CRAWLER EXCAVATOR

SERVICE MANUAL

R220LC-7 (India)

HYUNDAI

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8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Cummins 6BTAA
Type	4-cycle turbocharged diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	6 cylinders, in-line
Firing order	1-5-3-6-2-4
Combustion chamber type	Direct injection type
Cylinder bore × stroke	102 × 120mm(4.02" × 4.72")
Piston displacement	5880cc(359cu in)
Compression ratio	17.3 : 1
Rated gross horse power(SAE J1995)	150Hp at 1950rpm(112kW at 1950rpm)
Maximum torque at 1500rpm	62.6kgf · m(453lbf · ft)
Engine oil quantity	24 ℓ (6.3U.S. gal)
Dry weight	530kg(1168lb)
High idling speed	2180 ± 50rpm
Low idling speed	1050 ± 100rpm
Rated fuel consumption	164.8g/Hp · hr at 1950rpm
Starting motor	(24V-4.5kW)
Alternator	Delco Remy (24V-50A)
Battery	2 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 113cc/rev
Maximum pressure	330kgf/cm² (4694psi) [360kgf/cm² (5120psi)]
Rated oil flow	2 × 220 ℓ/min (58.1U.S. gpm/ 48.4U.K. gpm)
Rated speed	1950rpm

[ ] : Power boost

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5. ERROR CODES TABLE

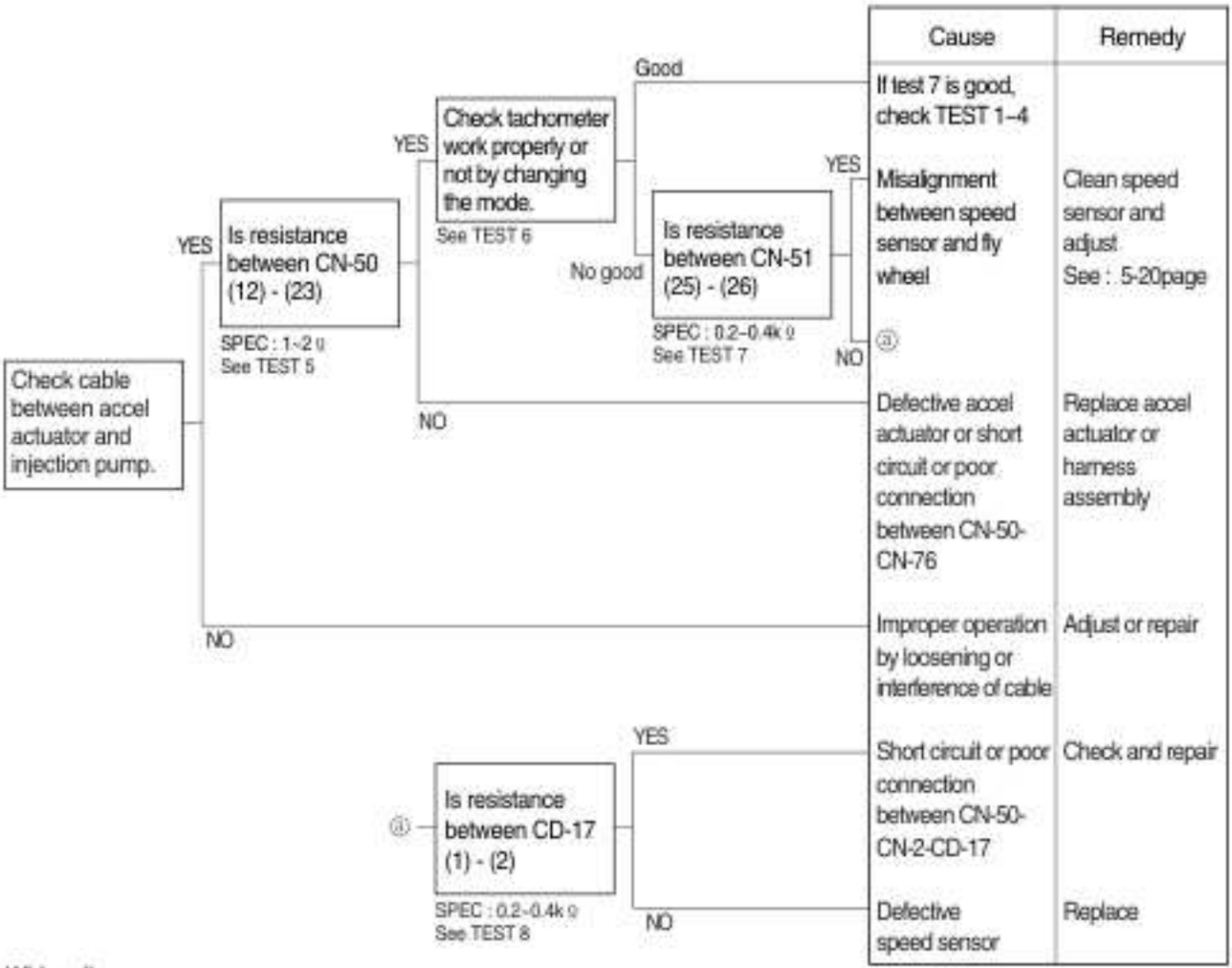
Fault code No.	Description
1	Short circuit in governor motor system
2	Potentiometer circuit is shorted to Vcc(5V) or battery +
3	Short circuit in pump EPPR valve system
4	Short circuit in boom down EPPR valve system
5	Short circuit in travel speed solenoid system
6	Short circuit in power boost solenoid system
7	Short circuit in max flow solenoid system
10	Short circuit in hour-meter system
