



# OWNER'S GUIDE



**Model Series  
370 - 389  
Rotary Mowers**



## **IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY**

**Warning:** This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

**MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722**

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## SECTION 1: IMPORTANT SAFE OPERATION PRACTICES



**WARNING:** THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR LAWN MOWER. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL, HEED ITS WARNING.



**DANGER:** Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This lawn mower is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

### 1. GENERAL OPERATION

- Read this owner's guide carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manual(s) before operation. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. Your unit has been designed to perform one job: to mow grass. Do not use it for any other purpose.
- Never allow children under 14 years old to operate a power mower. Children 14 years old and over should only operate mower under close parental supervision. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use your mower.
- Keep the area of operation clear of all persons, particularly small children and pets. Stop engine when they are in the vicinity of your mower to help prevent blade contact or thrown object injury. Although the area of operation should be completely cleared of foreign objects, an object may have been overlooked and could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.
- Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys and other foreign objects which could be picked up and thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area. Plan your moving pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. To help avoid a thrown objects injury, keep children, bystanders and helpers at least 75 feet from the mower while it is in operation.
- Always wear safety glasses or safety goggles during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
- Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals, slippery or light weight (e.g. canvas) shoes.
- Do not put hands or feet near or under rotating parts. Keep clear of discharge opening at all times as the rotating blade can cause injury.
- Many injuries occur as a result of the mower being pulled over the foot during a fall. Do not hang on to the mower if you are falling; release the handle immediately.
- Never pull the mower toward you while you are walking. If you must back the mower away from a wall or obstruction first look down and behind, and then follow these steps:
  - Step back from the mower to fully extend your arms.
  - Be sure you are well balanced with sure footing.
  - Pull the mower back slowly, no more than half way toward you.
  - Repeat these steps as needed.
- Do not operate the mower while under the influence of alcohol or drugs.
- Do not engage the self-propelled mechanism on units so equipped while starting engine.
- The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions and automatically return to the disengaged position when released.

- Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. Keep a firm hold on the handle and walk, never run. If you feel you are losing your footing, RELEASE THE BLADE CONTROL HANDLE IMMEDIATELY and the blade will stop rotating within three seconds.
- Mow only in daylight or good artificial light.
- Stop the blade when crossing gravel drives, walks or roads.
- If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the engine is shut off. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
- Never operate mower without proper guards, grass catcher, plates or other safety protective devices in place.
- Muffler and engine become hot and can cause a burn. Do not touch.
- Only use accessories approved for this machine by the manufacturer. Read, understand, and follow all instructions provided with the approved accessory.
- If situations occur which are not covered in this manual, use care and good judgment. Contact your dealer for assistance. Telephone 1-800-800-7310 for the name of your nearest dealer.

## 2. SLOPE OPERATION

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15 degrees as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

### DO:

- Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
- Watch for holes, ruts, hidden objects, or bumps. Tall grass can hide obstacles.
- Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance release the blade control handle immediately and the blade will stop in less than 3 seconds.

### DO NOT:

- Do not mow near drop-offs, ditches or embankments. The operator could lose footing or balance.

- Do not mow slopes greater than 15 degrees as shown on the slope gauge.
- Do not mow on wet grass. Reduced footing could cause slipping.

## 3. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Be alert and turn mower off if a child enters the area.
- Before and while moving backwards, look behind and down for small children or other objects.
- Never allow children under age 14 to operate the mower. Children 14 years of age and above should read and understand the operation instructions and safety rules in this manual.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision of a child or hazard.

## 4. SERVICE

- Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
- Use only an approved gasoline container.
- Never remove gas cap or add fuel while the engine is running. Allow engine to cool at least two minutes before refueling.
- Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never refuel machine indoors because flammable vapors will accumulate in the area.
- Never store the machine or fuel container inside where there is an open flame or spark such as a gas water heater, space heater, or furnace.
- Never run an engine inside a closed area.
- To reduce fire hazard, keep mower free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow mower to cool at least 5 minutes before storing.
- Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
- Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked or

- worn). Replace with blade which meets original equipment specifications listed in this manual.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- After striking a foreign object, stop the engine, remove the wire from the spark plug, and thoroughly inspect the mower for any damage. Repair the damage before starting and operating the mower.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.

- Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Do not change the engine governor setting or overspeed the engine. Excessive engine speeds are dangerous.



**WARNING - YOUR RESPONSIBILITY:** Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

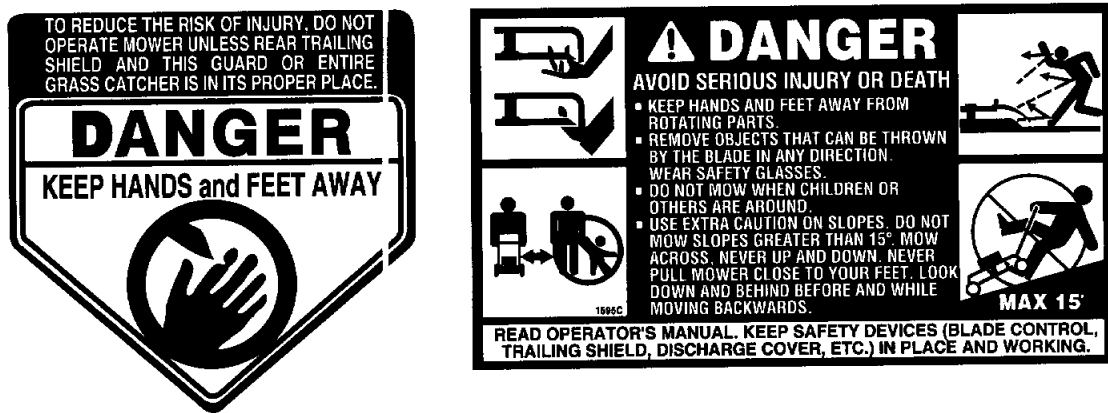


Figure 1 Safety Labels Found On Lawn Mower

## SECTION 2: FINDING YOUR MODEL NUMBER

This Owner's Guide is an important part of your new lawn mower. It will help you assemble, prepare and maintain your mower. Please read and understand what it says.

Before you start to prepare your mower for its first use, please locate the model plate and copy the information from it in this Owner's Guide. The information on the model plate is very important if you need help from your dealer or the MTD customer support department.

- Every mower has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the cutting deck.
- The model plate will look like Figure 2.

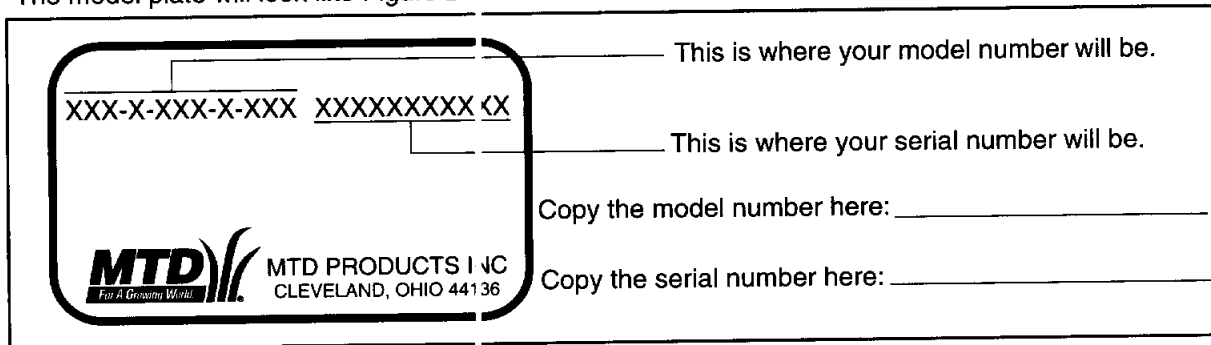


Figure 2

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## SECTION 3: CALLING CUSTOMER SUPPORT

If you are having difficulty assembling this product or if you have any question regarding the controls, operation or maintenance of this mower, please call the Customer Support Department. You can reach them by calling:

**1-800-800-7310**

Before you call, make sure that you have both your model and serial number ready. By having the model and serial number ready, you help the Customer Support Representative give you faster service. To find your units model and serial number, see SECTION 2: FINDING YOUR MODEL NUMBER.

