Rear PTO Circuit Operation

Function:

To engage the rear PTO and illuminate a light on the instrument panel to alert the operator that the PTO is engaged.

Operating Conditions:

- Key switch in run or start position
- Rear PTO switch engaged

Theory of Operation:

The rear PTO switch is used as an interlock to the fuel supply circuit and the mid PTO as well as engaging the rear PTO.

In the off (normally closed) position the rear PTO switch supplies current to the fuel supply circuit. If the rear PTO is engaged and the operator leaves the seat, current is removed form the fuel supply circuit unless the park brake is engaged prior to engaging the rear PTO and leaving the seat.

The rear PTO is also used as an interlock for the mid PTO circuit. (See "Mid PTO Circuit Operation" on page 247). The mid PTO switch must be engaged and then the rear PTO switch engaged to activate the mid PTO. To disengage the mid PTO the operator must first disengage the rear PTO switch and then the mid PTO switch.

With the key in start or run position, battery voltage is provided to the rear PTO switch through the S1 key switch, 072B and 072C Red wires, F5 fuse and 562A, 562D and 562F Red wires.

With the PTO engaged, the rear PTO switch is in the on (open) position, and voltage is supplied across the rear PTO switch (terminals A and B) from the 562F and 562G Red wires to the 574A, 574B and 574C Yel wires. The 574B Yel wire supplies current to the Y4 rear PTO solenoid to energize the solenoid and engage the rear PTO.

The ground circuit for the rear PTO solenoid is provided though the 010AF and 010D Blk wires.

At the same time the 574A Yel wire supplies current to the X7 connector (terminal B), to the instrument panel circuit board. A circuit board run provides voltage to the H2 PTO indicator light.

A ground circuit path for the instrument panel circuit board is provided though the X8 connector (terminal D), and 050D and 050A Blk wires.

When the rear PTO switch is in the on position the switch also provide current to the K15 mid PTO lockout relay. This circuit prevents the mid PTO from being engaged out of sequence.

Current for this circuit is provided from the 562F and 562G Red wire connection on the rear PTO switch to the 562H Red wire, mid PTO switch (terminals G and H), 577C and 577B Pur wires, rear PTO switch (terminals D and E), 582 Red wire, to the K15 mid PTO lockout relay. This energizes the mid PTO lockout relay and cuts power to the mid PTO latching circuit. (See "Mid PTO Circuit Operation" on page 247.)