

Power Take Off (PTO) Operation

Match Machine Power to Implement

IMPORTANT: Matching machine and implement ensures that damage to either does not occur.

Overpowering an implement causes damage. Attaching an implement that requires more horsepower than the machine can produce, damages the machine.

Refer to implement operator's manual for minimum and maximum power requirements before attaching to machine.

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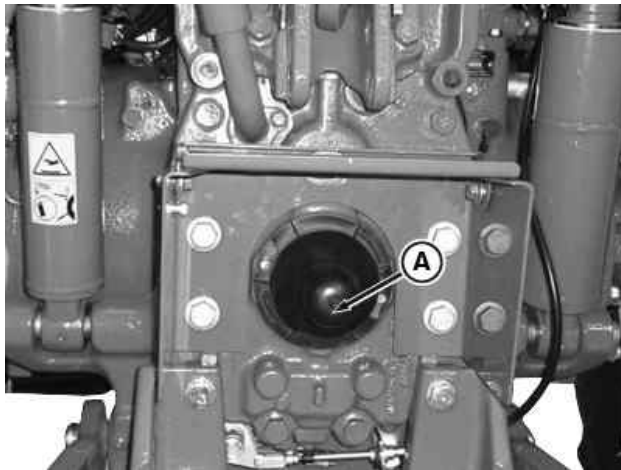
Ensure that PTO is OFF and has come to a complete stop before attaching or detaching implements.

Remove guard when attaching a PTO driven implement.

After PTO driven implement is detached, replace PTO guard.

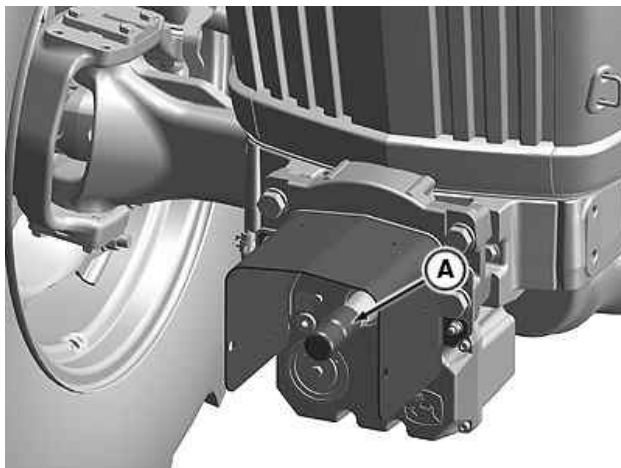
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PTO Guard



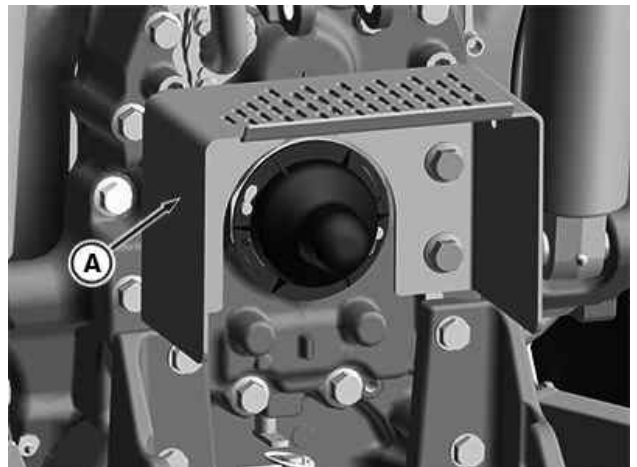
Rear PTO Guard

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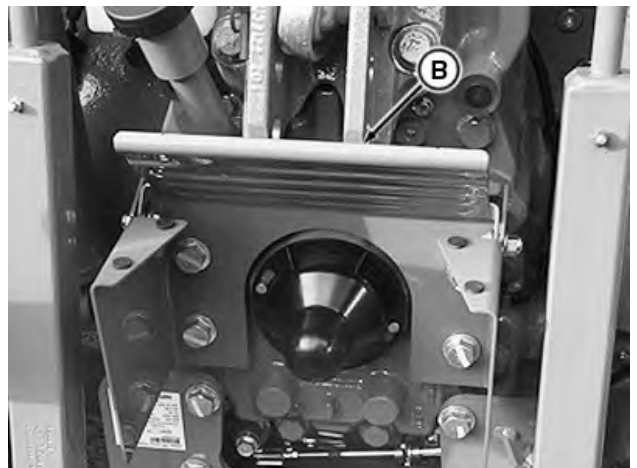


