SHOP MANUAL

KOMATSU®

WA320-5

Machine model	Serial number
WA320-5	**60001 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.

- WA320-5 mounts the SAA6D102E-2-A engine.
  For details of the engine, see the 102 Series Engine Shop Manual.

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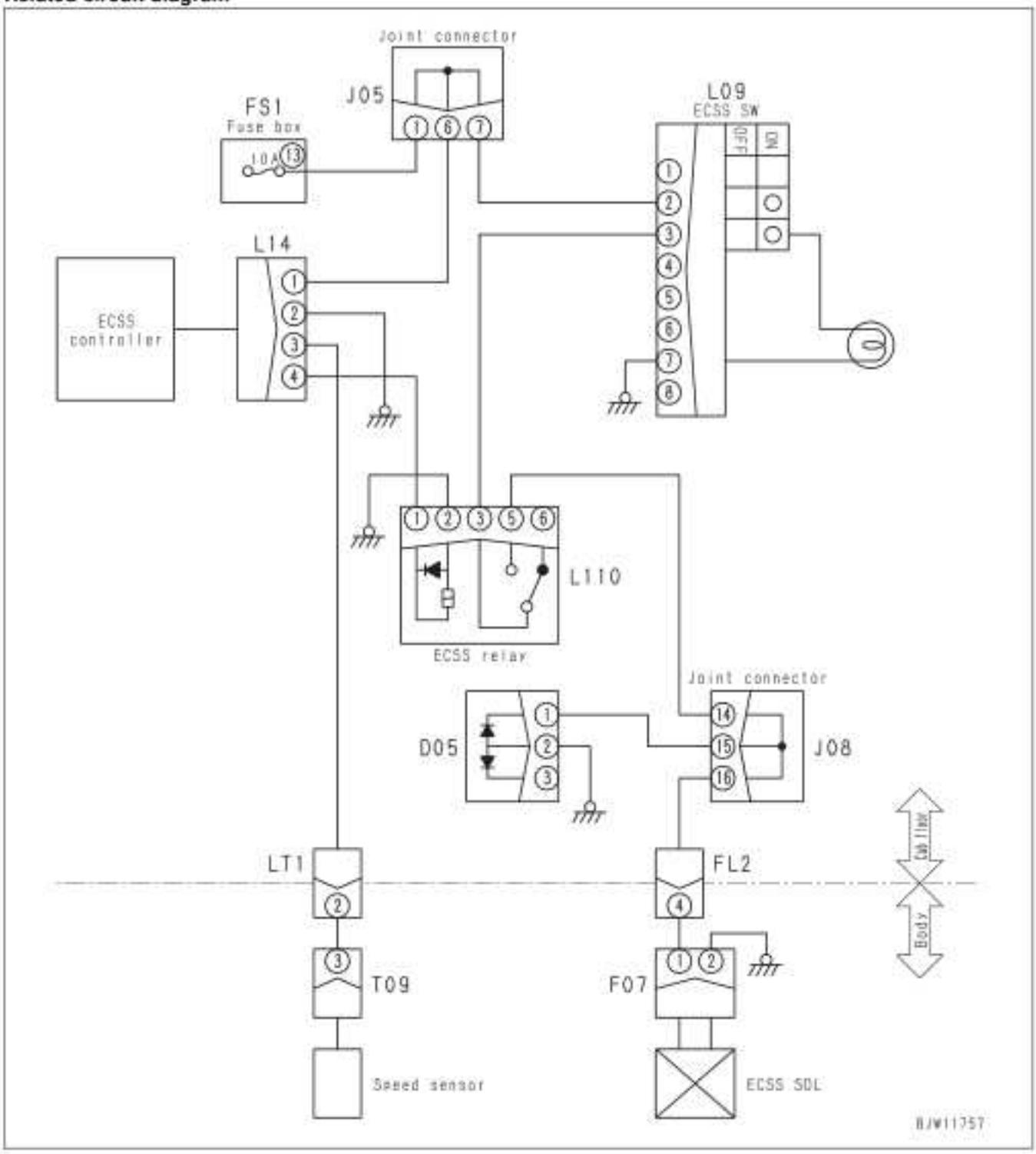
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RELATED ELECTRICAL CIRCUIT DIAGRAM

★ For the connection table of the fuse box, see HST-mode, MON-mode, E-mode, etc.
★ For how to read the troubleshooting table, see HST-mode, MON-mode, E-mode, etc.
★ Before carrying out the troubleshooting, understand the contents of the related circuit diagram.

