

Intended use

WARNING

Roll-over hazard!

Always pull from the drawbar. DO NOT attach chains or ropes to the Roll Over Protective Structure (ROPS) for pulling purposes, as the machine could tip over. When driving through door openings or under low overhead objects, make sure there is sufficient clearance for the ROPS.

Failure to comply could result in death or serious injury.

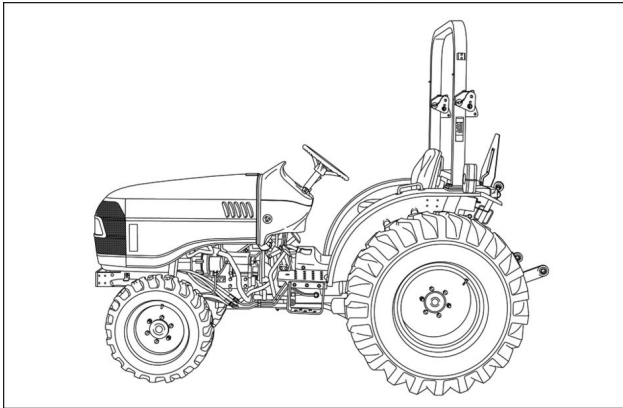
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Your tractor is designed and made to pull, to carry, and to power a variety of mounted or towed equipment, although within some physical limits. The working speed and performance may depend on a number of various parameters, such as weather and terrain conditions. Though the tractor is designed to perform in combination with a variety of equipment in most crops and conditions, there may be a number of combinations of above parameters, for which there is severe degradation of performance of the tractor and/or its mounted or trailed equipment. If you notice degradation of performance, contact your dealer for assistance. He may have useful information for improvements, or a kit may be available to enhance the performance.

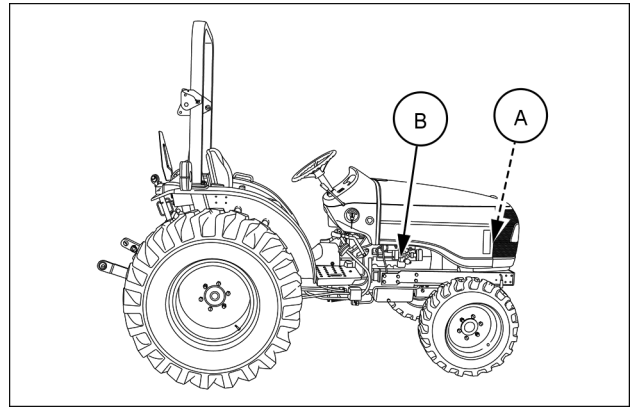
- Do not use the tractor for another purpose than intended by the manufacturer and outlined in this manual.
- Do not use the tractor beyond its limits of terrain gradient and stability as outlined further in this manual. Using the tractor beyond these limits may result in roll-over or tip-over. Observe the recommendations in this manual.
- Use only approved accessories and attachments that are designed for your machine. Consult your dealer on changes, additions or modifications that may be required for your machine. Do not make any unauthorized modifications to your machine.
- Do not use the tractor on higher speeds than allowed by the load and the environment. A wet surface or other low adherence conditions may increase the braking distance or result in vehicle instability. Always adapt your traveling speed according to the load of the vehicle and the characteristics of the road.
- Do not use the tractor near or on soft verges of canals and brooks or banks and verges that are undermined by rodents. The tractor may sink sideways and roll-over.
- Do not use the tractor on brittle bridge heads and poor bridge floors. These constructions may collapse and cause roll-over of the tractor. Always check out the condition and carrying capacity of bridges and ramps prior to engage.
- Do not use the tractor without wearing the seat restraint system during activities where roll-over or tip-over hazards exist. The Roll Over Protection Structure (ROPS) cab or ROPS structure will only be fully effective when the driver remains attached to his seat.
- Do not use equipment mounted on the tractor which is not correctly matching and firmly fixed. Such equipment may increase the risk for roll-over and hit the tractor when coming loose. Ensure that the dimensions of the three-point linkage interface of both the tractor and the equipment are matching according to the categories defined in ISO 730. Ensure that the dimensions and speed of the Power Take-Off (PTO) shaft on the tractors are matching those of the equipment.
- Do not use the tractor in combination with equipment, without having consulted the specific operator's manual provided with the equipment. The tractor is a universal tool to carry, tow, and drive a variety of equipment. This manual alone cannot provide you with all the information required for the safe operation of the combination.
- Do not use the tractor beyond its limits of dynamic stability. High speed, abrupt maneuvers, and fast and short cornering will increase the risk of roll-over.
- Do not use the tractor for pulling work, in cases where you do not know whether the load will yield, for instance when pulling stumps. The tractor may flip over when the stump is not yielding.
- Be cautious that the center of gravity of the tractor may increase when loads on the front-end loader or the three-point linkage are raised. In these conditions, the tractor may roll-over earlier than expected.
- Do not step down from the tractor without shutting down the PTO, shifting the transmission to park or neutral and applying the park brake, unless continued PTO operation is required for some equipment, such as pumps or wood chippers. The latter equipment may have an emergency stop device on the equipment itself, as human intervention is needed during operation. But other equipment, engaged and driven by the tractor will have no means to stop the power transmission, other than the PTO clutch of the tractor.
- You shall take the necessary precautions to always be aware of the possible presence of bystanders, certainly when maneuvering in confined areas, such as the farm yard and sheds. Keep people away from the tractor during work; ask bystanders to leave the field. There is not only the risk to be overrun by the tractor, but objects ejected by some

