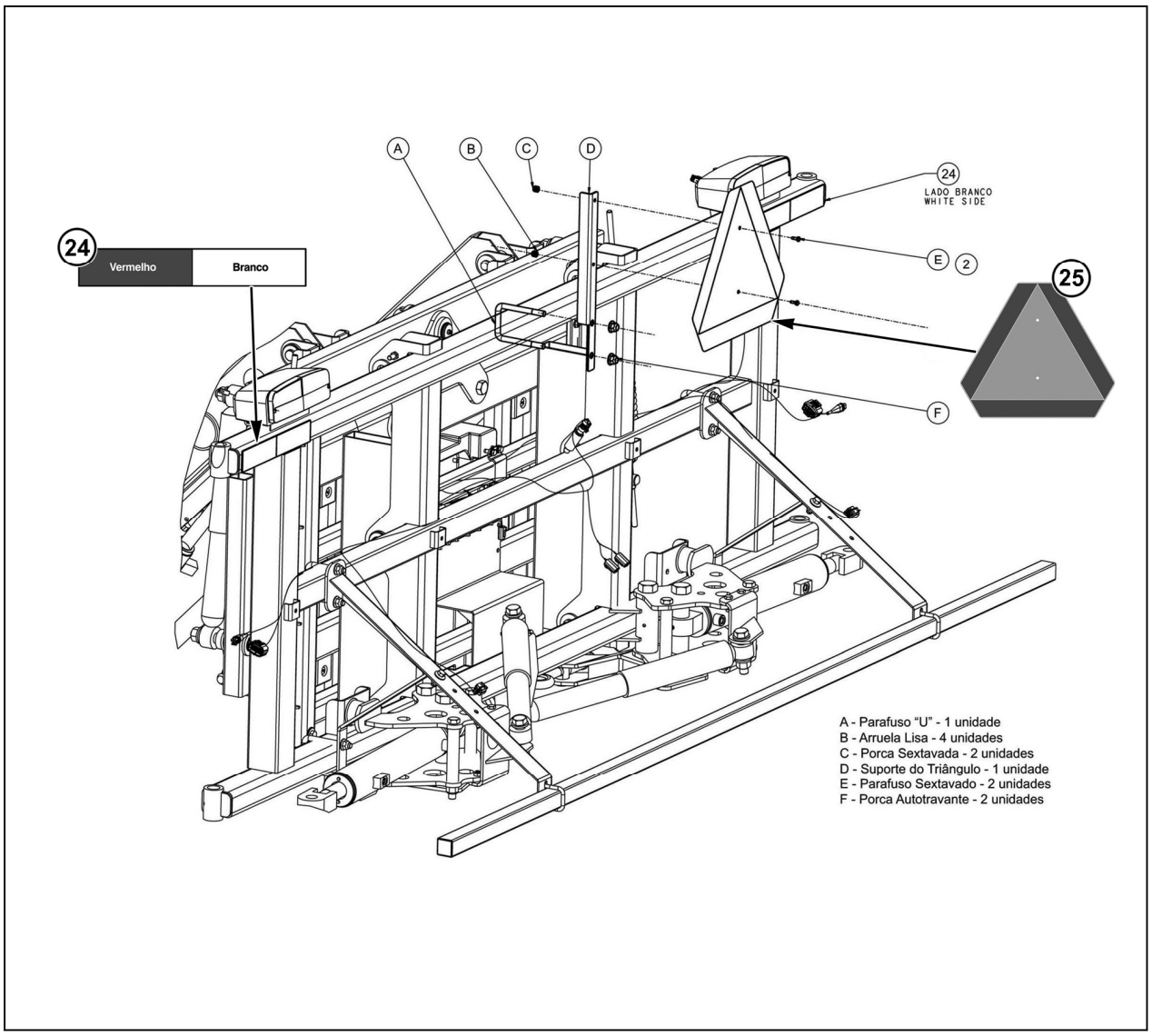

Fig. 43

(24) Red and white reflective decal to facilitate visibility at night. It must always be applied with the white side facing outwards.

(25) Reflective decal. Triangle to warn other drivers during transportation on public roads.

