This section covers the proper starting and transmission operation of the tractor.

BEFORE STARTING THE ENGINE

Before starting your tractor for the first time, make the following checks. Also see Maintenance/Adjustments sections in this manual.

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

NOTE: *Clean around the fuel tank cap before you remove the cap.*

WARNING: **Before starting the engine, be sure all operating controls are in neutral or park position. This will eliminate accidental movement of the machine or start up of power driven equipment.* SM306A

WARNING: *Never operate the engine in a closed building. Proper ventilation is required under all circumstances.* M142A

WARNING: *ALWAYS sound horn before starting the machine. Make sure working area is clear of other persons, pets, tools, etc. before you start operating this machine. NEVER allow anybody in work area during machine operation.* M804

Daily Inspection

Do a daily walk around visual inspection of the tractor. Check for such items as hoses or wires rubbing against other components, oil leaks, crop residue buildup, loose bolts or anything that would affect the normal operation of the tractor.

Make any necessary corrections before operating the tractor.

Engine Overspeed

Engine overspeed will cause engine damage. To avoid overspeeding the engine when transporting heavy implements and/or descending steep grades at transport speeds, throttle back and reduce engine speed BEFORE down shifting. Shift down to a gear that will allow the engine to control the speed BEFORE descending steep grades. DAMAGE CAUSED BY ENGINE OVERSPEED IS NOT COVERED BY WARRANTY. Also see Engine Compression Brake Operation.

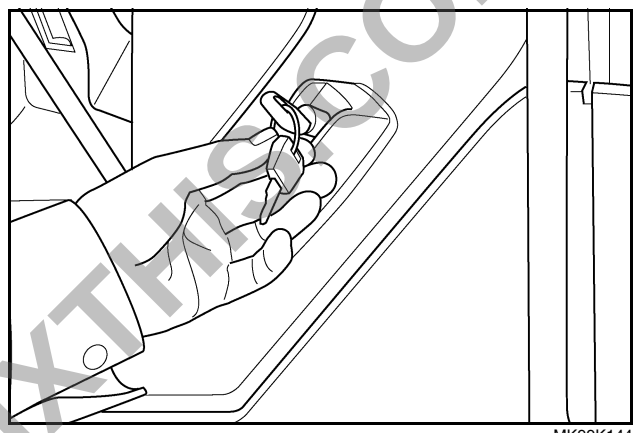
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The following section gives an overview and location of all the cab controls. For in-depth operating instructions, refer to the appropriate section in this manual for further details.

TRACTOR ACCESS

Cab Door Lock

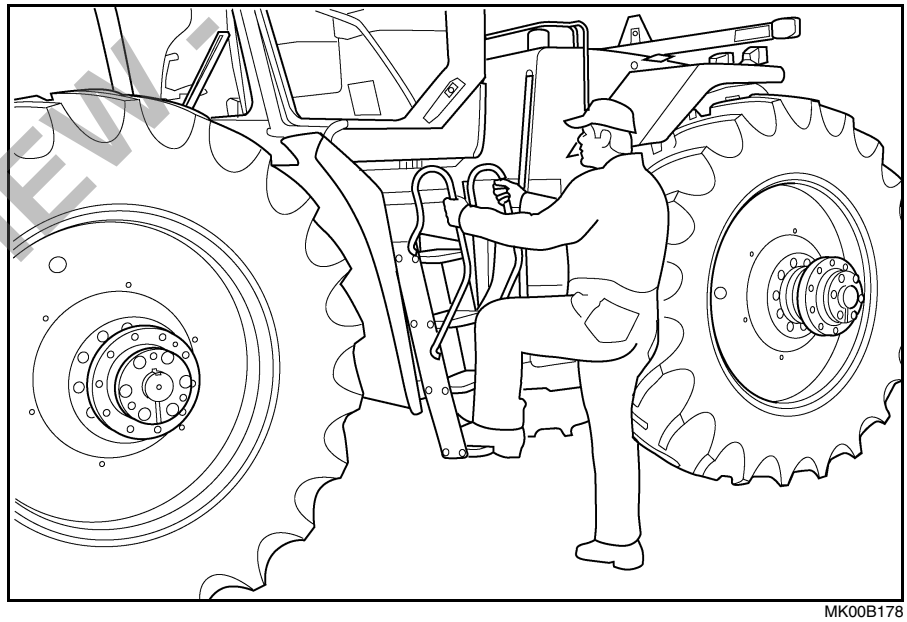
Use the key for the key switch to lock or unlock the cab door from the outside.



