SERVICE MANUAL

COMPACT EXCAVATOR

15C-1, 16C-1, 18Z-1, 19C-1, 19C-1 PC

EN - 9813/7900 - ISSUE 2 - 05/2018

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 relationship between the rotation of the camshaft and the rotation of the crankshaft is of critical importance.

Since the valves control the flow of the air/fuel mixture intake and exhaust gases, they must be opened and closed at the appropriate time during the stroke of the piston.

For this reason, the camshaft is connected to the crankshaft through a gear mechanism.

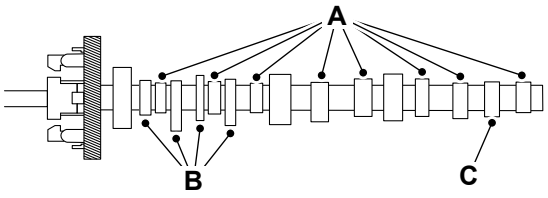
When the engine runs the crankshaft drives the camshaft through the gears. The camshaft opens and closes the inlet and exhaust valves through the push rods in time with the four stroke cycle.

Technical Data

Table 48.

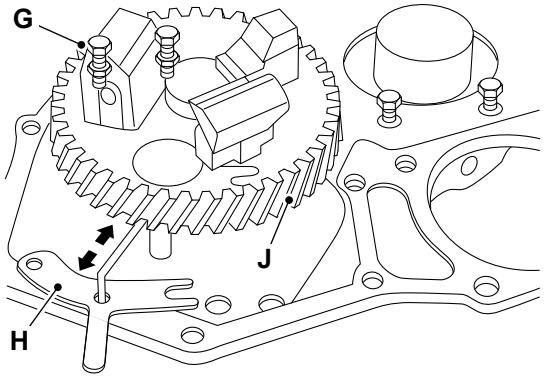
Description	Data	
	Standard	Service limit
Height of the camshaft lobe for the inlet and exhaust valves	34.453 –34.507 mm	33.7 mm
Height of the camshaft lobe for the fuel injection pump	41.94 –42.06 mm	41.8 mm
Height of the camshaft lobe for the fuel priming pump	31.9 –32 mm	30 mm

Figure 153.



A Camshaft lobe for the inlet and exhaust valves
B Camshaft lobe for the fuel injection pump
C Camshaft lobe for the fuel priming pump

Figure 154.

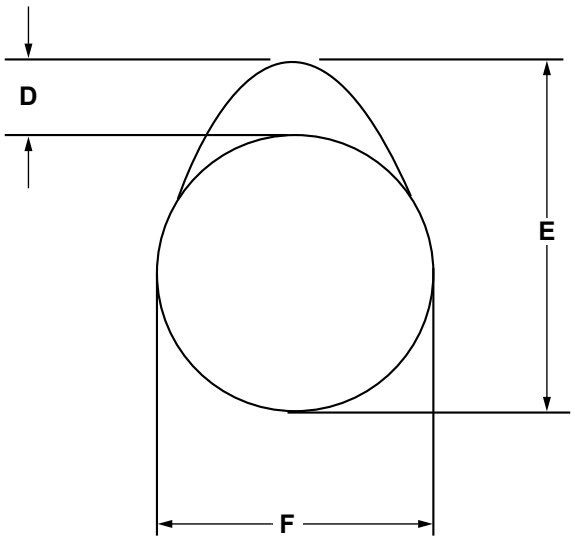


G Setscrew
H Retainer plate
J Camshaft gear

To determine the lobe lift use the following procedure:

1. Measure the height of the camshaft lobe.
2. Measure the base circle.

Figure 155.



