SEBM021902

SHOP MANUAL

KOMATSU®

CD110R-1

MACHINE MODEL	SERIAL NUMBER
CD110R-1	1317 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
- CD110R-1 mounts the SAA6D108E-2 engine.
  For details of the engine, see the 108-2 Series Engine Shop Manual.

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ELECTRIC WIRE CODE

In the wiring diagrams, various colors and symbols are employed to indicate the thickness of wires.
This wire code table will help you understand WIRING DIAGRAMS.
Example: 5WB indicates a cable having a nominal number 5 and white coating with black stripe.

CLASSIFICATION BY THICKNESS

Nominal number	Copper wire			Cable O.D. (mm)	Current rating (A)	Applicable circuit
	Number of strands	Dia. of strands (mm)	Cross section (mm^2)			
0.85	11	0.32	0.88	2.4	12	Starting, lighting, signal etc.
2	26	0.32	2.09	3.1	20	Lighting, signal etc.
5	65	0.32	5.23	4.6	37	Charging and signal
15	84	0.45	13.36	7.0	59	Starting (Glow plug)
40	85	0.80	42.73	11.4	135	Starting
60	127	0.80	63.84	13.6	178	Starting
100	217	0.80	109.1	17.6	230	Starting

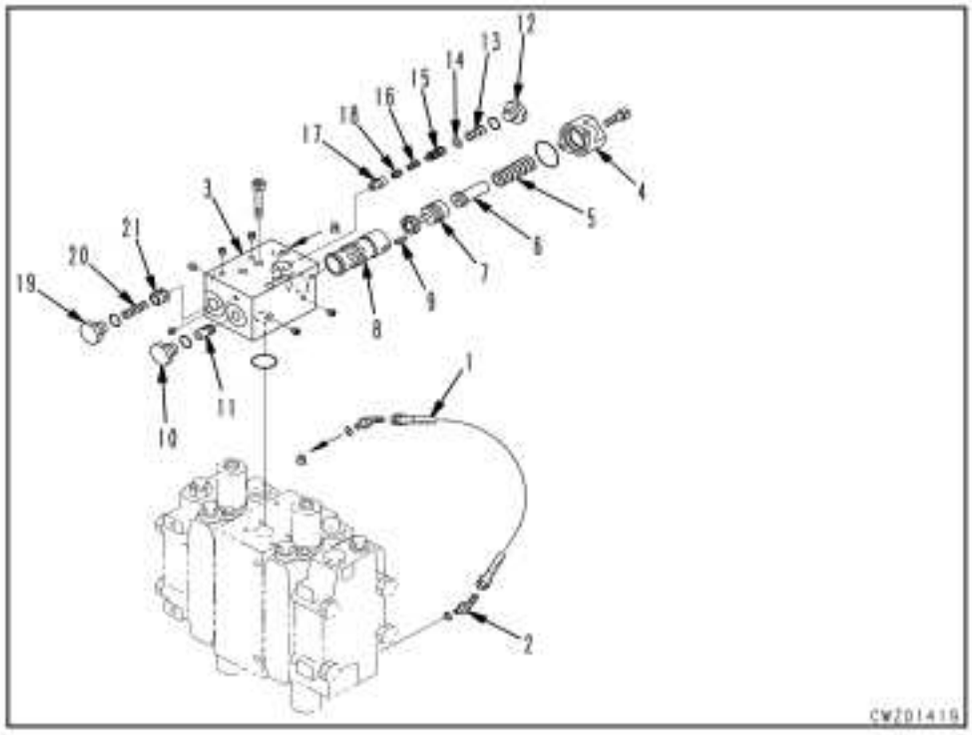
CLASSIFICATION BY COLOR AND CODE

Priority	Classification \ Circuits		Charging	Ground	Starting	Lighting	Instrument	Signal	Other
1	Primary	Code	W	B	B	R	Y	G	L
		Color	White	Black	Black	Red	Yellow	Green	Blue
2	Auxiliary	Code	WR	—	BW	RW	YR	GW	LW
		Color	White & Red	—	Black & White	Red & White	Yellow & Red	Green & White	Blue & White
3		Code	WB	—	BY	RB	YB	GR	LR
		Color	White & Black	—	Black & Yellow	Red & Black	Yellow & Black	Green & Red	Blue & Red
4		Code	WL	—	BR	RY	YG	GY	LY
		Color	White & Blue	—	Black & Red	Red & Yellow	Yellow & Green	Green & Yellow	Blue & Yellow
5		Code	WG	—	—	RG	YL	GB	LB
		Color	White & Green	—	—	Red & Green	Yellow & Blue	Green & Black	Blue & Black
6		Code	—	—	—	RL	YW	GL	—
		Color	—	—	—	Red & Blue	Yellow & White	Green & Blue	—

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Cause	Remedy
Defective starting motor	Repair or replace
Defective alternator	Repair or replace
Disconnection or defective contact in wiring harness between starting switch terminal C - H1 (3) - M2 (1) - starting motor terminal S	Replace harness
Defective starting switch (between terminals B and C)	Replace
Defective contact in wiring harness between battery (+) terminal - battery relay terminal B - terminal M - starting motor terminal B.	Replace harness
Defective battery relay	Replace
Disconnection or defective contact in wiring harness between starting switch terminal BR - H1 (3) - battery relay terminal BR.	Replace harness
Defective starting switch (between B and BR)	Replace
Disconnection or defective contact in wiring harness between battery relay (+) terminal - battery relay terminal B - M15 (1), (2) - H1 (2) - starting switch terminal B (including fusible link)	Replace harness
Insufficient battery capacity	Repair or replace

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17. Variable Back Pressure Valve Assembly

A. Sub-assembly of Variable Back Pressure Valve Assembly

i. Assembly the piston (21) and the Spring (20), set the O-ring and install the plug (19).

