Service Manual

Workmax 800D

Section 1 - General Information

Section 2 - Care and Safety

Section 3 - Maintenance

Section B - Body and Framework

Section C - Electrics

Section D - Controls

Section F - Transmission

Section G - Brakes

Section H - Steering

Section K - Engine

Section S - Suspension



Publication No.
9813/0450-1



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

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9813-0... Order the manual at mid-west-tech.com >

Contents **Page No.**

Introduction
About this Manual 1-1
Machine Model and Serial Number 1-1
Using this Manual 1-1
Left Side, Right Side 1-1
Cab/Canopy 1-1
Cross References 1-1
Machine Description 1-2
The JCB Workmax 800D 1-2
Intended Use 1-2
Component Location 1-2
Identifying Your Machine 1-3
Machine Identification Plate 1-3
Typical Product Identification Number Data Plate 1-4
Component Identification Plates 1-4

Fastener Torque Chart
Zinc Plated Fasteners and Dacromet Fasteners 1-7
Introduction 1-7
Bolts and Screws 1-7

Service Tools
Numerical List 1-11

Consumables
Sealing and Retaining Compounds 1-13

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Contents Page No.

Safety Notices
Important Information 2-1
The Operator Manual 2-1
Safety Warnings 2-1
Safety Check List 2-2
Safety - Yours and Others 2-2
General Safety 2-2
Operating Safety 2-4
Maintenance Safety 2-8
Safety Labels 2-12
Introduction 2-12
Safety Label Identification 2-13

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Contents **Page No.**

Routine Maintenance

Service Requirements 3-1
Introduction 3-1
Owner/Operator Support 3-1
Service/Maintenance Agreements 3-1
Initial Service and Inspection 3-1
Obtaining Replacement Parts 3-2
Health and Safety 3-3
Lubricants 3-3
Battery 3-5
Fluids, Lubricants and Capacities 3-7
Types of Fuel 3-7
Coolant Mixtures 3-8
Service Schedules 3-10
Introduction 3-10
How to Use the Service Schedules 3-10
Hours and Distance Equivalents 3-11
Pre-start Cold Checks, Service Points and Fluid Levels 3-12
Functional Tests and Final Inspection 3-15
Prepare the Machine for Maintenance 3-17
Introduction 3-17
Make the Machine Safe 3-17
Cleaning the Machine 3-18
Introduction 3-18
Prepare the Machine for Cleaning 3-18
Cleaning 3-19
Checking for Damage 3-20
Check the Machine Body and Structure 3-20
Check the Tyres 3-20
Check the Seat and Seat Belt 3-20
Checking the ROPS 3-20
Greasing 3-22
Introduction 3-22
Prepare the Machine for Greasing 3-22
Access Panels 3-24
Introduction 3-24
Front Access Panel 3-24
Brakes 3-25
Park Brake 3-25
Foot Brake 3-27
Electrical System 3-29
Battery 3-29
Fuses 3-32
Engine 3-33
Oil and Filter 3-33
Cooling System 3-35
Alternator Drive Belt 3-39
Air Filter 3-40
Fuel System 3-42
Introduction 3-42
Draining and Cleaning the Fuel Filter/Water Separator 3-43
Changing the Fuel Filter 3-44
Bleeding the Fuel System 3-44
Accelerator Free Travel 3-45
Speed Control and Governor 3-45

