SEBM022905

SHOP MANUAL

KOMATSU®

WD600-3

MACHINE MODEL	SERIAL NO.
WD600-3	**50001 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.

- WD600-3 mounts the SAA6D170E-3 engine.
  For details of the engine, see the 6D170-3 Series Engine Shop Manual.

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7. Engine overrun prevention function

If the operator shifts down the gear while traveling downhill at high speed and pressing the accelerator pedal, the engine may overrun because of the drive force of the tires.
To prevent the overrun in this case, the transmission controller limits the shift-down operation according to the engine speed and transmission output shaft speed (= travel speed).

1) The protection application condition: If the gear is shifted down while the protection application condition [A or (B and C)] is satisfied, the shift-down signal is not output but the alarm is turned ON.
2) Protection reset condition: If the protection reset condition [D and (E or F)] is satisfied, the alarm is turned OFF and the shift-down signal is output.

	Application condition [A or (B and C)]			Reset condition [D and (E or F)]		
	Condition A	Condition B	Condition C	Condition D	Condition E	Condition F
Gear speed shifted down	Transmission output shaft speed	Transmission output shaft speed	Engine speed	Transmission output shaft speed	Transmission output shaft speed	Engine speed
To 3rd gear speed	None	2,100 rpm or higher	2,100 rpm or higher	None	Below 1,900 rpm	Below 1,900 rpm
To 2nd gear speed	2,100 rpm or higher	1,500 rpm or higher	2,100 rpm or higher	Below 1,900 rpm	Below 1,300 rpm	Below 1,900 rpm
To 1st gear speed	1,500 rpm or higher	1,000 rpm or higher	2,100 rpm or higher	Below 1,300 rpm	Below 800 rpm	Below 1,900 rpm

3) Protect alarm reset condition: The protect alarm output is turned OFF and the normal control is started again in the following cases.
   a. When the input command and output command become the same after operation of the gearshift lever (gearshift switch)
   b. When the gear speed of the output command or a higher one is selected by operation of the gearshift lever (gearshift switch)
4) Control in shift-down protection control mode: The holding and kickdown operations are ineffective while the shift-down protection control is turned ON.

Transmission output shaft speed and travel speed (Reference)

Transmission output shaft speed (rpm)	Converted travel speed (km/h)
2,100	34.6
1,900	31.3
1,500	24.7
1,300	– 21.4
1,000	16.5
800	13.2

8. Engine speed control function

Signals to control the engine speed are output to the throttle controller through the network to stabilize the engine speed when the travel direction is changed, if necessary.

Table 1 Automatic shift change points table

Item	Gear speed	Travel speed (km/ h)	Gear-shift inhibition time (sec)
1. Basic shift change	1→2	5.6 (5.8) or higher	2
	2→Lock-up at 2	8.0 or higher	0
	2→3	9.3 (9.8) or higher	2
	3→Lock-up at 3	Forward : 14.2 or higher Reverse : 15.7 or higher	0
	3→4	17.6 or higher	1
	4→Lock-up at 4	Forward : 24.9 or higher Reverse : 27.6 or higher	0
	4→3	Below 15.6	1
	3→2	Below 9.8 (9.3)	2

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METHOD OF USING TROUBLESHOOTING CHART

This troubleshooting chart is divided into three sections: **questions, check items, and troubleshooting**. The questions and check items are used to pinpoint high probability causes that can be located from the failure symptoms or simple inspeciton without using troubleshooting tools.
Next, troubleshooting tools or direct inspection are used to check the high probability causes to make final confirmation.

