WEBM004601

SHOP MANUAL

WB140-2
WB150-2

BACKHOE-LOADER

SERIAL NUMBER

WB140-2 140F11531 and up
WB150-2 150F10303 and up

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September 2002

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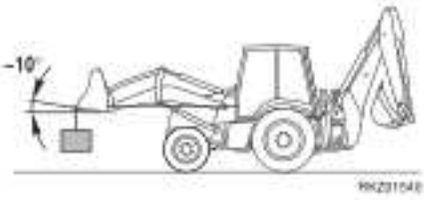
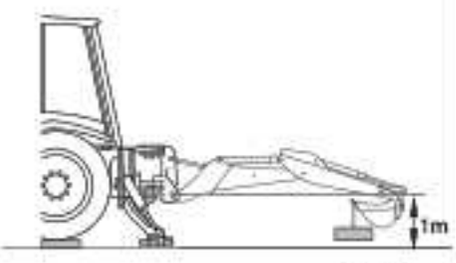
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★ The technical data of follow table are refered to a machine with max 500 kg shovel bucket, 600 mm (max. 160 kg) backhoe bucket and standard arm (or telescopic arm) closed.

FOR MACHINE

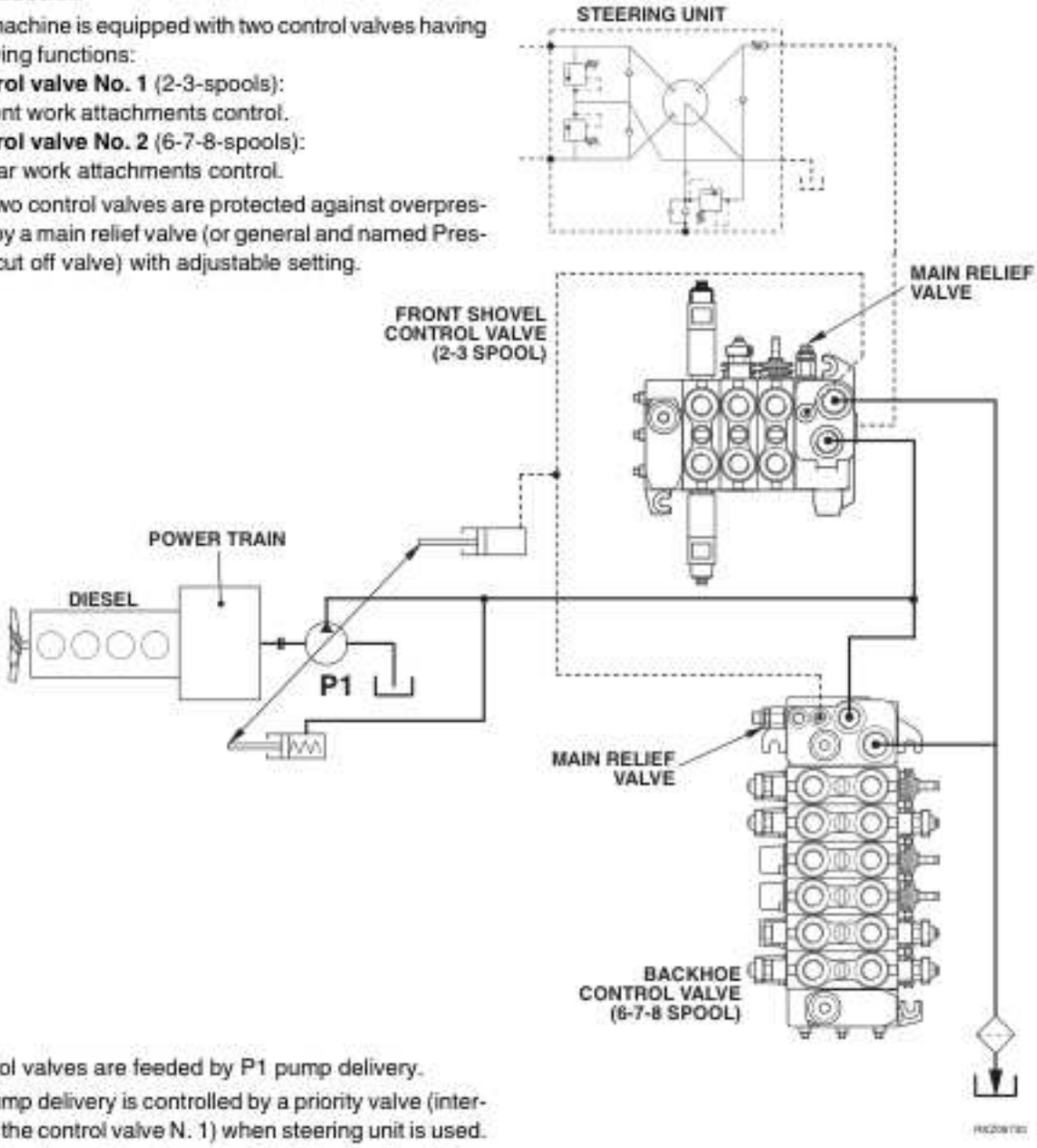
Machine model					WB140-2 (ASPIRATED)	
Classification		Check item	Test conditions	Unit	Standard value	Permissible value
Hydraulic drift working equipment	Front bucket	Complete working equipment (Tip lowering of bucket teeth)	Measuring posture  • In this position check in feedback of each cylinder and the leakage with applied load on the tip of bucket teeth. • Ground level. • Bucket: normal load (1500 kg) • Engine stopped • Oil temperature: 45 – 55°C • Check measures as soon as engine stops. • Check changes every 5 min. and the total change in 15 min	mm	250	400
		Cylinders (cylinder in)			30	45
		Bucket cylinder (cylinder in)			15	25
	Backhoe	Complete working equipment (Tip lowering of bucket teeth)	Measuring posture  • In this position check the extension of each cylinder and the leakage with normal load on the bucket. • On level ground. • Bucket: normal load (450 kg) • Engine stopped • Oil temperature: 45 – 55°C • Check measures as soon as engine stops. • Check changes every 5 min. and the total change in 15 min.	mm	300	450
		Boom cylinders (cylinder out)			35	50
		Arm cylinder (cylinder out)			15	25
		Bucket cylinder (cylinder in)			10	15

