SHOP MANUAL

KOMATSU®

PC09-1

MACHINE MODEL	SERIAL NUMBER
PC09-1	**10001 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.

- PC09-1 mount the 2D68E-N3C engine.
  For details of the engine, see the 68E-88E Series Engine Shop Manual.

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SPECIFICATIONS

Machine model				PC09-1	
				Fixed gauge type (STD)	Variable gauge type (OPT)
Serial number				10001 and up	
Bucket capacity			m^3	0.022	0.022
Operating weight			kg	800	850
Performance	Working ranges	Max. digging depth	mm	1,500	1,465
		Max. vertical wall depth	mm	1,170	1,135
		Max. digging reach	mm	2,840	2,840
		Max. reach at ground level	mm	2,760	2,750
		Max. digging height	mm	2,790	2,825
		Max. dumping height	mm	1,900	2,025
		Bucket offset	mm	460 (L.H.) / 390 (R.H.)	460 (L.H.) / 390 (R.H.)
		Max. blade lifting amount	mm	155	180
		Max. blade lowering amount	mm	130	114
	Max. digging force		kN {kg}	10.5 {1,075}	10.5 {1,075}
	Swing speed		rpm	8.3	8.3
	Swing max. slope angle		deg.	28	28
	Travel speed (Hi/Lo)		km/h	3.0/1.5	3.0/1.5
	Gradeability		deg.	30	30
	Ground pressure (standard shoe width: 180 mm)		kPa {kg/cm^2}	24.1 {0.25}	25.6 {0.27}
Dimensions	Overall length (for transport)		mm	2,730	2,730
	Overall width		mm	700	700/850
	Overall height (for transport)		mm	1,370	1,405
	Ground clearance of counterweight		mm	365	400
	Min. ground clearance		mm	170	170
	Tail swing radius		mm	790	790
	Min. swing radius of work equipment (at boom swing)		mm	840	840
	Height of work equipment at min. swing radius		mm	2,155	2,190
	Length of track on ground		mm	900	900
	Track gauge		mm	520	520/670
	Blade width x height		mm	700 × 200	700/850 × 200

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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

Norminal number	Copper wire			Cable O.D. (mm)	Current rating (A)	Applicable circuit
	Number of strands	Dia. of strands (mm^2)	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	—	White & Black	Red & White	Rellow & 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 & Yellow
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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TOOLS FOR TESTING, ADJUSTING, AND TROUBLESHOOTING

Measurement item	Symbol		Part No.	Part Name	Q'ty	Remarks
Engine speed	A		799-203-9000	Multi-tachometer	1	
Exhaust color	B	1	799-201-9000	Handy smoke checker	1	Discoloration 0 – 70 % (with standard color) (Discoloration ×1/10 ≒ Bosch index)
		2	Commercially available	Smoke meter	1	
Valve clearance	C		Commercially available	Thickness gauge	1	
Compression pressure	D	1	795-502-1205	Compression gauge	1	
		2	795-111-1120	Adapter	1	
Engine oil pressure	E	1	799-101-5002	Oil pressure gauge KIT (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²}
			790-261-1203	Oil pressure gauge KIT (Digital)	1	Pressure gauge: 58.8 MPa {600 kg/cm²}
		2	799-401-2320	Oil pressure gauge	1	Pressure gauge: 0.98 MPa {10 kg/cm²}
Work equipment, swing, travel circuit oil pressure	F		799-101-5002	Oil pressure gauge KIT (Analog)	1	Pressure gauge: 2.5, 5.9, 39.2, 58.8 MPa {25, 60, 400, 600 kg/cm²}
			790-261-1203	Oil pressure gauge KIT (Digital)	1	Pressure gauge: 58.8 MPa {600 kg/cm²}
Oil leakage inside hydraulic cylinder	G		Commercially available	Cylinder	1	
Operating effort	H		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}
Stroke, hydraulic drift	J		Commercially available	Scale	1	
Work equipment speed	K		Commercially available	Stopwatch	1	
Voltage resistance	L		Commercially available	Tester	1	
Sensor, wiring harness	M		799-601-7400	T-adapter KIT	1	

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- **Connecting connectors**

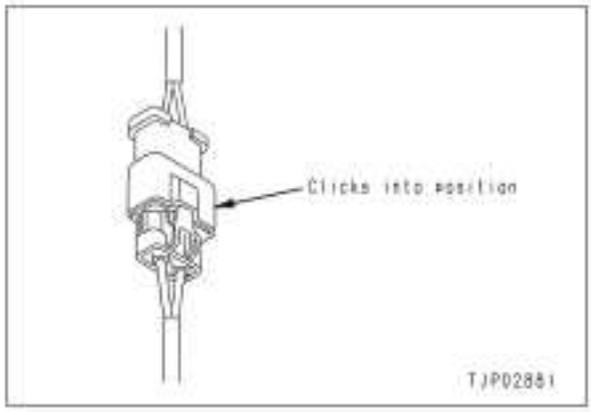
① Check the connector visually.