[Questions]

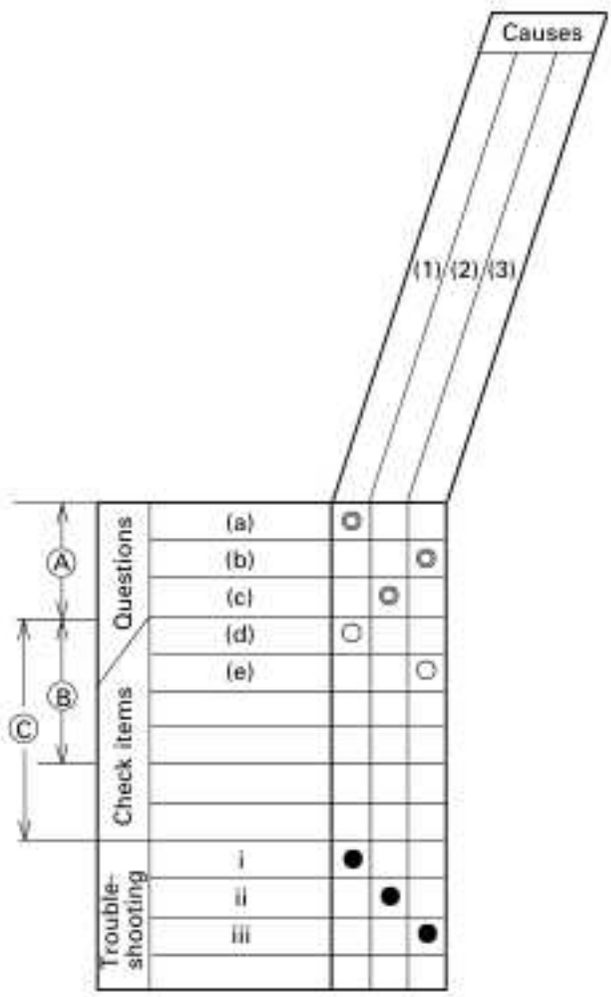
Sections Ⓐ + Ⓑ in the chart on the right corresponds to the items where answers can be obtained from the user. The items in Ⓑ are items that can be obtained from the user, depending on the user's level.

[Check items]

The serviceman carries out simple inspection to narrow down the causes. The items under Ⓒ in the chart on the right correspond to this.
The serviceman narrows down the causes from information Ⓐ that he has obtained from the user and the results of Ⓒ that he has obtained from his own inspection.

[Troubleshooting]

Troubleshooting is carried out in the order of probability, starting with the causes that have been marked as having the highest probability from information gained from **[Questions]** and **[Check items]**.



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EA-15 Error code [141] (Abnormality in oil pressure sensor system low level)

