WSM

WORKSHOP MANUAL

TRACTOR,FRONT LOADER, BACKHOE

L35 TL720 BT900

Kubota

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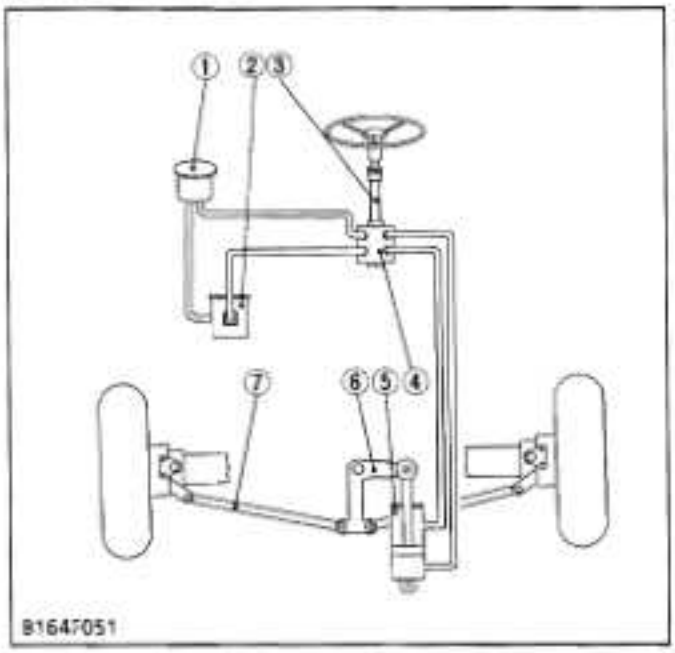
SERVICING

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[1] FEATURES



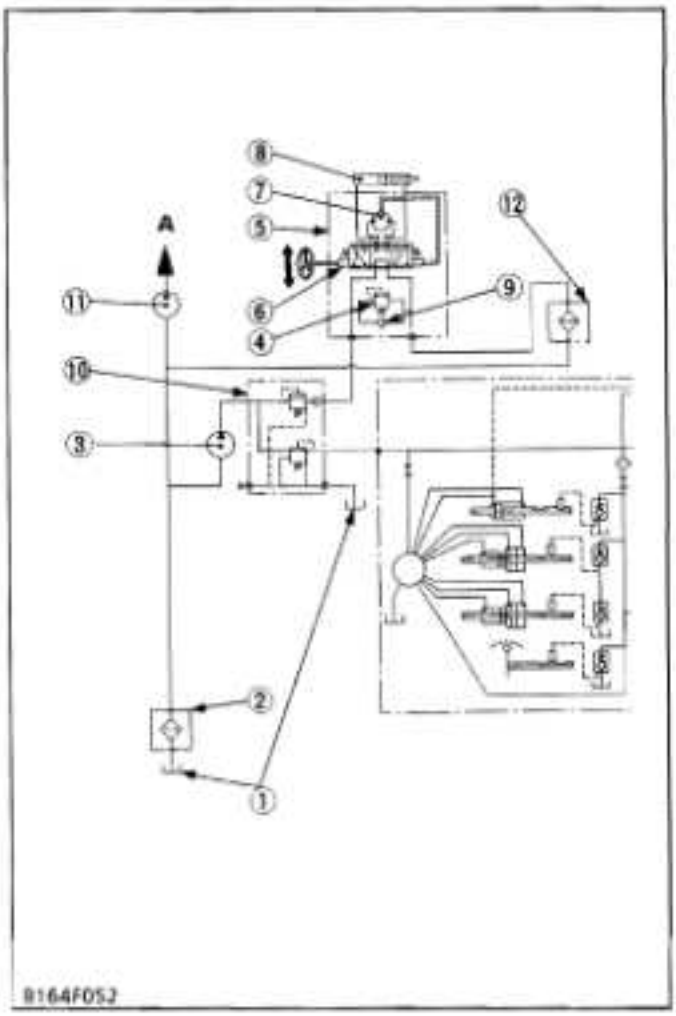
L35 is provided with a hydrostatic power steering. The steering controller is connected to the steering cylinder with the hydraulic pipes only.

This steering is actuated by oil pressure. Accordingly, it does not have mechanical transmitting parts such as steering gear, drag link, etc.

Therefore, it is simple in construction. In these models, the non-road reaction type is used. With this type, the wheels maintain their position when the operator releases his hands from the steering wheel. Vibration at the wheels is not transmitted to the steering wheel.

(1) Transmission Case
(2) Hydraulic Pump
(3) Steering Joint
(4) Steering Controller
(5) Steering Cylinder
(6) Steering Lever
(7) Tie-rod

[2] HYDRAULIC CIRCUIT



■ **Hydraulic Oil Flow**

1. The hydraulic pump (3), driven by the engine, sucks oil from transmission case (1), and directs it to steering controller (5) through the regulator valve (10).
2. The oil which has entered steering controller (5) is directed to control valve (6). As the steering wheel is turned, control valve (6) operates, and the oil passes through gerotor (7) and into steering cylinder (8). The cylinder rod then moves to control the directional movement of the front wheels.
3. Return oil from steering cylinder (8) passes through control valve (6) and into the oil cooler (12).
4. When the engine is not operating, and the steering wheel is turned, geroter (7) rotates to supply oil in the pipe to steering cylinder (8). Thus the machine can be steered manually. Under this condition, check valve (9) opens, and oil returning from the steering cylinder, which would otherwise return to oil cooler (12), flows to the pipe leading to the hydraulic pump (11).

