CRAWLER EXCAVATOR

SERVICE MANUAL

R18-9AK

HYUNDAI

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CONTENTS

SECTION 1 GENERAL

Group 1 Safety Hints 1-1
Group 2 Specifications 1-9

SECTION 2 STRUCTURE AND FUNCTION

Group 1 Pump Device 2-1
Group 2 Main Control Valve 2-6
Group 3 Swing Device 2-35
Group 4 Travel Device 2-46
Group 5 RCV Lever 2-56
Group 6 RCV Pedal 2-65

SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit 3-1
Group 2 Main Circuit 3-3
Group 3 Pilot Circuit 3-6
Group 4 Single Operation 3-11
Group 5 Combined Operation 3-23

SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location 4-1
Group 2 Monitoring system 4-3
Group 3 Electrical Circuit 4-7
Group 4 Electrical Component Specification 4-19
Group 5 Connectors 4-24

SECTION 5 TROUBLESHOOTING

Group 1 Before Troubleshooting 5-1
Group 2 Hydraulic and Mechanical System 5-4
Group 3 Electrical System 5-24

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SECTION 6 MAINTENANCE STANDARD

Group 1 Operational Performance Test 6-1
Group 2 Major Components 6-20
Group 3 Track and Work Equipment 6-30

SECTION 7 DISASSEMBLY AND ASSEMBLY

Group 1 Precaution 7-1
Group 2 Tightening Torque 7-4
Group 3 Pump Device 7-7
Group 4 Main Control Valve 7-20
Group 5 Swing Device 7-34
Group 6 Travel Device 7-50
Group 7 RCV Lever 7-80
Group 8 Turning Joint 7-96
Group 9 Boom, Arm and Bucket Cylinder 7-101
Group 10 Undercarriage 7-121
Group 11 Work Equipment 7-132

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3) GEAR PUMP

Item	Specification
Type	Fixed displacement gear pump single stage
Capacity	4.5/2.7 cc/rev
Rated oil flow	10.8/6.5 ℓ /min (2.9/1.7 U.S. gpm / 2.4/1.4 U.K. gpm)

4) MAIN CONTROL VALVE

Item	Specification
Type	Sectional, 9 spools (12 blocks)
Operating method	Hydraulic pilot system
Main relief valve pressure (P1,P2 / P3)	210 kgf/cm² (2990 psi) / 200 kgf/cm² (2840 psi)
Overload relief valve pressure	230 kgf/cm² (3270 psi)

5) SWING MOTOR

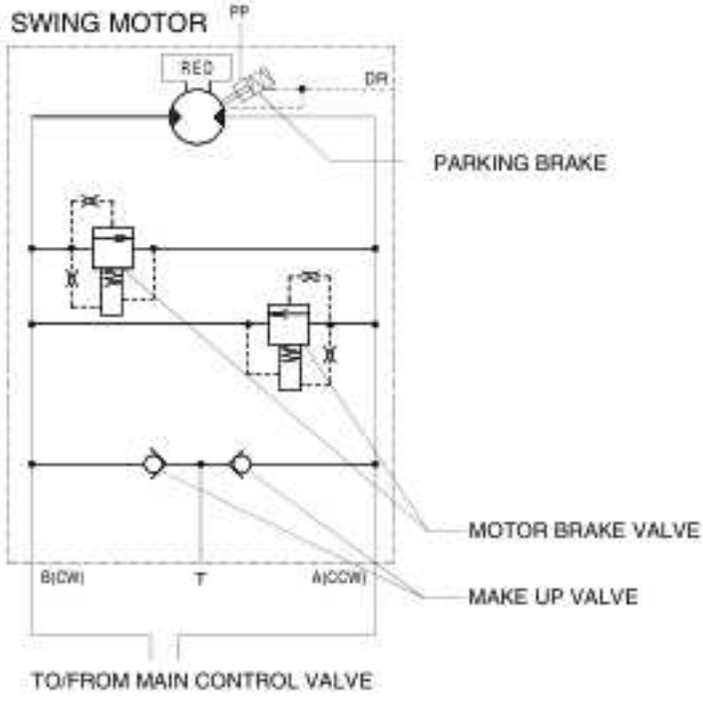
Item	Specification
Type	Fixed displacement axial piston motor
Capacity	18.1 cc/rev
Relief pressure	165 kgf/cm² (2350 psi)
Reduction gear type	1 - stage planetary

6) TRAVEL MOTOR

Item	Specification
Type	Variable displacement axial piston motor
Relief pressure	210 kgf/cm² (2990 psi)
Reduction gear type	2-stage planetary

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SWING CIRCUIT OPERATION



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1) MOTOR BRAKE VALVE

Motor brake valve for the swing motor limits to cushion the starting and stopping pressure of swing operation.

