



MODEL:

933331
36" HYDRO MID-16HP KAW Z-CTRL

934332
48" HYDRO MID-18HP KAW Z-CTRL

935333
54" HYDRO MID-20HP KAW Z-CTRL

MAN 4164377
Rev. A 09-2009

PARTS MANUAL 4164376



OPERATOR'S MANUAL

**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.

 **WARNING**

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

 **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.

**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.

 **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 BOB-CAT 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 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.

⚠ DANGER

DANGER indicates a 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.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **COULD** 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

Schiller Grounds Care, Inc.

One Bobcat Lane
Johnson Creek, WI 53038 U.S.A
Phone: 920-699-2000
Fax: 920-699-3683

MODEL NUMBER

SERIAL NUMBER

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 on engine deck, top, left hand side.

US PATENT NO **5,343,678**

	WARNING
	<p>SPARKS OR FLAME CAN START EXPLOSION. DISCONNECT (-)NEGATIVE TERMINAL FIRST. RECONNECT (-)NEGATIVE TERMINAL LAST.</p> <p style="text-align: right;">2000590</p>

Manufactured under one or more of the following U.S. patents:
 4,930,733 5,415,059
 5,651,241 2000704

	Operator's Manual
	Inflate tires to 14 psi (1.0 kg/cm²) <small>2000673</small>

ADVERTENCIA
<ol style="list-style-type: none"> 1. Leer el manual del operador. No permitir que personas no capacitadas para ello usen la máquina. 2. Mantener los protectores en su lugar y sus tornillos debidamente fijados. 3. Antes de limpiar, ajustar o reparar este equipo, apagar todos los mandos, aplicar el freno de estacionamiento y apagar el motor. 4. Mantener las manos, los pies y la ropa alejados de las piezas en movimiento. 5. No conducir como pasajero ni llavar pasajeros en máquinas sin asiento para ello. 6. Mantener a las demás personas alejadas durante el funcionamiento de la máquina. 7. Si no sabe leer inglés, solicitarle a otra persona que le lea y explique el contenido de las etiquetas y del manual de la máquina. <p style="text-align: right;">340830</p>

IMPORTANT

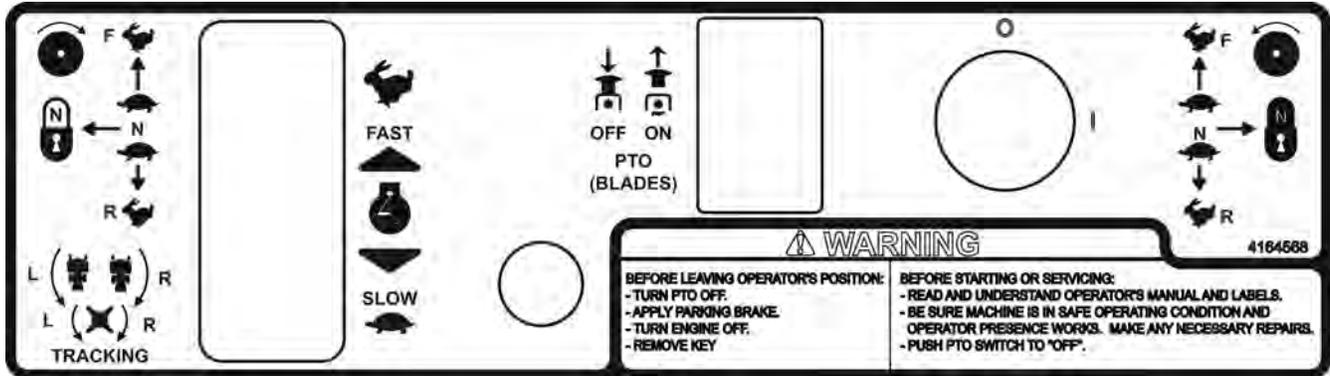
- Close fuel valve before transporting.
- Flooding can cause hard starting and engine damage.
- See Operators Manual.

2000571

WARNING

<p>TO CHECK OR ADD FUEL:</p> <ul style="list-style-type: none"> -Do it outdoors. -Stop engine. Allow to cool. -Do not smoke. -Clean up spilled fuel. -Do not overfill. -Fill to one inch below bottom of filler neck. <p style="text-align: right;">2000570</p>

WARNING
<ul style="list-style-type: none"> -REMOVE DEBRIS BUILDUP. DEBRIS UNDER BELT COVER OR NEAR MUFFLER CAN CAUSE FIRES. -BLADES CONTINUE TO ROTATE FOR A FEW SECONDS AFTER BLADES ARE TURNED OFF. -BLADES MUST BE AT LEAST 1/8" ABOVE BOTTOM OF HOUSING. -ALL BLADES MUST BE IDENTICAL. CHECK BLADE BOLTS DAILY FOR TIGHTNESS. -INSPECT FOR DAMAGE AFTER STRIKING A FOREIGN OBJECT. MAKE REPAIRS BEFORE RESTARTING OPERATION. -FIND AND REPAIR CAUSE OF ANY ABNORMAL VIBRATION. <p style="text-align: right;">2000572</p>



⚠ WARNING

- DO NOT OPERATE WHERE FLYING DEBRIS MAY INJURE PEOPLE OR DAMAGE PROPERTY. KEEP PEOPLE AND PETS AT A SAFE DISTANCE.
- DO NOT USE IF THERE ARE ANY DOUBTS ABOUT SAFETY.
- KEEP LABELS, GUARDS AND SHIELDS IN PLACE. REPLACE IF LOST OR DAMAGED. REPLACE OPERATORS MANUAL IF LOST OR DAMAGED.
- OBEY SAFETY INSTRUCTIONS. FAILURE TO DO SO MAY CAUSE INJURY TO YOURSELF OR OTHERS.
- DO NOT DEFEAT INTERLOCKS. CHECK OPERATION DAILY.
- DO NOT ALLOW CHILDREN, UNSKILLED OR UNTRAINED PERSONS TO OPERATE MACHINE.
- DISCONNECT SPARK PLUG WIRE(S) BEFORE DOING ANY MAINTENANCE.