A : To Three Point Hydraulic System

(1) Transmission Case
(2) Oil Filter
(3) Hydraulic Pump (Power Steering)
(4) Relief Valve
(5) Steering Controller
(6) Control Valve
(7) Geroter
(8) Steering Cylinder
(9) Check Valve
(10) Regulator Valve
(11) Hydraulic Pump (Front)
(12) Oil Cooler

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SERVICING SPECIFICATIONS

FRONT HYDRAULIC PUMP

Item		Factory Specification	Allowable Limit
Hydraulic Pump Condition • Engine Speed ····· Approx. 2700 rpm • Rated Pressure ··· 17.16 to 17.75 MPa 175 to 180 kgf/cm² 2489 to 2560 psi • Oil Temperature ···· 40 to 60 °C 104 to 140 °F	Delivery at No Pressure	Above 42.2 ℓ / min. 11.15 U.S.gal / min. 9.28 Imp.gal / min.	–
	Delivery at Rated Pressure	Above 40.9 ℓ / min. 10.8 U.S.gal / min. 9.0 Imp.gal / min.	36.8 ℓ / min. 9.72 U.S.gal / min. 8.09 Imp.gal / min.
Housing	Depth of Scratch	–	0.09 mm 0.0035 in.
Bushing to Gear Shaft	Clearance	–	0.15 mm 0.0059 in.
Bushing	Length	–	18.965 mm 0.94665 in.

RELIEF VALVE

Relief Valve Condition • Engine Speed ····· Maximum • Oil Temperature ···· 40 to 60 °C 104 to 140 °F	Setting Pressure	17.16 to 17.75 MPa 175 to 180 kgf/cm² 2489 to 2560 psi	–

HYDRAULIC CYLINDER

Cylinder Bore	I.D.	90.000 to 90.050 mm 3.54330 to 3.54527 in.	90.150 mm 3.54921 in.
Hydraulic Arm Shaft to Bushing	Clearance (Right)	0.125 to 0.230 mm 0.00492 to 0.00906 in.	0.50 mm 0.0197 in.
	Clearance (Left)	0.125 to 0.220 mm 0.00492 to 0.00866 in.	0.50 mm 0.0197 in.
Hydraulic Arm shaft	O.D. (Right)	44.920 to 44.950 mm 1.76850 to 1.76968 in.	–
	O.D. (Left)	39.920 to 39.950 mm 1.57165 to 1.57283 in.	–
Bushing	I.D. (Right)	45.075 to 45.150 mm 1.77460 to 1.77756 in.	–
	I.D. (Left)	40.075 to 40.140 mm 1.57775 to 1.58031 in.	–

CONTROL LINKAGE

Lift Arm	Free Play (at Maximum Raising Position)	5 to 10 mm 0.19 to 0.39 in.	–

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EASY CHECKER

Symptom	Probable Cause	Solution	Reference Page
Air Cleaner Clogged Lamp Lights Up	• Air cleaner clogged • Air cleaner sensor defective • Short circuit between air cleaner sensor lead and chassis • Circuit in panel board defective	Clean or replace Replace Repair or replace Replace	– 9-S25 9-M1, M2 –
Air Cleaner Clogged Lamp Does Not Light When Air Cleaner Clogged	• Bulb blown • Air cleaner sensor defective • Wiring harness disconnected or improperly connected (between panel board and air cleaner sensor, between air cleaner sensor and ground)	Replace Replace Repair or replace	– 9-S25 9-M1, M2
Engine Oil Pressure Lamp Lights Up When Engine Is Running	• Engine oil pressure too low • Engine oil insufficient • Engine oil pressure switch defective • Short circuit between engine oil pressure switch lead and chassis • Circuit in panel board defective	Repair engine Replenish Replace Repair Replace	– G-12 9-S24 – –
Engine Oil Pressure Lamp Does Not Light When Main Switch Is turned ON and Engine Is Not Running	• Bulb blown • Engine oil pressure switch defective • Wiring harness disconnected or improperly connected (between panel board and engine oil pressure switch) • Circuit in panel board defective	Replace Replace Repair or replace Replace	– 9-S24 9-M1, M2 –
Parking Brake Lamp Does Not Light When Parking Brake Lever to Parking Position	• Bulb blown • Parking brake switch improperly adjusted or defective • Wiring harness disconnected or improperly connected (between panel board and parking brake switch, between parking brake switch and ground) • Circuit in panel board defective	Replace Repair or replace Repair or replace Replace	– 9-S26 9-M1, M2 –
Parking Brake Lamp Does Not Go OFF When Parking Brake Lever is Released	• Short circuit between parking brake switch lead and chassis • Parking brake switch improperly adjusted or defective • Circuit in panel board defective	Repair or replace Repair or replace Replace	– 9-S26 –

GAUGES

Fuel Gauge Does Not Function	• Fuel gauge defective • Fuel level sensor (tank unit)defective • Wiring harness disconnected or improperly connected (between panel board and fuel level sensor) • Circuit in panel board defective	Replace Replace Repair or replace Replace	9-S27 9-S27 9-M1, M2 –
Coolant Temperature Gauge Does Not Function	• Coolant temperature gauge defective • Coolant temperature sensor defective • Wiring harness disconnected or improperly connected (between panel board and coolant temperature sensor) • Circuit in panel board defective	Replace Replace Repair or replace Replace	9-S27 9-S27 9-M1, M2 –

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