# SERVICE MANUAL

SKIDSTEER LOADER

**225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325T, 330**

EN - 9813/7450 - ISSUE 2 - 12/2017

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**

**27 - Driveline**

**30 - Hydraulic System**

**33 - Electrical System**

**72 - Fasteners and Fixings**

**75 - Consumable Products**

**78 - After Sales**

MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325T, 3... 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
- 01-03-15 Safety Practice ..... 01-8
- 01-03-18 Operating Safety ..... 01-9
- 01-03-21 Worksite Safety ..... 01-11
- 01-03-24 Risk Assessment ..... 01-12
- 01-03-27 Maintenance Positions ..... 01-13

01-06 About this Manual
- 01-06-03 Model and Serial Number ..... 01-21
- 01-06-06 Using the Manual ..... 01-22

01-09 Description
- 01-09-12 Main Component Locations ..... 01-25
- 01-09-15 Service Point Locations ..... 01-27

01-33 Cleaning
- 01-33-00 General ..... 01-43





MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... 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
01-03-15 Safety Practice ..... 01-8
01-03-18 Operating Safety ..... 01-9
01-03-21 Worksite Safety ..... 01-11
01-03-24 Risk Assessment ..... 01-12
01-03-27 Maintenance Positions ..... 01-13



MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... 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

03-09 Lift Arm Quickhitch
- 03-09-00 General ..... 03-7
- 03-09-03 Mechanical Quickhitch ..... 03-11
- 03-09-09 Electronic Quickhitch ..... 03-15

03-30 Shovel
- 03-30-00 General ..... 03-19

03-33 Fork
- 03-33-00 General ..... 03-23





MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >

| Cause | Remedy |
|---|---|
| ECM connection fault | Disconnect the harness from engine ECM and inspect. Check seals are in place, check for signs of corrosion or contamination. |
| | If ECM pins are damaged, replace ECM and re-flash appropriate calibration (see Re-flashing an ECM. |
| | If harness is damaged, repair or replace as necessary. |
| | If no fault is found proceed to 'Sensor signals faulty'. |
| Sensor signals faulty | Check the sensor signals. If scope available, display Cam and crank signals on the scope. Change the sensor as necessary. |
| | If no fault is found, proceed to 'Sensor failure'. |
| Sensor failure | Check the sensor resistance (see relevant help file page). If sensor is out of specification replace. |
| | If no fault is found, proceed to 'Sensor target wheel fault'. |
| Sensor target wheel fault | Check the crankshaft position sensor target wheel if damaged, replace with a new crankshaft. |
| | If no fault is found raise Techweb Helpdesk call. |

