SEBM025608

SHOP MANUAL

KOMATSU®

D31EX, PX-21

D37EX, PX-21

MACHINE MODEL	SERIAL No.
D31EX-21	**50001 and up**
D31PX-21	**50001 and up**
D37EX-21	**5001 and up**
D37PX-21	**5001 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.

- D31, D37EX, PX-21 mount the SAA4D102E-2 engine.
  For details of the engine, see the 102-2 Series Engine Shop Manual.

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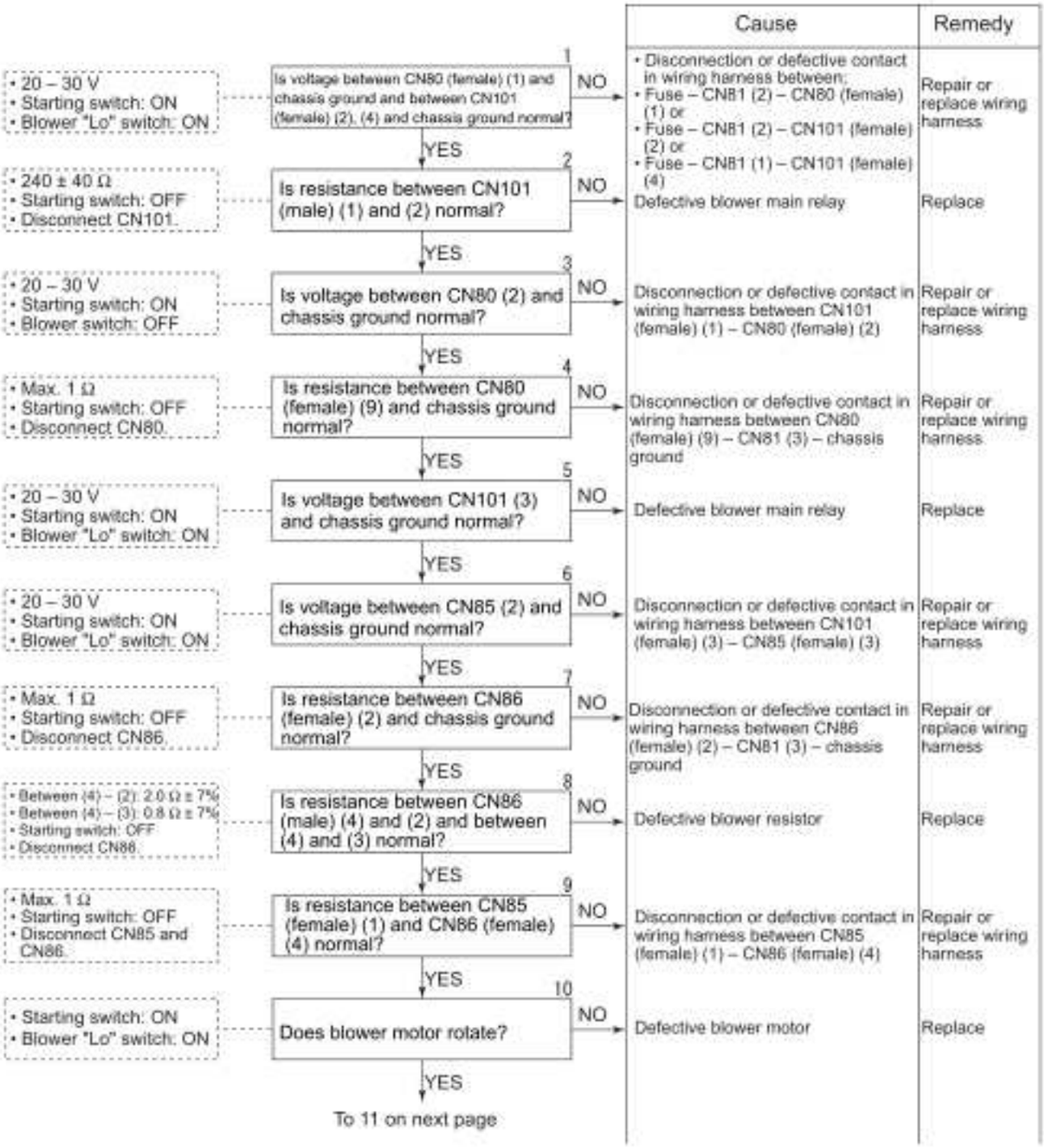
90 OTHERS 90-1

