

912480 BC QUICKCAT FX651V KAW 48" SD (S/N 0600 and higher)

912520 BC QUICKCAT FX691V KAW 52" SD (S/N 0800 and higher)

912610 BC QUICKCAT FX730V KAW 61" SD (S/N 0300 and higher)





# CALIFORNIA Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

#### Californie Proposition 65 Avertissement

Les échappements des moteurs diesel et certains de leurs composés sont reconnus par l'Etat de Californie pour être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

## California Advertencia de la Proposicion 65

El estado de California hace saber que los gases de escape de los motores diesel y algunos de sus componentes producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

# A WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

# ▲ AVERTISSEMENT

L'émission du moteur de ce matériel contient des produits chimiques que l'Etat de Californie considère être cancérigènes, provoquer des défauts congénitaux et d'autres dangers en matière de reproduction.

# **A** ADVERTENCIA

El estado de California hace saber que los gases de escape de este producto contienen productos quÍmicos que producen cáncer, defectos de nacimiento y otros daños en el proceso de reproducción humana.

# CALIFORNIA Proposition 65 Warning

Battery posts, terminals, wiring insulation, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.



#### **IMPORTANT MESSAGE**

Thank you for purchasing this Schiller Grounds Care, Inc. product. You have purchased a world class mowing product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual and a separate Setup, Parts and Maintenance Manual. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand these manuals. Treat your machine properly, lubricate and adjust it as instructed, and it will give you many years of reliable service.

Your safe use of this Schiller Grounds Care, Inc. product is one of our prime design objectives. Many safety features are built in, but we also rely on your good sense and care to achieve accident-free operation. For best protection, study the manuals thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

See a Schiller Grounds Care, Inc. dealer for any service or parts needed. Schiller Grounds Care, Inc. service ensures that you continue to receive the best results possible from Schiller Grounds Care, Inc. products. You can trust Schiller Grounds Care, Inc. replacement parts because they are manufactured with the same high precision and quality as the original parts.

Schiller Grounds Care, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manuals, keep it in good repair and follow safety warnings and instructions. You'll always be glad you did.

#### Schiller Grounds Care, Inc. One Bob Cat Lane Johnson Creek, WI 53038-0469

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## NOTICE !!!

Unauthorized modifications may present **extreme** safety hazards to operators and bystanders and could also result in product damage.

Schiller Grounds Care, Inc. strongly warns against, rejects and disclaims any modifications, add-on accessories or product alterations that are not designed, developed, tested and approved by Schiller Grounds Care, Inc. Engineering Department. Any Schiller Grounds Care, Inc. product that is altered, modified or changed in any manner not specifically authorized after original manufacture–including the addition of "after-market" accessories or component parts not specifically approved by Schiller Grounds Care, Inc.–will result in the Schiller Grounds Care, Inc. Warranty being voided.

Any and all liability for personal injury and/or property damage caused by any unauthorized modifications, add-on accessories or products not approved by Schiller Grounds Care, Inc. will be considered the responsibility of the individual(s) or company designing and/or making such changes. Schiller Grounds Care, Inc. will vigorously pursue full indemnification and costs from any party responsible for such unauthorized post-manufacture modifications and/or accessories should personal injury and/or property damage result.

> This Operator's Manual should be regarded as part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.







This symbol means: ATTENTION! BECOME ALERT!

Your safety and the safety of others is involved.

#### Signal word definitions:

The signal words below are used to identify levels of hazard seriousness. These words appear in this manual and on the safety labels attached to Schiller Grounds Care, Inc. machines. For your safety and the safety of others, read and follow the information given with these signal words and/or the symbol shown above.

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**DANGER** indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.

# **WARNING**

**WARNING** indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.

# **A**CAUTION

**CAUTION** indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

# CAUTION

**CAUTION** used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, **MAY** result in property damage

**MODEL NUMBER:** This number appears on sales literature, technical manuals and price lists.

**SERIAL NUMBER:** This number appears only on your mower. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information. Located behind rider pad on frame of unit.



#### PREPARING FOR SAFE OPERATION Operator preparation and training

Operator preparation and trainin

#### Read the Operation & Safety Manual

 If an operator or mechanic cannot read English, it is the owner's responsibility to explain this material to them. If any portion of this material is unclear, contact



your dealer representative for clarification.

- Become familiar with the safe operation of the equipment, operator controls and safety signs.
   Be prepared to stop the engine and attachments quickly in an emergency. Do not operate or allow another person to operate this machine if there are any questions about safety.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Wear appropriate clothing, including long trousers and safety goggles or safety glasses with side shields when operating mower. Do not operate barefoot or wearing open sandals. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Wear hearing protection.
- Never allow underage children, unskilled or improperly trained people to operate this equipment. Local regulations can restrict the age of the operator.
- Data indicates that those operators age 60 years and above are involved in a large percentage of riding mower-related injuries. Those operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from injury.
- Do not carry passengers, especially small children. They may fall off and be seriously injured.
- Keep warning labels and this operator's manual legible and intact. Replacement labels and manuals are available from the factory.
- Do not operate machine while under the influence of drugs or alcohol.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

# 



All rotary lawnmowers are potentially dangerous. They can amputate hands and feet and throw objects. Failure to follow these safety and operating instructions could result in serious injury or death.

#### Site preparation and circumstances

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Clear the area to be mowed of objects such as rocks, toys, wire or other debris that may be picked up or thrown by the mower.
- Be sure the area is clear of pets and people, especially young children. Never assume they will remain where you last saw them. Stop the machine if any enter the area.
- Mow only in daylight or in good artificial light.
- Do not mow wet grass as tires may lose traction.



STA	RT	ING

- MACHINE OPERATION Check operator present interlock system and brake operation. Adjust or repair any problems before using. Do not tamper with or defeat safety devices. \_ Keep guards, shields and interlock safety devices in place and in proper working condition. They are for your protection.
- Keep all fasteners such as nuts, bolts and pins well secured.
- Visually inspect blades, blade bolts and the cutter \_ assembly for wear or damage. Replace worn or damaged blades and bolts to preserve balance.
- Verify that machine and attachments, if any, are in good operating condition.
- Do not engage blades until ready to mow. \_

#### **OPERATING SAFELY** IN GENERAL

- Use extra care when loading or unloading the machine onto a trailer or truck.
- Watch out for traffic when near or crossing \_ roadways.
- Do not run the engine in an enclosed area where \_ dangerous carbon monoxide fumes can collect.
- Do not place your foot on the ground while \_ operating the machine.
- Before operating, lower the discharge chute. install the mulcher or put the entire grass catcher in place.
- Keep clear of the discharge opening at all times. \_ Never direct the discharge toward a bystander. Stop operation if someone approaches.
- Keep washout ports and other mower housing service openings closed when mowing.
- Do not pull any loads or equipment.
- \_ Never leave a machine unattended. Always turn off blades, set parking brake, stop engine and remove keys before dismounting.

- Start only according to instructions in this manual or on the machine.
- Before attempting to start the engine, make sure:
  - the parking brake is on;
  - the PTO is disengaged:
  - the traction drive is in NEUTRAL.
- When starting the engine, make sure hands and feet are clear of the blades.
- Do not start the machine while standing in front of the discharge chute or with the chute directed at someone.
- Do not engage PTO at full throttle. Throttle to \_ idle or lowest possible engine speed.
- Do not change engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.

