SERVICE MANUAL

Boomer™ 20 / Boomer™ 25

Compact Tractor

Part number 48017684
English
June 2016

NEW HOLLAND AGRICULTURE

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Pump - General specification Model number - BDU21H(23HP) HST unit

Pump - Variable displacement

Pump displacement - **0-21 cm³/rev**

Motor displacement - **23.4 cm³/rev**

Pump high pressure relief valve - **17162 kPa** (**2489.08 psi**)

Output speed - **84 N·m** (**62 lb ft**) @ **30992 kPa** (**4495 psi**)

Output torque - **5.2 kgm** (**38 ftlbs.**)

Charge pump relief valve - **586 - 786 kPa** (**85 - 114 psi**) @ **2700 RPM**

Pump swash plate angle - Zero plus or minus - **18 °**

Motor swash plate angle - **18 °**

Weight - **10 kg** (**22 lb**)

Maximum rated input speed - **2700 RPM**

Maximum output speed (Theoretical) - **0 - 2900 RPM** (**0 - 2900 RPM**)

HST case pressure - < **98 kPa** (**14 psi**)

Bolt torques

Hydrostatic transmission cover screws
2 - 2.5 N·m (**1 - 2 lb ft**)

Hydrostatic port block retaining bolts
31 - 38 N·m (**23 - 28 lb ft**)

H S T unit , two bolts .
M8 x 1.25 mm torque **29.4 - 34.3 N·m** (**22 - 25 lb ft**)

Pump - General specification Model number - LDU20(27HP) HST unit

Pump - Variable displacement

Pump displacement - **0-20 cm³/rev**

Motor displacement - **20.0 cm³/rev**

Pump high pressure relief valve - **27458 kPa** (**3982.5 psi**)

Output speed - **2900 RPM** @ **27458 kPa** (**3982.5 psi**)

Output torque - **8.0 kgm** (**58 ftlbs.**)

Charge pump relief valve - **586 - 786 kPa** (**85 - 114 psi**) @ **2700 RPM**

Pump swash plate angle - Zero plus or minus - **18 °**

Motor swash plate angle - **15.5 kg** (**34 lb**)

Weight - **20 kg**

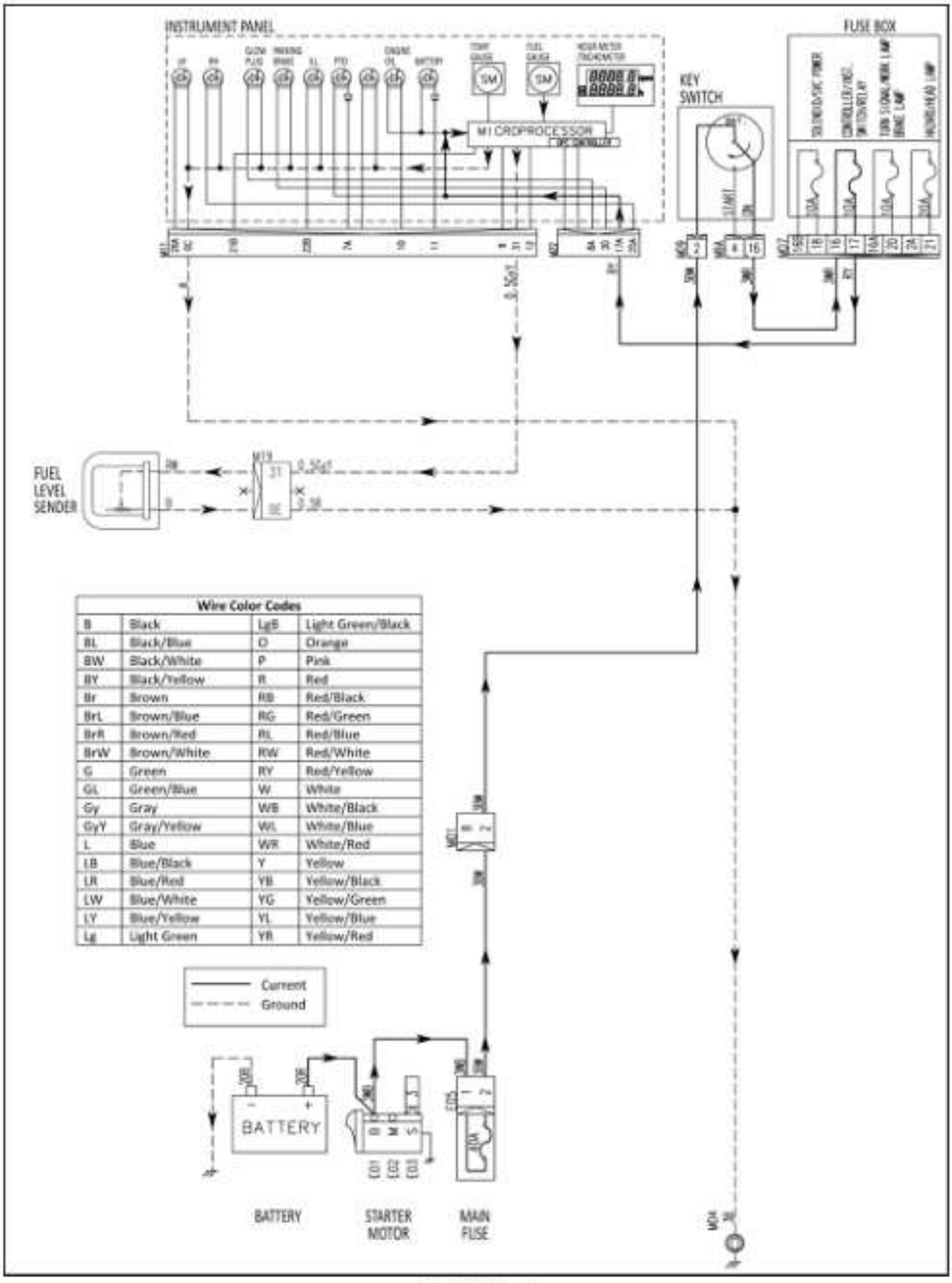
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Hydraulic control components - Troubleshooting - For the steering control unit