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E-7. Air conditioner does not work

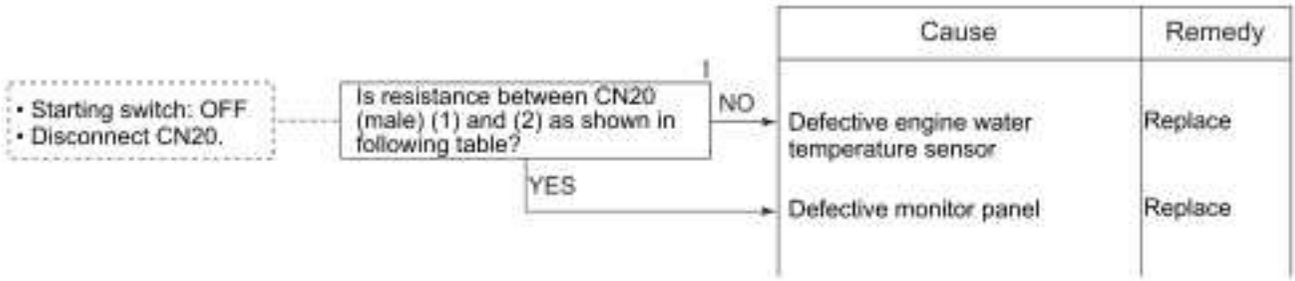
★ Carry out the following troubleshooting when the battery and battery relay are normal.
★ Before carrying out the troubleshooting, check that fuse (FB2) No. 3 is normal.

a) Air does not blow out



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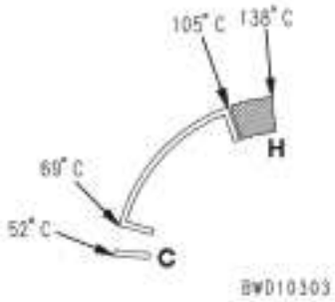
c) Engine water temperature indicated by gauge is different from actual temperature



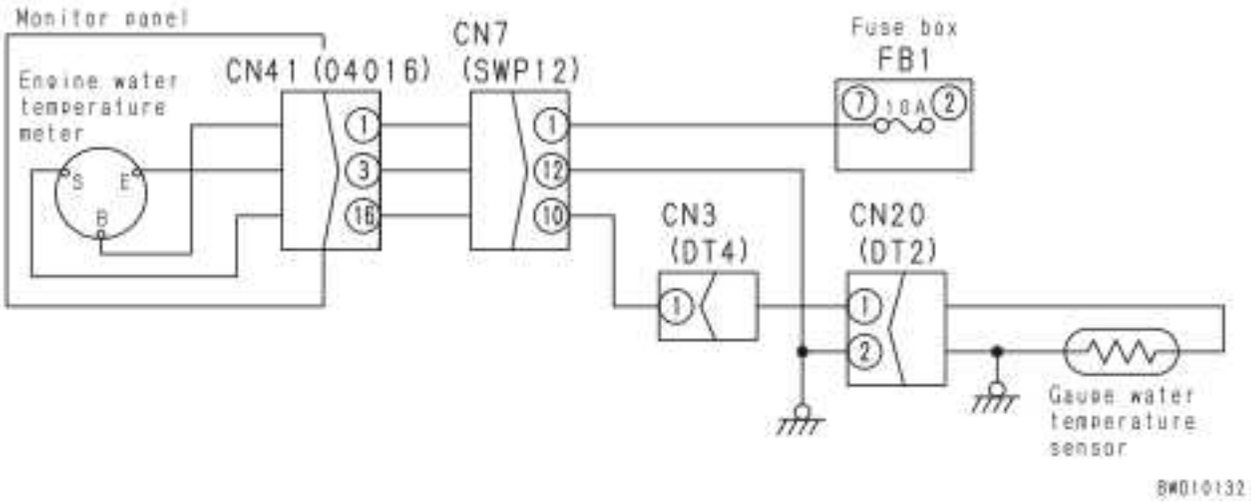
Table

HST oil temperature (°C)	Resistance (Ω)
50 ± 0.2	80 ± 10
60 ± 0.2	56.3 ± 3
80 ± 0.2	29.5 ± 2.5
100 ± 0.3	16.5 ± 0.9
106 ± 0.3	14.3 ± 0.5
120 ± 0.3	10 ± 0.3

Engine water temperature and indication by gauge



M5 Related electrical circuit diagram



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INSTALLATION OF CYLINDER HEAD ASSEMBLY

- Carry out installation in the reverse order to removal.

