PART NO. T4EJ-E-00

HITACHI

Technical Manual

ZW

20

Wheel Loader

Service Manual consists of the following separate Part No.

Technical Manual : Vol. No.T4EJ-E

Workshop Manual : Vol. No.W4EJ-E

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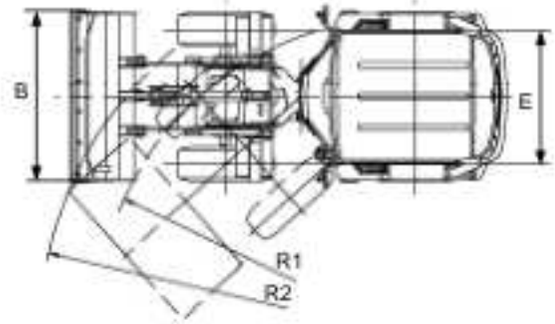
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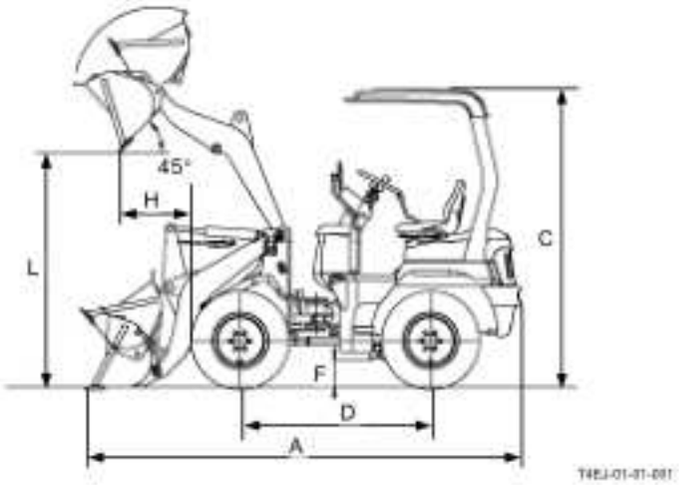
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SPECIFICATIONS





Standard Bucket Capacity (with edge)		m^3 (yd^3)	0.3 (0.39)
Operating Weight	Canopy spec.	kg (lb)	1840 (4060)
	Cab spec.	kg (lb)	2015 (4450)
Rated Machine Weight		kg (lb)	500 (1110)
Engine			KUBOTA D1105-K2A 16.2 kW/2500 min^{-1} 22 PS/2500 rpm
A: Overall Length		mm (ft-in)	3440 (11' 3")
B: Overall Width (Bucket)		mm (ft-in)	1350 (4' 5")
C: Overall Height	Canopy spec.	mm (ft-in)	2350 (7' 9")
	Cab spec.	mm (ft-in)	2395 (7' 10")
D: Wheel Base		mm (ft-in)	1500 (4' 11")
E: Tread		mm (ft-in)	1065 (3' 6")
F: Minimum Ground Clearance		mm (ft-in)	215 (0' 9")
G: Dumping Clearance		mm (ft-in)	1850 (6' 1")
H: Dumping Reach		mm (ft-in)	570 (1' 10")
R1: Minimum Rotation Radius	Center of Outside Tire	mm (ft-in)	2545 (8' 4")
R2: Minimum Rotation Radius	Bucket Outside Edge	mm (ft-in)	2970 (9' 9")
Travel Speed	Forward/Reverse	km/h (mph)	15/15 (9.3/9.3)
Transmission Speeds	Forward/Reverse	–	2/2
Maximum Gradeability		% (deg.)	58 (30)
Articulation Angle (Left/Right)		deg.	42
Tire Size		–	10-16.5-4PR

