

## Side Engine Loadalls

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Routine Maintenance](#)

[Section B - Body and Framework](#)

[Section C - Electrics](#)

[Section E - Hydraulics](#)

[Section F - Transmission](#)

[Section G - Brakes](#)

[Section H - Steering](#)

[Section K - Engine](#)

[Section M - Electrical and Electronic Data Systems](#)



Publication No.  
**9813-1500-1**



Copyright © 2004 JCB SERVICE. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB SERVICE.

Issued by JCB Technical Publications, JCB Aftermarket Training, Woodseat, Rocester, Staffordshire, ST14 5BW, England. Tel +44 1889 591300 Fax +44 1889 591400

World Class  
Customer Support



## General Information

Service Manual - Side Engine Loadalls

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Routine Maintenance](#)

[Section B - Body and Framework](#)

[Section C - Electrics](#)

[Section E - Hydraulics](#)

[Section F - Transmission](#)

[Section G - Brakes](#)

[Section H - Steering](#)

[Section K - Engine](#)

[Section M - Electrical and Electronic Data Systems](#)



Publication No.  
**9813-1450-1**



Copyright © 2004 JCB SERVICE. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any other means, electronic, mechanical, photocopying or otherwise, without prior permission from JCB SERVICE.

Issued by JCB Technical Publications, JCB Aftermarket Training, Woodseat, Rocester, Staffordshire, ST14 5BW, England. Tel +44 1889 591300 Fax +44 1889 591400

World Class  
Customer Support





# Section 1 - General Information

---

<b>Contents</b>	<b>Page No.</b>
<b>Applications</b>	
Introduction .....	1-1-1
Tables .....	1-1-2
<b>Use</b>	
Introduction .....	1-2-1
Scope .....	1-2-2
Format .....	1-2-3
Left and Right Sides .....	1-2-4
Hydraulic Schematic Codes .....	1-2-5
<b>Machine Identification</b>	
Introduction .....	1-3-1
Related Topics .....	1-3-2
Machine Identification Plate .....	1-3-3
Component Identification Plates .....	1-3-6
<b>Torque Settings</b>	
Introduction .....	1-4-1
Zinc Plated Fasteners and Dacromet Fasteners .....	1-4-2
Hydraulic Connections .....	1-4-6
'Positional Type' Hydraulic Adaptors .....	1-4-10
<b>Service Tools</b>	
Introduction .....	1-5-1
Numerical List .....	1-5-2
Tool Detail Reference .....	1-5-5
Rivet Nuts .....	1-5-26
Slide Hammer Kit .....	1-5-28
<b>Service Consumables</b>	
Introduction .....	1-6-1
Sealing and Retaining Compounds .....	1-6-2
<b>Fuel</b>	
Introduction .....	1-7-1
Related Topics .....	1-7-2
Acceptable and Unacceptable Fuels .....	1-7-3
<b>Stall Speed Combinations</b>	
Introduction .....	1-8-1
Related Topics .....	1-8-2
Specifications .....	1-8-3



# Section 1 - General Information

---

Contents

Page No.

## 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	Serial Number range
5A	A	531-70	TBA
5A	B	535-95	TBA
5A	C	536-60	TBA
5A	D	541-70	TBA
5A	H	533-105	TBA
5A	R	536-70	TBA
5A	S	526-56	TBA
5A	W	550-80	TBA
5T	A	531-T70	TBA
5T	B	541-T70	TBA
5T	C	536-T60	TBA
5T	D	535-T95	TBA
5T	E	536-T70	TBA
5T	W	550-T80	TBA

**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.

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.

