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Safety Notices

Important Information

T1-042

The Operator Manual

⚠ WARNING

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator Manual. You must understand and follow the instructions in the Operator Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

INT-1-4-2

Do not operate the machine without an Operator Manual, or if there is anything on the machine you do not understand.

Treat the Operator Manual as part of the machine. Keep it clean and in good condition. Replace the Operator Manual immediately if it is lost, damaged or becomes unreadable.

Safety Warnings



This safety alert system identifies important safety messages in this manual. When you see this symbol, be alert, your safety is involved, carefully read the message that follows, and inform other operators.

In this publication and on the machine, there are safety notices. Each notice starts with a signal word. The signal word meanings are given below.

⚠ DANGER

Denotes an extreme hazard exists. If proper precautions are not taken, it is highly probable that the operator (or others) could be killed or seriously injured.

INT-1-2-1

⚠ WARNING

Denotes a hazard exists. If proper precautions are not taken, the operator (or others) could be killed or seriously injured.

INT-1-2-2

⚠ CAUTION

Denotes a reminder of safety practices. Failure to follow these safety practices could result in injury to the operator (or others) and possible damage to the machine.

INT-1-2-3

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Operation

Introduction

The aim of this part of the manual is to guide the operator step-by-step through the task of learning how to operate the machine efficiently and safely. Read the OPERATION section through from beginning to end.

Pay particular attention to all safety notices. They are there to warn you of possible danger. Do not just read them; think about what they mean. Understand the dangers and how to avoid them.

Before starting the machine, sit in the driver's seat and familiarise yourself with the layout of the cab. Use your manual to identify each control lever, switch, gauge, button and pedal. Do not guess. If there is anything you do not understand, ask your JCB Distributor. He will be pleased to advise you.

When you have learned where the driving controls are and what they do, practise using them. Practise driving the machine in a safe open space, clear of other people and any obstructions. Get to know the 'feel' of the machine and its controls. Attach implements only when you have learned to drive the machine confidently and safely. When travelling on the road for the first time, do not attach implements. First get to know the 'high speed feel' of the steering and brakes.

If your Fastrac is equipped with the ABS braking system, take time to become familiar with the feel of the machine before commencing work, even if you have had experience of ABS on a different vehicle. ⇨ ***Anti-lock Braking System (ABS) (if fitted) (🗋 102)***.

The operator must always be aware of events happening outside the cab as well as inside the cab. Safety must always be the most important feature when operating the JCB. Finally, do not rush the job of learning, make sure you fully understand everything in the OPERATION section. Take your time and work efficiently and safely.

