

HYDRAULIC SYSTEM OPERATION

To Be Used With

HYDRAULIC FLOW CHART

(ISO and STANDARD)

For Model

331 EXCAVATOR (S/N 5129130001 – 512915199)

(February, 1998)

CHART LEGEND

[1] OIL COOLER	[27] MAIN RELIEF VALVE
[2] TRAVEL MOTORS	2700 PSI (18617 kPa)
[3] CENTER SWIVEL JOINT	[28] MAIN RELIEF VALVE
[4] BLADE CYLINDER	S/N 512913001 – 512913404
[5] #10 MICRON FILTER	3050 PSI (21030 kPa)
(W/25 PSI By-Pass Valve)	S/N 512913405 – 512913199
[6] HYDRAULIC PUMPS	3700 PSI (25512 kPa)
2 x 7.61 GPM (28.8 L/min.) @ 2400 RPM	[29] 5-SPOOL CONTROL VALVE
1 x 8.87 GPM (33.6 L/min.) @ 2400 RPM	[30] PORT RELIEF VALVE (Boom Cyl.)
[7] SUPPLY PORT BLOCK	3400 PSI (23442 kPa)
[8] HYDRAULIC RESERVOIR PLUG	[31] PORT RELIEF VALVE (Boom Cyl.)
(Non-Vented)	2950 PSI (20340 kPa)
[9] STRAINER	[32] PORT RELIEF VALVE (Arm Cyl.)
[10] HYDRAULIC RESERVOIR (12.1 Gals. 45.9 L)	2950 PSI (20340 kPa)
(Vented)	[33] PORT RELIEF VALVE (Arm Cyl.)
[11] BOOM SWING CYLINDER	2950 PSI (20340 kPa)
[12] SWING MOTOR	[34] PORT RELIEF VALVE (Bucket Cyl.)
[13] RETURN PORT BLOCK	3400 PSI (23442 kPa)
[14] 5-SPOOL CONTROL VALVE	[35] PORT RELIEF VALVE (Bucket Cyl.)
[15] MAIN RELIEF VALVE	3400 PSI (23442 kPa)
2850 PSI (19650 kPa)	[36] PORT RELIEF VALVE (Blade Cyl.)
[16] MAIN RELIEF VALVE	3400 PSI (23442 kPa)
4100 PSI (28270 kPa)	[37] BUCKET CYLINDER
[17] CHECK VALVE	[38] ARM CYLINDER (Cushion)
[18] LOAD CHECK VALVES	[39] BOOM CYLINDER (Cushion)
(Boom Swing Cylinder)	[40] AUXILIARY QUICK COUPLERS
[19] AUXILIARY SELECTOR VALVE	[41] HYDRAULIC PUMP TEST PORTS
[20] ACCUMULATOR 165 PSI	[42] TRAVEL MOTOR SPOOL
(1138 kPa) pre charge	[43] RETURN DRAIN LINE FILTER
[21] PRESSURE REDUCING VALVE 365 PSI	(150 Micron)
(2517 kPa)	[44] CHECK VALVE (2)
[22] TWO SPEED SOLENOID	[45] ORIFICE .052 (1.32 mm)
[23] CONSOLE LOCK-OUT SOLENOID	[46] BUILD UP VALVE 150 PSI (1034 kPa)
[24] RELIEF VALVE Swing Motor (2)	
1700 PSI (11721 kPa)	
[25] L.H. JOYSTICK	
[26] R.H. JOYSTICK	

HYDRAULIC SCHEMATIC
(STANDARD CONTROLS)
331 EXCAVATOR (SN 512913001 - 512915199)

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