

Side Engine Loadalls

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Publication No.
9803/3760-07



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General Information

Service Manual - Side Engine Loadalls

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9803/3760-06



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Section 1 - General Information

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Applications

Introduction

This manual contains topics that relate to JCB Loadall machines in the 5A and 5T groups. There are several machine model codes in the family.	Machine Group	Model Code	Model Name
	5A	A	531-70
	5A	B	535-95
	5A	C	536-60
	5A	D	541-70
	5A	H	533-105
	5A	R	536-70
	5A	S	526-56
	5T	A	531-T70
	5T	B	541-T70
	5T	C	536-T60
	5T	D	535-T95
	5T	E	536-T70
<p>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. Where applicable information is given to help identify which machine variant is applicable for the given specifications and procedures.</p>			
<p>For machines with LLMC built after October 2010 refer to the service manual 9813/0900.</p>			
<p>Use the applications tables to see which topics relate to which machine models and variants. Where no variant information is given the topic is applicable to all machine models indicated on the table.</p>			
<p>Important: The machine model names are NOT referred to in the topics. You must refer to the applications tables for the applicable machine model. Table entries shaded grey indicate a topic not included in this issue of the manual.</p>			

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

Section 1 - General Information

Topic Ref	Title	Machine models							
		531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
1-2	<i>Use</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							
1-8	<i>Stall Speed Combinations</i>	All Machines							

Section 2 - Care and Safety

Topic Ref	Title	Machine models							
		531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
2-1	<i>Safety Notices</i>	All Machines							
2-2	<i>General Procedures</i>	All Machines							

Section 3 - Routine Maintenance

Topic Ref	Title	Variant	Machine models						
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56
3-1	<i>Introduction</i>		All Machines						
3-2	<i>Service Schedules - Machines with SD and SF Engines</i>	Mechanical F.I. engines	●	●	●	●	●	●	●
3-3	<i>Service Schedules - Machines with SE Engines</i>	Electronic F.I. engines	●	●	●	●	●	●	●
3-4	<i>Fluids, Lubricants and Capacities</i>		All Machines						
3-5	<i>Cleaning the Machines</i>		All Machines						
3-6	<i>Inspection</i>		All Machines						
3-7	<i>Seat Belts</i>		All Machines						
3-8	<i>ROPS/FOPS (and OECD) Structure</i>		All Machines						
3-9	<i>Greasing</i>		All Machines						
3-10	<i>Heater and Air Conditioning</i>		All Machines						
3-11	<i>Brakes</i>		All Machines						
3-12	<i>Electrical System</i>		All Machines						
3-13	<i>Engine</i>		All Machines						
3-14	<i>Engine Air Filter</i>		All Machines						
3-15	<i>Fuel System</i>		All Machines						
3-16	<i>Hydraulic System</i>		All Machines						
3-17	<i>Transmission</i>		All Machines						
3-18	<i>Tyres and Wheels</i>		All Machines						
3-19	<i>Wear Pads</i>		All Machines						
3-20	<i>Windscreen Washer</i>		All Machines						
3-21	<i>Access Panels</i>		All Machines						
3-22	<i>Fire Extinguisher</i>		All Machines						

Section B - Body and Framework

Topic Ref	Title	Variant	Machine models									
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56			
B1	<i>Fork Carriage</i>		●	●	●	●	●	●	●	●	●	●
B2	<i>Cab Heating and Ventilation SYSTEM</i>		●	●	●	●	●	●	●	●	●	●
B3	<i>Cab Air Conditioning SYSTEM</i>		●	●	●	●	●	●	●	●	●	●
B4	<i>Load Moment Indicator (LMI) SYSTEM</i>		●	●	●	●	●	●	●	●	●	●
B5	<i>Longitudinal Load Moment SYSTEM</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010	●	●	●	●	●	●	●	●	●	●
B6	<i>Cab</i>		●	●	●	●	●	●	●	●	●	●
B7	<i>Air Conditioning Condenser - Cooling Pack Mounted</i>		Machines with non intercooled engines									
B8	<i>Air Conditioning Condenser - Cab Roof Mounted</i>		Machines with intercooled engines									
B9	<i>Cab HV and HVAC Unit</i>		●	●	●	●	●	●	●	●	●	●
B10	<i>Air Conditioning Binary Switch</i>		●	●	●	●	●	●	●	●	●	●
B11	<i>Heater Valve</i>		●	●	●	●	●	●	●	●	●	●
B12	<i>Fuel Tank</i>		●	●	●	●	●	●	●	●	●	●
B13	<i>Chassis Panels</i>		●	●	●	●	●	●	●	●	●	●
B14	<i>Boom</i>		●	●	●	●	●	●	●	●	●	●
B15	<i>Hydraulic Tank</i>											●
B16	<i>Load Moment Indicator Axle Transducer</i>		●	●	●	●	●	●	●	●	●	●
B17	<i>Electric Inclinometers</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010	●	●	●	●	●	●	●	●	●	●
B18	<i>Longitudinal Load Moment Indicator Unit</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010	●	●	●	●	●	●	●	●	●	●