Remember

BE CAREFUL

BE ALERT

BE SAFE

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Cab Layout - 2155 and 2170

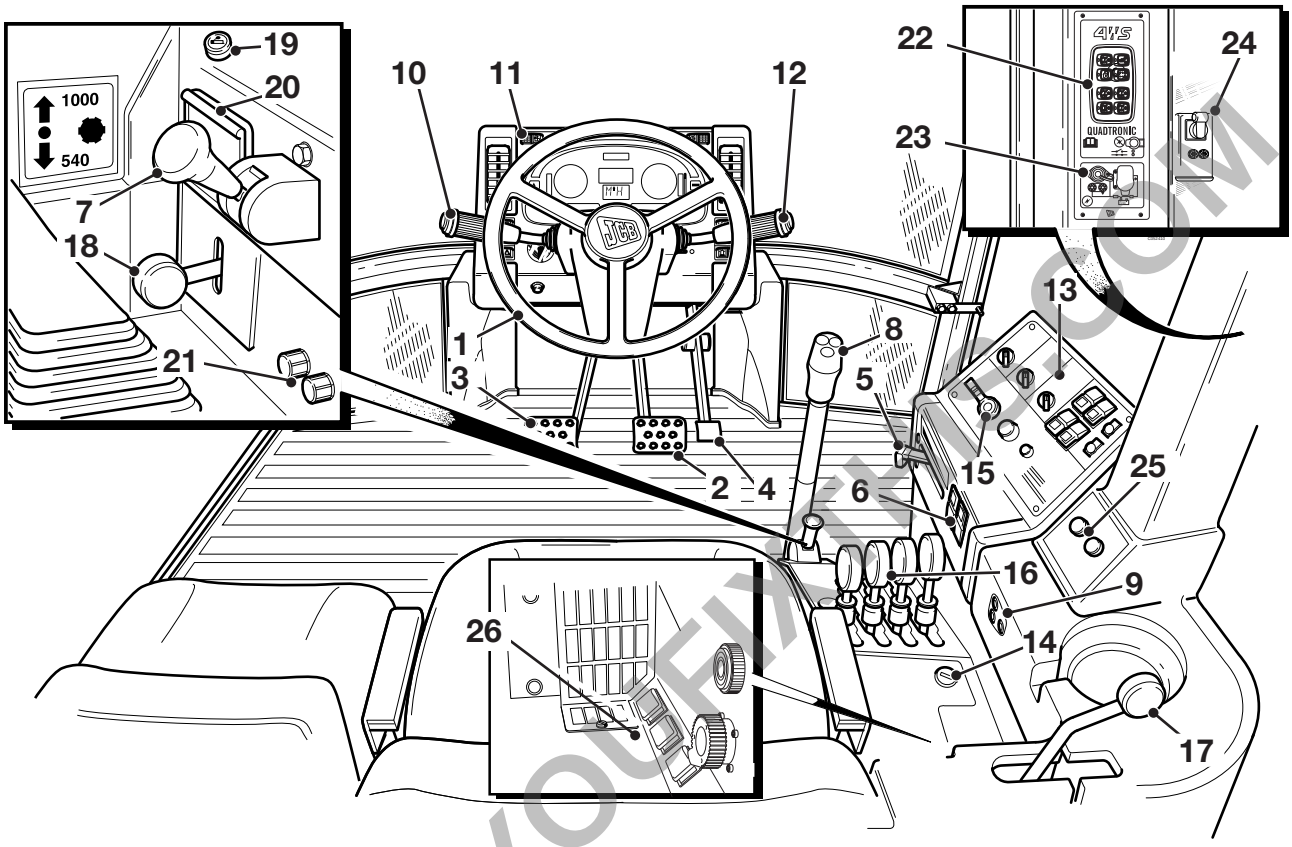


Fig 10.

Controls

The cab is certified to category 1 according to EN 15695-1-2009

1 Steering Wheel

2 Brake Pedal

Push down on the brake pedal to slow or stop the machine. The stop lights should operate when the brake pedal is applied. Do not operate the machine unless both stop lights work correctly.

3 Clutch Pedal

Depress the pedal to disengage the clutch during gear selection. Release pedal slowly.

Note: *Do not rest your foot on either the clutch or brake pedal unless you are using these controls. Otherwise increased component wear may result. A buzzer will sound if you keep your foot on the clutch pedal for too long.*

4 Accelerator Pedal

Gently depress the pedal to increase engine speed. Release to reduce the speed.

5 Hand Throttle Lever

Push lever away from you to increase engine speed or pull towards you to decrease engine speed. The position of the handle will determine the engine speed unless the accelerator pedal is depressed to give a greater speed than the setting of the hand throttle.

