

#### CALIFORNIA

#### **Proposition 65 Warning**

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

Californie Proposition 65 Avertissement

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

## **A** WARNING

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

## AVERTISSEMENT

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

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 product, one of the best designed and built anywhere.

This machine comes with Operator's and Parts Manuals containing safety, operation, parts, maintenance and service information. The useful life and good service you receive from this machine depends to a large extent on how well you read and understand this manual. 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 manual thoroughly. Learn the proper operation of all controls. Observe all safety precautions. Follow all instructions and warnings completely. Do not remove or defeat any safety features. Make sure those who operate this machine are as well informed and careful in its use as you are.

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

Schiller Grounds Care, Inc. designs and builds its equipment to serve many years in a safe and productive manner. For longest life, use this machine only as directed in the manual, 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

#### TABLE OF CONTENTS

FIGURES

PAGE

SAFETY		
SAFETY AND OPERATION LABELS	S	
CONTROLS		
PRE-OPERATION CHECKLIST		
OPERATION		
ADJUSTMENTS		
TRANSPORT / STORAGE		
SPECIFICATIONS		20
	FIGURE 1	
HANDLE ASSY	FIGURE 2	
	FIGURE 3	
	FIGURE 4	
TINE ASSY	FIGURE 5	

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

## **A**WARNING

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

## 

**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. SERIAL NUMBER

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

MODEL 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.

#### PREPARING FOR SAFE OPERATION

#### Operator preparation and training Read the Operation & Safety Manual

If an operator or mechanic cannot read, 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. Know how to stop the engine and attachments quickly in an emergency. Do not operate or allow another person to operate this machine if there are any questions about safety.
- All operators and mechanics should be trained. The owner is responsible for training the users.
- Wear appropriate clothing, including safety goggles or safety glasses with side shields when operating. Wear substantial footwear. 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.
- 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 and circumstances

- Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.
- Clear the area to be aerated of objects such as rocks, toys, wire or other debris that may be picked up or thrown by the machine.
- 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.
- Operate 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 tines, tine bolts and the drum assembly for wear or damage. Replace worn or damaged tines and bolts.
- Verify that machine and attachments, if any, are in good operating condition.
- Do not engage tines until ready to aerate.

OPERATING SAFEL	Y	
In general		Interrupting operation
- Use extra care when I machine into a trailer	oading or unloading the or truck.	<ul> <li>Before leaving the operator's position:</li> <li>Park on level ground.</li> <li>Release the traction bail.</li> </ul>
	aution when making turns Id sidewalks. Raise tines if	<ul> <li>Shut off the engine.</li> <li>Raise the tines:</li> </ul>
- Do not run the engine	in an enclosed area where noxide fumes can collect.	<ul> <li>when not aerating;</li> <li>for transport;</li> </ul>
- Stop operation if some	eone approaches.	<ul> <li>when crossing surfaces other than grass.</li> <li>Release the traction bail, stop the engine.</li> </ul>
- Keep all guards in pla	ce when operating.	<ul> <li>Release the traction bail, stop the engine, :</li> <li>before refueling;</li> </ul>
<ul> <li>Do not turn sharply. U backing machine toward</li> </ul>	Jse extreme caution when ards you.	<ul> <li>Release the traction bail, stop the engine, allow the tines to come to a complete stop, and disconnect the spark plug wire:</li> </ul>
- Fill the weight tank or suggested in the oper		<ul> <li>before clearing blockages;</li> <li>before checking, cleaning or working on the machine;</li> </ul>
	machine unattended. and stop engine before position.	<ul> <li>before having maintenance or repairs performed;</li> <li>after striking a foreign object. Inspect the machine for damage and have repairs made before restarting;</li> <li>if the machine begins to vibrate abnormally: shut off machine immediately. Inspect</li> </ul>
Starting		and have repairs made as needed before
- Start according to inst on the machine.	ructions in this manual or	<ul> <li>restarting;</li> <li>except for repairs or adjustments as specifically</li> <li>pated such as far earburster adjustment.</li> </ul>
<ul> <li>Before attempting to s</li> <li>the traction control i</li> </ul>	start the engine, make sure: s in neutral.	noted, such as for carburetor adjustment, where the engine must be running. Keep hands and feet clear of moving parts in these circumstances.
- When starting the eng	jine, make sure hands and ades.	- Reduce the throttle setting during engine shut- down and, if the engine is provided with a shut-
	e governor settings or . Operating the engine an increase the hazard of	off valve, turn the fuel off at the conclusion of operation.

#### MANEUVERING SAFELY

#### In general

- Slow down before turning.
- Be aware when approaching blind corners, shrubs, trees, tall grass or other objects that may obscure vision.



#### **Slope Operation**

- Slopes are a major factor in loss-of-control and tip over accidents that sometimes lead to severe injury or death. All slopes require extra caution.
- Before operating on slopes, evaluate the risks involved.
- 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.

A slope is too steep if:

- The machine must be crabbed (turned partially sideways uphill) to drive across the slope.

- The machine turns downhill going across the slope.

- You are uneasy about being on the slope
- With walk behind machines, operate across slopes, not up and down.
- Avoid starting or stopping on a slope. If wheels lose traction, disengage the traction clutch and proceed slowly straight down the slope.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.
- Do not turn on slopes unless necessary, and then turn slowly and downhill when possible.
- Do not operate near dropoffs, ditches or embankments. The machine could suddenly turn over if a wheel runs over the edge or an edge caves in.
- Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

#### MAINTENANCE AND STORAGE 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 complete.
- Adjust or repair only after the engine has been stopped and the tines have quit rotating.
- Replace parts if worn, damaged or faulty. For best results, always replace with parts recommended by the manufacturer.
- Disconnect spark plug wire(s) before making any repairs.
- Do not dismantle the machine without releasing or restraining forces which may cause parts to move suddenly.
- Provide adequate support, e.g. jackstands 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.

#### Tines

Tines are sharp and can cut. Use extra caution when handling. Wear appropriate personal protective equipment.



- Only replace tines. Never straighten or weld them.
- Keep other persons away from tines.

#### 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.

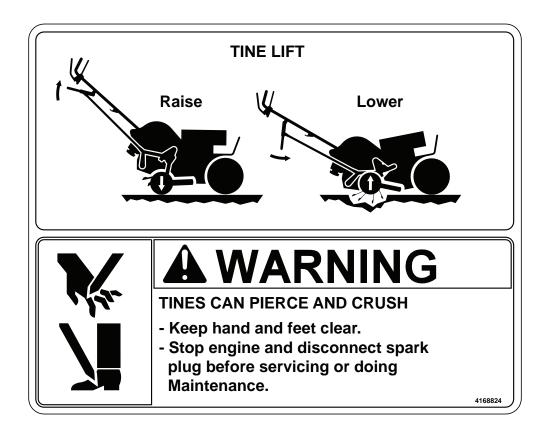
Sparks from static electricity can start fires or cause explosions. Flowing fuel can generate static electricity. To prevent static electricity sparks:

- \_ 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 gas powered equip-\_ ment 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.