2) MAKE UP VALVE

The make up valves prevent cavitation by supplying return oil to the vacuum side of the motor.

3) PARKING BRAKE

PARKING BRAKE "ON" OPERATION

When the safety solenoid lever is moved to upward, the oil in the parking brake is drained to the tank. So, parking brake is applied.

PARKING BRAKE "OFF" OPERATION

The parking brake is released by the pilot pressure oil from pilot pump.

When the safety solenoid lever is moved to downward, the pilot pressure from the P4 pilot pump is flow into parking brake through safety solenoid valve.

Then the pilot pressure lift the brake piston and release the parking brake.

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SECTION 5 TROUBLESHOOTING

Group 1 Before Troubleshooting 5-1
Group 2 Hydraulic and Mechanical System 5-4
Group 3 Electrical System 5-24

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(13) Assemble the swash plate.
Assemble the swash plate and push rod along the contact surface, and make sure that the push rod is not pressed.
Direction of assembly: clockwise.



(14) Assemble the hex nut.
Direction of assembly: clockwise.



(15) Assemble the hex nut with the torque wrench.
- Tightening torque : 8kgf·m (57.9 lbf·ft)
Direction of assembly of upper torque wrench: clockwise.

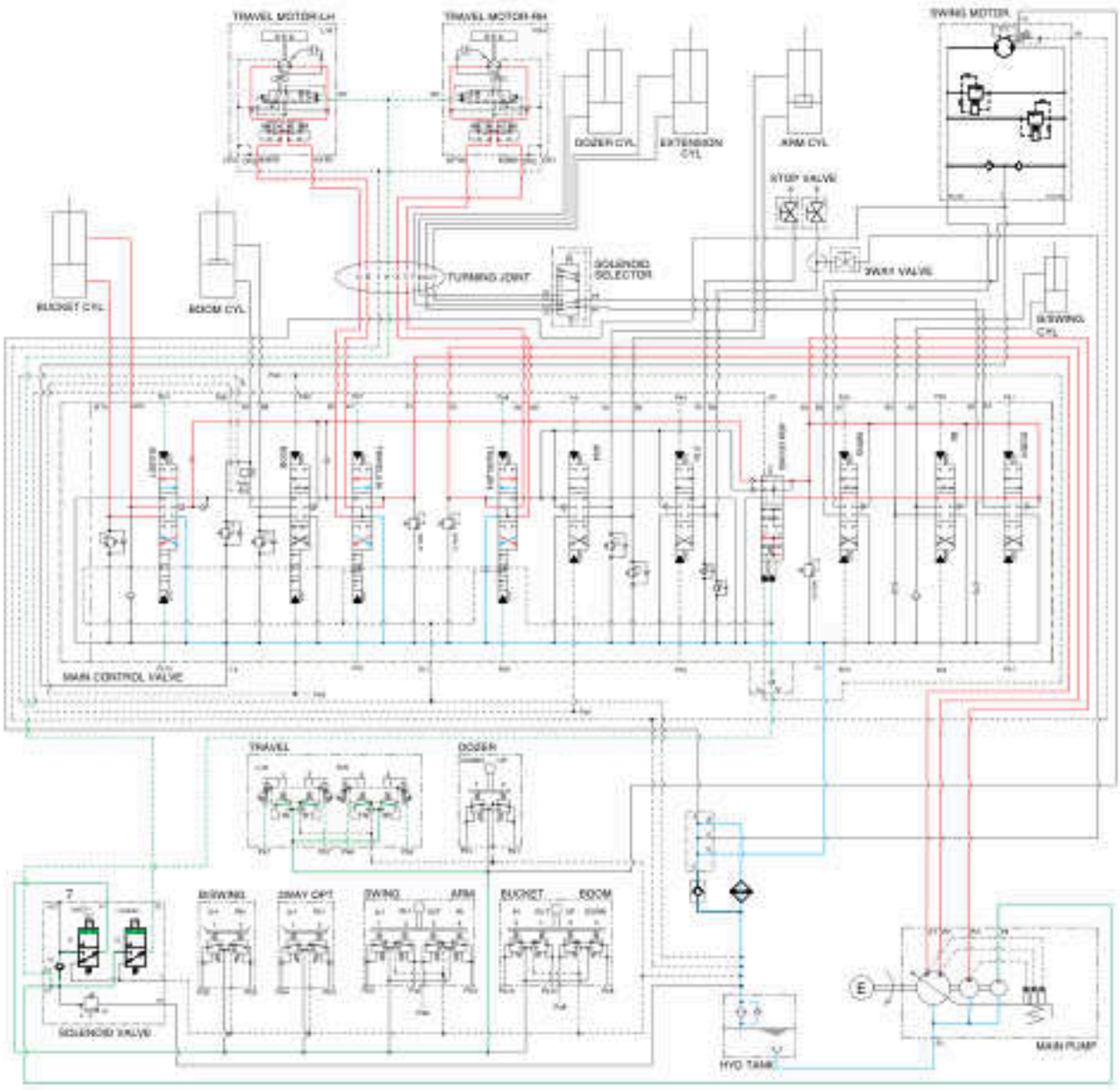


(16) Assemble the inner boots.
Insert the boots between the plate and body.



