4 - OPERATING INSTRUCTIONS

COMMISSIONING THE UNIT

Before starting the engine

⚠ WARNING

Inhalation/asphyxiation hazard!
Make sure there is proper ventilation before starting the engine.
Failure to comply could result in death or serious injury.

W0091A

⚠ WARNING

Hazard to bystanders!
ALWAYS make sure the work area is clear of bystanders and domestic animals before starting this procedure. Know the full area of movement of the machine. Do not permit anyone to enter the area of movement during this procedure.
Failure to comply could result in death or serious injury.

W0245A

⚠ WARNING

Unexpected machine movement!
Before starting the engine, move all operating controls to neutral or park lock position. This prevents accidental movement of the machine or start up of power-driven equipment.
Failure to comply could result in death or serious injury.

W0302A

First tractor use

Before starting your tractor for the first time, make the following checks:

- Make sure the tractor is properly lubricated and greased as described in the maintenance section of this manual.
- Check the engine oil level, engine coolant level, and transmission oil. See the maintenance section of this manual.
- Check that the tractor fuel tank is filled with clean fuel that meets the specifications given in this manual.
- Check the fuel system, cooling system and engine for leaks.
- Remove any water or sediment from the water trap of the fuel tank and primary filter.
- Check the air pressure in the tires and check the wheel bolt torque.
- Make sure the power takeoff guard is in the proper position.

Daily inspection

- Walk around and visually inspect the tractor daily. Check for such items as hoses or wires rubbing against other components, oil leaks, trash buildup, loose bolts or anything that would affect the normal operation of the tractor.
- Inspect the exhaust system and repair if leaking, failed, or damaged.
- Make any necessary corrections before operating the tractor.

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7 - MAINTENANCE

GENERAL INFORMATION

Advice

Servicing your machine

NOTICE: *While any company can perform necessary maintenance or repairs on your equipment, NEW HOLLAND strongly recommends that you use only authorized NEW HOLLAND dealers and products that meet given specifications. Improperly or incorrectly performed maintenance and repair voids the equipment warranty and may affect service intervals.*

Environment

Before you service the machine and before you dispose of the old fluids, lubricants and filters, always remember the environment

- Do not pour oil or fluids on the ground, down drains or into containers that can leak.
- Dispose of all old fluids, lubricants and filters in accordance with local regulations.
- Check with your local environmental recycling center or your local dealer for correct information.

Plastic and resin parts

- Do not use gasoline, paraffin, paint thinner, etc., when cleaning plastic, e.g.; console, instrument cluster, monitors and gauges, etc. Using gasoline, paraffin, paint thinner, etc., will cause color fading, cracking or deformation of the parts being cleaned.
- Use only water, mild soap and a soft cloth when you clean these parts.

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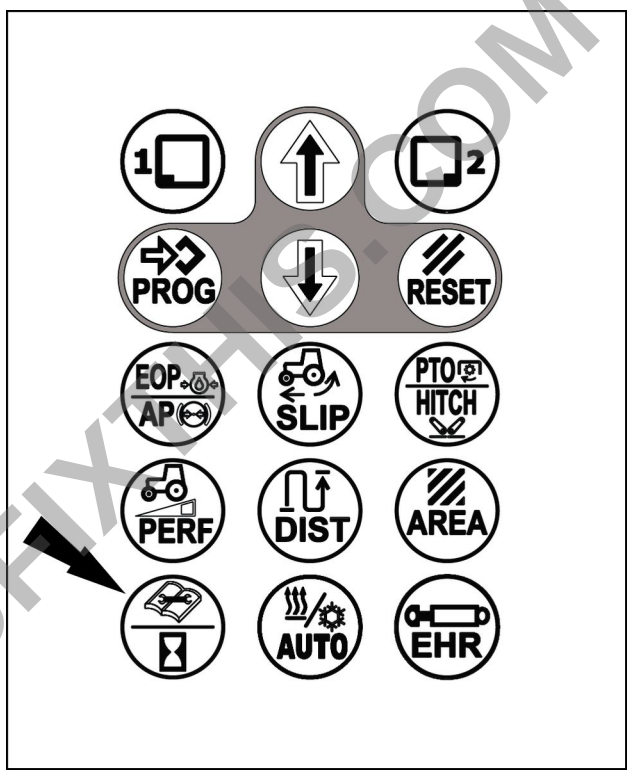
8 - TROUBLESHOOTING

