SERVICE MANUAL

EXCAVATOR

JCB380, JS370 [T2 IND]

EN - 9813/8700 - ISSUE 1 - 10/2017

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

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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.

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Table 182. Motor speed varies greatly.

Cause	Remedy
Large amount of pressurised oil escapes and flows out of the drain port due to wear on the sliding area of the motor.	Disassemble and renew excessively worn parts. Clean all parts and reassemble.
Wear in the bearings.	Renew motor bearings.
Motor load is excessive and automatic 2-speed function is operating.	Check the load and only operate the machine with a suitable load.
Counterbalance valve not operating correctly due to contamination.	Disassemble the counterbalance valve. Remove contamination, repair or replace defective components and reassemble after cleaning. Renew if damage or leakage is excessive.

Table 183. Oil leaks.

Cause	Remedy
Oil leaks due to damaged oil seals or O-rings.	Renew damaged oil seals or O-rings. When fitting an oil seal, be careful not to damage the lip. Check the system to ensure the running temperature does not exceed 80 °C. Take the necessary steps to ensure the temperature remains within the acceptable range.
Sliding area of motor is excessively worn, allowing pressurised oil to escape.	Renew the excessively worn part. Remove scratches and burrs from the surface and completely clean all parts. Reassemble.
Large amount of pressurised oil escapes and flows out of the drain port due to wear on the sliding area of the motor.	Disassemble and renew excessively worn parts. Clean all parts and reassemble.
Clogging due to foreign matter in drain pipe or long, narrow pipes causing the oil seal to break.	Clean the clogged drain piping. Re-check the piping system and reduce the passage resistance. Renew the oil seal taking care not to damage the lip.

Table 184. Abnormal noise, excessive speed and pressure variation due to cavitation.

Cause	Remedy
When the motor works as a pump, when the closed circuit is used, when the boost pressure is low (standard: 0.4 -5 kgf/cm2) or when the double counterbalance valve operates improperly, negative pressure is generated on the suction side of the motor, resulting in cavitation.	Re-check the hydraulic circuit and by remedying or renewing the double counterbalance valve, prevent the generation of negative pressure. Disassemble the motor and renew any abnormally worn or broken parts.

Table 185. Braking force is low or insufficient.

