



# Service Manual

## ROBOT 160, 170, 180T

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## Introduction

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.

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. 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:

- |          |   |  |
|----------|---|--|
| <b>1</b> | = | <b>General Information</b> - includes torque settings and service tools.                                   |
| <b>2</b> | = | <b>Care &amp; Safety</b> - includes warnings and cautions pertinent to aspects of workshop procedures etc. |
| <b>3</b> | = | <b>Routine Maintenance</b> - 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:

- |          |   |                                     |
|----------|---|-------------------------------------|
| <b>A</b> | = | <b>Attachments</b>                  |
| <b>B</b> | = | <b>Body &amp; Framework</b> ...etc. |

The page numbering in each alphabetically coded section is not continuous. This allows for the insertion of new items in later issues of the manual.

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.

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.

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



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## Machine Identification Plate

On early machines the machine identification plate is located as shown at **A**, on later machines the plate is located as shown at **B**. The plate is stamped with the serial numbers of the major individual units.

## Typical Vehicle Identification Number (VIN)

SLP 165 S B V E 677001  
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① World Manufacturer Identification
- ② Machine Model
- ③ Machine Type (S = Standard, H = High-flow)
- ④ Build Type (A = Canopy, B = Cab)
- ⑤ Year of Manufacture:  
 W = 1998                      2 = 2002  
 X = 1999                      3 = 2003  
 Y = 2000                      4 = 2004  
 1 = 2001                      5 = 2005
- ⑥ Manufacturer Location (E = England)
- ⑦ Product Identification Number (PIN)

## Unit Identification

The chassis serial number is stamped on the front face of the chassis as shown at **C**.

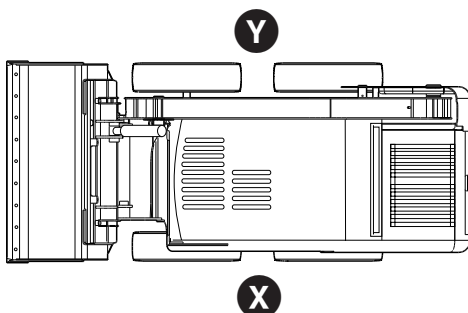
The engine serial number is stamped on a label **D** on the left side of the cylinder block.

The hydraulic pump unit serial number is stamped on a plate on the bottom face of the pump.

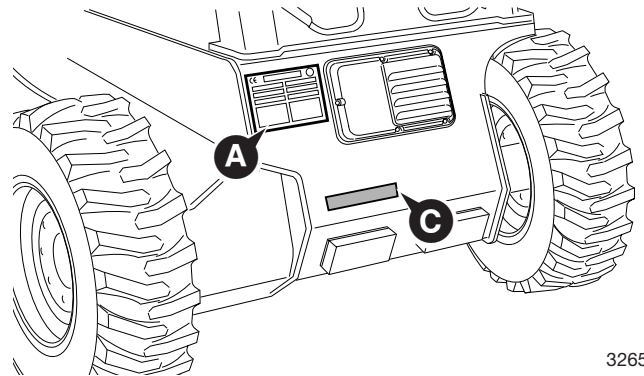
If any of the major units are replaced with new ones, the relevant serial number on the Machine Identification Plate will be superseded. Either stamp the plate with the new number or stamp out the old number.

## Left Side, Right Side

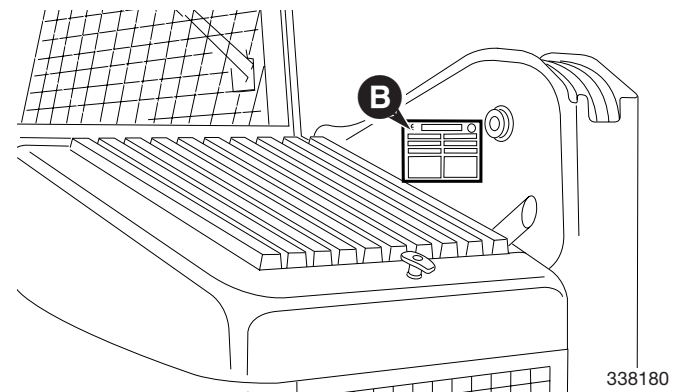
In this manual, 'left' **X** and 'right' **Y** mean your left and right when you are seated correctly in the machine.



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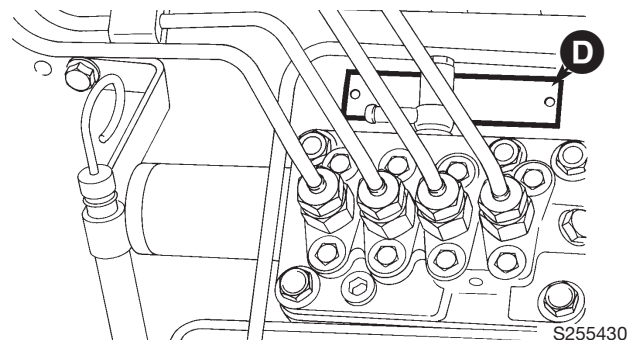
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CE		JCB		JCB COMPACT PRODUCTS LIMITED HAREWOOD ESTATE, LEEK ROAD, CHEADLE, STOKE ON TRENT, UNITED KINGDOM ST10 2JU		BSI REGISTERED	
CONSTRUCTOR				MADE IN UK			
Vehicle Identification No.				Product Identification No.			
ENGINE SERIAL No.				WEIGHT			
PUMP SERIAL No.				YEAR OF MANUFACTURE			
MODEL		80/1269/EEC		MODEL		80/1269/EEC	
	POWER KW	R.P.M.			POWER KW	R.P.M.	
160	35.7	2600		190	59.7	2200	
170	37.3	2800		190 HF	59.7	2200	
170 HF	37.3	2800		1110	68.6	2200	
160 HF	35.7	2600		1110 HF	68.6	2200	
1CX	37.3	2800		1CX HF	37.3	2800	
180	44.7	2800		180 HF	44.7	2800	

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Use only where no torque setting is specified in the text. Values are for dry threads and may be within three per cent of the figures stated. For lubricated threads the values should be REDUCED by one third.

**UNF Grade 'S' Bolts**

Bolt Size in	(mm)	Hexagon (A/F) in	Nm	Torque Settings kgf m	lbf ft
1/4	(6.3)	7/16	14	1.4	10
5/16	(7.9)	1/2	28	2.8	20
3/8	(9.5)	9/16	49	5.0	36
7/16	(11.1)	5/8	78	8.0	58
1/2	(12.7)	3/4	117	12.0	87
9/16	(14.3)	13/16	170	17.3	125
5/8	(15.9)	15/16	238	24.3	175
3/4	(19.0)	1 1/8	407	41.5	300
7/8	(22.2)	1 5/16	650	66.3	480
1	(25.4)	1 1/2	970	99.0	715
1 1/4	(31.7)	1 7/8	1940	198.0	1430
1 1/2	(38.1)	2 1/4	3390	345.0	2500

**Metric Grade 8.8 Bolts**

Bolt Size in	(mm)	Hexagon (A/F) in	Nm	Torque Settings kgf m	lbf ft
M5	(5)	8	7	0.7	5
M6	(6)	10	12	1.2	9
M8	(8)	13	28	3.0	21
M10	(10)	17	56	5.7	42
M12	(12)	19	98	10	72
M16	(16)	24	244	25	180
M20	(20)	30	476	48	352
M24	(24)	36	822	84	607
M30	(30)	46	1633	166	1205
M36	(36)	55	2854	291	2105

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



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