SOD CUTTER

ORIGINAL LANGUAGE INSTRUCTIONS

SC-18HD

OPERATORS MANUAL

MAN C100634
Rev. B

PARTS MANUAL C100633

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See Parts Manual for service parts call out.

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 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.

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

SERIAL NUMBER: This number appears only on your machine. It contains the model number followed consecutively by the serial number. Use this number when ordering parts or seeking warranty information.

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.

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.

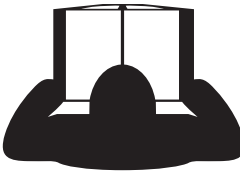
⚠WARNING

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

Machine Preparation

Operator preparation and training
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 factory representative for clarification.



- Become familiar with the safe operation of the equipment, operator controls and safety signs. Be prepared to stop the engine 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 safety goggles or safety glasses with side shields when operating. Do not operate barefoot or wearing open sandals. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Wear hearing protection.
- Wear safety glasses.
- Never allow underage children, unskilled or improperly trained people to operate this equipment. Local regulations can restrict the age of the operator.
- 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.

Site preparation and circumstances

- Evaluate the terrain to determine how to safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Clear the area to be cut of objects such as rocks, toys, wire or other debris that may be thrown or get tangled in the sod cutter.
- Identify and mark objects to be avoided such as sprinkler heads, stakes, water valves, etc.
- 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.
- Cut sod only in daylight or in good artificial light.

Machine Preparation

- 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 blade and blade bolts for wear or damage. Replace worn or damaged blades and bolts.
- Verify that machine and attachments, if any, are in good operating condition.
- Do not engage blade until ready to cut sod.

OPERATING SAFELY

In General

- Use extra care when loading or unloading the machine into a trailer or truck.
- Use caution when making turns and crossing roads and sidewalks. Stop blade when not cutting sod.
- Do not run the engine in an enclosed area where dangerous carbon monoxide fumes can collect.
- Never leave a machine unattended. Always turn off blade and stop engine when leaving the operator position. When leaving the machine be sure the wheel drive clutch is engaged.
- Use extreme caution when reversing or pulling machine towards you.

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.
- 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.
- Clean grass and debris from cutting units, drives, mufflers and engine to help prevent fires.

Starting

- Start according to instructions in this manual or on the machine.
- Before attempting to start the engine, make sure the master clutch is disengaged.
- When starting the engine, make sure hands and feet are clear of the blade.
- Do not change engine governor settings or overspeed the engine. Operating the engine at excessive speed can increase the hazard of personal injury.

Operating On Slopes

Use Extra Care When Working On Slopes

- Do not operate on slopes if uneasy or uncertain. Ultimate responsibility for safe operation on slopes rests with the operator.
- Do not operate on steep slopes.
- Keep all movement on slopes slow and gradual.
- Do not cut sod near drop-offs, ditches or embankments. The machine could suddenly turn over if a wheel runs over the edge or an edge caves in.
- Do not turn on slopes unless necessary, and then turn slowly and downhill when possible.
- Be sure of your footing on slopes.

Interrupting Operation

- Before leaving the operator's position:
  - — Park on level ground.
  - — Disengage the master clutch.
  - — Shut off the engine.
- Disengage the master clutch and wait until the blade stops moving then disengage the blade clutch:.
  - — when not cutting sod;
  - — for transport;
  - — when crossing surfaces other than grass.
- Stop the engine, disengage the master clutch and wait until the blade stops moving:
  - — before refueling;
  - — before making blade adjustment.
- Stop the engine, disengage the master clutch, and disconnect the spark plug wire(s):
  - — before clearing blockages;
  - — 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: shut off machine immediately. 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 blade 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 shut-down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of operation.

MAINTENANCE SAFETY

In general

- Maintain machine according to manufacturer's schedule and instructions for maximum safety and best results.
- Park machine on level ground.
- Never allow untrained personnel to service machine.
- Guards should only be removed by qualified maintenance technician for maintenance/service. Replace when work is complete.
- Adjust or repair only after the engine has been stopped and the blade has stopped moving.
- Disconnect spark plug wire(s) before doing any maintenance.
- Replace parts if worn, damaged or faulty. For best results, always replace with parts recommended by the manufacturer.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support, e.g. jack stands for lifted machine or parts if working beneath.
- Do not put hands or feet near or under rotating parts.
- Clean up spilled oil or fuel thoroughly.
- Replace faulty mufflers.
- To reduce fire hazards, keep the engine, muffler, and fuel storage area free of grass, leaves, debris buildup or grease.