⚠ WARNING

HYDRAULIC OIL
FILL TO LEVEL
INDICATED WITH
10W30 OIL.

⚠ WARNING

HIGH PRESSURE FLUID:

- LEAKS CAN PENETRATE SKIN.
- SEEK IMMEDIATE MEDICAL ATTENTION FOR OIL PENETRATION INJURY.
- SEE OPERATORS MANUAL FOR PROPER METHOD OF LOCATING LEAKS, OR SERVICING HYDRAULIC SYSTEM.

2000661

⚠ DANGER

ROTATING BLADES

- KEEP HANDS AND FEET AWAY.
- STOP ENGINE AND LET BLADES STOP BEFORE REMOVING GRASS COLLECTOR OR UNCLOGGING

⚠ WARNING

THROWN OBJECTS

- KEEP AREA CLEAR OF PEOPLE AND PETS.
- REMOVE OBJECTS BLADE MAY STRIKE AND THROW.
- STOP BLADES TO CROSS GRAVEL AREAS
- DO NOT OPERATE WITHOUT CHUTE, MULCHER OR ENTIRE GRASS COLLECTOR IN PLACE.

2000677

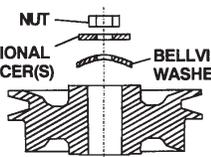


WARNING



ROTATING PARTS

- STOP ENGINE BEFORE SERVICING.
- DO NOT OPERATE WITH COVER REMOVED.

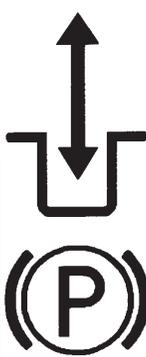


NUT
OPTIONAL SPACER(S)
BELLVILLE WASHER

BLADE BOLT INSTALLATION

- BELLVILLE WASHER MUST BE POSITIONED AS SHOWN.
- SEE OPERATORS MANUAL FOR BLADE HANDLING PROCEDURE.

2000678



2000672



SPEED
CONTROL

4120215

Before using machine for the first time, check engine and hydraulic fluid levels and lubricate all points.

TRAINING

- a) Read the operator's manual carefully. All rotary grass cutters are potentially dangerous. No person should operate the machine unless they are familiar with the controls and the proper use of the machine.
- b) Never allow children or people unfamiliar with these instructions to use the mower. Local regulations may restrict the age of the operator.
- c) Keep the area of operation clear of all persons, particularly small children, and pets.
- d) Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.



PREPARATION

- a) Do not operate the equipment when barefoot or wearing open sandals. Always wear substantial footwear and long trousers.
- b) Wear hearing protection.
- c) Thoroughly inspect the area where the equipment is to be used and remove rocks, toys, wire and other debris that may be picked up and thrown by the machine.
- d) Gasoline is highly flammable.
 - Store gasoline only in a container specifically designed for gasoline storage in a cool, dry place away from sparks and open flame.
 - When refueling or checking fuel level:
 - Stop engine. Allow to cool.
 - Refuel outdoors only.
 - Do not smoke.
 - Use a funnel. Do not overfill. Clean up spills and move machine away from spills before starting.
 - Replace caps tightly.
- e) Replace faulty mufflers.
- f) Before using, always visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts.
- g) On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
- h) Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine (motor).
- i) Never attempt to make adjustments while the engine (motor) is running.
- j) Never operate the equipment in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk, never run.



OPERATION

- a) Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- b) Mow only in daylight or in good artificial light.
- c) Always be sure of your footing on slopes.
- d) Walk, never run.
- e) With walk behind machines, mow across the slopes, not up and down.
- f) Exercise extreme caution when changing direction on slopes.
- g) Do not mow excessively steep slopes.
- h) Use extreme caution when reversing or pulling the mower towards you. Be sure the area behind is clear.
- i) Stop the blades if the mower has to be tilted for transportation, when crossing surfaces other than grass and when transporting the mower to and from the area to be mowed.
- j) Never operate the mower without proper guards, plates, grass catcher or other safety protective devices in place.
- k) Do not change the engine governor settings or overspeed the engine.
- l) Disengage all blades and drive clutches before starting the engine.
- m) Start the engine or switch on the motor carefully according to instructions and with feet well away from the blades.
- n) Do not start the engine when standing in front of the discharge chute.
- o) Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times.
- p) Never pick up or carry a mower while the engine is running.
- q) Stop the engine, wait for the blades to come to a complete stop, and disconnect the spark plug wire:
 - before clearing blockages or unclogging chute.
 - before checking, cleaning or working on the mower.
 - after striking a foreign object. Inspect the mower for damage and make repairs before restarting and operating the mower.
 - if mower starts to vibrate abnormally (check immediately for the cause). Vibration is generally a warning of trouble.
- r) Stop the engine:
 - whenever you leave the mower.
 - before refuelling.
- s) Shut the engine (motor) off and wait until the blades come to a complete stop before removing the grass catcher or unclogging chute.
- t) Reduce the throttle setting during engine shut down and, the engine is provided with a shut-off valve, turn the fuel off at the conclusion of mowing.
- u) Go slow when using a trailing seat.
- v) Keep washout ports and other mower-housing service openings closed when mowing.
- x) Do not engage PTO at full throttle. Throttle midway between idle and highest possible engine speed.
- y) Do not start the cutting blades until you are ready to start mowing.
- z) Do not carry passengers.
- aa) Do not operate where flying debris may injure people or damage property. Keep people and pets at a safe distance.
- ab) Do not use if there are any doubts about safety.
- ac) Keep labels, guards and shields in place. Replace operators manual if lost or damaged.
- ad) Obey safety instructions. Failure to do so may cause injury to yourself or others.
- ae) Do not defeat interlocks. Check operation daily.
- af) Do not allow children, unskilled or untrained persons to operate machine.



