SERVICE MANUAL

55Z-1, 57C-1

EN - 9813/6250 - ISSUE 1 - 03/2016

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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5. Slowly rotate the crankshaft in order to determine when the piston is at the highest position. Record this dimension.
6. Compare this dimension with the dimensions that are given in Cylinder Head- Technical Data. Refer to (PIL 15-06).

Connecting Rod Bearings- Inspection

1. Check the connecting rod bearings and the connecting rod bearing journal for wear or other damage.
2. The connecting rod bearings are available with a smaller inside diameter than the original size bearings. These bearings are for crankshafts that have been ground.

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Figure 526. Livelink ECU - 334/V2217-2 (sheet 15 of 19)



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Fault code	Description	Severity
P0385-31	Crank position and camshaft position sensor no pulse	Critical
P0400-29	EGR feed back/position sensor/Dynamic range failure (for CAN)	Critical
P0403-72	EGR Cleaning failure (valve stuck open/poppet much lower than normal)	Trivial
P0404-49	EGR battery/motor failure (for CAN)	Critical
P0405-16	EGR (exaust gas recirculation) lift sensor signal too low	Service
P0406-17	EGR (exaust gas recirculation) lift sensor signal too High	Service
P0462-16	Fuel level sensor signal too low	Trivial
P0463-17	Fuel level sensor signal too high	Trivial
P0480-1	Electric fan open load / short to GND/ short to battery	Critical
P0488-71	EGR valve stiuck/initializz sation failure (for CAN)	Critical
P0501-29	Vehicle speed sensor signal invalid	Trivial
P0502-13	Vehicle speed sensor input open/ short	Trivial
P0503-37	Vehicle speed sensor frequency too high	Trivial
P0524-0	Engine oil pressure Low	Critical
P0541-13	Glow relay output open load/short to GND	Trivial
P0542-15	Glow relay output short to BATT	Trivial
P0562-16	Vehicle system voltage too low (< 8 V)	Trivial
P0563-17	Vehicle system voltage too high (> 16 V)	Critical
P0601-41	Check sum error - flash area	Critical
P0602-44	QR data error	Trivial
P0606-49	CPU fault; main CPU fault	Critical
P0607-47	CPU fault; watchdog IC fault	Critical
P0611-96	Capacitor charge-up circuit malfunction injector (insufficient charge) within ECU	Critical
P0615-15	Starter Switch short to Battery	Critical
P0616-11	Starter relay short to GND	Critical
P0617-12	Starter relay short to battery	Critical
P0627-14	SCV(+) output open load/short to GND; SCV(-) output open load/ short to GND; SCV coil open/short	Critical
P0629-15	SCV(+) output short to BATT; SCV(-) output short to BATT	Critical
P0642-16	Battery 5V reference 1 circuit low (5V power supply for sensor)	Critical
P0643-17	Battery 5V reference 1 circuit high (5V power supply for sensor)	Critical
P0652-16	Battery 5V reference 2 circuit low (5V power supply for sensor)	Critical

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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.