Machine orientation

NOTE: On this equipment, left-hand and right-hand are determined by standing behind the unit, looking in the direction of travel.

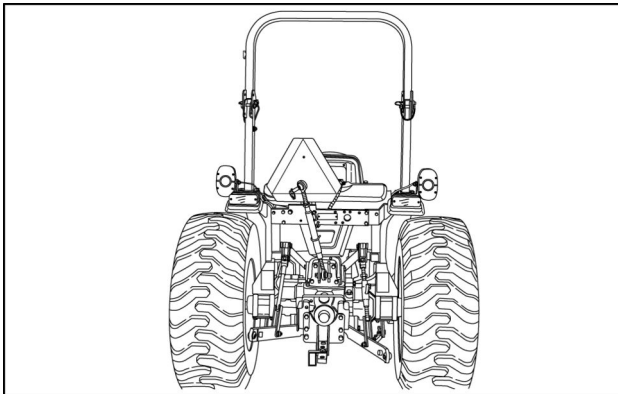


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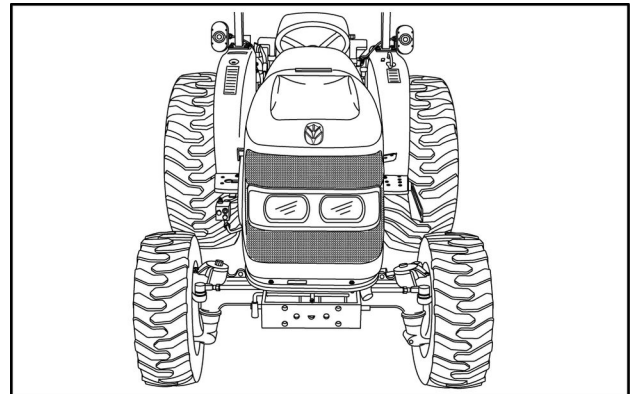
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Left-hand view



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Right-hand view



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Rear view

Front view

Safety rules

General safety rules

Use caution when you operate the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Never permit anyone other than the operator to ride on the machine.

Never operate the machine under the influence of alcohol or drugs, or while you are otherwise impaired.

When digging or using ground-engaging attachments, be aware of buried cables. Contact local utilities to determine the locations of services.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- DO NOT use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop the engine, remove the key, and relieve the pressure before you connect or disconnect fluid lines.
- Make sure that all components are in good condition. Tighten all connections before you start the engine or pressurize the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or while components are in motion.

Make sure that all guards and shields are in good condition and properly installed before you operate the machine. Never operate the machine with shields removed. Always close access doors or panels before you operate the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Never operate the engine in enclosed spaces as harmful exhaust gases may build up.

Before you start the machine, be sure that all controls are in neutral or park lock position.

Start the engine only from the operator's seat. If you bypass the safety start switch, the engine can start with the transmission in gear. Do not connect or short across terminals on the starter solenoid. Attach jumper cables as described in the manual. Starting in gear may cause death or serious injury.


Always keep windows, mirrors, all lighting, and Slow-Moving Vehicle (SMV) emblem clean to provide the best possible visibility while you operate the machine.

Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.

Before you leave the machine:

1. Park the machine on a firm, level surface.
2. Put all controls in neutral or park lock position.
3. Engage the parking brake. Use wheel chocks if required.
4. Lower all hydraulic equipment — Implements, header, etc.
5. Turn off the engine and remove the key.

When, due to exceptional circumstances, you would decide to keep the engine running after you leave the operator's station, then you must follow these precautions:

1. Bring the engine to low idle speed.
2. Disengage all drive systems.
3.  **WARNING**

Some components may continue to run down after you disengage drive systems. Make sure all drive systems are fully disengaged. Failure to comply could result in death or serious injury.

