SERVICE MANUAL

2DXL

EN - 9813/5500 - ISSUE 1 - 01/2016

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 exhaust system is used to guide exhaust gases away from the controlled combustion inside the engine by means of an exhaust pipe. Depending on the machine design, the exhaust gas may flow through the following components:

- Cylinder head and exhaust manifold.
- Turbocharger to increase the engine power (if installed).
- A catalytic converter or EGR (Exhaust Gas Recirculation) system to reduce air pollution (if installed).
- SCR (Selective Catalytic Reduction) (if installed). In SCR system exhaust gases pass through the DEF (Diesel Exhaust Fluid) injection chamber to lower the NOx (Nitrogen Oxide) concentration in the exhaust gases.
- A silencer or muffler to reduce noise (if installed).

The exhaust pipe carries the toxic and noxious gases away from the users of the machine. Note machines or generators that work indoors can quickly fill an enclosed space with carbon monoxide or other poisonous exhaust gases if they are not properly vented to the outdoors.

Health and Safety

Exhaust Gases

Machine exhaust gases can harm and possibly kill you or bystanders if they are inhaled. Do not operate the machine in closed spaces without making sure there is good ventilation. If possible, install an exhaust extension. If you begin to feel drowsy, stop the machine at once and get into fresh air.

Sparks

Explosions and fire can be caused by sparks from the exhaust or the electrical system. Do not use the machine in closed areas where there is flammable material, vapour or dust.

Hazardous Atmospheres

This machine is designed for use in normal out door atmospheric conditions. It must not be used in an enclosed area without adequate ventilation. Do not use the machine in a potentially explosive atmosphere, i.e. combustible vapours, gas or dust, without first consulting your JCB dealer.

Hot Components

Touching hot surfaces can burn skin. The engine and machine components will be hot after the unit has been running. Allow the engine and components to cool before servicing the unit.

WARNING! *The engine has exposed rotating parts. Switch off the engine before working in the engine compartment. Do not use the machine with the engine cover open.*

Check (Condition)

Excessive smoke from the exhaust stack combined with a complaint of low power could be as a result of:

- Dirt or dust (unfiltered air) ingested directly into the engine, resulting in damage to the cylinder bores, there will also be a possible increase in oil consumption.
- Air leaks from the air hose connections.
- Exhaust manifold leaks.

03 - Inlet Manifold

Introduction

On compression ignition (diesel) engines, the inlet manifold (also called the intake manifold) is the part of the air intake system that distributes air for combustion to the cylinders via each inlet port in the cylinder head. The design of the manifold is important to make sure that air is distributed as evenly as possible under all engine speed and load conditions.

Check (Condition)

1. Check the manifold mating faces for signs of damage and distortion.
2. Check the manifold casting for signs of cracks.
3. Renew the manifold if there are any signs of defect.

04 - Outlet Manifold

Check (Condition)

1. Check the manifold mating faces for signs of damage and distortion.
2. Check the manifold casting for signs of cracks.
3. Renew the manifold if there are any signs of defect.
4. Visually inspect for leaks at the exhaust manifold. Make sure all gaskets are in good condition, replace as required.

96 - Fuel Pipe

Contents **Page No.**

00 - General

Introduction

Important: The high pressure fuel pipes must be replaced every time they are removed. If you install the original pipes, it will cause leaks at the fuel pipe connections.

High Pressure Pipe

The high pressure pipes are thick walled and seamless tubes made of steel. The high pressure fuel pipes supply pressurised fuel from the high pressure fuel pump to the fuel rail. From the rail, fuel is supplied to the electronic injectors through the high pressure pipes.

The ends of the tubes are formed with conical nipples for proper installation in the sealing cones on the fuel rail and on the injector port.

Low Pressure Pipe

During fuel injection some fuel bleeds off the electronic injectors and is sent back to the tank through the low pressure pipes. The return fuel from the high pressure fuel pump is also transferred through the low pressure pipe.

All the low pressure return fuel is collected at a common fuel distributor and is sent to the tank through the low pressure pipes.

The low pressure fuel pipe also supplies low pressure fuel from the tank to the high pressure pump through the fuel filter.

Health and Safety

⚠ **WARNING** Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

Notice: Do not allow dirt to enter the fuel system. Before disconnecting any part of the fuel system, thoroughly clean around the connection. When a component has been disconnected, for example a fuel pipe, always fit protective caps and plugs to prevent dirt ingress. Failure to follow these instructions will lead to dirt entering the fuel system. Dirt in the fuel system will seriously damage the fuel injection equipment and could be expensive to repair.

Component Identification

Refer to Fuel System- Component Identification (PIL 18-00).

21 - Cooling System

Contents **Page No.**

Acronyms Glossary

ECM	Engine Control Module

00 - General

Contents **Page No.**

Notes:

00 - General

Introduction

During the working cycle of the engine a great deal of heat is generated. It is important that the engine is kept at its normal operating temperature to achieve maximum efficiency. It is the function of the cooling system to allow the engine to reach this temperature quickly and then maintain it.

Our support email:

ebooklibonline@outlook.com