SERVICE MANUAL

ENGINE

JCB T2/3 Elec Engine 4 Cyl

EN - 9806/7000 - ISSUE 2 - 10/2017

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
Engine is cold - Thermostat fault.	Drain Coolant, Remove and replace Thermostat.
Low Power (particularly at high speed)	Exhaust back pressure high, Catalyst problem, Check Servicemaster Diagnostics.
Inlet and exhaust valve clearances set incorrectly.	Set the valve clearances to the recommended clearances.
Engine compression low in one or more cylinders.	Check the engine compression.
ECM or electrical sensor fault.	Check the electronic fault codes. Check the electrical connections at theECM and sensors.
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.
Camshaft damaged.	Inspect camshaft.
Tappets damaged.	Inspect tappets.

Table 11. Engine - Poor Running at Idle

Cause	Remedy
Coolant temperature sensor fault.	Check the electrical connection at the coolant sensor. Check the correct electrical wires for open or short circuits.
Engine mounts over-tightened, damaged or loose.	Check/replace engine mounts.
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 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.
Fuel filter(s) blocked, fuel supply restricted.	Check/replace the fuel filter(s). Check fuel lines for restriction.
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.
Inlet and exhaust valve clearances set incorrectly.	Set the valve clearances to the recommended clearances.
Engine compression low in one or more cylinders.	Check the engine compression.
One or more fuel injectors worn or malfunctioning.	Check the electronic fault codes. Check the electrical connections at the injectors.
ECM or electrical sensor fault.	Check the electronic fault codes. Check the electrical connections at theECM and sensors.
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.

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Technical Data

Table 38. Inlet and Exhaust Valve Data

Max lift Inlet	9.64mm @ 101° ATDC
Max lift Exhaust	9.84mm @ 115° BTDC
Inlet opens (top of ramp)	6° BTDC
Inlet closes	28° ATDC
Exhaust opens	41° BTDC
Exhaust closes	6° ATDC
Valve stem diameter	
- Inlet	6.928–6.943mm
- Exhaust	6.918–6.933mm
Valve spring free length	51.1mm
Valve guide bore diameter	
- min	6.958mm
- max	6.973mm
Valve face angle	
- Inlet	60.5°
- Exhaust	45.17°
Valve length	131.9–132.4mm
Valve sealing	Stem seal with sealing washer
Valve head depth (below cylinder head surface)	
- Inlet	0.89–1.39mm
- Exhaust	0.95–1.45mm
Valve rim thickness	2.98–3.38mm
Valve Clearances (engine cold)	
- Inlet	0.15–0.21mm(1)
- Exhaust	0.43–0.49mm(1)

(1) The values refer to the tappet adjuster end of the valve rockers.

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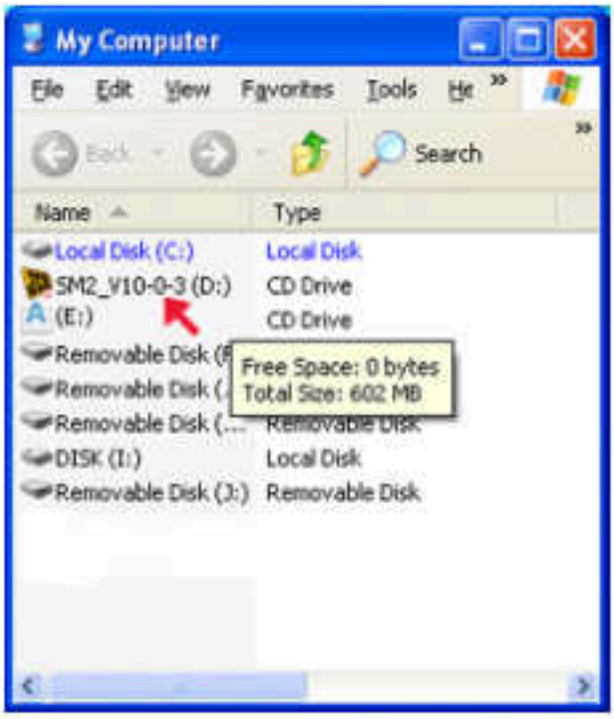
R Fuel level switch input (if installed)

S Inlet manifold heater relay drive 2 output (if installed)

T Water in fuel switch input

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Figure 302.



4. Select and open the "Setup.exe" application.
5. A new window "JCB Servicemaster Setup" will appear on the screen.
   5.1. Click the "Install V10.0.3" option to start the setup application. Refer to Figure 303.

Figure 303.