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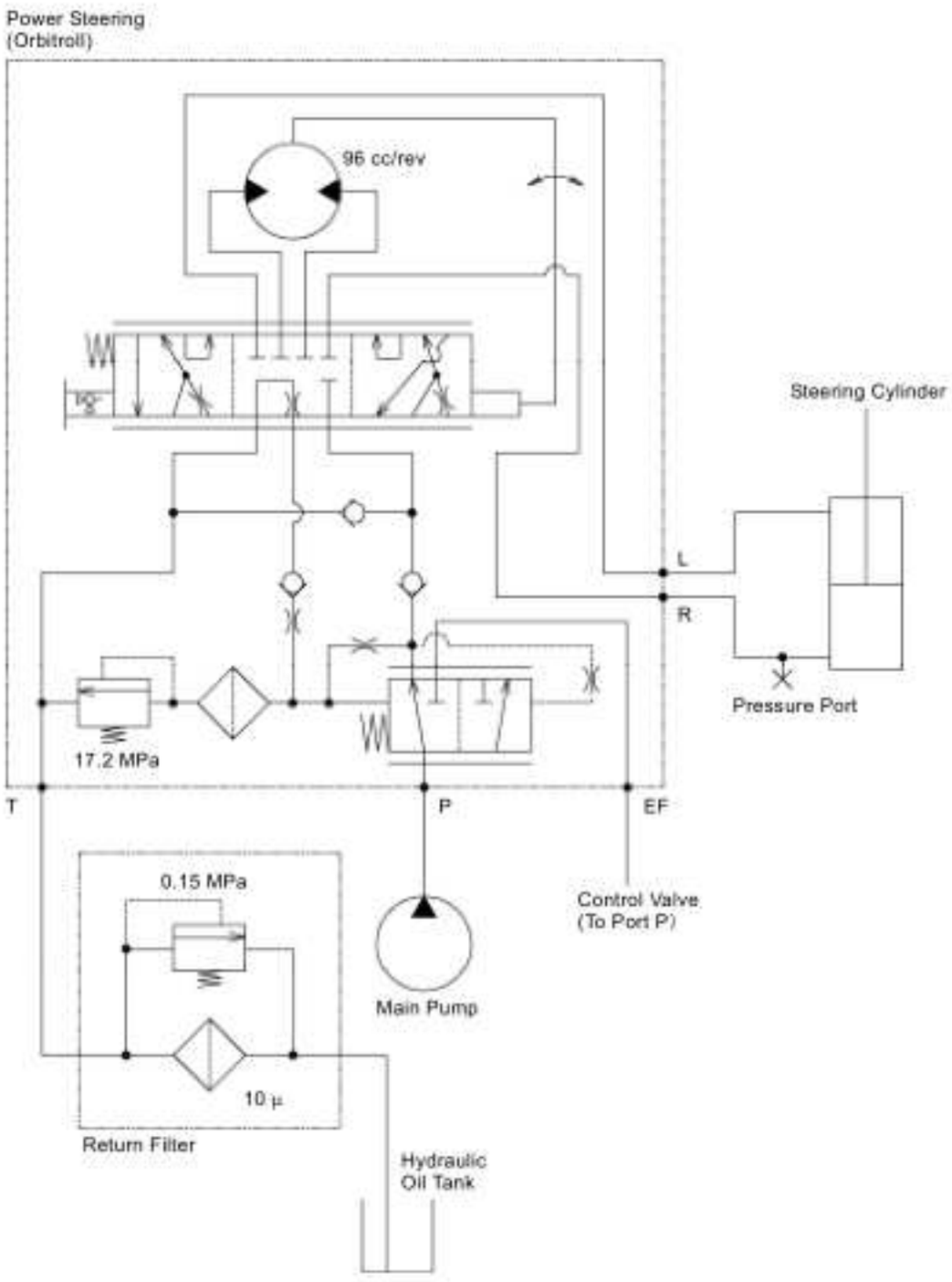
Steering Circuit Diagram

Hydraulic oil suctioned from the hydraulic oil tank by using the main pump is delivered to the power steering (orbitroll). Hydraulic oil is divided into the main hydraulic circuit and the steering hydraulic circuit.

As the steering hydraulic circuit is adopted the load sensing system, the steering hydraulic circuit sends hydraulic oil required for changing the machine direction to the power steering (orbitroll) preferentially.

The steering hydraulic circuit returns redundant hydraulic oil to the main circuit. As for the power steering (orbitroll), hydraulic oil is delivered to the steering cylinder and the machine direction is changed according to the steering wheel operation.

Hydraulic oil delivered from the steering cylinder flows back to the power steering (orbitroll). Hydraulic oil is filtrated in the return filter and returns to the hydraulic oil tank.



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INTRODUCTION

Refer to the inspection and troubleshooting procedures after any machine trouble has occurred. The inspection and troubleshooting procedures are presented in an orderly fashion in this section to quickly find the cause of the machine trouble and solution.

The troubleshooting section in this manual consists of 5 groups; Diagnosing Procedure, Engine, Troubleshooting 1 (base machine diagnosis starting with inspection of abnormal operational status), Troubleshooting 2 (monitor diagnosis) and Electrical System Inspection.

- Engine (engine diagnosis starting with inspection of abnormal operational status)
  Refer to these procedures when engine operational malfunctioning.

