SERVICE MANUAL

EXCAVATOR

JS200, JS210, JS220, JS235

EN - 9813/7250 - ISSUE 1 - 05/2017

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

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Foreword

The Operator's Manual

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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.

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Table 34. ATC system - Error Code 8 - Evaporator Temperature Sensor Fault. No cooling. Compressor disengages.

Cause	Remedy
There is no signal from the evaporator temperature sensor to theATC module	Check the continuity between pin1 on the evaporator temperature sensor to pin 23 on the ATC module
There is a bad earth on the evaporator temperature sensor	Check the relevant earth wiring
Evaporator temperature sensor fault	Replace the evaporator temperature sensor

Table 35. ATC system - Error Code 9 - Outlet Temperature Sensor Fault. The blower speed stays at maximum in AUTO mode.

Cause	Remedy
There is no signal from the outlet temperature sensor to the ATC module	Check the continuity between pin1 on the outlet temperature sensor to pin 22 on the ATC module
There is a bad earth on the outlet temperature sensor	Check the relevant earth wiring
Outlet temperature sensor fault	Make sure the sensor connections are correct. Replace the outlet temperature sensor

Table 36. ATC system - Error Code E19 - No Communications Between the Control Panel and the ATC Module. There is no temperature change. Compressor disengages. Blower speed stays at maximum in AUTO mode.

Cause	Remedy
Wiring fault	Check power at pins on the user interface unit and the ATC module
	Check Earth at pins on the user interface unit and the ATC module
	Check the wire continuity between the user interface unit and the ATC module
Harness connector fault	Check that the relevant harness connectors are not defective
User interface unit or ATCunit fault	Replace as applicable

Table 37. ATC system - PWM Failure (No Fault Code Displayed). There is no temperature change. Compressor disengages. Blower fixed at maximum or minimum speed.

Cause	Remedy
Wiring fault	Check the relevant earth wiring
	Check the voltage at pin 6 of the PWM unit. Expected range: Voltage: 0.016–11.18V

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Component Identification

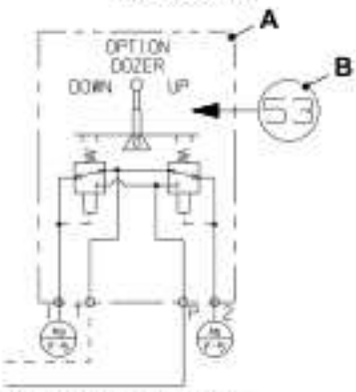
The hydraulic schematics represent the complete machine hydraulic system. For this reason they can seem complex. The following explains how to identify hydraulic components and connections on the schematics.

Components

Hydraulic components are shown using symbols. The symbols conform to a common standard. Refer to: PIL 30-00-49.

A description for each component is linked to a numerical annotation.

Figure 666.



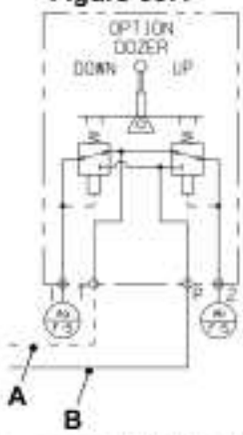
A Hydraulic component symbol
B Numerical annotation

Hydraulic Lines and System State

The hydraulic components are connected by hydraulic lines. In reality these are usually hoses or pipes. These are shown by the use of continuous lines or dashed lines.

The hydraulic system is shown in its neutral state (no services operating) with the engine, and therefore the hydraulic pumps, running. Continuous lines show where there is system pressure and dashed lines show where lines are connected to tank.

Figure 667.



A Hydraulic line - connected to tank
B Hydraulic line - system pressure

Grid Reference

Each schematic sheet has a grid. A grid reference is used to identify the applicable location zone on the sheet in a similar way to a map reference.

To reduce complexity some hydraulic lines are not shown. Instead a code is given together with a grid reference for the destination of the hydraulic line.

Where the destination is on a different sheet the sheet number is also given.

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Technical Data

Dimensions

Figure 1369.

