Dear JCB Customer

Even if you have operated this type of equipment before, it is very important that your new machines operations and functions are explained to you by a JCB Dealer Representative following delivery of your new machine.

Following the installation you will know how to gain maximum productivity and performance from your new product.

Please contact your local JCB dealer if the Installation Form has not yet been completed with you.

Your Local JCB Dealer is:

OPERATOR MANUAL

THIS MANUAL SHOULD ALWAYS STAY WITH THE MACHINE

457 (TIER 4I)

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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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Identifying Your Machine

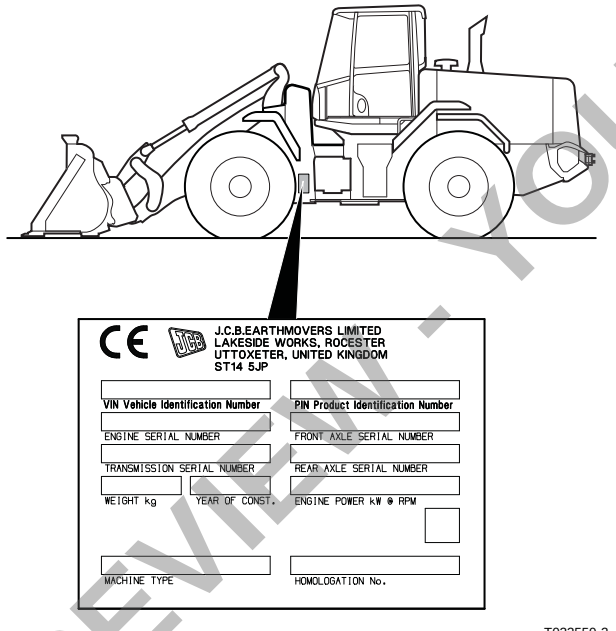
Machine Identification Plate

Your machine has an identification plate mounted as shown. The serial numbers of the machine and its major units are stamped on the plate.

Note: *The machine model and build specification is indicated by the PIN. Refer to* ***Typical Product Identification Number (PIN)****.*

The serial number of each major unit is also stamped on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either stamp the new number of the unit on the identification plate, or simply stamp out the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

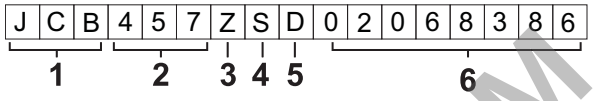
The machine and engine serial numbers can help identify exactly the type of equipment you have.



T033550-2

Fig 4.

Typical Product Identification Number



T033160-9

Fig 5.

1 World Manufacturer Identification (3 Digits)

2 Model Number (3 Digits)

3 Loader End Type (1 Digit)

O = HT Loader End
Z = ZX Loader End

4 Designation (1 Digit)

S = Farmmaster
O = Non Farmmaster
I = India

5 Year of Manufacture (1 Digit)

7 = 2007	A = 2010
8 = 2008	B = 2011
9 = 2009	C = 2012

6 Machine Serial Number (8 Digits)

Each machine has a unique serial number.

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Cab Layout

Component Key

The cab component layout illustration shows a typical machine. Your machine may look different to the model shown.