#### MANEUVERING SAFELY **IIN GENERAL**

- Slow down before turning.
- Do not mow in reverse unless absolutely necessary. Always look behind and down for small children and pets before and during backing.
- Be aware when approaching blind corners, shrubs, trees, tall grass or other objects that may obscure vision.
- If tires lose traction, disengage the blades. If on a slope, head down.



#### INTERRUPTING OPERATION

- Before leaving the operator's position:
  - Park on level ground;
  - Disengage the PTO;
  - Set the parking brake;
  - Shut off the engine and remove the key.
- Disengage the PTO and wait until the blades quit rotating:
  - before raising cutterdeck;
  - when not mowing;
  - for transport;
  - when crossing surfaces other than grass.
- Stop the engine, disengage the PTO and wait until the blades quit rotating:
  - before refueling;
  - before removing grass catcher;
  - before making height adjustment unless the adjustment can be made from the operator's position.
- Stop the engine, disengage the PTO and disconnect the spark plug wire(s) or remove the key:
  - before clearing blockages or unclogging chute;
  - before checking, cleaning or working on the machine;
  - after striking a foreign object. Inspect the machine for damage and make repairs before restarting.
  - if the machine begins to vibrate abnormally: Inspect and make repairs as needed before restarting;
  - except for repairs or adjustments as specifically noted, such as for carburetor adjustment, where the engine must be running. Keep hands and feet clear of moving parts in these circumstances.
- Allow the blades to come to a complete stop when stopping operation to clear blockages, unclog, inspect the machine, do maintenance or repair.
- Reduce the throttle setting during engine shutdown and, if the engine is provided with a shutoff valve, turn the fuel off at the conclusion of mowing.

#### MOWING SLOPES

Slopes are a major factor in lossof-control and tipover accidents that sometimes lead to severe injury or death. All slopes require extra caution.



- Do not mow on slopes if uneasy or uncertain. Ultimate reponsibility for safe operation on slopes rests with the operator.
- Do not mow excessively steep slopes.
- With ride-on machines, including articulated steering machines, mow up and down slopes, not across, except for zero turn machines. Zero turn machines should mow across slopes.
- With walk-behind machines, always mow across slopes, not up and down.
- Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly straight down the slope.
- With a zero turn machine, if tires lose traction going down a slope, steering control may be regained by speeding up.
- Mid-mount zero turns (belly mounted deck) have much greater traction pointed up slope than down slope. Be aware that traction may be lost going down a slope. Do not operate a mid-mount zero turn on slopes it cannot back up.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- Do not turn on slopes unless necessary, and then turn slowly and downhill when possible.
- Stay away from slopes if the ground is loose or if caught in the rain during mowing.
- Use lower speeds on a slope to avoid stopping or shifting.
- Use extra care with grass catchers or other attachments. These can change the stability of the machine.
- Avoid driving over ruts, holes, rocks and roots whenever possible. Be alert to dips and rises. Uneven terrain can overturn a mower or cause it to slide.
- Do not mow dropoffs, ditches or embankments.
   The machine could suddenly turn over if a wheel runs over the edge or an edge caves in.
- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.



#### MAINTENANCE SAFETY IN GENERAL

- Maintain machine according to manufacturer's schedule and instructions for maximum safety and best mowing results.
- Park machine on level ground.
- Never allow untrained personnel to service machine.
- Adjust or repair only after the engine has been stopped and the blades have stopped rotating.
- Inspect grass catcher components regularly. If worn, damaged or deteriorated, they may expose moving parts or allow objects to be thrown.
- Replace parts if worn, damaged or faulty.
   For best results, always replace with parts recommended by the manufacturer.
- Disconnect battey or remove spark plug wire(s) before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support for lifted machine or parts if working beneath.
- Do not put hands or feet near or under rotating parts.
- Clean up oil or fuel spillage thoroughly.
- Replace faulty mufflers.
- To reduce fire hazards, keep the engine, muffler, battery compartment and fuel storage area free of grass, leaves, debris buildup or grease.

#### BLADES

## A WARNING

 Mower blades are sharp and can cut. Use extra caution when handling. Remove obstructions with care. Wrap the blade(s) or wear gloves.



- Be aware that rotating one blade on multiblade mowers can cause other blades to rotate.
- Only replace blades. Never straighten or weld them.
- Keep other persons away from blades.

#### FUEL

- Gasoline and diesel fuels are flammable; gasoline vapors are explosive. Use extra care when handling.
- Store only in containers specifically designed for fuel.
  - When refueling or checking fuel level:
    - Stop the engine and allow to cool;
    - Do not smoke;
    - Refuel outdoors only;
    - Use a funnel;
    - Do not overfill;
    - If fuel is spilled, do not attempt to start the engine until the spill is cleaned up and vapors have cleared.

Sparks from static electricity can start fires or cause explosions. Flowing fuel can generate static electricity. To prevent static electricity sparks:

- Do not fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.
- When practical, remove gas powered equipment from the truck or trailer and refuel it on the ground. If equipment must be refueled on the truck or trailer, refuel from a portable container rather than a dispenser nozzle.
- Keep the dispenser nozzle in contact with the rim of the fuel tank or container opening until fueling is complete. Do not use a nozzle lock-open device
- Replace caps on fuel cans and tanks securely.







#### BATTERY

Battery acid is caustic and fumes are explosive and can cause serious injury or death.

To reduce the risk of personal injury when working near a battery:

- When working with battery acid, use protective equipment such as, but not limited to, goggles, face shield, rubber gloves and apron.
- Avoid leaning over a battery.
- Do not expose a battery to open flames or sparks.
- Be sure batteries with filler caps are properly filled with fluid.
- Do not allow battery acid to contact eyes or skin.
   Flush any contacted area with water immediately and get medical help.
- Charge batteries in an open, well ventilated area, away from sparks and flames. Unplug charger before connecting or disconnecting from battery.
- Your unit is equipped with an AGM type battery . An AGM type battery charger should be used on these when charging.

## STORAGE SAFETY

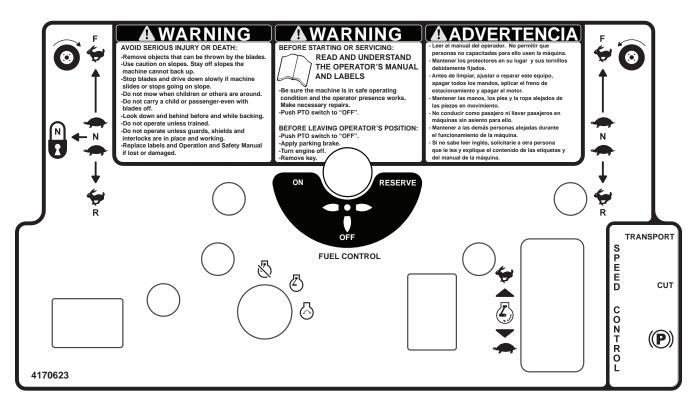
- Stop the engine and allow to cool before storing.
- Drain the fuel tank outdoors only.
- Store fuel in an approved container in a cool, dry place.
- Keep the machine and fuel containers in a locked storage place to prevent tampering and to keep children from playing with them.
- When the machine is to be parked, stored or left unattended, lower the cutterdeck unless a positive mechanical lock is used.
- Do not store the machine or fuel container near heating appliances with an open flame such as a water heater or an appliance with a pilot light.
- Keep gasoline storage area free of grass, leaves and excessive grease to reduce fire hazard.

