SERVICE MANUAL

T1560 / T1570

Compact Tractors

Print No. 84205613A

NEW HOLLAND AGRICULTURE

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SECTION 00 - GENERAL INFORMATION

Chapter 1 - General Information

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SECTION 10 - ENGINE

Chapter 1 - Engine

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SECTION 10 - ENGINE

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ENGINE BOLT TORQUE SPECIFICATIONS

Tractor Model	T1560/T1570
Engine Model	N843
Connecting Rod Cap Nuts	49 – 54 Nm (36 – 40 ft-lb)
Main Bearing Retaining Bolts	49 – 54 Nm (36 – 40 ft-lb)
Relief Valve Assembly	49 - 59 Nm (36 – 44 ft-lb)
Crankshaft Main Bearing Holder Bolts Rear Main (Socket Head Bolts) Centre Main (Hex Head Bolts)	 25 – 29 Nm (18 – 22 ft-lb) 49 – 54 Nm (36 – 40 ft-lb)
Engine Rear Mounting Plate	22 – 28 Nm (16 – 21 ft-lb)
Flywheel Retaining Bolts	73 – 78 Nm (54 – 58 ft-lb)
Engine Front Plate	9 – 12 Nm (6.5 – 9 ft-lb)
Crankshaft Pulley Nut	274 – 333 Nm (202 – 246 ft-lb)
Cylinder head Bolt	98 – 103 Nm (72 – 76 ft-lb)
Rocker Arm Assembly	27 – 39 Nm (20 – 29 ft-lb)
Rocker Arm Locknut	12 – 16 Nm (9 – 12 ft-lb)
Oil Tube Banjo Bolt	10 – 13 Nm (7 – 9 ft-lb)
Oil Pressure Switch	14 – 20 Nm (11 – 15 ft-lb)
Rocker Cover Bolts	12 – 16 Nm (9 – 12 ft-lb)
Glow Plugs	15 – 20 Nm (11.1 – 15 ft-lb)
Cooling Fan Bolts	9 – 13 Nm (6.5 – 9.6 ft-lb)

ENGINE FUEL SYSTEM BOLT TORQUE SPECIFICATIONS

Tractor Model	T1560/T1570
Engine Models	N843
Delivery Valve Holder	39 – 44 Nm (29 – 32.5 ft-lb)
Injector Assembly	59 – 69 Nm (43 – 51 ft-lb)

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TROUBLESHOOTING

Most malfunctions in the steering system can usually be traced to dirt or foreign matter in the system. Dirt can cause such things as stickiness, erratic operation, or hard steering.

Before considering the procedures below, follow these suggested steps:

1. Check the pump for proper relief valve action. See "Pressure Testing," discussed later in this section.
2. Jack the front end of the tractor off the ground and cycle the steering from stop to stop to check for front axle binding.
3. Be sure the hydraulic hoses from the pump-to-motor and from the motor-to-cylinder are hooked up correctly.

PROBLEM	POSSIBLE CAUSE	CORRECTION
Hard Steering	1. ORBITROL (control valve unit)	
	(1) ORBITROL not aligned to steering column.	Reposition ORBITROL. (If loosening its mounting bolts lightens the handwheel, it means that ORBITROL was in misalignment.)
	(2) Spool-and-sleeve combination is seized because of foreign matter.	Replace.
	(3) Overtightening of the end cap bolts.	Re-tighten to the specified torque limit.
	2. Oil pump	
	(1) The pump is stuck and will not work.	Replace oil pump.
	(2) The pump is worn down.	Replace oil pump.
	(3) Pumping performance inadequate.	Test pump performance and, if necessary, remove the pump. Disassemble the pump and inspect the internal seals. Refer to the pump seal kit repair section.
	3. Relief valve	
	(1) The valve is damaged because of internal deterioration.	Replace control valve assembly.
	(2) Pressure setting is too low.	Replace control valve assembly.
Steering Wheel Will Not Return To Neutral Or Will Turn By Itself	1. ORBITROL	
	(1) Spool-and-sleeve combination is stuck and will not rotate.	Replace control valve assembly.
	(2) ORBITROL not aligned to steering column.	Re-align.