D Actual camshaft lobe lift
E Height of the camshaft lobe
F Base circle

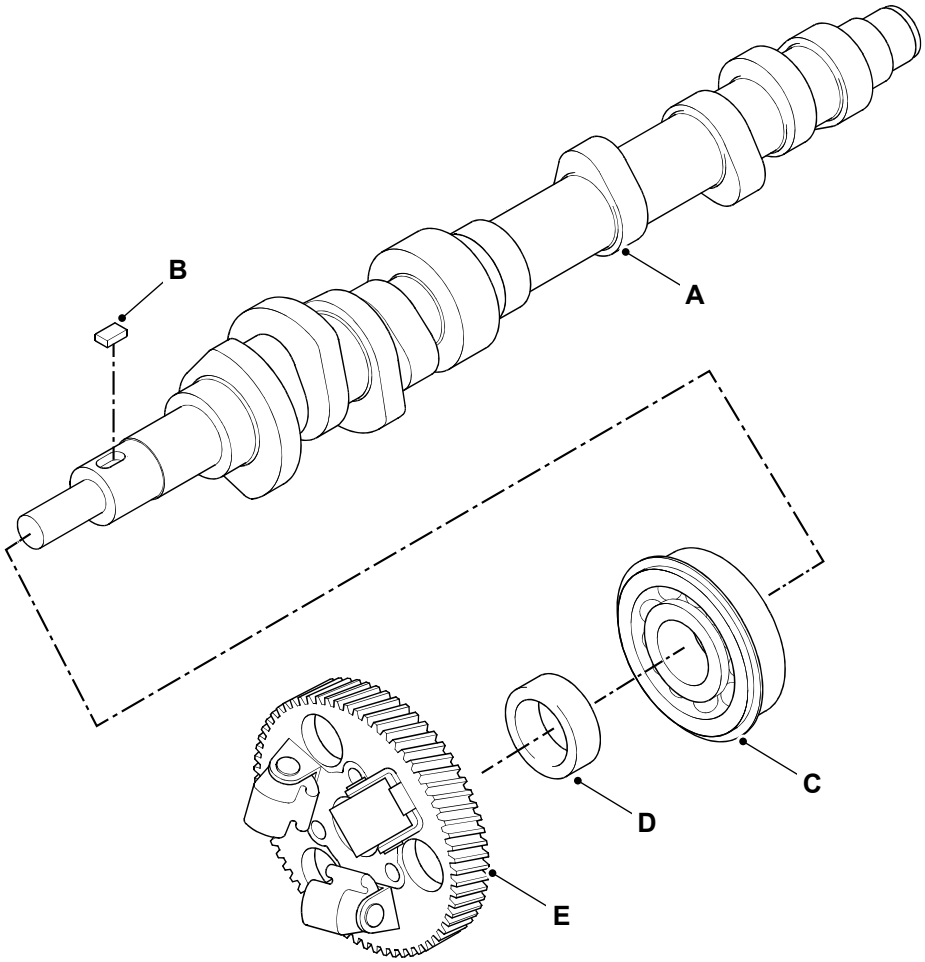
3. Subtract the base circle diameter (1) from the height of the camshaft lobe (2). The difference is the actual camshaft lobe lift.

Table 49. Torque Values

Item	Description	Nm
G	Setscrew	11

Component Identification

Figure 156.



A Camshaft
B Woodruff key
C Bearing
D Spacer
E Gear

Operation

As the crankshaft rotates the camshaft also rotates, driven by a gear on the crankshaft. The inlet and exhaust valves are opened by lobes on the camshaft in time with the cycle.