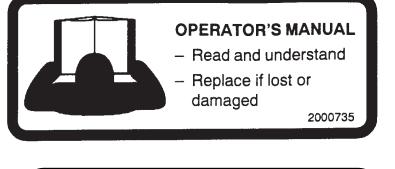
#### JUMP STARTING

- 1. Be sure the jumper cables are in good condition. Turn off the ignition and all electrical accessories on both machines.
- 2. Position the machine with a good (charged) battery next to but not touching the machine with the dead battery so jumper cables will reach.
- 3. When making cable connections:
  - make sure the clamps do not touch anywhere except to intended metal parts,
  - Never connect a positive ("+" or red) terminal to a negative ("-" or black) terminal.
  - Make sure the cables won't get caught in any parts after the engines are started.
- Connect one end of the first jumper cable to the positive terminal on one battery. Connect the other end to the positive terminal on the other battery.
- 5. Connect one end of the other cable to the **negative** terminal of the machine with a good (charged) battery. Make the final connection on the engine of the machine to be started, away from the battery.
- 6. Start the vehicle with the good battery, then the machine with the discharged battery.
- 7. Remove the cables in the exact reverse order of installation. When removing each clamp, take care it does not touch any other metal parts while the other end remains attached.



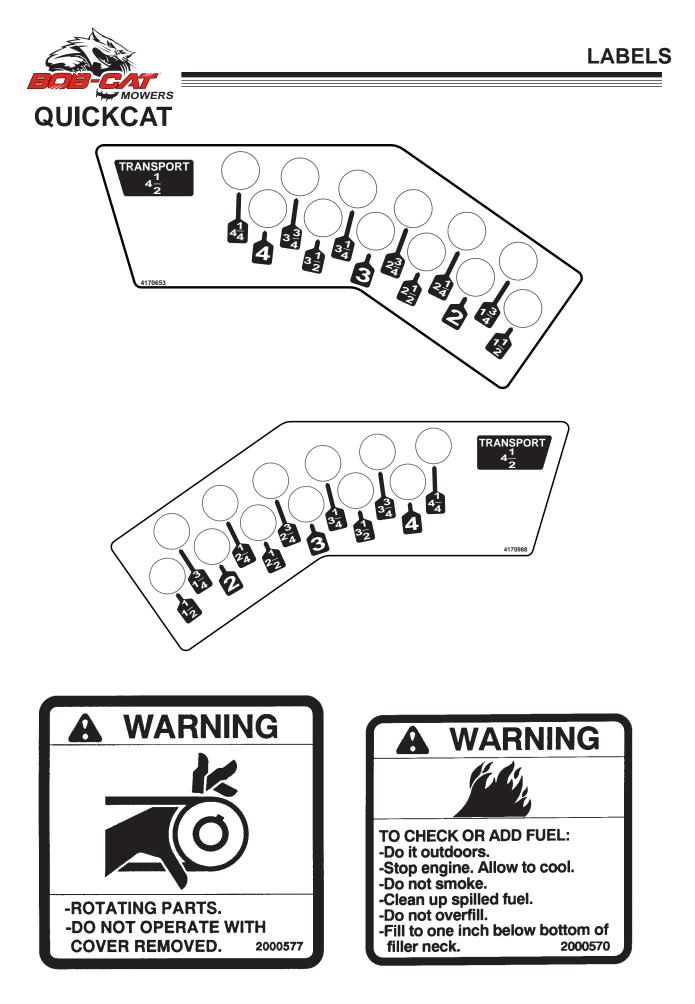




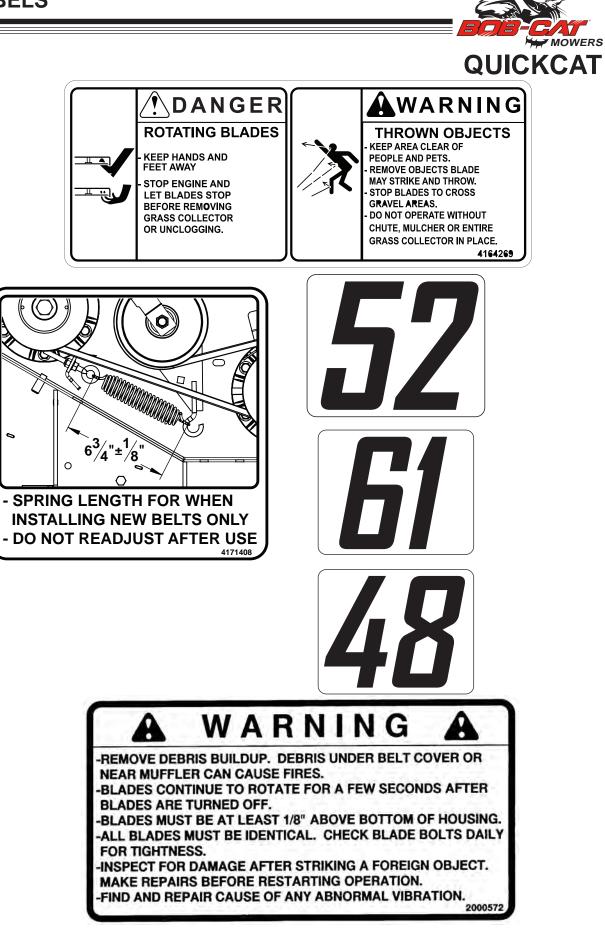




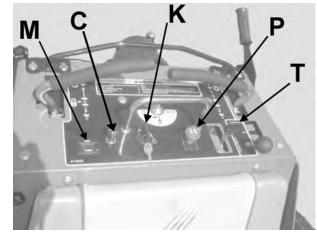




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**KEYSWITCH (K)** - The keyswitch has three positions: OFF, RUN, and START. Insert the key and turn it clockwise to move the switch from OFF to RUN. Turn it further to START and hold to engage the starter. Release the key and the switch will return to RUN from START. Turn the key counterclockwise to OFF to stop the engine.

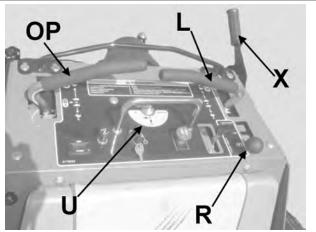
**THROTTLE (T)** - Move the throttle lever forward to increase engine speed until the maximum governed engine RPM is reached. Move the lever rearward to decrease engine speed until the engine reaches its idle speed.

**CHOKE (C)** - Pull the choke control out to set the choke ON. Push it in to set the choke OFF.

**POWER TAKE OFF (PTO) SWITCH (P)** -Pulling the PTO switch out engages (turns on) the PTO and starts the blades or other attachment. Pushing the PTO switch in disengages (turns off) the PTO and stops the blades or other attachment. **NOTE:** The PTO switch does not control attachments powered by a separate engine.

- Disengage the PTO whenever you stop or leave the operator's position.
- Shut off engine with the key and remove the spark plug wires before making adjustments or unplugging a clogged mower.
- Do not engage the PTO until ready to start mowing.

