WHEELED EXCAVATOR

SERVICE MANUAL

HW65AH

HYUNDAI

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW65AH

Order the manual at mid-west-tech.com >

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 2-28
Group 4 Travel Device 2-38
Group 5 RCV Lever 2-44
Group 6 RCV pedal 2-51
Group 7 Brake pedal (valve) 2-52
Group 8 Gear box 2-54
Group 9 Axle 2-57

SECTION 3 HYDRAULIC SYSTEM

Group 1 Hydraulic Circuit 3-1
Group 2 Main Circuit 3-4
Group 3 Pilot Circuit 3-7
Group 4 Single Operation 3-12
Group 5 Combined Operation 3-27

SECTION 4 ELECTRICAL SYSTEM

Group 1 Component Location 4-1
Group 2 Monitoring system 4-3
Group 3 Electrical Circuit 4-47
Group 4 Electrical Component Specification 4-67
Group 5 Connectors 4-76
Group 6 Fault codes 4-95

SECTION 5 TROUBLESHOOTING

Group 1 Before Troubleshooting 5-1
Group 2 Hydraulic and Mechanical System 5-4
Group 3 Electrical System 5-23
Group 4 Axle 5-37
Group 5 Air Conditioner and Heater system 5-40

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

SECTION 6 MAINTENANCE STANDARD

Group 1 Operational Performance Test 6-1
Group 2 Major Components 6-19

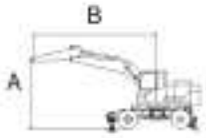
SECTION 7 DISASSEMBLY AND ASSEMBLY

Group 1 Precaution 7-1
Group 2 Tightening Torque 7-4
Group 3 Pump Device 7-7
Group 4 Main Control Valve 7-41
Group 5 Swing Device 7-56
Group 6 Travel Device 7-76
Group 7 Gear box 7-100
Group 8 Steering valve 7-135
Group 9 Axle 7-156
Group 10 RCV Lever 7-301
Group 11 Turning Joint 7-315
Group 12 Boom, Arm and Bucket Cylinder 7-320
Group 13 Work Equipment 7-335

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

Model	Type		Boom	Arm	Counterweight	Wheel	Dozer		Outrigger	
HW65AH	MONO BOOM	SINGLE TIRE	Length [mm]	Length [mm]	weight [kg]	width [mm]	Front	Rear	Front	Rear
			3000	1600	330	-	-	Up	-	-

· : Rating over-front · : Rating over-side or 360 degree



Lift-point height (A)		Lift-point radius (B)								At max. reach		
		2.0 m (6.6 ft)		3.0 m (9.8 ft)		4.0 m (13.1 ft)		5.0 m (16.4 ft)		Capacity		Reach
												m (ft)
5.0 m (16.4 ft)	kg									*1310	*1310	3.51
	lb									*2890	*2890	(11.5)
4.0 m (13.1 ft)	kg					*1210	1200			*1270	1000	4.45
	lb					*2670	2650			*2800	2200	(14.6)
3.0 m (9.8 ft)	kg			*1490	*1490	*1320	1180			*1230	840	4.96
	lb			*3280	*3280	*2910	2600			*2710	1850	(16.3)
2.0 m (6.6 ft)	kg			*2140	1710	*1570	1130	*1350	810	*1260	760	5.19
	lb			*4720	3770	*3460	2490	*2980	1790	*2780	1680	(17.0)
1.0 m (3.3 ft)	kg			*2670	1610	*1810	1080	1400	790	1330	750	5.19
	lb			*5890	3550	*3990	2380	3090	1740	2930	1650	(17.0)
0.0 m (0.0 ft)	kg	*1930	*1930	*2820	1560	*1920	1050			1410	790	4.96
	lb	*4250	*4250	*6220	3440	*4230	2310			3110	1740	(16.3)
-1.0 m (-3.3 ft)	kg	*3740	2980	*2630	1560	*1800	1050			*1500	910	4.46
	lb	*8250	6570	*5800	3440	*3970	2310			*3310	2010	(14.6)
-2.0 m (-6.6 ft)	kg	*3130	3050	*2000	1600					*1520	1280	3.53
	lb	*6900	6720	*4410	3530					*3350	2820	(11.6)