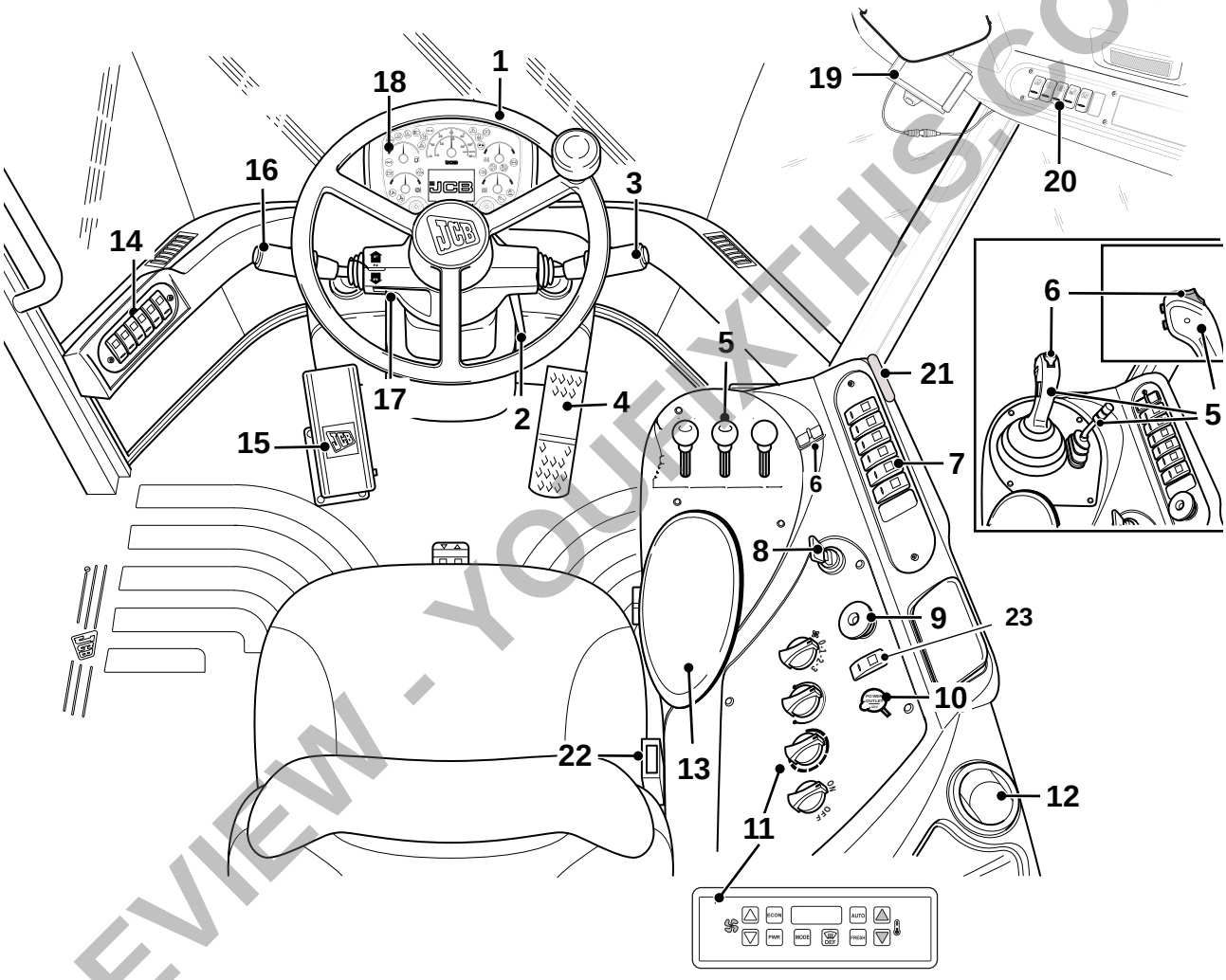


Fig 24.

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Safety Equipment

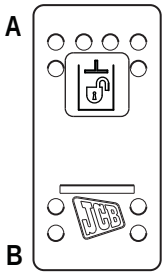
Control Lever Locks

Servo Controls Isolation

The isolation switch for the servo controls prevents the accidental operation of the loader arm control levers when the operator enters or leaves the cab. ⇨ *Left Console Switches (49)*.

The servo controls must be locked before the operator leaves the cab.

The servo controls must only be unlocked when the operator is correctly seated and there is no danger of accidentally knocking against the control levers.



A340000-4

Fig 48.

	Controls	Switch	Illuminated	Servo Control
A	Locked	OFF	No	Off
B	Unlocked	ON	Yes	On

Neutral Lock

⚠ CAUTION

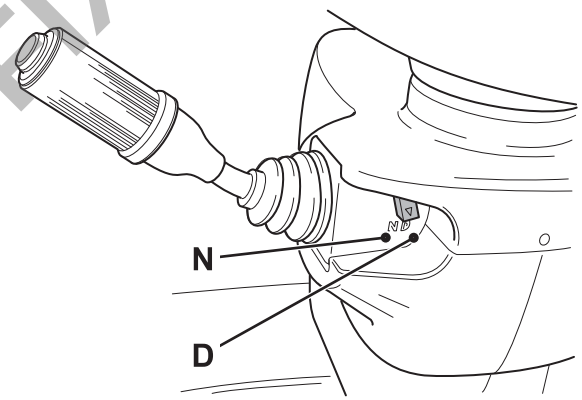
Do not operate the Forward/Reverse switch when already using the Forward/Reverse lever, otherwise the transmission will select neutral. When using the Forward/Reverse switch, the Forward/Reverse lever MUST be locked in neutral.

4-2-1-6_2

To prevent accidental operation of the forward/reverse lever, while entering or leaving the cab, the lever can be locked in the neutral position.

