

VM 115- TIER II

Service Manual - VM 115- TIER II

Section 1 - General Information

Section 2 - Care and Safety

Section 3 - Maintenance

Section B - Body and Framework

Section C - Electrics

Section E - Hydraulics

Section H - Steering

Section K - Engine

Section L - Vibration



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General Information

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Section 1 - General Information

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Introduction

About This Manual

Machine Model and Serial Number

This manual provides information for the following model(s) in the JCB machine range:

- VM 115 from SN 2034000 onwards

Using this Manual

T1-044

This manual is arranged to give you a good understanding of the machine and its safe operation. It also contains maintenance information and specification data. Read this manual from front to back before using the machine for the first time. Particular attention must be given to all the safety aspects of operating and maintaining the machine.

If there is anything you are not sure about, ask your JCB distributor or employer. Do not guess, you or others could be killed or seriously injured.

General warnings in this chapter are repeated throughout the book, as well as specific warnings. Read all the safety statements regularly, so you do not forget them. Remember that the best operators are the safest operators.

The illustrations in this manual are for guidance only. Where the machines differ, the text and or the illustration will specify.

This manual contains original instructions, verified by the manufacturer (or their authorised representative).

The manufacturer's policy is one of continuous improvement. The right to change the specification of the machine without notice is reserved. No responsibility will be accepted for discrepancies which may occur between specifications of the machine and the descriptions contained in this publication.

All optional equipment included in this manual may not be available in all territories.

Cab/Canopy

T1-003_2

This manual frequently makes references to the cab. For instance, 'do not operate the machine without a manual in the cab'. It should be noted that these statements also apply to canopy build machines.

Left Side, Right Side

In this manual, 'left' **A** and 'right' **B** mean your left and right when you are seated correctly in the machine.

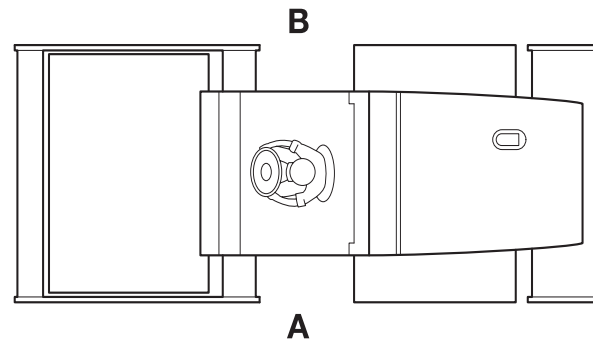


Fig 1.

Cross References

T1-004_2

In this publication, page cross references are made by presenting the subject title printed in bold, italic and underlined. It is preceded by the 'go to' symbol. The number of the page upon which the subject begins, is indicated within the brackets. For example: ⇒ ***Cross References*** (□ 1-1).

Machine Description

The JCB Vibromax Vibratory Single Drum Roller

The self-propelled vibratory single drum roller is designed with a compaction device consisting of a metallic cylindrical drum which compacts material such as crushed rock, earth, asphalt or gravel, through a rolling and/or vibrating action or the compaction device. (The machine complies with ISO Standard 6165:2002).

Machines are characterised by smooth drum ('D' Models) or pad foot ('PD' Models) drum configurations

All models are fitted with a hydrostatic drive system which allows for infinitely variable travel speeds. The engine speed is always set to maximum and the drive lever is used to control the road speed. There are two speed ranges for both the drum and rear axle. The rear axles are a 'no spin' design for improved traction.

A hydrostatic system is also used to turn the machine's vibratory shaft. The machines are designed with an overturning weight system on the vibratory shaft, the VM 46D/PD only has one Frequency/Amplitude, all others have low/high rates.

The machine has articulated steering for a shorter turning radius and oscillation joints to allow operating on rough terrain.

Note: The illustration(s) show a typical machine model; your machine may look different from the model shown.

The machine is intended only for compacting beds of earthy building materials when running over the subgrade in the forward or reverse direction with or without vibration.

