SERVICE MANUAL

LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK)
505-20

EN - 9823/0300 - ISSUE 1 - 01/2018

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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Figure 207.

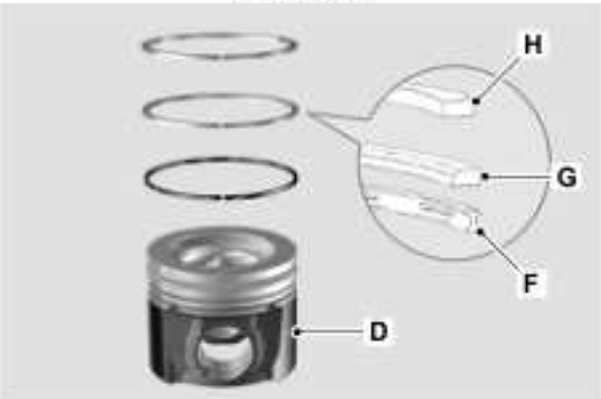


D Piston
E Seal rings

Assemble

1. Do a dimensional check of the connecting rod and gudgeon pin.
2. Do a dimensional check of the piston.
3. Do a dimensional check of the piston seal rings.
4. Install the piston rings in the sequence given below:

Figure 208.



D Piston
F Scraper ring
G Middle seal ring
H Top seal ring

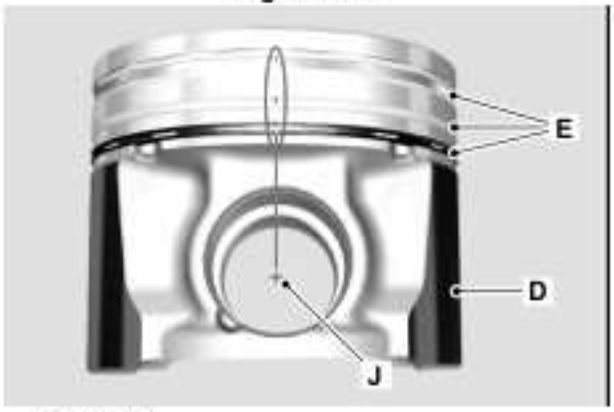
4.1. Scraper ring.

4.2. Middle seal ring.

4.3. Top seal ring.

5. Make sure that the rings are installed with the identification facing the piston crown.
6. Measure the seal ring clearance in its seat.
7. Align the end gap of each seal ring with the centre of the gudgeon pin hole.

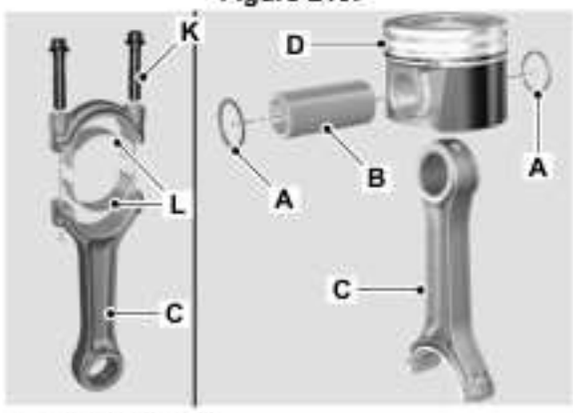
Figure 209.



D Piston
E Seal rings
J Gudgeon pin hole centre

8. Loosen the screws and remove the connecting rod cap.
9. Replace the big end bearings with new bearings.
10. Put the connecting rod in position inside the piston.

Figure 210.



A Retainer ring
B Gudgeon pin
C Connecting rod
D Piston
K Connecting rod cap screws
L Big end bearings

11. Make sure the piston and the connecting rod holes are aligned.
12. Put the gudgeon pin inside the piston through the connecting rod.

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Introduction

Complex hydraulic components and circuits can be described to the engineer by using graphical symbols. The tables illustrate and give a brief description for some of the more common symbols used.

There are many symbols in use and it would be impossible to include them all here. However it should be noted that most are only variations or refinements on the basic principles explained here. If more detailed information is required you are recommended to obtain a copy of BS2917 or IS01219.