MK99K144

WARNING: *Jumping on or off the machine can cause an injury. Always face the machine, use the hand rails and steps, and get on or off slowly. Maintain a three point contact to avoid falling, (both hands on rails and one foot on the step, or one hand on the hand rail and both feet on the steps).*

SM516



MK00B178

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The following section covers all the lubrication, system capacities, filters, fluids and maintenance required on the tractor. Park the tractor on level ground. Remove the key from the switch before performing maintenance.

LUBRICATION AND MAINTENANCE

ENVIRONMENT

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

DO NOT pour oil or fluids in 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 environment recycling center or your dealer for correct information.

PLASTIC AND RESIN PARTS

DO NOT use gasoline, paraffin, paint thinner, naptha, etc., when cleaning plastic, e.g.; console, instrument cluster, monitors and gauges etc.

Use ONLY water, mild soap and a soft cloth when you clean these parts. Using gasoline, paraffin, paint thinner etc., will cause discoloration, cracking or deformation of the part being cleaned.

WARNING: *To prevent eye injury, always wear goggles or full face protection before using compressed air or high pressure washers.*

M786

LUBRICANTS AND CAPACITIES

ENGINE

Oil Type ..... Case Ackcela No. 1 Multigrade 15W-40
Oil Exchange Capacity - with Filter (approx.)
STX 280 ..... 6.3 Gal. (23.8 Liters)
STX 330 ..... 6.75 Gal. (27.4 Liters)

COOLING SYSTEM

Coolant Type ..... 50-50 Water and Ethylene Glycol Mix
Coolant Capacity
STX 280 ..... 11.4 Gal. (43.0 Liters)
STX 330 ..... 12.4 Gal. (47.0 Liters)

TRANSMISSION

Oil Type ..... Case Ackcela HY-TRAN® ULTRA
Oil Capacity - with PTO ..... 13.5 Gal. (76.0 Liters)
without PTO ..... 13.0 Gal. (49.2 Liters)

AXLE/HYDRAULIC SYSTEM

Oil Type ..... Case MS 1209 HY-TRAN® ULTRA
Oil Capacity - Reservoir (Approx,) ..... 25 Gal. (95.0 Liters)
Approx. Total System Capacity (See Note) ..... 63 Gal. (238.0 Liters)

NOTE: *Total System Capacity includes filters, front and rear axle and reservoir. If TPH equipped, add 5 Gal. (19 Liters).*

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The following section covers all engine specifications, power train specifications, travel speeds, weights and dimensions on the tractor.

DIESEL ENGINE

Model
- STX 280 ..... Case 6TAA-8304
- STX 330 ..... Case 6TAA-9004

Type ..... Six Cylinder, Four Stroke Cycle, Turbocharged, Air to Air Aftercooled
Firing Order 1-5-3-6-2-4
Bore ..... 4.49 Inch (114 mm)
Stroke
- STX 280 ..... 5.31 Inch (135 mm)
- STX 330 ..... 5.69 Inch (144.5 mm)

Displacement
- STX 280 ..... 506 Cubic Inch (8.3 Liter)
- STX 330 ..... 543 Cubic Inch (8.9 Liter)