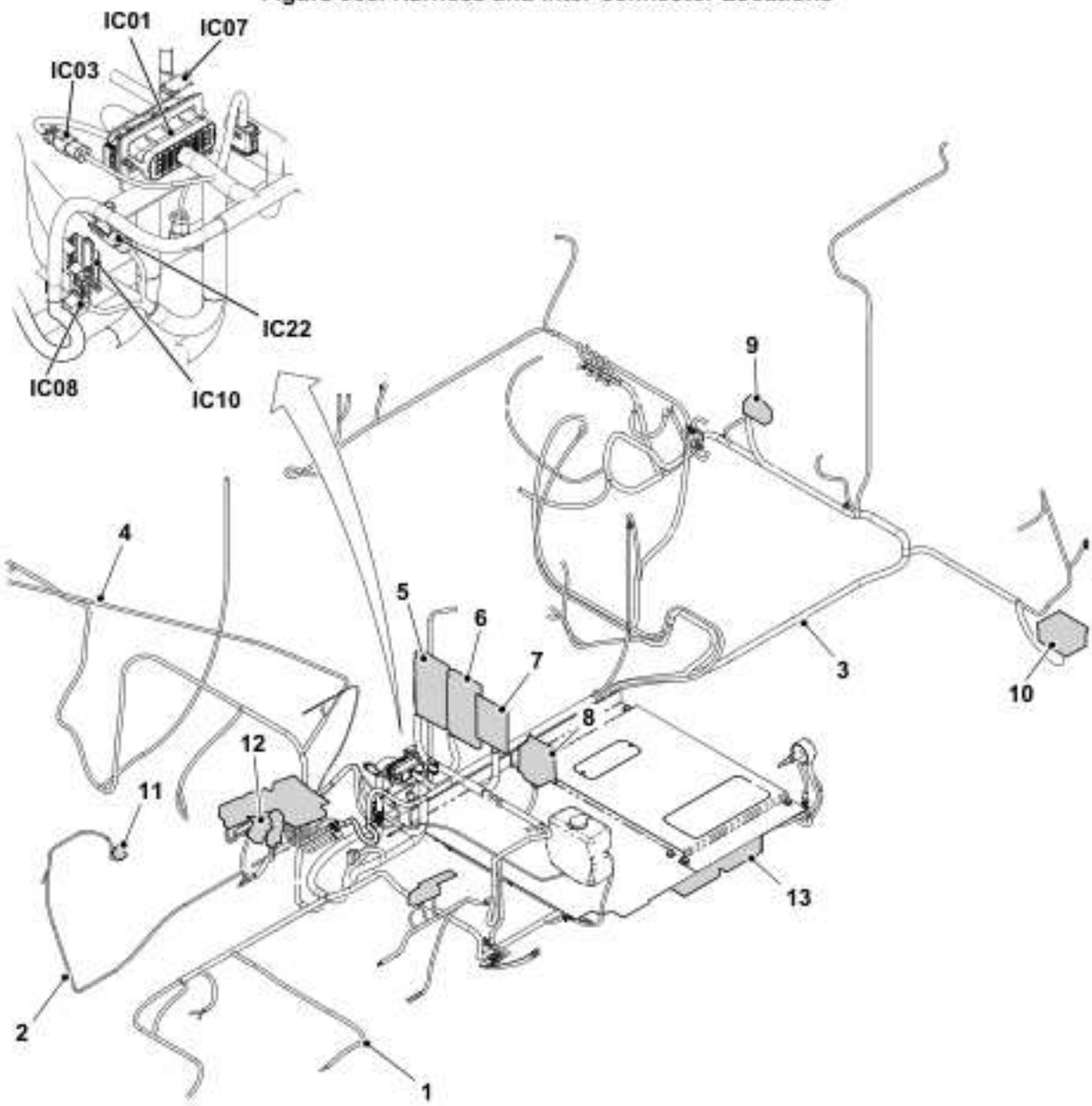
Cause	Remedy
Friction plates worn.	Renew discs. Remove contamination and repair damaged areas. After cleaning, reassemble.
Counter places surface damaged or making poor contact.	Grind and recondition the affected area. Reassemble after cleaning. Renew plates if excessively damaged.
Spring is deformed or damaged.	Renew the spring. Remove contamination and reassemble after cleaning.

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Diagram

The illustration shows a representation of the basic routing of the main machine harnesses. Some of the main electrical components are also shown to give an indication of harness positioning within the machine structure.

Figure 938. Harness and inter-connector Locations



1	Cab harness	2	Fascia harness
3	Revolving chassis harness	4	Boom harness
5	HECU (Hydraulics Electronic Control Unit) (cab)	6	MECU (Machine Electronic Control Unit) (cab)
7	PCB (Printed Circuit Board) mounted fuses and relays (cab)	8	Voltage converter (cab)
9	Engine ECU (Electronic Control Unit) connector	10	Engine fuse and relay box (engine compartment)

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A	B	C	D	H	J	K
Clamping range	Band thick-ness	Housing width	Band width	Hex size across flats	Bolt and housing length	Bolt and housing overall height
Heavy duty worm drive clips						
172–206mm	0.7mm	23.1mm	16mm	7mm	37mm	13mm

