CONTENTS

1.1 - SERIAL NUMBER

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

Registration plate (according to country)

OIB-06-02034

Fig. 1

Name plate with serial number (according to country).

OIB-06-02035

Fig. 2

Front axle serial number

Z4A-1631-11-05

Fig. 3

"Sisu" engine serial number

Z4A-1630-11-05

Fig. 4

Cab serial number

Z3A-702-07-04

Fig. 5

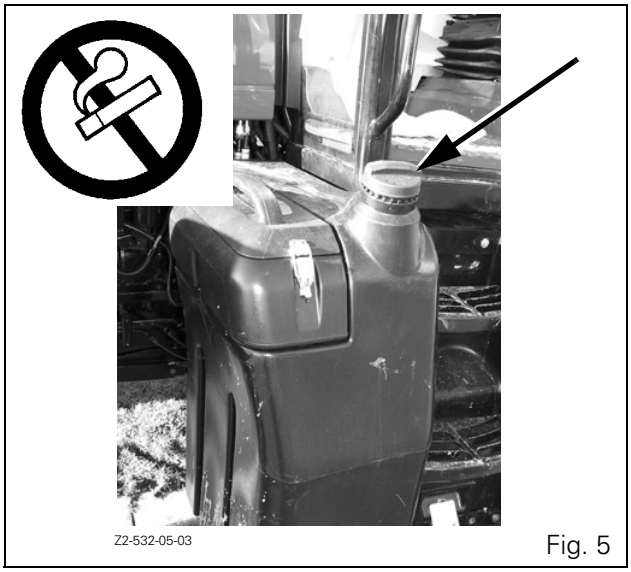


Fig. 5

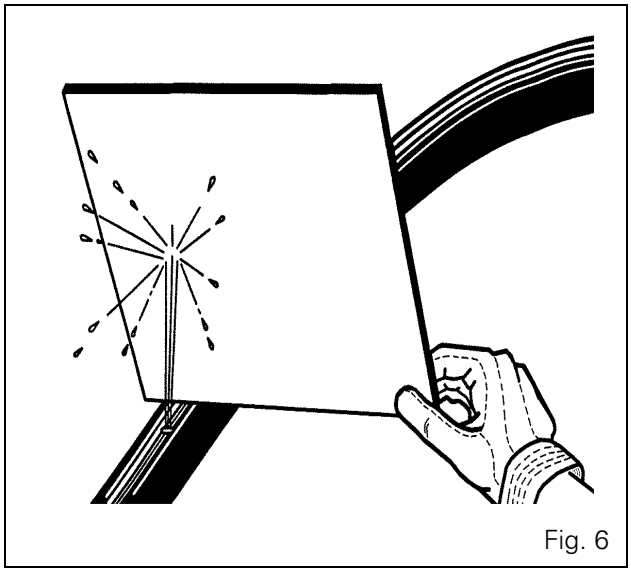


Fig. 6

- Check for loose, broken, missing or damaged parts. Ensure everything has been properly repaired. Ensure that all safety devices are in place.
- Check that the seat belt is in good condition. A damaged seat belt must be replaced.
- Ensure that implements and equipment are properly installed and that the tractor and implement PTO (rpm) ratios are correct.
- Check the condition and pressure of tyres (absence of cuts and bulges). Replace worn or damaged tyres. Check that the hand and foot brakes are operating correctly. Adjust if necessary.
- Check the oil level. Top up the oil if necessary.
- Perform all servicing procedures outlined in the Servicing and Adjustments chapter in this book.
- Check that the PTO shaft locking devices are engaged.
- Check that the tractor PTO guard and the shaft guards are in place and operating correctly.
- Check the tractor and implement hydraulic circuit. Ensure any damaged or leaking parts are repaired or replaced.

WARNING: Fuel or hydraulic fluid under pressure can penetrate the skin or eyes and cause serious personal injury, blindness or death.

Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to detect leaks. DO NOT USE YOUR BARE HANDS. Wear safety goggles for eye protection. If any fluid penetrates the skin, seek medical advice within a few hours from a doctor familiar with this type of injury, as surgery will be necessary (Fig. 6).

Before applying pressure to the fuel or hydraulic circuit, ensure that all connections are tight and that lines, pipes and hoses are free from damage. Relieve the pressure before disconnecting fuel or hydraulic circuits.

Make sure that all hydraulic circuits are correctly installed and not crossed.

WARNING: Liquid cooling circuits build up pressure as the engine temperature increases. Stop the engine and let the circuit cool before removing the radiator cap.

- Check the engine cooling circuit and add coolant if required.

2.10.5 - Clean the tractor

- Keep work surfaces and engine compartments clean.
- Before cleaning the machine, always lower implements to the ground, place transmission in neutral, engage the handbrake, stop the engine and remove the ignition key.
- Clean footsteps, pedals and floor. Remove grease or oil. Brush away dust and mud. In winter, scrape away snow and ice. Remember - slippery surfaces are hazardous.
- Remove or put away implements, buckets, chains and hooks.

2.10.6 - Protect the environment

- It is illegal to pollute drains, water courses or soil. Use authorised waste disposal facilities, refuse tips or garages providing facilities for the disposal of used oil. If in doubt, contact your local authority for advice.

- If the tractor is bogged down in mud or frozen to the ground, **DO NOT ATTEMPT** to drive forward. The tractor could rotate around its rear wheels and overturn. Lift any attached implement and attempt to **REVERSE**. If this is not possible, tow the tractor out with another vehicle.
- If you get stuck in a ditch, **REVERSE**, if possible. If you must go forward, do so slowly and carefully.
- A bare tractor or a tractor with rear-mounted attachments should turn around and travel forward downhill.
- A tractor with a loaded front-end bucket should reverse downhill. Keep the loader bucket as low as possible.
- Always keep the tractor in gear when going downhill. **DO NOT ALLOW** the tractor to coast with clutch disengaged or transmission in neutral.