Problem	Possible Cause	Correction
Steering wheel excessively stiff	Control valve - External misalignment	Repair (loosen bolts and realign parts)
	Control valve - Seized by contamination in spool and sleeve	Replace or repair spool and sleeve
	Control valve - Torque of seven bolts in end cap too high	Torque end cap bolts to the prescribed torque value
	Pump - Discharge pressure low	Readjust pump pressure and capacity
	Relief valve - Faulty (poor operation)	Replace relief valve
	Relief valve - Pressure setting too low	Adjust pressure setting of the relief valve
	Cylinder - Low cylinder force	Replace or repair cylinder
Oil leakage	The spool oil seal is worn	Replace
	The excessive pressure	Set to correct pressure
	Contact side of housing, space plate, rotor set and end cap O ring damaged	Replace O rings
	Retaining ring out of groove.	Replace O-ring and retaining ring.
Tractor turns opposite direction of the steering wheel	Control valve - Steering valve timing incorrect	Correct the timing
	Plumbing - Right and left high pressure ports reversed	Correct plumbing
Steering wheel does not return to the "neutral" position or moves freely.	Control valve - Contamination in spool and sleeve	Replace or repair
	Control valve - Back pressure high	Repair for adjustment
When turning the steering wheel, slow or no response in steering	Control valve - Air in system	Remove air and tighten the connection
	Pump - Low hydraulic oil flow	Replace or repair
	Cylinder - Air in system	Remove air and tighten the connection
	Cylinder - Piston seal broken	Replace
	Overload Excessive weight on the front axle.	Remove the excess weight

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Wiring harnesses - Electrical schema - Fuel Level



Wire Color Codes			
B	Black	LgB	Light Green/Black
BL	Black/Blue	O	Orange
BW	Black/White	P	Pink
BY	Black/Yellow	R	Red
Br	Brown	RB	Red/Black
BrL	Brown/Blue	RG	Red/Green
BrR	Brown/Red	RL	Red/Blue
BrW	Brown/White	RW	Red/White
G	Green	RY	Red/Yellow
GL	Green/Blue	W	White
Gy	Gray	WB	White/Black
GyY	Gray/Yellow	WL	White/Blue
L	Blue	WR	White/Red
LB	Blue/Black	Y	Yellow
LR	Blue/Red	YB	Yellow/Black
LW	Blue/White	YG	Yellow/Green
LY	Blue/Yellow	YL	Yellow/Blue
Lg	Light Green	YR	Yellow/Red