6. A new window "Select Setup Language" will appear on the screen. Refer to Figure 304.
   6.1. Use the drop down option to select the suitable language.
   6.2. Click the "OK" option to confirm selected language.

Figure 304.



7. A warning message window will appear on the screen. Refer to Figure 305.
   7.1. Click the "OK" option.

Figure 305.



8. A new window "JCB Servicemaster Installation Wizard" will appear on the screen. Refer to Figure 306.
   8.1. Click the "Next" option to proceed.

Figure 306.

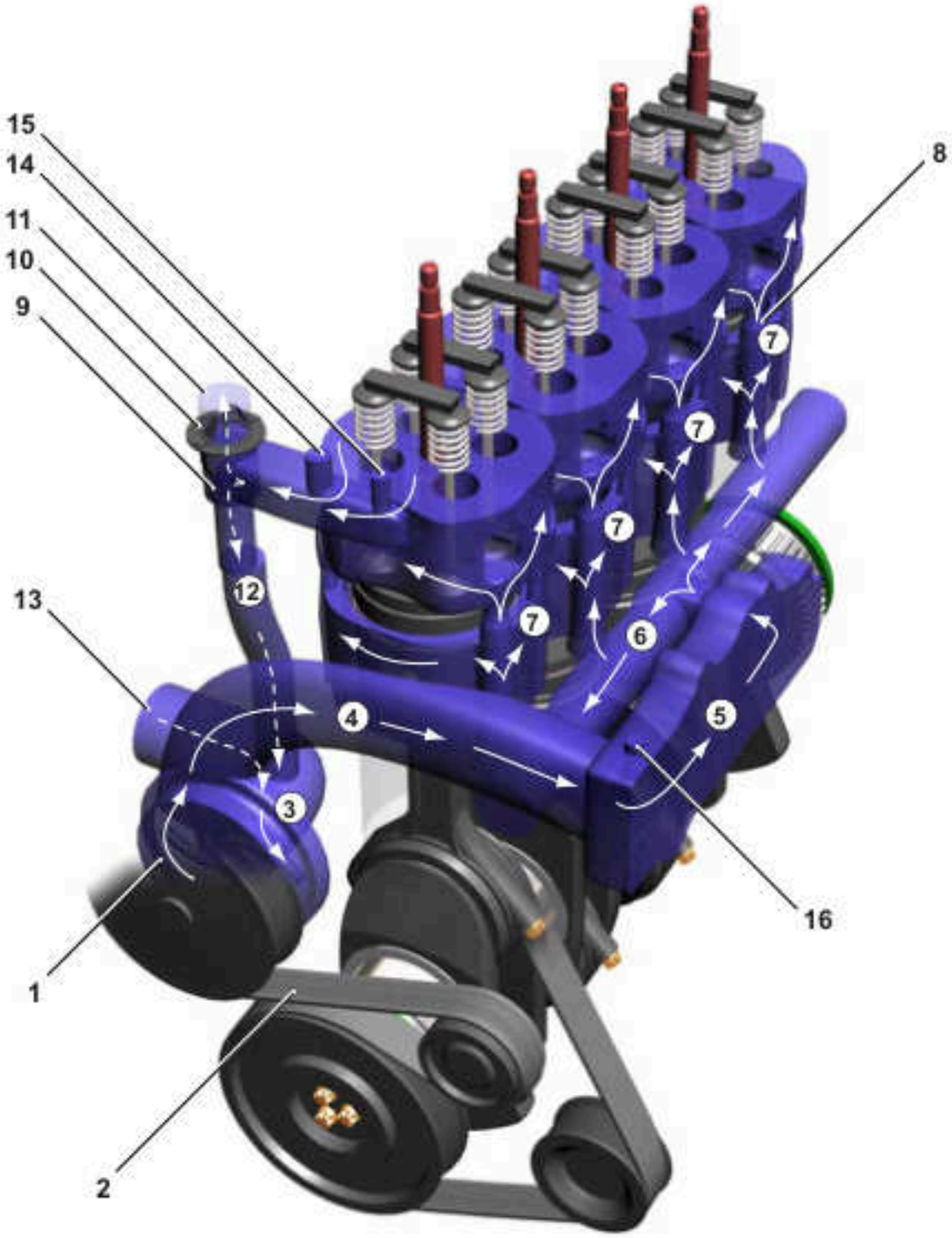


9. Put "User Name" and "Organization" details into the "Customer Registration" screen. Refer to Figure 307.
   9.1. Click the "Next" option when you inserted details.

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Component Identification

Figure 221.



1	Coolant pump	2	Drive belt

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