PART NO. TODAY90-EN-00

HITACHI

Reliable solutions

Technical Manual
Operational Principle

ZX135US-5A
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TODAY90-EN
Technical Manual (Troubleshooting)	: Vol. No.TTDAY90-EN
Workshop Manual	: Vol. No.WDAY90-EN
Engine Manual	: Vol. No.EDBL-EN

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Engine Accessories

RADIATOR ASSEMBLY	Type	Radiator, Oil Cooler Parallel Type, Intercooler Tandem Type

	Radiator	Oil Cooler	Intercooler
Air-Tight Test Pressure	0.1 MPa	1.5 MPa	0.25 MPa

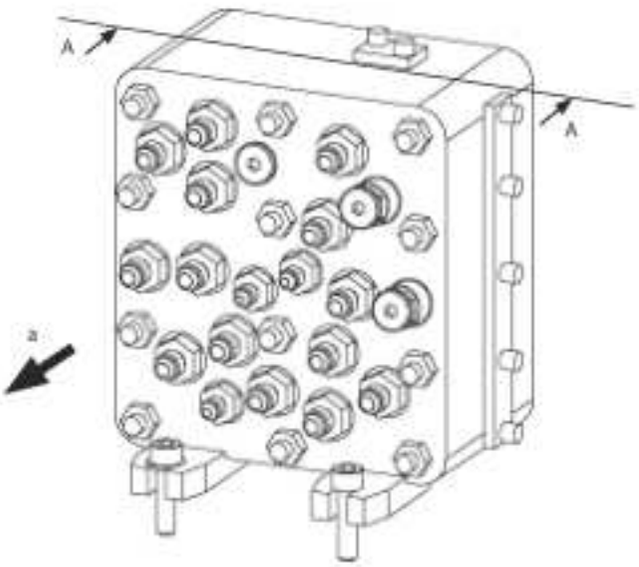
EXPANSION TANK	Total Capacity	4.9 L
	Cap Opening Pressure	90 kPa

FUEL COOLER	Core Type	Wavy Fin
	Capacity	0.18 L
BATTERY	Type	80D26R-MF
	Voltage	12 V
	Capacity	55 Ah (5-Hour Rate)
		58 Ah (20-Hour Rate)
	CCA	D26, 490A
Electric Fuel Pump	Rated Voltage	DC 24 V

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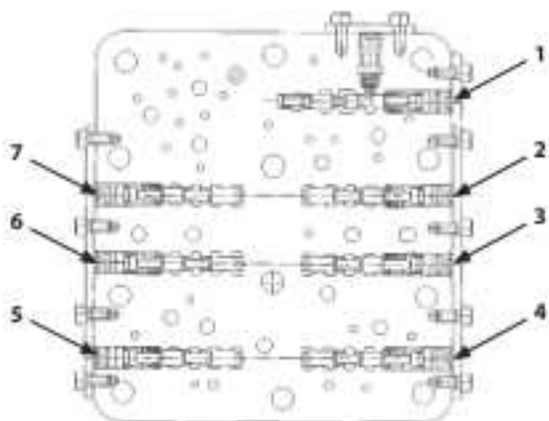
Outline

The signal control valve is provided in the pilot circuit between the pilot valve and the control valve, and controls various signal pressure used to regulate the pumps and valves.
The signal control valve consists of the shuttle valves, shockless valve (1), pump 1 flow rate control valve (6), pump 2 flow rate control valve (3), bucket flow rate control valve control spool (2), flow combiner valve control spool (4), swing parking brake release spool (5), and arm 1 flow rate control valve control spool (7).