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Level 1 Programming Mode

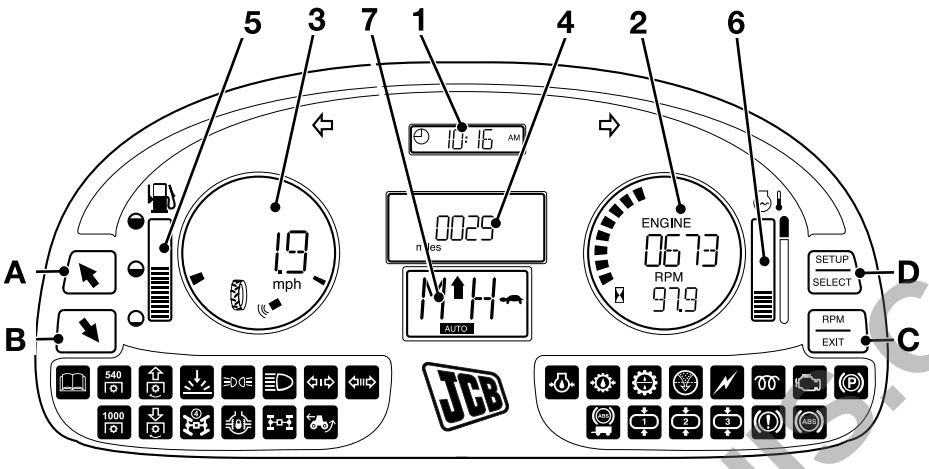


Fig 38.

Level 1 programming mode is concerned with the setting-up of various parameters which may be subject to change from time-to-time. To access level 1 programming press SET UP/SELECT button **D** before and while turning the ignition switch ON. **Do not start the engine**. This will initiate the following sequence of events:

1 The centre display **4** shows the message `SPEEDO' and Road Speed Display **3** shows either mph or kph, depending on the setting previously made. Press button **A** or button **B** to toggle between the two options and select the desired setting.

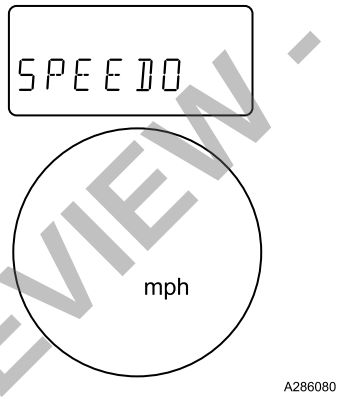


Fig 39.

2 Press SET UP/SELECT button **D** to bring up the message `CENTRE' on centre display **4**. Press button **A** or **B** to toggle between MET and IMP units for level `0' programming displays of area/distance (ha/km or acres/miles) and work rate (acres or hectares (Ha)/hour) for the appropriate LH side display at **Level 0 Programming**.



Fig 40.

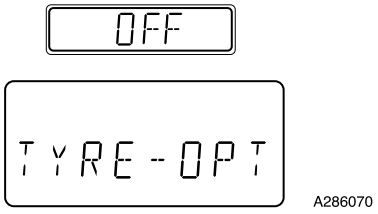


Fig 41.

3 Press SET UP/SELECT button **D** to enter the tyre mode and show the flashing message `TYRE-OPT' on centre display **4**

a The clock display **1** will show the setting previously made -OFF if standard tyres were fitted, ON if optional tyres were fitted. Depending on the current requirement, press button **A** or **B** to

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Rear Axle - 4WS (Optional)