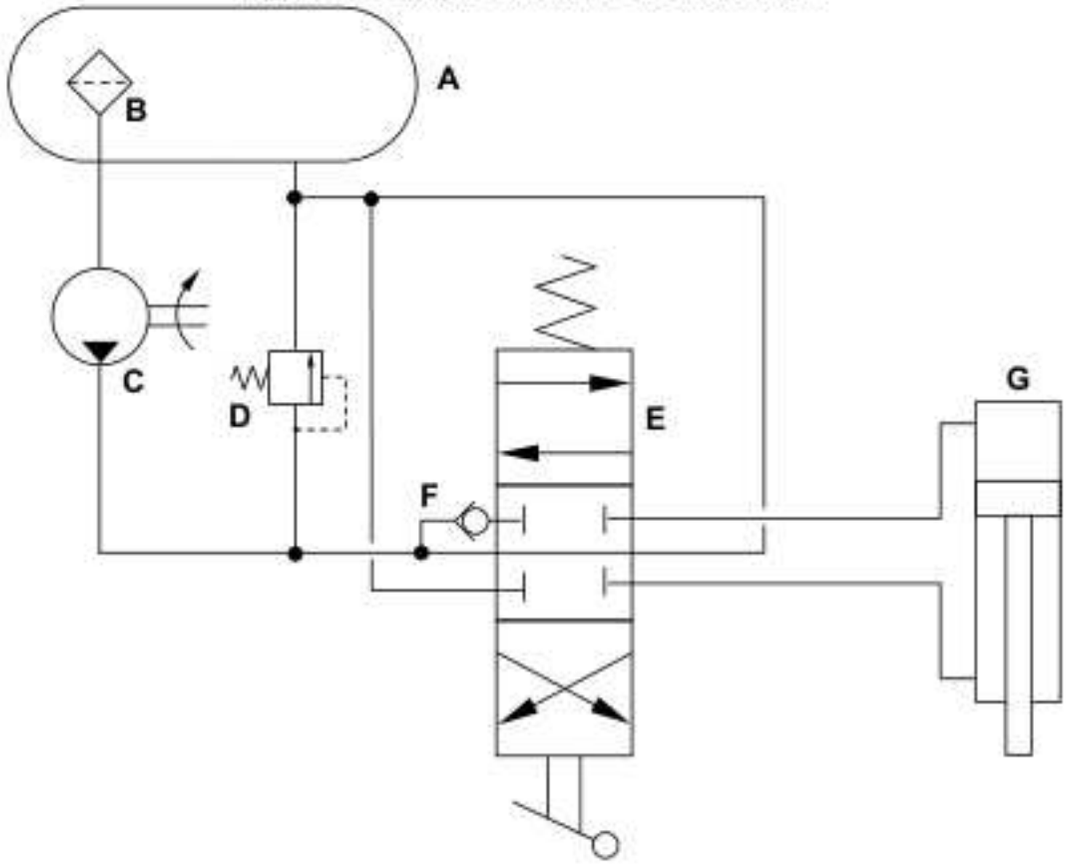
**Table 105. Camshaft Position Sensor**

| Cause | Remedy |
|---|---|
| Sensor supply voltage fault | Disconnect the sensor, check sensor voltage supply at the harness connector (see relevant sensor help file for pin numbers or refer to engine electrical schematic). If voltage supply is faulty, replace the sensor. |
| | If sensor supply voltage is OK, proceed to 'Sensor connection faulty'. |
| Sensor connection faulty | Check the condition of sensor to harness connection, make sure the seals are in place, check for signs of corrosion or contamination. Repair as necessary. |
| | If no fault is found, proceed to 'Sensor failure'. |
| Sensor failure | Check the sensor resistance (see relevant help file page). If sensor is out of specification replace. |
| | If no fault is found, proceed to Step 4. |
| ECM connection fault | Disconnect the harness from engine ECM and inspect. Check seals are in place, check for signs of corrosion or contamination. |
| | If ECM pins are damaged, replace ECM and re-flash appropriate calibration (see Re-flashing an ECM. |
| | If harness is damaged, repair or replace as necessary. |
| | If no fault is found proceed to 'Sensor signals faulty'. |
| Sensor signals faulty | Check the sensor signals. If scope available, display Cam and crank signals on the scope. Change the sensor as necessary. |
| | If no fault is found, proceed to 'Sensor target wheel fault'. |
| Sensor target wheel fault | Check the Cam target wheel if damaged, replace with new camshaft. |
| | If no fault is found raise Techweb Helpdesk call. |



MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >

Figure 643. Simple Schematic Circuit Example




**A** Hydraulic tank
**B** Strainer
**C** Fixed displacement pump
**D** Relief valve
**E** Spool
**F** One way valve
**G** Double acting hydraulic ram

Some of the symbols described on the preceding pages have been arranged into a simple schematic circuit.

The hydraulic tank is a pressurised tank with an internally mounted strainer on the suction line to the fixed displacement pump. System pressure is limited to the setting of relief valve.

The valve spool 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. Notice that the fluid must first open one way valve before flowing to the ram.



MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >

# Technical Data

## Dimensions

Figure 898.

