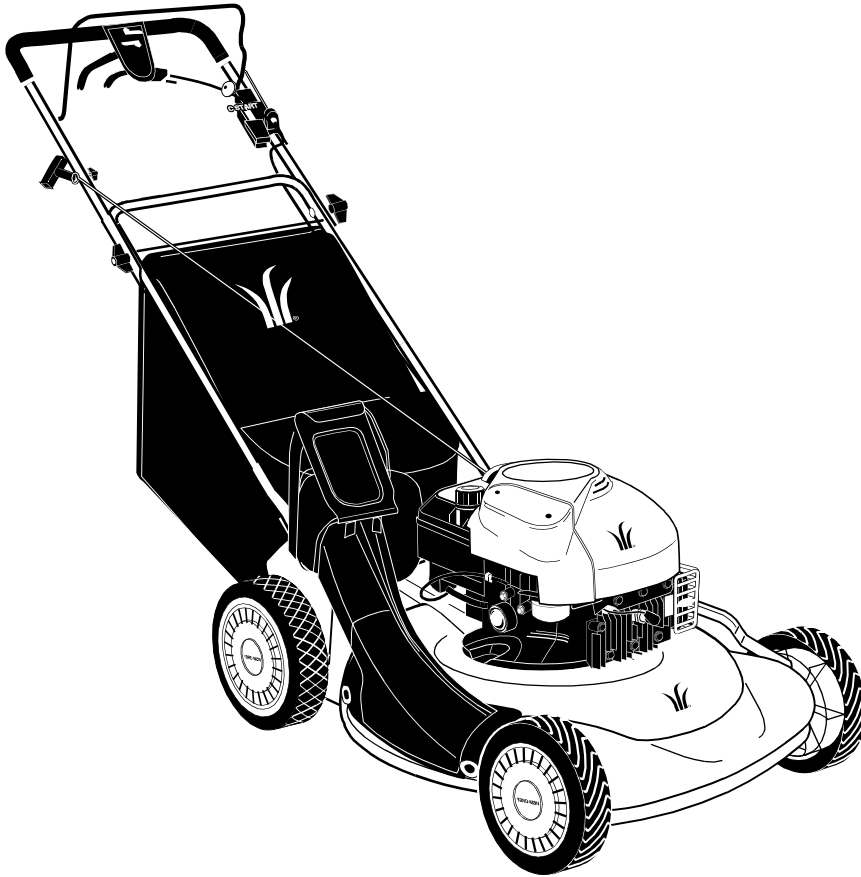


YARD-MAN™ by **MTD**

Operator's Manual



21" Self-Propelled
Mower
Model No.
247.379790

Factory No.
12A-979L402



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

SECTION 1: FINDING YOUR MODEL NUMBER

This Operator's Manual is an important part of your new walk behind. It will help you assemble, prepare and maintain your walk behind. Please read and understand what it says.

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

- Every walk behind has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the rear of the deck.
- The model plate will look like Figure 1.

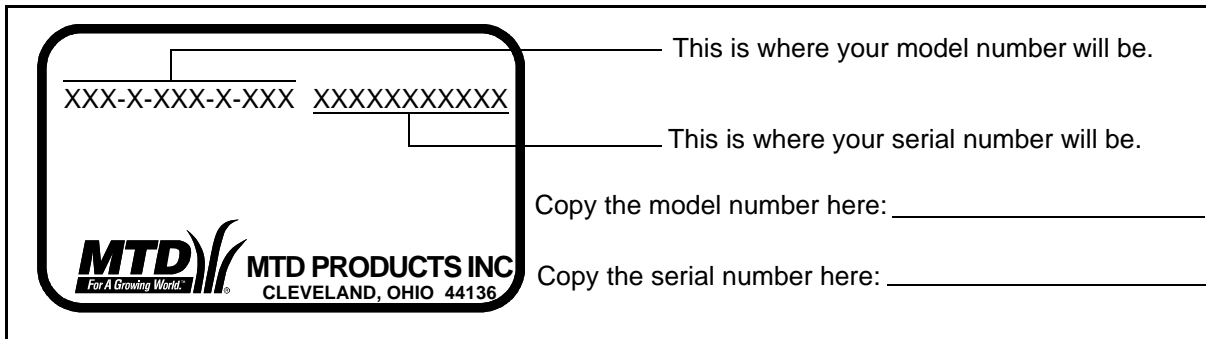


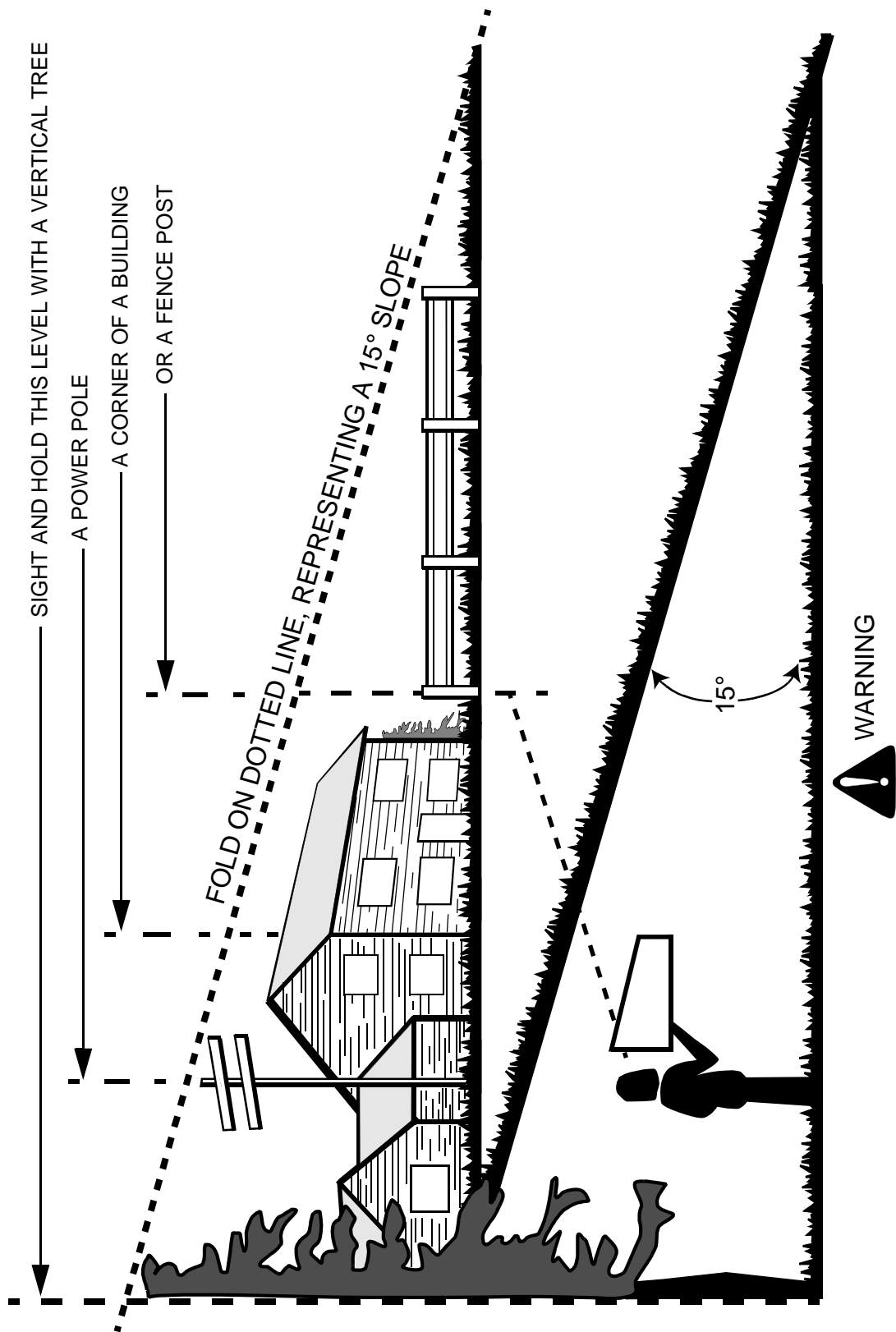
Figure 1

SECTION 2: CALLING CUSTOMER SUPPORT

- **LOCATE YOUR MODEL NUMBER AND SERIAL NUMBER** — Record this information in the space provided. To find your unit's specific model number and serial number, see SECTION 1: FINDING YOUR MODEL NUMBER.
- If you are having difficulty assembling this product or if you have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Support Department.
- Customer Support can be reached by dialing: **1- (330) 220-4MTD (4683)**
or
1- (800)-800-7310
- Please have your model number and serial number ready when you call.
- Although both numbers are important, you will be asked to enter only your **serial** number before your call can be processed.

SECTION 3: SLOPE GAUGE

USE THIS PAGE AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.



Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

SECTION 4: 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 mowing 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.
- Do not adjust the throttle with the engine running.



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



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 2 Safety Labels Found On Lawn Mower

SECTION 5: 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., operator'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.

