CRAWLER EXCAVATOR

SERVICE MANUAL

R55W-7A

HYUNDAI

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7. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Yanmar 4TN98-EPHYB
Type	4-cycle diesel engine, low emission
Cooling method	Water cooling
Number of cylinders and arrangement	4 cylinders, in-line
Firing order	1-3-4-2
Combustion chamber type	Direct injection type
Cylinder bore × stroke	98 × 110mm(3.85" × 4.33")
Piston displacement	3319cc(203cu in)
Compression ratio	18.5 : 1
Rated gross horse power(SAE J1995)	57Hp at 2400rpm(42.5kW at 2400rpm)
Maximum torque at 1550rpm	20.5kgf · m(148lbf · ft)
Engine oil quantity	11.6 ℓ (3.1U.S. gal)
Dry weight	270kg(595lb)
High idling speed	2400 ± 50rpm
Low idling speed	1050 ± 100rpm
Rated fuel consumption	175.6g/Hp · hr at 2400rpm
Starting motor	12V-3.0kW
Alternator	12V-80A
Battery	1 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 26.3cc/rev
Maximum pressure	220kgf/cm² (3130psi)
Rated oil flow	2 × 58 ℓ/min (15.3U.S. gpm/ 12.8U.K. gpm)
Rated speed	2200rpm

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3. CHARGING CIRCUIT

When the starter is activated and the engine is started, the operator releases the key switch to the ON position.

Charging current generated by operating alternator flows into the battery through the Battery relay(CR-1).

The current also flows from alternator to each electrical component and controller through the fuse box.

1) OPERATING FLOW

(1) Warning flow

Alternator "L" terminal → I/conn [CN-1(2)] → Cluster [CN-57(4)] → Cluster warning lamp

(2) Charging flow

Alternator "B+" terminal → Battery(+) terminal

2) CHECK POINT

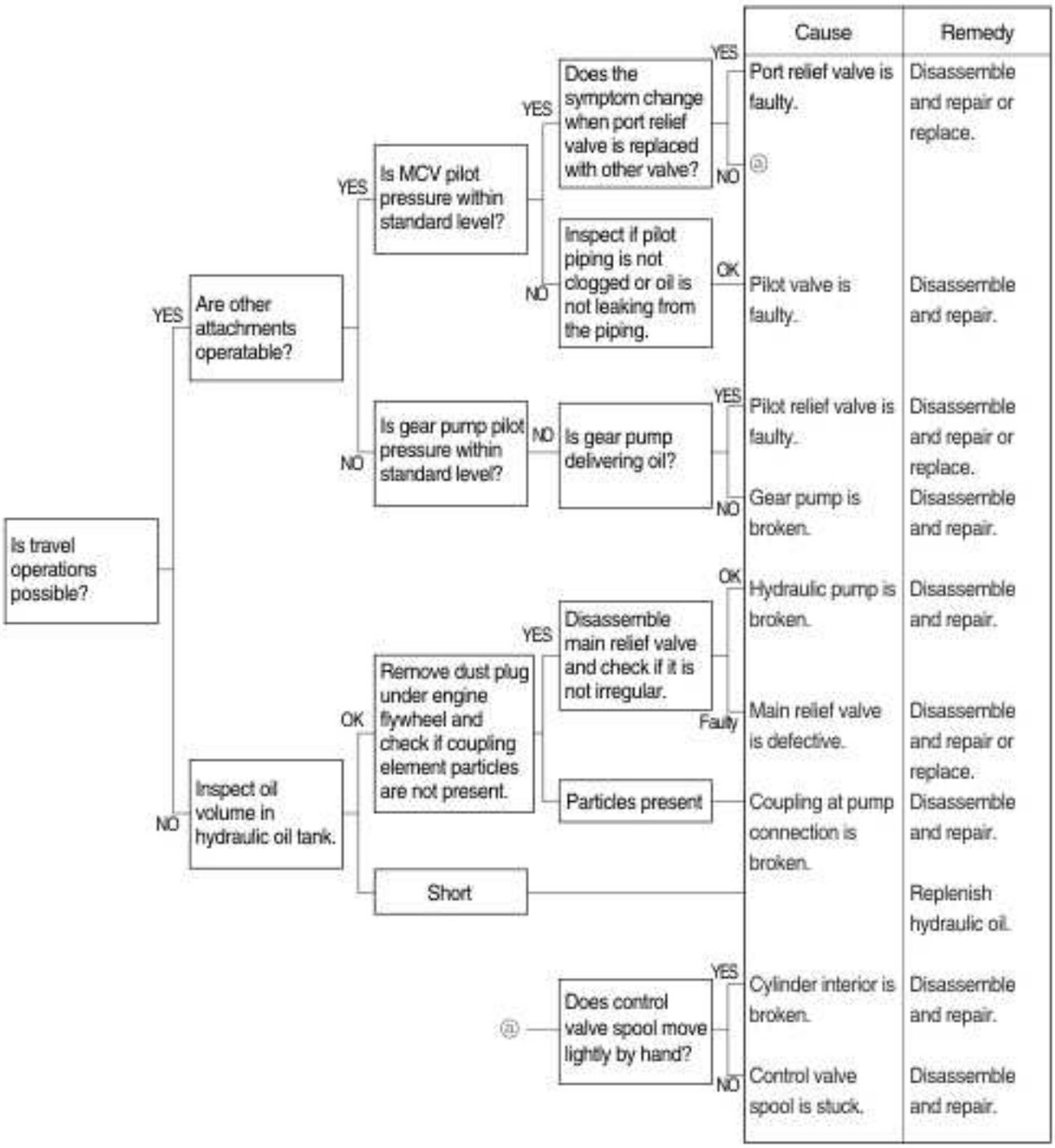
Engine	Start switch	Check point	Voltage
ON	ON	① - GND (Battery voltage) ② - GND (Battery relay) ③ - GND (Alternator B+ terminal) ④ - GND (Alternator L terminal) ⑤ - GND (Cluster)	10-12.5V