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## SECTION 4: UNPACKING INSTRUCTIONS

### REMOVE UNIT FROM CARTON

- See Figure 3.
- Remove staples, break glue on top flaps, or cut tape at carton end and peel along top flap to open carton.
- Remove loose parts if included with unit (i.e., owner's manual, etc.).
- Cut along dotted lines and lay carton down flat.
- Remove packing material.
- Roll or slide unit out of carton. Check carton thoroughly for loose parts.

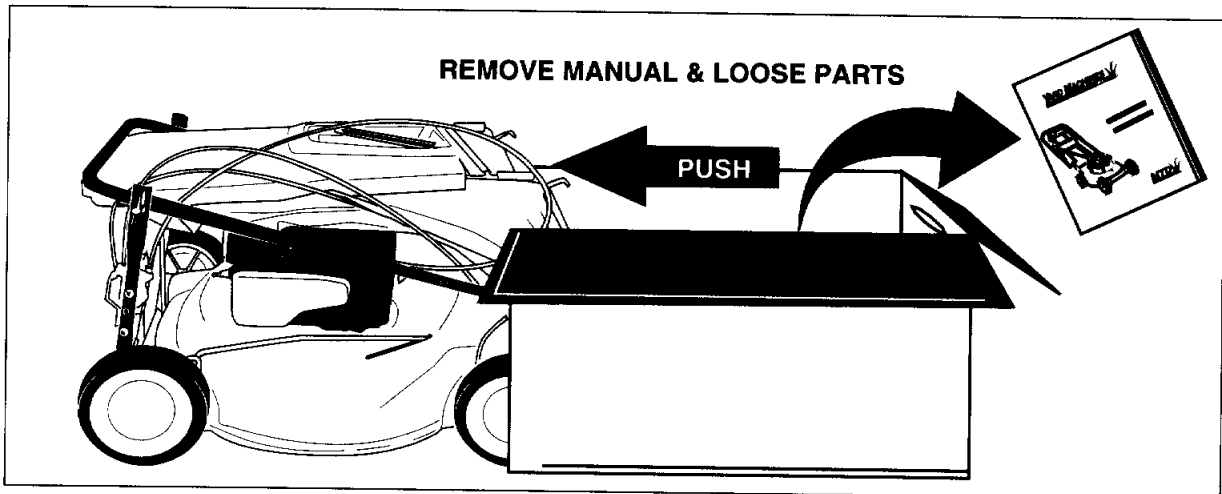


Figure 3

### DISCONNECT SPARK PLUG WIRE

Before setting up your lawn mower, disconnect the spark plug wire from the spark plug, and ground it against the engine by attaching rubber boot to a bolt or metal clip to the grounding post on the engine. See Figure 4.

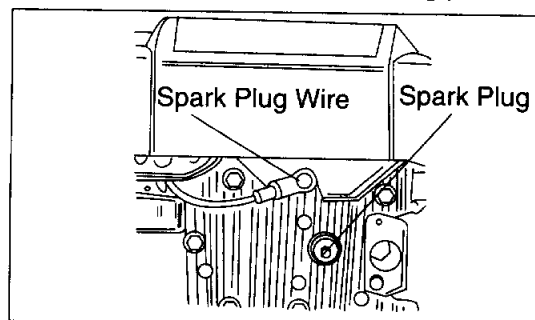


Figure 4

## SECTION 5: SET-UP INSTRUCTIONS

This guide covers models 370 - 379 single speed self propelled mowers and 380 - 389 six speed self propelled mowers. Much of this guide pertains to both models. However, there are some areas where only one model is covered. Use only the information that is appropriate for your model.

### ITEMS REQUIRED FOR ASSEMBLY

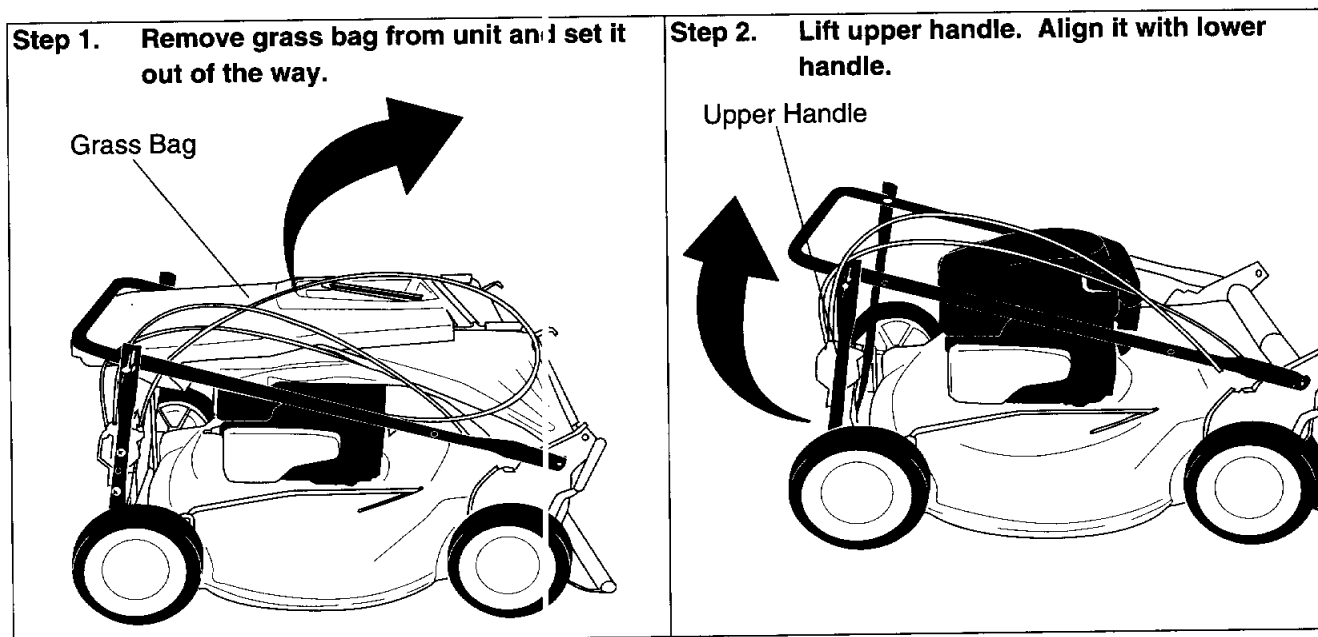
- Pair of Pliers (Not necessary, but helpful)
- Motor Oil
- Fresh Gasoline

**IMPORTANT:** This unit is shipped WITHOUT GASOLINE or OIL in the engine. Be certain to service engine with gasoline and oil as instructed in the separate engine manual before operating your mower.

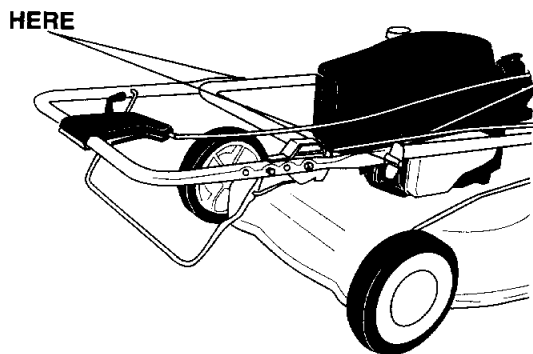
**NOTE:** Reference to right or left hand side of the mower is observed from the operating position.

