



## **OPERATOR'S MANUAL**

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**IMPORTANT:**

Thoroughly read this owner’s manual prior to operating your vehicle.

Updated 10/17/2017

# GENERAL INFORMATION

This manual is included with your mower in order to help ensure the Spartan mower is operated and maintained properly and safely. Carefully reading and following the instructions contained within this manual will help increase functionality and longevity of your mower. Additional information regarding the engine can be found in the separate Engine Owner's Manual.

It is the owner's responsibility to ensure that anyone who uses or works on the mower has read and understands this owner's manual prior to operating the mower. The owner is also responsible for all accidents or injuries involving themselves, others, or property.

**NOTE:** Safety decals should enhance but not replace the safety information contained within this manual. Make sure to read all sections carefully before operating.

## Using this Manual

The instructions in this manual are intended for both expert and novice operators. All possible operating conditions are too numerous to be outlined in this manual, but all skill levels should be able to operate the mower with ease after some experience.

It is important to know that RIGHT and LEFT, as used in this manual, refer to the direction when the operator is in the seat and facing forward.

Diagrams were current when this manual was printed, but may have changed slightly due to production changes. Spartan reserves the right to make necessary changes to the design without notifying previous owners. If you notice a change and you need updated information, contact your Spartan dealer for assistance or look online at [www.spartanmowers.com](http://www.spartanmowers.com).

## Model and Serial Number

Mower model and serial numbers can be found underneath the seat on the left-hand side. These numbers are necessary for identification of your mower with Spartan and to ensure the correct parts are used when service is needed.

## Parts and Service

When parts need to be replaced, it is best to obtain original parts through your local Spartan dealer only. To ensure you receive the proper parts as quickly as possible, you should have the following information to provide your dealer:

**Part description**

**Part number**

**Model number**

**Serial number**

**For servicing, it is encouraged that you go through your local Spartan dealer.**

# SAFETY PRACTICES

Read this manual before attempting to operate your mower. Failure to follow these instructions may result in injury. This manual is considered a part of the mower and should be kept nearby at all times.

\*Read and understand the safety and warning decal descriptions before operating the mower.

This manual contains the rules for safe operation based on the intended mowing practices at the time your mower was built. Take care to follow all directions listed in this manual. Always be careful and alert when operating any type of power equipment. Violation of these rules could lead to serious injury.

## GENERAL OPERATION

Please read, understand, and follow all instructions listed in this manual. Some important practices to keep in mind and follow are listed below:

- Only allow responsible individuals who are familiar with the instructions to operate this mower.
- Familiarize yourself with controls and how to stop the machine quickly.
- Never operate the machine under the influence of drugs or alcohol.
- Never put hands or feet under the cutting deck or near rotating parts.
- Clear the area of small objects (e.g., rocks, toys, wire) which could be picked up and thrown by the blade. An object may have been overlooked and could be thrown by the mower in any direction, causing injury. To avoid this type of accident, keep all bystanders at least 75 feet from the mower while it is in operation. Always wear safety glasses or safety goggles during operation. Stop the blade(s) when crossing gravel drives, walks or roads.
- Make sure there is no one in the area where you will be mowing. If someone moves nearby, stop your mower immediately.
- There should only be one person on the mower at a time. This means you should never carry passengers.
- Disengage blades before moving into reverse and backing up. Always look down and behind before and while in reverse.
- Turn carefully and slowly. Always avoid excessive speed while turning.
- Never leave your mower running while it is unattended. Always follow the appropriate procedure to turn off your machine before leaving it.
- Never operate your mower without good lighting. If you have difficulty seeing due to darkness, do not operate your mower.
- Follow safe driving practices when operating your mower. You should never operate your machine when under the influence of a substance. Always look for traffic.
- Wear sturdy shoes whenever using your mower. Avoid wearing loose fitting clothes or jewelry while mowing.
- Your mower is designed to cut normal grass. Do not attempt to mow through unusually tall, dry grass (e.g., pasture) or piles of dry leaves. This could cause debris to build up on the mower deck or come into contact with engine exhaust, leading to a fire hazard.

**Important Seatbelt Notice:** If the ROPS is in use, seatbelt MUST be fastened for optimal safety. However, if ROPS is not in the raised and secure position, wearing a seatbelt can significantly increase the possibility of severe injury in the case of rollover. Only fold down the ROPS when it is completely necessary and place back in the upright position as soon as the hazard has been cleared. Fixed ROPS should never be removed.

# SAFETY WARNING DECALS



## **WARNING: Thrown Objects hazard.**

Never operate the mower deck with the discharged deflector in the upright position or damaged.

It is acceptable to operate the deck if a bagger or mulching system is used that keeps debris from being discharged away from the machine.



## **WARNING: Thrown Objects hazard.**

Stop the machine if a person enters the work area. Always inspect the area to be mowed for loose debris that could be harmful to the mower or be thrown from the machine. Note any terrain that could cause a loss of control of the machine as well as any non-movable hazards to be avoided.



## **WARNING: Hot surface hazard.**

Do not touch hot surface and keep a safe distance away from hazard.



## **WARNING: Battery hazard.**

Avoid skin contact with battery acid by wearing proper protective gear. Do not overfill battery as this too could cause acid to come in contact with skin. Do not allow an open flame near the battery.



## **WARNING: Rotating belts and pulleys hazard.**

## **WARNING: Rotating blades hazard.**



## **WARNING: Rotating parts hazard.**

Keep a safe distance away from rotating parts of the machine. Do not put any part of your body near rotating parts of the machine.



**WARNING: Read Operator's Manual and understand Warning Decals before operating machine.**

**WARNING: Roll over**

**Mow a safe distance (minimum of 10 feet away from drop-offs, retaining walls, drainage ditches, embankments, water, and other types of hazards to avoid a wheel dropping off over the edge or to avoid the ground from breaking away.**

**WARNING: Back over**

- **Do not carry passengers.**
- **Always stop machine if someone enters the area.**
- **Always be aware of what is behind the machine before backing up. Do not mow in reverse unless absolutely necessary. Always look down and behind before and while backing up.**

**WARNING: Roll over**

- **Slow down before turning.**
- **Do not operate on slopes greater than 15 degrees.**
- **Keep all movement on slopes slow and gradual. Never make sudden changes in speed and direction.**
- **Do not mow on slopes above a retaining wall or drop-off.**

**WARNING: Ejection**

- **Do not operate on slopes greater than 15 degrees.**
- **Keep all movements slow and gradual when going up or down slopes.**
- **Do not remove or modify stabilizer wheels or injury can result.**

**WARNING: Loss of traction/control on slopes**

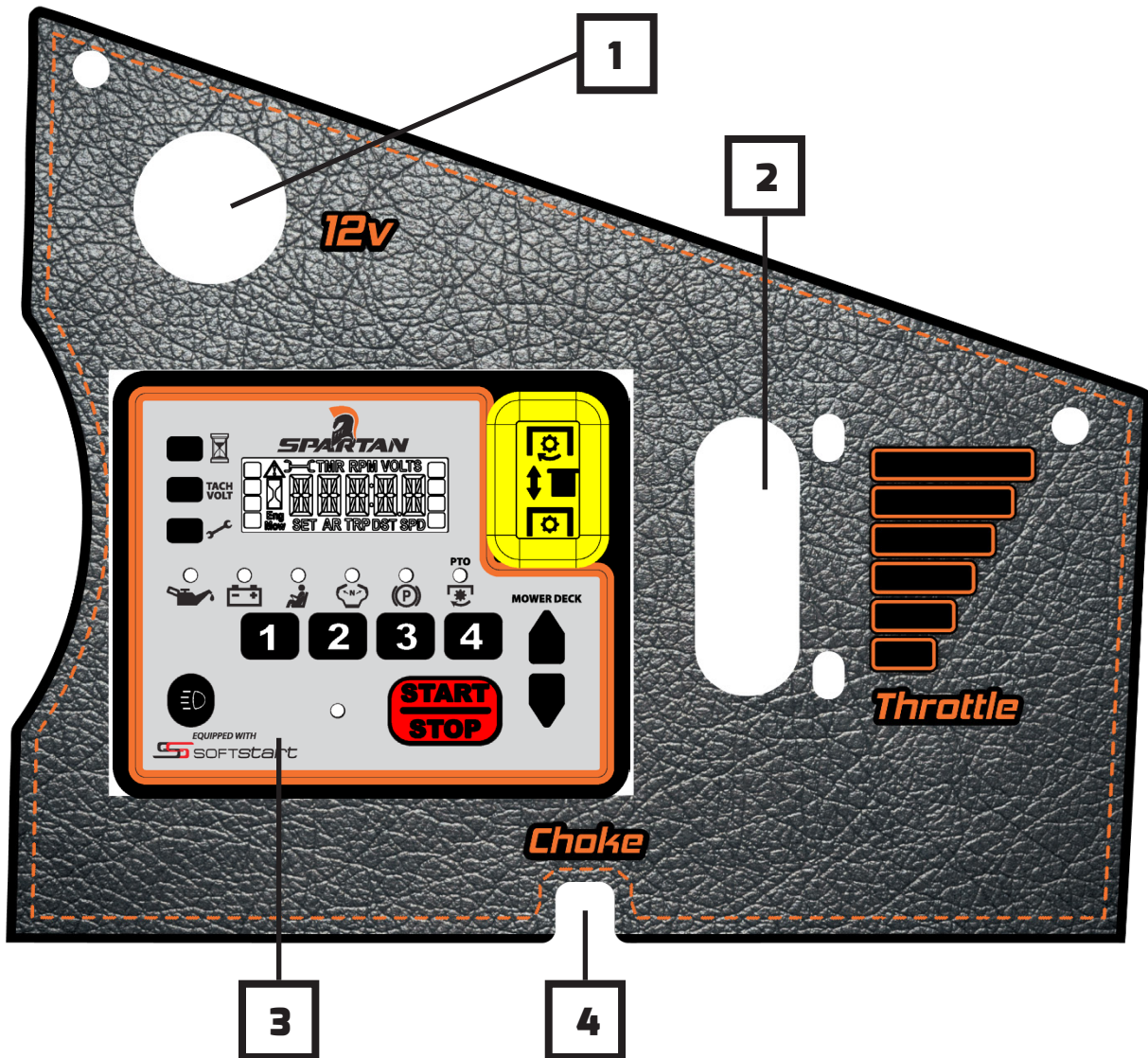
- **Shut off blades**
- **Back slowly down the slope when loss of traction occurs**



