Operation

Introduction

T2-006

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.

Before starting the machine, sit in the drivers 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.

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 machine.

When you have familiarised yourself with the operating controls, gauges and switches, practice using them. Drive the machine in an open space, clear of people. Get to know the 'feel' of the machine and its driving controls.

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

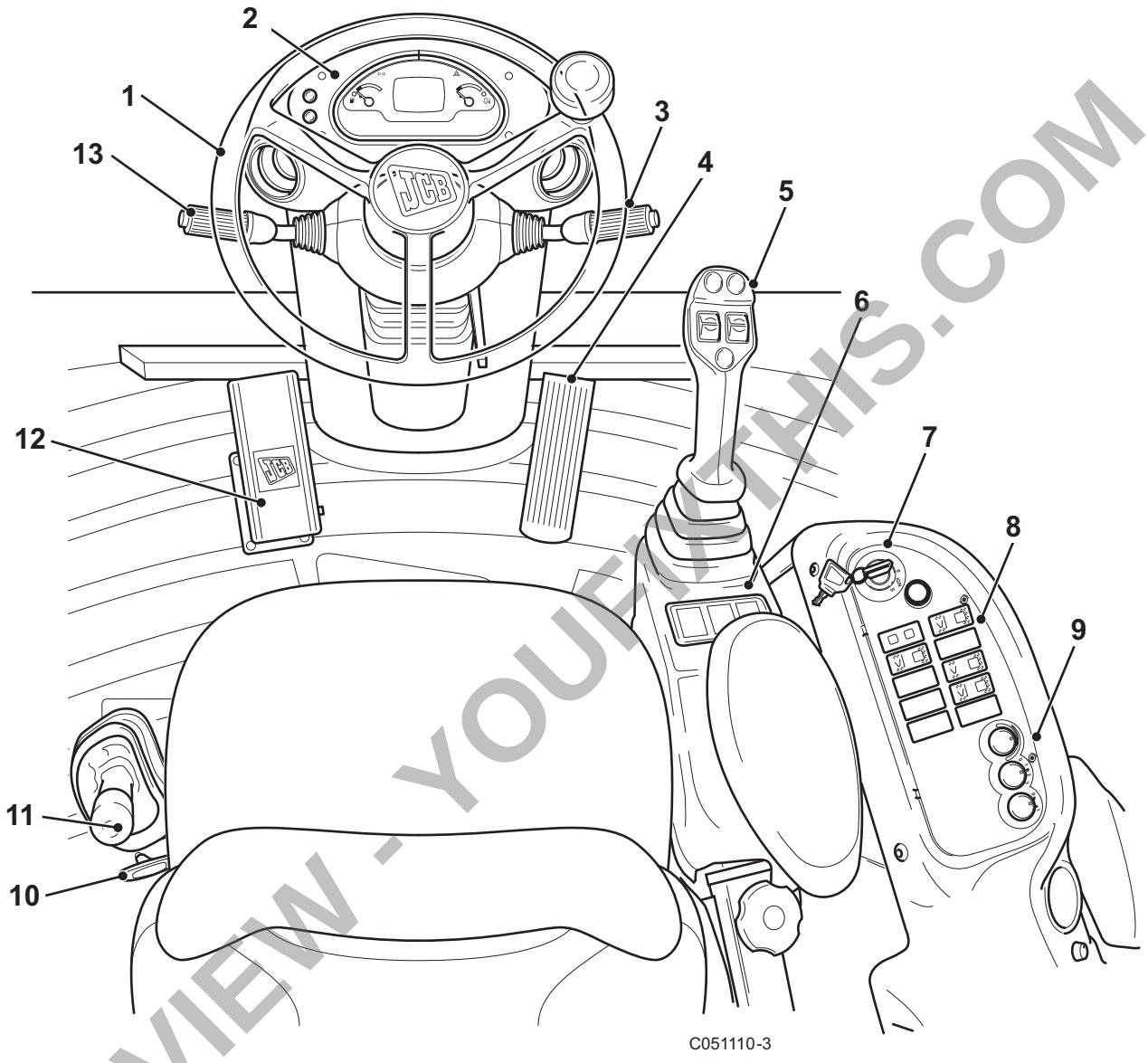


Fig 19. Cab Layout

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Transporting The Machine

⚠ WARNING

The safe transit of the load is the responsibility of the transport contractor and driver. Any machine, attachments or parts that may move during transit must be adequately secured.