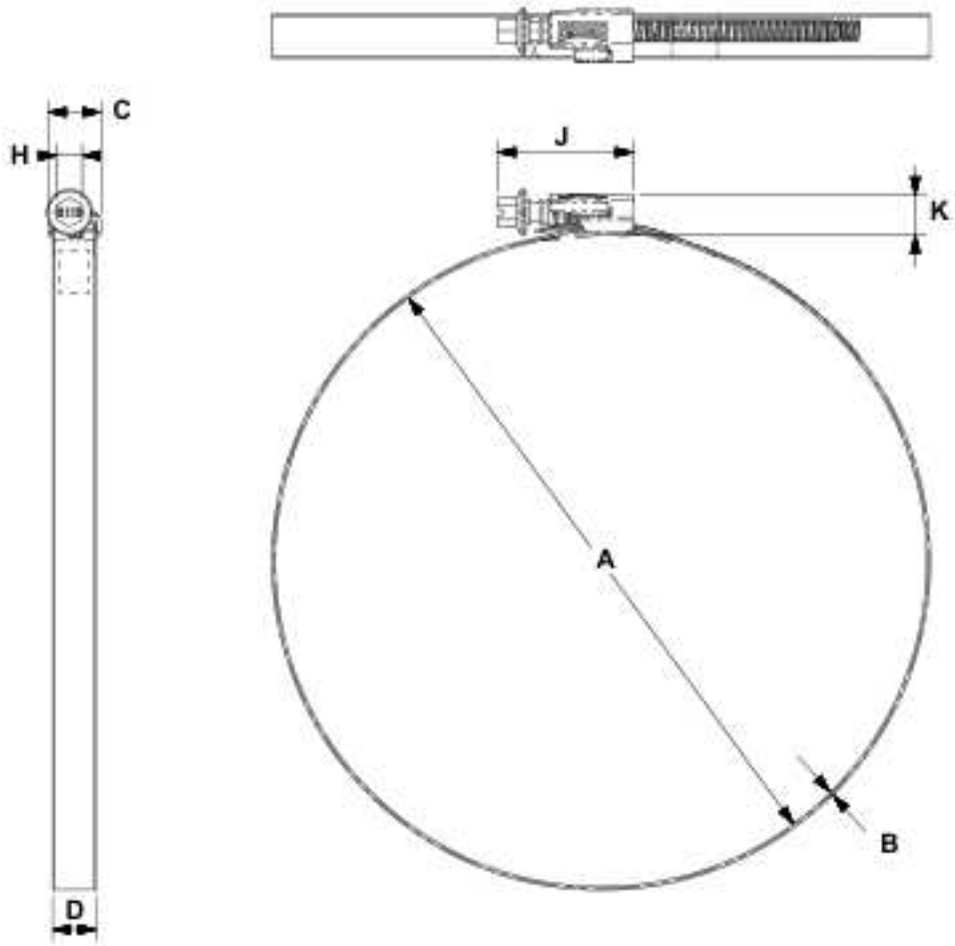



Table 316.

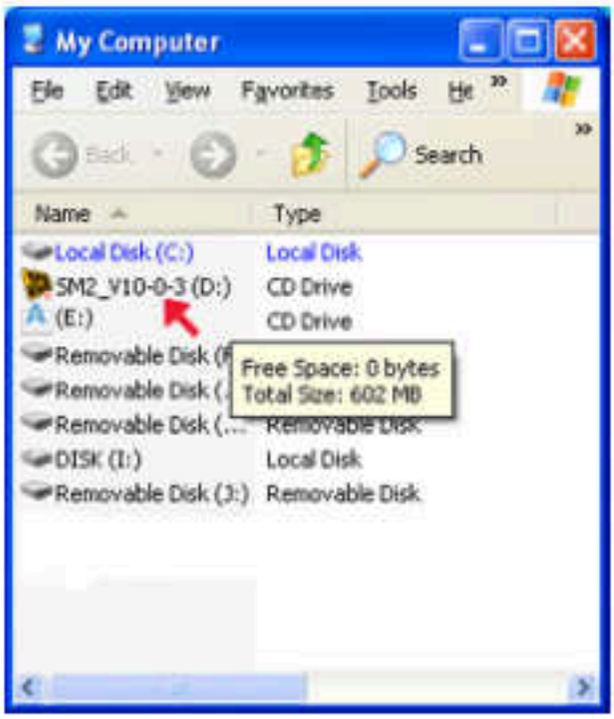
| A<br>Clamping range | B<br>Band thick-ness | C<br>Housing width | D<br>Band width | H<br>Hex size across flats | J<br>Bolt and housing length | K<br>Bolt and housing overall height |
|---|---|---|---|---|---|---|
| Standard worm drive clips and spring assisted worm drive clips | | | | | | |
| 8–16mm | 0.7mm | 13mm | 9mm | 7mm | 21mm | 11mm |
| 12–22mm | | | | | 21mm | |
| 16–27mm up to 60–80mm | 0.8mm | 14.6mm | 12mm | | 30mm | 12.5mm |
| 70–90mm up to 160–180mm | | | | | 36mm | |



MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >

2. Open the "My Computer" option to select the "SM2_V10-0-3 (D:)" CD drive.
3. Select and open the "SM2_V10-0-3 (D:)" CD drive to explore its contents. Refer to Figure 830.

**Figure 830.**




4. Select and open the "Setup.exe" application.
5. A new window "JCB Servicemaster Setup" will appear on the screen.
   5.1. Click the "Install V10.0.3" option to start the setup application. Refer to Figure 831.

**Figure 831.**




6. A new window "Select Setup Language" will appear on the screen. Refer to Figure 832.
   6.1. Use the drop down option to select the suitable language.
   6.2. Click the "OK" option to confirm selected language.

**Figure 832.**




7. A warning message window will appear on the screen. Refer to Figure 833.
   7.1. Click the "OK" option.

**Figure 833.**



8. A new window "JCB Servicemaster Installation Wizard" will appear on the screen. Refer to Figure 834.
   8.1. Click the "Next" option to proceed.

**Figure 834.**




9. Put "User Name" and "Organization" details into the "Customer Registration" screen. Refer to Figure 835.
   9.1. Click the "Next" option when you inserted details.

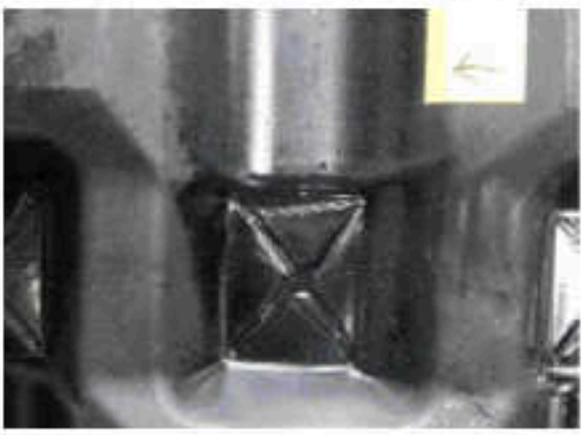


MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >

Figure 510. Steel Cord (Exposure)



Figure 511. Steel Cord (Sticking Out)



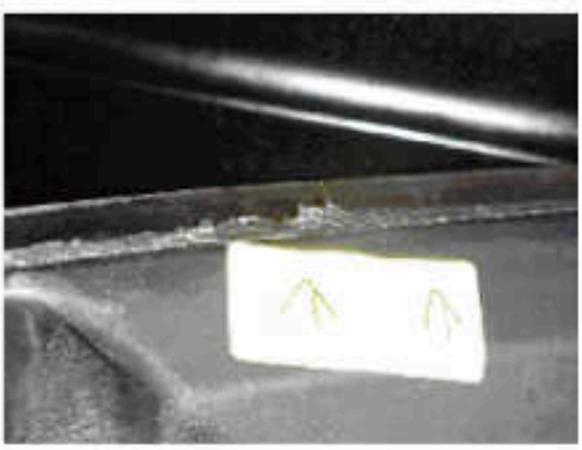


Figure 512. Outer Track Rubber (Tearing/Cuts)



Figure 513. Outer Track Rubber (Fast Abrasion)



Figure 514. Outer Track Rubber (Cracks)





MidWestTech | JCB 225T, 250, 250T, 260, 260T, 270, 270T, 280, 300, 300T, 320T, 325... Order the manual at mid-west-tech.com >