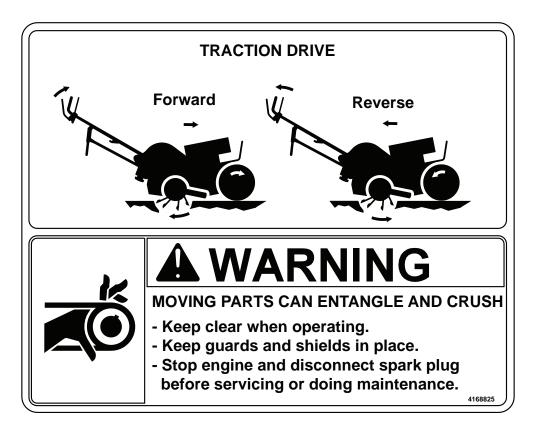
#### Storage

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- 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 appliances with an open flame such as a water heater or other appliance with a pilot light.
- Keep petrol (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.



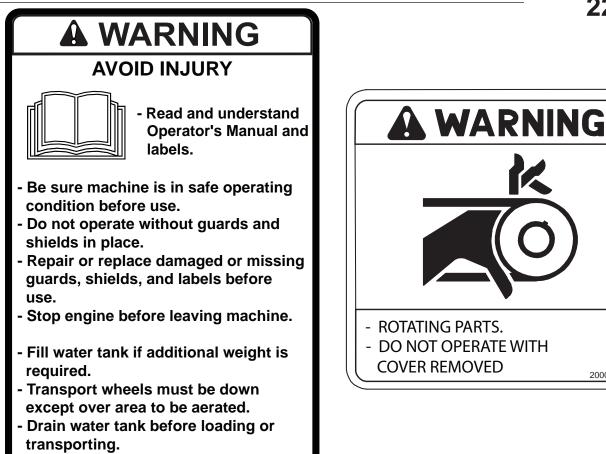
22



## SAFETY AND OPERATION LABELS

Lawnaire 22

2000577



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## ADVERTENCIA

- 1. Leer el manual del operador. No permitir que personas no capacitadas para ello usen la máguina.
- 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 máguina.
- 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 máguina.

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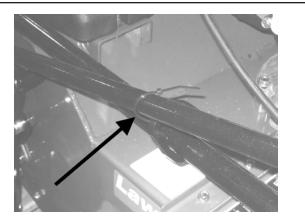


#### **ASSEMBLY / SET-UP INSTRUCTIONS**

## A WARNING

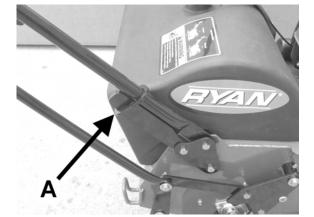
Banding is under tension and may snap back when cut. Wear eye protection and stay clear when cutting the band.

1. Cut the banding securing the front and rear of the aerator to the pallet and the cable ties on the handle locks to the handles.

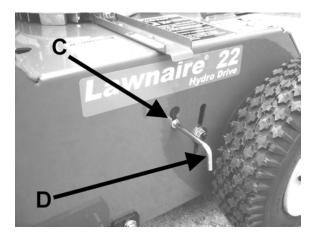


2. Lift the handle up into the operating position. Secure in place by moving the handle locks **A** down over the handle supports.

**Handle Lock (A)-** Raise the handle locks and latch them on the handle to hold the handle. Lower the handle locks over the handle bracket to lock the handle in the work position.



- Pull the free-wheel rod D until the enlarged boss
   C comes through the keyhole on the rear engine deck cover, then slide the rod down the slot to latch it. Roll the machine off the pallet.
- Check the oil level in the engine, add if necessary. Fill the fuel tank with fresh, clean unleaded gasoline. Refer to the engine manufacturer's operator's manual. Read the operator's manual before use.



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Lawnaire
22
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#### **ENGINE CONTROLS**

The Lawnaire 22 is available with either a Briggs & Stratton engine or a Honda engine.

#### THROTTLE / CHOKE (A) pg. 11

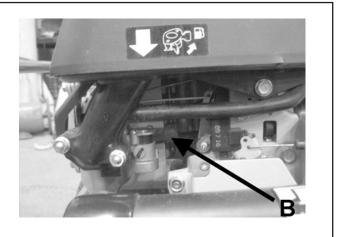
Both engines have a combination throttle and choke.

#### FUEL SHUT OFF (B)

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.

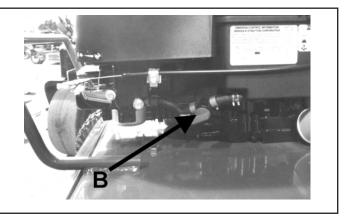
#### **Briggs & Stratton Engine Controls**

The engine is equipped with a throttle / choke control **A** (see page 11) and fuel shut-off valve **B**. The fuel valve must be in the "ON" position for the engine to be started. Push the throttle / choke lever all the way forward for choke. Using the choke control will help start a cold engine. The choke is self relieving so the engine will run at its maximum speed in the choke position without flooding. Move the throttle lever all the way to the rear to stop the engine.



#### Honda Engine Controls

The engine is equipped with a throttle / choke A (see page 11) and a fuel valve B. The fuel valve must be in the "ON" position to start the engine. Using the choke will help start a cold engine. Push the throttle all the way forward past the detent for choke. Back the throttle off tot he detent position after the engine starts. Move the throttle all the way to the rear to stop the engine.





#### HANDLE CONTROLS

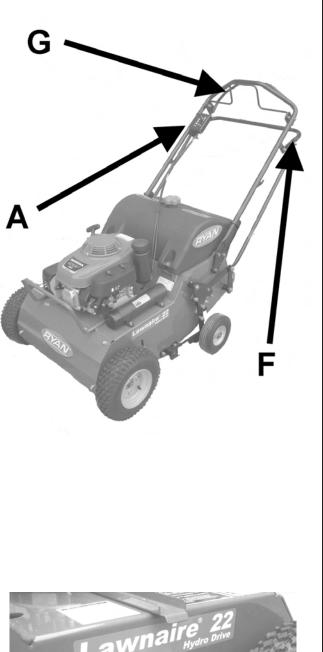
**Throttle/ Choke Control (A)-** Both engines have a combination throttle and choke.

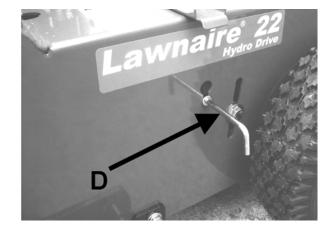
Adjusts the engine speed. Pushing the throttle control forward increases engine speed. Pushing the throttle control all the way forward engages the choke for starting. Pulling the throttle control back reduces the speed. Pulling the throttle control all the way back stops the engine.