With the selector in the position marked **N**, the lever is locked in neutral.

With the selector in the position marked **D**, forward or reverse drive may be selected.



S200371-1

Fig 49.

N Neutral

D Drive

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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

T3-037

Every 10 Hours = Daily

Every 50 Hours = Weekly

Every 500 Hours = Six Months

Every 1000 Hours = Yearly

Every 2000 Hours = 2 Years

Every 8000 Hours = 8 Years

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Fluids, Lubricants and Capacities

Specifications

JCB recommend that you use the JCB lubricants shown as they have been verified by JCB for use on JCB machines. However, you could use other lubricants that are equivalent to the JCB standards and quality or offer the same machine component protection.

Table 25.

Item	Capacity		Fluid/Lubricant	JCB Part Number	Size(1)
	L	G			
Fuel System	309	68.0	Diesel, Refer to ***Fuels***		
Engine - Oil	19	4.2	JCB Engine Oil UP 15W/40 -10 to 50° C (-4^{0}F to 122^{0}F). (ACEA E9 API CJ-4 / API SM)	4001/2905	20L
Engine - Coolant	40	8.8	JCB Antifreeze HP/Coolant.	4006/1120	20L
Transmission(2)	41	9.0	JCB HP Universal ATF	4000/2305	20L
Axles	34	7.5	JCB Gear Oil HP Plus	4000/2205	20L
Axles (Ergo Traction)	41	9.0	JCB Gear Oil HP Plus	4000/2205	20L
Hydraulic System(3)	135	29.7	JCB Hydraulic Fluid EP 46	4002/1605	20L
Grease Points			JCB Special HP Grease(4)	4003/2017	400g x24
Auto Greasing System (Option)			JCB Special MPL EP Grease	4003/1501	400g x24

(1) For information about the different container sizes that are available (and their part numbers), contact your JCB Dealer.
(2) The figure shown is the total capacity of the system. Use the maximum and the minimum marks on the dipstick when you fill the system.
(3) The total capacity of the hydraulic system depends on the equipment being used. Fill the system with all of the rams closed and monitor the level in the sight gauge.
(4) If JCB Special MPL Grease is used for normal greasing, all of the 100 hour greasing operations must be done at ten (10) hour intervals.

Note: *No warranty liability will be accepted for engine failures where unacceptable fuel grades (or their equivalent) have been used at any stage.*