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Section A-A



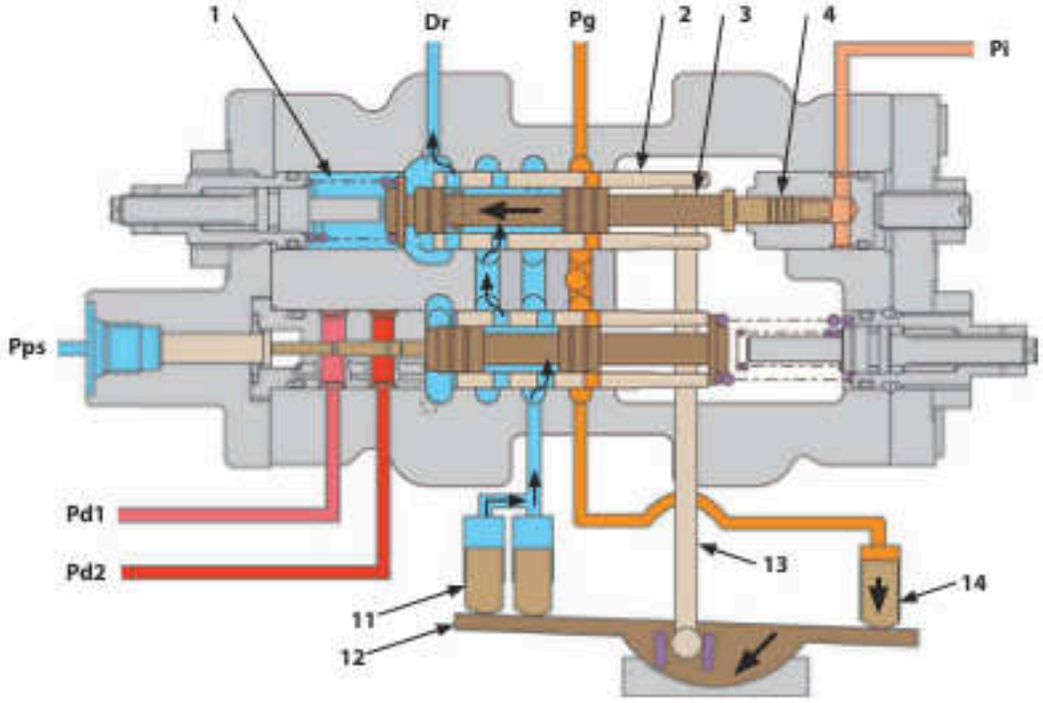
T178-03-06-002

a- Pilot Valve Side

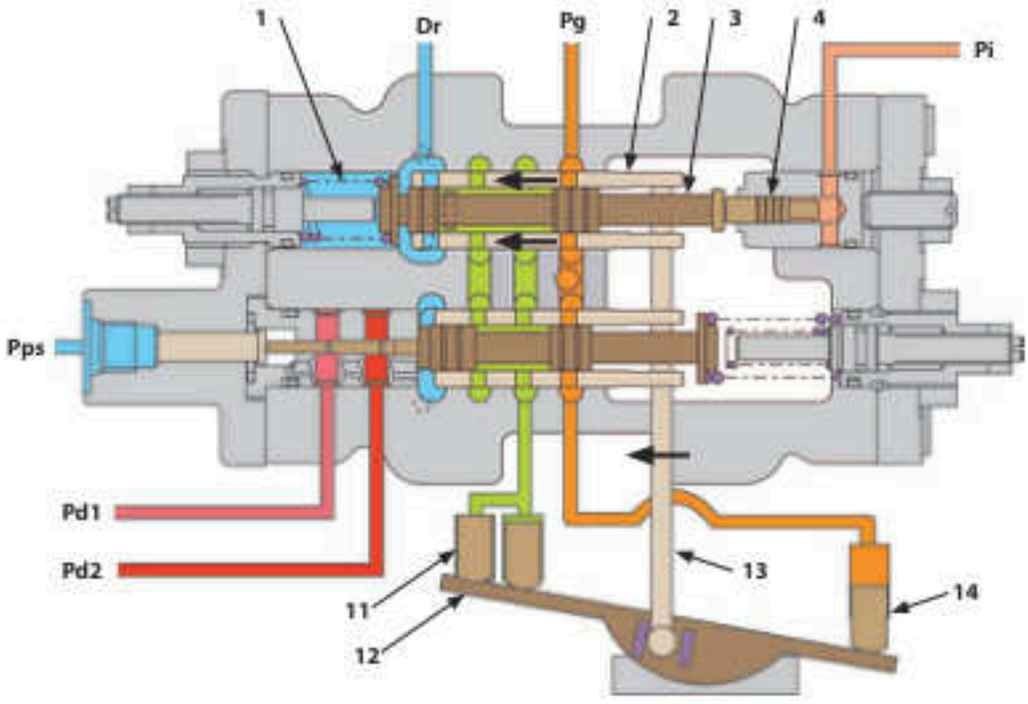
1- Shockless Valve
2- Bucket Flow Rate Control Valve Control Spool
3- Pump 2 Flow Rate Control Valve
4- Flow Combiner Valve Control Spool
5- Swing Parking Brake Release Spool
6- Pump 1 Flow Rate Control Valve
7- Arm 1 Flow Rate Control Valve Control Spool

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NOTE: The illustration shows the pump1 regulator.



TDAD-03-01-027



TDAD-03-01-028

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

Dr- Returning to Hydraulic Oil Tank

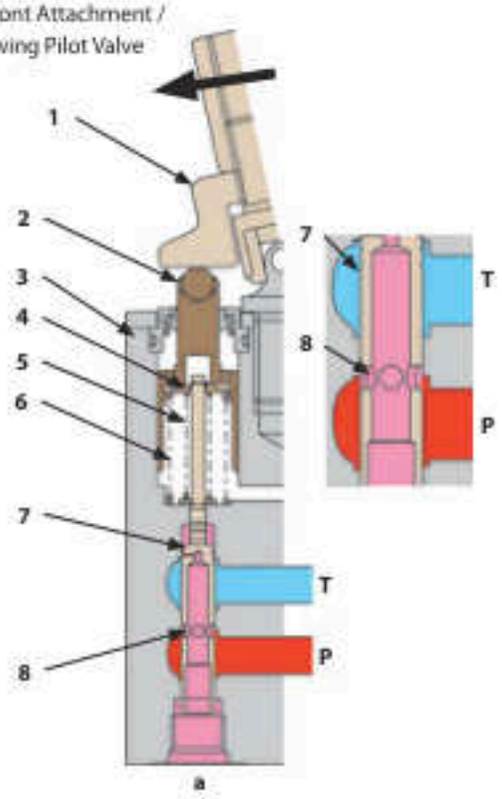
Pi- Pump Control Pressure
Pps- Torque Control Pressure