FAULT CODE RESOLUTION

Fault code retrieval

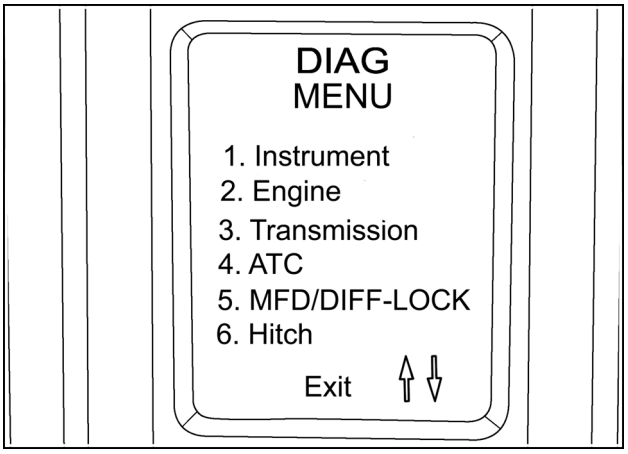
NOTE: *Controllers can be checked for fault codes at any time. Up to 10 fault codes can be stored for each function.*

1. Press and hold the Diagnostic key on the key pad, with the key switch in the On or Run position, to access fault codes for a specific controller.



RAIL14TR00891BA 1

2. The "Diag Menu" screen will display.



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9 - SPECIFICATIONS

Engine specifications

Diesel engine

Tractor model	T9.435	T9.480	T9.530	T9.565	T9.600	T9.645	T9.700
Engine make and model	New Holland Cursor						
Type	In-line, six-cylinder, four-stroke cycle						
Aspiration	Variable geometry turbo-charged (VGT), air-to-air after cooled	Wastegate turbo-charged, air-to-air after-cooled			Two-stage turbo-charged, air-to-water inter-cooled, air-to-water after-cooled		
Emission level	Tier 4B (final)						
Firing order	1-4-2-6-3-5						
Bore	**117 mm (4.4 in)**	**135 mm (5.3 in)**					
Stroke	**135 mm (5.3 in)**	**150 mm (5.9 in)**					
Displacement	**8.7 l (530 in³)**	**12.9 l (787 in³)**					
Compression ratio	15.9:1	16.5:1			15.3:1		
Cylinder sleeves	Wet-type, removable						
High idle (no load)	**2190 - 2350 RPM**	**2200 - 2350 RPM**					
Rated speed	**2000 RPM**	**2100 RPM**					
Idle speed	**900 RPM**	**850 RPM**					
Standard power rating	**276 kW (370 Hp)**	**313 kW (420 Hp)**	**350 kW (470 Hp)**	**373 kW (500 Hp)**	**399 kW (535 Hp)**	**433 kW (580 Hp)**	**462 kW (620 Hp)**
Peak torque at **1400 RPM**	**1832 N·m (1351 lb ft)**	**1992 N·m (1469 lb ft)**	**2229 N·m (1644 lb ft)**	**2374 N·m (1751 lb ft)**	**2540 N·m (1874 lb ft)**	**2757 N·m (2034 lb ft)**	**2941 N·m (2169 lb ft)**
Torque rise	**40 %**						
Power boost	**41 kW (55 Hp)**	**31 kW (42 Hp)**	**35 kW (47 Hp)**	**37 kW (50 Hp)**	**51 kW (69 Hp)**	**43 kW (58 Hp)**	**46 kW (62 Hp)**

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2 - SAFETY INFORMATION

Safety alert symbol and signal word definition

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual and on machine safety signs, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury. The color associated with DANGER is RED.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury. The color associated with WARNING is ORANGE.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury. The color associated with CAUTION is YELLOW.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: *Notice indicates a situation that, if not avoided, could result in machine damage or property damage. The color associated with Notice is BLUE.*

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine damage or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: *Note indicates additional information that clarifies steps, procedures, or other information in this manual.*