These building materials include soil types ranging from stones to silty sand and having water contents ranging from 40% to 110% of the optimum water content. These figures are in accordance to the standard Proctor test DIN 18127.

Fine-grained soils or soils having higher water contents require a qualified trial compaction.

The machine is intended to be used only on a subgrade gradient up to the permissible gradient.



Component Locations

- 1 Articulation Joint
- 2a Smooth Drum
- 2b Tamping Foot Drum shells
- 3 Lifting and Towing Eyes
- 4a Canopy
- 5 Battery
- 6 Hydraulic Tank
- 7 Engine
- 8 Rear Axle
- 9 Air Filter
- 10 Drum Drive Motor
- 11 Isolation Pad
- 12 Scraper
- 13 Exhaust
- 14 Fuel Tank
- 15 Oil/Water Cooler
- 16 Vibration Motor
- 17 Steering Ram
- 18 Hydraulic Pumps
- 19 Axle Hydraulic Drive Motor
- 20 Hydraulic Test Station

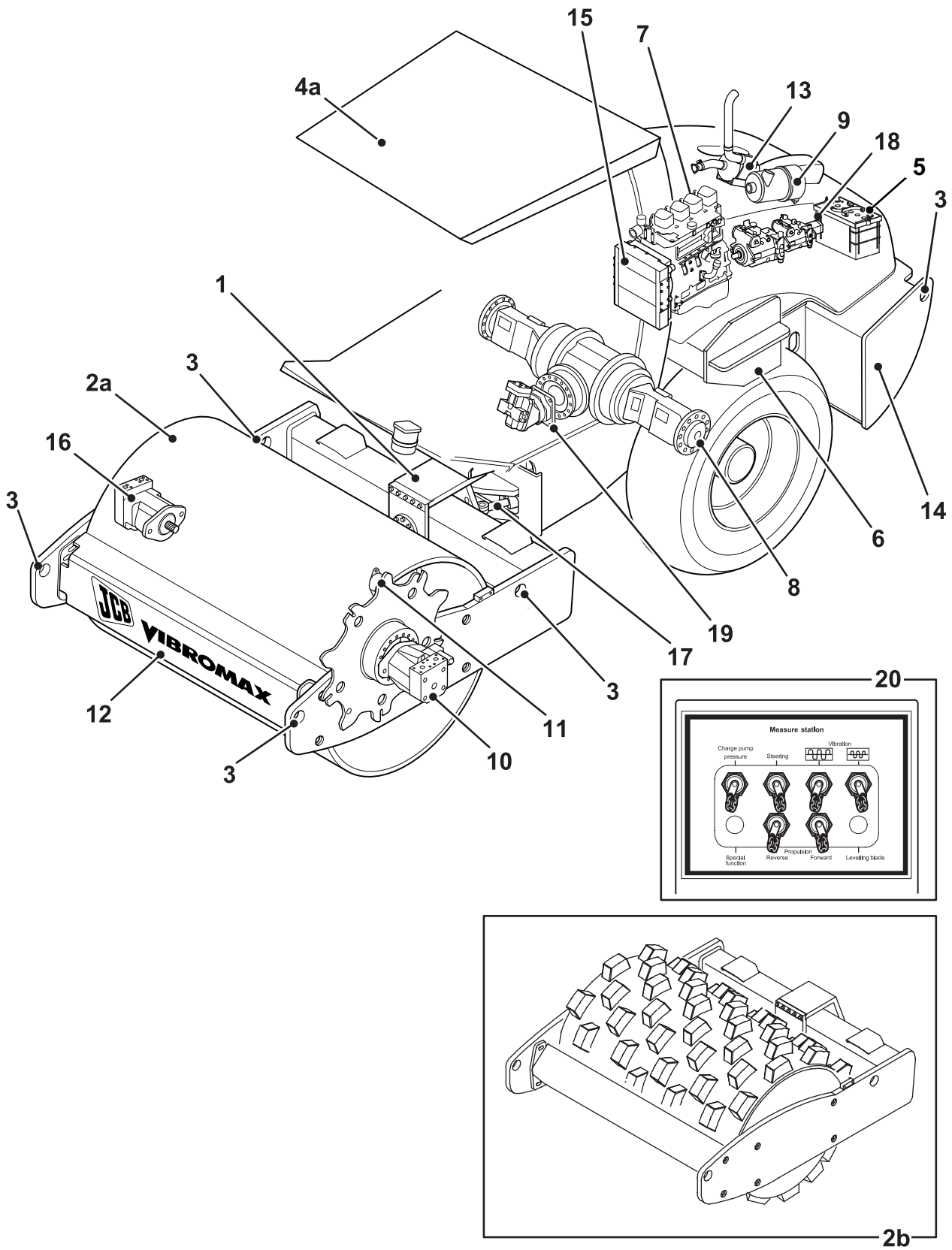


Fig 2.

Safety Labels

Introduction

T1-014_2

Safety labels are strategically placed around the machine to remind you of possible hazards.

If you need eye-glasses for reading, make sure you wear them when reading the safety labels. Do not over-stretch or place yourself in dangerous positions to read the safety labels. If you do not understand the hazard shown on the safety label, then refer to **Safety Label Identification**.

Note: *The illustration(s) show a typical machine model. Your machine may look different from the model shown.*

Keep all safety labels clean and readable. Replace lost or damaged safety labels. Make sure replacement parts include safety labels where necessary. Each safety label has a part number printed on it, use this number to order a new safety label from your JCB distributor.

