CRAWLER EXCAVATOR

SERVICE MANUAL

R180LC-7A

HYUNDAI

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8. SPECIFICATIONS FOR MAJOR COMPONENTS

1) ENGINE

Item	Specification
Model	Mitsubishi DO4FD-TAA
Type	4-cycle turbocharged charge air cooled diesel engine
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	102 × 130mm (4.02" × 5.12")
Piston displacement	4249cc (259cu in)
Compression ratio	16.5 : 1
Rated gross horse power (SAE J1995)	126Hp at 2000rpm (94kW at 2000rpm)
Maximum torque at 1800rpm	47.7kgf · m (345lbf · ft)
Engine oil quantity	18.5 ℓ (4.9U.S. gal)
Dry weight	420kg (926lb)
High idling speed	2100 ± 50rpm
Low idling speed	800 ± 100rpm
Rated fuel consumption	170.6g/Hp · hr at 2000rpm
Starting motor	Mitsubishi 24V-5.0kW
Alternator	Mitsubishi 24V-50A
Battery	2 × 12V × 100Ah

2) MAIN PUMP

Item	Specification
Type	Variable displacement tandem axis piston pumps
Capacity	2 × 80cc/rev
Maximum pressure	330kgf/cm² (4694psi) [360kgf/cm² (5120psi)]
Rated oil flow	2 × 168 ℓ/min (44.4U.S. gpm/ 37.0U.K. gpm)
Rated speed	2100rpm

[ ] : Pooer boost

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GROUP 2 HYDRAULIC AND MECHANICAL SYSTEM

1. INTRODUCTION

1) MACHINE IN GENERAL

(1) If even a minor fault is left intact and operation is continued, a fatal failure may be caused, entailing a large sum of expenses and long hours of restoration.
Therefore when even a small trouble occurs, do not rely on your intuition and experience, but look for the cause based on the troubleshooting principle and perform maintenance and adjustment to prevent major failure from occurring. Keep in mind that a fault results from a combination of different causes.

(2) The following lists up commonly occurring faults and possible causes with this machine. For the troubleshooting of the engine, refer to the coming troubleshooting and repair.

(3) When carrying out troubleshooting, do not hurry to disassemble the components.
It will become impossible to find the cause of the problem.

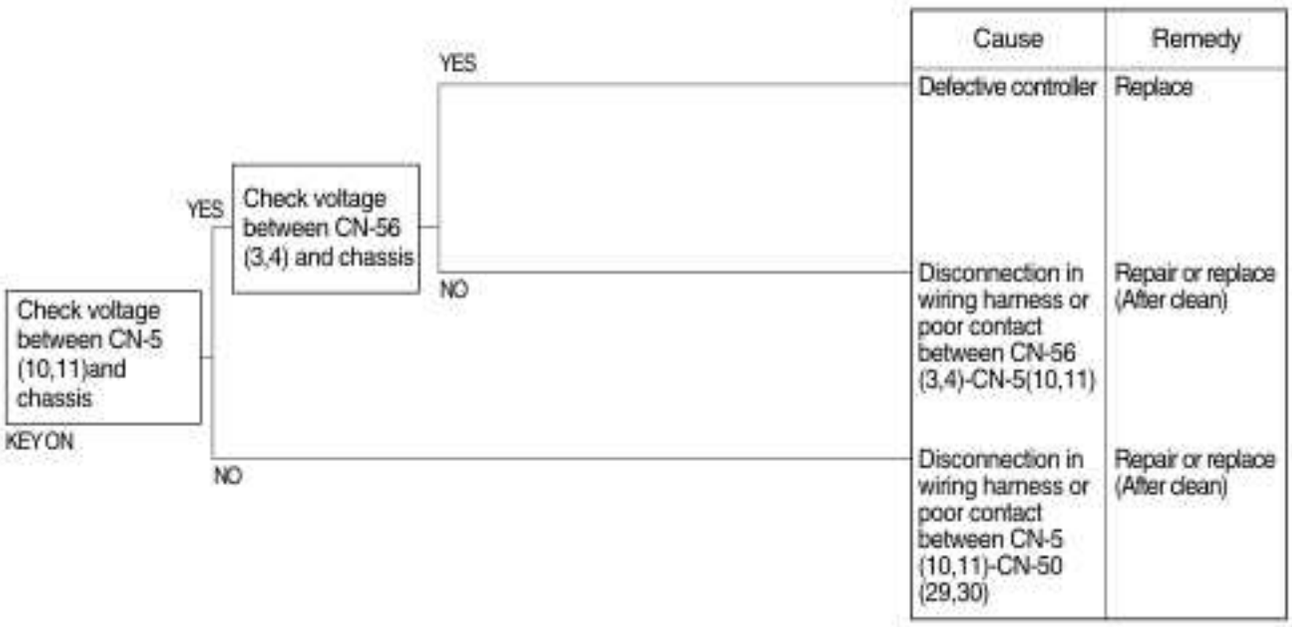
(4) Ask user or operator the following.
① Was there any strange thing about machine before failure occurred?
② Under what conditions did the failure occur?
③ Have any repairs been carried out before the failure?