Compression Ratio
- STX 280 ..... 17.1:1
- STX 330 ..... 16.6:1

Cylinder Sleeves ..... Replaceable Wet Type
High Engine Idle (without load) ..... 2100 - 2145 RPM
Rated Engine Speed ..... 2000 RPM
Engine Idle Speed ..... 830 - 870 RPM

Engine Lubrication System

Oil Pressure at Idle Speed (Minimum) ..... 10 PSI (69 kPa)
Oil Pressure at High Idle ..... 40 to 50 PSI (276 TO 344 kPa)
Type of System ..... Pressure and Spray

Fuel System

Fuel Injection Pump ..... CUMMINS
Fuel Injectors ..... CUMMINS
Tank Capacity ..... 200 Gallons (758 Liters)

Air Intake System

Type ..... Dry Type, Two Stage Aspirator System with Service Indicator in Instrument Cluster

Transmission - Power Shift

Type ..... 16 Speed Full Power Shift, 16 Forward and 2 Reverse Speeds
Shift Control ..... Electronically Controlled, Hydraulically Operated

Transmission - Manual Shift

Type ..... 24 Speeds Forward, 6 Speeds in Reverse, Constant Mesh, Synchronized Shift
Gear Shift Control ..... Lever Actuated
Rangeshift Control ..... Lever Actuated
HI-LO Power Shift Control ..... Actuated Electrically by Switch on Throttle Control

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THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF DEATH OR SERIOUS INJURY.

M171C

If Safety Decals on this machine use the words **Danger, Warning or Caution,** which are defined as follows:

- **DANGER:** Indicates an immediate hazardous situation that, if not avoided, will result in death or serious injury. The color associated with Danger is RED.
- **WARNING:** Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury. The color associated with Warning is ORANGE.
- **CAUTION:** Indicates an potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

If Safety Decals on this machine are ISO two panel pictorial, decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is YELLOW.
- Prohibition symbols such as  and  if used, are RED.

WARNING

IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY. BEFORE USING THIS MACHINE, MAKE CERTAIN THAT EVERY OPERATOR:

- Is instructed in safe and proper use of the machine.
- Reads and understands the Manual(s) pertaining to the machine.
- Reads and understands ALL Safety Decals on the machine.
- Clears the area of other persons.
- Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.

It is your responsibility to observe pertinent laws and regulations and follow CNH America LLC instructions on machine operation and maintenance.

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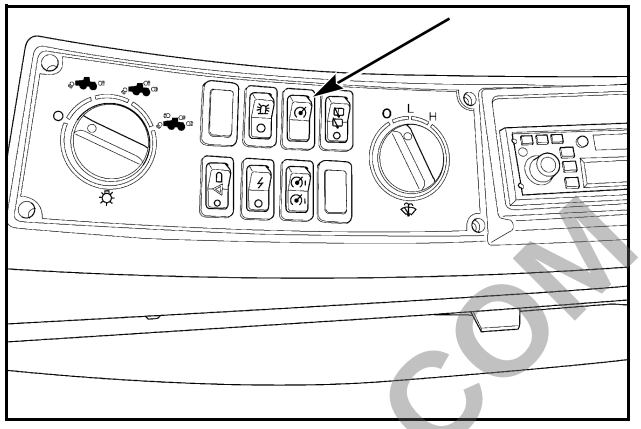
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ENGINE CONSTANT SPEED POWER SWITCH (If Equipped)

This is a 2-position ON/OFF rocker switch to control the engine constant speed feature. Press on the top of the switch to turn ON the Constant Speed feature. Press the bottom of the switch to turn OFF the Constant Speed feature. See Constant Engine Speed Operation for more details.