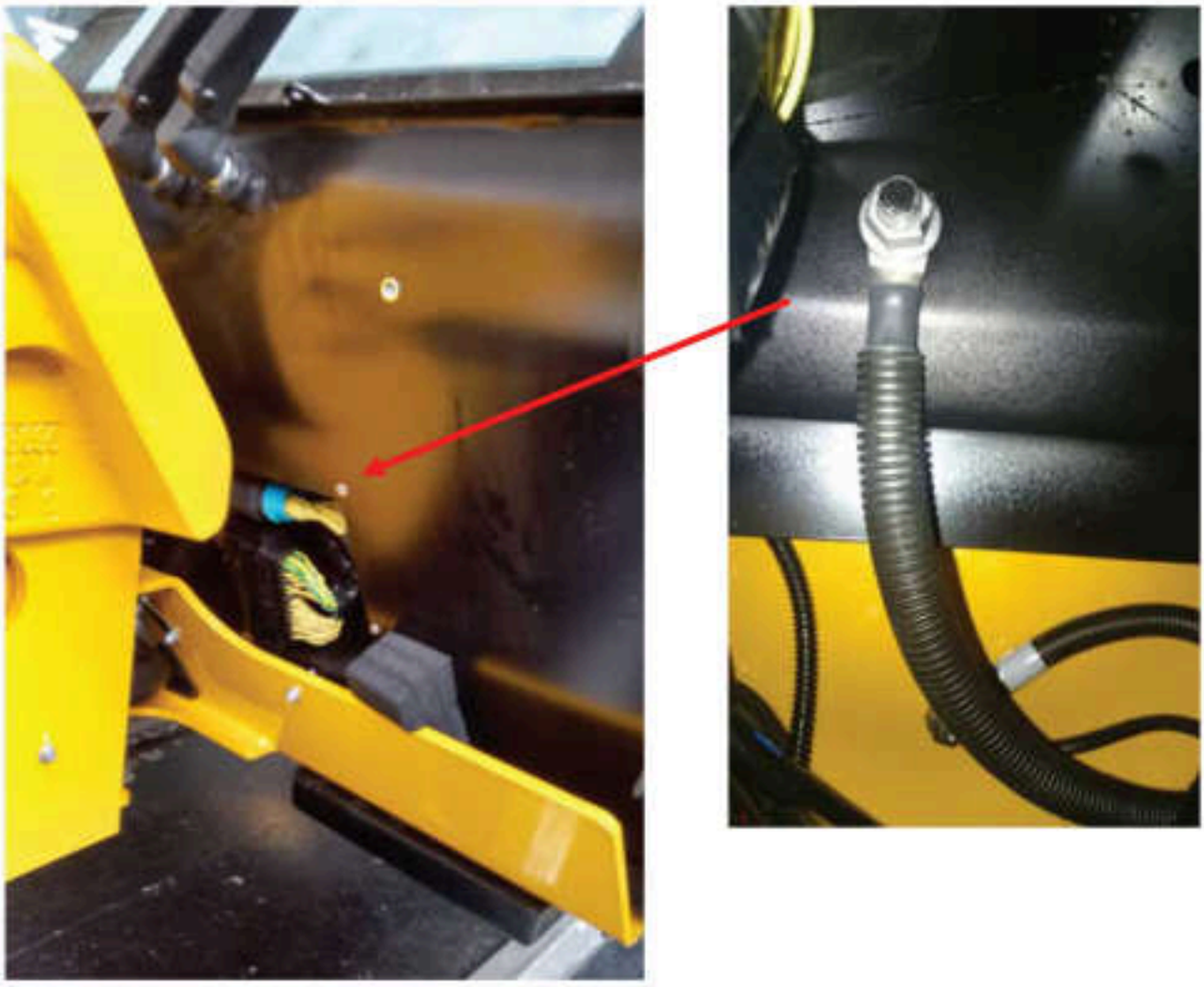
Once familiar with the symbols, the engineer can use hydraulic circuit diagrams as an aid to fault finding. It will be possible to see the complete hydraulic circuit and decipher the relationship between hydraulic components.

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Fault Code	Fault Description	Fault Severity
P0106-24	MAP Sensor Signal Drift High Fault	Service
P0106-64	MAP Sensor Signal Plausibility Fault	Service
P0110-00	Inlet Air Temperature (IAT) Sensor Signal ADC Fault Detected	Service
P0112-23	Inlet Air Temperature (IAT) Sensor Signal Low Fault Detected	Service
P0113-24	Inlet Air Temperature (IAT) Sensor Signal High Fault Detected	Service
P0115-00	Coolant Sensor Signal Fault	Service
P0116-64	Coolant Sensor Fault (Plausibility)	Trivial
P0117-23	Coolant Sensor Signal Low Fault	Trivial
P0118-24	Coolant Sensor Signal High Fault	Trivial
P0120-00	Foot Pedal Signal Track 1 Fault	Service
P0129-87	CAN Bus Message Error For Environment Pressure From Engine ECU	Operator
P0180-00	Fuel Temperature ADC Fault	Service
P0181-27	Fuel Temperature Sensor Fault	Service
P0181-27	Fuel Temperature Sensor Gradient Fault	Service
P0181-87	CAN Bus Message Error For Fuel Temperature From Engine ECU	Operator
P0182-23	Fuel Temperature Sensor Low Fault	Service
P0183-24	Fuel Temperature Sensor High Fault	Service
P0190-27	Rail Pressure Sensor Signal Grad Fault	Service
P0191-23	Rail Pressure Sensor Fault. Below Minimum Threshold (Out Of Range At Key-On)	Service
P0191-24	Rail Pressure Sensor Fault. Above Maximum Threshold (Out Of Range At Key-On)	Service
P0192-23	Rail Pressure Sensor Signal Low Fault	Service
P0193-24	Rail Pressure Sensor Signal High Fault	Service
P0194-00	Rail Pressure Sensor Signal Drop Fault	Critical
P0195-00	Oil Temperature Sensor Signal Global Fault	Service
P0196-27	Oil Temperature Sensor Signal Gradient Fault	Service
P0196-64	Oil Temperature Sensor Signal Plausability Fault	Service
P0196-87	CAN Bus Message Error For Oil Temperature From Engine ECU	Operator
P0197-23	Oil Temperature Sensor Signal Low Fault	Service
P0198-24	Oil Temperature Sensor Signal High Fault	Service