HOUR METER (M) - Records accumulated time



the machine is in operation and provides service alerts. Push and release MODE button to toggle between functions. Provided service alerts include change engine oil and filter, change hydraulic oil, and service air filter. When the service time is approaching, an alert message will flash temporarily, interrupting whatever mode the meter is in. This will continue until the alert is reset. When the service interval reaches "0" hours, the word "NOW" replaces the hours remaining. To reset the service alert, depress and hold down the mode button for 6 seconds while in the alert to be cleared.

HEIGHT OF CUT (HOC) HANDLE (X) - Used

to secure the cutterdeck in transport position. To return to preset height of cut, lower HOC handle until latch lever contacts height of cut pin **A**.

**HEIGHT OF CUT(HOC) PIN (A)** - Sets height of cut and allows easy return from transport to desired height of cut. Raise the deck to transport using the HOC handle. Position pin **A** in the hole corresponding to the desired height of cut. Lower the HOC handle until it rests on pin **A**.

**CONTROL LEVERS (L & OP)** - Each of the two control levers controls the drive wheel located on its side. They control the forward and reverse movement of the machine, provide steering and also provide dynamic braking.

The left control handle is the operator presence. The operator presence must be held down for PTO operation and when machine is NOT in park. If the PTO switch or machine is NOT in park, the engine will kill.



**FUEL VALVE (U)** - A fuel tank selector valve is provided on the control panel. The fuel tank selector valve has three positions:

**OFF**: The tank selector is off when the lever points toward the operator The selector should be off whenever the machine is transported or stands unused for any length of time. Shutting off the fuel supply avoids the possibility of flooding should any dirt get under the carburetor float needle. Leaving the tank selector in either tank position can allow severe flooding, which may ruin the engine by diluting the oil.

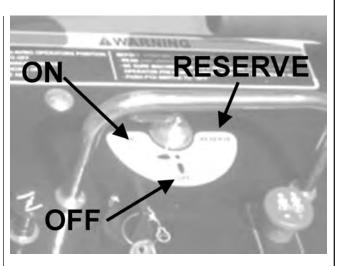
**ON:** Fuel flows from the tank when the selector is turned 1/4 turn toward the left, when facing the valve.

**RESERVE**: Fuel flows from the tank when the selector is turned 1/4 turn toward the right, when facing the valve. A small reserve is available in the event the machine starts to run out of fuel. This reserve is meant to allow you to drive your machine to a safe place to refuel.

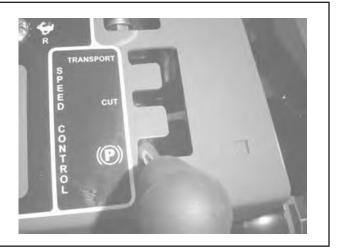
**PARKING BRAKE (R)** - Pull the parking brake lever into park to put the parking brake on. This will also lock the control handles. Push the parking brake to "CUT" to limit the speed for maximum recommended cutting speed. Push the parking brake to "TRANSPORT" to allow for maximum speed.

The parking brake must be ON to start the engine. It must also be ON to keep the engine running if the operator releases the operator presence control lever (OP).

Parking brake in ON position (operator's right side)



Located on control panel.





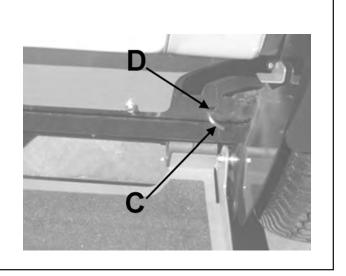


# **PUSHING THE MACHINE**

The machine may be pushed with the engine off, the parking brake off, and the bypass valves open.

Bypass valves are located on the frame by the rider platform. To open the bypass valves, move the parking brake to any **OFF** position, then lift and pull bypass control rod **C** through the large opening **D**, until the control rod stop is past the opening. Drop rod **C** into the small opening to lock in place. Repeat for the other bypass control rod.

To close the bypass valves, lift bypass control rod  ${f C}$  allowing the control rod stop to retract through the large opening  ${f D}$ .



# **PRE-OPERATION CHECK LIST**

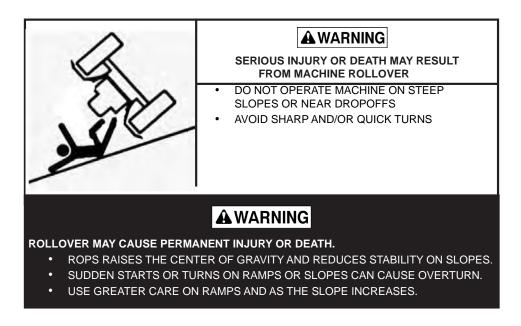


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PRE-OPERATION CHECK LIST (OWNER'S RESPONSIBILITY)	
<ul> <li>Review and follow all safety rules and safety decal instructions.</li> <li>Check that all safety decals are installed and in good condition. Replace if damaged.</li> <li>Check to make sure all shields and guards are properly installed and in good condition. Be sure that either the discharge shield or complete vacuum attachment is installed.</li> <li>Check that all hardware is properly installed. and secured.</li> <li>Check that equipment is properly and securely attached to power unit.</li> <li>Check to be sure engine is free of dirt and debris. Pay particular attention to the cooling fins, governor parts and muffler. Clean air intake screen. Check air cleaner; service if necessary.</li> </ul>	<ul> <li>Never allow riders.</li> <li>Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.</li> <li>Clean area around oil fill dipstick. Remove dipstick and check to be sure oil is in operating range (between marks on dipstick). Add oil if necessary but <b>Do Not Overfill</b>. Install dipstick assembly firmly until cap bottoms out on tube. Dipstick assembly must always be secured into fill tube when engine is running.</li> <li>Check all lubrication points and grease as instructed in manual.</li> <li>Check hydrostatic fluid level. Check to be sure cooling fins on hydrostat are clean.</li> <li>Perform a functional check of the safety interlock system each time you operate the unit.</li> </ul>

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Use caution when making turns. Slow down before making sharp turns to help maintain control and to prevent torn turf from skidding or spinning tires. To help prevent turf damage, keep both drive tires moving whenever a turn is made.

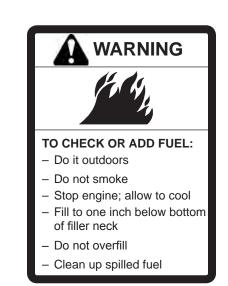
**TIP:** The best way to make a sharp "zero" turn is to come to a stop, get the machine moving in reverse with both drive wheels and then powering the machine around with the outside wheel. This technique keeps the drive tires turning and results in less turf damage.





# FUELING

- Fill fuel tanks with good quality, clean, unleaded gasoline. Do not use hi-test fuel.
- Use a funnel to avoid spillage.



# **BEFORE STARTING THE ENGINE**

- Be familiar with all controls, how each functions and what each operates.
- Check the engine oil level and add if necessary. Turn fuel valve to ON.
- Choke: For cold starts, set the throttle lever to the half-open position and pull the choke out to the ON position. For warm starts set the throttle to the half-open position and the choke to the OFF position.

#### OPERATOR PRESENCE INTERLOCK SYSTEM

To start the engine:

- The PTO switch must be OFF.
- The left handle operator presence handle must be in the neutral position.
- The parking brake must be **ON**.

