



SERVICE MANUAL

BACKHOE LOADER
3CX Compact

EN - 9813/5450 - ISSUE 5 - 11/2017

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.

Contents

- 01 - Machine**
- 03 - Attachments, Couplings and Load Handling**
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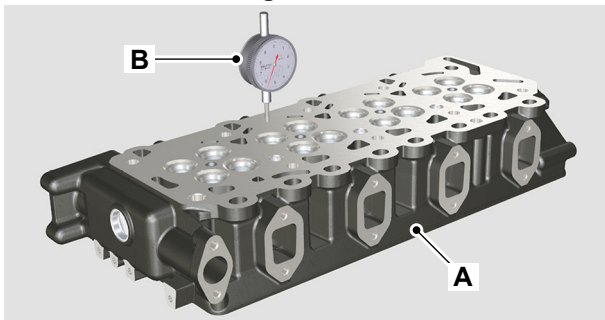
Calibrate

Flatness Check

Put the cylinder head on a surface plate and measure its flatness with a dial gauge.

If the level deviation is greater than 0.10mm (0.004in), the cylinder head must be machined. The cylinder head should not be machined more than 0.20mm (0.008in) in depth.

Figure 161.



- A** Cylinder head
- B** Dial gauge

Remove and Install

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

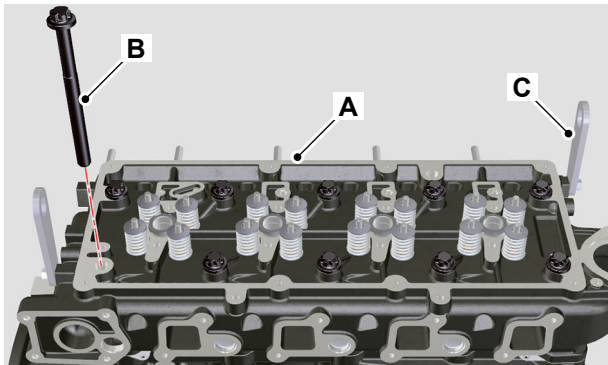
1. This procedure requires service parts. Make sure you have obtained the correct parts before you start, refer to Parts Catalogue.
2. Make sure that the engine is safe to work on. If the engine has been running, let it cool before you start the service work.
3. Get access to the engine.
4. Remove the thermostat.
[Refer to: PIL 21-12-00.](#)
5. Remove the exhaust manifold.
[Refer to: PIL 18-24-04.](#)
6. Remove the inlet manifold.
[Refer to: PIL 18-24-03.](#)
7. Remove the rocker cover.
[Refer to: PIL 15-42-06.](#)
8. Remove the rocker assembly.
[Refer to: PIL 15-42-00.](#)

Remove

Make sure that the engine is at ambient temperature before you remove the cylinder head, to prevent deformation.

1. Remove the bolts that attach the cylinder head to the crankcase. Note that the bolts must not be re-used. Discard the bolts.

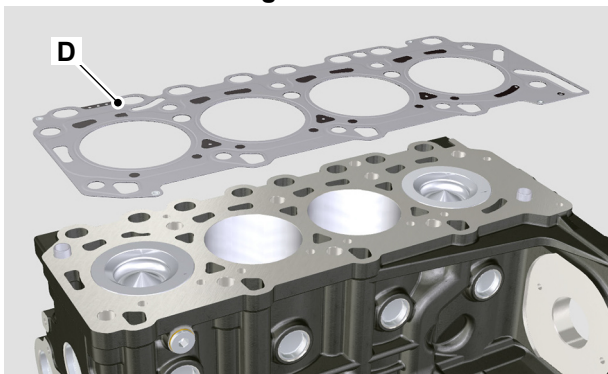
Figure 162.



- A Cylinder head
- B Bolt
- C Eye-bolt

2. Carefully lift the cylinder head from the crankcase. Only use the eye-bolts installed on the cylinder head to move the cylinder head.
3. Remove and discard the head gasket.

Figure 163.



- D Head gasket

4. Using a suitable cleaning agent, carefully remove all traces of the head gasket material from the cylinder head and crankcase mating faces.

Consumable: [Cleaner/Degreaser - General purpose solvent based parts cleaner](#)

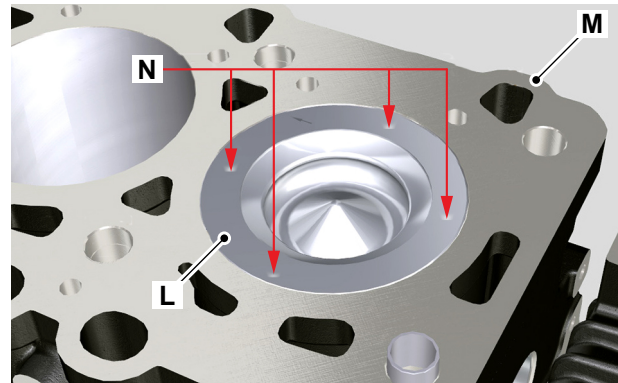
5. Check the cylinder head and crankcase mating faces for signs of damage and distortion.

[Refer to: PIL 15-06-00.](#)

Before Assembly

1. Measure the injector projection.
[Refer to: PIL 18-18-00.](#)
2. Obtain the correct new cylinder head bolts. Note that the original bolts must not be re-used.
3. Obtain the correct replacement head gasket. Note the number of identification holes as shown in Refer to Table 58.

Figure 164.



- L Piston
- M Crankcase
- N Measuring points

- 3.1. Turn the crankshaft to put the piston at TDC (Top Dead Centre).
- 3.2. Put a dial gauge on the crankcase and measure the piston protrusion from the crankcase surface.
- 3.3. Do step 3.2 again for all the pistons.
- 3.4. Record the highest mean value by applying the fraction given in Refer to Table 58.
4. Make sure that all items are clean and free from damage and corrosion.

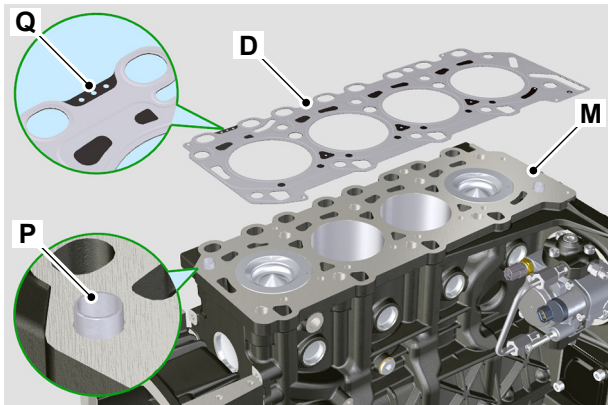
Table 58.

Fraction	Number of identification hole
0.03–0.126mm	
0.127–0.25mm	
0.251–0.375mm	

Assemble

1. Replacement is the reversal of the removal procedure.
2. Position a new head gasket on to the crankcase mating face. Make sure that the gasket is installed in the correct orientation and correctly aligned with the bushings.

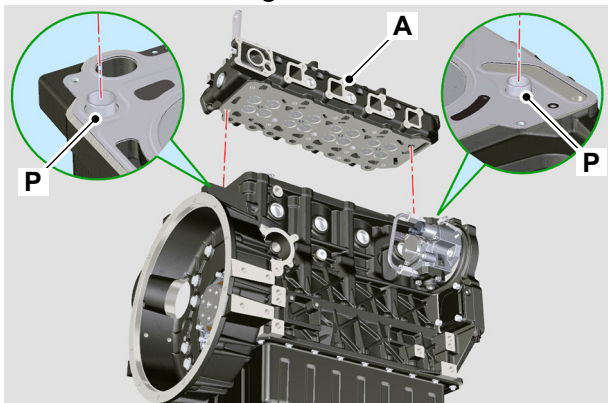
Figure 165.



