

General Information

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Section 1 - General Information

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Introduction

About This Publication

Machine Model and Serial Number

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

- 323 HST from serial number 1285000 to 1286999
- 327 HST from serial number 1285000 to 1286999.

Using the Service Manual

T11-004

This publication is designed for the benefit of JCB Distributor Service Engineers who are receiving, or have received, training by JCB Technical Training Department.

These personnel should have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of hydraulic earthmoving equipment.

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

General warnings in Section 2 are repeated throughout the manual, as well as specific warnings. Read all safety statements regularly, so you do not forget them.

Renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course. It is expected that components will be cleaned and lubricated where appropriate, and that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid and ingress of dirt.

Where a torque setting is given as a single figure it may be varied by plus or minus 3%. Torque figures indicated are for dry threads, hence for lubricated threads may be reduced by one third.

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.

Finally, please remember above all else safety must come first!

Units of Measurement

T11-001_2

In this publication, the S.I. system of units is used. For example, liquid capacities are given in litres. The Imperial units follow in parentheses () eg 28 litres (6 gal).

Section Numbering

T11-005

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1** General Information - includes torque settings and service tools.
- 2** Care and Safety - includes warnings and cautions pertinent to aspects of workshop procedures etc.
- 3** Maintenance - includes service schedules and recommended lubricants for all the machine.

The remaining sections are alphabetically coded and deal with Dismantling, Overhaul etc. of specific components, for example:

- A** Attachments
- B** Body and Framework, etc.

Section contents, technical data, circuit descriptions, operation descriptions etc. are inserted at the beginning of each alphabetically coded section.



Left Side, Right Side

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

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*** \(1-2\).](#)

Identifying Your Machine

Machine Identification Plate

Your machine has an identification plate mounted as shown. Information contained on this plate includes Model,

Type, Engine, Vehicle Identification Number, Manufacturer and Address.

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

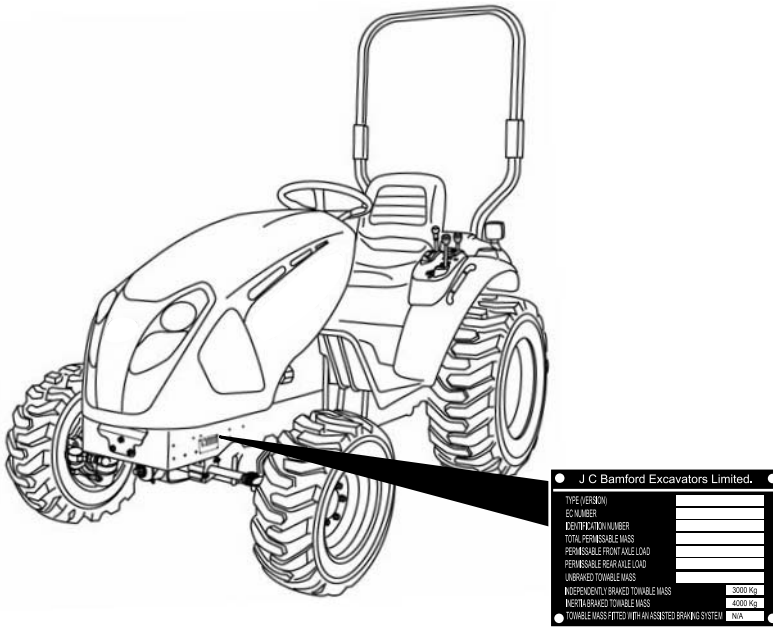


Fig 1.

V008580

Typical Vehicle Identification Number (VIN)

A typical Vehicle Identification Number is given below.

35NH	X	01	0001
1	2	3	4

- 1 Machine Model
- 2 Year of Manufacture
- 3 Month of Manufacture
- 4 Machine Serial Number

Component Identification Plates

Typical Engine Identification Number

The engine identification plate is attached to the rocker cover. The information stamped on this plate includes the engine model and serial number.

The engine model identification is also embossed on the right side of the engine block and the engine serial number is also stamped on the cylinder block.

ROPS Certification Plate

Your machine is built to the ROPS standard and has an identification label fitted to the left hand side of the ROPS frame. A typical identification label is shown below.