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

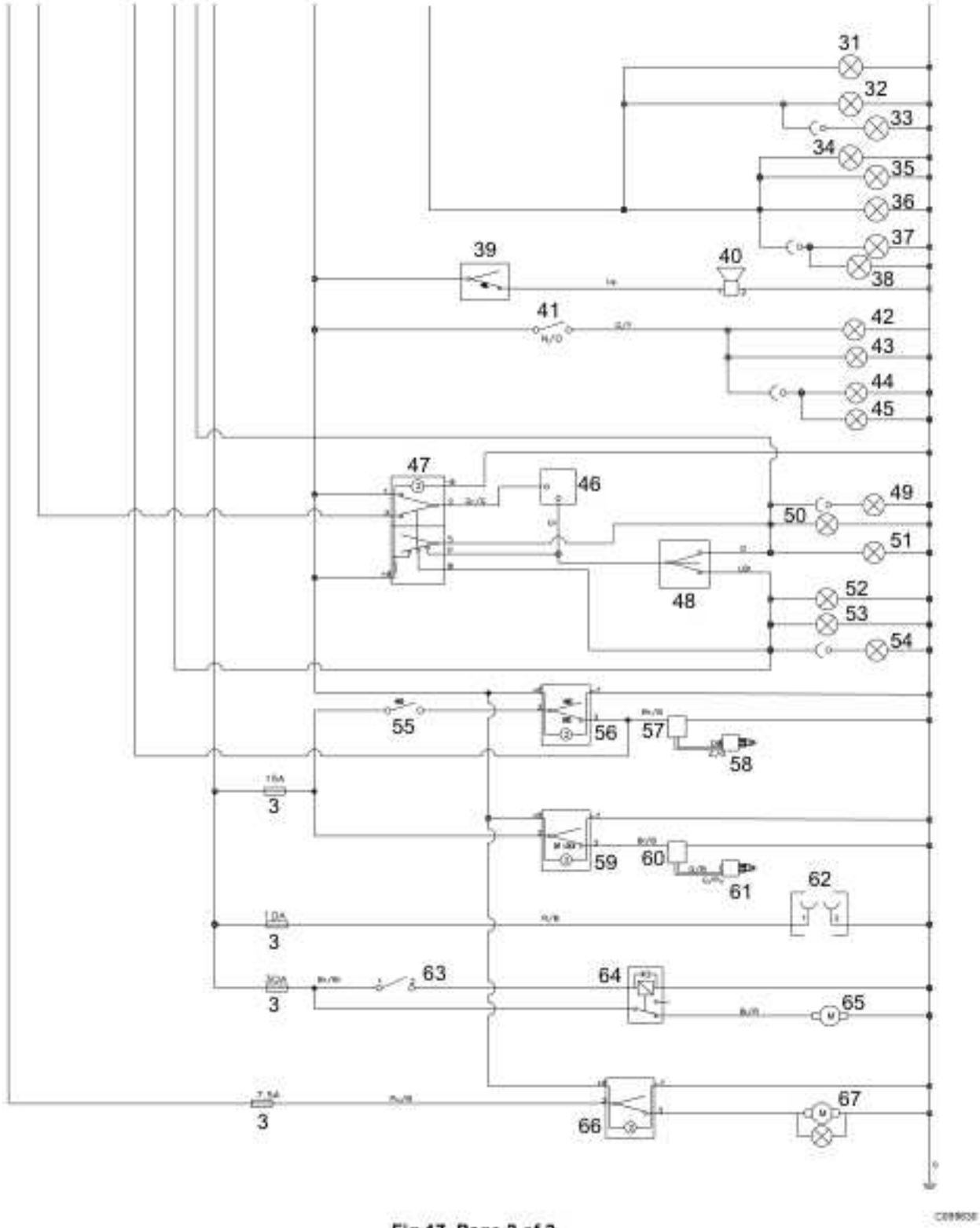


Fig 17. Page 2 of 2

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Technical Data

Specifications

Variable Speed Drive System

System Type	Friction, single V-belt, Continuously-Variable Transmission (CVT).
Driver Clutch (Variator)	Engine crankshaft mounted. Two half pulleys, one fixed, the other moveable via centrifugal rollers.
Driven Clutch	Gearbox input shaft mounted.

Gearbox

Type	Fixed ratio gearbox.
	Two Forward-Neutral-Reverse (Full constant mesh)
Maximum Travel Speed (dependent on size of tyre)	40 kph (25 mph)

Differential

Lock	Rear Hand Selectable	
Reduction Ratios		
	Front	3.1:1
	Rear	3.1:1
Weight		
	Front	10 kg
	Rear	10 kg

Wheels and Tyres

Refer to **Section 3 - Maintenance**

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Table 4. Pedal touches floor under constant pressure - no fluid loss.

