

Service Manual

**3CX, 4CX,
& Variants**

From M/c No. 400001 To 460000

Publicación No. 9803/3260 Issue 9

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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:

1	=	General Information - includes torque settings and service tools.
2	=	Care & 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 & Framework ...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.

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

*

Throughout this manual abbreviations are used to identify various machine types. The abbreviations and their full explanation are as follows:

AWS	-	All Wheel Steer
2WS	-	2 Wheel Steer
2WD	-	2 Wheel Drive
4WD	-	4 Wheel Drive

*

The contents page at the beginning of each section will clearly identify using parenthesis () when a procedure/description is pertinent to a particular machine, for example:

Loader Arm Safety Strut (AWS Machines)
- Fitting and Removing

Loader Arm Safety Strut (2WS Machines)
- Fitting and Removing

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Machine Identification Plate

Your machine has an identification plate **X** mounted on the loader tower as shown. The serial numbers of the machine and its major units are stamped on the plate.

The serial number of each major unit is also stamped on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either stamp the new number of the unit on the identification plate, or simply stamp out the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

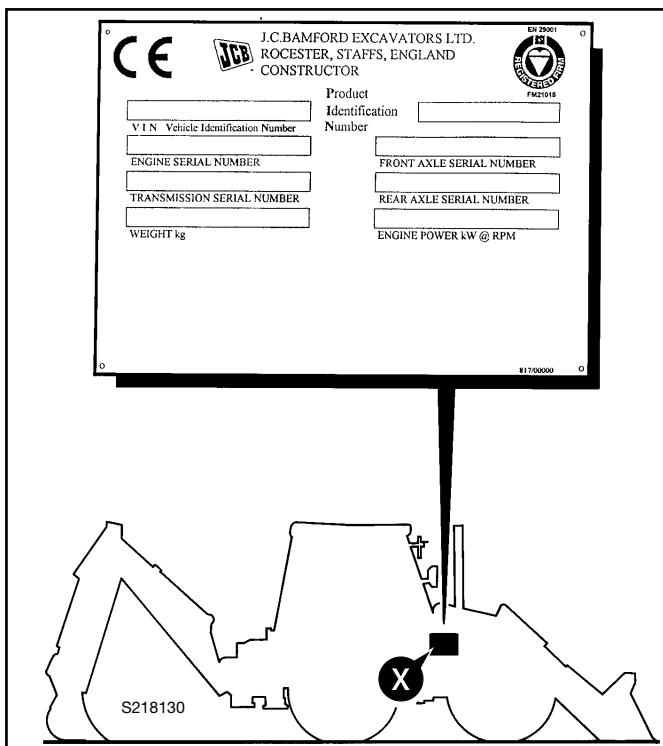
The machine and engine serial numbers can help identify exactly the type of equipment you have.

Typical Machine Identification Number

SLP 3CX T S R E 0430001
A B C D E F G

- A** World Manufacturer Identification
- B** Machine Model
- C** Steer Type (T= 2WS, F=4WS)
- D** Build Type (S=Sideshift, C=Centremount, L=Loader)
- E** Year of Manufacture:

R = 1994	1 = 2001
S = 1995	2 = 2002
T = 1996	3 = 2003
V = 1997	4 = 2004
W = 1998	5 = 2005
X = 1999	6 = 2006
Y = 2000	7 = 2007
- F** Manufacturer Location (E = England)
- G** Machine Serial Number:



Typical Engine Identification Number

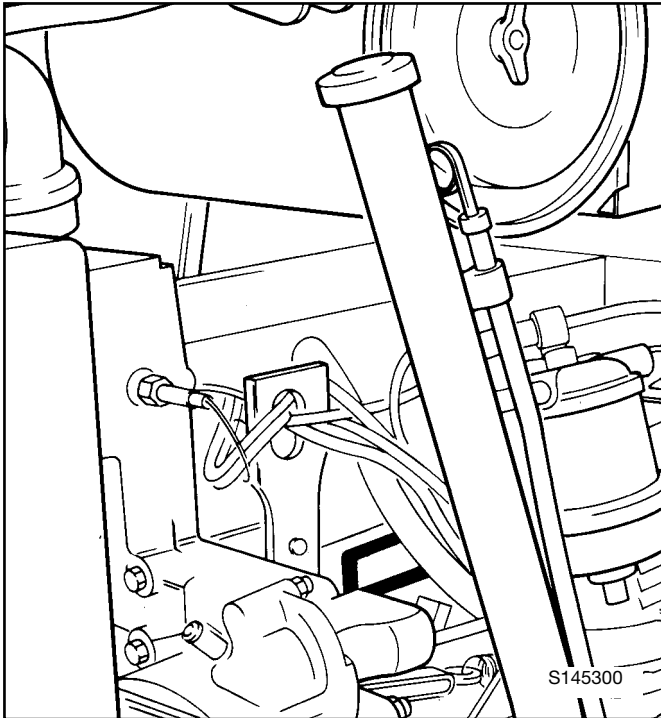
AB 50262 U 500405 P
A B C D E

- A** Engine Type
AB = 4 cylinder turbo
- B** Build Number
- C** Country of Origin
- D** Engine Sequence Number
- E** Year of Manufacture