2.13.7 - Emergency handbrake

IMPORTANT: If the brakes fail and in an emergency situation, use the emergency handbrake located to the left of the driver (Fig. 14)

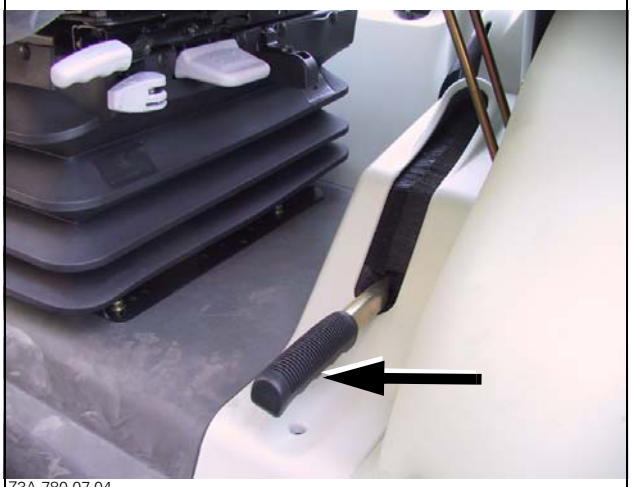

Z3A-780-07-04

Fig. 14

DANGER: Do not use the emergency handbrake as a parking brake. For the parking brake, use the steering wheel ParkLock brake control.

IMPORTANT: If the brakes fail, contact an approved AGCO dealer to resolve the problem.

2.13.8 - Other risks

- Ensure that the PTO shield (1) is in place when the PTO driveline is not in use (Fig. 15).

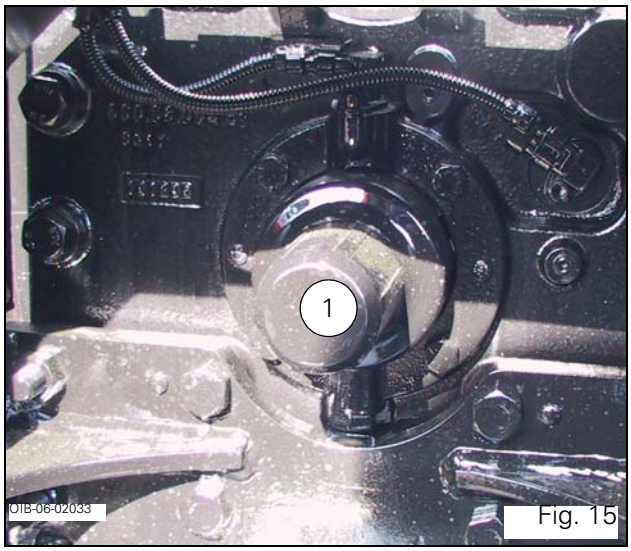
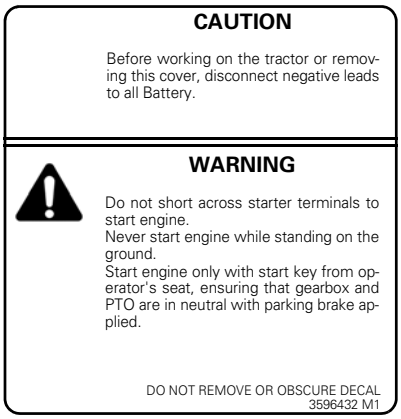


Fig. 15

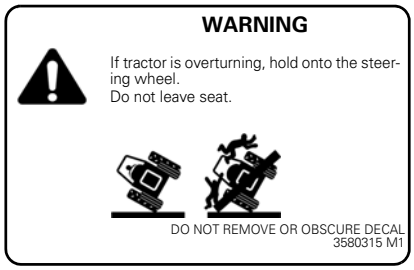
- Before attaching, detaching, cleaning or adjusting PTO-driven implements, disengage the PTO, stop the engine, remove the ignition key and make sure that the PTO transmission shaft has stopped.
- Ensure that all the PTO shaft guards are in place and check the presence of all safety decals (Fig. 16).

Fig. 16

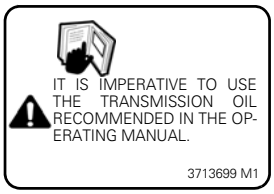
- Ensure that everyone is clear of the machine before engaging the PTO. For stationary PTO operation, place the gear lever in neutral, engage the handbrake and chock the wheels of the tractor and the implement.
- When operating mobile PTO-driven equipment, **DO NOT** leave the tractor seat until the PTO is disengaged, the transmission is in neutral, the handbrake is engaged, the engine is off and the ignition key is removed.
- **DO NOT** use PTO adapters, reducers or extensions as they extend the PTO coupler and universal joint out beyond the protection offered by the guard.



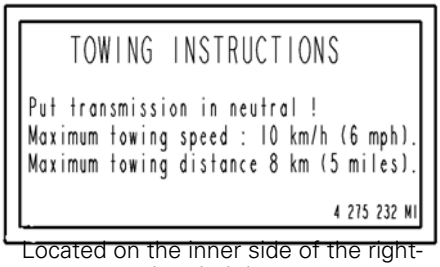
Located on the starter motor.



Located at the rear of the instructor seat.



Located on the fenders to the rear of the cab



Located on the inner side of the right-handed door.

Front linkage decals

WARNING: Read the Operator Instruction Book before starting work.