### SET-UP YOUR LAWN MOWER

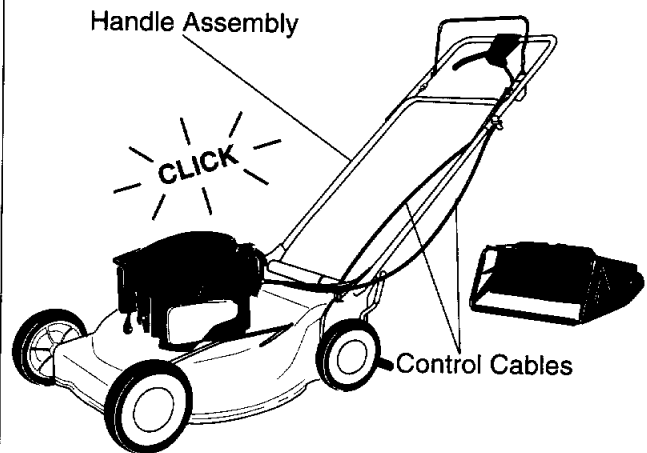
Follow steps 1 through 10 to set up your lawn mower.



**Step 3. Tighten wing nuts.**

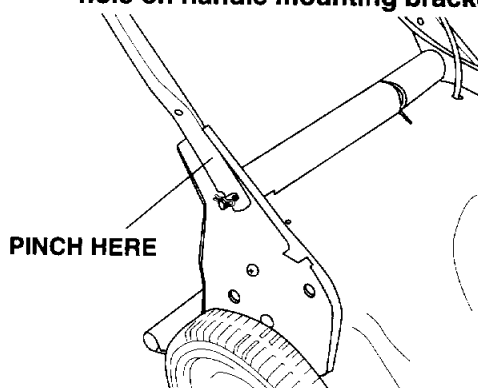


**Step 4. Raise complete handle assembly until it clicks into place. Make sure not to kink the control cables.**

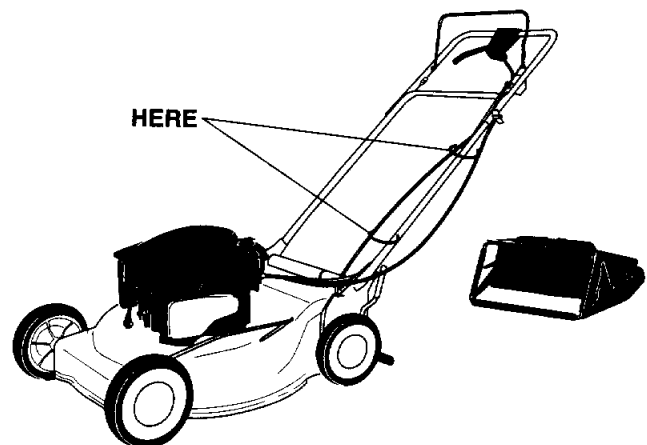


**Step 5. Pinch lower handle against mounting bracket with pliers.**

**Step 6. Move hairpin clip from outer to inner hole on handle mounting bracket.**



**Step 7. Attach control cables to handle with pull ties found on the handle.**

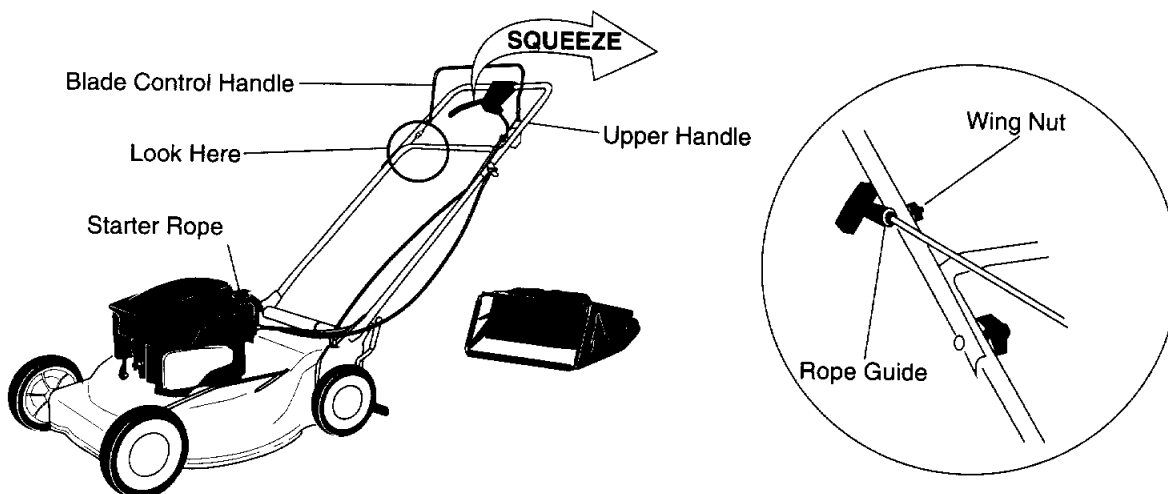


**Step 8. Loosen the wing nut holding the rope guide to the upper handle.**

**Step 9. Squeeze the blade control handle against the upper handle and pull out starter rope, slowly!**

**Step 10. Thread starter rope into rope guide.**

**Step 11. Tighten wing nut.**



## SECTION 6: CONTROLS

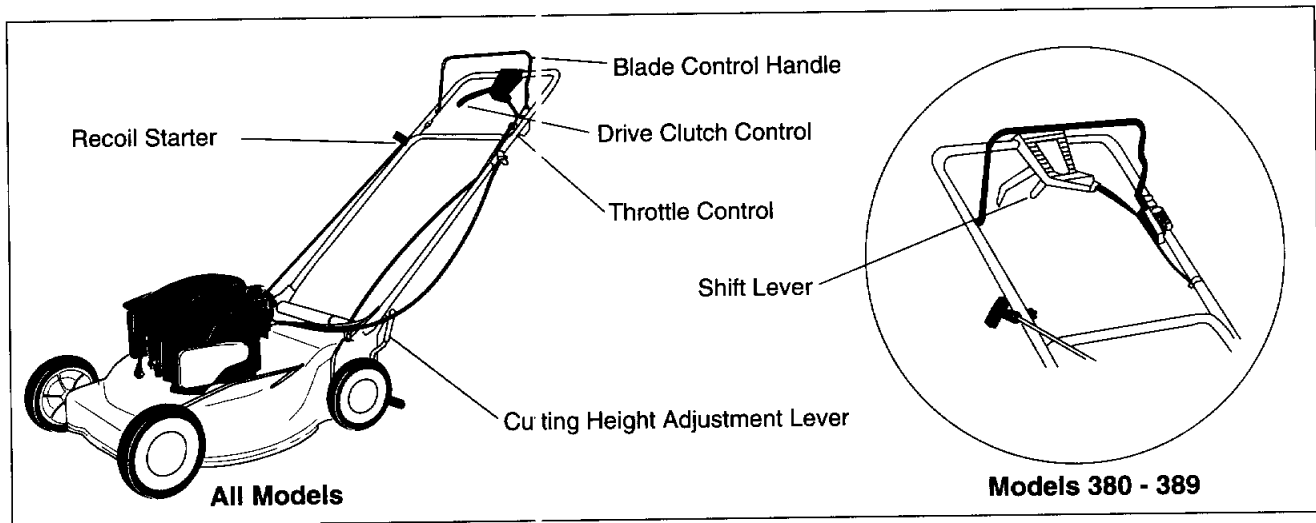


Figure 5

### BLADE CONTROL HANDLE

The blade control handle is located on the upper handle of the mower. See Figure 5. The blade control handle must be depressed in order to start and operate the unit. Release the blade control handle to stop the engine and blade.



**WARNING:** The blade control handle is a safety device. Never attempt to bypass its operations. The blade will be rotating whenever the engine is running.

### THROTTLE CONTROL

The throttle control is located on the left side of the upper handle. It is used to regulate the engine speed. See Figure 5.