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Loader Arms and Shovel

HT Machines

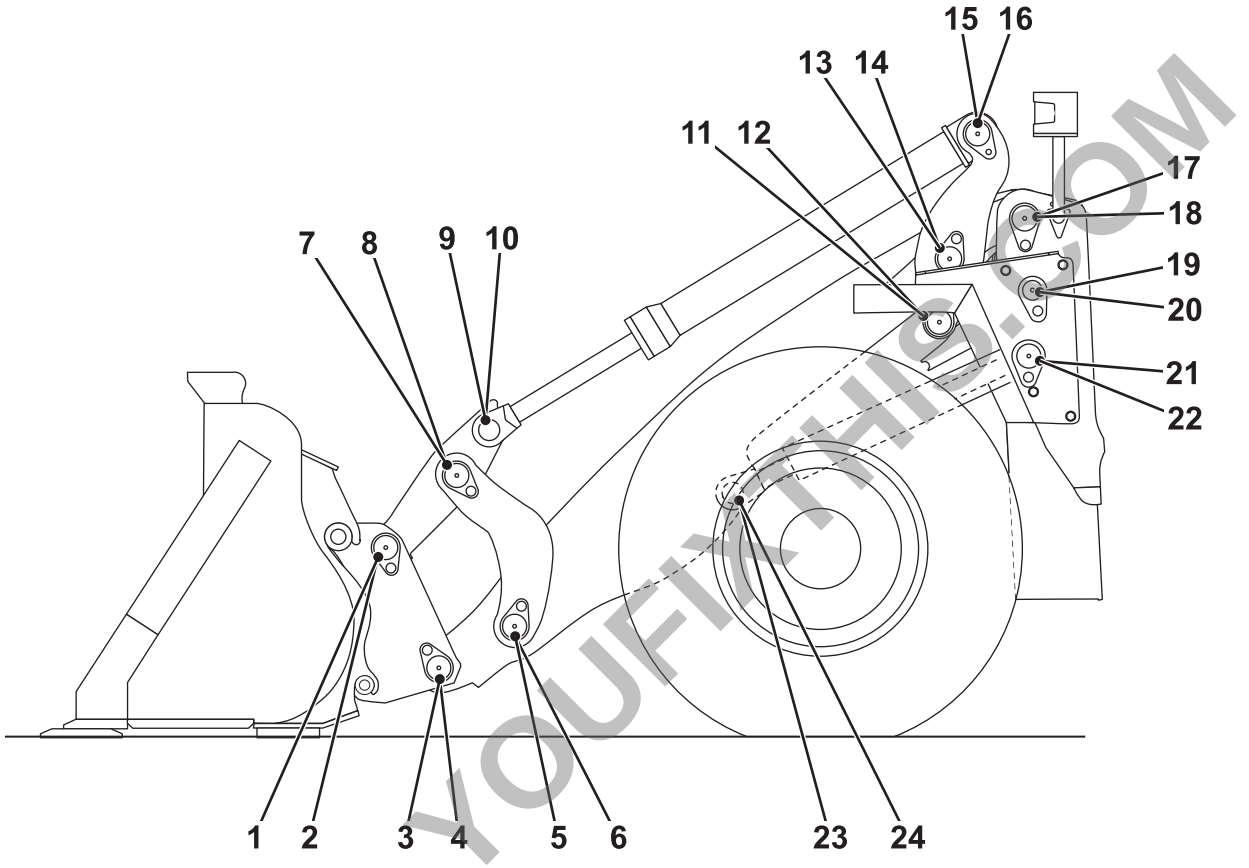


Fig 75.

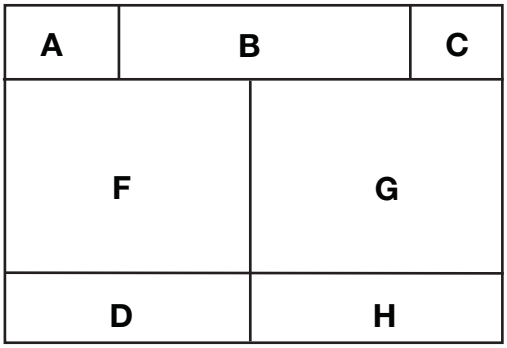
Shovel and Link Pivot-Pins: 10 grease points. (**1** to **10**).

Loader Arm Pivot-Points: 14 grease points (**11** to **24**).

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Fault Mode



T059530-4

Fig 42. Fault Mode Screen

- **A** FNR field
- **B** Current gear field
- **C** Auto field
- **D** Clock
- **E** Information field ⇨ *Fig 41. (64)*
- **F** Current engine speed field
- **G** Fault symbol field
- **H** Fault code field

The fault symbol field **G** and the fault code field **H** alert the operator to specific faults with the machine.

- **Y** = Is a currently active fault code.
- **Z** = ‘‘Text’’.

Table 10. Fault Symbols and Codes

Fault Symbol	Description/Symbol Colour	Fault Code
	Engine Malfunction/Amber	**Y**
	Engine Stop/Red	**Y**
	Engine Start/Green	**Z:** Ok
	Transmission Malfunction/Red	**Y**
	Hydraulic System Malfunction - High Severity/Red	**Y**
	General Fault - Low Severity/ Amber	**Y**
	General Fault - High Severity/ Red	**Y**
	Park Brake/Red	**Z:** Park Brake
	Low Fuel Level/Amber	**Z:** Low
	Engine CAN Fault/Red	**Z:** CAN
	Transmission CAN Fault/Red	**Z:** CAN
ECU	Management ECU CAN Fault/ Red	**Z:** CAN
?	No Set-Up Data/Red	**Z:** No Set-Up
	Service Imminent/Amber	Hours Remaining
	Service Overdue/Red	**Z:** Now
	Park Brake off when operator out of seat.	**N**

If there is more than one active fault, the field will show the highest severity fault symbol only. (Unless there is more than one high severity fault).

The park brake off and operator out of seat warning will display 0.5 seconds after the operator leaves the seat if the park brake is off. The buzzer will also sound. To cancel the fault and buzzer apply the park brake.

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Check the Hydraulic Hoses and Fittings

T3-072

⚠ WARNING

Hydraulic Hoses

Damaged hoses can cause fatal accidents. Inspect the hoses regularly. Do not use the machine if a hose or hose fitting is damaged.

INT-3-3-2_4

Inspect the hoses regularly for:

- Damaged hose ends
- Chafed outer covers
- Ballooned outer covers
- Kinked or crushed hoses
- Embedded armouring in outer covers
- Displaced end fittings

Do not use the machine if a hose or hose fitting is damaged. Replace damaged hoses before you use the machine again.