Torque Values

Table 365. Standard Worm Drive Clip

Clamping range	Part number	Torque values
8–16mm	2201/0001	2 -0/+0.5N·m
12–22mm	2201/0003	3 -0/+0.5N·m
16–27mm	2201/0005	5 -0/+0.5N·m
20–32mm	2201/0006	5 -0/+0.5N·m
25–40mm	2201/0007	5 -0/+0.5N·m
35–50mm	2201/0008	5 -0/+0.5N·m
40–60mm	2201/0010	5 -0/+0.5N·m
50–70mm	2201/0012	5 -0/+0.5N·m
60–80mm	2201/0013	5 -0/+0.5N·m
70–90mm	2201/0014	5 -0/+0.5N·m
80–100mm	2201/0015	5 -0/+0.5N·m
90–110mm	2201/0016	5 -0/+0.5N·m
100–120mm	2201/0021	5 -0/+0.5N·m
120–140mm	2201/0017	5 -0/+0.5N·m
130–150mm	2201/0018	5 -0/+0.5N·m
150–170mm	2201/0019	5 -0/+0.5N·m
160–180mm	2201/0020	5 -0/+0.5N·m

Table 366. Heavy Duty Worm Drive Clip

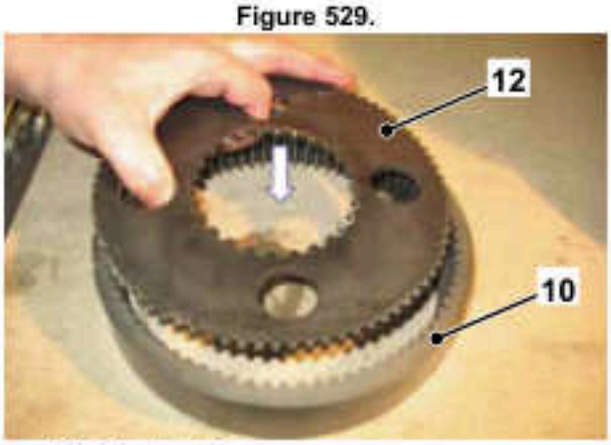
Clamping range	Part number	Torque values
172–194mm	2201/0022	10 -0/+0.5N·m
184–206mm	2201/0023	10 -0/+0.5N·m

Table 367. Spring Assisted Worm Drive Clip

Clamping range	Part number	Torque values
16–27mm	2206/1627	5 -0/+0.5N·m
20–32mm	2206/2032	5 -0/+0.5N·m
25–40mm	2206/2540	5 -0/+0.5N·m
30–45mm	2206/3045	5 -0/+0.5N·m
35–50mm	2206/3550	5 -0/+0.5N·m
40–60mm	2206/4060	5 -0/+0.5N·m
50–70mm	2206/5070	5 -0/+0.5N·m
60–80mm	2206/6080	5 -0/+0.5N·m
70–90mm	2206/7090	5 -0/+0.5N·m

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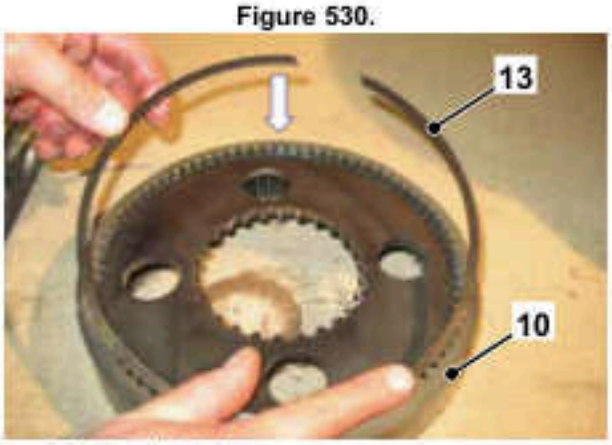
Figure 529.