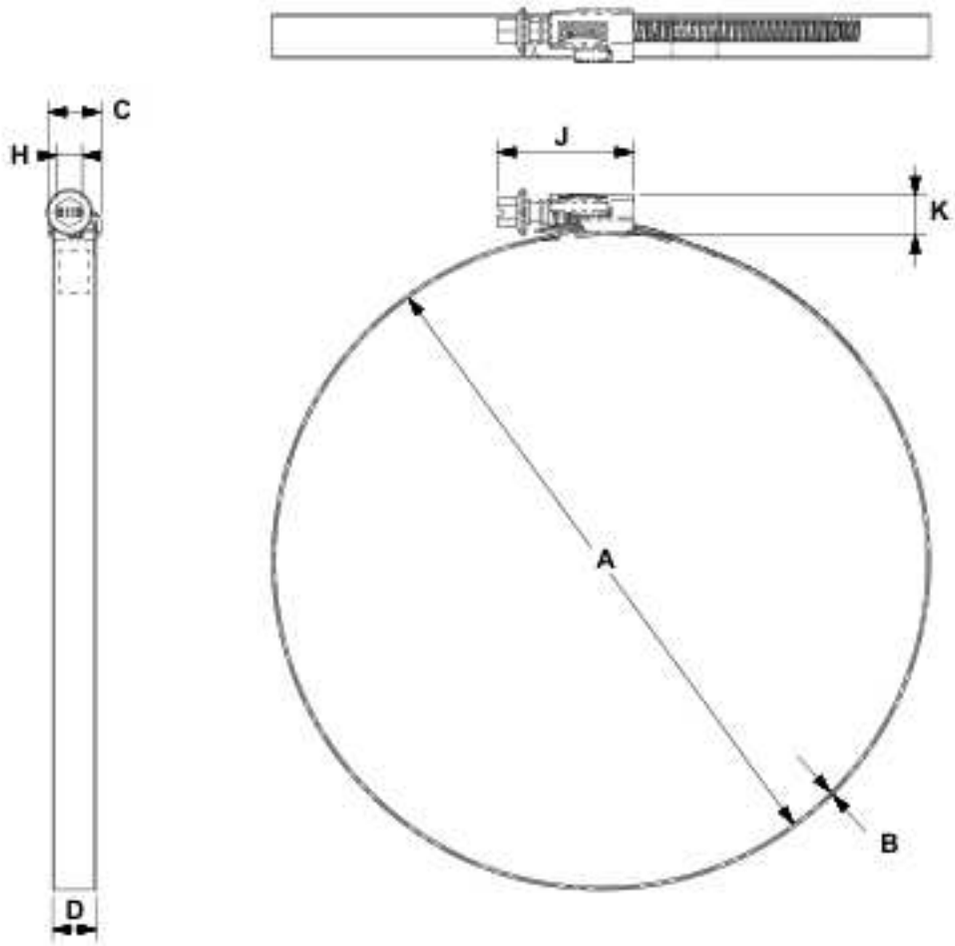
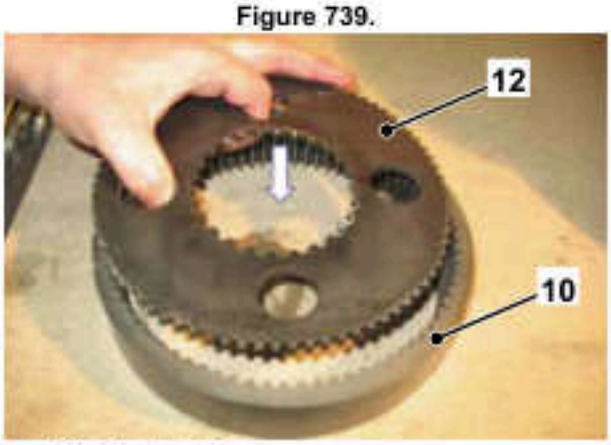


Table 381.

A Clamping range	B Band thick-ness	C Housing width	D Band width	H Hex size across flats	J Bolt and housing length	K 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	

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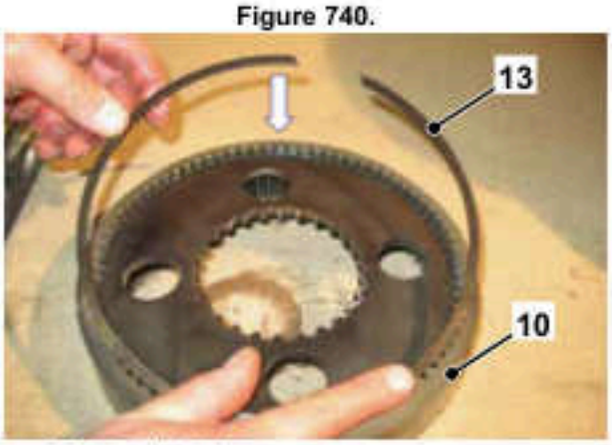
Figure 739.