Front PTO Guard

PY39978—UN—02MAY17



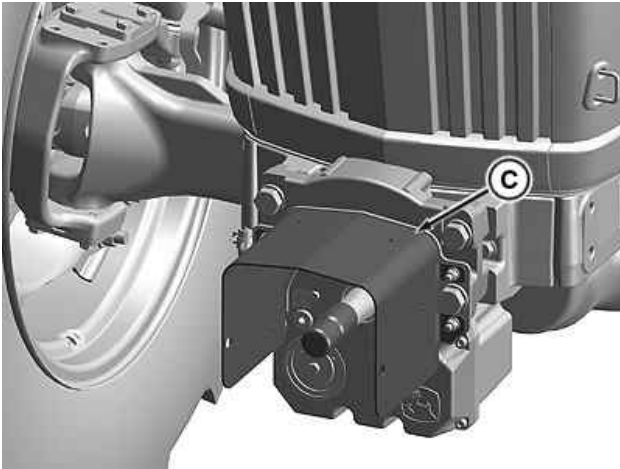
PY42040—UN—11MAY17



PY39992—UN—10MAY17

A—PTO Guards

CAUTION: Keep PTO guard in place when a PTO implement is not attached.



A—Fixed PTO Shield
B—Flip-Up PTO Shield
C—Front PTO Shield

PY39979—UN—02MAY17

CAUTION: Avoid injury, do not remove the PTO shield or use as a step.

Two types of PTO shields are available, fixed (A) and flip-up (B).

The fixed version does not open up. The front PTO shield (C) is fixed only.

The flip-up version allows the top to be moved up to allow more room to connect implements. Once the implement is connected, the top must be pushed down parallel to PTO shaft before engaging PTO to provide proper protection.

HK75640,0000FFF-19-14SEP20

PTO Drive Shaft Shield



TS1644—UN—22AUG95

CAUTION: Entanglement in the PTO driveshaft causes serious injury or death. Use proper shield and guards in good working order at all times when operating PTO driven implements.

PTO driveshaft shields must be in good working order and completely cover the PTO shaft when installed and

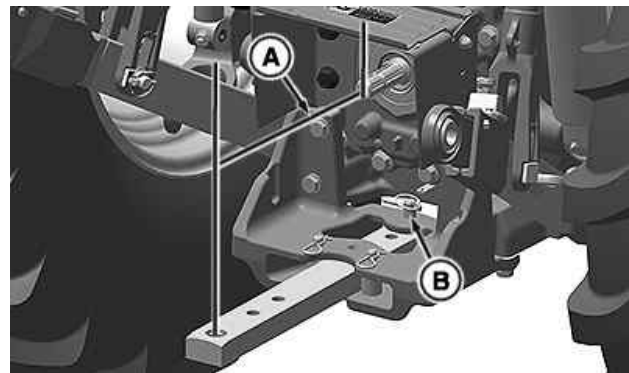
during use. PTO driveshaft shield must not rotate with the shaft.

Before connecting, cleaning, or adjusting PTO or PTO driven equipment, do the following:

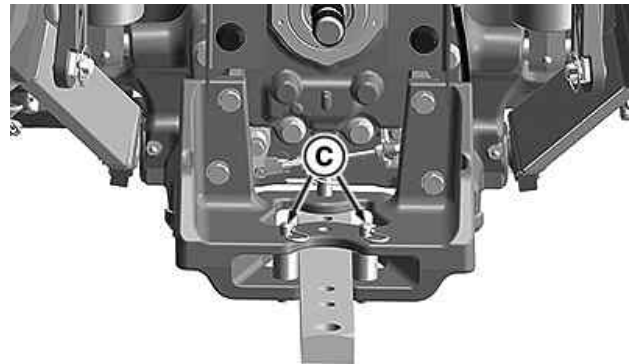
1. Turn the PTO OFF.
2. Wait for PTO shaft and PTO driven equipment to come to a complete stop.
3. Turn the engine OFF.
4. Remove key.

