

JCB Dieselmex Mechanical Engine

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Maintenance](#)

[Section 4 - Systems Description](#)

[Section 5 - Fault Finding](#)

[Section 6 - Test Procedures](#)

[Section 7 - Fuel System](#)

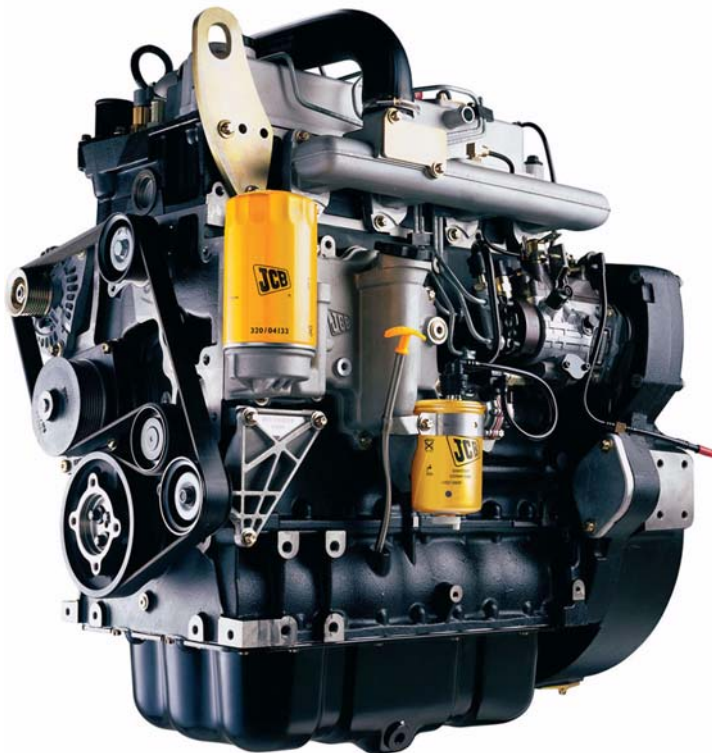
[Section 8 - Cooling System](#)

[Section 9 - Lubrication System](#)

[Section 10 - Electrical System](#)

[Section 11 - Induction and Exhaust System](#)

[Section 12 - Base Engine](#)



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General Information

Service Manual - JCB Dieselmex Mechanical Engine

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[Section 3 - Maintenance](#)

[Section 4 - Systems Description](#)

[Section 5 - Fault Finding](#)

[Section 6 - Test Procedures](#)

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Section 1 - General Information

Contents	Page No.
Introduction	
About this Manual	1 - 1
Using the Service Manual	1 - 1
Section Numbering	1 - 1
Left Side, Right Side	1 - 1
Units of Measurement	1 - 1
Machine Related Data	1 - 2
Acronyms and Abbreviations	1 - 3
Identifying the Engine	
Engine Identification Plate	1 - 4
Typical Engine Identification Number	1 - 4
Component Labels	1 - 5
Engine Component Identification	1 - 6
Independent Power Unit Component Identification	1 - 10
Technical Data	
Basic Engine Data - 444 Engine	1 - 11
Basic Engine Data - 448 Engine	1 - 13
Engine Block & Bedplate Data	1 - 14
Cylinder Head Data	1 - 15
Inlet and Exhaust Valve Data	1 - 16
Rocker Levers, Rocker Shaft and Tappets Data	1 - 18
Pistons and Connecting Rods Data	1 - 19
Crankshaft Data	1 - 20
Camshaft Data	1 - 21
Fuel System Data	1 - 22
Acceptable and Unacceptable Fuels	1 - 22
Fuel Types	1 - 24
Usage and Effects of Fuels	1 - 25
Sulphur Content	1 - 26
Effects of Fuel Contaminates	1 - 27
Lubrication System Data	1 - 28
Cooling System Data	1 - 29
Electrical Equipment Data	1 - 30
Torque Settings	
Zinc Plated Fasteners and Dacromet Fasteners	1 - 32
Introduction	1 - 32
Bolts and Screws	1 - 32
Hydraulic Connections	1 - 36
'O' Ring Face Seal System	1 - 36
'Torque Stop' Hose System	1 - 39
Torque + Angle Explanation	1 - 40
Torque + Angle Tightening Procedure	1 - 41
Engine Torque Figures	1 - 42
Lubricants and Capacities	
Engine Lubricating Oil	1 - 57
Recommended Oils	1 - 57
Engine Oil Capacity	1 - 57
Coolant Mixtures	1 - 58
Service Aids	
Sealing, Retaining and Care Compounds	1 - 59