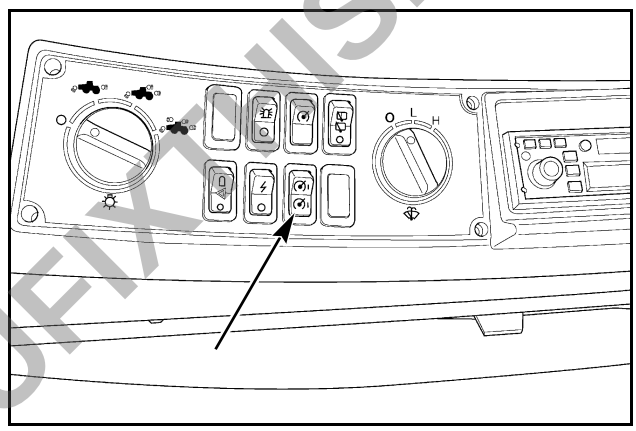


MK01G195

ENGINE CONSTANT SPEED ADJUST SWITCH (If Equipped)

This is a 3-position momentary switch to set the desired maximum engine speed. Press on the TOP of the switch to INCREASE the engine speed. Press on the bottom of the switch to DECREASE engine speed.

NOTE: *Each time the switch is depressed, engine speed will increase/decrease approximately 10 rpm. I*

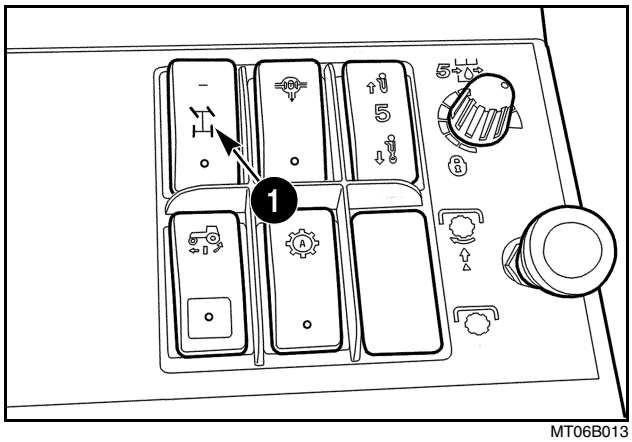


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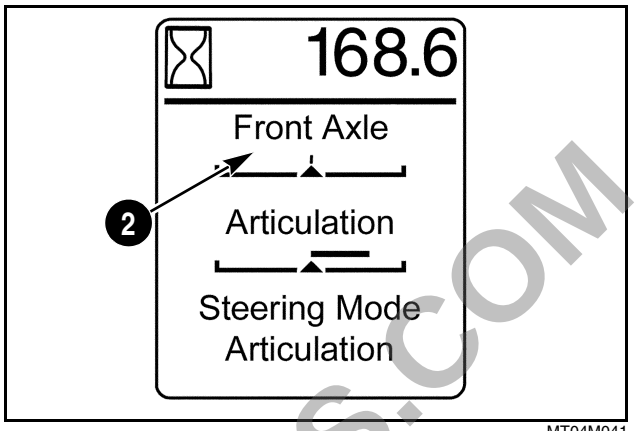
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FRONT STEERING OPERATION (If Equipped)



MT06B013

1. STEERING CONTROL SWITCH



MT04M041

2. ICU DISPLAY

ACCUSTEER tractors equipped with front steering can be turned using ARTICULATION steering only or a COMBINATION of front steering and articulation (full time) steering. The operator can select either mode using the two position (0 = OFF, 1 = Combination ON) steering control switch (1) located on the armrest control console. Also see Steering Controller Calibration.

Combination Steering Operation

To select COMBINATION steering, steer the tractor in a straight forward position as indicated on the display. Depress the top end of the control switch (1) to select the combination steering mode of operation. This will permit the front wheels to be turned from 5° to 10° to the left or right of center before articulation steering begins.

When the steering wheel is turned beyond the front steering limit, articulation steering will begin. This will provide an additional 40° of steering capability or a maximum of 50° total left or right steering ability.

NOTE: *Combination steering is disabled above 12 MPH (19 KPH).*

Crab Steering

Crab steering is not available on these models.

