SERVICE MANUAL

EXCAVATOR

JS300, JS330, JS370

EN - 9813/7500 - ISSUE 2 - 10/2017

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

27 - Driveline

30 - Hydraulic System

33 - Electrical System

72 - Fasteners and Fixings

75 - Consumable Products

78 - After Sales

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 9813-75... 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
- 01-06-03 Model and Serial Number 01-15
- 01-06-06 Using the Manual 01-16

01-09 Description
- 01-09-12 Main Component Locations 01-21
- 01-09-15 Service Point Locations 01-22

01-33 Cleaning
- 01-33-00 General 01-29

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... 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 JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

06 - Body and Framework

Contents **Page No.**

Acronyms Glossary 06-2

06-06 Moveable Panel and Cover
- 06-06-00 General 06-3
- 06-06-03 Battery Compartment 06-4
- 06-06-06 Engine Compartment 06-6
- 06-06-07 Cooling Compartment 06-8
- 06-06-09 Hydraulic Compartment 06-10

06-15 Excavator Arm
- 06-15-00 General 06-13
- 06-15-03 Boom 06-15
- 06-15-06 Dipper 06-19
- 06-15-15 Tipping Linkage 06-22
- 06-15-30 Dipper Stroke Limiter 06-26

06-24 Slew Ring
- 06-24-00 General 06-33
- 06-24-03 Bearing 06-34
- 06-24-06 Gear 06-38

06-30 Pivot Pins
- 06-30-00 General 06-41

06-63 Identification Label
- 06-63-00 General 06-45
- 06-63-03 Machine 06-46
- 06-63-06 Engine 06-47
- 06-63-15 Operator Protective Structure 06-48

06-66 Tools
- 06-66-00 General 06-51
- 06-66-03 Toolbox 06-52

06-75 Fire Extinguisher
- 06-75-00 General 06-55

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

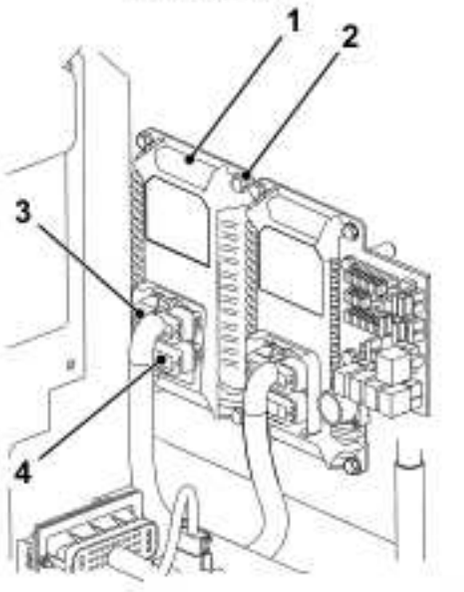
Key to Schematic Sheets - Refer to Table 211.

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

Remove and Install

The HECU (Hydraulics Electronic Control Unit) is a reliable and robust component. Before removing the HECU carry out all the relevant diagnostic and fault finding procedures. Most faults are usually due to damaged wires, connectors or connected devices such as sensors or solenoids.

Figure 1001.



1 HECU
2 Screw
3 Black harness connector (J1)
4 Grey harness connector (J2)

Remove

The HECU is not a bound ECU (Electronic Control Unit)

1. Park the machine and make it safe. Obey the care and safety procedures. Refer to (PIL 01-03).
2. Disconnect the battery. Refer to (PIL 33-03).
3. Disconnect the black harness connector (J1) and the grey harness connector (J2) at the HECU. Do not touch the connector pins. Put some tape over the connectors to protect the pins.
4. Remove four screws and their associated washers.

Install

1. The installation procedure is the opposite of the removal procedure. Additionally do the following steps.
2. Connect the harness connectors at the correct sockets on the HECU.
3. If the HECU is a replacement unit refer to the Set-up instructions.

Do not replace the HECU with a unit from another machine. They may look the same but can have different software installations.

