PART NO. TODAD-EN-00

HITACHI

Reliable solutions

Technical Manual
Operational Principle

ZX
130-5B
130LCN-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODAD-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDAD-EN
Workshop Manual	: Vol. No.WDAD-EN
Engine Manual	: Vol. No.EDBE-EN

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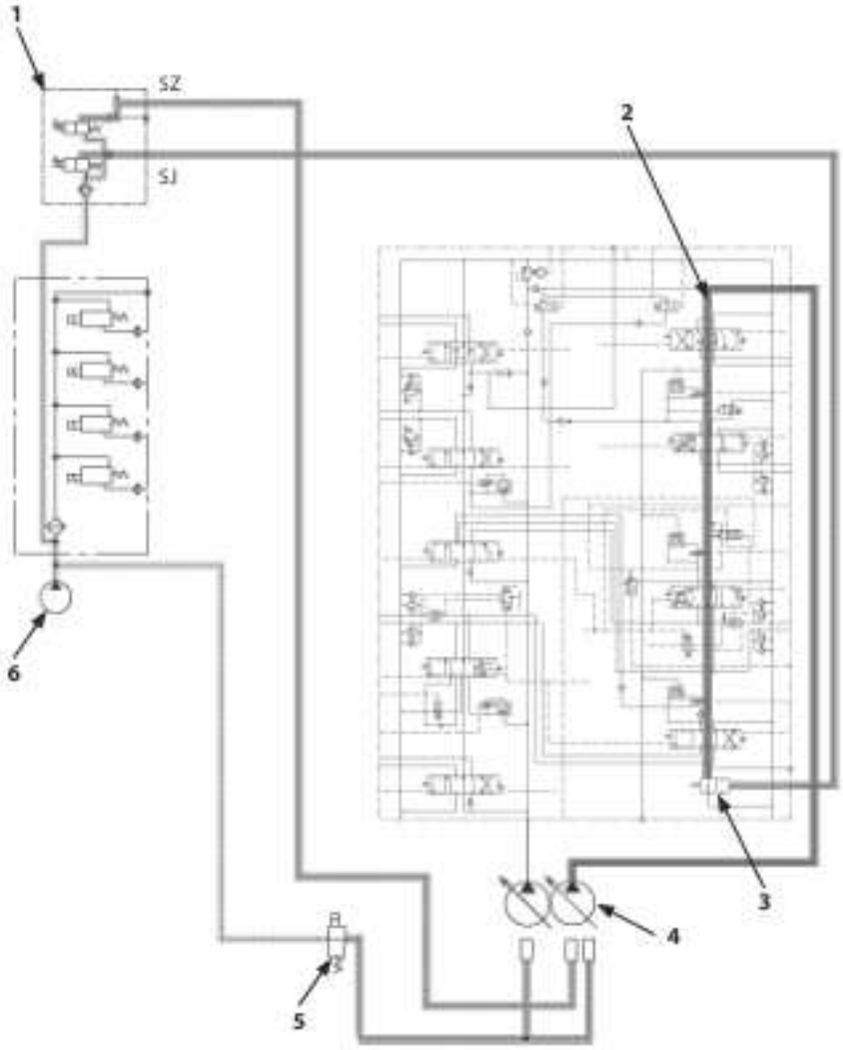
Engine Accessories

RADIATOR ASSEMBLY	Type	Radiator, Oil Cooler Parallel Type, Intercooler Tandem Type
	Weight	48.0 kg (106 lb)

	Radiator	Oil Cooler	Intercooler
Air-Tight Test Pressure	100 kPa (1.0 kgf/cm^2, 14 psi)	1500 kPa (15 kgf/cm^2, 218 psi)	250 kPa (2.5 kgf/cm^2, 36 psi)
Cap Opening Pressure	49 kPa (0.5 kgf/cm^2, 7 psi)	–	–

BATTERY	Type	80D26R-MF
	Voltage	12 V
	Capacity	55 Ah or more (5-Hour Rate)
	Weight	17.7 kg (39 lb)×2

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TDAD-02-04-018

1- 2-Spool Solenoid Valve Unit
2- Neutral Circuit
3- Bypass Shut-Out Valve
4- Pump 1
5- Torque Control Solenoid Valve
6- Pilot Pump