**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.

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

⇒ [Tables \(□ 1-1-2\)](#)

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

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

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

⇒ [Section B - Body and Framework \(□ 1-1-4\)](#)

⇒ [Section C - Electrics \(□ 1-1-6\)](#)

⇒ [Section E - Hydraulics \(□ 1-1-7\)](#)

⇒ [Section F - Transmission \(□ 1-1-10\)](#)

⇒ [Section G - Brakes \(□ 1-1-12\)](#)

⇒ [Section H - Steering \(□ 1-1-13\)](#)

⇒ [Section K - Engine \(□ 1-1-14\)](#)

⇒ [Section M - Electronic Data Systems \(□ 1-1-15\)](#)

**Tables**

**Section 1 - General Information**

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





Section 3 - Routine Maintenance

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	550-80		
3-1	<i>Routine Maintenance (P1)</i>	●	●	●	●	●	●			●	
3-2	<i>Routine Maintenance (P2)</i>										●

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	550-80		
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>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●	●	●	●	●
		Agri Xtra	●			●			●			
B5	<i>Longitudinal Load Moment SYSTEM (S2)</i>	Parallel Gearpump Hydraulic System Machines	●	●		●	●	●	●	●	●	●
B6	<i>Cab</i>		●	●	●	●	●	●	●	●	●	●
B7	<i>Air Conditioning Condenser - Cooling Pack Mounted</i>											
B8	<i>Air Conditioning Condenser - Cab 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>	2 Stage	●		●	●	●	●	●	●	●	●
		3 Stage		●				●				
B15	<i>Hydraulic Tank</i>										●	
B16	<i>Load Moment Indicator Axle Transducer</i>		●	●	●	●	●	●	●	●	●	●
B17	<i>Stabilisers</i>							●				



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	550-80		
B18	<i>Longitudinal Load Moment Indicator Unit</i>		●	●	●	●	●	●	●	●	●	●
B19	<i>Longitudinal Load Moment Control Sensors</i>		●	●	●	●	●	●	●	●	●	●



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	550-80			
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										
			531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	550-80			
E1	<i>Systems and Schematics</i>		●	●	●	●	●	●	●	●	●	●	●
E2	<i>Parallel Hydraulic SYSTEM</i>		●	●		●	●	●					
E3	<i>LSP Electro Servo SYSTEM (S1)</i>	Agri Xtra	●			●	●	●					
E4	<i>LSP Electro Servo SYSTEM (S2)</i>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●					
E5	<i>LSP Electro Servo SYSTEM (S3)</i>									●			
E6	<i>LSP Electro Servo SYSTEM (S4)</i>												●
E7	<i>Smooth Ride SYSTEM (SRS) - Parallel</i>		●	●	●	●	●	●					
E8	<i>Smooth Ride SYSTEM (SRS) Electro Servo (S1)</i>	Agri Xtra	●		●	●	●	●					
E9	<i>Smooth Ride SYSTEM (SRS) Electro Servo (S2)</i>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●			●		
E10	<i>Smooth Ride SYSTEM (SRS) Electro Servo (S3)</i>												●
E11	<i>Variable Hydraulic Cooling Fan Control SYSTEM</i>												●
E12	<i>Parallel Control Valve 4 Section</i>		●		●	●	●	●					
E13	<i>Parallel Control Valve 6 Section</i>								●				
E14	<i>LSP Electro Servo Control Valve (S1)</i>	Agri Xtra	●		●	●	●	●					
E15	<i>LSP Electro Servo Control Valve (S2)</i>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●					●
E16	<i>LSP Electro Servo Control Valve (S3)</i>											●	
E17	<i>Servo Pilot Pressure Supply Valve (S1)</i>	Agri Xtra	●		●	●	●	●					
E18	<i>Servo Pilot Pressure Supply Valve (S2)</i>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●					
E19	<i>Servo Pilot Pressure Supply Valve (S3)</i>												●

