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).

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.

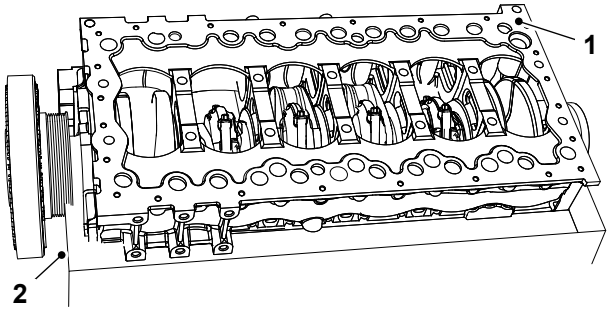
Contents

00 - General

Introduction

The bedplate acts as the main strength component of the engine. it maintains the correct alignment and supports the weight of the internal components.

Figure 114.



1 Bedplate
2 Crankcase

Remove and Install

Special Tools

Description	Part No.	Qty.
Template for Sealant Bedplate to Crankcase (4 Cyl)	892/12356	1
Torque Wrench (10-100Nm)	993/70111	1

Consumables

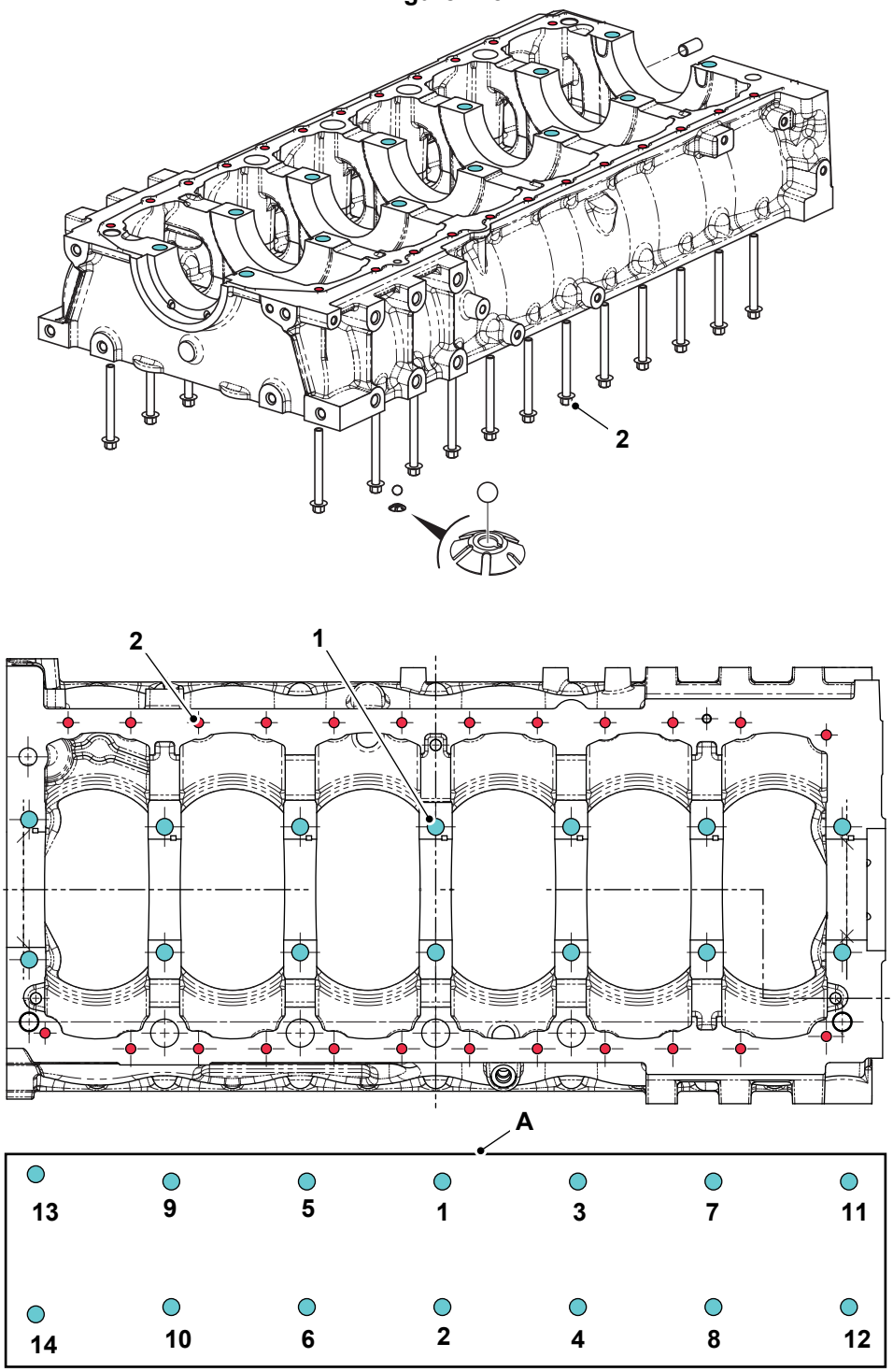
Description	Part No.	Size
Cleaner/Degreaser - General purpose solvent based parts cleaner	4104/1557	0.4L

⚠ **CAUTION** This component is heavy. It must only be removed or handled using a suitable lifting method and device.