(17) Parking brake key
(18) Autopilot key
(19) Boom control panel
(20) Air outlets
(21) Air conditioner control
(22) Space for speaker
(23) Operator's seat

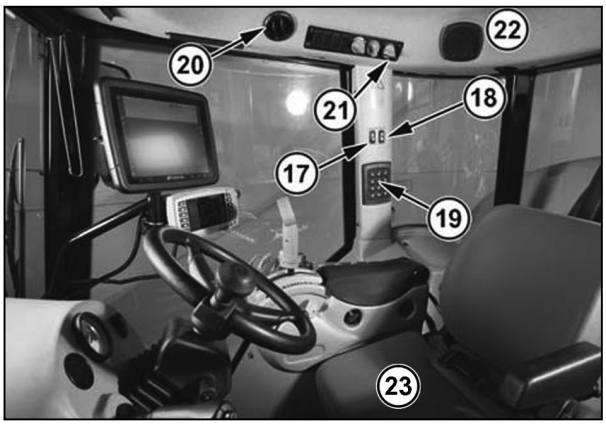

Fig. 2

Flasher

To the right, position the lever upwards.

To the left, position the lever down.

Windshield wiper

To turn on and control the speed of the windshield wipers, turn the cap of the lever on its own axis. Select the speeds shown at the right-hand end.

Front windscreen wiper sprayer

Push the cap of the lever to the right, following its own axis, to activate the jet of water.

The electrical motors of the sprayers are protected by thermal relays. Therefore, if there is nothing to prevent the wipers from moving, the system will be protected and restarted after 5 minutes.

2.3.6 Precautions for low temperatures (Cold weather)

The anti-freeze solution should be added to the windshield wiper system. Use ethylene glycol, available at your Dealer.

The correct ratio in the reservoir should be 70% water and 30% anti-freeze.

NOTE:
Do not use more than 30% anti-freeze solution in the windshield wiper system if the outside temperature is above -36°C.

Always use a platform or step ladder to access the nozzle (1) when filling the reservoir from the ground. The platform or ladder must be sized, built and secured in a safe and resistant way to support the necessary efforts and allow safe movement of the operator. The platform or ladder must have a floor and/or steps made of non-slip material or coating and contain supports so that the operator can keep three-point contact throughout operation.

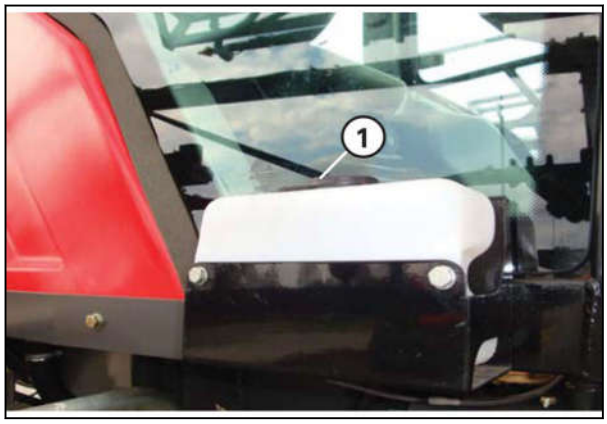

Fig. 24

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3.8 Speed selection

3.8.1 Speed selection

In addition to correctly preparing and adjusting the sprayer, correctly selecting the speed and engine speed is essential for good sprayer performance and low fuel consumption. The speed must be compatible with the type of terrain.

The maximum speed in each gear is directly proportional to the engine rpm. Then, there is a speed range for each gear, which can be shown graphically to assist you in your choice of speed.

Note that there are overlapping speed ranges between ranges. The speed selection is very important for different types of terrain (rugged or smoother terrain) and the weight of the machine. This means that the speed selection has been designed to allow two different gears to have the same speeds at a certain part of the scale; however, the final speed is specified according to the above factors.

Selecting the desired speed: position the speed key at the desired speed and check the machine's control panel, as shown in the table below:

Maximum speeds depend on the type of wheels in question, as shown in the table below:

Fig. 9

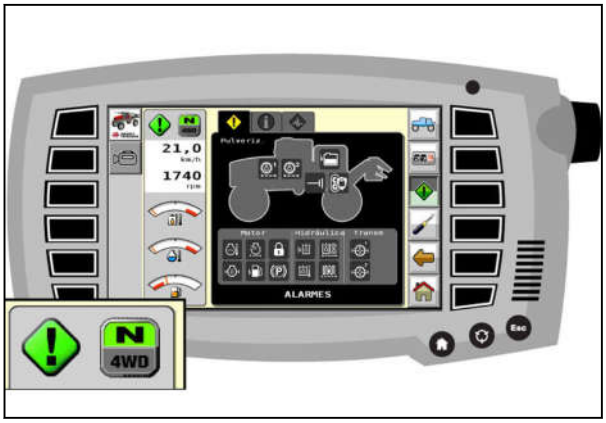

Fig. 10

Speed key	Control panel
L	1
M	2
H	3

Joystick	Control panel
In the middle	N
Back	R

Speeds	
18.4R26 wheels	
1st	19.7 km/h
2nd	25.1 km/h
3rd	37.1 km/h
320/85R38 wheels	
1st	22.8 km/h
2nd	29.1 km/h
3rd	43.0 km/h

The safety latch must be locked when the central frame of the booms is raised.

To latch the spray booms: just remove the lock pin (1) and place the safety latch (2) on the cylinder (3), securing it with the same lock pin (1), as shown in the figures to the side. This way the booms have a mechanical safety device in the event that any hydraulic issue occurs.

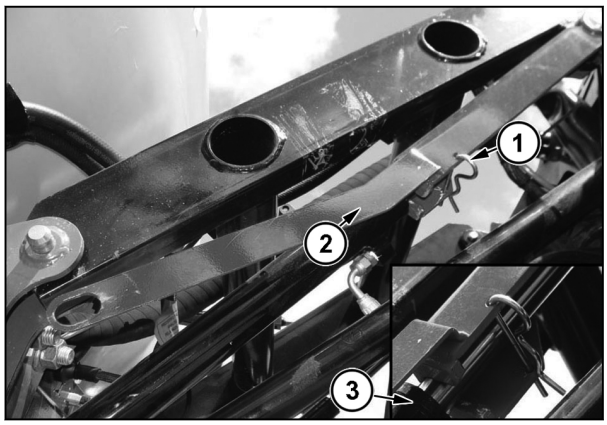

Fig. 31

3.11.4 Transport Procedure

ATTENTION:
Do not stop the machine when the front and rear wheels are on the trailer ramps. The machine is less stable at this moment and may tip.

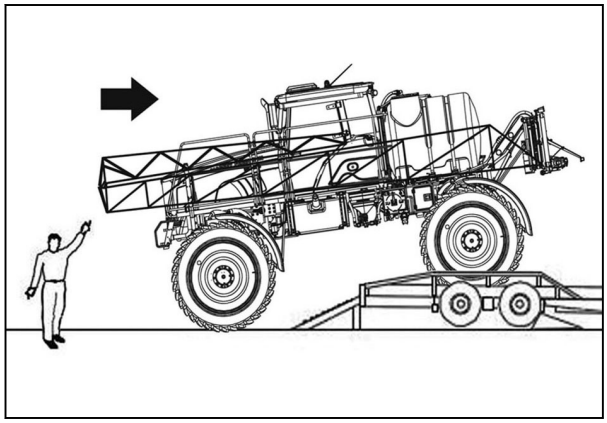

Fig. 32

This procedure is recommended for transport over long distances or for servicing if the machine cannot be driven to the workshop.

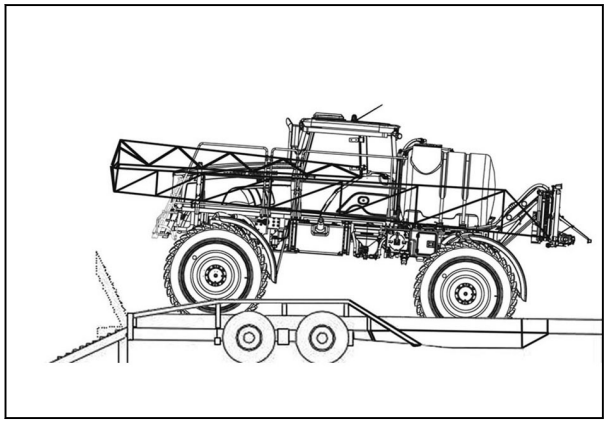

Fig. 33

Procedure

1. Attach the trailer to the towing vehicle. Make sure that the trailer is properly secured to the hitch and the safety chains are installed. Make sure the lights of the trailer and the brakes are working.
2. Take the trailer to a flat area. Set the parking brake on the towing vehicle and shut down the engine. Lower the trailer ramps. Use tyre blocks to keep the trailer from moving.
3. Fully retract the machine's booms and lower them onto the brackets. Lock the chains and mark the ends of the bars, if required by law.
4. Adjust the tracks of the front and rear wheels of the machine so that they match the trailer ramps.
5. Have someone on the ground help you guide the machine onto the trailer.