Blades

The sod cutter blade is sharp and can cut. Use extra caution when handling. Remove obstructions with care. Wrap the blade or wear gloves.

- Only replace blade. Never straighten or weld.
- Keep other persons away from blades.
-
-

Fuel

- Petrol (gasoline) and diesel fuels are flammable; petrol (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.
  - Replace caps on fuel containers and tanks securely.

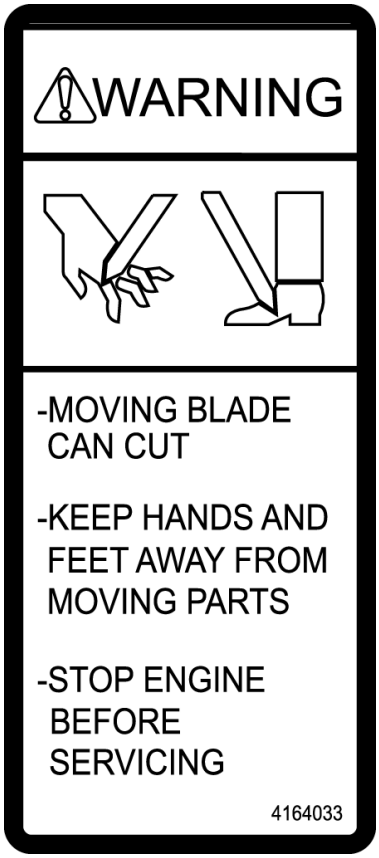
Sparks from static electricity can start fires or cause explosions. Flowing fuel can generate static electricity. To prevent static electricity sparks:

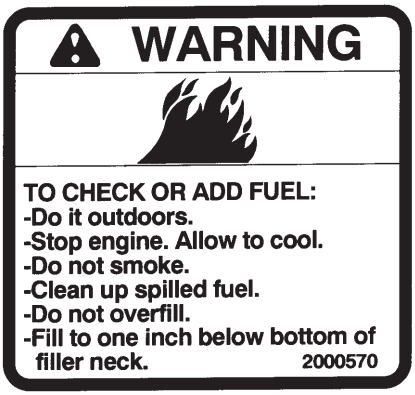
- Keep fuel containers electrically grounded. Do not fill containers in a vehicle or on a truck or trailer bed with a plastic liner. Fill containers on the ground away from the vehicle.
- When practical, remove petrol (gas) powered equipment from the truck or trailer and refuel it on the ground. If equipment 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.

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.
- 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 (petrol) storage area free of grass, leaves and excessive grease to reduce fire hazard.
- Clean grass and debris from cutting units, drives, mufflers and engine to help prevent fires.

WARNING
Operation of This Equipment May Create Sparks That Can Start Fires Around Dry Vegetation. A Spark Arrestor May be Required. The Operator Should Contact Local Fire Agencies For Laws or Regulations Relating to Fire Prevention Requirements.
--This label meets California 4442.6
100504





LUBRICATE CHAIN DAILY, ALSO CHECK TENSION AND ADJUST WHEN NEEDED.

MAINTENANCE / STORAGE

Storage Instructions

⚠WARNING

To prevent possible explosion or ignition of vaporized fuel, do not store equipment with fuel in tank or carburetor in enclosure with open flame (for example, a furnace or water heater pilot light).

Daily Storage

1. Check engine oil level and air filter element daily.
2. Check oil level in gear case.
3. Close fuel valve at bottom of fuel tank.
4. Clean cutting blade (grass, dirt, etc.).

Extended Storage

Before the equipment is put into storage for any period exceeding 30 days:

1. Drain all fuel from fuel tank and lines (use a hose or fuel line, routed from fuel tank shut-off to proper container).
2. Start engine and run until all fuel is used from the carburetor float bowl.
3. While engine is warm, check the transmission oil and refill with the proper weight of oil corresponding to the season when the equipment will next be used.
4. Remove the spark plug and squirt a small quantity of engine oil into the cylinder. Turn the engine over a few times to distribute the oil.
5. Lubricate all lubrication fittings.
6. Clean and oil cutting blade to prevent rust.

To put equipment into operation after an extended storage:

1. Fill fuel tank with clean fresh fuel.
2. Check crankcase oil level, and start engine.
3. Check fuel system for fuel leaks.

INTRODUCTION

Thank You

Thank you for purchasing the Classen Model SC-18HD

Read This Manual

Read this manual carefully to learn how to operate sod cutter correctly. Failure to do so could result in personal injury or equipment damage.