Safety Label Identification

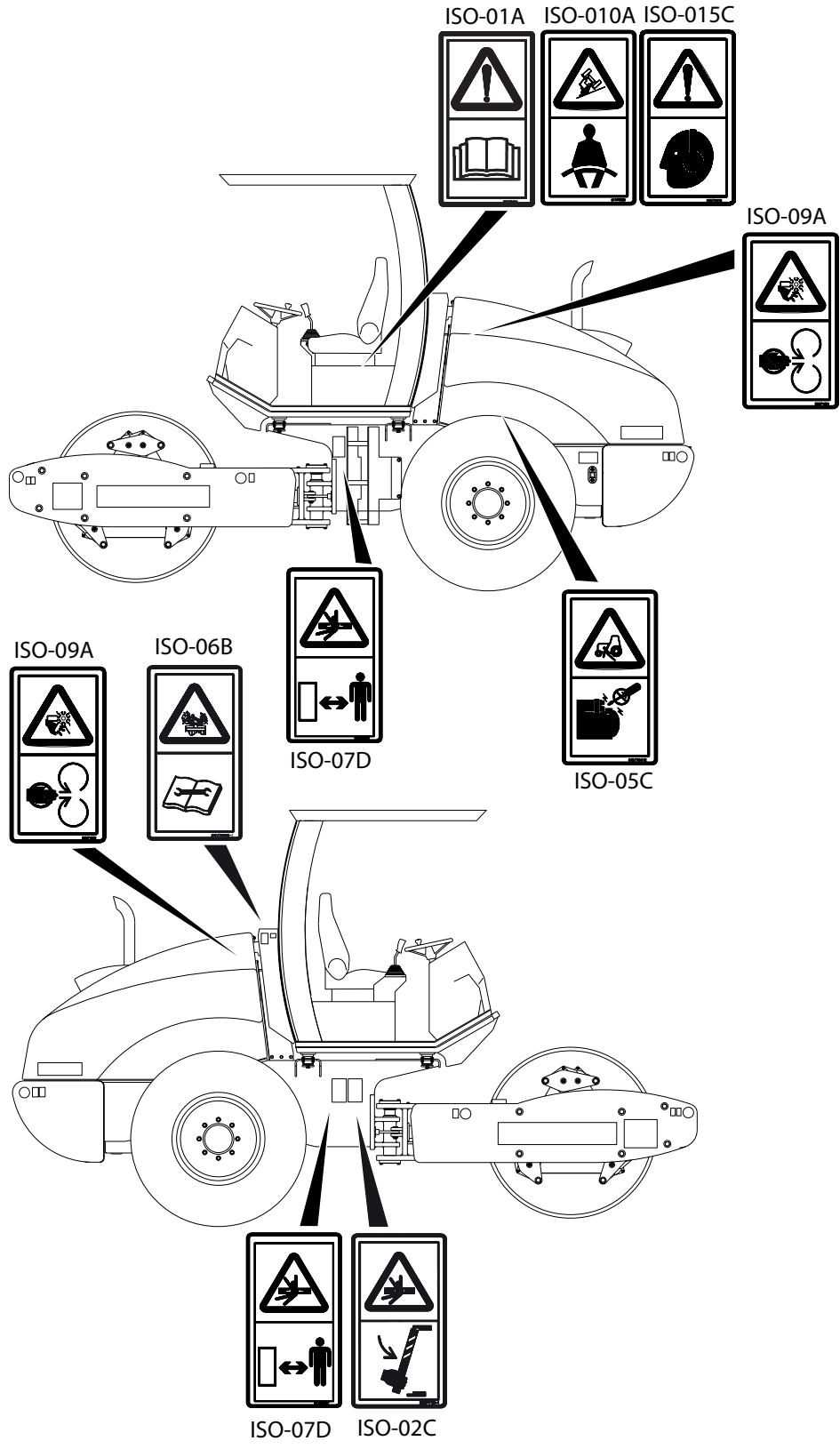


Fig 3.

Part Numbers and Description

ISO-01A

Part Number: 817/70014

Description: Warning. Read the operator manual before you operate the machine.



ISO-02C

Part Number: 332/P7181

Description: Crushing of whole body install the articulation lock before you start maintenance work. Refer to **Articulation Lock (Operation Section)**.



ISO-05C

Part Number: 817/70012

Description: Runover. Start the engine from the operator seat only. Do not short across the terminals.



ISO-06B

Part Number: 332-F5860

Description: Pressure hazard. Refer to **Cooling System (Routine Maintenance Section)**.



ISO-07D

Part Number: 817-70027

Description: Crush hazard. Keep a safe distance from the moving parts.



