SERVICE MANUAL

LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK)
526-56, 531-70, 535-95, 536-60, 536-70, 541-70, 550-80, 560-80

EN - 9823/0050 - ISSUE 1 - 06/2017

This manual contains original instructions, verified by the manufacturer (or their authorized representative).

Copyright 2017 © 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.

www.jcb.com

Foreword

The Operator's Manual

⚠

You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

Contents

01 - Machine

03 - Attachments, Couplings and Load Handling

06 - Body and Framework

09 - Operator Station

12 - Heating, Ventilating and Air-Conditioning (HVAC)

15 - Engine

18 - Fuel and Exhaust System

21 - Cooling System

24 - Brake System

25 - Steering System

27 - Driveline

30 - Hydraulic System

33 - Electrical System

72 - Fasteners and Fixings

75 - Consumable Products

78 - After Sales

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 541-70... Order the manual at mid-west-tech.com >

01 - Machine

Contents **Page No.**

Acronyms Glossary 01-2

01-03 Safety
- 01-03-03 Safety - Yours and Others 01-3
- 01-03-06 Safety Warnings 01-4
- 01-03-09 General Safety 01-5
- 01-03-12 Maintenance Safety 01-6
- 01-03-18 Operating Safety 01-8
- 01-03-21 Worksite Safety 01-10
- 01-03-24 Risk Assessment 01-11
- 01-03-27 Maintenance Positions 01-12

01-06 About this Manual
- 01-06-00 General 01-17
- 01-06-03 Model and Serial Number 01-18
- 01-06-06 Using the Manual 01-19

01-09 Description
- 01-09-00 General 01-21
- 01-09-03 Log Moving/Object Handling 01-23
- 01-09-06 Optional Equipment and Attachments 01-24

01-33 Cleaning
- 01-33-00 General 01-27

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

03 - Safety

Contents **Page No.**

01-03-03 Safety - Yours and Others 01-3
01-03-06 Safety Warnings 01-4
01-03-09 General Safety 01-5
01-03-12 Maintenance Safety 01-6
01-03-18 Operating Safety 01-8
01-03-21 Worksite Safety 01-10
01-03-24 Risk Assessment 01-11
01-03-27 Maintenance Positions 01-12

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

03 - Attachments, Couplings and Load Handling

Contents **Page No.**

03-00 Attachments
- 03-00-00 General 03-3

03-12 Hitch
- 03-12-12 Mechanical Tow 03-7

03-33 Fork
- 03-33-00 General 03-9
- 03-33-03 Carriage 03-12

03-82 Jib
- 03-82-00 General 03-19
- 03-82-06 Shackle 03-21

03-84 Hook
- 03-84-06 Snatch Block 03-25

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

09 - Brake Valve

Technical Data 24-43
Component Identification 24-44

Technical Data

(For: 550-80, 560-80)

Table 243. Brake Valve Operating Pressure

Input (charge pressure)	80–115bar (1,159.4–1,666.7psi)
Output (brake pressure)	0.46bar (6.7psi)
Accumulator pre-charge (nitrogen gas) at 20°C	70bar (1,014.5psi)
Weight	2.2kg

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

Operation overview

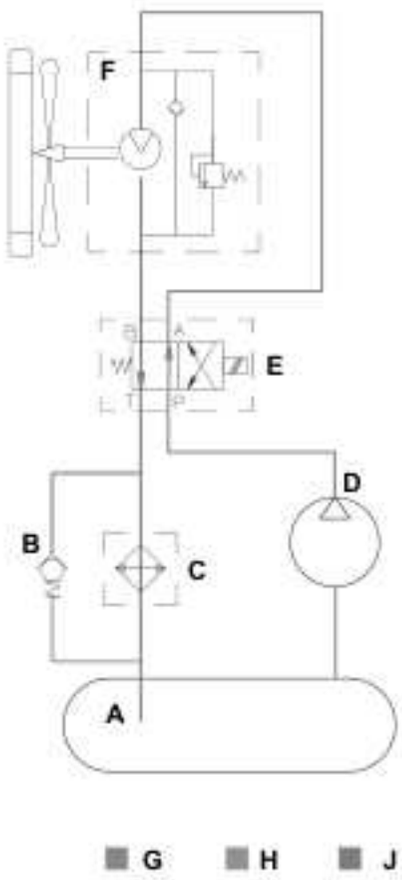
The schematic diagrams show an overview of the system. For machine specific schematics, refer to hydraulic system- general, refer to (PIL 30-00).

When the hydraulic oil is not at full operating temperature, the viscosity of the oil increases causing higher hydraulic pressures.

