Shop Manual

VEBM450104

WA320-3

Wheel Loader

Serial Number

WA320H20051 and up

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AIR-CONDITIONER

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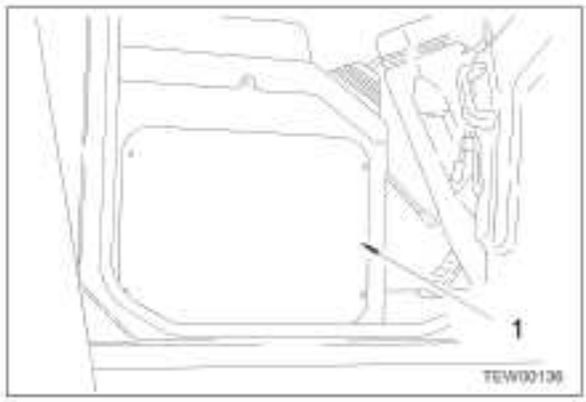
WA320-3 active	Wiring diagram Fig. 1				
Sect.	**Description**		**Sect.**	**Description**	
15	S 7	Switch emergen. contr. transm.	2	K 283	Relay pre-heating
6	S 43	Starting switch	21	K 373	Relay parking brake
11	S 58	Battery main switch	109	K 385	Relay back-up alarm
21	S 127	Switch parking brake	15	431	Relay emergen. contr. transm.
22	S 260.1	Switch transmission cut-off	25	XOP 6	Option 20 km/h
23	S 260.2	Footswitch transmission cut-off	27	XOP 7	Option automatic "OFF"
12	S 261	Switch gear selection	26	XRPM	Option engine rpm
25	S 417.1	Kick-down switch	6	G 10	Generator
25	S 417.2	Hold switch	11	G 57	Battery
11	S 439	Switch drive direction	8	M 9	Starting motor
22	A 1	Transmission controller	15	H7	Lamp emergency controller
28	P 384	Speed display	4	H 76	Lamp pre-heating
19	P 425	Gear display	20	H 126	Lamp parking brake
3	P 426	Main monitor	23	H 260	Lamp transmission cut-off
3	R 12	Flame plug	24	YH	Solenoid High
	V...	Diode	23	YS	Solenoid Speed
	V 118..	Diode 5 x	19	Y 236	Solenoid Forward
7	K 106	Relay battery	18	Y 237	Solenoid Reverse
9	K 158	Relay starting motor	3	Y 320	Solenoid engine stop
1	K 167	Time relay for Y 320	28	B 1	Sender speed
6	K 208	Relay neutral position	26	B 2	Engine rpm sender
2	K 282	Relay pre-heating	4	B 14	Temp. sender pre-heating
Connectors					
X L		Connector platform	X T		Connector transmission
X C		Connector cab	X R		Connector rear frame
X F		Connector front frame	XMFS		Connector multifunction lever (Option)
X M		Connector engine			
Fuses					
F...		Fuse			
					320EL1.tbl

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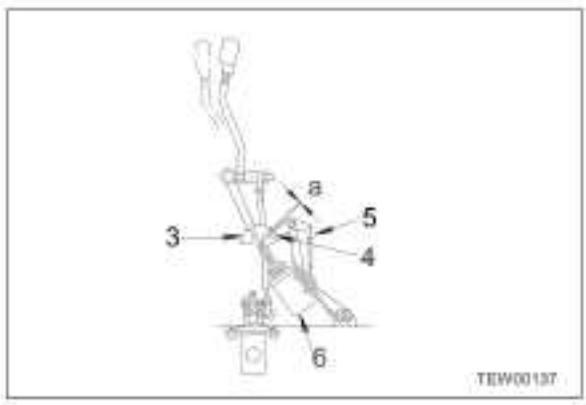
Adjusting

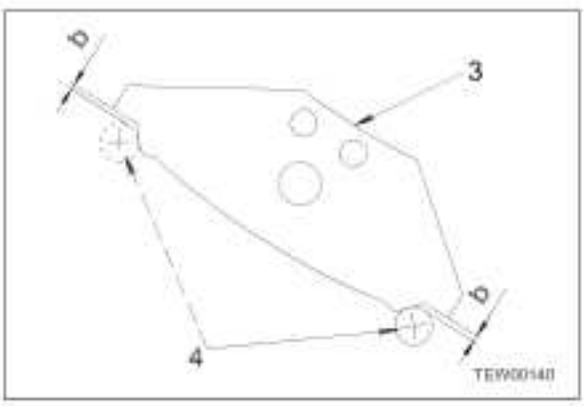
1. Remove cover (1).