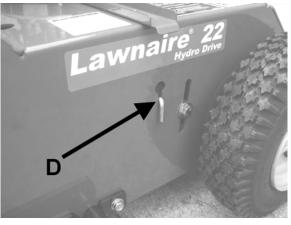
**Transport Lift Handle (F) -** Pushing down on the handle lowers the tines for aerating. Pulling the handle up raises the tines so the aerator can be moved or transported without damaging the unit, the turf, or other surface.

**Foward/Reverse Bail (G) -** Pushing forward on the rear bail tube causes the machine to travel forward. The farther forward the bail is pushed the faster the machine will go up to its maximum speed. Pulling back on the front bail rod will cause the machine to travel in reverse. The farther the bail is pulled back, the faster the machine will back up, up to its maximum reverse speed. When the bail is released, it will move back to the neutral position and the machine will stop.

**Free Wheel Rod (D) -** Pull the free wheel rod until the enlarged boss comes through the keyhole on the rear engine deck cover to disengage the transaxle, then slide the rod down the slot to latch it in the disengaged position. The machine may then be free wheeled or pushed without the engine running. Raise the rod until the enlarged boss pops back behind the rear engine cover to engage the transaxle.





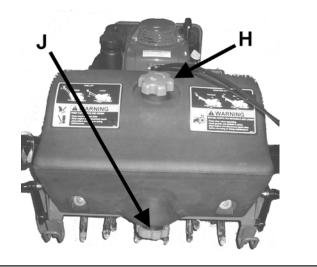


#### PRE-OPERATION CHECK LIST (OPERATOR'S RESPONSIBILITY)

- \_\_\_\_ 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 if necessary.
- Inspect area and remove stones, branches or other hard objects that might be thrown, causing injury or damage.
- Clean area around oil fill dipstick. Remove dipstick and check to be sure oil is in operating range (between marks on dipstick). Add oil if necessary but **Do Not Overfill**. Install dipstick assembly firmly until cap bottoms out on tube. Dipstick assembly must always be secured into fill tube when engine is running.
- Check all lubrication points and grease as instructed in manual.

The Ryan Lawnaire 22 will aerate many lawns satisfactorily without any additional weight. If more weight is required fill the water tank above the tines. Filling the water tank adds about 75lbs weight. Sand may be used in place of water for even more weight. Filling the tank with sand adds about 105lbs weight. Sand is much harder to remove than water. Water is recommended whenever possible.

**Water Tank (H & J) -** Remove the fill cap **H** to fill the tank with water to provide extra weight on the tines. Remove the drain cap **J** to empty the tank if extra weight is no longer required, for transport or storage.



#### FUELING

- Fill fuel tank with good quality, clean, unleaded regular petrol (gasoline). Do not use hi-test fuel.
- Use a funnel to avoid spilling.



#### **BEFORE STARTING THE ENGINE**

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

#### AERATING

**NOTE**: For best performance and maximum tine penetration, the lawn should be thoroughly watered the day before aeration.

- 1. Ensure that the free wheel rod is pushed in.
- 2. Move the throttle to the choke position and then pull the recoil to start the engine.

Honda-Push the throttle all the way forward past the choke detent. Back the throttle off to before the detent once the engine is running to avoid running on choke.

B&S-Push the throttle all the way forward to the choke position to start the engine. Nothing needs to be done once the engine starts as the B&S engine has a self relieving choke.

3. Lift the transport lift handle to lock the rear wheels in the transport position. Be sure the tines are not touching the ground. Push forward on the traction control bail to drive the machine forward to the work area.

**NOTE**: If the front wheels lose traction, push forward and up on the main handle to put weight on the front wheels to gain traction.

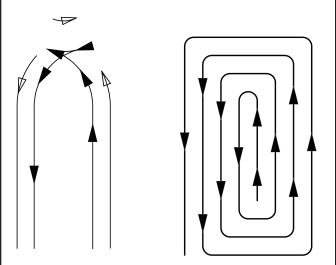
**NOTE**: Never cross hard objects or surfaces (such as sidewalks, driveways, stepping stones, etc.) with tines in the down position.

- Upon reaching the work area, release the traction control bail to stop the machine. Push down on the transport lift handle to lower the tines. Push forward on the traction control bail to begin aerating. Use the traction control bail to set a comfortable operating speed.
- 5. Upon reaching the work area, release the traction control bail to stop the machine. Push down on the transport lift handle

**NOTE**: Press down slightly on the handle to raise the front wheels just off the ground to get maximum penetration.

- To steer push the handle to the side opposite the direction you wish to turn. To turn at the end of a pass, use the traction control bail to back the unit to make a "Y" turn while the tines remain in the ground. By making rounds around an area, the need to back up can be minimized. See Figure 1.
- 7. When finished aerating, lift up on the transport lift handle to move the unit into transport position.
- 8. Drain the water drum when finished with aerating.

#### Moving the machine manually.



The machine may be moved manually on hard surfaces by pulling back on the Transport Lift Handle to raise the tines. Tip the machine back to roll it around on the rear transport wheels.

The machine may be rolled on four wheels with the engine off. Pull the free-wheel rod until the enlarged boss comes through the keyhole on the right side of the engine deck, then slide the rod down the slot to latch it. The machine may then be free wheeled or pushed. Raise the rod until the enlarged boss pops back behind the rear engine deck cover to engage the transmission.

#### MAINTENANCE

#### 

#### Tines:

- Replace damaged or broken tines.
- Do not weld or straighten tines.
- Clean tines after use, inside and out.
- Apply a light coat of oil to tines to prevent rust.

#### Engine:

Daily:

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

Keep air intake clear of debris for best performance.

Keep all hardware tight.

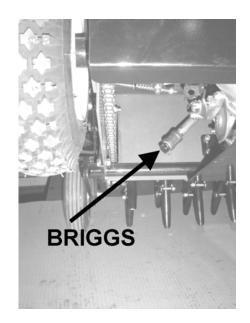
Check oil level daily. Top off as needed.

Change engine oil after the first 5 hours of operation. Then change as recommended by the engine manufacturer.

- 1. Remove drain plug and drain oil while engine is warm.
- Replace drain plug, remove fill plug and fill with new oil. See engine manual for oil specifications.
- 3. Start and run engine for 30 seconds. Stop engine.
- 4. Wait 30 seconds, then re-check oil level.
- 5. Top off if necessary. See engine manual for details.

Engine oil change: See engine manual for oil change intervals and oil specifications.