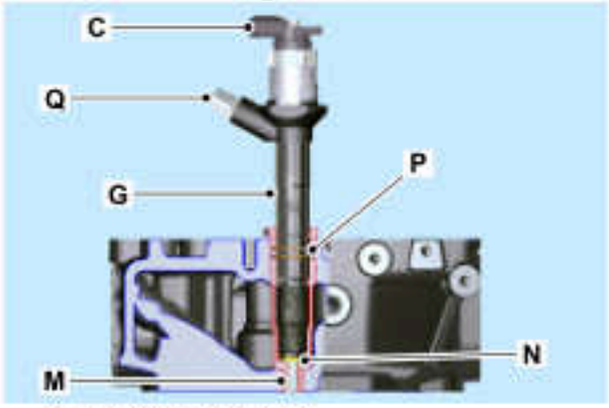
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Figure 1097. Earth Lead Between the Cab- Chassis, Connects at C037 Also



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Figure 419.

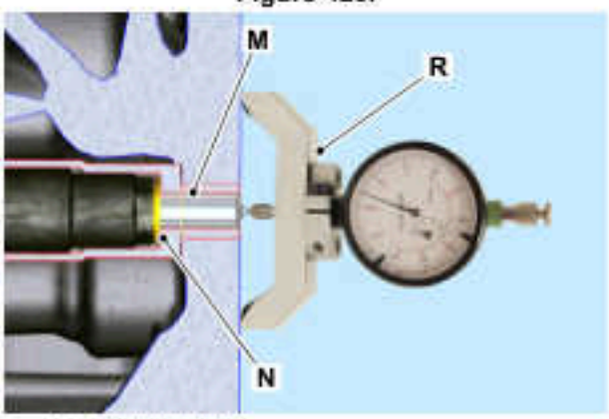


C Electrical connector
G Electronic injector
M Injector sleeve
N Gasket
P Gasket
Q High pressure pipe inlet

6. Make sure that you clamp the sleeve to the correct torque value.
7. Make sure that you put the injector into the sleeve.
8. Make sure that the injector is installed in the correct orientation, with the bleed-off port facing the right hand side (exhaust manifold) of the engine.
9. Make sure that you use a dial gauge to check that the projection of the electronic injector sleeve must be in the specified range.

   Length/Dimension/Distance: 1.68–2.42mm
   Special Tool: Tool for protrusion of pistons, injectors and glow plugs (Qty.: 1)

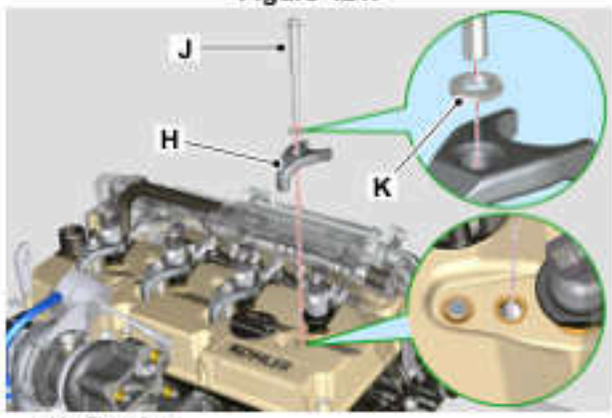
Figure 420.



M Injector sleeve
N Gasket
R Dial gauge

10. Install the rocker arm pin fixing screw.
11. Position the electronic injector fixing bracket and secure it with a screw and washer.

Figure 421.



H Bracket
J Screw
K Washer

12. Tighten the injector fixing bracket screw to the correct torque value.
13. Attach the fuel return pipe fitting to the injector head.
14. Connect the electrical connector.

Note: If the injector projection does not fall into the specified range then replace the gasket, on the base of the injector sleeve and repeat the inspection.

After Installation

1. Replace the rocker cover.
   Refer to: PIL 15-42-06.
2. Renew the high pressure fuel pipes.
   Refer to: PIL 18-96-03.
3. Start the engine and check for fuel leaks.

Table 145. Torque Values

Item	Nm
M	30
J	20

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