WSM

WORKSHOP MANUAL
TRACTOR

L3301,L3901,L4701



KiSC issued 08, 2019 A

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-10123

Order the manual at mid-west-tech.com >

INFORMATION

CONTENTS

1. SAFETY FIRST I-1
2. SAFETY DECALS I-4
   [1] L3301/L3901 ..... I-4
   [2] L4701 ..... I-7
3. SPECIFICATIONS I-10
   [1] L3301/L3901 ..... I-10
   [2] L4701 ..... I-12
4. TRAVELING SPEEDS I-13
   [1] L3301/L3901 ..... I-13
   [2] L4701 ..... I-14
5. DIMENSIONS I-15
   [1] L3301/L3901 ..... I-15
   [2] L4701 ..... I-16

KiSC issued 08, 2019 A

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

GENERAL

CONTENTS

1. TRACTOR IDENTIFICATION G-1
   [1] MODEL NAME AND SERIAL NUMBERS G-1
      (1) L3301/L3901 ..... G-1
      (2) L4701 ..... G-2
   [2] E4B ENGINE G-3
   [3] CYLINDER NUMBER G-3
2. GENERAL PRECAUTIONS G-4
3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING G-5
   [1] WIRING G-5
   [2] BATTERY G-7
   [3] FUSE G-7
   [4] CONNECTOR G-7
   [5] CIRCUIT TESTER G-8
   [6] COLOR OF WIRING G-9
4. LUBRICANTS, FUEL AND COOLANT G-10
   [1] L3301/L3901 ..... G-10
   [2] L4701 ..... G-11
5. TIGHTENING TORQUES G-13
   [1] GENERAL USE SCREWS, BOLTS AND NUTS G-13
   [2] STUD BOLTS G-13
   [3] METRIC SCREWS, BOLTS AND NUTS G-14
   [4] AMERICAN STANDARD SCREWS, BOLTS AND NUTS WITH UNC OR UNF THREADS G-14
   [5] PLUGS G-14
6. MAINTENANCE CHECK LIST G-15
   [1] L3301/L3901 ..... G-15
   [2] L4701 ..... G-18
7. CHECK AND MAINTENANCE G-21
   [1] L3301/L3901 ..... G-21
      (1) Daily Check G-21
      (2) Check Points of Every 50 Hours G-26
      (3) Check Points of Every 100 Hours G-29
      (4) Check Points of Every 200 Hours G-34
      (5) Check Points of Every 400 Hours G-36
      (6) Check Point of Every 600 Hours G-39
      (7) Check Point of Every 800 Hours G-40
      (8) Check Points of Every 1500 Hours G-40
      (9) Check Points of Every 3000 Hours G-41
      (10)Check Points of Every 1000 Hours or 1 year G-41
      (11)Check Points of Every 1 Year G-41
      (12)Check Points of Every 2000 Hours or 2 Years G-43
      (13)Check Points of Every 2 Years G-45
      (14)Check points of Every 4 Years G-45
      (15)Others G-46
   [2] L4701 ..... G-50
      (1) Daily Check G-50
      (2) Check Points of Every 50 Hours G-55
      (3) Check Points of Every 100 Hours G-58
      (4) Check Points of Every 200 Hours G-62

KiSC issued 08, 2019 A

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

MECHANISM

CONTENTS

1. FEATURES 1-M1
2. ENGINE BODY 1-M2
   [1] PISTON 1-M2
   [2] HALF-FLOATING HEAD COVER 1-M2
3. LUBRICATING SYSTEM 1-M3
   [1] OIL COOLER 1-M3
4. COOLING SYSTEM 1-M4
   [1] THERMOSTAT 1-M4
   [2] BOTTOM BYPASS SYSTEM 1-M5
5. FUEL SYSTEM 1-M6
   [1] OVERVIEW OF COMMON RAIL SYSTEM 1-M6
   [2] SUPPLY PUMP 1-M8
   [3] RAIL 1-M11
   [4] INJECTOR 1-M12
   [5] ENGINE CONTROL SYSTEM 1-M16
      (1) Engine ECU 1-M17
      (2) Sensor 1-M17
6. EGR SYSTEM 1-M19
   [1] OVERVIEW 1-M19
   [2] EGR COOLER 1-M20
   [3] EGR VALVE 1-M20
7. AFTER TREATMENT SYSTEM 1-M21
   [1] AFTER TREATMENT DEVICES 1-M21

