General Information

Service Manual - Side Engine Loadalls - SH,SL Engines - from May 2014

Section 1 - General Information
Section 2 - Operator's Manual
Section B - Body and Framework
Section C - Electrics
Section E - Hydraulics
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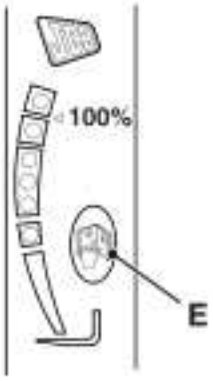
Fault Finding

LLMI Fault Codes

When the system detects a fault, the audible alarm will sound and various combinations of LEDs on the display unit will illuminate to indicate a fault code for approximately 10 seconds.

The audible alarm and fault code cancel after 10 seconds, all the LEDs on the display unit will then flash continuously as long as the fault remains. To show the fault code for a further 10 seconds, press and release button **E**.

When the fault clears, the display will return to normal.



CP53814 C2

Fig 1.

If fault codes are displayed, turn the ignition key switch to OFF and then ON again. If the fault does not clear refer to the fault finding tables. ⇨ *LLMI Fault Finding (B6-5)*

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⇨ Fig 54. (🗋 C3-85)

Key to Connectors:	
C001	Isolator
C002	Starter Motor Solenoid
C003	Earth
C004	Starter Motor
C005	Engine Supply
C006	Speed Sensor 2
C007	Transmission Harness Connector
C008	Front Steer Proximity Switch
C009	R/H Headlight
C010	LLMI Transducer
C011	Rear Steer Proximity Switch
C012	Boom Harness Connector
C012A	Boom Retract Resistor 33K
C012B	Boom Retract Resistor 5K6
C012C	Boom Retract Resistor 1K8
C013	Boom Worklight
C014	Joystick/Pod Harness Connector
C015	Panel Harness Connector
C016	2nd Auxiliary Valve
C017	Horn
C018	Footbrake Transducer
C019	2 Wheel Steer Solenoid
C020	4 Wheel Steer Solenoid
C021	Crab Steer Solenoid
C022	All Wheel Steer Solenoid
C024	Valve Block Harness Connector
C027	CANbus Interface
C029	Engine Pod Harness Connector
C031	Fuel Sender
C035	Hydraulic Isolation Solenoid
C037	Chassis Angle Sensor
C039	Auxiliary Change Over Valve
C043	Trailer Socket
C044	Transmission Speed Sensor
C045	Hydraulic Control ECU J1
C046	Hydraulic Control ECU J2
C047	Hydraulic Control ECU J3
C048	Hydraulic Control ECU J4
C049	Hydraulic Control ECU J5
C051	SRS Harness Connector
C056	Throttle Pedal Sensor
C061	Number Plate Light
C062	L/H Rear Lights
C063	R/H Rear Lights
C065	Reverse Alarm
C074	Boom Angle Sensor
C075	Rear Hitch Light
C076	Pin Lock

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Specifications

Note: *The engine designation code (SH, SL or DH) and power rating (kW) can be found on the Engine Identification Plate. For details refer to* ***Section 1 - Machine Identification****.*