- Push the throttle lever forward for fast.
- Pull the throttle lever back for slow.



**WARNING:** The throttle control cannot be used to stop the engine.

### RECOIL STARTER

The recoil starter handle is attached to the upper handle. See Figure 5. Stand behind the unit in the operating position to start the unit.

### DRIVE CLUTCH CONTROL

Squeezing the drive clutch control engages the drive system. Releasing the clutch control disengages the drive system. Release the clutch control to slow down when negotiating an obstacle, making a turn or stopping.

### SHIFT LEVER (Models 380 - 389)

The shift lever is located on the drive clutch control housing on the upper handle. See Figure 5. This lever is used to select the forward speed of the mower. When changing your speed selection, release the drive clutch control.



**NOTE:** Only move the shift lever when the engine is running. Changing the shift lever setting with the engine off can cause damage to the mower.

## CUTTING HEIGHT ADJUSTMENT LEVER

The cutting height adjustment lever is located above the left rear wheel. To adjust the cutting height, pull the lever out and away from the mower and then move it forward or back for a new cutting height. See Figure 6.

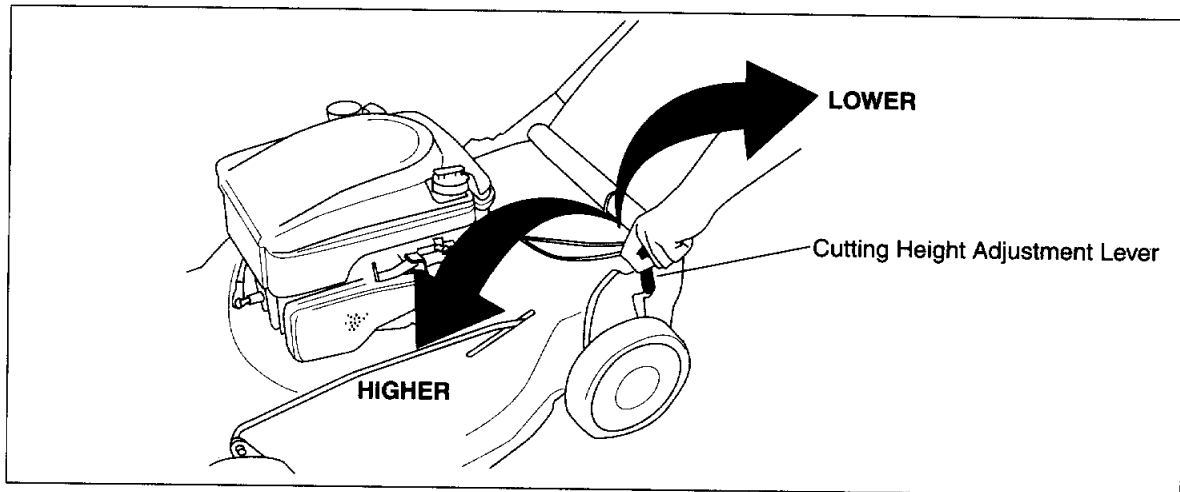


Figure 6


**NOTE:** For rough or uneven lawns, move the height adjustment lever to a higher position. This will help stop scalping.

## ENGINE CONTROLS

See the engine manual for the location and function of the controls located on the engine.

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## SECTION 7: OPERATION

 **WARNING:** Keep hands and feet away from the chute area on cutting deck. See Figure 1. The operation of any lawn mower can result in foreign objects being thrown into the eyes, which can result in severe eye damage. Always wear safety glasses or eye shields.

**NOTE:** For best results raise the cutting position until it is determined which height is best for your lawn. See CUTTING HEIGHT ADJUSTMENT LEVER in the CONTROLS section.

## GAS AND OIL FILL-UP

Service the engine with gasoline and oil as instructed in the separate engine manual. Read all instructions carefully.

 **WARNING:** Never fill fuel tank indoors, with engine running or until the engine has been allowed to cool for at least two minutes after running.

## EACH TIME BEFORE YOU START YOUR MOWER

- Attach spark plug wire to spark plug. Make certain the metal cap on the end of the spark plug wire is fastened securely over the metal tip on the spark plug.
- Check for proper drive clutch operation using the NEUTRAL ADJUSTMENT TEST.

## NEUTRAL ADJUSTMENT TEST

To perform the NEUTRAL ADJUSTMENT TEST answer the following questions.

- With the drive clutch control released, push mower forward and pull it backward. Does it move freely?
- Squeeze the drive clutch control and pull the mower backward. Do the rear wheels lock (not turn)?
- Is the drive clutch control cable free of kinks or sharp bends?

If you answered “**yes**” to all three questions, your mower passed the test and you can start your mower. If you answered “**no**” to any of the three questions, you need to go through the DRIVE CLUTCH CONTROL ADJUSTMENT found in the ADJUSTMENTS section.

## TO START ENGINE AND ENGAGE BLADE

- Move the throttle control lever all the way forward.
- Prime engine as instructed in the separate engine manual.
- Stand behind the unit, squeeze and hold the blade control handle against the upper handle.
- Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on starter handle. Return it slowly to the rope guide.
- After engine starts, move throttle control to desired engine speed. (The mower is designed to be operated at full throttle.)

**NOTE:** If any problems are encountered, refer to the TROUBLE SHOOTING Section of this manual.

## TO STOP ENGINE AND BLADE

- Release the blade control handle to stop the engine and blade.



**WARNING:** The blade continues to rotate for a few seconds after the engine is shut off.

## USING YOUR ROTARY MOWER

Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage the lawn mower or engine. Such objects could be accidentally thrown by the mower in any direction and cause serious personal injury to the operator and others.

For the best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut.

For a healthier lawn, never cut off more than one-third of the total length of the grass. Your lawn should be cut in the fall as long as there is growth.

This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of mowing or mulching.

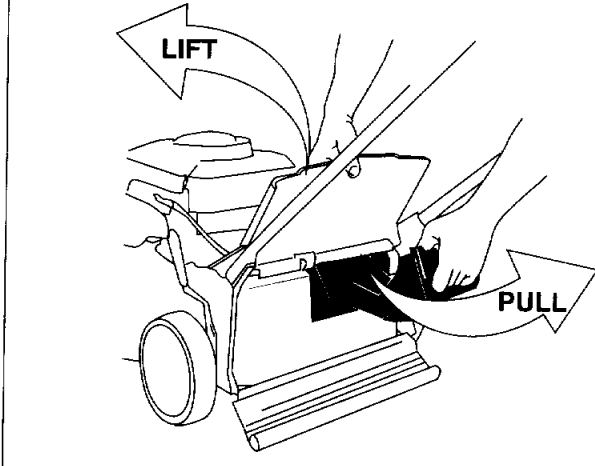


**WARNING:** If you strike a foreign object, stop the engine. Remove wire from spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

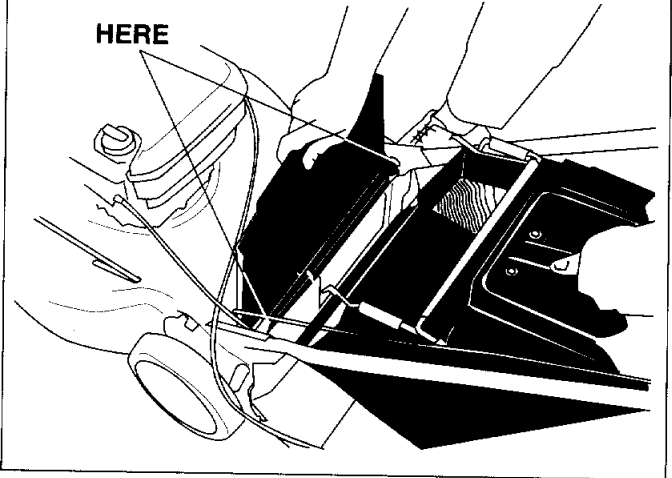
## BAGGING GRASS CLIPPINGS

This mower can bag grass clippings. Follow steps 1 and 2 to ready the mower for bagging.