10 Toothed ring
12 Discs

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

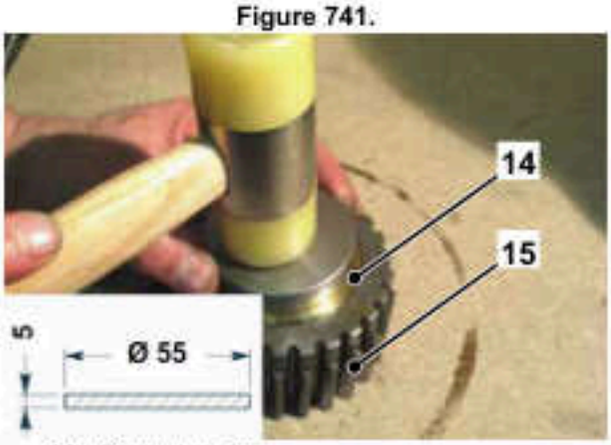
Figure 740.



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.

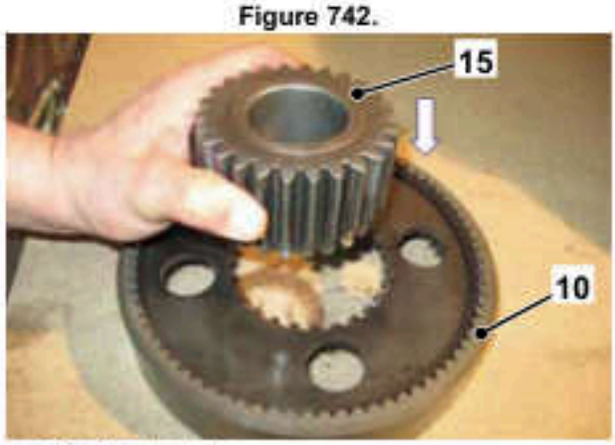
Figure 741.



14 Centering ring
15 Sun gear

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

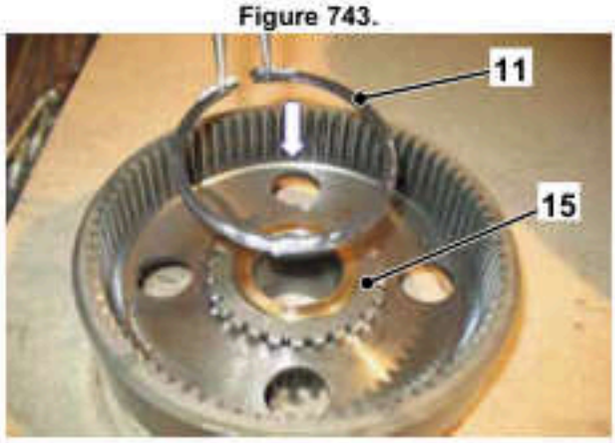
Figure 742.



10 Toothed ring
15 Sun gear

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

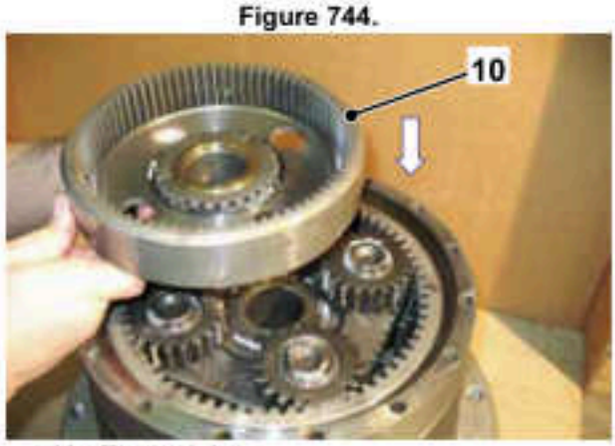
Figure 743.



11 Circlip
15 Sun gear

34. Insert the toothed ring assembly.

Figure 744.



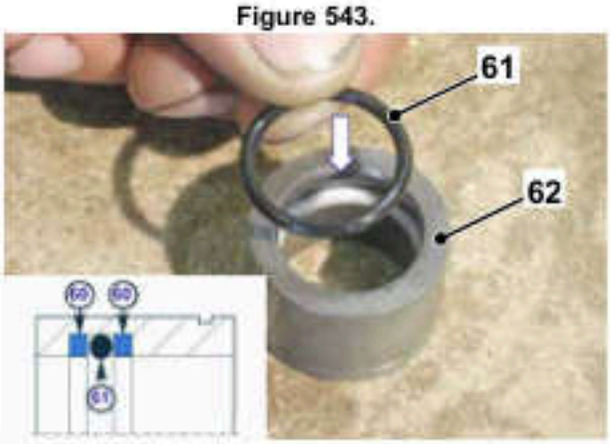
10 Toothed ring

35. Insert the 1st reduction sun gear.

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3. Assemble the O-ring seal into its seat in the free piston. Install the second back-up ring as shown on the sketch.