KiSC issued 08, 2019 A

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

2. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Clutch Pedal	Free Travel	20 to 30 mm 0.8 to 1.2 in.	–
Pressure Plate to Adjusting Bolt	Clearance	0.9 to 1.0 mm 0.035 to 0.039 in.	–
Clutch Disc Boss to Main Shaft (Travelling)	Backlash (Displacement Around Disc Edge)	–	2.0 mm 0.079 in.
Clutch Disc	Disc Surface to Rivet Top (Depth)	–	0.3 mm 0.01 in.
Diaphragm Spring	Mutual Difference	–	0.5 mm 0.02 in.
Pressure Plate to Straightedge	Clearance	–	0.2 mm 0.008 in.
Belleville Spring	Free Height	7.24 mm 0.285 in.	6.76 mm 0.266 in
Release Lever	Mutual Difference	0 to 0.2 mm 0 to 0.008 in.	–
Gauge Ring to Adjusting Screw	Clearance	0 to 0.7 mm 0 to 0.003 in.	–
Pressure Plate 2 to Adjusting Screw	Clearance	0.90 to 1.0 mm 0.036 to 0.039 in.	–

9Y1211012CLS0002US0

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

1. TROUBLESHOOTING

[1] L3301/L3901

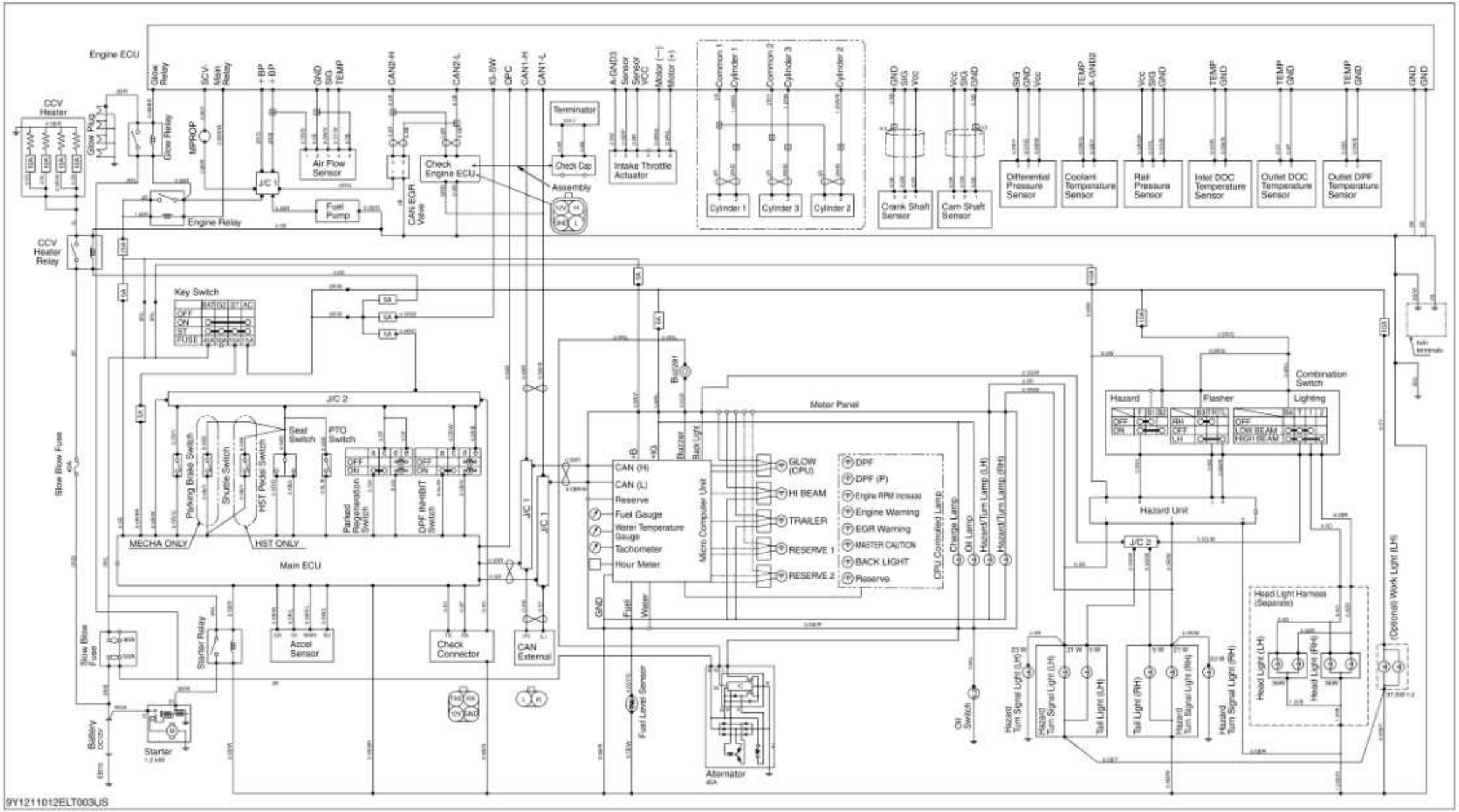
Symptom	Probable Cause	Solution	Reference Page
Excessive Steering Wheel Play	Improper wheel play adjustment	Adjust	7-S6
	Backlash between sector gear shaft and rack (piston) too large	Adjust	7-S21
	Steering linkage worn	Replace	–
	Sector gear shaft worn	Replace	7-S14
Tractor Pulls to Right or Left	Tire pressure uneven	Adjust	G-98
	Steering wheel play too small	Adjust	7-S6