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

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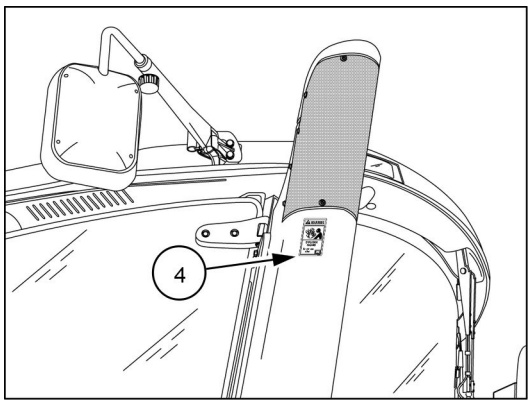
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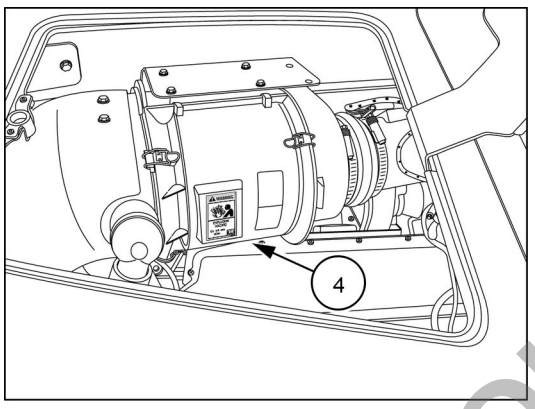
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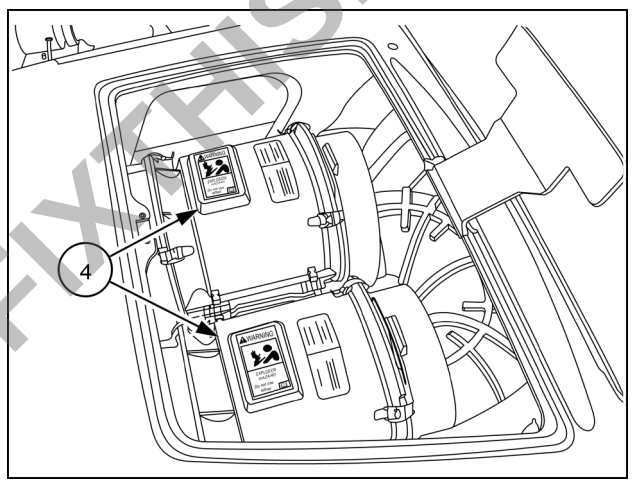


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Single air cleaner tractors



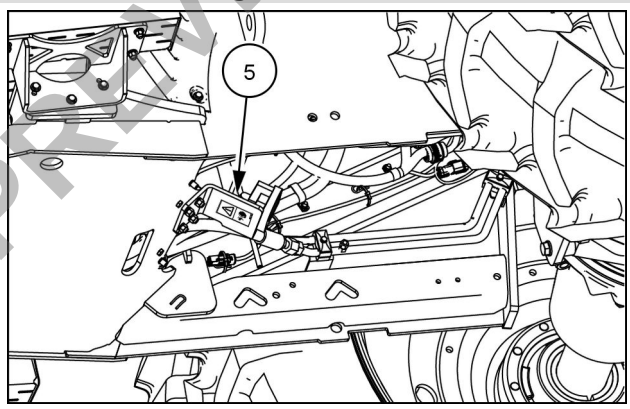
RCPH10FWD717BAM 10

Dual air cleaner tractors

Warning
Explosion hazard
Do not use ether.
Failure to comply could result in death or serious injury.

5. Radar sensor warning (quantity 1)
On mounting bracket of radar sensor

84270897



RAIL13TR04975AA 11



RCPH10FWD602BAM 12

Warning
To avoid possible eye damage from microwave signals emitted by this radar sensor, do not look directly into sensor face.
Failure to comply could result in death or serious injury.

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Headland Management System (HMS) controls

Use the headland management system controls to record and play back repetitive field operations.



Press and release the auto playback button to toggle automatic playback of a recorded sequence on and off. The lamp on the button illuminates when auto playback is active.

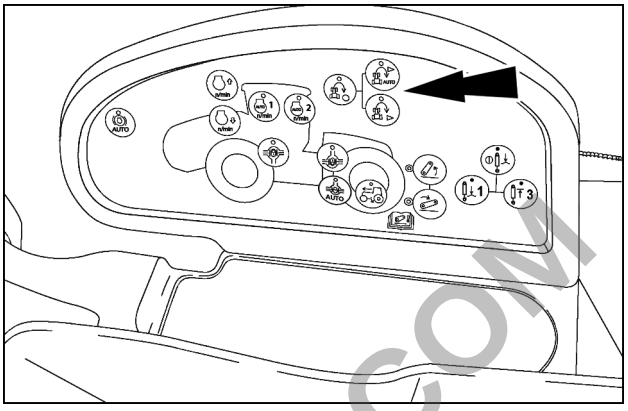


Press and release the manual playback button to toggle manual playback of a recorded sequence on and off. The lamp on the button illuminates when manual playback is active.

