Service Manual

LOADALL

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The following parts are replacement items for kits and would normally be included in the kit numbers above.

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Replacement items for kit no. 892/00253

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Replacement items for spacer kit no. 921/52600

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Note: To maintain a complete kit, order a replacement spacer for the one used.

† Identifies items required for all JCB Gearboxes from September 1996, when solid spacers replaced collapsible spacers.

Ram Seal Protection Sleeves 5 - 4

892/01016	For 25 mm Rod Diameter
892/01017	For 30 mm Rod Diameter
892/01018	For 40 mm Rod Diameter
892/01019	For 50 mm Rod Diameter
892/01020	For 50 mm Rod Diameter (slew ram)
892/01021	For 60 mm Rod Diameter
892/01022	For 60 mm Rod Diameter (slew ram)
892/01023	For 65 mm Rod Diameter
892/01024	For 70 mm Rod Diameter
892/01025	For 75 mm Rod Diameter
892/01026	For 80 mm Rod Diameter

892/01027 Piston Seal Assembly Tool

* **Hub Service Kit** 892/01092 6 - 9

998/10623	Puller Beam
998/10607	Inner Bearing Plate
1315/3731Z	Bolt M16x220
1370/0601Z	Nut M16
998/10614	Tube
998/10624	ModifiedWheel Stud
998/10615	Wheel Bearing CarrierPuller
1370/0701Z	Nut M20
1420/0012Z	Washer M20
998/10610	Puller Rod
1370/0401Z	Nut M12
1420/0009Z	Washer M12
998/10608	Bearing Centre Puller
1315/3414Z	Bolt M10x60
1370/0301Z	Nut M10
998/10606	Bearing Fitting Tube
998/10616	Puller Handle Nut
1315/3835Z	Bolt M20x300
445/12303	Washer
917/02800	Bearing
892/00891	Seal Dolly

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520-55 AWS Machines (Type AR and AK Engine Builds)

ITEM	CAPACITY Litres	UK Gal	US Gal	FLUID/LUBRICANT	INTERNATIONAL SPECIFICATION
Fuel Tank	160	35.2	42.2	Diesel Oil (See **Types of Fuel**)	ASTM D975-66T Nos. 1D, 2D
Engine (Oil)	10	2.2		**JCB High Performance Engine Oil** -10 °C to 50 °C (14 °F to 122 °F)	SAE15W/40 API CF4/SG (ACEA E2:B2:A2)
				JCB High Performance Engine Oil -15 °C to 40 °C (5 °F to 104 °F)	SAE10W/30 API CF4/SG (ACEA E2:B2:A2)
			2.6	**NORTH AMERICA JCB 15W/40 Engine Oil** 14°F to 122°F (-10°C to 50°C)	SAE 15W/40 API CF4/SG
				JCB 10W Engine Oil -4°F to 50° F (-20°C to 10°C)	SAE 10W API CF4/SG
Engine (Coolant) 55% Antifreeze	20 11	4.4 2.4		**JCB Four Seasons Antifreeze And Summer Coolant** Starts to freeze -36 °C (-33 °F)	ASTM D3306-74
			5.3 2.9	**NORTH AMERICA Permanent Antifreeze** Starts to freeze -33 °F (-36 °C)	ASTM D3306-74
Syncro Shuttle Transmission	17	3.7	4.5	**JCB High Performance Transmission Fluid**	JCB 4000/0900 Friction modified oils MUST NOT be used (eg Dexron ATF type).
Front Axle **Housing** **Hubs (x2)**	 5.5 1.5	 1.2 0.3	 1.4 0.4	**JCB High Performance Gear Oil Plus**	JCB 4000/2200 MUST be suitable for use with oil immersed brakes and limited slip differentials (LSD).
Rear Axle **Housing** **Hubs (x2)**	 5.0 1.5	 1.1 0.3	 1.3 0.4		
Hydraulic Tank (1)	110	24.2		**JCB High Performance Hydraulic Fluid 46** (Above 38 °C, 100 °F)	ISO VG46
				JCB High Performance Hydraulic Fluid 32 (Below 38 °C, 100 °F)	ISO VG32
				JCB Light Hydraulic Fluid	ISO VG15
			29.0	**NORTH AMERICA** (All Machines) **JCB Hydraulic Fluid**	ISO VG46
Grease Points (2)				**JCB HP Grease**	Lithium complex NLGI No. 2 constsituency including extreme pressure additives.
				JCB Special MPL-EP Grease	Lithium based NLGI No. 2 constsituency including extreme pressure additives.
Wear Pad Runways				**JCB Waxoyl**	
Boom Hoses				**JCB Special Slide Lubricant**	