	Improper toe-in adjustment	Adjust	G-35
Front Wheels Vibration	Steering linkage worn	Replace	–
	Improper toe-in adjustment	Adjust	G-35
Hard Steering	Transmission fluid improper or insufficient	Change	G-37
	Oil leak from pipe joint	Retighten	–
	Hydraulic pump malfunctioning	Replace	7-S11
	Improper relief valve adjustment	Adjust	7-S9
	Relief valve malfunctioning	Replace	7-S15
	Valve housing and sleeve malfunctioning	Replace	7-S15
	Seals in the steering gear box damaged	Replace	7-S15
	Backlash between sector gear shaft and rack (piston) too small	Adjust	7-S6
	Air in the hydraulic pipes	Air vent	7-S10
Low Operating Pressure	Hydraulic pump malfunctioning	Replace	7-S11
	Improper relief valve adjustment	Adjust	7-S9
	Relief valve malfunctioning	Replace	7-S15
	Seals in the steering gear box damaged	Replace	7-S15
	Rack (piston) malfunctioning	Replace rack (piston) assembly	7-S15
	Oil leak from pipe or pipe broken	Replace	–
Steering Wheel Does Not Return to Neutral Position	Valve housing and sleeve jammed	Repair or replace	7-S15
	Valve housing oil seal damaged	Replace	7-S15
Steering Force Fluctuates	Insufficient oil	Fill	G-37, G-65
	Insufficient bleeding	Bleed	7-S10
	Control valve malfunctioning	Replace	7-S15
Noise	Insufficient oil	Fill	G-37, G-65
	Air sucked in pump from suction circuit	Repair	7-S10
	Pipe deformed	Replace	–