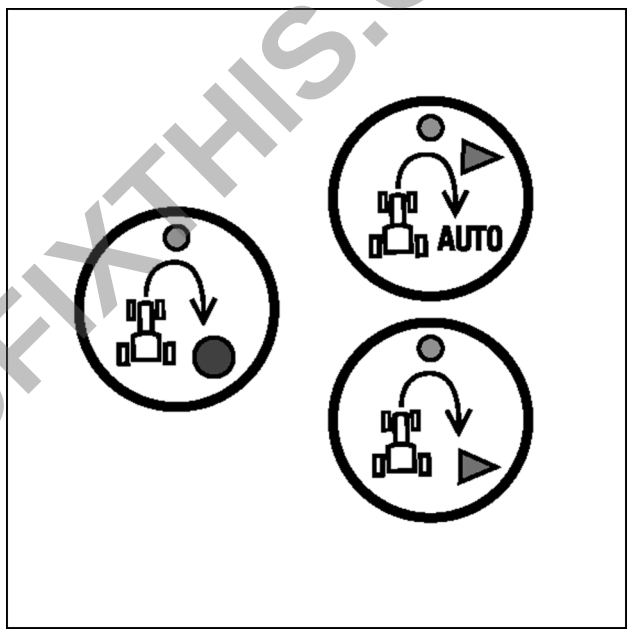


Press and hold the record button for two seconds to enter record mode, where an end of row sequence can be recorded. The lamp on the button flashes while recording.

Recorded sequences are retained until the operator changes the selection.



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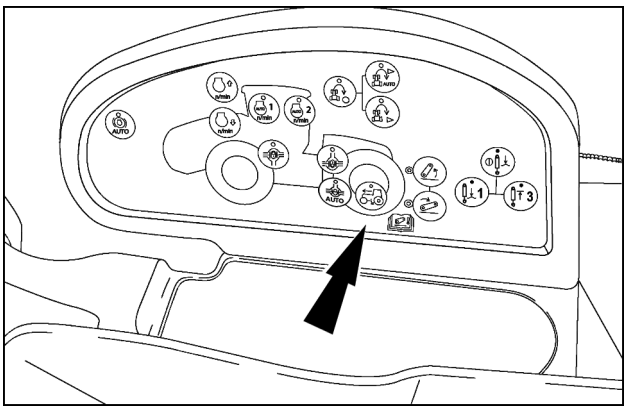
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Slip limit control

Use the slip limit control when working with three-point hitch mounted implements to limit wheel slippage.



Press and release the Slip Limit control to toggle the feature on or off.
The lamp in the top of the control illuminates when the feature is active.
The lamp in the rear tire on the icon illuminates when the hitch is adjusted to limit rear wheel slippage.



RAIL14TR01101AA 7

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Performance functions

The following screens are accessible by pressing the Up or Down arrow keys or by pressing the specific key on the performance keypad.

- Percent power
- Area/hour
- Worked area
- Fuel rate
- Distance
- Fuel/area
- Rear hitch position (if equipped)
- Fuel remaining
- Target speed
- Slip

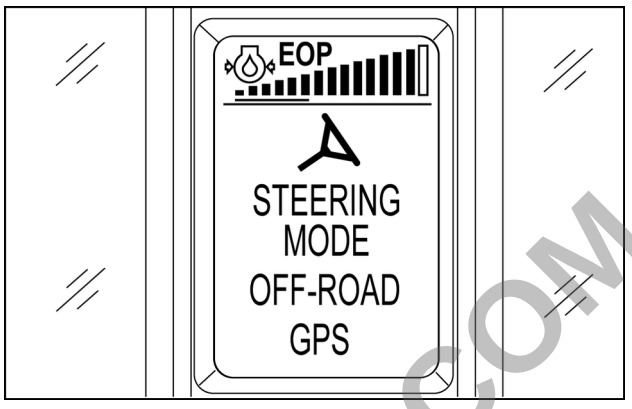
NOTE: *The entire programmable screen is used when displaying fault or warning information, during calibration procedures and when entering setup information.*

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Electronic steering system

Your tractor is equipped with an electronic steering system that gives you more precise control on or off road. The system allows for faster steering rate off road (approximately three and one half turns lock to lock), and a slower steering rate (approximately six turns lock to lock) for smoother steering on road. The system is fully automatic and the steering mode is determined by speed, autoguidance engagement (if equipped), and the roading switch being placed in the locked position.