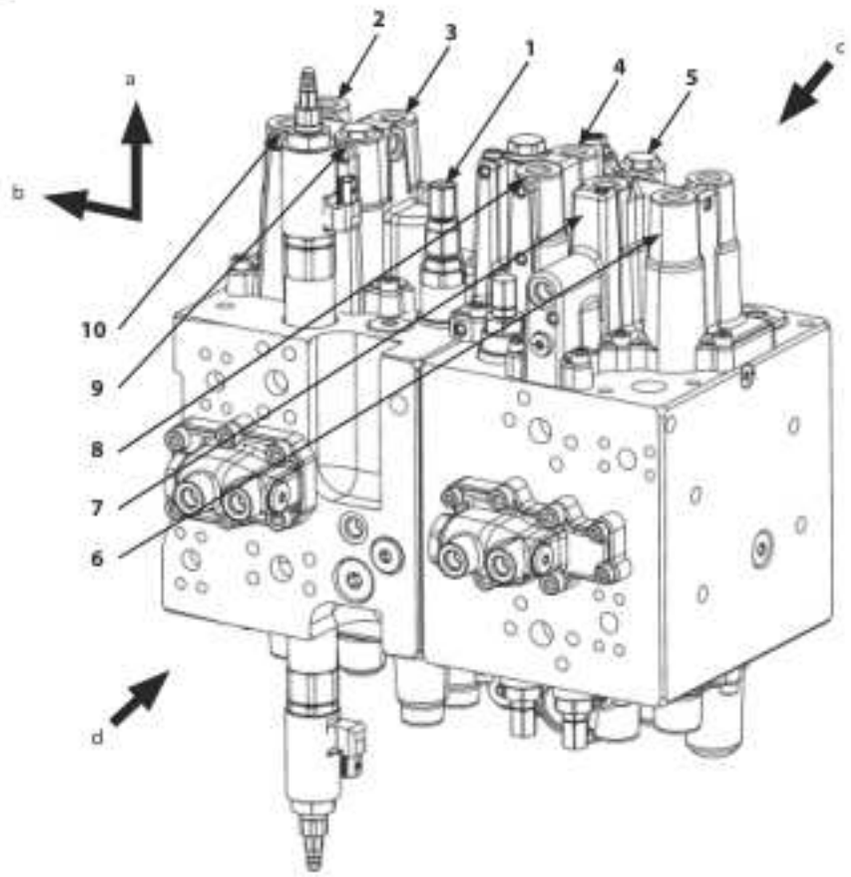
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Outline

The control valve controls the oil pressure, flow rate, and flow direction in the hydraulic circuit. The major parts are the main relief valve, overload relief valve, flow combiner valve, anti-drift valve, flow rate control valve, regenerative valve, digging regenerative valve, boom lower meter-in cut valve, auxiliary flow combiner valve, bypass shut-out valve, and spools. The spools are operated by the pilot oil pressure.

As for the spools in the 4-spool side, travel (right), bucket, boom 1, and arm 2 are arranged in that order as viewed from the machine front. As for the spools in the 5-spool side, travel (left), auxiliary, boom 2, arm 1, and swing are arranged in that order as viewed from the machine front.