3.14.12 Application control screen

Fig. 54

3.14.13 Recorded screens screen

Fig. 55

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3.19 Filling the sprayer

3.19.1 Clean water tank

With a capacity of 240 L, this reservoir allows water to be stored for cleaning purposes.

Fill through the plug (A).

The clean water reservoir allows the use of water available in the tank to clean the spraying system, such as filters, section and topper valves, in addition to cleaning the product tank.

Fig. 77

3.19.2 Product tank

CAUTION:

The product can contaminate water in rivers, streams or other natural sources. When you fill the sprayer using external pumping or with the optional pump, never drain water directly from natural sources.

The Sprayer is equipped with a product tank with a nominal capacity of 3000 L. This volume gives the sprayer significant autonomy in spraying, even when using high application rates, allowing the sprayer to perform filling operations at greater intervals, enabling greater productivity.

The upper tank nozzle is accessed via the upper platform, providing significant safety for the operator.

Fig. 78

Filling the product tank

The product tank can be filled through the upper tank nozzle (1) or through the quick hitch (2) at the reloading station with 2" or 3" quick hitch hoses.

There are four methods of filling using the reloading station:

NOTE:
If any of the pump activation buttons on the reloading station is turned on, the machine does not move when the joystick is activated. Always check after reloading procedures.

Fig. 79

3.22.4 Lines A-B

Lines A-B steering mode works with parallel straight lines, equally distanced according to the working width set in the system. To work with this steering mode, the operator must create a new line and mark point A.

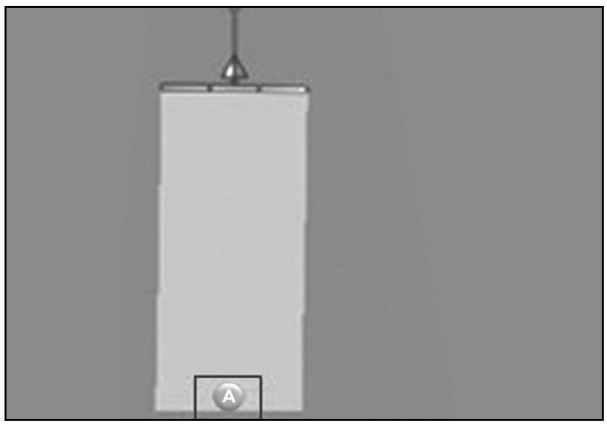

Fig. 92

After this, you must manually steer the machine on a straight path (as much as possible) and mark a point B (the minimum distance between point A and point B is 10 m). After you mark point B, the system creates an imaginary straight line between the two points and two parallel lines, one to the right and another to the left of the original line. For identification of the lines, the system names the original line as line "0". All of the lines to the right of line 0 have increasing positive numbers (1, 2, 3...) and all of the lines to the left have negative numbers (-1, -2, -3...).

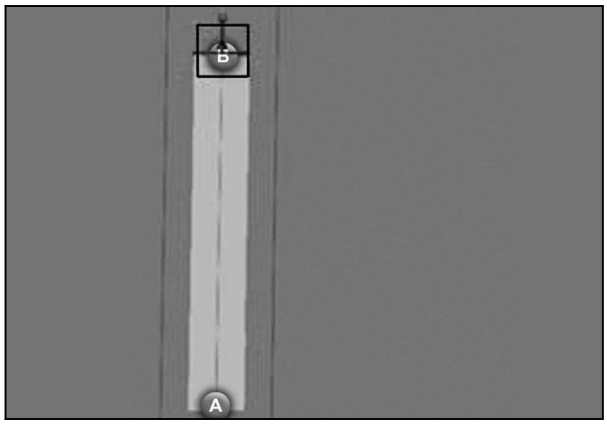

Fig. 93

3.22.5 Identical Curves

Identical curves steering mode works with identical parallel curved lines, equally distanced according to the working width set in the system. To work with this steering mode, create a new curve and mark a point A. After this, manually steer the machine for the first curve and mark a point B at the end of this.

