Service Manual

VMS 55

Section 1 - General Information

Section 2 - Care & Safety

Section 3 - Maintenance

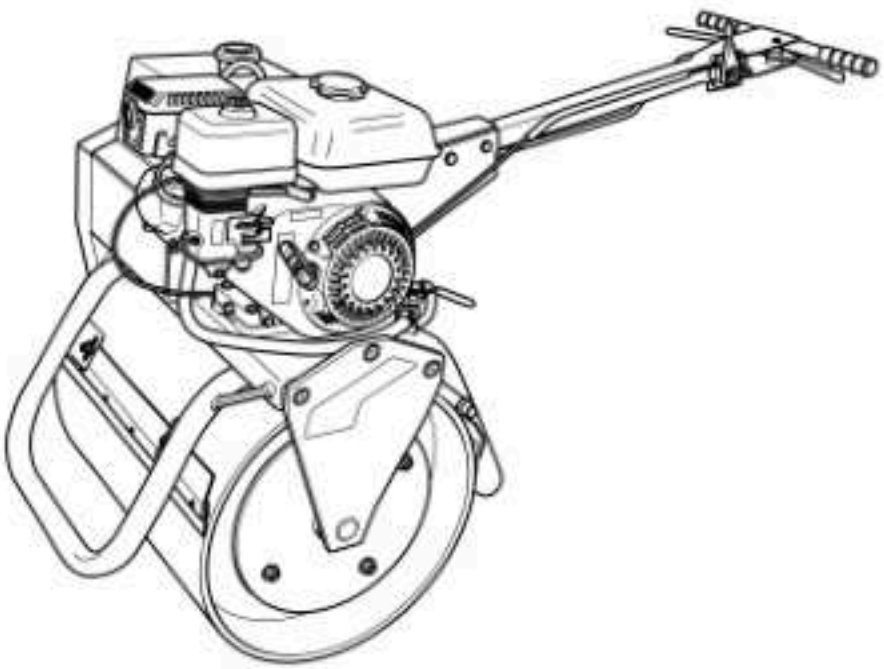
Section D - Controls

Section E - Hydraulics

Section F - Transmission

Section K - Engine

Section L - Vibration



Publication No.

9803/9560-3



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 591338 Fax +44 1889 591400

World Class Customer Support

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-9560-3

Order the manual at mid-west-tech.com >

Contents **Page No.**

Introduction
About this Manual ..... 1 - 1
Identifying Your Machine ..... 1 - 2
Component Identification Plates ..... 1 - 3

Torque Settings
Zinc Plated Fasteners and Dacromet Fasteners ..... 1 - 5
Vibromax Specific Torque Settings ..... 1 - 9
Hydraulic Connections ..... 1 - 11

Service Consumables
Sealing and Retaining Compounds ..... 1 - 15

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >

Contents **Page No.**

Routine Maintenance

Service Requirements ..... 3 - 1
Health and Safety ..... 3 - 3
Service Schedules ..... 3 - 5
Fluids, Lubricants and Capacities ..... 3 - 8
Cleaning the Machine ..... 3 - 9
Checking for Damage ..... 3 - 10
Engine Air Filter ..... 3 - 11
Engine ..... 3 - 12
Hydraulic System ..... 3 - 17
Sprinkler System ..... 3 - 20
Drum ..... 3 - 22
Vibration System ..... 3 - 24

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >

Contents Page No.

Technical Data
Hydraulic Pump ..... E - 1

Basic Operation
Component Location ..... E - 3
Introduction to Hydraulic Schematic Symbols ..... E - 4

Schematic Circuits
Hydraulic Circuit Diagram ..... E - 11

Fault Finding
Drive System ..... E - 13

Service Procedures
Hydraulic Contamination ..... E - 17
'Positional Type' Hydraulic Adaptors ..... E - 19
Connecting/Disconnecting Hydraulic Hoses ..... E - 20
Purging Procedure ..... E - 21