OPERATING ON SLOPES

USE EXTRA CARE WHEN WORKING ON SLOPES

- With walk behind machines, mow across slopes, **not** up and down. With ride-on machines, mow up and down slopes, **not** across except for zero turn machines. Zero turn machines should mow across slopes.
- Be alert to dips and rises which change the general slope. Watch for holes, rocks and roots in the terrain and other hidden hazards. Keep away from drop offs. Avoid ground conditions which will cause the machine to slide.
- If the operator is uncomfortable or unsure of the machines stability, operation on these slopes should cease immediately.
- The ultimate responsibility for safe operation on slopes, rests with the operator.
- Use lower speeds and exercise extreme caution on slopes and especially in sharp turns to prevent tipping and loss of control. Use extra caution when changing direction on slopes.



LEAVING THE DRIVING POSITION

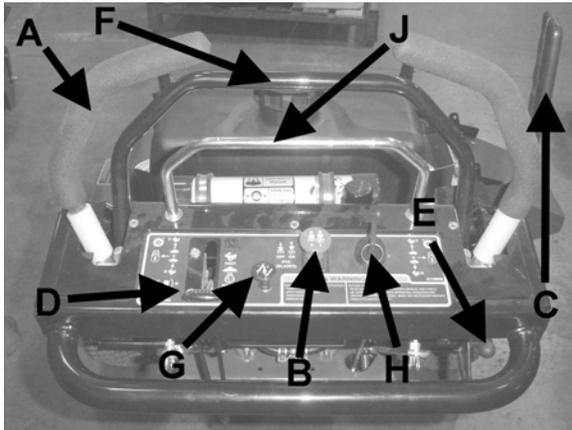
Park the machine on level ground. Before leaving the driving position, stop the engine, make sure all moving parts are stationary and that the traction control levers are in the neutral position. Apply parking brake.

MAINTENANCE AND ADJUSTMENTS

- Disconnect spark plug wire(s) before doing any maintenance.
- Particular care must be taken when adjusting the carburetor while the engine is running. Keep hands and feet clear. Shut off PTO.
- When working underneath lifted parts or machines, make sure adequate support is provided.
- Do not dismantle the machine without releasing or restraining forces which can cause parts to move suddenly.
- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Check the grass catcher frequently for wear and deterioration.
- Replace worn or damaged parts for safety.

STORAGE

- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the fire hazard, keep the engine, muffler, battery compartment and gasoline storage area free of grass, leaves or excessive grease.
- If the fuel tank has to be drained, this should be done outdoors.
- Use only replacement parts supplied by the original manufacturer.



CONTROL LEVERS (A)

The control levers must be in the neutral position and the blades must be off for the engine to start. The control levers must be held in for PTO operation. If the PTO switch is on, and the control levers are released, the engine will kill.

The neutral detents in the control panel provide a neutral position when there is no operator input.

To release: pull the control levers inward enough to clear the detents.

The control levers have **six** functions:

1. To provide a neutral position to stop the machine or to start the engine.
2. To engage the drive to wheels: gradually move the control levers to the speed set by the speed control and throttle.
3. To stop: release the levers.
4. To steer the unit: to steer the machine to the left, reduce the drive to the L.H. wheel by pulling back on the L.H. control lever. To steer to the right, reduce the drive to the R.H. wheel by pulling back on the R.H. control lever. Pulling a control lever back past neutral will cause that wheel to back up.
5. To back up: pull the levers back equally past neutral. This may be done any time the engine is running, allowing instant forward/reverse operation and zero turning with one wheel driving forward and one wheel driving backward. Releasing the control lever from reverse automatically returns the machine to neutral.
6. To sense operator presence.

PTO SWITCH (B)

- DO NOT START CUTTING BLADES UNTIL READY TO START MOWING.
- **DO NOT ENGAGE PTO AT FULL THROTTLE. SET ENGINE SPEED MIDWAY BETWEEN HIGH IDLE AND LOW IDLE FOR ENGAGEMENT.**
- Disengage drive to cutting blades whenever you stop or leave the operators position.
- Shut off engine and remove spark plug wire before making adjustments or unplugging mower.
- The drive to the cutters is engaged when the PTO switch is pulled up toward the operator (**ON**) and disengaged by pushing the PTO switch back down (**OFF**).

PARKING BRAKE (C)

Pull lever back to engage parking brake. Push lever forward to disengage parking brake.

THROTTLE CONTROL (D)

By moving the throttle lever forward towards the engine, the engine speed is increased until the maximum governed rpm is obtained. By moving the throttle lever fully back, the engine will idle down.

CHOKE (G)

Pull to close choke. When cold starting, push to open choke.

SPEED ADJUSTMENT KNOB (E)

The speed adjustment knob on the side of the control panel sets the maximum forward speed. The further the stop bar (**F**) is moved forward, the faster the maximum forward speed. Speed changes can be made on the go.

KEYSWITCH (H)

Recoil models: Turn to right to allow engine to be started. Turn key to left to stop engine.

Electric start models: Turn key to right and hold until machine starts. When machine starts, let go of key and it will return to run position. Turn key to left to stop engine.

REVERSE ASSIST BRACKET (J)

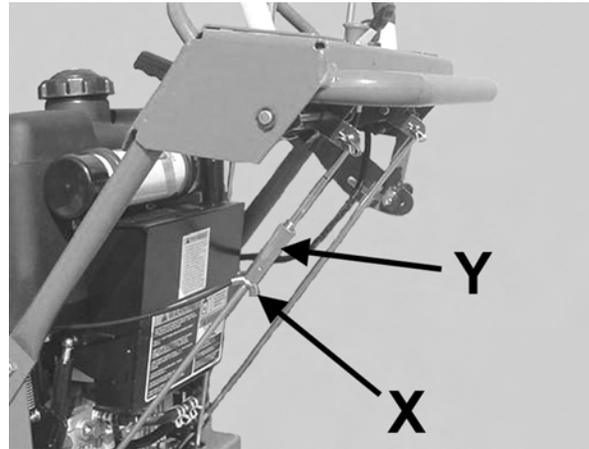
Used to steady hands while backing up.

TRACKING ADJUSTMENT TURNBUCKLE (L)

The tracking adjustment turnbuckle provides tracking control to correct for any hydraulic circuit or linkage differences from one side to the other.