Related circuit diagram



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Troubleshooting Code [E-8] (Travel direction is not changed normally)

a) When directional lever is set in "F", machine does not travel forward

Action Code	Error code	Controller Code	Trouble	Travel direction is not changed normally a) When directional lever is set in "F", machine does not travel forward
-	-	-		
Contents of trouble	• The machine does not travel forward since the directional lever system, forward relay system, or forward solenoid valve system is defective.			
Action of machine monitor	– – –			
Problem that appears on machine	• The machine does not travel forward.			
Related information	• If error code "DDK3KB" is displayed to indicate simultaneous input of directional lever FR signals, carry out the troubleshooting for it first. • When the parking brake lever is pulled, if the parking brake omission caution lamp goes off and the parking brake indicator lamp does not light up, carry out the troubleshooting for "MON-1 Parking brake indicator lamp does not light up" before carry out the following troubleshooting.			

Possible Causes and Standard Values	Causes		Standard value in normal state/Remarks on troubleshooting			
	1	Defective directional lever	1) Turn starting switch OFF. 2) Disconnect connector F15. 3) Connect T-adapter.			
			Between L15 (female) (1) and (2)	When directional lever is in "F".	Resistance	Max. 1 Ω
				When directional lever is not in "F".	Resistance	Min. 1 MΩ
	2	Defective parking brake neutral safety relay (L112)	1. Turn starting switch OFF. 2. Replace L112 with normal relay. 3. Turn starting switch ON. 4. Operate parking brake.			
			When parking brake neutral safety relay (L112) is replaced, does condition become normal?		No	Relay (L112) is normal.
					Yes	Relay (L112) is defective.
			1) Turn starting switch OFF. 2) Disconnect connector L112. 3) Check relay unit.			
			Between L112 (male) (1) and (2)		Resistance	200 - 400Ω
			1) Turn starting switch OFF. 2) Disconnect connector L112. 3) Check relay unit. 4) Apply normal voltage between L112 (male) (1) and (2).			
			Between L112 (male) (3) and (5)	When 24 V is applied between and (1) and (2)	Resistance	Max. 1 Ω
				When normal voltage is not applied between and (1) and (2)	Resistance	Min. 1 MΩ

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INSTALLATION

- Carry out installation in the reverse order to removal.

[*1]

Ground terminal:
59 - 74 Nm {6 - 7.5 kgm}

[*2]

★ Adjust the tension of the air conditioner compressor belt. For details, see TESTING AND ADJUSTING, Testing and adjusting air conditioner compressor belt tension.

[*3]

Engine stop solenoid terminal:
0.98 - 1.27 Nm {0.1 - 0.13 kgm}

★ Set the cap sideways so that water will not collect.

[*4]

Engine stop solenoid bracket mounting nut: **14 - 21 Nm {1.4 - 2.1 kgm}**

[*5]

Intake air heater terminal:
2.45 - 2.94 Nm {0.25 - 0.3 kgm}

[*6]

Air hose clamp:
9.8 ± 0.5 Nm {1.0 ± 0.05 kgm}

[*7]

Aftercooler hose clamp:
10.5 + 0.5 Nm {107 ± 5 kgcm}

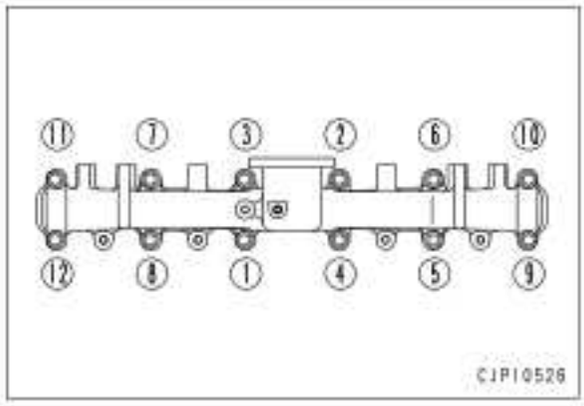
[*8]

Mounting nut of turbocharger lubrication tube (25): **35 ± 5 Nm {3.57 ± 0.51 kgm}**
Mounting bolt of turbocharger lubrication tube (26): **24 ± 4 Nm {2.45 ± 0.41 kgm}**

[*9]

★ Tighten the exhaust manifold mounting bolts in 3 times according to the following procedure.

Exhaust manifold mounting bolt:
1st time: Tighten the bolts to **24 ± 4 Nm {2.45 ± 0.41 kg}** in the order of 1 - 12.
2nd time: Tighten the bolts to **43 ± 6 Nm {4.38 ± 0.61 kg}** in the order of 1 - 12.
3rd time: Tighten the bolts to **43 ± 6 Nm {4.38 ± 0.61 kg}** again in the order of 1 - 4.