Section C - Electrics

Topic Ref	Title	Variant	Machine models							
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
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>		●	●	●	●	●	●	●	●
C7	<i>Machine Control ECU (S1)</i>	SLC machines without LLMC, LLMC machines up to October 2010 ⁽¹⁾								●
C8	<i>Machine Control ECU (S2)</i>	Agri, Agri Plus, Agri Super Nov 2009 to October 2010 ⁽¹⁾	●	●	●	●	●		●	

(1) For details of LLMC machines from October 2010 refer to the Service Manual 9813/0900

Section E - Hydraulics

Topic Ref	Title	Variant	Machine models									
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56			
E1	<i>Systems and Schematics</i>		●	●	●	●	●	●	●	●	●	●
E2	<i>Parallel Hydraulic SYSTEM</i>	Non LLMC machines, LLMC machines up to October 2010 ⁽¹⁾	●	●		●	●	●		●	●	●
E3	<i>LSP Gearpump Hydraulic SYSTEM</i>	Up to November 2009	●	●	●	●	●			●		
E4	<i>LSP Variflow Hydraulic SYSTEM</i>	Up to November 2009	●	●	●	●	●			●		
E5	<i>LSP Electro Servo SYSTEM (S1)</i>	Agri Xtra	●			●	●			●		
E6	<i>LSP Electro Servo SYSTEM (S2)</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●	●			●		
E7	<i>Servo Parallel Hydraulic SYSTEM</i>	SLC machines up to October 2010 ⁽¹⁾										●
E8	<i>Smooth Ride SYSTEM (SRS) - Parallel</i>		●	●	●	●	●			●	●	●
E9	<i>Smooth Ride SYSTEM (SRS) LSP</i>	Up to November 2009	●	●	●	●	●			●	●	
E10	<i>Smooth Ride SYSTEM (SRS) Electro Servo (S1)</i>	Agri Xtra	●		●	●	●			●		
E11	<i>Smooth Ride SYSTEM (SRS) Electro Servo (S2)</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●	●			●		
E12	<i>Smooth Ride SYSTEM (SRS) Servo Parallel</i>	SLC machines up to October 2010 ⁽¹⁾										●
E13	<i>Parallel Control Valve 4 Section</i>	Non LLMC machines, LLMC machines up to October 2010 ⁽¹⁾	●		●	●	●			●	●	●
E14	<i>Parallel Control Valve 6 Section</i>	Non LLMC machines, LLMC machines up to October 2010 ⁽¹⁾								●		
E15	<i>Flowshare (LSP) Control Valve</i>		●	●	●	●	●				●	
E16	<i>LSP Electro Servo Control Valve (S1)</i>	Agri Xtra	●		●	●	●			●	●	