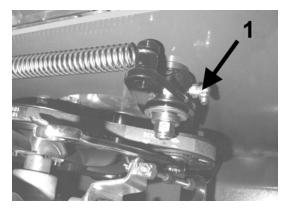
#### Lubrication:

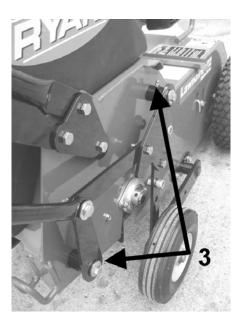
#### GREASE AS INDICATED BELOW:

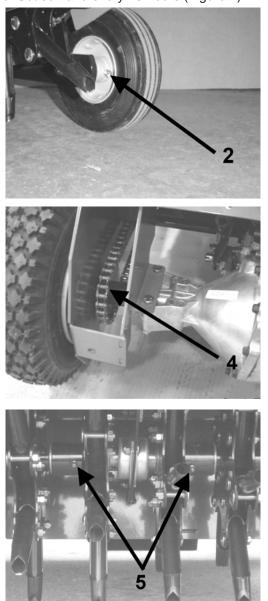
Idler pivot (1 point) ......1.........Start of Season and every 25 hours (Figure 1) Cover removed for clarity

Wheel bearings (1 each side)......2....Start of Season and every 25 hours (Figure 2)

Inner Tine Wheels......5.......Start of Season and every 25 hours (Figure 4)







#### ADJUSTMENTS

#### Chain:

The roller chains should have 1/8" - 1/4" (3-6mm) deflection at the center point between the upper idler and water drum sprockets.

**NOTE:** Do not over tighten the chain. Excessive chain tension will reduce chain and bearing life. It can also lead to fatigue or failure of the frame.

#### To Adjust:

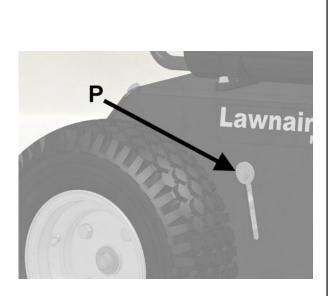
- Loosen the idler sprocket mounting bolt P and slide in its slot until the desired tension is reached.
- 2. Tighten bolt P.

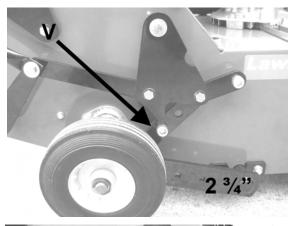
#### Tine Depth:

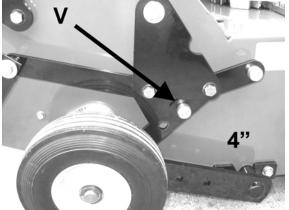
This unit has two settings for maximum tine depth 2-3/4" (Figure 1) and 4" (Figure 2). The 2-3/4" setting should be used unless the soil conditions allow for coring depth to be greater. Using the 4" setting will cause the machine to be tippy and harder to control on slopes and turns.

To Adjust:

1. Remove the depth stop screw V from the hole it is in and move it to the other hole.





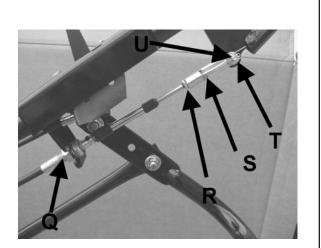


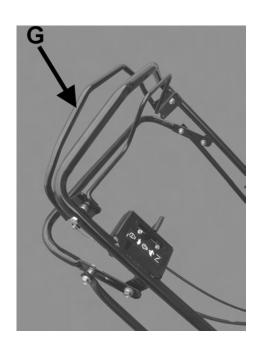
#### Forward / Reverse Bail:

The forward / reverse bail should be adjusted so the rear bail tube hits the handle just before the pump runs out of stroke. This allows the machine to operate up to its maximum forward speed.

- 1. Start with the threaded portion Q of the cable housing centered on the handle mounting bracket.
- 2. Loosen the jam nut R on the clevis S at the end of the cable. Remove the cotter pin T from the clevis pin U and remove the clevis pin.
- 3. Adjust the length by turning the clevis S. On for less length and OFF for more length.
- 4. Reconnect the clevis S to the forward/reverse bail using cotter pin and clevis pin. Move the forward/reverse bail G toward the handle.
- 4. Repeat steps 2-4 until the rear bail tube stops just short of hitting the handle without forcing. Then back off the clevis adjustment a couple of turns so the rear bail tube hits the handle without being forced.
- 5. Reinstall the cotter pin and tighten the jam nut against the clevis.

If not enough adjustment can be obtained from turning the clevis on/off the cable end, loosen the jam nuts securing the cable to the mounting bracket. Use the jam nuts to reposition the cable housing in the mounting bracket in the direction required. Adjust the clevis on the end of the cable for the final adjustment as described in steps 1-5 above.





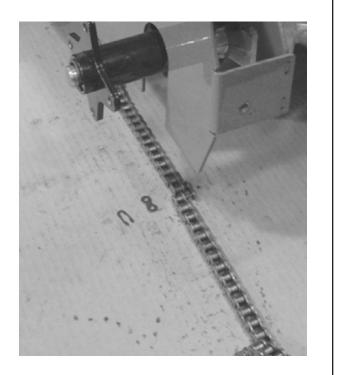
#### **BELT REPLACEMENT**

- 1. Disconnect the spark plug wire. Remove the bolts securing the transaxle guard to the front cover. Remove the front cover.
- 2. Use a 9/16" box end wrench,on the idler bolt and to back the idler off and relieve belt tension.
- 3. While holding the wrench, remove the belt from the transaxle pulley. Release the idler. Finish removing the belt from the engine and idler pulleys. Turn the transaxle pulley to run the belt past the fan blades.
- 4. Install the new belt in reverse order.



#### CHAIN REPLACEMENT

- Disconnect the spark plug wire. Remove the bolts securing the transaxle guard to the front cover. Remove the front cover and the transaxle guard. Back the tensioning idlers off to the end of their slot. Support the unit so the tine wheels and front drive wheels are off the ground. Removal of the front drive tires will give better access to the master link.
- Find the master link, disconnect the chain and connect the new chain to the old chain with the master link. Pull the chain around until the new chain ends are both visible. Disconnect old chain and connect new chain ends together with new master link. Removing the front wheel will give better access to the master link.
- 3. Reinstall the front cover and transaxle guard.





#### TRANSPORTING

- 1. Empty the water tank when transporting.
- 2. Close the fuel shut off valve if so equipped.



#### STORAGE INSTRUCTIONS

#### **A**WARNING

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 light).

Before the equipment is put in to storage for any period exceeding 30 days, the following steps should be taken.

- 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.
- While the engine is still warm, drain the crankcase oil and refill with the proper weight oil corresponding to the season the equipment will next be used.
- 4. Remove the spark plug and squirt a small amount of engine oil into the cylinder. Turn the engine over a few times to distribute the oil.
- 5. Drain the water tank.

**NOTE**: Always drain the water tank for winter storage. Freezing water can rupture the tank.

6. Grease the clutch pivot fitting and wheel bearings and lubricate the chain.

 When transporting on a truck or trailer, tie the machine down. The engine guard bar at the front and the tie down brackets at the rear of the machine are designed to be used as tie down points.