[*10]

Mating face of hose:
Gasket sealant (ThreeBond 1208E or equivalent)

Radiator hose clamp:
8.8 ± 0.5 Nm {90 ± 5 kgcm}

[*11]

Mounting torque of alternator terminal E11: **5.9 - 9.80 Nm {0.6 - 1.0 kgm}**

[*12]

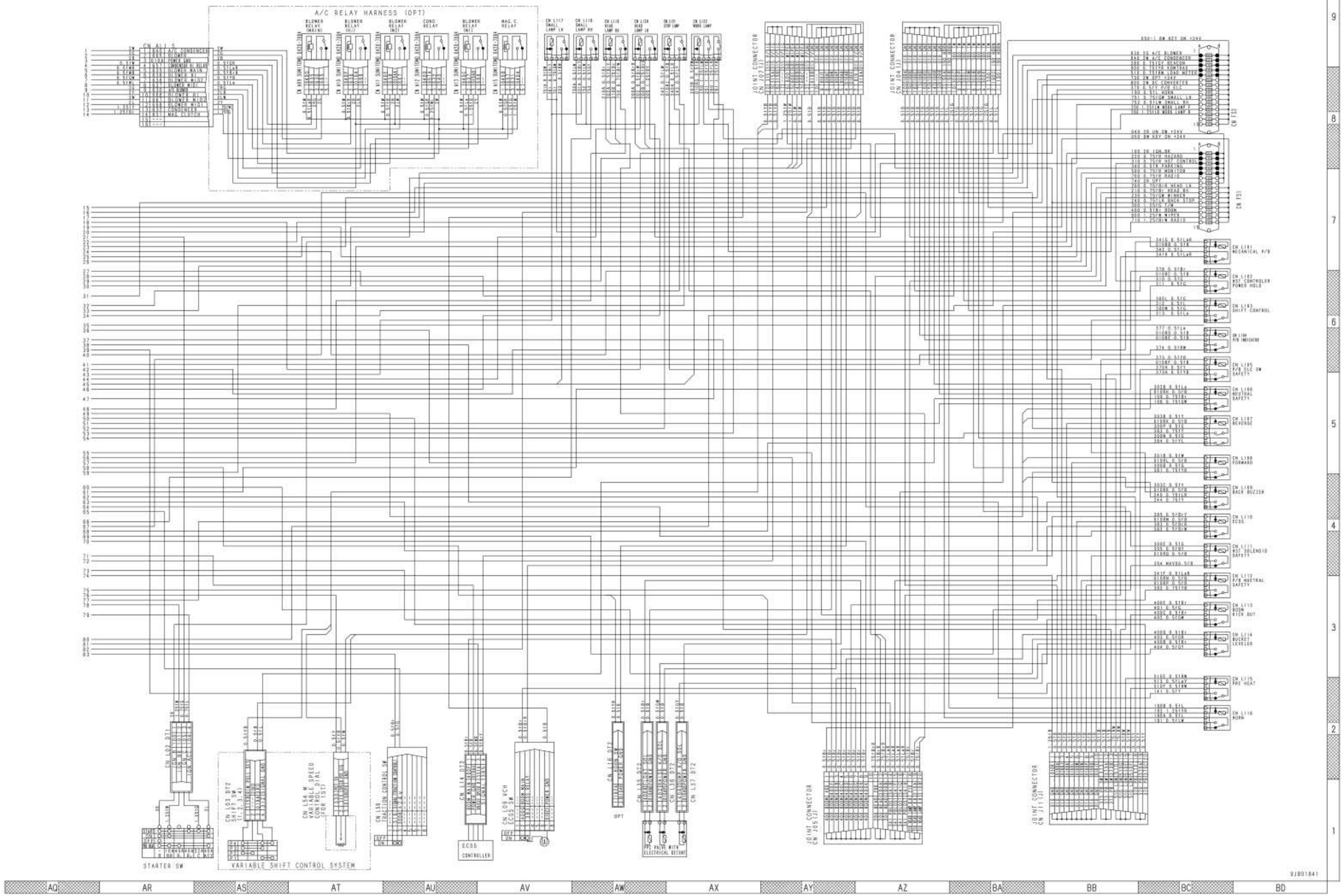
Thermostat housing mounting bolt:
24 ± 4 Nm {2.45 ± 0.41 kgm}

[*13]

Air hose clamp:
8.8 ± 0.5 Nm {90 ± 5 kgcm}

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ELECTRICAL CIRCUIT DIAGRAM 1/4 (4/4)



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