VEBM230102

SHOP MANUAL

KOMATSU®

WA250-5H
WA250PT-5H

MACHINE MODEL	SERIAL NUMBER
WA250-5H	**WA250H50051 and up**
WA250PT-5H	**WA250H60051 and up**

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require.
  Materials and specifications are subject to change without notice.

- WA250-5H, WA250PT-5H mounts the SAA6D102E-2-A engine.
  For details of the engine, see the 102 Series Engine Shop Manual.

© 2003 KOMATSU
All Rights Reserved
Printed inEurope 04.03

MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | Publication VEBM230102
Order the manual at mid-west-tech.com >

CONTENTS

No. of page

01 GENERAL 01-1

10 STRUCTURE, FUNCTION AND MAINTENANCE STANDARD 10-1

20 TESTING AND ADJUSTMENT.....20-1

30 DISASSEMBLY AND ASSEMBLY 30-1

90 OTHERS 90-1

MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | P... Order the manual at mid-west-tech.com >

P: From brake and cooling fan pump
T: To hydraulic tank
A: To cooling fan motor
ACC1: To accumulator (Rear side)
ACC2: To accumulator (Front side)
S: Brake operation sensor port
G: Gauge port

1. Valve body
2. Inverse shuttle valve
3. Plunger
4. Unload relief valve
5. Flow control valve
6. Unload valve
7. Relief valve

Unit: mm

No.	Check item	Criteria					Remedy
8	Clearance between inverse shuttle valve spool and body	Standard size	Tolerance		Standard clearance	Clearance limit	Replace
			Shaft	Hole			
		ø 12	-0.006 -0.014	+0.011 0	0.006 – 0.025	0.029	
9	Clearance between plunger and body	ø 8	-0.005 -0.012	+0.009 0	0.005 – 0.021	0.024	
10	Clearance between flow control valve, unload valve spool and body	ø 18	-0.006 -0.017	+0.011 0	0.006 – 0.028	0.032	
11	Inverse shuttle valve return spring	Standard size			Repair limit		
		Free length	Installed length	Installed load	Free length	Installed load	
		21.6	18.3	9.8 N {1.0 kg}	–	8.3 N {0.85 kg}	
12	Unload relief valve return spring (inside)	35.9	30.0	188 N {19.2 kg}	–	160 N {16.3 kg}	
13	Unload relief valve return spring (outside)	39.8	27.5	137 N {14.0 kg}	–	116 N {11.8 kg}	
14	Flow control valve, unload valve spool return spring	51.6	45.0	49 N {5.0 kg}	–	42 N {4.3 kg}	
15	Check valve return spring	11.5	9.0	4.9 N {0.5 kg}	–	4.2 N {0.43 kg}	