※ Note

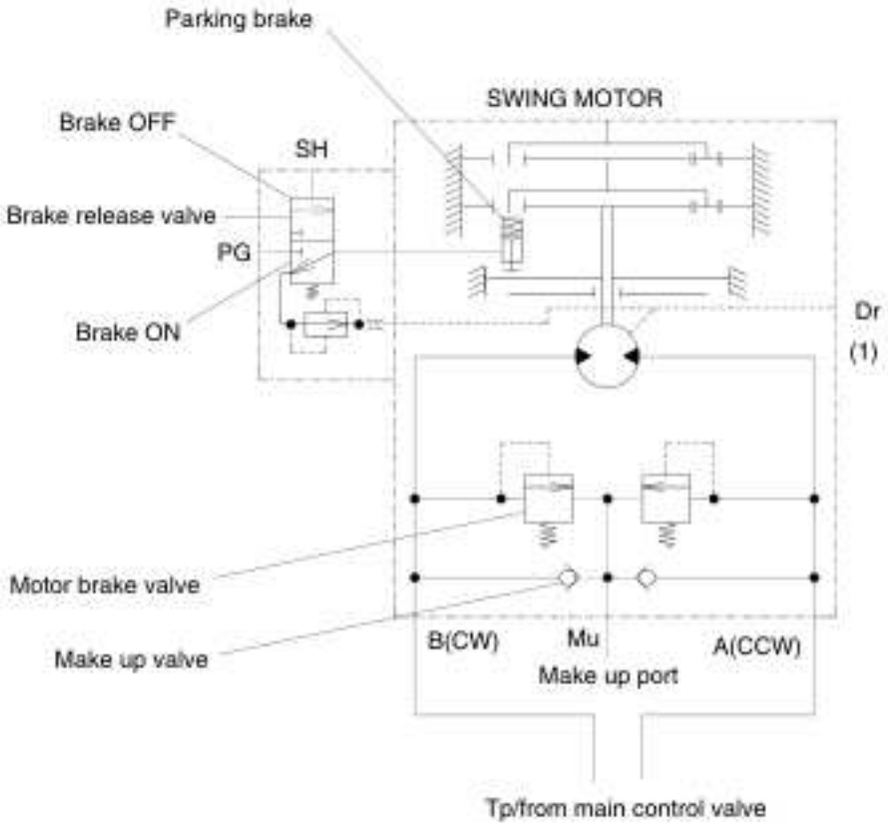
1. Lifting capacity are based on SAE J1097 and ISO 10567.
2. Lifting capacity of the HX series does not exceed 75% of tipping load with the machine on firm, level ground or 87% of full hydraulic capacity.
3. The lift-point is bucket pivot mounting pin on the arm (without bucket mass).
4. *indicates load limited by hydraulic capacity.

※ Lifting capacities are based upon a standard machine conditions.
Lifting capacities will vary with different work tools, ground conditions and attachments.
The difference between the weight of a work tool attachment must be subtracted.
Consult your HD Hyundai Construction Equipment dealer regarding the lifting capacities for specific work tools and attachments.

⚠ Failure to comply to the rated load can cause possible personal injury or property damage.
Make adjustments to the rated load as necessary for non-standard configurations.

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

SWING CIRCUIT OPERATION



HW65AH3HC17

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

In case that the parking, of the machine at slope is required during operation, there is the danger of involuntary swing caused by the self weight of the machine. The brake is connected to prevent this involuntary swing.

PARKING BRAKE "OFF" OPERATION

The parking brake is released by the pilot pressure oil from the pilot pump.
When the left control lever placed in the swing position, the pilot pressure (SH) at the shuttle valve is transferred to the brake release valve and the brake release valve is change over. Then the pilot pressure (PG) lift the brake piston and release the parking brake.

PARKING BRAKE "ON" OPERATION

When the control lever placed in the neutral position, the pressure of the pilot oil passage down.
Then the brake release valve returned to the neutral position and the oil is returned from the brake piston to the tank. And the brake is set to 'ON".

※ The circuit diagram may differ from the equipment, so please check before a repair.