# MOWER OPERATION

## OPERATION STATION

Carbureted Instrument Panel (EFI engine panel is the same minus the choke)



- 1) 12 volt auxiliary plug.
- 2) Throttle control.
- 3) VersaGuard PRO Console System (covered in next section).
- 4) Carbureted engine choke.



# Intimidator VersaGuard PRO Console System

## OPERATION INSTRUCTIONS

### LCD Information Center

Engine hour meter – accumulative counting, non-resettable

Mower hour meter – accumulative counting, non-resettable

Job timer – resettable

Time of day clock

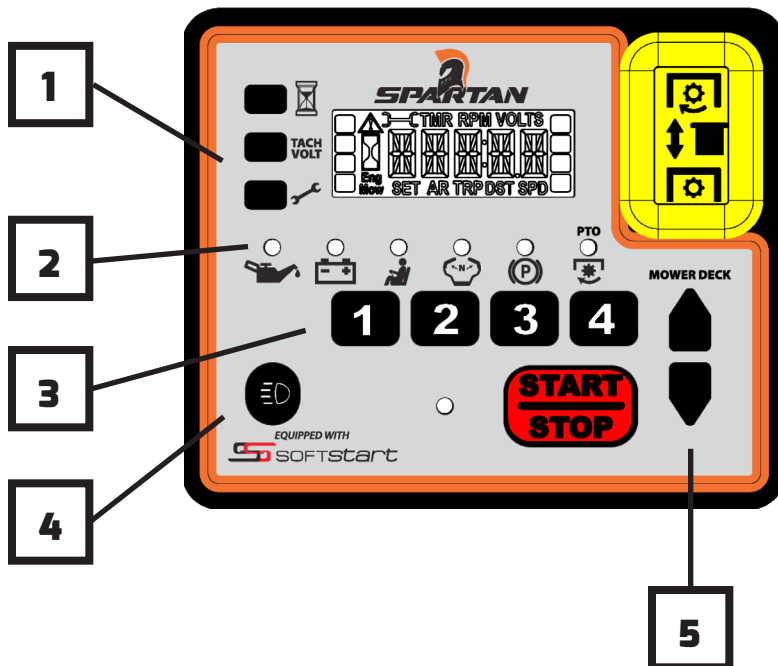
Tachometer (RPM)

Volt meter – with 12.0V low and 15.0V high warning

Service Alert – CHG OIL

#### NOTE:

Your LCD may not display all icons as shown below.



**1. LCD Quick Toggle Buttons** - Depress and release to toggle between modes, depress and hold down for 6 seconds to reset/clear (Display shows "00000" when reset occurs)  
**NOTE:** Only the Job timer and service alerts are resettable, console must be powered up.

**2. LED Indicators** - Monitors equipment and operator conditions, alerts the operator when necessary.

**3. Key Code Buttons** - Use to unlock and power up console.

**4. Headlight Button** - Push and release to turn headlights on; repeat to turn headlights off.  
**NOTE:** Your console may have a headlight button but may not be equipped with headlights. Contact your dealer to purchase this accessory.

**5. Mower Deck Lift Button** - Push up button to raise deck, push down button to lower deck. **NOTE:** Your console may have mower deck buttons but may not be equipped with power deck lift. Contact your dealer to purchase this accessory.

## Key Code Entering – Mower Starting/Stopping

**1)** While positioned in the operator's seat enter your key code to unlock and power up the Console system (your key code is – 2412 but may be changed – see "Personalizing Your Key Code". As you enter the key code it is displayed on the LCD always showing the last 5 digits.

**NOTE:** If the incorrect code is entered the LCD flashes: "WRONG" "CODE", reenter correct code.

**2)** After the key code is entered and console is unlocked the following conditions must be met in order to start the engine:

**a) Operator must be in the seat**

**b) Parking brake must be on**

**c) Drive levers must be in their neutral position**

**d) PTO must be off**

A red LED light indicates each of the above conditions not met.

When all of the above conditions are met the "OK to Start" LED changes from red to green indicating the engine may be started.

**3)** Depress and hold down the Start/STOP button to start the engine, release when engine starts.

**NOTE:** you may feel there are two switches located under the Start/STOP button – both must be depressed to engage starter. Only one is required to shut the engine off.

**4)** To shut off the engine simply push the start/stop button once.

## Personalizing Your Key Code

**1)** Engine must be stopped & console unlocked (correct key code entered) with PTO knob in.

**2)** Write down your new key code on a notepad (1 to 12 digits) for safe keeping, forgetting code will require a dealership service call and charge to reset.

**3)** Hold buttons 1 and 2 down for three seconds until the display shows "CHNGE" "CODE" followed by a blank screen.

**4)** Enter the new key code into the console. If more than 12 digits are entered the display will show: "FULL".

**NOTE:** The display always shows the last 5 digits entered.

**5)** After entering the new code, pull the PTO knob out. If the new code is unusable within the console operating system, then the display shows: "BAD" "CODE". If this occurs push the PTO knob in and start step 1 again with a different code.

**NOTE:** If user does not enter a code and pulls the PTO Knob up the display will show: "EMPTY" "CODE".

**6)** If the new code is usable, the console prompts the user to re-enter the code again by displaying: "ENTER" "CODE" "AGAIN". Enter the same unlock code again then push the PTO knob back in.

**7)** The console compares the two key codes entered in steps 4 and 6 to make sure they match. If they do the console saves the new unlock code and displays "SAVED" "CODE" before returning to the previous display mode. If they do not match the console displays "NO" "MATCH" and the user must begin again at step 1.

If no input is received for 10 seconds the console displays the message "TIME" "OUT" before returning to the previous display mode. The user must begin again at step 1.

## **Time of day clock – setting**

- 1)** Engine must be stopped & console unlocked (correct key code entered) to set clock time.
- 2)** Depress and release the hourglass button until the time of day clock is displayed.
- 3)** Begin setting the time by depressing and holding down the hourglass button, after 3 seconds, the LCD displays: “SET”.
- 4)** Release the hourglass button (the time will be flashing).
- 5)** Use the number 1 & 4 buttons to change the new time down and up respectively. Single clicks change by 1 minute, hold down to change longer intervals. NOTE: The time change rate accelerates the longer the button is held.
- 6)** Once the new time has been changed to the desired time, click the hourglass button once to save it.

## **Service Alerts**

Your console is programmed to alert the operator of upcoming service as follows: First time, non-reoccurring break in oil change at 20 hrs followed by normal reoccurring intervals of 100 hrs. A gentle reminder will start flashing the “CHG OIL ” alert 5 hrs before service is due followed by a “CHG OIL NOW” message when service is due.

**Resetting Alert:** Enter operator code to power up the console, depress and hold down the service alert button (indicated with wrench) for 6 – 9 seconds; display shows “00000” when reset occurs. Reset can occur at any time within the service interval.

# Safety Start Interlock System

All Spartan mowers come equipped with a safety start interlock system. This includes park brake switches, a seat switch, and a deck clutch switch. The safety start interlock system should be checked prior to every operation and it must be done in an area safe to engage the blades. If malfunctions occur, repairs should be made before operating the machine. There is a separate seat switch that will stop the engine if the operator is not seated. This prevents situations that can cause serious injury to the operator and others, so it is important to follow these instructions when checking the system:

- 1) Sit in the seat in operating position.
- 2) Place steering control levers in the neutral position with the park brake engaged and the deck clutch switch down.
- 3) Turn on the engine and bring to operating temperature.
- 4) Rise slowly from the seat and the engine should continue to run.
- 5) Return to the seated position.
- 6) Place steering control levers in the neutral position with park brake engaged and engage the deck.  
\*Only engage blades in an area that is flat and free of debris.
- 7) Rise slowly from the seat and the engine should stop.