RAIL14TR01573AA 1

When the steering system changes from one mode to the other, the display screen will momentarily change to show the current mode.

If maximum steering angle is changed on the tractor (example: wheel hardware changed or tracks installed) then your dealer must use the dealer service tool to properly configure the steering valve and steering angle and steering valve calibration must be performed. Failure to do so could cause steering faults and/or reduce autoguidance performance.

NOTE: *If a fault appears on the display for the steering system, place the tractor in Park, cycle the roading switch to lock then unlock, wait approximately five seconds for the fault to clear and then resume normal operation.*

NOTE: *The roading switch must be placed in the locked (upper) position anytime the tractor is used on road.*

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REAR POWER TAKE-OFF (PTO)

Power Take-Off (PTO) safety rules

⚠ WARNING

Entanglement hazard!
Power Take-Off (PTO) driven machinery can cause serious injury. Before working on or near the PTO shaft, or servicing or clearing the driven machine, put the PTO switch in the disengage position and stop the engine.
Failure to comply could result in death or serious injury.

W0321A

⚠ WARNING

Machine damage can cause accidents!
Always use the recommended Power Take-Off (PTO) speed for the implement. Consult the implement operator's manual for the correct speed.
Failure to comply could result in death or serious injury.

W0335A

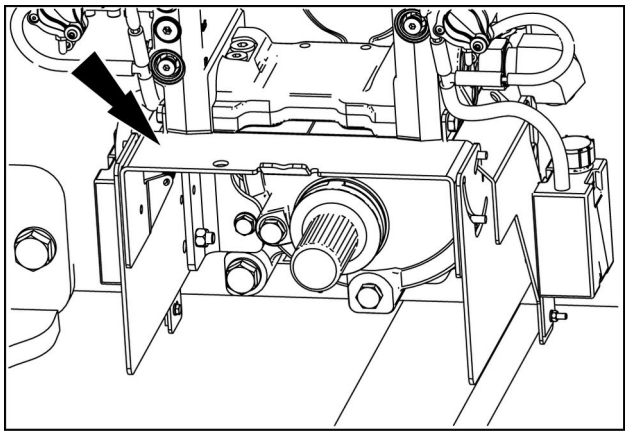
This tractor is equipped with a **1000 RPM** Power Take-Off (PTO). Be sure the implements are matched to the PTO speed. See the Specifications Section in this manual for general specifications for the power takeoff on your tractor.

When using the PTO operated equipment on a tractor with three-point hitch, both lift links must be as specified in the equipment operator's manual. The sway blocks must be in the RIGID position to limit lateral movement of the equipment. The upper link must be connected in the upper position of the upper link bracket.

Always stop the engine before connecting an implement PTO shaft. This releases the tractor PTO brake and allows the PTO shaft to be turned by hand so that the splines of the tractor and the Implement PTO shafts can be aligned for connecting.

Power Take-Off (PTO) safety guard

All tractors equipped with power take off will have a large safety guard at the tractor PTO shaft. Make sure the guard is in good condition and is in the correct position to prevent possible injury to the operator or other persons.



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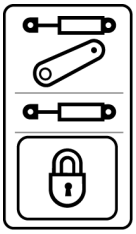
Hydraulic remote valve transport lock

⚠ WARNING

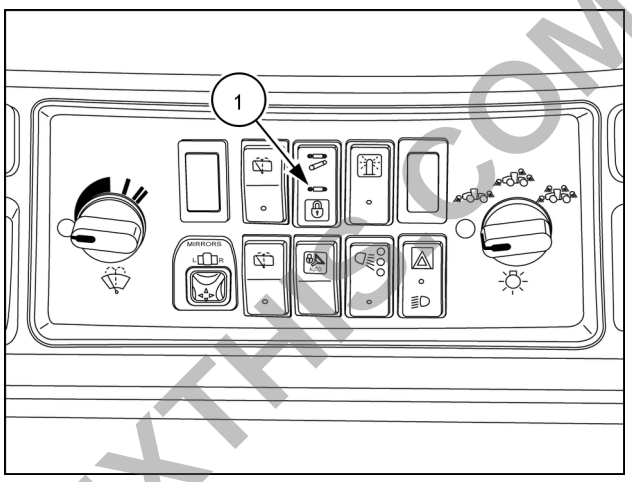
Driving hazard!
To prevent accidental lowering of the implement, always use the transport lock function during transport.
Failure to comply could result in death or serious injury.

