SERVICE MANUAL

WHEELED EXCAVATOR
JS145W, JS160W, JS20 MH

EN - 9813/9550 - ISSUE 1 - 02/2018

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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Cause	Remedy
Inlet and exhaust valve clearances set incorrectly.	Set the valve clearances to the recommended clearances.
Worn or malfunctioning high pressure fuel pump.	Check the electronic fault codes. Do all the necessary fault finding checks before removal of the high pressure fuel pump
Engine compression low in one or more cylinders.	Check the engine compression.
Engine in reduced torque or limp home mode.	Check the electronic fault codes.
ECM or electrical sensor fault.	Check the electronic fault codes. Check the electrical connections at the ECM and sensors.
Excessive exhaust back pressure	Inspect Catalyst. Check Exhaust pressure readings using Servicemaster.
Low DEF (Diesel Exhaust Fluid) Level.	Fill the DEF Tank with clean DEF

Table 46. Engine - Will Not Reach Maximum RPM

Cause	Remedy
Tachometer faulty.	Verify engine speed with hand tachometer. Repair as required.
Engine overloaded.	Verify high idle speed without load. Investigate operation to be sure correct gear is being used.
Pedal/ Hand Throttle position sensor (TPS) system defective.	Check the throttle assembly. Check the electronic fault codes.
Fuel is aerated.	Check the fuel system for loose connections and possible air ingress points. Rectify and bleed the fuel system.
Fuel lift pump not operating correctly (fuel supply inadequate).	Check that the lift pump is operating and delivering fuel to the injection pump. Check fuses.
Fuel is contaminated or incorrect grade diesel fuel used.	Stop the engine. Replace the fuel filters. Operate the engine with a temporary supply of the correct grade of clean fuel. Monitor the engine performance. Dirty fuel will cause damage to the high pressure fuel pump and injectors.
Fuel filter(s) blocked, fuel supply restricted.	Check/replace the fuel filter(s). Check fuel lines for restriction.
Turbocharger wastegate actuator diaphragm ruptured.	Repair or replace turbocharger.
One or more fuel injectors worn or malfunctioning.	Check the electronic fault codes. Check the electrical connections at the injectors.
Worn or malfunctioning high pressure fuel pump.	Check the electronic fault codes. Do all the necessary fault finding checks before removal of the high pressure fuel pump.

Table 47. Engine - RPM Surges

Cause	Remedy
Fuel level low.	Check the level in the fuel tank, use sight gauge or dipstick. Replenish as required.
Pedal/ Hand Throttle position sensor (TPS) system defective.	Check the throttle assembly. Check the electronic fault codes.
Fuel injection lines leaking.	Replace defective high pressure fuel lines. Do not repair defective fuel lines. If there is a fuel leak remove and discard the necessary components and install new ones.
Fuel tank cap vent/breather blocked.	Inspect and rectify as required. Replace cap if necessary.

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Table 327. Hose End Fittings

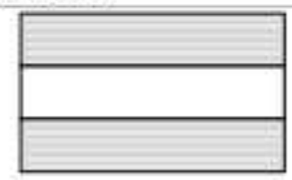
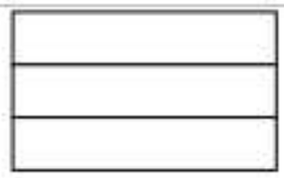
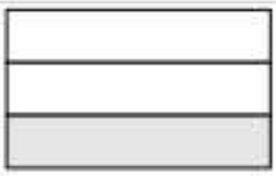
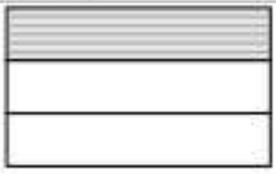
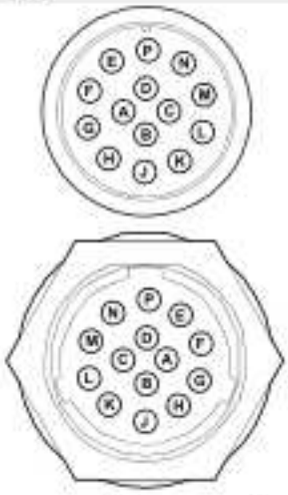
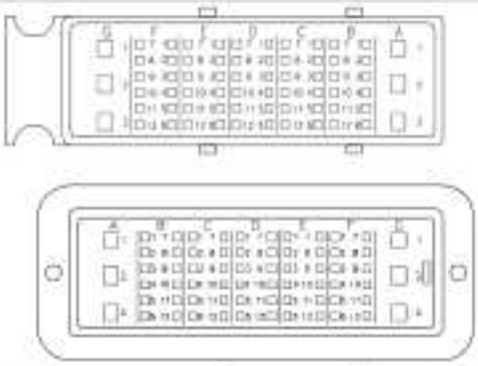
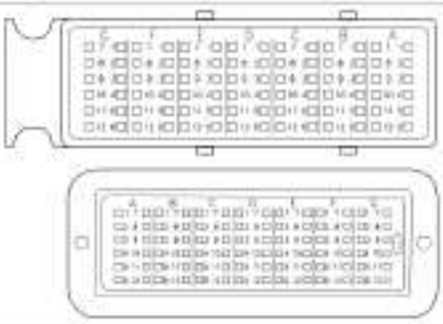
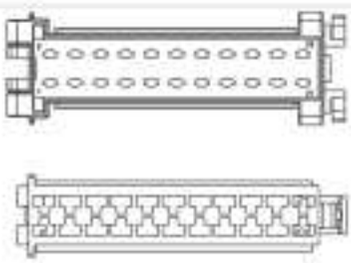
Colour Codes	Hexagon (A/F)	Torque Value
	19mm	24N·m
	22mm	40N·m
	27mm	55N·m
	30mm	65N·m
	32mm	95N·m
	41mm	120N·m
	60mm	189N·m

Table 328. Split Flange and Flanged Pipe Fittings

Colour Codes	Hexagon (A/F)	Torque Value
	6mm	23N·m
	8mm	40N·m

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Table 350.