DANGER: Avoid being caught by moving parts

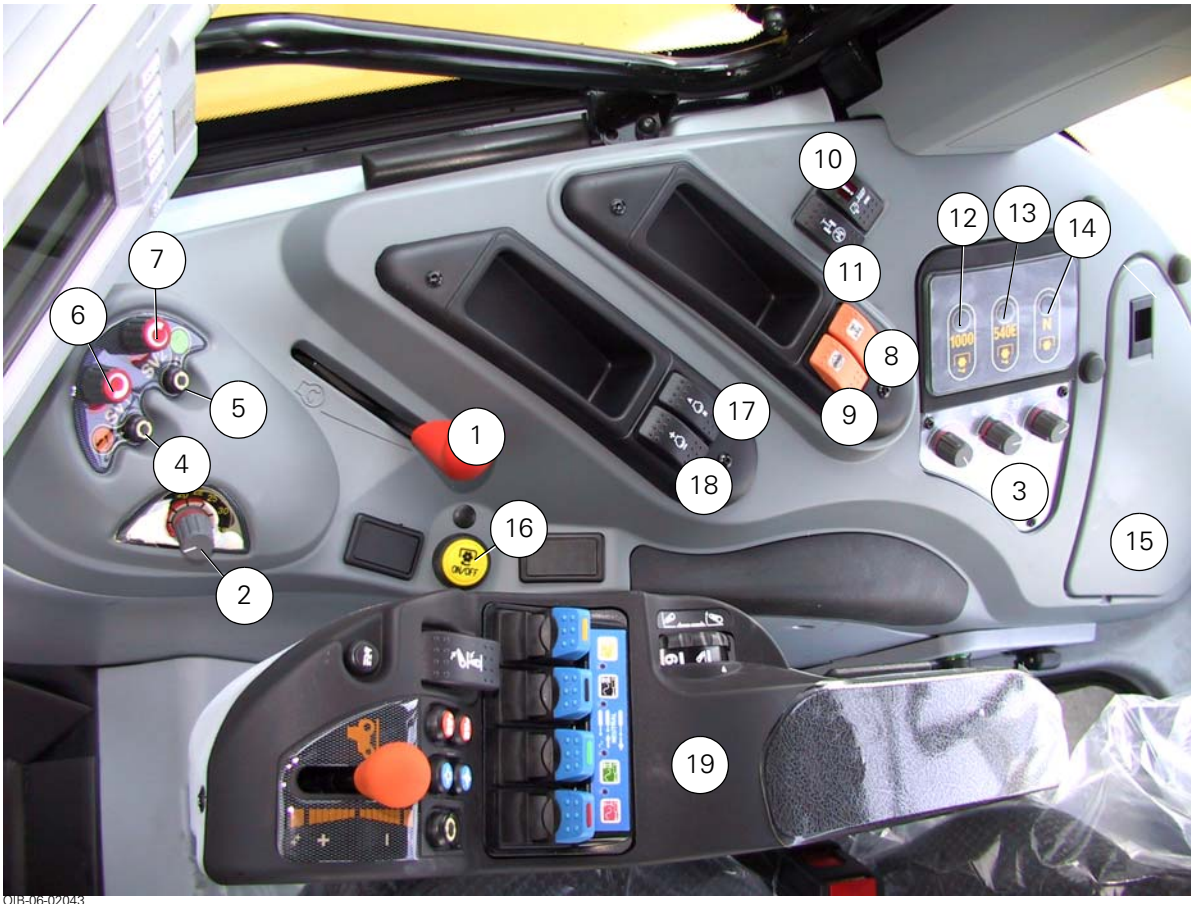


Fig. 12

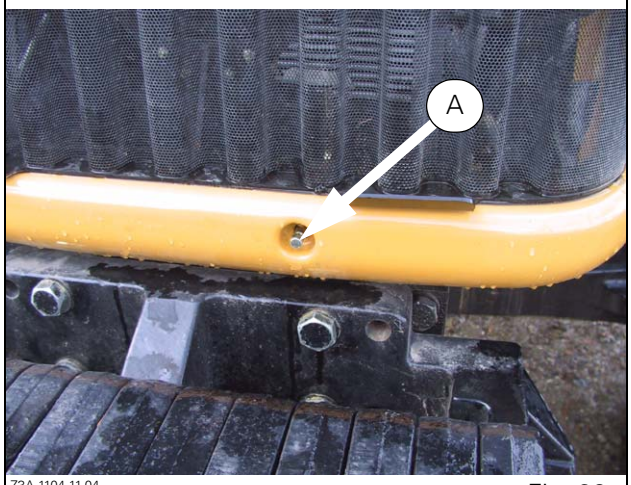
3.6 - RIGHT-HAND CONSOLE

(Fig. 12)

1. Hand throttle.
2. Engine underspeed supervisor.
3. Electronic linkage instrument panel.
4. Lever or pedal mode control button.
5. Hare / Tortoise range button.
6. SV1 speed regulator control button.
7. SV2 speed regulator control button.
8. 4WD switch.
9. Differential lock switch.
10. Cab suspension switch
11. Front axle suspension switch (suspended front axle option).
12. 1000 rpm power take-off control button.
13. 540/540E rpm power take-off control button.
14. Power take-off at neutral control button.
15. Fusebox compartment.
16. 540/540E/1000 rpm rear power take-off ON/OFF control button.
17. A/B speed switch.
18. +/- engine rpm switch after selecting A/B speed.
19. Multi-function armrest.

3.13 - BODY

The bonnet can be raised to allow free access to the engine.
To open it, press the button (A Fig. 29) and lift the bonnet.
To open it fully, push the locking lever (ref. B Fig. 31) located to the rear of the bonnet.
To remove the side panel of the body, pull it at the points indicated (C and D Fig. 31) and lift the panel to release it.

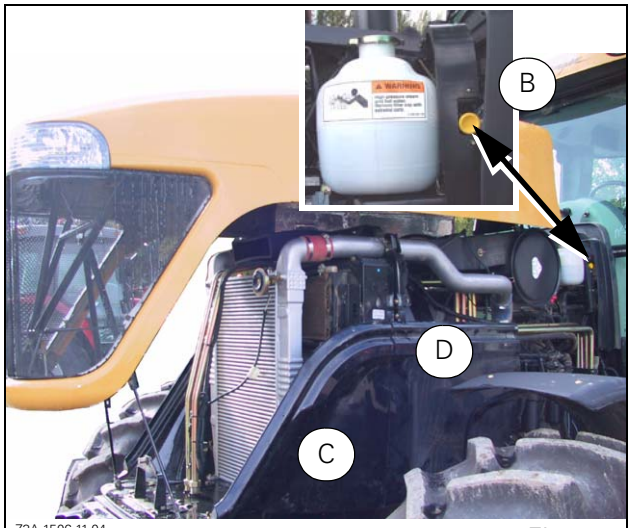


Z3A-1104-11-04

Fig. 29

Z3A-1105-11-04

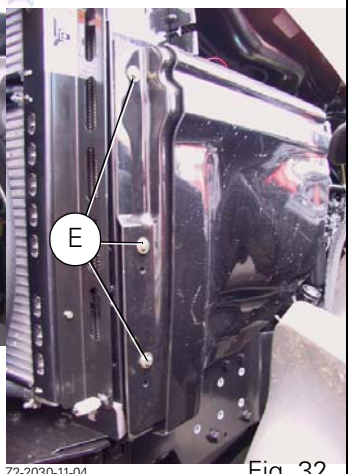
Fig. 30



Z3A-1506-11-04

Fig. 31

Z2-2029-11-04



Z2-2030-11-04

Fig. 32

Deactivating "ParkLock":

- Control (A) must be pulled outwards (open padlock symbol).