- D Head gasket
- M Crankcase
- P Centering bushings
- Q Identification holes

3. Lower the cylinder head on to the crankcase. Make sure that the cylinder head is correctly aligned with the bushings.

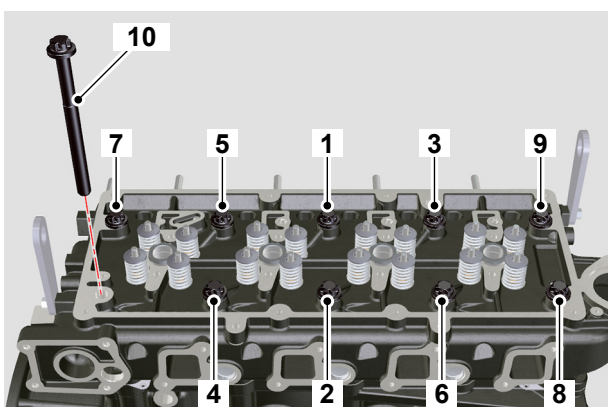
Figure 166.



- A Cylinder head
- P Bushings

4. Install the new cylinder head bolts.
5. Tighten the bolt to the correct torque value. Strictly follow the torque sequence shown.

Figure 167.

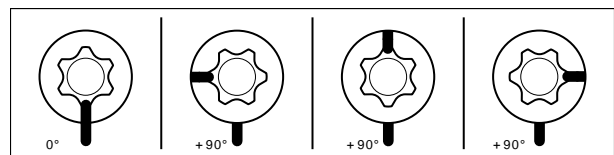


6. Tighten the bolts in six stages, use the torque and angle method.

Refer to: PIL 72-00-00.

- 6.1. Tighten the bolts, starting with the middle pair and working outwards (in sequence 1-10) to the 1st stage pre-torque.
- 6.2. Then, further tighten the bolts, starting with the middle pair and working outwards (in sequence 1-10) to the 2nd stage pre-torque.
- 6.3. Then, re-tighten the bolts, starting with the middle pair and working outwards (in sequence 1-10) to the 3rd stage pre-torque.
- 6.4. Use the angle gauge to angle tighten the bolts, starting with the middle pair and working outwards (in sequence 1-10) to the 4th stage pre-torque. As a visual check, match mark the bolts to the cylinder head before you start. When the bolts have been angle tightened, the match marks will appear as shown.

Figure 168.



- 6.5. Then, further angle tighten the bolts, starting with the middle pair and working outwards (in sequence 1- 10) to the 5th stage pre-torque.
- 6.6. Finally, angle tighten the bolts, starting with the middle pair and working outwards (in sequence 1- 10) for the final stage torque.

Table 59.

Description	Torque Value
Cylinder head to crankcase bolts 1-10	
- first stage torque	40N·m
- second stage torque	70N·m
- third stage torque	100N·m
- fourth stage torque	90°
- fifth stage torque	90°
- final stage torque	90°

Remove and Install

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

- This procedure requires service parts. Make sure you have obtained the correct service parts before you start, refer to Parts Catalogue.
- 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.
- Get access to the engine.
- Remove the drive belt.
[Refer to: PIL 15-18-03.](#)
- Remove the oil sump.
[Refer to: PIL 15-45-00.](#)
- Remove the turbocharger(if installed).
- Remove the exhaust manifold.
[Refer to: PIL 18-24-04.](#)
- Remove the starter motor.
[Refer to: PIL 15-75-00.](#)
- Remove the flywheel housing.
[Refer to: PIL 15-54-03.](#)
- Remove the crankshaft rear oil seal flange.
[Refer to: PIL 15-12-09.](#)
- Remove the EGR (Exhaust Gas Recirculation) (if installed).
- Remove the inlet manifold.
[Refer to: PIL 18-24-03.](#)
- Disconnect and remove the high and low pressure fuel pipes.
[Refer to: PIL 18-96-00.](#)
- Remove the timing gear front case.
[Refer to: PIL 15-51-21.](#)
- Remove the fuel injection pump.

[Refer to: PIL 18-18-15.](#)

- Remove the fuel injection drive gear.

[Refer to: PIL 15-51-00.](#)

- Remove the intermediate drive gear.

[Refer to: PIL 15-51-00.](#)

- Remove the high duty PTO (Power Take-Off) device (if installed).

- Remove the fuel injectors.

[Refer to: PIL 18-18-03.](#)

- Remove the rocker cover.

[Refer to: PIL 15-42-06.](#)

- Remove the rocker assembly including the push rods

[Refer to: PIL 15-42-00.](#)

- It is not necessary to remove the cylinder head assembly to remove the bedplate. If however, the cylinder head needs to be removed for other reasons (for piston and connecting rod removal for example) remove it now.

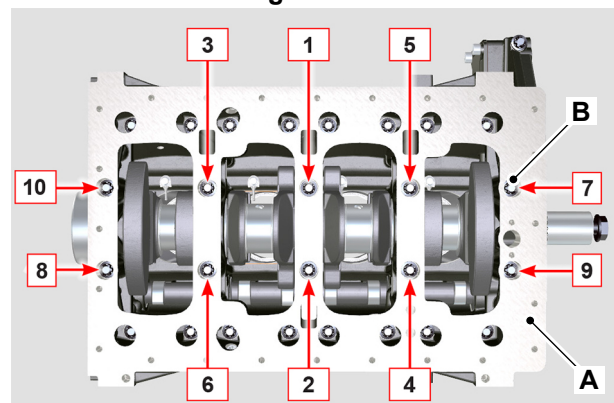
[Refer to: PIL 15-06-00.](#)

- Position the engine upside down in a suitable jig or fixture, supported at the front of the crankcase.

Remove

- Remove the main bearing bolts in the sequence shown.

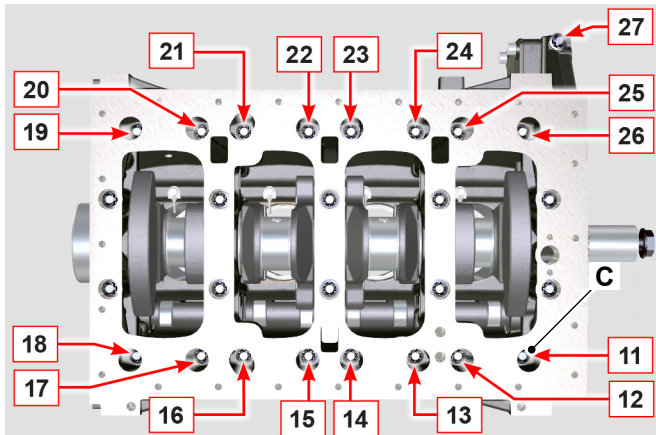
Figure 170.



A Bedplate
B Main bearing bolts (x10)

- Remove the bedplate peripheral bolts in the sequence shown.

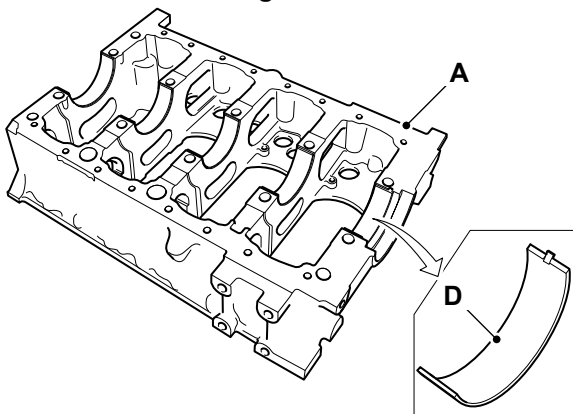
Figure 171.



C Peripheral bolts (x17)

3. 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. Carefully remove the lower bearing shells from the bedplate.

Figure 172.



A Bedplate
D Lower bearing shells (x5)

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 5min minutes (with a maximum permissible time of 15min).

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.

