PART NO. TODDD-EN-00

HITACHI

Reliable solutions

Technical Manual
Operational Principle

ZX
350LC-5B
350LCN-5B
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODDD-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDDD-EN
Workshop Manual	: Vol. No.WDDD-EN
Engine Manual	: Vol. No.ETDDD-EN, EWDDD-EN

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FUEL COOLER	Weight	1.0 kg (3.0 lb)
	Core Type	Wavy Fin
	Capacity	0.41 L (0.11 US gal.)
BATTERY	Type	180G51-MF
	Voltage	12 V
	Capacity	128 Ah (5-Hour Rate)
	Weight	45 kg (100 lb)×2
Fuel Solenoid Pump	Manufacture Product No.	B6952E
	Rated Voltage	DC 24 V

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Hydraulic Circuit

Main Circuit

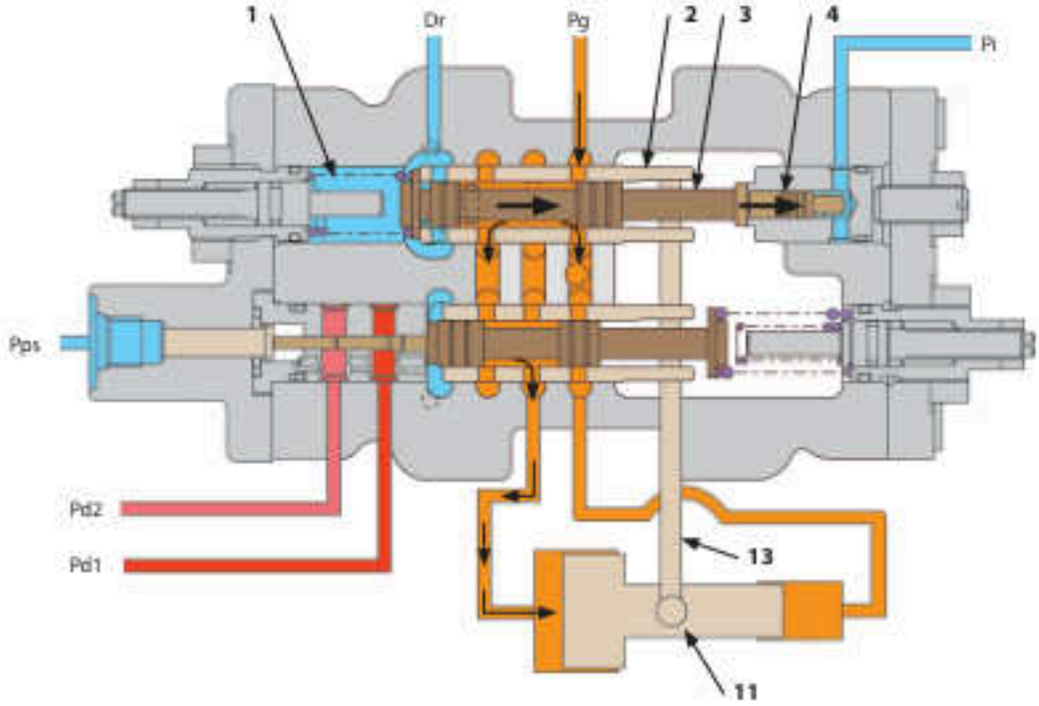
Pressure oil from pump 1 flows to each spool of travel (right), bucket, arm 2, and boom 1 at the A side of control valve. Pressure oil from pump 2 flows to each spool of boom 2, arm 1, auxiliary 1, and travel (left) at the B side of control valve. Pressure oil from pump 3 flows to each spool of swing, boom 3, arm 3, and positioning/auxiliary 2 at the A and B sides of control valve.

The parallel circuit is provided in each main circuit of pump 1, pump 2, and pump 3 except the arm 3 circuit, and makes the combined operation possible.
The parallel circuit is not provided in the arm 3 circuit of pump 3. Therefore, pressure oil from pump 3 does not flow to the arm 3 spool during combined operation of arm and swing or boom.
In addition, the flow combiner circuit is provided in both boom raise and arm circuits so that pressure oil from pump 1, pump 2, and pump 3 are combined during a single operation.
In case of boom lower (with the track raised), pressure oil from pump 3 is not combined and pressure oil from pump 1 is combined with pressure oil from pump 2.