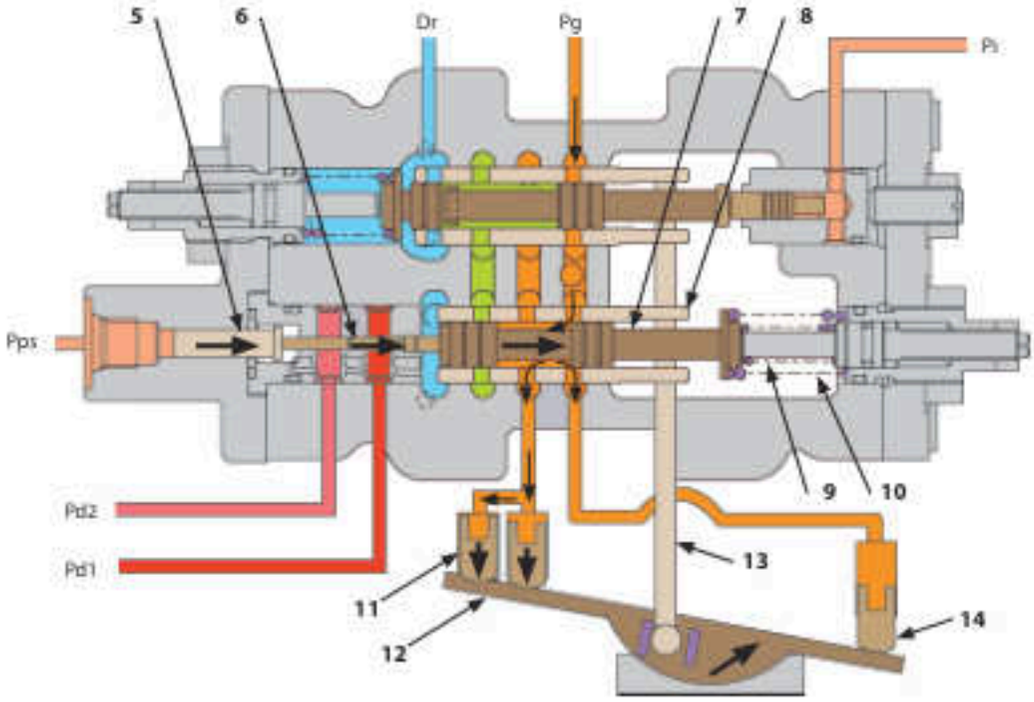
Control Valve



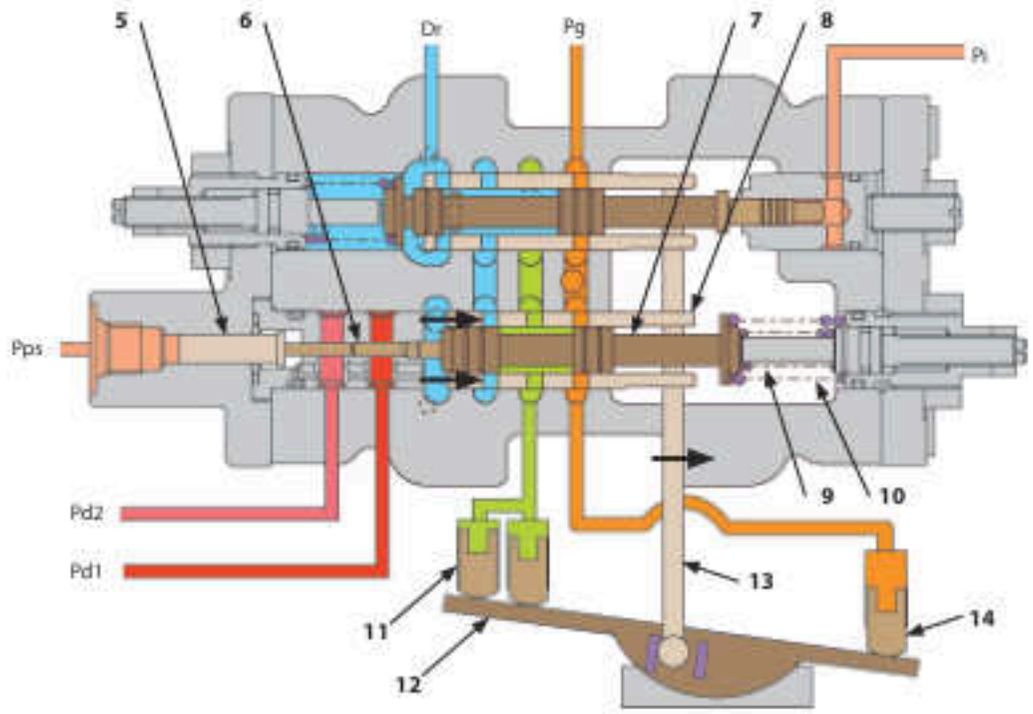
TDAD-03-03-001

a-	Machine Upper Side	b-	Machine Front Side	c-	4-Spool Side	d-	5-Spool Side
1-	Main Relief Valve	4-	Boom 1	7-	Arm 1	10-	Travel (Left)
2-	Travel (Right)	5-	Arm 2	8-	Boom 2		
3-	Bucket	6-	Swing	9-	Auxiliary		

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Pd1- Pump 1 Delivery Pressure
Pd2- Pump 2 Delivery Pressure

Dr- Returning to Hydraulic Oil Tank

Pi- Pump Control Pressure
Pps- Torque Control Pressure

Pg- Primary Pilot Pressure (From Pilot Pump)

5- Load Piston 1
6- Load Piston 2
7- Spool 8

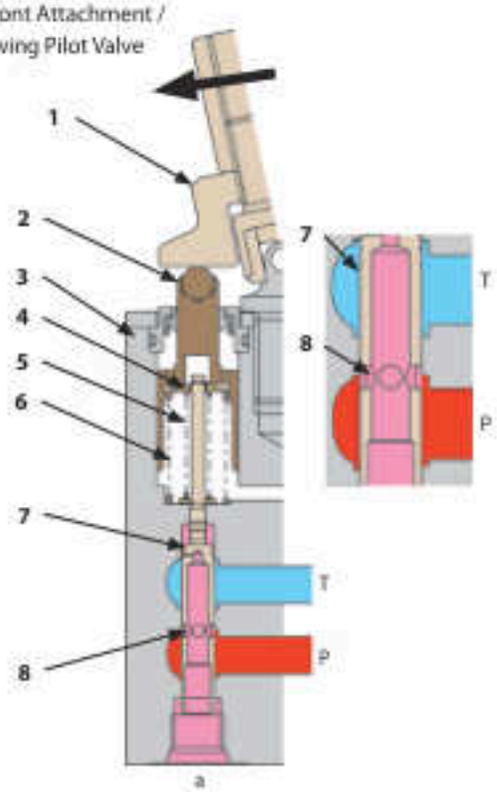
8- Sleeve 8
9- Inner Spring
10- Outer Spring