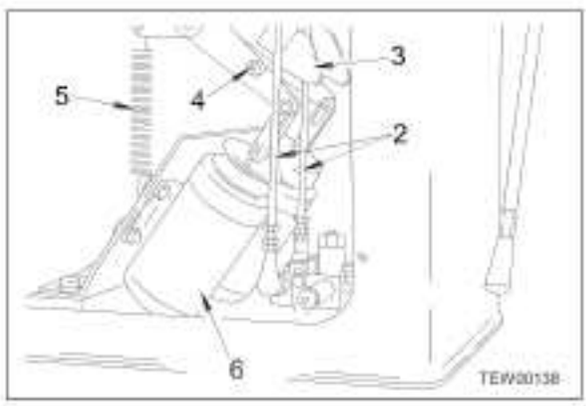
2. With solenoid (6) pulled, fix the solenoid in position so that the clearance between cam (3) and roller (4) is dimension a.
   Dimension a: 0 – 0.5 mm
   ★ Set the bucket lever and boom lever at the HOLD position.
   ★ If cam (3), roller (4), or spring (5) are broken, replace them before adjusting.



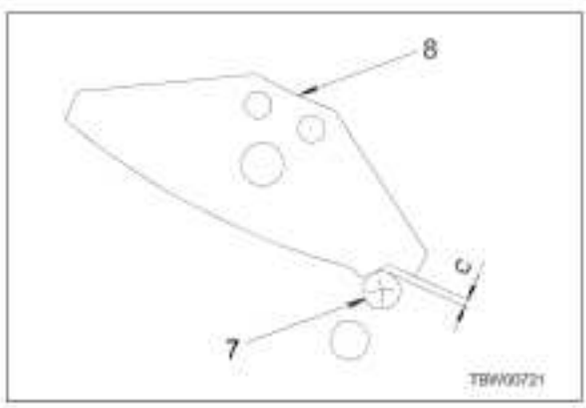
3. Boom lever
   Operate the boom lever and adjust the length of rod (2) so that roller (4) is dimension b at the notch at both ends of cam (3).
   Dimension b: 0 – 1 mm







4. Bucket lever
   Operate the lift lever and adjust the length of rod (2) so that roller (7) is dimension C at the notch at both ends of cam (8).
   Dimension C: 0 – 1 mm



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S-10 Fuel consumption is excessive

General causes why fuel consumption is excessive
- Leakage of fuel
- Improper condition of fuel injection
- Excessive injection of fuel