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

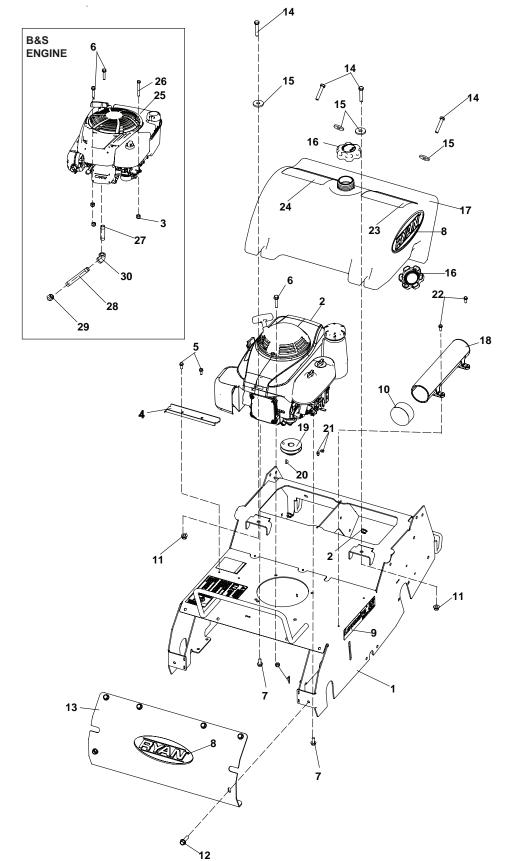
- 1. Check for loose parts and tighten if necessary.
- 2. Check for cracked or broken tines and replace as necessary.
- 3. Fill the fuel tank with clean, fresh fuel.
- 4. Check the engine and gear reduction case oil levels with the engine in a level position.
- 5. Start the engine.
- 6. Check for fuel leaks.

LAWNAIRE (LA-22) 554920 B&S	LAWNAIRE (LA-22) 554921 HONDA
Dimensions:         31.6" (803 mm)           Width         63" (1600 mm)           Length (handle folded)         48" (1220 mm)           Height (transport)         48" (1220 mm)           Height (handle folded)         30" (762 mm)	Dimensions:         31.6" (803 mm)           Width         63" (1600 mm)           Length (handle folded)         48" (1220 mm)           Height (transport)         48" (1220 mm)           Height (handle folded)         30" (762 mm)
Net Weight B&S:Wet, w/o water in tank289 lbs. (131 Kg)Wet, w/ water in tank364 lbs. (165 Kg)Water tank capacity9.2 gal. (35 L)	Net Weight Honda:293 lbs. (133 Kg)Wet, w/ water in tank293 lbs. (133 Kg)Wet, w/ water in tank368 lbs. (167 Kg)Water tank capacity9.2 gal. (35 L)
Speed:           Forward         0 - 4 mph (0 - 6.4 kph)           Reverse         0 - 2 mph (0 - 3.2 kph)	Speed:           Forward         0 - 4 mph (0 - 6.4 kph)           Reverse         0 - 2 mph (0 - 3.2 kph)
Drive:       V Belt, A section         Primary       V Belt, A section         Secondary       #40 roller chain         Transaxle       Hydro-Gear T2         20W50 motor oil         Wheels:         Front       4.10/3.50 - 6 (12" Nom Diam. Pneumatic         Rear       8 x 2.50 semi-pneumatic tires         with grease-able 3/4" ball bearings         Aeration:         Tines       3/4" (19 mm) formed from .08" hardened         chrome molybdenum alloy steel, 36 per unit         Penetration Depth	Drive:PrimaryV Belt, A sectionSecondary#40 roller chainTransaxleHydro-Gear T2 20W50 motor oilWheels:20W50 motor oilFront4.10/3.50 - 6 (12" Nom Diam. Pneumatic RearRear8 x 2.50 semi-pneumatic tires with grease-able 3/4" ball bearingsAeration:TinesTines3/4" (19 mm) formed from .08" hardened chrome molybdenum alloy steel, 36 per unit Penetration DepthPenetration Depth
Hole Pattern 3 1/2" x 7" (89 x 178 mm) on center Production Up to 37,000 sq. ft. / hour Engines: Model 544920 ModelB& S Professional Series 8.50 4 cycle8.5ft lb. (11.5 N-m)	Production Up to 37,000 sq. ft. / hour Engines: Model 544921 ModelHONDA GXV160 UH2 4 cycle*4.3 HP (3.2 KW) net mfg rating per SAE J1349
gross torque mfg rating per SAE J1940 Displacement	Displacement