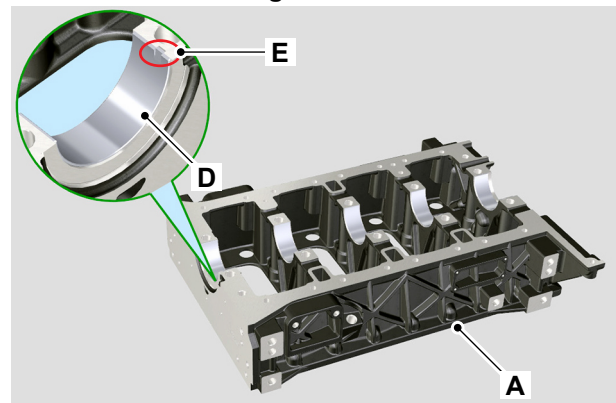
Install

Important: The crankshaft half bearings are made of special material. Therefore, they must be replaced every time they are removed to prevent seizures. The lower and upper crankshaft half bearings cannot be replaced singularly, and both halves must be replaced together.

1. Make sure that all items are clean and free from damage and corrosion.
2. Use a suitable degreasing agent to clean both sides of the lower bearing shells.
3. Install the lower bearing shells into the bedplate. Make sure that the reference notches are at the correct location.

Consumable: [Cleaner/Degreaser - General purpose solvent based parts cleaner](#)

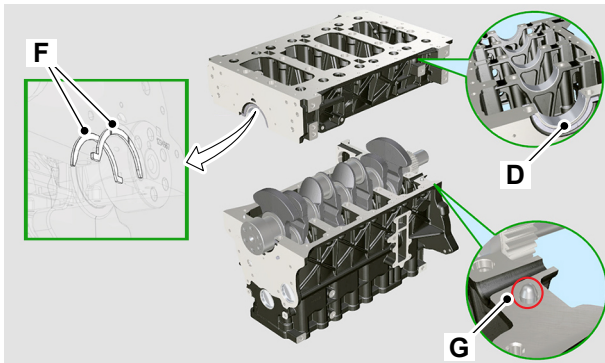
Figure 173.



A Bedplate
D Lower bearing shells (x5)
E Reference notch

4. Lubricate the lower bearing shells with clean engine oil.
5. Install the two shoulder half-rings onto the lower crankcase. Apply two dots of ITP GX100 grease to hold the rings in position.

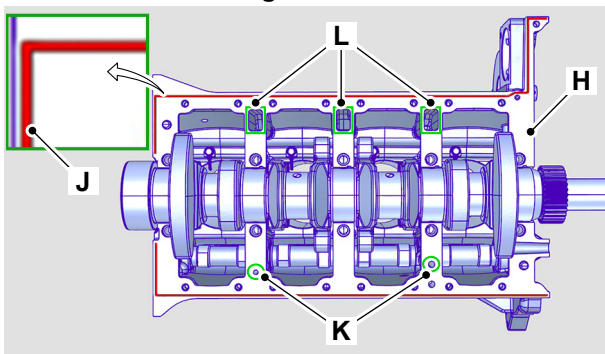
Figure 174.



- D** Lower bearing shells (x5)
- F** Shoulder half-rings (x2)
- G** Guide pins

6. Apply a 1.0mm (0.04in) thick bead of Loctite 5188 around the crankcase/bedplate mating face as shown.

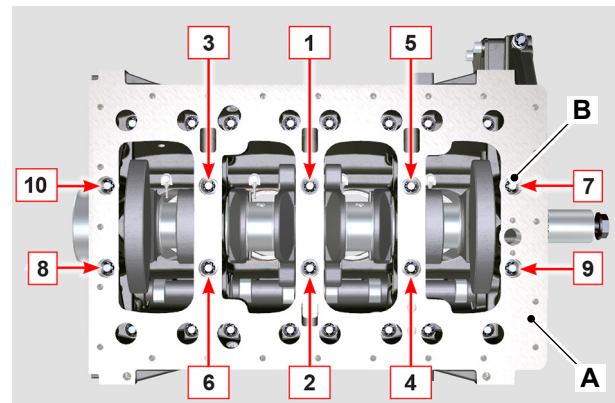
Figure 175.



- H** Crankcase
- J** Loctite 5188
- K** Oil feed holes
- L** Return oil grooves

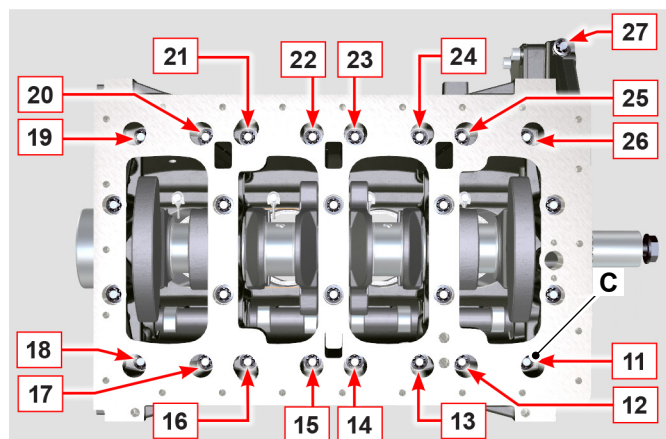
7. Make sure that you do not block the oil feed holes and the return oil grooves.
8. Assemble the bedplate to the crankcase. Make sure that the guide pins on the crankcase are engaged properly in the slots on the bedplate.
9. Note: The bedplate is heavy. Two people will be required to lift and rotate the bedplate safely on to the crankcase.
10. Install the main bearing bolts (x10).
11. Tighten the bolts to the correct torque value in three stages. Strictly follow the torque sequence shown.

Figure 176.



12. Install the bedplate peripheral bolts (x17).
13. Tighten the bolts to the correct torque value in two stages. Strictly follow the torque sequence shown.

Figure 177.



Important: If the parts have not been tightened to the correct torque value within the maximum 15min time period, then the parts must be separated, thoroughly cleaned and fresh sealant should be applied.

After Installation

1. Check that the crankshaft can be freely rotated by hand.
2. Measure the crankshaft end float. Make sure that the end float is between 0.18mm (0.007in) and 0.38mm (0.015in).
3. Carry out the procedures listed in the 'Before Removal' section in reverse order.

