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 - Electronic Data Systems



Publication No.
9803/3760-07



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 Manfrotel Training, Woodseat, Rocester, Staffordshire, ST14 5BW, England. Tel +44 1889 591310 Fax +44 1889 591400

World Class Customer Support

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536-70... Order the manual at mid-west-tech.com >

Contents Page No.

Applications
Introduction 1-1-1
Tables 1-1-2

Use
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
Electrical Device Codes 1-2-6

Machine Identification
Introduction 1-3-1
Related Topics 1-3-2
Machine Identification Plate 1-3-3
Component Identification Plates 1-3-6

Torque Settings
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

Service Tools
Introduction 1-5-1
Numerical List 1-5-2
Tool Detail Reference 1-5-5
Rivet Nuts 1-5-24
Slide Hammer Kit 1-5-26

Service Consumables
Introduction 1-6-1
Sealing and Retaining Compounds 1-6-2

Fuel
Introduction 1-7-1
Related Topics 1-7-2
Acceptable and Unacceptable Fuels 1-7-3

Stall Speed Combinations
Introduction 1-8-1
Related Topics 1-8-2
Specifications 1-8-3

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

Contents Page No.

Safety Notices
Introduction ..... 2-1 - 1
Important Information ..... 2-1 - 2
Safety Check List ..... 2-1 - 3
Safety Decals ..... 2-1 - 16

General Procedures
Introduction ..... 2-2 - 1
Related Topics ..... 2-2 - 2
Parking the Machine and Making it Safe ..... 2-2 - 3
Boom Safety Strut ..... 2-2 - 4
Venting Hydraulic Pressure ..... 2-2 - 6
Connecting/Disconnecting Hydraulic Hoses ..... 2-2 - 7
Quick Release Couplings ..... 2-2 - 8
Hydraulic Contamination ..... 2-2 - 10
Battery Disconnection/Connection ..... 2-2 - 12
Removing and Replacing Components ..... 2-2 - 13
Battery Charging System Precautions ..... 2-2 - 14
Hydraulic Rams ..... 2-2 - 15

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

Contents Page No.

Introduction
Health and Safety 3-1-1
Battery 3-1-3

Service Schedules - Machines with SD and SF Engines
Related Topics 3-2-1
Introduction 3-2-2
Pre-start Cold Checks, Service Points and Fluid Levels 3-2-3
Functional Test and Final Inspection 3-2-7

Service Schedules - Machines with SE Engines
Related Topics 3-3-1
Introduction 3-3-2

Fluids, Lubricants and Capacities
Related Topics 3-4-1
Specifications 3-4-2

Cleaning the Machine
Related Topics 3-5-1
Introduction 3-5-2
Preparing the Machine for Cleaning 3-5-3
Cleaning the Machine 3-5-4

Inspection
Check the Machine Body and Structure 3-6-1
Check the Tyres 3-6-2

Seat
Seat Belt 3-7-1

ROPS/FOPS (and OECD) Structure
Checking the ROPS/FOPS (and OECD) Structure 3-8-1

Greasing
Related Topics 3-9-1
Greasing 3-9-2
Oiling 3-9-13

Heater and Air Conditioning
Related Topics 3-10-1
Changing the Air Intake Filter 3-10-2

Brakes
Related Topics 3-11-1
Checking the Foot Brake Fluid Level 3-11-2

Electrical System
Related Topics 3-12-1
Battery 3-12-2
Battery Isolator 3-12-4
Jump Starting the Engine 3-12-5
Fuses and Relays 3-12-6

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

Relays - SE Engines, 6 Speed PS (S7)

IMPORTANT: This specification is only applicable to some machine models. Refer to the table at the front of this topic for the applicable machine models. ⇨ *Procedure and Specification Variants - Relays (C1-5)*

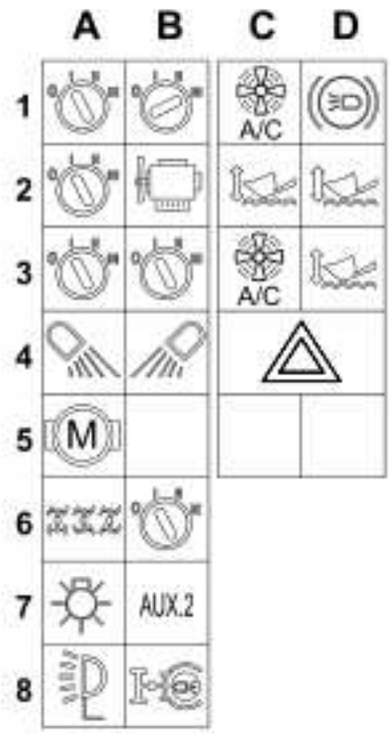


Fig 27.