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Shift the transmission into neutral.

4. Apply the parking brake.

(2)

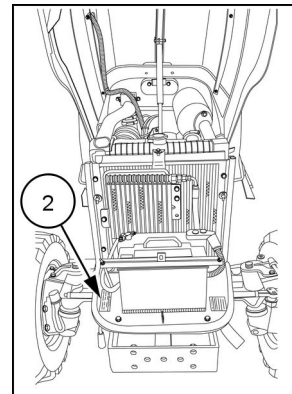
WARNING

- **TO JUMP START (Negative Grounded Battery)**
 - 1. **Shield eyes.**
 - 2. **Connect end of one cable to positive (+) terminals of each battery.**
 - 3. **Connect one end of other cable to negative (-) terminal of "Good" battery.**
 - 4. **Connect other end to engine block of vehicle being started, TO PREVENT DAMAGE to other electrical components on vehicle being started, make certain that engine is at idle speed before disconnecting jumper cables.**
Failure to comply could result in death or serious injury.
- Quantity: 1
 English Part Number: MT40254070



40254070 4

(2) Location: Right -hand side of the battery on support plate.



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(3)

WARNING

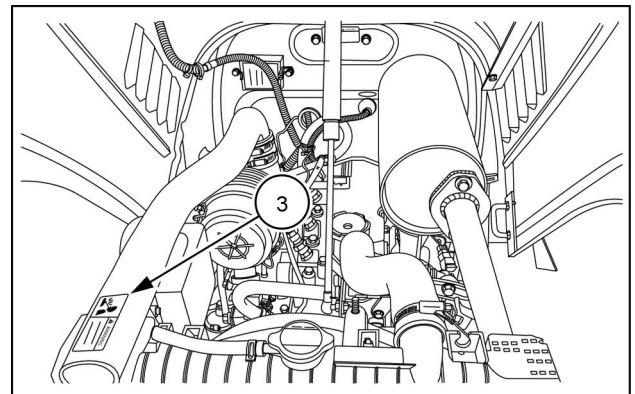
To prevent serious injury or death.
High pressure steam and hot water.
Remove filler cap with extreme care.
Failure to comply could result in death or serious injury.

Quantity: 1
 English Part Number: MT40297729



40297729 6

(3) Location: On the air cleaner intake hose.



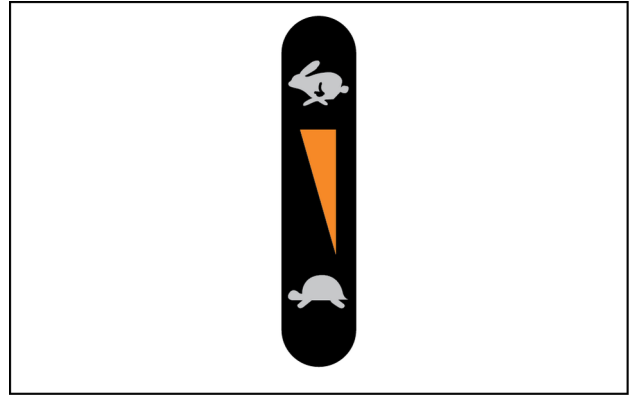
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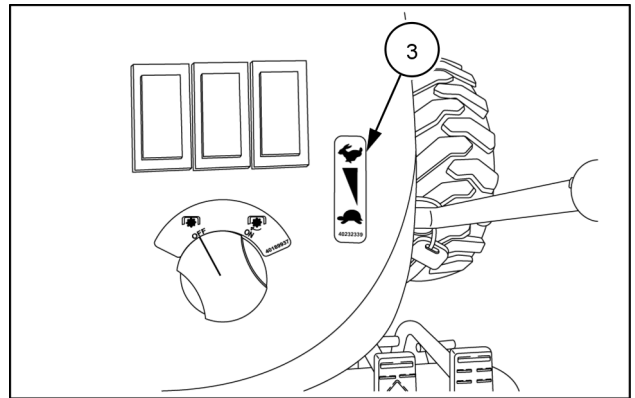
Hand Throttle Lever

- English MT40233965

Location: On the right-hand side of the dash panel.