To operate the machine:

1. The operator must hold the operator presence handle down or engaging the PTO will kill the engine.

## STARTING THE ENGINE

- 1. Turn the key to operate the electric starter to start the engine. Release the key when the engine starts.
- If the engine does not start immediately, do not crank for more than 10 seconds at a time. Allow 60 seconds for the starter motor to cool down between starting attempts to prevent the starter motor from burning out.
- 3. If the choke is ON when the engine starts, gradually back it off until the engine runs with no choke at all.

# DRIVING

- 1. With the PTO disengaged, move the parking brake to CUT or TRANSPORT speed position.
- 2. Move control traction lever out of neutral.
- 3. Push both traction levers forward evenly to drive forward in a straight line. Pull both traction levers back evenly to drive backward in a straight line.

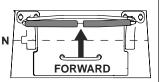
## **OPERATING NOTES**

- Practice at slow engine and travel speeds with the PTO off until fully familiar with the controls.
- For normal cutting, the throttle should be set at the full open position. By using the traction levers to speed up or slow down the machine during use, maximum control and cutting efficiency can be maintained.
- Using the machine at less than full throttle in heavy conditions will cause the engine to labor and result in excessive wear to the engine and hydraulic system.



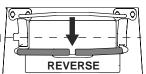
# STEERING

**Forward movement** - To move the machine straight ahead, push both control levers forward equally from their neutral posi-



tion. **Increase speed:** as the levers are moved farther forward from the neutral position. There are two maximum forward speeds. There is a "CUT" speed and a "TRANSPORT" speed. Cut speed is limited to a maximum recommended speed to obtain a good quality cut. Transport speed is limited to the maximum speed of the machine. **Decrease speed:** when traveling forward, pulling the traction levers rearward slows the machine. **Stopping:** The machine will stop when the levers reach the neutral position.

# **Reverse movement** - To move the machine straight back, pull both traction



levers back equally from their neutral position. Reverse speed increases as the levers are moved back farther. Maximum reverse speed is reached when the levers stop. When moving in reverse, pushing the levers forward slows the machine, and the machine stops when the neutral position is reached.

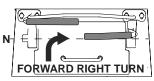
**NOTE**: The control levers are spring loaded to return to neutral in both forward and reverse. This spring resistance may be felt when moving the traction levers. When control levers are released, spring tension will quickly return them to the neutral position.

To turn, move one lever forward and one back.

#### Turns during forward movement:

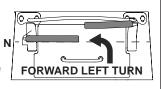
#### Forward Right turn

- move the right traction lever back toward neutral to slow the right drive wheel.



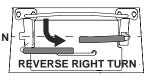
#### Reverse Left turn

- move the left traction lever back toward neutral to slow the left drive wheel.

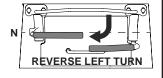


#### Turns during reverse movement:

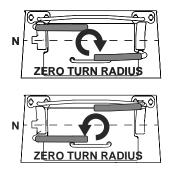
Reverse right turn move the right traction lever forward toward neutral to slow the right drive wheel.



- Reverse left turn move the left traction lever forward toward neutral to slow the left drive wheel.



Slow, sweeping turns are made with both traction levers on the same side of neutral and slightly apart. True zero radius turns about the center of the machine are made by having one lever in reverse while the other is in forward. By varying the relative positions of the two levers, the rate of turn is varied to suit the mowing situation.



Slow down before making sharp turns. The machine is capable of turning very rapidly when the levers are moved further apart from each other. Loss of control and/or turf damage may result.

# STOPPING

- 1. Turn PTO switch to OFF.
- 2. Release control traction levers or move to neutral.
- 3. Put machine in PARK.
- 4. Turn key to OFF (counterclockwise).



# CUTTING

- 1. Place the discharge chute in the down position or correctly fit a grass collector or mulcher plate.
- 2. Stand on rider platform.
- 3. Start the engine.
- 4. Turn the blades on by pulling up on the PTO switch. Do not start the blades at full throttle. Instead, use the slowest throttle setting that will allow the engine to pick up the blade load to reduce the wear on the belts and electric clutch.
- 5. After the blades are rotating, set the throttle to maximum. Use the traction levers to obtain the required cutting speed, to steer around obstacles and to turn at the end of a cut.

# **CUTTING TIPS**

- When mowing large areas, start by turning to the right so that clippings will be discharged away from shrubs, fences, driveways, etc. After two or three rounds, mow in the opposite direction, left hand turns, until finished.
- If grass is extremely tall, it should be mowed twice, the first cut relatively high, the second cut to the desired height.
- Use the left side of the mower for trimming.
- Choose cutting directions so that clippings are thrown onto areas that already have been cut. This method results in the most even distribution of clippings and more uniform, better appearing cuts.
- Use a different mowing pattern each time a property is cut where possible. This helps prevent rutting and leads to a more uniform cut by keeping the grass from always laying the same way.





MAINTENANCE	Maintenance is an ongoing job. These intervals are maximum times between maintenance operations. Perform more often under severe conditions.							
OPERATION	FIRST 5 HOURS	BEFORE EACH USE	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 200 HOURS	YEARLY	
Consu	ENGINE It the engine manual for additional information and instructions				ctions			
Check/Top Up Oil Level		x						
Check For Leaks		х						
Clean Air Intake Screen		x						
Clean Air Cleaner Precleaner			x					
Clean Air Cleaner Element			x					
Clean Cooling Fins					Х			
Change Oil And Filter	x	See engine manufacturer's manual						
Check/Replace Spark Plugs						x		
		TF	RANSAXL	E*				
Check Oil Level	x	х						
Check For Leaks	х	х						
Change Oil And Filter	*					x		
	MACHINE							
Check Interlock Operation		Х						
Check Tire Pressures		Х						
Check/Top Up Battery							х	
Lubricate All Points		Х						

\*CHANGE TRANSAXLE OIL AFTER INITAL 75-100 HOURS.



# NOTES

GENERAL	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS	DATE	HRS
Check Tire Pressures												
Lubricate All Points												
Check Nuts & Bolts												
ENGINE												
Check Oil Level												
Change Oil												
Clean Air Cleaner Element												
Clean Cooling Fins												
Replace Air Cleaner Element												
Clean & Gap Spark Plugs												
TRANSAXLE												
Change Oil And Filter												
NOTE	: After	first 5	hours	of oper	ation c	hange	engine	oil and	d filter.			



# CHECK DAILY

#### **Operator Presence Interlock System - Start Operation**

For the engine to crank, the parking brake must be ON, the PTO (blades) OFF. Stand on the operator platform and check, one by one, if the engine will crank with the parking brake OFF or the PTO (Blades) ON.

#### **Operator Presence Interlock System - Run Operation**

In order for the engine to run, the operator must either be standing on the platform, or walking behind the unit with the platform up, the parking brake in the OFF position and the LH control handle held down out of the neutral position.

The engine may also run if the parking brake is in the ON position, the LH control handle is in the NEUTRAL position rotated up, and the PTO (blades) are OFF.

To check:

- 1. Start the engine and run at 1/2 throttle.
- 2. With the LH control handle in the NEUTRAL position rotated up, move the parking brake lever to OFF and turn the PTO (Blades) ON. Each check should kill the engine after 1/2 second delay. (A 1/2 second delay is built inot the system to prevent engine cut-out when traversing rough terrain.)