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	550-80				
E20	<i>Main Pump - Variflow</i>		●	●	●	●								●
E21	<i>Main Pump - Gearpump</i>	80 l/min Double Pump 80 l/min Triple Pump 110 l/min 125 l/min	●	●		●	●					●		
E22	<i>Cooling Fan Motor (P1)</i>		●	●	●	●					●			
E23	<i>Cooling Fan Motor (P2)</i>	Variable Speed Fan												●
E24	<i>Control Lever - Electro Servo - Pod Mounted</i>	Agri Xtra	●		●					●				●
E25	<i>Control Lever - Electro Servo - Cab Mounted</i>	Agri, Agri Plus, Agri Super	●	●	●	●				●				●
E26	<i>Extension Ram</i>		●	●	●	●				●			●	●
E27	<i>Lift Rams</i>		●	●	●	●				●			●	●
E28	<i>Tilt Ram</i>		●	●	●	●				●			●	●
E29	<i>Displacement Ram</i>		●	●	●	●				●			●	●
E30	<i>Sway Ram</i>		●	●		●				●				
E31	<i>Stabiliser Rams</i>									●				
E32	<i>Ram Maintenance</i>		●	●	●	●				●			●	●
E33	<i>Sway/Fan Changeover Valve</i>		●	●		●				●			●	●
E34	<i>Hydraulic Oil Cooler By-Pass SYSTEM</i>	Agri, Agri Plus, Agri Super, Agri Xtra	●	●	●	●				●			●	●
E35	<i>Hydraulic Oil Cooler By-Pass Valve</i>	Agri, Agri Plus, Agri Super, Agri Xtra	●	●	●	●				●			●	●
E36	<i>Internal Hydraulic Tank Filter</i>	Agri, Agri Plus, Agri Super, Agri Xtra	●	●	●	●				●			●	●



		Machine models									
Topic Ref	Title	531-70, 531-T70	535-95, 535-T95	536-60, 536-T60	541-70, 541-T70	533-105	536-70, 536-T70	526-56	550-80		
E37	<i>Ambient Air Temperature Sender</i>										●
	Variant										

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	550-80			
F1	Configuration		●	●	●	●	●	●	●	●	●	●	●
F2	Wheels and Tyres		●	●	●	●	●	●	●	●	●	●	●
F3	Front Axles (S1)		●	●	●	●	●	●	●	●	●	●	●
F4	Front Axles (S2)												●
F5	Rear Axles (S1)		●	●	●	●	●	●	●	●	●	●	●
F6	Rear Axles (S2)												●
F7	PS750 Mk IV Gearbox SYSTEM		●	●	●	●	●	●	●	●	●	●	●
F8	PS764 Gearbox SYSTEM (S1)		●	●	●	●	●	●	●	●	●	●	●
F9	PS764 Gearbox SYSTEM (S2)												●
F10	PS766 Gearbox SYSTEM		●	●	●	●	●	●	●	●	●	●	●
F11	SS700 Gearbox SYSTEM												
F12	Lock Up Torque Converter SYSTEM	PS766 System	●	●	●	●	●	●	●	●	●	●	●
F13	Dual Control SYSTEM (S1)	Agri, Agri Plus, Agri Super	●	●	●	●	●	●	●	●	●	●	●
F14	Dual Control SYSTEM (S2)												
F15	Dual Control SYSTEM (S3)												●
F16	Shiftmaster ECU		●	●	●	●	●	●	●	●	●	●	●
F17	PS750 Mk IV Gearbox		●	●	●	●	●	●	●	●	●	●	●
F18	PS760 Gearbox		●	●	●	●	●	●	●	●	●	●	●
F19	SS700 Gearbox												●
F20	Bevel Gearbox		●	●	●	●	●	●	●	●	●	●	●
F21	Torque Converter		●	●	●	●	●	●	●	●	●	●	●





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	550-80
F22	<i>Transmission Oil Cooler - Liquid to Liquid</i>		Machine with non intercooled engines							
F23	<i>Transmission Oil Cooler - Air Blast</i>		Machines with intercooled engines							
F24	<i>Propshafts (S1)</i>		●	●	●	●	●	●	●	●
F25	<i>Propshafts (S2)</i>									●
F26	<i>Transmission Speed Sensor</i>		●	●	●	●	●	●	●	●
F27	<i>Engine Speed Sensor</i>		●	●	●	●	●	●	●	●
F28	<i>Speedometer</i>		●	●	●	●	●	●	●	●
F29	<i>SS700 Cable Shift</i>									●