Hydraulic Pump
General Information ..... E - 23

Pump Swash Plate
Adjustment ..... E - 27

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >

Example of Schematic Circuit

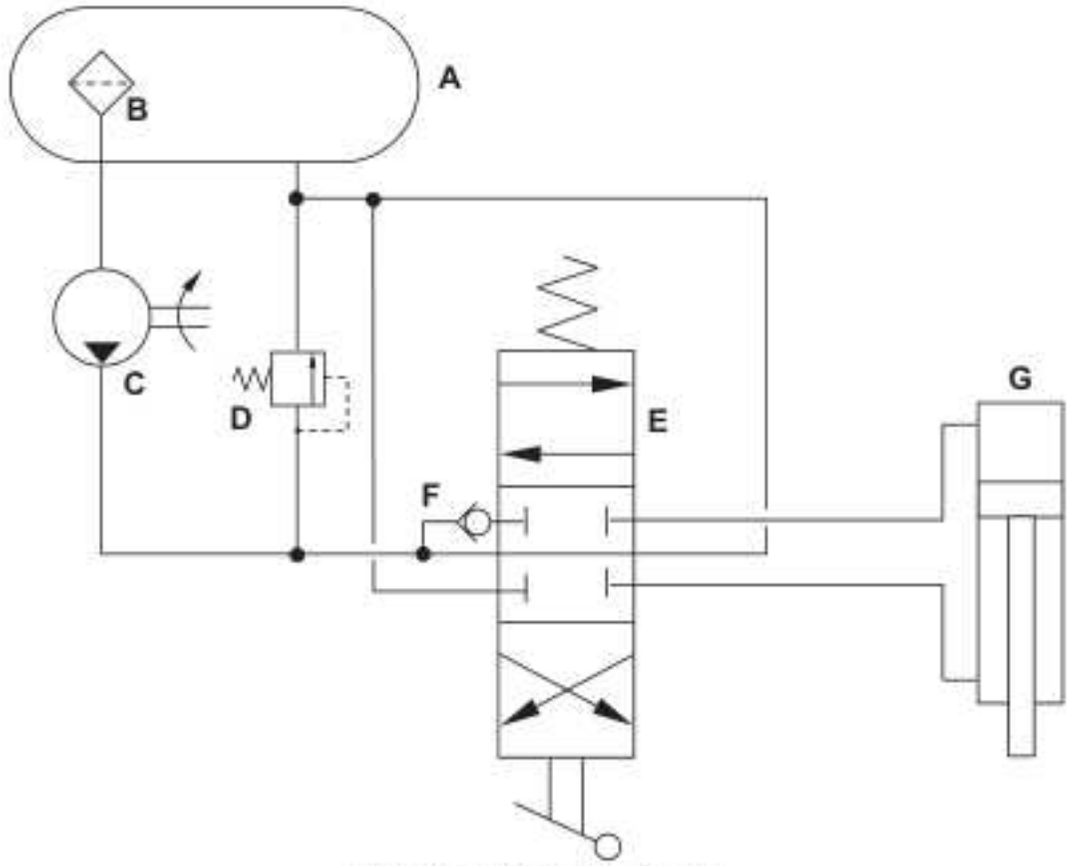


Fig 8. Simple Schematic Circuit

Some of the symbols described on the preceding pages have been arranged into a simple schematic circuit. ⇨ *Fig 8. (🗋 E-9)*.

Hydraulic tank **8-A** is a pressurised tank with an internally mounted strainer **8-B** on the suction line to the fixed displacement pump **8-C**. System pressure is limited to the setting of relief valve **8-D**.

Valve spool **8-E** is an open-centre spool that is in neutral position; flow from the pump passes through the spool and returns to the hydraulic tank.

If the lever operated spool is moved away from neutral position hydraulic fluid is directed to either head side or rod side of hydraulic ram **8-G**. Notice that the fluid must first open one way valve **8-F** before flowing to the ram.

Example Circuit Key

8-A	Hydraulic Tank
8-B	Strainer
8-C	Fixed Displacement Pump
8-D	Relief Valve
8-E	Spool
8-F	One Way Valve
8-G	Double Acting Hydraulic Ram

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >

Technical Data

Transmission

Transmission Pump	
Model No.	PC-AAMMB1X-XXXX
Capacity	6.1cc/rev
Charge pump capacity	2.1cc/rev
Transmission Motor	
Model No.	OMR100 Code 151-0712
Displacement	99.8cc
General	
Transmission System Relief Pressure	120 bar (1740.5 psi)
Transmission Charge Relief Pressure	3.4 bar (49.3 psi)
Roller Mass	185Kg (407.9lb)
Roll Dia	440mm (17.3in)
Pull Ratio	0.3
Drive Ratio	17/30
Trans Pump Flow @ Full Speed	11.9 L/min
Charge Pump Flow @ Full Speed	4.1 L/min
Tractive Effort	55Kg (121.3lb)
Roll Torque	119.7 Nm
Motor Torque	67.87 Nm
Approximate Operating Line Pressure	45 bar (652 psi)