※1
★ When connecting the hose, apply spray grease to the mating part (tube).
kgm Charge air cooler hose clamp:
5.9 ± 0.5 Nm {0.6 ± 0.05 kgm}

※2
kgm Air cleaner hose clamp:
5.9 ± 0.5 Nm {0.6 ± 0.05 kgm}

※3
kgm Band: **9.8 ± 1.0 Nm {1.0 ± 0.1 kgm}**

※4
★ Install the air cleaner cover with the top mark up.

※5
kgm Bolt: **1.86 – 2.45 Nm {0.19 – 0.25 kgm}**
kgm Nut: **2.45 – 2.94 Nm {0.25 – 0.3 kgm}**

※6
kgm Nut: **23.5 – 29.4 Nm {2.4 – 3 kgm}**

※7
★ When connecting the hose, apply spray grease to the mating part (tube).
kgm Charge air cooler hose clamp:
5.9 ± 0.5 Nm {0.6 ± 0.05 kgm}

※8
★ Use a new clamp.
kgm Clamp: **8.8 ± 0.5 Nm {0.9 ± 0.05 kgm}**

※9
★ Pass the reservoir tank drain hose through the guide pipe of the shroud.

※10
kgm Radiator hose clamp:
8.8 ± 0.5 Nm {0.9 ± 0.05 kgm}

※11
kgm Tension pulley bolt:
43 ± 6 Nm {4.38 ± 0.61 kgm}

※12
kgm Bracket mounting bolt:
24 ± 4 Nm {2.45 ± 0.41 kgm}

※13
★ Adjust the engine stop solenoid linkage. For details, see TESTING AND ADJUSTING, Adjusting engine stop solenoid linkage.

※14
kgm Bracket mounting bolt:
24 ± 4 Nm {2.45 ± 0.41 kgm}

※15
kgm Bracket mounting bolt:
24 ± 4 Nm {2.45 ± 0.41 kgm}

※16
★ When connecting the hose, apply spray grease to the mating part (tube).
kgm Charge air cooler hose clamp:
5.9 ± 0.5 Nm {0.6 ± 0.05 kgm}

※17
kgm Nipple: **34 ± 5 Nm {3.5 ± 0.5 kgm}**
kgm Bolt: **10 ± 2 Nm {1.0 ± 2.0 kgm}**

※18
kgm Nut: **29.4 – 44.2 Nm {3 – 4.5 kgm}**

※19
kgm Bolt: **24 ± 4 Nm {2.45 ± 0.41 kgm}**

※20
★ Secure clearance of at least 10 mm between the ground wire and fuel tube.

※21
- Install the rocker arm assembly and cylinder head assembly according to the following procedure.
  ★ Check that there is not dirt or foreign matter on the mating face of the cylinder head and in the cylinders.

1) Set cylinder head gasket (59) to the cylinder block.
   ★ Check that the gasket is matched to the holes of the block.
2) Sling cylinder head assembly (58) and set it to the cylinder block.
3) Install push rod (57).
4) Install rocker arm assembly (56) and tighten the bolt with your fingers.
   ★ Check that the adjustment screw ball is fitted to the socket of the push rod.

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ELECTRICAL CIRCUIT DIAGRAM (1/2)

FUSE BOX CONNECTION TABLE

FB1

DIA	FUSE No.	RATED	SYSTEM (MAX. LOAD)
H2	1	20A	LAMP, PANEL ILLUMINATION
	2	10A	MONITOR PANEL, SENSOR
	3	10A	SHIFT CONTROLLER, SOLENOID, PARKING BRAKE
	4	10A	HORN
ACC	5	15A	ENGINE STOP SOLENOID

FB2

DIA	FUSE No.	RATED	SYSTEM (MAX. LOAD)
H1	1	10A	CONTINUOUS POWER SUPPLY FOR RADIO MEMORY(OPT) & BACK UP
	2	10A	BACK UP ALARM, BUZZER
H2	3	15A	NON CAB HEATER (OPT)
	4	20A	RESERVE POWER SUPPLY
H1	5	30A	STARTING SWITCH B

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