※ GND : Ground

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6. ATTACHMENT SYSTEM

1) BOOM OR ARM ACTION IS IMPOSSIBLE AT ALL



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(5) Assembling the shaft

① Fit the shaft into the bearing(With the bearing in the bottom) by using the press machine and jig. If the press is not available, use the jig in the similar manner and drive the shaft into the bearing by knocking with a plastic hammer.



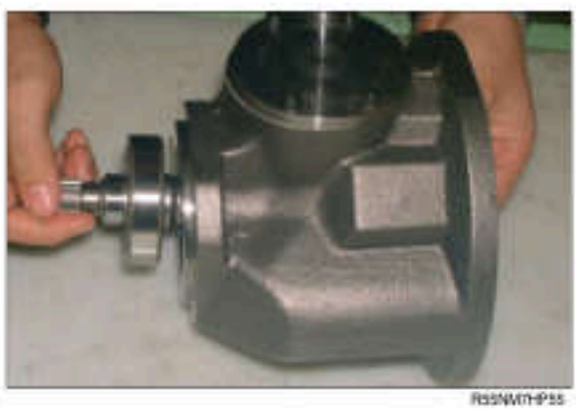
R55NWTHP53

② Install the C-type stop ring to fix the bearing.



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③ Assembling the shaft.
Assemble the shaft into the housing.
Knock the spline end lightly with a plastic hammer and fix the bearing outer ring firmly into the housing hole.