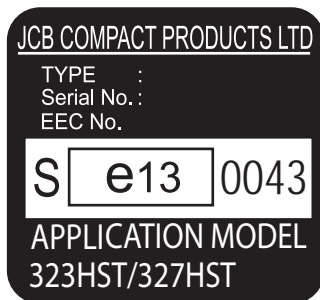


Fig 2.

Drawbar Certification Plate

The draw bar on your machine is built to a standard and has an identification label fitted to the top of the trailer hitch. A typical identification label is shown below.

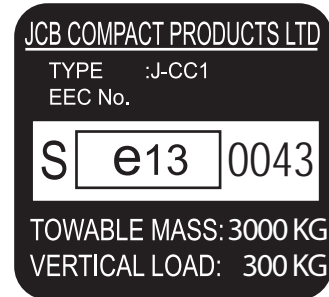


Fig 3.

Standard Torque Settings

Front Axle Housing and Transmission

Introduction

The following table gives the torque tightening values for the major parts of the Front Axle Housing (4WD Type) and the Transmission.

Table 1. Standard Torque Settings

Major Part	Bolt and Nut Size (Hardness)	Torque Value		
		Nm	kgf/m	lbf/ft
Front Axle Housing				
Axle bracket to engine	M16 (7T)	156.9 - 176.5	16.0 - 18.0	115.7 - 130.2
Front pivot metal	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Rear pivot metal	M14 (7T)	127.5 - 147.1	13.0 - 15.0	94.0 - 108.5
Front axle final case	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Bearing cover	M18 (7T)	19.6 - 23.5	2.0 - 2.4	14.5 - 17.3
Wheel shaft cover	M10 (7T)	53.9 - 68.6	5.5 - 7.0	39.8 - 50.6
Front wheel	M16 (7T)	156.9 - 176.5	16.0 - 18.0	115.7 - 130.2
Bevel gear case	M8	12.7 - 17.7	1.3 - 1.8	9.4 - 13.1
Diff-metal (support)	M8	12.7 - 17.7	1.3 - 1.8	9.4 - 13.1
Ring gear diff-metal (support)	M8	12.7 - 17.7	1.3 - 1.8	9.4 - 13.1
Transmission				
Front transmission - engine	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Front transmission - spacer	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Space transmission - rear transmission	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Input metal (support)	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6
Drive pinion metal (support)	M10 (7T)	53.9 - 68.6	5.5 - 7.0	39.8 - 50.6
Drive pinion				
Diff-case metal (support)	M12	53.9 - 68.6	5.5 - 7.0	39.8 - 50.6
Diff-case ring gear	M12 (7T)	88.2 - 107.9	9.0 - 11.0	65.1 - 79.6

Service Consumables

Sealing and Retaining Compounds

Table 2.

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 Thread locker	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.	4101/0651	50 ml
JCB Thread locker 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 Thread locker 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)

Service Tools

Numerical List Section H - Steering

The tools listed in the table are special tools required for removal and replacement of the steering valve parts.

Note: Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.

Part Number	Description	Tool Detail Reference
SJ150L9001-01	Holding Tool	⇒ Fig 4. (□ 1-10)
SJ150L4011-01	Assembly Tool for Shaft Seal 17.5 dia.	⇒ Fig 5. (□ 1-10)
SJ150L4012-01	Assembly Tool for Shaft Seal 19.2 dia.	⇒ Fig 6. (□ 1-10)
SJ150L0396-01	Assembly Tool for Dust Seal Ring	⇒ Fig 7. (□ 1-10)
SJ150-9000-25	Pliers for Piston in Relief Valve	⇒ Fig 8. (□ 1-10)
SJ151G9000-1	Fork for fitting Cardan Shaft	⇒ Fig 9. (□ 1-10)

Tool Detail Reference Section H - Steering

A

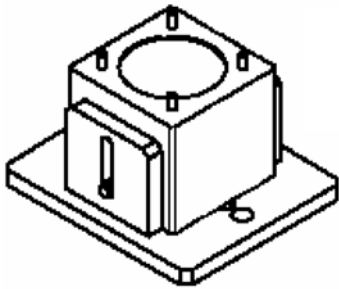


Fig 4.