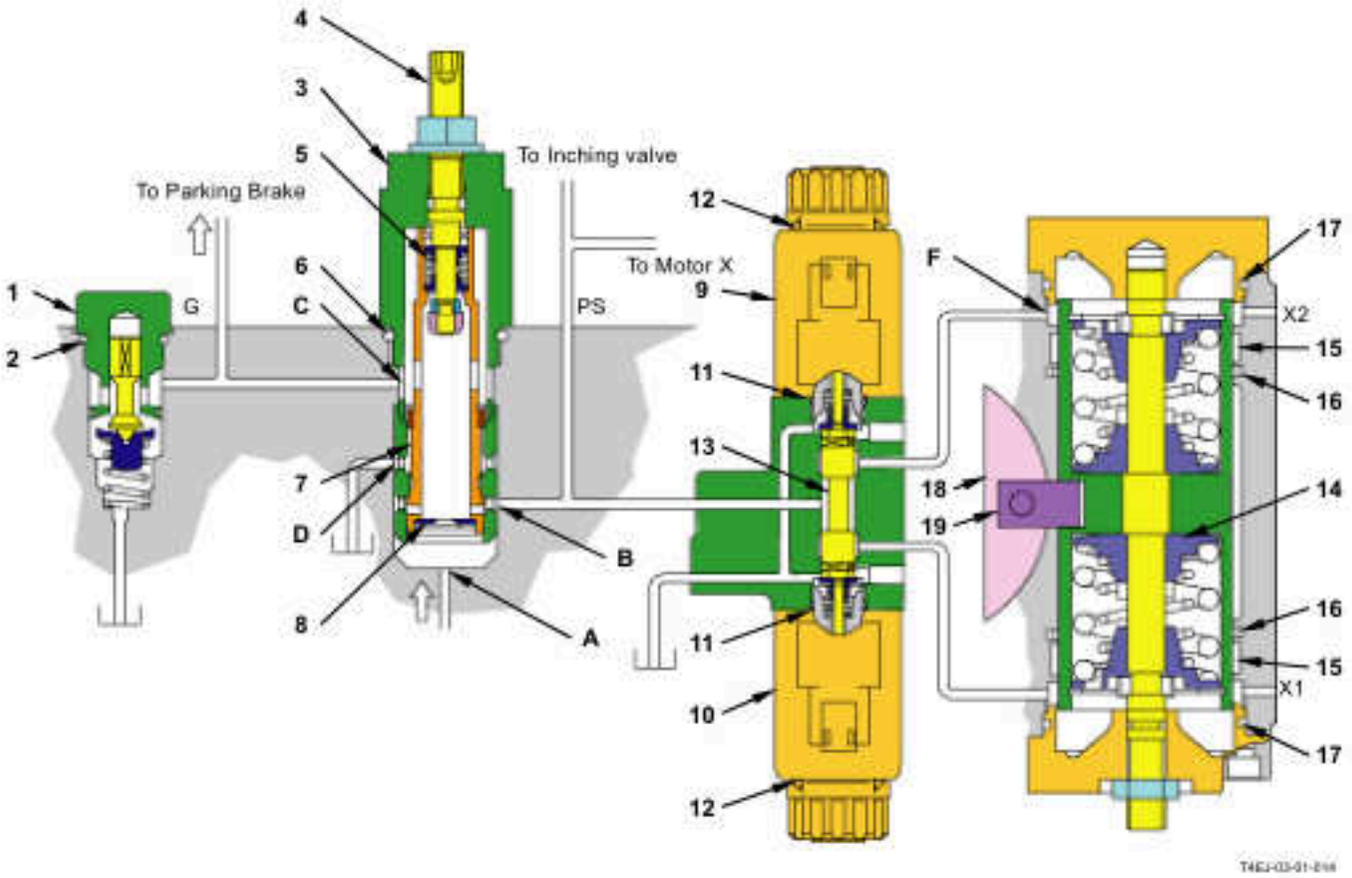
- Troubleshooting 1 (base machine diagnosis starting with inspection of abnormal operational status)
  Refer to these procedures when machine operational malfunctioning.

- Troubleshooting 2 (monitor diagnosis)
  Refer to these procedures when gauges and/or indicators are malfunctioning.

- Electrical System Inspection
  Refer to this group when required to obtain precautions and/or information for the electrical system inspection.