5-2-5-9

Note: *Before transporting the machine make sure you will be obeying the rules and laws of all the areas that the machine will be carried through.*

Make sure that the transporting vehicle is suitable. See Static Dimensions (SPECIFICATIONS section) for the dimensions of your machine.

⚠ WARNING

Before moving the machine onto the trailer, make sure that the trailer and ramp are free from oil, grease and ice. Remove oil, grease and ice from the machine tyres. Make sure the machine will not foul on the ramp angle. See Static Dimensions in SPECIFICATION section for the minimum ground clearance of your machine.

2-2-7-5_1

1 Place blocks at the front and rear of the trailer wheels.

2 Put blocks at the front and rear of all four tyres.

3 Make sure the ramps are correctly in place and secure.

4 Raise the attachment to approximately 305 mm (12 in) from the ground.

5 Carefully drive the machine onto the trailer.

6 When the machine is safely in position, lower the boom.

7 Set the drive to neutral and engage the park brake.

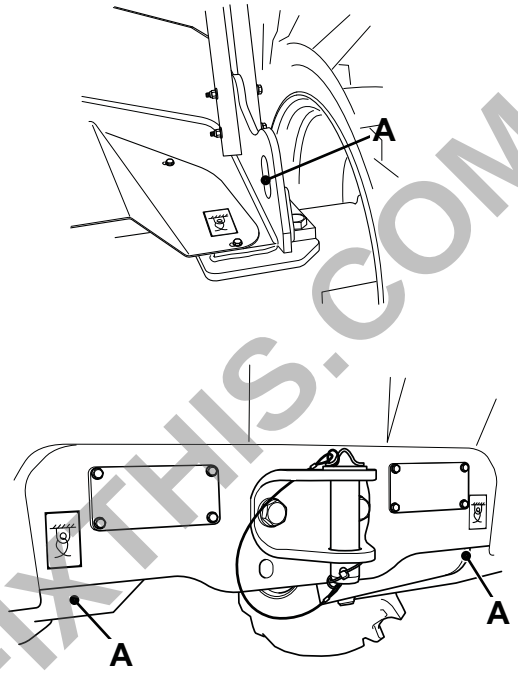


Fig 76.

8 Anchor the machine to the trailer with chains. The four tie down points are indicated at **A** (one adjacent to each front wheel and two located beneath the counterweight at the rear).

9 Check that the overall height of the load is within regulations. Adjust if necessary.

10 Switch off the engine.

11 Install the articulation locks.

12 Secure the cab.

13 Cover the exhaust stack.

14 Measure the maximum height of the machine from the ground. Make sure the truck driver knows the clearance height before he drives away.

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Optional Attachments

Introduction

T4-002

⚠ WARNING

Use only the JCB approved attachments that are specified for your machine. Operating with non-specified attachments can overload the machine, causing possible damage and machine instability which could result in injury to yourself or others.

The use of non-approved attachments could invalidate your warranty.

2-4-5-2_1

A wide range of optional attachments is available to increase the versatility of your machine. Only JCB approved attachments are recommended for use with your machine. Consult your JCB Distributor for the full list of approved attachments available.

JCB attachments are designed and manufactured specifically to suit the machine's hydraulic system, mounting arrangements and safe load requirements. Attachments which are not designed for use with this machine may cause damage and create safety hazards for which JCB cannot be held responsible. In addition the machine's warranty, "CE" and any other legislative compliance may be affected by the use of non JCB approved attachments.

2-4-1-13_2

⚠ CAUTION

If you have an attachment which is not covered in the Operator Manual do not install it, use it or remove it until you have obtained, read and understood the pertinent information. Install attachments only on the machines for which they were designed.

5-5-1-1_2

This part of the manual includes general information on attachment operation and instructions for installation and removal of attachments.

Some attachments are supplied complete with instructions on safety, installing and removing, operation and maintenance. Read and fully understand the information before fitting, using and servicing the attachment. If there is anything you do not understand, ask your JCB Distributor.

Before using any attachment, read again ***Working With The Machine*** in the Operation section and consider how the attachment is going to affect operational safety. With the attachment fitted, there may be changes in the machine's centre of gravity or overall dimensions. This could have an effect on, for example, machine stability, the gradients on which it is safe to operate or the safe distance from power lines.

Practice using attachments off the job before working with them for the first time.

If your machine needs the hydraulic system adapting to facilitate the use of auxiliary attachments, you must consult your distributor. Only suitably qualified personnel must re-route hydraulic hoses.