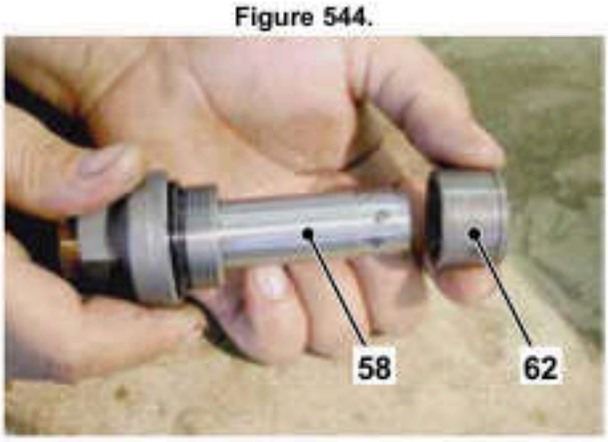
Figure 543.



60 Back-up rings
61 O-ring
62 Free piston

4. Insert the free piston in the relief valve checking that the groove side is turned toward the inside of the motor.

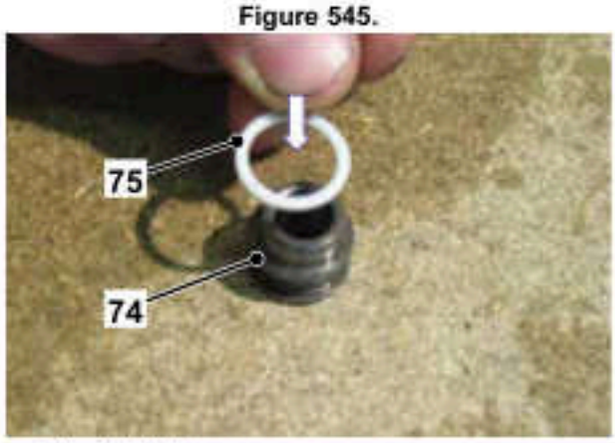
Figure 544.



58 Relief valve
62 Free piston

5. Assemble the first back-up ring into its seat in the poppet.

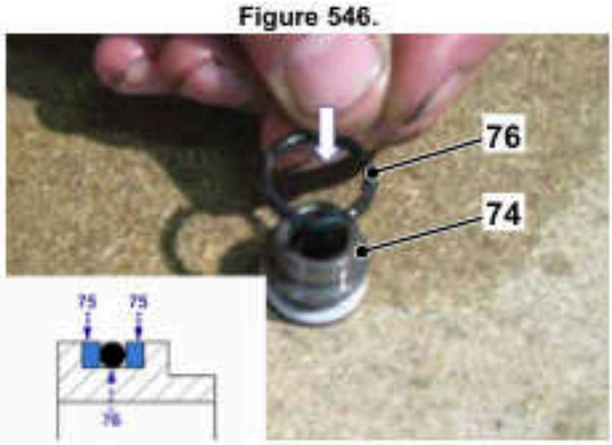
Figure 545.



74 Poppet
75 Back-up rings

6. Assemble the O-ring seal and the second back-up ring into its seat in the poppet.

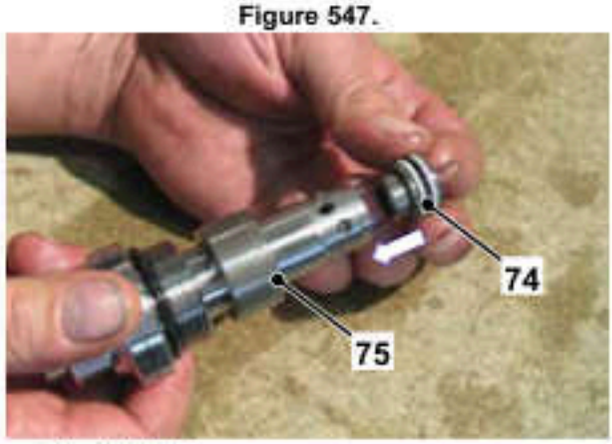
Figure 546.



74 Poppet
75 Back-up rings
76 O-ring

7. Insert the poppet into its seat in the relief valve.

Figure 547.



74 Poppet
75 Back-up rings

8. Insert the first relief valve inside the base plate.

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