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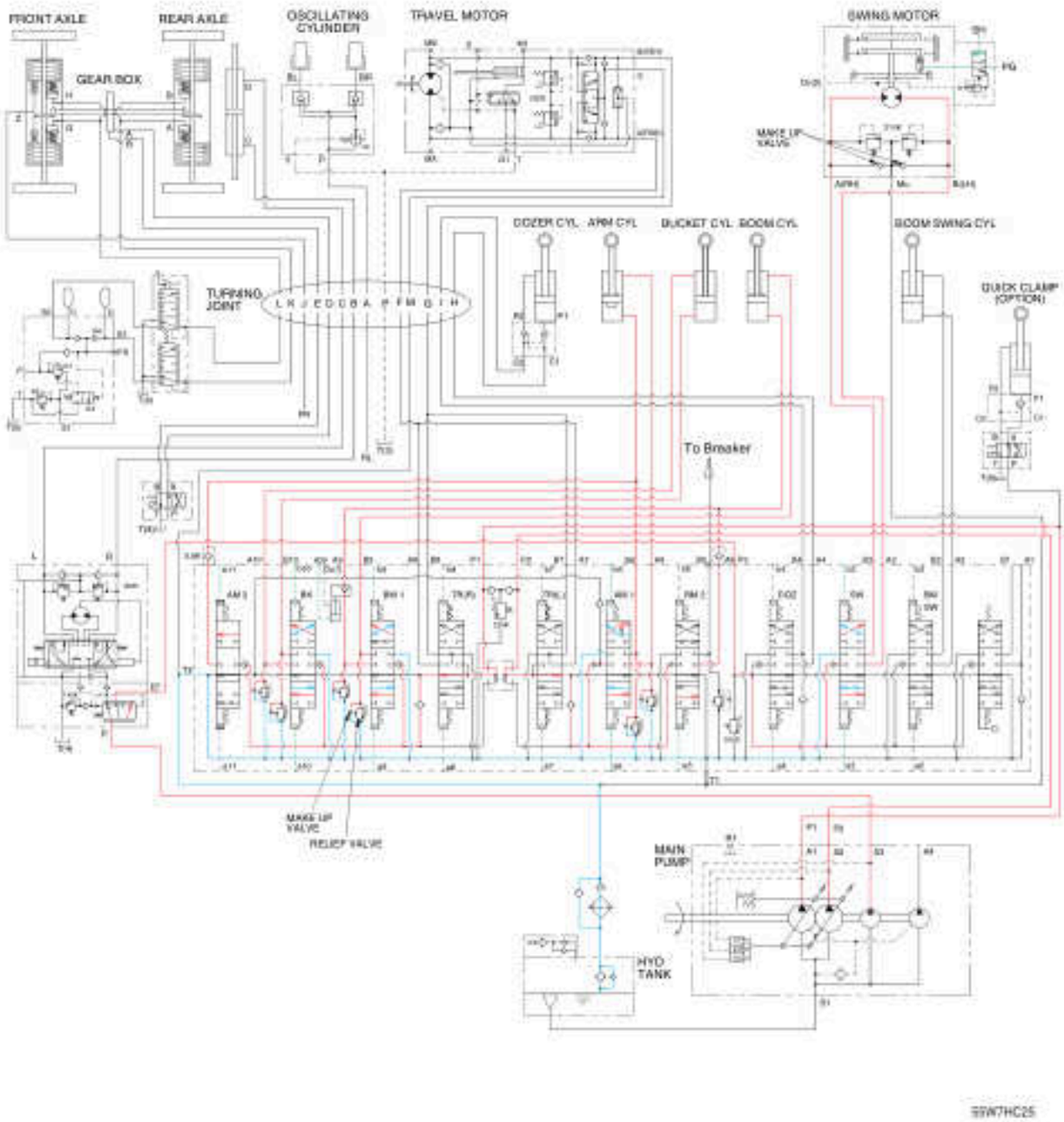
(6) Apply grease to the O-ring for assembling.



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5. COMBINED SWING, BOOM, ARM AND BUCKET OPERATION



When the swing, boom, arm and bucket functions are operated, simultaneously each spool in the main control valve is moved to the functional position by the pilot oil pressure from the remote control valve.

