



HYDRO OVERSEEDER

MODELS:

HTS-20HD

Hydro Overseeder Honda GX270



S/N 1140007749 - 1175003445

MAN 4170649
Rev C
Original Language Instructions



SCHILLER

GROUNDS
CARE

PARTS MANUAL 4170646

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.

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.

HTS-20HD

IMPORTANT MESSAGE

Thank you for purchasing this Classen product. You have purchased a world class product, one of the best designed and built anywhere.

This machine comes with an Operation and Safety Manual, Parts and Service Manual, and Engine 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 Classen 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 Classen dealer for any service or parts needed. Classen service ensures that you continue to receive the best results possible from Classen products. You can trust Classen replacement parts because they are manufactured with the same high precision and quality as the original parts.

Classen 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.

Classen
Schiller Grounds Care, Inc.
1028 Street Road
Southampton, PA 18966-4217

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This Operator / Parts Manual is part of the machine. Suppliers of both new and second-hand machines must make sure that this manual is provided with the machine.

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 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.

⚠ 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.

Schiller Grounds Care, Inc.

1028 Street Road
Southampton, PA 18966 U.S.A
Phone: 215-357-5110
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MODEL NUMBER

SERIAL NUMBER

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

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

OPERATOR PREPARATION & 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. Wear substantial footwear and long pants. Do not operate barefoot or wearing open sandals. Long hair, loose clothing or jewelry may get tangled in moving parts.
- Wear appropriate hearing protection.
- Never allow children, unskilled or improperly trained people to operate this equipment. Local regulations can restrict the age of the operator.
- Do not put hands or feet near or under rotating parts.
- Never pick up or carry the unit while the engine is running.
- 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, or any other condition of impairment.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.



SITE PREPARATION & CIRCUMSTANCES

- Evaluate the terrain to determine how to safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Clear the area of objects such as rocks, toys, wire or any other debris that may be thrown or get tangled in the aerator.
- 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.
- Only USE in daylight or in good artificial light.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.

MACHINE PREPARATION

- Read engine manual.
- 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 seeder and the assembly for wear or damage. Replace worn or damaged parts.
- Verify that machine and attachments, if any, are in good operating condition.
- Do not engage seeder until ready to use.

OPERATING SAFELY**IN GENERAL**

- Use extra care when loading or unloading the machine into a trailer or truck.
- Never operate without guards, plates, or other safety protective devices in place.
- Do not run the engine in an enclosed area where dangerous carbon monoxide fumes can collect.
- Never leave a machine unattended. Turn off seeder and stop engine before leaving the machine.
- Use extreme caution when pulling machine towards you.
- Stop operation if someone approaches.

STARTING

- Start according to instructions in this manual or on the machine.
- Before attempting to start the engine, make sure the seeder is disengaged.
- When starting the engine, make sure hands and feet are clear of the seeder.
- Do not engage seeder 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.

**INTERRUPTING OPERATION**

Before leaving the operator's position, shut off engine.

- Stop the engine, disengage the blade, set parking brake and wait until the blade stops rotating:
 - before refueling.
 - before making depth adjustment unless the adjustment can be made from the operator's position.
- Stop the engine, disengage the seeder, set parking brake and disconnect the spark plug wire:
 - before clearing blockages or unclogging;
 - before checking, cleaning or working on the machine;
 - after striking a foreign object. Inspect the machine for damage and have repairs made as needed before restarting;
 - if the machine begins to vibrate abnormally: shut off machine immediately. Inspect and have

repairs made 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 seeder 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 operation.
-

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 seed 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.

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 a qualified technician for maintenance or service. Replace when work is completed.
- Adjust or repair only after the engine has been stopped and the seeder 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.
- Never attempt to make adjustments while the engine is running 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.

BLADES



WARNING



- Blades are sharp and can cut. Use extra caution when handling. Wear appropriate personal protective equipment.
- Only replace blades. Never straighten or weld them.
- Keep other persons away from blades.

FUEL SAFETY



WARNING



- Gasoline is 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.
 - 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 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 gasoline 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.
- If fuel is spilled on clothing change it immediately.