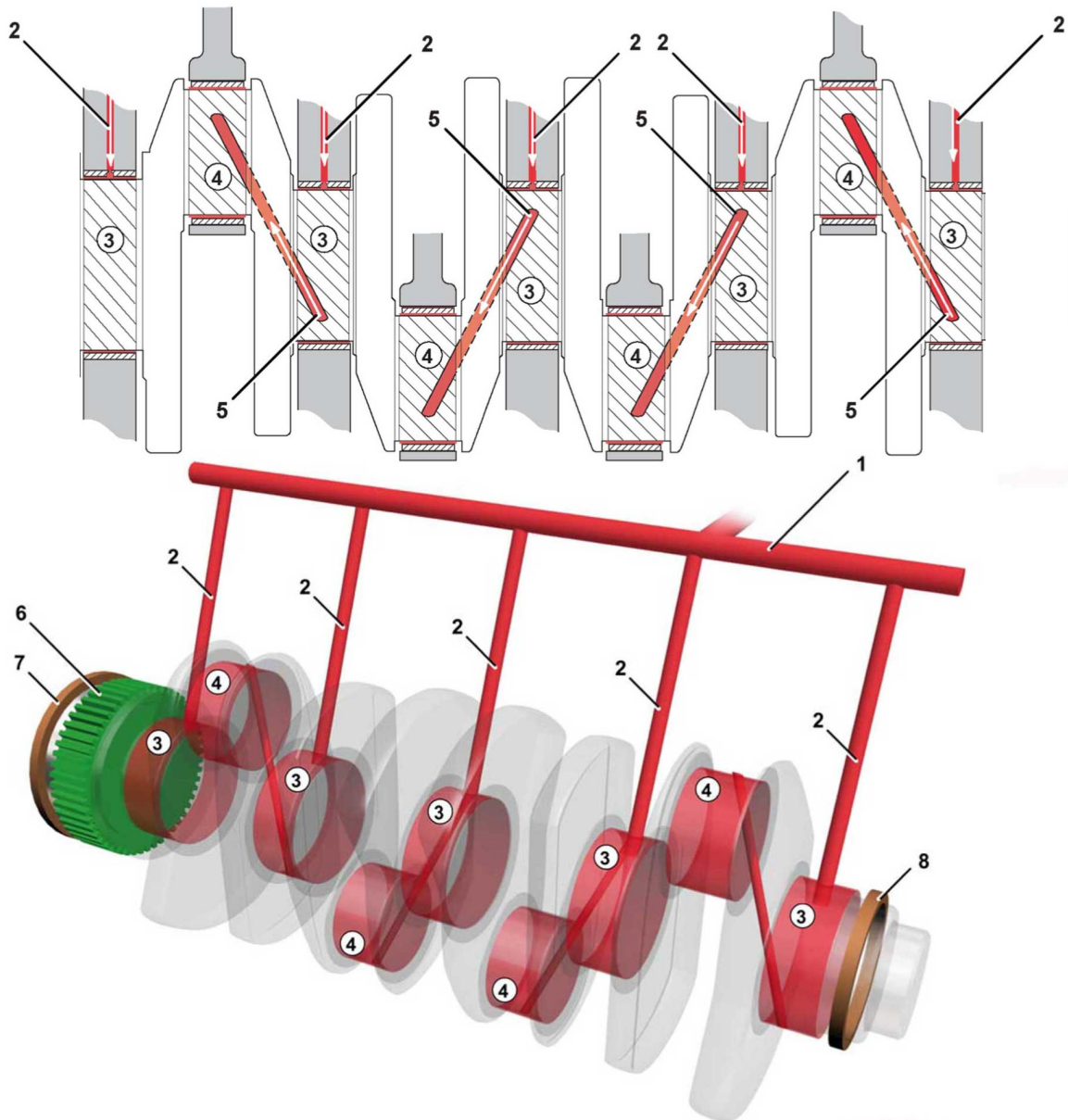
Operation

Lubrication

Oil is fed from the main gallery via five drillings, one to each of the main bearings. A groove around the diameter of the upper main bearing shell allows oil

transfer to cross drillings in the crankshaft to feed each of the big end bearings. Crankshaft gear is 'splash' lubricated. Front and rear crankshaft oil seals prevent oil leakage from, and dirt ingress to, the engine.

Figure 179.



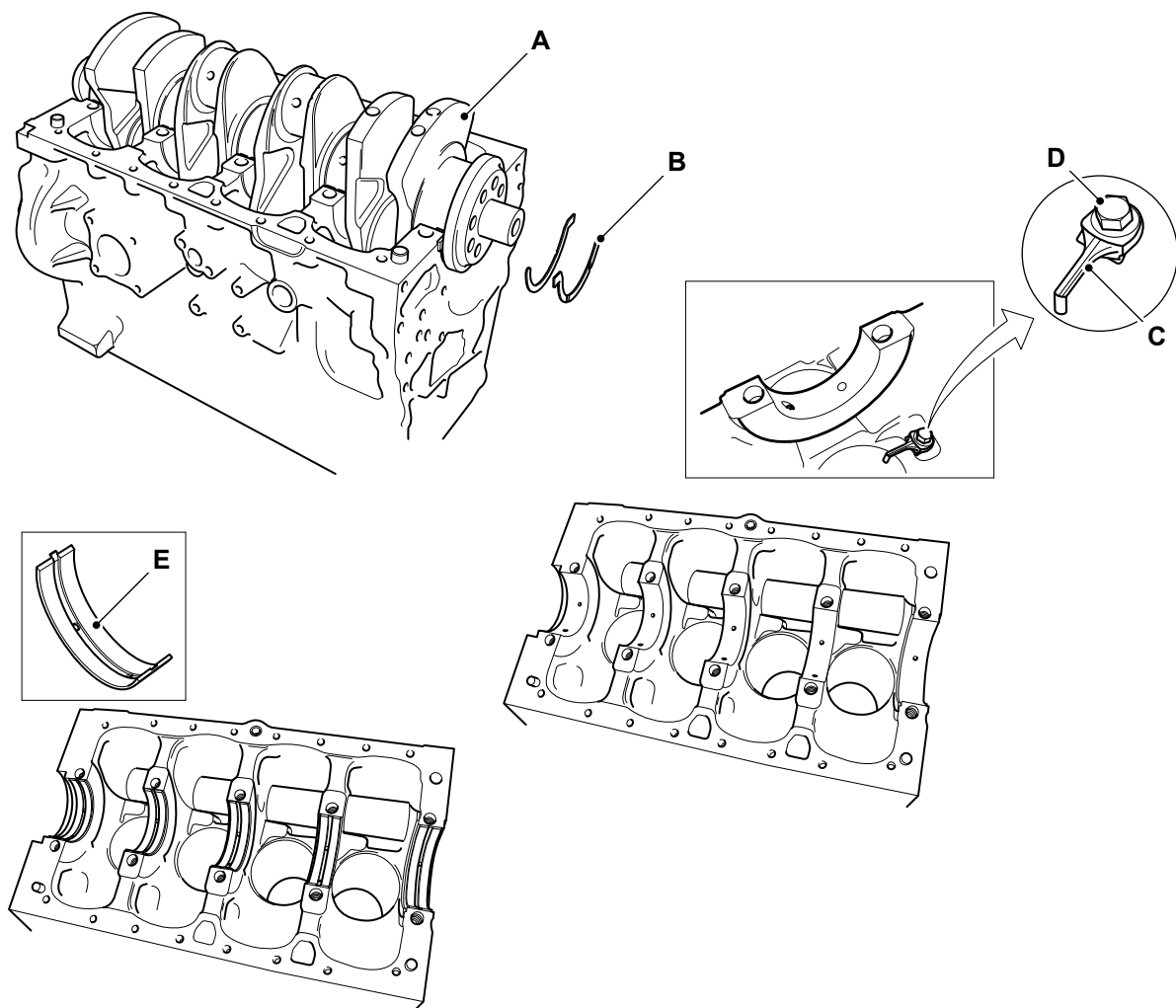
- 1 Main gallery
- 3 Main bearings
- 5 Cross drillings
- 7 Crankshaft oil seal

- 2 Drillings (x5)
- 4 Big end bearings
- 6 Crankshaft gear
- 8 Crankshaft oil seal

Check (Condition)

1. Check the main bearing surfaces for damage and excessive wear.
2. Measure the crankshaft diameters to confirm they are within service limits.
 Refer to: PIL 15-12-00.
3. Check that the oilway cross drillings in the crankshaft are clear and free from debris.
4. Check that the piston cooling oil sprayers are clear (if installed). If the sprayers cannot be cleared remove the fixing screws. Remove the sprayers and discard them.

Figure 180.