Note: *All the fuses are shown (including optional equipment fuses). Your machine may not be equipped with all the fuses shown.*

Relay No.	Circuit
A1	Ignition 1
A2	Ignition 2
A3	Ignition 3
A4	Rear worklights
A5	Fuel pump
A6	Steer mode
A7	Roadlights
A8	Boom worklight
B1	Neutral start
B2	Engine running
B3	Ignition 4
B4	Front worklights
B5	
B6	Ignition 5
B7	2nd auxiliary (Aux 2)
B8	2WD Brake
C1	Air conditioning
C2	Smooth Ride System (SRS)
C3	Air conditioning
C4	Flasher unit
C5	
D1	Brake Lights
D2	Smooth Ride System (SRS)
D3	Smooth Ride System (SRS)
D4	Flasher unit
D5	

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

Forward Gears

Key	
-006	Rear cab harness ground
-003	Panel harness ground A
-001	Chassis harness ground
1013	Column switch L/H
1068	Dump switch
1057	Park brake switch
2008	Drive relay
2009	Driveshaft relay
2017	Forward Hi/Lo relay
2018	Forward relay
2028	Park brake relay
2031	Reverse Hi/Lo relay
2032	Reverse relay
2048	Transmission dump relay
3021	Forward high solenoid
3022	Forward low solenoid
3029	Layshaft solenoid
3033	Mainshaft solenoid
3040	Reverse high solenoid
3041	Reverse low solenoid
7014	Diode gate - gearbox
8004	Panel harness to chassis harness connector A
8010	Panel harness to rear cab harness connector
8016	Transmission harness to chassis harness connector
9003	Fuse box C

The circuit is shown with 3rd gear forward selected. ⇨ *Fig 3. (F5-11)*

The harness connector pin numbers are shown on the schematic. Harness connector details are shown on a separate page. ⇨ *Electrical Connectors (F5-19)*

Note: *The immobiliser connection is not shown for security reasons.*

The table shows the electrical device status for all forward gears. ⇨ *Table 6. (F5-12)*

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

Loadall Monitoring System ECU Fault Codes

Fault Code	Description	Warning Displays		Severity
T734	X Solenoid electrical fault - HS output fault	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	T734 	SERVICE
T735	Y Solenoid electrical fault - HS output fault	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	T735 	SERVICE
T736	LUC Solenoid electrical fault - HS output fault	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	T736 	SERVICE
T737	Neutral start electrical fault - HS output fault		Fault Logged	
T738	Reverse lamp electrical fault - HS output fault		Fault Logged	
T739	Z solenoid electrical fault - HS output fault	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	T739 	SERVICE
T740	4WD solenoid fault - HS output fault	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	T740 	SERVICE
T741	Transmission warning lamp electrical fault - LS output fault		Fault Logged	