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >

Drum

Removal and Disassembly

Removal

To remove the drum, proceed as follows:

Remove the drive chain

1 Park the machine on firm level ground and switch off the engine.

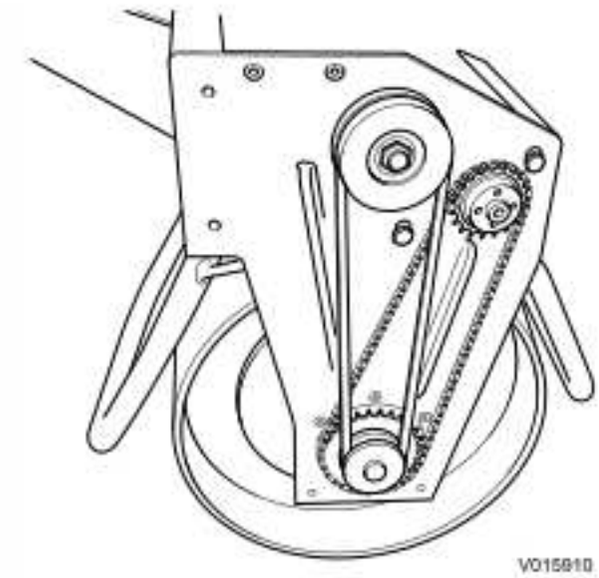


Fig 1.

2 Remove the five bolts securing the right hand side cover. ⇨ *Fig 1. (L-7)*.

Remove the vibrator pulley and drive sprocket

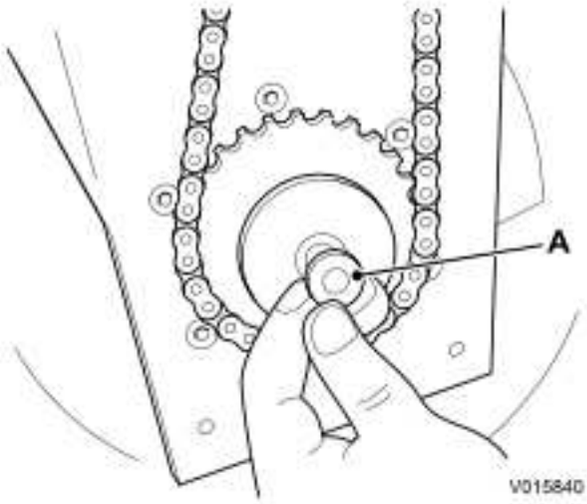


Fig 2.

1 Remove the bolt and spacer **A** securing the lower vibrator pulley. ⇨ *Fig 2. (L-7)*.

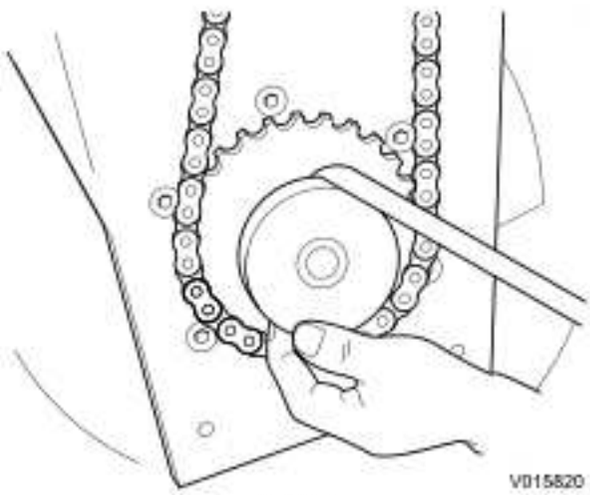


Fig 3.

2 Lever off the vibrator pulley. ⇨ *Fig 3. (L-7)*.

MidWestTech | JCB VMS 55 Single Drum Roller Service Manual | Publication 9803-95... Order the manual at mid-west-tech.com >