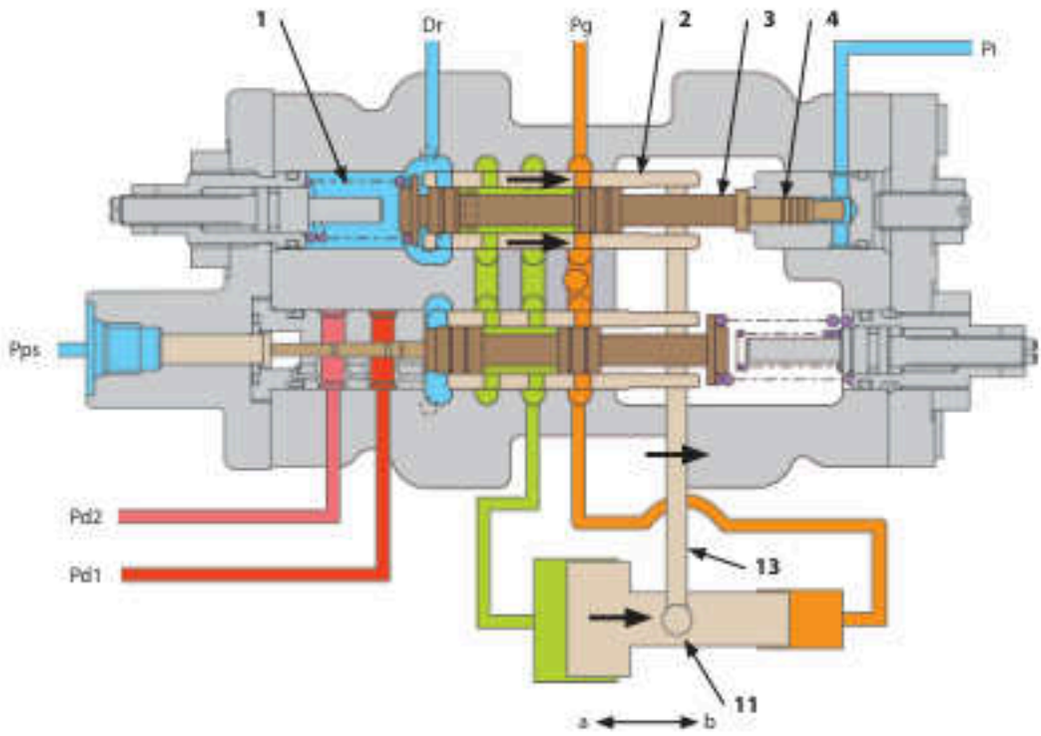
The main relief valve is provided in the main circuit (between the pump and the actuator). The main relief valve prevents the pressure in the main circuit from exceeding the set pressure when the spool is operated (or when the control lever is operated).
The overload relief valve is provided in the actuator circuits (between the control valve and the actuator) of boom, arm, bucket, auxiliary. The overload relief valve prevents surge pressure caused by external force in the actuator circuit does not exceed the set pressure when the spool is in neutral (with the control lever set in neutral).

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NOTE: The illustration shows the pump1 regulator.



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

Dr- Returning to Hydraulic Oil Tank

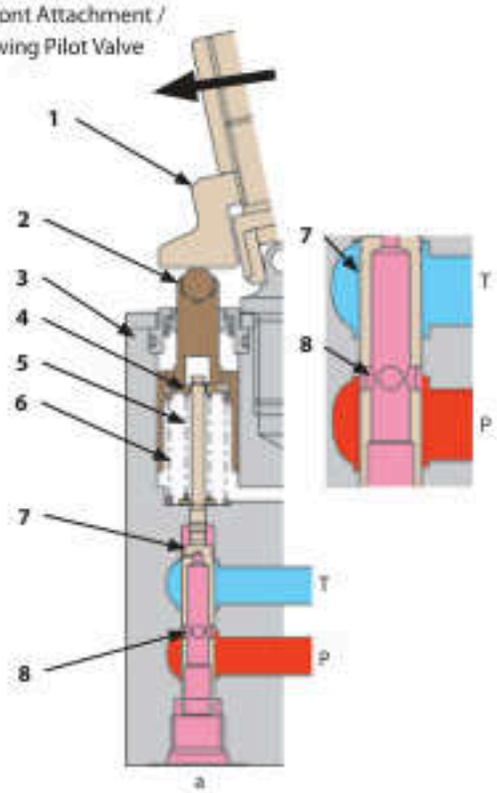
Pi- Pump Control Pressure
Pps- Torque Control Pressure