To prevent damage to the fan circuit, a bypass valve activates when the hydraulic pressure is greater than 3.4bar (49.3psi) and allows the oil to bypass the oil cooler. The oil then returns straight to the tank. This reduces the pressure in the fan circuit.

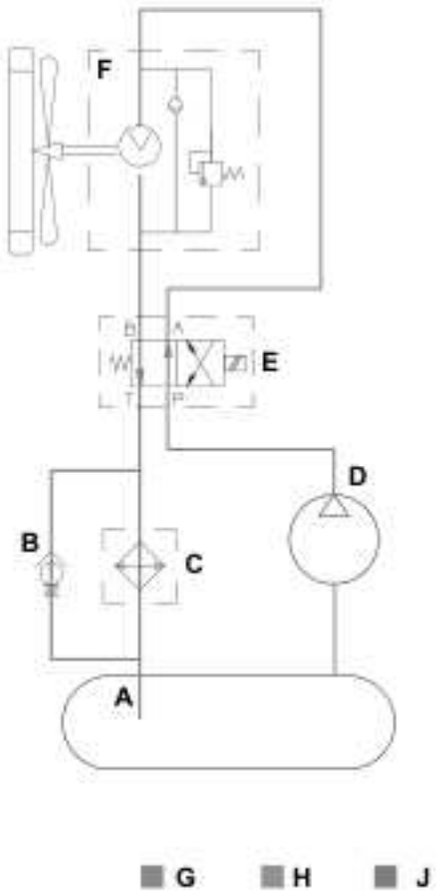
When the oil is at operating temperature, the pressure reduces and the bypass valve is not active and the fan return flows through the oil cooler.

Figure 1602. By-Pass Not Active



A Hydraulic tank
B Bypass valve
C Oil cooler
D Main pump
E Fan direction valve (if installed)
F Fan motor

Figure 1603. By-Pass Active



A Hydraulic tank
B Bypass valve
C Oil cooler
D Main pump
E Fan direction valve (if installed)
F Fan motor

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

Calibrate

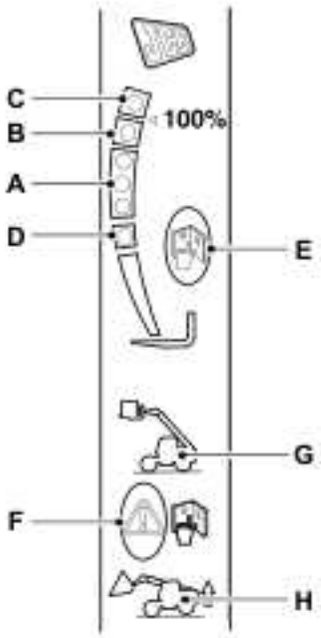
..... Page 33-
For: 526-56, 531-70, 535-95, 536-60, 536-70, 541-70, 550-80, 560-80
..... Page 33-869

LLMI Calibration

1. Park the machine and make it safe. Refer to (PIL 01-03).
2. Turn the ignition key to the off position.
3. Press and hold the display button. Start the engine with the button held down.
4. Hold the button for approximately 30 seconds after the engine has started. All the display LED (Light Emitting Diode)s will illuminate during this time.
5. After approximately 30 seconds, the display will show the red LED only and the alarm will emit short intermittent bleeps.
6. Release the test button. If the button is released during this time, the entire process must be repeated.
7. With the lift arm fully retracted, pick up a load of the specified value. Use either pallet forks loaded with a test weight, or a bucket filled with a high density material.

   Weight/Force: 2,000kg
8. Slowly extend the lift arm. Keep the load close to the ground until the machine is balanced about the front axle with the rear wheels off the ground.
9. If the following actions are not completed within a five minute period, the display will automatically leave the calibration mode and the memory will revert to the previous settings. If the transducer signal is out of range, the display will indicate the appropriate error code. Calibration cannot continue until the fault is rectified.
10. Press and release the test button. The display will change to show the amber LED and red LED only.
11. Lower the load to the ground and measure the distance the lift arm is extended (in millimetres).
12. Refer to the correct calibration chart for the machine.
13. Read up from the extension figure obtained at step 11 (example line X) to the tipping line A-A.
14. Read horizontally (example line Y) to the maximum working limit line B-B.
15. Read down to the horizontal axis (example line Z) to get the dimension for the lift arm extension (maximum working limit).
16. Draw a mark on the lift arm at the dimension obtained above. Raise and retract the lift arm to the mark drawn on the lift arm.
17. Press and release the display button. The display will revert to normal operation. The setting of the 100% position is now complete.

Figure 2158.