HK75640,0001000-19-14SEP20

Select PTO Drawbar Position



RXA0153739—UN—06SEP16



RXA0153744—UN—07SEP16

A—PTO Shaft End to Hitch Pin Hole
B—Drawbar Adjustment Pin
C—Drawbar Alignment Pins

CAUTION: Ensure that PTO is OFF, has come to a complete stop, and allowed too cool before attaching or detaching implements.

Drawbar must be set to the proper position for pull-type PTO driven implements. Put drawbar at shortest position for 3-point hitch-mounted PTO implements.

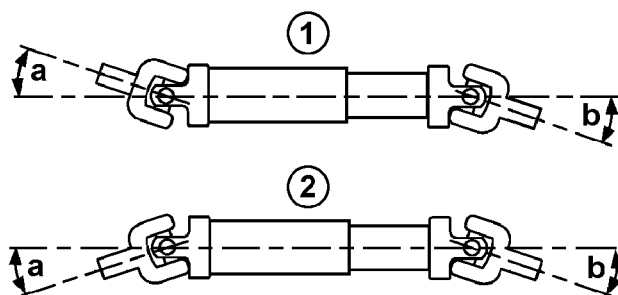
1. Measure PTO shaft end to the hitch pin hole (A) and adjust for the application as required.
2. Remove drawbar adjustment pin (B), set drawbar length, and replace pin.

- Set drawbar to center position (no off-set) and install alignment pins (C) to prevent drawbar movement.

PTO Type	PTO Shaft End to Hitch Pin Hole
540, 540E, and 1000	250 mm (9.84 in)
540 and 540E (6-spline)	350 mm (13.78 in) or 400 mm (15.75 in)
1000 (21-spline)	400 mm (15.75 in)

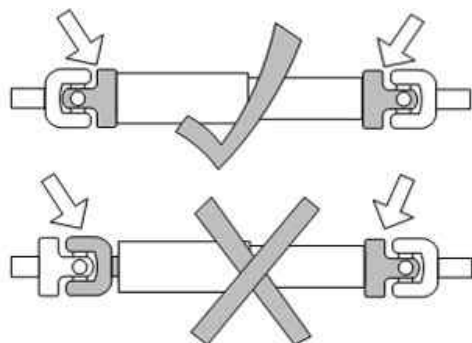
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Attach PTO Driven Implement



LX1049749

LX1049749—UN—21MAY10



LX1049900

LX1049900—UN—22FEB11

- Z-Shaped Layout
- W-Shaped Layout

CAUTION: Ensure that PTO is OFF, has come to a complete stop, and allowed too cool before attaching or detaching implements.

The drawings do not show guards on the driveshaft for illustration purposes. A guard is mandatory when using driveshafts.

IMPORTANT: On telescopic driveshafts, the yokes at each end must be aligned as shown. The yokes at each end must not be at 90° to one another.

Angles (a) and (b) at the universal joints must be nearly the same at both ends of the driveshaft. In applications where it is not possible (sharp turns with PTO engaged),

it is recommended to use a continuous-velocity driveshaft.

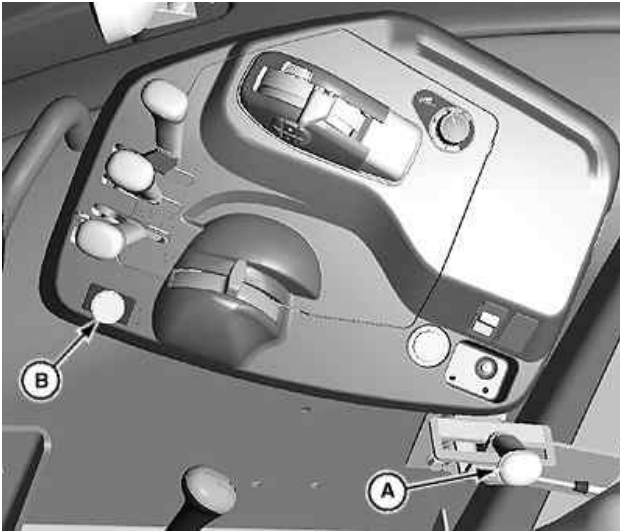
- Turn the PTO OFF.
- Turn the engine OFF and remove key.
- Set drawbar for the application. See Select PTO Drawbar Position in this section.
- Raise PTO shield (if equipped with the flip-up style) and remove PTO guard.
- Attach implement to the machine (drawbar or 3-point hitch) before connecting PTO. Raise hitch to full height (transport) position if it is not to be used.
- With engine off, turn PTO driveshaft by hand to line up splines. Connect implement driveshaft to PTO shaft until driveshaft lock engages. Pull implement driveshaft to be sure that it is locked to PTO shaft.
- Lower PTO shield. Check that all shields are in place and in good condition. Check implement driveshaft shields to ensure that they rotate freely on shaft. Lubricate or repair as necessary.