# PARTS SECTION

## ENGINE & TANK ASSY

**FIGURE 1** 



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## **ENGINE & TANK ASSY**

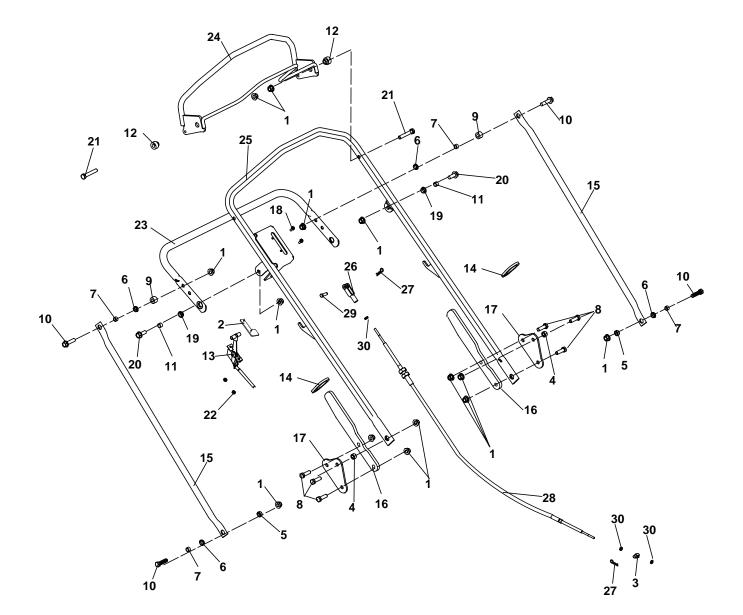
## Lawnaire 22

## **FIGURE 1**

ITEN	M PART N	O. DESCRIPTION	QTY	ITEM	PART NO	D. DESCRIPTION	QTY
1 2	4168916 4168096 (HONDA M(	S-FRAME, LA22 ENGINE-HONDA GXV160 DDEL ONLY)	1 1		4168655 (B&S MODE	ENGINE-B&S PRO SRS 850 EL ONLY)	1
3	64229-02	NUT-NYLON LOCK 5/16-18 DDEL QTY 1)			64123-12 (B&S MODE	BLT-HEX 5/16-18X2-1/2 EL ONLY)	1
	(B&S MODE	,			48024-17A (B&S MODE	NIPPLE-PIPE 3/8 X 5 GALV EL ONLY)	1
4	4168720 (HONDA MO	TROUGH-OIL DRAIN ODEL ONLY)	1	28	48224-22A	NIPPLE-PIPE 3/8 X 2-1/2 GAL	V 1
5	64152-23	SCREW-SP 1/4-20X3/8	2		(B&S MODE		
c	,		0 1		118036 (B&S MODE	HEX CAP 3/8 PIPE EL ONLY)	1
6		BLT-FLG HD 5/16-18 X 1-1/2 DDEL QTY 1) EL QTY 2)	2 1		69210 (B&S MODE	FTG 45 ELBOW 3/8 NPTF EL ONLY)	1
7	64139-01 (HONDA MO	BLT-WLF 5/16-24 X 3/4 DDEL ONLY)	2				
8 9	4168826 4168670	LABEL-RYAN OVAL 9" LABEL- LAWNAIRE 22	3 2				
	38061A	CAP-VINYL	1				
11	64268-03	NUT-FL NYLON LOCK 3/8-1					
		BLT-TDFM 3/8-16X1/2 COVER-FRONT	6 1				
		BLT-HEX 3/8-16 X 2-1/4	4				
	64163-51	WSHR.453X1.38X7GA	4				
	4168309	CAP-WATER TANK	2				
	4168915	TANK-WATER	1				
	4129802 4168215	TUBE-DOCUMENT PULLEY-ENGINE	1 1				
	64164-06	KEY-5/32X5/8 #6 WOODRU					
	64044-1	SCREW-SET 1/4-20X1/4	2				
22	64197-025	BLT-TR 1/4-20 5/8	2				
-	4168825	LABEL-DRIVE + WARNING					
24	4168824	LABEL-LIFT + WARNING	1				

## HANDLE ASSY

FIGURE 2



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HANDLE ASSY

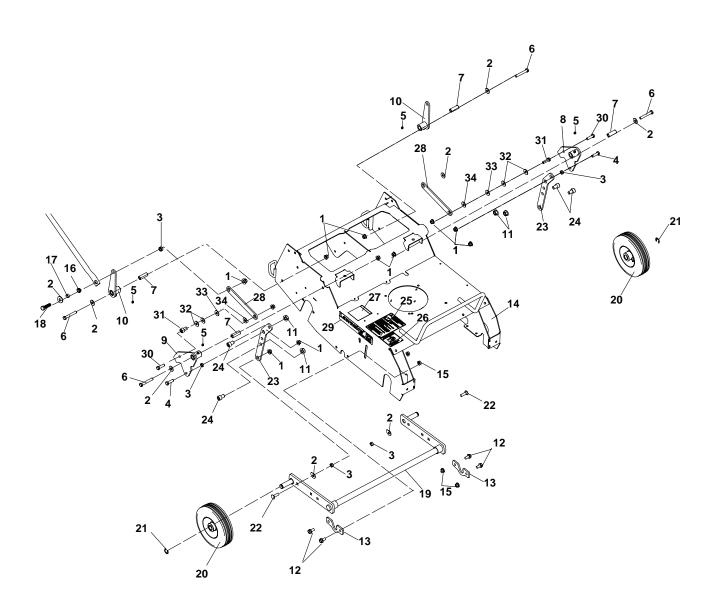
## Lawnaire 22

## **FIGURE 2**

64268-03						
	NUT-FL NYL LCK 3/8-16	14				
4169116.7 (HONDA MOE	STOP-THROTTLE DEL ONLY)	1				
	SWIVEL-CABLE	1				
		_				
		-				
		1				
<b>`</b>	,					
(B&S MODEL	ONLY)					
4168156.7	LOCK-HANDLE	2				
4168211.7	TUBE-LIFT	2				
4168239.7	BRKT-HANDLE REST	2				
	BRKT-HANDLE					
		•				
		-				
-		-				
	4168214 4168728 515729 4116398 521679 64123-16 822474 64262-013 518438 4114608 4167549-03 (HONDA MOI 4167549-04	4168214       SWIVEL-CABLE         4168728       SPACER-PIVOT         515729       BUSHING         4116398       BUSHING50 ID X .13 THK         521679       BUSHING         64123-16       BLT-HEX 3/8-16X1-1/4         822474       SPACER         64262-013       BLT-FLG HD 3/8-16 X 1-1/2         518438       BUSHING         4114608       BUSHING SHLDR .390 X .7         4167549-03       CABLE-THROTTLE         (HONDA MODEL ONLY)         4167549-04       CABLE-THROTTLE         (HONDA MODEL ONLY)         4168156.7       LOCK-HANDLE         (H68239.7       BRKT-HANDLE REST         4168154.7       BRKT-HANDLE REST         4168154.7       BRKT-HANDLE         64152-49       SCREW-SLT HH 10-24X3/4         830165       BUSHING         64262-011       BLT-FLG HD 3/8-16 X 1         64123-100       BLT-HEX 3/8-16 X 2-1/4         64025-15       NUT-HEX #10-24 KEPS         416828.7       WLDMNT-BAIL         416828.7       WLDMNT-BAIL         416828.7       WLDMNT-BAIL         416828.7       WLDMNT-HANDLE         38020-02       YOKE-CLEVIS 10-32 X 1/4	4168214       SWIVEL-CABLE       1         4168728       SPACER-PIVOT       2         515729       BUSHING       2         4116398       BUSHING50 ID X .13 THK       4         521679       BUSHING       4         64123-16       BLT-HEX 3/8-16X1-1/4       6         822474       SPACER       2         64262-013       BLT-FLG HD 3/8-16 X 1-1/2       4         518438       BUSHING       2         4114608       BUSHING SHLDR .390 X .7       2         4167549-03       CABLE-THROTTLE       1         (HONDA MODEL ONLY)       1       1         4168156.7       LOCK-HANDLE       2         4168211.7       TUBE-LIFT       2         4168239.7       BRKT-HANDLE REST       2         4168154.7       BRKT-HANDLE       2         4168154.7       BRKT-HANDLE       2         641632.7       BRKT-HANDLE       2         641652.7       BCREW-SLT HH 10-24X3/4       2         830165       BUSHING       2         64025-15       NUT-HEX #10-24 KEPS       2         4168227.7       HANDLE-LIFT LEVER       1         4168286.7       WLDMNT-BAIL	4168214       SWIVEL-CABLE       1         4168728       SPACER-PIVOT       2         515729       BUSHING       2         4116398       BUSHING50 ID X .13 THK       4         521679       BUSHING       4         64123-16       BLT-HEX 3/8-16X1-1/4       6         822474       SPACER       2         64262-013       BLT-FLG HD 3/8-16 X 1-1/2       4         518438       BUSHING       2         4114608       BUSHING SHLDR .390 X .7       2         4167549-03       CABLE-THROTTLE       1         (HONDA MODEL ONLY)       1       1         4168156.7       LOCK-HANDLE       2         4168211.7       TUBE-LIFT       2         4168239.7       BRKT-HANDLE REST       2         4168154.7       BRKT-HANDLE       2         4168154.7       BRKT-HANDLE       2         64152-49       SCREW-SLT HH 10-24X3/4       2         830165       BUSHING       2         64262-011       BLT-FLG HD 3/8-16 X 1       2         64123-100       BLT-HEX 3/8-16 X 2-1/4       2         64262-011       BLT-FLG HD 3/8-16 X 1       2         64168227.7       H	4168214       SWIVEL-CABLE       1         4168728       SPACER-PIVOT       2         515729       BUSHING       2         4116398       BUSHING50 ID X.13 THK       4         521679       BUSHING       4         64123-16       BLT-HEX 3/8-16X1-1/4       6         822474       SPACER       2         64123-16       BLT-FLG HD 3/8-16 X 1-1/2       4         518438       BUSHING       2         4114608       BUSHING SHLDR .390 X .7       2         4167549-03       CABLE-THROTTLE       1         (HONDA MODEL ONLY)       4       4         4168211.7       TUBE-LIFT       2         4168156.7       LOCK-HANDLE       2         4168239.7       BRKT-HANDLE REST       2         4168154.7       BRKT-HANDLE       2         4168154.7       BRKT-HANDLE       2         64162-011       BLT-FLG HD 3/8-16 X 1       2         64123-100       BLT-HEX 3/8-16 X 2-1/4       2         64123-100       BLT-HEX 3/8-16 X 2-1/4       2         64025-15       NUT-HEX #10-24 KEPS       2         4168227.7       HANDLE-LIFT LEVER       1         4168285.7	4168214       SWIVEL-CABLE       1         4168728       SPACER-PIVOT       2         515729       BUSHING       2         4116398       BUSHING50 ID X.13 THK       4         521679       BUSHING       4         64123-16       BLT-HEX 3/8-16X1-1/4       6         822474       SPACER       2         64262-013       BLT-FLG HD 3/8-16 X 1-1/2       4         518438       BUSHING       2         4114608       BUSHING SHLDR .390 X.7       2         4167549-03       CABLE-THROTTLE       1         (HONDA MODEL ONLY)       1       1         4168567       LOCK-HANDLE       2         416859.7       BKT-HANDLE REST       2         416829.7       BRKT-HANDLE       2         4168239.7       BRKT-HANDLE       2         64152-49       SCREW-SLT HH 10-24X3/4       2         830165       BUSHING       2         64262-011       BLT-FLG HD 3/8-16 X 1       2         64123-100       BLT-HEX 3/8-16 X 2-1/4       2         64262-11       BLT-HEX 3/8-16 X 2-1/4       2         64123-100       BLT-HEX 3/8-16 X 2-1/4       2         641282.7       <