A Crankshaft
C Oil spray jets (if installed)
E Main bearing shells

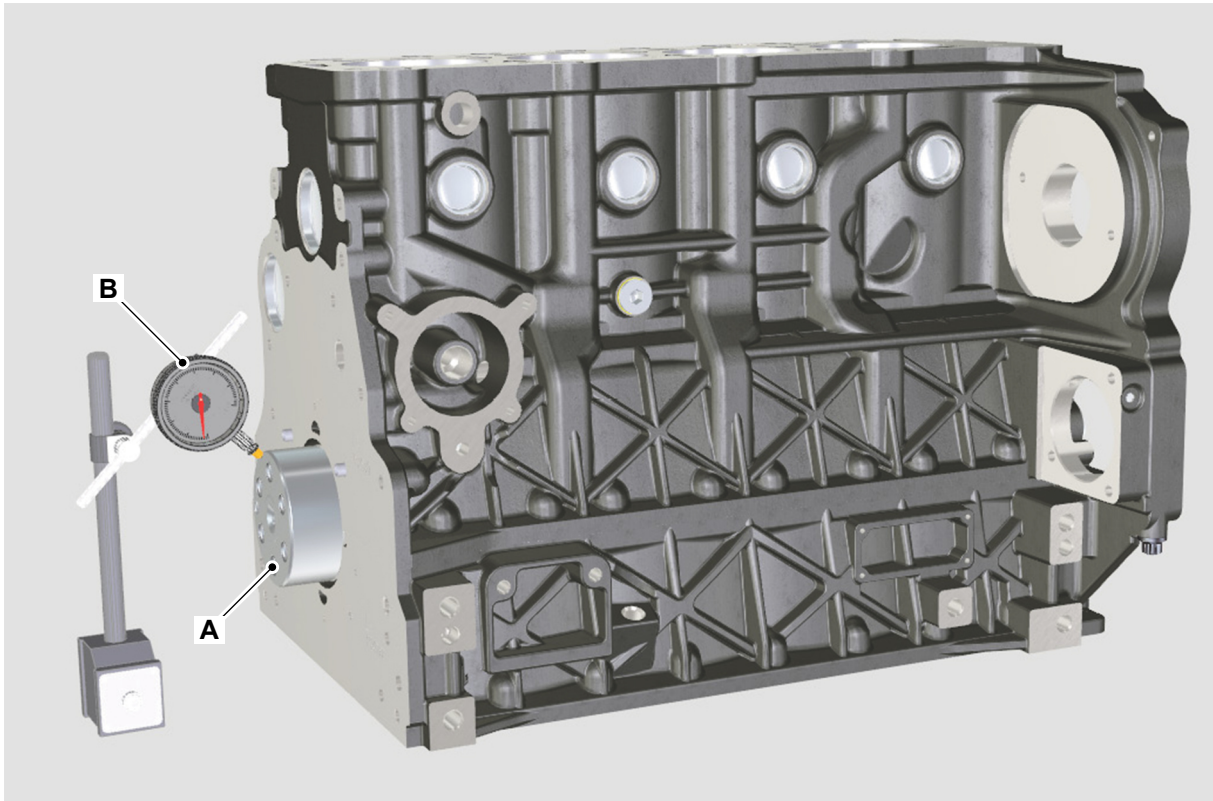
B Shoulder half-rings
D Fixing screws

Calibrate

Axial clearance check

1. To measure the axial clearance of the crankshaft, it is necessary to assemble the shaft in the crankcase.
2. Measure the axial shift of the crankshaft with a dial gauge. The axial shift must range between 0.18-0.38mm (0.007-0.015in).
3. If the value is more than or less than the specified range, replace the shoulder rings.

Figure 181.



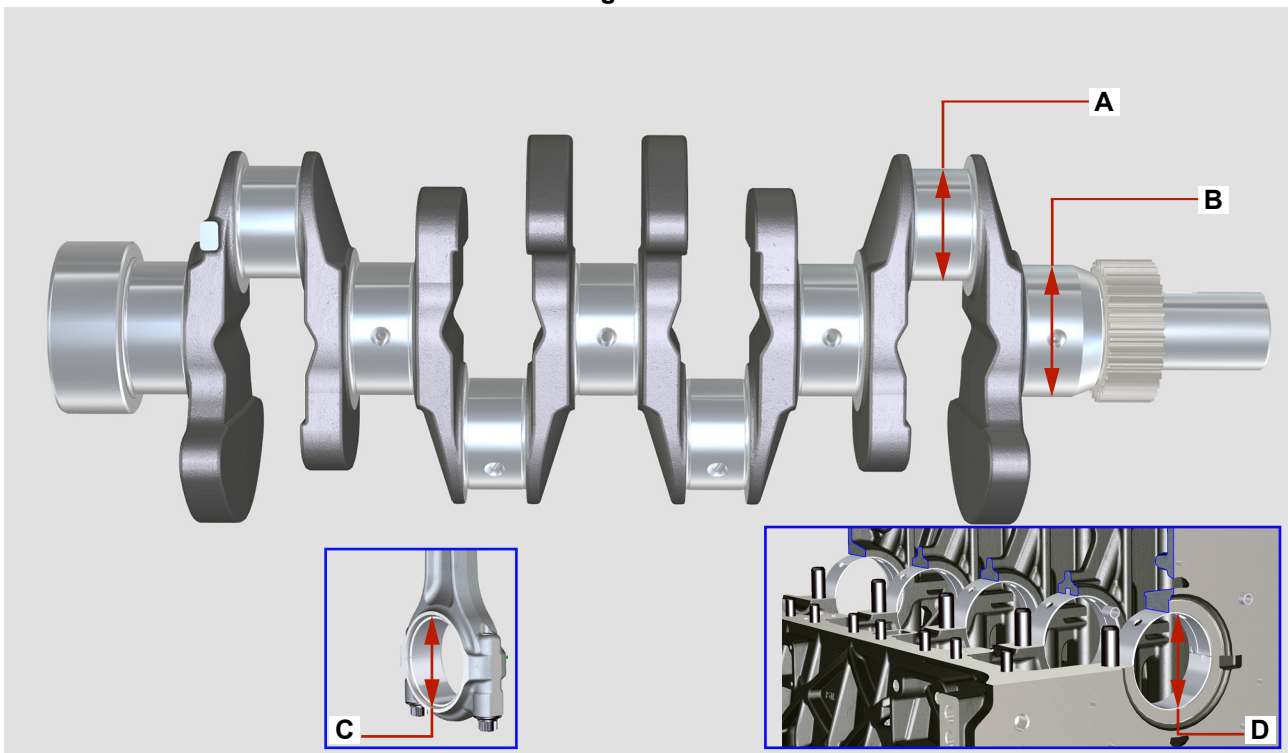
A Crankshaft

B Dial gauge

Dimensional Check

1. Make sure that you clean the crankshaft thoroughly with a suitable detergent.
2. Use a pipe cleaner into the lubrication ducts to remove any residual dirt.
3. Use a compressed air jet to thoroughly clean the oil passages.
4. Check the surfaces of the main journals and crank-pins for wear limit, to see whether grinding is necessary.
5. Install the half-bearings on the semi-crankcases, without crankshaft, and couple the semi-crankcases by tightening the fixing screws.
6. Measure the diameter of the crank-pins and main journals with a micrometer.
7. Measure the internal diameter of the connecting rod and crankshaft half-bearings with a dial gauge.
8. Lubricate the contact surfaces with oil to prevent oxidation.
9. The crankshaft and connecting rod half-bearings must necessarily be replaced every time they are disassembled.
10. Make sure that the measurements are within the allowable limits.

Figure 182.



A Crank-pin
C Connecting rod half-bearing

B Main journal
D Crankshaft half-bearing

Remove and Install

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 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. Get access to the engine.

