WEBM002800

Shop Manual

KOMATSU®

PC15R-8

HYDRAULIC EXCAVATOR

SERIAL NUMBERS PC15R-8 - F21803 and up

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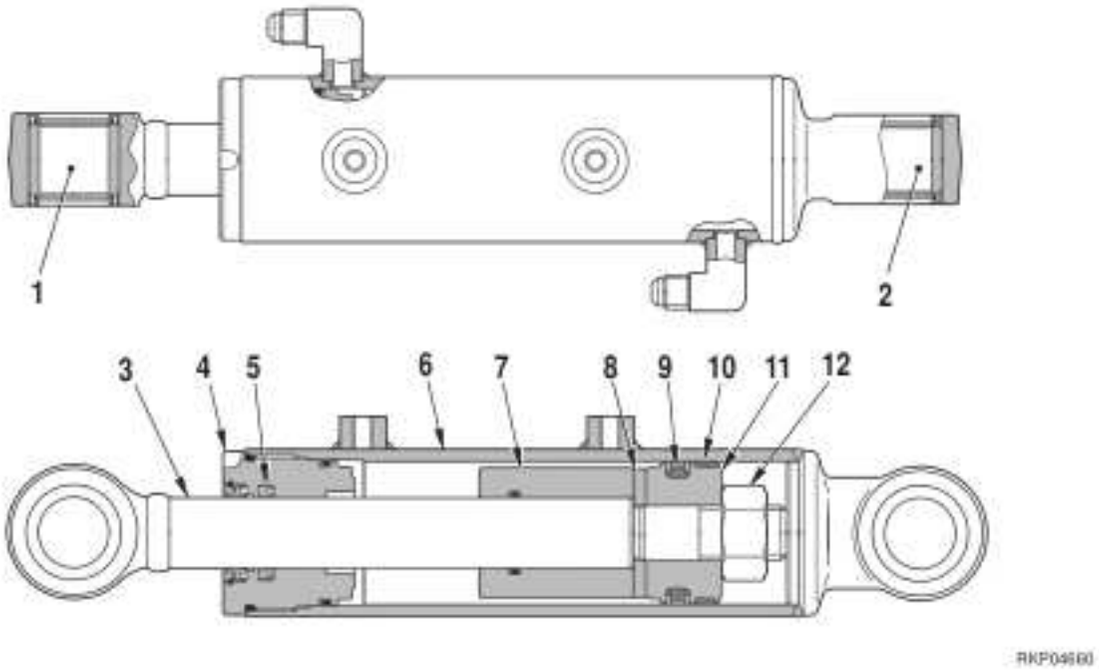
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BLADE



1. Head side bushing
2. Bottom side bushing
3. Piston rod
4. Head
5. Washer
6. Cylinder
7. Spacer
8. Spacer
9. Piston ring
10. Wear ring
11. Piston
12. Nut

Cylinder	Boom		Arm	Bucket	Boom swing	Blade
	with canopy	with cabin				
Piston rod diameter	35 mm (1.379 in.)	35 mm (1.379 in.)	35 mm (1.379 in.)	30 mm (1.182 in.)	30 mm (1.182 in.)	35 mm (1.379 in.)
Cylinder inside diameter	60 mm (2.364 in.)	60 mm (2.364 in.)	55 mm (2.167 in.)	50 mm (1.97 in.)	60 mm (2.364 in.)	70 mm (2.758 in.)
Piston stroke	355 mm (13.987 in.)	345 mm (13.593 in.)	447 mm (17.612 in.)	378 mm (14.893 in.)	313 mm (12.332 in.)	60 mm (2.364 in.)
Max. cylinder length	985 mm (38.809 in.)	975 mm (38.415 in.)	1153 mm (45.428 in.)	1027 mm (40.464 in.)	910 mm (35.854 in.)	470 mm (18.518 in.)
Min. cylinder length	630 mm (24.822 in.)	630 mm (24.822 in.)	706 mm (27.816 in.)	649 mm (25.571 in.)	597 mm (23.522 in.)	410 mm (16.154 in.)
Piston nut width across flat	32 mm (1.261 in.)	32 mm (1.261 in.)	32 mm (1.261 in.)	32 mm (1.261 in.)	32 mm (1.261 in.)	41 mm (1.615 in.)

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BLEEDING AIR FROM THE HYDRAULIC CIRCUITS

Sequence of operations or procedures for bleeding the air

The bleeding operations / Type of work	Procedures for bleeding air						
	1	2	3	4	5	6	7
	Bleeding air from pumps	Starting engine	Bleeding air from cylinders	Bleeding air from swing motor	Bleeding air from travel motor	Pressurising tank	Starting tasks
• Substitution of hydraulic oil • Cleaning tank filter	○ →	○ →	○ →	○ ★1 →	○ ★1 →	○ →	○
• Substitution filter		○ →				○ →	○
• Repair - substitution pump • Removal of suction tube	○ →	○ →	○ →			○ →	○
• Substitution - repair control valve		○ →	○ →			○ →	○
• Repair-Substitution cylinders • Removal of cylinders tube		○ →	○ →			○ →	○
• Repair - substitution swing motor • Removal of tubes from swing motor		○ →		○ →		○ →	○
• Repair - substitution travel motor - joint • Removal of tubes from travel motor - joint		○ →			○ →	○ →	○

★1: Only bleed air from the swing and travel motors if the engine oil (casing) is to be drained.