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

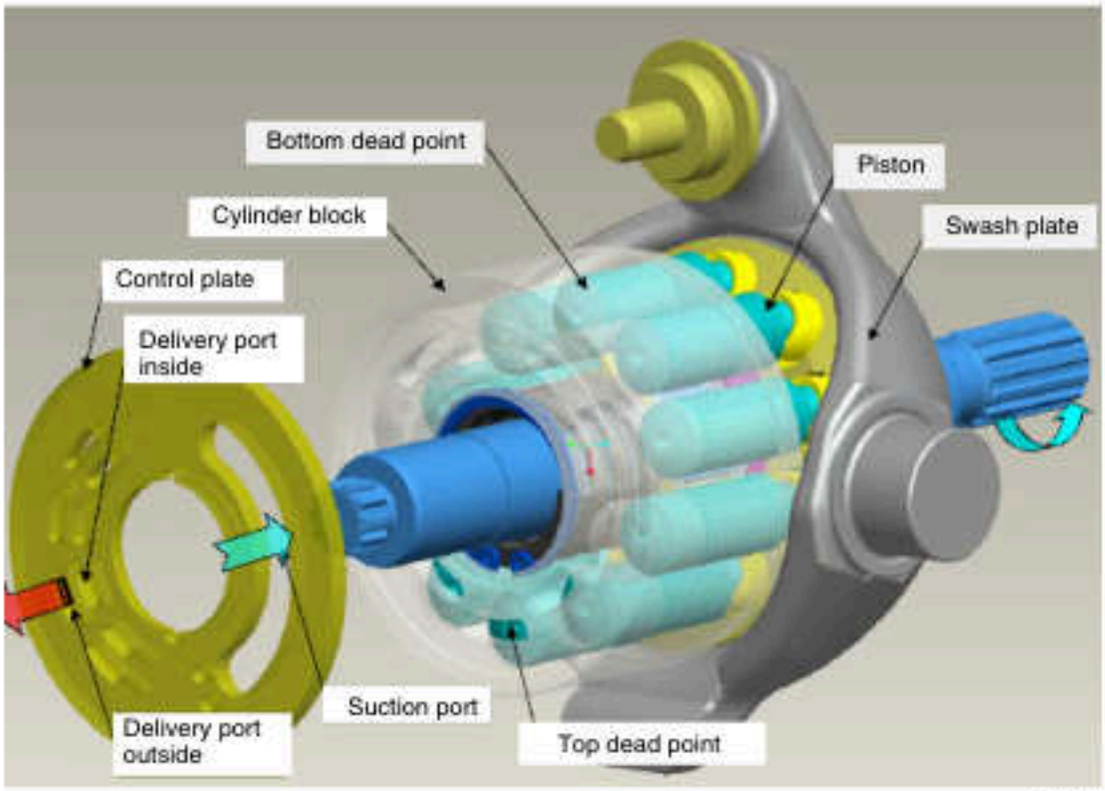
SECTION 5 TROUBLESHOOTING

Group 1 Before Troubleshooting 5-1
Group 2 Hydraulic and Mechanical System 5-4
Group 3 Electrical System 5-23
Group 4 Axle 5-37
Group 5 Air conditioner and Heater System 5-40

