

## JZ140

Service Manual - JZ140

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## General Information

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# Section 1 - 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 machines:

JCB JZ140 from serial number 1390000 to 1390499.

### 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!

### 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.

### Units of Measurement

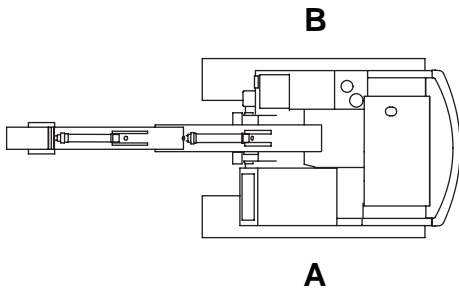
T1-001\_2  
In this publication, the S.I. system of units is used. For example, liquid capacities are given in litres. The Imperial units follow in parentheses ( ) eg 28 litres (6 gal).

### 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*** ).

### 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.**








C017280



## Schematic Codes

### Colour Codes

The following colour coding, used on illustrations to denote various conditions of oil pressure and flow, is standardised throughout JCB Service Publications.

	<b>Red</b>	<b>Full Pressure:</b> Pressure generated from operation of a service. Depending on application this may be anything between neutral circuit pressure and MRV operating pressure.
	<b>Pink</b>	<b>Pressure:</b> Pressure that is above neutral circuit pressure but lower than that denoted by Red.
	<b>Orange</b>	<b>Servo:</b> Oil pressure used in controlling a device (servo).
	<b>Blue</b>	<b>Neural:</b> Neutral circuit pressure.
	<b>Green</b>	<b>Exhaust:</b>
	<b>Light Green</b>	<b>Cavitation:</b> Oil subjected to a partial vacuum due to a drop in pressure (cavitation).
	<b>Yellow</b>	<b>Lock Up:</b> Oil trapped within a chamber or line, preventing movement of components (lock up).



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# Identifying your Machine

## Identification Your Machine

### Machine Identification Plate

Your machine has a Data Plate, located on the outside the cab as shown at **A**. The machine serial number is inscribed at **B** which is the base plate of the rear frame and the engine number is at **C** → [Fig 4.](#) ([1-6](#)).

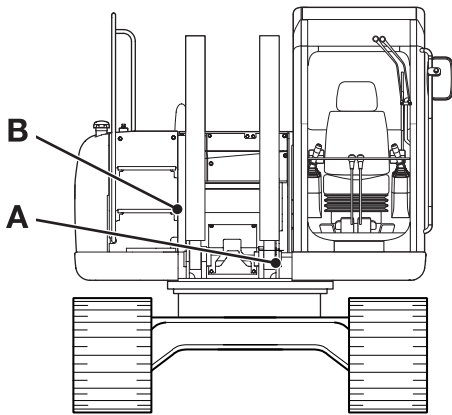


Fig 2.

### Typical Product Identification Number (PIN)

1	2	3	4	5
JCB	JZ14C	C	8	1390000

- 1 World Manufacturer Identification (JCB)
- 2 Machine Type and Model (JZ14C = JZ140)
- 3 Randomly generated check letter.
- 4 Year of Manufacture (8 = 2008, 9 = 2009)
- 5 Machine Serial Number (1390000)

	JCB HEAVY PRODUCTS LTD LAKE SIDE WORKS ROCESTER UNITED KINGDOM ST14 5JP	
<input type="text"/>		
PIN	Product Identification Number	ISO 10261
MACHINE TYPE	<input type="text"/>	
OPERATING MASS kg ISO 6016	<input type="text"/>	
ENGINE SERIAL No.	<input type="text"/>	
ENGINE POWER kw / RPM ISO 14396	<input type="text"/>	
CONSTRUCTION YEAR	<input type="text"/>	

Fig 3.

### Typical Engine Identification Number

If the engine is replaced by a new one, the data plate serial number will be wrong. Either stamp the new number on the plate or stamp out the old one. This will prevent the wrong number being quoted when you order replacement parts.

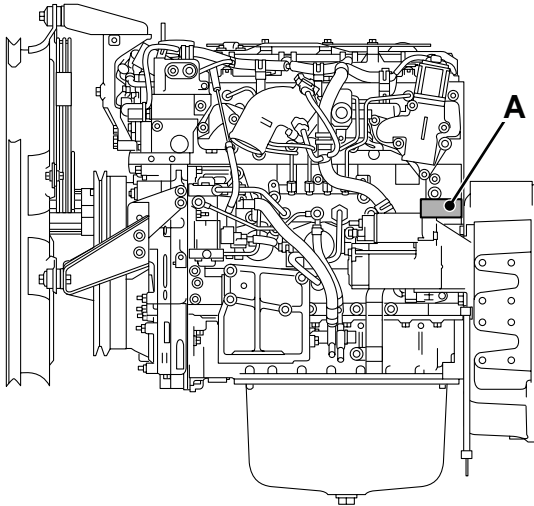


Fig 4.

a	b
4JJ1	578550

a Engine Type

b Engine Serial Number

# Torque Settings

## Zinc Plated Fasteners and Dacromet Fasteners

T11-002

### Introduction

Some external fasteners on JCB machines are manufactured using an improved type of corrosion resistant finish. This type of finish is called Dacromet and replaces the original Zinc and Yellow Plating used on earlier machines.