1. Bleeding air from the pump

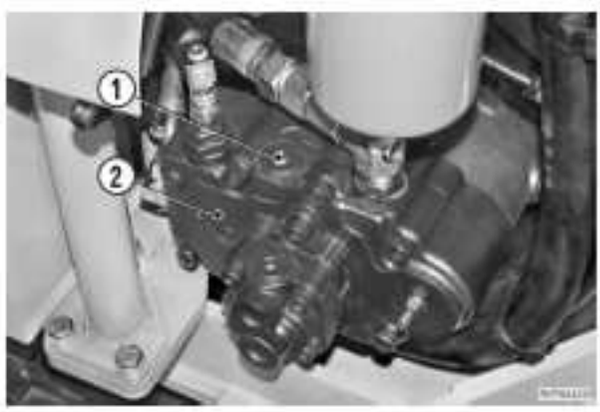
1 - Loosen and remove the cap (1) from the pump body (2).

2 - Pour hydraulic oil through the hole until the entire casing is full.

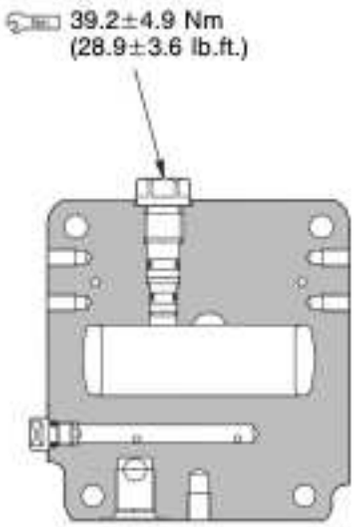
3 - Replace the cap (1).

Cap: 63.7±4.9 Nm (47±3.6 lb.ft.)

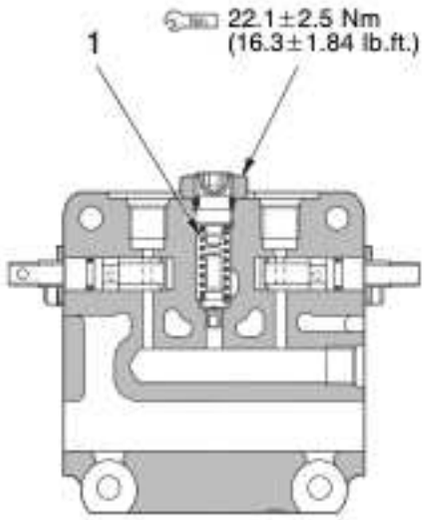
★ After filling the casing, start the engine and allow it to run at low idling for about 10 minutes before proceding to bleed the air from the circuits.



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Section N-N



Section O-O

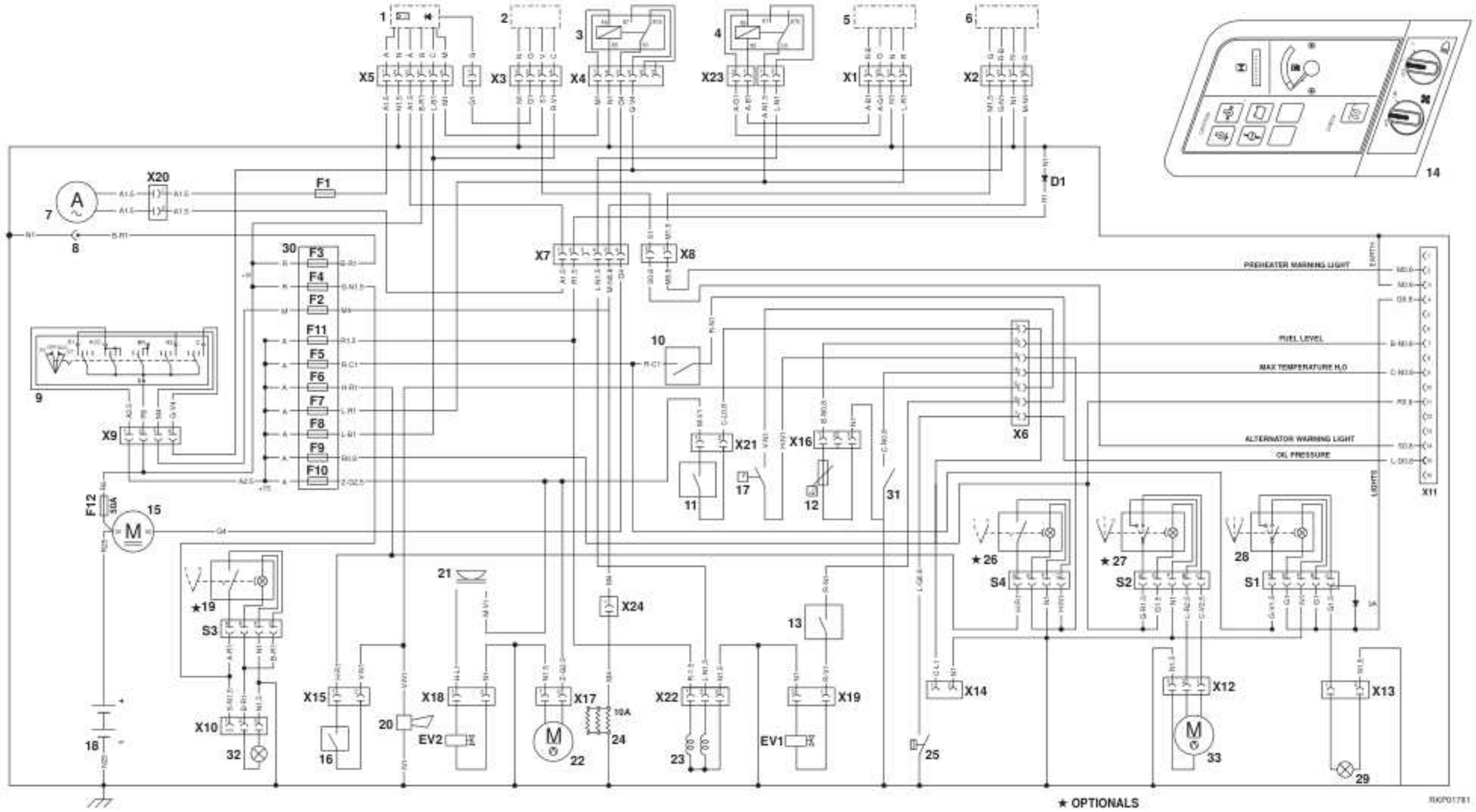
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Unit: mm (in.)