Type	Electronic common rail fuel injection. Turbocharged with intercooler with Exhaust Gas Recirculation System (EGR)			
Engine Designation Code	SL	SH	SH	DH
	55kW (74Hp)	81kW (109Hp)	93kW (125Hp)	108kW (145Hp)
Weight (dry)	492.5 kg (1085 lb)	496.5 kg (1094 lb)	496.5 kg (1094 lb)	496 kg (1091 lb)
Number of cylinders	4	4	4	4
Nominal bore size	103 mm (4.05 in)	103 mm (4.05 in)	103 mm (4.05 in)	106 mm (4.17 in)
Stroke	132 mm (5.196 in)	132 mm (5.196 in)	132 mm (5.196 in)	135 mm (5.31 in)
Cylinder arrangement	In line	In line	In line	In line
Cycle	Diesel 4 stroke	Diesel 4 stroke	Diesel 4 stroke	Diesel 4 stroke
Firing Order	1, 3, 4, 2 - Number 1 cylinder at crankshaft pulley end	1, 3, 4, 2 - Number 1 cylinder at crankshaft pulley end	1, 3, 4, 2 - Number 1 cylinder at crankshaft pulley end	1, 3, 4, 2 - Number 1 cylinder at crankshaft pulley end
Displacement	4.40 litres (268.5 in^3)	4.40 litres (268.5 in^3)	4.40 litres (268.5 in^3)	4.765 litres (290 in^3)
Compression ratio	16.9 : 1	16.9 : 1	16.9 : 1	16.7:1 +/- 0.5
Turbo	Fixed Geometry	Variable Geometry (VGT)	Variable Geometry (VGT)	Variable Geometry (VGT)
Direction of rotation (viewed from crankshaft pulley end)	Clockwise	Clockwise	Clockwise	Clockwise
Valves	4 per cylinder	4 per cylinder	4 per cylinder	4 per cylinder
Valve tip clearances (measured cold)	Inlet: 0.15 to 0.20 mm (0.006 to 0.008 in)	Inlet: 0.15 to 0.20 mm (0.006 to 0.008 in)	Inlet: 0.15 to 0.20 mm (0.006 to 0.008 in)	Inlet: 0.15 to 0.20 mm (0.006 to 0.008 in)
	Exhaust: 0.43 to 0.50 mm (0.017 to 0.020 in)	Exhaust: 0.43 to 0.50 mm (0.017 to 0.020 in)	Exhaust: 0.43 to 0.50 mm (0.017 to 0.020 in)	Exhaust: 0.43 to 0.50 mm (0.017 to 0.020 in)
Lubricating oil pressure (1)	1.6 to 6.5 bar (23 to 91 lb in^2)	1.6 to 6.5 bar (23 to 91 lb in^2)	1.6 to 6.5 bar (23 to 91 lb in^2)	1.6 to 6.5 bar (23 to 91 lb in^2)
Idle speed	850 rpm	850 rpm	850 rpm	TBA
High Idle (Maximum Governed Speed)	2370 rpm	2370 rpm	TBA	TBA
Recommended fuel specifications	Refer to ***Section 1 - Fuel*** ⇨ *Related Topics (K10-2)*			
JCB Engine Service Manual	***9806/4300*, T4i Engine Service Manual**			

(1) Engine at normal operating temperature and maximum revs.

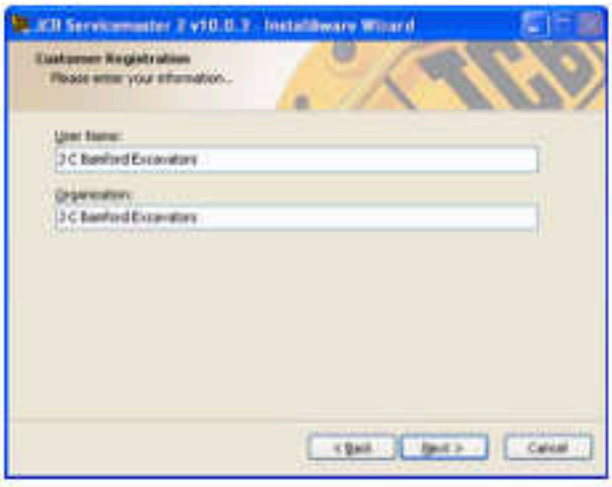
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Fig 7.

6 The next screen requires you to put in your username and organization. Once inserted, click next.



T040310-6

Fig 8.

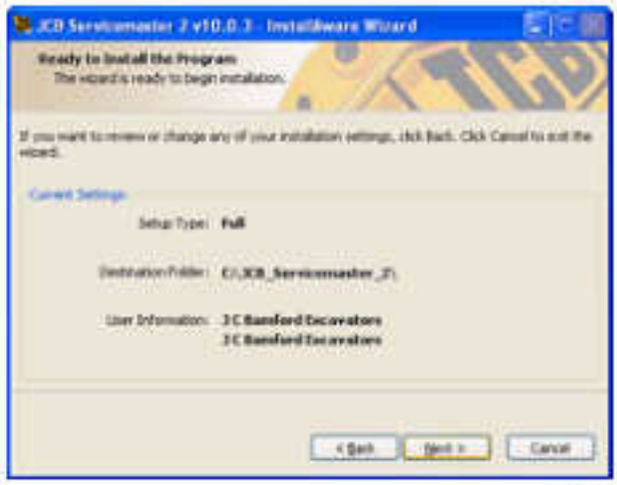
7 On the next screen, please choose "Complete" to do the full install to your laptop.



T040310-7

Fig 9.

8 The next screen shows you where ServiceMaster will be installed to on your computer. Click next to begin the install.



T040310-7

Fig 10.

9 During the install you may get a number of errors indicating language files for TransLink haven't been found. Please click Ignore, these files will be installed later via WebUpdate.

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