9Y1211012STS0001US0

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

1. ELECTRICAL CIRCUIT

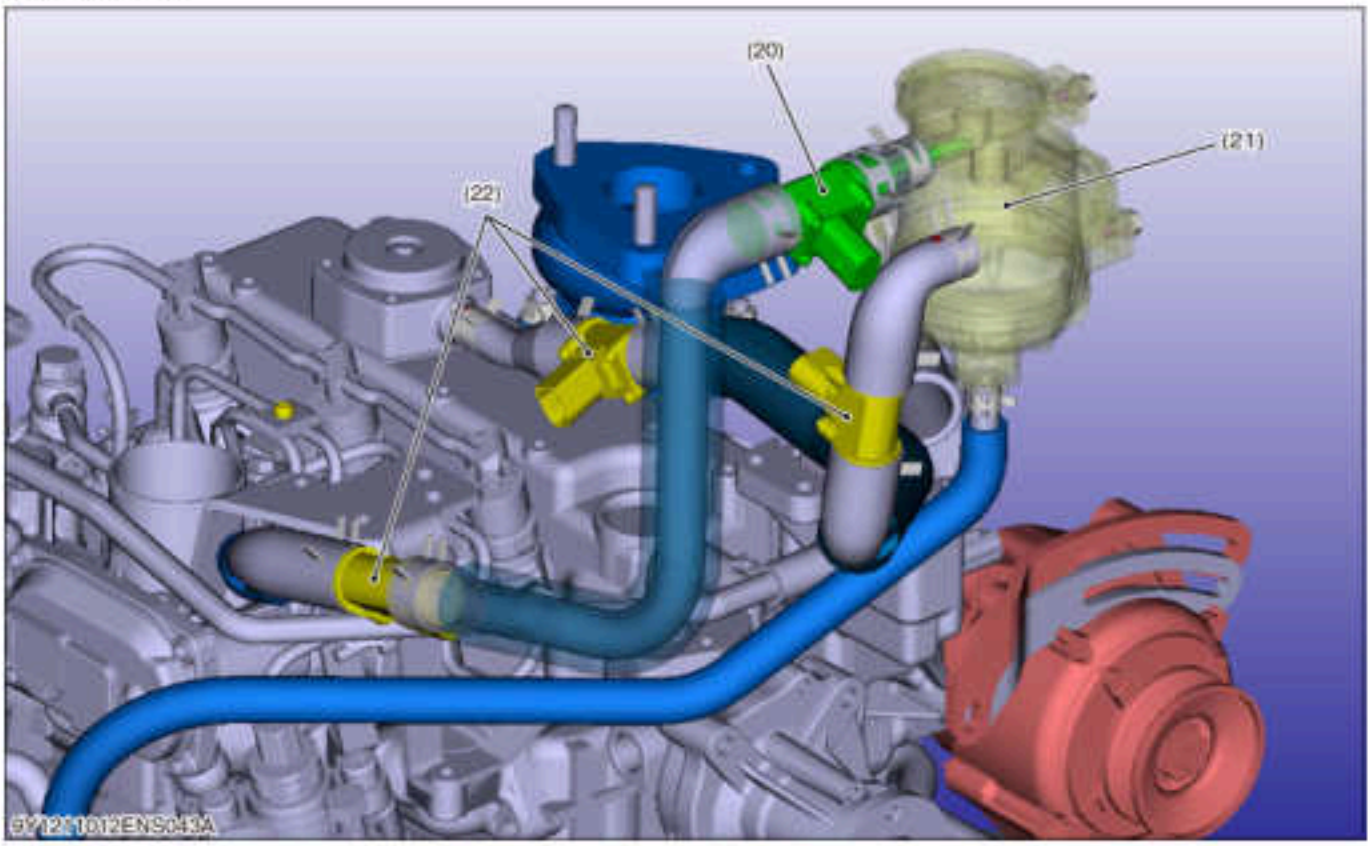
[1] L3301/L3901