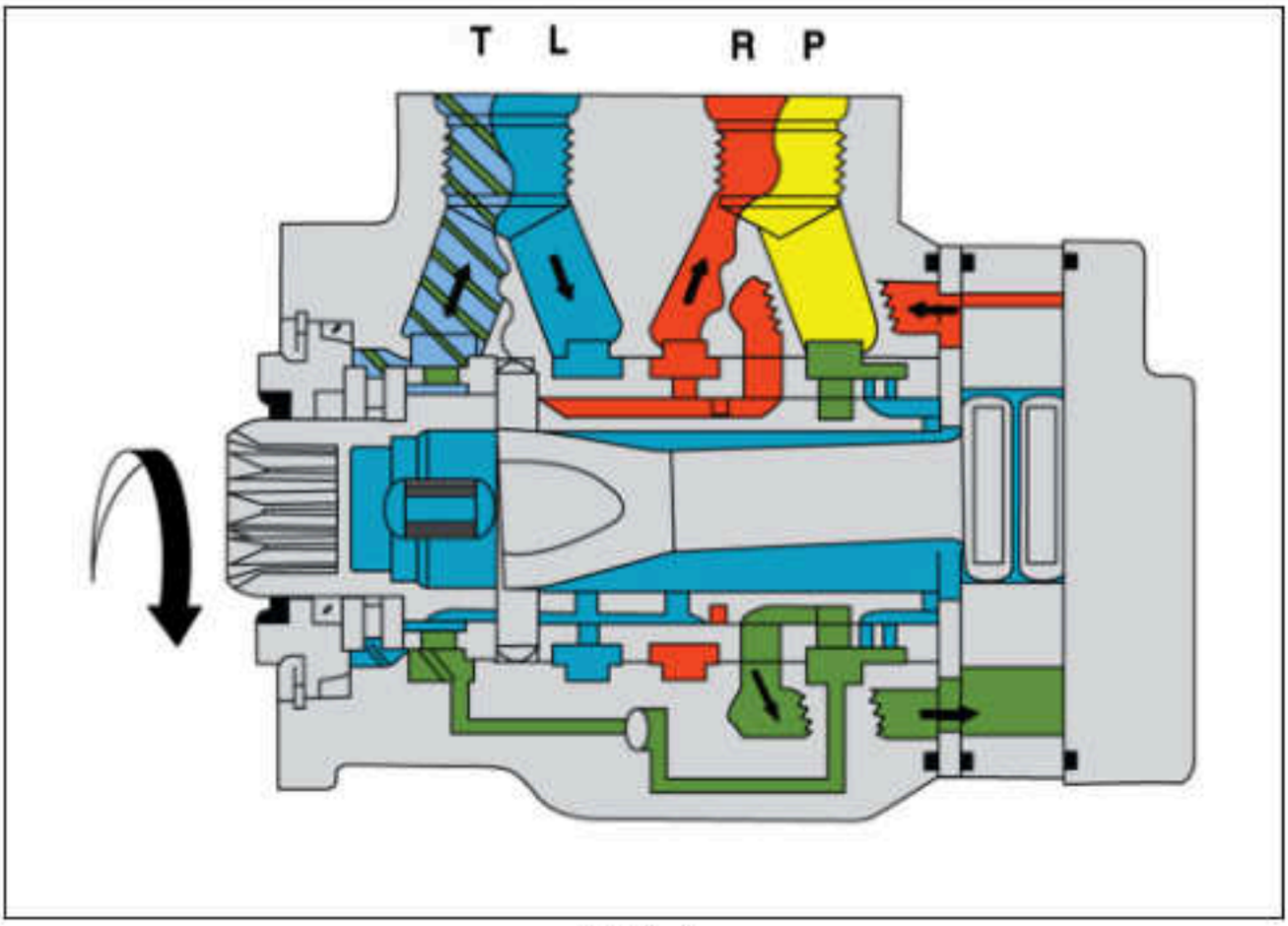
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Emergency operation

⚠WARNING

Loss of control hazard!
Because of the slow responsiveness of the steering in this condition, you should not travel at high speeds or on downhill roads.
Failure to comply could result in death or serious injury.