**Step 1. Remove mulching plug, if installed.**



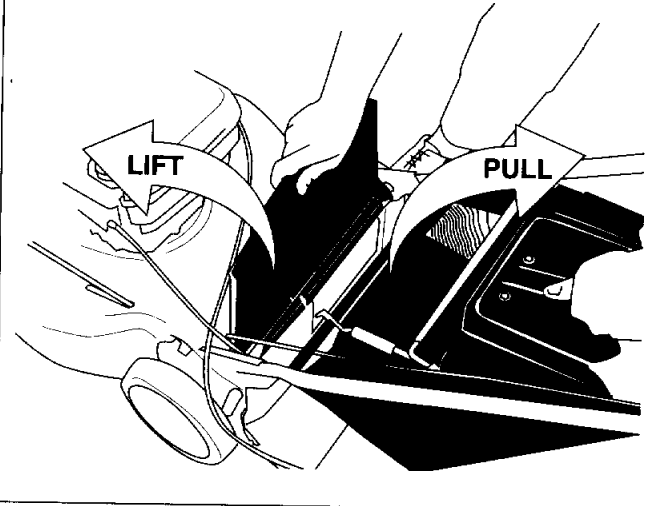
**Step 2. Hang grass bag on mower.**



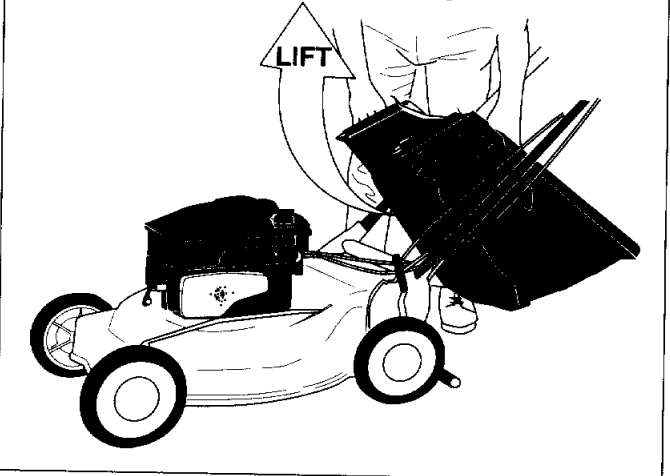
## EMPTYING A FULL BAG OF GRASS

Once the grass bag is full it will need to be emptied, follow steps 3 and 4 to empty the grass bag.

**Step 3. Lift flap and pull bag away from mower.**

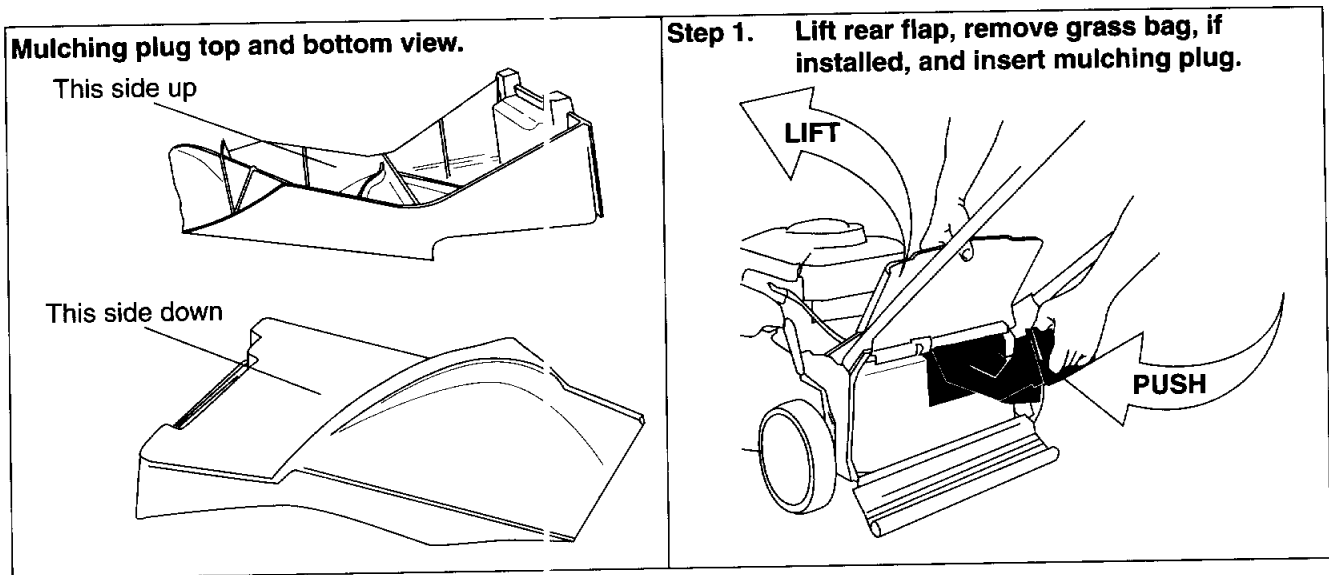


**Step 4. Lift bag up and away from mower. Dump the grass clippings.**



## MULCHING GRASS CLIPPINGS

This mower can also mulch grass clippings. Follow step 1 to ready this mower for mulching.



## SECTION 8: ADJUSTMENTS



**WARNING:** Do not at any time make any adjustment to lawn mower without first stopping engine and disconnecting spark plug wire.

### HANDLE HEIGHT ADJUSTMENT

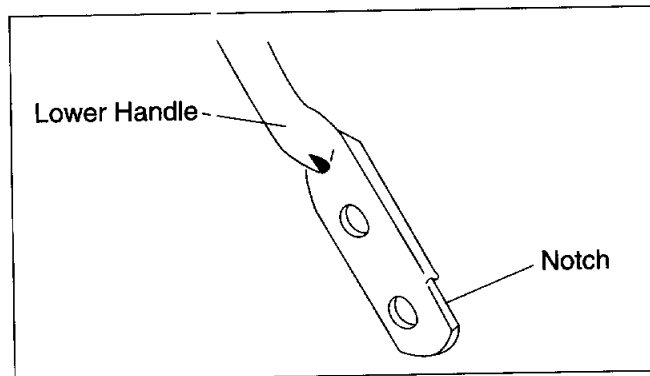


Figure 7

Your mower is shipped with the handle in the higher height position. To lower the handle height, proceed as follows.

- Remove the starter rope from the rope guide.
- Remove the upper handle by removing the hand knobs and carriage bolts. Lay the upper handle out of the way, being careful not to bend or kink the cables.
- Remove the hairpin clips from the weld pins on the handle brackets. Press out on the legs of the lower handle. Remove lower handle from the mower.
- Turn the lower handle around so the notch on the bottom of the lower handle is facing forward as shown in Figure 7. Reassemble, placing the bottom holes in the handle over the weld pins in the handle mounting bracket.
- Reassemble the upper handle to the lower handle.

- Place the hairpin clips in the inner holes in the weld pins and attach the starter rope as instructed in the Set-Up Instructions.

## THROTTLE CONTROL ADJUSTMENT

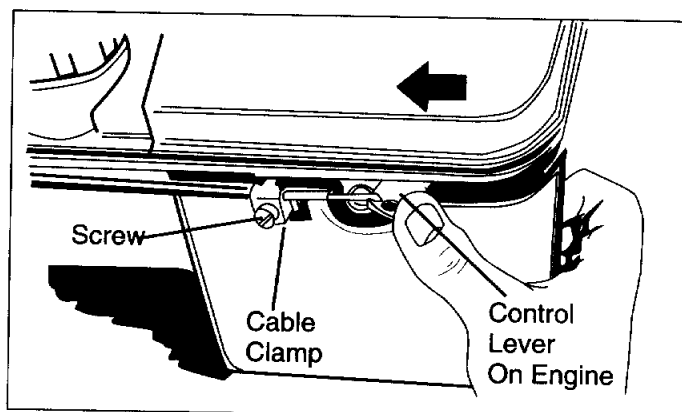


Figure 8

If the throttle control requires adjustment or if it has been replaced, adjust the throttle control as follows.