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CHECKING AND SETTING PRESSURE IN THE ATTACHMENTS HYDRAULIC CIRCUIT

1. Introduction

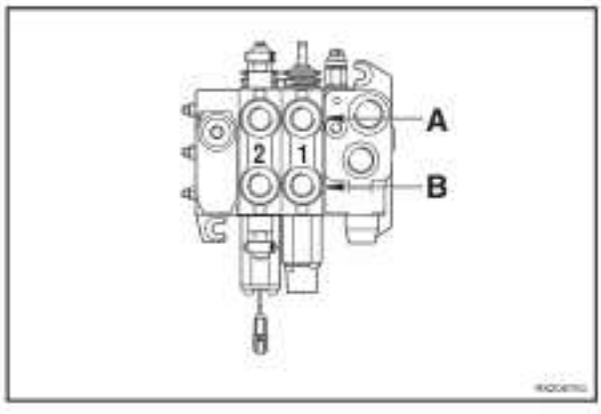
- The machine is equipped with two control valves having following functions:
  Control valve No. 1 (2-3-spools):
  for front work attachments control.
  Control valve No. 2 (6-7-8-spools):
  for rear work attachments control.
- The two control valves are protected against overpressure by a main relief valve (or general and named Pressure cut off valve) with adjustable setting.



- Control valves are feeded by P1 pump delivery.
- P1 pump delivery is controlled by a priority valve (internal to the control valve N. 1) when steering unit is used.
- Control valves include spools with following functions:

2-SPOOL CONTROL VALVE

Control	Port
Loader arm (lifting - lowering)	A1 - B1
Front bucket (curled - dump)	A2 - B2



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FRONT AXLE TROUBLESHOOTING

Wheel vibration; front tyre resistance; halfshaft breakage	
CAUSES	**REMEDY**
Incorrect installation	Correct installation
Defective axle	Replace the differential in case it does not survive any one of the test phases
Overloading/ incorrect weight distribution	Remove excessive weight and redistribute load, following instructions related to the vehicle
Different rotation radius of the tyres	Replace the tyre or adjust pressure to have same radius on both tyre
Bent halfshaft	Replace halfshaft

