

506-36, 507-42, 509-42, 510-56, 512-56

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Applications

Introduction

This manual contains topics that relate to some or all JCB Loadall machines in the 5C group. There are several machine model codes in the family.	Machine Group	Model Code	Model Name
	5C	D	506-36
	5C	E	507-42
	5C	F	509-42
	5C	G	510-56
	5C	H	512-56
Machine variants: There are different machine variants within the same model name. This happens because of market requirements, or when the machine specification changes after a period of time.			
Use the applications tables to see which topics relate to which machine models and variants.			
Important: The machine model names are NOT referred to in the topics. You must refer to the applications tables for the applicable machine models			

⇒ Tables (□ 1-1-2)

⇒ [Section 1 - General Information \(□ 1-1-2\)](#)

⇒ [Section 2 - Care and Safety \(□ 1-1-2\)](#)

⇒ [Section 3 - Routine Maintenance \(□ 1-1-3\)](#)

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⇒ [Section G - Brakes \(□ 1-1-7\)](#)

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⇒ [Section K - Engine \(□ 1-1-9\)](#)

⇒ [Section M - Electronic Data Systems \(□ 1-1-10\)](#)

Tables

Section 1 - General Information

			Machine models		
Topic Ref	Title	Variant	506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
1-2	<i>Introduction to the Manual</i>		All Machines		
1-3	<i>Machine Identification</i>		All Machines		
1-4	<i>Torque Settings</i>		All Machines		
1-5	<i>Service Tools</i>		All Machines		
1-6	<i>Service Consumables</i>		All Machines		
1-7	<i>Fuel</i>		All Machines		

Section 2 - Care and Safety

			Machine models		
Topic Ref	Title	Variant	506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
2-1	<i>Safety Notices</i>		All Machines		
2-2	<i>General Procedures</i>		All Machines		

Section 3 - Routine Maintenance

			Machine models		
Topic Ref	Title	Variant	506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
3-1	<i>Maintenance</i>		All Machines		

Section B - Body and Framework

			Machine models		
Topic Ref	Title	VARIANT	506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
B1	<i>Cab Heating and Ventilation SYSTEM</i>		●	●	●
B2	<i>Cab Air Conditioning SYSTEM</i>		●	●	●
B3	<i>Cab</i>		●	●	●
B4	<i>Air Conditioning Condenser</i>		●	●	●
B5	<i>Cab HV and HVAC Unit</i>		●	●	●
B6	<i>Air Conditioning Binary Switch</i>		●	●	●
B7	<i>Heater Valve</i>		●	●	●
B8	<i>Fuel Tank</i>		●	●	●
B9	<i>Engine Cover</i>		●	●	●
B10	<i>Stabilisers</i>				●
B11	<i>RAS SYSTEM</i>			●	●
B12	<i>Interlock SYSTEM</i>			●	●
B13	<i>Boom</i>		●	●	●
B14	<i>RAS ECU</i>			●	●



Section C - Electrics

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
C1	<i>Fuses and Relays</i>		●	●	●
C2	<i>Schematics</i>		●	●	●
C3	<i>Electrical Harness SYSTEM</i>		●	●	●
C4	<i>Battery Charging SYSTEM</i>		●	●	●
C5	<i>Alternator</i>		●	●	●
C6	<i>Battery</i>		●	●	●

Section E - Hydraulics

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
E1	<i>Systems and Schematics</i>		●	●	●
E2	<i>Flowshare Hydraulic SYSTEM</i>		●	●	●
E3	<i>Parallel Hydraulic SYSTEM</i>		●	●	●
E4	<i>Flowshare Control Valve</i>		●	●	●
E5	<i>Parallel Control Valve - 2 Section</i>		●	●	
E6	<i>Parallel Control Valve - 5 Section</i>				●
E7	<i>Servo Control Valves</i>		●	●	●
E8	<i>Pilot Pressure Supply Valve</i>		●	●	●
E9	<i>Main Pump</i>	110 L/min	●	●	●
E10	<i>Cooling Fan Motor</i>		●	●	●
E11	<i>Extension Ram</i>		●	●	●
E12	<i>Lift Rams</i>		●	●	●
E13	<i>Tilt Ram</i>		●	●	●
E14	<i>Displacement Ram</i>		●	●	●
E15	<i>Sway Ram</i>		●	●	●
E16	<i>Stabiliser Rams</i>				●
E17	<i>RAS Rams</i>			●	●
E18	<i>Ram Maintenance</i>		●	●	●