**IMPORTANT:** If the engine does not stop when the steering control levers are in neutral or the clutch switch is up and the operator is off the seat, check the seat switch. If the seat switch is not opening or closing properly and the cause cannot be found, replace the switch. If the switch is not the problem and/or the problem cannot be determined, contact your Spartan dealer before operating your mower. If safety start interlock system does not function properly, do not operate your machine and correct the problem immediately.

## Starting Engine

The following steps are how the Spartan mower should be started. If the machine does not start properly and with ease, see your dealer for assistance.

- 1) Make sure you are sitting in the seat when you start your mower. If the ROPS is in the upright, locked position, wear a seatbelt. If ROPS is not in place, do not wear a seatbelt. Only fold down the ROPS when absolutely necessary and put ROPS up once the obstacle is cleared.
- 2) Fold the handles out into the neutral position. The handles should be pushed all the way apart, not just even with the neutral indicator.
- 3) Push in the foot brake. The brake is on the left side of the deck when sitting in the seat and facing forward. The machine will not start unless the brake is pressed.
- 4) Put in the code you have set for your mower on the key code buttons on the console system.
- 5) Hold start/stop button until the engine starts. **NOTE:** If the machine has a choke, pull it up until machine starts.
- 6) Release the brake.

# Stopping Engine

The following steps are how the Spartan mower should be stopped. If the machine does not stop properly and with ease, see your dealer for assistance.

- 1) Stop the mower completely.
- 2) Put the handles in the apart, neutral position.
- 3) Push in the brake.
- 4) Decrease the throttle until it is at the lowest possible setting.
- 5) Hold the start/stop button until the engine stops.

# Clutch Engage and Disengage

To maximize clutch life, follow these practices:

**ENGAGE:** Only engage the clutch when the throttle is set to approximately 3000 RPMs and there is no load on the blades. After the clutch is engaged, the throttle can be advanced to full RPM. Engaging the clutch at too high RPM or under heavy load can cause the clutch to wear more quickly or become damaged.

**DISENGAGE:** The clutch should only be disengaged when the throttle is at less than 1/2. DO NOT disengage the clutch when the engine at high RPM, because this leads to damage and shortens clutch life.

# Setting Cutting Height

The following steps are how the cutting height should be adjusted. If cutting height adjustment does not function properly, see your dealer for assistance.

- 1) With the mower started and arms in apart, neutral position, press the foot pedal assist. This is the pedal labeled "DH" and located on the far right side when sitting in the seat facing forward.
- 2) While the foot pedal assist is pressed, turn the "Deck Height System" dial located near the console system to desired height. **NOTE:** height units are in inches.
- 3) Make sure the foot pedal assist returns from the pressed position.

# ROPS (Roll Over Protective Structure)

A ROPS helps significantly enhance safety of a mower by minimizing chance of injury from rollover. In order for a ROPS to be effective, a seatbelt should be worn. If a rollover occurs, the driver is much less likely to be injured if a seatbelt is worn and a ROPS is in place. However, when the ROPS is not in place, rollover is more dangerous when the driver is wearing a seatbelt.

Some Spartan mowers come equipped with two-post ROPS that can be lowered by removing the right and left retaining rings, and pulling out on the clevis pins so that the machine can operate under low hanging tree limbs or other obstructions. Do not wear the seat belt when the ROPS is in the lowered position. Immediately place the ROPS in the upright position and fasten seatbelt as soon as obstacle is cleared. Never remove the fixed ROPS to clear obstacles.

## Using a Ramp

- Be very cautious when loading and unloading a mower onto a truck or trailer with a ramp.
- Use only a single, full width ramp. To avoid the mower tipping over, do not use an individual ramp for each side of the mower.
- Never exceed a 15 degree angle between the ramp and the ground or between the ramp and the trailer or truck.
- Avoid accelerating suddenly while on a ramp.

## Slope Operation

Slopes present a serious risk that should not be taken lightly. Accidents caused by loss of control or tipping over can often be a result of slope. These types of accidents can result in serious injury or death. Pay close attention to the following Do's and Do Not's regarding slope safety.

**IMPORTANT:** Only operate on slopes 15 degrees or less.

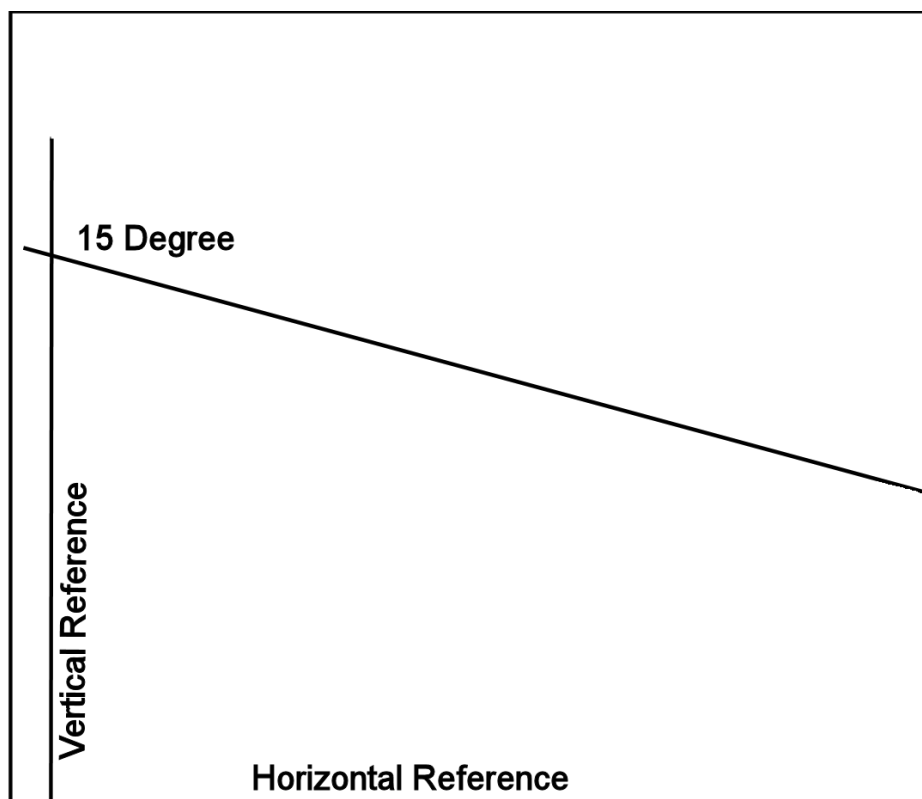
### **DO:**

- Always reduce speed when changing directions on a slope.
- Turn on the most level part of the slope.
- If mower begins to slide disengage the blades immediately.
- Try to place the front of the mower uphill for best traction. Be especially cautious if you must direct the mower downhill.
- Ensure you are familiar with the terrain and there are no obstructions or uneven areas before you begin mowing.
- Be aware of hazards such as drop-offs, retaining walls, embankments, ponds, and riverbanks that could cause the mower to slip off an edge while you mow. Constant awareness enhances safety by lessening the risk of the mower rolling over. If the mower flips, there is a possibility of severe injury or death.
- Always use your best judgment when operating your mower.

## DO NOT:

- Do not suddenly change speed or direction, including starting and stopping. This can cause loss of traction.
- Do not haul on slopes.
- Do not start or stop on a slope. If tires lose traction, disengage the blade(s) and drive slowly and cautiously straight down the slope.
- Do not mow in excessively wet or muddy conditions. This can lead to unstable conditions that decrease traction and cause the mower to lose control.
- Never stop suddenly while in reverse. This can cause serious injury to the operator.
- Do not operate on a slope until you are very familiar with the mower.
- Additionally, if any loss of traction occurs, it is highly recommended that the operator drive the mower off the slope while exercising extreme caution. Do not continue to operate on the slope until the problem that caused the loss of traction has been completely resolved. Bear in mind that mower attachments affect its behavior on a slope in various ways.

## Slope Gauge



Cut this page out and follow steps to identify the degree of slope.

- 1)** Make sure the horizontal reference is horizontal. Use a level if in doubt.
- 2)** Line the vertical reference with any edge you are sure is vertical. (Buildings and man-made structures are best.)
- 3)** Fold along the angled line and make sure the slope is less than that.

# Terrain

Be especially cautious in the following terrain conditions, because they are more likely to result in loss of control:

- Wet conditions
- Holes, ruts, washouts
- Mounds of dirt
- Undesirable soil types, including sand, loose dirt, gravel, and clay
- Various grass types affecting grass density and height
- Extremely dry grass

To avoid potential dangers, it is especially important that the operator be aware of their surroundings. Hazards at the bottom of slope should be given special attention. These hazards include but are not limited to:

- Bodies of water
- Cliffs, walls or buildings
- Roads
- Rocks, including gravel or boulders

# Children

Do not allow children to operate the mower. Your power mower is a tool, not a toy. You, as the owner, are responsible for ensuring anyone who operates your machine is at the appropriate skill level.