11	Accel dial circuit is shorted to Vcc(5V) or battery +
12	P1 pressure sensor circuit is shorted to power supply(24V) line
13	P2 pressure sensor circuit is shorted to power supply(24V) line
14	P3 pressure sensor circuit is shorted to power supply(24) line
15	Boom down pressure circuit is shorted to power supply(24V) line
16	Governor motor circuit is open or shorted to ground
17	Potentiometer circuit is open or shorted to ground
18	Pump EPPR valve circuit is open or shorted to ground
19	Boom down EPPR valve circuit is open or shorted to ground
20	Travel speed solenoid circuit is open or shorted to ground
21	Power boost solenoid circuit is open or shorted to ground
22	Max flow solenoid circuit is open or shorted to ground
25	Hour-meter circuit is open or shorted to ground
26	Accel dial circuit is open or shorted to ground
27	P1 pressure sensor circuit is open or shorted to ground
28	P2 pressure sensor circuit is open or shorted to ground
29	P3 pressure sensor circuit is open or shorted to ground
30	Boom down pressure sensor circuit is open or shorted to ground
31	Engine preheater circuit is open or shorted to ground
33	Alternator circuit is open or shorted to ground
34	Controller input voltage is below 18V
35	Controller input voltage is over 38V
36	Communication error with cluster
37	Engine speed sensor circuit is open or shorted to ground
38	Anti-restart relay circuit is open or shorted to ground
39	Accel actuator does not stop at a target position
40	There is more than 500rpm difference between target speed and actual speed