10 Toothed ring
12 Discs

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

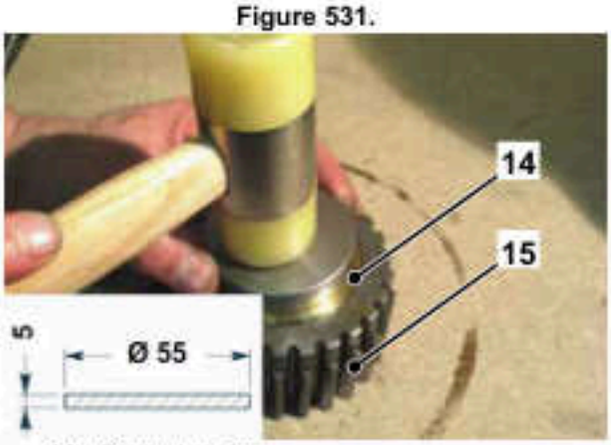
Figure 530.



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 531.



14 Centering ring
15 Sun gear

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

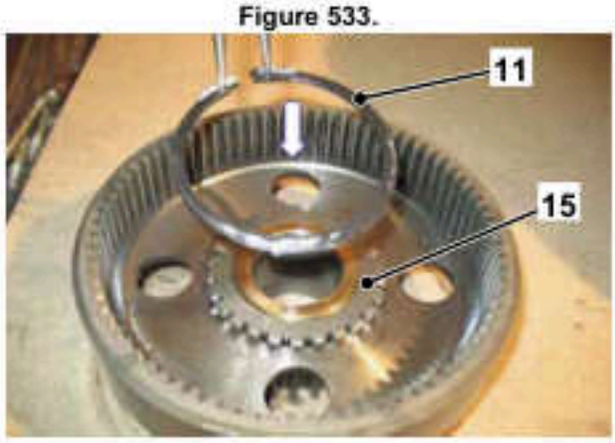
Figure 532.



10 Toothed ring
15 Sun gear

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

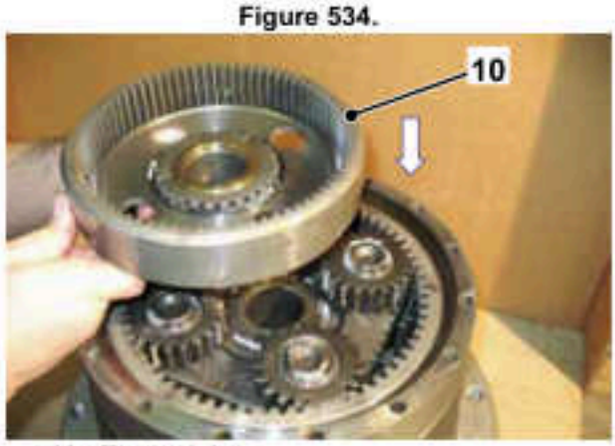
Figure 533.



11 Circlip
15 Sun gear

34. Insert the toothed ring assembly.

Figure 534.