Carelessness while operating a mower can result in serious injury.

Additionally, tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and its mowing activity. Never assume that children will remain where you last saw them. Take care to always keep children out of the mowing area and in watchful care of an adult other than the operator. Also, be alert and turn your machine off if children enter the area.



# Service

Good maintenance is essential for safe, economical, and trouble-free operation. The maintenance schedule applies to normal operating conditions. If you operate your mower under severe conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

**MAINTENANCE SAFETY NOTICE:** Some of the most important safety precautions are contained within the following information. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance. Only you can decide whether or not you should perform a given task.

## Safety Precautions

Make sure the engine is off before beginning any maintenance or repairs. This will eliminate several potential hazards:

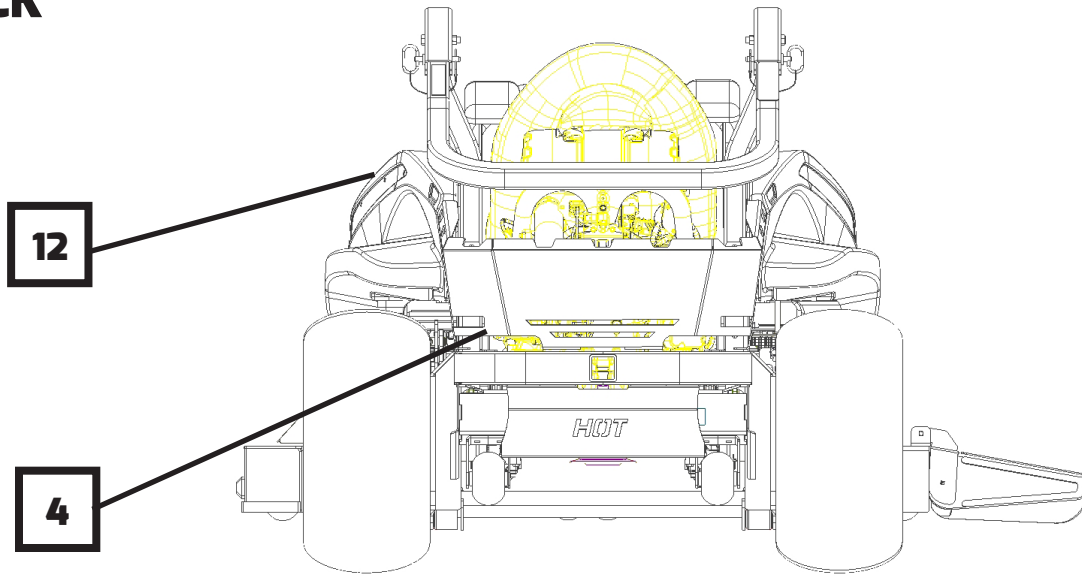
- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever operating the engine.
- Burns from hot parts. Let the engine and exhaust system cool before touching.
- Injury from moving parts. Do not run the engine while servicing unless instructed to do so.
- Before beginning work, read the instructions thoroughly and obtain all the tools and skills needed to perform the service. It is highly recommended that you consult your dealer or qualified mechanic if performing services that require the engine to be running.
- Be careful when working around gasoline to reduce risk of fire or explosion. Use only a nonflammable solvent to clean parts. Keep cigarettes, sparks, and flames away from all fuel-related parts. An authorized servicing dealer knows your mower best and is fully equipped to maintain and repair it. To ensure the best quality and reliability, use only new, genuine Spartan parts or their equivalents for repair and replacement.

	<b>BEFORE EACH USE</b>	<b>MONTHLY</b>	<b>SPECIFIC TIME</b>
<b>General inspection: visually inspect unit for loose hardware and/or damaged parts, check for battery connection/damage, check blades</b>	X		
<b>Check oil level, engine and pumps</b>	X		
<b>Check fuel level</b>	X		
<b>Clean engine and transaxle compartment</b>	X		
<b>Grease deck height pivots</b>		X	
<b>Grease front wheel bearings</b>		X	
<b>Grease deck idler pulley</b>		X	
<b>Grease pump idler pulley</b>		X	
<b>Grease anti scalp wheels</b>		X	
<b>Change engine oil and filter</b>			100 HOURS
<b>Check tire pressure with a gauge</b>	X		
<b>Clean engine exterior, paying special attention to the oil cooler and blower housing</b>	X		
<b>Check pump &amp; deck belt tension and condition</b>		X	
<b>Tighten lug nuts on wheels</b>			100-150 HOURS
<b>Change fuel filter</b>			200 HOURS
<b>Visually check ROPS mounting hardware</b>	X		
<b>Clean grass off deck and muffler cover</b>	X		

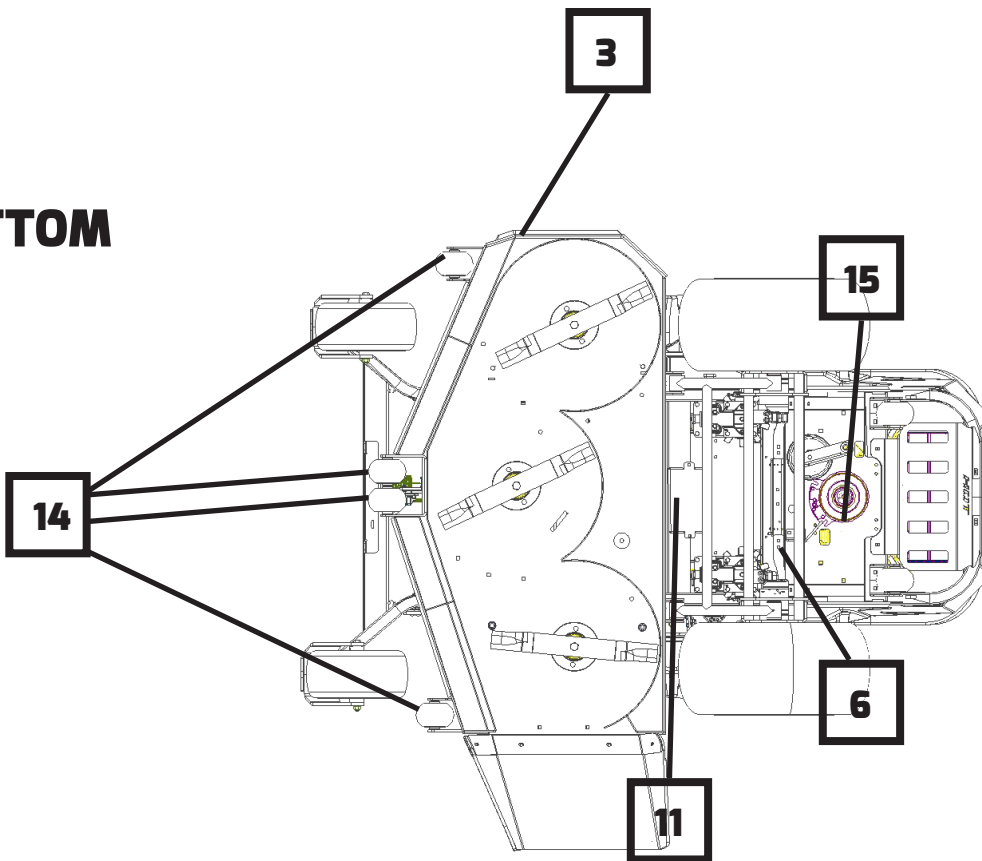
# Know Your Mower

- 1) Roll Over Protective Structure (ROPS) - In the diagrams, the ROPS is placed down.**
- 2) Engine**
- 3) Deck**
- 4) Seat lever A - used to push the seat up to see underneath and adjust**
- 5) Seat lever B - used to move the seat forward or backward**
- 6) Safety switch**
- 7) Hydrostatic neutral levers**
- 8) Driving arms**
- 9) Foot pedal assist - used to set cutting height**
- 10) Deck height system dial - used to set cutting height**
- 11) Battery**
- 12) Fuel tank**
- 13) Break**
- 14) Anti-scalp wheels**
- 15) Pump Drive Belt**
- 16) Deck height adjustment**
- 17) Clutch and control panel fuse (console side)**