W0437A

Use the hydraulic lock/transport lock **(1)** located in the overhead controls to prevent unintended movement of hitch mounted or remote valve-driven implements when working or travelling.



Press the top of the switch to enable hydraulic flow to the hitch and the remote valves.
Move the switch to the center position to enable hydraulic flow to the remote valves only.
Press the bottom of the switch to disable hydraulic flow to the hitch and the remote valve. The lamp on the switch illuminates when flow is disabled.



RAIL14TR00974AA 1

The hydraulic lock may also be used to quickly stop operation of the remote valves. Select the bottom position to stop flow to the valves.

When travelling between fields or on the highway, both the remote valve and hitch functions should be disabled by pressing the bottom of the hydraulic lock switch.

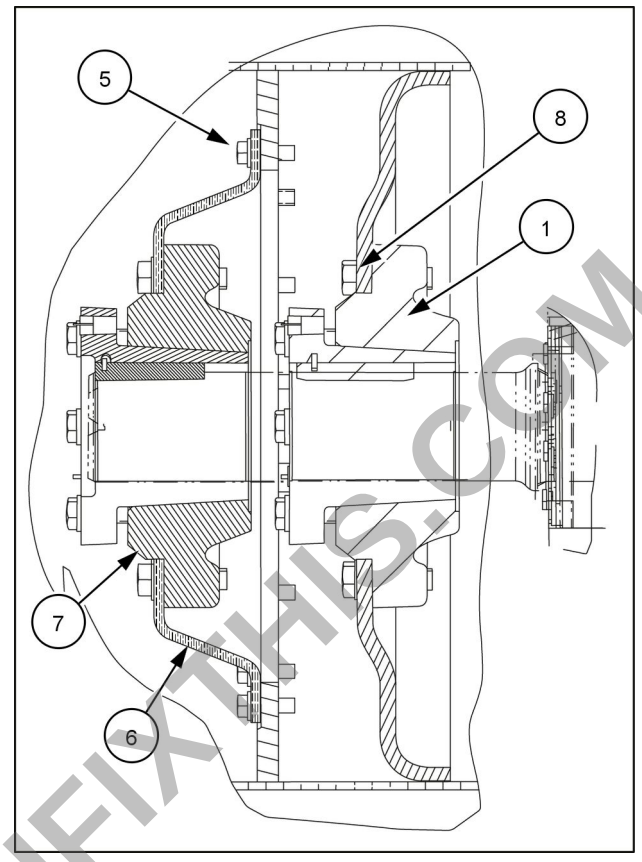
NOTE: *Transport lock should not be used during maintenance or repair procedures to support raised components. Components must be supported by suitable jacks, floor stands and lift equipment during maintenance or repair.*

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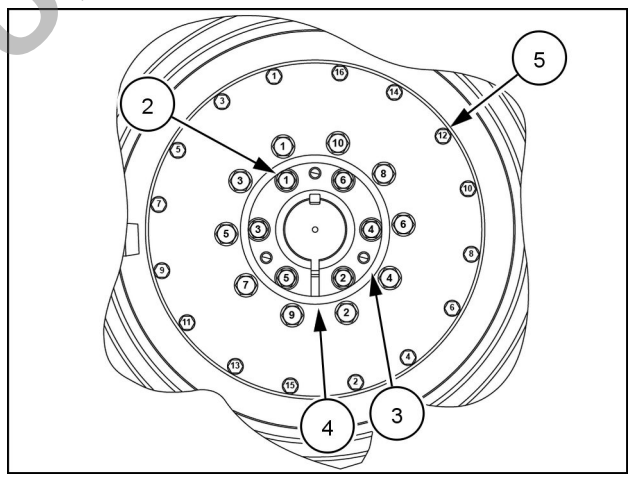
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10 Bolt wheel - dual wheel installation

