Service Manual

516-40

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General Fault Finding

The fault finding procedures are given in the form of tables. The tables are designed to identify possible causes by performing checks and where applicable, specific tests on the system.

Fault:

⇨ *Table 14. Display box does not work. (B-89)*
⇨ *Table 15. The display box seems to go out of calibration. (B-89)*
⇨ *Table 16. System not functioning correctly (B-90)*

Table 14. Display box does not work.

Possible Cause	Action
Blown fuse.	Check fuses.
Display box faulty.	Do ***Display Box Functional Test***, ⇨ *Diagnostic Tests (B-91)*
Display box not receiving 12V supply.	Do ***12V Supply and Fuse Test (V1)***, ⇨ *Diagnostic Tests (B-91)*

Table 15. The display box seems to go out of calibration.

Possible Cause	Action
Transducer not fixed down correctly.	Check torque of transducer fixing screws. Check transducer fixing screws are not bottoming out in their holes. Check mounting surfaces are clean and flat. ⇨ *Axle Transducer (B-67)*.
Faulty transducer.	Replace transducer and re-calibrate the system.

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Harness Data

Drawings and Interconnection

Harness Interconnection

The following harness interconnection illustrations are intended only as a guide to show how the different machine harnesses connect together.

Note: *Detailed harness drawings are provided later in this section.* ⇨ *Harness Drawings (C-49).*

Understanding the Harness Interconnection illustrations

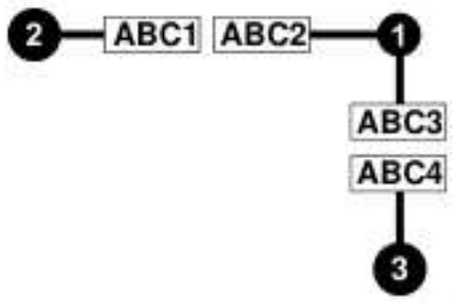


Fig 43. Example

⇨ *Fig 43. (C-47).* The illustration shows three interconnecting harnesses (**1**, **2** and **3**).

- Harness **1** connects to harness **2** via connectors **ABC2** and **ABC1** respectively.
- Harness **1** also connects to harness **3** via connectors **ABC3** and **ABC4** respectively.

Note: *A detailed list (providing harness part numbers, descriptions, etc.) is provided with each Harness Interconnection illustration. Use this information to identify the correct detailed harness drawing.*

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Single Lever Control Valves	⇨ *Fig 4. (E-5)*
Type	Parallel service, double acting spools, with integral steer priority valve
Services Operated	
- Spool 1	Boom Raise & Lower
- Spool 2	Boom Extend & Retract
- Spool 3	Auxiliary
- Spool 4	Carriage Tilt & Crowd

Relief Valve Operating Pressures	**bar**	**kgf/cm²**	**lbf/in²**
Main Relief Valve (MRV) **4-H**	230	234.5	3336
Auxiliary Relief Valves (ARV)			
- Auxiliary, rod side **3-E**	185	188.6	2683
- Auxiliary, head side **3-C**	185	188.6	2683
- Lift, head side **4-D**	240	244.7	3481
- Carriage Tilt Crowd, head side **3-F**	240	244.7	3481
- Carriage Tilt Dump, rod side **3-G**	255	260	3698

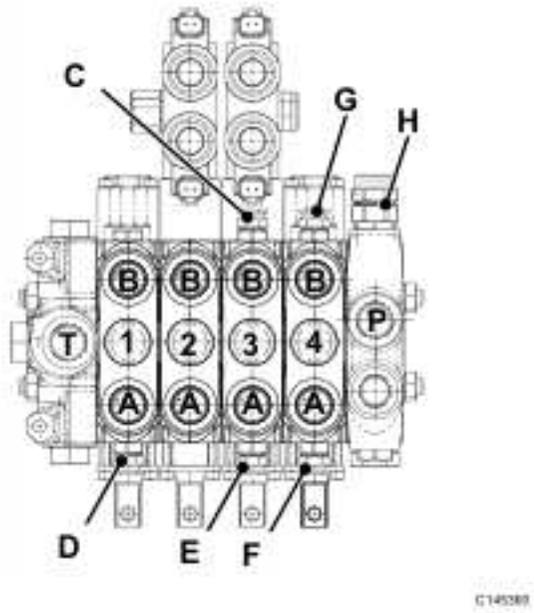


Fig 4. Single lever controls

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Main Relief Valve (MRV) Operation