11- Servo Piston 1 (2 Used)
12- Swash Plate
13- Link

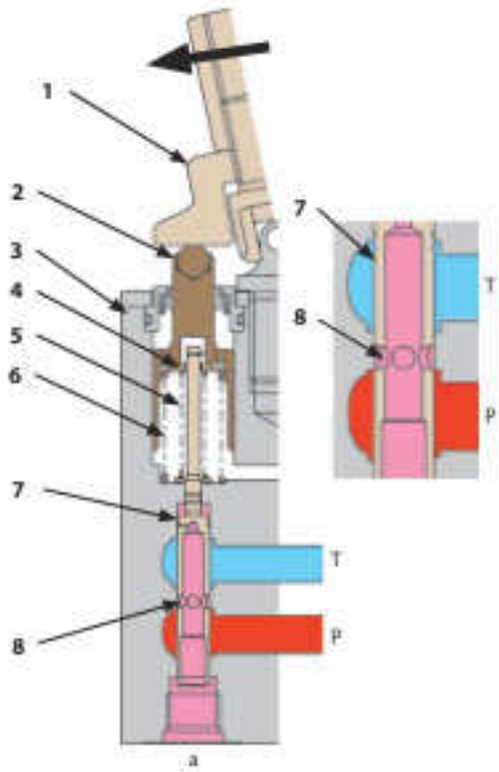
14- Servo Piston 2

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Front Attachment /
Swing Pilot Valve

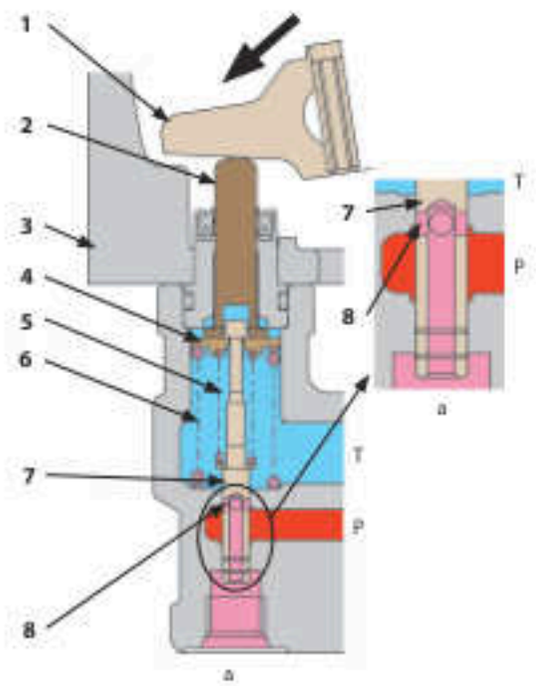


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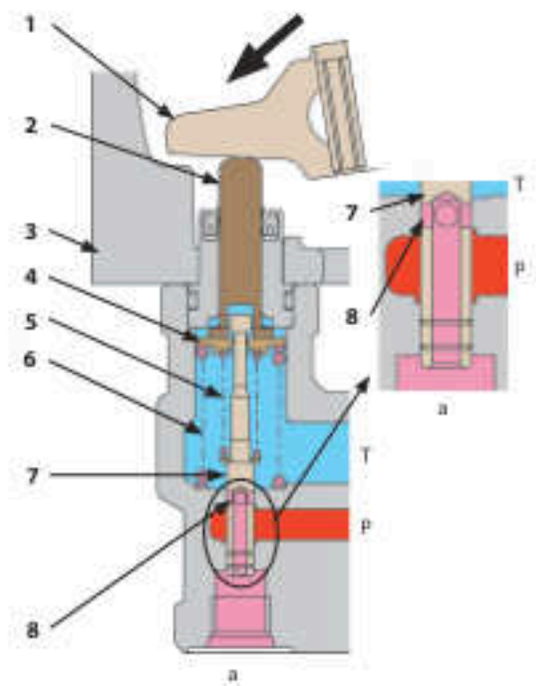


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Travel Pilot Valve



TPPP-03-04-012



TPPP-03-04-013

P- Port P
T- Port T
a- Output Port

1- Cam
2- Pusher
3- Casing
4- Spring Guide
5- Balance Spring
6- Return Spring
7- Spool
8- Hole

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