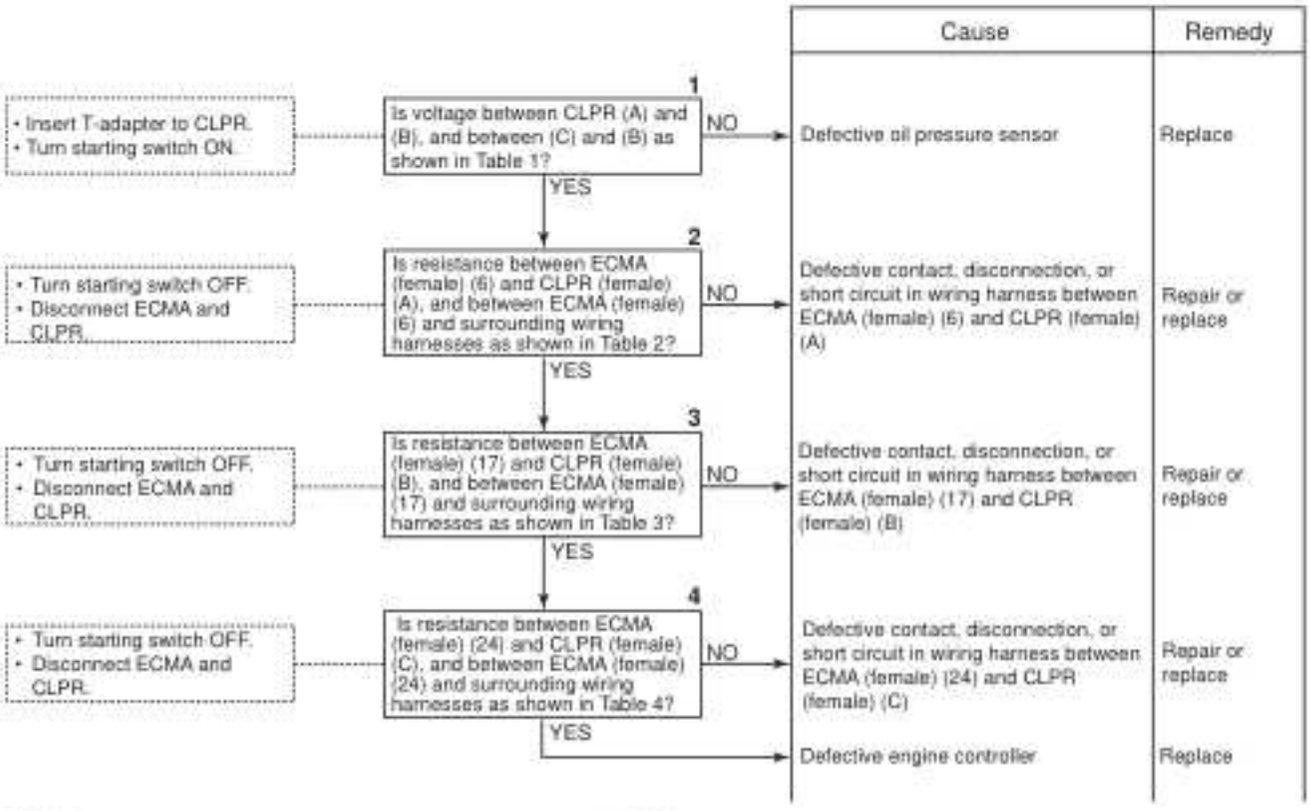


Table 1

CLPR	Voltage
Between (A) and (B)	4.75 – 5.25 V
Between (C) and (B)	0.42 – 0.58 V

Table 2

ECMA (female), CLPR (female)	Resistance value
Between ECMA (6) and CLPR (A)	Max. 10 Ω
Between ECMA (6) and surrounding wiring harnesses	Min. 1 MΩ

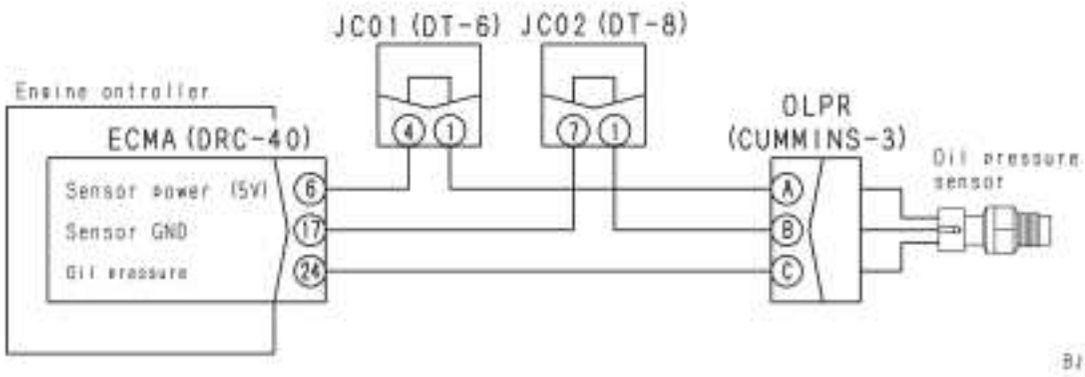
Table 3

ECMA (female), CLPR (female)	Resistance value
Between ECMA (17) and CLPR (B)	Max. 10 Ω
Between ECMA (17) and surrounding wiring harnesses	Min. 1 MΩ

Table 4

ECMA (female), CLPR (female)	Resistance value
Between ECMA (24) and CLPR (C)	Max. 10 Ω
Between ECMA (24) and surrounding wiring harnesses	Min. 1 MΩ