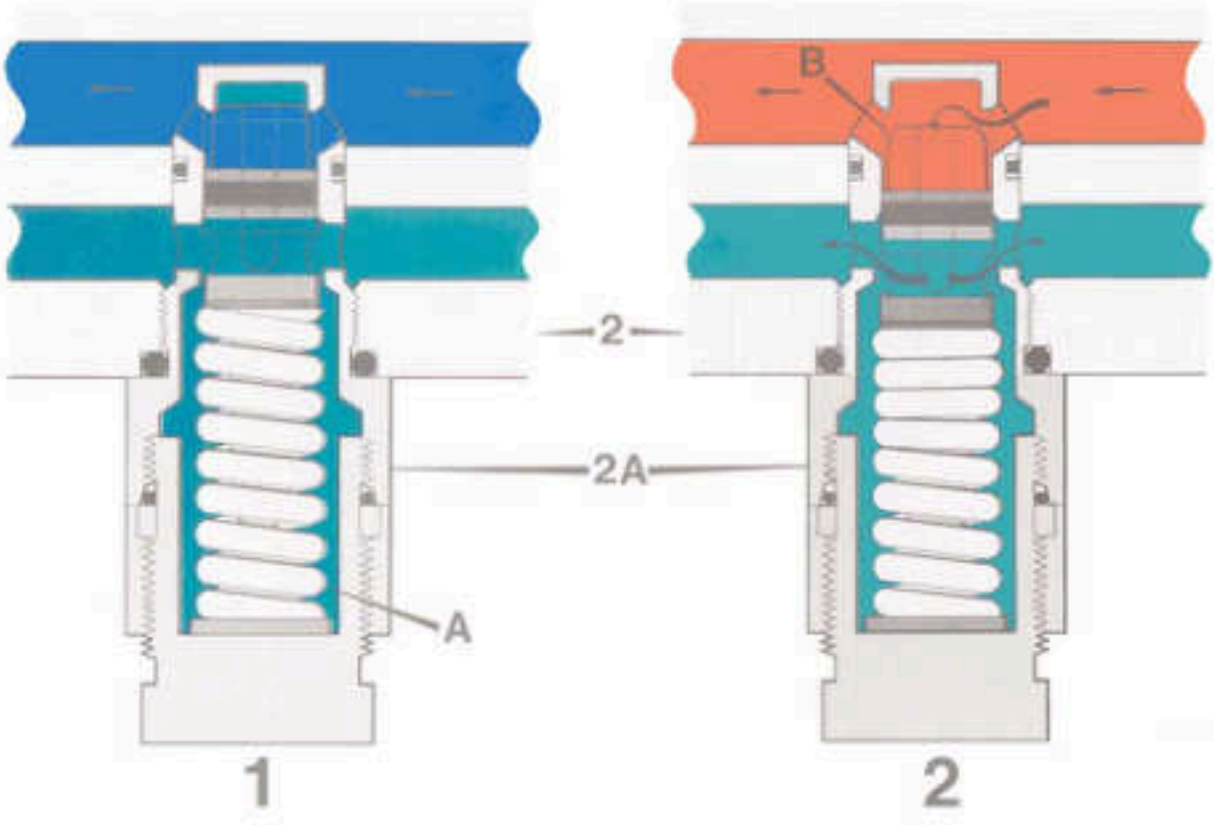


Fig 6.