After you mark point B, the system will propagate the original curve within a range of approximately 50% of the total length of the original curve, i.e., the distance between point A and point B. Just like the previous mode, the system creates two imaginary curves next to the original curve, one to the right and the other to the left of the original line. For identification of the curves, the system names the original line as line "0". All of the lines to the right of line 0 have increasing positive numbers (1, 2, 3...) and all of the lines to the left have negative numbers (-1, -2, -3...)

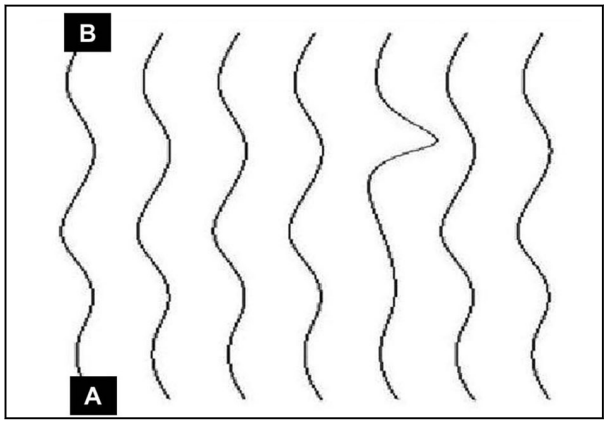

Fig. 94

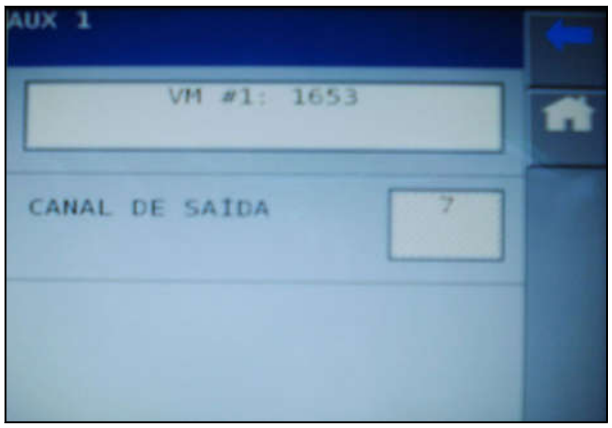

Fig. 120

3.23.7 Drivers

To configure movement of the drivers:

Procedure

1. Select (1).
2. Select the movement option you want to configure and enter the channel.

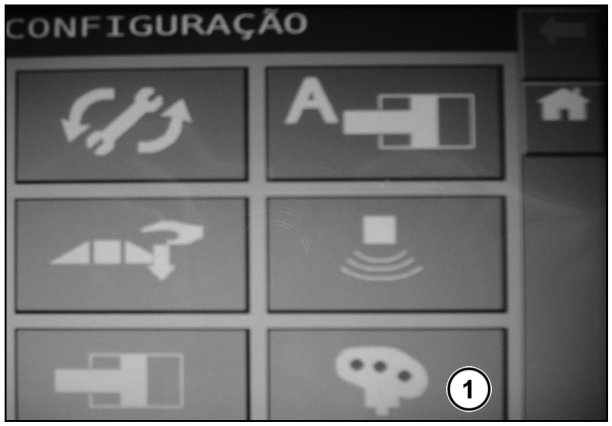

Fig. 121

3. Select (2) to confirm.

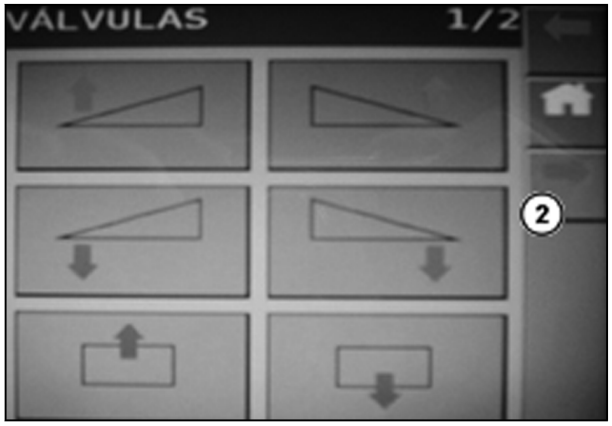

Fig. 122

4.5 Access to service points

4.5.1 Access to service points

The sprayers have a tilting hood, which allows easy access to all servicing points of the engine.