STORAGE SAFETY

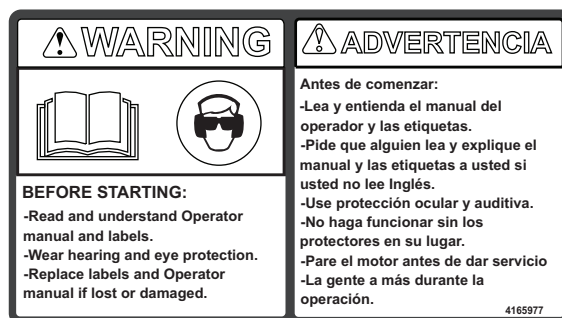
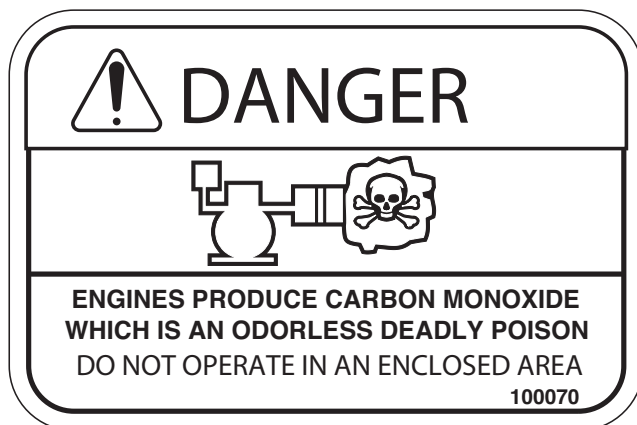
- Stop the engine and allow to cool before storing.
- Drain the fuel tank outdoors only.
- Store fuel in an approved container in a cool, dry place.
- Keep the machine and fuel containers in a locked storage place to prevent tampering and to keep children from playing with them.
- Do not store the fuel container or equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.
- Appliances such as furnaces and water heaters with a pilot light have an open flame.
- Keep gasoline storage area free of grass, leaves and excessive grease to reduce fire hazard.
- Clean debris from cutting units, drives, mufflers and engine to help prevent fires.
- Clean up any spilled gasoline or oil in the storage area.

HTS-20HD	
Dimensions:	
Width.....	31" (787 mm)
Length.....	57" (1448 mm)
Length (handle folded).....	46" (1168 mm)
Height (transport).....	45" (1143 mm)
Height (handle folded).....	33" (838 mm)
Maximum gate Width.....	32" (813 mm)
Net Weight:	
Weight.....	300 lbs. (136 Kg)
Removable weights.....	N/A
Speed:	
Seed.....	Forward...3 m.p.h
.....	Reverse..1.5 m.p.h
Engine:	
Model HTS-20HD	
Model.....	GX270
Honda, 9.0 h.p., 4 cycle	
Starter.....	Recoil, on/off switch
Governor.....	3600 RPM, no load
Fuel Tank.....	1.4 gal. (5.3 L)
Drive:	
Machine.....	Hydro Gear Transmission
Primary.....	Sheaves and Belts
Wheels:	
Front & Rear.....	13 bX 5.00-6
Seeding:	
Seeding Width.....	20"
Blade Depth.....	10 position 0" -1.63"
Productivity.....	26,400 sq. ft / hour
Number of blades.....	double blade 26 total

WARNING LABELS

Warning labels are an important part of the safety system incorporated in this machine.

Replace labels if damaged or illegible.



CONTROLS

THROTTLE (A)

Controls engine speed and vacuum suction level.

CHOKE (B)

Move to the "CHOKE" position to apply the choke.
Move to the "RUN" position to remove the choke.

FUEL SHUT OFF (C)

Move to the "OFF" position to shut off the fuel whenever transporting the machine by trailer or truck or during storage. Move to the "ON" position before starting the engine. The "OFF" position also can be used to "KILL" the engine as a "KILL" switch is combined with the fuel shutoff.

FREE WHEEL HANDLE (D)

Pull the free-wheel rod out to engage the transmission. Push it back in to disengage.

RECOIL STARTER HANDLE (E)

Pull to turn over the engine to start it. Guide the recoil starter handle back to the rope guide for best rope life. Allowing the rope to snap back will shorten rope life.

ENGINE SWITCH (F)

Move to the "OFF" position to stop the engine. Move to the "ON" position before starting engine.

BRAKE ROD (G)

Pull brake rod up and to the left (from operators position) to disengage parking brake to push or use the hydro transmission. When done using the unit, pull brake rod all the way up and then to the right allowing it to rest in the groove to engage parking brake.

