VEBM430101

SHOP MANUAL

WA500-6

KOMATSU®

MACHINE MODEL

WA500-6

SERIAL NUMBER

H60051 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.

- WA500-6 mounts the SAA6D140E-5 engine.

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Testing and adjusting item	Symbol		Part Number	Name	Q'ty	Remarks
Testing wheel brake oil pressure	U	1	793-520-1821	Nipple	1	
		2	793-520-1810	Joint	1	
		3	385-10178481	Bleeder screw	1	
		4	793-520-1831	Gauge assembly	1	G1/4 → R1/8
Measuring wear of wheel brake disc	V		Commercially available	Slide calipers	1	
Measuring parking brake oil pressure	W	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 6.0, 40, 60 MPa {25, 60, 400, 600 kg/cm²}
			790-261-1204	Digital hydraulic tester	1	Pressure gauge: 60 MPa {600 kg/cm²}
		2	799-101-5220	Nipple	1	Size: 10 x 1.25 mm
			07002-11023	O-ring	1	
		3	799-401-3100	Adapter	1	Size 02
Testing wear of parking brake disc	X		Commercially available	Slide calipers	1	
Measuring and adjusting work equipment lever	Y	1	79A-264-0021	Push-pull scale	1	
		2	Commercially available	Scale	1	
Testing and adjusting work equipment PPC oil pressure	Z	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 6.0, 40, 60 MPa {25, 60, 400, 600 kg/cm²}
			790-261-1204	Digital hydraulic tester	1	Pressure gauge: 60 MPa {600 kg/cm²}
		2	799-401-3200	Adapter	1	Size 03
Measuring work equipment oil pressure	ZA	1	799-101-5002	Hydraulic tester	1	Pressure gauge: 2.5, 6.0, 40, 60 MPa {25, 60, 400, 600 kg/cm²}
			790-261-1204	Digital hydraulic tester	1	Pressure gauge: 60 MPa {600 kg/cm²}
		2	799-101-5220	Nipple	1	Size: 10 x 1.25 mm
			07002-11023	O-ring	1	
		3	799-401-2701	Differential pressure gauge	1	
		4	799-401-3200	Adapter	1	Size 03
Measuring coolant temperature and oil temperature	—		799-101-1502	Digital thermometer	1	
Measuring operating effort and pressing force	—		79A-264-0021	Push-pull scale	1	0 – 294 N {0 – 30 kg}
			79A-264-0091	Push-pull scale	1	0 – 490 N {0 – 50 kg}
Measuring stroke and hydraulic drift	—		Commercially available	Scale	1	
Measuring work equipment speed	—		Commercially available	Stopwatch	1	
Measuring voltage and resistance	—		Commercially available	Circuit tester	1	

★ For the model names and part Nos. of the T-adapters and boxes used for troubleshooting of the controllers, sensors, actuators, and wiring harnesses, see Troubleshooting, T-branch box and T-branch table.

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	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state			★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting. Headlamp switch is OFF		
	6	Hot short in wiring harness (Contact with 24 V circuit)	Wiring harness between L61 (female) (5) – fuse No. 12 or No. 13 of fuse box B and chassis ground	Voltage	Max. 1 V
			Wiring harness between fuse No. 12 of fuse box B – right COMBI (female) (A) and chassis ground	Voltage	Max. 1 V
			Wiring harness between fuse No. 12 of fuse box B – G01 (female) (6) and chassis ground	Voltage	Max. 1 V
			Wiring harness between fuse No. 13 of fuse box B – left COMBI (female) (A) and chassis ground	Voltage	Max. 1 V
			Wiring harness between fuse No. 13 of fuse box B – G02 (female) (6) and chassis ground	Voltage	Max. 1 V

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b) Engine turns but no exhaust smoke comes out