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

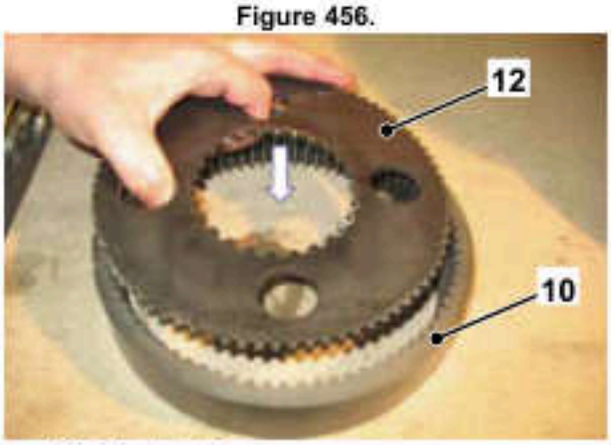
Technical Data

Table 297. Locking Fluids Approved Product Information

Subsection	Commercial name	Product Number	Colour	Shelf life	Strength	Comments
High strength	Loctite 270 R.A.S. threadlock for studs (red)	4101/0100	Green fluorescent	365d	80–120bar (1,159.4–1,739.1psi) breakaway strength	For the retention of threads up to M20 diameter where disassembly is unlikely and for locking bearings etc. onto shafts and into housing. Has a maximum gap fill of 0.05mm.
High strength	Loctite 638	4101/1400	Green, UV fluorescent	365d	More than 250bar (3,623.2psi) compressive shear strength	Maximum gap fill of 0.25mm. Maximum strength at room temperature.
High strength	Permabond A115	4101/0500	Red, fluorescent	365d	100–150bar (1,449.3–2,173.9psi) prevailing strength	Fast curing (10–15min) thread locking up to M20, especially for use on oily surfaces, plated and clean parts.
High strength	Loctite 648 Permabond A118	4101/0600	Green, fluorescent	365d	More than 250bar (3,623.2psi) compressive shear strength	Designed for holding gears and sprockets onto gearbox shafts and rotors on electric motor shafts.
High strength	Loctite 2701	4101/1700	Green	365d	260–500bar (3,768.1–7,246.3psi) breakaway torque	Designed for permanent locking and sealing of threaded fasteners. Particularly suited for use on inactive substrates and/or where maximum resistance to hot oil is required.
Medium to high	Loctite 243	4101/1100	Blue	365d	140–340bar (2,029.0–4,927.5psi) breakaway torque	Suitable for all nuts, bolts, screws up to M36.
Medium strength	Permabond A119	4101/0900	Blue	365d	80–120bar (1,159.4–1,739.1psi) static shear strength	Maximum gap fill of 0.25mm. Handling strength in 10–15min.
Medium strength	Loctite 640	4101/1200	Green, fluorescent	365d	150–330bar (2,173.9–4,782.6psi) static shear strength	Product has a slow cure rate, used on parts unlikely to be disassembled.
Medium strength	Loctite 242 Permabond A1042 Permabond A113	4101/0200	Blue, fluorescent	365d	80–120bar (1,159.4–1,739.1psi) static shear strength	Suitable for all nuts, bolts and screws up to M36 and hydraulic fittings up to 25mm in diameter. Permabond A113 and A1042 are the preferred choices. The difference between A113 and A1042 is timing for handling and working strength. A113 handling time 10–25min, working strength 1h. A1042 handling time 5–10min, working strength 30min.

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

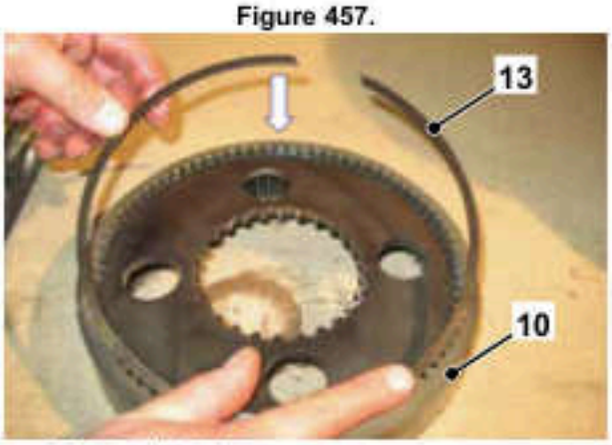
Figure 456.



10 Toothed ring
12 Discs

30. Insert the circlip into its seat in the toothed ring.

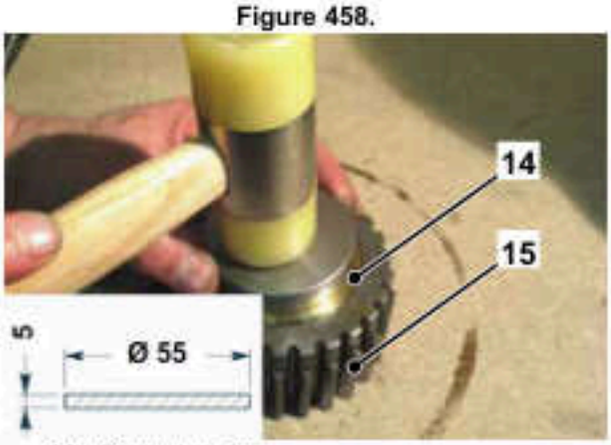
Figure 457.