No.	Check item	Criteria					Remedy
		Standard size			Repair limit		
1	Pilot relief valve spring	Free length x Ø.D.	Installed length	Installed load	Free length	Installed load	When damage or deformation is found, replace the spring
		32.4x10.4 (1.28x0.41)	27 (1.064)	83.3 N (8.5 kg)	—	66.6 N (6.8 kg)	

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ELECTRICAL CIRCUIT DIAGRAM



COMPONENTS

1 - Rectfier - Voltage regulator
2 - Battery warning light relay
3 - Starter relay
4 - Stop motor relay
5 - Timer 1" stop motor solenoid
6 - Timer 15" preheather warning light
7 - Alternator (20A)
8 - Electric socket
9 - Starter switch
10 - R.H. Servocontrol push-button
11 - Optional push-button (L.H. PPC valve)
12 - Fuel level
13 - L.H. Servocontrol push-button
14 - Warning lights - Instrument - check box
15 - Starting motor
16 - Horn push-button
17 - Safety pressure switch (TBG)
18 - Battery (12V 45Ah 210A)
19 - Rotating beam switch (optional)
20 - Horn
21 - Travel increment pedal
22 - Fuel pump
23 - Stop motor (instantaneous current 30A - constant current 0.8A)
24 - Preheater (10A)
25 - Engine oil pressure switch
26 - TBG switch (optional)
27 - Fan heating switch (optional)
28 - Working beam and dashboard switch
29 - Working beam
30 - Fuses box
31 - Coolant temperature sensor
32 - Rotating beam
33 - Fan heating
EV1 - Servocontrol solenoid valve
EV2 - Travel increment solenoid valve
D1 - Hold solenoid diode
S1 - Working beam and dashboard switch
S2 - Fan heating switch (optional)
S3 - Rotating beam switch (optional)
S4 - TBG switch (optional)

CONNECTORS

X1 - 4 ways connector stop motor timer, solenoid
X2 - 4 ways connector preheater timer
X3 - 4 ways connector battery warning light relay
X4 - 6 ways connector starter relay
X5 - 6 ways connector voltage regulator relay
X6 - 6 ways connector motor line
X7 - 7 ways connector motor line
X8 - 2 ways connector check box line
X9 - 4 ways connector starter switch line
X10 - 3 ways connector cabin line
X11 - 6 ways connector instrument and warning light line
X12 - 3 ways connector heater line
X13 - 2 ways connector working beam line
X14 - 2 ways connector optional solenoid valve line
X15 - 2 ways connector horn line
X16 - 3 ways connector fuel indicator level line
X17 - 2 ways connector fuel pump line
X18 - 2 ways connector travel increment solenoid valve line
X19 - 2 ways connector servocontrol solenoid valve line
X20 - 2 ways connector alternator line
X21 - 2 ways connector optional push-button line
X22 - 3 ways connector stop motor line
X23 - Connector stop motor relay
X24 - Connector preheater

FUSES

F1 - Alternator
F2 - Preheater
F3 - Electrical socket
F4 - Rotating beam + cabin
F5 - Servocontrol + working beam
F6 - Horn + TBG
F7 - Stop motor relay
F8 - Compound alternator
F9 - Instrument
F10 - Fuel pump + travel increment push-button
F11 - Stop motor solenoid
F12 - General fuse

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