This manual should be considered a permanent part of your sod cutter and should remain with it if you sell it.

Warranty

Refer to back page.

Measurements

U.S. units of measure are used in this manual.

Serial Numbers

Write frame and engine serial numbers, plus model numbers in “Owners Record” section below. Your dealer needs these numbers when you order parts. The serial number is located on a sticker on the center section of the frame.

Directions

“Right Hand” and “Left Hand” sides of the sod cutter are determined by facing the back of the sod cutter as you would operate the machine.

OWNER’S RECORD

Date Purchased _____

Sod Cutter Model Number _____

Sod Cutter Serial Number _____

Engine Model Number _____

Engine Serial Number _____

PRE-DELIVERY CHECK LIST

Check the following before you deliver the sod cutter to the customer.

1. Guards and shields fastened in place.
2. Decals fastened and legible.
3. Tire pressure.
4. Gas lever on engine turned on.
5. All eight lubrication points greased.
6. 2:1 gearbox oil level.
7. Engine oil level.
8. Air cleaner.
9. Touch up scratches.
10. Chain tight.
11. Engine belt tight.
12. Levers working properly.
13. All controls.
14. Add fuel, start engine, test run.

DATE SET UP _____/_____/_____

DELIVERY CHECK LIST

Review the operators manual with the customer. Explain the following:

1. Classen Mfg., Inc. warranty.
2. Safe operation and service.
3. How to use controls.
4. Operating the machine correctly.
5. Transporting the sod cutter.
6. Correct fuel and lubricants.
7. Daily and periodic inspections.
8. Changing oil after break-in period.
9. Servicing the sod cutter regularly and correctly.
10. Classen Mfg., Inc. parts and service.
11. Give the customer the operators manual and encourage customer to read it.

DATE DELIVERED _____/_____/_____

SIGNATURE _____

NOTES: _____

PRE-OPERATION CHECK LIST (Operator's responsibility)

- Review and follow all safety rules and safety decal instructions.
- Check that all safety decals are installed and in good condition. Replace if damaged.
- Check to make sure all shields and guards are properly installed and in good condition.
- Check that all hardware is properly installed and secured.
- 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 is necessary.
- Inspect area. Remove stones or other hard objects that might cause damage.
- Check that there are no underground utilities in work area.
- Check all lubrication points and grease as instructed in manual.
- Perform a functional check of the safety interlock system each time you operate the unit. If it doesn't work, repair before using the machine.

⚠ WARNING

ALL GUARDS MUST BE IN PLACE WHILE MACHINE IS IN OPERATION.

⚠ WARNING

KEEP HANDS AND FEET AWAY FROM MOVING PARTS.

READ SAFETY SIGNS

Carefully read and follow caution stickers.

BEFORE STARTING THE ENGINE

1. Be familiar with the controls, how each functions, and what each operates.
2. Check engine oil level. Add oil if necessary, following the engine manufacturer's recommendations. Refer to engine manual supplied with machine.
3. Open the fuel valve.
4. Fill the fuel tank with the amount and type of fuel recommended by the engine manufacturer.
5. CHOKE: For cold starts, set the throttle lever to the half-open position and move the choke to the ON position. For warm starts set the throttle to the half-open position and the choke to the OFF position.

⚠ WARNING

Petrol (gasoline) is extremely flammable and highly explosive under certain conditions. BE SURE to install fuel cap after refueling.

Fill fuel tank with good quality, clean, unleaded regular gasoline to the level recommended by the engine manufacturer.

To Check or Add Fuel:

- Use a funnel to avoid spilling.
- Do it outdoors.
- Do not smoke.
- Stop the engine; allow to cool.
- Do not overfill.
- Clean up spilled fuel.

SAFETY

Operate Safely

Carefully read this manual and operate sod cutter correctly.

Protect Children

Keep children and pets out of the area where you are cutting sod.

Avoid Tipping

Make sure you do not get too close to sharp drop-offs to avoid tipping sod cutter over.

Operate Safely On Slopes

You may cut sod any direction on slopes, however, make sure you do this carefully. Cutting on slopes can be dangerous. To avoid any accidents, make sure to leave yourself room to correct the problem if one arises. Always park your sod cutter on level ground.

Practice Safe Maintenance

Keep all machine parts in good condition and fastened in place. Fix damages immediately. Replace worn or broken parts. Whenever you work on the sod cutter, disconnect spark plug wire.