## TRANSPORT ASSY

## **FIGURE 3**



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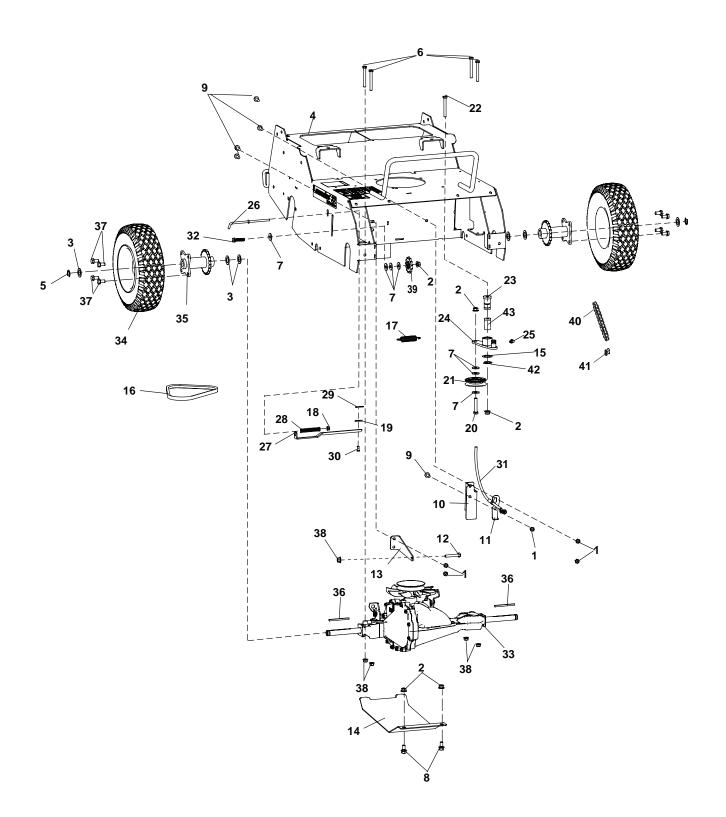
## **TRANSPORT ASSY**

## Lawnaire 22

## **FIGURE 3**

ITEN	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64268-03	NUT-FL NYLN LCK 3/8-16	12				
2	64163-31	WASHER531 x 2 x .125	8				
3	515729	BUSHING	6				
4	64123-16	BLT-HEX 3/8-16X1-1/4	4				
5	85010N	ZERK-1/4-28 STR SLF THR	D 4				
6	64123-159	BLT-HEX 3/8-16 X 2-1/2	4				
7	4168727	<b>BUSHING- LINKAGE PIVOT</b>	- 4				
8	4168717.7	WLDMT-UPPER LINK LH	1				
9	4168716.7	WLDMT-UPPER LINK RH	1				
10	4168718.7	WLDMT-IDLER LIFT LINK	2				
11	64141-13	NUT-WLF 1/2-13	4				
12	64139-21	BLT-WLF 3/8-16 X 3/4	4				
13	4168039.7	BRKT-TRANSPRT LIFT SHE	-T 2				
14	4168916	S-FRAME HYDRO AERATO	R 1				
15	64141-4	NUT-WLF 3/8-16	4				
16	4116398	BUSHING50 ID X .13 THK	2				
17	521679	BUSHING	2				
18	64123-70	BLT-HEX 3/8-16X1-1/2	2				
19	4168307.7	WLDMT-TRANSPORT FRM	E 1				
20	4124192	WHEEL-8X2.5 .75BRG	2				
21	64221-08	E-RING .750	2				
22	64018-7	BLT-CRG 3/8-16X1-1/4	2				
23	4168205.7	ARM-GUAGE WHEEL	2				
24	64189-26	BLT-HEX SOC 1/2-13X3/4	4				
25	4168827	LABEL-WRNG GEN	1				
26	2000577	DECAL, "ROTATING PARTS	5" 1				
27	340830	DECAL-CAUTION SPANISH	1				
28	4168203.7	ARM-PITMAN	2				
29	4168670	DECAL-LAWNAIRE 22	2				
30	64262-013	BLT-FOLG HD 3/8-16 X 1-1/	22				
31	4168327	SPACER-CONTROL LEVER	2				
32	4168126	WASJER-FLAT DERIN	4				
33	4168328	WASHER-CUPPED	2				
34	4168434	WASHER-BELVILLE	2				