Possible Cause	Action
10 Master cylinder fault.	See Item 1.
11 Brake disc distortion.	See Item 2.
12 Air in hydraulic system.	See Item 3.

Table 5. Pedal touches floor under constant pressure and fluid loss.

Possible Cause	Action
13 External fluid leaks.	Visually check brake circuit for fluid loss, service as required. Top up brake reservoir and bleed the brake system.

Table 6. Poor braking (not pulling to one side).

Possible Cause	Action
14 Brake pads worn beyond limits or distorted.	Renew brake pads- both front sets or both rear sets.
15 Master cylinder fault.	See Item 1.
16 Brake piston fault.	See Item 22.

Table 7. Brakes not releasing

Possible Cause	Action
17 Brake pedal spring fault.	Fit a new spring.
18 Master cylinder fault (plunger stuck in bore).	See Item 1.
19 Blocked hole in master cylinder reservoir cap.	Fit a new reservoir cap.
20 Brake pedal free travel incorrect.	Adjust pedal free travel.
21 Fluid contamination/seal damage.	Flush system and renew hydraulic seals. Refill with clean fluid and bleed the brake system.
22 Brake piston(s) binding in caliper.	– Check that correct brake fluid has been used (incorrect fluid could swell the brake piston seals). – Check if brake piston seals in good condition. – Check that brake piston rotates freely in its housing with no seals fitted. – Check that the brake piston seal retracts the piston approximately 0.5 mm (0.020 in).
23 Kinked or crushed brake pipes.	Check and renew pipes as required.
24 Brake pads not free on sliding pins.	Check brake pads for free movement, renew if required - both front sets or both rear sets.

Table 8. Poor braking when hot

Possible Cause	Action
25 Moisture in system vaporising when caliper is hot.	Strip caliper and clean piston to remove moisture. Remove master cylinder and check for corrosion, service as required. Flush system refill with clean fluid. Bleed the brake system.

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Forward/Reverse selector

Adjustment at gearbox

The forward/reverse selector cables are adjusted at the gearbox as follows:

1 Tip the load bay to a vertical position.

2 Remove the ignition key.

3 Get access to the gearshift linkage (1) at the gearbox (2). ⇨ *Fig 4. (D-4)*

4 Adjust the locknuts (3) and (4) until the distance between the washers (5) measures 68 mm (2.67 in.).

Important: *Make sure that the length of each spring is equal.*

5 Make sure that nuts (6) and (7) are secure.

Note: *If required, the later type gearshift detent plate can be fitted to earlier machines. (See Technical Information)*

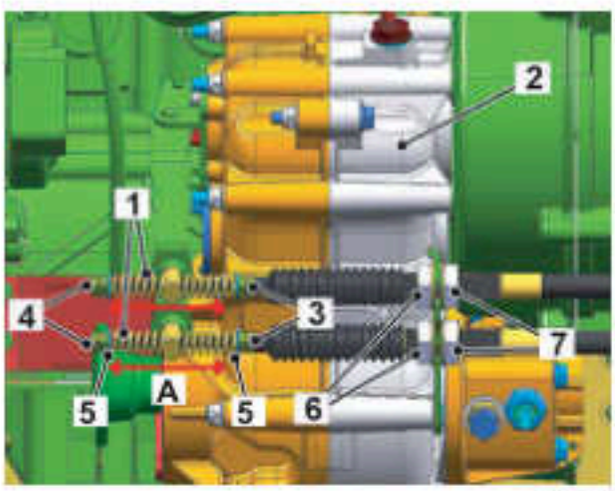


Fig 4.