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

1) PRINCIPLE OF OPERATION

(1) Function of pump

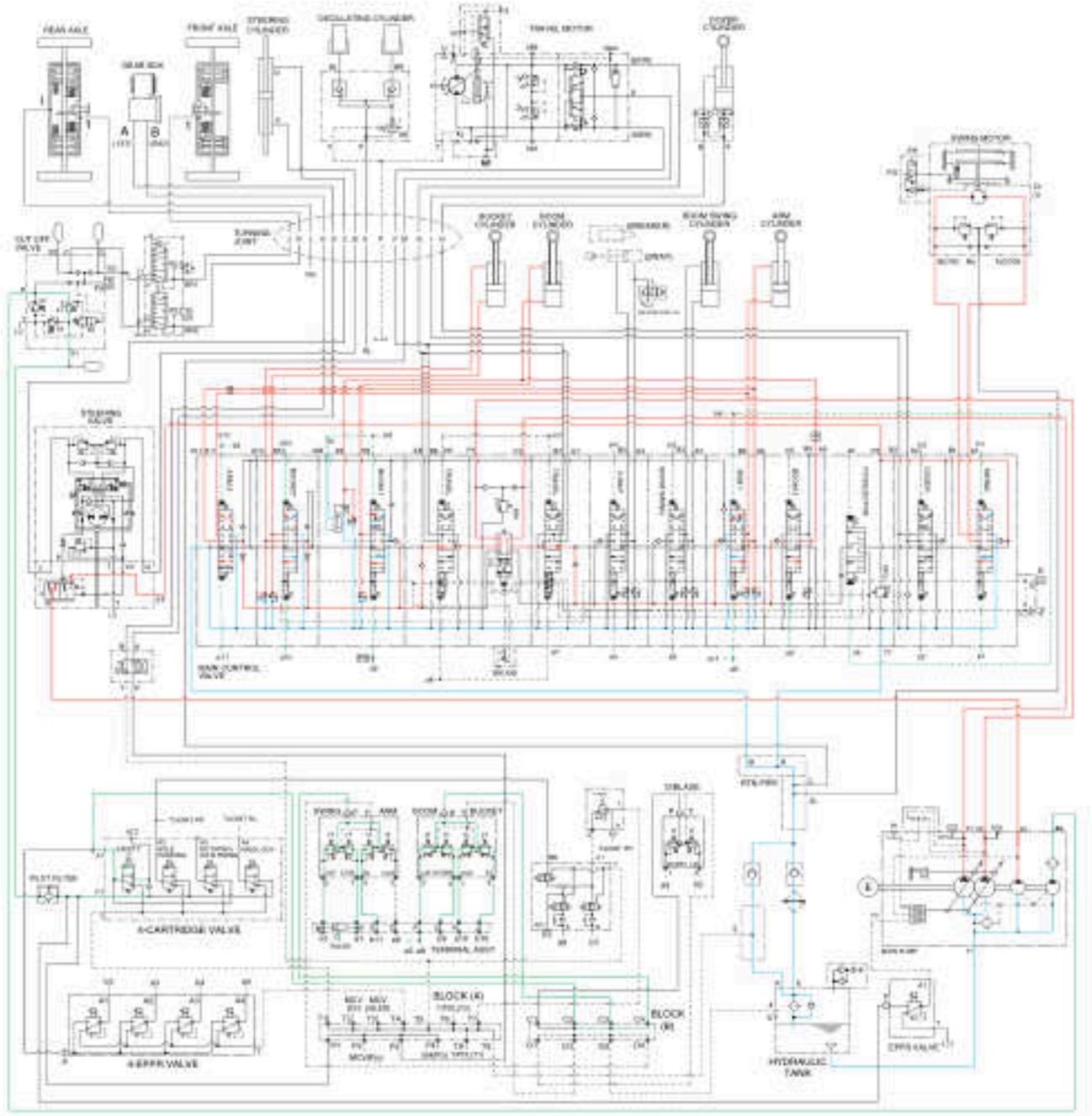


HW65AH-2MP03

The cylinder block is connected via spline and can rotate together with the drive shaft.
The piston assembled into the cylinder block performs reciprocal operation while following the swash plate on the hanger.
The piston moves in a direction to increase the displacement during a stroke from the lower to the upper dead points. The oil flows from the suction port via a port plate into the cylinder block (suction process).
During a stroke from the upper to the lower dead points, the piston moves in a direction to decrease the displacement. The oil is discharged to the discharge port (discharge process).
The displacement can be changed by changing the tilting of the hanger (swash plate).
The oil sucked through the port in the cylinder block is discharged from the discharge port in the port plate.
The oil sucked through the port on the outside of the cylinder block is discharged from the discharge port on the outside of the port plate.

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

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 (a1, b1, a5, a9, b9, a6, a11, b6, b11, a10, b10) from the remote control valve.

The oil from the A2 pump flows into the boom cylinder, arm cylinder and bucket cylinder through boom 1 spool, arm 2 spool, bucket spool.

The oil from the A1 pump flows into the boom cylinder and arm cylinder through the boom 2 spool and arm 1 spool.