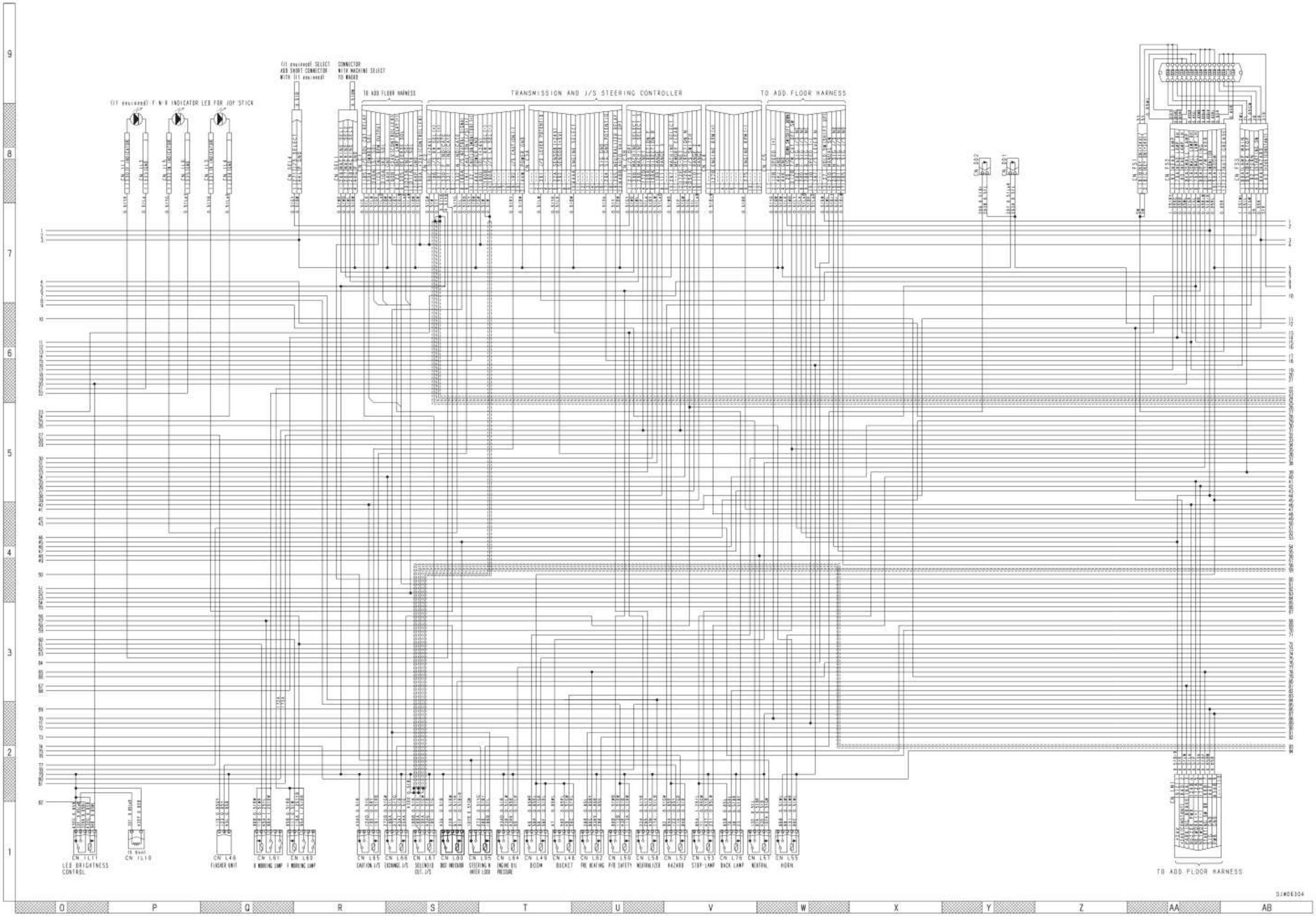
EA-15 Related electrical circuit diagram



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ELECTRIC CIRCUIT DIAGRAM (2/8)

FOR MACHINE WITH JOYSTICK STEERING AND AUTOMATIC SHIFT CONTROL



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