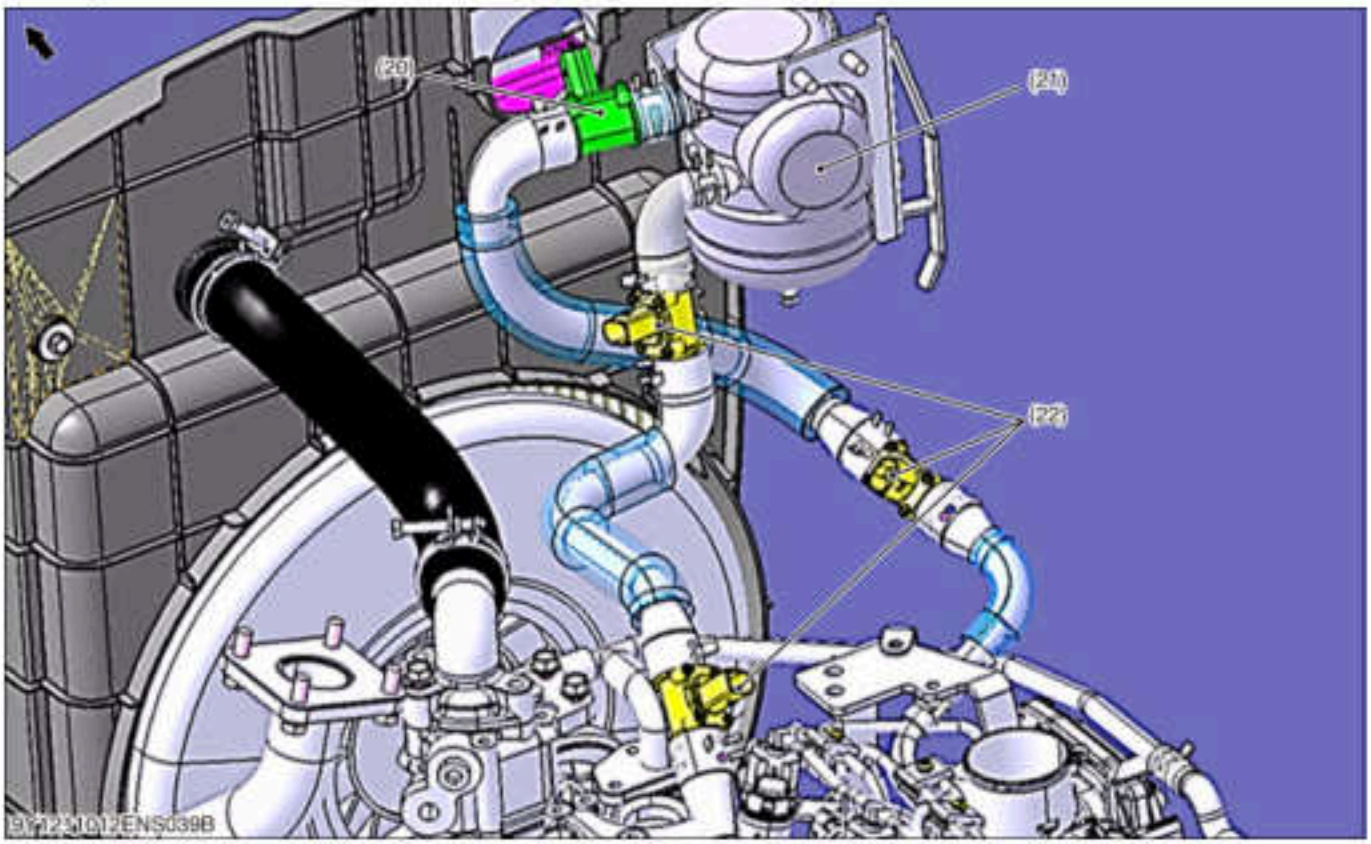
MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-10123

Order the manual at mid-west-tech.com >

(Continued)
[L3301, L3901]



[L4701]