To correct tracking:

1. Loosen wingnut **X**.
2. Rotate the tracking adjustment turnbuckle **Y** to the right to make the machine track to the right.
3. Rotate the tracking adjustment turnbuckle **YX** to the left to make the machine track to the left.
4. Tighten wingnut **X**.



BEFORE STARTING THE ENGINE:

- Disengage cutterdeck drive.
 - Make sure control levers are in neutral.
 - Make sure parking brake is on.
1. Check the engine oil level and add if necessary. Open the fuel valve under the fuel tank. Set the control levers in the neutral position and the blade control lever to the off position.
 2. For cold starts, pull choke knob to choke.
 3. Pull the rope operated recoil starter firmly, or turn the key to operate electric starter (if so equipped) to start the engine. Allow the rope to recoil slowly before releasing the handle.
 4. As soon as the engine starts, gradually push in until the engine will run with no choke at all.

OPERATING THE MACHINE

- Practice at slow engine and speed selector speeds with the blade control disengaged until completely familiar with the controls.
- For normal cutting the throttle should be set at the full open position. By using the stop bar 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.
- For maneuvering where the stop bar does not give the required speed, partial throttle may be used.
- Steering is controlled by the operation of the control levers. To steer the machine to the left, reduce the drive to the L.H. wheel by pulling back on the L.H. control lever. To steer to the right, reduce the drive to the R.H. wheel by pulling back on the R.H. control lever. Pulling a control lever back past neutral will cause that wheel to back up.
- To change speeds, loosen the speed adjustment knob, then move speed control bar to desired speed.

FUEL TANK

 **WARNING** GASOLINE IS HIGHLY FLAMMABLE!

- Fill fuel tank with good quality, clean, regular unleaded gasoline.
- Do not use hi-test fuel.
- Do not smoke.
- Do not spill fuel.
- Fill outdoors.
- Do not overfill. Fill to 1" below bottom of filler neck to allow room for expansion.
- USE A FUNNEL TO FILL GAS TANK

DRIVING THE MACHINE IN TRANSPORT

1. With the PTO switch disengaged, and the operator present controls depressed, move the speed selector bar to give the required forward speed.
2. Gradually engage both control levers together.

NOTE: Pushing forward on only one control lever will cause the machine to turn to one side. Pulling back, past neutral, on only one control lever will cause the machine to turn to one side in reverse.

CUTTING WITH THE MACHINE

1. Make sure the discharge chute is in position or a grass collector is correctly fitted before starting to cut.
 2. Move one of the control levers out of the neutral detent position.
 3. Turn blades on with the PTO switch.
 4. Do not start blades at full throttle. Use engine speed midway between high idle and low idle.
 5. Move the speed selector lever to give the required cutting speed. Gradually engage both control levers together.
 6. Operate so that clippings are discharged onto the area that has been cut. This will result in a more even distribution of clippings and more uniform cutting.
- 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.

TO STOP THE MACHINE

1. Move control levers to neutral position.
2. Disengage the cutterdeck with PTO switch.
3. Release control levers.
4. Close the throttle to slow the engine, turn engine off with the keyswitch.

NOTE: When the machine is transported by truck or trailer or left to stand unused, the fuel valve (under the fuel tank) should be turned off. This avoids the possibility of flooding should any dirt get under the carburetor float needle. Leaving the fuel valve open can allow severe flooding which may ruin the engine by diluting the oil.

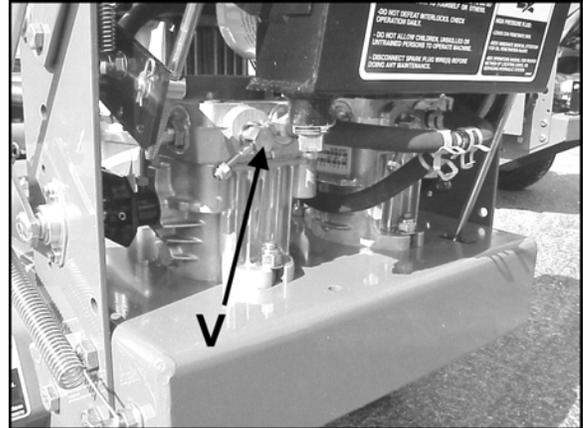
WARNING

PREVENT INJURY OR PROPERTY DAMAGE FROM THROWN OBJECTS OR FROM CONTACT WITH THE BLADE

- Keep body parts away from blades.
- Stop engine and let blades stop before removing grass collector or unclogging.
- Keep area clear of people and pets.
- Remove objects blade may strike and throw.
- Stop blades to cross gravel areas.
- Do not operate without chute, mulcher or entire grass collector in place.

PUSHING THE MACHINE WITH THE ENGINE STOPPED:

Open dump valve **M** on each pump by turning counter clockwise two revolutions. Move the machine and close dump valve **M** by turning clockwise until valve is firmly seated.



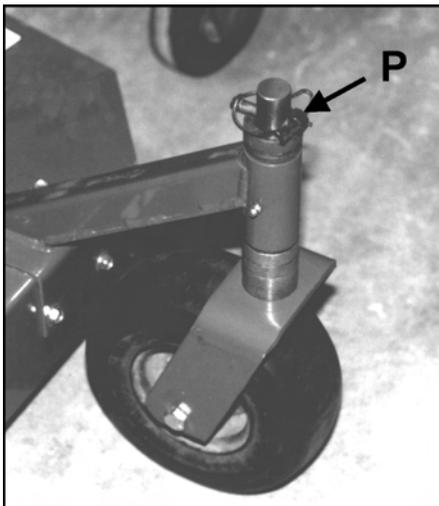
Make all adjustments with the engine shut off, spark plug wire disconnected and mower drive disengaged.

FIXED CUTTERDECK HEIGHT OF CUT

The cutting height is determined by the position of the blades in relation to the wheels. Variation to this height may be made at THREE points. (See Height of Cut Chart below).

