Service Manual

(Supplement)

AMS
JS Machines

PUBLISHED BY THE
TECHNICAL PUBLICATIONS DEPARTMENT
OF JCB SERVICE: ©
WORLD PARTS CENTRE
UTTOXETER, STAFFORDSHIRE, ST14 7BS,
ENGLAND
Tel. ROCESTER (01889) 590312
PRINTED IN ENGLAND

Publication No. 9803/6450
Issue 3

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Main Components - JS130W/145W/160W/175W

1 Electronic Control Unit
2 Electronic Monitor System
3 Facia Switch Panel
4 Fuse Box Assembly
Fuse Box Assembly
5 Throttle Dial
6 Key Switch
7 Switch (Limp mode)
8 Air Conditioner
9 Heater
10 Switch Body
11 Switch Cap (Worklamp)
12 Switch Cap (Boom Priority)
13 Cigar Lighter
14 Radio Cassette
15 Limit Switch (Lever)
16 Limit Switch (Console)
17 Switch (Travel Change)
18 Work Lamp
19 Work Lamp
20 Breaker Pilot Switch
21 LH Lever Switch
22 RH Lever Switch
23 Relay (Radio)
24 Relay (Stop Solenoid)
25 Wiper
26 Room Lamp
27 Battery Relay
28 Battery (JS200W)
29 Fuse Link (25A)
30 Fuse Link (60A)
31 Stop Solenoid
32 Valve Solenoid
33 Valve Solenoid
34 Engine (JS130W)
Engine (JS145W/160W)
Engine (JS175W)
35 Pilot Switch, Upper
36 Pilot Switch, Travel
37 Pilot Switch
38 Throttle position Sensor
39 Engine Control Solenoid
40 Travel Alarm
41 Pump (JS130W)
Pump (JS145W/160W)
Pump (JS175W)
42 Refuel Pump
43 A/C Suppression Lead
44 Beacon
45 Air Con Compressor
46 Air Con Binary Switch
47 Horn
48 Washer
49 Pre Heat Relay
50 Temperature Sensor
51 Overheat Switch
52 Fuel Level Sensor
53 Coolant Level Switch
54 Air Filter Blocked Switch
55 Overload Pressure Switch
56 Electronic Control Unit
57 LH Switch Panel
58 Switch Cap (Road Lamps)
59 Switch Body
60 Switch Cap (Fog Lamps)
61 Switch Cap (Hazzards)
62 Column Switch
63 Headlamp (RH Dip)
Headlamp (LH Dip)
64 Rear Lamp RH
65 Rear Lamp LH
66 Number Plate Lamp
67 Arm Side Lamp
68 Stabilizer Solenoid Assembly
69 Transmission Valve
70 Grab Rotate Valve
71 Priority Valve
72 Solenoid Valve
73 Breaker Solenoid Valve
74 Dig Isolate Solenoid Valve
75 Dozer Solenoid Valve
76 Transmission Pressure Switch
77 Pressure Switch
78 Low Brake Pressure Switch
79 Connector
80 Switch Body
81 Switch
82 Harness
83 Harness
84 Harness

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Data Link Adaptor

The DLA is a universal device for connecting several data communications mediums to the PC via a single piece of hardware. HPSetup uses the J1939 CAN Specification for on vehicle network and communications. Being one of the cheapest methods to connect the PC to the vehicle bus the DLA has proven its ability in applications such as Diagnostics, Data Logging and Vehicle setup procedure tools like HPSetup.

Power for the DLA is taken from the vehicle power supply via the 15 way connector so it requires no internal source of power and is self regulating up to +40V, giving great protection and versatility because it can be connected to most forms of automotive machinery operating between 5 and 40V DC.

Once connected to the PC the DLA is auto detected and initialised by software eliminating any need for the user to determine port settings, data transfer rates.



DLA Trouble Shooting

Failure of the software to initialise the DLA will prevent any read/write operations. This section will help debug the error and get the DLA working. Follow this list of checks to perform to help diagnose the problem.