Replacement hoses must be of the same size and standard.

Checking the ROPS/FOPS Structure

⚠ WARNING

You could be killed or seriously injured if you operate a machine with a damaged or missing ROPS/FOPS. If the Roll Over Protection Structure (ROPS)/Falling Objects Protection Structure (FOPS) has been in an accident, do not use the machine until the structure has been renewed. Modifications and repairs that are not approved by the manufacturer may be dangerous and will invalidate the ROPS/FOPS certification.

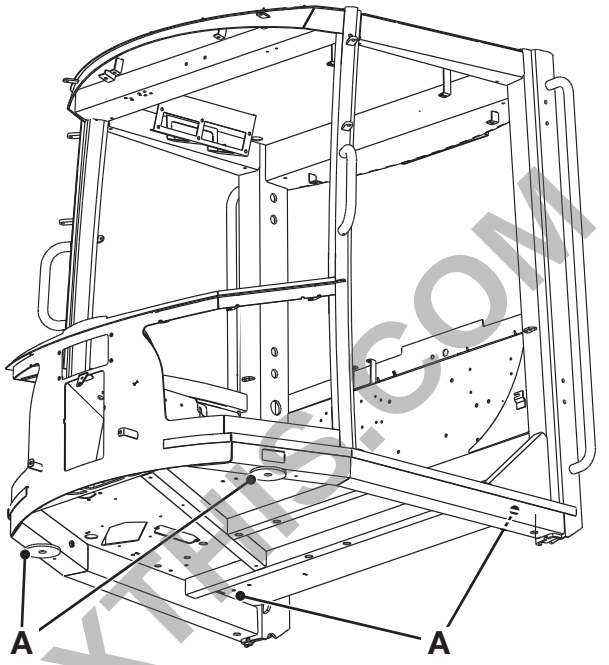
INT-2-1-9_6

For assistance, contact your JCB distributor. Failure to take these precautions could result in death or injury to the operator.

1 Check the structure for damage.

2 Make sure that all the ROPS/FOPS mounting bolts **A** are in place and are undamaged.

3 Make sure that the ROPS/FOPS mounting bolts **A** are tightened to the correct torque setting.



801230

Fig 74.

Table 26. Torque Setting

Bolts	Nm	lbf ft
A	270	199

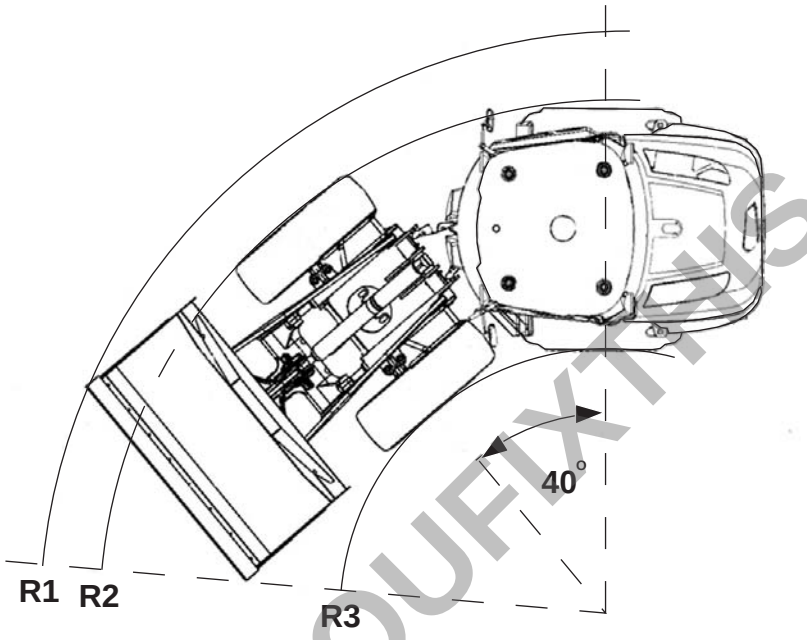
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Specifications

Static Dimensions

Turning Circles



T034500

Fig 147.

Note: *Your machine may look different from the model shown.*

Tyre	Shovel	R1 (Outer Shovel Radius)	R2 (Outer Tyre Radius)	R3 (Inner Tyre Radius)
		mm (ft-in)	mm (ft-in)	mm (ft-in)
23.5R25 XHA L3	3.5 m^3	7121 (23-4)	5884 (19-3)	3182 (10-5)

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