Contents	Page No.
Service Tools	
General Engine Tools	1 - 60
Specialist Engine Tools	1 - 62
Service Tool Drawings	1 - 67
892/01146 - Core Plug Fitting Tool	1 - 67
892/01147 - Crankshaft Turning Tool	1 - 68
892/01148 - Timing Pin	1 - 69
892/01149 - Sump Sealant Template	1 - 70
892/01150 - Oil Sump Location Dowel	1 - 71
892/01151 - Injector Sleeve Removal Tool	1 - 72
892/01152 - Valve Stem Seal Fitting Tool	1 - 73
892/01154 - FIP Cover Removal Tool	1 - 74
892/01155 - FIP Gear Removal Tool	1 - 75
892/01157 - Crankshaft Front Seal Fitting Tool	1 - 76
892/01156 - Crankshaft Rear Seal Fitting Tool	1 - 77
892/01158 - Crankshaft Rear Seal Alignment Tool	1 - 78
892/01159 - Injector Seal Fitting Tool	1 - 78
892/01168 - Dummy Injector	1 - 79
892/01169 - Top Dead Centre (TDC) Setting Tool	1 - 80
Engine Mounting Frame	1 - 81
Service Parts and Repair Kits	
Engine Repair Parts and Kits Identification	1 - 82
Engine Lifting	
Lifting Information	1 - 98
Operating Procedures	
Starting the Engine	1 - 99
Pre-Start Notes	1 - 99
Start Procedure	1 - 100
Engine Checks After Start-up	1 - 101
Engine Running-in Procedure	1 - 102
Stopping the Engine	1 - 103

Introduction

About this Manual

Using the Service Manual

This publication is designed for the benefit of JCB Distributor Service Engineers who are receiving, or have received, training by JCB Technical Training Department.

These personnel should have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of engines.

Renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course. It is expected that components will be cleaned and lubricated where appropriate, and that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid, engine oil and ingress of dirt. Finally, please remember above all else **SAFETY MUST COME FIRST!**

The manufacturer's policy is one of continuous improvement. The right to change the specification of the engine without notice is reserved. No responsibility will be accepted for discrepancies which may occur between the specifications of the engine and the descriptions contained in this publication.

Section Numbering

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1 **General Information** includes torque settings and service tools.
- 2 **Care & Safety** includes warnings and cautions pertinent to aspects of workshop procedures etc.
- 3 **Maintenance** includes service schedules and recommended lubricants.

The remaining sections deal with Descriptions, Fault Finding, Dismantling, Overhaul etc. of specific components, for example:

- 4 **Systems Descriptions**

- 5 **Fault Finding ...etc.**

Left Side, Right Side

References to the 'left' side and the 'right' side of the engine are when viewed from the flywheel end of the engine, as shown at **1A**.