1. Cables, ensure that the correct cables are used between the PC/DLA/On-Vehicle connector.
2. Inspect cables for possible damage, replace if necessary.
3. Check that good firm connections have been made between all devices.
4. Power up the vehicle and make sure the power LED on the DLA is ON, if the LED is not illuminated there may be a problem with the power supplied to the unit or the DLA regulator system is not working. To check the power to the DLA unplug the DLA from the vehicle, use a digital multi-meter to check the voltage between pins 6 and 8. There should be a minimum of 12 V DC (or IGNITION Voltage, see vehicle specifications) between these two pins. Suspect the vehicle power supply if there is not, else the DLA should be replaced because of a problem with it's internal circuitry.
5. With the Vehicle power ON, start HPSetup application and visually observe the CAN activity LED and note the error message displayed by the PC. If the LED does not flash off/ON several times after it has been initialised by the PC then there is probably a hardware problem with the DLA. Replace the DLA. Error messages displayed by the DLA driver software often indicates the origin of the problem. It may help to power down the vehicle, wait a few seconds and then retry establishing connection.

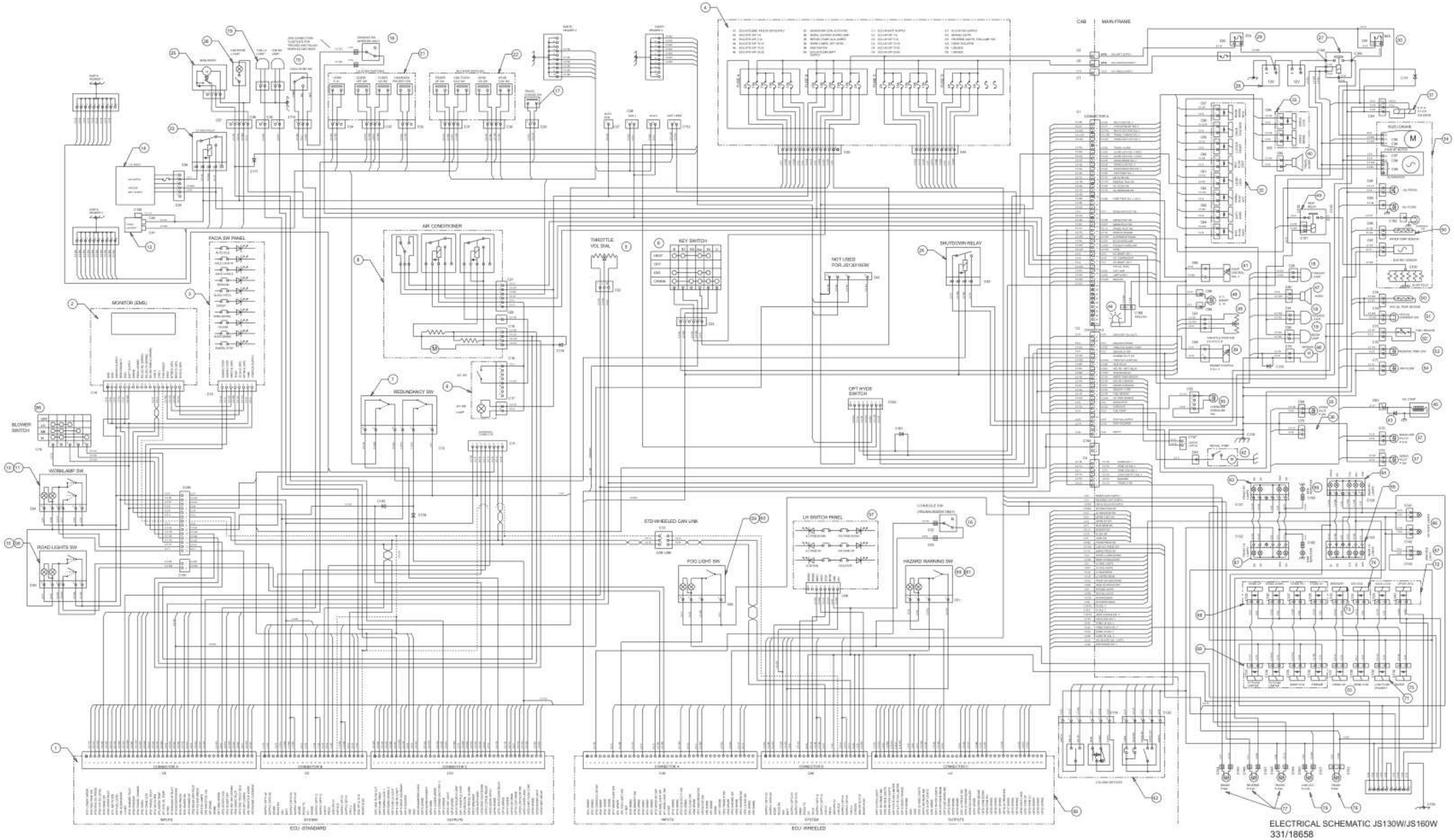


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Table 6: AMS System fault error code (continued)

Error Number	Function	Error Type	Circuit No	Remedy
80	Breaker Solenoid	Short		Check connector C130 pin 2 for continuity to earth
82	Soft / Hard Cushion Solenoid	Open	21	Check connector C63 pin 2 continuity to C10 pin 25, check C63 pin 1 continuity to earth
83	Soft / Hard Cushion Solenoid	Short		Check connector C63 pin 2 for continuity to earth
87	Stop Relay	Failed	9/10	
88	Preheat Relay	Failed	11/12	
129	Travel Flow 3 Solenoid	Open	27	Check connector C134 pin 2 continuity to C47 pin 5, check C134 pin 1 continuity to earth
