

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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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	Serial Number range:
5A	F	540-170	from 1522578 to TBA
5A	L	540-140	TBA
5A	N	535-125 Hi Viz	from 1522579 to TBA
5A	P	535-140 Hi Viz	from 1522591 to TBA
5A	X	540-200	TBA

Note: This manual is applicable to EN15000 compliant machines only.

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.

Note: For full details of machine identification refer to **Section 1 - Machine Identification**.

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Tables

Section 1 - General Information

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
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	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200
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	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200
3-1	<i>Routine Maintenance</i>		●	●	●	●	●



Section B - Body and Framework

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
B1	<i>Fork Carriage</i>		●	●	●	●	●
B2	<i>Cab Heating and Ventilation SYSTEM</i>		●	●	●	●	●
B3	<i>Cab Air Conditioning SYSTEM</i>		●	●	●	●	●
B4	<i>Longitudinal Load Moment System (B-19-10)</i>			●	●	●	
B5	<i>Longitudinal Load Moment System (B-19-11)</i>		●				
B6	<i>Longitudinal Load Moment System (B-19-15)</i>						●
B7	<i>Cab</i>		●	●	●	●	●
B8	<i>Air Conditioning Condensor - Cooling Pack Mounted</i>		●	●	●	●	●
B9	<i>Air Conditioning Condensor - Roof Mounted</i>		●	●	●	●	
B10	<i>Cab HV and HVAC Unit</i>		●	●	●	●	●
B11	<i>Air Conditioning Binary Switch</i>		●	●	●	●	●
B12	<i>Heater Valve</i>		●	●	●	●	●
B13	<i>Fuel Tank</i>		●	●	●	●	●
B14	<i>Engine Cover</i>		●	●	●	●	●
B15	<i>Valve Block Covers</i>				●	●	
B16	<i>Mudguards</i>		●	●	●	●	●
B17	<i>Chaff Guards</i>				●	●	
B18	<i>Deckplate</i>		●	●	●	●	●
B19	<i>Boom</i>	3 Stage		●	●	●	
		4 Stage	●				
B20	<i>Boom</i>	5 Stage					●
B21	<i>LMI Axle Transducer (B-18-05)</i>		●	●	●	●	
B22	<i>LMI Axle Transducer (B-18-06)</i>						●
B23	<i>Stabilisers</i>		●	●	●	●	●



Section 1-1 - General Information Applications

Tables

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
B24	<i>Longitudinal Load Moment Indicator Unit</i>			●	●	●	●
B25	<i>Longitudinal Load Moment Control Sensors</i>			●	●	●	●

Section C - Electrics

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
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 (C-04-01)</i>	Engine serial number up to U0193211	●	●	●	●	
C6	<i>Alternator (C-04-02)</i>	Engine serial number from U0193212	●	●	●	●	●
C7	<i>Battery</i>		●	●	●	●	●



Section E - Hydraulics

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
E1	<i>Systems and Schematics</i>		●	●	●	●	●
E2	<i>Parallel Hydraulic SYSTEM</i>			●	●	●	
E3	<i>Parallel Servo Hydraulic SYSTEM</i>		●				
E4	<i>LSP Electro Servo Hydraulic SYSTEM</i>						●
E5	<i>Hydraulic Interlock SYSTEM</i>		●				
E6	<i>Auxiliary Relief Valve (ARV) Operation</i>		●	●	●	●	●
E7	<i>Main Relief Valve (MRV)/ Load Sense Relief valve (LSRV) Operation</i>		●	●	●	●	●
E8	<i>Pressure Compensator Operation</i>						●
E9	<i>Parallel Lift Operation</i>		●	●	●	●	●
E10	<i>Parallel Circuit Operation</i>			●	●	●	
E11	<i>Parallel Servo Circuit Operation</i>		●				
E12	<i>LSP Electro Servo Circuit Operation</i>						●
E13	<i>Boom Pressure Balance System</i>		●	●	●	●	●
E14	<i>Universal Hydraulic Circuit Faults</i>		●	●	●	●	
E15	<i>Parallel Circuit Faults</i>			●	●	●	
E16	<i>Parallel Servo Circuit Faults</i>		●				
E17	<i>LSP Electro Servo Circuit Faults</i>						●
E18	<i>Parallel System Pressure Tests</i>			●	●	●	
E19	<i>Pump Flow Tests - Gearpump</i>		●	●	●	●	●
E20	<i>Parallel Servo System Pressure Tests</i>		●				
E21	<i>LSP Electro Servo System Pressure Tests</i>						●
E22	<i>Parallel Control Valve - 6 Section</i>			●	●	●	
E23	<i>Parallel Control Valve - 5 Section</i>		●				
E24	<i>Parallel Control Valve - 2 Section</i>		●				
E25	<i>Electro Servo Control Valve</i>						●