(5) Check before troubleshooting.
① Check oil and fuel level.
② Check for any external leakage of oil from components.
③ Check for loose or damage of wiring and connections.

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2. COMMUNICATION ERROR FLASHES ON THE CLUSTER

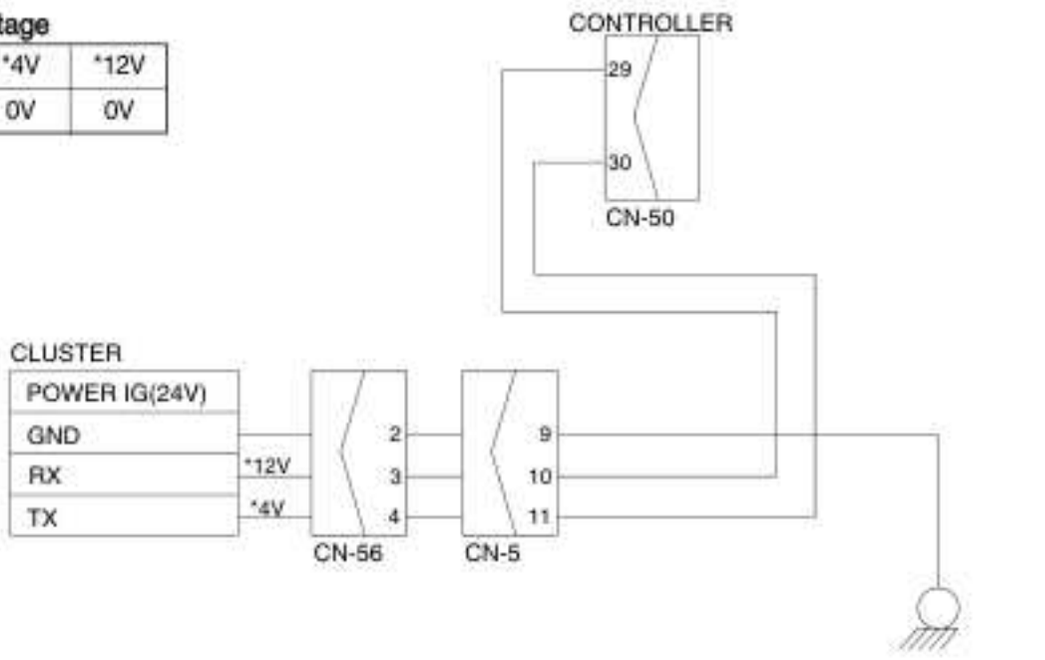
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Cause	Remedy
Defective controller	Replace
Disconnection in wiring harness or poor contact between CN-56 (3,4)-CN-5(10,11)	Repair or replace (After clean)
Disconnection in wiring harness or poor contact between CN-5 (10,11)-CN-50 (29,30)	Repair or replace (After clean)