Repair machine before using if the Operator Presence Interlock System does not operate correctly in start or run. Contact your authorized BOB-CAT dealer.

#### Hardware

Tighten any nuts and bolts found loose. Replace any broken or missing cotter pins. Repair any other problems before operating.

#### Tire pressure

Rear Tires should be kept inflated at 12 lbs/in<sup>2</sup> (.84kg/cm<sup>2</sup>). Improper tire inflation can cause rapid tire wear and poor traction. Uneven inflation can cause uneven cutting. Front tires should be 15p.s.i. (1.05 kg/cm<sup>2</sup>)

#### **BATTERY-AGM TYPE BATTERY SUPPLIED** 3. When removing the battery, always remove the Battery acid is caustic and fumes ground, negative (-) cable first and the red, positive are explosive and can cause serious injury or death. (+) cable last. Use insulated tools, wear protective glasses or goggles and protective clothing when working with 4. AGM type battery. Use AGM charger when batteries. Read and obey the battery manufacturer's charging. P/N 4171973 instructions. 5. Clean the cable ends and battery posts with steel Be certain the ignition switch is OFF and the key has wool. Use a solution of baking soda and water been removed before servicing the battery. to clean the battery. Do not allow the solution to enter into the battery cells. 1. Verify battery polarity before connecting or disconnecting the battery cables. 6. Tighten cables securely to battery terminals and apply a light coat of silicone dielectric grease to 2. When installing the battery, always assemble terminals and cable ends to prevent corrosion. the RED, positive (+) battery cable first and the Keep terminal covers in place. ground, BLACK, negative ( - ) cable last.



# LUBRICATION

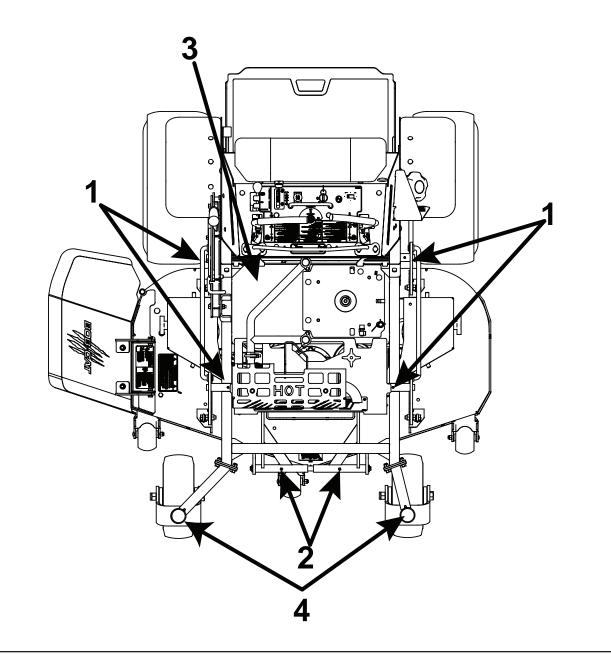
Every 50 hours of operation, lubricate the following points (1-3) with grease:

- 1. Deck lift pivots (4 points)
- 2. Pull arm pivots (4 points)
- 3. Deck idler pivot (1 point)

Every 500 hours or once a year:

4. Caster wheel pivots (2 points)

**NOTE ON BLADE SPINDLES** - The blade spindles on these machines use a superior sealed bearing that does not require re-lubrication.





# TRANSAXLES

# **A**WARNING

Inattention to proper safety, operation, or maintenance procedures could result in personal injury, or damage to the equipment. Schiller Grounds Care, Inc. recommends returning the machine to your authorized Schiller Grounds Care, Inc. dealer for service or repair. Check and change oil after inital 75-100 hours. Change every 200 hours after that.

Perform transaxle maintenance with the engine off, spark plug wires disconnected and PTO disengaged.

#### TRANSAXLE FLUID CHANGE

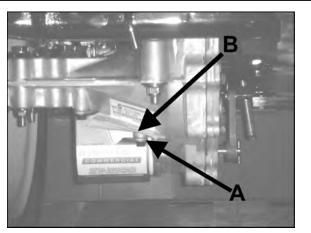
Change the transaxle fluid every 200 hours of operation. It is essential that the exterior of the transaxle be free of debris, prior to fluid maintenance.

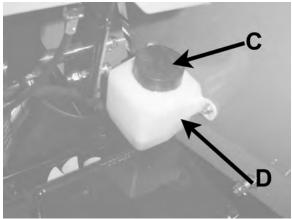
- Remove the three 1/4" filter guard screws and filter guard A. Remove the oil filter B from the transaxle and discard. Dispose of used oil in accordance with local requirements.
- 2. Wipe the filter base surface off and apply a film of new oil to the gasket of the new replacement filter. Install the new filter by hand, turn 3/4 to one full turn after the filter gasket contacts the filter base surface.
- 3. Re-install the filter guard and torque the three screws to 65 in. lbs. each.
- Remove cap C, fill the transaxles through the expansion tank D with approximately 2 quarts of SAE 20W-50 engine oil PER TRANSAXLE.

# CAUTION

Do not overfill! If you overfill the transaxle while the unit is "cold", it may overflow as it reaches normal operating temperatures. The oil level should not be above the manufacturer's suggestions. The oil level should be filled up to the full cold line on the overflow tank. This will allow the space needed for the oil to expand as it warms up.

- 5. After starting engine, check the fluid level and continue to add oil to overflow tank **D** to fill line on tank.
- 6. Purge the transaxles, following the purging procedures.





# MAINTENANCE



# ENGINE OIL

Do not perform engine maintenance without the engine off, spark plug wires disconnected and PTO disengaged.

#### **AFTER FIRST FIVE (5) HOURS**

While the engine is warm:

- Release the oil drain hose assembly from the engine clip J. Lay hose assembly over the frame edge.
- 2. Remove the rubber cap **D** from the tip of the hose assembly and turn the drain valve to allow oil to drain from the engine. Dispose of used oil in accordance with local requirements.
- 3. Clean drain valve and tighten the plastic portion of the drain valve back into the metal portion of the valve. Replace rubber cap over the tip of the valve. Replace hose assembly back into engine clip.
- 4. Change oil filter.
- 5. Fill the crankcase with fresh oil to the full mark. Do not overfill. See engine manual for oil specifications.

#### DAILY

- 1. Check oil level with the dipstick.
- 2. If oil is needed, add fresh oil of proper viscosity and grade. See engine manual for oil specifications. Do not overfill.
- 3. Replace dipstick before starting engine.

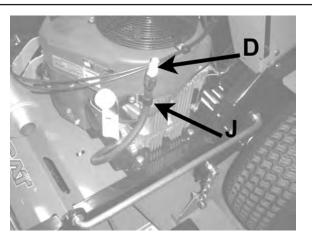
## SPARK PLUGS

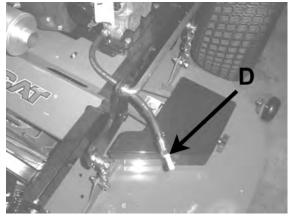
Remove each plug and check condition.

- Good operating conditions are indicated if the plug has a light coating of grey or tan deposit.
- A white blistered coating indicates overheating. A black coating indicates an "over rich" fuel mixture. Both may be caused by a clogged air cleaner or improper carburetor adjustment.
- Do not sandblast, wire brush or otherwise attempt to repair a plug in poor condition. Best results are obtained with a new plug.
- Set plug gap as specified in engine manual.