The main relief valve (MRV) **2A** is situated in the control valve **2**, bridging the neutral and exhaust galleries, and is designed to prevent the circuitry from damage that could be caused by excessive pressures.

1 Valve at Rest:

The services are in neutral and pressure in the neutral gallery (blue) is not sufficient to operate the MRV which is held closed by its spring **A.**

2 Poppet Opens:

A service has been selected and the pressure generated exceeds the setting of the MRV Pressure acts on the periphery of the hollow poppet **B** which is forced downwards against the spring, venting pressure into the exhaust gallery (green).

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Service Tools

Numerical List

The tools listed in the table are special tools required for carrying out the procedures described in this manual. These tools are available from JCB Service.

Some tools are available as kits or sets, the part numbers for parts within such kits or sets are not listed here. For full details of all tools, including the content of kits and sets, refer to ***Tool Detail Reference, Section 1.***

Note: *Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.*

Part Number:	Description:	Tool Detail Reference:
-	Bonded Washers - see tool detail reference for content	⇨ Fig 45. (1-31)
-	Female Cone Blanking Plugs - see tool detail reference for content	⇨ Fig 42. (1-31)
-	Female Connectors - see tool detail reference for content	⇨ Fig 44. (1-31)
-	Hydraulic Hand Pump Equipment - see tool detail reference for content	⇨ Fig 54. (1-35)
-	Male Adaptors BSP x BSP - see tool detail reference for content	⇨ Fig 38. (1-30)
-	Male Cone Blanking Caps - see tool detail reference for content	⇨ Fig 43. (1-31)
-	Pressure Test Point 'T' Adaptors - see tool detail reference for content	⇨ Fig 40. (1-30)
-	Pressure Test Point Adaptors - see tool detail reference for content	⇨ Fig 39. (1-30)
-	Rivet Nut Tool - see tool detail reference for content	⇨ Fig 15. (1-23)
-	Mandrel for bearing support and sealing ring (Poclain Drive Motor)	⇨ Fig 62. (1-37)
-	Mandrel to install the bearing outer races (Poclain Drive Motor)	⇨ Fig 63. (1-37)
-	Tool to install the bearing support circlip (Poclain Drive Motor)	⇨ Fig 64. (1-38)
332/V8611	Carriage Alignment Adjustment Tool	⇨ Fig 29. (1-26)
4104/1310	Hand Cleaner	⇨ Fig 28. (1-26)
892/00011	Spool Clamp	⇨ Fig 59. (1-36)
892/00180	Seal Fitting Tool - Hydraulic Steer Unit	⇨ Fig 65. (1-38)
892/00253	Hydraulic Pressure Test Kit - see tool detail reference for content	⇨ Fig 52. (1-34)
892/00268	Flow Monitoring Unit - Other components required, see tool detail	⇨ Fig 51. (1-33)
892/00334	Ram Seal Fitting Tool	⇨ Fig 47. (1-32)
892/00349	Crimp Tool	⇨ Fig 36. (1-29)
892/00350	Butane Heater Assembly	⇨ Fig 35. (1-28)
892/00351	Splice 0.5-1.5 mm (Red)	⇨ Fig 37. (1-29)
892/00352	Splice 1.5-2.5 mm (Blue)	⇨ Fig 37. (1-29)
892/00353	Splice 3.0-6.0 mm (Yellow)	⇨ Fig 37. (1-29)
892/00842	Glass Lifter	⇨ Fig 16. (1-24)
892/00843	Folding Stand for Holding Glass	⇨ Fig 17. (1-24)
892/00844	Long Knife	⇨ Fig 26. (1-25)
892/00845	Cartridge Gun	⇨ Fig 18. (1-24)
892/00846	Glass Extractor (Handles)	⇨ Fig 19. (1-24)
892/00847	Nylon Spatula	⇨ Fig 20. (1-24)
892/00848	Wire Starter	⇨ Fig 21. (1-24)
892/00849	Braided Cutting Wire	⇨ Fig 22. (1-25)

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