

331HST and 335 HST

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Maintenance](#)

[Section A - Attachments](#)

[Section C - Electrics](#)

[Section E - Hydraulics](#)

[Section F - Transmission](#)

[Section G - Brakes](#)

[Section H - Steering](#)

[Section K - Engine](#)



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Section 1 - 1

Contents	Page No.
Introduction	
About This Publication	1 - 1
Identifying Your Machine	1 - 3
Standard Torque Settings	
Front Axle Housing and Transmission	1 - 5
Service Consumables	
Sealing and Retaining Compounds	1 - 7
Service Tools	
Numerical List Section H - Steering	1 - 9
Tool Detail Reference Section H - Steering	1 - 10



Contents

Page No.

Introduction

About This Publication

Machine Model and Serial Number

This manual provides information for the following machines:

- JCB Tractor 331 HST from serial number 1170000
- JCB Tractor 335 HST from serial number 1170000

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

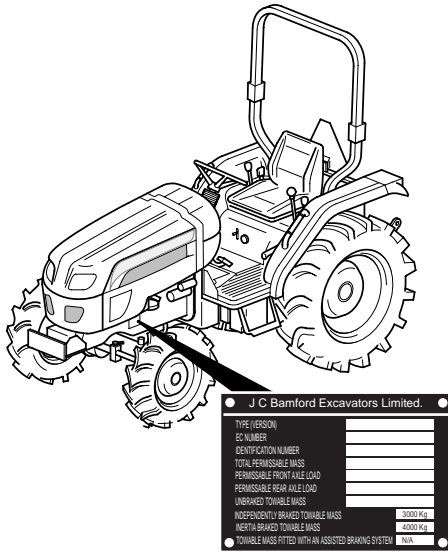
In this publication, page cross references are made by presenting the subject title printed in bold, italic and underlined. It is preceded by the 'go to' symbol. The number of the page upon which the subject begins, is indicated within the brackets. For example: [⇒ ***Cross References*** \(1-2\)](#).

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.



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

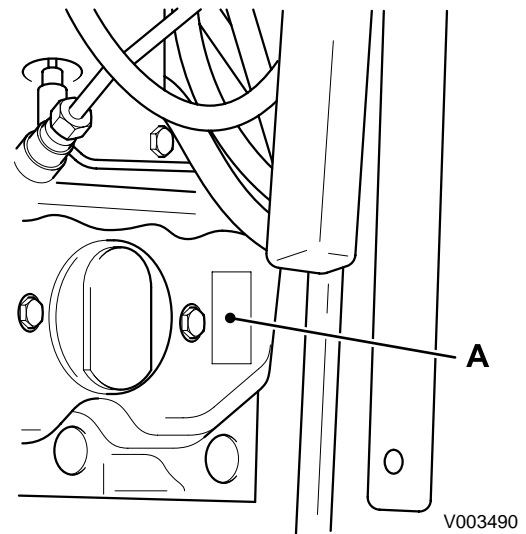


Fig 1.

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.

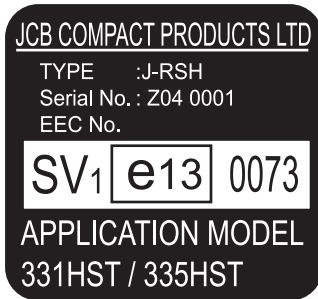


Fig 2.

Draw Bar Certification Plate

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

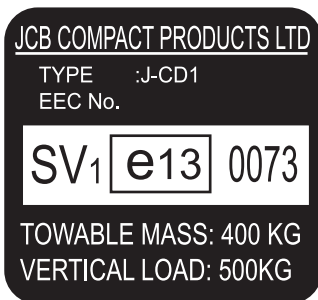


Fig 3.

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	M110 (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



Section 1 - General Information

Standard Torque Settings

Front Axle Housing and Transmission

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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)



Section 1 - General Information

Service Consumables

Sealing and Retaining Compounds

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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)
SJ150L4011201	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

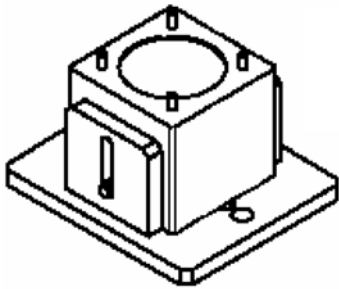


Fig 4.

V006240

F

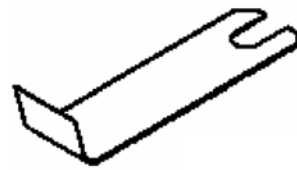


Fig 9.

V006290

B



Fig 5.

V006250

C

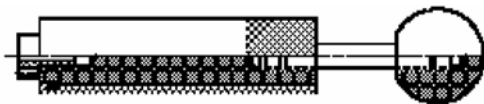


Fig 6.

V006260

D



Fig 7.

V006270

E

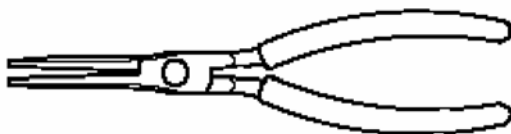


Fig 8.

V006280



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