1. THE CASTER WHEELS

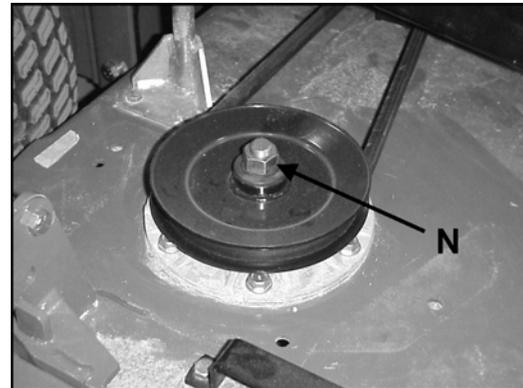
1. Remove the quick pin **P** from the top of the caster wheel pivot spindle.
2. Place required spacers above or below wheel support bracket and replace the quick pin **P**.



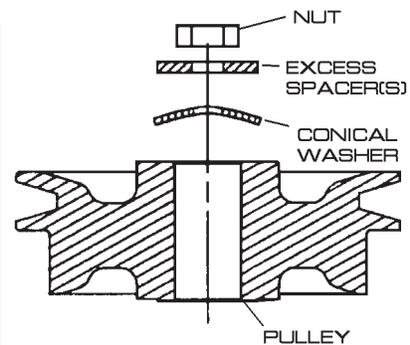
2. CUTTERDECK BLADE SPINDLES

NOTE: See MAINTENANCE section of the Setup, Parts & Maintenance manual for blade removal and replacement procedures.

1. Remove belt cover.
2. Remove nut **N** from the top of the cutter spindle bolt.
3. Withdraw the cutterdeck spindle bolt (from bottom) complete with washer, blade and spacers
4. Place the required number of spacers (no more than 2) on the cutterdeck spindle bolt below the cutterdeck, between blade and spindle shaft.
5. Fit any excess spacers on the cutterdeck spindle bolt above the deck, between the conical washer and the nut. Replace nut and tighten to 70 ft-lbs.



CUTTING HEIGHT		A	B	C	UPPER BOLT POSITION	NUMBER OF SPACERS BETWEEN SPINDLE AND BLADE (1/4" THICK)
IN	MM					
1.375	35	1	1	0	5	2
1.625	41	1	1	0	5	1
1.875	48	1	1	0	5	0
2.125	54	1	0	2	4	2
2.375	60	1	0	2	4	1
2.625	67	1	0	2	4	0
2.875	73	1	1	3	3	2
3.125	79	1	1	3	3	1
3.375	86	1	1	3	3	0
3.625	92	1	0	5	2	2
3.875	98	1	0	5	2	1
4.125	105	1	0	5	2	0
4.375	111	1	1	6	1	2
4.625	118	1	1	6	1	1

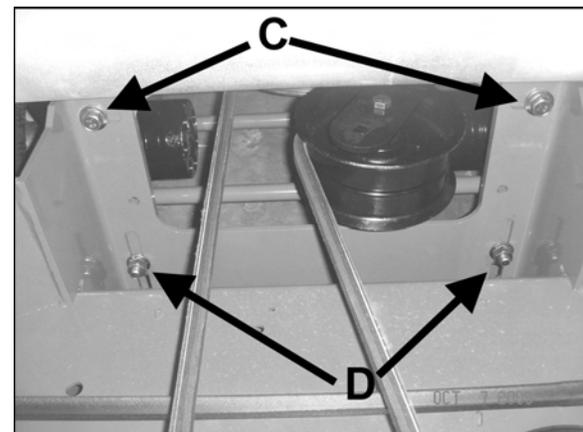
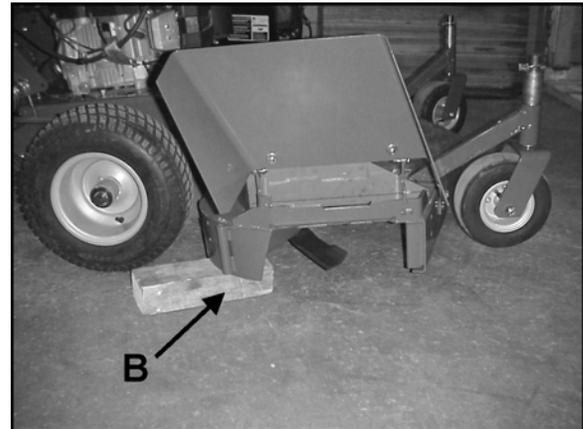


SETTING CUTTERDECK HEIGHT CUTTERDECK POSITION

1. Support rear of power unit.
2. Place blocks under both outside edges of cutterdeck at **B**. See Block chart below.

CUTTING HEIGHT	HOLE POSITION ON ENGINE DECK*	BLOCK HEIGHT AT REAR OF DECK (B)
1.375" - 1.625"	5	1.25"
1.875" - 2.375"	4	2.00"
2.625" - 3.125"	3	2.75"
3.375" - 3.875"	2	3.50"
4.125" - 4.625"	1	4.25"

* Position 1 is the highest hole on the engine deck.

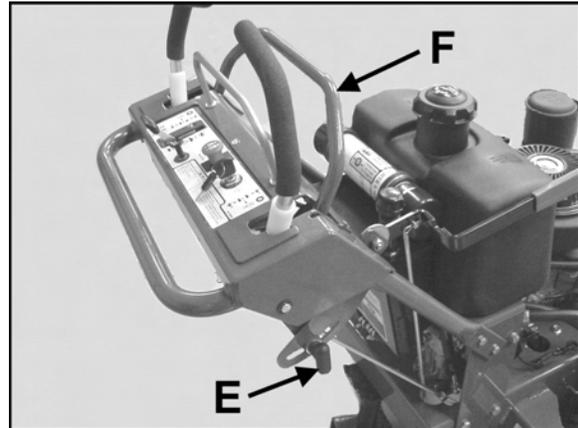


3. Remove (2) upper deck mounting bolts **C**.
4. Loosen (2) lower deck mounting bolts **D** several turns. Loosen enough to allow easy movement of the rear of cutterdeck. Allow deck to set down on blocks or if deck is being raised, allow the front casters to sit on the floor.
5. Reinstall upper deck mounting bolts **C** according to the chart for the cut height desired.
6. Tighten all bolts and reinstall belt cover.
7. Remove rear support and blocks under the deck.
8. Your side discharge mower will give you the best cut if the very tip of the front blade is 1/8" to 1/4" lower than the rear of the rear blade.