130	Travel Flow 3 Solenoid	Short		Check connector C134 pin 2 for continuity to earth
132	Travel Flow 2 Solenoid	Open	27	Check connector C133 pin 2 continuity to C47 pin 6, check C133 pin 1 continuity to earth
133	Travel Flow 2 Solenoid	Short		Check connector C133 pin 2 for continuity to earth
135	Gear Change Solenoid	Open	27	Check connector C135 pin 2 continuity to C47 pin 7, check C135 pin 1 continuity to earth
136	Gear Change Solenoid	Short		Check connector C135 pin 2 for continuity to earth
150	Axle Lock Solenoid	Open	35	Check connector C129 pin 2 continuity to C47 pin 35, check C129 pin 1 continuity to earth
151	Axle Lock Solenoid	Short		Check connector C129 pin 2 for continuity to earth
153	Stabilizer Up Solenoid	Open	36	Check connector C125 pin 2 continuity to C47 pin 36, check C125 pin 1 continuity to earth
154	Stabilizer Up Solenoid	Short		Check connector C125 pin 2 for continuity to earth
156	Stabilizer Down Solenoid	Open	36	Check connector C126 pin 2 continuity to C47 pin 26, check C126 pin 1 continuity to earth
157	Stabilizer Down Solenoid	Short		Check connector C126 pin 2 for continuity to earth
159	Stabilizer Left Solenoid	Open	36	Check connector C128 pin 2 continuity to C47 pin 37, check C128 pin 1 continuity to earth
160	Stabilizer Left Solenoid	Short		Check connector C128 pin 2 for continuity to earth
162	Stabilizer Right Solenoid	Open	36	Check connector C127 pin 2 continuity to C47 pin 27, check C127 pin 1 continuity to earth
163	Stabilizer Right Solenoid	Short		Check connector C127 pin 2 for continuity to earth
168	Dig end isolate Solenoid	Open	37	Check connector C131 pin 2 continuity to C47 pin 23, check C131 pin 1 continuity to earth
169	Dig end isolate Solenoid	Short		Check connector C131 pin 2 for continuity to earth
174	Park brake Solenoid	Open	34	Check connector C136 pin 2 continuity to C47 pin 25, check C136 pin 1 continuity to earth
175	Park brake Solenoid	Short		Check connector C136 pin 2 for continuity to earth

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