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

DANGER: Move the control to locked position (closed padlock symbol) before leaving the driver's seat if the engine is running.

4.4.4 - Choosing the correct gear ratio

Fig. 6. Select the ratio which gives the optimum fuel consumption without overloading the engine and the transmission. Also bear in mind that soil conditions can vary within a matter of a few yards in the same field. Select a ratio which allows the engine to operate comfortably at about 75% of its maximum power.

4.4.5 - Preselecting A/B engine rpm

Fig. 5 - This function gives the operator a continuous choice between two engine rpm settings, stabilised according to his chosen settings.

Memorising engine rpm settings

1. Select the required engine rpm using the foot or hand throttle:
   Keep the memory button (A or B (17)) pressed down for 1 to 2 seconds. The speed is memorised and activated. The operation is the same for both memories (A and B), and the speed remains memorised even if the ignition is switched off.
2. There should be no engine rpm selected:
   Keep the memory button (A or B) pressed down, do not release it; the speed will increase gradually. Release the button when the desired speed is reached; the speed will be memorised and activated.

Press button A / B to select or deselect the engine rpm predefined by button (18).

Each time button (18) is pressed, engine rpm is increased/decreased by 10 rpm. A continuously applied pressure rapidly increases or decreases the engine rpm to be memorized.

NOTE: When driving at a preselected, accelerated engine rpm, press once on the key A/B or on the brake pedals, or press the foot throttle rapidly (kick down) to drop automatically to idling speed.

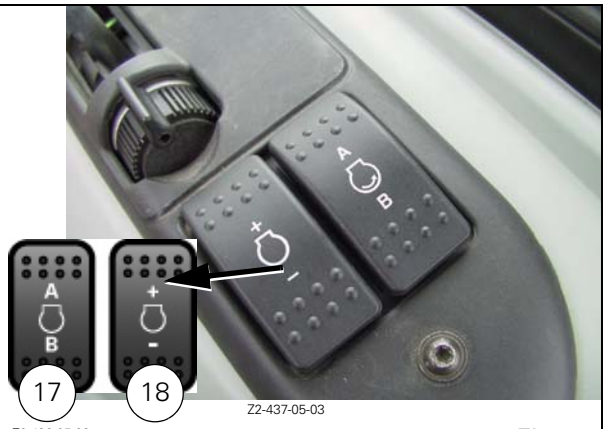


Fig. 5

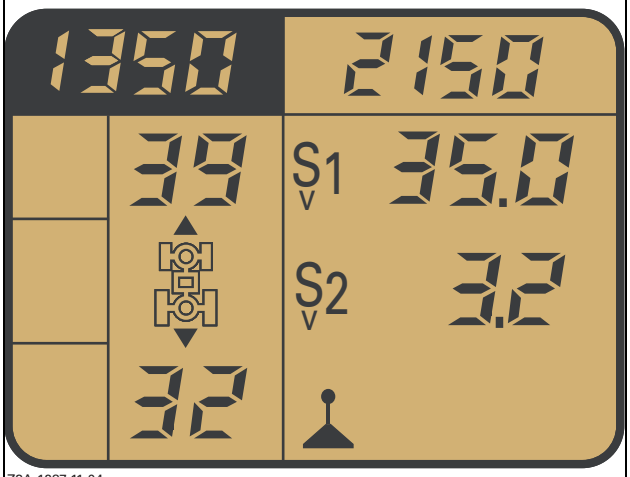


Fig. 6

- The engine symbol appears on the digital display, along with the letter A or B, indicating the active memorised engine rpm (example: memorised rpm A (2 Fig. 7).

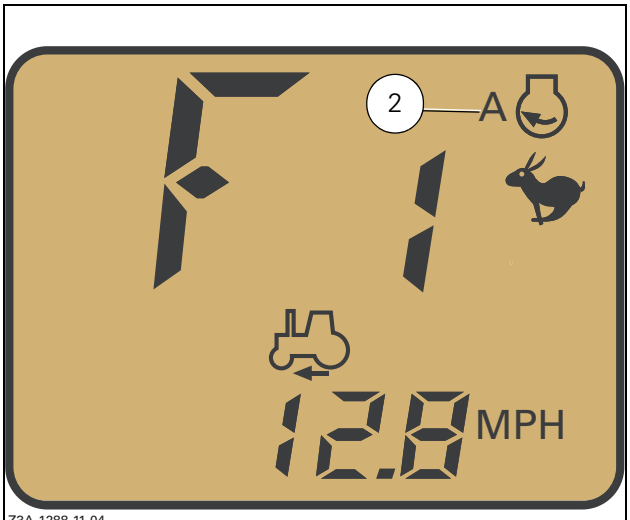


Fig. 7

4.12 - POWER TAKE-OFF

WARNING: Always disengage the PTO and stop the engine before attaching or detaching an implement or making adjustments to it.

Take all safety precautions in any operation involving implements driven by the power take-off.

DANGER: Power take-off

Never cross over the universal joint shaft.

Do not use the tractor or implement drawbars as a step.

Never use the universal joint shaft as a step.

Never wear loose-fitting clothes.

Remain at a safe distance from the universal joint shaft.

4.12.1 - Front power take-off

The front PTO is controlled by the switch (Fig. 34).

To engage the PTO, slide the red safety slider, as indicated by the arrow, while pressing the switch, as shown by ref. D, to unlock it; the indicator light ref. 1 lights up on the instrument panel.

Press the switch, as shown by ref. E to stop the PTO; in this position the switch prevents accidental engagement.