Articulation Only Steering Operation

To return to articulation only steering, steer the front wheels to the straight forward position as indicated on the display. Depress the bottom end of the control switch (1) to the OFF position to activate the articulation only steering mode. Use ARTICULATION ONLY steering when operating on public roads or at high speeds.

The front wheels must be in a straight forward position when selecting articulation only steering to prevent any degree of crab steering. It may be necessary to switch to combination steering if front steering should drift off center in severe applications.

Steering Display Monitor

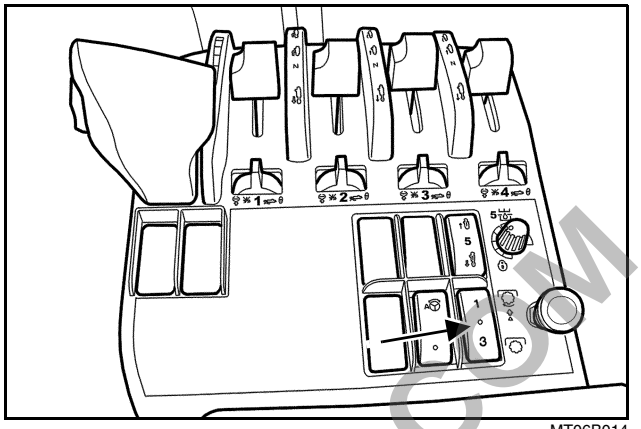
ACCUSTEER tractors equipped with Performance Monitor (2) will display the mode of steering operation (i.e. articulation or combination) and the relative steering angle left or right of center. The display will show an icon moving to the left or right of the center position of the display scale. Be sure the icon is in the center position of the scale before selecting the articulation only steering mode.

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Depressing the No. 1 end of the rocker switch will turn the Auto function ON for remote valve section No. 1. Depressing 1 again will turn the Auto function OFF. Depressing the No. 3 end of the switch will turn the Auto function ON for remote valve section No. 3. Depress the switch again to turn the Auto function OFF for remote No. 3.

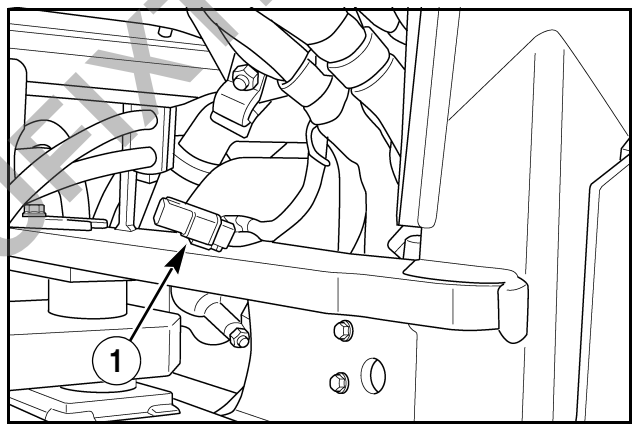
NOTE: *Contact your dealer to activate this function.*



MT06B014

Implement Potentiometer Connector Plug (If Equipped)

The auxiliary implement connector (1) for use with AUTO mode operation is located under the RH rear corner of the cab.



MK99K051

The diagram shows the tractor side connector plug pin numbers, location and usage for implement position potentiometers.

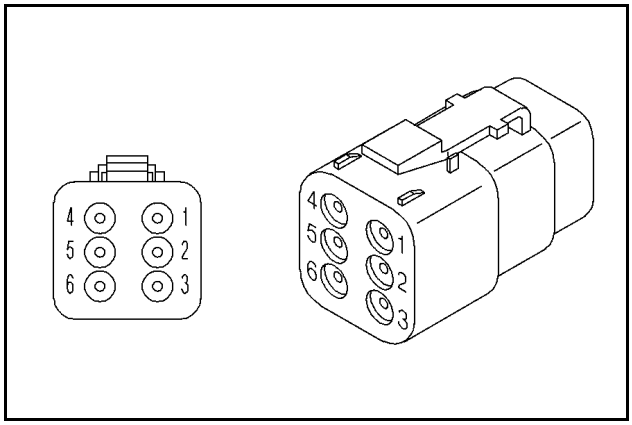
Remote Valve No. 1
Pin 1 - Signal
Pin 2 - Power
Pin 3 - Ground

Remote Valve No 3
Pin 4 - Signal
Pin 5 - Power
Pin 6 - Ground

Connection for laser operated scrapers.