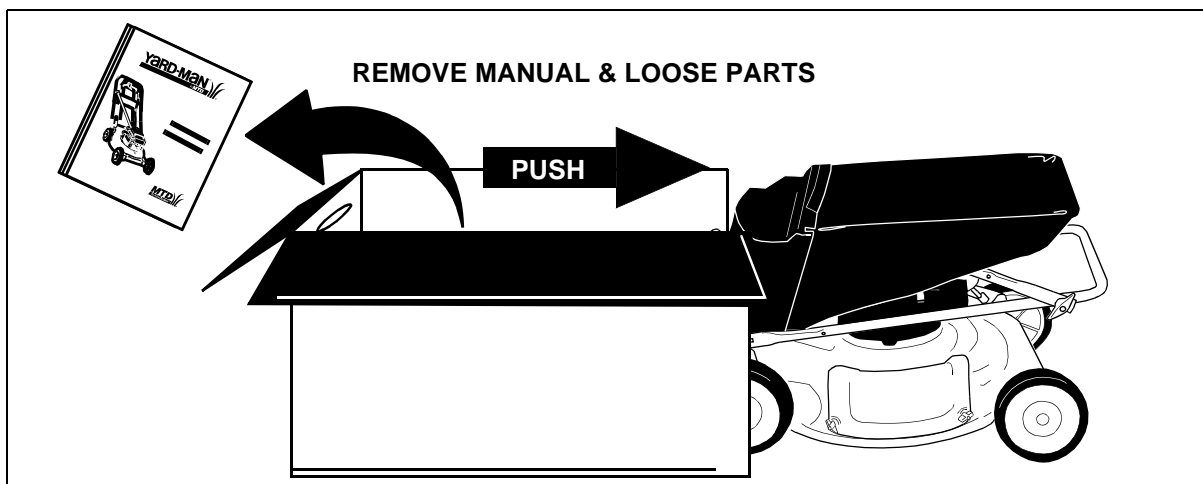


Figure 3

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.

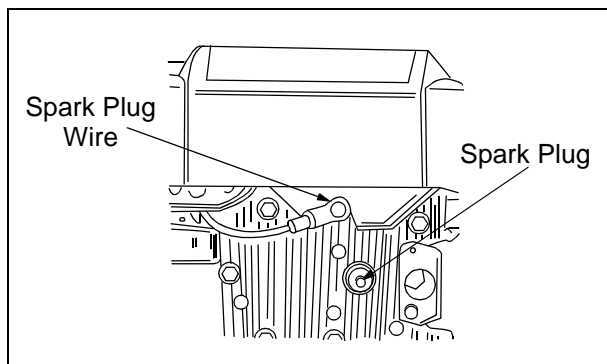


Figure 4

SECTION 6: SET-UP INSTRUCTIONS

ITEMS REQUIRED FOR ASSEMBLY

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

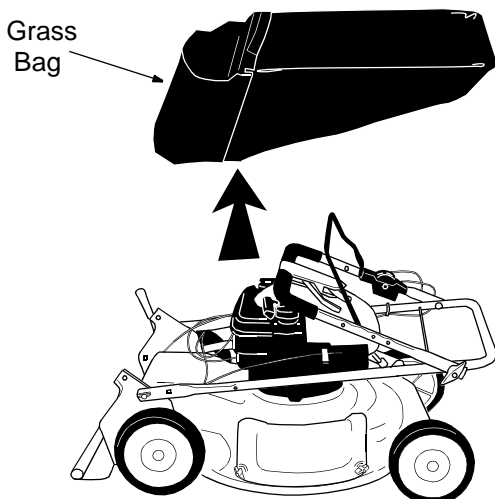
IMPORTANT: This unit is shipped WITHOUT GASOLINE or OIL in the engine. Be certain to service engine with gasoline and oil as instructed in the separate engine manual before operating your mower.

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

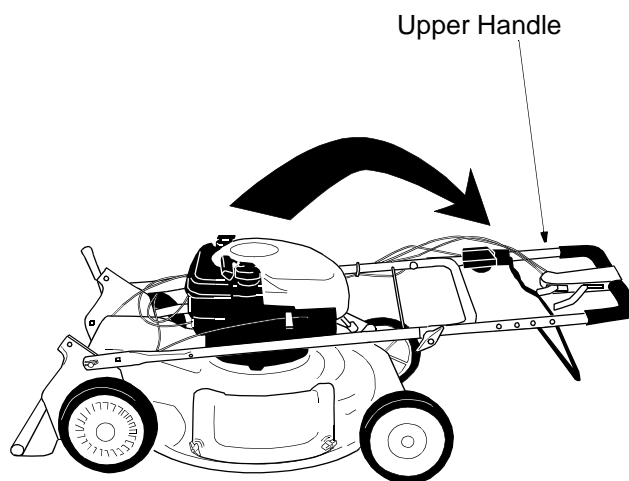
SET UP YOUR LAWN MOWER

Follow steps 1 through 9 to set up your lawn mower.

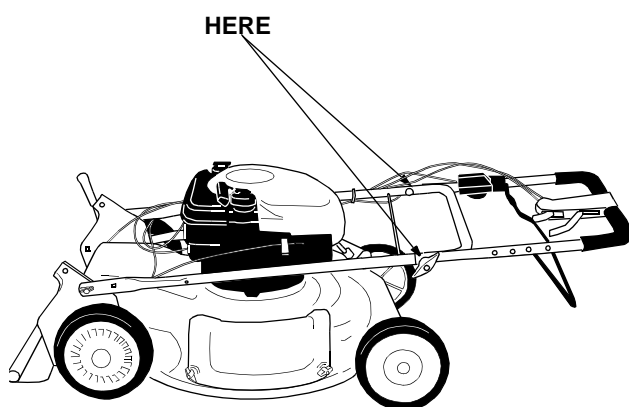
Step 1. Remove grass bag from unit and set it out of the way.



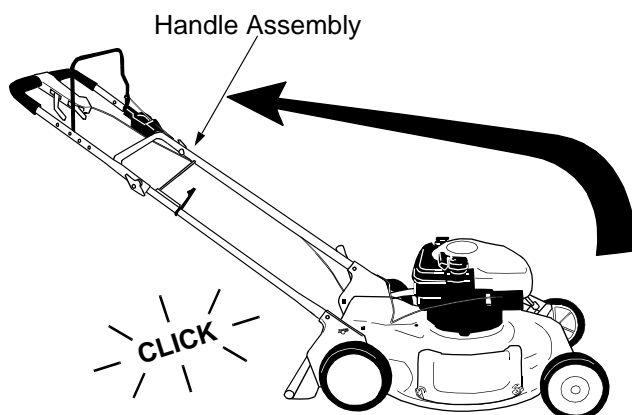
Step 2. Lift upper handle. Align it with lower handle.



Step 3. Tighten wing nuts.

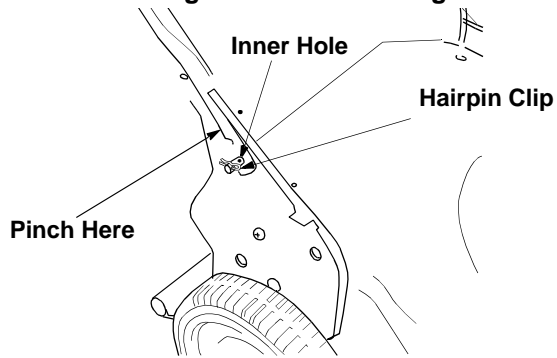


Step 4. Raise complete handle assembly until it clicks into place. Make sure not to kink the control cables.

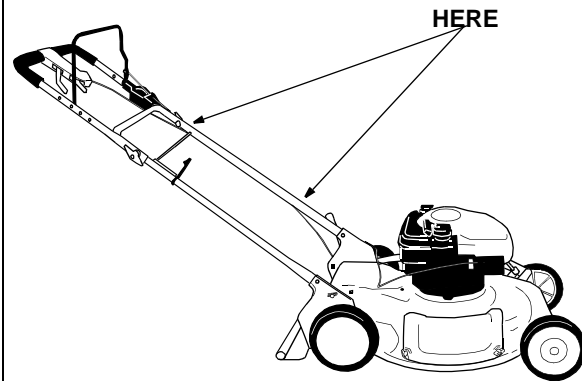


Step 5. Pinch lower handle against mounting bracket with pliers.

Step 6. Move hairpin clip from outer to inner hole on left and right handle mounting brackets.

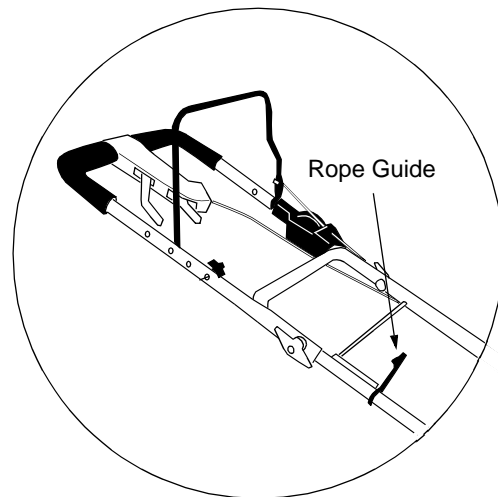
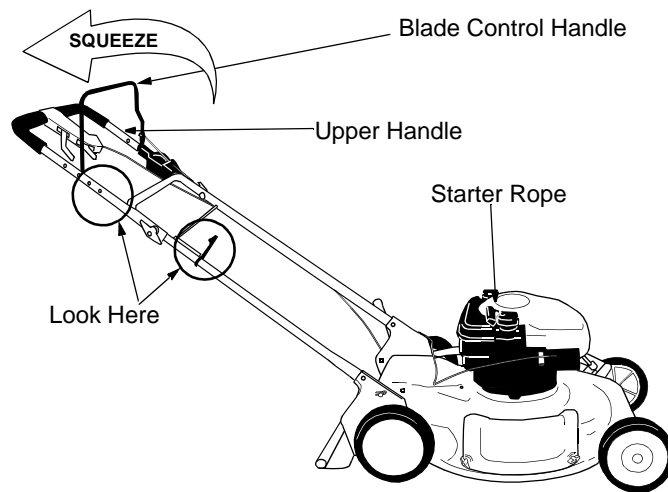


Step 7. Attach control cables to handle with pull ties found on the handle.