Unit Identification

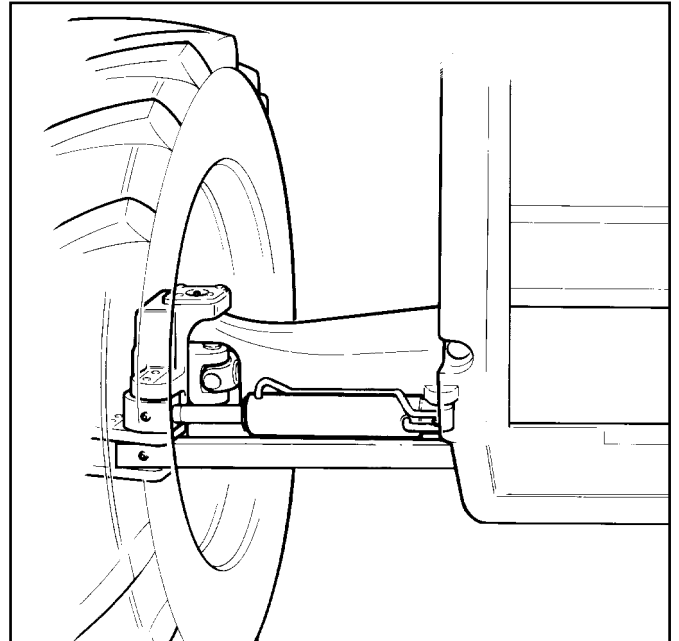
Engine Serial Plate

The engine serial number is stamped on a label which is fastened to the left side of the cylinder block (looking from the rear).



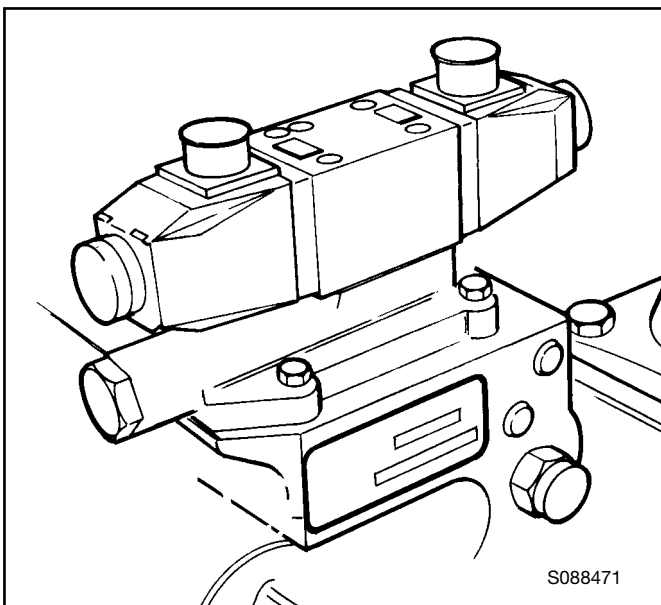
* Front Axle Serial Plate (All Wheel Steer Machines)

The front axle serial number is stamped on a plate mounted on the axle.



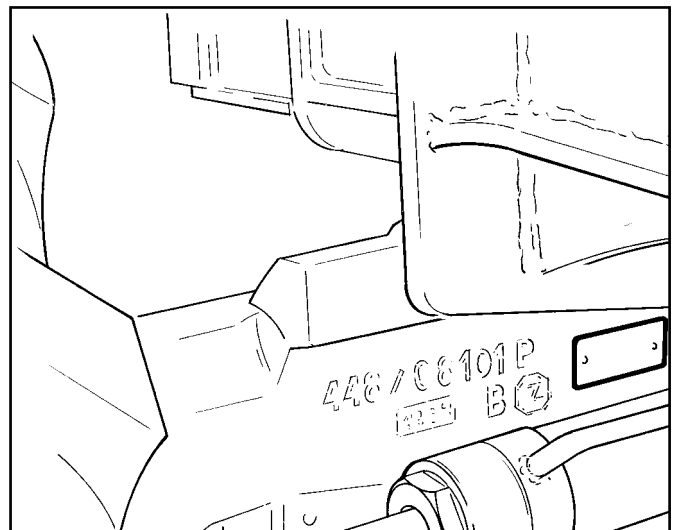
Syncro Shuttle Serial Plate

The Syncro Shuttle serial number is stamped on a label which is mounted to the rear face of the unit.