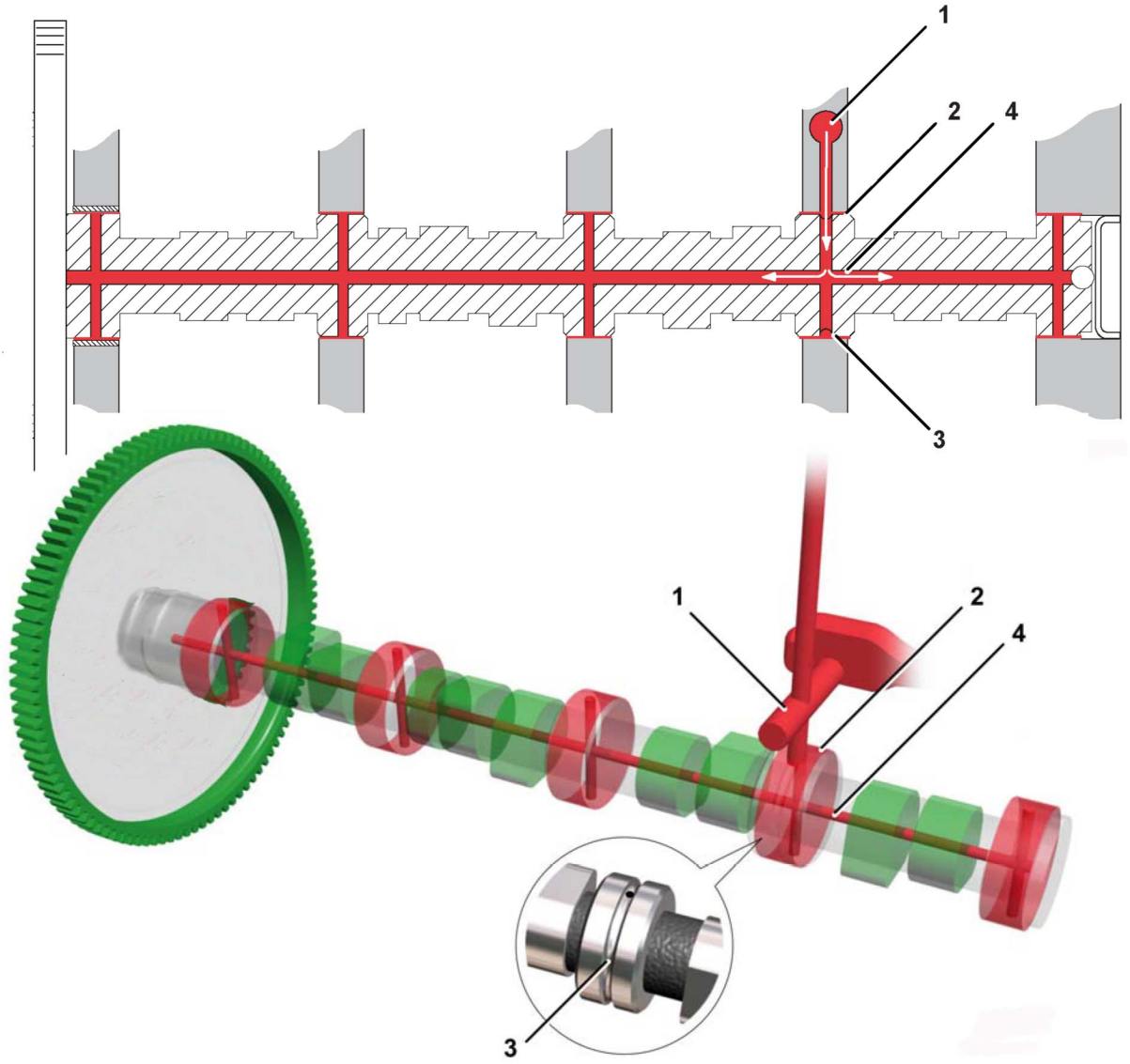
The diagrams show the position of the camshaft at each part of the four stroke cycle, refer to Engine-General, Operation. Refer to: PIL 15-00-00.

It can be seen that for a complete cycle the camshaft revolves once. Since the crankshaft revolves twice during the cycle it follows that the camshaft is driven at half crankshaft (engine) speed.

Lubrication

Oil is fed from the main gallery via a drilling to the camshaft bearing. A groove around the diameter of the bearing and connecting the cross drilling ensures that oil is always fed to the centre drilling. Oil is then transferred to the remaining camshaft bearings by further cross drillings in the shaft. The cam lobes and tappets are 'splash' lubricated.

Figure 157.



1 Main gallery
2 Camshaft bearing
3 Groove
4 Centre drilling

Thank you so much for reading.

Please click the “Buy Now!” button below to download the complete manual.

After you pay.

You can download the most perfect and complete manual in the world immediately.

Our support email:

ebooklibonline@outlook.com