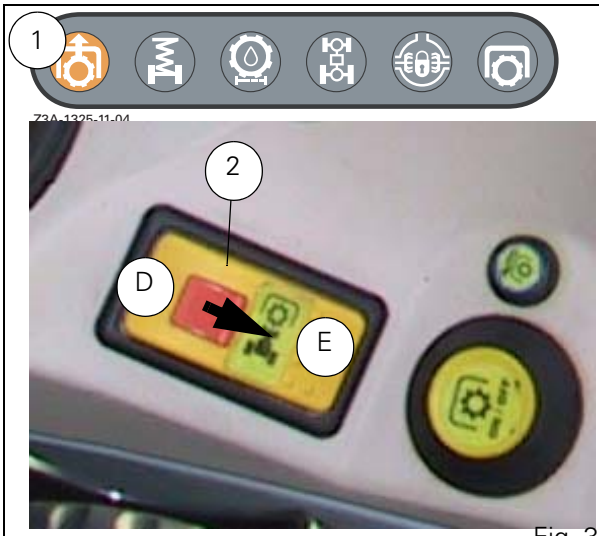


Fig. 34

4.12.2 - Rear power take-off (PTO)

The power take-off (PTO) is operated independently of the transmission. 540 rpm, 540E rpm and 1000 rpm speeds can be obtained by selecting the appropriate speed with the buttons Ref. 3 (Fig. 35). The relevant display appears on the digital display and the instrument panel indicator light Ref. 6 flashes.

Button "**N**" disengages the PTO if it is activated.

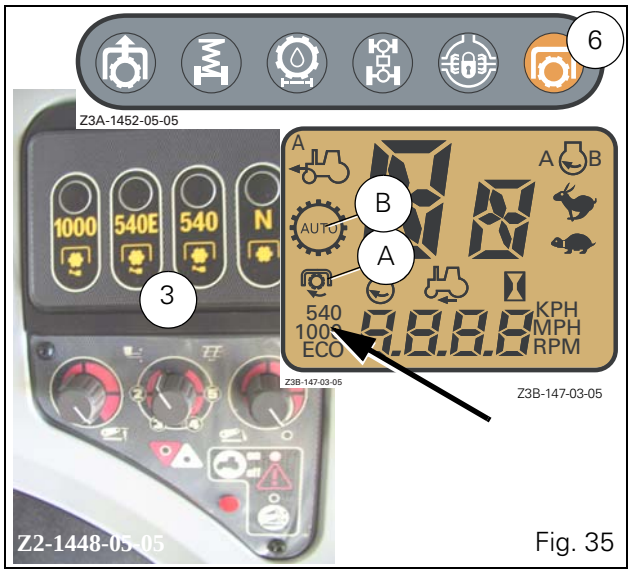


Fig. 35

PTO speed selected	Display	Maximum engine rpm
540 rpm	540	2090 rpm
540E rpm	ECO	1600 rpm
1000 rpm	1000	2030 rpm

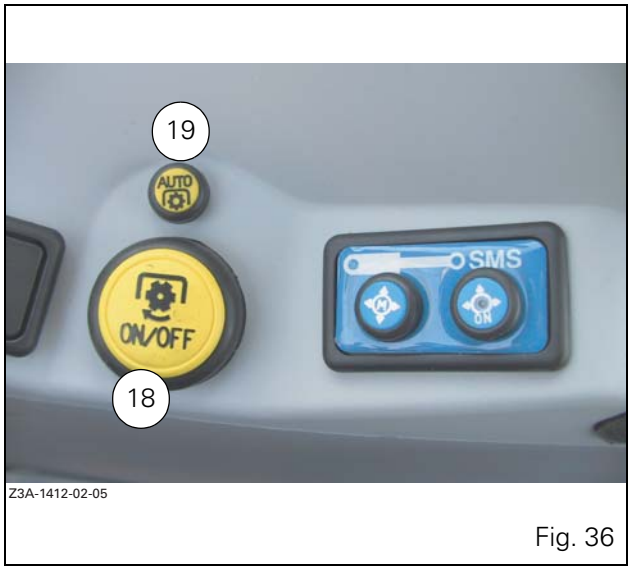


Fig. 36

4.14.8.2 - Using the "SMS" controls

Unlock the hydraulic valve controls (see Chapter 4.14.3).

Fig. 62:

A. Neutral position
B. Ram rod retracted position
C. Ram rod extended position
D. Control locking position: It is possible to lock every hydraulic valve controlled by pushing the lever as far as it will go.
11. Spool valve constant flow position switches (Kick out)

Move the "SMS" control to locked position (D) and press the switch that corresponds to its control (matching colours). The red indicator light should come on.

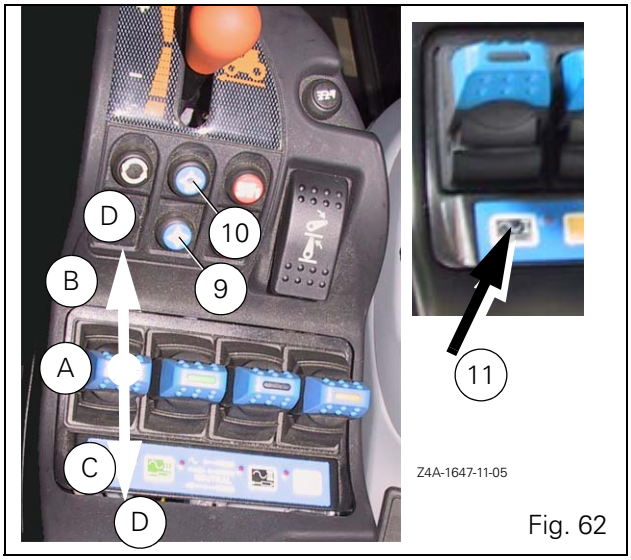


Fig. 62

4.14.8.3 - Memorising a flow rate

NOTE: If the tractor is fitted with the Datatronic 3, refer to the specific Operator Instruction Book, the HYDRAULIC VALVES application for memorisation flow rates and activation times for each hydraulic valve.

When the engine is started, the hydraulic valve controls are unavailable and the button's red indicator light (10) is lit.

When the Datatronic 3 is installed, the corresponding icon in the window is locked (padlock symbol displayed).