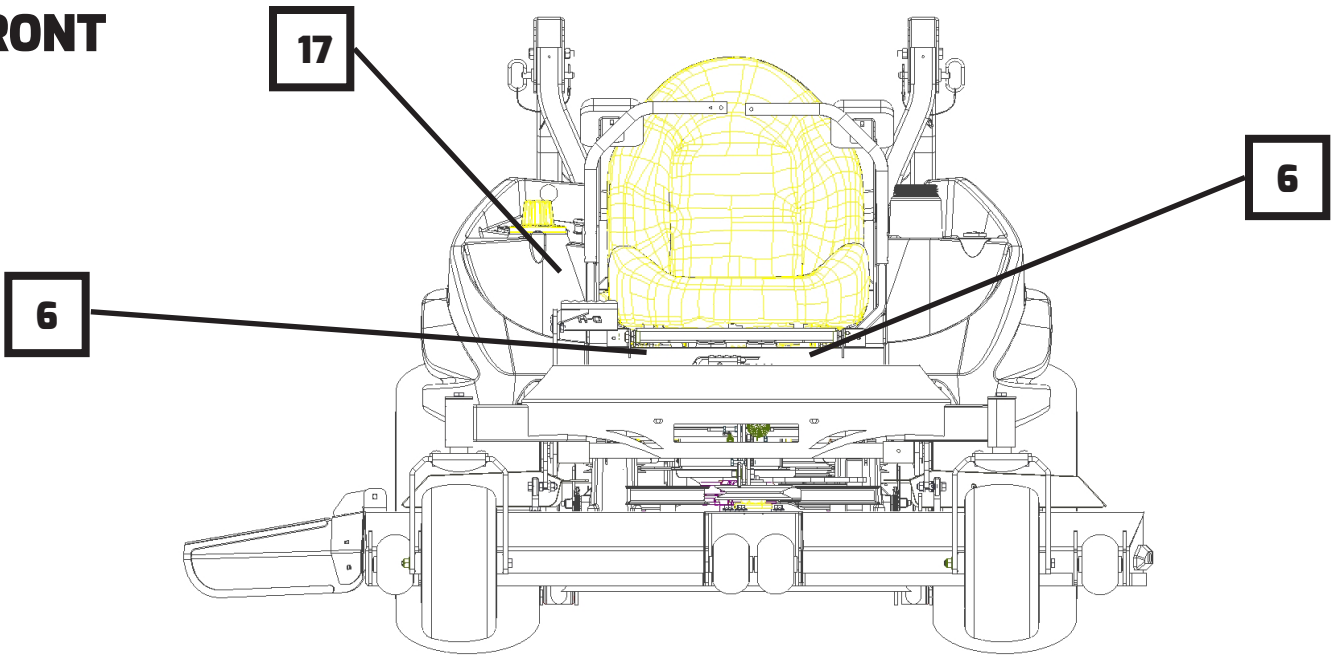
# BACK



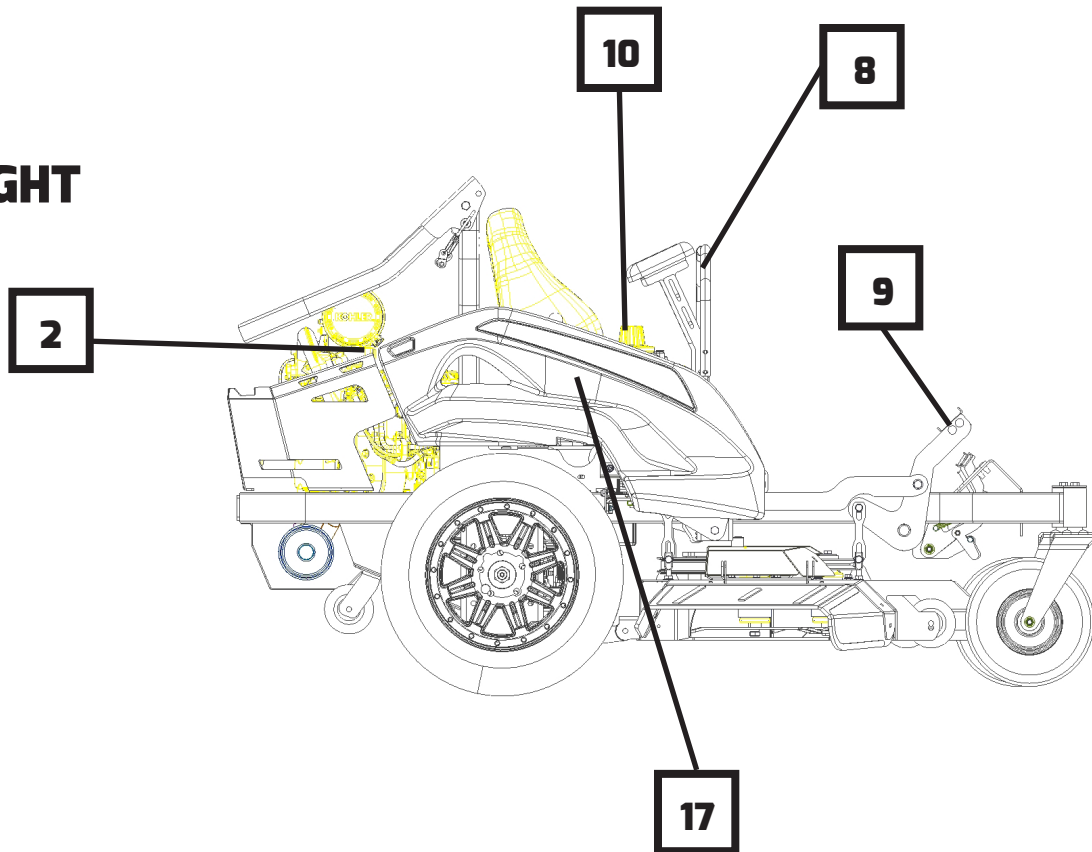
# BOTTOM



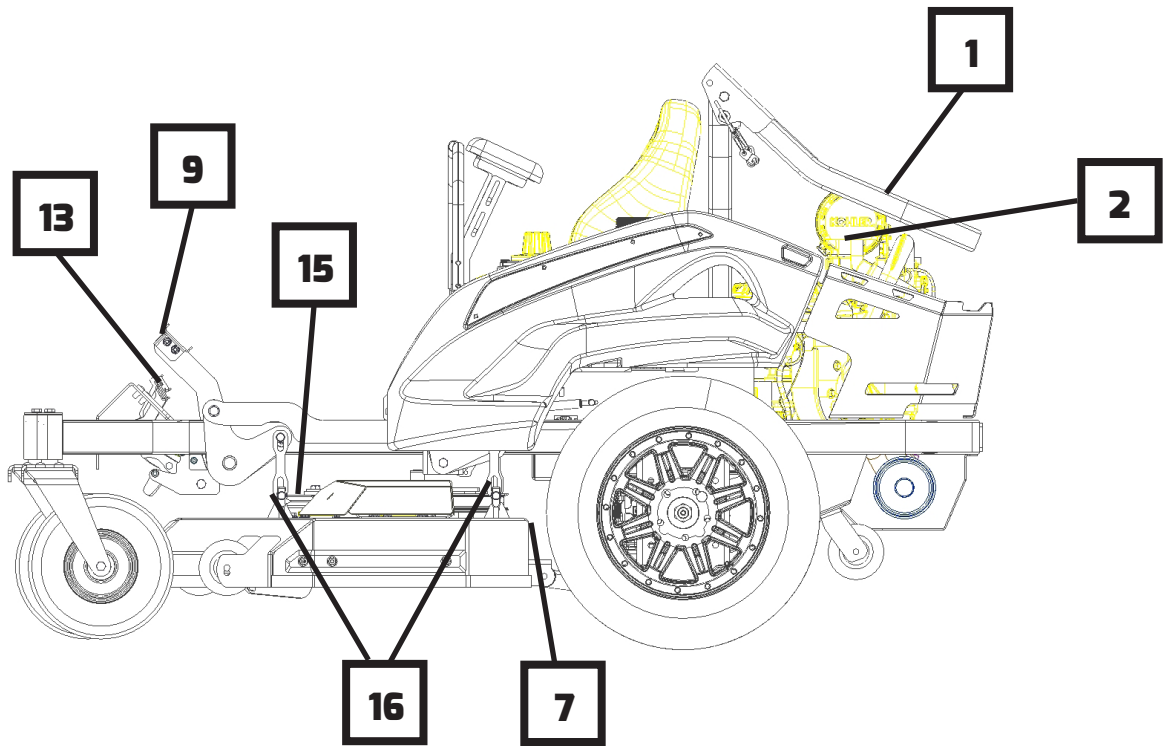
**FRONT**



**RIGHT**



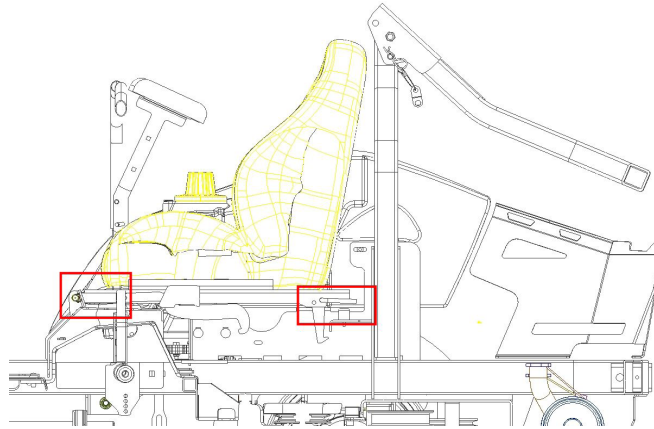
**LEFT**



# Adjustments

## Non-Suspension Seat

- 1) Pull lever under the front left corner of the seat.
- 2) Scoot seat forward or backwards to meet desired position.
- 3) Release lever.