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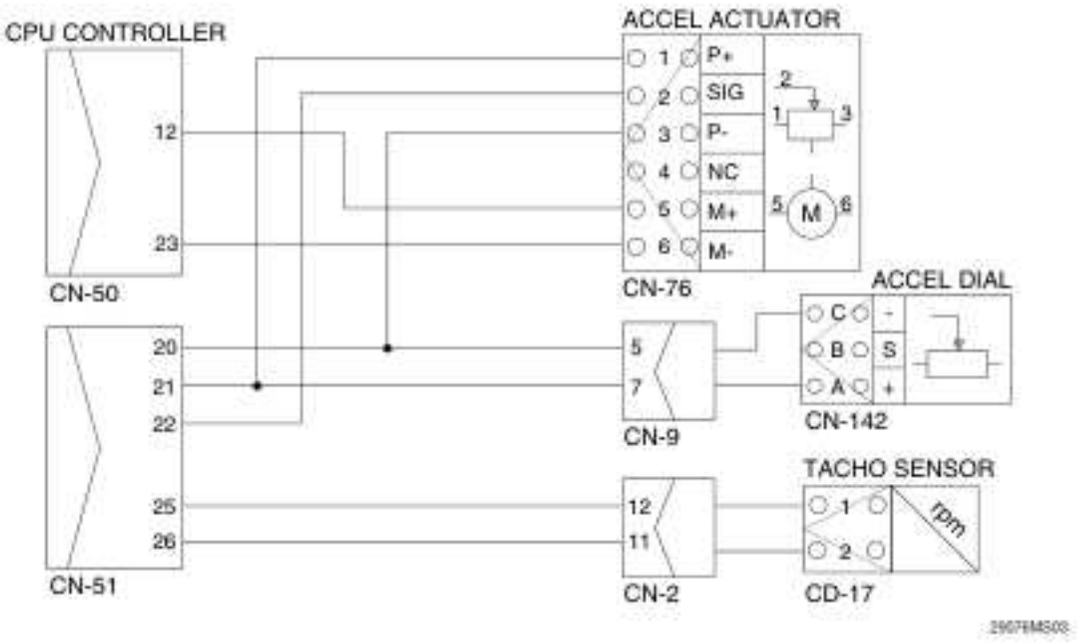
2. ENGINE SPEED IS SLOW AT ALL MODE

※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Wiring diagram



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■ **Disassemble cylinder sub.**

9) Disassemble cylinder block assembly, piston assembly(9) and seat plate(M).





10) Disassemble ball guide(16), ring and pin(15) from cylinder block, respectively.

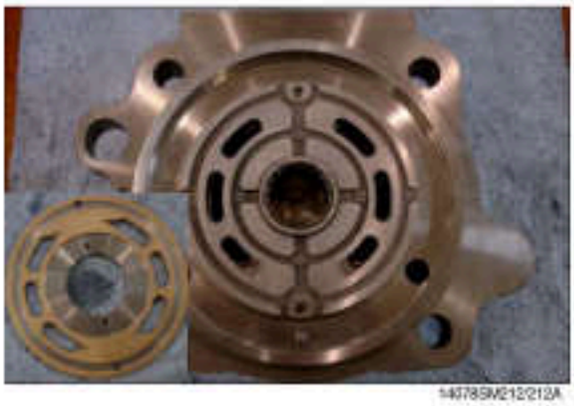




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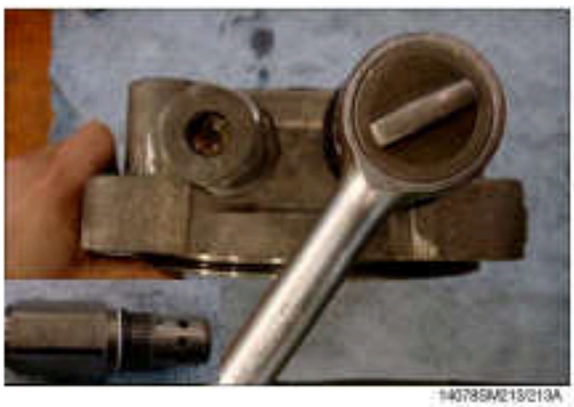
(3) Disassemble rear cover assy sub

① Disassemble pin(8, 23), valve plate(24) from rear cover(21).



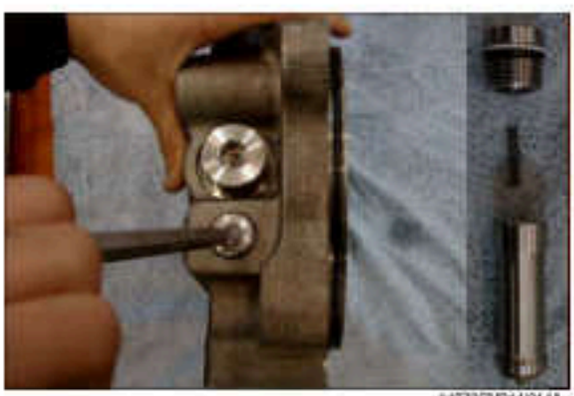
1407SM213/213A

② Using a torque wrench, disassemble relief valve assy(33) 2 set from rear cover(21).