HK75640,0001002-19-14SEP20

Ground Drive PTO



LV15972—UN—10AUG12



A—PTO Shift Lever
B—PTO Switch

LV15973—UN—10AUG12

CAUTION: When an implement is connected to the ground drive PTO, PTO shift lever (A) must be in neutral or position for ground drive PTO. PTO shift lever must NOT be in the 540 or 540E positions.

Pay attention to the direction in which the PTO stub shaft rotates. The PTO stub shaft changes the direction in which it rotates depending on whether the tractor is traveling forward or reverse.

The ground drive PTO remains engaged until the PTO shift lever (A) is moved manually to neutral. If it is already engaged when the engine is started, the ground drive PTO remains active; it starts to rotate as soon as the vehicle moves.

IMPORTANT: PTO switch (B) remains in disengaged position while ground drive PTO is engaged.

Engage and disengage ground drive PTO when vehicle is stopped and NOT under load.

Maximum speed for switching on or off: 3 km/h (1.6 mph). Maximum travel speed with ground drive PTO switched on: 15 km/h (8.1 mph).

Ground drive PTO operation:

1. Stop machine.
2. Disengage PTO switch (B) and move the PTO shift lever (A) into ground drive PTO speed position.
3. Ground drive PTO speed is proportionate to vehicle speed.

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Select Correct PTO Speed



APY33184—UN—08JUN20

Cab



APY33158—UN—08JUN20

OOS

A—PTO Shift Lever

IMPORTANT: Disengage PTO and allow to come to a complete stop before changing PTO speed with lever (A). NEVER use PTO shift lever (A) to engage or disengage PTO, or damage occurs.

Refer to the implement operator's manual for correct PTO speed and shaft to use for best performance.

1. Adjust drawbar for PTO selection.
2. Change PTO shaft to 540 or 1000 rpm as needed.
3. Attach implement.
4. Move PTO shift lever (A) rearward for 540/1000 rpm standard operation.
5. Move PTO shift lever forward for 540E operation. Economy mode is designed for lighter PTO loads where power requirements do not require higher engine rpm levels. This helps to conserve fuel and lowers noise levels.

Power Take Off (PTO) Operation

PTO Speed	Recommended Applications
540	Normal to heavy loads requiring full engine power.
1000	Normal to heavy loads requiring full engine power.
540E ^a	Light loads not requiring full engine power.

^aLimited to maximum 1815 rpm

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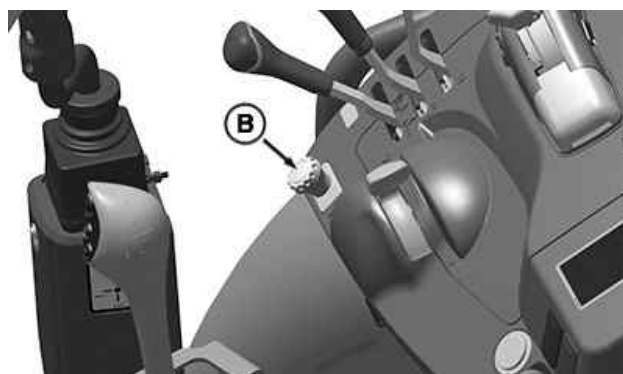
Operate Rear PTO

NOTE: Operator must be seated when the PTO is engaged. PTO does not engage if the operator is absent.