Section F - Transmission

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
F1	<i>Configuration</i>		●	●	●
F2	<i>Wheels and Tyres</i>		●	●	●
F3	<i>Front Axles</i>	SD80 3 Piece Steer Drive Axle		●	●
		SD70 3 Piece Steer Drive Axle	●		
F4	<i>Rear Axles</i>	SD80 3 Piece Steer Drive Axle		●	●
		SD55 1 Piece Steer Drive Axle	●		
F5	<i>PS750 Gearbox SYSTEM</i>		●	●	●
F6	<i>PS750 Mk4 Gearbox SYSTEM</i>		●	●	●
F7	<i>Bevel Gearbox</i>		●	●	●
F8	<i>Torque Converter</i>		●	●	●
F9	<i>Transmission Oil Cooler - Liquid to Liquid</i>		●	●	●
F10	<i>PS750 Gearbox</i>		●	●	●
F11	<i>PS750 Mk4 Gearbox</i>		●	●	●
F12	<i>Propshafts</i>		●	●	●
F13	<i>Speed Sensors</i>			●	●

Section G - Brakes

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
G1	Single Axle Service Brakes SYSTEM		●		
G2	Twin Axle Service Brakes SYSTEM			●	●
G3	External Park Brake SYSTEM		●	●	●
G4	Park Brake Calliper		●	●	●
G5	Park Brake Disc		●	●	●
G6	Park Brake Switch		●	●	●
G7	Servo Exhauster Unit		●	●	●
G8	Servo Unit - Single Axle Brakes		●		
G9	Servo Unit - Twin Axle Brakes			●	●



Section H - Steering

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
H1	Steering SYSTEM		●	●	●
H2	Hydraulic Steering Unit		●	●	●
H3	Priority Valve		●	●	●
H4	Steer Mode Valve		●	●	●
H5	Steer Rams		●	●	●
H6	Steering Column		●	●	●

Section K - Engine

Topic Ref	Title	VARIANT	Machine models		
			506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
K1	<i>Start and Stop SYSTEM</i>		●	●	●
K2	Cold Start Heater SYSTEM		●	●	●
K3	Starter Motor		●	●	●
K4	Cooling Pack		●	●	●
K5	Coolant Expansion Tank		●	●	●
K6	<i>Exhaust Silencer</i>		●	●	●
K7	Throttle Cable		●	●	●
K8	JCB Dieselmex Engines	63kW	●	507-42 5CE	
		74kW	●	●	
		85kW			●



Section M - Electronic Data Systems

			Machine models		
Topic Ref	Title	VARIANT	506-36 5CD	507-42 5CE 509-42 5CF	510-56 5CG 512-56 5CH
M1	CANbus SYSTEM		●	●	●
M2	Loadall Monitoring SYSTEM		●	●	●
M3	Fault Code SYSTEM		●	●	●
M4	Servicemaster SYSTEM		●	●	●
M5	Servicemaster Tools			●	●

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Introduction to the Manual

Introduction

This topic contains information about the structure of the manual and how to use the manual.

⇒ [Scope \(□ 1-2-2\)](#)

⇒ [Personnel \(□ 1-2-2\)](#)

⇒ [Applications \(□ 1-2-2\)](#)

⇒ [Newest Data \(□ 1-2-2\)](#)

⇒ [Format \(□ 1-2-3\)](#)

⇒ [Left and Right Sides \(□ 1-2-4\)](#)

⇒ [Hydraulic Schematic Codes \(□ 1-2-5\)](#)

⇒ [Colour Codes \(□ 1-2-5\)](#)

⇒ [Electrical Device Codes \(□ 1-2-6\)](#)

Scope

Personnel

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. Finally, please remember above all else SAFETY MUST COME FIRST!

Applications

This manual contains data relevant to a range of machines. Make sure you reference the data for the correct machine. [⇒ Applications \(□ 1-1-1\)](#)

Newest Data

From time to time new machines, systems or devices require the manual to be re-issued. Make sure you have the newest issue.

Always check the on-line JCB data system for relevant technical information.

Format

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1 General Information** - Use the **Applications Tables** at the front of the section to see which topic in the manual is applicable to which machine model. The section also includes general information such as torque settings and service tools.
- 2 Care & Safety** - includes warnings, cautions and general procedures related to aspects of workshop procedures contained in the manual.
- 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 and Framework...etc.

The sections contain topics. Each topic is a self contained set of data about a machine SYSTEM or Device.

Some topics are only applicable to some machine models. Use the **Applications Tables** in this section to see which topic is applicable to which machine model.

Each topic contains data such as specifications, descriptions, fault finding and test procedures. Device topics also contain removal, replacement, dismantle and assemble procedures.

Some topics contain **procedures and specifications for different variants**. This happens because of market requirements, or when the machine specification changes after a period of time. Where applicable, a table in the introduction of each topic contains information to help you identify the correct specifications or procedures.

Each topic also contains a **Related Topics** table. This table lists all the topics that contain related data. For example a hydraulic SYSTEM contains devices such as valves and pumps. These devices have their own topics and they are listed in the SYSTEM related topics table.