Start Engine Safely

Make sure hands and feet are out of the way of moving parts when starting engine.

⚠ WARNING

When replacement parts are required, use genuine Schiller Grounds Care, Inc. parts or parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or bystanders.

Carbon monoxide present in the exhaust is an odorless and deadly gas. Never start or run the engine inside where exhaust fumes can collect.

Provide enough fresh air to keep fumes from getting too strong. Replace any warning decal that becomes illegible immediately.

ENGINE STARTING PROCEDURES

NOTICE: There are two locations on this engine that require oil, both the crankcase and the transmission (gearbox). Running the engine or gearbox with a low oil level can cause engine damage. Refer to the engine manual for complete engine information and recommendations.

Engine Oil Level Check

1. BEFORE CHECKING ENGINE:
   - make certain the engine is level
   - the engine switch is in the OFF position
   - the sod cutter blade is NOT engaged
   - the drive wheels are disengaged.
2. Remove the filler cap/dipstick and wipe it clean.
3. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
4. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil. SAE 10W-30 is recommended for general use. Refer to engine oil recommendations in engine manual for other viscosities and information.
5. Screw in the filler cap/dipstick securely.

Transmission Oil Level Check

1. Check the transmission oil level with the engine stopped and in a level position.
2. Remove the filler cap/dipstick and wipe it clean.
3. Insert and remove the dipstick without screwing it into the filler hole. Check the oil level shown on the dipstick.
4. If the oil level is low, add oil to reach the upper limit mark on the dipstick. Use the same oil that is recommended for the engine, SAE 10W-30.
5. Screw in the filler cap/dipstick securely.

Starting Engine

1. Turn fuel cock to the “open” position.
2. Turn choke on (closed).
3. Turn ignition switch to “on”.
4. Pull recoil starter rope until engine starts.
5. After engine is warm, turn off choke (open).
6. Allow engine to run one minute before cutting sod.
7. Check engine rpm setting before operating. DO NOT exceed 3600 rpm.

Stopping Engine

1. Release finger throttle control.
2. Turn off ignition switch.

OPERATING THE SOD CUTTER

Preparation

1. Police lawn area for obstacles and debris (i.e. sprinklers, hoses, toys, etc.). Remove all items.
2. Make sure underground sprinkler heads and other hidden obstacles are marked to prevent damage.
3. Mark other areas where sod cutting will be a problem or too risky (i.e. mud, tree roots, steep hills).

Operating

1. Start the engine. CAUTION: To avoid injury, do not place your feet or other body parts under the blade while starting the engine.
2. Select the correct cutting depth desired up to 2 1/2 inches. Loosen the tee handle from the depth gauge plate, located under the height adjustment bar, (#3 on illustration) and put it to the correct height setting. Tighten the tee handle.
3. Push the wheel drive handle (#5 on illustration) and the cutter blade handle (#4 on illustration) to the “on” position toward the engine.
4. Raise the main handle upward so the front nose of the sod cutter rests on the ground.
5. Loosen the 1/2” handle nut (#2 on illustration) and lower the height adjustment bar to rest on the depth gauge. Now tighten the 1/2” handle nut securely so it will not loosen with the vibration of the machine.
6. Go to the back of the machine and lower the handle until the cutting blade rests on the ground. You are now ready to cut sod.
7. Pull the throttle to the desired operating speed by pulling the finger throttle control (#6 on illustration) toward you. Maximum engine rpm is recommended for smooth operation.

8. After cutting a short distance, stop machine by letting the finger throttle control go back to its original position. Check thickness of cut and adjust if necessary.
9. At the end of each cutting pass, lift up on the handle bar to clear the cutting blade from the sod. Retard the throttle control and turn machine around into the position for the next cut.
10. When finished cutting sod, reverse steps 6 through 3, leaving the wheel drive handle on for transportation.

⚠ WARNING

BLADE SHARPENING – Wear the appropriate personal protective equipment when sharpening blades. Use correct tools for sharpening or when servicing machine.

BLADE ANGLE (PITCH)

Under normal operating conditions, the blade angle is slight (blade bottom is flat). In extremely hard soil or when cutting with a dull blade, the blade may want to ride out of the ground. At this time, it may help to angle the blade down. A short trial run will indicate what blade angle is best. To do this, you will loosen the pitch adjustment bolt (#7 on illustration) and move it slightly toward the engine, then retighten bolt and nut.