NOTE: Make all adjustments with the engine shut off, spark plug wire disconnected and mower drive disengaged.

Speed Control Bar

The speed control bar **F** is held by friction pads. If the setting will not hold, tighten knob **E** to increase friction on speed control bar **F**.



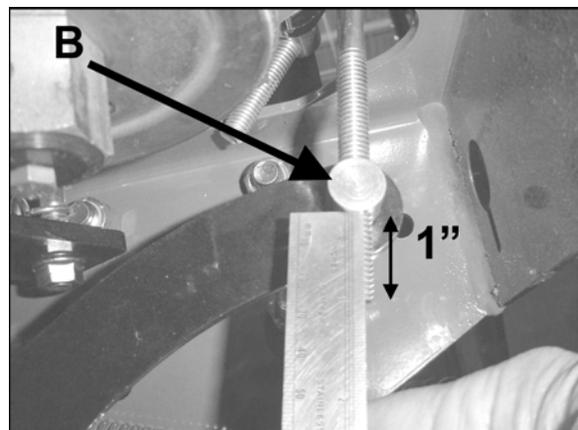
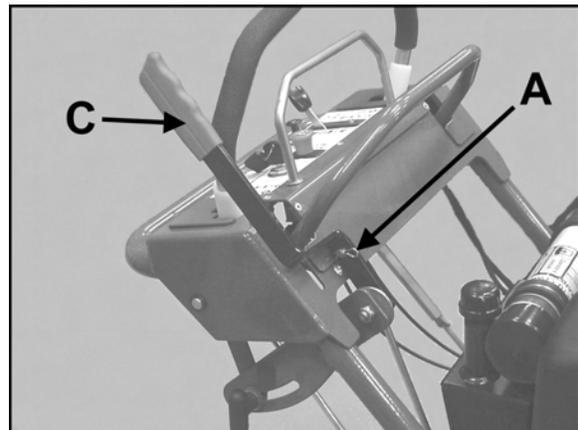
PARKING BRAKE - Apply parking brakes and open the bypass valves on the hydraulic pumps. Try to push the machine forward. If wheels rotate, adjust brakes as follows.

TO ADJUST:

1. Remove the hairpin cotter **A** from the brake rod at the brake lever **C** as shown.
2. Slide the brake rod out of the brake lever and turn the rod in or out of the brake swivel **B** as needed.

NOTE: The brake should initially be adjusted so that the brake rod extends through swivel **B** 1-1/4" as shown. If more brake pressure is required adjust as necessary.

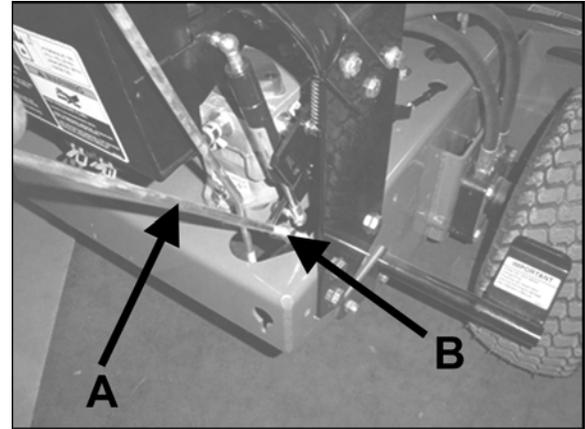
3. Reassemble brake rod to the brake lever using hairpin **A** removed in Step 1.
4. Apply parking brakes and try to push the machine forward. If wheels rotate, readjust brakes.
5. Close bypass valves on the hydraulic pumps.



TRACTION DRIVE HYDROSTAT ADJUSTMENTS: The following adjustments must be done in order.

STEP 1 - Set Neutral

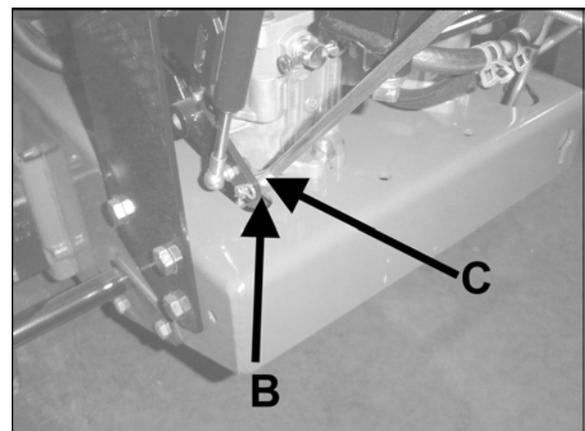
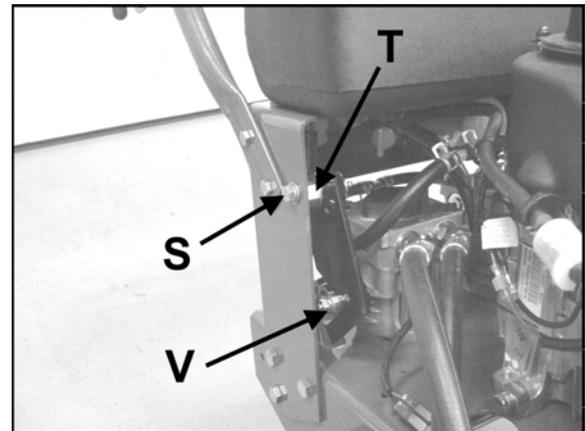
Neutral is set at the factory. If it should require adjustment, raise the wheels off the ground by setting the machine on jackstands or blocks. Disconnect the control rod **A** at each pump end. Loosen bolt **S** securing the neutral plate eccentric shaft just enough to turn the shaft. Start the engine and run at low speed. Turn eccentric shaft **T** to raise or lower the point at which the follower bearing is held in the center of the "V" until the wheels stop turning. Tighten the eccentric shaft bolt. Increase the throttle setting and check the adjustment. Readjust if necessary. Shut the engine off before proceeding to step 2.