There are also side shields (2) that can be easily removed when necessary.

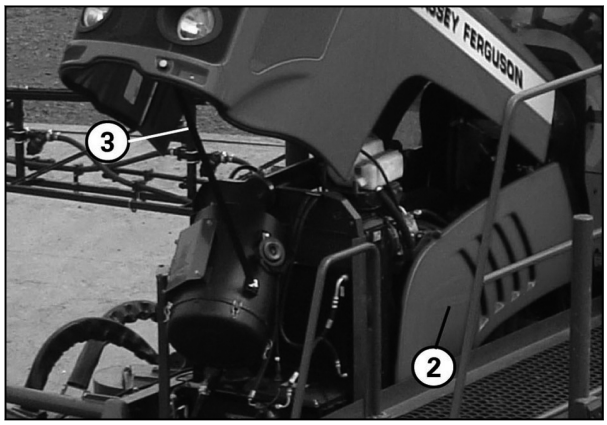

Fig. 7

4.5.2 Opening

The lock (1) can be locked with the same key used to open the cab door.

Press the closing push button (1). Then, with two hands, push up on the hood.

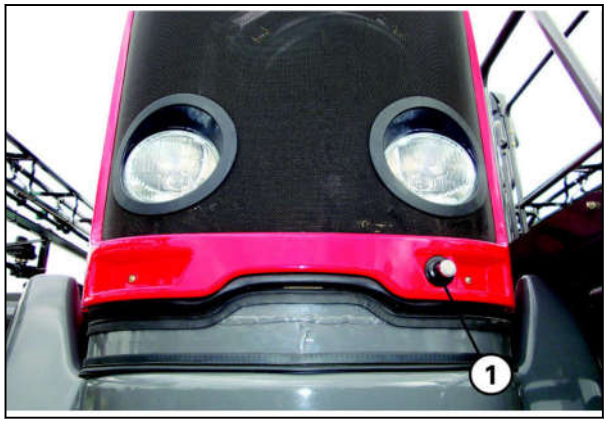

Fig. 8

NOTE:
Be careful with the condition of the limiter (3). *Adjust when necessary.*

Pull the side shields (2) to remove them.

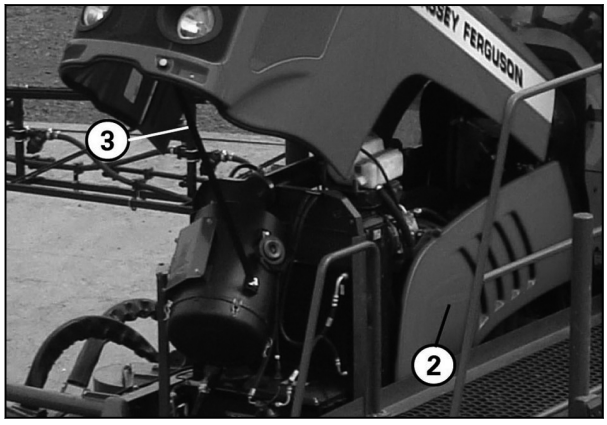

Fig. 9

4.8 Cooling system

4.8.1 Cooling system

Check the coolant level according to the periodic servicing table.

The quality of coolant can have a significant influence on the efficiency and in the life of the cooling system.

The anti-freeze mixture must always be between 33% anti-freeze to 67% water.

Even in regions with mild climates this mixture must be used in order to increase the boiling point and protect the system against corrosion.

Check the amount and level of mixture regularly to prevent the addition of pure water into the system, which will reduce the properties of ethylene glycol.

IMPORTANT:
Never use pure water as coolant. The water used must be clean and non-acid.
If the correct procedure is not adopted, AGCO™ cannot be responsible for the damages caused.

Drain the coolant according to the periodic servicing table.

Clean the radiator vanes according to the periodic servicing table.

4.8.1.1 Expansion tank

Periodically check the coolant level in the expansion tank (1). The red indicator light comes on when the coolant level drops to a minimum level.