Step 8. Squeeze the blade control handle against the upper handle and pull out the starter rope slowly.

Step 9. Thread the starter rope into the rope guide.



SECTION 7: CONTROLS

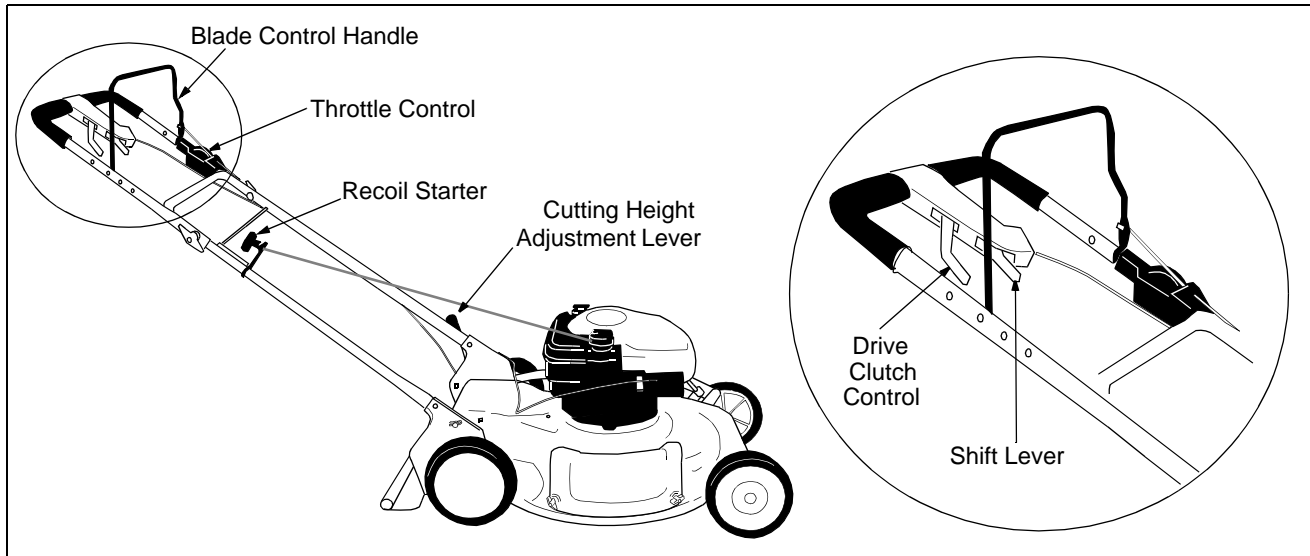


Figure 5

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 is located on the engine. It is used to regulate the engine speed.



WARNING: The throttle control cannot be used to stop the engine. Do not adjust the throttle control with the engine running.

RECOIL STARTER

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

DRIVE CLUTCH CONTROL

Squeeze the drive clutch control to engage the drive system. Release the clutch control to disengage the drive system. Release the clutch control to slow down when negotiating an obstacle, making a turn or stopping.

SHIFT LEVER

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 speed selection, release the drive clutch control.

NOTE: Move the shift lever only when the engine is running. Changing the shift lever setting with the engine off can cause damage to the mower.

CUTTING HEIGHT ADJUSTMENT LEVER

Note: Your mower is shipped with the cutting height in the lowest position. Adjust the cutting height as follows. 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 backward to select a new cutting height. See Figure 6.

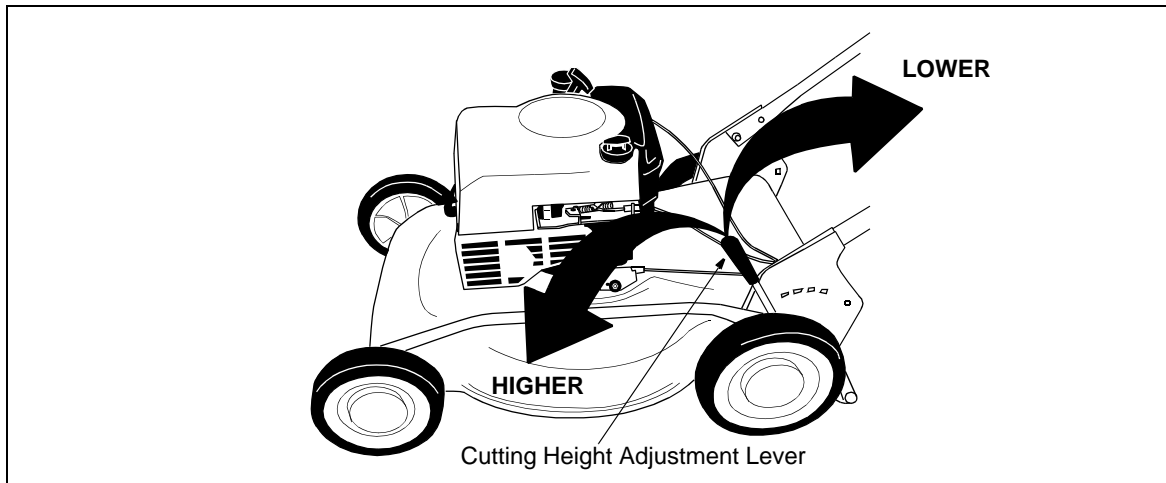


Figure 6

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.

SECTION 8: OPERATION



WARNING: Keep hands and feet away from the chute area on the cutting deck. See Figure 2. 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 YOU START YOUR MOWER

ALL UNITS:

- 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 will have to adjust the drive clutch control following instructions in the DRIVE CLUTCH CONTROL ADJUSTMENT section.

TO START ENGINE AND ENGAGE BLADE

- Move the throttle control on the engine to the fast (rabbit) position.
- Prime engine as instructed in the separate engine manual.
- Stand behind the unit, squeeze the blade control handle and hold it against the upper handle.

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 the blade.



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

USING YOUR ROTARY MOWER

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

For 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.

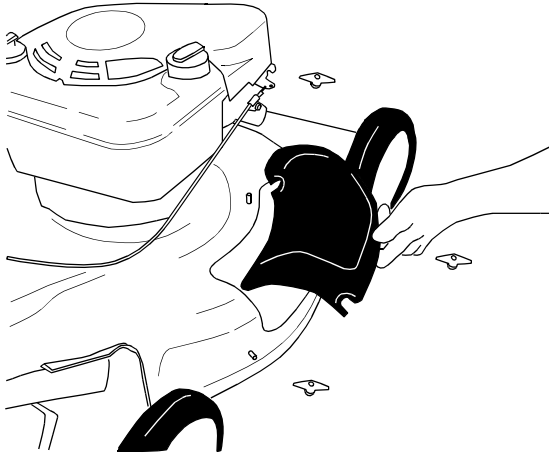


WARNING: If you strike a foreign object, stop the engine. Remove wire from the spark plug, thoroughly inspect the mower for any damage, and repair the damage before restarting and operating the mower. Extensive vibration of the mower during operation is an indication of damage. The unit should be promptly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

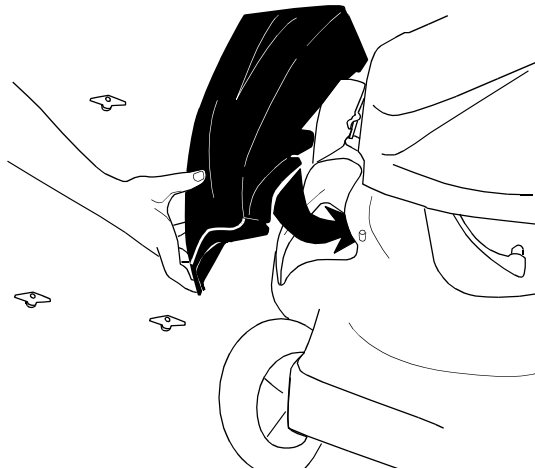
BAGGING GRASS CLIPPINGS

This mower can bag grass clippings. Follow steps 1 through 3 to ready the mower for bagging.

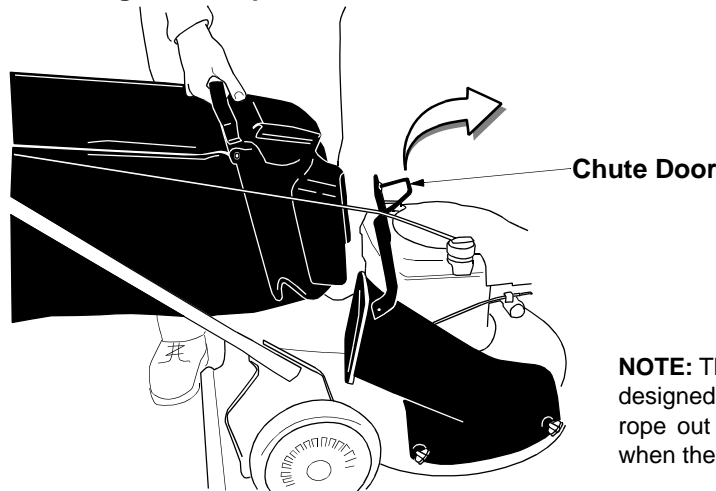
Step 1. Remove wing nuts holding mulching baffle or side discharge chute in place. Then remove plug or discharge chute.



Step 2. Replace with bagging adapter. Attach using wing nuts. Be sure that inner lip of attachment goes under the edge of the deck.

