SERVICE MANUAL

LOADALL (ROUGH TERRAIN VARIABLE REACH TRUCK)
506-36, 507-42, 509-42, 510-56, 512-56

EN - 9823/1700 - ISSUE 1 - 07/2018

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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09 - Description

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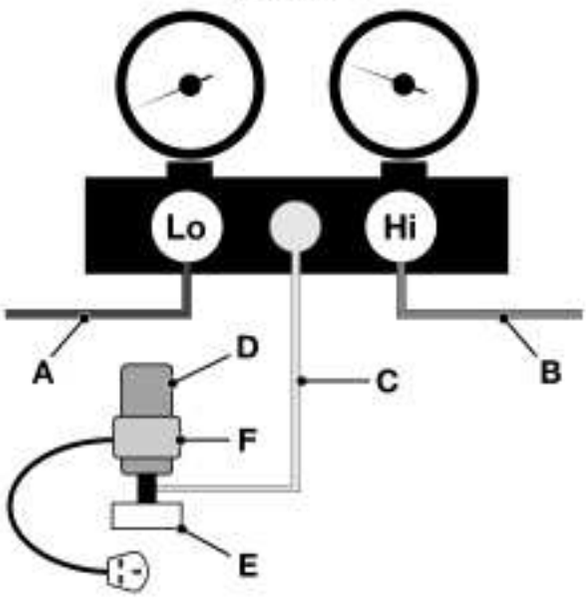
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Be sure to connect to the liquid port when following the above procedure. Note: Refrigerant can be used either in gas or liquid form. If recharging with gas follow the manufacturers instructions and recharge only via the low pressure port. Do not use liquid refrigerant at the low pressure port.

3. Slowly open the high pressure valve and allow the vacuum to draw-in refrigerant to the specified weight for the system. Refer to Technical Data. Add refrigerant until the scales indicate the specified weight for the system or the weight obtained when the system refrigerant was previously recovered. Note: To speed up the process a thermostatically controlled thermal blanket can be used around the replenishing cylinder.
4. Close all valves and remove the equipment.

Figure 198.



A Low pressure hose (blue)
B High pressure hose (red)
C Hose (yellow)
D Refrigerant cylinder
E Scales
F Thermal blanket

Electronic Vacuum Gauge

The CPS VG100 vacuum gauge is an electronic type using LED's to indicate various states of vacuum. It is used in place of or to supplement the gauge on the vacuum pump. Before connecting into the system, switch on to check that the first LED lights to show that the battery is in good condition.

Note: The indicator lights show pressure in inches of mercury (Hg) and vacuum in microns (0.001mm Hg).

Figure 199.

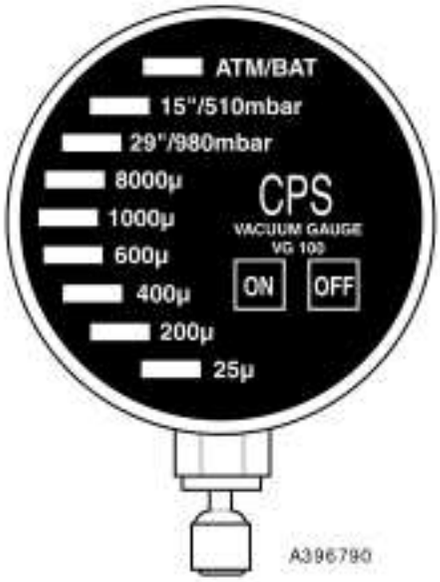


Table 61.