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9. COMBINED BUCKET AND TRAVEL OPERATION



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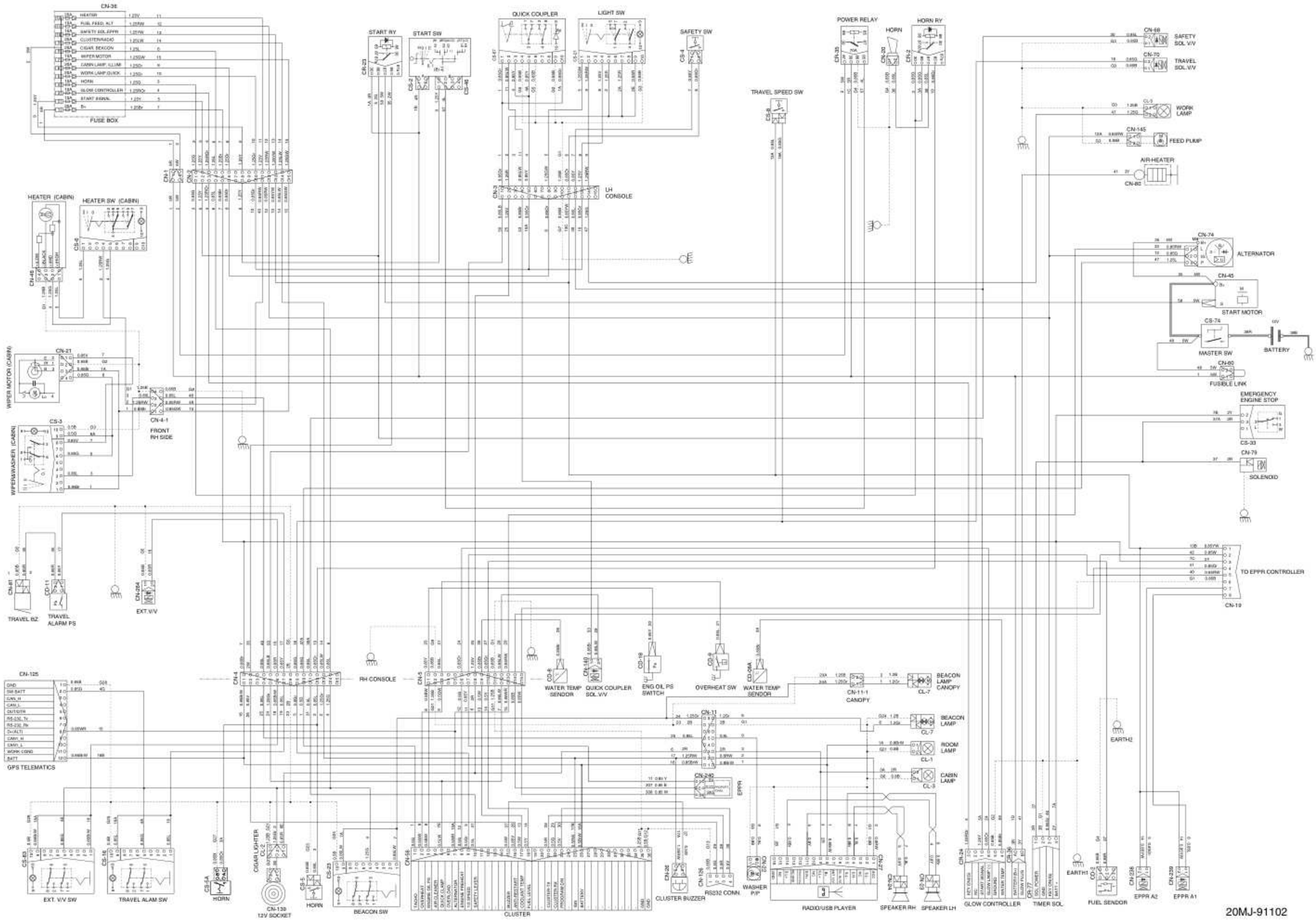
When the bucket and travel functions are operated, simultaneously the bucket spool and travel spools in the main control valve are moved to the functional position by the pilot oil pressure from the remote control valve, and the travel selector spool is pushed to the up by the oil pressure from pilot pump. The oil from the P1 and P2 pumps flows into the travel motors.

The oil from the P3 pump flows into the bucket cylinder through bucket spool via the travel selector spool.

The bucket is operated and the machine travels straight.

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- ELECTRICAL CIRCUIT



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