DEPTH ADJUSTMENT LEVER (H)

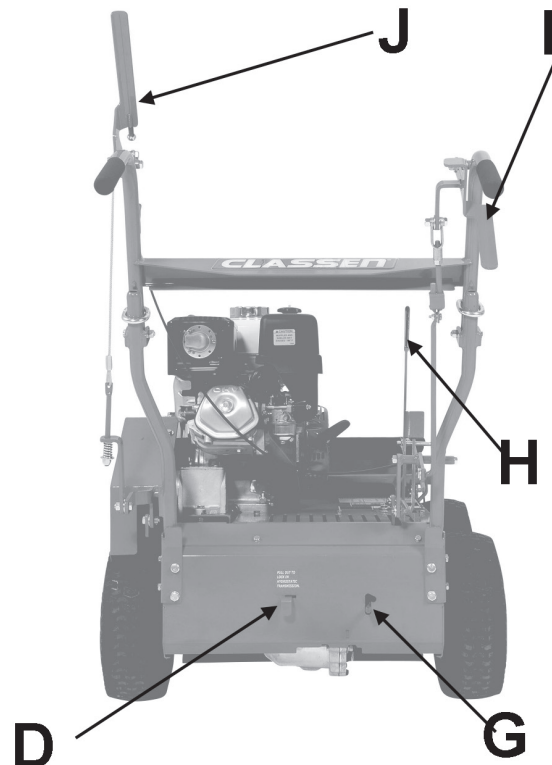
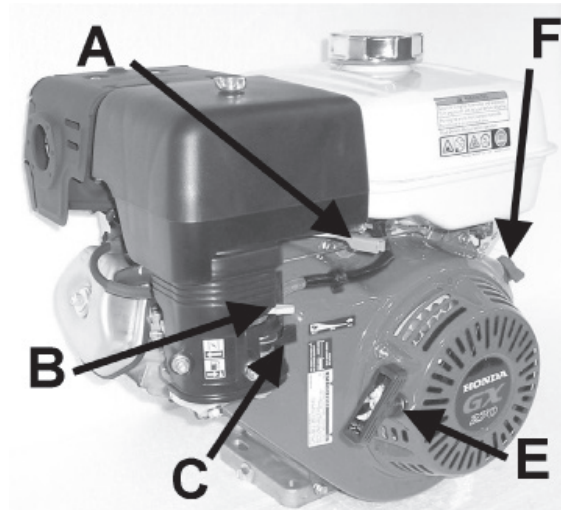
Use the depth adjustment lever by first pulling it out to the right of the unit and then moving it toward the front or rear of the machine to select the desired depth to cut. Release the lever to allow it to lock into the desired setting.

RIGHT CONTROL HANDLE (I)

Pull right control handle up to move the unit forward or push down to move in reverse.

LEFT CONTROL HANDLE (J)

Push down left control handle to engage the main shaft and release to disengage.



BEFORE STARTING THE ENGINE

1. Read the Operator Manual and Engine Manual. Become familiar with the controls, how each functions, and what it operates.
2. Check the engine oil level and transaxle fluid level. Add if necessary.
3. Fill the fuel tank with good quality, clean, unleaded regular gasoline (petrol). Use a funnel to avoid spilling.

STARTING THE ENGINE

1. Open the fuel valve.
2. Move the switch to the "ON" position.
3. Move the choke lever to the "CHOKE" position for cold starts. (Choke may not be required to start a warm engine. Too much choke use may flood the engine and cause hard starting.)
4. Move the throttle to midway between the fast and slow positions.
5. Pull the recoil starter slowly until resistance is felt, then pull firmly to start the engine.
6. After the engine starts, slowly back the choke off until the engine runs with no choke at all.
7. Set the desired engine speed with the throttle.

OPERATING THE SEEDER

1. Release both right and left engagement arms to neutral position.
2. Start the engine..
3. Move brake rod to lower position to release the parking brake.
4. Pull out free wheel actuator handle to lock in hydrostatic transmission.
5. Drive HTS-20 to the area to be seeded.
6. Move depth adjustment lever to the appropriate setting for desired depth.
7. Push down left engagement arm to engage the main shaft. Release engagement arm to stop.

TRANSPORTING THE SEEDER

1. Position the depth adjust lever to the start / transport position. **Figure 1**
2. Start motor and run motor at half throttle.
3. Pull right engagement arm up to move forward or push down to move in reverse.