Pg- Primary Pilot Pressure (From Pilot Pump)

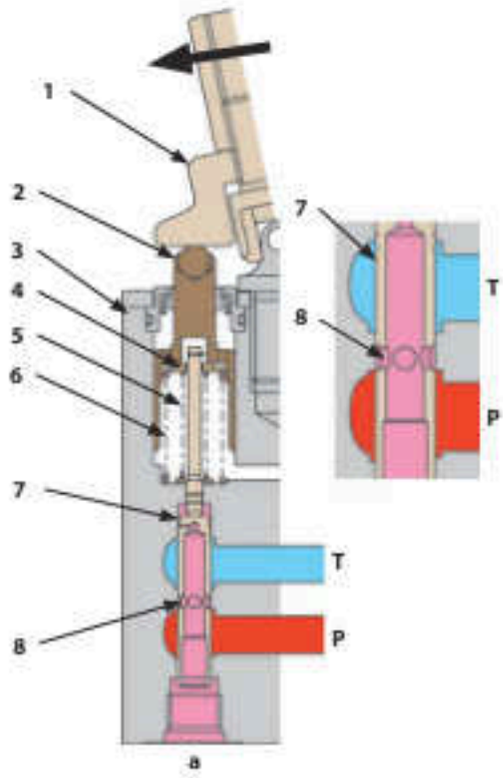
1- Spring
2- Sleeve A
3- Spool A
4- Piston
11- Servo Piston 1 (2 Used)
12- Swash Plate
13- Link
14- Servo Piston 2

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Front Attachment /
Swing Pilot Valve

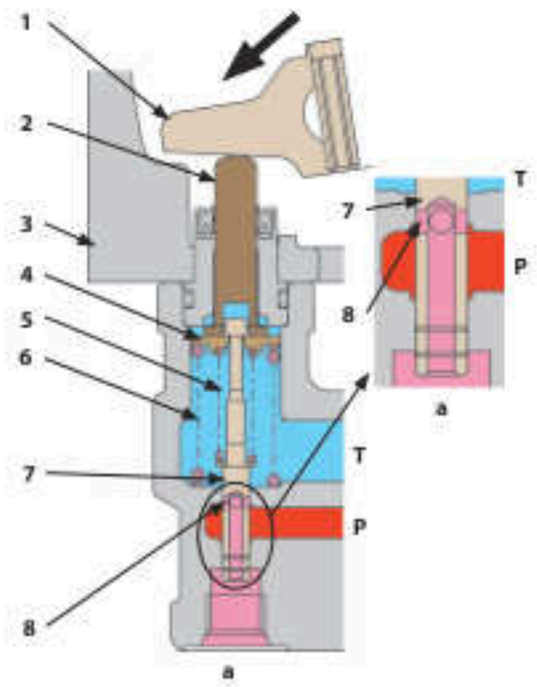


TPPP-03-04-007

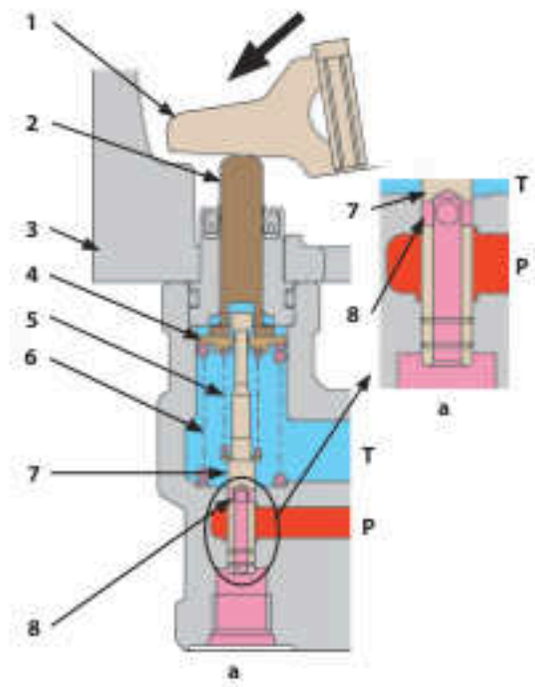


TPPP-03-04-008

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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