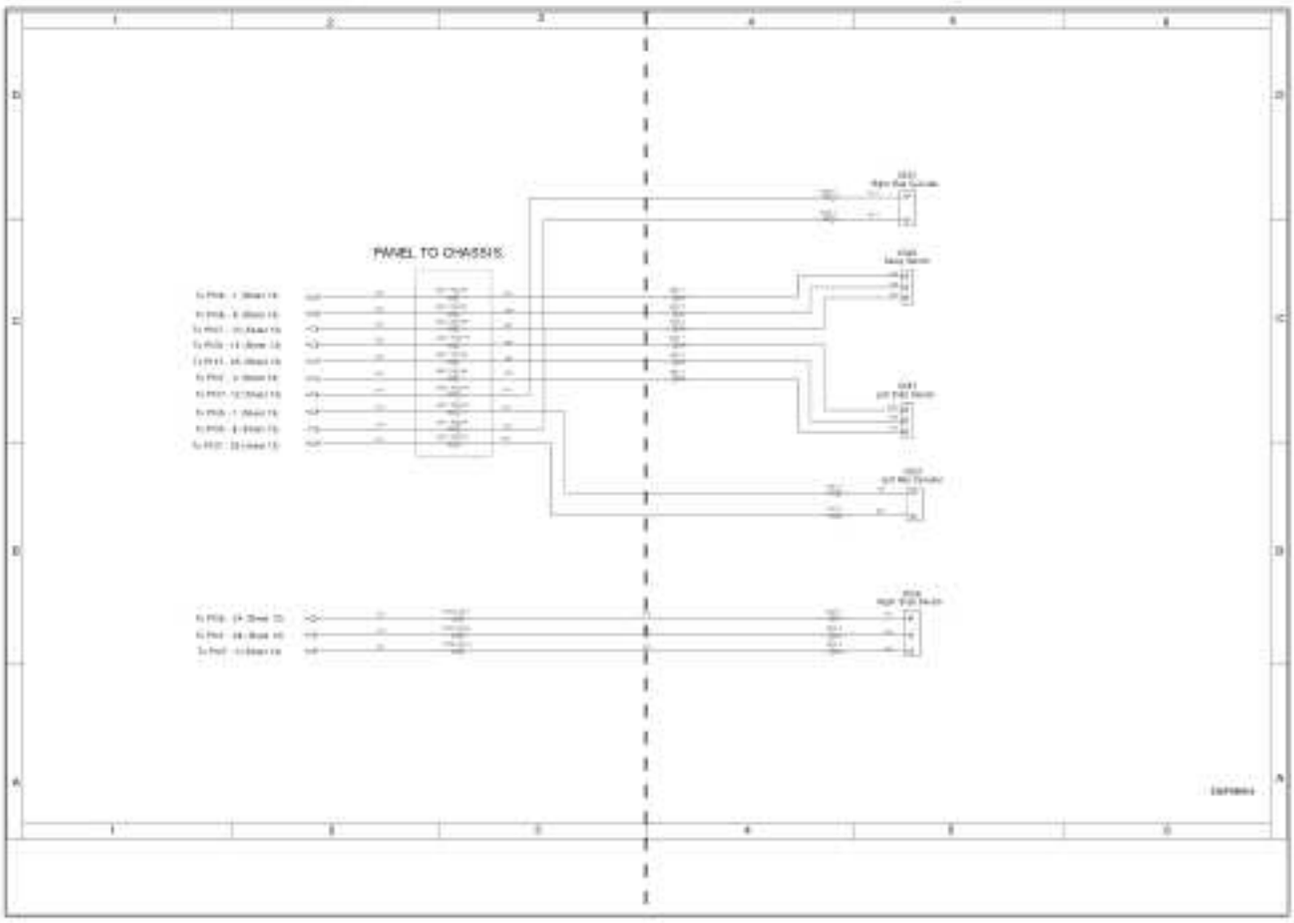
Gauge Reading	Description
ATM/BAT	Normal atmospheric pressure reading. Battery condition.
15"/510mbar	381mm (15 in)Hg. Partial vacuum- Vacuum system is operating.
29"/980mbar	736mm (29 in)Hg. No vacuum drawn- Possible system leakage.
8000	8.0mm (0.31 in)Hg. Partial vacuum - If the reading does not progress the system may have a slow leak.
1000	1.0mm (0.039 in)Hg. Deeper vacuum.
600	0.6mm (0.023 in)Hg. Deep vacuum.
400	0.4mm (0.015 in)Hg. Deep vacuum.
200	0.2mm (0.0078 in)Hg. Deep vacuum.
25	0.025mm (0.00098 in)Hg. Pump Test. Maximum sustainable vacuum.

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Figure 1090. RAS Chassis/Panel - 332/F0906 Issue 2 (Sheet 15 of 16)