1. Press the button 10 to make the hydraulic valve controls operational. The red indicator light goes out (on the optional Datatronic 3 screen, the padlock icon vanishes from the screen) and it is now possible to set the Datatronic 3.
2. Move and hold a spool valve control lever in the desired direction to obtain the desired flow; the flow stops as soon as the lever is released.
3. Move the "Joystick" control to position D and release it immediately to obtain the floating position; the flow rate is automated (the icon is displayed on the Datatronic 3 screen).

4. Still holding the lever in the required position, press the memory key 9 for one second. The flow rate is memorised.

NOTE: When using a control, regardless of the position used, the flow rate generated will be the one previously memorised. To cancel the values, press button (9 Fig. 62) for approximately 5 seconds (default value 100%).

4.14.9 - Emergency manual hydraulic valve control

In case of malfunction of the joystick or spool valve controls, the emergency hand controls are available to lift or lower the installed attachments.

Button 10 (ON/OFF Fig. 62) flashes and the relevant error code is displayed on the tractor on-board computer (if installed).

Operation: Activate one of the levers located on the hydraulic valves by pressing as shown (1) for lowering or by pulling as shown (2) for raising (Fig. 63).

Stop the engine, then restart it to reactivate the Joystick.

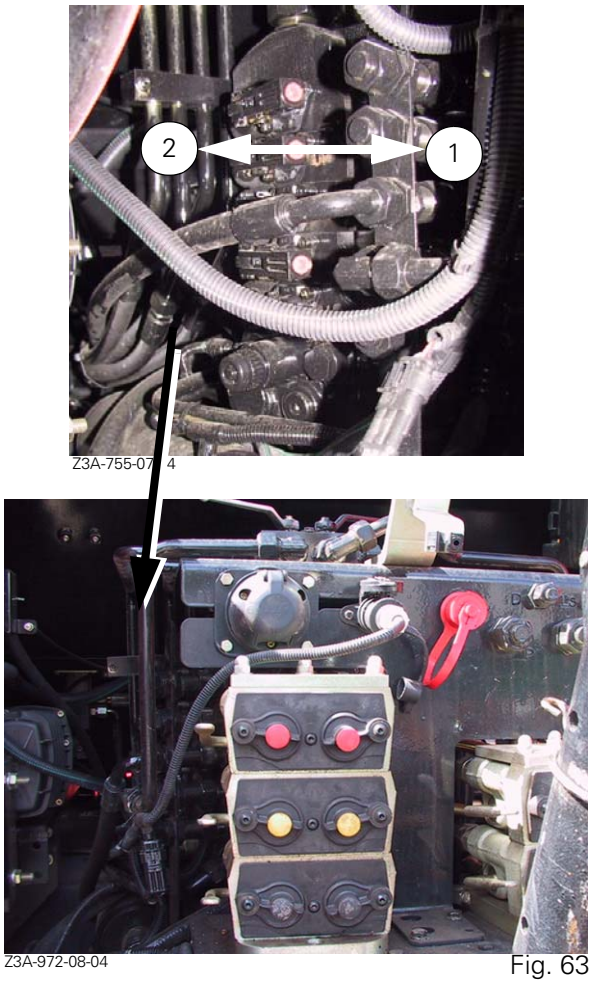


Fig. 63

5.2 - SERVICE GUIDE

SERVICE GUIDE	Inspections according to Service Record Book				
	50h	400h	800h	1200h	2000h
Engine, fuel and cooling systems					
1. Change the engine oil.		●	●	●	●
1. Change the engine oil filter and the centrifugal filter.		●	●	●	●
2. Change the fuel filter.	●	●	●	●	●
3. Change the fuel pre-filter.	●	●	●	●	●
4. Check the valve clearance, replace the cover gasket.		●	-	●	
5. Check the idle speed and fuel cut-off mechanism.		●	●	●	●
6. Check tension and condition of alternator, fan and air-conditioning belts.	●	●	●	●	●
7. Check/clean the dry air filter elements.	●	●	●		●
8. Change the dry air filter elements.				●	
9. Check radiator coolant level.	●	●	●		●
10. Drain, flush and refill radiator with coolant.				●	
11. Clean the main radiator and all other cooler element fins.		●	●	●	●
12. Clean air conditioning condenser.		●	●	●	●
13. Change the dryer.				●	
14. Check the level of smoke emission from the exhaust.		●	●	●	●
15. Grease the water pump.		●	●	●	●
Electrical system and instruments					
16. Check the condition of the battery and the electrolyte level.	●	●	●	●	●
17. Check tightness of battery connections and battery safety.	●	●	●	●	●
18. Check all safety start switches for correct operation.	●	●	●	●	●
19. Check all the instruments, indicator lights and sound alarms for correct operation.	●	●	●	●	●
20. Check all the lights and indicator lights for correct operation and adjustment.	●	●	●	●	●
21. Check all electrically-powered devices (heater/fan, radio, windscreen wipers etc.) for correct operation.	●	●	●	●	●
22. Check all electronically controlled systems for correct operation.	●	●	●	●	●
23. Check there is sufficient contact grease on the multi-pin Deutsch connectors/ add if necessary.		●	●	●	●
Front axle and steering					
24. Check the oil level in the front axle and final drives (4WD).		●		●	●
25. Change the oil in the front axle and final drives (4WD).	●		●		
26. Check front wheel hub/steering pivots/suspension clearance.		●	●	●	●
27. Grease the drive shaft/universal joints (4WD).	●	●	●	●	●
28. Grease the steering pivots/suspended front axle.	●	●	●	●	●
29. Check the steering for correct operation (with and without the engine running).		●	●	●	●
30. Check the steering and wheel alignment (including tyre wear and damage).				●	
Transmission and hydraulics					
31. Check the transmission/auxiliary hydraulics oil level.			Every day		
32. Change the transmission oil.					●
33. Change 150 micron transmission suction strainer.					●
34. Check oil level in the rear final drive units.		●	●	●	
35. Change the oil in the rear final drive units.	●				●
36. Change the 10 micron return filter (Techstar CVT auxiliary hydraulics).	●	●	●	●	●
37. Change the transmission oil 10 micron high pressure filter element.	●	●	-	●	●
38. Change the oil in the auxiliary hydraulics circuit.				●	
39. Change 10 micron breather (Techstar CVT auxiliary hydraulics).		●	●	●	●
40. Lubricate the linkage shaft and top up only if not properly sealed.	●				●
41. Check the automatic pick-up hitch for correct operation.	●			●	

5.7.2 - Oil level

IMPORTANT: Stand the tractor on level ground, with the front axle suspension disengaged.