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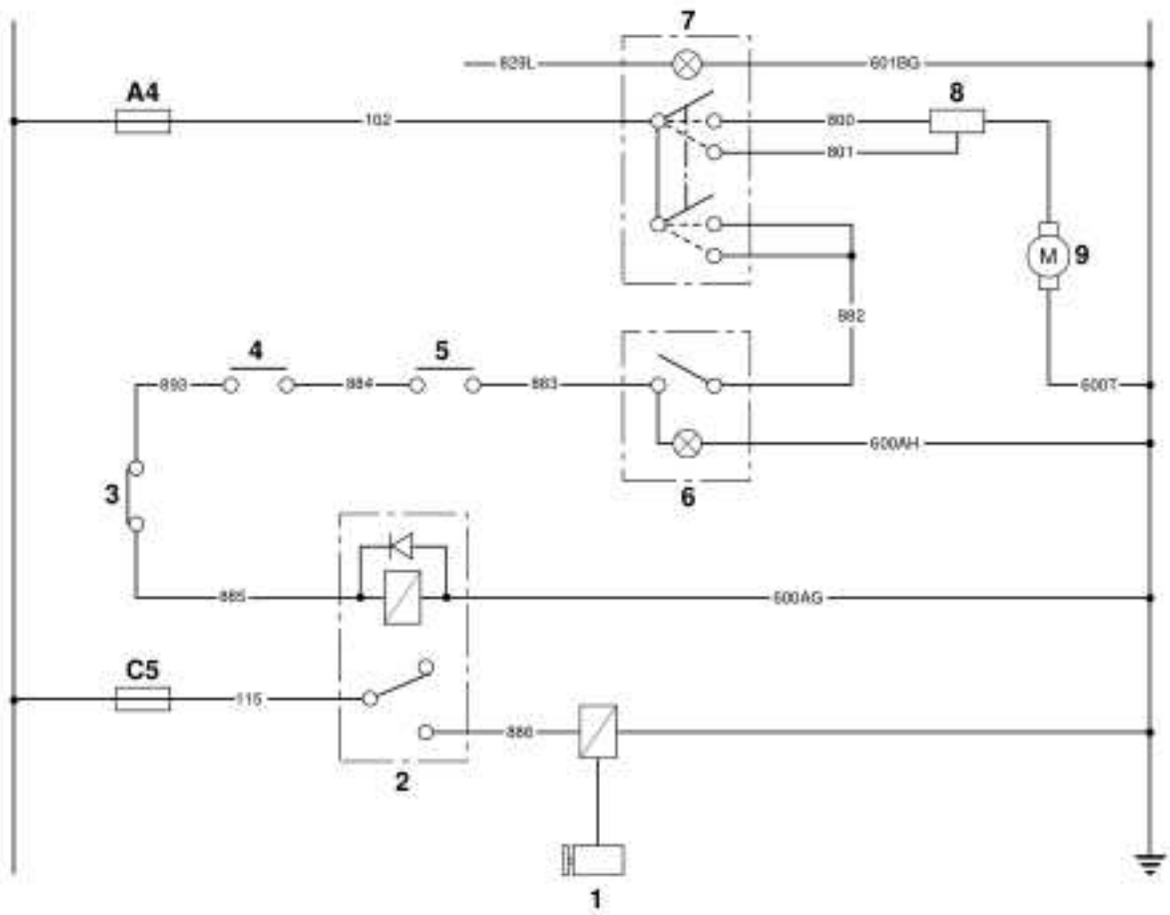
Wiring Diagram

Harness Wires

Use the illustration below to complete continuity checks on the air conditioning system and heater harness wires.

Key

A4 Fuse 15A
C5 Fuse 15A
1 Compressor Field Coil
2 Compressor Relay
3 Water Temprature Switch (if fitted)
4 Pressure Switch
5 Thermostat Switch
6 Air Conditioning ON/OFF Switch
7 Heater Switch
8 Heater Fan Resistor
9 Heater Blower



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Diagnostic Fault Codes - LMI System Only

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

The audible alarm and the fault code display cancel after 10 seconds and ALL LEDs on the display will flash continuously as long as the fault remains. Press and release display button **A** to show the fault for a further 10 seconds. When the fault clears, the display will return to normal.

If any of the fault codes are displayed, switch the starter key off and on again. Refer to the list of fault codes below if the fault does not clear.

Note: A new display box will not be calibrated. Always calibrate the system when fitting a new display box.