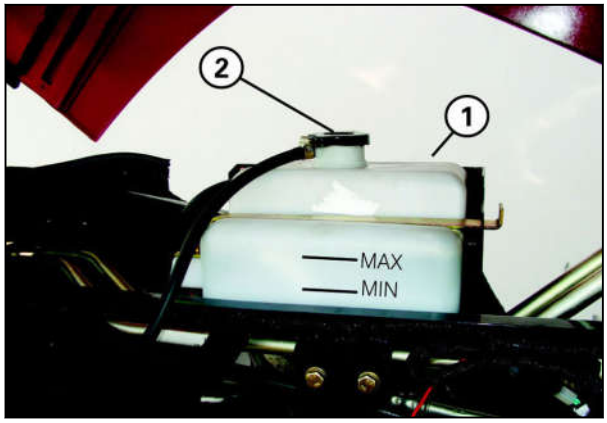

Fig. 32

4.8.2 Filling the expansion tank

NOTE:

When you open the hood, the engine is very hot and this can cause severe burns. Let the engine idle and loosen the cap to the 1st stage to eliminate the pressure before removing it completely.

4.11.2 Lubricating the front and rear final drives

4.11.2.1 Checking the oil level

Procedure

1. Measure 50 mm from the centre of the central plug (1) of the wheel.
2. Include one of the two side plugs (2) in this measurement.
3. Remove the side plug (2).
4. The level will be correct if a little oil overflows.
5. If necessary, top up with the oil recommended in the lubricants table of this manual.
6. Reinstall the side plug (2), tightening it securely.
7. Proceed the same way with the reducer on the other wheels.

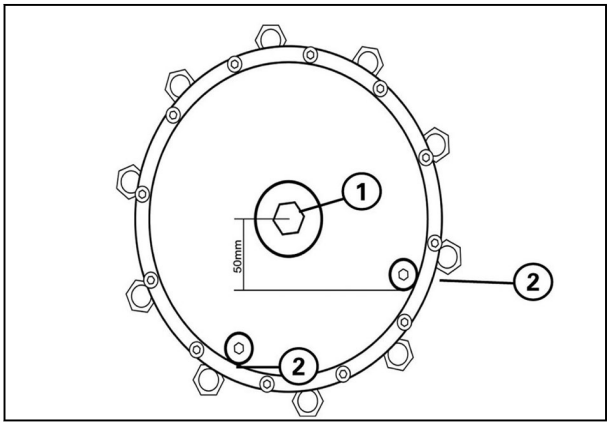

Fig. 50

4.11.2.2 Replacing the oil in the drives

Before starting the procedure

NOTE:
Carry out the procedure by positioning a container to collect all oil flowing from the machine. Never allow oil to drain directly onto the ground.

With the sprayer at normal operating temperature:

Procedure

1. Position the sprayer so that one of the wheel's side plugs (2) is facing downwards.
2. Remove the side plugs (2) and drain the oil.
3. Reinstall the side plugs (2), tightening them securely.
4. Remove the central plug (1).
5. Refill the drive with the oil recommended in the lubricants table of this manual and install the central plug (1), tightening it properly.
6. The amount of the oil to be inserted in the final drive is 800 ml.
7. Proceed in the same way for the other drives.

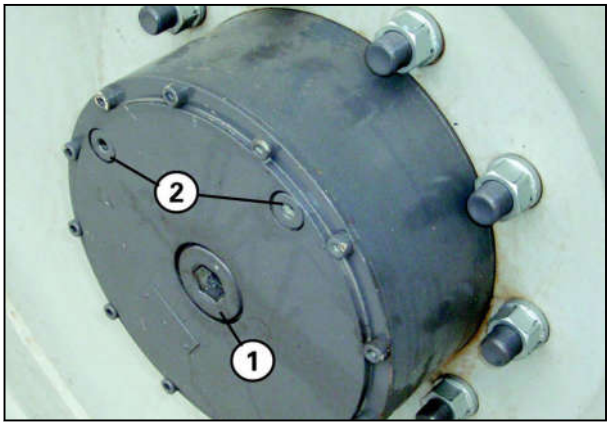

Fig. 51

4.12.8 Replacing the primary and secondary fuses

4.12.8.1 Primary fuse (Maxi Fuse-type)

PFB01 fuse box located on fire break panel behind the engine.

Fig. 72

PRIMARY FUSES		
Fuse	**Function**	**Capacity**
PF-01	Protects ECULIN-05 through the external M6 screw connection	40 A
PF-02	Protects ECULIN-04 through the external M6 screw connection	40 A
PF-03	Protects ECULIN-02 through the external M6 screw connection	40 A
PF-04	Protects ECU-01	30 A
PF-05	Protects the Norac module and ASC10	40 A
PF-06	Protects ECU-03 and ECU-05	60 A
PF-07	Standby	20 A
PF-08	Standby	40 A

PFB02 fuse box located on the inside of the steering column, accessible via the column cover beneath the steering wheel. To see the fuse box, look from the bottom upwards on the right-hand side of the secondary fuse box.