## FUEL FILTER

An in line fuel filter is located in the fuel supply line. Inspect at every oil change to make sure it is clean and unobstructed. Replace if dirty.





#### PERIODIC OIL CHANGES

- 1. See engine manual for oil and filter change intervals after the break-in period.
- 2. Follow instructions for first oil change, above.



# PURGING TRANSAXLES

Due to the effects air has on efficiency in hydrostatic drive applications, it is critical that it be purged from the system.

These purge procedures should be implemented any time a hydrostatic system has been opened to facilitate maintenance or any additional fluid has been added to the system.

Purging may be required if the unit shows any of the following symptoms:

- Noisy operation.
- Lack of power or drive after short term use.
- High operation temperature, excessive oil expansion.

- 1. Check the transaxle fluid, fill to proper level, if required.
- 2. Raise the drive wheels off the ground. Support unit with jack stands or other suitable means.
- 3. With the bypass valves open, and the engine running, slowly move the control levers in both forward and reverse directions 5 to 6 times. As air is purged from the unit, the oil level will drop.
- 4. With the bypass valve closed, and the engine running, slowly move the control levers in both forward and reverse directions 5 to 6 times.
- 5. Stop engine. Check the transaxle fluid level, add fluid as required.
- It may be necessary to repeat steps 3-5 until all the air is completely purged from the system. When the transaxle moves forward and reverse at normal speed, purging is complete.

# **ENGINE COOLING**

Continued operation with a clogged cooling system will cause severe overheating and can result in engine damage.

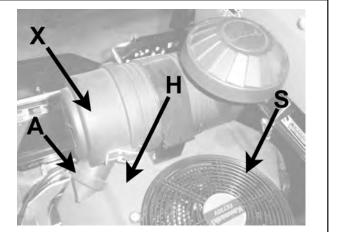
- **Daily**: Clean air intake screen **S** on air cooled engines.
- **Every 100 hours**: Clean cooling fins beneath blower housing **H** with reference to information in the engine manufacturer's manual.

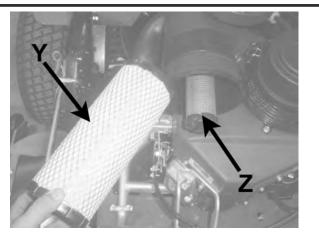
# HEAVY DUTY CYCLONIC AIR CLEANER

Clean and replace the air cleaner element as specified in the service chart. Uneven running, lack of power or black exhaust fumes may indicate a dirty air cleaner.

#### To replace air cleaner elements:

- 1. Unclamp end cover **X** and remove existing cleaner elements.
- Insert new elements Y and Z and replace cover. Ensure the breathing port A is pointing down and towards the front of the tractor.







# BLADE REMOVAL

Follow these instructions to prevent injury during blade removal:

- Loosen with a box wrench or a socket and long breaker bar. To gain additional leverage, slip a long pipe or thick-walled tube over breaker bar or wrench.
- 2. Insert wood block **A** as shown, with grain perpendicular to blade, to prevent blade from turning when loosening.
- 3. Wear thickly padded gloves. Keep hands clear of blade path. Blades may rotate when bolt releases.



# SHARPENING

Blades may be sharpened by filing or grinding.

- Inspect blades before sharpening.
- Replace bent or cracked blades.
- Replace blades when the lift portion has worn thin.
- Maintain cut angle at 30°.
- Do not overheat blades when sharpening.
- Always use Schiller Grounds Care, Inc. blades. Use of another manufacturer's blades may be dangerous.

## **BLADE BALANCE**

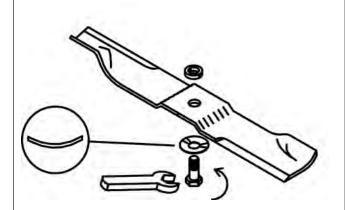
Blade balance must be maintained at 5/8 oz-in (19.4 g-cm) or less. Failure to keep blades balanced causes excess vibration, wear, and shortened life of most components of the machine.

#### To balance a blade:

- 1. Sharpen blade first.
- 2. Balance the blade at the center.
- Attach a 1/8 oz (3.9 g) weight at a distance 5" (127 mm) from center on the light end. This should make the light end the heavy end:
  - If it does, the blade is balanced.
  - If does not, file or grind the heavy end until the addition of the weight makes the light end the heavy end.

## **BLADE INSTALLATION**

- 1. Wear thickly padded gloves to prevent cuts from the sharp blade.
- 2. Insert the blade bolt, in order, through the conical washer (cup side toward the blade, as shown), the blade, and the blade spacer.
- 3. Install assembly on the blade spindle.
- 4. Torque the blade bolt to 70 ft-lbs.





#### SPECIFIC TORQUES

н		
	BLADE BOLTS	70 FT-LBS (95 Nm)
	WHEEL LUG NUTS	75-100 FT-LBS (102-135.5 Nm)
	CLUTCH MOUNTING BOLT	50 FT-LBS (68 Nm)
	TRANSAXLE PULLY BOLT	28.3-41.5 FT-LBS (38-56 Nm)
	TRANSAXLE DRAIN PLUG	15-20 FT-LBS (20-27 Nm)
	TRANSAXLE FILTER	100-150 IN-LBS (14.6-16.9 Nm)
L		

#### **CLEANING MACHINE**

Clean the machine after use. Compressed air is recommended. Do not use a pressure washer. The machine will run cooler and last longer if kept free of clippings and other debris. A clean machine also reduces the risk of fire due to accumulation of combustible debris and chaff.

Brush or blow clippings and debris off the cutterdeck and engine deck. DO NOT use a pressure washer.

#### **WASHING MACHINE**

CAUTION: Improperly washing a machine can cause water to enter bearings and other components. This can greatly reduce component life.

- Do not use a pressure washer. Do not direct water at bearings or seals. High pressure water can blow past seals and enter sealed bearings.
- Allow the machine to cool down before washing.
   Water on a warm machine can be sucked into sealed bearings as they cool.
- Avoid getting electrical connections wet. Water can cause electrical faults and corrosion of electrical components.



## BELTS

All belts are tensioned by spring loaded idlers. No adjustment is required.

#### **DECK LEVELING**

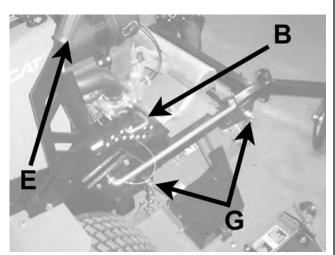
- 1. Park the machine on a smooth, level surface. Raise the deck to the transport position.
- Lower the deck onto a set of equal height blocks
   A under the rear corners of the deck. Place another set of blocks under the front of the deck so that the deck top is pitched forward 1/8".

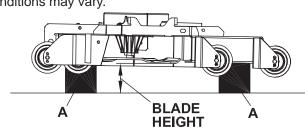
**NOTE:** The front and rear of the deck are at different heights.

- Measure the height of the blade cutting edge above the ground. Remove pin B and set the height of cut lever E to that height
- 4. Loosen nuts on bolts **G**. Move bolts in slot to remove slack in chain. Tighten nuts on bolts **G**.