- Remove the screw shown in Figure 8. Remove the cable clamp from the cable.
- Push the throttle control lever on the handle all the way forward as far as it will go, then back it off one "click". Make certain the throttle control lever remains in this position.
- Push the control lever on the engine as far toward the rear of the engine as it will go. Secure the cable in this position with the cable clamp and screw.

## DRIVE CLUTCH CONTROL ADJUSTMENT

The drive clutch control adjustment wheel is located in the drive clutch control handle housing and is used to tighten or loosen the drive belt. You will have to adjust the drive clutch control if any of the following happens:

- The mower does not propel itself with the drive clutch engaged.
- The mower's drive wheels hesitate with the drive clutch engaged.

To resolve the above problems, rotate the adjustment wheel with your fingers. Clockwise to tighten the cable and counter-clockwise to loosen the cable. See Figure 9.

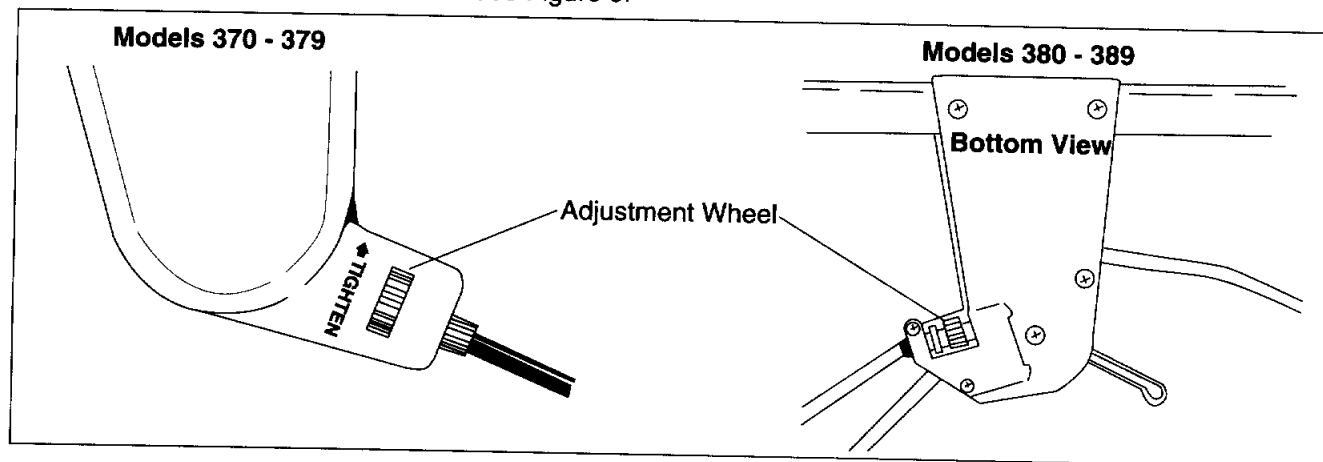


Figure 9

**Note:** For some people the drive clutch handle may not be in a comfortable position. You can adjust the handle out by tightening the adjustment wheel.

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## SECTION 9: LUBRICATION



**WARNING:** Always stop engine and disconnect spark plug wire before cleaning, lubricating or doing any kind of work on the lawn mower.

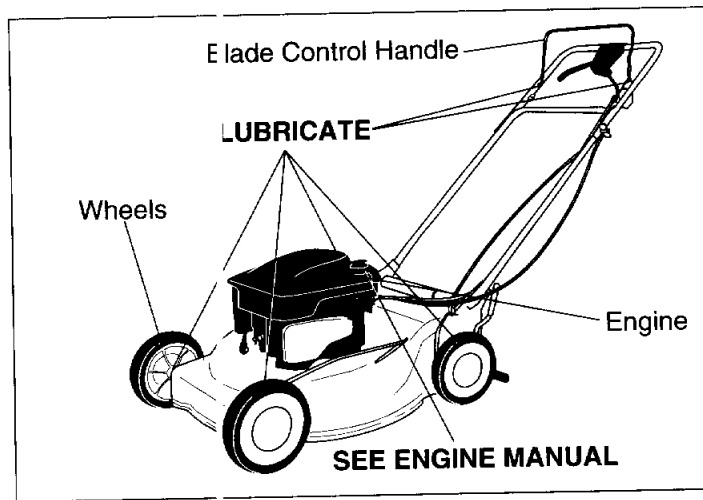


Figure 10

**Blade Control:** Lubricate the pivot points on the blade control handle and the brake cable at least once a season with light oil. See Figure 10. The blade control must operate freely in both directions.

**Wheels:** Lubricate the wheel at least once a season with light oil (or engine oil). Also, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. See Figure 10.

**Engine:** Follow engine manual for lubrication instructions.

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## SECTION 10: MAINTENANCE



**WARNING:** Be sure to disconnect and ground the spark plug wire before performing any repairs or maintenance.

**NOTE:** When tipping the unit, empty the fuel tank and keep engine, spark plug side up. Never tip the mower more than 90 degrees and do not leave the mower tipped for any length of time. Oil can drain into the upper part of the engine causing a starting problem.

### ENGINE

Refer to the separate engine manual for all engine maintenance instructions.

- Maintain engine oil as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.
- Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.
- The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

- Clean the engine regularly with a cloth or brush. Keep the cooling system (blower housing area) clean to permit proper air circulation which is essential to engine performance and life. Be certain to remove all grass, dirt and combustible debris from muffler area.

## DECK

The underside of the mower deck should be cleaned after each use to prevent a buildup of grass clippings, leaves, dirt or other matter. If this debris is allowed to accumulate, it will invite rust and corrosion, and may prevent proper mulching, discharge or bagging.

The deck may be cleaned by tilting the mower and scraping clean with a suitable tool (make certain the spark plug wire is disconnected).

## CUTTING BLADE REMOVAL, REPLACEMENT AND SHARPENING

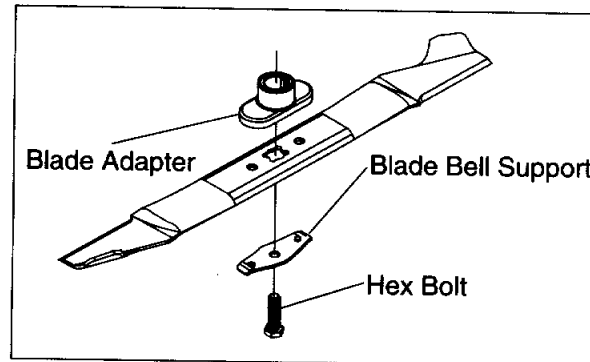


Figure 11

- When removing the cutting blade for sharpening or replacement, protect hands by using heavy gloves or a rag before grabbing the blade.
- Remove the bolt and blade bell support which hold the blade and adapter to the engine crankshaft.
- Remove the blade and adapter from the crankshaft.



**WARNING:** Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary.

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds. It may cause damage to the mower, and it could break causing personal injury.

The blade can be tested by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly. It is recommended that the blade always be removed from the adapter for the when testing for balance.

Before reinstalling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil.

- Be sure to install the blade with the side of the blade marked "Bottom" (or with part number) facing the ground when the mower is in the operating position.
- Slide blade adapter onto engine crankshaft.
- Place blade on adapter. Be certain the blade is aligned with and seated onto the blade adapter flanges.
- Place blade bell support on blade. Make sure the notches on the blade bell support are aligned with the small hole in the blade.
- Replace hex bolt.
- Tighten hex bolt to torque: 450 in. lbs. min., 600 in. lbs. max.

