

ZT 20D

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Section 1 - General Information

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Introduction

About this Publication

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

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.

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 also 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. Finally, please remember above all else **SAFETY MUST COME FIRST!**

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 Routine 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.

All sections are listed on the front cover; tabbed divider cards align directly with individual sections on the front cover for rapid reference.

'Left Hand' and 'Right Hand' are as viewed from the rear of the machine facing forwards.

This Service Manual covers the following machines:

JCB ZT 20D from SN 1225000 to SN 1225999



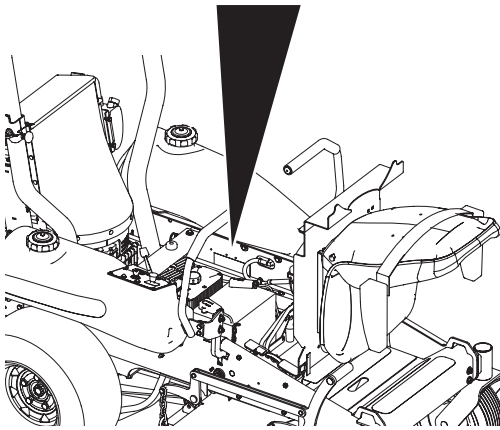
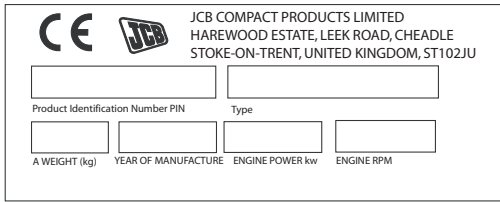
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Machine Identification

Identifying Your Machine

Machine Identification Plate

Your machine has an identification plate mounted as shown. ⇒ [Fig 1.](#) (□ 1-3) Information contained on this plate is the Product Identification Number, Type, the Weight in kg, Year of Manufacture, Engine Power in kw and the Engine RPM.



V001950

Fig 1.

Typical Product Identification Number (PIN)

A typical Product Identification Number is given below.

JCBZT20D	6	U	1225008
1	2	3	4

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

Engine Identification Plate Location

The engine identification plate **A** is attached to the right side of the engine block, next to the electric starter. The information contained on this plate includes the engine model and serial numbers. → [Fig 2. \(□ 1-4\)](#)

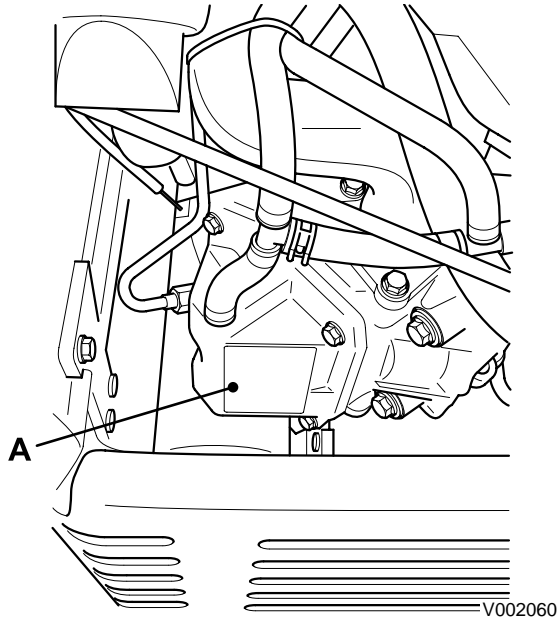


Fig 2.

Roll Over Protection Structure (ROPS)

⚠ WARNING

Modified and wrongly repaired ROPS, TOPS & FOGS Structures are dangerous. Do not modify the TOPS Structure. Do not attempt to repair the ROPS, TOPS & FOGS Structure. If the ROPS, TOPS & FOGS Structure has been in an accident, do not use the machine until the structure has been inspected and repaired. This must be done by a qualified person. For assistance, contact your JCB dealer. Failure to take precautions could result in death or injury to the operator.

5-3-1-7_2

Your machine is built to the ROPS standard and has an identification label fitted on the ROPS bar. A typical identification label is shown below. → [Fig 3. \(□ 1-4\)](#)

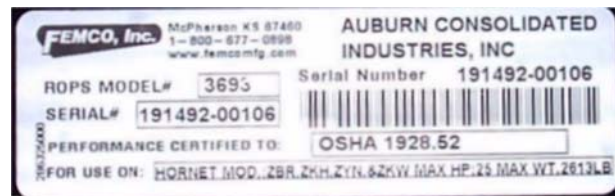


Fig 3.