GENERAL MAINTENANCE

To keep the sod cutter in good operating condition, perform the following:

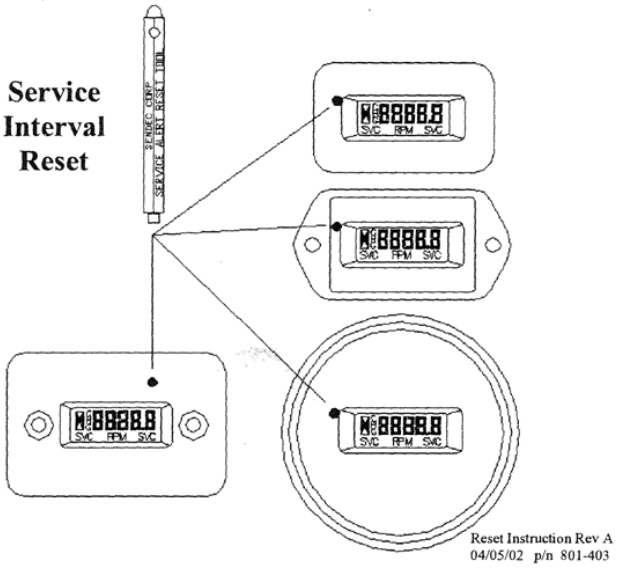
- Keep blade sharp; a sharp blade cuts cleaner, faster and more uniformly and places less load on the machine. Sharpen cutting edge on bevel or top side only.
- Keep drive belt at proper tension and free of oil and dirt at all times.
- Check engine oil level and air filter element daily.
- Check for loose bolts and connections.
- All grease fittings are pressurized type. Use a good grade Lithium Base Grease or equivalent. Grease eccentric arms sparingly every 4 hours of service, all others daily. Wipe off all grease fittings before and after each greasing (there are a total of 8 grease fittings).
- To make sure the chain on the front drive wheels is tight, you will need to remove the chain guard to check this. If tightening is required, loosen nuts and bolts on the 3/4” pillow block bearings and push the bearings toward the back of the sod cutter until chain is tight. Make sure both bearings go back evenly to keep jackshaft running even with the frame. After doing this, retighten nuts and bolts on the bearing and replace the chain guard.
- Engine (refer to Honda owner’s manual).

HOUR METER:

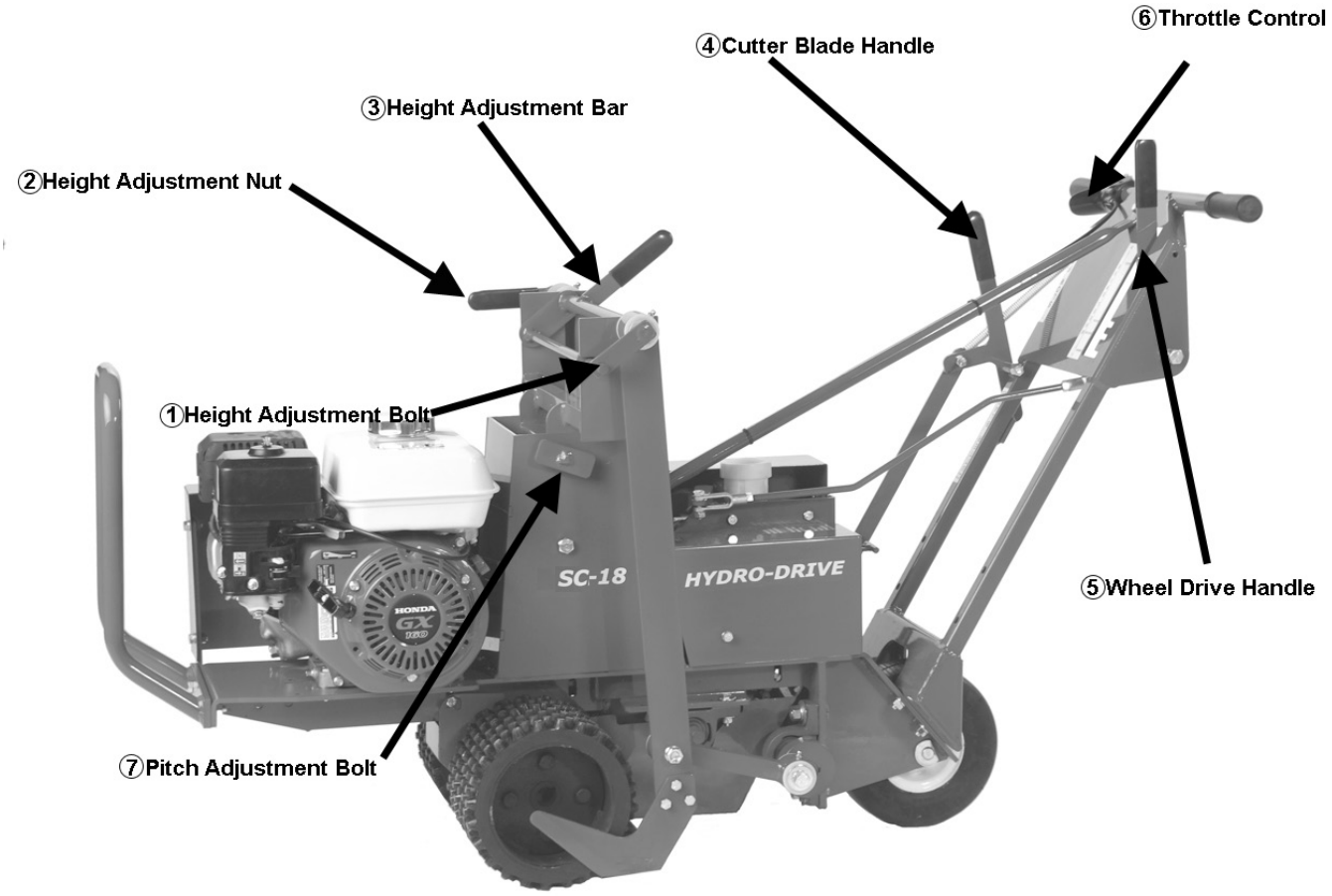
SenDEC CORPORATION

While *Flast Alert* is active, hold the tip of the Key Kancel Wand against the meter as shown. Dot indicates position for tip placement for the various meter case styles. With in several seconds, the display will stop flashing indicating the Service Interval has been reset.

For All Units Equipped With Key Kancel Option Using Wand For Reset



Reset Instruction Rev A
04/05/02 p/n 801-403



PROBLEM	CAUSE	REMEDY
Blade will not stay in ground placed	a. Bottom of blade is rounded off	a. Blade should be sharpened or re-
Belts jump off	a. Wrong type of belt b. Pulley misalignment	a. Use only the special factory belt b. Realign pulley

NOTES:

SELF-PROPELLED WALK-BEHIND SOD CUTTER

SC-18HD

ENGINE

Model.....4 cycle 5.5 H. P. Honda
Model GX160 GX1600HV
9.9 cu. in. (163 cc)

Starter..... Recoil

Governor..... 3600 RPM ± 100 RPM, no load

Clutch ..... spring loaded belt tightener type

REDUCTION

Engine to blade..... 3.03 to1

Engine to drive wheels ..... 57.2 to 1

WHEELS:

Drive ..... 8” (203 mm) Dia. w/knobby
tread vulcanized to hub

Rear..... 8 x 1.75 (203 X 45mm) semi-pneumatic tires

CUTTING WIDTH:

SC-18 ..... 18”
”

GEAR CASE

Lubrication.....EP 140 Gear lube

Capacity.....31/2Pints(1.7L)

Cutting depth .....up to 2-1/2”

BLADE PITCH

Hand lever adjustment.....variable 0° to 9°

Blade speed ..... 1188 RPM @ 3600 engine RPM

DIMENSIONS

Width .....23” - For all, except SC-24 - 25”

Length..... 59”

Height ..... 35”

Wheel Base ..... 22”

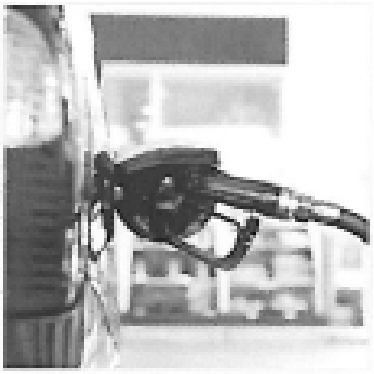
WEIGHT

Dry Weights

SC-18/8 ..... 352* lbs.

* Add 12 lbs. to each above weight for CE Guards

E15 (a blend of gasoline and ethanol)



On October 13, 2010, the Environmental Protection Agency partially granted Growth Energy's waiver request application submitted under section 211(f)(4) of the Clean Air Act. This partial waiver will allow fuel and fuel additive manufacturers to introduce into commerce gasoline that contains greater than 10 volume percent (vol%) ethanol and up to 15 vol% ethanol (E15) for use in certain motor vehicles once certain other conditions are fulfilled. It is important to remember that there are a number of additional steps that must be completed - some of which are not under EPA control - to allow the sale and distribution of E15. These include but are not limited to submission of a complete E15 fuels registration application by industry and changes to some states' laws to allow for the use of E15.