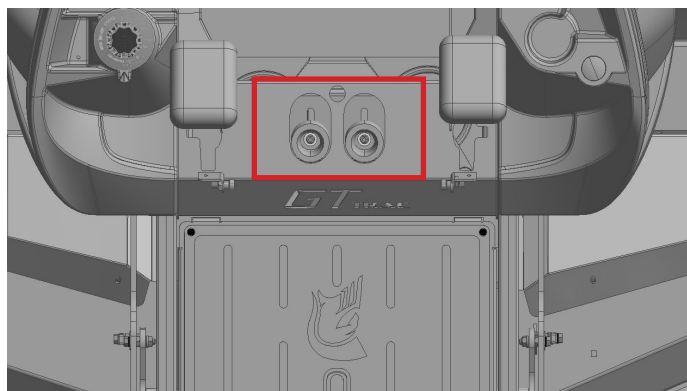
## Spartan Suspension TecSPack Seat

### To move seat forward or backwards:

- 1) Pull lever under the front left corner of the seat. (Illustration above, left box)
- 2) Scoot seat forward or backwards to meet desired position.
- 3) Release lever.

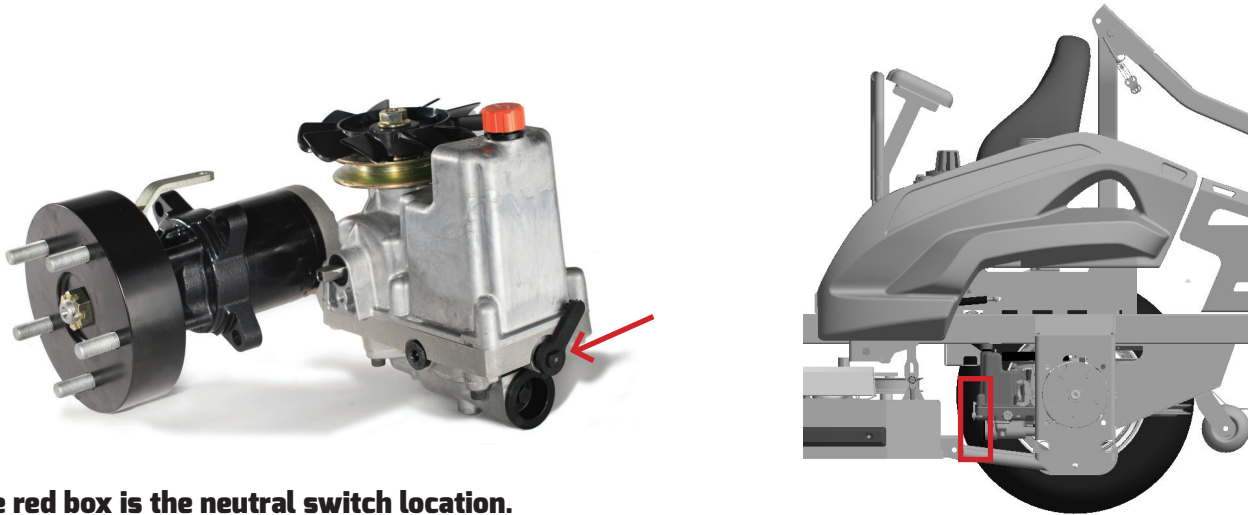
### To adjust suspension for varying weights:

- 1) Raise up the seat by pushing the lever down on the left behind the seat when standing behind the mower facing the front. When the lever is pulled, push the seat upward (right box above.)
- 2) In the front of the frame where the seat usually sits, there are two black cones (Illustrated below). To adjust the cones, first loosen soft grip knob under each cone. NOTE: only loosen enough that the cones can move.
- 3) Once loosened, move the cones forward or backwards according to the operator's weight. The center of the cones should be in line with one another and the corresponding weight on the sticker next to the cones. Heavier weights should be adjusted backward and lighter weights should be moved forward, ranging from approximately 100 lbs to 300 lbs.



# Moving Stalled Mower

If the mower becomes inoperable, placing it in hydrostatic neutral position will allow it to roll freely. There are two levers placed symmetrically inside the mower, one on each Parker wheel/motor in the compartment under the seat. An arrow points to one lever at the bottom of the system (shown w/ arrow below). They should both point left when sitting in the seat and facing forward. To change the direction of the lever simply push them from one side to the other. Hydrostatic neutral position is when both levers point left.

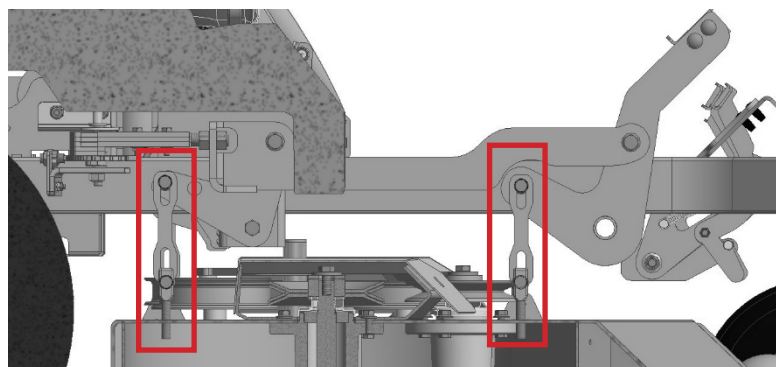


**\*In the red box is the neutral switch location.**

# Deck Leveling

The deck is held in place by 4 point adjustable yokes. The following are tips to follow when adjusting the deck height:

- Only adjust the vertical screws at each point.
- Always adjust back to front AND left to right.
- Loosen the top nut first. Then adjust the bottom nut until the deck is at the desired height and retighten the top nut.
- Use a  $\frac{3}{4}$  wrench or deep well socket for adjusting.
- The front should be lower than the back using a  $\frac{1}{4}$  inch pitch.
- To start, raise the deck to the highest position and set the bottom of the deck to 4  $\frac{3}{4}$  inches in the rear and 4  $\frac{1}{2}$  inches in the front. Make sure the machine is placed on level ground.



**\*Red boxes indicate adjustment points (4 total).**



# Cutting Deck Engagement

**To engage the cutting deck, follow steps:**

- 1)** Check the surrounding area for potential hazards including rocks or branches on the ground, hazardous terrain, people in the area, etc.
- 2)** The driver should always be seated when the cutting deck is engaged.
- 3)** Make sure the chute is down.
- 4)** Make sure the engine is running at least 3000 RPM's.
- 5)** Pull up the yellow button on the console to engage the cutting deck.

# Brake Adjustment

It is highly recommended that an official Spartan dealer adjust the brakes in order to maintain proper safety controls.

# Mower Maintenance

## Safe Servicing Practices

- Mowers can inflict very serious damage, so it is very important that this manual be read carefully and fully understood to help prevent an accident. Keep the following tips in mind when servicing a mower.
- Before adjusting or servicing your mower, make sure that the engine is not running, the steering levers are in neutral position, the deck clutch is disengaged, the deck is lowered, the mower is turned completely off, and the parking brake is engaged. This should be the state of the mower when it is serviced unless specifically instructed otherwise. If a repair requires the engine to be powered, consult a trained maintenance professional.
- To ensure the engine cannot be accidentally started while working on or under the deck, shut off engine and disconnect negative battery cable. Wrap the blades or wear gloves when servicing them. Again, if a repair requires the engine to be powered, consult a trained maintenance professional.
- For safety and cleanliness, always leave belt covers on mower deck unless changing or checking belt.
- Keep machine clean of any deposits of trash or clippings to avoid engine fires or overheating. Only use an object such as or similar to a stick to clean under the mower. Never use a body part, such as hands or arms, to clean under the mower. Only store the machine once it is cooled.
- Always wear eye protection when servicing the hydraulic system and battery or when grinding mower blades.
- Use caution when handling flammable substances such as gasoline. Even the vapors are explosive. If there is a strong smell of gasoline, DO NOT attempt to start the engine until the problem has been identified and corrected. Also, never refuel or drain fuel when the engine is running or the machine is indoors.
- Never run the engine where there is not proper ventilation. Exhaust gas contains carbon monoxide, an odorless and deadly poison.
- Do not work on a machine that is not fully supported with jack stands. Only use certified jack stands. Stands should have a minimum weight rating of 2000 lbs. Follow the instructions included with the stands carefully to ensure safety. These will be made available through your dealer.
- Be cautious when releasing spring tension from a belt idler or when working with components of deck lift.
- Never touch hot parts of the mower.
- To ensure equipment remains in good working condition, make sure to keep nuts and bolts tight, especially the blade attachment bolts. Frequently check components and replace loose, damaged, or deteriorating parts of the grass collection when necessary using only the manufacturer's recommended parts. Serious damage can ensue if blade bolts come loose.
- Check safety devices regularly for proper operation. Never tamper with safety functions.
- When cleaning discharge chute, make sure the engine is off. NEVER use your hand or other body part to clear a clogged area.
- Use only genuine Spartan replacement parts to maintain original standards.
- Keep individuals away from the machine while doing service or maintenance.

