PART NO. TADC-EN-01

HITACHI

Reliable solutions

Technical Manual

ZX
38U-5A
Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual	: Vol. No.TADC-EN
Workshop Manual	: Vol. No.WADC-EN
Engine Manual	: Vol. No.ETADB-EN, EWADB-EN

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Hydraulic Component

MAIN PUMP 1, MAIN PUMP 2	Type	Swash Plate Type Variable Displacement Axial Plunger Pump
	Theoretical Displacement	16.0 cm^3/rev (1.0 in^3/rev)×2
MAIN PUMP 3	Type	Gear Pump
	Theoretical Displacement	9.5 cm^3/rev (0.6 in^3/rev)
PILOT PUMP	Type	Gear Pump
	Theoretical Displacement	4.5 cm^3/rev (0.3 in^3/rev)
CONTROL VALVE	Type	Pilot Pressure Operated Type (10-Spool)
	Main Relief Set-Pressure (P1, P2)	Normal: 25.2±0.3 MPa (257±3.06 kgf/cm^2, 3650±44 psi) at 30 L/min
	Main Relief Set-Pressure (P3)	21.6±0.3 MPa (220±3.06 kgf/cm^2, 3130±44 psi) at 22 L/min
	Overload Relief Set-Pressure (Boom, Arm, and Bucket)	27.5^{+1}_{0} MPa ($280^{+10.2}_{0}$ kgf/cm^2, 3990^{+145}_{0} psi) at 20 L/min

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Fault Code W: 1304

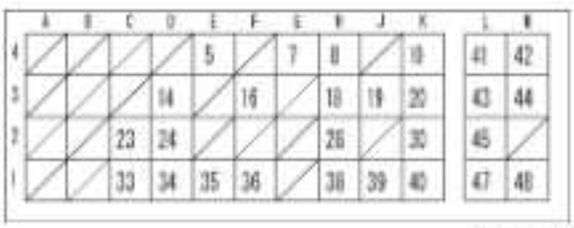
Preparation

- Check the wiring connections first.

Fault Code	Trouble	Inspection Method	Evaluation	Cause
W: 1304	Engine Control Dial Failure (CAN Signal)	Measure resistance between E-ECU#40 and terminal M1-20 in monitor controller.	0/∞ Ω	Faulty CAN (High side) harness between E-ECU and monitor controller
		Measure resistance between E-ECU#39 and monitor controller terminal M1-21.	0/∞ Ω	Faulty CAN (Low side) harness between E-ECU and monitor controller
		-	The check mentioned above is normal.	Faulty monitor controller

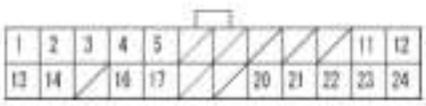
Connector (Harness end)

- E-ECU



TADB-05-03-001

- Monitor Controller M1



TADB-05-03-002

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Air flow volume is not shifted.

- Check the wiring connections first.
- Check the display change of blower switches (I), (II), and (III) on the control panel.

Air flow volume (I) and (II) are not shifted. (Air flow volume (I) and (II) are the same.)

Procedure	Inspection Method	Condition	Evaluation	Cause (check point)
1	Switch blower motor relay (Low) or blower motor relay (Mid) with blower motor relay (High).	Key Switch: ON Air Conditioner Switch: ON	The symptom disappears.	Faulty blower motor relay (Low) or faulty blower motor relay (Mid)
2	Check continuity in harness between register #2 and #3.	-	0 Ω	Faulty register
3	Check continuity in harness between register harness end #2 and #3.	-	0 Ω	Shorted circuit in harness #2 and #3
4	-	-	The check mentioned above is normal.	Faulty control panel

Air flow volume (I) and (III) are not shifted. (Air flow volume (I) and (III) are the same.)

Procedure	Inspection Method	Condition	Evaluation	Cause (check point)
1	Switch blower motor relay (Low) or blower motor relay (High) with blower motor relay (Mid).	Key Switch: ON Air Conditioner Switch: ON	The symptom disappears.	Faulty blower motor relay (Low) or faulty blower motor relay (High)
2	Check continuity in harness between register #1 and #2.	-	0 Ω	Faulty register
3	Check continuity in harness between register harness end #1 and #2.	-	0 Ω	Shorted circuit in harness #1 and #2
4	-	-	The check mentioned above is normal.	Faulty control panel

Connector (Harness end)