What is E15?
What is the E15 Waiver?
What Vehicles May Use E15?
What Vehicles and Engines May Not Use E15?
The Agency is Deferring Action on the Waiver Request for the Following Vehicles Pending Completion of DOE Testing
What Conditions are Part of the Waiver Decision?
What is EPA doing to Address Potential Misfueling?
The Waiver Notices
The Regulations

What is E15?

Ethanol is an alcohol that can be mixed with gasoline to result in a cleaner-burning fuel. The most common blend of gasoline and ethanol is E10, or 10 percent of ethanol to 90 percent of gasoline. E15 is gasoline containing 15 vol% ethanol.

The primary source of ethanol is corn, but other grains or biomass sources may be used such as sorghum, corn cobs, cornstalks, and switchgrass.

What is the E15 waiver?

In order to protect the emission control systems of vehicles and engines, the Clean Air Act prohibits the introduction of fuels or fuel additives that are not substantially similar to the fuels or additives used in certifying vehicles and engines to emission standards. However, the Act authorizes EPA to grant a waiver of this prohibition for a fuel or additive if it can be demonstrated that vehicles and engines using the otherwise prohibited fuel or additive will continue to meet emission standards over their useful lives.

In March 2009, Growth Energy (a coalition of U.S. ethanol supporters) and 54 ethanol manufacturers applied for a waiver to increase the allowable amount of ethanol in gasoline from E10 to E15. The waiver application included data on the impact of E15 on vehicle emissions, fuel system materials, and driveability. Additional data were developed by the US Department of Energy, which began testing for potential impacts of various ethanol-gasoline blends on motor vehicle emissions. This testing followed enactment of the Energy Independence and Security Act of 2007, which calls for significantly increasing the amount of biofuels, such as ethanol, to be used in transportation fuel. EPA received over 78,000 public comments about Growth Energy's application.

EPA is partially granting Growth Energy's waiver request application. This partial grant waives the prohibition on fuel and fuel additive manufacturers on the introduction into commerce of gasoline containing greater than 10 vol% ethanol and no more than 15 vol% ethanol for use in certain motor vehicles. More specifically, this action has two components. First, we are approving the waiver for and allowing the introduction into commerce of E15 for use in Model Year (MY) 2007 and newer light-duty motor vehicles, which includes passenger cars, light-duty trucks, and medium-duty passenger vehicles.

The second component of the action is that we are not approving the waiver for E15 use in MY2000 and older light-duty motor vehicles, heavy-duty gasoline engines and vehicles (e.g., delivery trucks), highway and off-highway motorcycles, and nonroad engines, vehicles, and equipment (e.g., boats, snowmobiles, and lawnmowers) because there is insufficient test data to support it for these vehicles and engines. The Agency is deferring a decision on the applicability of a waiver with respect to MY2001-2006 light-duty motor vehicles. EPA expects to make a determination for these vehicles after DOE test data for those model years becomes available.

What Vehicles May Use E15?

MY2007 and newer cars.
MY2007 and newer light-duty trucks.
MY2007 and newer medium-duty passenger vehicles.

What Vehicles and Engines May Not Use E15?

All motorcycles.
All vehicles with heavy-duty engines, such as school buses, transit buses, and delivery trucks.
All off-road vehicles, such as boats and snowmobiles.
All engines in off-road equipment, such as lawnmowers and chain saws.
All MY2000 and older cars, light-duty trucks, and SUVs.
All 2001-2006 cars, light-duty trucks, and medium-duty passenger vehicles (pending a waiver decision with respect to those vehicles).

The Agency is Deferring Action on the Waiver Request for the Following Vehicles and Pending Completion of DOE Testing

All MY2001-2006 cars.
All MY2001-2006 light-duty trucks.
All MY2001-2006 medium-duty passenger vehicles.

What Conditions are Part of the Waiver Decision?

EPA placed two types of conditions on the waiver for E15: those for mitigating the potential for misfueling of E15 into vehicles and engines for which E15 is not approved, and those

addressing fuel and ethanol quality. All conditions must be met prior to the introduction of E15 into commerce.

Fuel quality conditions:

Ethanol used for E15 must meet ASTM International D4806-10.
The Reid Vapor Pressure for E15 is limited to 9.0 psi during the summertime.