# Battery Care

## **Consider the following precautions when in contact with the battery:**

Keep battery acid off skin and clothing.

Always wear eye and skin protection when checking the battery. If battery acid comes into contact with skin or eyes, flush with clean water and call a physician immediately. Also avoid contact between clothing and acid. It is best to avoid loose clothing that could fall into acid.

Do not ingest the battery electrolyte.

The gas that forms inside the battery is Hydrogen gas. It is both toxic and flammable. DO NOT expose to flame or an explosion may occur.

The negative ground should always be the first removed and last replaced.

Do not overfill the battery.

Call the American Association of Poison Control Centers if contact with battery fluid occurs immediately at **1 (800) 222-1222**.

## **Charging the battery**

Make sure to charge the battery in an open and well-ventilated area. Keep battery away from sparks or flames. Always unplug the charger before connecting or disconnecting from the battery. Take care to wear protective clothing and use insulated tools when working with the battery.

## **Removing the Battery**

- 1)** Lift seat by pulling the lever up. This lever is located in the back left corner of the seat.
- 2)** Disconnect terminals.
- 3)** Remove wing nuts on the side and clamp over the top of the battery.
- 4)** Lift battery from machine.

## **Cleaning Battery**

Use an air compressor to blow off dust and debris from battery. If the outside of the battery needs additional cleaning, use gentle soap and water. Be careful not to get soap or water inside the battery. The batteries in Spartan mowers are not completely enclosed, and getting too much soap or water inside can cause significant damage.

## **Battery Failures**

If the battery fails, see a Spartan dealer.

# Belt Replacement

The following table lists the appropriate belt for each location on the mower. It is best to consult a Spartan dealer if a belt is broken to ensure the correct belt is used for replacement. For best performance always use the OEM parts that are offered through your authorized Spartan dealer.

<b>MPN</b>	<b>Spartan P/N</b>	<b>Description</b>	<b>Location</b>
47-920	461-0004-00	68.25" Pump Belt	A-Pump
47-4921	461-0005-01	69.25" Pump Belt	A-Pump
47-922	461-0006-02	69.9" Pump Belt	B-Pump
9-3024	461-0001-03	153.5" Deck Belt	54" Deck
9-3025	461-0002-04	166.9" Deck Belt	61" Deck
9-3026	461-0003-05	186.5" Deck Belt	72" Deck

# Cutting Blades

**CAUTION:** Blades are extremely sharp. Always wear gloves when working with blades.

## Removing Blade

Use an impact to remove the 5/8" bolt(15/16" Hex Head), holding the blade in place to remove. For more information, contact your Spartan dealer.

## Blade Maintenance

Mowing blades should be checked daily for damage and sharpness. If the blade is damaged, replace before operating machine. Always ensure the blades are sharpened for the best results. Always use Spartan OEM blades to ensure proper functionality.

## Sharpening Blade

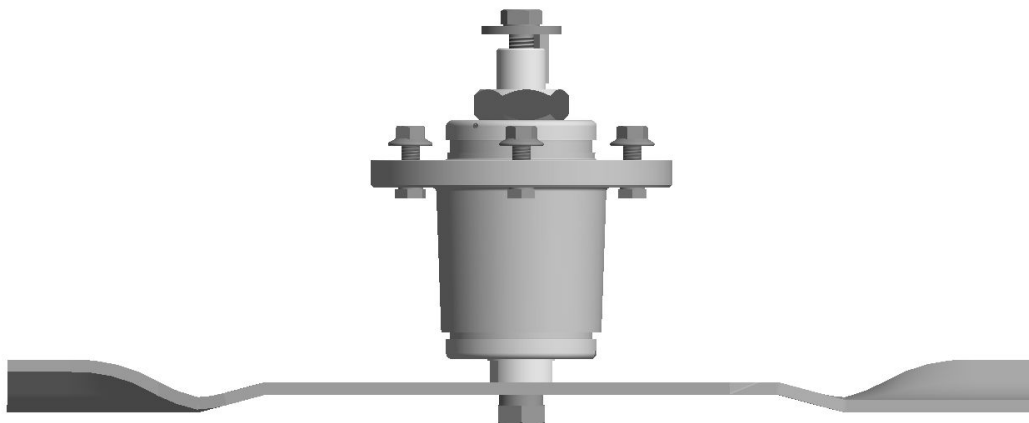
Remove blade from the deck. Use a bench grinder to sharpen the blade and confirm the new edge is straight and equal on both sides. Use caution, as grinding on blades can cause serious injury or death. It is best to see a Spartan dealer to sharpen blades.

## Balancing Blade

The blades should always be balanced after they are sharpened. Balancing tools can be found at most hardware supply stores. Use of official balancing tools is the recommended method for balancing blades, though an inch bolt can be used to make sure the blade is balanced. Using the bolt method, the blade should be able to spin on top of the bolt without wobbling. If the blade is not balanced, it should be corrected before reinstalling.

## Reassembly

- Keep the following tips in mind when reassembling the blades.
- Before reinstalling a blade, lay it on a flat surface to make sure it is flat. Replace any distorted blades.
- Do not reuse stripped or have worn bolts. This could allow the blades to come loose, posing significant danger.
- Torque bolts on spindles to 115 to 120 ft lbs.
- Replace cracked or flattened lock washers.
- The curved part of the blade should point toward the top of the deck and the flat side should point toward the grass. The blade should be perpendicular to the ground (see below illustration).
- Spin the blades manually before turning on the mower to ensure the blades will not hit each other or anything else. Such obstructions could cause damage to the blades.



## Deck Clutch Switch

### Follow these steps to properly check the deck clutch switch:

- 1)** Start the engine and engage the deck clutch once engine RPM is at or above 3000.
- 2)** Listen for the sound of the blades rotating. Blades should be rotating during check.
- 3)** Push the clutch down. Listen to make sure the blades stop rotating.

Stop operation and consult your Spartan dealer immediately if the mower blades continue to rotate when the clutch is down.

# Electrical System

The electrical system is 12 volt and completely built into the console. There are two fuses; one supplies the clutch and the other supplies everything else add (3 fuses on the E Choke models.)

**IMPORTANT:** Sparks can result from shorts. Shorts can be caused by battery terminals or metal tools coming into contact with metal mower parts. To avoid injury from battery gas explosion, do not allow battery terminals or metal tools to touch metal mower parts when removing or installing the battery.

**IMPORTANT:** Damage to the mower and battery cable can be caused by incorrect battery cable routing. To avoid gas explosion from resulting sparks, always disconnect the negative (black) cable before the positive (red) cable is disconnected. When reconnecting the battery, always connect the positive (red) cable before connecting the negative (black) cable.

There is a 30 amp master fuse that serves to protect the electrical system. If amplitude exceeds 30, the master fuse will kill the energy supply to the entire machine.

## Engine Oil

The first oil change should occur after 25 hours of operation. The control panel will give a notification at 20 hours showing "CHG OIL", once the remaining 5 hours passes the message will change to "CHG OIL NOW". After the oil has been changed the first time, it should be changed after every 100 hours of operation. Use only approved weight oil.

**Factory filled with and recommend using Intimidator SYN 5W-40**

## Fuel Filter

If there is a problem with the fuel filter, see a Spartan dealer. No regular maintenance is necessary.

# Hydraulic System

It is important that you use only specified oil, never hydraulic or automatic transmission fluid. Also, remember that dirt is the primary cause for trouble or damage in this system.

When applying pressure to the hydraulic system, ensure that all connections are completely sealed. Never use your hands to check for leaks under pressure. Escaping hydraulic fluid can cause serious damage, and a doctor with experience with this type of injury should perform surgery to remove foreign fluid from the body ASAP. Always remove all pressure before working on the hydraulic system.

Check oil level before every use. To ensure optimum safety and effectiveness, read and follow these tips:

- The dipstick should be installed and tight when you check the oil level.
- Never check oil level when oil is warm. It is recommended that the mower remain off for two hours before checking oil.
- The oil is full when the oil reaches 1/16"-1/8" on the dipstick.
- The hydraulic system filter element and oil should be changed after the first 250 hours of operation, then every 1000 hours for the remainder of the mower's life.
- Use only approved oil.

**Factory filled with and recommend using Parker HT-1000**

**NOTE:** For XD models fill the expansion tank half full using approximately 1 quart of Parker HT-1000 oil. For all other models, check the reservoir on each side by removing the lid and observing the dip stick.

# Lubrication

Mower parts should be lubricated using SAE multipurpose grease at least once per season. Some places to focus lubrication:

- Deck lift block
- Anti-scalp wheels
- Deck idler pulley
- Pump idler pulley

# ROPS

## Damage Repair

If damage occurs to the ROPS from rollover, hitting an overhead object, or another accident, the ROPS should be replaced in order to maintain safe operating practices. Following an accident, make sure any damaged seat, seat belt, seat belt mountings, and seat latch have been replaced. It is important that you **DO NOT** attempt to weld or straighten the ROPS. If ROPS is not replaced correctly, serious injury or death could ensue. Contact your dealer for assistance in the case of ROPS damage.