Check voltage

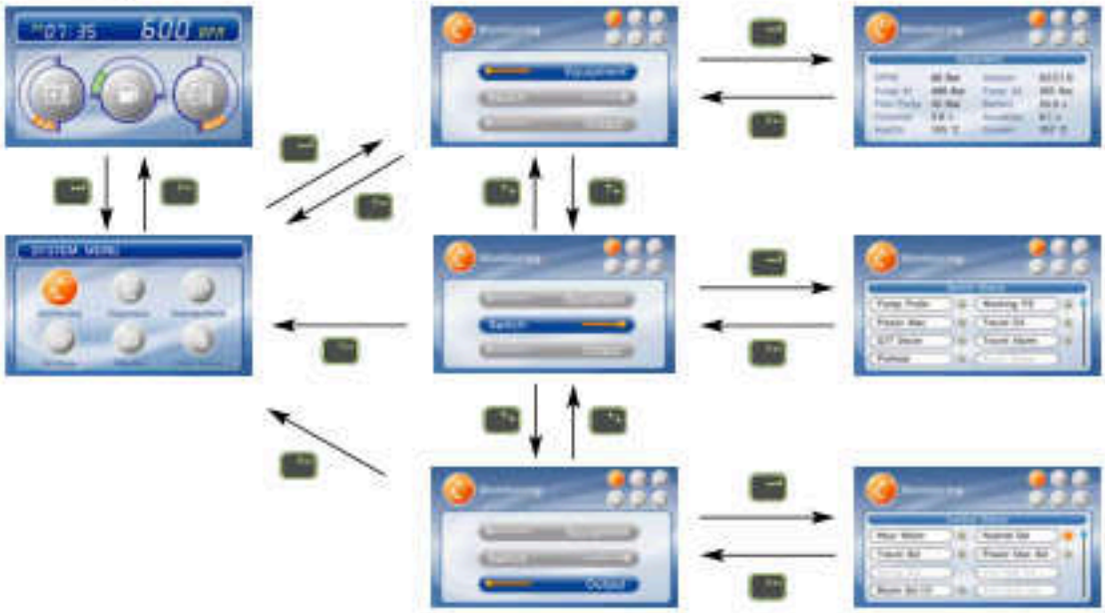
YES	*4V	*12V
NO	0V	0V



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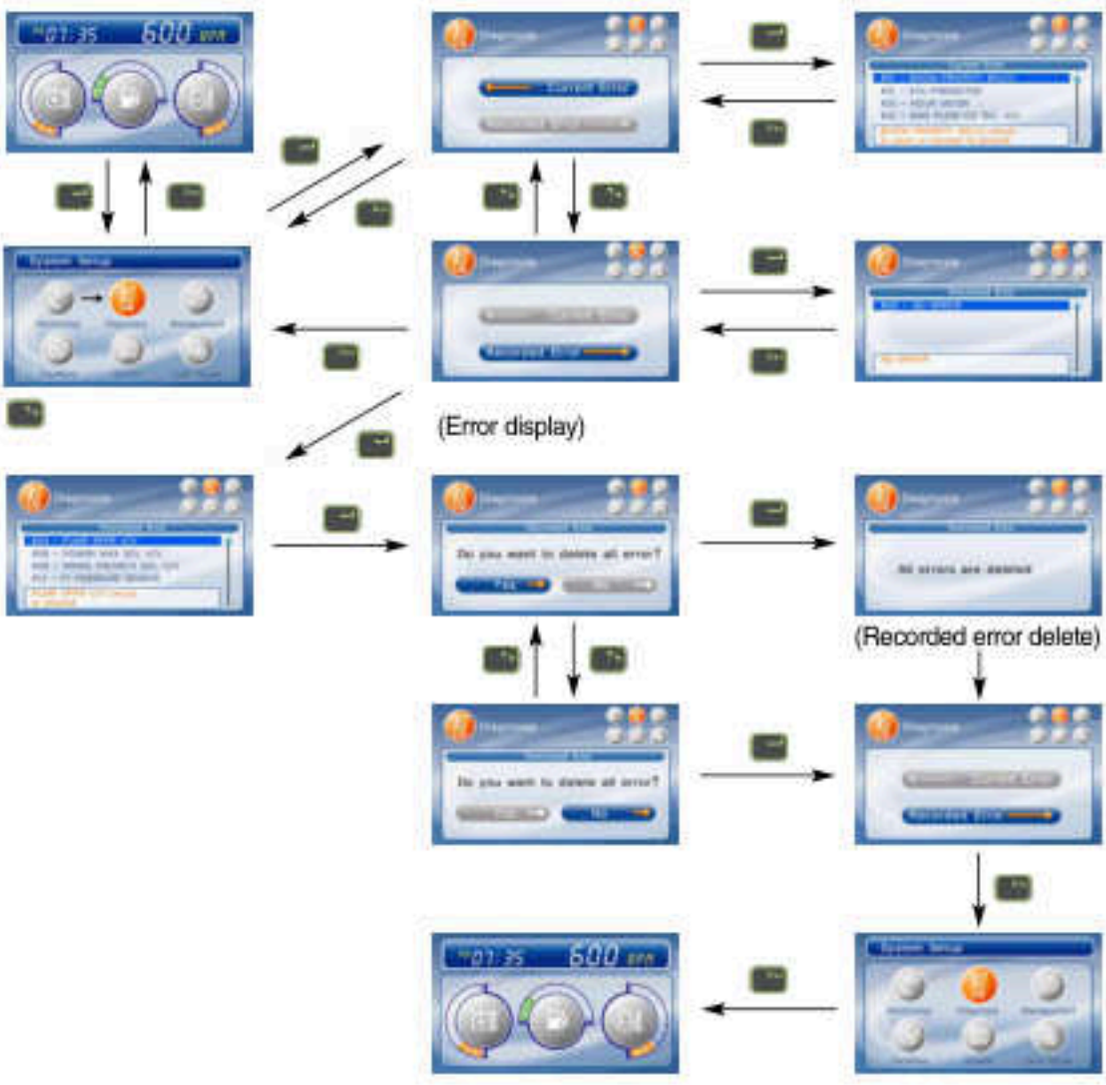
(2) Display map

