



Service Manual

500 Series

From m/c No. 561001

* This Service Manual covers the following Machines:-

505-19 - Serial Number 561001 - 579365

505-22 - Serial Number 561001 - 579365

508-40 - Serial Number 562601 - 579365

506-36 - Serial Number 563359 - 579999

510-40 - Serial Number 564542 - 579365

508-40, 508-40 - PlaceAce

505-19, 505-22 - Basic Servo Options

506-36, 508-40 - Servo Options

506B - Serial Number 570000 - 579766

Information covers two stage and three stage boom machines.

JCB INC. 10939 Philadelphia Road, White Marsh, MD 21162-0209, USA (410) 335-2800

JCB EXCAVATORS Ltd. 3375, North Service Road, Unit 6, Burlington, Ontario L7N, CANADA (905) 335-3441

Publication No. 9803/3600U Issue 16

Published by the Technical Publications Dept. of JCB Service, Rocester, Staffordshire, England.

Contents

General	1
Hydraulics	2
Body and Framework	3
PlaceAce Control System	4
Servo Control System	4A
Engine	5
Transmission	6
Axles	7
Brakes	8
Hydraulic Steering	9
Electrics	10
Service Tools	11
<u>Boom Float, Return to Dig Option</u>	<u>12</u>

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.

It is assumed that these personnel have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of hydraulic earthmoving equipment. Therefore these basic subjects generally are omitted from this manual, the intention being to convey only more specialised information concerning particular aspects of a machine or component.

For example, renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course, and therefore information of this nature is included only in the context of specialised procedures or where a range of wear tolerances is required. Similarly, it is expected that components will be cleaned and lubricated where appropriate, also that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid and ingress of dirt.

For convenience this manual is compiled in sections, e.g. "Hydraulics", "Electrics", etc. but, to find details of a specific component, reference should be made to the alphabetical index at the back of the book.

Illustrations which show a dismantled component are numbered as a guide to the dismantling sequence, which generally can be reversed for assembly.

Torque settings are given as a 'mean' figure which 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. Where no figure is quoted in the text, refer to page 1/1 - 3.

'Left Hand' and 'Right Hand' are as viewed from the rear of the machine looking forward.

WARNING **Asbestos**

Asbestos dust can damage your lungs. Some engine joints and gaskets may contain asbestos. Take the following precautions when working on them.

- 1 Wear a face mask and gloves.
- 2 Work in a well ventilated area and do not smoke.
- 3 Do not use a rotary wire brush, use a hand scraper.
- 4 Make sure the material to be removed is wet with oil or water to contain loose particles.
- 5 Place all material into plastic bags and dispose in accordance with local regulations.

GEN-1-8

WARNING **Fluoroelastomeric Materials**

Certain seals and gaskets (e.g. crankshaft oil seal) on JCB machines contain fluoroelastomeric materials such as Viton, Fluorel and Technoflon. Fluoroelastomeric materials subjected to high temperatures can produce highly corrosive hydrofluoric acid. THIS ACID CAN SEVERELY BURN.

New fluoroelastomeric components at ambient temperature require no special safety precautions.

Used fluoroelastomeric components whose temperatures have not exceeded 300°C require no special safety precautions. If evidence of decomposition (e.g. charring) is found, refer to the next paragraph for safety instructions DO NOT TOUCH COMPONENT OR SURROUNDING AREA.

Used fluoroelastomeric components subjected to temperatures greater than 300°C (e.g. engine fire) must be treated using the following safety procedure. Make sure that heavy duty gloves and special safety glasses are worn:

- 1 Ensure that components have cooled then remove and place material into plastic bags.
- 2 Thoroughly wash contaminated area with 10% calcium hydroxide or other suitable alkali solution, if necessary use wire wool to remove burnt remains.
- 3 Thoroughly wash contaminated area with detergent and water.
- 4 Contain all removed material, gloves etc. used in this operation in sealed plastic bags and dispose of in accordance with Local Authority Regulations.








DO NOT BURN FLUOROELASTOMERIC MATERIALS.

If contamination of skin or eyes occurs, wash the affected area with a continuous supply of clean water or with calcium hydroxide solution for 15-60 minutes. Get medical attention immediately.

INT-3-3-5/1

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).

A390940

Contents	Page No.
Fluids, Lubricants, Capacities & Specifications	
- 505-19/22	1 - 1
- 506-36	1 - 2
- 508-40 & 510-40	1 - 2A
- 506B	1 - 2B
- Torque Settings	1 - 3
Service Schedules	2 - 1
Greasing	
Pivot Pins	
- 555-19/22	3 - 1
- 508-40 & 510-40	3 - 2
- 506-36	3 - 3
- 506B	3 - 4
Front Axle	3 - 5
Rear Axle	3 - 6
Carriage Lock Pins	3 - 7
Boom Wear Pad Runways	3 - 8
Extension Ram Pivots	
- 505- 19/22	3 - 9
- 508-40	3 - 10
- 506-36	3 - 11
- 506B	3 - 11A
Oiling	3 - 12
- 506B	3 - 13
Boom Safety Strut	4 - 1

It's a preview. You can download the full file by clicking the link below.

<https://shopservicemanual.com/>

Service Manuals from 2\$