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

HVCS Schematic and Component Locations

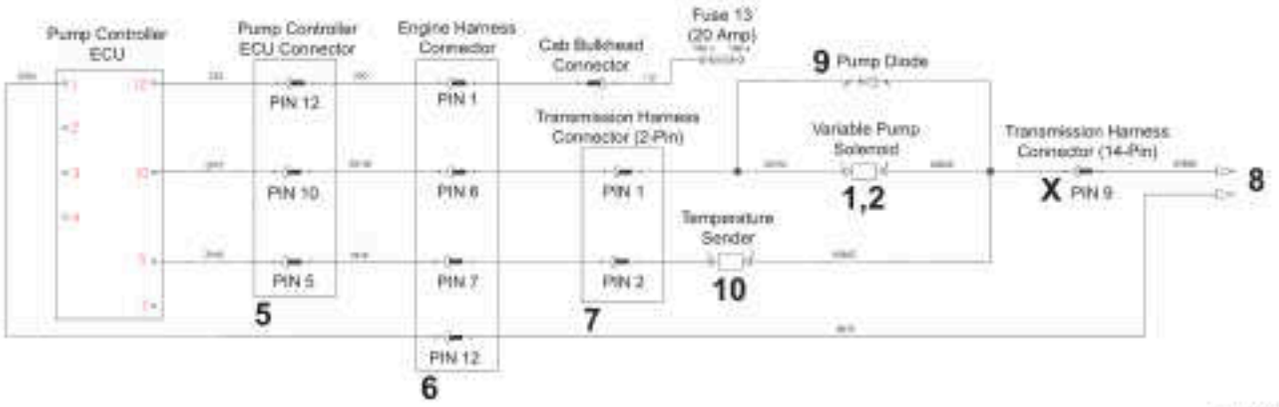


Fig 50. Schematic Drawing

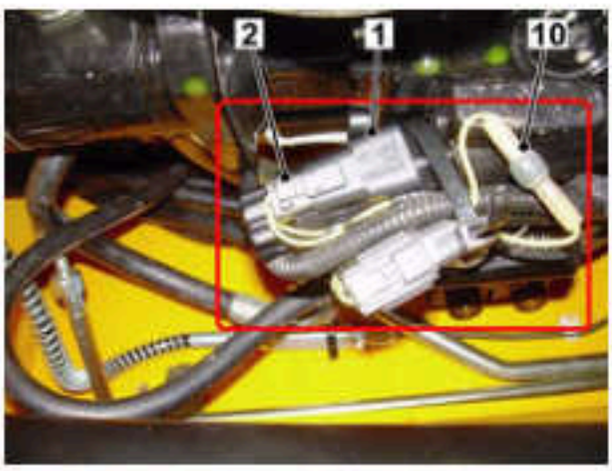


Fig 51.

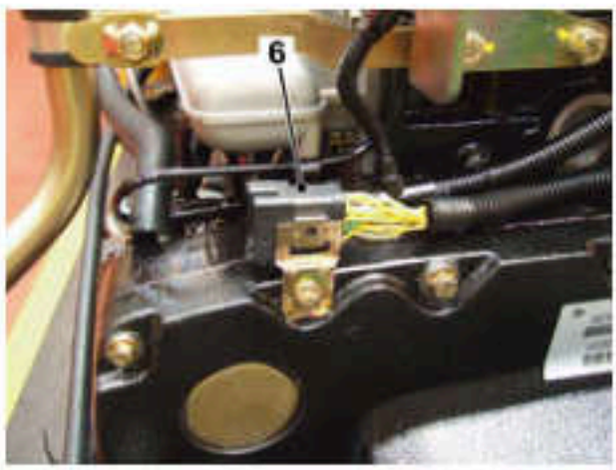


Fig 53.

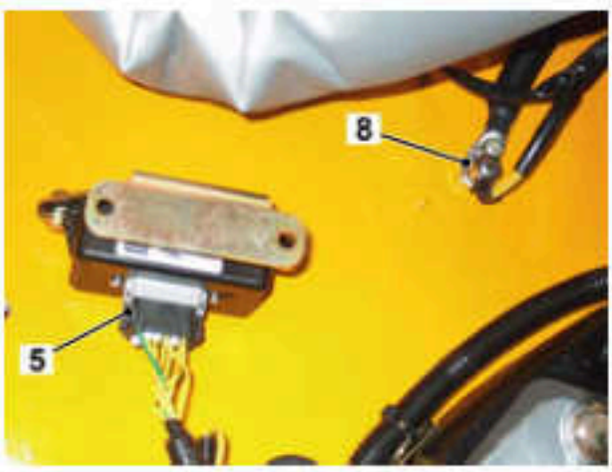


Fig 52.

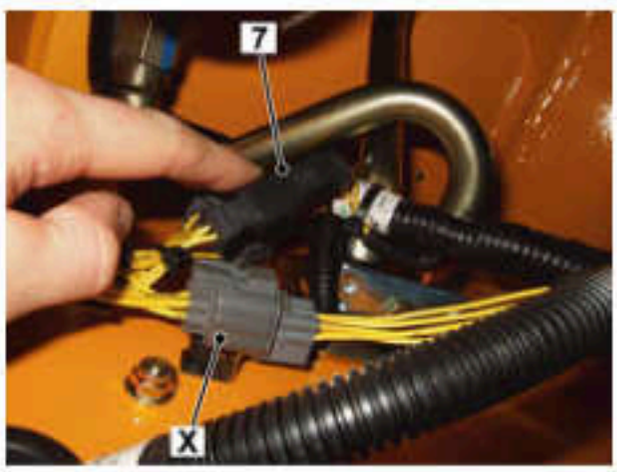


Fig 54.