## **FIGURE 4**



## TRANSAXLE ASSY

## Lawnaire 22

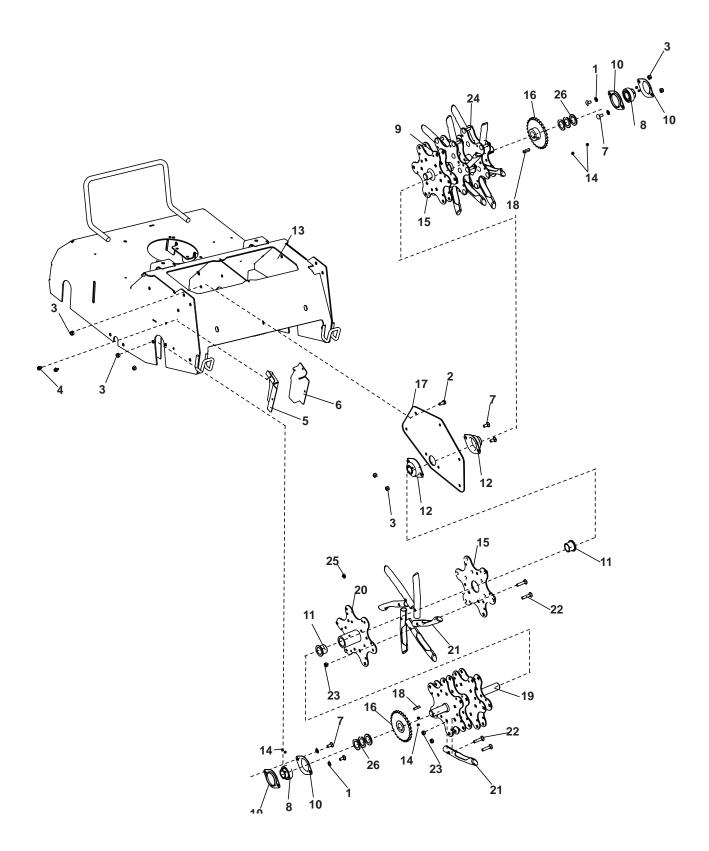
## **FIGURE 4**

ITEN	I PART NC	D. DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
4	64000.00		F				
1 2	64229-02 64268-03	NUT-NYLON LOCK 5/16-18 NUT-FL NYLON LOCK 3/8-1					
3	64163-06	WSHR .768/.756X1.25X14G					
4	4168916	S-FRAME, LA22	1				
5	64221-08	E-RING .750	2				
6	64123-104		4				
7	64163-31	WSHR 25/64X1X12	11				
8	64262-010	BLT-FLG HD 3/8-16 X 3/4	2				
9	64262-006	BLT-FLG HD 5/16-18 X 3/4	5				
10	4168245.7	BRKT-CABLE	1				
11	4168246.7	LOCK-CABLE	1				
12	64123-56	BLT-HEX 5/16-18X2	1				
13	4168041.7	BRKT-TORQUE	1				
14	4168040.7	GUARD-TRANSAXLE	1				
15	64163-65	WSHR890X1.375X18GA	1				
16	4167426	BELT-WHEEL DRIVE	1				
17	38219	SPRING-CLUTCH RETURN	l 1				
18	64268-01	NUT-FL NYLON LOCK 1/4-2	20 1				
19	64163-29	WSHR-21/64 X 1 X 11GA	1				
20	64123-87	BLT-HEX 3/8-16 X 1-3/4	1				
21	4167427	PULLEY-V IDLER 3"DIA,NLM	V 1				
22	64123-82	BLT-HEX 3/8-16 X 2-1/2	1				
23	4116661	PIN-PIVOT	1				
24	4168287.7		1				
	(INCLUEDE	S ITEM 43)					
25	4165962	ZERK-1/4-28 90° SELF TAP	1				
26	4148697	ROD-PULL FREEWHEEL	1				
27	4168269.7	LINK-FREE WHEEL	1				
28	2720544	SPRING-COMPRESSION	1				
29	64168-2	COTTER-HAIRPIN .08X1.19	9 1				
30	64188-65	PIN-CLEVIS, 1/4 X .62	1				
31	4168228	CABLE-PUSH / PULL	1				
32	64123-70	BLT-HEX 3/8-16X1-1/2	2				
33	C100585	TRANSAXLE	1				
34	4168087	ASSY-WHEEL 4.10-6 STUD					
35	4168284	FLANGE WHEEL-WLDMNT					
36	64164-41	KEY-3/16 X 3 SQ	2				
37	64197-022	BLT-TDFM 3/8-16X3/4	8				
38	64268-02	NUT-FL NYLN LCK 5/16-18	5				
39	4168233	SPROCKET-IDLER	2				
40	4168231	CHAIN-#40 ROLLER 111 PT					
41 42	4113841	LINK-#40 CHAIN NCKL PLT					
42 43	64221-04 65103A	E-RING .875 BEARING-BUSHING	1 1				
40	03103A	DEANING-DUONING	I				
				1			

## TINE ASSY

Lawnaire 22

**FIGURE 5** 



**TINE ASSY** 

## Lawnaire 22

## FIGURE 5

ITEN	I PART NO	. DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	64279-02	PUSHNUT-BOLT RETAINER	4				
2	64123-54	BLT-HEX 5/16-18 X .75	5				
3	64229-02	NUT-NYLON LOCK 5/16-18	11				
4	64152-23	SCREW-SP 1/4-20X3/8	4				
5	4168260.7	COVER-CHAIN REAR LEFT	1				
6	4168261.7	COVER-CHAIN REAR RIGH	T 1				
7	64018-9	BLT-CRG 5/16-18X3/4 G5	6				
8	4168232	BEARING-SP OD 205 1" SS	2				
9	4168626.7	WLDMT-FREE TINE WHL R	H 1				
10	2703508	FLANGE, BEARING 2.04 ID	4				
11	4129801	BUSHING-FLANGED	4				
12	4168069	<b>BEARING-1</b> " FLUSHMOUNT	2				
13	4168916	S-FRAME LA-22	1				
14	64044-6	SCREW-SET 5/16-18X1/4	4				
15	4167878.7	PLATE-TINE HLDER	2				
16	4168034	SPROCKET-WHEEL, REAR	2				
17	4168557.7	BRKT-BEARING MOUNT	1				
18	64164-12	KEY-1/4X1 SQ	2				
19	4168610.7	WLDMT-TINE SHAFT LH	1				
20	4168625.7	WLDMT-FREE TINE WHL LH	+ 1				
21	522361	TINE, CORING 3/4	36				
22	64018-34	BLT-CAR 5/16-18 X 1-1/2	72				
23	64151-15	NUT-HEX 5/16-18 CTR LOC	K 72				
24	4168612.7	WLDMT-TINE SHAFT RH	1				
25	85010N	ZERK-GREASE	2				
26	64163-64	WSHR-1.015X1.5X14 GA	6				

SCHILLER GROUNDS CARE, INC. ONE BOB-CAT LANE P.O. BOX 469 JOHNSON CREEK, WI 53038 920-699-2000 www.schillergc.com



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