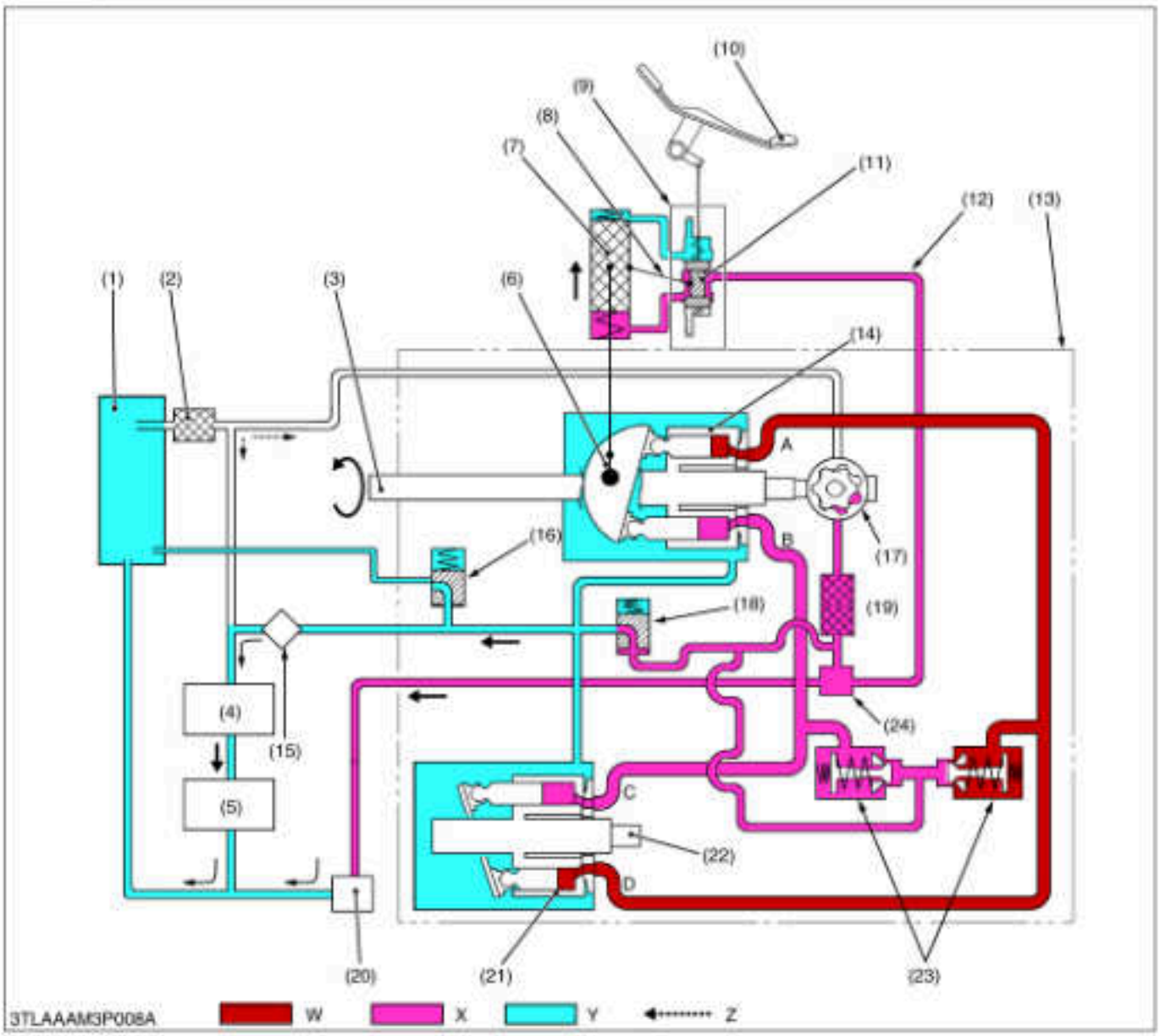


(20) CCV Heater 1 (21) Separator (CCV) (22) CCV Heater 2

9Y1211012ENS0028US0

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

Forward



(1) Transmission Case
(2) Filter
(3) Input Shaft
(4) Hydraulic Pump
(5) Power Steering Circuit
(6) Variable Swashplate
(7) Servo Piston
(8) Feedback Lever
(9) Regulator Valve Assembly
(10) HST Pedal
(11) Spool
(12) Bypass Pipe
(13) HST Assembly
(14) Pump Cylinder Block
(15) Oil Cooler
(16) Case Relief Valve
(17) Charge Pump
(18) Charge Relief Valve
(19) Oil Filter
(20) PTO Clutch Valve Circuit
(21) Motor Cylinder Block
(22) Output Shaft
(23) Check and High Pressure Relief Valve
(24) PTO Clutch Pressure Priority Valve

A: Pump Port A
B: Pump Port B
C: Motor Port C
D: Motor Port D
W: High Pressure Oil
X: Low Pressure Oil
Y: Free Oil
Z: Suction Oil

When the HST pedal (10) is stepped on and in forward, so the variable swashplate (6) is tilted by the servo piston (7) and the regulator valve (9) as shown in figure above.

As the pump cylinder block (14) rotates with the input shaft (3), the oil is forced out of pump port **A** at high pressure.

As the pressured oil enters to motor port **D**, the pistons, which align with port **D**, are pushed against the thrust plate and slide down inclined surface.

Then the output shaft (22) rotates with the motor cylinder block (21). This drives the machine forward and the angle of pump swashplate determines the output shaft speed.