All optional attachments will have limits on their operation. i.e. lifting capacity, speeds, hydraulic flow rates, etc. Always check in the literature supplied with the attachment or in the SPECIFICATION section of this manual. Some specification limits may also be displayed on the attachments Data/Rating Plate.

⚠ CAUTION

Some attachments may contact parts of the machine when in the fully folded position. Take extra care to avoid damage to the machine.

3-4-1-4

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Specifications

Lifting (Object Handling) Regulations and Safe Working Loads

Introduction

The owner and/or operator must make sure that he fully understands the laws and regulations concerning the use of the JCB Wheeled Loader as a loader and as a crane. consult your JCB Distributor for further information.

If your machine has **not** been fitted with an approved lifting point such as a hook or shackle, then it must not be used as a crane. Use the machine for loading purposes only.

Your machine may be used as a crane if it has been fitted with an approved lifting point such as a hook or shackle, if it has been tested, plated and certified for its safe working load, and if all other regulation requirements have been met, consult you JCB Distributor.

Safe Working Loads

⚠ WARNING

The safe working load indicated on lifting accessories such as chains etc. is not the safe working load of the machine. Consult your manual for the safe working load of the machine.

4-5-1-1

⚠ WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure that lifting equipment is strong enough for the job.

INT-1-3-7

Loader Unit

In all cases the maximum load to be lifted by the loader unit when used as a crane is 1000 kg (1 tonne, 2205 lb.).

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Safety Notices

Important Information

T1-015

The Operator Manual

⚠ WARNING

Study the Operator Manual before starting the machine. You must understand and follow the instructions in the Operator Manual. You must observe all relevant laws and regulations. If you are unsure about anything, ask your JCB dealer or employer. Do not guess, you or others could be killed or seriously injured.

INT-1-1-1_2

Do not operate the machine without an Operator Manual.

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, carefuly 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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Visibility Aids

Mirrors and Adjustment

It is important that the mirrors are securely fitted and give maximum vision around the machine.

When a mirror is provided to supplement the operators direct field of vision, it must be adjusted to serve as an aid to the operator in seeing people or obstacles around the machine. The mirror provides indirect vision to hidden areas and improves the effectiveness of the machines usage.

Adjusting the Mirror

1 Adjust the seat to suit the operator.

2 Adjust the mirror(s) to suit your specific working requirements before driving / operating the machine.

3 Check that the field of vision **A** can be seen (side mirrors).

Checking the field of vision - Side Mirrors

Check that the field of vision A is such that you can see, using the mirrors at least a flat portion bounded on the left and right of the machine, starting at the rear end of the machine at a height of 1.5 metres above ground level and a width of 0.75 metres, continuing to a width of 5 metres at ground level, 30 metres behind the rear end of the machine.

A	Field of vision
B	Centre point position
C	Outer borderline
D	Inner borderline
T	Measurement at ground level
V	Measurement at 1.5m above ground level
X	= 5 metres
Y	= 30 metres
Z	= 0.75 metres