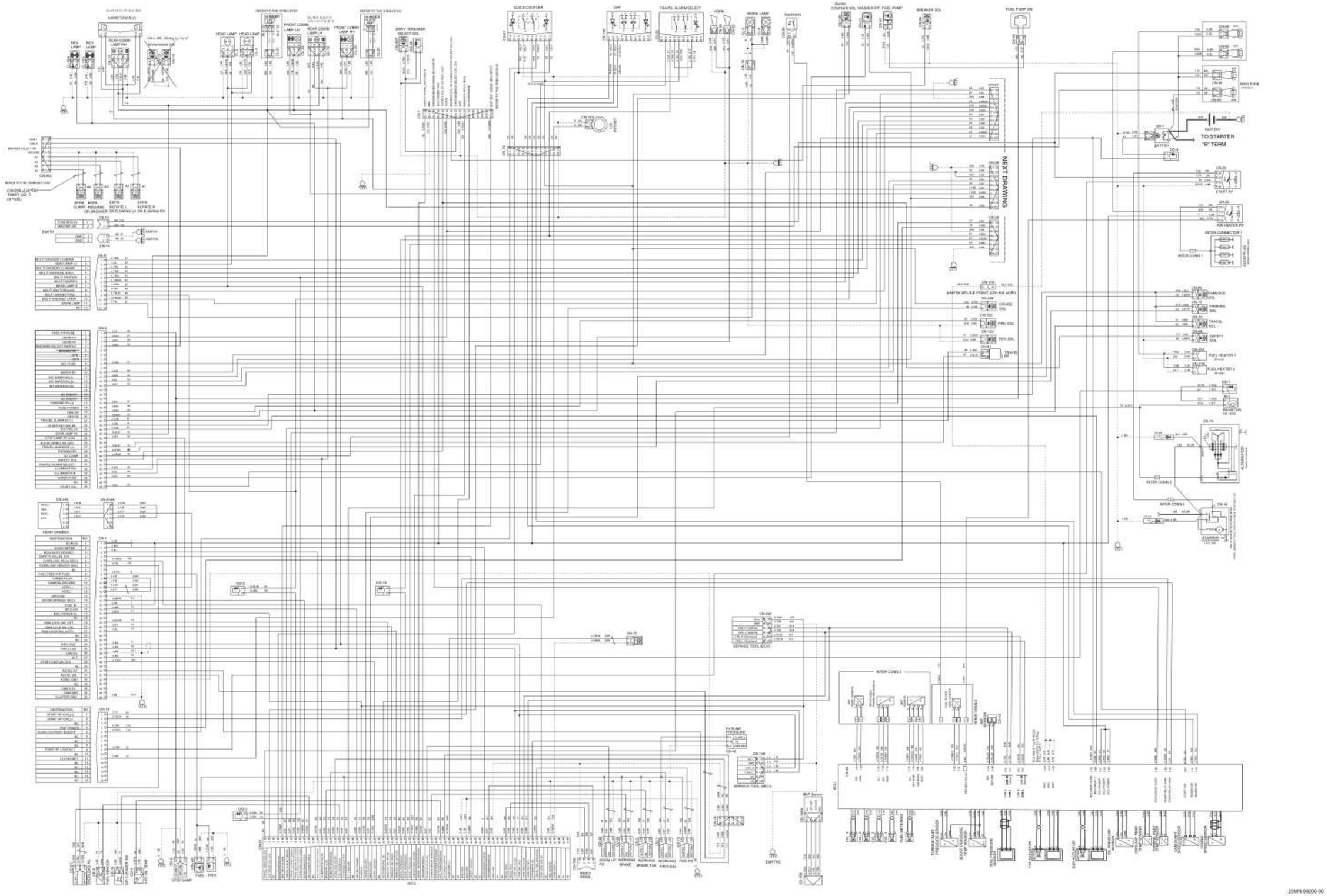
The oil from the A3 pump flows into the swing motor through the swing spool.

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

※ The circuit diagram may differ from the equipment, so please check before a repair.

MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW6... Order the manual at mid-west-tech.com >

· ELECTRICAL CIRCUIT (1/3)



MidWestTech | Hyundai HW65AH Wheel Excavator Service Manual | Publication HW65AH
Order the manual at mid-west-tech.com >