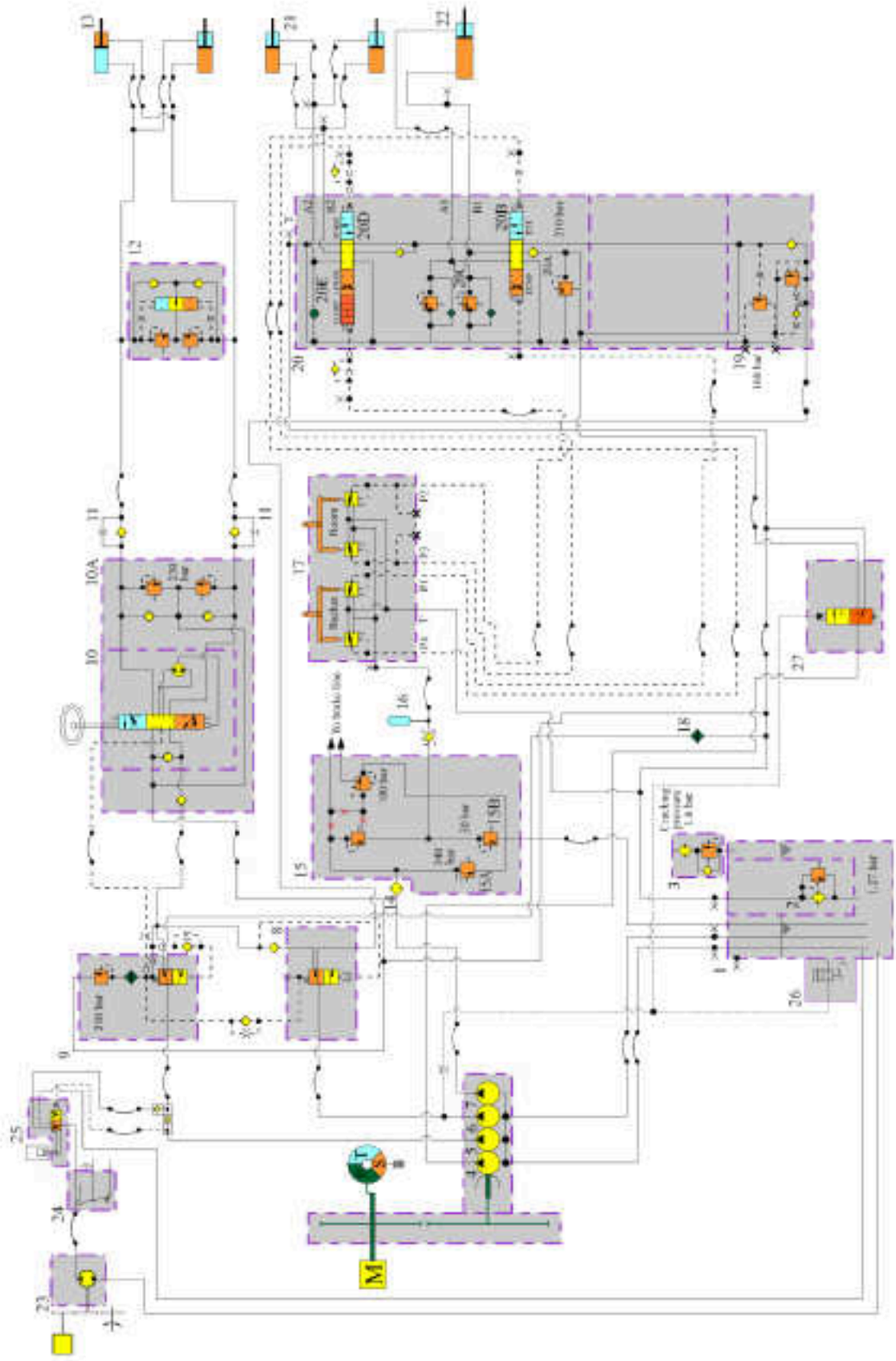
Legend
○ : Possible causes (judging from Questions and check items)
◎ : Most probable causes (judging from Questions and Check items)
△ : Possible causes due to length of use (used for a long period)
● : Items to confirm the cause.

			Causes: Defective injection pump (excessive injection)	Defective injection nozzle spray	Defective injection pump plunger	Improper fuel injection timing	External leakage from fuel piping, fuel filter	Leakage of fuel inside head cover	Defective oil seal inside feed pump (piston)	Defective adjustment of fuel lever linkage
Questions	Confirm recent repair history									
	Degree of use	Operated for long period		△	△				△	
	Condition of fuel consumption	More than for other machines of same model	◎			○				
		Gradually increased		○	○					
		Suddenly increased					○	○		
	Exhaust gas color	Black	◎	○		○				○
		White						○		
Check items	Seal on injection pump has come off		◎							
	There is irregular combustion			◎						
	When exhaust manifold is touched immediately after starting engine, temperature of some cylinders is low			◎	○					
	Match mark on injection pump is misaligned					◎				
	There is external leakage of fuel from engine						◎			
	Engine oil level rises and smells of diesel fuel		○					○	◎	
	Engine low idling speed is high		○							◎
Troubleshooting	Injection pump test shows that injection amount is excessive		●							
	Speed of some cylinders does not change when operating on reduced cylinders			●						
	When control rack is pushed, it is found to be heavy, or does not return				●					
	When check is made using delivery method, injection timing is found to be incorrect					●				
	Remove head cover and check directly						●			
	Remove feed pump and check directly							●		
	When engine speed is measured, low idling speed is found to be high									●
		Remedy	Adjust	Replace	Replace	Adjust	Repair	Repair	Repair	Adjust

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WORK EQUIPMENT HYDRAULIC CIRCUIT DIAGRAM

Up to Serial Number: WA320H20343



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