STEP 2 - Adjust Control Rods

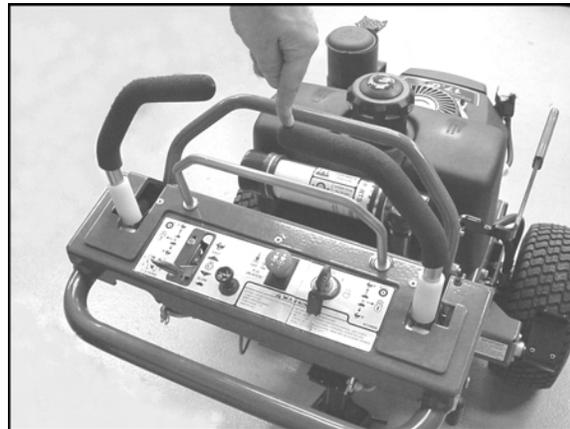
First adjust neutral, as outlined in Step 1. Set control levers to neutral. Adjust swivels **B** on lower ends of control rods **A** so they just go into the holes on the pump arm control plates.

After adjusting swivel **B** on left side, tighten jam nut **C**.



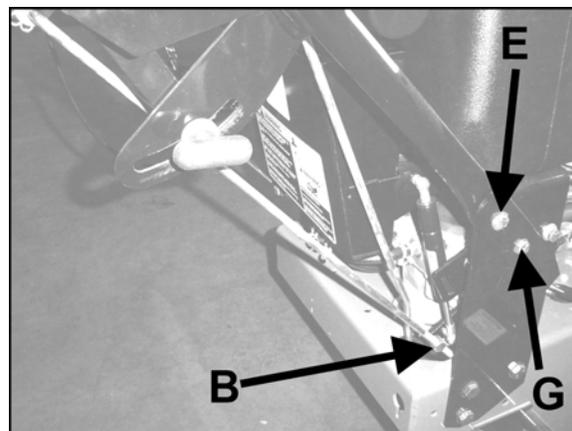
CONTROL LEVERS

The control levers are controlled by spring tension, and require no adjustment.



HANDLE BAR HEIGHT ADJUSTMENT

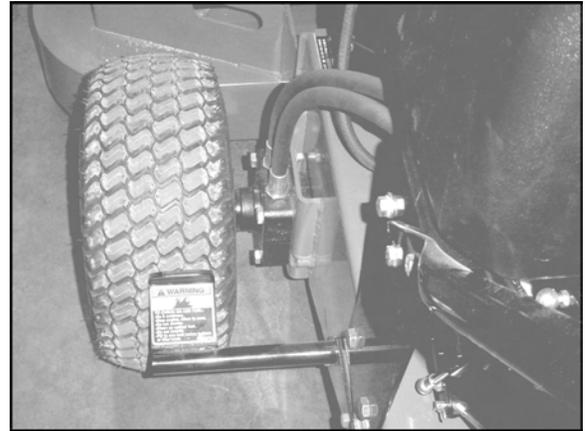
To adjust handle bar height: Remove swivel **B** at each pump control arm and the parking brake rod. Remove bolts **G** and loosen bolts **E** on each side of handlebars. Raise or lower as required. Reposition upper handle and reinsert bolts at location **G** into appropriate hole in lower handle and tighten. Readjust control rods and swivels and reinstall. Readjust parking brake and rod.



TRACK WIDTH ADJUSTMENT

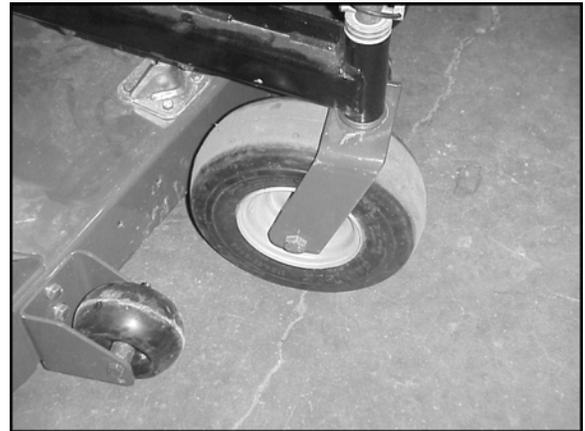
The track width originally set from the factory can be increased an additional 3-1/4" overall by performing the following steps.

1. Loosen wheel lug nuts on both drive tires.
2. Raise rear of unit so that drive tires are off the ground. Support the unit with jack stands.
3. Remove wheel lug nuts and wheels. Reattach wheels with the tires rotated so the wheel offset is the opposite of when they were previously installed. Install and tighten lugnuts until they are snug
4. Lower machine off of the jack stands and torque wheel lug nuts to 85 ft-lbs.



TIRE PRESSURE ADJUSTMENT

Tire pressures should be maintained at 14 psi (1.0 kg/cm²).



PTO BELT

1. Rotate idler arm using a 3/8" ratchet or breaker bar and remove belt.



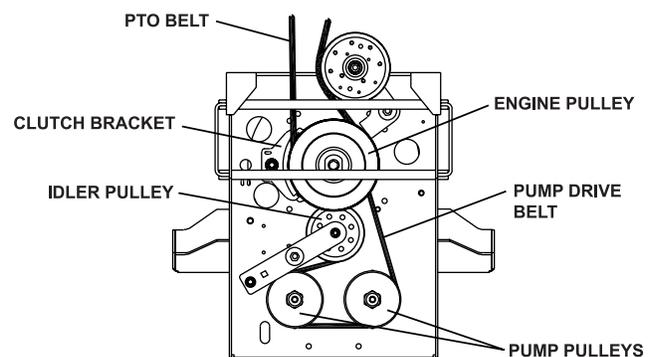
CUTTERDECK BELT

1. Remove PTO belt.
2. Rotate idler arm using a 3/8" ratchet or breaker bar and remove belt.
3. Replace in the reverse order.