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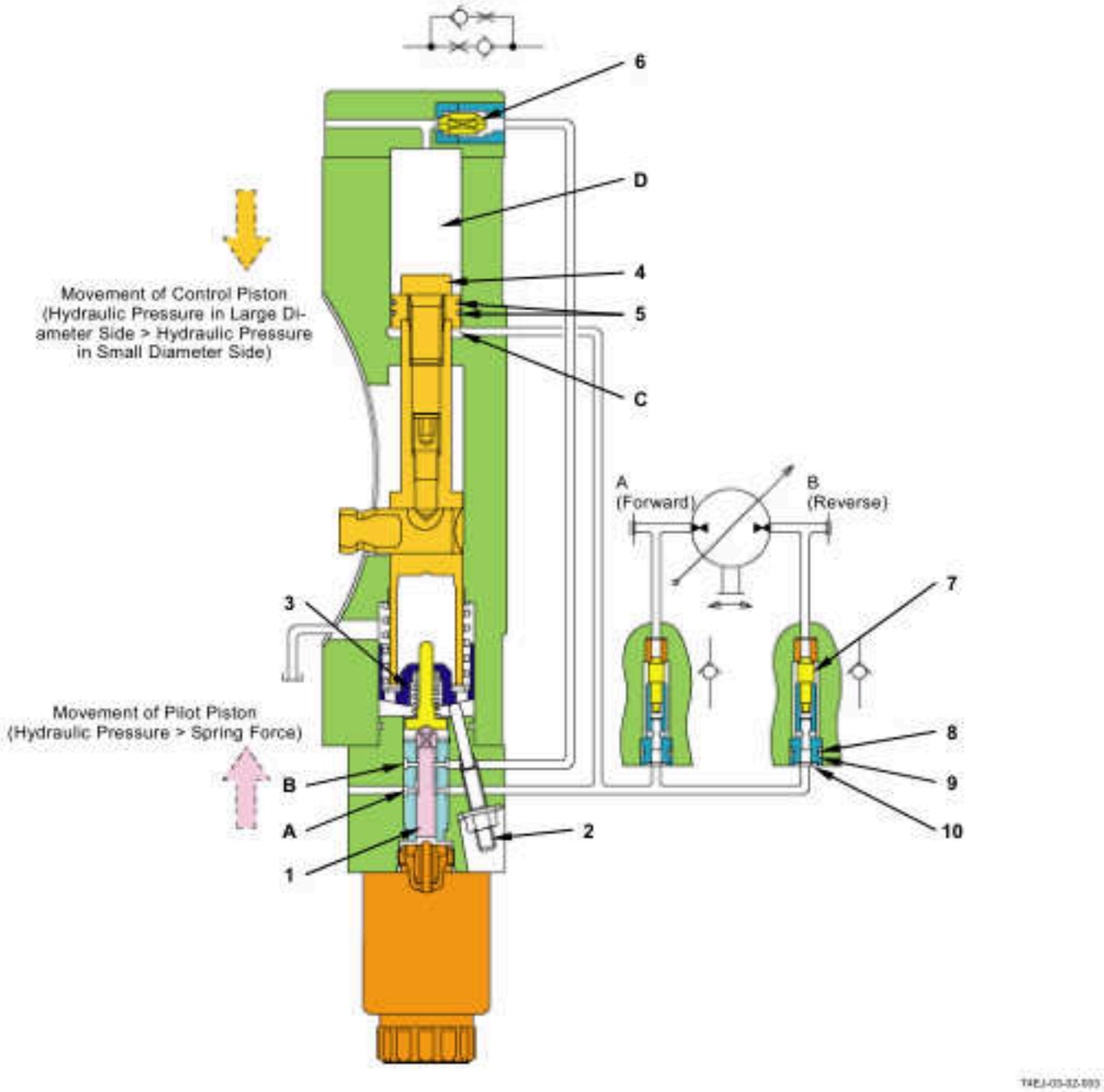
DA Control



1 - Low-Pressure Relief Valve
2 - O-Ring
3 - DA Valve
4 - Set Screw
5 - Adjust Spring
6 - O-Ring
7 - Differential Piston
8 - Orifice
9 - Solenoid Valve [b]
10 - Solenoid Valve [a]
11 - O-Ring
12 - O-Ring
13 - Control Piston
14 - Displacement Angle Piston
15 - Guide Ring
16 - Turcon Glyd Ring
17 - O-Ring
18 - Swash Plate
19 - Slide Ring
A- DA Valve Primary side (From Charging Pump)
B- DA Valve Secondary side (To Control Circuit)
C- DA Valve Secondary side (To Charging Circuit)
D- DA Valve Drain
E- Displacement Angle Piston (x1)
F- Displacement Angle Piston (x2)

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HA Control



1 - Pilot Piston
2 - Set Screw
3 - Adjust Spring
4 - Control Piston
5 - O-Ring
6 - Restriction Valve
7 - Check Valve
8 - O-Ring
9 - Backup Ring
10 - O-Ring

A- Control Bushing Primary Side
B- Control Bushing Secondary Side
C- Control Piston Small Diameter (Cyclic) Side
D- Control Piston Large Diameter Side

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