

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

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.

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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
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	Variant	Machine models			
			540-170 5AF	540-140 5AL	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	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP
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
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 (S1)</i>			●	●	●
B5	<i>Longitudinal Load Moment SYSTEM (S2)</i>		●			
B6	<i>Cab</i>		●	●	●	●
B7	<i>Air Conditioning Condensor - Cooling Pack Mounted</i>		●	●	●	●
B8	<i>Air Conditioning Condensor - Roof Mounted</i>		●	●	●	●
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>	3 Stage		●	●	●
		4 Stage	●			
B15	<i>LMI Axle Transducer</i>		●	●	●	●
B16	<i>Stabilisers</i>		●	●	●	●
B17	<i>Longitudinal Load Moment Indicator Unit</i>			●	●	●
B18	<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
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	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP
E1	Systems and Schematics		●	●	●	●
E2	Parallel Hydraulic SYSTEM			●	●	●
E3	Parallel Servo Hydraulic SYSTEM		●			
E4	Hydraulic Interlock SYSTEM		●			
E5	Parallel Control Valve - 6 Section			●	●	●
E6	Parallel Control Valve - 5 Section		●			
E7	Parallel Control Valve - 2 Section		●			
E8	Servo Control Valves		●			
E9	Servo Solenoid Diverter Valve Block		●			
E10	Stabiliser Isolation Valve		●			
E11	Sway/Fan Selector Valve		●	●	●	●
E12	Main Pump	110 l/min		●	●	●
		170 l/min	●			
E13	Cooling Fan Motor		●	●	●	●
E14	Extension Ram		●	●	●	●
E15	Lift Rams		●	●	●	●
E16	Tilt Ram		●	●	●	●
E17	Displacement Ram		●	●	●	●
E18	Sway Ram		●	●	●	●
E19	Stabiliser Rams		●	●	●	●
E20	Ram Maintenance		●	●	●	●

Section F - Transmission

Topic Ref	Title	Variant	Machine models			
			540-170 5AF	540-140 5AL	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 Mk IV Gearbox SYSTEM		●	●	●	●
F6	PS764 Gearbox SYSTEM		●	●		
F7	PS750 Mk IV Gearbox		●	●	●	●
F8	PS760 Gearbox		●	●		
F9	Bevel Gearbox		●	●	●	●
F10	Torque Converter		●	●	●	●
F11	Transmission Oil Cooler - Air Blast	Intercooled engines	●	●	●	●
F12	Transmission Oil Cooler - Liquid to Liquid	Non intercooled engines	●	●	●	●
F13	Propshafts		●	●	●	●
F14	Transmission Speed Sensor (S1)		●			
F15	Transmission Speed Sensor (S2)			●	●	●
F16	Engine Speed Sensor		●	●		
F17	Speedometer		●	●	●	●

Section G - Brakes

Topic Ref	Title	Variant	Machine models			
			540-170 5AF	540-140 5AL	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	540-140 5AL	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	540-140 5AL	535-125 HiViz 5AN	535-140 HiViz 5AP
K1	Stop and Start SYSTEM (Mechanical F.I. Engines)		●	●	●	●
K2	Stop and Start SYSTEM (Electronic F.I. Engines)		●	●		
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) (S1)	Electronic F.I. engines up to March 2011	●	●		
K12	Throttle Position Sensor (TPS) (S2)	Electronic F.I. engines from March 2011	●	●		
K13	Exhaust Silencer		●	●	●	●
K14	JCB Dieselmax (Mechanical F.I. Engines)		●	●	●	●
K15	JCB Dieselmax (Electronic F.I. Engines)		●	●		



Section M - Electronic Data Systems

Topic Ref	Title	Variant	Machine models			
			540-170 5AF	540-140 5AL	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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