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Emergency mode steering manually

(T) - Tank
(L) - Left steer port
(R) - Right steer port
(P) - Pump discharge

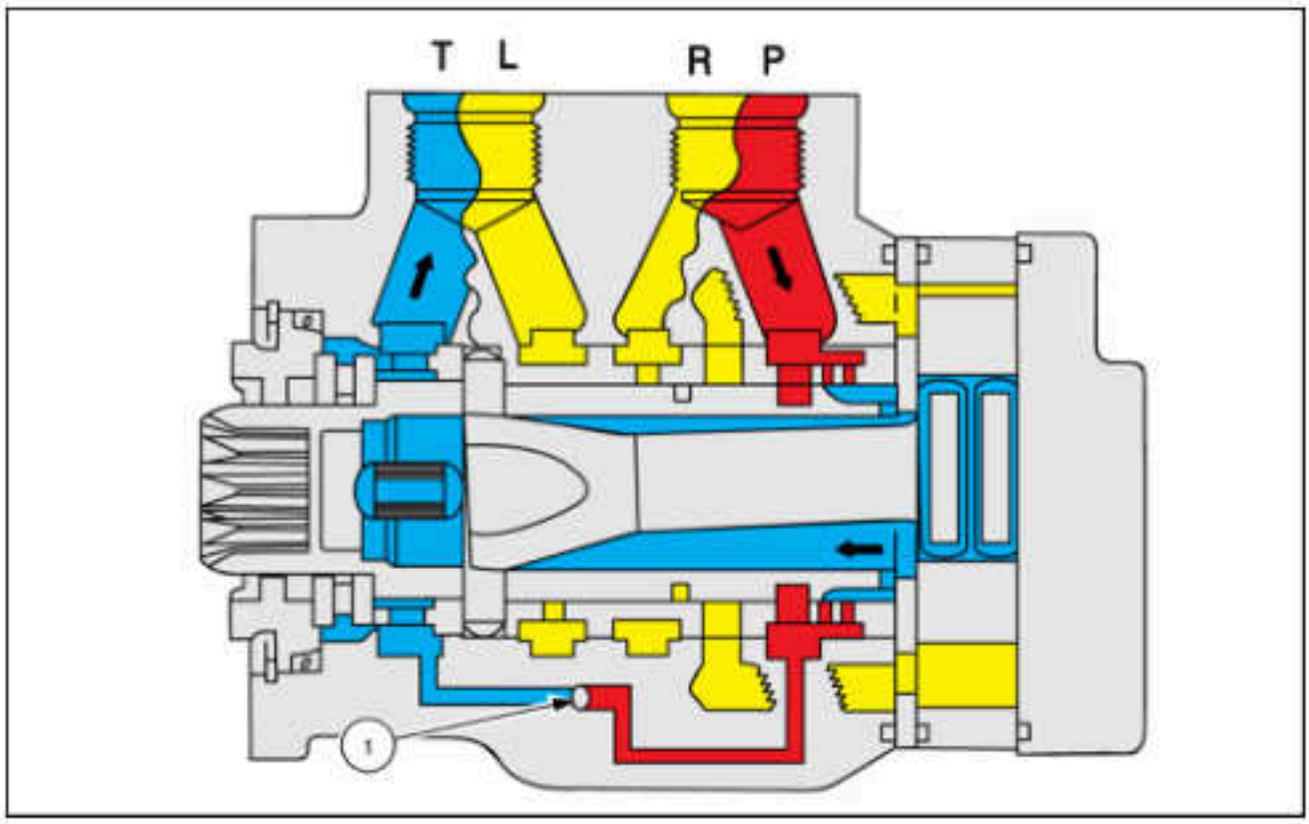
Pressurized oil from pump
Oil from rotor
Discharge
Suction
Suction or discharge
Neutral

NOTICE: *In the EMERGENCY manual steering mode, if steering becomes difficult to do, STOP and transport the tractor by trailer.*

If hydraulic pressure is not generated by the hydraulic pump, the "Rocker" inside the valve serves as a hand pump, and allows the steering cylinder to operate.
The oil returning to the port **(T)** is sent to the rotor **(1)** through the check valve and the rotor sends oil to the cylinder. At this time, the oil in the opposite side returns to the port **(T)** again and repeats the procedure previously described.

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Neutral position



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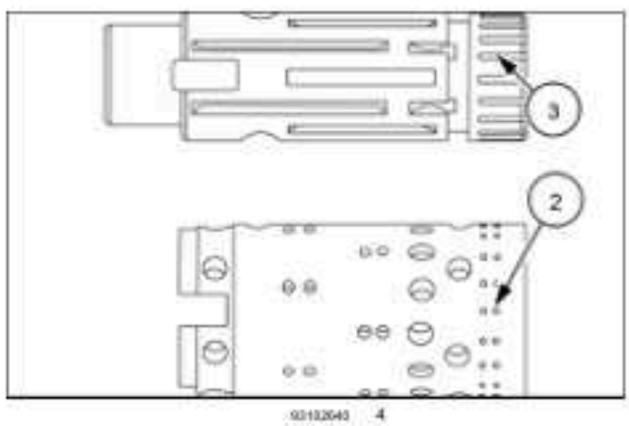
Neutral position