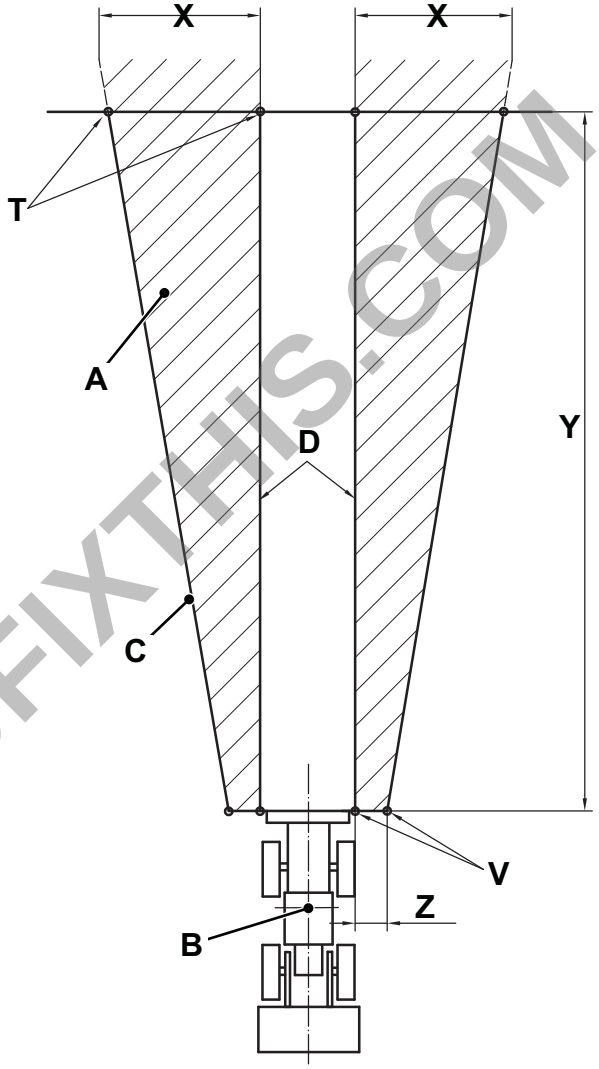


Fig 18.

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Preparing the Machine for Travel

When travelling on the road or on site there are usually local rules and safety regulations for the machine travelling position. The ***Preparing for Road Travel*** and ***Preparing for Site Travel*** described on the following pages are recommendations that should help you meet the requirements of these regulations; they are not necessarily the applied law.

Please make sure that before travelling on the road or on site, you and your machine comply with all the relevant local laws - it is your responsibility.

Preparing for Road Travel

Important: *Make sure you will be obeying all pertinent laws and regulations before you take the machine on public roads.*

Important: *Machines without headlights and sidelights are designed for site use, you may be breaking local laws if you travel on the road without headlights or sidelights.*

1 In certain countries i.e. Italy, legislation requires the front windscreen guard (if fitted) is removed before travelling on public roads.

2 Switch on Smooth Ride System (if fitted). ⇒ ***Smooth Ride System (📄 45)***

3 Fully retract the boom. Lower the boom fully then raise it slightly. Tilt the carriage back, to keep the heel of the forks **A** 300 mm (12 in) above the ground.

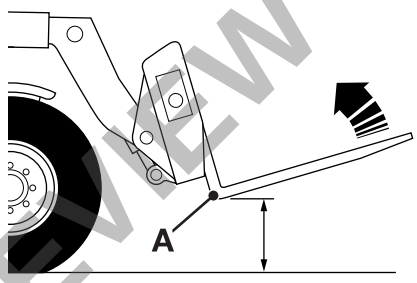


Fig 51.

Note: *In certain countries legislation requires the forks to be folded back before travelling on public roads.*

⚠ WARNING

Forks are heavy. Take care when spacing forks or folding back the forks.

0002

On Q Fit carriages, fit fork retention brackets **B** (as required) and secure with retaining pin **C** and locking pin **D**.

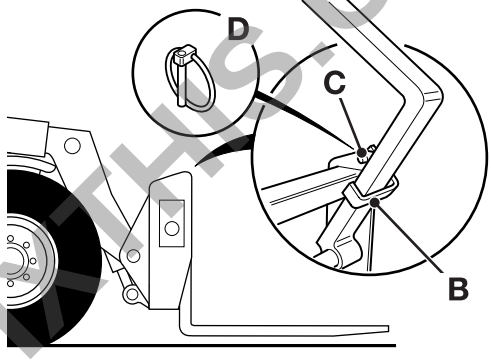


Fig 52. Typical Fork Retention Brackets

4 In certain countries i.e. Germany, legislation requires the forks to be removed and safety guard **E** fitted. Check local requirements.

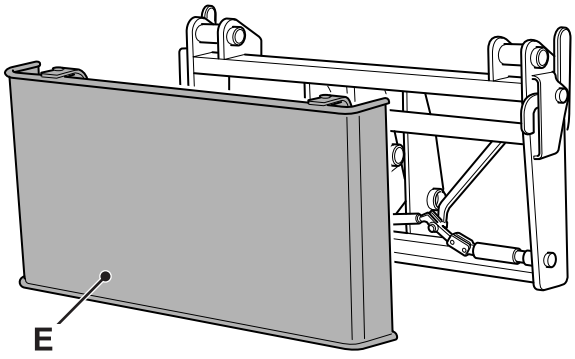


Fig 53. Typical Safety Guard

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Battery

T3-061

⚠ WARNING

Batteries give off an explosive gas. Do not smoke when handling or working on the battery. Keep the battery away from sparks and flames.

Battery electrolyte contains sulphuric acid. It can burn you if it touches your skin or eyes. Wear goggles. Handle the battery carefully to prevent spillage. Keep metallic items (watches, rings, zips etc) away from the battery terminals. Such items could short the terminals and burn you.