10 Toothed ring
13 Circlip

31. By using a rubber hammer and a spacer assemble the centering ring into its seat in the sun gear.

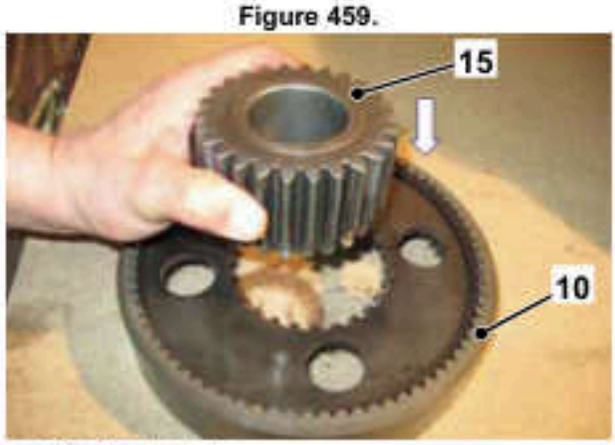
Figure 458.



14 Centering ring
15 Sun gear

32. Insert the 2nd reduction sun gear into the toothed ring.

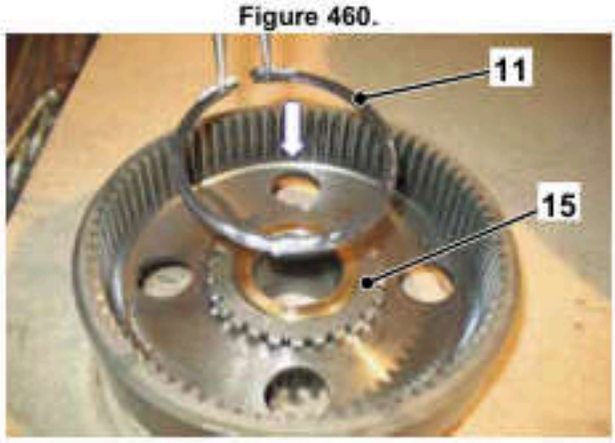
Figure 459.



10 Toothed ring
15 Sun gear

33. By using circlip pliers, assemble the circlip into its seat in the 2nd reduction sun gear.

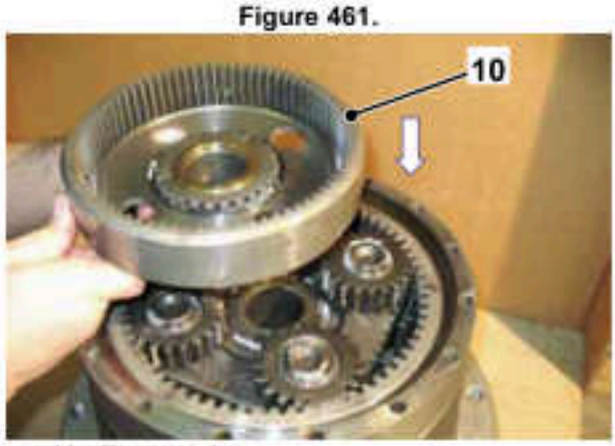
Figure 460.



11 Circlip
15 Sun gear

34. Insert the toothed ring assembly.

Figure 461.