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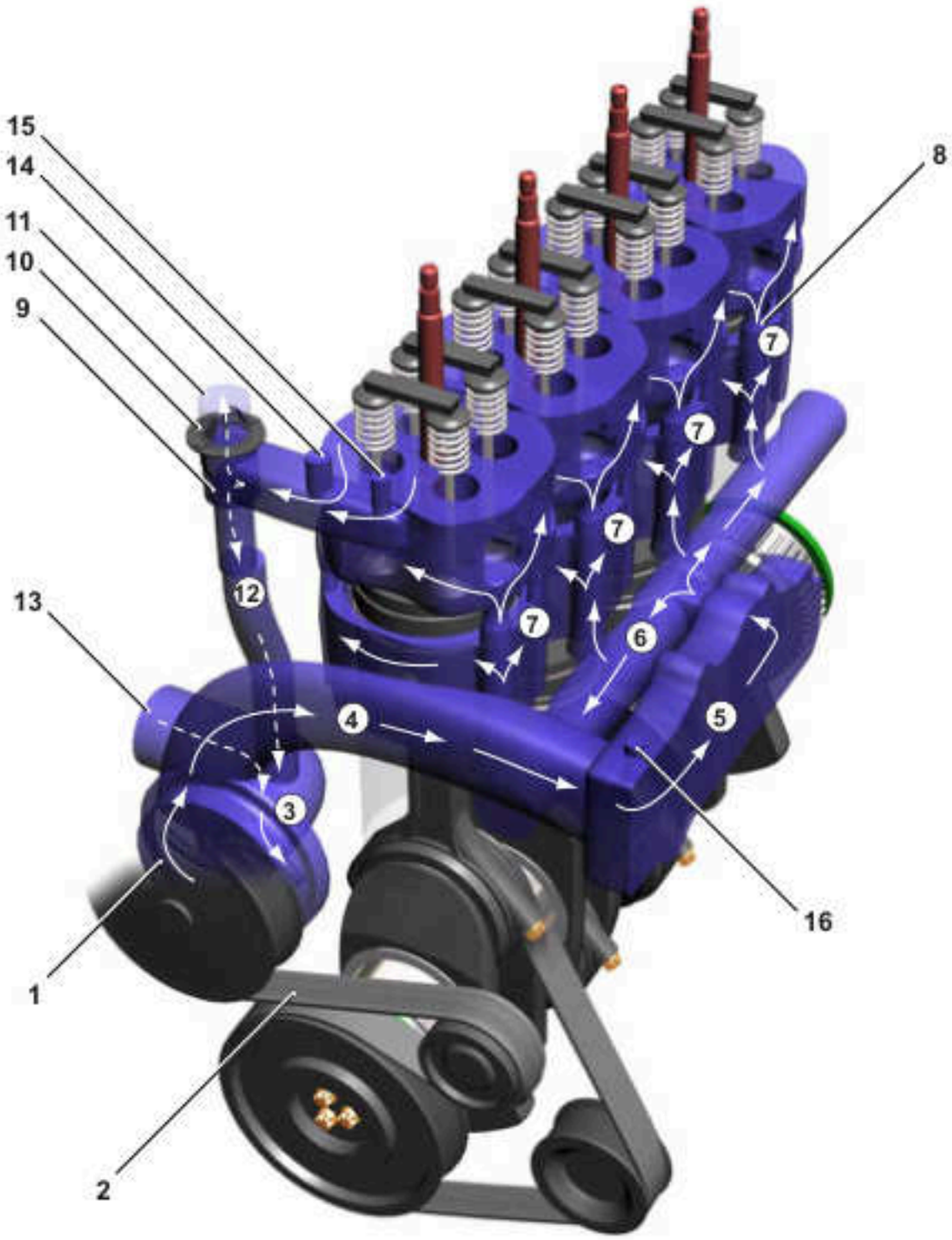
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Fault Code	Description	Warning Displays	Severity
E134	Injector metering rail #1 pressure - voltage above normal or shorted high	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E135	Injector metering rail pressure - voltage below normal or shorted low	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E159	Cylinder power imbalance – data erratic, intermittent or incorrect	Fault Logged	Logged
E172	Engine coolant temperature sensor fault - data erratic, intermittent or incorrect.	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E183	Injector metering rail #1 pressure - data erratic, intermittent or incorrect.	Fault Logged	Logged
E202	Minimum drive pulse drift (injector #2) - mechanical system not responding or out of adjustment.	Fault Logged	Logged
E203	Minimum drive pulse drift (injector #1) - mechanical system not responding or out of adjustment.	Fault Logged	Logged
E204	Minimum drive pulse drift (injector #3) - mechanical system not responding or out of adjustment.	Fault Logged	Logged
E205	Minimum drive pulse drift (injector #0) - mechanical system not responding or out of adjustment.	Fault Logged	Logged
E700	High pressure fuel pump delivery pressure - data valid but below normal operating range.	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E701	High fuel pressure solenoid valve 1 fault - data erratic, intermittent or incorrect.	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E702	High pressure fuel pump delivery pressure - data valid but below normal operating range.	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E703	High pressure fuel pump delivery pressure - fault condition exists.	MIL lamp activated (Amber). Message displayed on LCD. Buzzer activated for 1 second.	Service
E704	Engine knock sensor - fault condition exists.	Fault Logged	Logged
E708	Engine control module main relay fault – relay not responding correctly.	Fault Logged	Logged