* Front Axle Serial Plate (2 Wheel Steer Machines)

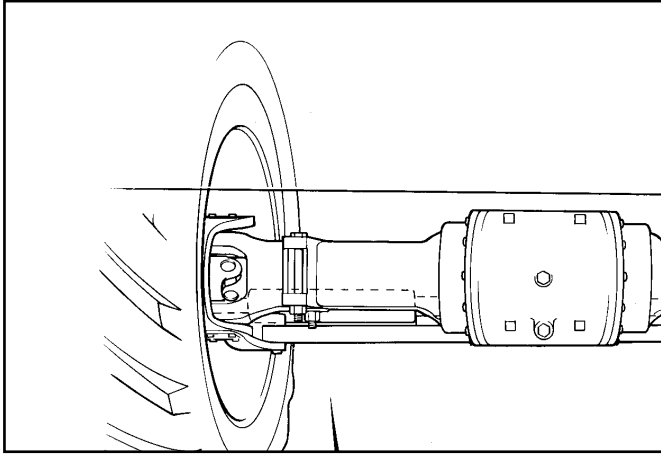
The front axle serial number is stamped on a plate mounted on the the axle.



Unit Identification (cont'd)

Rear Axle Serial Plate (All Wheel Steer Machines)

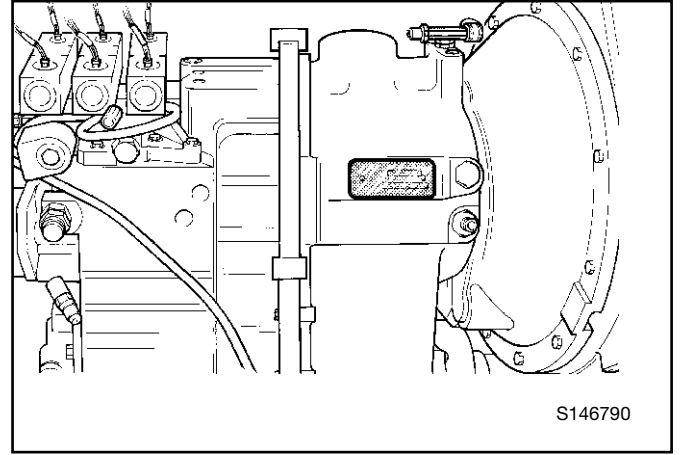
The rear axle serial number is stamped on a plate mounted to the front face of the axle, as shown.



S143050

*** Powershift Serial Plate**

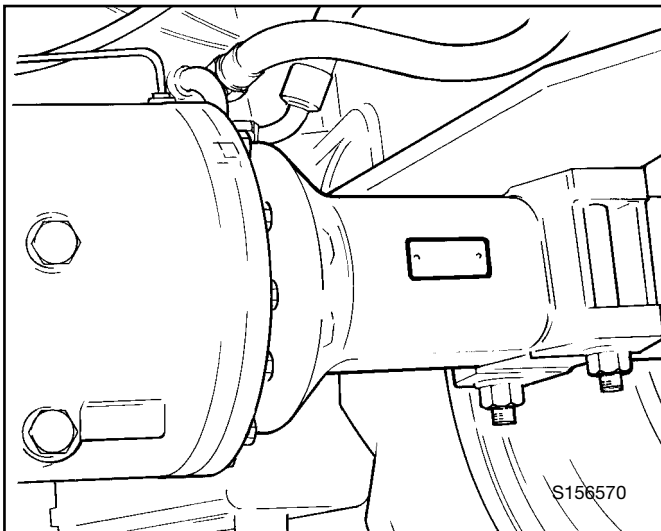
The powershift serial number is stamped on a plate which is mounted to the side of the unit as shown.



S146790

Rear Axle Serial Plate (2 Wheel Steer Machines)

The rear axle serial number is stamped on a plate mounted to the front face of the axle, as shown.



S156570

Torque Settings

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		Hexagon (A/F)	Torque Settings		
in	(mm)	in	Nm	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)	11/8	407	41.5	300
7/8	(22.2)	15/16	650	66.3	480
1	(25.4)	11/2	970	99.0	715
11/4	(31.7)	17/8	1940	198.0	1430
11/2	(38.1)	21/4	3390	345.0	2500

Metric Grade 8.8 Bolts

Bolt Size		Hexagon (A/F)	Torque Settings		
	(mm)	mm	Nm	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

Rivet Nut Bolts/Screws

Bolt Size		Torque Settings (for steel rivet nuts)		
	(mm)	Nm	kgf m	lbf ft
M3	(3)	1.2	0.12	0.9
M4	(4)	3.0	0.3	2.0
M5	(5)	6.0	0.6	4.5
M6	(6)	10.0	1.0	7.5
M8	(8)	24.0	2.5	18.0
M10	(10)	48.0	4.9	35.5
M12	(12)	82.0	8.4	60.5

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

Service Tools Numerical List

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