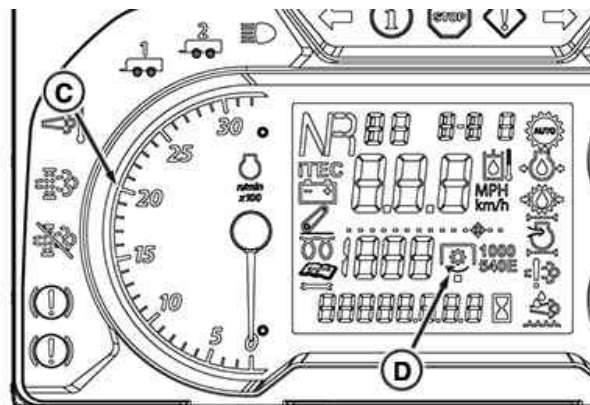
Cab

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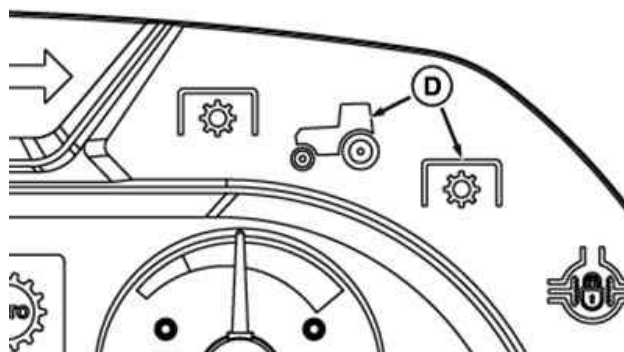


OOS

RXA0162132—UN—15FEB18



RXA0159200—UN—10MAY17



RXA0159197—UN—10MAY17

- A—Cab Rear PTO Switch
- B—OOS Rear PTO Switch
- C—Tachometer
- D—Rear PTO Indicators

CAUTION: If PTO engages at engine start-up, contact John Deere dealer for service.

If PTO is engaged and the remote switch is pressed, PTO disengages regardless of whether remote operation is armed.

NOTE: Engine starts with PTO switch engaged, but PTO switch must be cycled off and on again before PTO engages.

1. Start engine and set to correct rated speed for PTO application. Observe tachometer (C) for engine speed.

Rear PTO	Engine Speed (rpm)
540/1000	2100
540E	1645

2. Push down and forward on rear cab PTO switch (A) or pull up on rear OOS PTO switch (B) to engage rear PTO.
3. Rear PTO indicators (D) and PTO mode illuminate on the primary display.

4. Pull rear cab PTO switch (A) or push down on rear OOS PTO switch (B) to disengage rear PTO.

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Operate Rear Remote PTO



APY48035—UN—21APR21

Cab Only



APY33186—UN—08JUN20

Cab



RXA0153747—UN—07SEP16

Rear PTO Switch



APY33187—UN—08JUN20

OOS

- A—Rear PTO Fender Switch
B—Remote PTO Switch
C—Rear PTO Switch

To operate rear PTO utilizing the rear PTO fender switch (A):

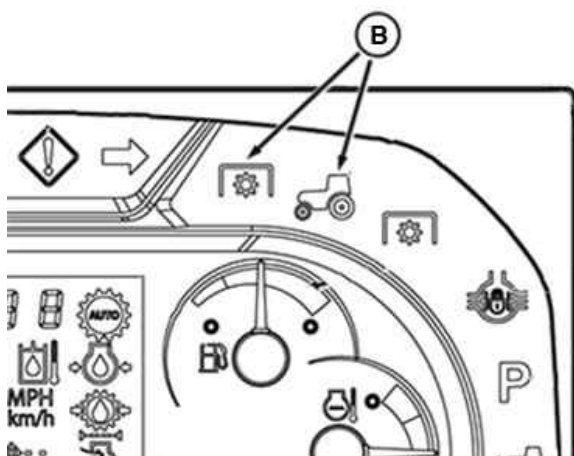
1. Park machine.
2. Depress remote PTO switch (B) and an LED indicator in the switch illuminates.
3. Push down and forward on rear PTO switch (C) to arm PTO.
4. An audible warning sounds and hazard warning lights flash to indicate that the rear PTO fender switches are activated. PTO shaft is not moving.
5. Press and hold rear PTO fender switch (A). Rear PTO starts slowly.
 - Press and hold switch for at least 4 seconds:
 - Audible warning stops.
 - Warning lights turn off.
 - PTO continues to operate.
 - Release switch within 4 seconds:
 - PTO slowly stops.
 - Audible warning sounds.
 - Warning lights flash.
6. Press rear PTO fender switch (A) again to shut off rear PTO. Rear PTO can also be shut off by pulling rear PTO switch (C) rearward.
7. Rear PTO can be engaged and disengaged using the fender switch until the operator disengages the PTO using the rear PTO switch (C).