The two types of fasteners can be readily identified by colour and part number suffix. ⇒ [Table 1. Fastener Types \(1-7\)](#).

**Table 1. Fastener Types**

Fastener Type	Colour	Part No. Suffix
Zinc and Yellow	Golden finish	'Z' (e.g. 1315/3712Z)
Dacromet	Mottled silver finish	'D' (e.g. 1315/3712D)

**Note:** As the Dacromet fasteners have a lower torque setting than the Zinc and Yellow fasteners, the torque figures used must be relevant to the type of fastener.

**Note:** A Dacromet bolt should not be used in conjunction with a Zinc or Yellow plated nut, as this could change the torque characteristics of the torque setting further. For the same reason, a Dacromet nut should not be used with a Zinc or Yellow plated bolt.

**Note:** All bolts used on JCB machines are high tensile and must not be replaced by bolts of a lesser tensile specification.

**Note:** Dacromet bolts, due to their high corrosion resistance are used in areas where rust could occur. Dacromet bolts are only used for external applications. They are not used in applications such as gearbox or engine joint seams or internal applications.

### Bolts and Screws

Use the following torque setting tables only where no torque setting is specified in the text.

**Note:** Dacromet fasteners are lubricated as part of the plating process, do not lubricate.

Torque settings are given for the following conditions:

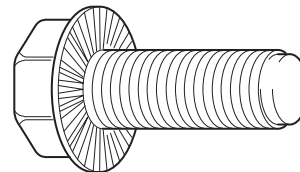
#### Condition 1

- Un-lubricated fasteners
- Zinc fasteners
- Yellow plated fasteners

#### Condition 2

- Zinc flake (Dacromet) fasteners
- Lubricated zinc and yellow plated fasteners
- Where there is a natural lubrication. For example, cast iron components

### Verbus Ripp Bolts



**Fig 5.**

Torque settings for these bolts are determined by the application. Refer to the relevant procedure for the required settings.



## Section 1 - General Information Torque Settings

Zinc Plated Fasteners and Dacromet Fasteners

**Table 2. Torque Settings - UNF Grade 'S' Fasteners**

Bolt Size		Hexagon (A/F)	Condition 1			Condition 2		
in.	mm	in.	Nm	kgf m	lbf ft	Nm	kgf m	lbf ft
1/4	6.3	7/16	11.2	1.1	8.3	10.0	1.0	7.4
5/16	7.9	1/2	22.3	2.3	16.4	20.0	2.0	14.7
3/8	9.5	9/16	40.0	4.1	29.5	36.0	3.7	26.5
7/16	11.1	5/8	64.0	6.5	47.2	57.0	5.8	42.0
1/2	12.7	3/4	98.0	10.0	72.3	88.0	9.0	64.9
9/16	14.3	13/16	140.0	14.3	103.2	126.0	12.8	92.9
5/8	15.9	15/16	196.0	20.0	144.6	177.0	18.0	130.5
3/4	19.0	1 1/8	343.0	35.0	253.0	309.0	31.5	227.9
7/8	22.2	1 15/16	547.0	55.8	403.4	492.0	50.2	362.9
1	25.4	1 1/2	814.0	83.0	600.4	732.0	74.6	539.9
1 1/8	31.7	1 7/8	1181.0	120.4	871.1	1063.0	108.4	784.0
1 1/4	38.1	2 1/4	1646.0	167.8	1214.0	1481.0	151.0	1092.3

**Table 3. Torque Settings - Metric Grade 8.8 Fasteners**

Bolt Size		Hexagon (A/F)	Condition 1			Condition 2		
ISO Metric Thread	mm	mm	Nm	kgf m	lbf ft	Nm	kgf m	lbf ft
M5	5	8	5.8	0.6	4.3	5.2	0.5	3.8
M6	6	10	9.9	1.0	7.3	9.0	0.9	6.6
M8	8	13	24.0	2.4	17.7	22.0	2.2	16.2
M10	10	17	47.0	4.8	34.7	43.0	4.4	31.7
M12	12	19	83.0	8.5	61.2	74.0	7.5	54.6
M16	16	24	205.0	20.9	151.2	184.0	18.8	135.7
M20	20	30	400.0	40.8	295.0	360.0	36.7	265.5
M24	24	36	690.0	70.4	508.9	621.0	63.3	458.0
M30	30	46	1372.0	139.9	1011.9	1235.0	125.9	910.9
M36	36	55	2399.0	244.6	1769.4	2159.0	220.0	1592.4

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