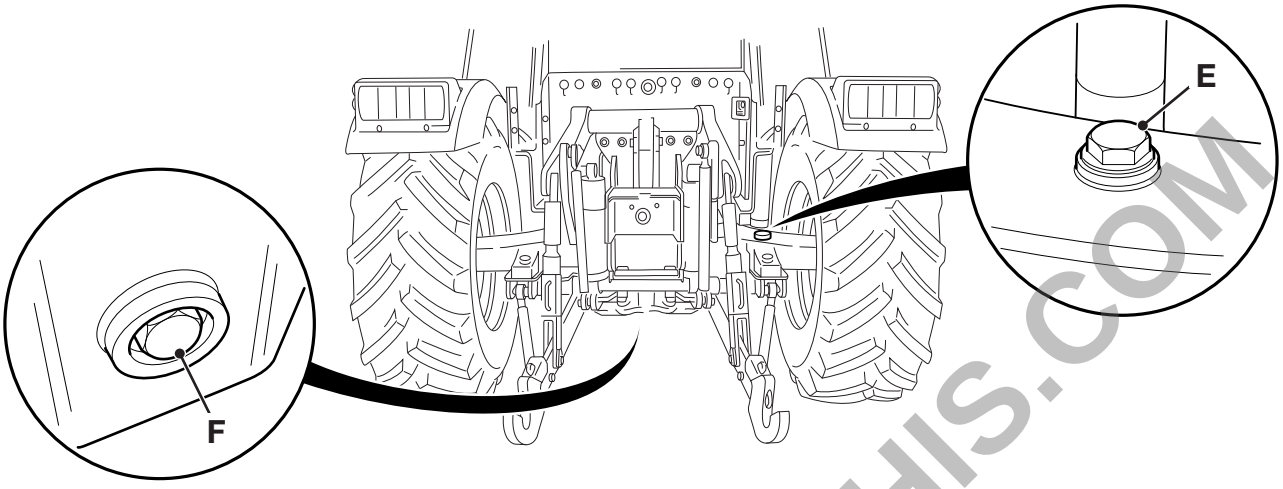


Fig 68.

Checking the Differential Oil Level

1 Park the machine on firm, level ground with the oil level plug **Y** positioned as shown, ⇨ *Fig 68. (252)*. Engage the park brake. Stop the engine and remove the starter key

⚠ WARNING

You will be working close into the machine for these jobs. Lower the attachments if possible. Remove the starter key and disconnect the battery. This will prevent the engine being started. Make sure the park brake is engaged.

Block all four wheels before getting under the machine.

2-3-2-1

2 Clean the area around the level plug **E**, then remove the plug and its sealing washer. Oil should be level with the bottom of the hole. If the level is low proceed to step 3. Otherwise, clean and refit the level plug.

3 Clean the area around the filler plug **F**. ⇨ *Fluid, Lubricants and Capacities (182)* for recommended oil. Remove plug **E** and add oil until it runs from the hub.

Note: *Do not overfill as this would cause oil to be forced past the oil seals and out of the axle.*

Clean the plugs and sealing washers before refitting.

Checking the Hub Oil Levels

Check each hub separately.

1 Park the machine on firm, level ground with the **OIL LEVEL** mark **A** horizontal as shown ⇨ *Fig 69. (253)*. Engage the park brake. Stop the engine and remove the starter key

⚠ WARNING

You will be working close into the machine for these jobs. Lower the attachments if possible. Remove the starter key and disconnect the battery. This will prevent the engine being started. Make sure the park brake is engaged.

Block all four wheels before getting under the machine.

2-3-2-1

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Service Schedules

Introduction

T3-036_3

⚠ WARNING

Maintenance must be done only by suitably qualified and competent persons.

Before doing any maintenance make sure the machine is safe, it should be correctly parked on level ground.

To prevent anyone starting the engine, remove the starter key. Disconnect the battery when you are not using electrical power. If you do not take these precautions you could be killed or injured.

8-3-1-1

A badly maintained machine is a danger to the operator and the people working around him. Make sure that the regular maintenance and lubrication jobs listed in the service schedules are done to keep the machine in a safe and efficient working condition.

Apart from the daily jobs, the schedules are based on machine running hours. Keep a regular check on the hourmeter readings to correctly gauge service intervals. When there is no hourmeter fitted, use the calendar equivalents to determine the service intervals. Refer to ***Calendar Equivalents***. Do not use a machine which is due for a service. Make sure any defects found during the regular maintenance checks are rectified immediately.

How to Use the Service Schedules

T3-012_4

In the example shown, **A** shows all service requirements to be carried out every 10 hours and **B** shows the requirements to be carried out every 500 hours.