ISO-09A

Part Number: 332-P4581

Description: Severing of hands or fingers. Keep clear of/do not reach into the moving parts. Stop the engine and remove the starter key before you start maintenance work. Refer to **Making the Machine Safe (Routine Maintenance Section)**.



ISO-010A

Part Number: 817/70029

Description: Crush hazard. Wear the seat belt when you operate the machine.



ISO-015C

Part Number: 817/70021

Description: Noise warning. Wear applicable ear protection.



Identifying Your Machine

Machine Identification Plate

Your machine has an identification plate mounted as shown. → [Fig 4.](#) ([1-8](#)).

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

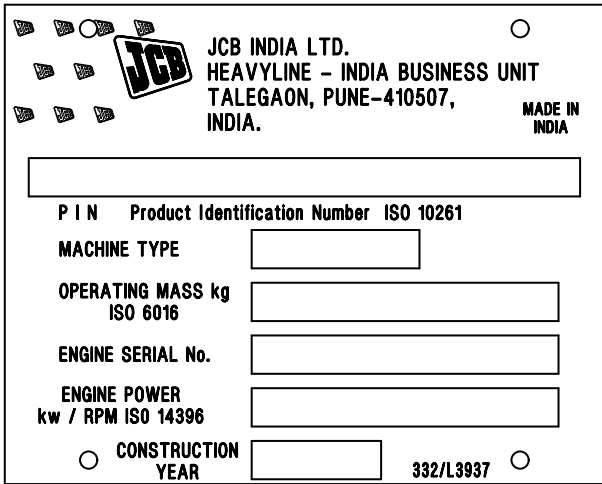


Fig 4.