A 1/8" forward pitched deck provides the best horsepower. A level deck provides the best quality of cut. A 1/8" rearward pitched deck provides the best striping.

Certain grass types and conditions may vary.





# **HEIGHT OF CUT**

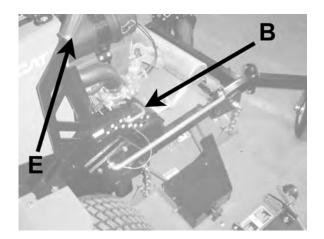
The height of cut is set by moving height of cut pin **B** to the hole designated for the height of cut desired.

To change the height of cut:

- 1. Lift the deck to the highest position using the lift handle **E**.
- 2. Move pin **B** to the selected hole.
- 3. Lower the deck until the latch lever **E** is stopped by the pin.

#### NOTES:

- Height of cut may vary due to the amount of tread on the tires, tire diameter or inflation pressure.
- For best results, adjust the deck rollers for the height of cut to be used (see below).





## FRONT DECK LIP

Adjustable front deck lips have been provided on 48in.,52 in. and 61" cutterdecks for various grass types and cutting conditions.

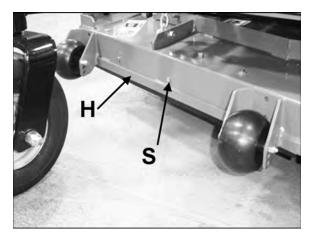
To revise per conditions:

- 1. Loosen the front bolts **S**.
- 2. Adjust height of **H**.
- 3. Retighten **S** once you have desired height.

Suggested heights for grass types: (Factory setting is all the way down.)

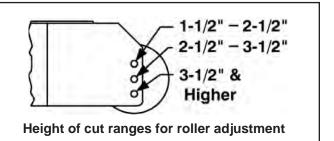
-Southern season grasses generally will work with the lip down. When cutting Bahia grass or other grasses where seed pods grow higher then the actual grass blade, you will want to adjust the lip all the way up.

-Northern season grasses generally require the lip all of the way down.



## DECK ROLLERS

The rear outside deck rollers are adjustable up and down to provide improved deck flotation and scalping protection at various heights of cut. They are not intended to ride continuously on the ground. Adjust no closer than 3/8" (10mm) to the ground.



# **ADJUSTMENTS**

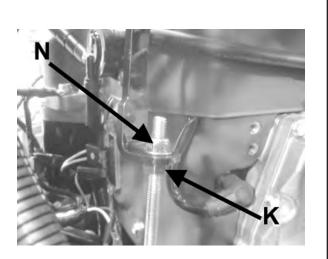


## PARKING BRAKE

**NOTE:** There are 2 brakes, 1 on each transaxle.

The parking brake should keep the machine from moving. To check the parking brake, park the machine on a level surface, open the bypass valves and set the parking brake to **PARK**. Attempt to move the machine forward and backward by pushing it. If the machine moves, adjust the parking brake linkage as follows:

- 1. Move the machine to a flat horizontal surface.
- 2. Move the parking brake handle to the **PARK** position.
- Loosen Nut K. Tighten brake locknut N as needed to engage brake. Loosen brake locknut N as needed to disengage brake sooner.
- 5. Retest to insure the machine does not move.





#### HYDROSTAT TRANSAXLE

A turnbuckle-style hydrostat neutral adjustment is provided.

Neutral adjustment is for setting the location of the control handles with respect to each other or the operator presence slot, or parking brake locks.

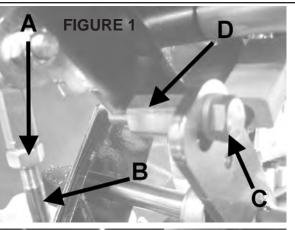
Neutral: (neutral is set by the hydrostatic transaxles)

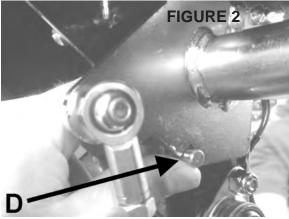
- 1. Loosen jam nuts A at both ends of the control rod B.
- 2. Loosen the nuts C on the control lock rod D.
- Rotate the control rod B until both left and right handle is aligned with the slot of the control panel.
- 4. Tighten the jam nuts A at the top and the bottom of the control rod B.
- 5. Press the control lock rod D into the slot in the control and tighten nut C. See **FIGURE 2**

#### To check:

- 1. Start the engine and run at 1/2 throttle.
- With the LH control handle in the NEUTRAL position rotated up, move the parking brake lever to PARK and turn the PTO (Blades) ON. Each check should kill the engine after 1/2 second delay. (A 1/2 second delay is built inot the system to prevent engine cut-out when traversing rough terrain.)

Repair machine before using if the Operator Presence Interlock System does not operate correctly in start or run. Contact your authorized BOB-CAT dealer.







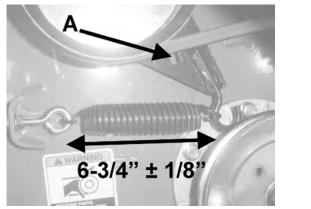
**Note:** Always use Schiller Grounds Care, Inc. replacement belts, not general purpose belts. Schiller Grounds Care, Inc. belts are specially designed for use on commercial mowers and will normally last longer.

## CUTTERDECK BELT

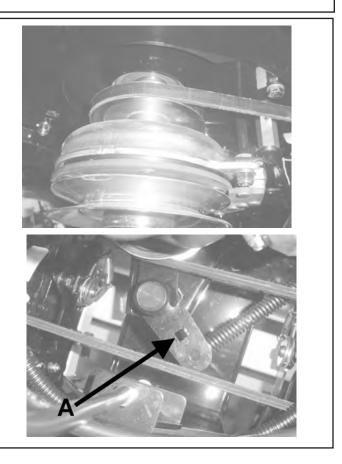
- 1. Remove center, left and right belt guards.
- 2. Set the cutterdeck in a middle height-of-cut position.
- 3. Loosen bolt on belt guide so belt guide can be moved to remove the belt.
- 4. Insert 3/8" ratchet extension in hole A on the idler arm to back tensioning idler off to remove belt from idler. Remove belt from cutterdeck pulleys.
- 5. Remove belt from clutch pulley.
- 6. Install the new belt by performing these steps in reverse order.
- 7. Cutterdeck spring will require tension adjustment after belt installation. Adjust eyebolt so the distance between the inside of the eyebolt and the inside of the hook is  $6-3/4 \pm 1/8$ ".

#### TRANSAXLE DRIVE BELT

- 1. Remove engine-cutterdeck belt. (See cutterdeck belt above)
- 2. To remove transaxle drive belt, use a 3/8" ratchet and extension. Insert ratchet extension in the square hole **A** of the transaxle idler arm. Rotate enough to remove the transaxle drive belt.
- 3. Install a new transaxle drive belt by performing these steps in reverse order.
- NOTE: Inspect the fans. Replace if worn or damaged.
- 5. Reinstall cutterdeck belt and guards.



**NOTE:** After usage of the machine, the belt will seat into the pulleys and reduce the length of the spring. DO NOT READJUST THE EYEBOLT. This is normal. If you do adjust the eyebolt, you will over tension the belt, greatly reducing the belt's life.



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