**NOTE:** To ensure safe operation of your unit, the blade bolt must be checked periodically for correct torque.

## TROUBLE SHOOTING

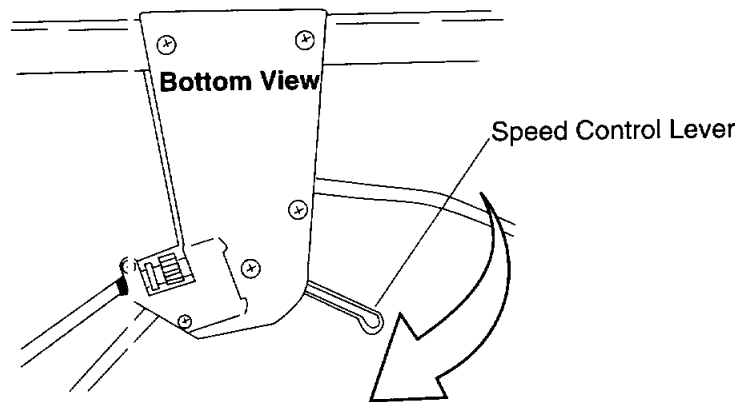
Refer to the trouble shooting section of this manual for helpful information.

### SHIFT LEVER CABLE ADJUSTMENT (Models 380 - 389 Only)

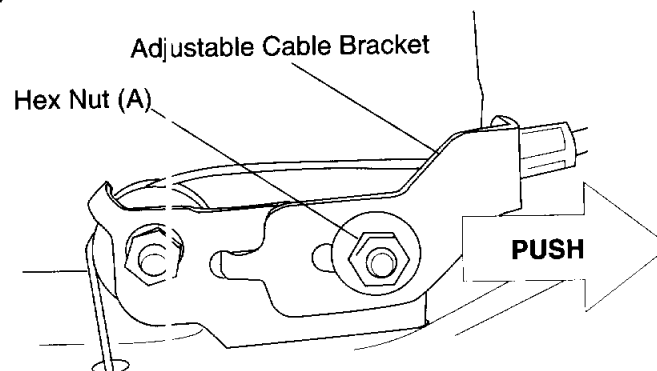
Periodic adjustment of the six speed shift cable may be required due to normal wear on the cable. Adjustment is needed if all six speeds do not work.

The adjustable cable bracket is located on the left side of the mower, beside the engine. Follow steps 1 through 7 to adjust the shift lever.

- Step 1. Start engine.**
- Step 2. Place speed control in the sixth speed position.**
- Step 3. Stop engine.**
- Step 4. Disconnect the spark plug wire and ground it.**



- Step 5. Loosen hex nut (A) which secures the adjustable cable bracket.**
- Step 6. Push back on the adjustable cable bracket.**
- Step 7. Tighten hex nut (A).**





## DRIVE BELT REMOVAL AND REPLACEMENT

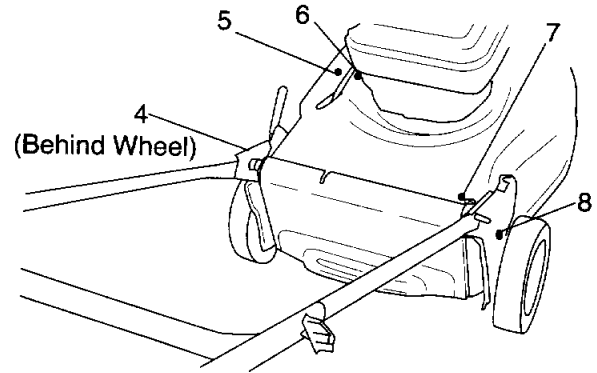
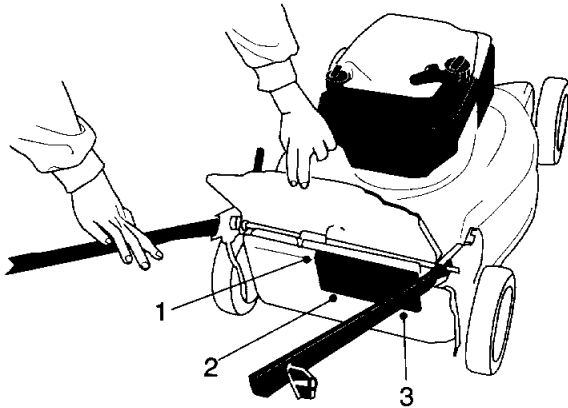
If you need to replace a worn or broken drive belt, follow steps 1 through 22.

**Step 1.** Disconnect the spark plug and ground it.

**Step 2.** Drain the fuel tank.

**Step 3.** Remove rear hub caps and wheels.

**Step 4.** Remove eight phillips head screws.



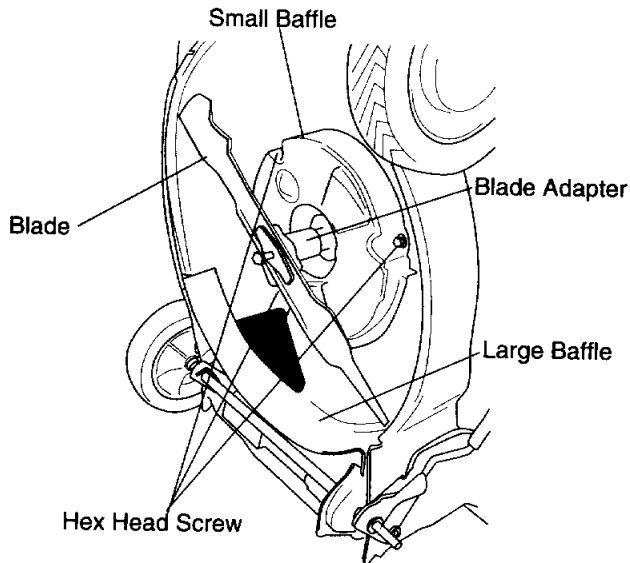
**Step 5.** Tip mower back on its handle and block securely.

**Step 6.** Remove blade and blade adapter.

**Step 7.** Remove three hex head screws holding small baffle.

**Step 8.** Remove small baffle.

**Step 9.** Remove large baffle.

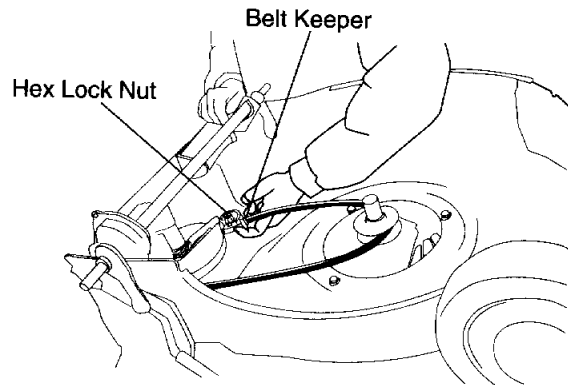


**Step 10.** Loosen hex lock nut holding idler bearing.

**Step 11.** Push back and rotate belt keeper.

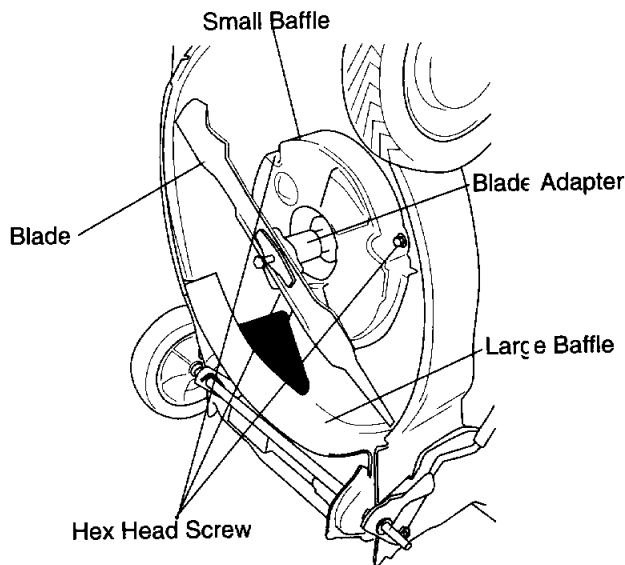
**Step 12.** Remove and replace belt.