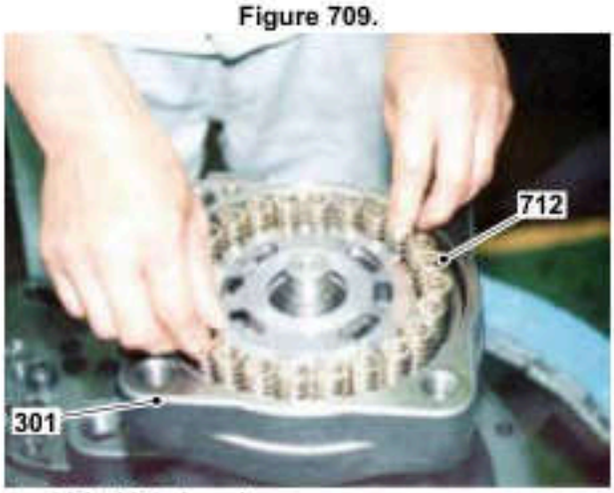


10 Toothed ring

35. Insert the 1st reduction sun gear.

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >

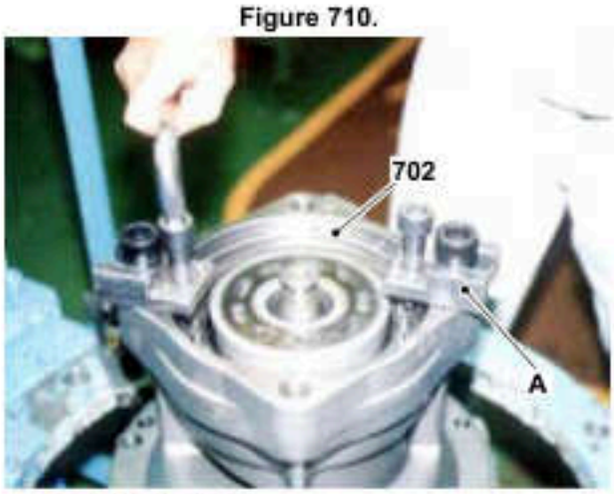
Figure 709.



301 Main housing
712 Brake springs

13. Remove brake piston using the extraction tool.

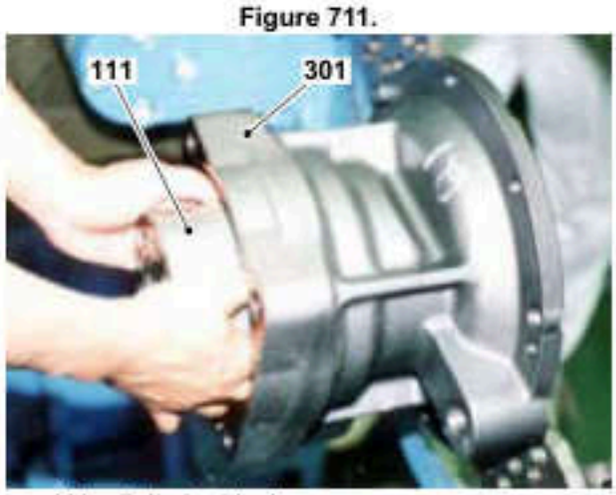
Figure 710.



A Extraction tool
702 Brake piston

14. Position main housing horizontally and remove cylinder block and push rod (taking care not to damage the sliding contact surfaces of the cylinder block), spherical bush and shoe.

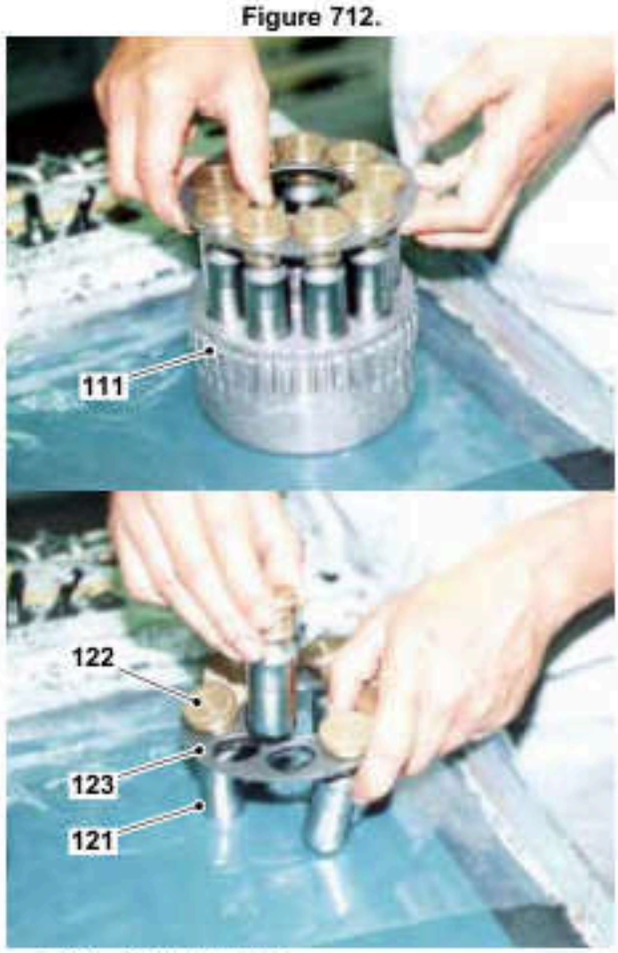
Figure 711.



111 Cylinder block
301 Main housing

15. Remove the pistons, piston shoes, retaining plate, spherical bush, spacer F and shoe plate from the cylinder block.

Figure 712.



111 Cylinder block
121 Piston
122 Shoe
123 Retaining plate

MidWestTech | JCB JS300, JS330, JS370 Excavator Service Manual | Publication 981... Order the manual at mid-west-tech.com >