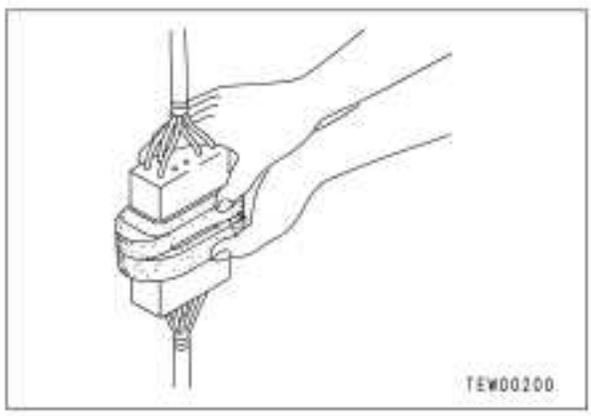
1) Check that there is no oil, dirt, or water stuck to the connector pins (mating portion).
2) Check that there is no deformation, defective contact, corrosion, or damage to the connector pins.
3) Check that there is no damage or breakage to the outside of the connector.
   - ★ If there is any oil, water, or dirt stuck to the connector, wipe it off with a dry cloth. If any water has got inside the connector, warm the inside of the wiring with a dryer, but be careful not to make it too hot as this will cause short circuits.
   - ★ If there is any damage or breakage, replace the connector.

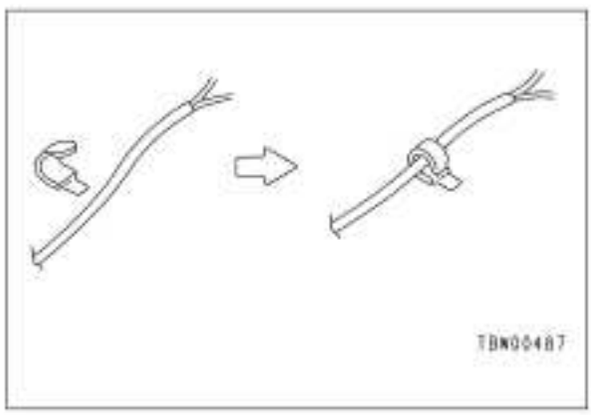
② Fix the connector securely.
Align the position of the connector correctly, then insert it securely.
For connectors with lock stopper, push in the connector until the stopper clicks into position.

③ Correct any protrusion of the boot and any misalignment of the wiring harness
For connectors fitted with boots, correct any protrusion of the boot. In addition, if the wiring harness is misaligned, or the clamp is out of position, adjust it to its correct position.
   - ★ If the connector cannot be corrected easily, remove the clamp and adjust the position.

④ If the connector clamp has been removed, be sure to return it to its original position. Check also that there are no loose clamps.

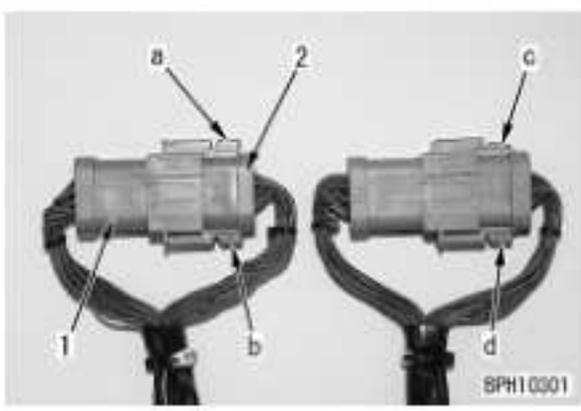






- Since the DT 8-pole and 12-pole heavy duty wire connectors have 2 latches respectively, push them in until they click 2 times.

1. Male connector, 2. Female conector
   - Normal locking state (Horizontal): **a**, **b**, **d**
   - Incomplete locking state (Diagonal): **c**



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