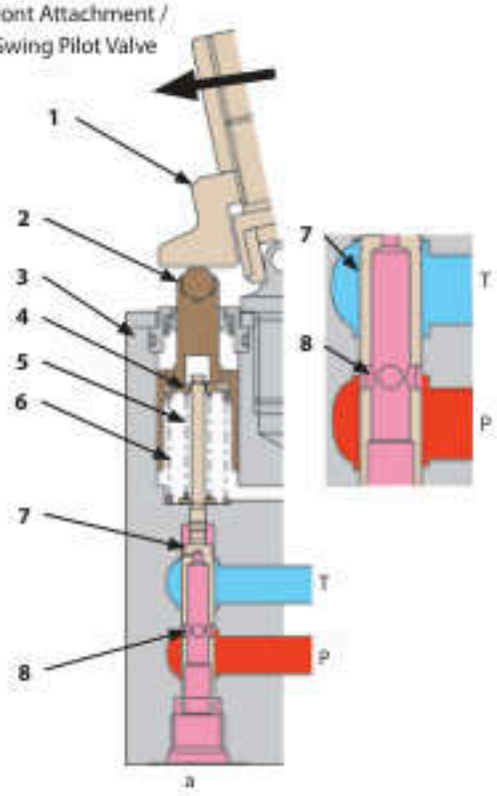
- Register



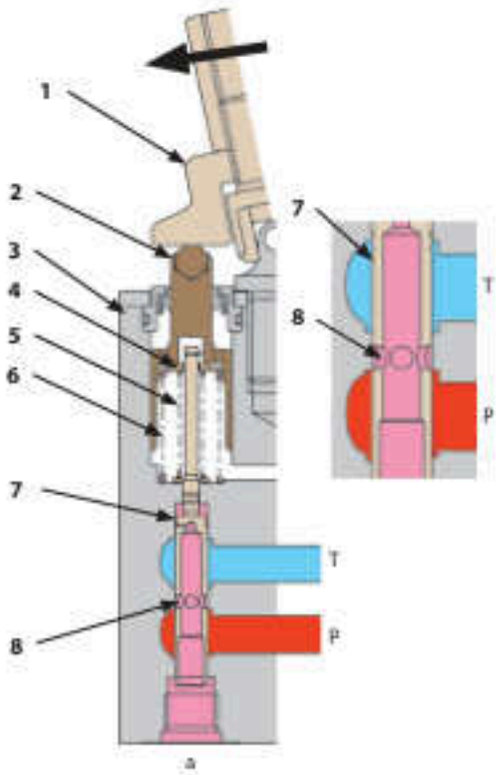
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Front Attachment / Swing Pilot Valve

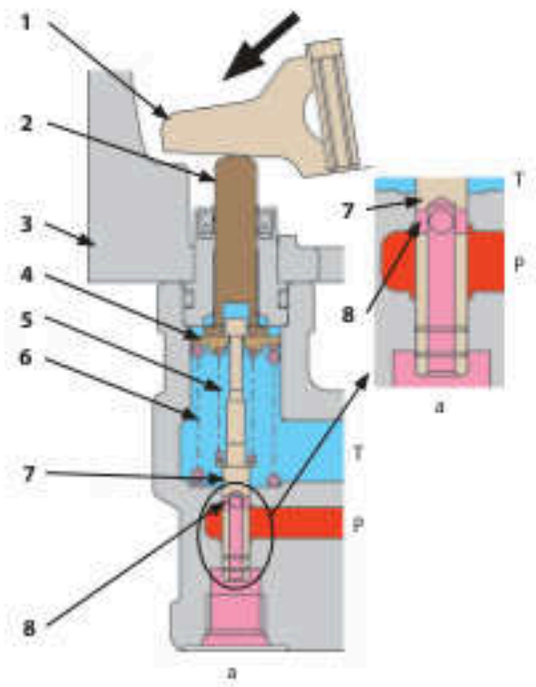


TPPP-03-04-007

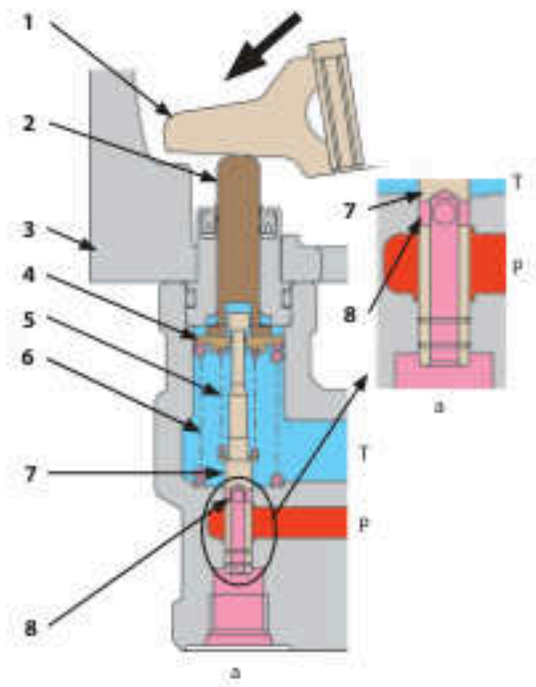


TPPP-03-04-008

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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