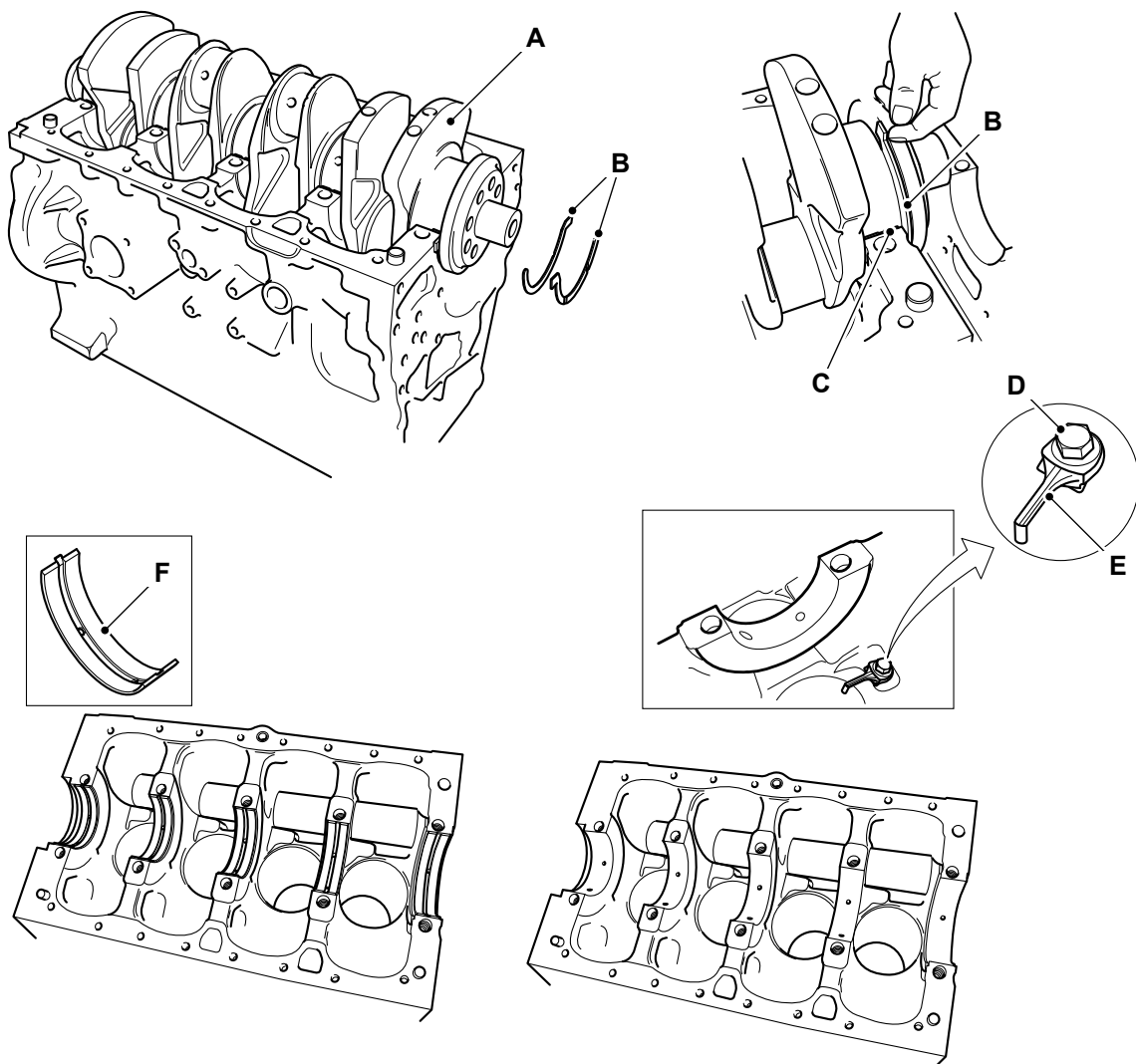
4. Remove the bedplate.

Refer to: [PIL 15-09-00](#).

5. If the pistons and connecting rods have not been removed, then remove the main bearing caps.

Refer to: [PIL 15-12-00](#).

Figure 183.



A Crankshaft

B Thrust Washers



C Rear main bearing
E Cooling jets (x4)

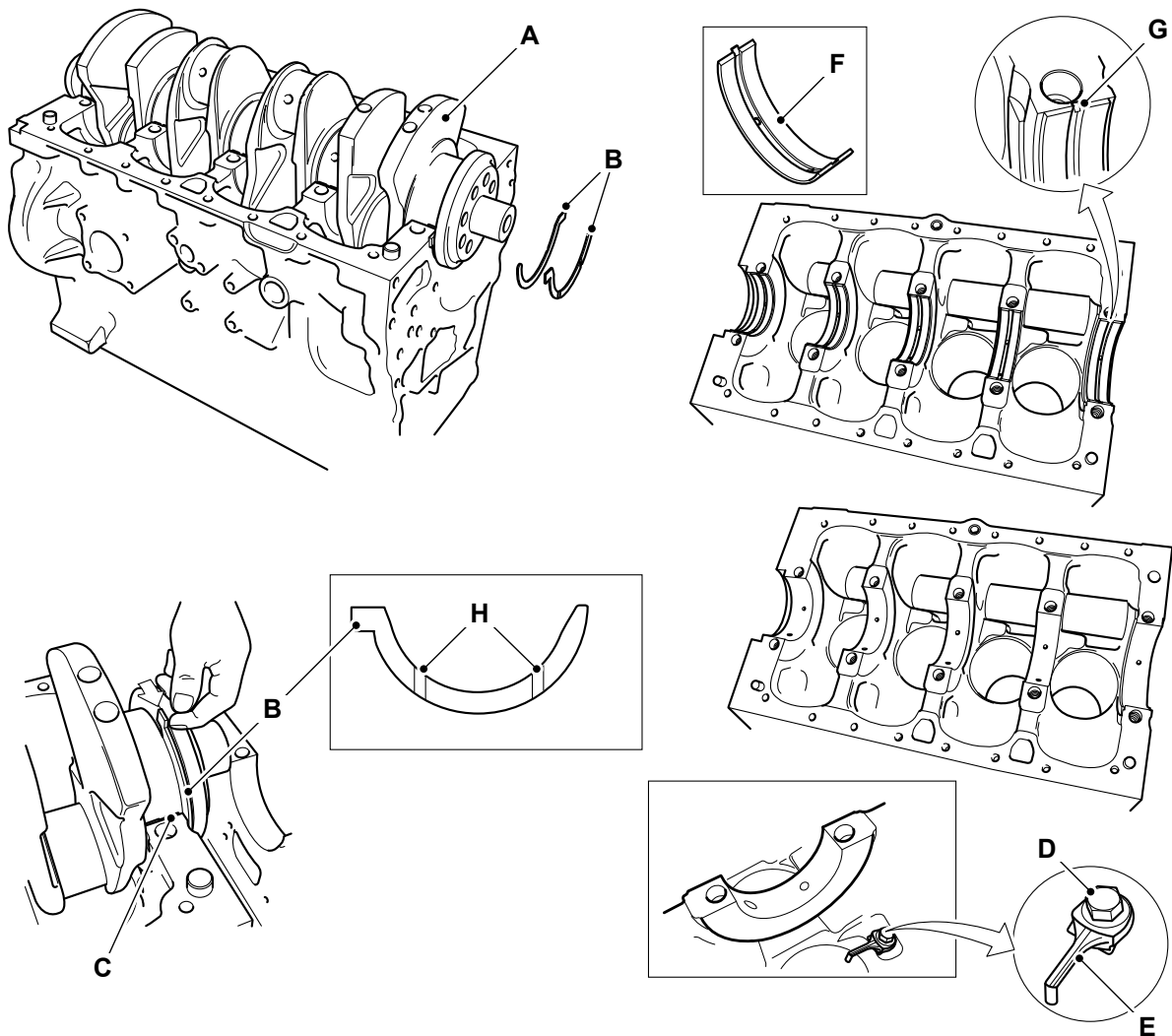
D Fixing screws
F Main bearing shells

Remove

1. Remove the thrust washers between the crankshaft and crankcase rear main bearing.
2. Put labels on the thrust washers to make sure that they are installed in the correct positions on assembly.
3. Use suitable lifting equipment to carefully lift the crankshaft from the crankcase (if the crankshaft is lifted manually, two people will be required).

4. Carefully lift out the bearing shells. It is recommended that the bearing shells are renewed.
5. If the bearing shells are to be used again, put labels on the shells to make sure that they are installed in their original positions on assembly.
6. Inspect the crankshaft and main bearings etc. for damage and excessive wear.

Figure 184.



- A** Crankshaft
- C** Rear main bearing
- E** Cooling jets x4 (PIL 15-03)
- G** Bearing location tab

- B** Thrust Washers
- D** Fixing screws
- F** Main bearing shells
- H** Oil slot-thrust washers

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.

Consumable: Cleaner/Degreaser - General purpose solvent based parts cleaner
3. Take care not to block the oil ways or the piston cooling jets.

Important: Cleanliness is of the utmost importance. Blocked oil-ways or oil jets will cause engine failure. Before you install the crankshaft make sure that all oil-ways and jets are clear and free from debris.

Install

1. The installation procedure is the opposite of the removal procedure.
2. Make sure that all items are clean and free from damage and corrosion.
3. If the cooling jets have been removed or a new crankcase is being installed, install the jets on the crankcase.
4. Tighten the retaining screws to the correct torque value.
5. Use a suitable degreasing agent to make sure that the surface of the upper bearing shells are clean.