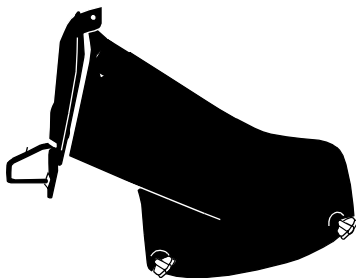


Step 3. Lift chute door and slide bag onto adapter.

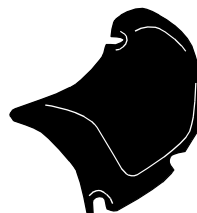


NOTE: The chute door has been designed to move the starter rope out of the way of the bag when the chute door is opened.

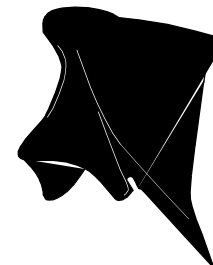
Bagging adaptor



Mulching baffle



Side-discharge chute



EMPTYING YOUR GRASS BAG

Holding the grass bag by both the rear handle and the lower handle, lift it straight up. The chute door will move the rope out of the way of the bag. Remove the bag from the bagging adaptor on the mower. While holding the lower handle lift up the rear section of the grass bag as shown in Figure 7. The bag will open and the grass clippings will fall out. When replacing your grass bag be sure the top of the bag rests on the wire support between the handles.

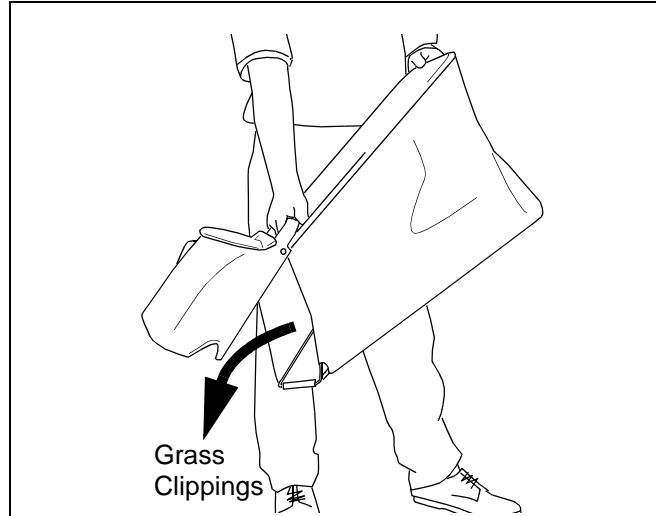
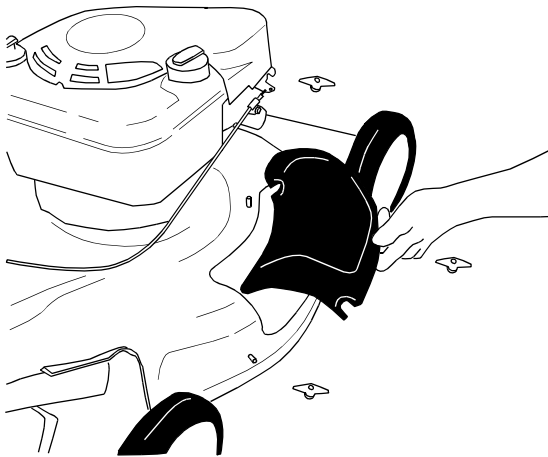


Figure 7

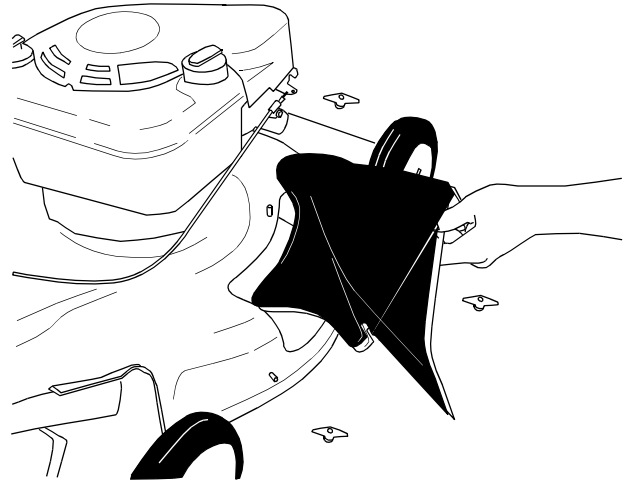
SIDE-DISCHARGE GRASS CLIPPINGS

This mower can also side-discharge grass clippings. Follow steps 1 and 2 to ready this mower for side-discharge operation.

Step 1. Remove mulching baffle or grass bag adapter.



Step 2. Attach discharge chute with wing nuts.



SECTION 9: 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

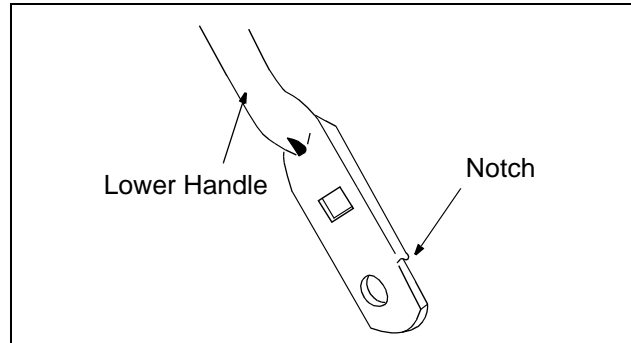


Figure 8

Your mower is shipped with the handle in the higher height position. To lower the 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 lower handle around so the notch on the bottom of the lower handle is facing forward. See Figure 8. 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.

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.

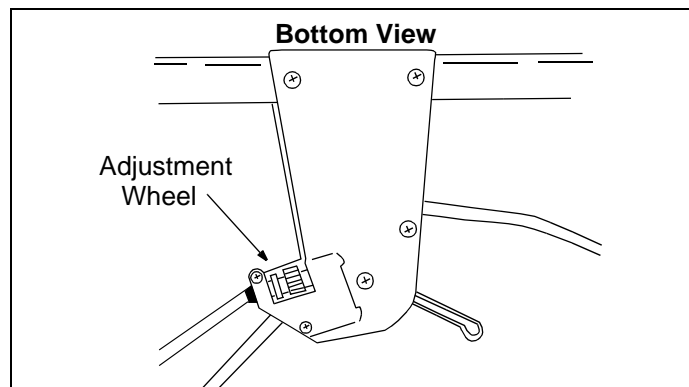


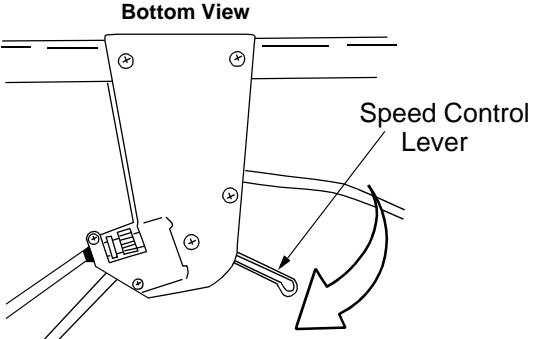
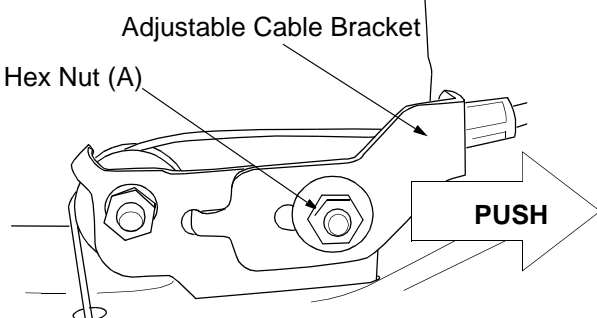
Figure 9

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.

SHIFT LEVER CABLE ADJUSTMENT

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.

 <p>Bottom View</p> <p>Speed Control Lever</p> <p>Step 1. Start engine.</p> <p>Step 2. Place speed control in the sixth speed position.</p> <p>Step 3. Stop engine.</p> <p>Step 4. Disconnect spark plug wire and ground it.</p>	 <p>Adjustable Cable Bracket</p> <p>Hex Nut (A)</p> <p>PUSH</p> <p>Step 5. Loosen hex nut (A) which secures the adjustable cable bracket.</p> <p>Step 6. Push back on the adjustable cable bracket.</p> <p>Step 7. Tighten hex nut (A).</p>
--	---

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 the 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 indicate 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

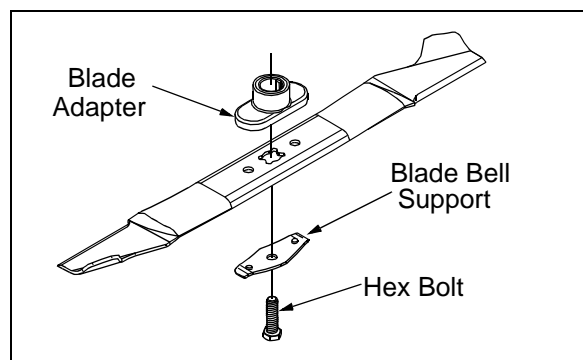


Figure 10

- When removing the cutting blade for sharpening or replacement, protect your hands with a pair of heavy gloves or use a heavy rag to hold the blade.
- Remove the bolt and the blade bell support which hold the blade and the blade adapter to the engine crankshaft.
- Remove the blade and the 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 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 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.