Topic Ref	Title	Variant	Machine models								
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56		
	LSP Electro Servo Control Valve (S2)	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●	●	●	●	●	●
E17	Servo Parallel Control Valve	SLC machines up to October 2010 ⁽¹⁾									●
E18	Inloader Valve	Gearpump Systems	●	●	●	●			●		
E19	Servo Pilot Valve	LSP Hydraulic Systems - Up to November 2009	●	●	●	●			●		
E20	Servo Pilot Pressure Supply Valve (S1)	Agri Xtra up to October 2010 ⁽¹⁾	●		●	●			●		
E21	Servo Pilot Pressure Supply Valve (S2)	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●			●		
E22	Pilot Manifold Block	SLC machines up to October 2010 ⁽¹⁾									●
E23	Main Pump - Variflow		●	●	●	●			●		
E24	Main Pump - Gearpump	80 l/min Double Pump	●	●	●	●		●	●		●
		80 l/min Triple Pump	●	●	●	●		●	●		
		110 l/min	●		●	●			●		
		125 l/min		●							
E25	Cooling Fan Motor		●	●	●	●		●	●		●
E26	Control Lever - Electro Servo (S1)	Agri Xtra	●		●	●			●		
E27	Control Lever - Electro Servo (S2)	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●			●		
E28	Control Lever - Servo Parallel	SLC									●
E29	Extension Ram		●	●	●	●		●	●		●
E30	Lift Rams		●	●	●	●		●	●		●
E31	Tilt Ram		●	●	●	●		●	●		●



Topic Ref	Title	Variant	Machine models									
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56			
E32	<i>Displacement Ram</i>		●	●	●	●	●	●	●	●	●	●
E33	<i>Sway Ram</i>		●	●		●				●		
E34	<i>Stabiliser Rams</i>							●				
E35	<i>Ram Maintenance</i>		●	●	●	●	●	●	●	●	●	●
E36	<i>Sway/Fan Changeover Valve</i>		●	●		●	●			●	●	

(1) For details of LLMC machines from October 2010 refer to the Service Manual 9813/0900

Section F - Transmission

Topic Ref	Title	Variant	Machine models							
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
F1	<i>Configuration</i>		●	●	●	●	●	●	●	●
F2	<i>Wheels and Tyres</i>		●	●	●	●	●	●	●	●
F3	<i>Front Axles</i>		●	●	●	●	●	●	●	●
F4	<i>Rear Axles</i>		●	●	●	●	●	●	●	●
F5	<i>PS750 Gearbox SYSTEM</i>		●	●	●	●	●	●	●	●
F6	<i>PS750 Mk IV Gearbox SYSTEM</i>		●	●	●	●	●	●	●	●
F7	<i>PS764 Gearbox SYSTEM</i>		●	●	●	●	●	●	●	●
F8	<i>PS766 Gearbox SYSTEM (ECU 2.3)</i>		●	●	●	●	●	●	●	●
F9	<i>SS700 Gearbox SYSTEM</i>									●
F10	<i>Lock Up Torque Converter SYSTEM</i>	PS766 System	●	●	●	●	●	●	●	●
F11	<i>Dual Control SYSTEM (S1)</i>	LSP Hydraulic System - Up to November 2009	●	●	●	●	●	●	●	●
F12	<i>Dual Control SYSTEM (S2)</i>	Agri, Agri Plus, Agri Super November 2009 to October 2010 ⁽¹⁾	●	●	●	●	●	●	●	●
F13	<i>Dual Control SYSTEM (S3)</i>	SLC								●
F14	<i>Shiftmaster ECU</i>		●	●	●	●	●	●	●	●
F15	<i>PS750 Gearbox</i>		●	●	●	●	●	●	●	●
F16	<i>PS750 Mk IV Gearbox</i>		●	●	●	●	●	●	●	●
F17	<i>PS760 Gearbox</i>		●	●	●	●	●	●	●	●
F18	<i>SS700 Gearbox</i>									●
F19	<i>Bevel Gearbox</i>		●	●	●	●	●	●	●	●
F20	<i>Torque Converter</i>		●	●	●	●	●	●	●	●
F21	<i>Transmission Oil Cooler - Liquid to Liquid</i>									

Machine with non intercooled engines

Topic Ref	Title	Variant	Machine models							
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
F22	<i>Transmission Oil Cooler - Air Blast</i>		Machines with intercooled engines							
F23	<i>Propshafts</i>		●	●	●	●	●	●	●	●
F24	<i>Transmission Speed Sensor</i>		●	●	●	●	●	●	●	
F25	<i>Engine Speed Sensor</i>		●	●	●	●	●	●	●	
F26	<i>Speedometer</i>		●	●	●	●	●	●	●	●
F27	<i>SS700 Cable Shift</i>									●

(1) For details of LLMC machines from October 2010 refer to the Service Manual 9813/0900