Adjustment at lever

1 Remove the cab seat base panel, found directly in front of the gearshift lever (8).

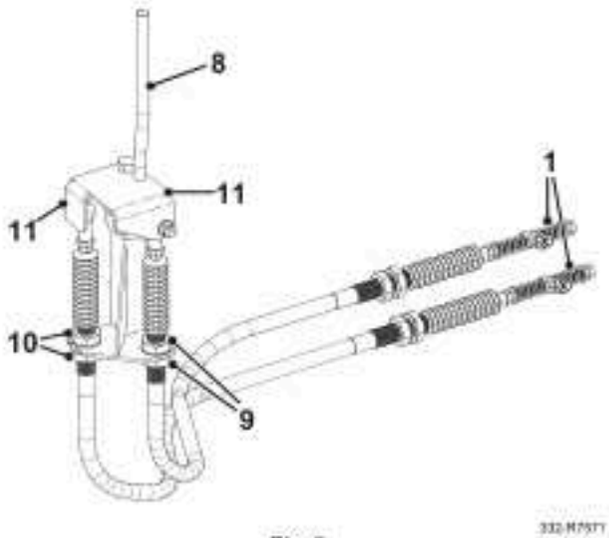


Fig 5.

2 Put the starter key in the ignition. Start the engine and release the park brake.

3 Engage the high forward gear range and drive for five metres. Come to a complete stop and set the transmission to neutral. Briefly increase the engine speed, then let the engine speed return to idle.

4 Engage the reverse gear range and drive for five metres. Come to a complete stop and set the transmission to neutral.

5 Do the steps 3 and 4 ten times.

6 Engage the low forward gear range and drive for five metres. Come to a complete stop and set the transmission to neutral. Briefly increase the engine speed, then let the engine speed return to idle.

7 Engage the reverse gear range and drive for five metres. Come to a complete stop and set the transmission to neutral.

8 Do the steps 6 and 7 ten times.

9 If a grinding noise is heard from the gearbox while steps 3 to 7 are done, adjust the locknuts (9) and (10) until the grinding noise stops.

10 If the gearshift lever assembly (11) catches the plastic base panel, trim the base panel to stop it catching.

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >

Fault Finding

Service Brakes

Note: *The brakes generate a high temperature when operating, this means that the disc will be hot to touch, this condition is normal.*

Fault(s)

⇨ *Table 1. One or more brakes do not apply. (Brake travel not excessive, brakes not pulling to one side) (G-5)*

⇨ *Table 2. Pedal travel excessive (but not touching floor) (G-5)*

⇨ *Table 3. Pedal hard to operate. (G-5)*

⇨ *Table 4. Pedal touches floor under constant pressure - no fluid loss. (G-6)*

⇨ *Table 5. Pedal touches floor under constant pressure and fluid loss. (G-6)*

⇨ *Table 6. Poor braking (not pulling to one side). (G-6)*

⇨ *Table 7. Brakes not releasing (G-6)*

⇨ *Table 8. Poor braking when hot (G-6)*

⇨ *Table 9. Excessive brake noise in operation (G-7)*

⇨ *Table 10. Fluid loss when machine standing for instance - overnight (G-7)*

Table 1. One or more brakes do not apply. (Brake travel not excessive, brakes not pulling to one side)

Possible Cause		Action
1	Master cylinder fault.	Check master cylinder to identify fault area, service as required.
2	Brake disc distortion.	Renew front or rear brake discs in pairs

Table 2. Pedal travel excessive (but not touching floor)

Possible Cause		Action
3	Air in hydraulic system.	Check fluid reservoir level. Check for fluid/air leaks, rectify as required. Bleed the brake system.
4	Leak in hydraulic system.	Check for fluid loss at master cylinder and brake piston, all pipes and fittings for loose connections. Rectify as required. Top up brake reservoir and bleed the brake system.
5	Brake disc distortion.	See Item 2.

Table 3. Pedal hard to operate.

Possible Cause		Action
6	Tightness at pedal pivot.	Inspect pedal pivot. Free-off/lubricate.
7	Fluid contamination/seal damage.	Flush system and renew all hydraulic seals. Bleed the brake system.
8	Misaligned push rod/pedal.	Check and rectify as required.
9	Kinked or crushed brake hoses.	Check/renew brake hoses.

MidWestTech | JCB Workmax 800D 4x4 Utility Vehicle Service Manual | Publication 9... Order the manual at mid-west-tech.com >