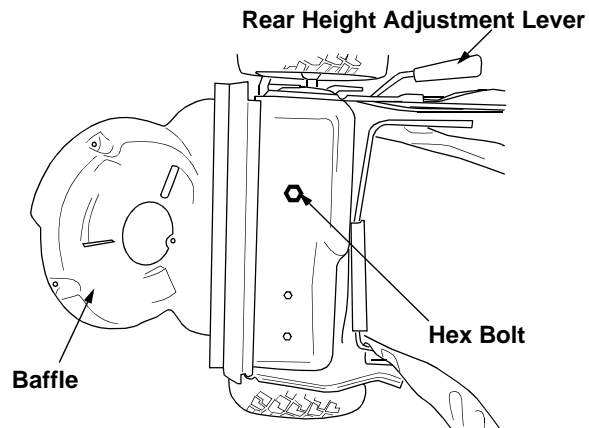
- Be sure to install the blade with the side of the blade marked “Bottom” (or with part number) facing the ground when the mower is in the operating position.
- Slide the blade adapter on to the engine crankshaft.
- Place the blade on the adapter. Be certain the blade is aligned with and seated on the blade adapter flanges.
- Place blade bell support on blade. Make sure the notches on the blade bell support are aligned with the small holes 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 mower, the blade bolt must be checked periodically for correct torque.

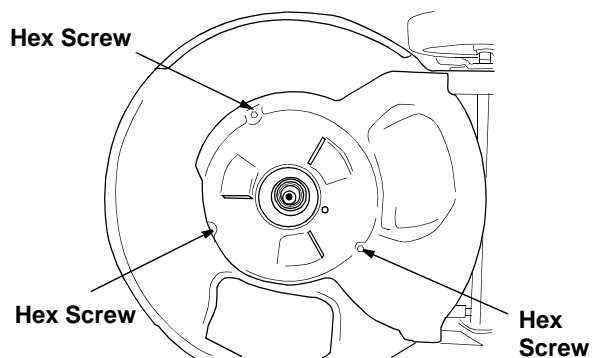
DRIVE BELT REMOVAL AND REPLACEMENT

- Step 1. Disconnect the spark plug wire and ground it against the engine.
- Step 2. Drain the fuel tank or place a piece of plastic beneath the cap to prevent gasoline leakage.
- Step 3. Place shift lever in the first position.
- Step 4. Tip the mower on its side. Block securely.
- Step 5. Remove the center bolt which secures the blade to the crankshaft. Remove the blade, and the blade adapter, wave washer, and spacer. Refer to Cutting Blade Removal, Replacement and Sharpening in the Maintenance Section.
- Step 6. Move rear height adjuster to the sixth position.

- Step 9. Remove the hex bolt holding the transmission to the mower housing.



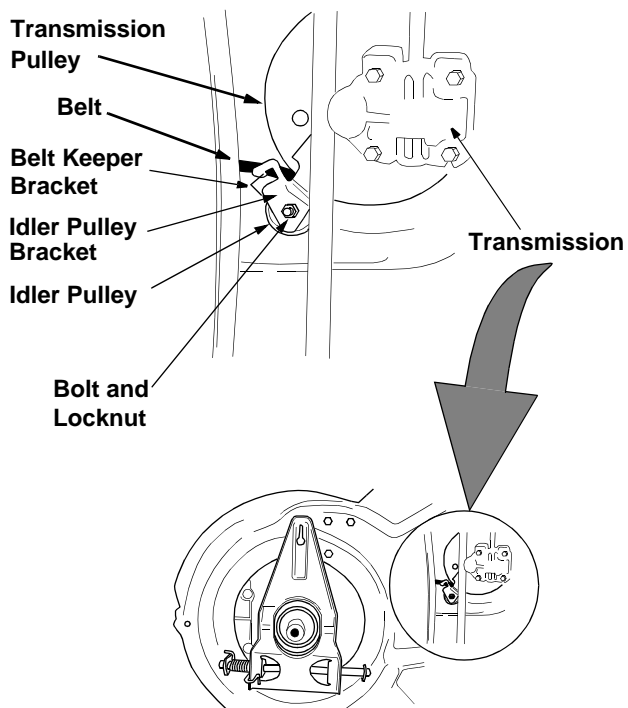
- Step 7. Using a 3/8" socket, remove three hex screws holding the baffle to the deck.



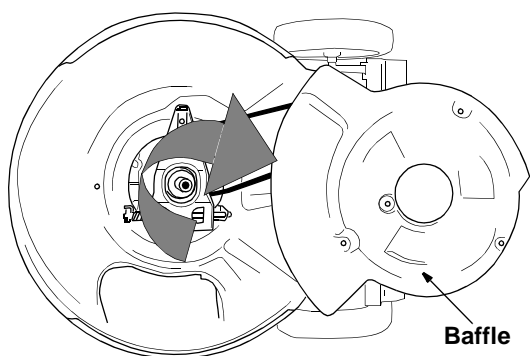
- Step 10. Tilt the transmission forward and loosen the idler pulley bolt and lock nut 1/2 turn using two 7/16" wrenches.

- Step 11. Using a pair of pliers, pull back and rotate belt keeper bracket from the slot on the idler pulley.

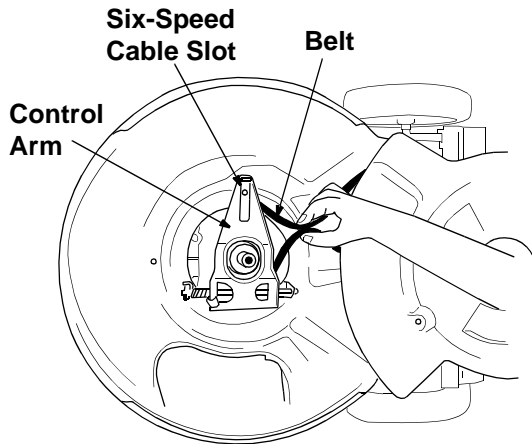
- Step 12. Slide the belt out from between the belt keeper bracket and the idler pulley.



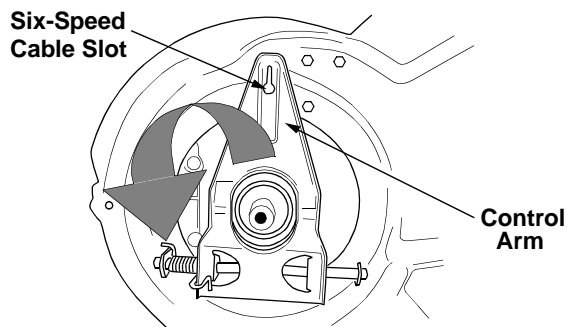
- Step 8. Pivot baffle towards the rear of the mower.



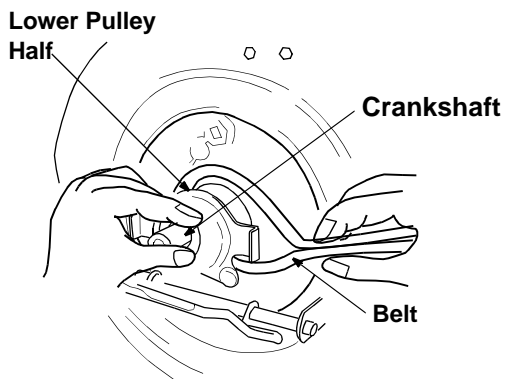
Step 13. Squeeze the belt together and push it forward. Press the control arm inward towards the deck and remove the six speed cable from the slot.



Step 14. Pivot the control arm down away from the pulley and belt.



Step 15. Lift off the lower pulley assembly and remove the old belt from around the crankshaft.

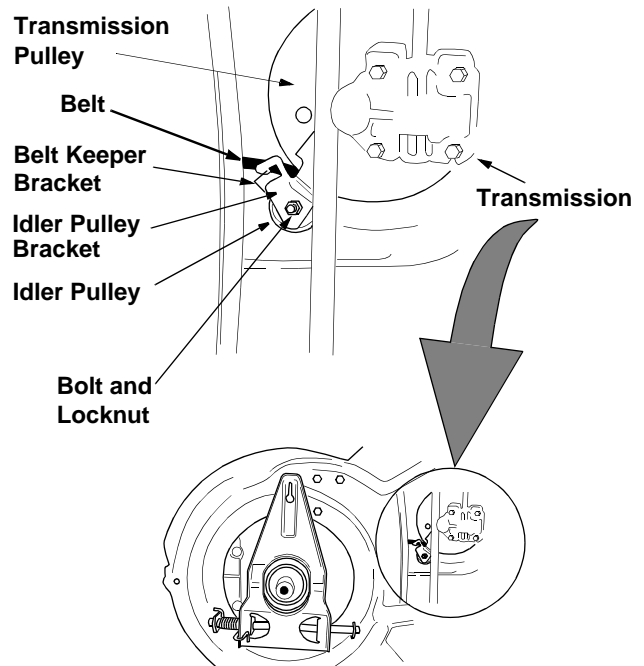


Step 16. Place the new belt over the transmission pulley. Start the belt in the pulley groove and rotate the pulley until the belt is seated in the transmission pulley.

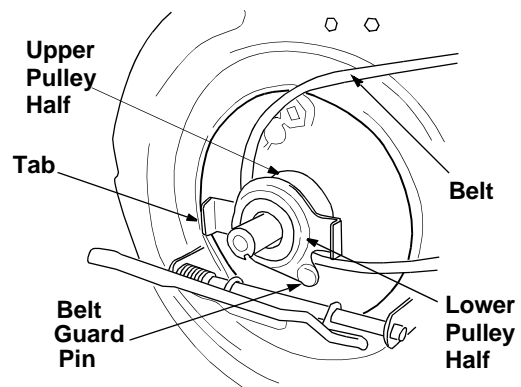
Step 17. Place the belt between the idler pulley and the belt keeper bracket.