	FAULT CODE	POSSIBLE CAUSE	REMEDY
	**Fault Code 1** **Transducer signal fault**	Transducer not connected. Faulty harness. Faulty transducer.	Check transducer connection. Check for trapped or damaged wires. Check for water ingress. Replace transducer.
	**Fault Code 2** **Calibration out of range**	System is incorrectly calibrated. Transducer not fixed down correctly. Faulty transducer.	Re-calibrate system. Check mounting surfaces are clean and flat. Check mounting bolts are not bottoming-out. Check tightness of transducer mounting bolts (70 Nm). Replace transducer.
	**Fault Code 3** **Calibration required**	System not calibrated.	Calibrate system.
	**Fault Code 4** **Display unit faulty**	The display box has detected an internal error.	Switch the starter key off and then on again. Replace the display box if the fault does not clear.
	**Fault Code 5** **Low battery voltage**	Battery voltage is below 9 Volts.	Do 12V supply test at display box. Check battery voltage.

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A.R.V. OPERATION

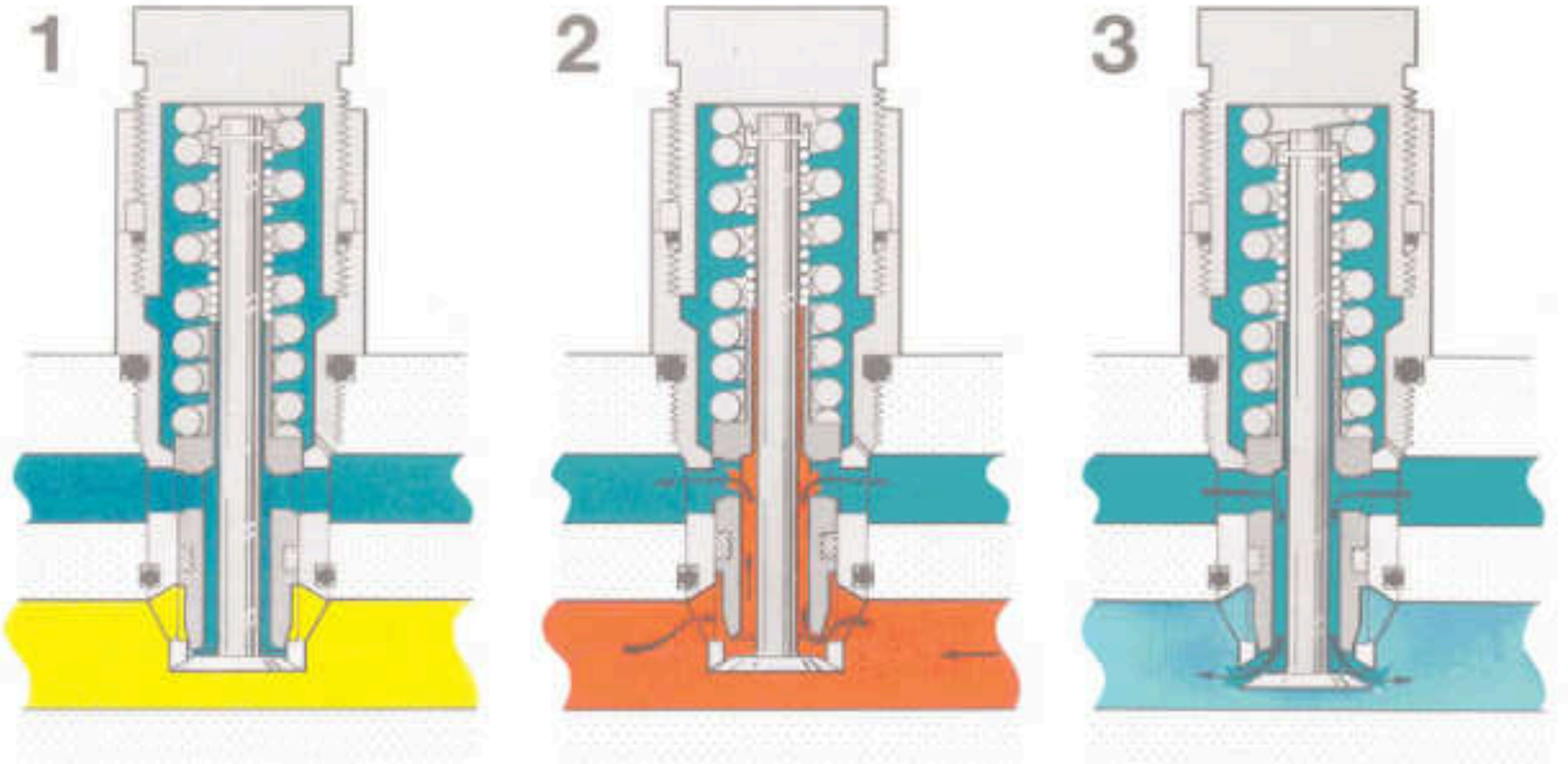
The Auxiliary Relief Valves (A.R.V.'s) are situated in the control valve to limit potentially damaging pressures within specified services due to external loadings.

