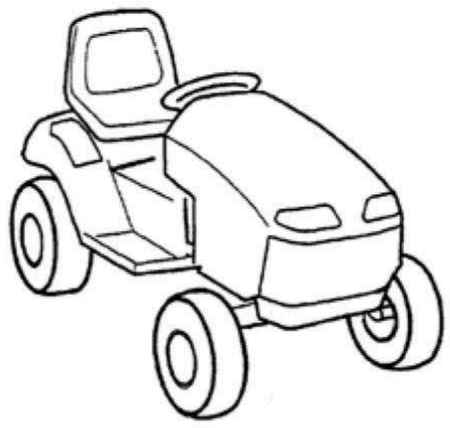


# NEW HOLLAND

# GT18
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**GT18, 20, 22 PTO Circuitry**
**(All Models Before 2000)**

The PTO switch is a single-pole double-throw (DPST) type switch. The PTO switch (SW3) is controlled by the yellow knob located in the lower left-hand corner of the dash panel. The PTO switch must be in the "Off" position to start the tractor.

PTO SWITCH IN THE "ON" POSITION
(SWITCH PULLED OUT)

1. Current flows from the positive (+) battery terminal, through the battery cable to a wire splice. The wire splice directs the current though the 30 Amp main fuse (F1) to terminal "B" of the key switch (SW4).
2. When the key switch is turned to the "Start", "Run" or "Run/Lights" position, current is transferred from the "B" terminal to the "I" terminal.
3. Current exits the "I" terminal of the key switch and travels to the 10 Amp fuse (F3) located in the fuse block. From the 10 Amp fuse, current flows to a wire splice.
4. The wire splice splits the current into two different paths. The one path directs the current to terminal 1 of the PTO switch (SW3) and the other path directs the current to the PTO indicator lamp within the instrument panel.
5. When the PTO switch is in the "ON" position (pulled out), current crosses from terminal 1 to terminal 7.
6. From terminal 7 of the PTO switch, current flows to the PTO clutch. The ground path to the PTO clutch is completed through the wiring harness to the right side of the engine block, allowing the PTO clutch to function.
7. Current reaches the PTO indicator light within the instrument panel. The ground path to the indicator light is controlled by the PTO switch (SW3). When the PTO switch is in the "On" position (pulled out), terminals 2&5 latch to complete the ground path through the wiring harness to the right side of the engine, causing the PTO indicator light to illuminate.



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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:

Check the hydraulic system for proper relief valve action. See "Pressure Testing", discussed later in this section.

Jack the front end of the tractor off the ground and cycle the steering from stop to stop to check for front axle binding.

Be sure the hydraulic hoses from the hydrostatic transmission-to-steering control valve and from the steering control valve-to-steering cylinder are hooked up correctly.

| CONDITION | POSSIBLE CAUSE | CORRECTION |
|---|---|---|
| Hard Steering | 1. Steering control unit | |
| | (1) Steering control unit not aligned to steering column | Reposition Steering control unit. (If loosening its mounting bolts lightens the hand wheel, it means that control valve was in misalignment). |
| | (2) Spool-and-sleeve combination is seized because of foreign matter. | Replace. |
| | (3) Over tightening 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. |



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## METRIC AND INCH HARDWARE

The following table lists common sizes for substitution.

### SCREW DIAMETER

| Inches | Millimeters |
|---|---|
| 3/16" | 5 mm |
| 1/4" | 6 mm |
| 5/16" | 8 mm |
| * 3/8" | * 10 mm |
| 1/2" | 12 mm |
| 9/16" | 14 mm |
| 5/8" | 16 mm |

### SCREW LENGTH

| Inches | Millimeters |
|---|---|
| 5/8" | 15 mm |
| 3/4" | 20 mm |
| * 1" | * 25 mm |
| 1-1/4" | 30 mm |
| 1-3/8" | 35 mm |
| 1-1/2" | 40 mm |
| 1-3/4" | 45 mm |
| 2" | 50 mm |
| 2-1/4" | 60 mm |
| 2-3/4" | 70 mm |
| 3" | 80 mm |
| 3-1/2" | 90 mm |
| 4" | 100 mm |

***EXAMPLE:** For most applications, a 3/8" x 1 " cap screw and nut can be replaced by a 10 mm x 25 mm cap screw and nut.

For additional size information and possible substitutions (either inch to metric or metric to inch), refer to the conversion table which follows.



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