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >

HVCS Schematic and Component Locations

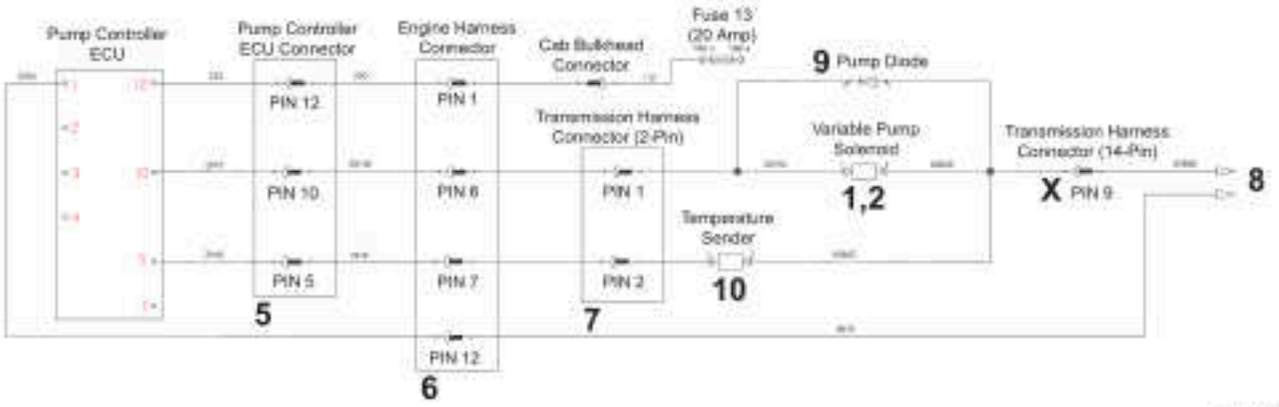


Fig 41. Schematic Drawing

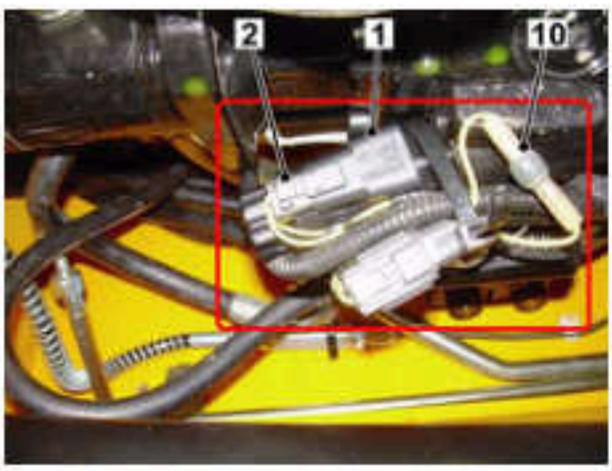


Fig 42.

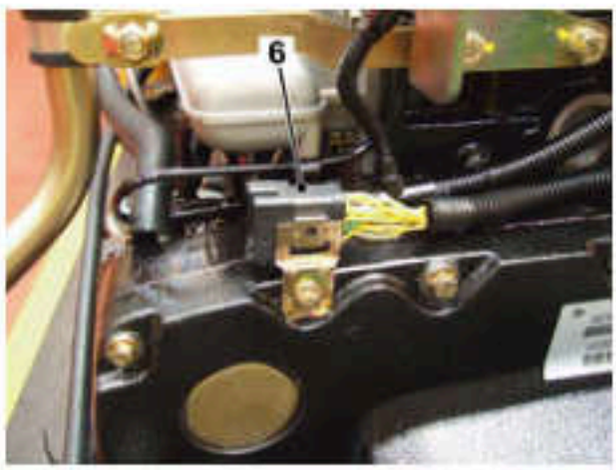


Fig 44.

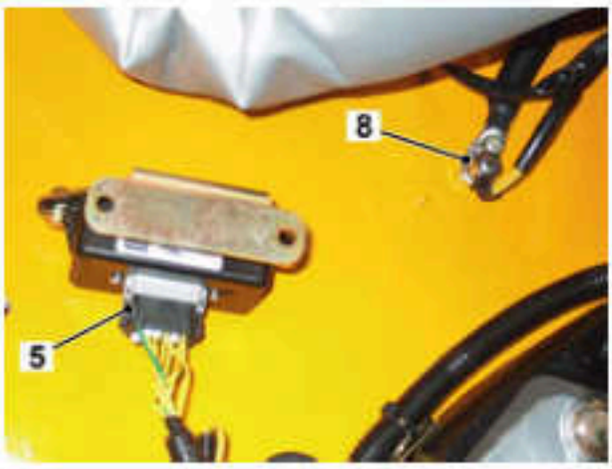


Fig 43.

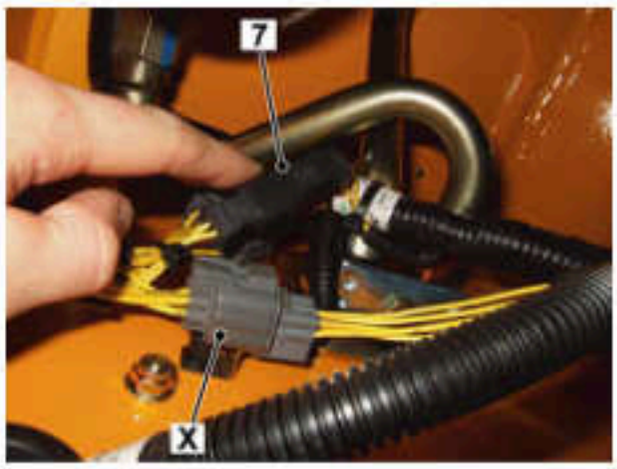


Fig 45.

MidWestTech | JCB Loadall Side Engine 531-70, 535-95, 536-60, 541-70, 533-105, 536... Order the manual at mid-west-tech.com >