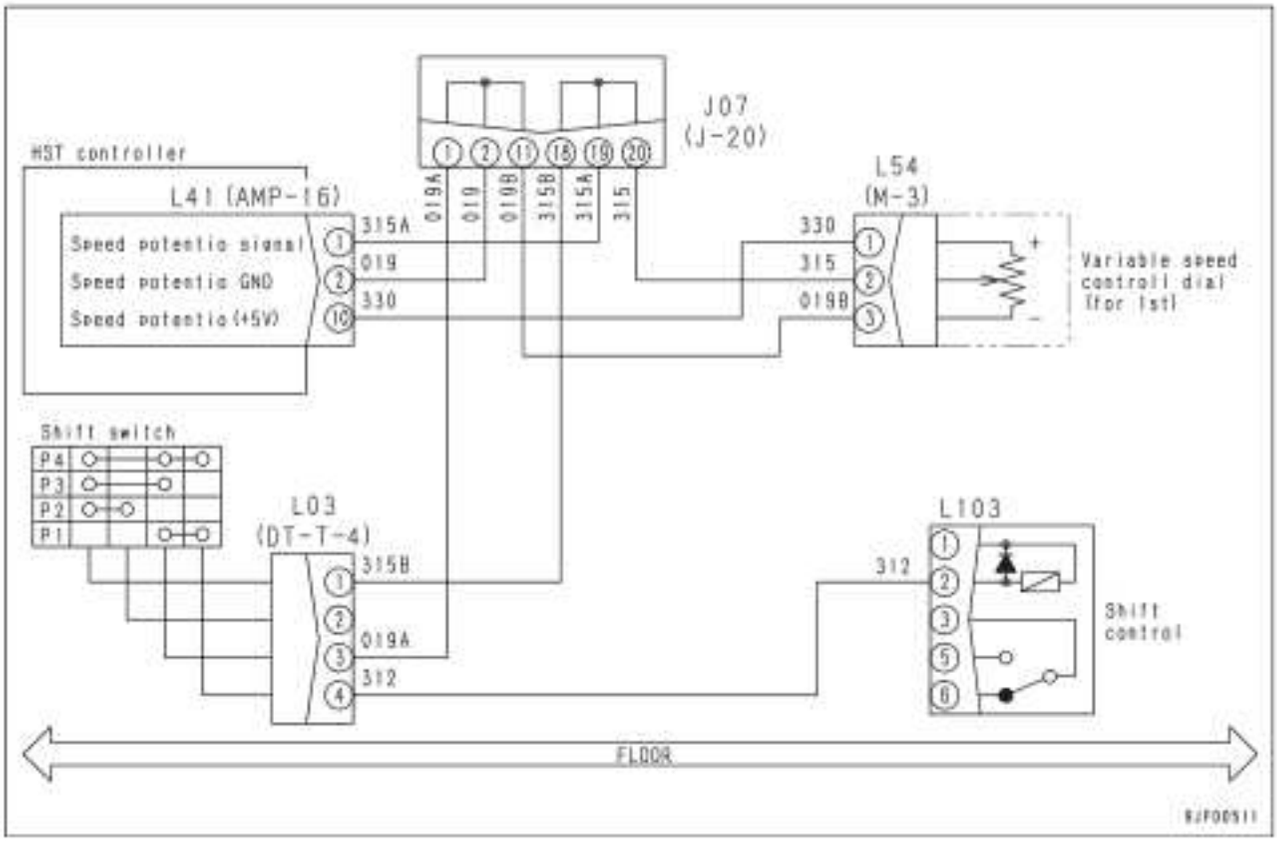
Function

- The charge valve keeps the oil pressure from the pump to the set pressure and stores it in the accumulator.
- If the oil pressure rises above the set pressure, the oil from the pump is led to the drain circuit to reduce the load on the pump.

MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | P... Order the manual at mid-west-tech.com >

	Causes		Standard Value in Normal State and Remarks on Troubleshooting		
Possible Causes and Standard Values	5	Hot short-circuiting between harnesses	1) Turn starting switch OFF. 2) Disconnect connector L41. 3) Connect T-adapter. 4) Turn starting switch ON		
			Wiring harness between L41 (Female) (10) and L54 (Female) (1)	Voltage between L41 (Female) (10) and chassis ground	1V and below
			Wiring harness between L41 (Female) (1), L54 (Female) (2) and L03 (Female) (1)	Voltage between L41 (Female) (1) and chassis ground	1V and below
			Wiring harness between L41 (Female) (2), L54 (Female) (3) and L03 (Female) (3)	Voltage between L41 (Female) (2) and chassis ground	1V and below
	6	Defective HST controller	1) Turn starting switch OFF. 2) Disconnect Connectors L41, L54, L03. 3) Insert T-adapter. 4) Connect connector. 5) Turn starting switch ON 6) Travel speed selector switch 1ST		
			Between L41 (10) and (2)	Voltage	4 - 6V
			Between L41 (1) and (2)	Voltage	0.5V - 5V