Set all switches to OFF before disconnecting and connecting the battery. When disconnecting the battery, take off the earth (-) lead first.

Re-charge the battery away from the machine, in a well ventilated area. Switch the charging circuit off before connecting or disconnecting the battery. When you have installed the battery in the machine, wait five minutes before connecting it up.

When reconnecting, fit the positive (+) lead first.

5-3-4-12

⚠ CAUTION

Do not disconnect the battery while the engine is running, otherwise the electrical circuits may be damaged.

INT-3-1-14

⚠ WARNING

Electrical Circuits

Understand the electrical circuit before connecting or disconnecting an electrical component. A wrong connection can cause injury and/or damage.

INT-3-1-4

⚠ DANGER

Electrolyte

Battery electrolyte is toxic and corrosive. Do not breathe the gases given off by the battery. Keep the electrolyte away from your clothes, skin, mouth and eyes. Wear safety glasses.

INT-3-2-1_3

⚠ CAUTION

Damaged or spent batteries and any residue from fires or spillage should be put in a closed acid proof receptacle and must be disposed of in accordance with local environmental waste regulations.

INT-3-1-12

⚠ WARNING

Battery Gases

Batteries give off explosive gases. Keep flames and sparks away from the battery. Do not smoke close to the battery. Make sure there is good ventilation in closed areas where batteries are being used or charged. Do not check the battery charge by shorting the terminals with metal; use a hydrometer or voltmeter.

INT-3-1-8

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Engine Crankcase Ventilation (if fitted)

Changing the Filter Element

The filter element must be changed at the recommended interval. ⇒ ***Service Schedules (105)***.

1 Make the machine safe with the boom lowered. Refer to ***Prepare the Machine for Maintenance***.

2 Open the engine cover. Refer to ***Engine cover***.

3 Undo the clips **A** and lift off the filter cover **B**.

4 Lift out the filter element **C** and discard it.

5 Clean the inside of the filter housing **D**. Remove all oil and sludge contamination.

6 Make sure that the oil drain in the bottom of the filter housing is not blocked with sludge. If necessary remove the drain pipe **E** at the engine. Make sure that the drain pipe non return ball valve at the bottom of the filter housing is fitted and free to move.

7 Fit a new filter element **C**.

Important: *Install the correct type of filter element.*

8 Install the filter cover **B**.

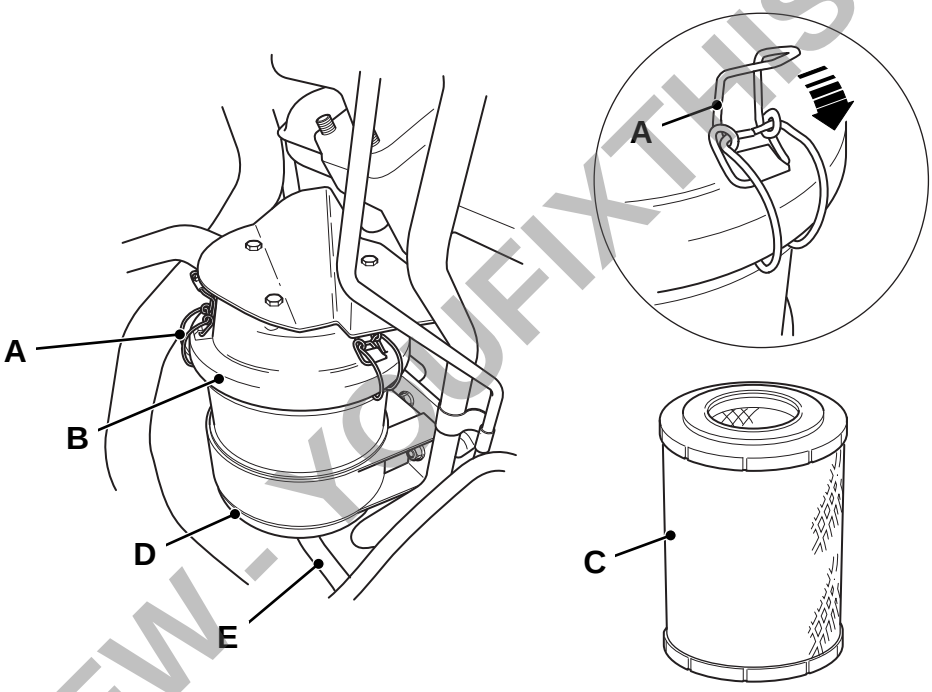


Fig 95.

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