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(4)

Park brake

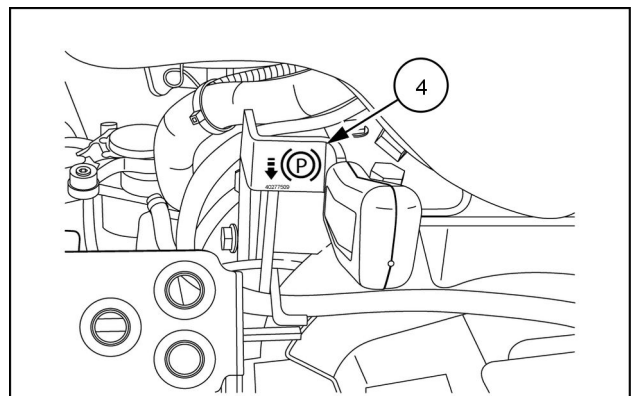
- English MT40277509

Location: On the park brake engagement lever.



40277509

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Cruise control

⚠ WARNING

Loss of control hazard!

To maintain optimum control of the machine, do not use the cruise control at high speeds or when loading.

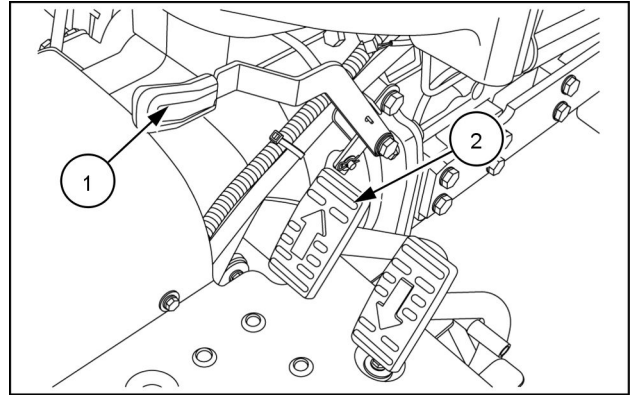
Failure to comply could result in death or serious injury.

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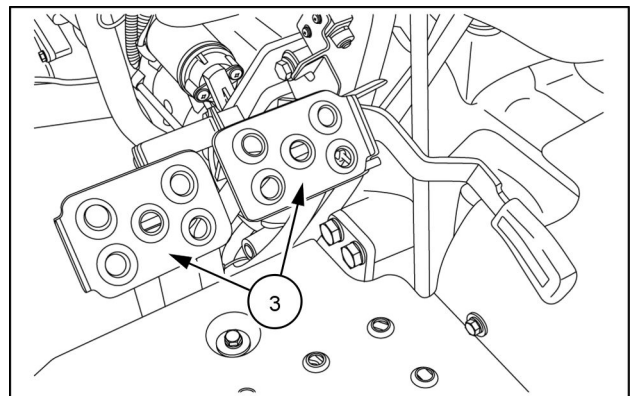
The HST cruise control lever (1) is located on the right-hand side of the operator's platform. It is used to maintain a constant forward speed.

NOTE: The cruise control is only found on HST model tractors.

When the desired travel speed is reached, push downwards on the cruise control engagement lever while depressing the HST forward pedal (2). The engagement lever will mechanically retain the forward pedal in the desired speed location. To disengage the cruise control, depress the HST forward pedal slightly or depress both brake pedals (3).



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NHIL12CT00691AA 2

Differential lock pedal

⚠ WARNING

Steering is difficult with the differential lock engaged. An accident could result. During field operation, use the differential lock for traction improvement but release for turning at row end. Do not drive at high speeds or on roads with the differential lock engaged. Failure to comply could result in death or serious injury.

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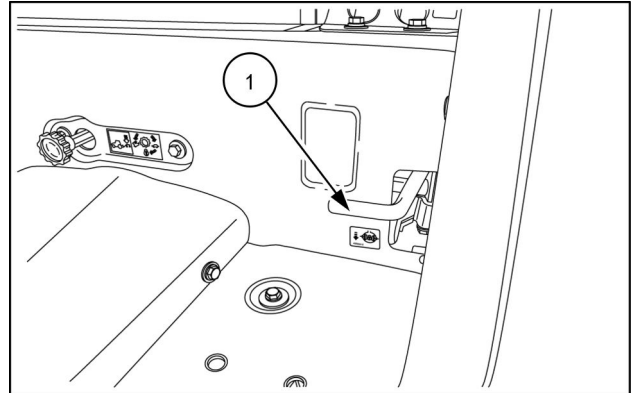
The differential lock pedal is located on the left-hand foot platform (1) on hydrostatic transmission models and on the right-hand foot platform (2) on mechanical transmission models. The differential lock is used to obtain additional traction in wet or loose soil.

When the differential lock pedal is depressed, power is split evenly between the two rear wheels. Whenever one wheel begins to slip in wet or loose soil, use the lock to obtain additional traction from the opposite wheel.

