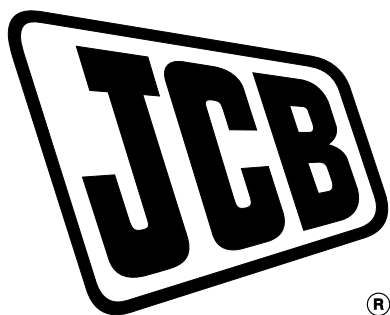




Service Manual

3CX, 4CX, 214e, 214, 215,
217 & VARIANTS

Backhoe Loader

From M/c No. 930000 Onwards
From M/c No. 903000 Onwards (USA)

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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.

Machine Nomenclature

In this Service Manual, reference is made to machine models, e.g. 3CX, 4CX, these are European machine model names. North American machine models have different names, the table below shows the European and the equivalent North American nomenclature.

European		North American
3CX	=	214
4CX	=	214S, 215S, 217S

Colour Coding

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

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

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