Related circuit diagram



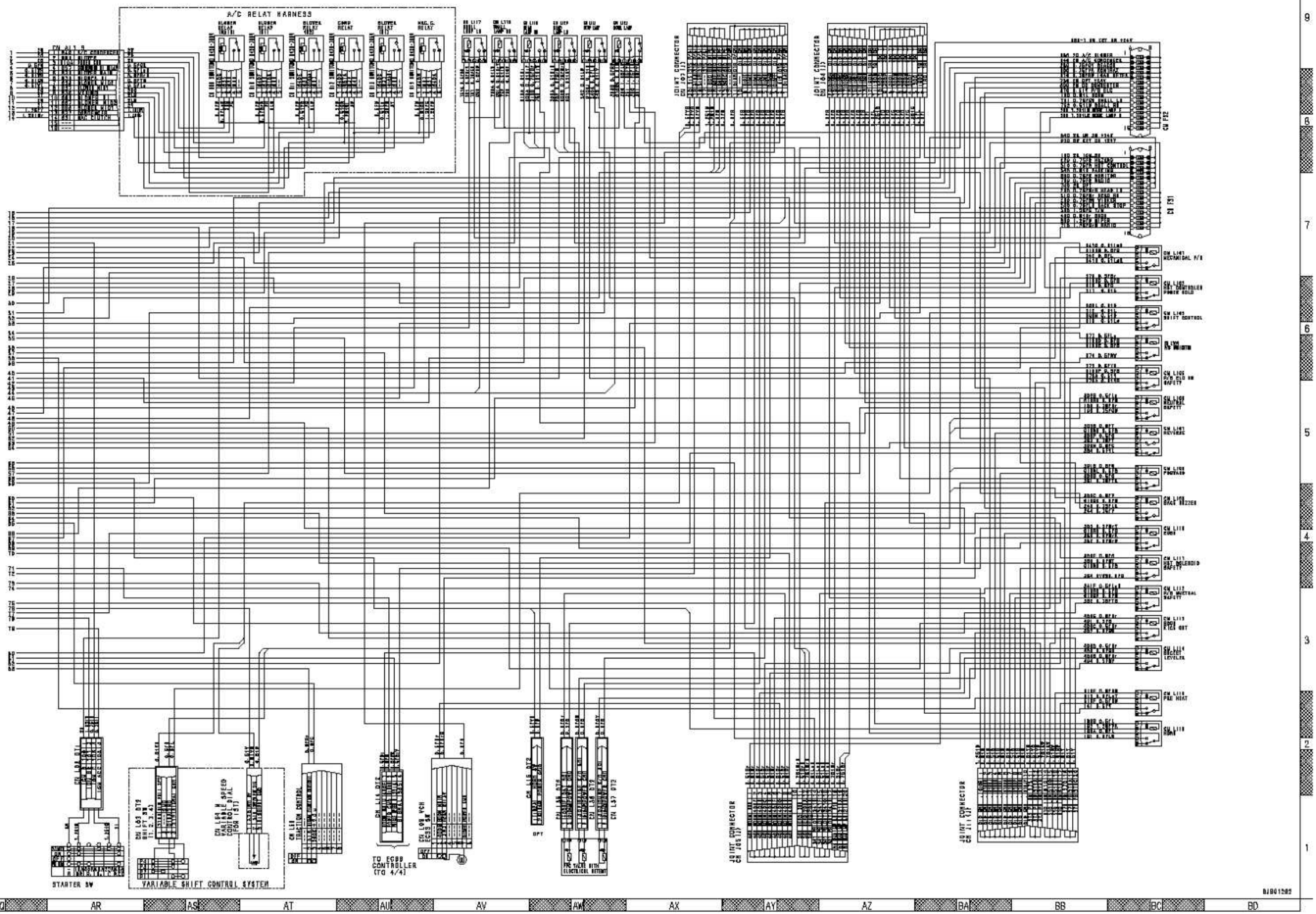
MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | P... Order the manual at mid-west-tech.com >

Troubleshooting Code [E-12] (The horn does not sound)

Action Code	Error Code	Controller Code	Trouble	The horn does not sound
-	-	-		
Description of Trouble	• Horn does not sound due to defective switch, relay, horn or wiring harness in the horn system.			
Machine monitor or controller Reaction	• No reaction.			
Effect on Machine	• The horn does not sound.			
Related Information				

	Causes		Standard Value in Normal State and Remarks on Troubleshooting			
Possible Causes and Standard Values	1	Defective horn switch	1) Turn starting switch OFF. 2) Disconnect connector L13. 3) Connect connector.			
			Between L13 (Male) (1) and chassis ground	Push horn switch ON	Resistance	1Ω and below
				Horn switch OFF	Resistance	1MΩ and above
	2	Defective horn relay (L116)	1) Turn starting switch OFF. 2) Disconnect connector L116. 3) Insert T-adapter. 4) Connect connector. 5) Turn starting switch ON.			
			Between L116 (1), (3) and chassis ground		Voltage	20 - 30V
			Between L116 (2) and chassis ground		Voltage	20 - 30V
			Between L116 (2) and chassis ground		Voltage	1V and below
			Between L116 (5) and chassis ground		Voltage	20 - 30V
			1) Turn starting switch OFF. 2) Replace relay L116 with normal relay. 3) Turn starting switch ON.			
			Does condition become normal when horn and lamp relay L116 is replaced with normal relay?	Condition is abnormal.		Relay L116 is normal.
				Condition is normal.		Defective relay L116.
			1) Turn starting switch OFF. 2) Disconnect connector L116. 3) Solid part check.			
			Between L116 (Male) (1) and (2)		Resistance	200 - 400Ω
			1) Turn starting switch OFF. 2) Disconnect connector L116. 3) Solid part check. 4) Applies impressed voltage between L116 (Male) (1) - (2)			
			Between L116 (Male) (3) and (5)	Applies 24V impressed voltage between L116 (Male) (1) - (2)	Resistance	1Ω and below
				Does not apply voltage between L116 (Male) (1) - (2)	Resistance	1MΩ and above
	3	Defective horn	1) Turn starting switch OFF. 2) Disconnect connector F01, F02. 3) Insert T-adapter. 4) Connect T-adapter. 5) Turn starting switch ON.			
			Between F01 (Male) (1) and (2)	Push horn switch ON	Voltage	20 - 30V
				Horn switch OFF	Voltage	1V and below
			Between F02 (Male) (1) and (2)	Push horn switch ON	Voltage	20 - 30V
				Horn switch OFF	Voltage	1V and below

MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | P... Order the manual at mid-west-tech.com >



MidWestTech | Komatsu WA200-5H, WA200PT-5H Wheel Loader Service Manual | Publication VEBM230102

Order the manual at mid-west-tech.com >