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Installation

1. Install the park brake safety switch by using the adjusting nut.
2. Connect the two switch leads to the tractor wire harness.
3. Connect the negative (-) battery cable to the negative (-) battery terminal.

RELAYS

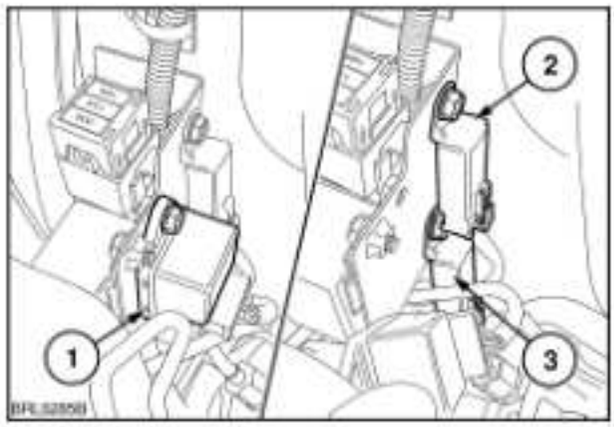
Relays are used on the tractor to automatically complete (close) a circuit. There are three relays used on the T1560/T1570 tractor. A relay contains two parts of a circuit. One part, the control circuit, uses current to energize a coil. The other part, the function circuit, is a switch. When energized, the coil of the relay becomes an electromagnet opening or closing the function circuit.

The relays are as follows:

(1)	Glow Lamp Timer
(2)	Glow Lamp Relay
(3)	Safety Start Relay

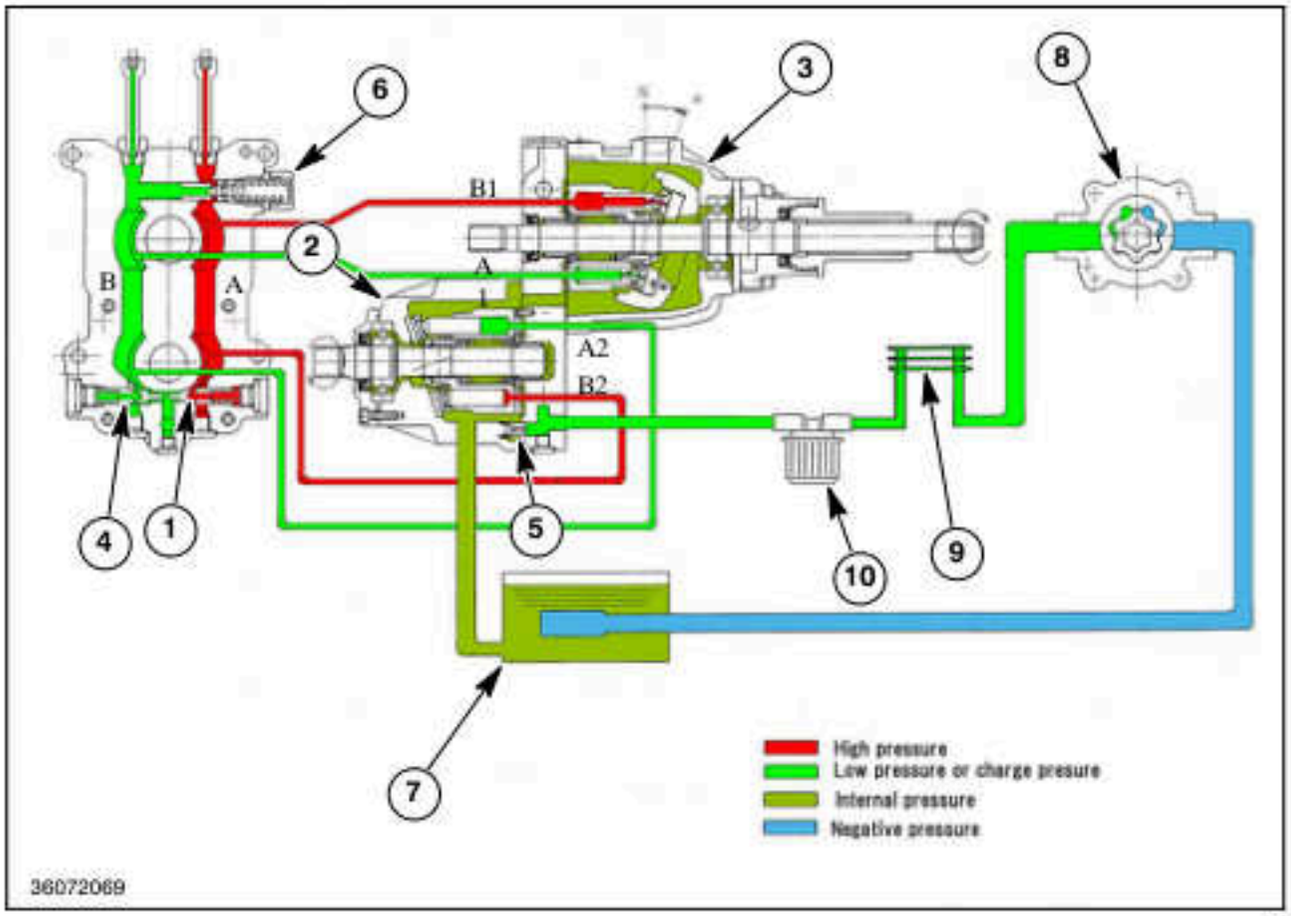
SAFETY START RELAY

The safety start relay (3), is located in the engine compartment on the right hand side of the tractor firewall. The start relay controls current flowing to the starter solenoid. When the key switch is turned to the "START" position, current flows to the switch side of the relay. The safety controller provides current to the coil side of the relay when the transmission range, rear PTO, mid PTO safety switches are closed, allowing the controller to activate the start relay, when the clutch pedal is depressed. The ground source to the relay is provided by the ground terminal located at the engine cylinder head. When current and ground are provided to the coil side of the relay, the relay energises allowing the relay contacts to close, which allows current to be sent to the engine starter solenoid.