Typical Product Identification Number (PIN)

1	2	3	4
JCB	VM115	C	01801240

- 1 World Manufacturer Identification (JCB)
- 2 Machine Type and Model (VM115 = VM115)
- 3 Randomly Generated Check Letter
- 4 Machine Serial Number (01801240)

Component Identification Plates

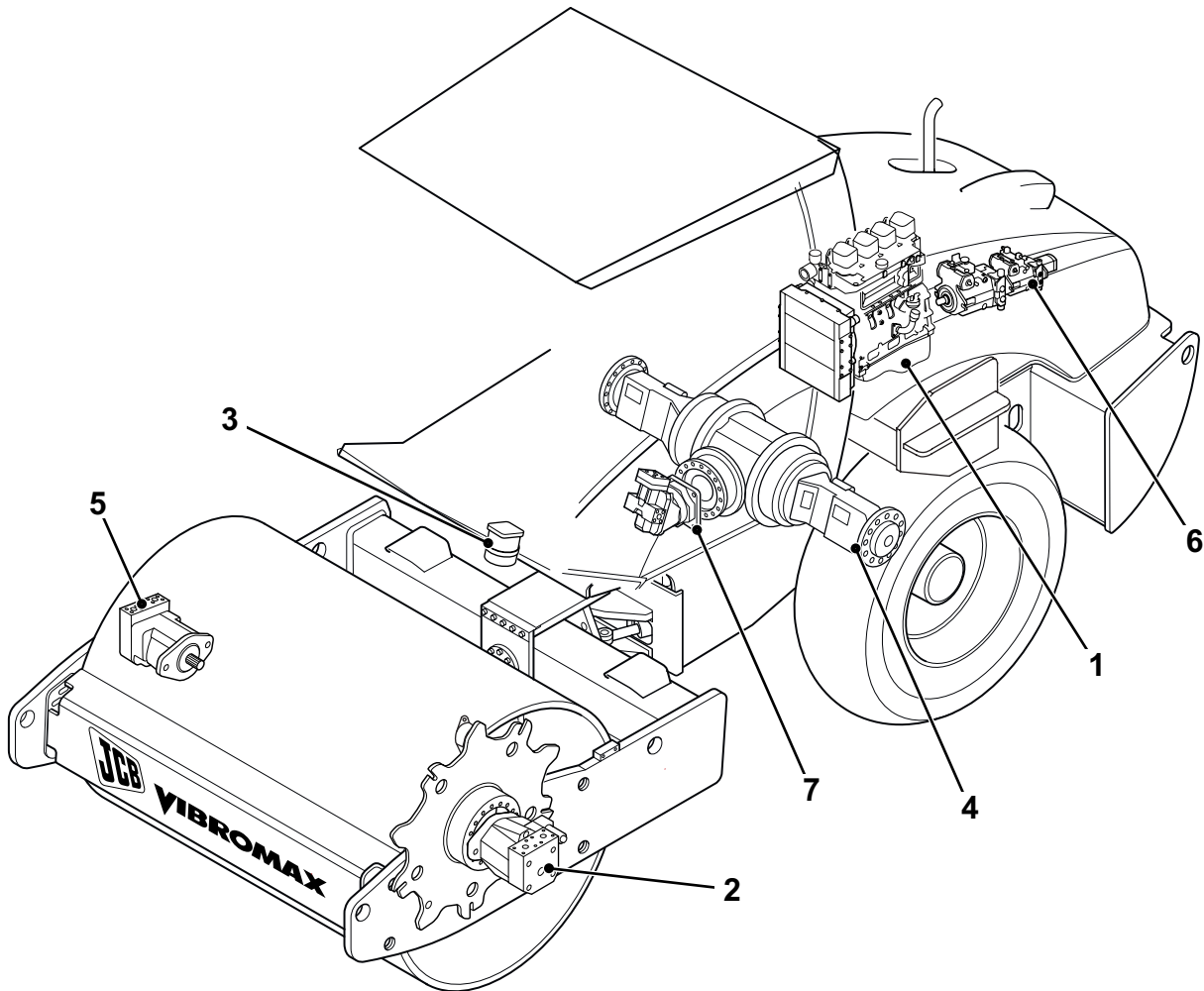


Fig 5.