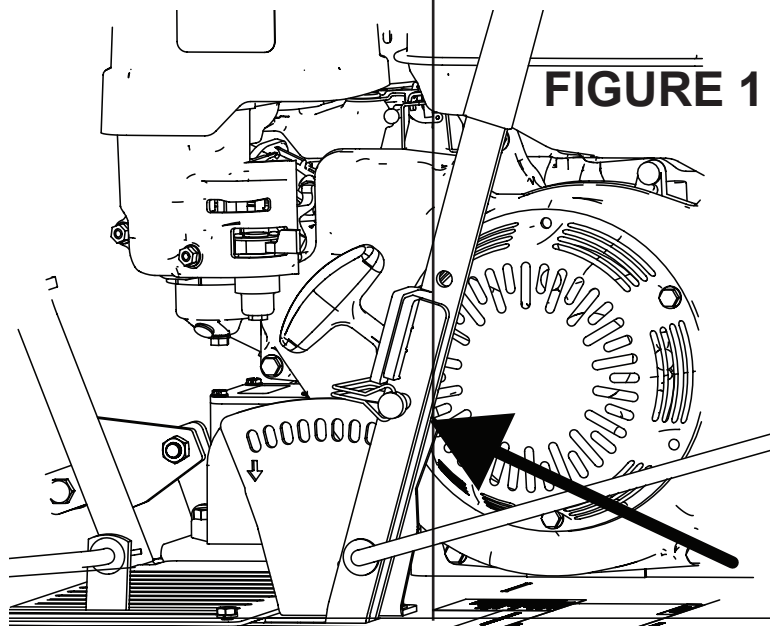


FIGURE 1

SEEDING AND SLICING OPERATION

1. The seeding blades are used for cutting grooves for over-seeding and can also be used for verticutting grasses. To set the height properly, place unit on the lawn surface and adjust the wheel height up. Adjusting the wheel height up lowers the blades.

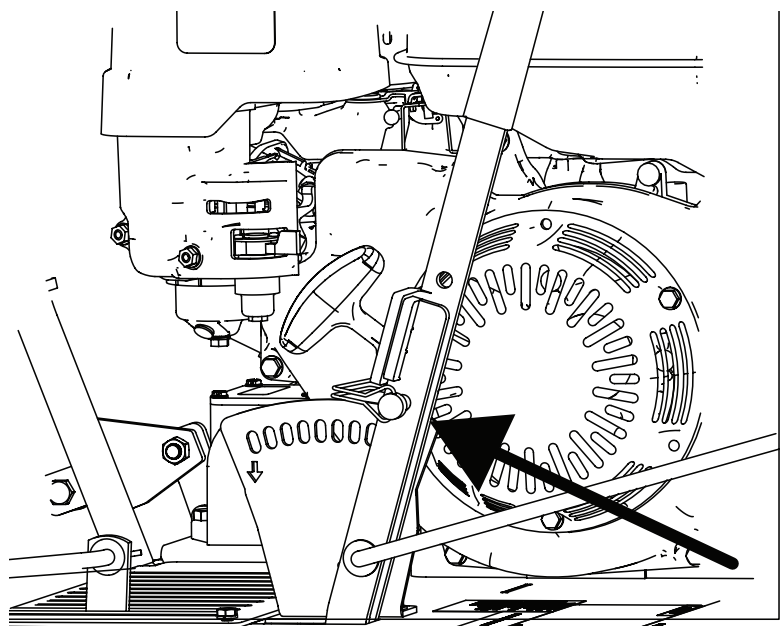
Figure 1

2. SEEDING: The proper height setting for over-seeding is approximately 1/4" into the ground. Adjust the wheel height up approximately one notch. If set deeper, grass seed being applied may not germinate.
3. SLICING: The proper height setting for slicing is 1/2" to 3/4" into the ground. Adjust wheel height up one or two notches.
For crawling grasses such as Zoysia, Bermuda, Bahia, etc. raise the wheels only one notch. Crawling grasses should not be sliced too deeply.

For single strand grasses like Bluegrass or Rye, aerate in perpendicular directions for more even slicing. For example. slice in a North-south direction on the first pass, switching to an East-West direction on the second pass.

As the seeder blades wear they may be rotated to provide a new cutting edge. The wheels may be raised to allow the blades to penetrate deeper into the ground.

FIGURE 1



MAINTENANCE



WARNING

Stop the engine and remove spark plug wire before performing any maintenance.

When replacement parts are required, use genuine Classen 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 where exhaust fumes can collect. Provide enough fresh air to keep fumes from getting too strong.

Replace any warning decals that become illegible immediately.

DAILY MAINTENANCE

Hardware

- Tighten any hardware (nuts, bolts, etc) that are found loose.
- Replace any broken or missing hardware (nuts, bolts, cotter pins, etc.).
- Check to see that set screws on pulley are tight.

Engine

See engine manual for air cleaner service intervals and servicing procedure.

Oil

See engine manual for air cleaner service intervals and servicing procedure.