Section G - Brakes

Topic Ref	Title	Variant	Machine models									
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56			
G1	<i>Single Axle Service Brakes SYSTEM</i>		●	●	●	●	●	●	●	●	●	
G2	<i>External Park Brake SYSTEM</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	
G3	<i>Internal Park Brake SYSTEM</i>	PS760 Gearbox Systems	●	●	●	●	●	●	●	●	●	
G4	<i>Park Brake Calliper</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	
G5	<i>Park Brake Disc</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	
G6	<i>Park Brake Switch</i>		●	●	●	●	●	●	●	●	●	
G7	<i>Servo Exhauster Unit</i>		●	●	●	●	●	●	●	●	●	
G8	<i>Servo Unit - Single Axle Brakes</i>		●	●	●	●	●	●	●	●	●	
G9	<i>Master Cylinder</i>		●	●	●	●	●	●	●	●	●	
G10	<i>Fluid Reservoir</i>		●	●	●	●	●	●	●	●	●	



Section H - Steering

Topic Ref	Title	Variant	Machine models								
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56		
H1	<i>Steering SYSTEM</i>		●	●	●	●	●	●	●	●	
H2	<i>Manual Steer Mode SYSTEM</i>		●	●	●	●	●	●	●	●	
H3	<i>Auto Steer Mode SYSTEM</i>		●	●	●	●	●	●	●	●	
H4	<i>Hydraulic Steering Unit</i>		●	●	●	●	●	●	●	●	
H5	<i>Priority Valve</i>		●	●	●	●	●	●	●	●	
H6	<i>Power Track Rod</i>		●	●	●	●	●	●	●	●	
H7	<i>Steering Column</i>		●	●	●	●	●	●	●	●	
H8	<i>Manual Steer Mode Valve</i>		●	●	●	●	●	●	●	●	
H9	<i>Auto Steer Mode Valve</i>		●	●	●	●	●	●	●	●	

Section K - Engine

Topic Ref	Title	Variant	Machine models							
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
K1	<i>Stop and Start SYSTEM (Mechanical F.I. Engines)</i>		●	●	●	●	●	●	●	●
K2	<i>Stop and Start SYSTEM (Electronic F.I. Engines)</i>		●	●	●	●	●	●	●	●
K3	<i>Cold Start Heater SYSTEM</i>	Mechanical F.I. engines	●	●	●	●	●	●	●	●
K4	<i>Starter Motor</i>		●	●	●	●	●	●	●	●
K5	<i>Cooling Pack - Non Intercooled</i>		●	●	●	●	●	●	●	●
K6	<i>Cooling Pack - Intercooled (Mechanical F.I. Engines)</i>		●	●	●	●	●	●	●	●
K7	<i>Cooling Pack - Intercooled (Electronic F.I. Engines)</i>		●	●	●	●	●	●	●	●
K8	<i>Coolant Expansion Tank</i>		●	●	●	●	●	●	●	●
K9	<i>Air Filter Vacuum Switch</i>		●	●	●	●	●	●	●	●
K10	<i>Throttle Pedal and Cable</i>	Mechanical F.I. engines	●	●	●	●	●	●	●	●
K11	<i>Throttle Position Sensor (TPS)</i>	Electronic F.I. engines	●	●	●	●	●	●	●	●
K12	<i>Exhaust Silencer</i>		●	●	●	●	●	●	●	●
K13	<i>JCB Dieselmax Engine (Mechanical F.I.)</i>		●	●	●	●	●	●	●	●
K14	<i>JCB Dieselmax Engine (Electronic F.I.)</i>		●	●	●	●	●	●	●	●



Section M - Electronic Data Systems

Topic Ref	Title	Variant	Machine models							
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	
M1	<i>CANbus SYSTEM</i>		●	●	●	●	●	●	●	●
M2	<i>Loadall Monitoring SYSTEM</i>		●	●	●	●	●	●	●	●
M3	<i>Fault Code SYSTEM</i>		●	●	●	●	●	●	●	●
M4	<i>Servicemaster SYSTEM</i>		●	●	●	●	●	●	●	●
M5	<i>Servicemaster Tools</i>		●	●	●	●	●	●	●	●
M6	<i>Electronic Control Unit Theory</i>		●	●	●	●	●	●	●	●
M7	<i>Pulse Width Modulation Theory</i>		●	●	●	●	●	●	●	●

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