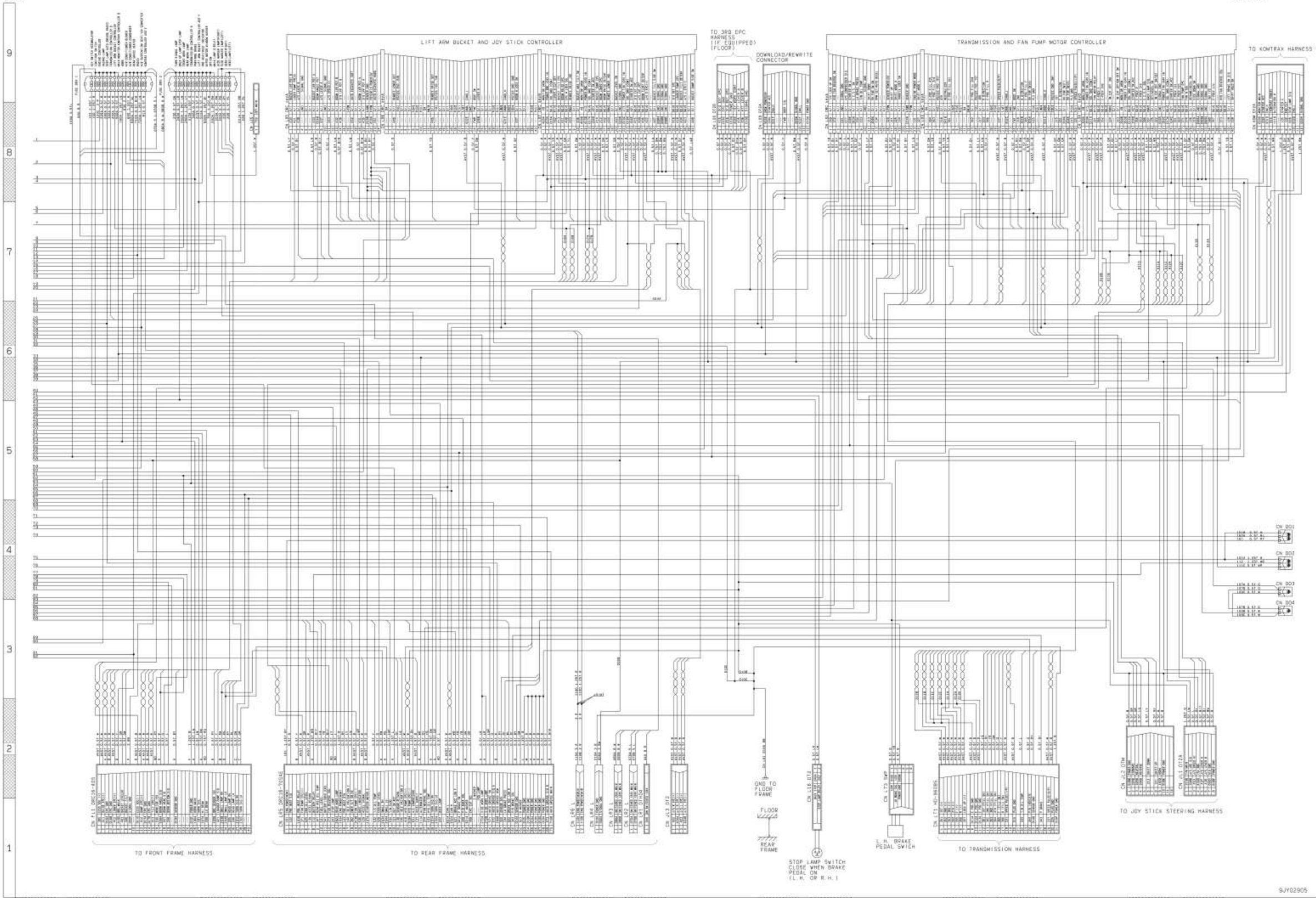
General causes why engine turns but no exhaust smoke comes out

- Fuel is not being supplied
- Supply of fuel extremely small
- Improper selection of fuel (particularly in winter)

			Cause														
			Improper fuel used	Insufficient fuel in tank	Clogged air breather hole in fuel tank cap	Leakage, clogging, air in fuel piping	Clogged fuel filter element	Clogged feed pump gauze filter	Seizure or abnormal wear of feed pump	Broken supply pump shaft, key	Stuck or seized supply pump plunger	Defective supply pump PCV	Wrong connection of supply pump PCV	Defective operation of overflow valve (not closing)	Defective operation of flow damper	Defective fuel injector
Questions	Check recent repair history																
	Degree of machine operation	Machine operated for long period				△	△	△									
	Exhaust smoke suddenly stops coming out (when starting again)								○	○	○	○	○		△	△	
	Replacement of filters has not been carried out according to Operation & Maintenance Manual						○	○			△					○	
Check items	Fuel tank is found to be empty			○													
	Clogged air breather hole in fuel tank cap			○	○												
	Rust and water are detected when fuel tank is drained						○	○	○		○	○					
	When fuel filter is removed, no fuel is inside the fuel filter		○			○											
	Leakage from fuel piping					○											
	No response or heavy resistance felt when operating priming pump					○	○	○									
	When engine is cranked with starting motor,	and the air breathing plug is removed from the fuel filter, fuel fails to discharge		○		○			○	○							
		Spill flow drops, when spill hose is separated from injector				□				○	○	○	○				○
Troubleshooting	Air is discharged when the air is bled from the fuel system					●											
	Inspect the fuel filter directly						●										
	Inspect fuel feed pump gauze filter directly							●									
	Inspect feed pump directly								●								
	Carry out troubleshoot by "Rail Press Very Low Error (*1)"									●	●		●				●
	Carry out troubleshoot by "PCV1 Error (:2) or PCV2 Error (*3)"											●					
	Inspect overflow valve directly													●			
	Engine can start when operated in reduced cylinder mode														●	●	
		Remedy	Replace	Add	Correct	Correct	Replace	Clean	Replace	Replace	Replace	Replace	Correct	Replace	Replace	Replace	Replace

*1: Troubleshooting by failure code (Display of code), Code [**CA559**], and Code [**CA2249**]
*2: Troubleshooting by failure code (Display of code), Code [**CA271**], and Code [**CA272**]
*3: Troubleshooting by failure code (Display of code), Code [**CA273**], and Code [**CA274**]

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