Important: *Services should be carried out at either the hourly interval or calendar interval, whichever occurs first. Refer to* ***Calendar Equivalents****.*

Important: *The intervals given in the schedules must not be exceeded. If the machine is operated under severe conditions (high temperature, dust, water, etc.), shorten the intervals.*

Pre-start Cold Checks, Service Points and Fluid Levels

	Operation	A: 10	50	100[1]	B: 500	1000	2000	8000
ENGINE								
Coolant Quality and Level	- Check	□	□	□	□	□		
Cooling System	- Drain and Refill						□	□
Oil level	- Check	□	□					
Oil and Filter[2][3][4]	- Change				□	□	□	□
Air Cleaner Dust Valve[5]	- Change				□	□	□	□
Air Cleaner Outer Element[5]	- Change					□	□	□
Air Cleaner Inner Element	- Change						□	□
Pre-Cleaner (if fitted)	- Check			□				
Water Seperator	- Check for contamination and Drain		□	□	□	□	□	□
Engine Fuel Filter	- Change					□	□	□
Front End Accessory Drive (FEAD) Belt Condition	- Check				□	□	□	□
Front End Accessory Drive (FEAD) Belt	- Change							□
Engine Mounting Bolts for Tightness	- Check			□	□	□	□	□
All Hoses - Condition	- Check			□	□	□	□	□
Radiator[5]	- Clean				□	□	□	□
Crankcase Ventilation Filter	- Change					□	□	□

795390-1

Calendar Equivalents

T3-088

Every 10 Hours = Daily

Every 50 Hours = Weekly

Every 500 Hours = Six Months

Every 1000 Hours = Yearly

Every 2000 Hours = 2 Years

Every 5000 Hours = 5 Years

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Front PTO Operation

Note: *The front PTO can only rotate at the same speed as the rear PTO. Always bear this in mind when selecting front mounted equipment to be used in conjunction with rear-mounted equipment or vice-versa.*

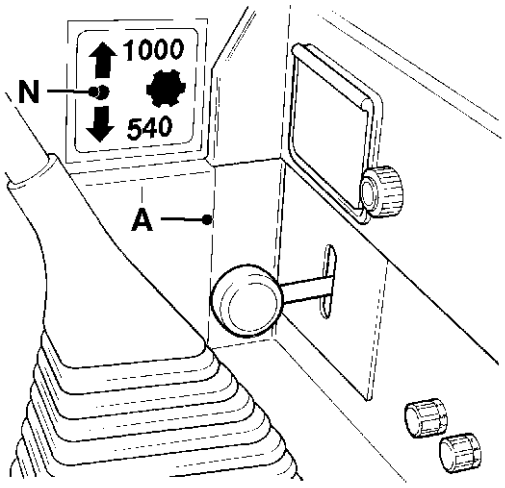


Fig 149.

1 With the engine stopped, select the appropriate PTO shaft speed using lever **A**. Do not force the lever. If the gears will not engage, briefly turn the engine over on the starter, switch off and try again.

2 With PTO switch **B** in brake position **E**, start the engine.

3 With the engine at tickover to protect the clutch and driveline, engage the PTO by turning switch **B** to drive position **D**.

4 Operate the PTO at low engine speed to ensure that the equipment is free from obstructions.

5 Gradually bring PTO rotation up to the required speed as indicated on the ⇨ ***Engine/PTO Data Display (🗋 55)***.

Note: *For low power applications only, 540 PTO RPM may be obtained by selecting 1000 PTO RPM drive at lever **A**, and running the engine at a lower speed.*

6 Select the correct forward gear and move into work.

⚠ WARNING

If the PTO becomes jammed, disengage the PTO, stop the engine and clear the blockage. Wait until the PTO shaft stops before working on the equipment. If the PTO clutch slips, immediately disengage the PTO and stop the engine.