## Inspection

Inspection of the ROPS should occur before each use. To inspect the ROPS system, follow these instructions:

- 1) Check the torque of the ROPS mounting bolts, and tighten the bolts to 65 ft/lbs torque.
- 2) Observe the seat and the mounting parts for the seat belt. Tighten the bolts to 65 ft/lbs torque and replace parts that show wear or damage.
- 3) Ensure that the seat latch is secured and functional. Adjust or repair it if needed.

# Seatbelt

Always inspect the seatbelt system before mowing. If any part of the seatbelt system shows signs of wear in the form of dirtiness, stiffness, cuts/tears, buckle damage, or any other problem, the damaged part should be replaced. When cleaning the seatbelt, use only soap and water. Other chemicals, including bleach and dye, can weaken the belt material and cause it to be less reliable.

# Tire Pressure

The tire pressure should be 8 psi in the front tires and 12 psi in the rear tires.



# Off-Season Storage

If your mower will not be used for more than 30 days, prepare it for storage as follows:

## **Mower**

1. Clean mower.
2. To remove grass and debris, hand wash ONLY. Do not use a pressure washer on the mower.
3. Use only mild soap and water, using minimal water to avoid damaging the control panel and engine.
4. Use touch up paint to repair scratches.
5. Replace air filter
6. If necessary, replace any damaged or worn parts.
7. Lubricate machine as instructed in the Maintenance section of this manual.
8. Make sure tire pressure is adequate. The tires should remain inflated during storage.
9. The mower should be stored where it will remain clean and dry.

## **Engine**

1. Allow the engine to run for at least 15 minutes.
2. Before the engine cools, drain all remaining oil from the crankcase.
3. Refill with fresh oil.
4. Drain the fuel tank. To make sure it is completely empty, run the engine until it stops from lack of fuel. Gasoline left in the carburetor for long periods of time damages the machine and can cause flooding.
5. Remove spark plugs and add about a spoonful of engine oil into each hole. Replace plugs, but do not reconnect plug leads.
6. To ensure oil is distributed over the cylinder walls and valve mechanism, crank the engine several times.
7. Clean the outside of the engine, spreading a light layer of oil over any exposed metal to avoid corrosion.
8. Clean cylinders and fins, blower housing, and muffler to remove any dirt and chaff.
9. Check to make sure all caps are secure.
10. See engine manual for more detailed information regarding engine storage.

## **Battery**

Note: It is best that the battery be disconnected and stored separately during the off-season.

1. Disconnect and remove the battery from the mower.
2. Clean the battery, connectors, and terminals of any debris or corrosion.
3. Charge the battery if necessary. Always keep the battery fully charged, especially when the temperature is below freezing.
4. Store where the battery will not be exposed to extreme temperatures or water. A cool, dry place is ideal.

## **Removal from Storage**

- 1)** Clean mower, following the same instructions from steps 1-4 of the “Mower” section for storage.
- 2)** Check oil levels. If oil is not added after being drained at the end of the previous season, engine damage will occur.
- 3)** Fill fuel tank with fresh fuel. To check operations and functionality, run the machine at half speed for 5 to 10 minutes, stopping to check for leaks or loose parts.
- 4)** Check tire pressure and refill if needed. Ideal tire pressure is 28 psi for the front tires and 12 psi for the rear tires.
- 5)** Reinstall battery, making sure the battery is fully charged and cables are attached.
- 6)** Make sure all bolts and pins that could have loosened are securely in place.
- 7)** Ensure that all safety shields are in place and you have familiarized yourself with the safety precautions laid out in this manual.

**For more information see the separate engine manual.**

# **Optional Equipment**

Optional equipment that can be added to a Spartan mower includes lights, actuator, bagging system, no flat front, and suspension seats for mowers that do not come with them. For more information, see a Spartan dealer.

# Troubleshooting

TROUBLE	POSSIBLE CAUSE	SOLUTIONS
Engine will not crank	<ol style="list-style-type: none"> <li>1. Safety switches not depressed</li> <li>2. Battery installed incorrectly</li> <li>3. Battery is dead or weak</li> <li>4. Blown fuse or circuit breaker</li> <li>5. Engine ground wire loose</li> </ol>	<ol style="list-style-type: none"> <li>1. Check all four safety switches.</li> <li>2. Remove battery and reinstall correctly. Consult a dealership if needed.</li> <li>3. Recharge or replace battery.</li> <li>4. Replace damaged part.</li> <li>5. Tighten ground wire.</li> </ol>
Engine cranks, but will not start or will not keep running	<ol style="list-style-type: none"> <li>1. Throttle or choke not in starting position</li> <li>2. Dirty fuel cleaner</li> <li>3. Fuel valve is off</li> <li>4. Dirt, water, or stale fuel in the fuel system</li> </ol>	<ol style="list-style-type: none"> <li>1. Put throttle or choke into starting position and handles in neutral and press break. The console will indicate a problem.</li> <li>2. Replace cleaner.</li> <li>3. Open fuel valve.</li> <li>4. Contact dealer.</li> </ol>
Loss of power or system will not operate in either direction	<ol style="list-style-type: none"> <li>1. Restrictions in air cleaner</li> <li>2. Tow valve open</li> <li>3. Worn traction drive belt</li> <li>4. Air in system</li> <li>5. Internal interference, leakage in wheel motor, or poor compression</li> </ol>	<ol style="list-style-type: none"> <li>1. Service air cleaner.</li> <li>2. Close tow valve.</li> <li>3. Replace traction drive belt.</li> <li>4. Check filter and fittings.</li> <li>5. Contact dealer.</li> </ol>
Mower will not discharge grass and/or cuts unevenly	<ol style="list-style-type: none"> <li>1. Engine speed low</li> <li>2. Cutting height set too low</li> <li>3. Blades short or dull</li> <li>4. Underside of deck is dirty</li> <li>5. Bad tire pressure</li> <li>6. Blade is bent</li> </ol>	<ol style="list-style-type: none"> <li>1. Drive the machines faster.</li> <li>2. Raise the cutting height setting.</li> <li>3. Sharpen or replace blades.</li> <li>4. Clean under the deck.</li> <li>5. Adjust air pressure .</li> <li>6. See dealer.</li> </ol>
Low engine oil pressure	<ol style="list-style-type: none"> <li>1. Low oil level</li> <li>2. Oil diluted or too light</li> <li>3. Failed oil pump</li> </ol>	<ol style="list-style-type: none"> <li>1. Add oil.</li> <li>2. Change oil and check for source of contamination.</li> <li>3. Contact dealer.</li> </ol>
Mower is jerky when starting or only operates in one direction	<ol style="list-style-type: none"> <li>1. Steering control linkage needs adjustment</li> <li>2. Transaxle component faulty</li> <li>3. Tow valves not completely closed</li> <li>4. Loose steering linkage</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust linkage.</li> <li>2. Contact dealer.</li> <li>3. Close tow valves.</li> <li>4. Tighten linkage.</li> </ol>

<b>TROUBLE</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTIONS</b>
Abnormal Vibration	<ol style="list-style-type: none"> <li>1. Engine mounting bolts are loose</li> <li>2. Engine pulley, or blade pulley is loose</li> <li>3. Engine pulley is damaged</li> <li>4. Cutting blade is bent</li> <li>5. A blade mounting bolt is loose</li> <li>6. Spindle bearing is worn or loose</li> <li>7. Spindle is bent</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten engine mounting bolts.</li> <li>2. Tighten appropriate pulley.</li> <li>3. Contact dealer.</li> <li>4. Install new cutting blade.</li> <li>5. Tighten mounting bolt.</li> <li>6. Replace or tighten spindle bearing.</li> <li>7. Contact dealer.</li> </ol>
Blades Do Not Rotate	<ol style="list-style-type: none"> <li>1. Deck drive belt is worn, loose or broken</li> <li>2. Deck drive belt is off the pulley</li> <li>3. Electric clutch is not engaging</li> </ol>	<ol style="list-style-type: none"> <li>1. Install a new deck drive belt.</li> <li>2. Install the deck drive belt and check for a reason.</li> <li>3. Contact dealer.</li> </ol>
Mower veers in one direction or creeps when in neutral or parked position	<ol style="list-style-type: none"> <li>1. Steering linkage needs adjustment</li> <li>2. Loose steering linkage</li> <li>3. Tires improperly inflated</li> <li>4. Transaxle component faulty</li> <li>5. Steering linkage out of adjustment</li> <li>6. Brakes need adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust linkage.</li> <li>2. Tighten linkage.</li> <li>3. Adjust air pressure.</li> <li>4. Contact dealer.</li> <li>5. Adjust steering linkage.</li> <li>6. Adjust parking breaks.</li> </ol>

# Service Record

DATE	SERVICE	DATE	SERVICE

## Operator Responsibility

You are responsible for reading and fully understanding the content within this manual prior to operating your mower. Any accidents that occur are the responsibility of the owner.