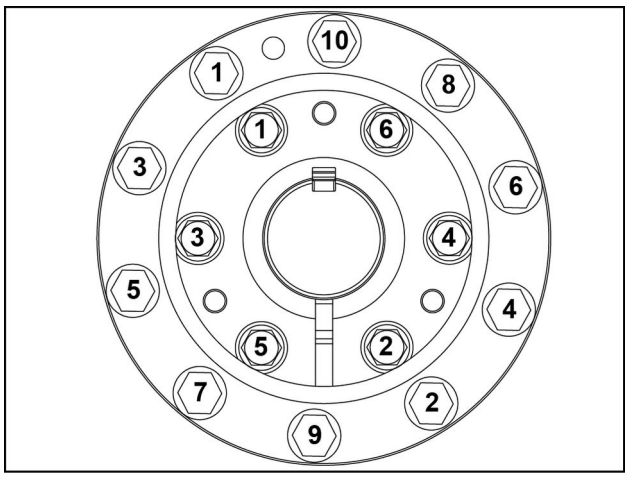
1. Lubricate the mounting bolts **(8)** with clean **NEW HOLLAND AMBRA SUPER GOLD 10W-30** engine oil and install the wheel on the inner hub. Tighten the bolts **(1)** evenly and in the sequence shown below to **529 - 569 N·m** (**390 - 420 lb ft**).
2. Drive the tractor in a tight figure 8 pattern four times.
3. Retighten the bolts to the specified torque.
4. Repeat Steps 2 and 3 until the bolts maintain the specified torque.
5. Install the outer hub **(7)** and disc **(6)** assembly on the axle. Align the locating hole on the mounting ring near the valve.
6. Install the outer disc mounting bolts **(5)**. Tighten the bolts **(5)** evenly and in a crossing pattern to **244 - 271 N·m** (**180 - 200 lb ft**).
7. Remove the wedge from slot **(4)** in the bushing and slide the bushing **(7)** into the hub until the external snap ring can be installed on the axle.
8. Tighten the bushing bolts **(2)** evenly and in the sequence shown to **298 - 353 N·m** (**220 - 260 lb ft**).
9. Repeat Steps 2 and 3 until the bolts maintain the specified torque.



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RAIL14TR00901AA 11



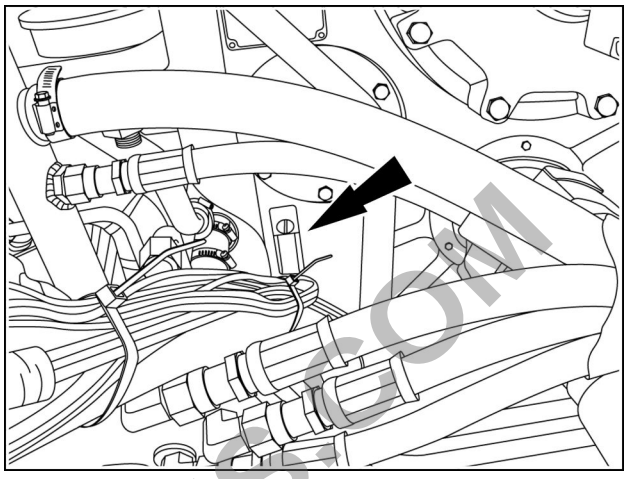
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Transmission oil level

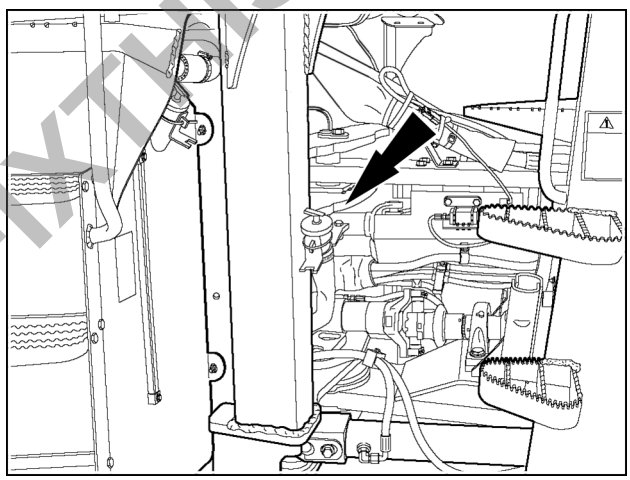
1. To check the transmission oil level, the tractor needs to be on level ground.
2. Check the oil level cold before starting the engine. An oil level sight gauge is located at the lower left rear side of the transmission. The oil level must be at or near the upper full mark on the sight gauge.