A.R.V.'s may also be used to limit the maximum pressure in a specified service to less than the M.R.V. setting.

In fig. 1 a service is selected but pressure in the service gallery (Yellow) has not reached the setting of the A.R.V. which is held closed by its spring.

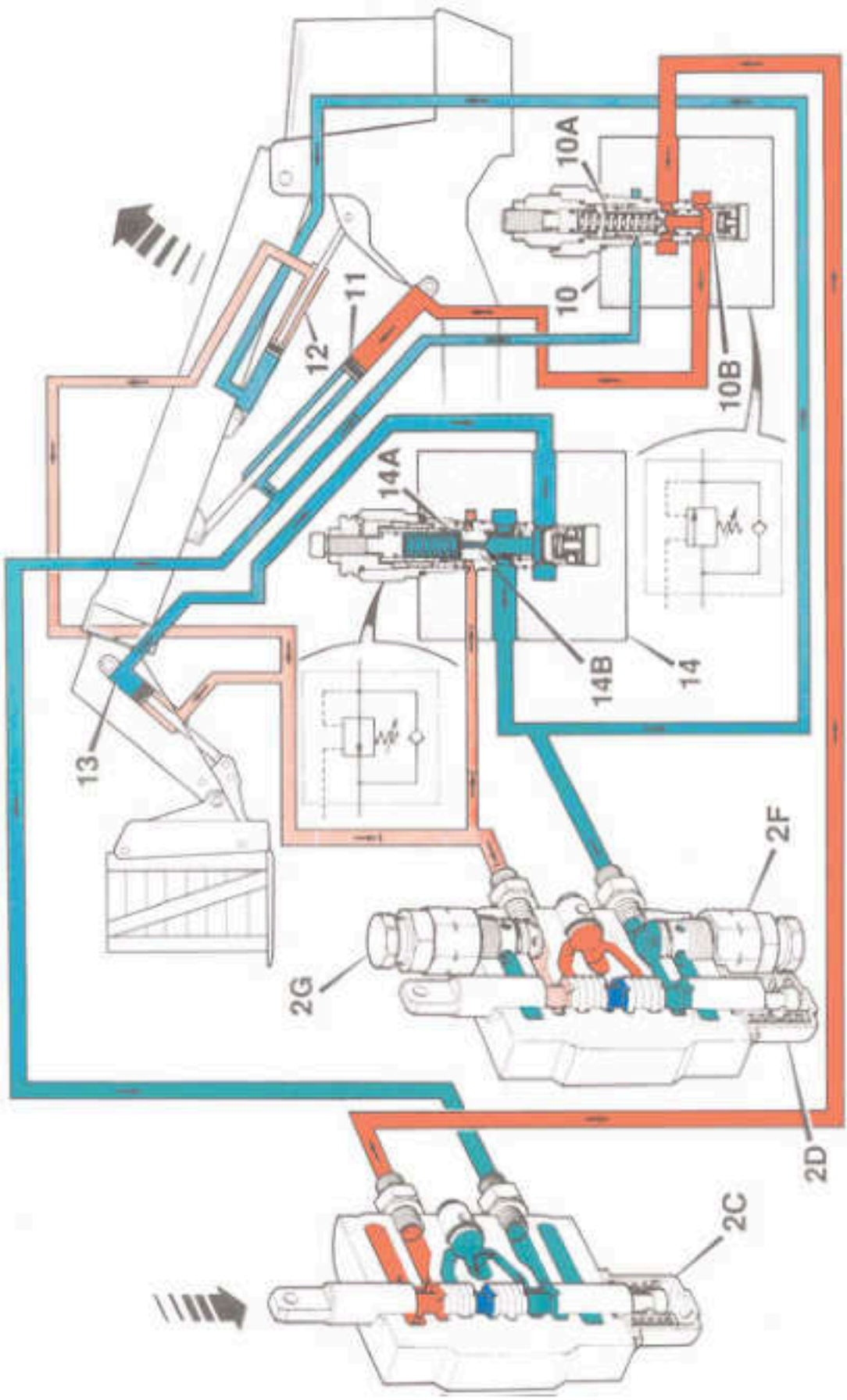
In fig. 2 the setting of the A.R.V. is exceeded by the service pressure which causes the poppet to rise against spring force allowing the pressure to be vented into the exhaust gallery (green).