Consumable: Cleaner/Degreaser - General purpose solvent based parts cleaner
6. Assemble the bearing shells into the crankcase bearing saddles.
7. Make sure that the location tab engages into the slot.
8. Important: Make sure that the oil-way holes in the bearing saddles align with the holes in the bearing shell. Misaligned holes will cause engine failure.
9. Lubricate the upper bearing shells with clean engine oil.
10. Use suitable lifting equipment (if the crankshaft is lifted manually, two people will be required), to carefully lower the crankshaft into the crankcase.
11. DO NOT rotate the crankshaft, the bearing shells can become dislodged. Refer to step 5.
12. Slide the thrust washers between the crankshaft and the crankcase rear main bearing.

13. Make sure that they are installed in the correct positions, with the two slots facing outwards from the bearing saddle.
14. If necessary, push the crankshaft forward and then backwards to obtain clearance to install the thrust washers.
15. DO NOT rotate the crankshaft, the bearing shells can become dislodged. Refer to step 5.
16. Check that the crankshaft end float is within service limits.

Refer to: PIL 15-12-00.
17. Install the bedplate.

Refer to: PIL 15-09-00.

Table 62. Torque Values

Item	Nm
D	10

03 - Main Bearing

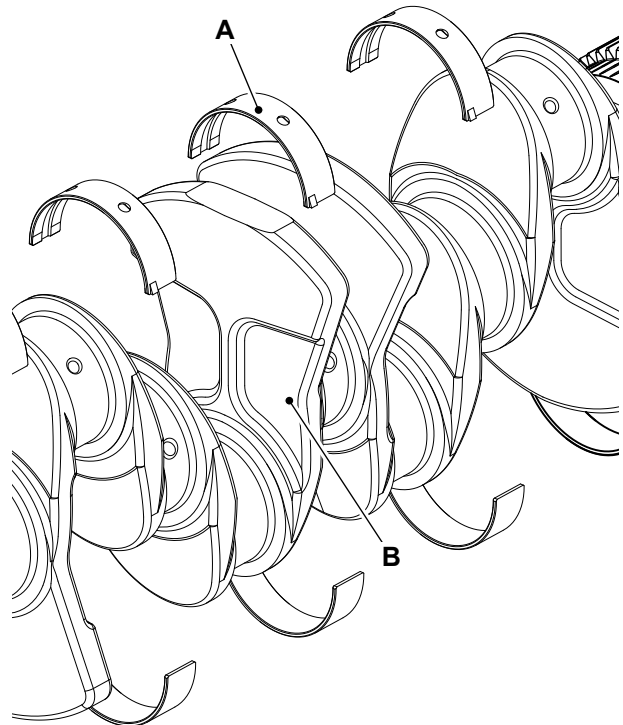
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Introduction

In a piston engine, the main bearings are the bearings on which the crankshaft rotates.

The bearings hold the crankshaft in place and prevent the forces created by the piston and transmitted to the crankshaft by the connecting rods from dislodging the crankshaft, instead forcing the crank to convert the reciprocating movement into rotation.

Figure 185.



- A** Main bearing
- B** Crankshaft

Check (Condition)

1. Check the bearing shell surfaces for signs of damage and excessive wear.
2. Measure the crank pin diameters to confirm they are within service limits.
[Refer to: PIL 15-33-00.](#)
3. Measure the bearing journal diameters to confirm they are within service limits.
[Refer to: PIL 15-12-00.](#)
4. Replace any parts that are worn or not within the specified tolerances.

Remove and Install

Special Tools

Description	Part No.	Qty.
Torque Wrench (10-100Nm)	993/70111	1

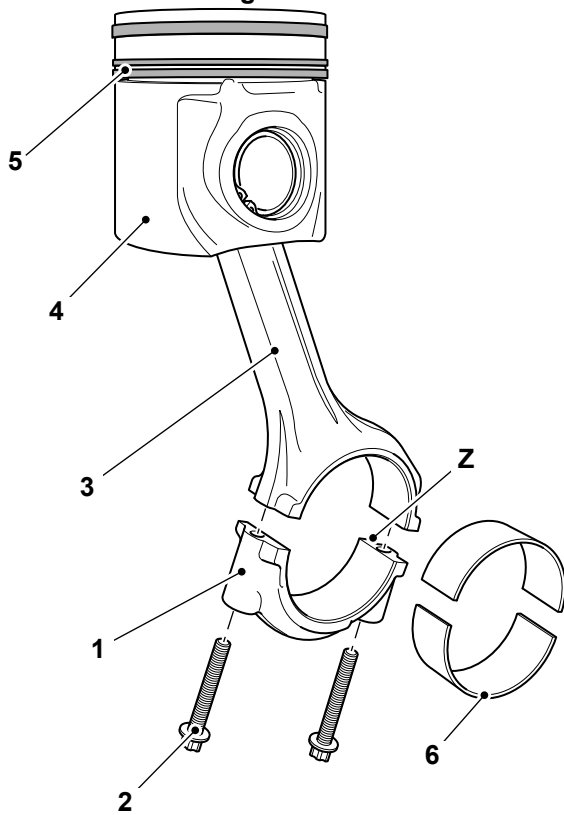
Before Removal

1. This procedure requires service parts. Make sure 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. Get access to the engine.
4. Remove the fuel injectors.
[Refer to: PIL 18-18-03.](#)
5. Remove the rocker cover.
[Refer to: PIL 15-42-06.](#)
6. Drain the oil from the engine.
[Refer to: PIL 15-00-00.](#)
7. Remove the oil sump.
[Refer to: PIL 15-45-00.](#)
8. Position the engine upside down in a suitable jig or fixture, supported at the front of the crankcase.

Important: The connecting rod and the main bearing cap have been fracture split and must be kept together as a set. Utmost care must be taken to avoid contamination and or damage to the fracture split surfaces.

Remove

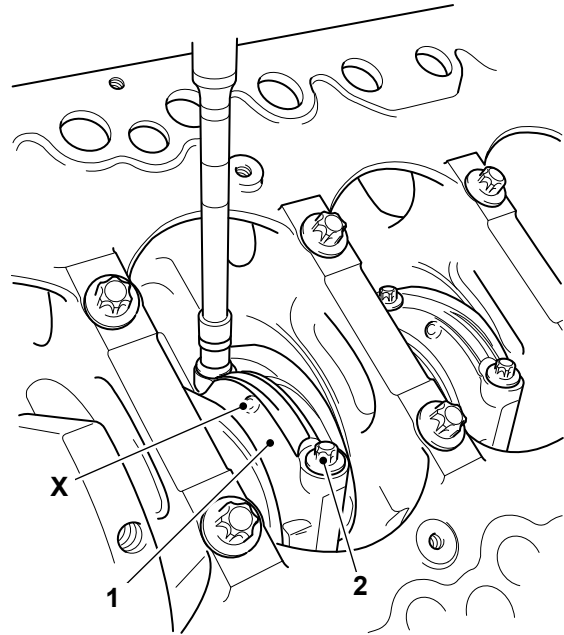
Figure 186.



- 1 Piston rings
- 2 Piston
- 3 Connecting rod
- 4 Main bearing cap
- 5 Bolts
- 6 Big end bearing shells
- Z Fracture split surfaces

1. It is recommended that the main bearing caps are removed in pairs according to the firing cycle.
 - 1.1. Cylinder 2
 - 1.2. Cylinders 1 and 3
2. Put marks on the main bearing caps to make sure that they are installed in their original positions on assembly.
3. Rotate the crankshaft so that the main bearing caps on cylinder 2 are positioned at the top.
4. Remove the bolts and lift off the main bearing caps from the connecting rods.
5. Make sure that the bolts are not used again. Discard the bolts.

Figure 187.



- 1 Main bearing caps
- 2 Main bearing cap bolts

6. Remove the bearing shells.
 - 6.1. Lift out the bearing shells from the main bearing caps.
 - 6.2. Carefully rotate the crank to disengage from the connecting rods and gain access to the upper bearing shells.
 - 6.3. Lift out the upper bearing shells.
 - 6.4. The bearing shells must be replaced every time they are removed.
7. Carefully rotate the crankshaft to position the main bearing caps of cylinders 1 and 3.
8. Make sure that the crankshaft does not hit the connecting rod of cylinder 2.
9. Do the steps 4 to 6 to remove the bearing caps and bearing shells for cylinders 1 and 3.
10. Inspect the main bearings for signs of damage and excessive wear.