Check the engine oil level every ten hours or daily (this interval is flexible).

To avoid heavy oil consumption:

- Do not exceed the MAX mark on the dipstick.
- Do not refill until the level reaches the MIN mark on the dipstick.

  Top up if necessary.

5.7.3 - Drain the engine oil every 400 hours

With the tractor standing on level ground, drain the oil when the engine is warm having removed the plug from the engine sump (1. Fig. 17).

Refit and tighten the drain plug to a torque of 3.5 daNm.

Refill with a recommended oil to the **MAX** mark on the dipstick.

NOTE: Allow time for the oil to settle in the sump before rechecking the level.

An interval of 400 hours is the maximum. In difficult working conditions, the oil may need changing more frequently (every 200 hours for example).

5.7.4 - Change the engine oil filter and the centrifugal filter every 400 hours

To replace the filter 4 and 4A (Fig. 22)

1. Wait a few minutes to allow the oil to flow into the engine.
2. Unscrew and discard the filter assembly.
3. Fill the new filter slowly with clean oil.
4. Smear a few drops of clean engine oil on the new sealing ring, then place the ring on top of the new filter.
5. Screw the filter onto the filter head until the sealing ring touches the filter head, then tighten it a further half-turn by hand only (do not overtighten).
6. 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 bar oil pressure light to go out. To ensure that the engine will not start, disconnect the electrical stop control of the fuel injection pump. Run the engine and check for leaks, then recheck the oil level and top up if necessary. The rocker arm clearance should be checked by your dealer or agent, initially after 400 hours, then once every 1200 hours.

5.8 - FUEL SYSTEM

5.8.1 - Fuel prefilter

Check the prefilter bowl for water at regular intervals and drain as necessary (5 Fig. 22).

Change the 150 micron element every 400 hours.

5.8.2 - Fuel filter

Drain the water every 100 hours.

Place a receptacle beneath each element, then open the tap to allow water and sediment to run out, close the taps, then operate the fuel lift pump.

Replace the filter element every 400 hours (6 Fig. 22).

Discard the old filter element as required by environmental protection regulations.

1. Clean the filter and surrounding area.
2. Loosen the fast fitting ring A and remove the filter element.
3. Fill and fit the new filter element.
4. Turn the fast fitting ring until it clicks into the ON position.
5. Switch on the ignition and allow the electric fuel lift pump to operate for 30 seconds. Start the engine and check that the fuel filter is leaktight.
6. Bleed the fuel system.

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

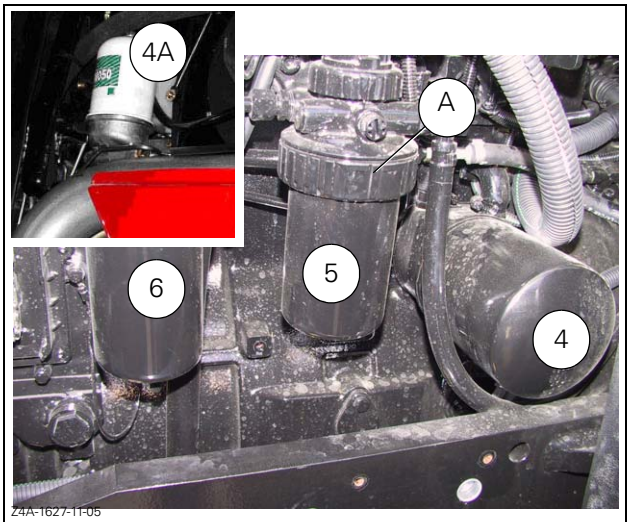


Fig. 22

Bleeding the fuel system

For your tractor engine to run correctly, the fuel system must be in perfect condition and free of air.

The bleeding of the fuel supply system is automatic.

Do not disconnect any unions or pipes.

IMPORTANT: Never activate the starter for more than 30 seconds in one go to avoid overheating.

5.14.3 - Checking the charge system

Run the engine and operate the air conditioning system for a few moments.

It is advisable to have your dealer or agent add charge to the system once a year at the start of the summer.

NOTE: So as to keep the system in good condition, it is advisable to operate the system for several minutes each week to lubricate all the seals.

The condenser and the oil cooler can be moved sideways or turned to make the cleaning of the radiator area easier.

DANGER: In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to the eyes. R134a refrigerant gives off a toxic gas if it comes into contact with a flame.

WARNING: Do not disconnect any part of the refrigeration circuit from the air conditioning system. Consult your dealer or agent if a fault occurs.

5.15 - CHECKING THE CONDITION OF THE FAN BELT

(Fig. 49)

Examine the fan belt (on a daily basis or whenever refuelling).

Cross cracks (running across the breadth of the belt) are allowed.

Longitudinal cracks (running along the length of the belt) which intersect cross cracks **are not allowed**.

Replace the belt if it is cracked in an unacceptable way, frayed or if pieces have come off.

5.15.1 - Check the belt tension every 400 hours

The correct deflection value is 15 to 20 mm (Sisu engines) when pressing the hand on the belt midway between the fan pulley and crankshaft pulley.

A new belt may loosen after operating for approximately half an hour or an hour.

5.15.2 - Replacing the Poly-V belt

Replace the belt as soon as it shows signs of wear or damage or is oily.

Loosen the alternator screws, remove the drive belt, assemble the new belt and tighten while manipulating the alternator so that the self-tensioning idler moves to form an angle of approximately 15° off vertical (see Fig. 49). Retighten the alternator, check belt tension and re-tighten if necessary.