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FLUID FLOW FORWARD POSITION

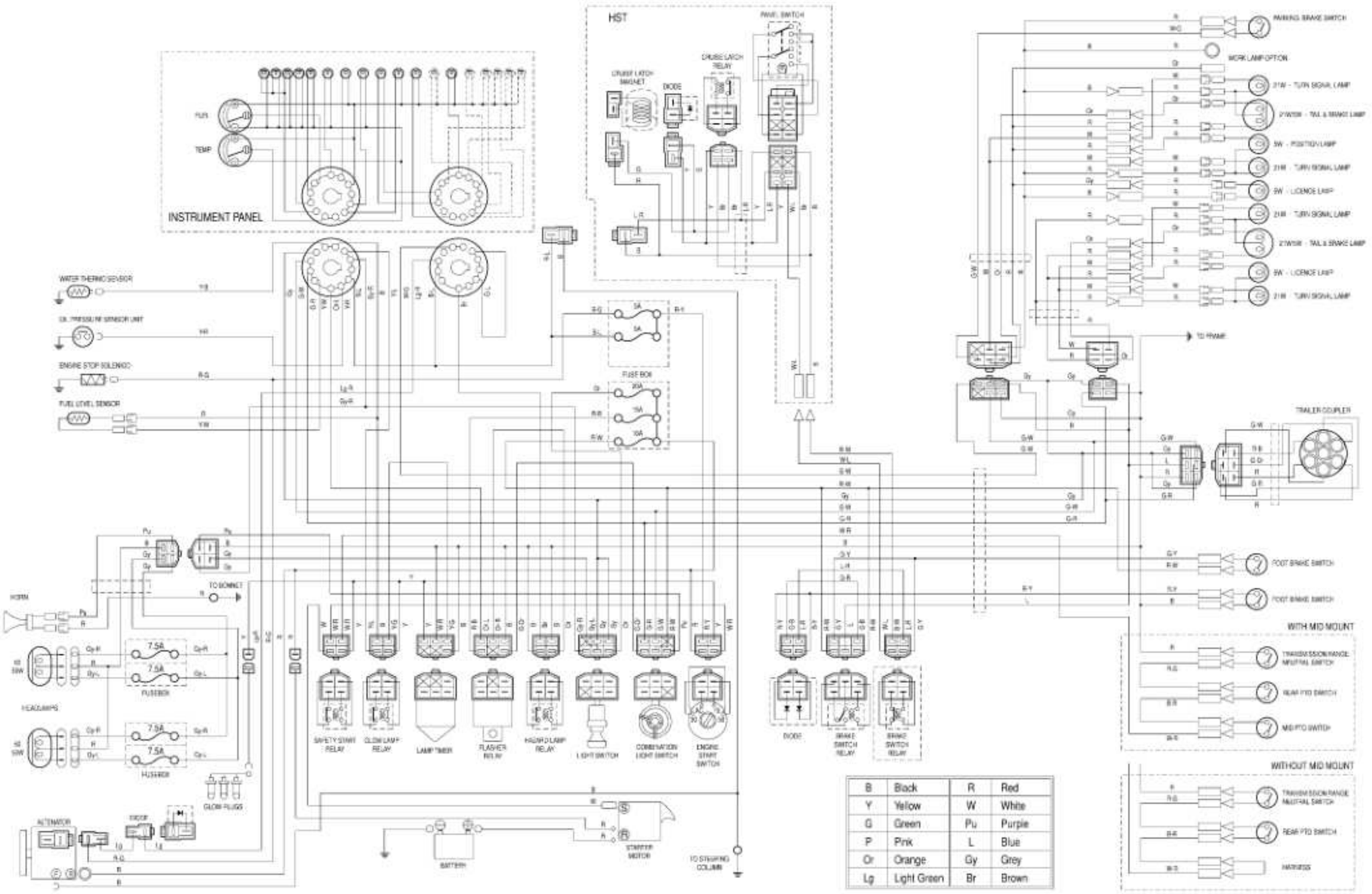
1. Feed (Check) Valve "A"
2. Hydrostatic Motor
3. Hydrostatic Pump
4. Feed (Check) Valve "B"
5. Charge Pump Relief Valve
6. High Pressure Relief
7. Reservoir
8. Charge Pump
9. Cooler
10. Filter (HST)

Forward Position

When the foot pedal is shifted slightly forward, the pump swash plate is tilted at a slight angle and a small quantity of fluid is discharged from the piston pump into passage "A". This small quantity of fluid passes through the check valve (1), and returns to the sump while causing a slight pressure increase in passage "A". When the foot pedal is depressed further forward, increased fluid flows from the piston pump, through passage "A". Pump pressure on the back of feed (check) valve (1), closes the feed valve and pressure increases on the check valve. At a pressure above 34.3 - 37.2bar, the check valve closes the return to sump and all fluid flow from pump passage "A" flows to the hydrostatic motor (2), causing the motor to rotate. Fluid discharged from the hydrostatic motor at A2 into passage "B" flows back to the hydrostatic pump (3), to complete the cycle. When fluid leakage in the system causes a drop in pressure on the suction passage "B" below 3.9 - 5.9bar pressure setting, feed (check) valve (4), opens and provides make-up fluid from the charge pump. Excess fluid from the charge pump is returned to the sump via the charge pump relief valve (5).

The high pressure relief valve (6), protects the motor opening when pressure is above 313.7bar.

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B	Black	R	Red
Y	Yellow	W	White
G	Green	Pu	Purple
P	Pink	L	Blue
Or	Orange	Gy	Grey
Lg	Light Green	Br	Brown

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