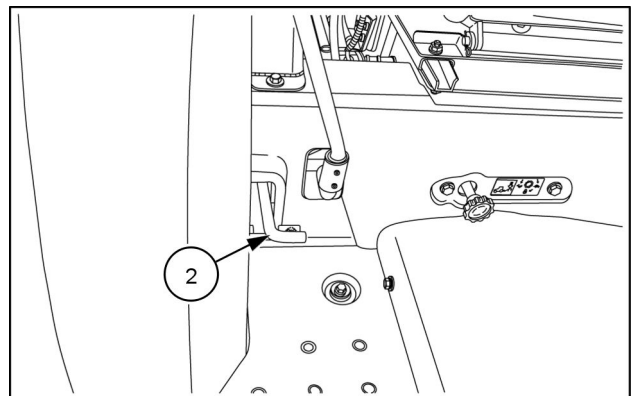
To operate the differential lock, depress and hold the pedal down until the lock is positively engaged. It is best to engage the lock while the wheels are turning slowly to minimize shock loads to the drive-line. If a wheel spins at high speed, such as on ice, reduce engine speed to idle before engaging the lock or damage may result. Release the pedal to disengage the differential lock.

NOTE: In some instances, the lock may remain engaged after the pedal is released. This can occur if one rear wheel is turning at a faster speed than the other. The lock can be disengaged in one of two ways if this occurs:

- Decrease the drawbar pull by raising or disengaging the implement so that neither wheel tends to slip.
- Depress the clutch pedal and rapidly apply and release a light braking load to the wheel with less traction.



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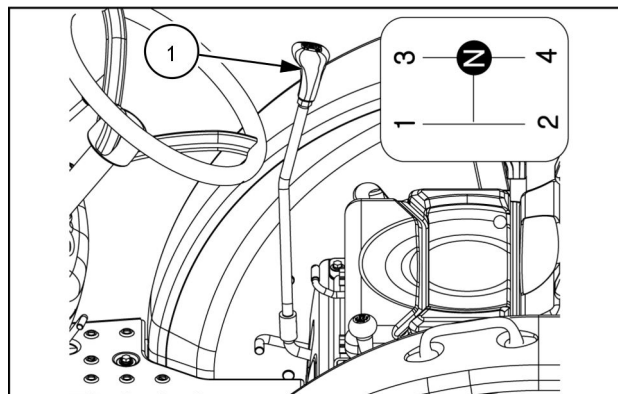
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Transmission speed shift lever

Mechanical transmission model

The transmission main gear shift lever (1) is located on the right-hand side of the operators platform, and is used to select any one of the four forward or reverse gears.

NOTE: With the combination of the shuttle shift, main shift, and range selector lever offer the operator a combination of twelve forward and twelve reverse gears.



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The main gear shift lever must be operated only AFTER the tractor has stopped completely. Shift the main gear shift lever by designated "H" pattern. If the main gear shift lever is operated when the tractor is in motion, damage to the transmission gears could occur.

NOTE: The shift pattern is shown as sitting in the operators seat.

Telescoping stabilizers and optional flex end links adjustment

⚠ WARNING

Machine damage can cause accidents!

Only operate three-point equipment with both flex ends returned to the latched position. Failure to comply could result in death or serious injury.

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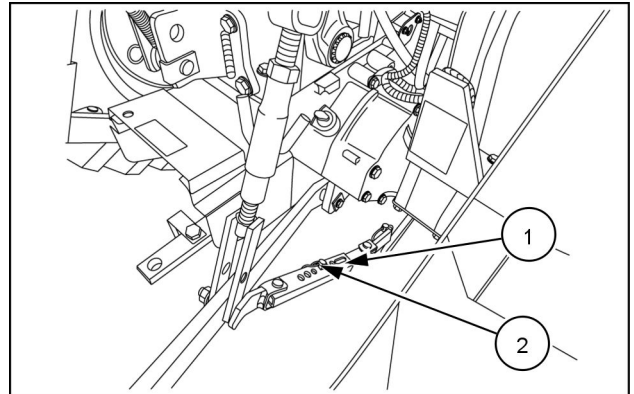
Telescoping stabilizers and fixed end links are standard equipment on the tractor, the flex end links are optional equipment.

The telescoping stabilizers **(1)** use a pin and multiple hole arrangement for easy adjustment, for side to side movement of the three-point linkage.