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Component Identification

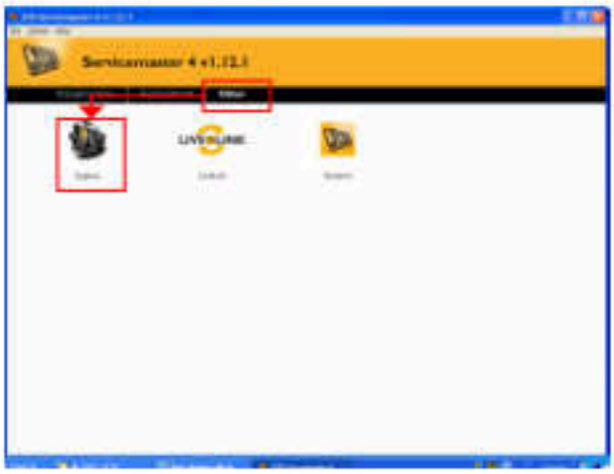
Figure 438.



1	Coolant pump	2	Drive belt

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Figure 1289.



3. Make sure that the correct DLA is selected in the chooser. Click on Utilities, DLA Setup. The DLA Chooser window opens. Check the button to match to the Current Device. Click Apply.

4. Select the required machine range.

Figure 1290.



5. The Flashloader tool will then open.

Figure 1291.



Using Flashloader

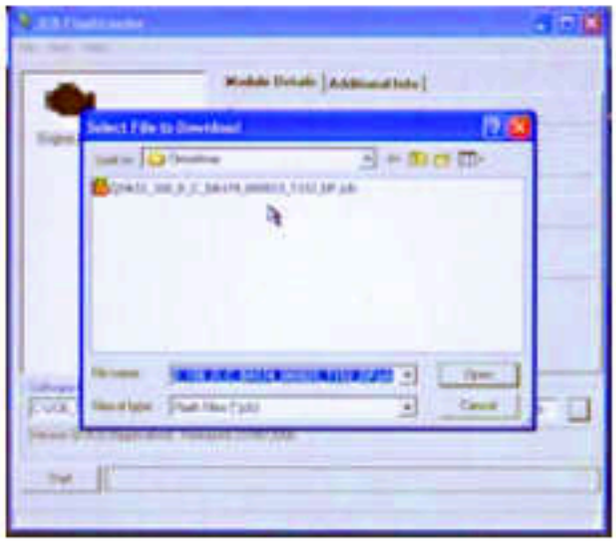
Important: Do not turn off the ignition or isolate the system by accidentally engaging the operators seat isolation switch when using the flashloader. This will interrupt the flash signal to the ECM and will irreparably damage the ECM.

1. Make sure that the machine ignition switch is set to ON but do not start the engine.

2. Click on the ECM icon.

3. Click on the Browse button and select the correct data file. Click Open.

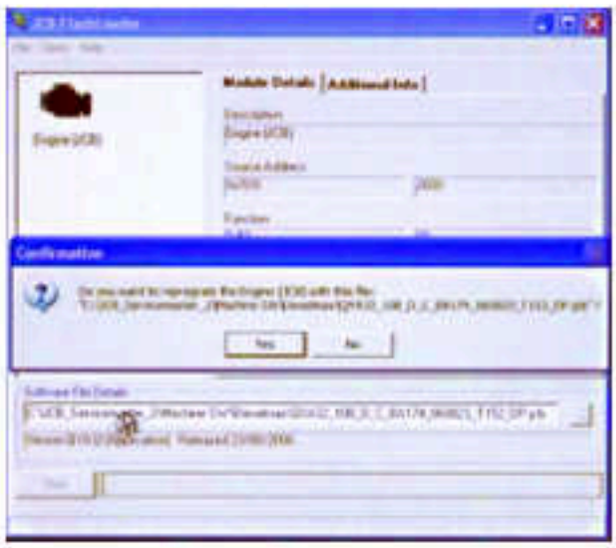
Figure 1292.



4. Click on the Start button. A confirmation window will appear. Click on the Yes to start the reprogramming of the ECM. The progress bar is displayed.

5. When the programming is complete switch the machine ignition to the OFF position. Important: Re-flashing the ECM changes the base programme. Re-flashing the ECM does not configure the machine settings such as fuel injector calibration codes, and other machine specific options.

Figure 1293.



6. Before starting the engine make sure that the machine setup data is correct. You must check that all other relevant machine settings are correctly configured. Use the setup software tool.

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