13-2-2-2

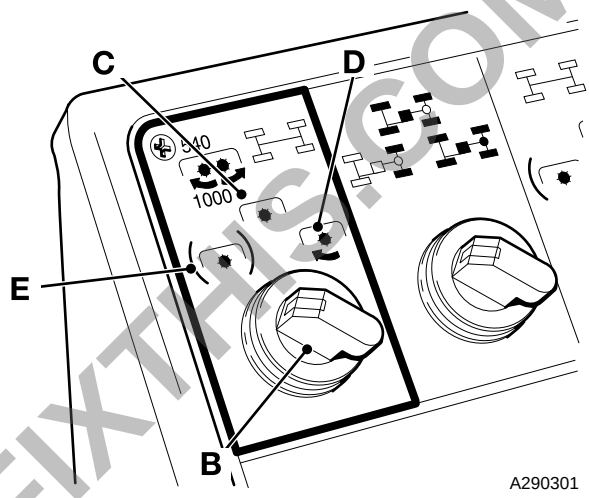


Fig 150.

7 When disengaging the PTO, reduce the engine speed before moving switch **B** to the neutral position **C**. Where high inertia equipment (e.g. forage harvesters) are used, hold the switch in the neutral position while the equipment slows down. When the equipment has slowed of its own accord, move the switch to the stop position **E** to apply the PTO brake.

⚠ CAUTION

The PTO can be disengaged only by switch B. Pressing the clutch pedal will not stop the PTO.

13-2-2-3

Note: *When the PTO is not in use, return speed selector lever **A** to the neutral position **N**.*

Important: *Always disengage the front PTO before raising mounted equipment to the fully raised position.*

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Instrument Cluster Programming

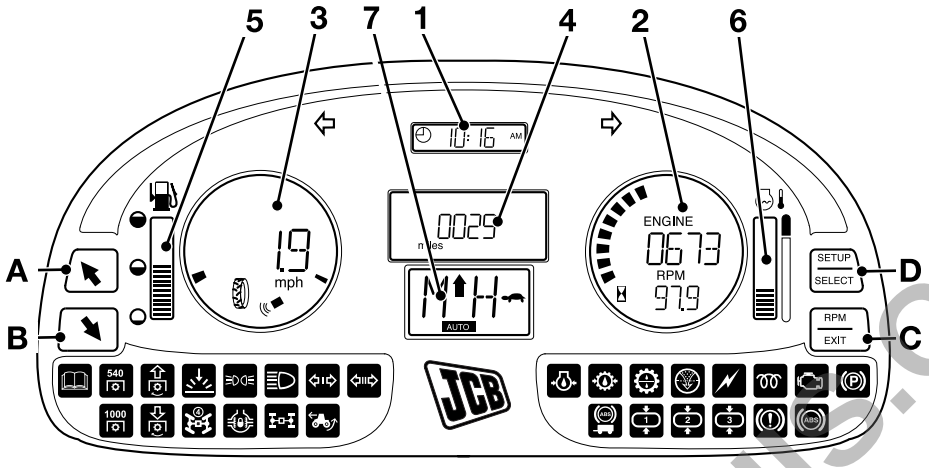


Fig 29.

The programming procedures detailed in the following pages provide the means of selecting and/or setting up the functions of the electronic control systems.

Note: *Unless specified otherwise the following procedures refer to all versions of the EMS Software.*

Level `0' Programming Mode (Normal Operation)

Standard Software Package

With the standard software package, centre display **4** continuously shows the trip distance travelled. To choose between miles or kilometres with the relevant units displayed below the figures. ⇨ ***Level 1 Programming Mode (65)*** (step 2)

Press buttons **A** and **B** at the same time and hold for 5 seconds to reset the distance values to zero.

Note: *The trip distance travelled cannot be displayed greater than `9999'. Beyond this the display shows `----'. At this point the distance value should be reset to zero as detailed above.*

In the event of electronic transmission controller system or any other ECU errors, error code information is displayed alternately with the trip distance information, each being shown for 2 seconds. ⇨ ***System Error Codes (69)***.