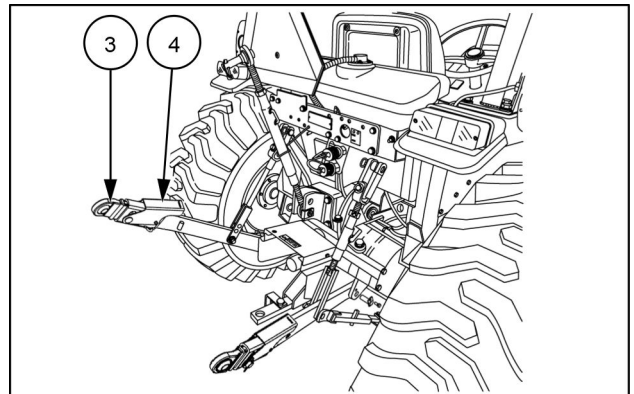
To adjust the stabilizer, pull the pin **(2)** and adjust the stabilizer and insert the pin into the desired hole.

NOTE: Cycle the three point linkage through the entire travel and check for interference with the rear tires. If interference is present, adjust stabilizers as needed.

The (optional) flex ends **(3)** on the lower lift arms are adjusted by pushing down on the clamp **(4)** and sliding the ends to the desired length. Once the implement is attached, push in on the flex ends until the ends are in the latched position in the arms.



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Starting the tractor with jumper cables

⚠ WARNING

Unexpected machine movement!

Always sit in the operator's seat to operate the machine. **DO NOT** bypass the key start switch. Sudden and unexpected machine movement or machine runaway could result. Failure to comply could result in death or serious injury.

W0464A

⚠ WARNING

Explosive gas!

Batteries emit explosive hydrogen gas and other fumes while charging. Ventilate the charging area. Keep the battery away from sparks, open flames, and other ignition sources. Never charge a frozen battery.

Failure to comply could result in death or serious injury.

W0005A

⚠ WARNING

Explosion hazard!

When jump-starting the machine, connect and disconnect the jumper cables exactly as indicated in this manual. **DO NOT** connect the jumper cables to the machine battery terminals. Make sure no persons are near the connecting points before starting the engine. Start the engine from the operator's seat.

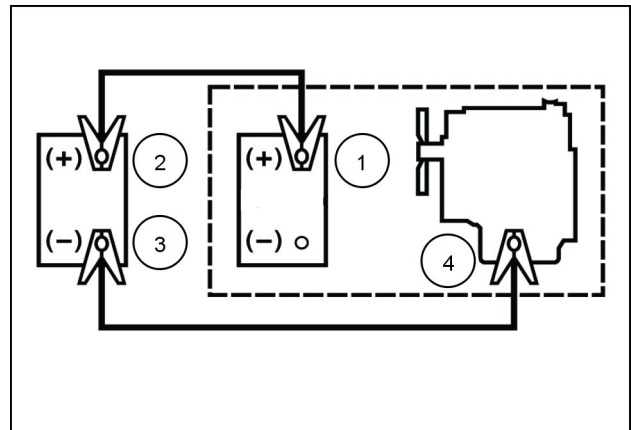
Failure to comply could result in death or serious injury.

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NOTICE: When using a auxiliary battery to start the engine ensure that the polarity of the jumper cables are correct POSITIVE to POSITIVE NEGATIVE to NEGATIVE or the alternator or battery may be damaged.

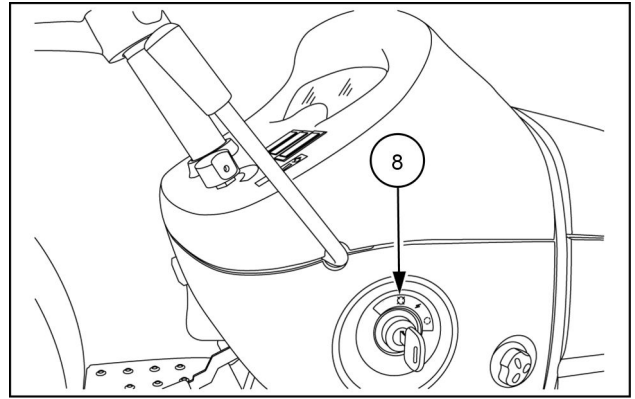
If you must use jumper cables to start the tractor:

1. Shield your eyes.
2. Connect the red end of the jumper cable to the positive (+) battery terminal **(1)** on the tractor and connect the other red end to the positive (+) battery terminal **(2)** on the auxiliary battery.
3. Connect the black end of the jumper cable to the negative (-) battery terminal **(3)** on the auxiliary battery then connect the other black end to a tractor frame ground or engine ground **(4)**. Finally start the tractor by following the safe starting procedures outlined under See **4-11**.
4. When the engine starts allow the engine to idle and turn on all electrical equipment (lights etc.) This will help protect the alternator from possible damage due to changes in load when disconnecting the jumper cables.
5. Disconnect the jumper cables in reverse order disconnect the black end from the tractor frame or engine ground **(4)** then disconnect the other black end from the negative (-) battery terminal **(3)** on the auxiliary battery. Disconnect the red end from the positive (+) battery terminal **(2)** on the auxiliary battery then remove the other red end from the positive (+) battery terminal **(1)** on the tractor battery.