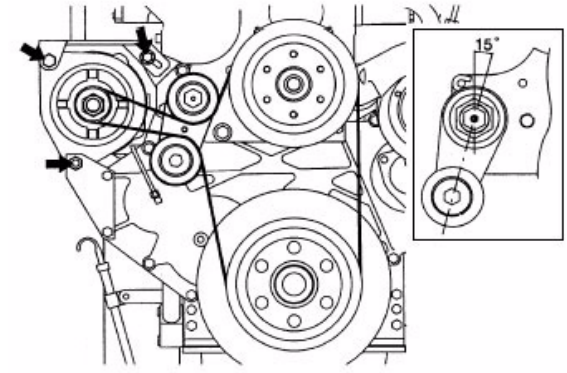
NOTE: After the tensioner has been slackened to remove/fit the belt, check the torque of the tensioner screws.

Torque value: 43 Nm [32 ft-lb]

5.15.2.1 - Replacing the air-conditioning belt

Fig. 50: Replace the air-conditioning drive belt at the first signs of wear:

1. Loosen the lock screw (1) on the tensioner then the nut (3) and adjustment screw (2) to release the tension.
2. Replace the belt.
3. Hold the tensioner against the belt with your hand and pre-tighten the lock screw (1) to 5 Nm.
4. Bring the tension adjustment screw (2) against the tensioner and tighten for 2.5 turns.
5. Lock the lock nut (3).
6. Re-tighten the lock screw on the tensioner (1) to torque 67 Nm.
7. Use a frequency meter to check the tension (128 to 150 Hertz) (90 to 110 Nm (66.38 to 81.14 ft lb)).



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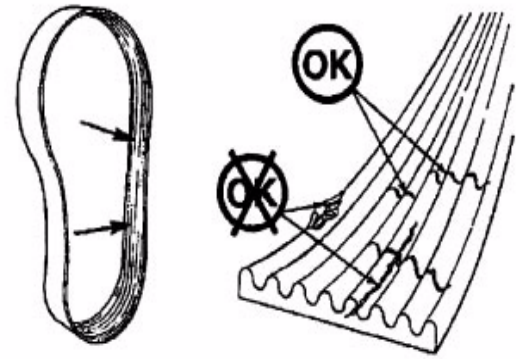

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Fig. 49

5.21.2 - Rear track (mm)

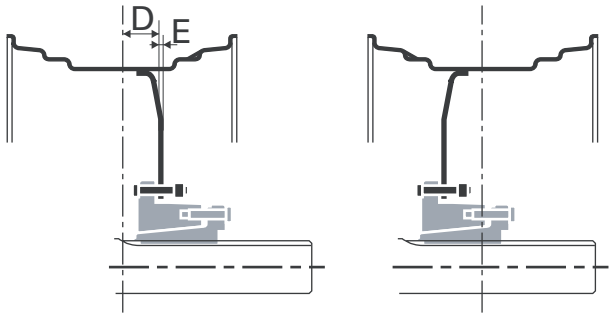
Wheels with steel flanges

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

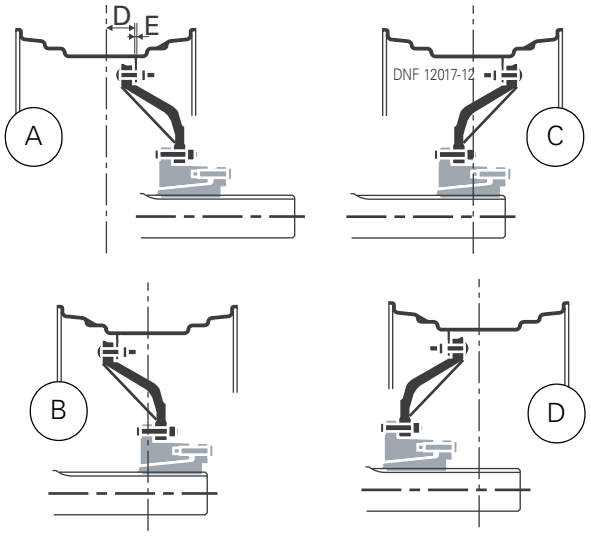
NOTE: Ensure a sufficient gap remains between the tyres and the inside of the fenders.

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).

TABLE OF REAR WHEEL TRACK VALUES in mm			
Rear Axle			
		D = rim offset 75 mm - **E** = rim disc thickness 15 mm	
		Disc facing inwards (min. - max.)	**Disc facing outwards (min. – max.)**
MT635B to MT665B	HA 200/260 (Short straight shaft)	1699 - 1996	2029 - 2326

Wheels with cast iron disc

TABLE OF REAR WHEEL TRACK VALUES in mm			
Rear Axle			
		D = rim offset 75 mm - **E** = rim disc thickness 15 mm	
		Disc facing inwards (min. - max.)	**Disc facing outwards (min. – max.)**
MT635B to MT665B	HA 200/260	A - 1485 - 1781	A - 1815 - 2111
MT635B to MT665B	HA 200/260	B - 1959 - 2256	D - 2289 - 2586

6.10 - LINKAGE

6.10.1 - Rear

Type: 3-point, category 3 or 3.2, with fixed or telescopic lower drawbars, hook or ball joint type.

Capacity (Kg).

CAPACITY	MT635B - MT645B - MT655B - MT665B
Rams	2 x Ø100
At ball joints*	10500

*Maximum capacity according to lift rod position and linkage type.

6.10.2 - Front

Type: 3 points with or without nitrogen balls.

Cylinders: 2 in number - Lifting force (kg) (see tables).

CAPACITY	MT635B - MT645B	MT655B - MT665B
At ball joints*	3500	5000

6.11 - BRAKES

Type: Multidisc, diameter 223 mm at rear and 170 mm at front, hydraulically operated.
Number of discs per side: 6.
Parking brake: activates the main brakes.
Trailer brake: According to version, via hydraulic valve.

6.12 - REAR DIFFERENTIAL LOCK

Type: Disc
Control: Hydraulic, electrically controlled

6.13 - STEERING

Type: Hydrostatic, tiltable and telescopic steering column, double-acting central cylinder.

Turning radius (hypothetical)	MT635B - MT645B	MT655B - MT665B
Front tyre dimensions	480-70 R30	600-70R28
Outer tyre radius* Without brake (m)	5.75	5.75

*with front axle disengaged