

Side Engine Loadalls

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General Information

Service Manual - Side Engine Loadalls

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Section 1 - General Information

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Section 1 - General Information

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Applications

Introduction

This manual contains topics that relate to some or all JCB Loadall machines in the 5A group. There are several machine model codes in the family.	Machine Group	Model Code	Model Name
	5A	F	540-170
	5A	G	550-140
	5A	L	540-140
	5A	M	550-170
	5A	N	535-125 Hi Viz
	5A	P	535-140 Hi Viz

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. Information relating specifically to different variants of the same model is given in the applications tables and in the Topics throughout the manual where applicable.

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.

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

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Tables

Section 1 - General Information

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
1-2	Use		All Machines					
1-3	Machine Identification		All Machines					
1-4	Torque Settings		All Machines					
1-5	Service Tools		All Machines					
1-6	Service Consumables		All Machines					
1-7	Fuel		All Machines					
1-8	Stall Speed Combinations		All Machines					



Section 2 - Care and Safety

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
2-1	Safety Notices		All Machines					
2-2	General Procedures		All Machines					

Section 3 - Routine Maintenance

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
3-1	Introduction		All Machines					
3-2	Service Schedules - Machines with SD and SF Engines	Mechanical F.I. engines	●	●	●	●	●	●
3-3	Service Schedules - Machines with SE Engines	Electronic F.I. engines	●	●	●	●		
3-4	Fluids, Lubricants and Capacities		All Machines					
3-5	Cleaning the Machines		All Machines					
3-6	Inspection		All Machines					
3-7	Seat Belts		All Machines					
3-8	ROPS/FOPS (and OECD) Structure		All Machines					
3-9	Greasing		All Machines					
3-10	Heater and Air Conditioning		All Machines					
3-11	Brakes		All Machines					
3-12	Electrical System		All Machines					
3-13	Engine		All Machines					
3-14	Engine Air Filter		All Machines					
3-15	Fuel System		All Machines					
3-16	Hydraulic System		All Machines					
3-17	Transmission		All Machines					
3-18	Tyres and Wheels		All Machines					
3-19	Wear Pads		All Machines					
3-20	Windscreen Washer		All Machines					
3-21	Access Panels		All Machines					
3-22	Fire Extinguisher		All Machines					



Section B - Body and Framework

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
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>Cab</i>		●	●	●	●	●	●
B6	<i>Air Conditioning Condensor - Cooling Pack Mounted</i>		●	●	●	●	●	●
B7	<i>Air Conditioning Condensor - Roof Mounted</i>		●	●	●	●	●	●
B8	<i>Cab HV and HVAC Unit</i>		●	●	●	●	●	●
B9	<i>Air Conditioning Binary Switch</i>		●	●	●	●	●	●
B10	<i>Heater Valve</i>		●	●	●	●	●	●
B11	<i>Fuel Tank</i>		●	●	●	●	●	●
B12	<i>Chassis Panels</i>		●	●	●	●	●	●
B13	<i>Boom</i>	3 Stage		●	●		●	●
		4 Stage	●			●		
B14	<i>LMI Axle Transducer</i>		●	●	●	●	●	●
B15	<i>Stabilisers</i>		●	●	●	●	●	●
B16	<i>Longitudinal Load Moment Indicator Unit</i>			●	●		●	●



Section C - Electrics

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
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					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
E1	<i>Systems and Schematics</i>		●	●	●	●	●	●
E2	<i>Parallel Hydraulic SYSTEM</i>			●	●		●	●
E3	<i>Parallel Servo Hydraulic SYSTEM</i>		●			●		
E4	<i>Hydraulic Interlock SYSTEM</i>		●			●		
E5	<i>Parallel Control Valve - 6 Section</i>		To January 2009	●	●	To January 2009	●	●
E6	<i>Parallel Control Valve - 5 Section</i>		From January 2009			From January 2009		
E7	<i>Parallel Control Valve - 2 Section</i>		●			●		
E8	<i>Servo Control Valves</i>		●			●		
E9	<i>Servo Solenoid Diverter Valve Block</i>		●			●		
E10	<i>Stabiliser Isolation Valve</i>		●			●		
E11	<i>Sway/Fan Selector Valve</i>		●	●	●	●	●	●
E12	<i>Main Pump</i>	110 l/min		●	●		●	●
		170 l/min	●			●		
E13	<i>Cooling Fan Motor</i>		●	●	●	●	●	●
E14	<i>Extension Ram</i>		●	●	●	●	●	●
E15	<i>Lift Rams</i>		●	●	●	●	●	●
E16	<i>Tilt Ram</i>		●	●	●	●	●	●
E17	<i>Displacement Ram</i>		●	●	●	●	●	●
E18	<i>Sway Ram</i>		●	●	●	●	●	●
E19	<i>Stabiliser Rams</i>		●	●	●	●	●	●
E20	<i>Ram Maintenance</i>		●	●	●	●	●	●