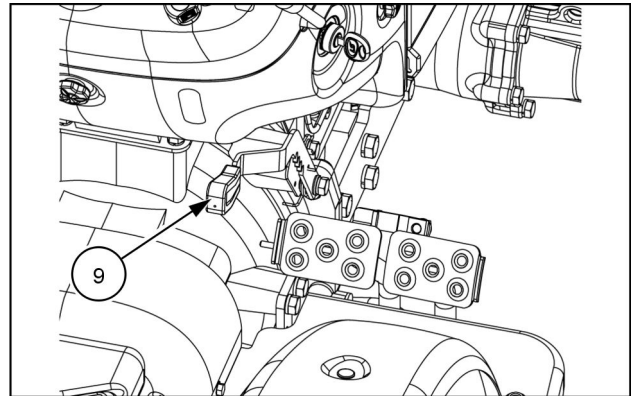
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4. Turn the key **(8)** to the "STOP" position.



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5. Engage the park brake **(9)** and release the brake pedals and clutch pedal slowly.



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Tire load capacity

The table below is the load capacity of the tires. Do not over the load the tires. The axle rating of the tractor may be less than the capacity of the tires. Do not exceed the maximum permissible mass of the tractor.

Front tire inflation pressures and load capacity				
Tire Type	Tire Size	Recommended air pressure	Maximum load capacity at Minimum inflation pressure	Maximum load capacity at maximum inflation pressure
Agricultural (R1)	7-14, 4PR, R1	41 – 248 kPa (6 – 36 psi)	160 kg (353 lb)	449 kg (990 lb)
Turf (R3)	25 x 8.50-14, 4PR, R3	34 – 152 kPa (5 – 22 psi)	251 kg (553 lb)	599 kg (1321 lb)
Industrial (R4)	25 x 8.50-14, 6PR, R4	207 – 345 kPa (30 – 50 psi)	716 kg (1579 lb)	966 kg (2130 lb)

Rear tire inflation pressures and load capacity				
Tire Type	Tire Size	Recommended air pressure	Maximum load capacity at minimum inflation pressure	Maximum load capacity at maximum inflation pressure
Agricultural (R1)	11.2-24, 4PR, R1	83 – 124 kPa (12 – 18 psi)	454 kg (1001 lb)	1152 kg (2540 lb)
Turf (R3)	41 x 14.00-20, 4PR, R3	69 – 172 kPa (10 – 25 psi)	825 kg (1819 lb)	1397 kg (3080 lb)
Industrial (R4)	43 x16-20, 4PR, R4	138 kPa (20 psi)	2059.0 kg (4539.3 lb)	2059.0 kg (4539.3 lb)

Safety rules

- Use clean, quality No. 1-D or No. 2-D fuel (ASTM D975).
- Use No. 1-D fuel if the ambient temperature is expected to be lower than **4 °C (39 °F)** or if the tractor is to be used at an altitude exceeding **1524 m (5000 ft)**.
- Use No. 1-2 diesel fuel with a pour point of at least **-12 °C (10 °F)** below the expected ambient temperature to prevent fuel flow problems in cold weather.
- Keep dirt from entering the fuel tank.
- Sulfur content of the fuel should be no more than **0.5%**.
- Sediment and water content should not exceed **0.5%**.
- Minimum cetane number is 40. Low temperature or high altitude operation may require use of fuel with a higher cetane number.
- Use properly mixed winter fuel when temperatures are extremely cold. In most areas, diesel fuel is properly blended for summer and winter grades as ambient temperatures change. In winter, use winter grade diesel fuel only. Otherwise, the fuel may cloud and block the fuel system.

Fuel Usage Safety

- UNDER NO CIRCUMSTANCES should gasoline, alcohol, or gasohol be added to diesel fuel. These combinations can create an increased fire or explosive hazard.
- Never remove the fuel cap or refuel the tractor while the engine is running or hot.
- Never smoke while refueling or anywhere near fuel.
- When filling the tank, maintain control of the nozzle.
- Do not fill the fuel tank to capacity. Allow room for expansion.
- Wipe up spills immediately.
- Always tighten the fuel cap securely.
- If the original fuel tank cap is lost, always replace it with a New Holland approved cap. A "will-fit" cap may not be safe.
- Keep equipment properly maintained.
- Do not drive equipment near open fires.
- Never use gasoline for cleaning parts.