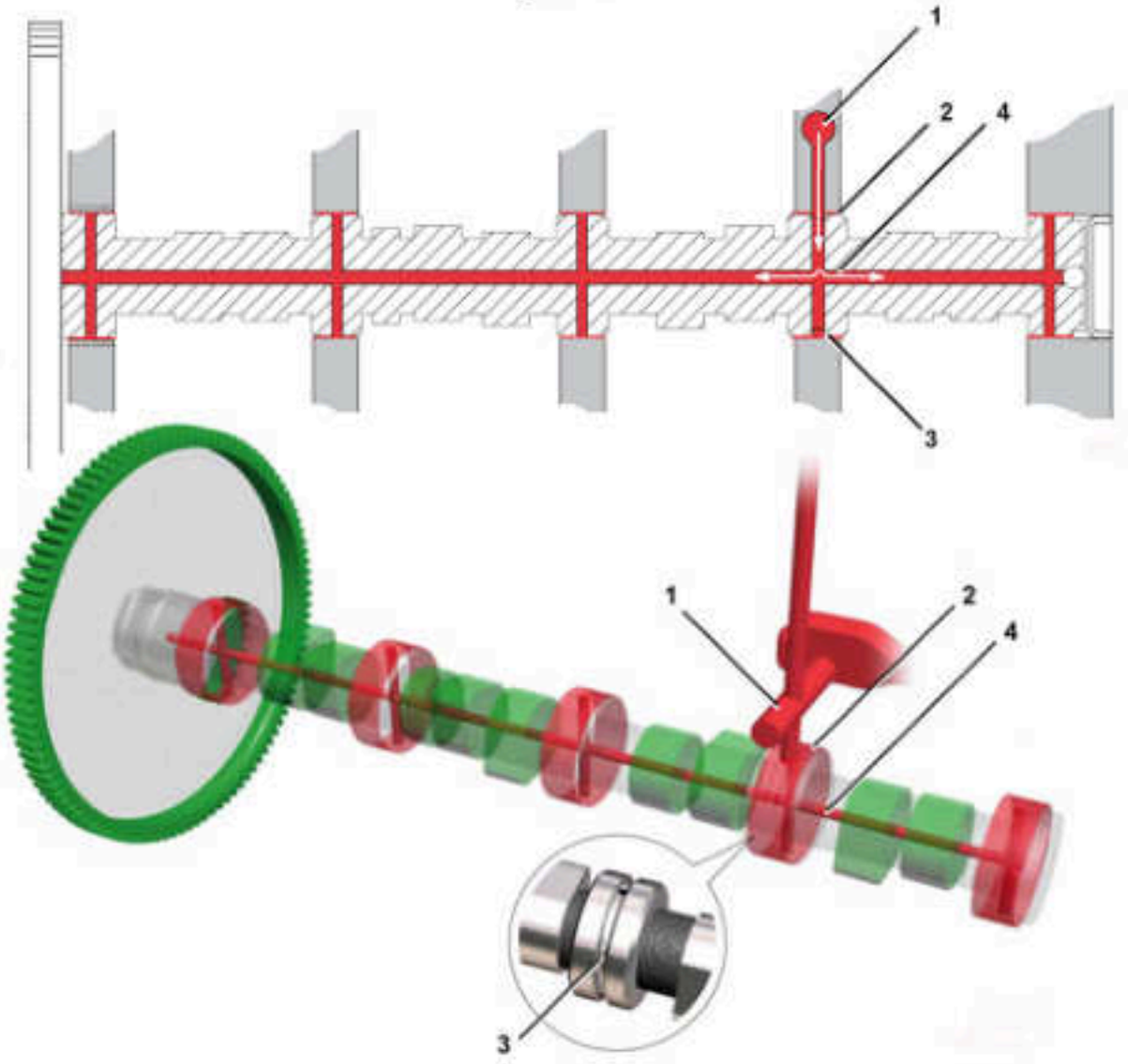
The diagrams show the position of the camshaft at each part of the four stroke cycle, refer to Engine-General, Operation. Refer to (PIL 15-00).

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 105.



1 Main gallery
2 Camshaft bearing
3 Groove
4 Centre drilling

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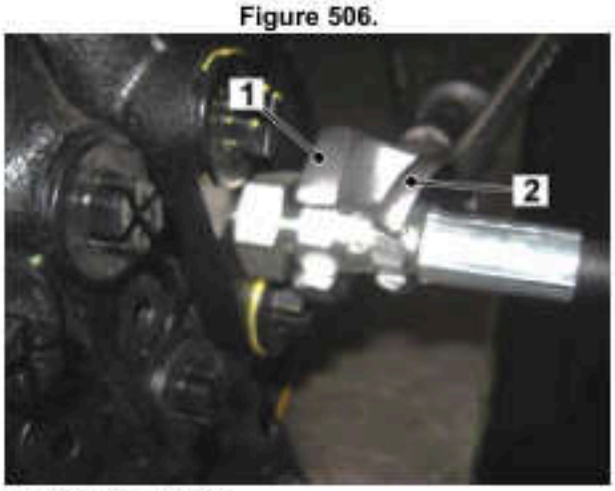
Remove and Install

The hose fittings are for flat face components for resistance over torque. The ORFS (O-Ring Face Seal) offers 100% reliability.