Step 18. Using pliers, rotate the belt keeper bracket so that it snaps into slot on the idler bracket.

Step 19. Tighten the idler pulley bolt and lock nut half a turn using two 7/16" wrenches.

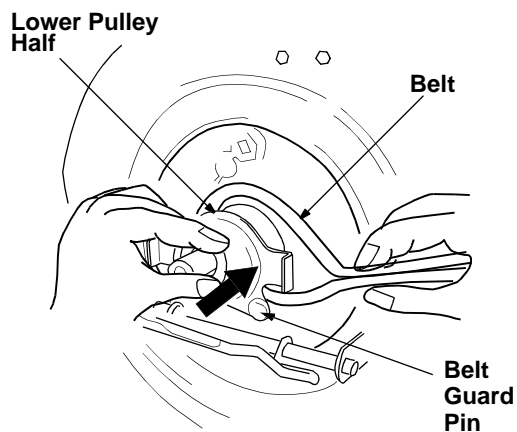


Step 20. Place the belt between the two pulley halves on the crankshaft. Make sure to route the belt inside the belt guard pin.



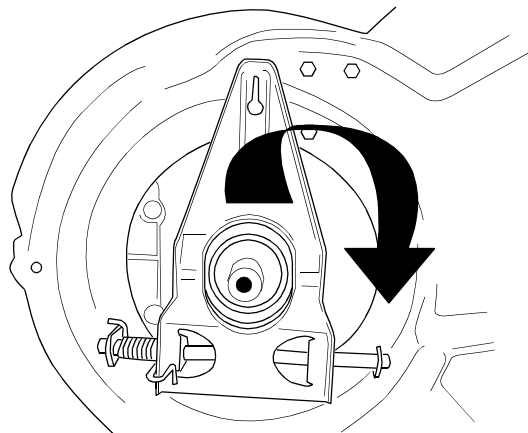
IMPORTANT: When replacing the belt, do not disassemble the lower pulley assembly.

Step 21. Pinch both sides of the belt together so that the belt is not in the pulley groove, and the lower pulley can be pushed towards the engine.



Step 22. Pivot the control arm back to its original position and reinstall the six-speed cable into the slot.

Step 23. Check and make sure the belt is routed inside the pulley halves and the belt guard pin.



Step 24. Reinstall the bolt securing transmission to rear mower housing.

Step 25. Pivot the baffle back to its original position and secure with three hex screws earlier removed. You will need a 3/8" socket for these screws.

Step 26. Lightly lubricate the inside of the blade adapter and reinstall the spacer, wave washer, blade adapter assembly and the blade in the correct order.

Step 27. Tighten the hex bolt to secure the blade. Follow recommended torque: 450-600 in. lbs.

SECTION 11: LUBRICATION



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

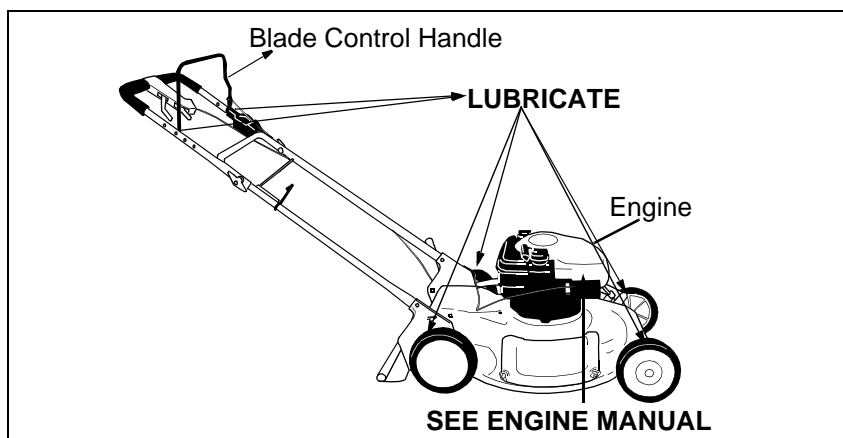


Figure 11

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 11. The blade control must operate freely in both directions.

Wheels: Lubricate the wheels 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 11.

Engine: Follow engine manual for lubrication instructions.

SECTION 12: OFF-SEASON STORAGE

The following steps should be taken to prepare your 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 a poorly ventilated 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.

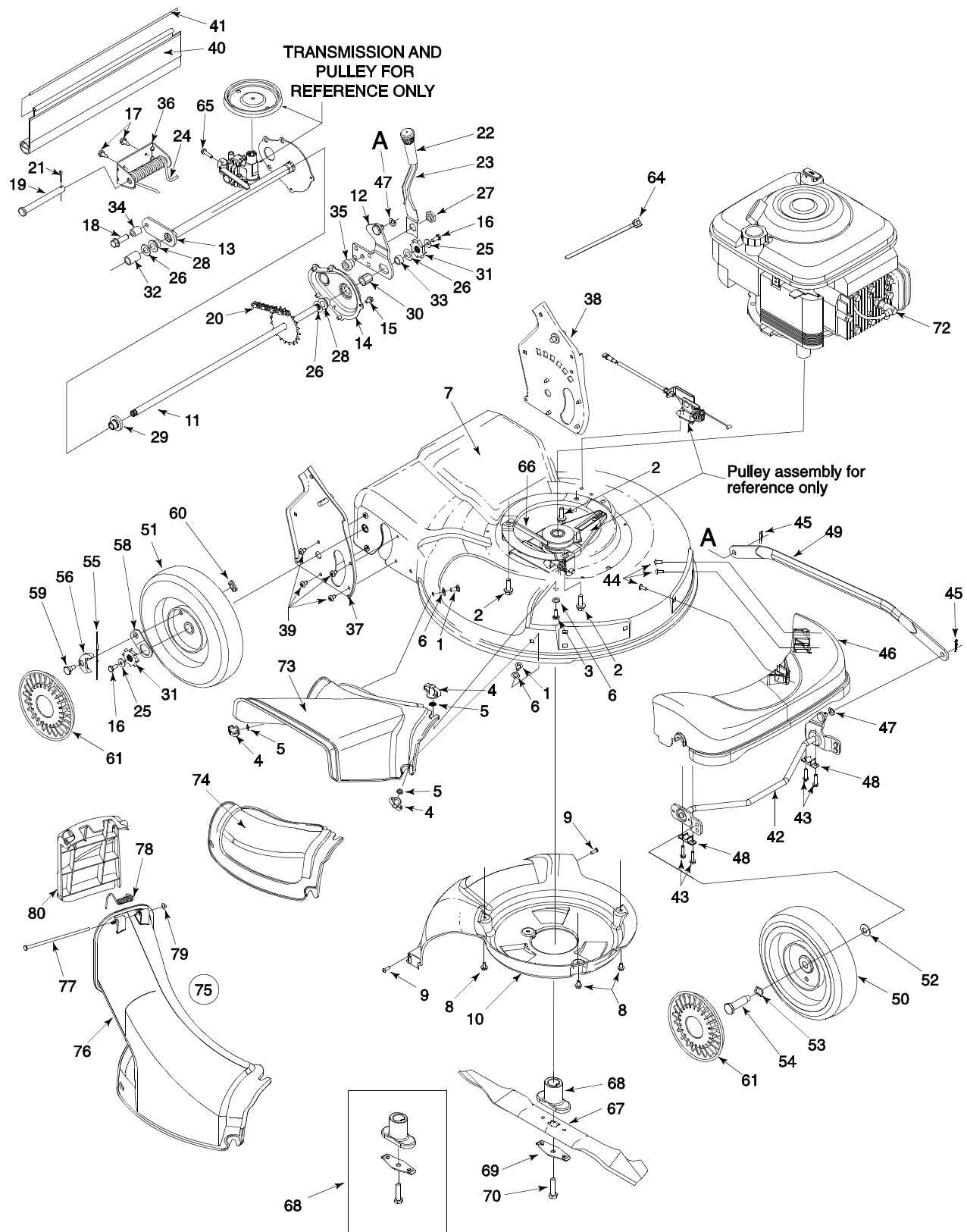
SECTION 13: TROUBLE SHOOTING GUIDE

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.