Fig. 3 shows the A.R.V. in anti-cavitation mode. When a service is operated in such a way that low pressure, or cavitation, exists in the service line(light green), the relatively high pressure oil in the exhaust gallery (darker green) acts on the lower poppet and flows into the service gallery to make up the deficiency.

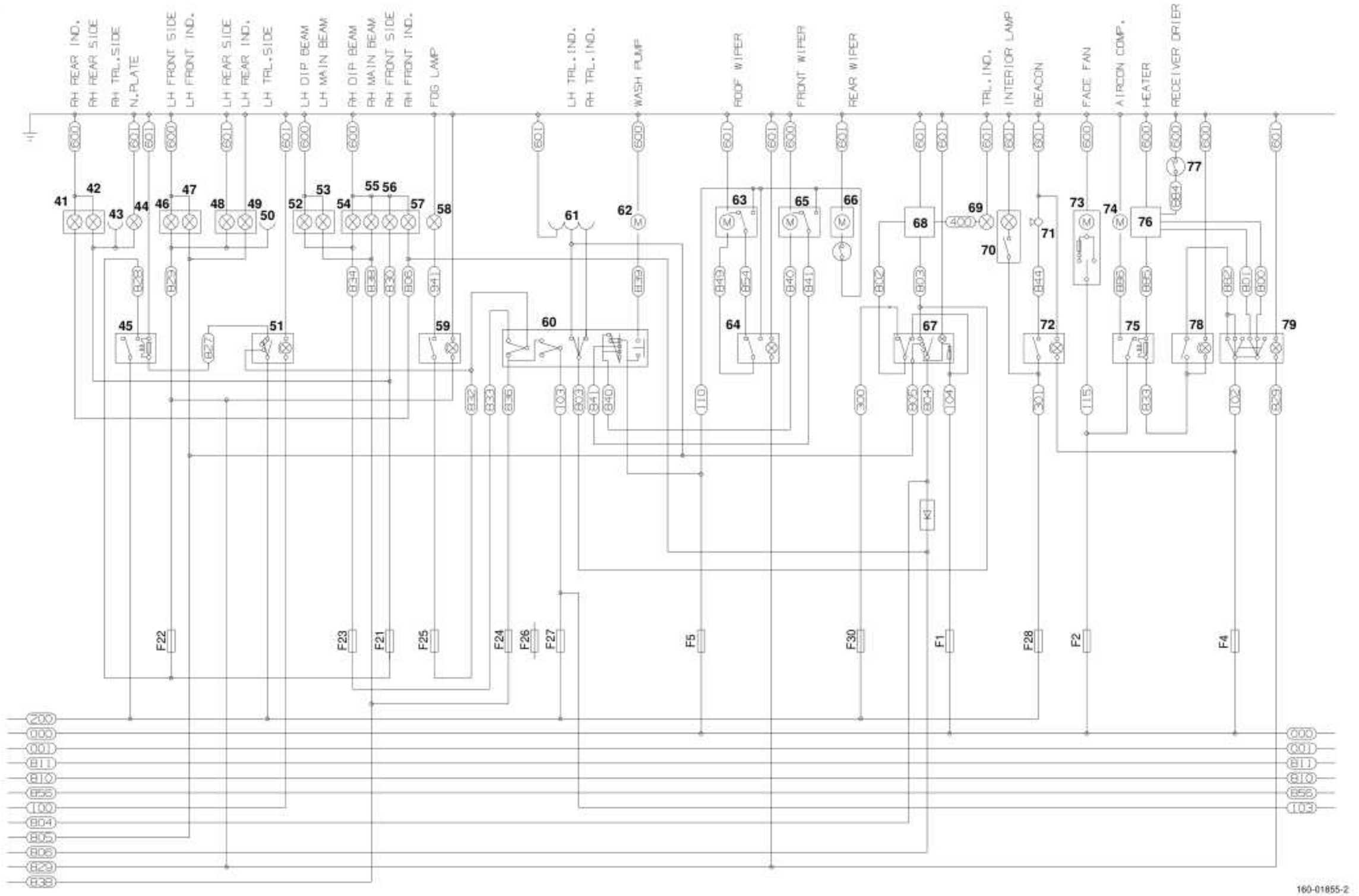


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