PART NO.

HITACHI

Technical Manual

Troubleshooting

ZX

ZX27U
ZX30U
ZX35U

Hydraulic Excavator

Service Manual consists of the following separate Part No.
Technical Manual (Operational Principle)
Technical Manual (Troubleshooting)
Workshop Manual

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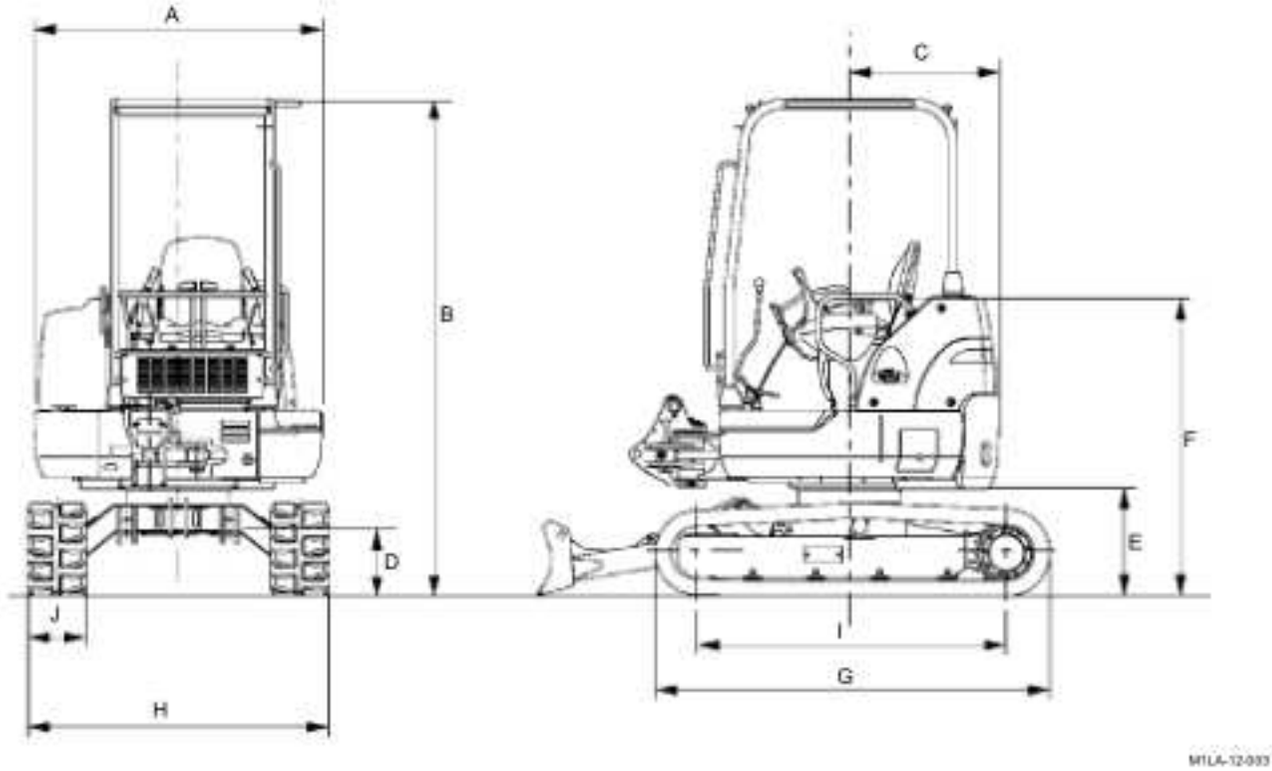
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30U

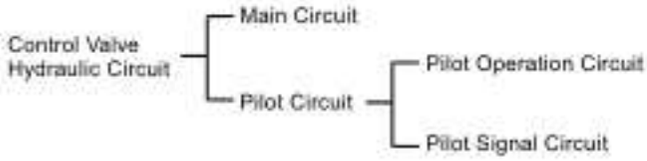


Type		30U	
		Canopy	Cab
Type of Front-End Attachment		Boom Swing Type	
Bucket Capacity (Heaped)	m^3 (yd^3)	0.09 (0.12)	
Operating Weightkg	kg (lb)	3040 (6700)	3100 (6830)
Basic Machine Weight	kg (lb)	2340 (5160)	2400 (5290)
Engine	kW/min^{-1} (PS/rpm)	Isuzu 3LD2 23.5/2450 (32/2450)	
A: Overall Width	mm (ft-in)	1490 (4'11")	
B: Overall Height	mm (ft-in)	2570 (8'5")	2620 (8'7")
C: Rear-End Swing Radius	mm (ft-in)	775 (2'6")	
D: Minimum Ground Clearance	mm (ft-in)	330 (1'1")	
E: Counterweight Height	mm (ft-in)	555 (1'10")	
F: Engine Cover Height	mm (ft-in)	1530 (5'0")	
G: Undercarriage Length	mm (ft-in)	2015 (6'7")	
H: Undercarriage Width	mm (ft-in)	1550 (5'1")	
I: Sprocket Center to Idler Center	mm (ft-in)	1590 (5'3")	
J: Track Shoe Width	mm (ft-in)	300 (1'0") (Rubber Crawler)	
Ground Pressure	kPa (kgf/cm^2, psi)	28.0 (0.29, 4.1)	
Swing Speed	min^{-1} (rpm)	9.0 (9.0)	
Travel Speed (fast/slow)	km/h (mph)	4.4/3.2 (2.7/2.0)	
Gradeability	(tan θ)	30° (58%)	

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HYDRAULIC CIRCUIT

The hydraulic circuit in the control valve is divided into 3 parts: main circuit, pilot operation circuit and pilot signal circuit.