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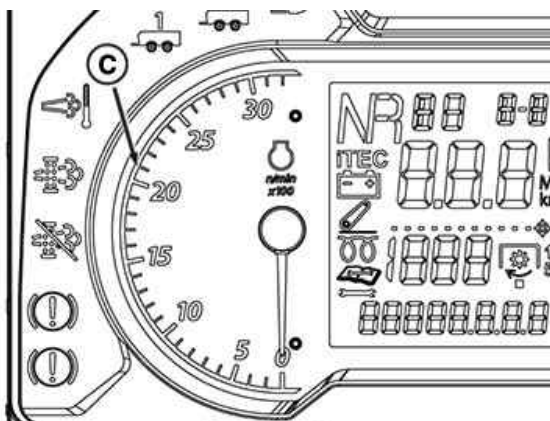
Operate Front PTO



PY42025—UN—27APR17



PY42029—UN—03MAY17



RXA0159198—UN—10MAY17

A—Front PTO Switch
B—Front PTO Indicator
C—Tachometer

CAUTION: If PTO engages at the engine start-up, contact John Deere dealer for service.

NOTE: Engine starts with PTO switch engaged, but PTO switch must be cycled off and on again before PTO engages.

1. Start engine and set to correct rated speed for PTO application. Observe tachometer (C) for engine speed.

Front PTO	Engine Speed (rpm)
1000	2100

2. Push downward the front PTO switch (A) to engage the PTO. Front PTO indicator (B) illuminates on the primary display.
3. Pull upward the PTO switch (A) to disengage PTO.

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PTO Alarm

Alarm Events

An alarm sounds to alert the operator that the PTO is running or is capable of being remotely started. See the following scenarios:

Scenario	1	2 ^a	3
Machine Movement	Parked or Stationary	Parked or Stationary	Moving Above 0.5 km/h (0.31 mph)
Remote PTO Enable Switch	Off	Engaged before rear PTO switch	Off
Rear PTO Switch	Engaged	Engaged	Engaged
Operator	Leaves seat	Leaves seat	Leaves seat
Alarm	7 seconds	Sounds until the rear PTO fender switch is depressed for 4 seconds	10 seconds
Rear PTO	Shuts Off after 7 seconds	Off until the remote PTO switch is depressed	Stays On
To Keep PTO Enabled	Return to seat or depress the remote PTO enable switch within 7 seconds	No action required If operator returns to seat, the remote enable switch must be engaged again before leaving the	No action required

Power Take Off (PTO) Operation

Scenario	1	2 ^a	3
		seat in order to maintain continuous operation	
Front PTO	Functions the same as rear PTO	Does not function remotely	Functions the same as rear PTO

^aMachines with rear fender PTO switches. See "Operate Remote PTO" in this section for additional information.

No Alarm Events

There will not be an alarm in the following scenarios:

Scenario	1	2 ^a	3
Machine Movement	Parked, Stationary, or Moving	Parked or Stationary	Parked, Stationary, or Moving
Remote PTO Enable Switch	Off	Engaged after the PTO switch	Off
PTO Switch	Engaged	Engaged	Engaged
Operator	Remains in seat	Leaves the seat	Not in seat when the PTO switch was engaged
Alarm	None	None	None
Rear PTO	Stays On	Stays On	Remains Off
To Keep PTO Enabled	No action required	No action required	Return to seat and restart PTO
Front PTO	Functions the same as rear PTO	Functions the same as rear PTO	Functions the same as rear PTO

^aMachines without rear fender PTO switches.

LGCKF7U,0000B68-19-21APR21