Section 1-1 - General Information Applications

Tables

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
E26	<i>Servo Solenoid Diverter Valve Block</i>		●				
E27	<i>Gearpump Operation</i>		●	●	●	●	●
E28	<i>Gearpump Removal and Replacement</i>		●	●	●	●	●
E29	<i>Hydraulic Cooling Fan Motor - Fixed Speed</i>		●	●	●	●	●
E30	<i>Servo Control Valves</i>		●				
E31	<i>Electro Servo Control Lever</i>						●
E32	<i>Electrical Stabiliser Control Levers</i>						●
E33	<i>Stabiliser Isolation Valve</i>		●				
E34	<i>Stabiliser Rams</i>		●	●	●	●	●
E35	<i>Sway Ram</i>		●	●	●	●	●
E36	<i>Displacement Ram</i>		●	●	●	●	●
E37	<i>Tilt Ram</i>		●	●	●	●	●
E38	<i>Lift Rams</i>		●	●	●	●	●
E39	<i>Extension Ram</i>		●	●	●	●	●
E40	<i>Ram Maintenance</i>		●	●	●	●	●
E41	<i>Sway/Fan Selector Valve</i>		●	●	●	●	●
E42	<i>Hydraulic Oil Cooler By Pass SYSTEM</i>	74Kw					●
E43	<i>Hydraulic Oil Cooler By Pass Valve</i>	74Kw					●
E44	<i>Sway Circuit - Bleed Procedure</i>		●	●	●	●	●
E45	<i>Tilt Circuit - Bleed Procedure</i>			●	●	●	
E46	<i>3 Stage Boom - Extend Circuit - Bleed Procedure</i>			●	●	●	
E47	<i>4 Stage Boom - Extend Circuit - Bleed Procedure</i>		●				

Section F - Transmission

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
F1	CONFIGURATION		●	●	●	●	●
F2	<i>Wheels and Tyres</i>		●	●	●	●	●
F3	<i>Front Axles</i>	SD80 Pivot sway	●	●			●
		SD80 Trunnion sway			●	●	
F4	<i>Rear Axles</i>	SD80 Pivot sway	●	●			●
		SD80 Trunnion sway			●	●	
F5	PS750 Mk IV Gearbox SYSTEM		●	●	●	●	●
F6	PS764 Gearbox SYSTEM		●	●			
F7	PS750 Mk IV Gearbox Hydraulic Operation		●	●	●	●	●
F8	PS764 Gearbox Hydraulic Operation		●	●			
F9	Gearbox Systems Fault Finding		●	●	●	●	●
F10	PS750 Mk IV Gearbox - Hydraulic Testing		●	●	●	●	●
F11	PS760 Gearbox - Hydraulic Testing		●	●			
F12	Torque Converter Stall Tests		●	●	●	●	●
F13	Flushing the Transmission Oil		●	●	●	●	●
F14	PS750 Mk IV Gearbox		●	●	●	●	●
F15	PS760 Gearbox		●	●			
F16	Torque Converter Operation		●	●	●	●	●
F17	Torque Converter		●	●	●	●	●
F18	Bevel Gearbox		●	●	●	●	●
F19	Transmission Oil Cooler - Air Blast	Intercooled engines	●	●	●	●	●
F20	Transmission Oil Cooler - Liquid to Liquid	Non intercooled engines	●	●	●	●	
F21	Propshafts		●	●	●	●	●



Section 1-1 - General Information Applications

Tables

Topic Ref	Title	Variant	Machine models				
			540-170 5AF	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP	540-200 5AX
F22	<i>Transmission Speed Sensor (S1)</i>		●				
F23	<i>Transmission Speed Sensor (S2)</i>			●	●	●	●
F24	<i>Engine Speed Sensor</i>		●	●	●	●	

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