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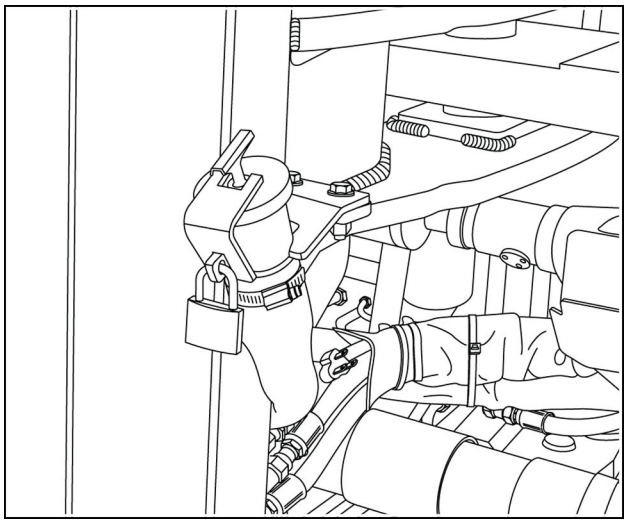
3. If the fluid level is at or near the low mark, add **NEW HOLLAND AMBRA MASTERTRAN® ULTRACTION** through the transmission fill tube.

NOTICE: *Use only oil of the type specified in this manual. Do not overfill the transmission. Over filling the transmission will cause excessive heat to be generated.*



RCPH11FWD191BAM 2

The transmission fill tube is supplied with a latch that allows an operator supplied lock to be installed.

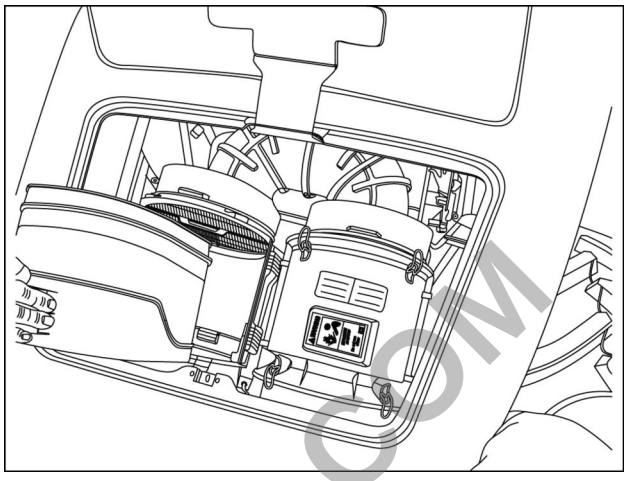


RCPH10FWD818BAM 3

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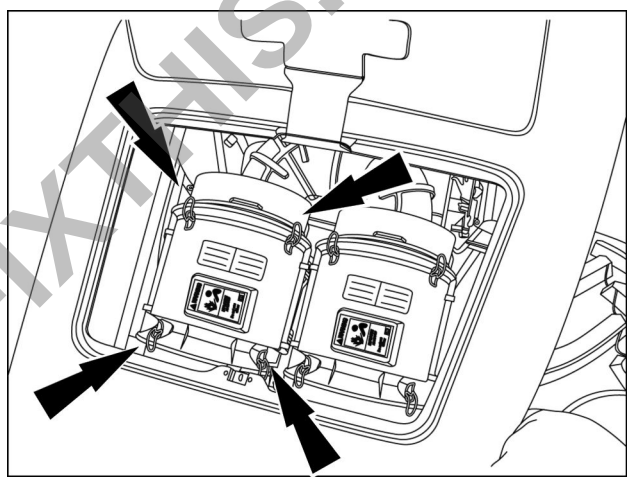
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7. Install a new primary filter into the housing until it is fully inserted.



RCPH10FWD839BAM 16

8. Install the housing cover and latch all cover snaps. Close the service door on the top of the hood. Repeat steps for right air filter.



RCPH10FWD836BAM 17

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Relay identification	
Relay no.	**Circuit**
R1	FNRP/Start
R2	Ignition
R3	Accessory
R4	Controller
R5	Hazard/road lighting
R6	HVAC blower
R7	Work lamps interlock
R8	Front roof 360 lamps
R9	Rear roof 360 lamps
R10	Inner roof lamps
R11	Outer roof lamps
R12	Center roof lamps
R13	Low beam lamps
R14	Mid work lamps
R15	Egress lighting
R16	Interior lighting
R17	Outer work lamps
R18	Rear fender and implement lighting
R19	High beam lighting
R20	Cab pressure blower
R21	Brake switch
R22	Neutral
R23	Fuel primer pump
R24	Work lamps (Europe only)
R25	Horn relay
R26	Open
R27	Open

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