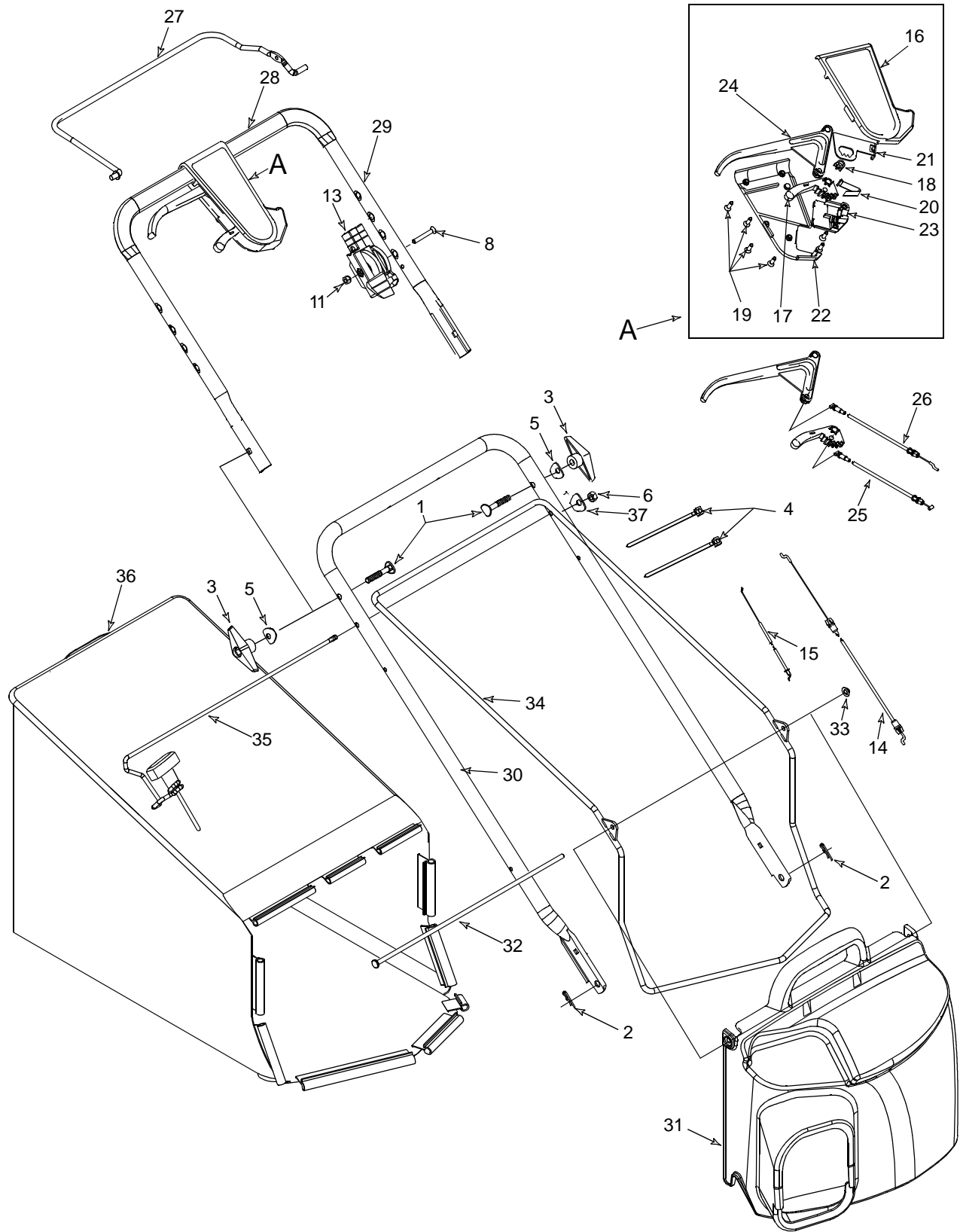
Model 979



Model 979

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	710-0134	Scr. Carr. 1/4-20 x .62	40	731-1901	Trail Shield
2	710-0654A	Scr. TT:3/8-18:1.00	41	732-0842	Trail Shield Wire
3	710-0703	Scr. 1/4-20 x .750	42	611-0064-0665	Fr. Axle Ass'y.
4	712-0397	Wing Nut 1/4-20	43	710-1241	Hx Scr. Wash Hd. Hi.-Lo.
5	723-0233	Nut, Push .25 I.D. x .50 O.D.	44	710-1242	Scr. Torx, Truss Hi.-Lo.
6	736-0204	Wash. Fl. .334 I.D.x .62 x.03	45	714-0104	Cotter Pin .072 x 1.12 Lg.
7	782-0046A-0665	Deck - 21"	46	731-1829	Fr. Axle Cover, Yellow
8	710-0653	Scr. TT. 1/4-20 x .375	47	736-0286	Bowed Washer
9	710-0969	Scr. HL. 1/2-14 x .750	48	741-0492A	Bush. Block .505 Dia. x .62
10	731-1828	Baffle	49	782-0565-0665	Control Arm
11	638-0012	Rear Axle Ass'y	50	734-1978	Wheel 8 x 2 Link, Yellow
12	682-0531	Pivot Arm Ass'y	51	734-1981	Wheel 9 x 2 Link Yellow, Slv.
13	682-7526	Trans. Axle Ass'y	52	736-0105	Spr. Wash. .401 x .870 x .063
14	682-7528	Chain Cover Ass'y	53	736-0504	Wave Wash .510 x .750 x .017
15	710-0653	Scr. TT 1/4-20 x .375	54	738-0102	Shld. Scr .498 x 1.445 x3/8-16
16	710-0751	Cap Screw HH 1/4-20 x .620	55	10622B	Spring, Ratchet, Plastic
17	710-0896	Scr. AB 1/4-14 x .625	56	748-0381	Pawl - R.H.
18	710-1315	Scr. 3/8 116 x .25		748-0188B	Pawl - L.H. (Not Illustrated)
19	711-0835	Clevis Pin .50 Dia. x 4.82 Lg.	58	16855	Ratchet Pawl Plate
20	713-0453	Chain-Endls. #48 .500P x 24L	59	738-0137A	Scr. Shld. .340 x .285
21	714-0474	Cotter Pin .125O.D. x .75	60	712-0414	Top Lock Tab Weld Nut 1/4-20
22	720-0223	Grip	61	731-1426	Hubcap -Yellow
23	732-0803A	Spring Lever	64	725-0157	Cable Tie
24	732-0832	Torsion Spring	65	710-0604	Hex Scr. 5/16-18
25	736-0270	Bell Wash. .285 x .75 x .082	66	754-0460	V-Belt
26	736-0369	Fl. Wash..508 I.D. 1.000 x.020	67	742-0741	21" Mulching Blade
27	738-0529	Nut Shld. .825 Dia. x .165 Lg.	68	753-0609	Blade Adapter Kit
28	741-0324	Hx.Flbg. Brg..506 I.D. x .590 L.	69	736-0524A	Blade Bell Suport
29	741-0522	Hx.Flbg. Brg. .506 I.D. x.715 L.	70	710-1257	Hex Bolt 3/8-24x2.5"Lg.
30	741-0978	Hx. Slv. Brg..504 I.D. x .830 L.	72	735-0639	Spark Plug Insulator
31	748-0318	Wheel Rachet	73	731-1832	Side Discharge Chute
32	750-0151	Spa. .550 I.D. x /750 O.D.	74	731-1833	Mulch Cover
33	750-0515	Spa. .51 .D. x .70 O.D. x 38 L.	75	631-0066	Chute Ass'y
34	750-0807	Spa. .385 x .624 x .700	76	731-1713A	Discharge Chute
35	750-1056	Shld. Spa. .385 I.D. X .715 Lg.	77	747-0965	Pivot Rod
36	782-0568	Brkt. - Ht. Adj. Spring	78	732-0819	Torsion Spring
37	682-3052A-0665	Handle Brkt. Ass'y. R.H.	79	726-0111	Push Cap
38	682-3053A-0665	Handle Brkt. Ass'y. L.H.	80	731-1874	Chute Door
39	710-1348	Scr. AB 1/4-14 x .500			

Model 979



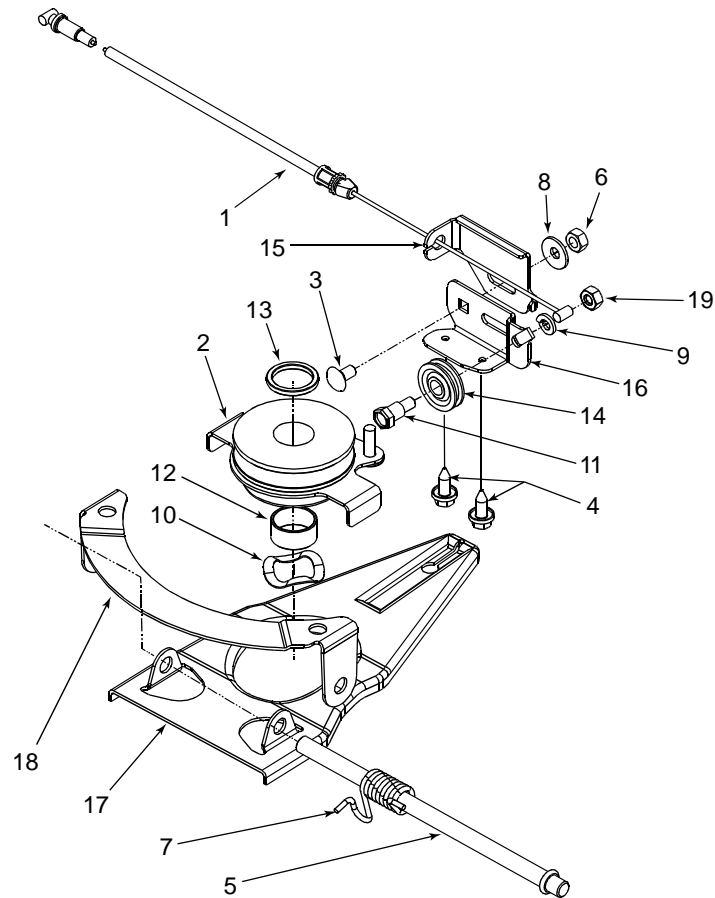
Model 979

Ref. No.	Part No.	Code	Description	Ref. No.	Part No.	Code	Description
1	710-1174		Bolt Cur. Carr. 5/16-18 x 2.0	22	731-0905A		Lower Control Housing
2	714-0104		Cotter Pin .072 x 1.12 Lg.	23	731-0906		Cable Mounting Cap
3	720-0241		Knob Ass'y Wingnut 5/16-18	24	731-0620		Control Lever
4	726-0240		Strap 4.3 Lg.	25	746-0939		6 Spd. Cable
5	736-0451		Wash. Sad. .320 ID x.830 OD	26	746-0713		S.P. Cable
6	712-0429		Hex Nut 5/16	27	747-0824		Control Handle
8	710-1270		Oval C-Sunk Screw	28	720-0294		Foam Grip (2 Reqd.)
11	712-0324		Nut 1/4-20 Top locknut Insert	29	749-0439C		Upper Handle
13	746-0883		Control Housing	30	749-0907A		Lower Handle
14	746-0912		Control Cable 47" Lg.	31	631-0071		Grassbag Cover w/Label
16	731-0904A		Upper Control Housing	32	747-0939		Pivot Rod
17	731-0924		6 Speed Shift Lever	33	726-0106		Cap Nut
18	713-0397		Gear Insert	34	747-0937		Frame - Grassbag
19	710-1667		C Sunk Tap Screw #10 x .75 L	35	747-0940A		Rod, Support w/ Rope Guide
20	732-0627		Shift Lever Spring	36	664-0074		Grassbag
21	16864		6 Spd. Rack Cable Brkt.	37	736-0451		Saddle Washer