① Monitoring



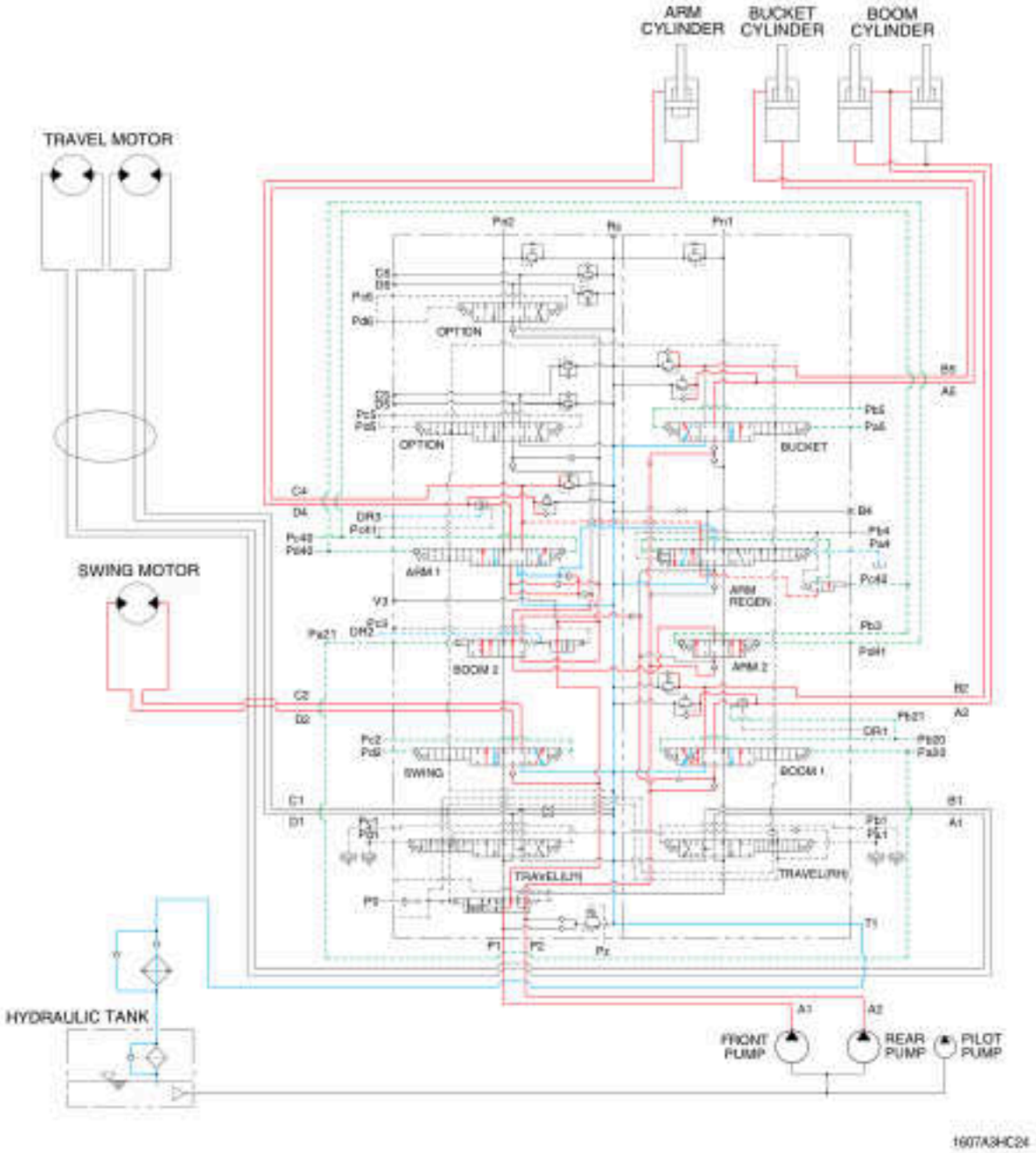
② Diagnosis

a. Protocol type 1



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5. COMBINED SWING, BOOM, ARM AND BUCKET OPERATION



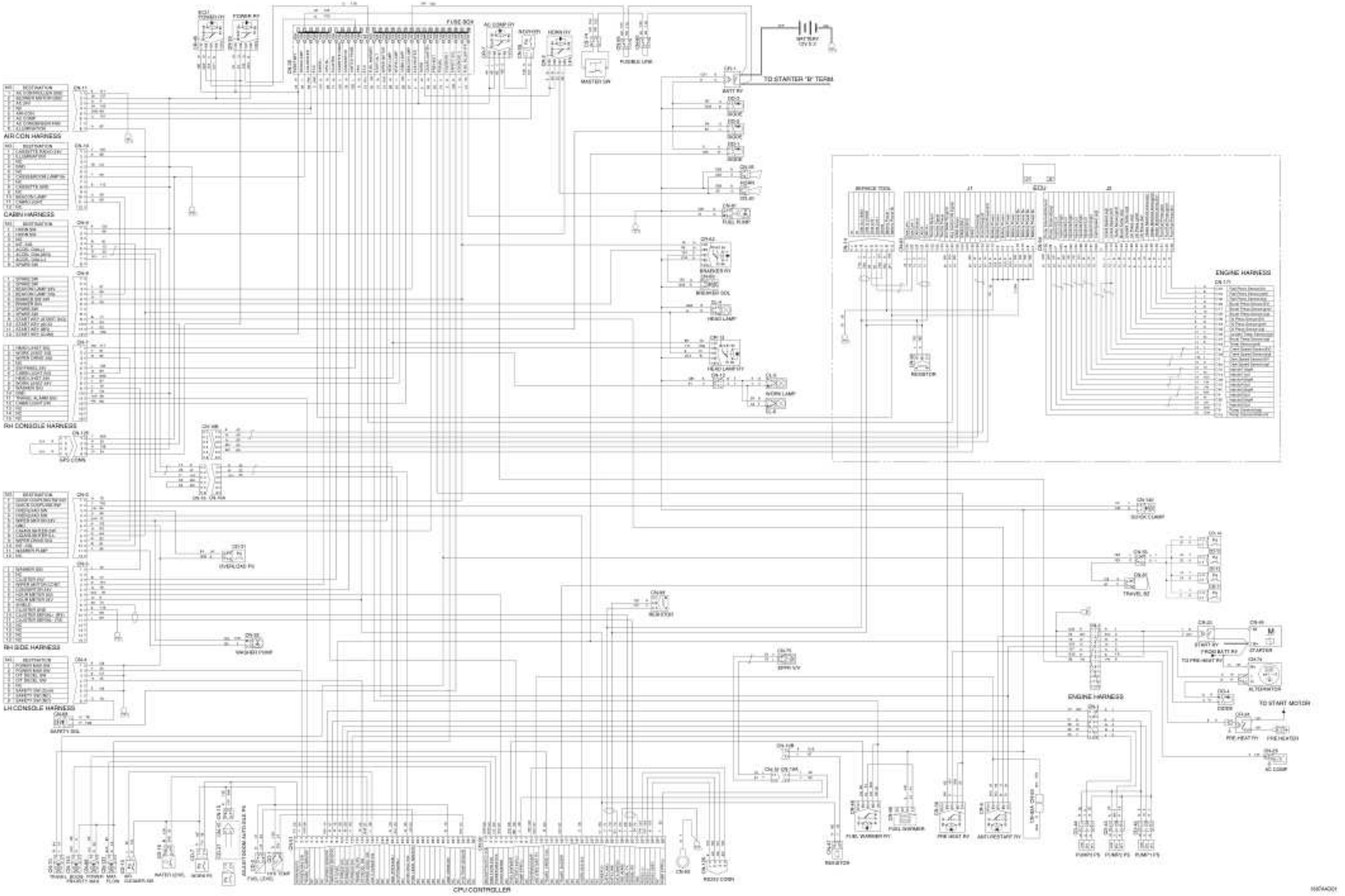
When the swing, boom, arm and bucket functions are operated, simultaneously each spool in the main control valve is moved to the functional position by the pilot oil pressure from the remote control valve.

The oil from the front pump flows into the swing motor, boom cylinders and arm cylinder through the swing spool, boom 2 spool, arm 1 spool, and the parallel and confluence oil passage.

The oil from the rear pump flows into the boom cylinders, arm cylinder and bucket cylinder through the boom 1 spool, arm 2 spool, bucket spool and the parallel and confluence oil passage.

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

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