Before Removal

1. This procedure requires service parts. Make sure that you have obtained the correct service parts before you start. Refer to Parts Catalogue.
2. Make sure that the engine is safe to work on. If the engine has been running, let it cool before you start the service work.
3. Remove the engine. Refer to (PIL 15-00).
4. Remove the drive belt. Refer to (PIL 15-18).
5. Remove the crankshaft pulley. Refer to (PIL 15-12).
6. Remove the oil sump. Refer to (PIL 15-45).
7. Disconnect and remove the fuel pipes from the injectors. Refer to (PIL 18-96).
8. Remove the rocker cover. Refer to (PIL 15-42).
9. Remove the fuel injectors. Refer to (PIL 18-18).
10. Remove the rocker assembly including the push rods. Refer to (PIL 15-42).
11. It is not necessary to remove the cylinder head assembly to remove the crankshaft. If however the cylinder head needs to be removed for other reasons (for piston and connecting rod removal for example) remove it now. Refer to (PIL 15-06).
12. Remove the fuel injection pump. Refer to (PIL 18-18).
13. Remove the starter motor. Refer to (PIL 15-75).
14. Remove the high duty PTO device (if installed).
15. Position the engine upside down in a suitable jig or fixture, supported at the front of the crankcase.
16. Remove the flywheel. Refer to (PIL 15-54).
17. Remove the flywheel housing. Refer to (PIL 15-54).
18. Remove the fuel injection pump drive gear. Refer to (PIL 15-51).
19. Remove the oil pump. Refer to (PIL 15-60).
20. Remove the high duty PTO (Power Take-Off) idler drive gear (if installed). Refer to (PIL 15-51).
21. Remove the crankshaft drive gear. Refer to (PIL 15-51).
22. Remove the camshaft. Refer to (PIL 15-15).
23. Remove the rear timing case. Refer to (PIL 15-51).
24. If the pistons and connecting rods have not been removed, undo and remove the main bearing caps. Refer to (PIL 15-12).

Figure 115.



1 Main bearing bolts (x14)

2 Bedplate peripheral bolts (x24)

Remove

1. Remove the bedplate peripheral bolts.
2. Progressively remove the main bearing bolts in reverse order starting at bolt 14. The bolts MUST NOT be re-used. Discard the bolts.
3. Install the four temporary lifting bolts. Carefully separate the bedplate from the crankcase. Use suitable lifting equipment (if the bedplate is lifted manually, two people will be required). DO NOT use a lever to separate the bedplate.
4. Remove and discard the O-ring.
5. Carefully remove the upper bearing shells from the bedplate, remove the bedplate.

Before Installation

1. Clean off all traces of the old sealant compound from the crankcase and bedplate mating faces.
2. Use a suitable degreasing agent to carefully clean the main bearing saddles in the bedplate and crankcase. Take care not to block the oil ways or the piston cooling jets.

   Consumable: Cleaner/Degreaser - General purpose solvent based parts cleaner

Important: Anaerobic sealant will not start to cure whilst it is open to the atmosphere, however when air is excluded (for instance when the two parts are put together) it will immediately start to harden. Make sure that all the necessary tools, bolts etc. are readily available prior to assembling the components. The parts must be installed and tightened to the correct torque value within 5 minutes (with a maximum permissible time of 15 minutes).

Important: Before installing the bedplate: DO NOT rotate the crankshaft. Make sure that the upper main bearing shells are flush with the bottom face of the crankcase.

Install

1. The installation procedure is the opposite of the removal procedure. Additionally do the following steps.
2. Make sure that all items are clean and free from damage and corrosion.
3. Install the two guide pins to the crankcase bedplate fixing holes as shown.
4. Install the four lifting bolts to the bedplate as shown.
5. Install a new O-ring at the bedplate.
6. Use a suitable degreasing agent to clean both sides of the lower bearing shells. Assemble the lower bearing shells into the bedplate. Lubricate the lower bearing shells with clean engine oil. Note: Make sure that the location tab W engages in the slot as shown.

   Consumable: Cleaner/Degreaser - General purpose solvent based parts cleaner
7. Note: The sealant template is used on the crankcase, NOT the bedplate. The sealant template comprises of two pieces A. Modify the template A by removing portion V.

   Special Tool: Template for Sealant Bedplate to Crankcase (4 Cyl) (Qty.: 1)
8. Locate the holes in the templates A and B using four fixing bolts at positions Y. Use the templates as a guide apply beads of sealant P2 around the crankcase/bedplate mating face as shown to the dimension specified.

   Length/Dimension/Distance: 1.5mm
9. Remove the four fixing bolts at positions Y. Remove the templates A and B, make sure you do not smudge the sealant. Discard the templates.
10. Add beads of sealant around the four bolt holes at positions Y, so as to join the sealant beads as shown at X.
11. Make sure that the location guide pins are in position in the crankcase. Assemble the bedplate to the crankcase use the alignment guide pins.
12. Note: The bedplate is heavy. Two people will be required to lift and rotate the bedplate safely on to the crankcase. Install new main bearing bolts. Tighten the bolts to the correct torque value in pairs, starting in the centre and working outwards (in sequence) to the 1st stage pre-torque.

    Special Tool: Torque Wrench (10-100Nm) (Qty.: 1)
13. Install the bedplate peripheral bolts. Tighten the bolts to the correct torque value.
14. After installation and tightening the bedplate peripheral bolts, further tighten the main bearing bolts in pairs, starting in the centre and working outwards (in sequence) to the 2nd stage pre-torque.
15. Finally, angle tighten the main bearing bolts in pairs, starting in the centre and working outwards (in sequence) for the final stage torque. Use the torque and angle method, refer to Fasteners and Fixings, General, Introduction (PIL 72-00).

Important: If the parts have not been tightened to the correct torque value within the maximum 15 minute

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