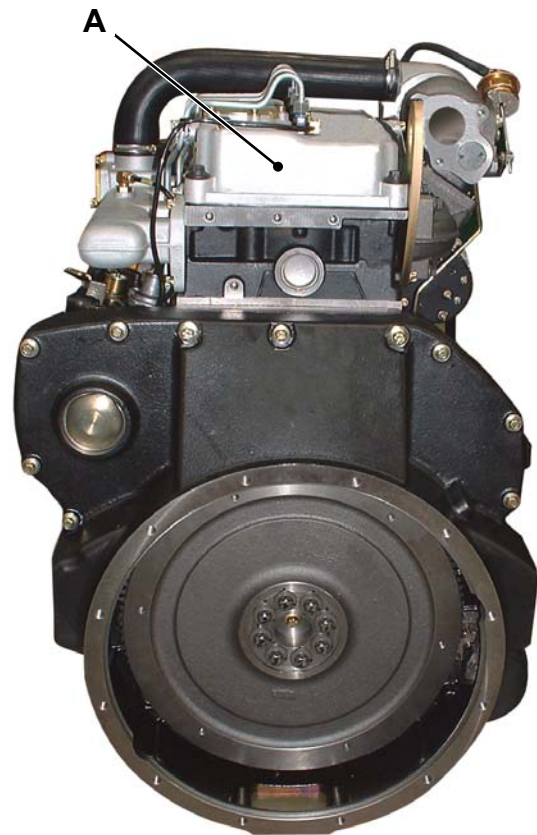


Fig 1.

Units of Measurement

In this manual, the S.I. system of units is used. For example, liquid capacities are given in litres. The imperial units follow in parenthesis () e.g. 28 litres (6 UK gal).



Machine Related Data

The JCB Dieselmex Engine can be fitted to a variety of constructions and agricultural machines. The scope of this publication is limited to the engine, but references to a typical machine installation will be made. Tasks and information specific to a machine installation will be listed in the relevant machine Service Manual, for example engine removal and replacement procedures.



Acronyms and Abbreviations

Some of the following acronyms and abbreviations are used in this service manual. The remainder are used in the automotive industry and are repeated for reference only.

°C	Celsius	Nm	Newton Metre
°F	Fahrenheit	NSP	Non Serviced Part
A/R	As Required	O/D	Outside Diameter
API	American Petroleum Institute	OEM	Original Equipment Manufacturer
BBDC	Before Bottom Dead Centre	PPM	Parts per Million
BDC	Bottom Dead Centre	PSI	Pounds per square Inch
BSFC	Brake Specific Fuel Consumption	PTO	Power Take Off
BTDC	Before Top Dead Centre	RH	Right Hand
CCV	Crankcase Vent	RME	Rapeseed Methyl Ester
CID	Cubic inch Displacement	RPM	Revolutions per Minute
CSA	Cold Start Advance	SAE	Society of Automotive Engineers
CSAS	Cold Start Advance Solenoid	SME	Sunflower Methyl Ester
cST	Centistokes	SOME	Soyabean Methyl Ester
ECM	Electronic Control Module	STD	Standard
ECS	Emission Control System	TBA	To be Advised
EPA	Environmental Protection Agency	TC	Turbocharged
ESOS	Electric Shut-Off Solenoid or Engine Shut-Off Solenoid	TCA	Turbocharged Aftercooled
FAME	Fatty Acid Methyl Esters	TDC	Top Dead Centre
FEAD	Front End Accessory Drive	TI	Technical Information
FIE	Fuel Injection Equipment	VOME	Vegetable Oil Methyl Esters
FIP	Fuel Injection Pump		
Hg	Mercury		
HP	Horse Power		
I/D	Inside Diameter		
kg	Kilogram		
KPH	Kilometres per hour		
Kw	Kilowatt		
LH	Left Hand		
ltr	Litre		
mm	Millimetre		
MPH	Miles per Hour		
NA	Naturally Aspirated		
N/A	Not Applicable/Not Available		

Identifying the Engine

Engine Identification Plate

Typical Engine Identification Number

Engine data labels **2B** are located on the cylinder block and rocker cover (if fitted). The data label contains important engine information and includes the engine identification number.

A typical engine identification number is explained as follows:

S	A	320/40098	U	00001	04
1	2	3	4	5	6

5 Engine serial number

6 Year of manufacture

09 = 2009

1 Engine Displacement

D = 4.8 litre series

S = 4.4 litre series

2 Engine Type

Tier 2 Engines

A = Naturally Aspirated

B = Turbocharged

C = Turbocharged with Intercooler

Tier 3 Engines

D = Turbocharged

E = Electronic Common Rail

F = Turbocharged with Intercooler

3 Engine part number

4 Country of manufacture

U = United Kingdom

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