[Refer to: PIL 15-12-03.](#)

Install

1. Replacement is the reversal of the removal procedure.
2. Make sure that all items are clean and free from damage and corrosion.

3. Install the upper bearing shell to the connecting rod. Lubricate the bearing shell with clean engine oil.
4. Install the lower bearing shell to the main bearing cap. Lubricate the bearing shell with clean engine oil.
5. Use compressed air to clean the fracture surfaces of the main bearing caps before assembly.
6. Install the main bearing cap to the connecting rod.
7. Replace the fixing bolts.
8. Tighten the new bolts in two stages to the correct torque value.
[Special Tool: Torque Wrench \(10-100Nm\) \(Qty.: 1\)](#)
9. Make sure that the crankshaft rotates smoothly and the connecting rods have axial play.
10. After you perform the check, rotate the crankshaft to position the first cylinder at TDC (Top Dead Centre).

After Installation

1. Install the oil sump.
[Refer to: PIL 15-45-00.](#)
2. Install the rocker cover.
[Refer to: PIL 15-42-06.](#)
3. Install the fuel injectors.
[Refer to: PIL 18-18-03.](#)
4. Fill the engine with engine oil.
[Refer to: PIL 15-00-00.](#)

Table 63. Torque Values

Item	Description	Nm
2	1st Stage	40
2	2nd Stage	85

09 - Rear Oil Seal

Remove and Install

Consumables

Description	Part No.	Size
JCB Threadlocker and Sealer (Medium Strength)	4101/0250	0.01L
	4101/0251	0.05L

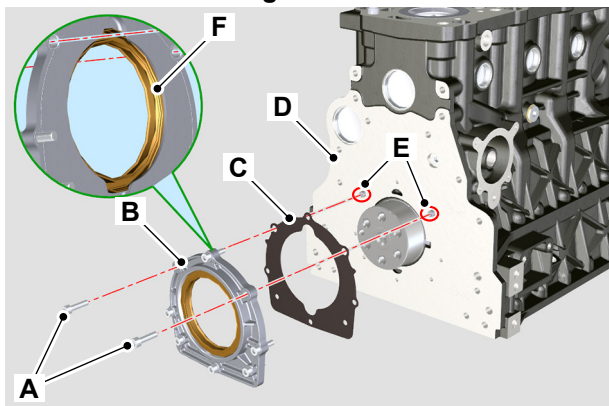
Before Removal

1. This procedure requires service parts. Make sure 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. Get access to the flywheel.
4. Remove the flywheel.
[Refer to: PIL 15-54-00.](#)

Remove

1. Remove the screws that attach the oil seal flange to the crankcase.
2. Remove the oil seal flange and its gasket.
3. Discard the gasket.

Figure 188.



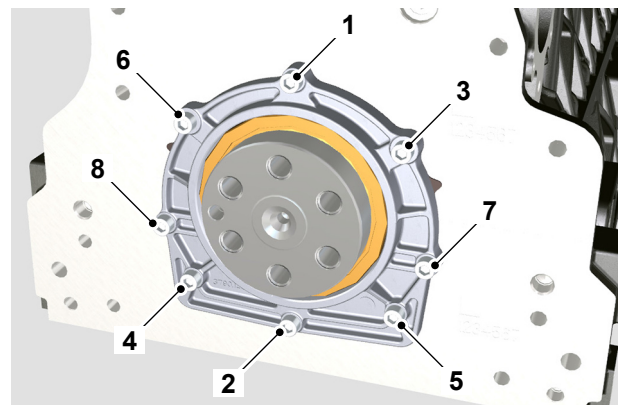
- A Screws
- B Oil seal flange
- C Gasket
- D Crankcase
- E Bushings
- F Oil seal lip.

Install

1. Make sure that the contact surfaces between the oil seal flange and crankcase are clean and free from damage and corrosion.

2. Always use a new gasket.
3. Make sure that the bushings are installed on the crankcase.
4. Lubricate the lip of the oil seal.
5. Put the new gasket and oil seal flange in position against the crankcase.
6. Make sure the gasket and flange are aligned with the bushings on the crankcase.
7. Apply locking fluid on the 2 screws which will be installed on to the bushings.
Consumable: JCB Threadlocker and Sealer (Medium Strength)
8. Tighten the 2 screws by hand all the way into the bushing.
9. Install the remaining screws into the oil seal flange.
10. Tighten the screws to the correct torque value. Strictly follow the torque tightening sequence.

Figure 189.



After Installation

1. Install the flywheel.
[Refer to: PIL 15-54-00.](#)

Table 64. Torque Values

Item	Nm
A	10

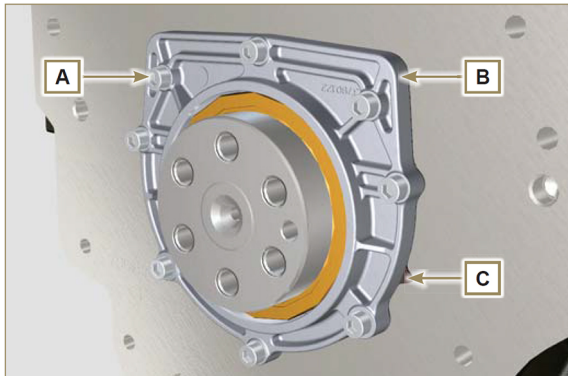
10 - Flange

Remove and Install

Remove

1. Make the machine safe.
 Refer to: [PIL 01-03-27](#).
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 flywheel and get access to the crankshaft.
 Refer to: [PIL 15-54-00](#).
4. Remove the screws.

Figure 190.



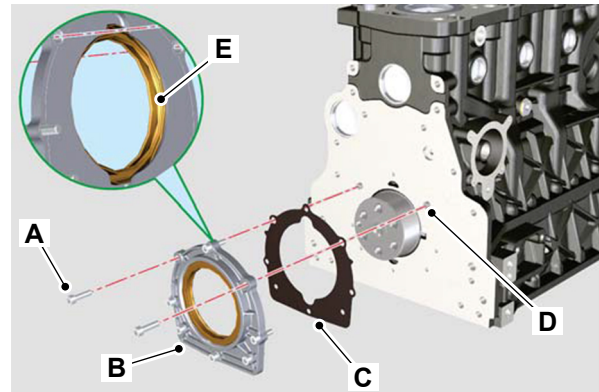
- A** Screw
- B** Flange
- C** Gasket

5. Remove the flange.
6. Discard the gasket.

Install

1. Check that the contact surface between the flange and the crankcase is free of grit and dirt.
2. Make sure that the bushes are in place on the crankcase.
3. Lubricate the oil seal lip.

Figure 191.



- A** Screw
- B** Flange
- C** Gasket
- D** Bushes
- E** Oil seal lip

4. Position the new gasket and the flange on the crankcase.
5. Apply Loctite 243 on the screws.
6. Install and hand tighten the screws.
7. Tighten the screws to the correct torque value in the specified numerical order. Refer to Figure 192.

Figure 192.

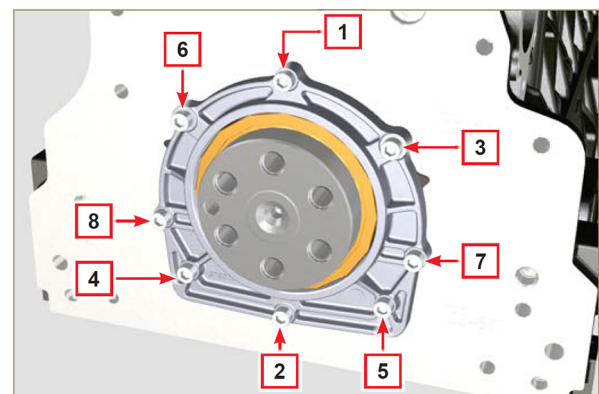


Table 65. Torque Values

Item	Description	Nm
A	Screws	10



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