PUMP-DRIVE BELT

1. Remove PTO belt from the engine clutch.
2. Disconnect the clutch wire harness.
3. Unbolt clutch bracket from clutch and rotate the clutch to allow enough clearance to remove the clutch bracket.
4. Rotate idler arm using a 3/8" ratchet or breaker bar inserted into the square hole in the idler arm.
5. Remove pump-drive belt.
6. Replace by following steps in reverse order.



View under engine deck

POWER UNITS

CONTROLS:

Throttle, choke, PTO switch, speed adjustment knob, key switch, control levers (1 per wheel), parking brake.

GROUND SPEED:

0-6 mph Forward
0-2 mph Reverse

DRIVE TIRES:

16 x 7.50 Turf Saver

BRAKES:

Hydrostat provides dynamic braking
Parking brake: Mechanical on tire surface

TRANSMISSION DRIVE SYSTEM:

Belt from engine to hydrostat input shafts, hydrostatic drive to wheels.

TURNING RADIUS:

Inside wheel 0".

HYDRAULIC RESERVOIR CAPACITY:

1.2 Gallons

POWER STEERING:

Independently controlled drive wheels.

WEIGHT:

933330 582.5 lbs. (264.2 kg)
934330 605.0 lbs. (274.4 kg)
935330 596.0 lbs. (270.3 kg)

CUTTERDECKS

CONSTRUCTION:

10 and 7 gauge steel deck welded single unit, baffled for high velocity air flow, large discharge opening with chute guard deflector.

SPINDLES:

1" spindle shaft on maintenance free sealed ball bearings in precision machined housing.

CASTERS:

9 x 3.50-4 pneumatic (fixed decks only)
11 x 4.00-5 pneumatic (floating decks only)

HEIGHT OF CUT:

Adjustable from 1-3/8" to 4-5/8" (3.5-11.7 cm)

BLADE DRIVE:

Industrial b section heavy duty v-belt drive (not twisted) from crankshaft to Cutterdeck with 5" steel idlers on sealed ball bearings. PTO switch on control panel controls engagement of blades..

BLADE MATERIAL:

1566 alloy steel, austempered and heat treated.

ACCESSORIES AVAILABLE

Standup Sulky
Jumbo Grasscatcher
Eco-Plate

ENGINES			
MODEL NUMBER	933331	933332	934333
MANUFACTURER	KAWASAKI	KAWASAKI	KAWASAKI
MODEL	FS481V-AS04R	FS541BV-AS05R	FS600V-AS07R
CYLINDERS	2	2	2
COOLING	Air	Air	Air
FUEL	Gasoline	Gasoline	Gasoline
BORE/STROKE	2.9" X 2.8" (73 X 72mm)	2.9" X 2.8" (73 X 72mm)	2.9" X 2.8" (73 X 72mm)
DISPLACEMENT	36.8 ci (603 cc)	36.8 ci (603 cc)	36.8 ci (603 cc)
COMPRESSION	8.1:1	8.1:1	8.1:1
OUTPUT POWER	16 hp (11.9 kw) @ 3600 rpm	18 hp (13.4 kw) @ 3600 rpm	20 hp (14.9 kw) @ 3600 rpm
OUTPUT TORQUE	32.1 ft-lb (43.5 N•m) @1800 rpm	33.9 ft-lb (46.0 N•m) @2200 rpm	35.5 ft-lb (48.1 N•m) @2400 rpm
OIL CAPACITY	1.8 qt	1.8 qt	1.8 qt
LUBRICATION	Full Pressure	Full Pressure	Full Pressure
CYLINDER BLOCK	Aluminum with cast iron sleeve	Aluminum with cast iron sleeve	Aluminum with cast iron sleeve
CYLINDER HEAD	Aluminum	Aluminum	Aluminum
GOVERNOR	Mechanical	Mechanical	Mechanical
AIR CLEANER	Ducted Dual Element	Ducted Dual Element	Ducted Dual Element
IGNITION SYSTEM	Electronic	Electronic	Electronic
CHARGING SYSTEM	CLUTCH COIL	CLUTCH COIL	CLUTCH COIL
BATTERY	None	None	None
FUEL CAPACITY	4.2 gal (16.2 l)	4.2 gal (16.2 l)	4.2 gal (16.2 l)
FUEL TANK	Polyethylene	Polyethylene	Polyethylene
FUEL CONSUMPTION @ MAX LOAD/SPEED	1.25 gal/hr 4.74 l/hr	1.35 gal/hr 5.11 l/hr	1.44 gal/hr (5.45 l/hr)

SIDE DISCHARGE DECKS			
MODEL NUMBER	933331	934332	935333
WIDTH (CHUTE DOWN)	47" (1194 mm)	58.5" (1486 mm)	64" (1854 mm)
WIDTH (CHUTE UP)	36.5" (927 mm)	48" (1219 mm)	55.75" (1416 mm)
WIDTH OF CUT	35.25" (895 mm)	47.25" (1200 mm)	52.5" (1336 mm)
NUMBER OF BLADES	2	3	3
BLADE LENGTH	18" (457 mm)	16.25" (413 mm)	18" (457 mm)
BLADE TYPE	High Lift (Low Lift option)	High Lift (Low Lift option)	High Lift (Low Lift option)
BLADE THICKNESS	0.205" (5.2 mm)	0.205" (5.2 mm)	0.205" (5.2 mm)
TIP SPEED	16965 ft/min (5171 m/min)	15315 ft/min (4668 m/min)	16965 ft/min (5171 m/min)
DAILY PRODUCTION @ 5 mph (8 km/hr)	14.2 acres/8hrs (5.74 ha/8hrs)	19.0 acres/8hrs (7.4 ha/8 hrs)	21.1 acres/8hrs (8.6 ha/8hrs)
SHIPPING WEIGHT	236 lbs (107 kg)	270 lbs (122 kg)	326 lbs (148 kg)

SCHILLER GROUNDS CARE, INC.
ONE BOB-CAT LANE
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JOHNSON CREEK, WI 53038
920-699-2000
www.schillergc.com



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