Misfueling mitigation conditions:

Labels must be placed on E15 retail dispensers indicating that E15 use is only for MY2007 and newer motor vehicles.
Product Transfer Documents (PTDs) must accompany all transfers of fuels for E15 use.
Parties involved in the manufacture of E15 must participate in a survey of compliance at fuel retail dispensing facilities to ensure proper labeling of dispensers.
Parties must submit a plan addressing conditions to EPA for approval.

What is EPA doing to Address Potential Misfueling?

EPA is proposing a regulatory program to help mitigate potential misfueling of certain engines, vehicles and equipment with gasoline containing greater than E10 and no more than E15. This proposed rule would require all E15 fuel dispensers to have a label if a retail station chooses to sell E15 and seeks comment on separate labeling requirements for fuel blender pumps and fuel pumps that dispense E85. Similar to the prohibition in section 211(f)(1), the proposed rule would prohibit the use of gasoline containing greater than 10 vol% ethanol in vehicles and engines not covered by the partial waiver for E15. In addition, the proposed rule would require PTDs specifying ethanol content and Reid Vapor Pressure (RVP) to accompany the transfer of gasoline blended with ethanol and a national survey of retail stations to ensure compliance with these requirements. The proposed rule would also modify the Reformulated Gasoline (RFG) program by updating the Complex Model to allow fuel manufacturers to certify batches of gasoline containing up to E15. The proposed measures would help promote the successful introduction of E15 into commerce.

There will be a 60 day comment period for the proposed rule following publication in the Federal Register. In addition, EPA will hold a public hearing at the Millennium Knickerbocker Hotel in Chicago, IL. The hearing will start at 10 a.m. local time and will continue until everyone present has had a chance to speak. People wishing to testify at the hearing should notify Julia MacAllister at (734) 214-4131 (or at macallister.julia@epa.gov) by November 8, 2010. 150 phone lines will be available for those who wish to listen to the hearing but are unable to attend in person. During the hearing, you may call the following toll-free number: 1-866-299-3188. At the prompt, enter conference code 7342144423 followed by the # sign. Note that you will not be able to present testimony over the phone.

The Waiver Notices

EPA may consider a waiver for gasoline-ethanol blends greater than 10 vol% to be used in non flexible-fueled vehicles under its authority in Clean Air Act section 211 (f)(4).

NOTE: You will need Adobe Acrobat Reader, available as a free download, to view some of the files on this page. See EPA's PDF page to learn more about PDF, and for a link to the free Acrobat Reader.

EPA reviewed the March 2009 application from Growth Energy, available test data and public comments on the

waiver request. On October 13, 2010, EPA determined that, subject to compliance with all of the conditions listed in the waiver decision, a gasoline produced with greater than E10 and no more than E15 will not cause or contribute to a failure of certain motor vehicles to achieve compliance with the emission standards to which they have been certified over their useful lives. Therefore, EPA partially and conditionally granted the waiver request application submitted by Growth Energy for its gasoline-ethanol blend with up to 15 vol% ethanol.

Response to Application for Waiver | PDF Version (58 pp, 4.57M, published November 4, 2010)
Status Update (July 2010)

Status Update (PDF) (2 pp, 493K, November 30, 2009)
Extension of Comment Period: Notice | PDF Version (2 pp, 75K, published May 20, 2009)
Notice of Receipt of Waiver Application | PDF Version (3 pp, 77K, published April 21, 2009)

For further information or assistance, please contact Robert Anderson at 202-343-9718 or anderson.robert@epa.gov.

The Regulations

Proposed Rule: Regulation to Mitigate the Misfueling of Vehicles and Engines with Gasoline Containing Greater than Ten Volume Percent Ethanol and Modifications to the Reformulated and Conventional Gasoline Programs

Fact Sheet: EPA Announces E15 Partial Waiver Decision and Pump Labeling Proposal | PDF Version (5 pp, 530K, October 13, 2010)
Proposed Rule | PDF Version (49 pp, 3.39M, published November 4, 2010)

For further information or assistance regarding please contact EPA's Assessment and Standards Division voicemail at: (734) 214-4636 or email: ASDinfo@epa.gov.

For more information, please contact the EPA Fuels Programs Support Line at 202-343-9755.

Please visit the EPA's Transportation and Air Quality web-based repository of mobile source documents, Document Index System (DIS). This searchable repository contains regulations, Federal Register notices, policy letters, and guidance documents.