Optional Software Package

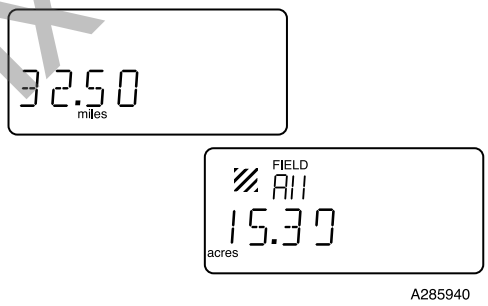


Fig 30.

1 The optional software package includes the distance travelled feature from the standard package plus a number of other features.Distance travelled and area worked

a The LH side of centre display **4** shows either `trip distance travelled' or `area worked' data. Press button **A** to toggle between `trip distance travelled' and `area worked' to select the desired item. To select imperial or metric data (i.e. miles or km, acres or Ha). ⇨ ***Level 1 Programming Mode (65)*** (step 2)

b With the `area worked' feature selected, press SET UP/SELECT button **D** to cause the FIELD icon to flash. While it is still flashing use buttons **A** and **B** to scroll through the list of fields (1 - 25) to

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Lifting

⚠ WARNING

Hitching Trailers and Equipment

When the vehicle is approaching a trailer or equipment to be hitched, make sure that no persons are present between vehicle and trailer or equipment. When mounting equipment at the rear of the vehicle, you must ensure that proper steering control is maintained. The machine must never be loaded such that less than 20% of the vehicle weight is carried on the front axle.

13-1-1-13_1

1 Reverse up to the trailer and align the hook with the trailer drawbar.

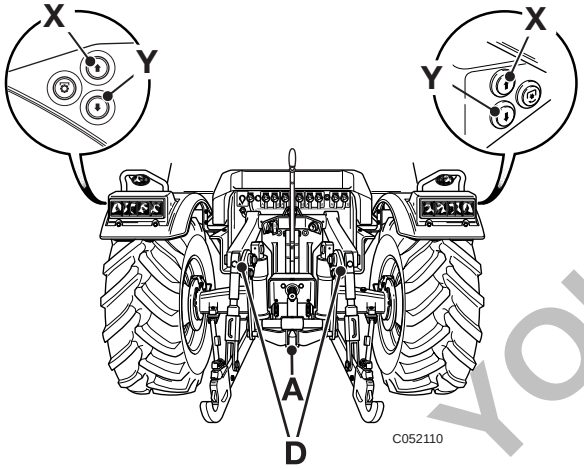


Fig 132.

2 Press a lift button **X** or switch **L** and hold it until the linkage is fully raised and the hitch is heard to latch.

3 Lower the linkage slightly to allow the trailer weight to be carried by the hitch latches.

Note: *Avoid lowering the link arms **D** too far otherwise they may foul on the trailer drawbar. It is advisable to lock the arms at a suitable height using the transport lock **E** particularly if the machine is going to be used for a long time without detachment.*

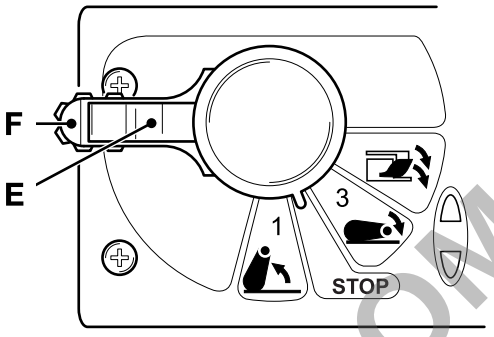


Fig 133.