Pg- Primary Pilot Pressure (From Pilot Pump)

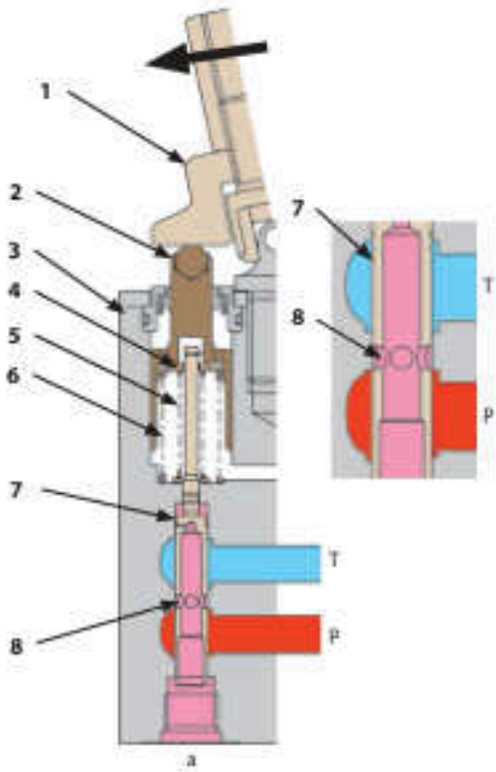
1- Spring
2- Sleeve A
3- Spool A
4- Piston
11- Servo Piston
13- Link

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Front Attachment / Swing Pilot Valve

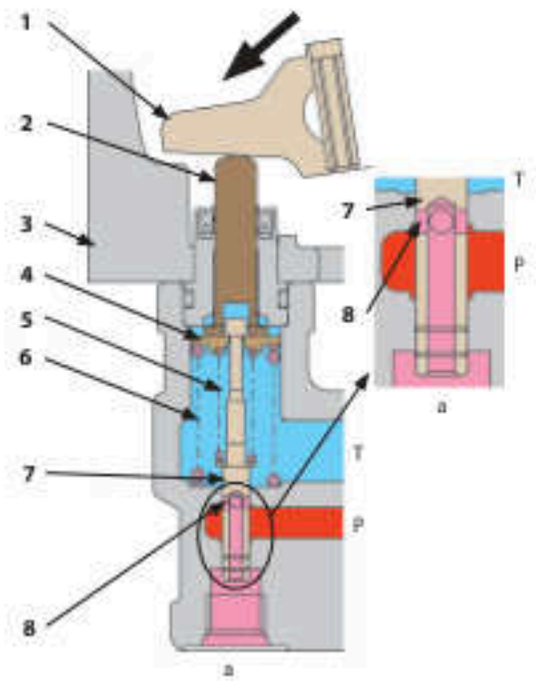


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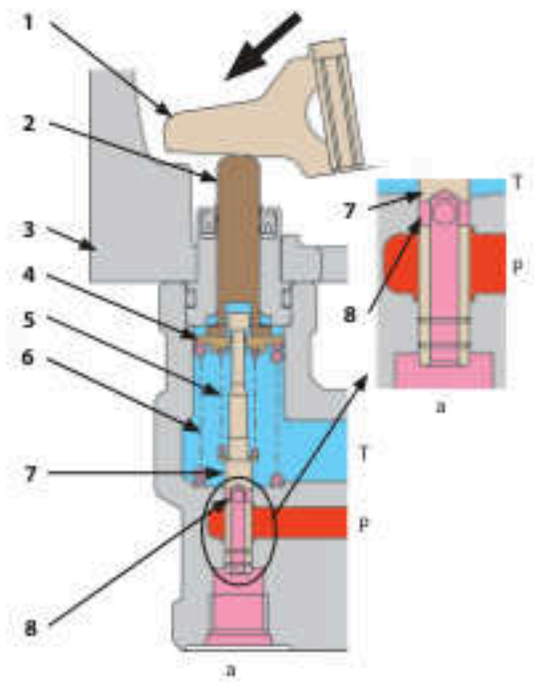


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Travel Pilot Valve



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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