V006240

F

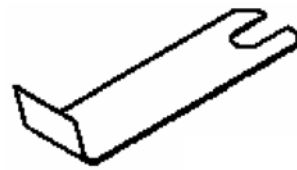


Fig 9.

V006290

B



Fig 5.

V006250

C

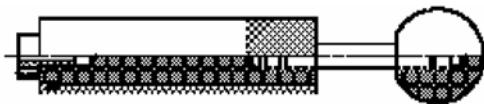


Fig 6.

V006260

D



Fig 7.

V006270

E

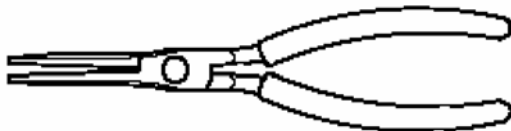


Fig 8.

V006280



Section 2 - Care and Safety

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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, 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

Safety Check List

Safety - Yours and Others

INT-1-3-1_3

All machinery can be hazardous. When a machine is correctly operated and properly maintained, it is a safe machine to work with. But when it is carelessly operated or poorly maintained it can become a danger to you (the operator) and others.

In this manual and on the machine you will find warning messages. Read and understand them. They tell you of potential hazards and how to avoid them. If you do not fully understand the warning messages, ask your employer or JCB distributor to explain them.

But safety is not just a matter of responding to the warnings. All the time you are working on or with the machine you must be thinking what hazards there might be and how to avoid them.

Do not work with the machine until you are sure that you can control it.

Do not start any job until you are sure that you and those around you will be safe.

If you are unsure of anything, about the machine or the job, ask someone who knows. Do not assume anything.

Remember

- BE CAREFUL
- BE ALERT
- BE SAFE

General Safety

T1-007_3

WARNING

Operator Manual

You and others can be injured if you operate or maintain the machine without first studying the Operator Manual. Read the safety instructions before operating the machine. If you do not understand anything, ask your employer or JCB dealer to explain it. Keep the Operator Manual clean and in good condition. Do not operate the machine without an Operator Manual in the cab, or if there is anything on the machine you do not understand.

INT-1-3-2_2

WARNING

Care and Alertness

All the time you are working with or on the machine, take care and stay alert. Always be careful. Always be alert for hazards.

INT-1-3-5

WARNING

Clothing

You can be injured if you do not wear the proper clothing. Loose clothing can get caught in the machinery. Wear protective clothing to suit the job. Examples of protective clothing are: a hard hat, safety shoes, safety glasses, a well fitting overall, ear-protectors and industrial gloves. Keep cuffs fastened. Do not wear a necktie or scarf. Keep long hair restrained. Remove rings, watches and personal jewellery.

INT-1-3-6_2

WARNING

Alcohol and Drugs

It is extremely dangerous to operate machinery when under the influence of alcohol or drugs. Do not consume alcoholic drinks or take drugs before or while operating the machine or attachments. Be aware of medicines which can cause drowsiness.

INT-1-3-9_2

 WARNING

Feeling Unwell

Do not attempt to operate the machine if you are feeling unwell. By doing so you could be a danger to yourself and those you work with.

8-1-2-4

 WARNING

Mobile Phones

Switch off your mobile phone before entering an area with a potentially explosive atmosphere. Sparks in such an area could cause an explosion or fire resulting in death or serious injury.

Switch off and do not use your mobile phone when refuelling the machine.

INT-3-3-9

 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

 WARNING

Raised Equipment

Never walk or work under raised equipment unless it is supported by a mechanical device. Equipment which is supported only by a hydraulic device can drop and injure you if the hydraulic system fails or if the control is operated (even with the engine stopped).

13-2-3-7_2

 WARNING

Raised Machine

NEVER position yourself or any part of your body under a raised machine which is not properly supported. If the machine moves unexpectedly you could become trapped and suffer serious injury or be killed.

INT-3-3-7_1

 DANGER

Lightning

Lightning can kill you. Do not use the machine if there is lightning in your area.

5-1-1-2

 WARNING

Machine Modifications

This machine is manufactured in compliance with legislative and other requirements. It should not be altered in any way which could affect or invalidate any of these requirements. For advice consult your JCB Distributor.

INT-1-3-10_2

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