Component Identification

Engine Identification

The JCB Zero-Turn Mower is powered by a Yanmar™ 17 HP 2V750 liquid cooled V-Twin Engine.

The data information is located on the right side of the Yanmar engine, behind the RH hydraulic pump, along side the right ROPS post, → [Fig 2. \(□ 1-4\)](#).

This data plate decal contains the engine model, the type, and the engine serial number.

Always refer to this information when ordering parts, requesting warranty, etc.

Engine information can be obtained through the Yanmar Europe web-site.

When working on or repairing the Engine, use genuine engine service parts only. Engine warranty may be invalidated if “after market” parts are used.

Important: All matters concerning service and warranty for the Yanmar engine is handled by Yanmar. JCB assumes NO service or warranty responsibility for engine concerns.

Hydraulic Pump Identification

Hydraulic pump identification is located on a bar code decal fastened to the side of the pump.



Fig 4.

The model number and the date coded serial numbers are found on this decal.

Duplicate pump decals are also mounted above the serial number decal on the mainframe.

Always refer to this information when ordering parts, requesting warranty, etc.

Wheel Motor Identification

Wheel motor identification is found on a round tag mounted on the end plate of the motor. The motor type code, model and serial numbers are engraved into this tag.



Fig 5.

Always refer to this information when ordering parts, requesting warranty, etc. Hydro-Gear PG (10cc) Series Hydraulic Pump

Service Tools

Numerical List

The tools listed in the table are special tools required for carrying out the procedures described in this manual. These tools are available from JCB Service.

Some tools are available as kits or sets, the part numbers for parts within such kits or sets are not listed here. For full

details of all tools, including the content of kits and sets, see the relevant section in this manual.

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 - see Section:
-	AVO Test Kit - see tool detail reference for content	C
-	Electrical Repair Kit - see tool detail reference for content	C
993/85700	Battery Tester	C



Fastener Torque Chart

Numerical List

All SAE fasteners locally purchased for use on the JCB Mower must be Grade 5 or equivalent, unless otherwise specified in the parts manual. Use the torque chart for all Grade 5 fasteners. Special fastener torques are shown below the chart.

Important: All torque specifications apply to clean and lightly oiled fasteners, hoses or fittings. Torque specifications **SHOULD NOT** be followed when fastening plastic parts.

Chart - SAE Grade 5 Fasteners

Size	Nm		lbf ft	
	Lube	Dry	Lube	Dry
1/4-20	9	12	7	9
5/16-18	20	27	15	20
3/8-16	41	47	30	35
7/16-14	61	75	45	55
1/2-13	81	108	60	80
9/16-12	136	163	100	120
5/8-11	176	231	130	170
3/4-10	298	407	220	300



Section 1 - General Information Fastener Torque Chart

Numerical List

Special Torques

Description	Torque
Mowing Blade Bolt - 9/16-12 x 1 3/4 Grade 8	170 Nm (125 lbf ft)
Spindle Pulley Nut - 3/4-16 UNF	109 Nm (80 lbf ft)
Engine Fasteners, M10	39 Nm (29 lbf ft)
Engine Fasteners , M8	20 Nm (15 lbf ft)
ROPS Fasteners - 1/2-13 Bolts & Nuts	109 Nm (80 lbf ft)
Spindle Housing Nuts - 7/16-20 UNF	54 Nm (40 lbf ft)
PTO Clutch Bolt - 7/16-20 x 2 1/4	61 Nm (45 lbf ft)
Steering Dampener Nuts - M8-1.25	33 Nm (24 lbf ft)
Fuel Tank Bolts 3/8-16	8.5 Nm (6 lbf ft)
Wheel Motor End Cover Bolts - 3/8-24 Gr. 8	68 Nm (50 lbf ft)
Hydraulic Pump ByPass Valve	12 Nm (9 lbf ft)
Hydraulic Pump End Cap Bolts	22 Nm (16 lbf ft)
Hydraulic Pump Charge Pump Screws	12 Nm (9 lbf ft)
High Pressure Pump/Motor Hoses/Fittings (MUST be lightly oiled)	82 Nm (60 lbf ft)

Important: DO NOT use the pulley nut to hold the spindle while tightening the blade as the pulley nut could be over torqued. This could cause spindle spacer and bearing damage.

Consumables

Sealing and Retaining Compounds

T11-001_3

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.	4101/0651	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



Section 1 - General Information

Consumables

Sealing and Retaining Compounds

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