1407SM213/213A

③ After disassembling plug with a L-wrench from rear cover(21), disassemble respectively back up ring, O-ring, O-ring, spring, anti-inversion valve assy(34)



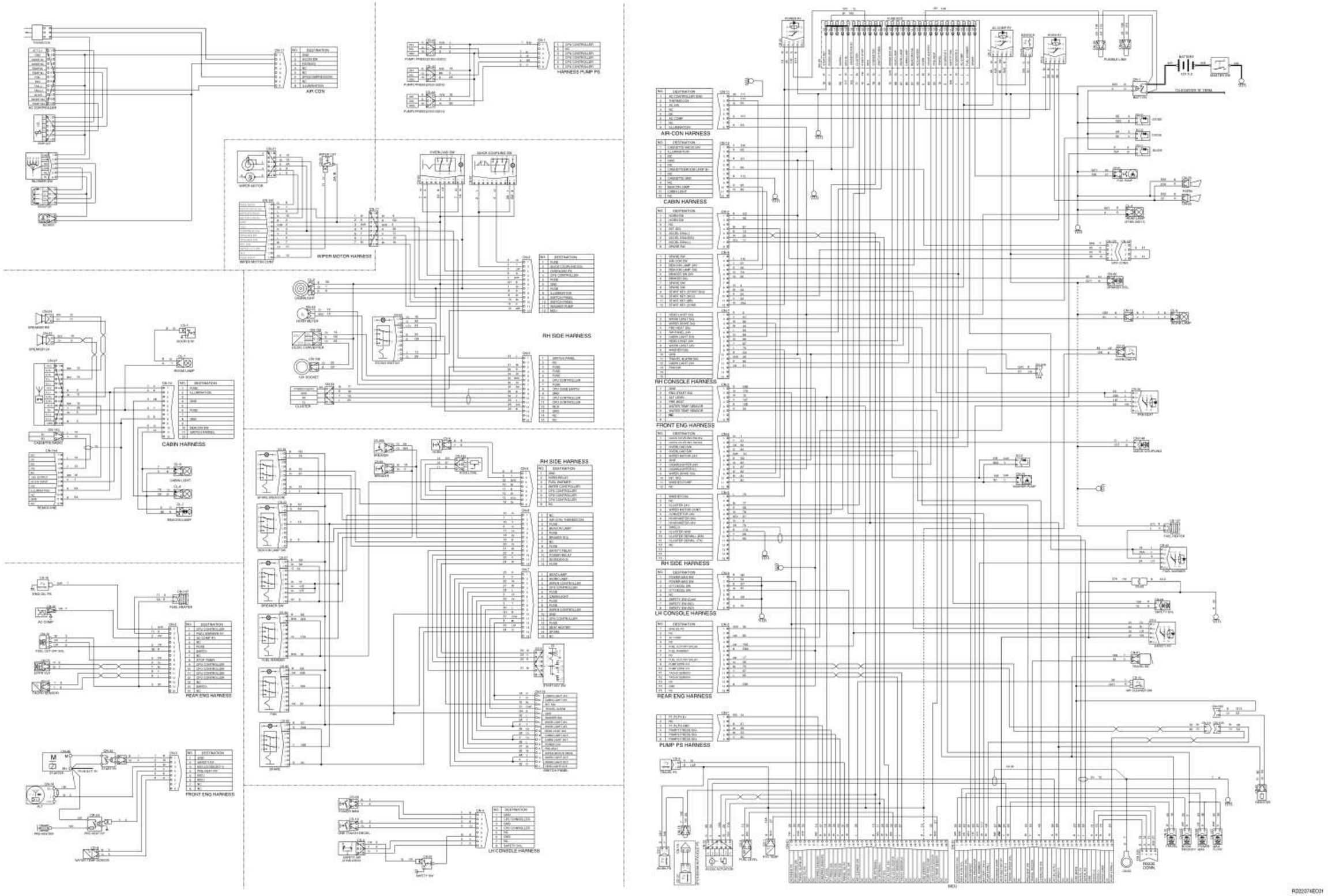
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④ Disassemble make up check valve assy with a torque wrench from rear cover(21).



1407SM215/215A

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