(T) - Tank
(L) - Left steer port
(R) - Right steer port
(P) - Pump discharge

- Pressurized oil from pump
- Oil from rotor
- Discharge
- Suction
- Suction or discharge
- Neutral

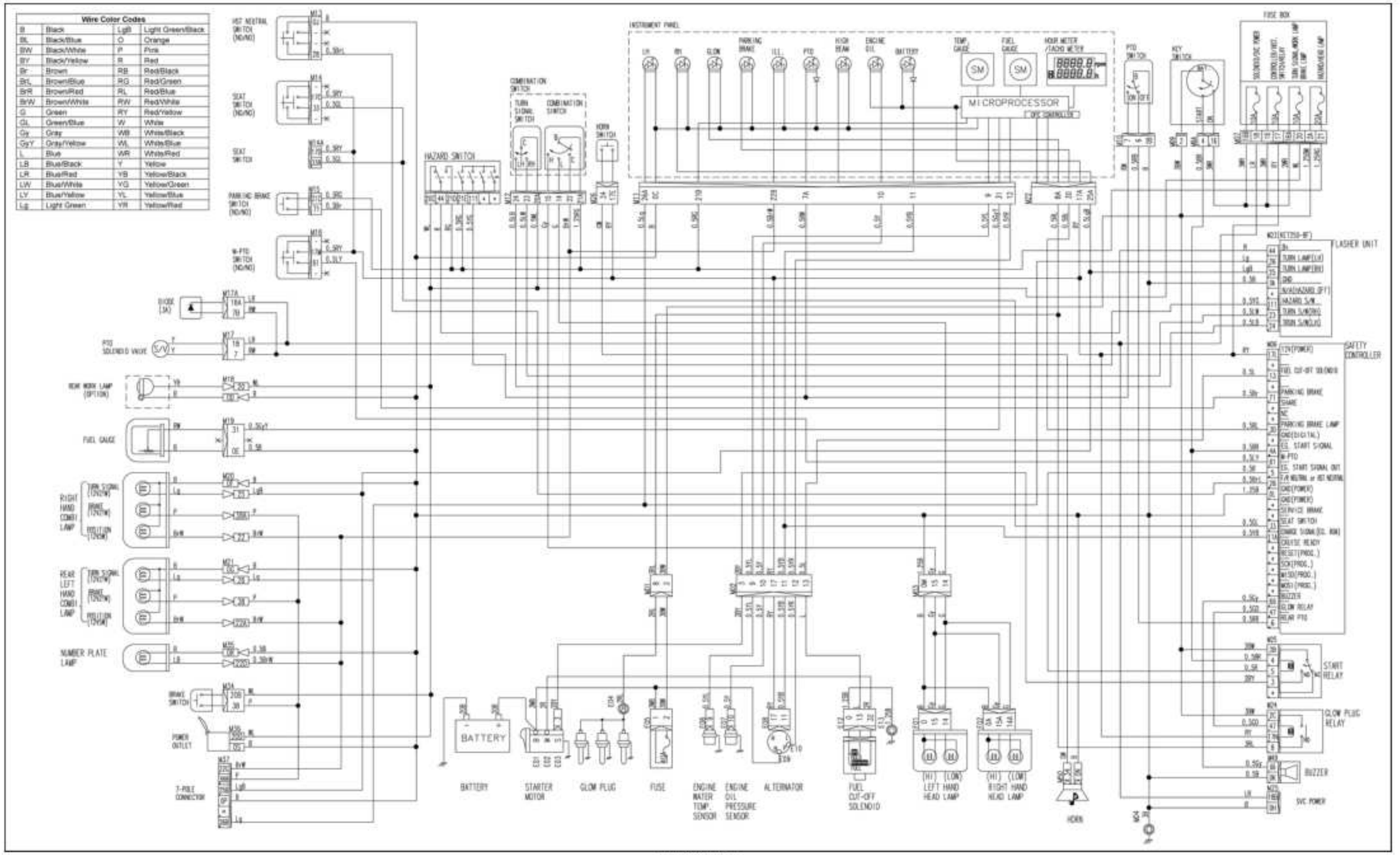
Pressurized oil from the pump flows to the port **(P)**, seating the check valve **(1)**, preventing oil from flowing to the port **(T)**.

The port **(2)** coincides with the groove **(3)** and oil flows out to the port **(T)** through the center of rotation valve.



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