SERVICE MANUAL

EXCAVATOR

JS115, JS130, JS131, JS145, JS160, JS180, JS190

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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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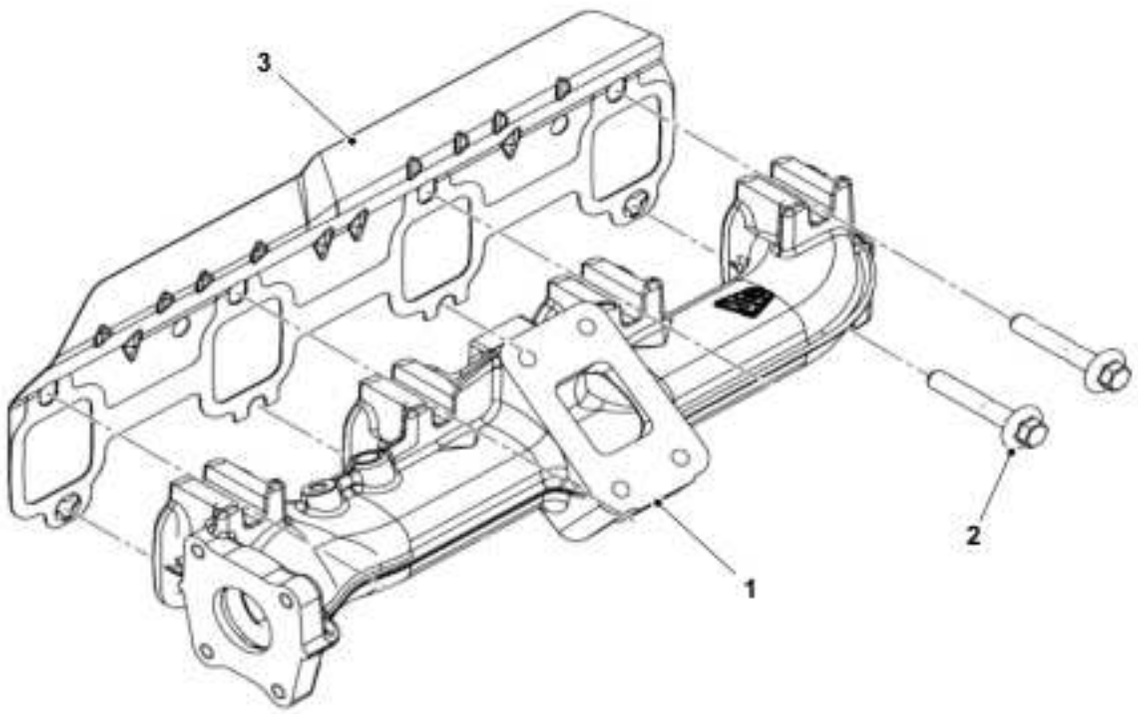
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Remove and Install

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. Disconnect the oil pipes to the turbocharger, refer to (PIL 18-36).

Figure 351.



1 Exhaust manifold
3 Manifold gasket

2 Fixing bolts M10 x 57mm (x8)

Remove

1. Remove the upper four bolts.
2. Loosen the lower four bolts and lift the exhaust manifold from the cylinder head. Remove the bolts and discard the gasket.
3. Cap the exhaust ports to prevent ingress of dirt.
4. Inspect the manifold, refer to Check Condition (PIL 18-24).

Install

1. Replacement is a reversal of the removal procedure.
2. Renew the manifold gasket.
3. Install the lower four bolts, together with the new exhaust gasket to the cylinder head (screw in the bolts approximately to a length of 8 mm).
4. Rest the manifold in position on the row of lower bolts by locating the slots, then install the remaining four upper bolts.
5. Tighten the bolts to the correct torque value. Refer to Torque and Angle Tightening procedure (PIL 72-00).

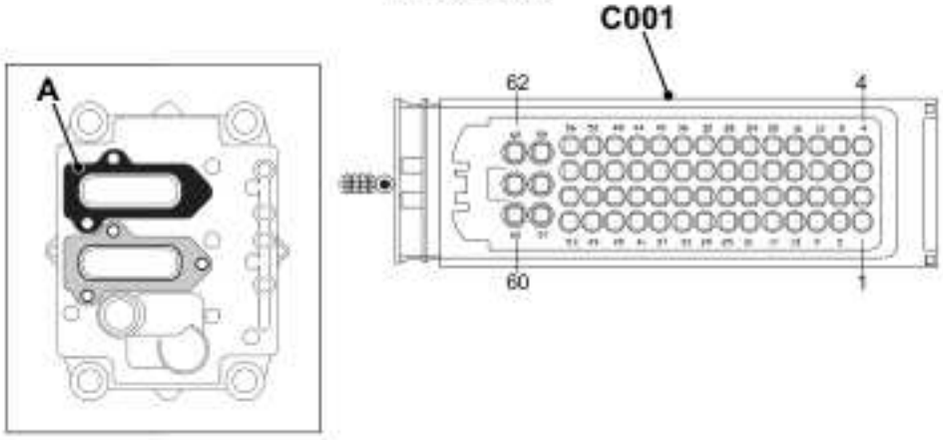
After Installation

1. Reconnect the oil pipes to the turbocharger (if installed).

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Machine Interface Connector

Figure 1325.