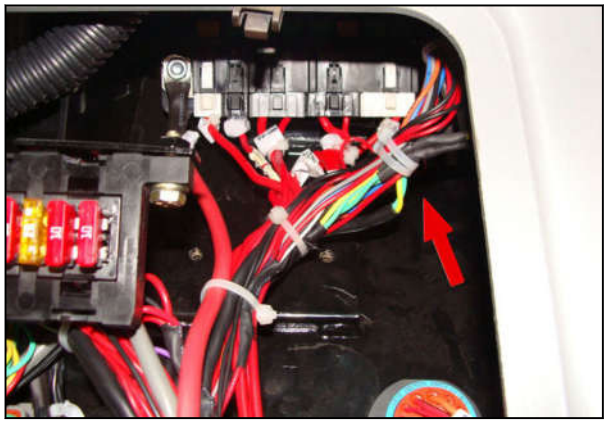

Fig. 73

4.16 Storage of the sprayer during inactive periods

Agricultural sprayers are often used on a very seasonal basis, i.e., there are times when they work more than 20 hours a day and others where they remain stationary for several weeks.

Storage of the sprayer during these periods requires the same high level of care as taken during the active period.

Basically, storage during this period is meant to protect the sprayer against harmful agents such as moisture, heat, cold, dirt, etc.

The ideal conditions when a sprayer is inactive are as follows:

4.16.1 Cleaning the sprayer

Before anything else, carefully wash the entire sprayer.

This leaves it free of a large quantity of residues that oxidise the metal parts and degrade non-metallic elements, such as paint, plastics, electrical installation, etc.

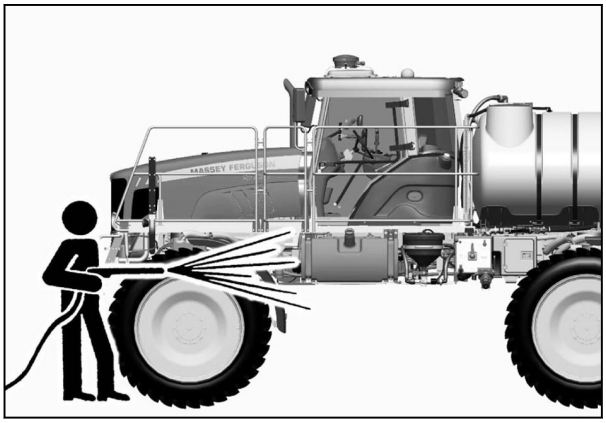

Fig. 88

NOTE:
When washing the machine, do not direct the jet of water directly on the inlet of electrical box cables (1). *This may result in damage to the equipment.*

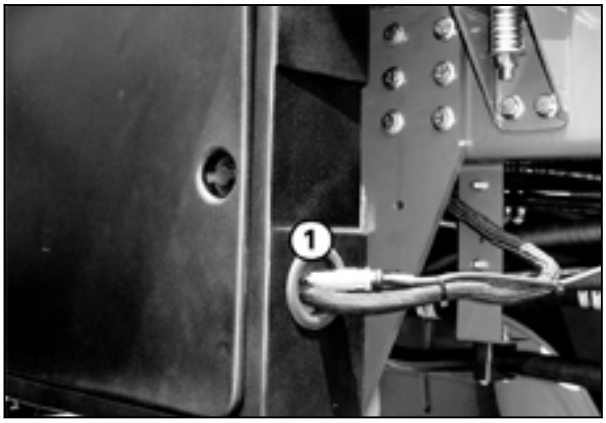

Fig. 89

4.16.2 Storing the sprayer

It is very important that the sprayer is sheltered from the weather in a dry, cool place.

Otherwise, the sprayer will not be protected.

4.16.3 Relieving the load on the tyres

If the downtime is greater than 30 days, the weight of the sprayer should be supported on reinforced and secured wedges.

Inflate the tyres to a pressure lower than that recommended for the job.

If the weight of the sprayer is concentrated on the tyres in one position for a long time, the tyre tread will become deformed.

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