- 1 Engine serial number
- 2 Drum drive motor serial number
- 3 Steering unit serial number
- 4 Rear axle serial number
- 5 Vibration motor serial number
- 6 Hydraulic pump serial number
- 7 Axle hydraulic drive motor serial number

Machine Security

Construction Equipment Security And Registration Scheme (CESAR)

T1-020

JCB are pleased to announce, the availability of CESAR a simple, effective method of machine identification and registration that operates throughout the United Kingdom and Ireland and across the whole spectrum of JCB products.

CESAR is a scheme to help reduce plant theft, and was developed by the Metropolitan Police and the Home Office Plant Theft Action Group.

The key to the scheme is its simplicity and will mean that every police officer in the country will know how to identify construction machinery and verify ownership. This will provide a major leap forward in both protecting machinery, and recovering it.

The Construction Equipment Association is managing the scheme, and Datatag are providing the security material and support. JCB is fully supportive of the CESAR initiative and will offer it as a factory fit option across the range.

The CESAR kit includes 2 Tamper proof triangular ID plates fitted on either side of the machine, a unique transponder, mini radio frequency identification tags (RFIDs) concealed throughout the machine, Datatag micro dots, and a unique DNA coded chemical painted on the machines major components. Plus a registration certificate logged onto the CESAR or DVLA databases, and a change of keeper form.

Service Consumables

Sealing and Retaining Compounds

T11-001_4

Table 1.

Type	Description	Part No.	Quantity
JCB Multi-Gasket	A medium strength sealant suitable for all sizes of gasket flanges, and for hydraulic fittings of 25-65 mm diameter.	4102/1212	50 ml
JCB High Strength Threadlocker	A high strength locking fluid for use with threaded components. Gasketing for all sizes of flange where the strength of the joint is important.	4102/0551	50 ml
JCB Retainer (High Strength)	For all retaining parts which are unlikely to be dismantled.	4101/0601	10 ml
		4101/0651	50 ml
JCB Threadlocker and Sealer	A medium strength locking fluid for sealing and retaining nuts, bolts, and screws up to 50 mm diameter, and for hydraulic fittings up to 25 mm diameter.	4101/0250	10 ml
		4101/0251	50 ml
JCB Threadlocker and Sealer (High Strength)	A high strength locking fluid for sealing and retaining nuts, bolts, and screws up to 50 mm diameter, and for hydraulic fittings up to 25 mm diameter.	4101/0550	10 ml
		4101/0552	200 ml
JCB Threadseal	A medium strength thread sealing compound.	4102/1951	50 ml
JCB Activator	A cleaning primer which speeds the curing rate of anaerobic products.	4104/0251	200 ml (Aerosol)
		4104/0253	1 ltr (Bottle)
JCB Cleaner/Degreaser	For degreasing components prior to use of anaerobic adhesives and sealants.	4104/1557	400 ml (Aerosol)
Direct Glazing Kit	For one pane of glass; comprises of: <ul style="list-style-type: none"> - 1 x Ultra Fast Adhesive (310 ml) - 1 x Active Wipe 205 (30 ml) - 1 x Black Primer 206J (30 ml) - plus applicator nozzle etc. 	993/55700	
Ultra Fast Adhesive	For direct glazing.	4103/2109	310 ml
Active Wipe 205	For direct glazing.	4104/1203	250 ml
Black Primer 206J	For direct glazing.	4201/4906	30 ml
Clear Silicone Sealant	To seal butt jointed glass.	4102/0901	
Plastic to Metal Bonder	To seal plastic to metal joints.	4103/0956	50 g
Black Polyurethane Sealant	To finish exposed edges of laminated glass.	4102/2309	310 ml

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