Main Circuit

The pressure oil from main pumps (P1, P2, P3) flows into the control valve respectively.

When the spool is neutral (i.e. control levers are in neutral), the pressure oil from main pump returns to the hydraulic oil tank via the neutral circuit.

When the spool is operated (i.e. control lever is operated), the pressure oil from main pump flows into the actuator via spool. (When the combined operation of travel (R, L) and front attachment (Boom , Arm, Bucket), the flow combiner valve is shifted.)

The main circuit has a parallel circuit. The combined operation becomes possible using this circuit.

The pressure in main circuit (between pump and actuator) is controlled by main relief valve, to prevent the pressure in main circuit from exceeding the set pressure when the spool (the control lever) is operated.

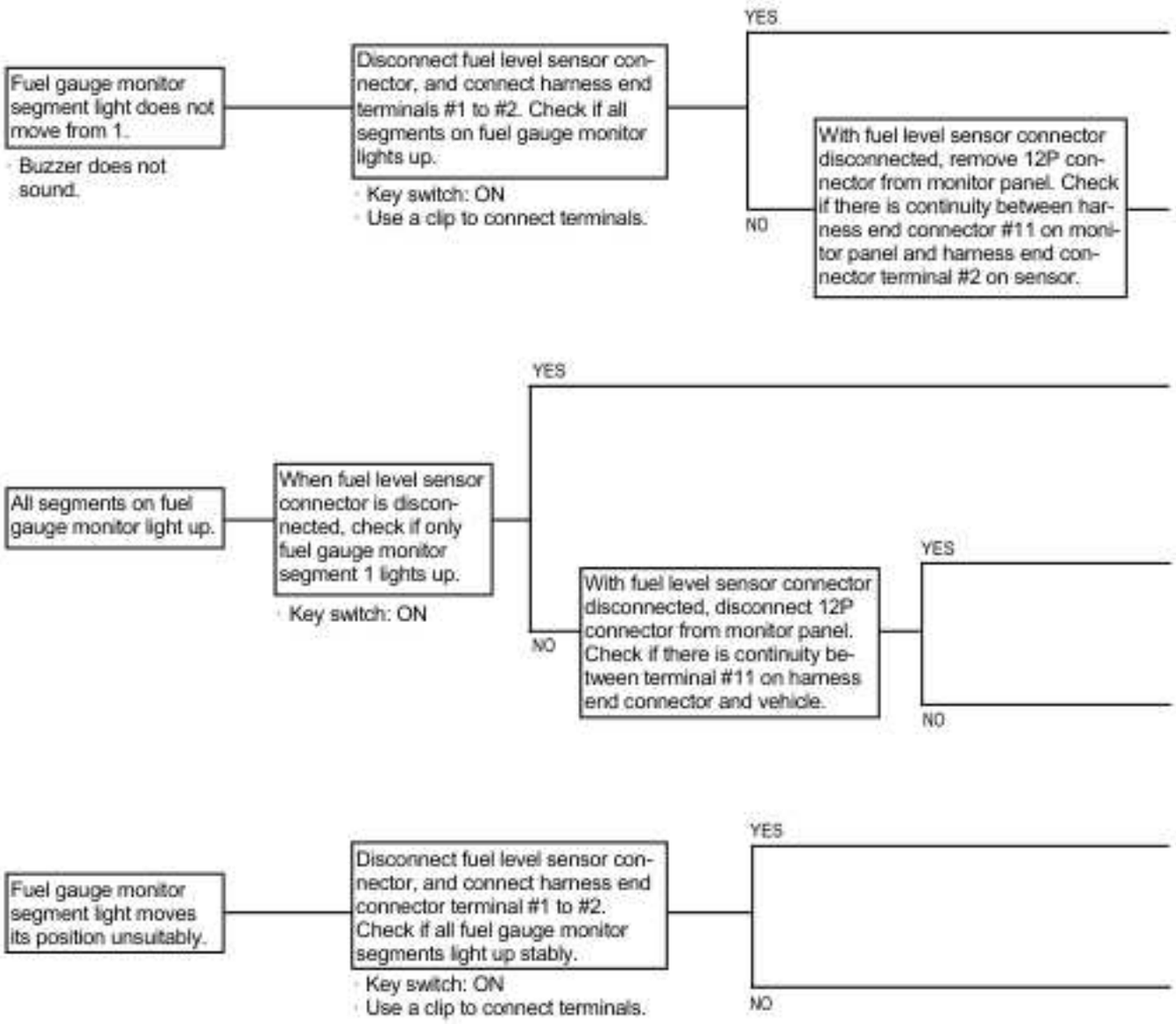
The pressure in actuator circuit (between control valve and actuator) is controlled by overload relief valve, to prevent the pressure from exceeding the set pressure at the spool (the control lever) is in neutral.

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MULFUNCTION OF FUEL GAUGE

NOTE: The troubleshooting here only covers the malfunction of fuel level gauge. For the malfunction of fuel level indicator, refer to T5-3-9.

- Be sure to inspect connection prior to trouble shooting.



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