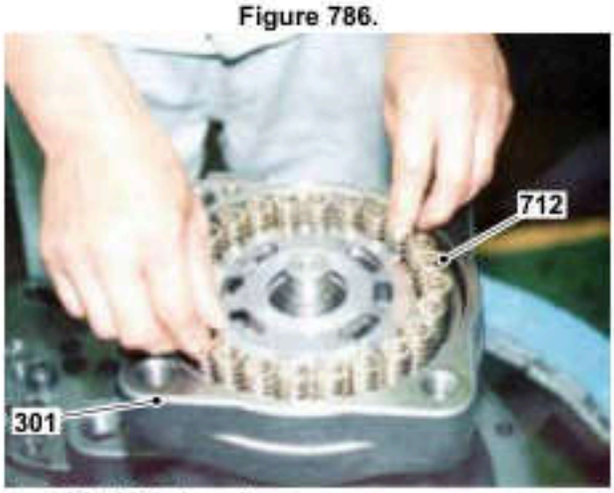


10 Toothed ring

35. Insert the 1st reduction sun gear.

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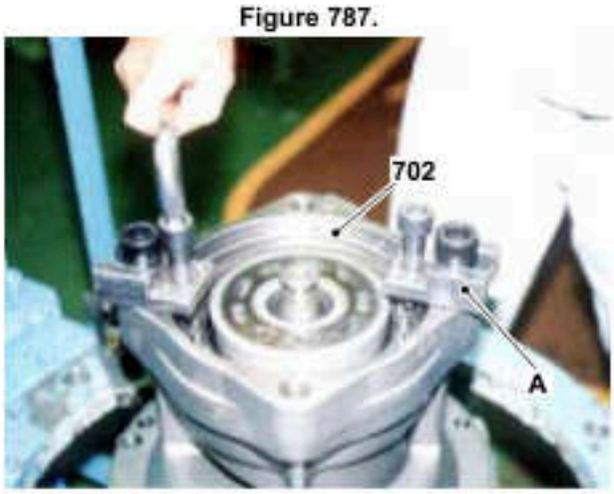
Figure 786.



301 Main housing
712 Brake springs

13. Remove brake piston using the extraction tool.

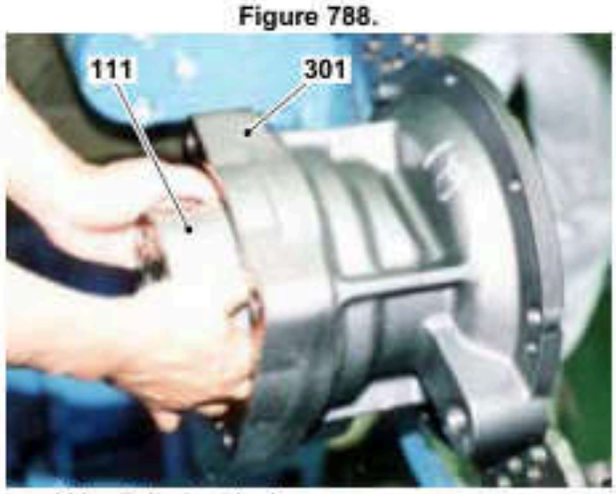
Figure 787.



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.

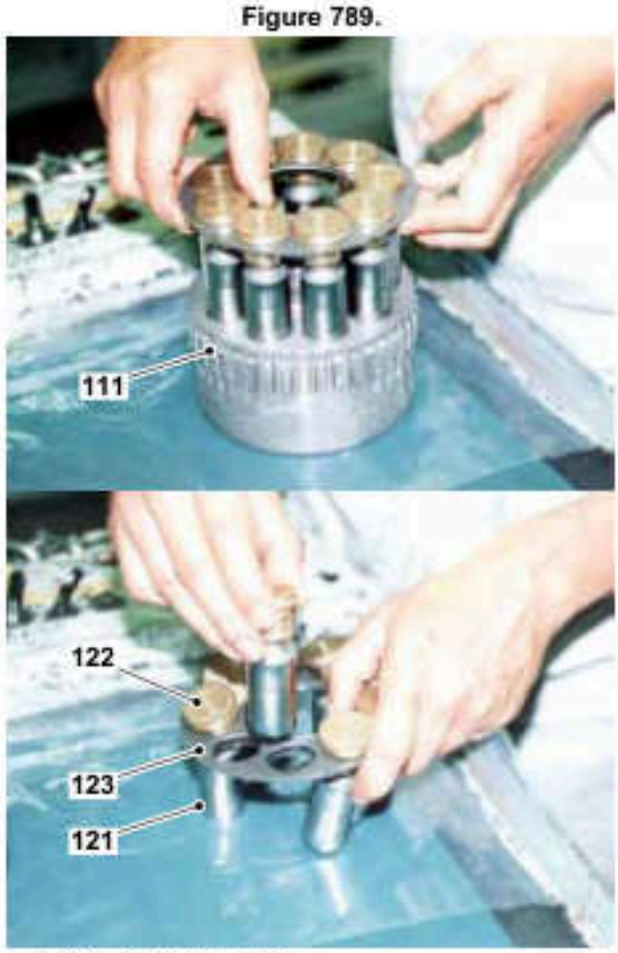
Figure 788.



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 789.



111 Cylinder block
121 Piston
122 Shoe
123 Retaining plate

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