Tire pressure - Check

WARNING

Explosion hazard!

Always maintain correct tire pressure as indicated in this manual. DO NOT inflate tires above the recommended pressure. Excessive pressure could result in tire failure.

Failure to comply could result in death or serious injury.

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Tire inflation pressure affects the amount of weight a tire can carry. Check the air pressure in your tractor tires and adjust the tire pressure, being careful not to overinflate or under inflate. Observe the following guidelines:

- Do not inflate a tire above the maximum pressure shown on the tire. If the tire is not marked, do not exceed the maximum pressure shown in the Tire Inflation chart found in this manual.
- Do not reinflate a tire that has been run flat or seriously under inflated until the tire has been inspected for damage by a qualified person.
- When checking tire pressure, inspect the tire for damaged sidewalls and tread cuts. Neglected damage leads to early tire failure.

If you must inflate or service tires, follow these safety precautions to avoid injury or fatality:

- Make sure the rim is clean and free of rust.
- Lubricate both tire beads and rim flanges with soap solution. Do not use oil or grease.
- Use a clip-on tire chuck with a remote hose and gauge. This allows the operator to stand clear of the tire while inflating.
- **NEVER INFLATE TO OVER 241 kPa (35 psi) TO SEAT BEADS.** If beads have not been seated by the time pressure reaches **241 kPa (35 psi)**, deflate the assembly, reposition the tire on the rim, relubricate both tire bead and rim flanges, and reinflate. Inflation beyond **241 kPa (35 psi)** with unseated beads may break the bead or rim with explosive force sufficient enough to cause serious injury.
- After seating the beads, adjust inflation pressure to recommended operating pressure.
- Do not inflate a tire unless the rim is mounted on the tractor or is secured so that it will not move if the tire or rim should suddenly fail.
- Do not weld, braze, otherwise repair, or use a damaged rim.
- Never attempt tire repairs on a public road or highway.
- Use jack stands or other suitable blocking to support the tractor while repairing tires.
- Ensure jack has adequate capacity to lift your tractor.
- Place jack on a firm, level surface.
- Do not place any part of your body beneath the tractor or start the engine while the tractor is on the jack.
- Before adding ballast to the tires, refer to page **6-1** for tire and tractor ballasting information.

As required

Fuel injection system - Bleed

⚠ WARNING

Escaping fluid!

Hydraulic fluid or diesel fuel leaking under pressure can penetrate the skin and cause infection or other injury. To prevent personal injury: Relieve all pressure before disconnecting fluid lines or performing work on the hydraulic system. Before applying pressure, make sure all connections are tight and all components are in good condition. Never use your hand to check for suspected leaks under pressure. Use a piece of cardboard or wood for this purpose. If injured by leaking fluid, see your doctor immediately.

Failure to comply could result in death or serious injury.

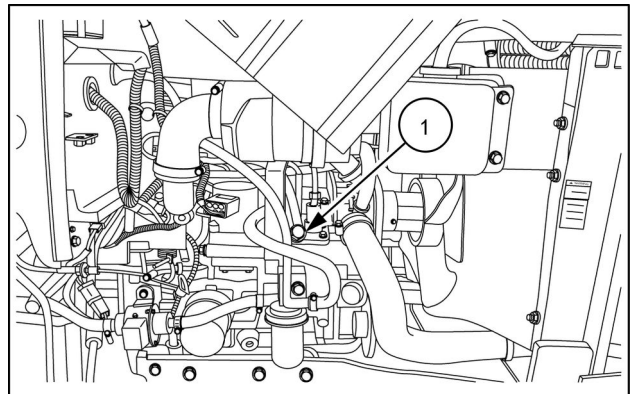
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Bleed the fuel system if:

- It has been drained.
- A new filter element has been installed.
- The tractor has run out of fuel.
- The lines leading to or from the filter have been disconnected.
- The injection pump has been removed and reinstalled.

To bleed the fuel system:

1. Make sure there is adequate fuel in the fuel tank.
2. Loosen the air-bleed bolt (1) from the fuel injection pump.
3. Turn the key to the "ON" position.
4. Tighten the air-bleed bolt once the fuel flowing from the air-bleed bolt is free of air bubbles.
5. Torque the air-bleed bolt to **8.0 N·m (70.8 lb in)**.
6. Advance the hand throttle lever to the half-throttle position.
7. Start the tractor and check for fuel leaks.
8. If the tractor fails to start or starts then shuts off perform the bleed procedure again..



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NOTE: Please contact your NEW HOLLAND dealer if you have any problems or questions concerning this procedure.