**Step 13.** Replace belt keeper to its original position. Tighten the hex lock nut.



Mower shown tipped on engine for clarity. Remember, only tip mower back on its handle with the spark plug facing up.

- Step 14.** Replace large baffle.
- Step 15.** Replace small baffle and three hex head screws holding it in place.
- Step 16.** Replace blade adapter and blade. See the Blade Removal, Sharpening and Replacement Section for proper assembly.



- Step 17.** Replace the eight phillips head screws that hold the large baffle in place.
- Step 18.** Replace the rear wheels, rear wheel gears and hub caps. The gears need to be put on in the right way for the self propelled mechanism to work. Check the installation of the gear by spinning the wheel. It should spin freely in one direction but not the other. If the wheel spins freely in both directions, flip the gear over.
- Step 19.** Tip mower back onto its wheels
- Step 20.** Go through the neutral adjustment test in

## SECTION 11: OFF-SEASON STORAGE

The following steps should be taken to prepare lawn mower for storage.

- Clean and lubricate mower thoroughly as described in the lubrication instructions.
- Refer to engine manual for correct engine storage instructions.
- Coat mower's cutting blade with chassis grease to prevent rusting.
- Store mower in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.

**NOTE:** When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.

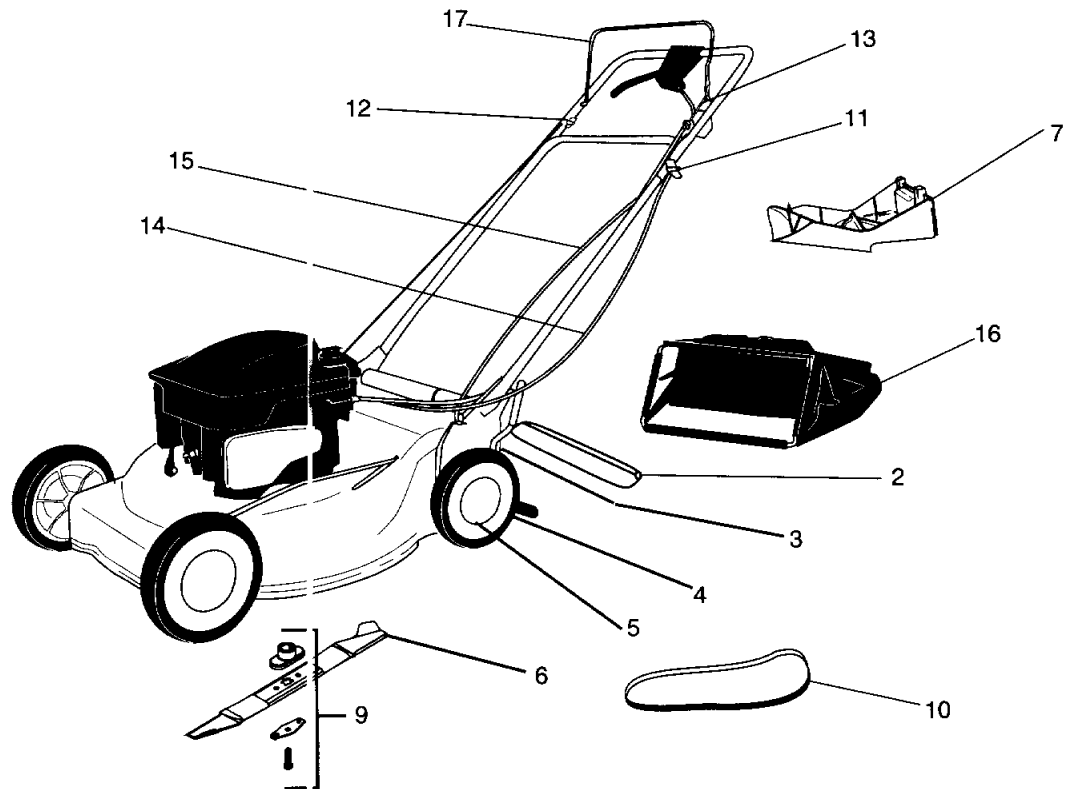
## SECTION 12: TROUBLE SHOOTING GUIDE

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	Blade control handle disengaged. Spark plug wire disconnected. Throttle control lever not in correct starting position. Fuel tank empty, or stale fuel. Blocked fuel line. Faulty spark plug. Engine flooded.	Engage blade control handle. Connect wire to spark plug. Move throttle lever to FAST or START position. Fill tank with clean, fresh gasoline. Clean fuel line. Clean, adjust gap or replace. Crank engine with throttle in FAST position.
Engine runs erratic	Unit running in START position. Spark plug wire loose. Blocked fuel line or stale fuel.  Vent in gas cap plugged. Water or dirt in fuel system. Dirty air cleaner. Carburetor out of adjustment.	Move throttle lever to FAST position. Connect and tighten spark plug wire. Clean fuel line; fill tank with clean, fresh gasoline. Clear vent. Drain fuel tank. Refill with fresh fuel. Clean air cleaner. Adjust carburetor.
Engine overheats	Engine oil level low. Air flow restricted. Carburetor not adjusted properly.	Fill crankcase with proper oil. Remove blower housing and clean. Adjust carburetor.
Occasional skip (hesitates) at high speed	Spark plug gap too close.	Adjust gap to .030".
Idles poorly	Spark plug fouled, faulty or gap too wide. Carburetor improperly adjusted. Dirty air cleaner.	Reset gap to .030" or replace spark plug.  Adjust carburetor. Clean air cleaner.
Excessive vibration	Cutting blade loose or unbalanced. Bent cutting blade.	Tighten blade and adapter. Balance blade. Replace blade.
Mower will not mulch grass	Engine speed too low. Wet grass.  Excessively high grass.  Dull blade.	Set throttle between 3/4 and full throttle. Do not mow when grass is wet; wait until later to cut. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath (1/2 width). Sharpen or replace blade.
Uneven cut	Wheels not positioned correctly.  Dull blade.	Place all four wheels in same height position.  Sharpen or replace blade.

Refer to separate engine manual packed with your mower for more engine related information.

**NOTE:** For repairs beyond the minor adjustments listed above, contact your nearest authorized service dealer or call 1-800-800-7310 for the Customer Support Center.

## SECTION 13: Assorted Parts List



Ref. No.	Description	Models 370-379	Models 380-389
	Grass Bag Kit	190-119-000	190-119-000
2	Trailing Shield	731-1236	731-1236
3	Trailing Shield Wire	732-0700	732-0700
4	Wheels	634-0020	734-1790 (Front) 734-1791 (Rear)
5	Hub Caps	720-0249	731-1426
6	Blade	742-0741 (Mulch) 742-0641 (Std.)	742-0741 (Mulch) 742-0641 (Std.)
7	Mulch Plug	731-1685	731-1685
	Mulch Kit	190-120-000	190-120-000
9	Blade Adapter Kit	753-0609	753-0609
10	Belt	754-0271	754-0271
11	Handle Knob	720-0276	720-0276
12	Handle Knob	720-0279	720-0279
13	Cable Control	746-0551	746-0551
14	Cable Throttle	746-0841	746-0841
15	Cable S.P.	746-0711A	746-0711A
16	Grass Bag	664-0080	664-0080
17	Blade Control	747-0824	747-0824

**CALL 1-800-800-7310 FOR PARTS, SERVICE & ACCESSORIES!**



**WARNING:** The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.