Labels

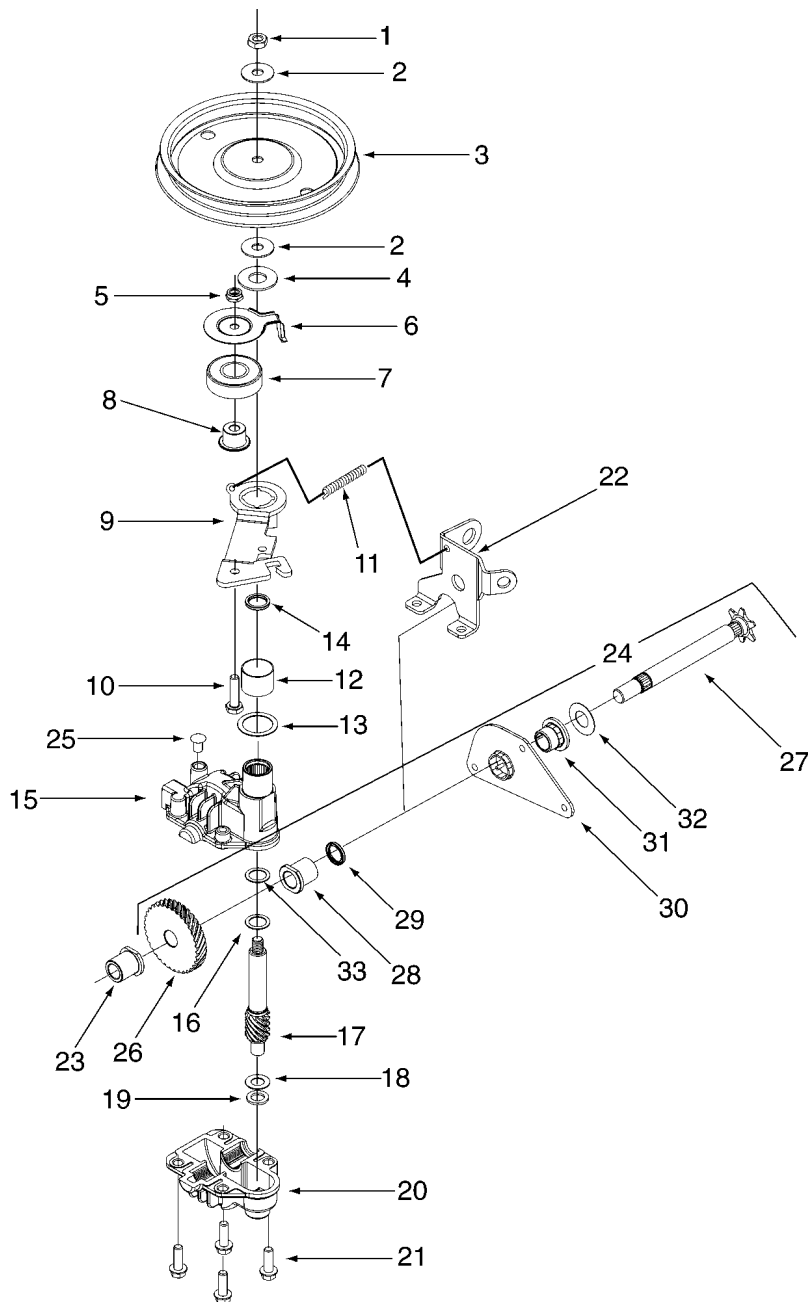
Ref No.	Part No.	Code	Description	Ref No.	Part No.	Code	Description
N/I	777S30116		Danger - Rt. Rear	N/I	777D00535		Wheel Cover Label
N/I	777S30118		Danger - Side Discharge	N/I	777I20291		Ht. Adjuster Label
N/I	777S30128		Warning - Above Deck Opening	N/I	777D01301		Model No. Label
N/I	777D01180		Mulches, Bags, Discharge				

Model 979



Ref. No.	Part No.	Code	Description
1	746-0939		6 Spd. Cable
2	656-0613		Pulley Ass'y Multi- Spd.
3	710-0167		Scr. 1/4-20 x .50 Carr.
4	710-0896		Scr. AB 1/4-14 x .625 Hxinwsh
5	711-1114		Pivot Shaft
6	712-0287		Nut 1/4-20
7	732-0807		Torsion Spring LH
8	736-0270		Bell Wash. .265 X .75 X .062
9	736-0329		Lock Wash. 1/4 Reg Duty
10	736-0526		Wave Wash. 1.38 x .88 x .029
11	738-0924		Shld.Scr. .375 x1/4-14AB
12	750-1070		Slev Spcr .88 IDx1.00 OD x.48
13	750-1071		Slev Spcr .88ID x1.13ID x .12
14	756-0625		Roller Cable
15	782-7574-0665		6 Spd. Cable Adj. Bracket
16	782-7575-0665		6 Spd. Cable Mt. Bracket
17	782-7596		6 Sp. Control Arm
18	782-7597		6 Sp. Pivot Bracket
19	712-0138		Hex Nut 1/4-28

Model 979



Ref. No.	Part No.	Code	Description
1	712-3025		Hx. Jam Nut 5/16-24
2	736-0425		Bell Wash. .325 x .930 x .045
3	756-0656		Pulley
4	736-3084		Fl. Wash. .510 x 1.120 x .060
5	712-0896		Hx. Jam Nut 1/4-28
6	782-7598		Belt Keeper
7	741-0600		Bearing
8	750-1050		Flange Spacer
9	682-0027A	N	Idler Bracket Assembly
10	710-0299		Hx. Cap Scr. 1/4-28 x 1.00 Gr. 5
11	732-0849A	N	Extension Spring
12	741-0682A	N	Bearing Sleeve
13	736-0570		Fl. Wash. .885 x 1.145 x .030
14	721-0329		Oil Seal
15	618-0253		Upper Housing Assembly
16	736-0616	N	Thrust Wash. .504 x .700 x .030
17	717-1487	N	Pinion Shaft 10 T.
18	736-0314		Thr. Wash. 3/8 x .70 x .030
19	736-0569		Thr. Wash. .388 x .625 x .062
20	618-0252		Lower Housing Assembly
21	710-0642		Hx. Scr. 1/2-20 x .75
22	782-7601A	N	Cable Bracket
23	741-0674		Bearing
24	611-0066		Shaft Assembly
25	721-0325		Plug
26	717-1469		Gear 34 T.
27	711-1168		Output Shaft 6 T.
28	741-0672		Flange Bearing
29	721-0329		Oil Seal
30	782-7595		Pivot Bracket
31	741-0324		Flange Bearing
32	736-0369		Wash. Fl. .508 I.D. x 1.00 O.D. x .020
33	741-0690		Bearing

MANUFACTURER'S LIMITED WARRANTY FOR:



For TWO YEARS from the date of retail purchase within the United States of America, its possessions and territories, MTD Products will, at its option, repair or replace, for the original purchaser, free of charge, any part or parts found to be defective in material or workmanship. This warranty covers units which have been operated and maintained in accordance with the owner's instructions furnished with the unit, and which have not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance or alteration.

Normal wear parts or components thereof are subject to separate terms as noted below in the "No Fault Ninety Day Consumer Warranty" clause.

All normal wear part failures will be covered on this product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear parts failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts are defined as batteries*, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires.

How to obtain service: Warranty service is available, with proof of purchase, through your local authorized service dealer. To locate the dealer in your area, please check the yellow pages or contact the Customer Service Department of MTD Products, P O Box 368022, Cleveland, Ohio 44136-9722.

Phone 1 (800) 800-7310. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by the Customer Service Department of MTD Products.

Transportation charges: Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser.

Units exported out of the United States: MTD Products does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except those sold through MTD Products' authorized channels of export distribution.

Other Warranties:

1. The engine or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty on these items.
2. *Batteries are covered by a 90-day replacement warranty.
3. Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty.
4. All other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, are hereby expressly disclaimed in their entirety.
5. The provisions as set forth in this warranty provide the sole and exclusive remedy of MTD Products' obligations arising from the sales of its products. MTD Products will not be liable for incidental or consequential loss or damage.

How state law relates to this warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Certain disclaimers are not allowed in some states and therefore these may not apply to you under all circumstances.

Note: This warranty does not cover routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments. Nor does this warranty cover normal deterioration of the exterior finish due to use or exposure.