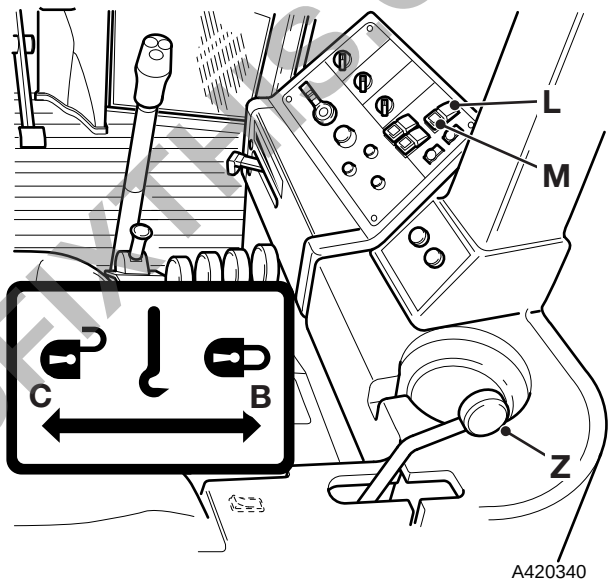


Fig 134.

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Air Conditioning and Heater

Air Conditioning Filters

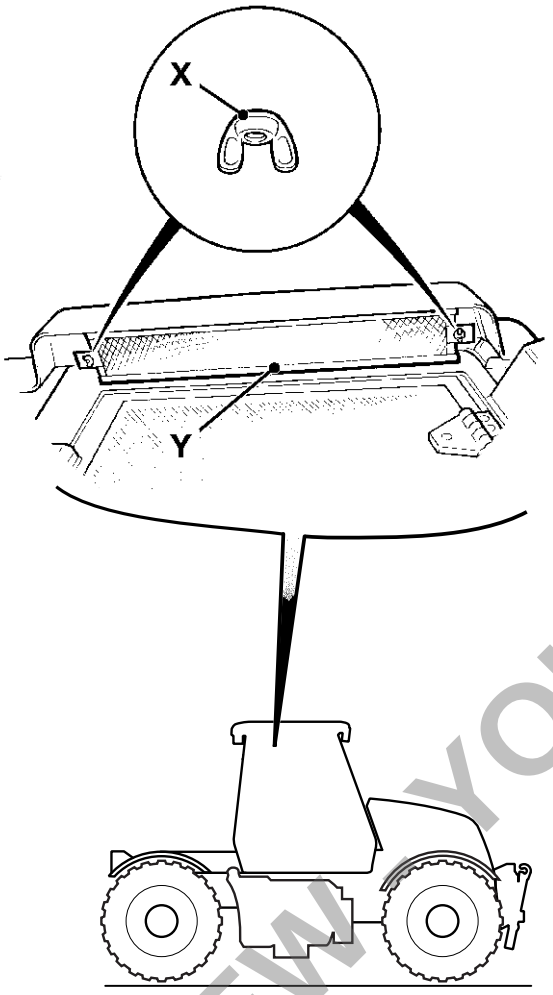


Fig 18.

Note: *The air conditioning system contains environmentally safe R-134A refrigerant. Do not use test equipment or gauges that have contacted R12 refrigerant or the system will be damaged.*

Note: *For crop spraying applications or very dusty conditions, a heavy duty carbon filter can be used in place of the standard filter. Carbon filters must not be cleaned. Keep a log of the hours used and change at 250 hour intervals.*

⚠ CAUTION

The filter may be filled with dust. Wear goggles and a face mask when removing the filter.

2-3-3-6

⚠ WARNING

Beware of the hot exhaust system even with the engine stopped.

ENG-4-3

1 Open cab door so that you can hold the hand rail and keep clear of the exhaust system.

2 Remove nuts **X**, and pull out the filter **Y**.

3 Using compressed air at a maximum pressure of 5.5 bar (80 lbf/in^2), blow out the dirt from the clean (gasket) side to the dirty (grid) side.

4 Check the condition of the filter element and renew if split or worn.

5 Check the condition of the filter gasket. If split or worn renew the filter.

6 Check and clean the filter sealing face on the cab body.

7 Refit the filter, making sure that the gasket side goes in first. Refit the nuts **X**.

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