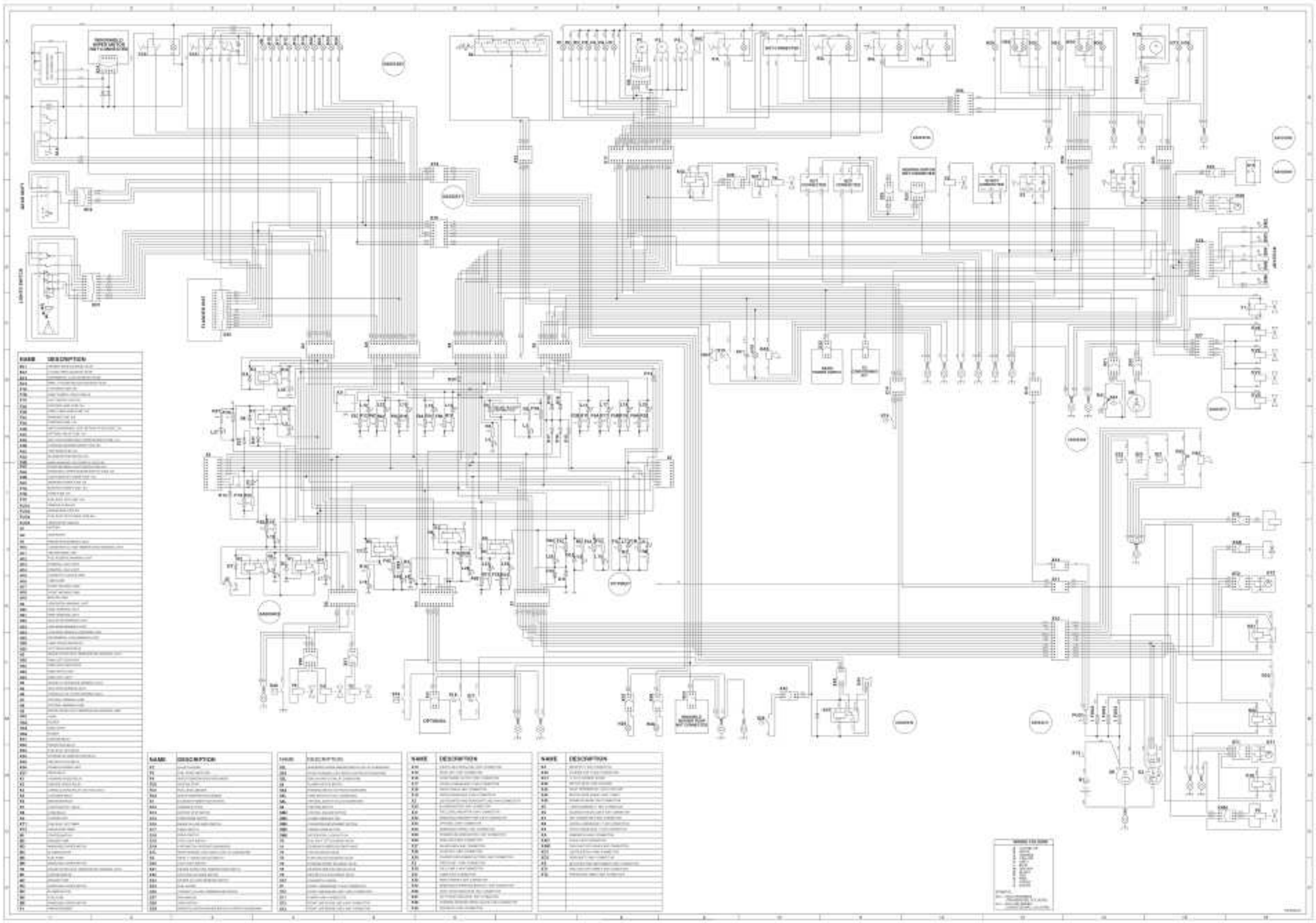
Steering is difficult; vehicle goes straight while its turning.	
CAUSES	**REMEDY**
Incorrect installation	Correct installation
Defective axle	Replace the differential in case it does not survive any one of the test phases
Overloading/ incorrect weight distribution	Remove excessive weight and redistribute load, following instructions related to the vehicle
Different rotation radius of the tyres	Replace the tyre or adjust pressure to have same radius on both tyre
Broken halfshaft	Replace halfshaft

No differential action; jamming while steering.	
CAUSES	**REMEDY**
Incorrect installation	Correct installation
Defective axle	Replace the differential in case it does not survive any one of the test phases
Broken halfshaft	Replace halfshaft
Bent halfshaft	Replace halfshaft

Excess of noise	
CAUSES	**REMEDY**
Incorrect installation	Correct installation
Defective axle	Replace the differential in case it does not survive any one of the test phases
Overloading/ incorrect weight distribution	Remove excessive weight and redistribute load, following instructions related to the vehicle
Different rotation radius of the tyres	Replace the tyre or adjust pressure to have same radius on both tyre
Bent or broken halfshaft	Replace halfshaft
Incorrect wheel adjustment	Verify group integrity and wheel side bearings.
Contamination in the axle box or incorrect assembly of parts	Look for foreign particles. Check assembly of the various parts of the axle.

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ELECTRICAL DIAGRAM



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