	Connector Pins	Details
Harness inter-connectors IC23		Bulkhead connectors with threaded coupling ring.
Harness inter-connectors IC01		Bulkhead connectors.
Harness inter-connectors IC02		Bulkhead connectors.
Harness inter-connectors IC10		In-line connectors.

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Figure 1099.



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 1100.



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

Figure 1101.



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 1102.



Figure 1103.



   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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Remove and Install

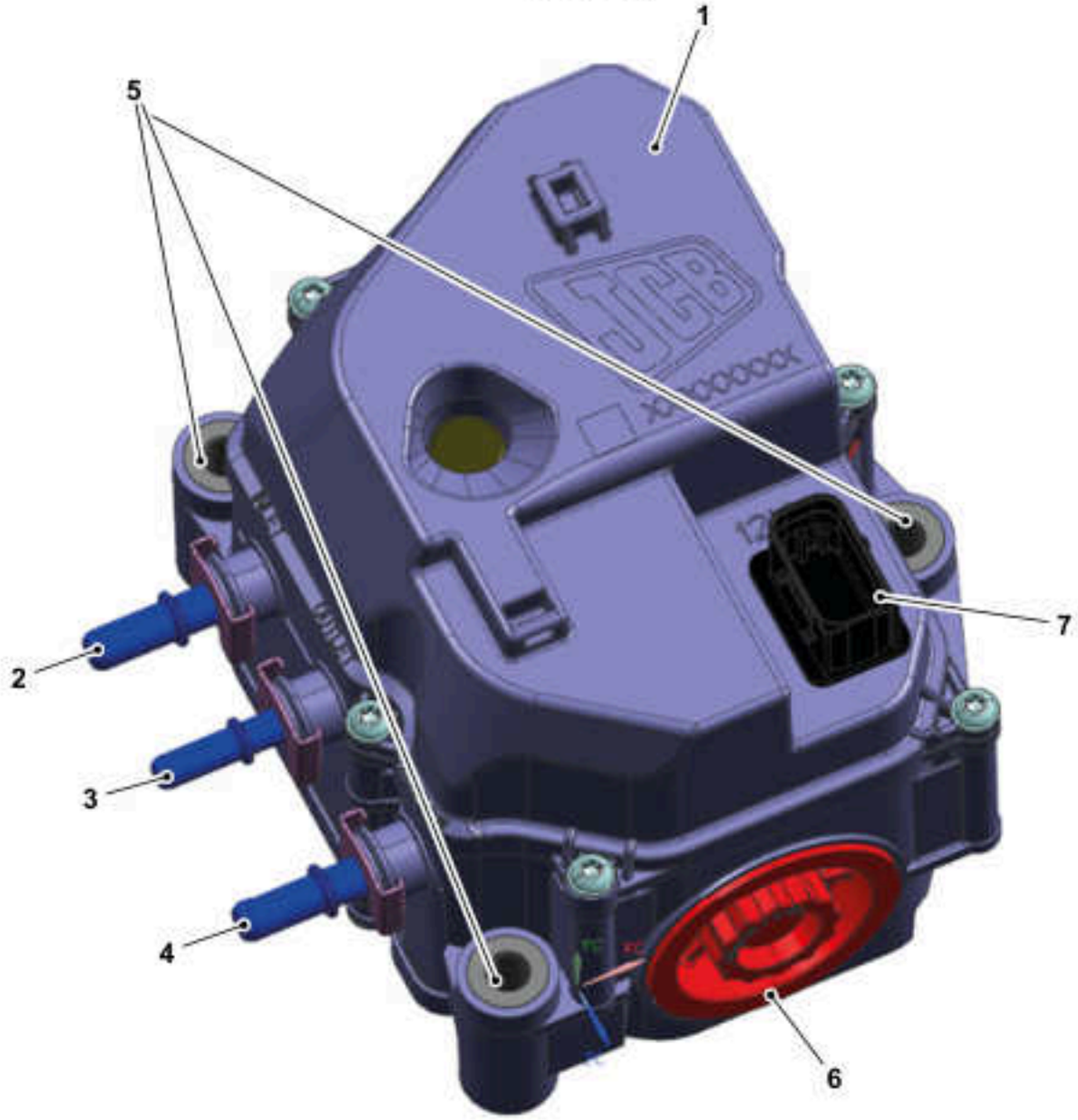
This component is not serviceable, if the component fails replace the complete module.

Before Removal

1. 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.
2. Get access to the pump supply module.
3. Ensure that the area around the pump supply module is clean to prevent contamination of the SCR (Selective Catalytic Reduction) system.

Remove

Figure 370.



1 Pump supply module

2 DEF (Diesel Exhaust Fluid) inlet spigot

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