A ECM machine interface connector

C001 Machine ECM harness connector

Table 345. Harness Connector C001

Pin	Details
1	Not used
2	Engine fuse and relay box - 12V power hold relay
3	Not used
4	Not used
5	Not used
6	Not used
7	Not used
8	Not used
9	Not used
10	Not used
11	Not used
12	Not used
13	Not used
14	Not used
15	Not used
16	Not used
17	Not used
18	TMAF sensor air temperature Input
19	CAN shield
20	Not used
21	Not used
22	TMAF sensor airflow speed input
23	CAN Low
24	Not used
25	Not used
26	Not used
27	CANHigh
28	Not used
29	Not used
30	Not used
31	Not used
32	Not used
33	Not used
34	Not used
35	Not used
36	Not used
37	Not used
38	TMAF sensor earth
39	Engine fuse and relay box - crank request relay
40	Engine fuse and relay box - lift pump relay
41	Not used
42	Not used
43	Not used
44	Engine fuse and relay box - 24V power hold relay
45	Engine CAN High
46	Not used
47	Not used
48	Inlet manifold heater relay
49	Engine fuse and relay box - Fuse F1
50	Engine CAN Low
51	Not used
52	TMAF sensor voltage supply
53	Engine fuse and relay box - Fuse F2
54	Not used
55	Water in fuel sensor input
56	Not used

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03 - Parts List

Introduction

Consumables

Description	Part No.	Size
Antifreeze HP/Coolant ASTM D6210 Concentrate	4006/1101	5L
	4006/1120	20L
	4006/1103	200L
Black Polyurethane Sealant	4102/2310	0.31L
Black Primer/Activator	4104/2304	0.1L
Cleaner/Degreaser - General purpose solvent based parts cleaner	4104/1557	0.4L
Clear Silicone Sealant	4102/0901	0.31L
EP Hammer Grease	4003/2107	0.4kg
	4003/2106	12.5kg
Extreme Performance Moly Grease	4003/1327	0.4kg
	4003/1326	12.5kg
Glass Replacement Kit	993/55701	-
JCB Autogrease	4003/2305	0.5kg
JCB Glass Cleaner	4006/3175	0.75L
JCB Multi-Gasket	4102/1212	0.05L
JCB Threadlocker and Sealer (High Strength)	4101/0550	0.01L
	4101/0552	0.2L
JCB Threadlocker and Sealer (Medium Strength)	4101/0250	0.01L
	4101/0251	0.05L
JCB Threadseal	4102/1951	0.05L
Polyurethane Adhesive	4103/2110	0.31L
Special HP Grease	4003/2017	0.4kg
	4003/2006	12.5kg
	4003/2005	50kg
Special Hammer Grease	4003/1119	0.4kg
Special MPL-EP Grease	4003/1501	0.4kg
	4003/1506	12.5kg
	4003/1510	50kg
Special Slew Pinion Grease	4003/1619	0.4kg
Special Slide Grease	4003/1115	0.4kg
Surface Cleaning Fluid	4103/1204	1L

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Figure 560.



19. Install new O-rings on to plugs. Install plugs in to the rear flange and temporarily tighten with an Allen key.

Figure 561.



20. Install the pistons in to the rear flange.

Figure 562.



21. Install new O-rings on to plugs. Install plugs in to the rear flange and temporarily tighten with an Allen key.

Figure 563.



22. Insert the brake spool into the flange.

Figure 564.



23. Install a new O-ring on to the plug. Install washer and spring on to the plug.

Figure 565.



24. Install plug in to the rear flange making sure that the spring does not get deformed. Temporarily tighten the plug.

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Figure 884.



5. Attach the shoe plate to the swash plate. Place the pump casing with its regulator mounting face down, attach the tilting bush of the swash plate to the tilting pin, and attach the swash plate and shoe plate to the swash-plate support.
   5.1. Manually check that the swash plate can be moved smoothly.
   5.2. Apply clean oil to sliding sections of swash plate and swash plate support so that the drive shaft can be fitted easily.
   5.3. Take care not to damage shoe plate surface.
6. Repeat step 5 for the other pump section.

Figure 885.



7. Install the drive shafts together with their bearing, bearing spacers and snap ring to each pump section.

Figure 886.



8. Install a new O-ring1 into the seal cover.
   8.1. Apply grease lightly to O-ring.
9. Install the seal cover on the swash plate support with socket head screws 4.

Figure 887.



Figure 888.



   9.1. Take care not to damage the oil seal inside the seal cover.
10. Assemble the cylinder sub-assembly consisting of the cylinder, the piston sub-assemblies, set plate, the spherical bush and the cylinder spring.

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