When you remove or install components, make sure all of the hydraulic fittings are tightened to the correct torque value during the assembly procedure. Refer to Technical Data.

To prevent damage to the ORFS during the assembly procedure it is important to use the double-spanner method to tighten the fittings.

Figure 506.

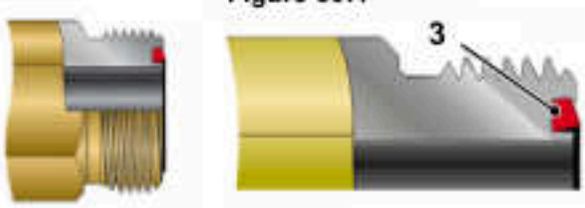


1 Torque spanner
2 Open ended combination spanner

Install

1. Always coat the ORFS with hydraulic oil before installation.
2. The rubber ORFS is compressed into a precision machined groove in the adaptor to form a tight seal against a flat surface of the sleeve.

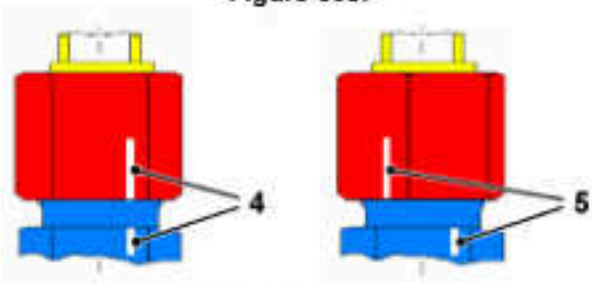
Figure 507.



3 ORFS

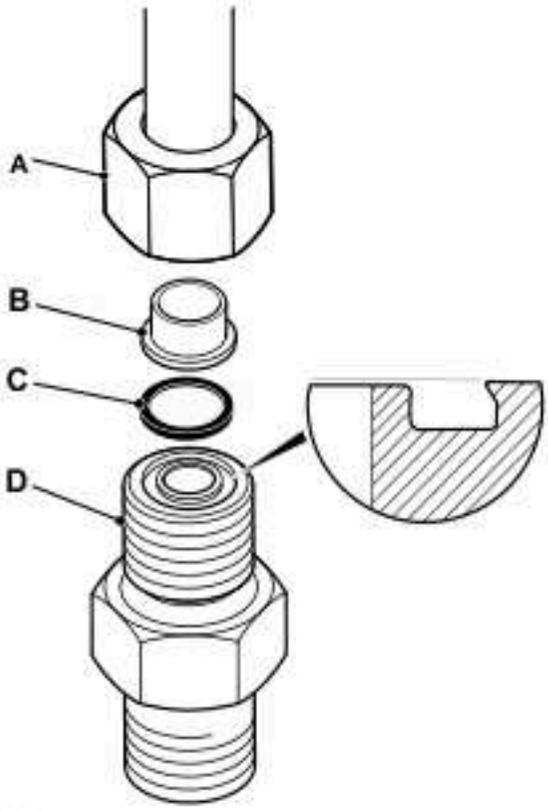
3. Use the swivel nut line marking. Tighten the nut to the correct torque value to compress the fitting. Refer to Technical Data.

Figure 508.



4 Swivel nut - Hand tight
5 Swivel nut - Torque tightened

Figure 509.



A Nut
B Sleeve
C ORFS
D Adaptor

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