Scraper No. 1
Pin 5- Power
Pin 6- Ground
Pin 1 - Signal

Scraper No 2
Pin 5- Power
Pin 6 - Ground
Pin 4 - Signal



MA01D063

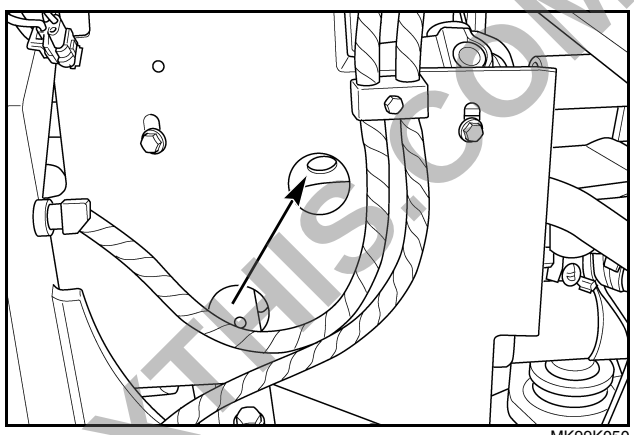
Contact your dealer for additional information.

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500 HOUR MAINTENANCE

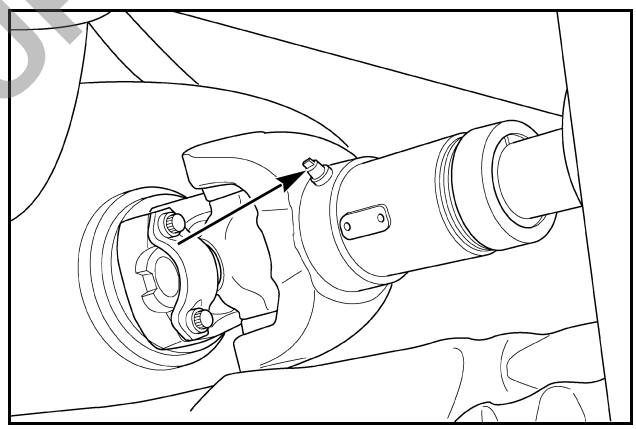
NOTE: *Complete the 10, 50 and 250 hour maintenance plus the following. Use NLGI No. 2 Multi-Purpose Lithium EP Grease on all grease fittings.*

Grease the PTO shaft carrier bearing every 500 service hours.



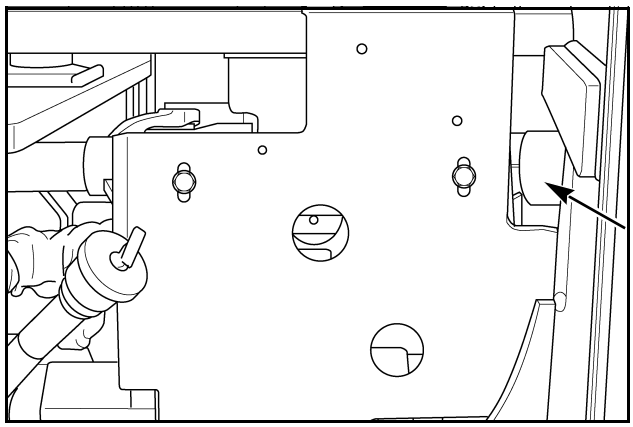
MK99K050

Grease the front PTO shaft slip yoke every 500 service hours.



MK99H155

Grease the rear PTO shaft slip yoke every 500 service hours.



MK00D161

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