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	550-80			
G1	<i>Single Axle Service Brakes SYSTEM</i>		●	●	●	●	●	●	●	●	●		
G2	<i>Power Braking SYSTEM</i>												●
G3	<i>External Park Brake SYSTEM</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	●	
G4	<i>Internal Park Brake SYSTEM</i>	PS760 Gearbox Systems	●	●	●	●	●	●	●	●	●	●	●
G5	<i>Park Brake Calliper</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	●	
G6	<i>Park Brake Disc</i>	PS750 and SS700 Gearbox System	●	●	●	●	●	●	●	●	●	●	
G7	<i>Park Brake Switch</i>		●	●	●	●	●	●	●	●	●	●	●
G8	<i>Servo Exhauster Unit</i>		●	●	●	●	●	●	●	●	●	●	
G9	<i>Servo Unit - Single Axle Brakes</i>		●	●	●	●	●	●	●	●	●	●	
G10	<i>Master Cylinder</i>		●	●	●	●	●	●	●	●	●	●	
G11	<i>Fluid Reservoir</i>		●	●	●	●	●	●	●	●	●	●	
G12	<i>Power Brake Valve</i>												●
G13	<i>Power Brake Accumulator</i>												●
G14	<i>Power Brake Charge Valve</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	550-80			
H1	<i>Steering SYSTEM</i>		●	●	●	●	●	●	●	●	●	●	
H2	<i>Manual Steer Mode SYSTEM</i>		●	●	●	●	●	●	●	●	●	●	
H3	<i>Auto Steer Mode SYSTEM</i>		●	●	●	●	●	●	●	●	●	●	
H4	<i>Hydraulic Steering Unit (S1)</i>		●	●	●	●	●	●	●	●	●	●	
H5	<i>Hydraulic Steering Unit (S2)</i>											●	
H6	<i>Priority Valve</i>		●	●	●	●	●	●	●	●	●	●	
H7	<i>Power Track Rod (P1)</i>		●	●	●	●	●	●	●	●	●	●	
H8	<i>Power Track Rod (P2)</i>											●	
H9	<i>Steering Column</i>		●	●	●	●	●	●	●	●	●	●	
H10	<i>Manual Steer Mode Valve</i>		●	●	●	●	●	●	●	●	●	●	
H11	<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	550-80		
K1	Stop and Start SYSTEM (Mechanical F.I. Engines)		●	●	●	●	●	●	●	●	●	
K2	Stop and Start SYSTEM (Electronic F.I. Engines) (S1)		●	●	●	●	●		●			
K3	Stop and Start SYSTEM (Electronic F.I. Engines) (S2)											●
K4	Cold Start Heater SYSTEM	Mechanical F.I. engines	●	●	●	●	●	●	●	●	●	
K5	Starter Motor		●	●	●	●	●	●	●	●	●	●
K6	Cooling Pack - Non Intercooled		●	●		●	●	●	●	●	●	
K7	Cooling Pack - Intercooled (Mechanical F.I. Engines)		●	●	●	●	●	●	●	●	●	
K8	Cooling Pack - Intercooled (Electronic F.I. Engines)		●	●	●	●	●		●			●
K9	Coolant Expansion Tank		●	●	●	●	●	●	●	●	●	●
K10	Air Filter Vacuum Switch		●	●	●	●	●	●	●	●	●	●
K11	Throttle Pedal and Cable	Mechanical F.I. engines	●	●	●	●	●	●	●	●	●	
K12	Throttle Position Sensor (TPS) (S1)	Electronic F.I. engines up to March 2011	●	●	●	●	●		●			
K13	Throttle Position Sensor (TPS) (S2)	Electronic F.I. engines from March 2011	●	●	●	●	●		●			●
K14	Exhaust Silencer		●	●	●	●	●	●	●	●	●	●
K15	JCB Dieselmax Engine (Mechanical F.I.)		●	●	●	●	●	●	●	●	●	
K16	JCB Dieselmax Engine (Electronic F.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	550-80		
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>		●	●	●	●	●	●	●	●	●	●
M8	<i>Machine Control ECU (S1)</i>	Agri, Agri Plus, Agri Super	●	●	●	●	●	●	●	●	●	●
M9	<i>Machine Control ECU (S2)</i>										●	

**Please Click Here To Download The Complete Manual**  
**Download Other Manuals**  
**If Having Any Questions Feel Free To Contact us**

**[admin@servicemanualbit.com](mailto:admin@servicemanualbit.com)**