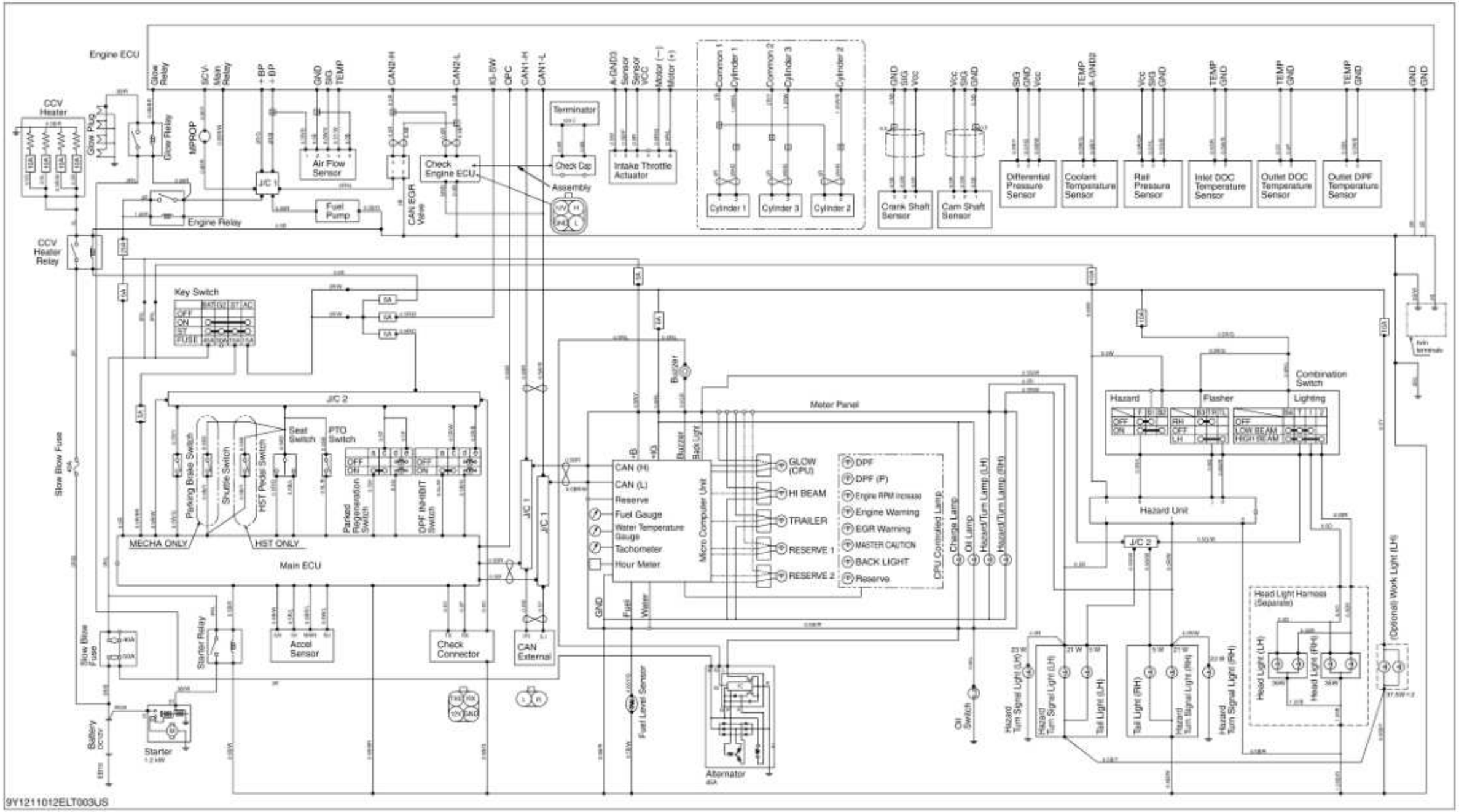
As the motor cylinder block (21) continues to rotate, oil is forced out of motor port **C** at low pressure and returns to the pump port **B**.

9Y1211012TRM0027US0

MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-1... Order the manual at mid-west-tech.com >

1. ELECTRICAL CIRCUIT

[1] L3301/L3901



MidWestTech | Kubota L3301, L3901, L4701 Tractor Service Manual | Publication 9Y111-10123

Order the manual at mid-west-tech.com >