A Green LED
B Amber LED
C Red LED
D Power ON indicator
E Test button
F Mode change button
G Load control mode symbol
H Ground work mode symbol

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

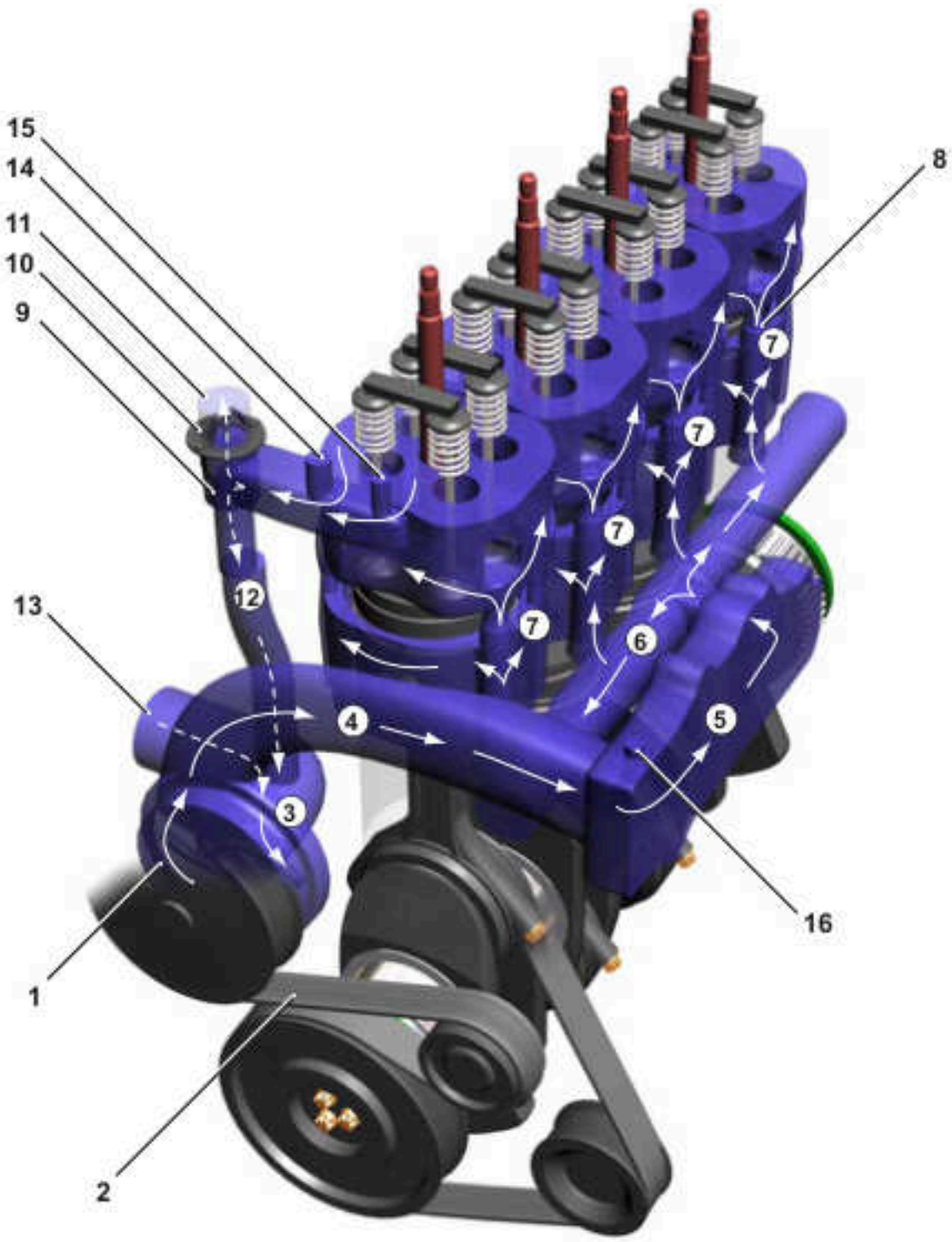
(For: 531-70, 535-95, 536-60, 536-70, 541-70, 550-80, 560-80)