Nm Plug : 58.8 - 78.4 Nm (6.0 - 8.0 kgm)

ii. Assembly the filter (18) and valve (17) and install the spring (18) and the spool (15).

iii. Assembly the washer (14) and spring (13), set the O-ring and install the plug (12).

Nm Plug : 58.8 - 78.4 Nm (6.0 - 8.0 kgm)

iv. Assembly the piston (11), set the O-ring and install the plug (10).

Nm Plug : 34.3 - 44.1 Nm (3.5 - 4.5 kgm)

v. Assembly the sleeve (8) and install the pin (9).

vi. Assemble the valve (7), the piston (6) and the spring (5).

vii. Set the O-ring and mount the case (4).

Nm Mounting bolt : 27 - 34 Nm (2.8 - 3.5 kgm)

B. Set the O-ring and mount the variable back pressure valve (3).

Nm Mounting bolt : 27 - 34 Nm (2.8 - 3.5 kgm)

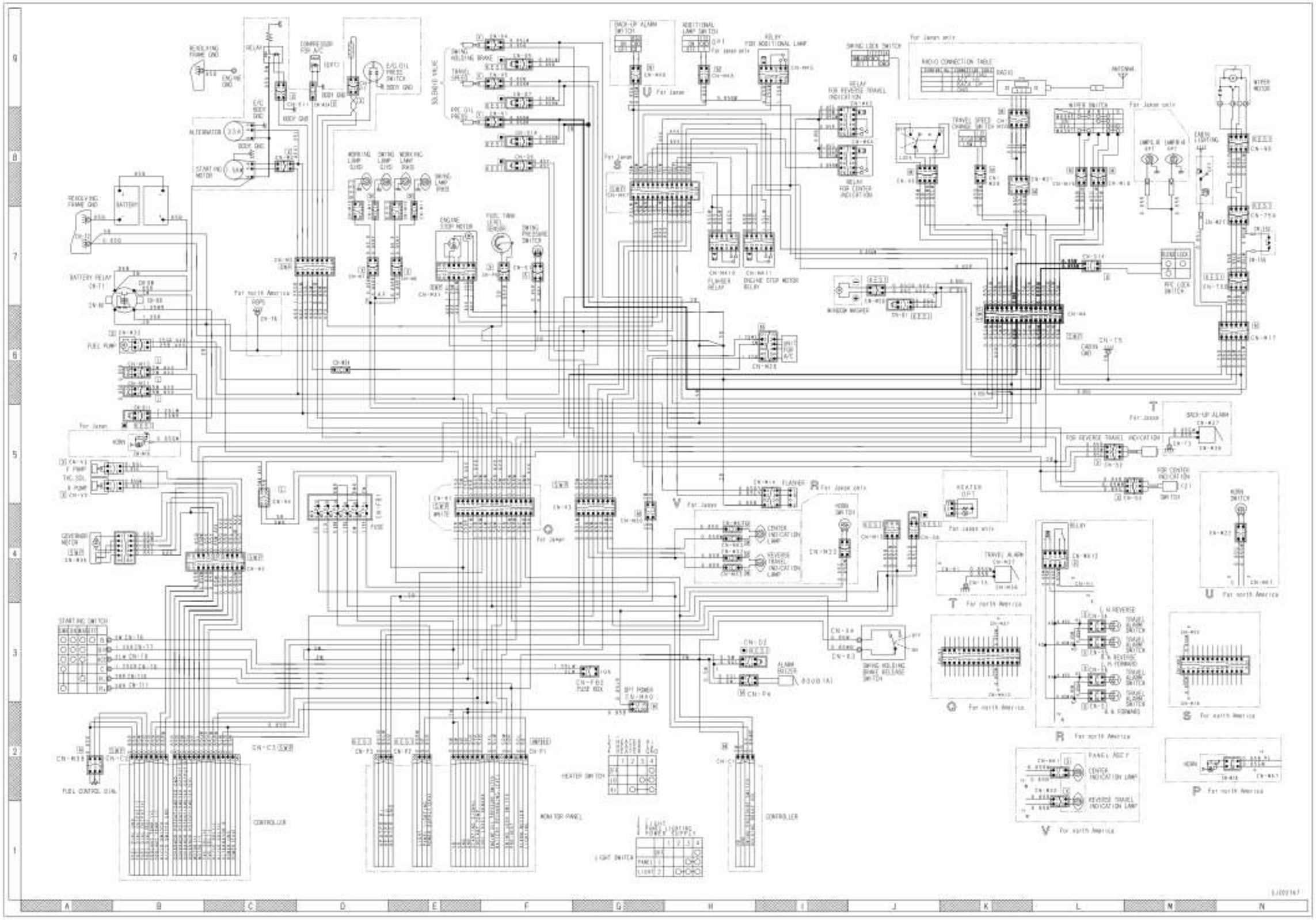
18. Install the elbow (2) and hose (1).

Nm Elbow : 34.3 - 44.1 Nm (3.5 - 4.5 kgm)

Nm Hose : 19.6 - 29.4 Nm (2.0 - 3.0 kgm)

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ELECTRICAL CIRCUIT DIAGRAM



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