Seeder

Stop engine and remove spark plug wire before servicing seeder.

Guards

- Check condition of guards for damage or wear.
- Replace broken, worn, or damaged shield plates.

Belts

- Check condition of belts for damage or wear.
- Replace broken, worn, or damaged belts.

Belt Replacement

- Stop the engine and disconnect the spark plug wire before attempting to replace any belt.

Storage

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

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

1. Drain all fuel from the fuel tank and fuel lines.
2. Start the engine and run until all the fuel is used from the carburetor float bowl and the engine stops.
3. While the engine is still warm, drain the crankcase oil and replace with the proper weight oil corresponding to the season the equipment will be next used.
4. Remove the spark plug and squirt a small amount of engine oil into the cylinder. Slowly pull the starter a few times to distribute oil in the cylinder and reinstall the spark plug.
5. Top off if necessary. See engine manual for details.

To put the equipment into service after an extended period of storage:

1. Check for loose parts and tighten if necessary.
2. Fill the fuel tank and then check the engine oil level.
3. Start the engine and check for fuel leaks. Repair any leaks before operating the unit.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
A. Engine will not start.	<ol style="list-style-type: none"> 1. Out of gasoline. 2. Spark plug lead wire loose or disconnected. 3. Defective spark plug. 4. Throttle control lever not in proper position. 5. Engine flooded or flooding. 6. Stale or contaminated gasoline. 7. Engine switch off. 8. Oil level low. 9. Front cover is loose on unit. 	<ol style="list-style-type: none"> 1. Fill gasoline tank. 2. Reconnect spark plug lead wire. 3. Replace spark plug. 4. Move throttle control lever to start position. 5. Start engine with choke fully open. 6. Drain, clean tank and system and refill with fresh gasoline. 7. Turn engine switch to ON position. 8. Fill crankcase to proper oil level. 9. Make sure front cover is secured properly on unit.
B. Loss of power, hard starting.	<ol style="list-style-type: none"> 1. Spark plug lead wire loose. 2. Defective spark plug. 3. Carburetor out of adjustment. 4. Air cleaner dirty. 5. Air vents clogged or plugged. 	<ol style="list-style-type: none"> 1. Tighten spark plug lead wire. 2. Replace spark plug. 3. Properly adjust carburetor. 4. Clean and service air cleaner. (See the engine Operation and Maintenance illustrations.) 5. Clean vent in gasoline tank cap and carburetor
C. Engine will not idle properly.	<ol style="list-style-type: none"> 1. Idle speed too slow. 2. Spark plug gap incorrect. 3. Air cleaner dirty. 	<ol style="list-style-type: none"> 1. Adjust carburetor idle speed or idle mixture. 2. Set spark plug gap; see your Engine Manual 3. Clean and service air cleaner. (See the engine Operation and Maintenance illustrations.)
D. Engine runs hot or overheats.	<ol style="list-style-type: none"> 1. Oil level low. 2. Engine cooling fins or baffles clogged with dirt and debris. 3. Carburetor out of adjustment 	<ol style="list-style-type: none"> 1. Fill crankcase to proper oil level. 2. Clean and remove obstructions. 3. Readjust carburetor.

SHAFT ASSEMBLY REPLACEMENT

To replace the shaft assembly:

1. On right side of unit (from operator position) first remove the 2 bolts holding on the right shaft cover (C400455) and then remove cover.
2. Next remove bolts from both sides of bearing collar and loosen set screw. Then remove the shaft guard (C400454) and the bearing from shaft.
3. On left side of unit, first remove front belt shield (4170715).
4. Next remove bolts from pulley hub and slide pulley (4169749) and the 2 belts off the shaft.
5. Remove left shaft cover (C400453) and then remove bolts from both sides of bearing collar, loosen set screw, and slide bearing off shaft.
6. Begin reassembling with new shaft on left side of unit by sliding on bearing and then lock down set screw with medium strength thread lock (blue).
7. Next bolt bearing to unit and reinstall the left shaft cover.
8. Slide the pulley with hub back onto shaft with both belts making sure the key is in the keyway and is engaged with the hub.
9. When the pulley is on and the belts are straight, lock down pulley by tightening the 2 bolts that go into the hub.
10. Next reinstall front belt shield.
11. Move to right side of unit and slide shaft through shaft guard and then slide bearing onto shaft.
12. Tighten down bolts through the bearing collar and shaft guard to secure both to the unit and then lock down set screw on bearing with medium strength thread lock (blue).
13. Lastly, reinstall right shaft cover.