Figure 1782. 2 Speed Washer/Wiper (Agri Xtra (servo), Agri Super) 160/F3101- Issue 3 (sheet 2 of 57)..... Page 33-187
Figure 1783. Single Speed Washer/Wiper (Agri Plus) 160/F3101- Issue 3 (sheet 3 of 57)..... Page 33-191
Figure 1784. Roadlights Panel (Agri Xtra (servo), Agri Super) 160/F3101- Issue 3 (sheet 4 of 57)..... Page 33-195
Figure 1785. Roadlights Panel (Agri Plus) 160/F3101- Issue 3 (sheet 5 of 57)..... Page 33-199
Figure 1786. Roadlights- Chassis (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101- Issue 3 (sheet 6 of 57)..... Page 33-203
Figure 1787. Work Lights and Beacon (Agri Xtra (servo), Agri Super, Agri Plus, 550-80) 160/F3101- Issue 3 (sheet 7 of 57)..... Page 33-207
Figure 1788. Air Conditioning and Other Cab Functions (Agri Xtra (servo), Agri Super) 160/F3101- Issue 3 (sheet 8 of 57)..... Page 33-211
Figure 1789. Air Conditioning and Other Cab Functions (Agri Plus) 160/F3101- Issue 3 (sheet 9 of 57)..... Page 33-215
Figure 1790. Park Brake (Agri Xtra (servo), Agri Super) 160/F3101- Issue 3 (sheet 10 of 57)..... Page 33-219
Figure 1791. Park Brake (Agri Plus) 160/F3101- Issue 3 (sheet 11 of 57)..... Page 33-223
Figure 1792. Joystick (Agri Xtra (servo)) 160/F3101- Issue 3 (sheet 12 of 57)..... Page 33-227
Figure 1793. Joystick (Agri Xtra (servo)) 160/F3101- Issue 3 (sheet 13 of 57)..... Page 33-231
Figure 1794. Joystick (Agri Super) 160/F3101- Issue 3 (sheet 14 of 57)..... Page 33-235
Figure 1795. Joystick (Agri Plus) 160/F3101- Issue 3 (sheet 15 of 57)..... Page 33-239
Figure 1796. Joystick (Agri Super, Agri Plus) 160/F3101- Issue 3 (sheet 16 of 57)..... Page 33-243
Figure 1797. Electro Hydraulic Control (LSV Plus) 160/F3101- Issue 3 (sheet 17 of 57)..... Page 33-247
Figure 1798. Electro Hydraulic Control (Electro LSV Plus) 160/F3101- Issue 3 (sheet 18 of 57)..... Page 33-251
Figure 1799. Electro Hydraulic Control (Electro S LSV Plus) 160/F3101- Issue 3 (sheet 19 of 57)..... Page 33-255
Figure 1800. Electro Hydraulic Control (LSV Plus, Electro LSV Plus, Electro S LSV Plus) 160/F3101- Issue 3 (sheet 20 of 57)..... Page 33-259
Figure 1801. Steer Mode (Agri Xtra (servo), Agri Super) 160/F3101- Issue 3 (sheet 21 of 57)..... Page 33-263
Figure 1802. Steer Mode (Agri Plus) 160/F3101- Issue 3 (sheet 22 of 57)..... Page 33-267
Figure 1803. Machine Side Engine (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 23 of 57)..... Page 33-271
Figure 1805. Machine Side Engine (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 25 of 57)..... Page 33-275
Figure 1806. T3 Electronic Engine (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 26 of 57)..... Page 33-279
Figure 1807. SRS (Agri Xtra (servo)) 160/F3101 Issue 3 (sheet 27 of 57)..... Page 33-283
Figure 1808. SRS (Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 28 of 57)..... Page 33-287
Figure 1809. Warning Lights (Agri Xtra (servo), Agri Super) 160/F3101 Issue 3 (sheet 29 of 57)..... Page 33-291
Figure 1810. Warning Lights (Agri Plus) 160/F3101 Issue 3 (sheet 30 of 57)..... Page 33-295
Figure 1811. Left Side Column Switch (Agri Xtra (servo), Agri Super) 160/F3101 Issue 3 (sheet 31 of 57)..... Page 33-299
Figure 1812. Left Side Column Switch (Agri Plus) 160/F3101 Issue 3 (sheet 32 of 57)..... Page 33-303
Figure 1813. Heated Screen, LMI and Radio (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 33 of 57)..... Page 33-307
Figure 1814. Auxiliary and Tow (Agri Xtra (servo), Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 34 of 57)..... Page 33-311
Figure 1815. Hitch (Agri Xtra (servo)) 160/F3101 Issue 3 (sheet 35 of 57)..... Page 33-315
Figure 1816. Hitch (Agri Super, Agri Plus) 160/F3101 Issue 3 (sheet 36 of 57)..... Page 33-319

MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >

(For: JCB 4.4 T2 Mech Nat Asp, JCB 4.4 T2 Mech Turbo, JCB 4.4 T2 Mech Turbo and Aftercooled, JCB 4.4 T3 Mech Turbo, JCB 4.4 T3 Mech Turbo and Aftercooled, JCB 4.8 T3 Elec Turbo and Aftercooled)

Figure 464.



MidWestTech | JCB Loadall Rough Terrain 526-56, 531-70, 535-95, 536-60, 536-70, 54... Order the manual at mid-west-tech.com >