Section F - Transmission

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
F1	CONFIGURATION		●	●	●	●	●	●
F2	Wheels and Tyres		●	●	●	●	●	●
F3	Front Axles	SD80 Pivot sway	●	●	●	●		
		SD80 Trunnion sway					●	●
F4	Rear Axles	SD80 Pivot sway	●	●	●	●		
		SD80 Trunnion sway					●	●
F5	PS750 Gearbox SYSTEM		●	●	●	●	●	●
F6	PS750 Mk IV Gearbox SYSTEM		●	●	●	●	●	●
F7	PS764 Gearbox SYSTEM		●	●	●	●		
F8	PS750 Gearbox		●	●	●	●	●	●
F9	PS750 Mk IV Gearbox		●	●	●	●	●	●
F10	PS760 Gearbox		●	●	●	●		
F11	Bevel Gearbox		●	●	●	●	●	●
F12	Torque Converter		●	●	●	●	●	●
F13	Transmission Oil Cooler - Air Blast	Intercooled engines	●	●	●	●	●	●
F14	Transmission Oil Cooler - Liquid to Liquid	Non intercooled engines	●	●	●	●	●	●
F15	Propshafts		●	●	●	●	●	●
F16	Transmission Speed Sensor		●	●	●	●	●	●
F17	Engine Speed Sensor		●	●	●	●	●	●
F18	Speedometer		●	●	●	●	●	●

Section G - Brakes

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
G1	<i>Twin Axle Service Brakes SYSTEM (S1)</i>						●	●
G2	<i>Twin Axle Service Brakes SYSTEM (S2)</i>		●	●	●	●		
G3	<i>External Park Brake SYSTEM</i>	PS750 gearbox	●	●	●	●	●	●
G4	<i>Internal Park Brake SYSTEM</i>	PS760 gearbox	●	●	●	●		
G5	<i>Park Brake Calliper</i>	PS750 gearbox	●	●	●	●	●	●
G6	<i>Park Brake Disc</i>	PS750 gearbox	●	●	●	●	●	●
G7	<i>Park Brake Switch</i>		●	●	●	●	●	●
G8	<i>Servo Exhauster Unit</i>		●	●	●	●	●	●
G9	<i>Servo Unit - Twin Axle Brakes</i>		●	●	●	●	●	●
G10	<i>Master Cylinder</i>		●	●	●	●	●	●
G11	<i>Fluid Reservoir</i>		●	●	●	●	●	●



Section H - Steering

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
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 Rods</i>						●	●
H7	<i>Steer Rams</i>		●	●	●	●		
H8	<i>Steering Column</i>		●	●	●	●	●	●
H9	<i>Manual Steer Mode Valve</i>		●	●	●	●	●	●
H10	<i>Auto Steer Mode Valve</i>		●	●	●	●	●	●

Section K - Engine

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
K1	Stop and Start SYSTEM <i>(Mechanical F.I. Engines)</i>		●	●	●	●	●	●
K2	Stop and Start SYSTEM <i>(Electronic F.I. Engines)</i>		●	●	●	●		
K3	Cold Start Heater SYSTEM	Mechanical F.I. Engines	●	●	●	●	●	●
K4	Starter Motor		●	●	●	●	●	●
K5	Cooling Pack - (Non Intercooled)				●		●	●
K6	Cooling Pack - (Intercooled Mechanical F.I. Engines)		●	●	●	●	●	●
K7	Cooling Pack - (Electronic F.I. Engines)		●	●	●	●		
K8	Coolant Expansion Tank		●	●	●	●	●	●
K9	Air Filter Vacuum Switch		●	●	●	●	●	●
K10	Throttle Pedal and Cable		●	●	●	●	●	●
K11	Throttle Position Sensor (TPS)		●	●	●	●		
K12	Exhaust Silencer		●	●	●	●	●	●
K13	JCB Dieselmax (Mechanical F.I. Engines)		●	●	●	●	●	●
K14	JCB Dieselmax (Electronic F.I. Engines)		●	●	●	●		



Section M - Electronic Data Systems

Topic Ref	Title	Variant	Machine models					
			540-170 5AF	550-140 5AG	540-140 5AL	550-170 5AM	535-125 HiViz 5AN	535-140 HiViz 5AP
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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