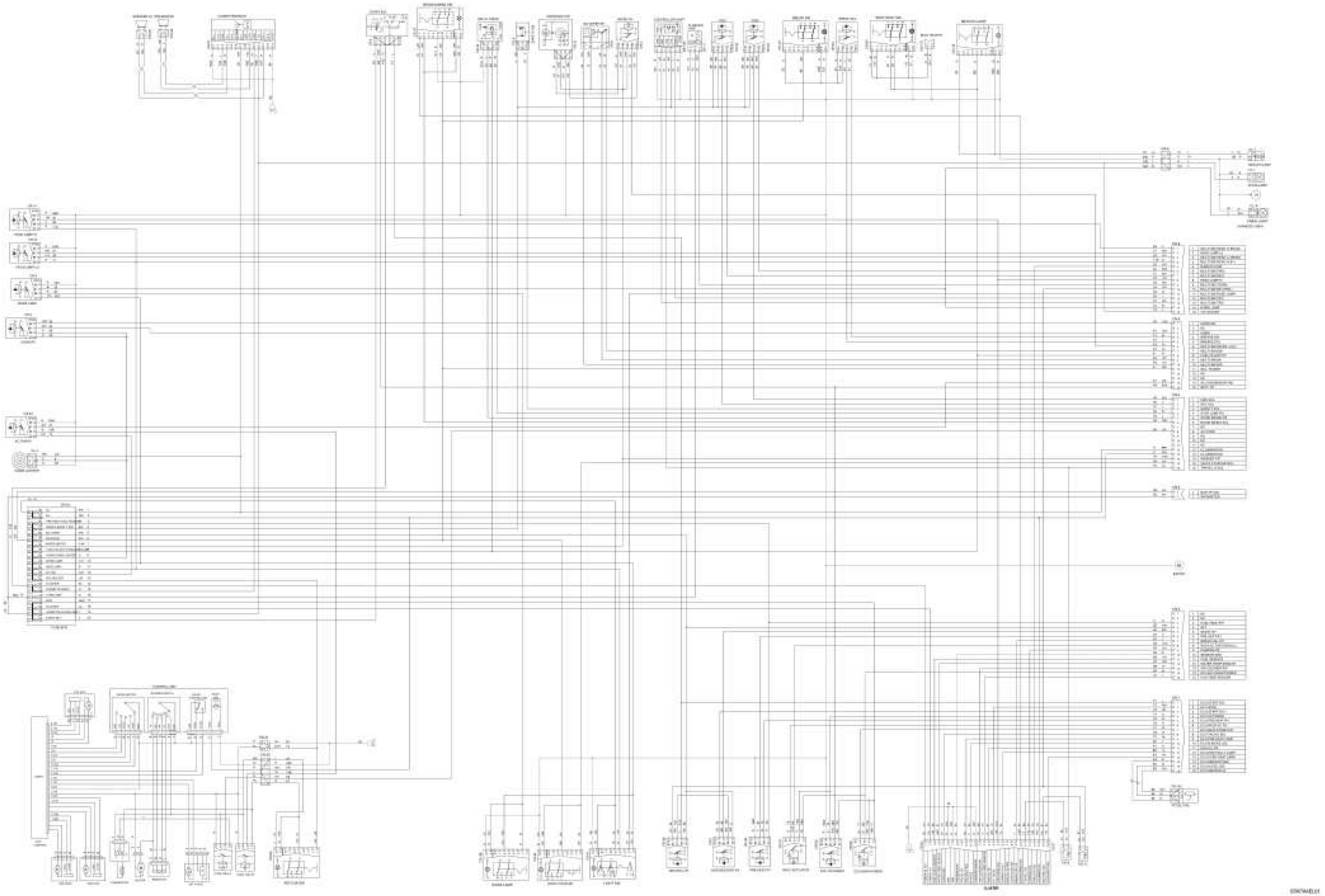
The oil from the P1 pump flows into the boom cylinder, arm cylinder and bucket cylinder through boom 1 spool, arm 2 spool, bucket spool.

The oil from the P2 pump flows into the boom cylinder and arm cylinder through the boom 2 spool and arm 1 spool.

The oil from the P3 pump flows into the swing motor through the swing spool.

The superstructure swings and the boom, arm and bucket are operated.

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