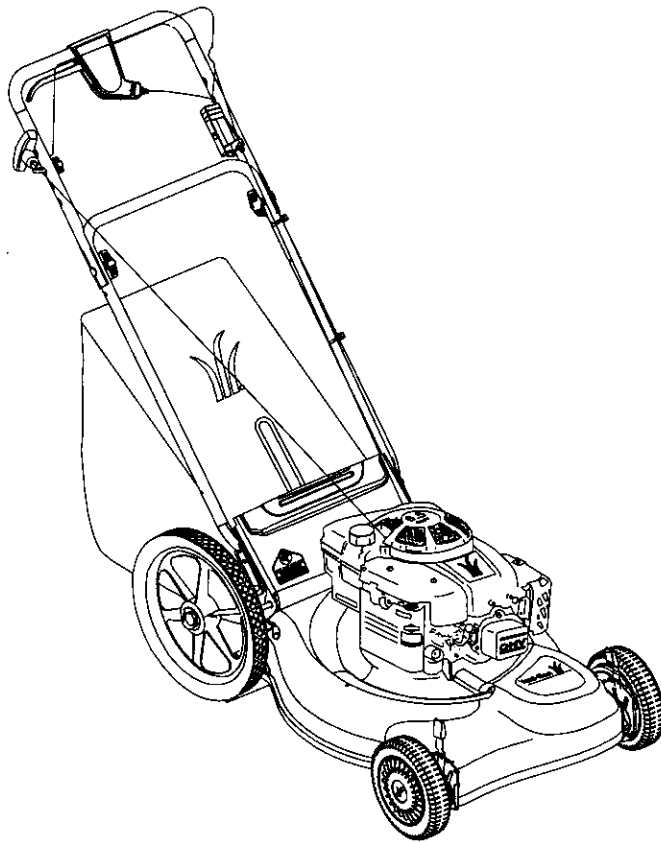




# OPERATOR'S MANUAL



**21" Self-Propelled  
Mulching Mower  
Model Number  
247.375590  
12A-559K402**



## **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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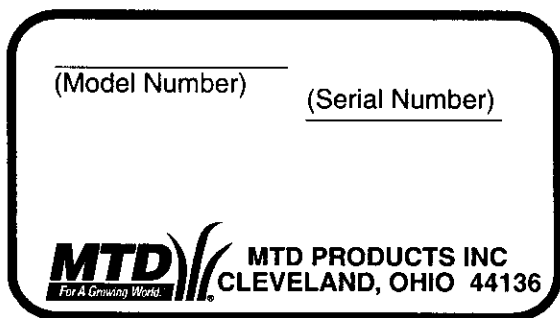
## FINDING MODEL NUMBER

This Operator's Manual is an important part of your new lawn mower. It will help you assemble, prepare and maintain the unit for best performance. Please read and understand what it says.



**Before you start assembling your new equipment**, please locate the model plate on the equipment and copy the information from it in the space provided below. The information on the model plate is very important if you need help from our Customer Support Department or an authorized dealer.

You can locate the model number by looking down at the rear of the deck. A sample model plate is explained below. For future reference, please copy the model number and the serial number of the equipment in the space below.



Copy the model number here: \_\_\_\_\_

Copy the serial number here: \_\_\_\_\_

## CALLING CUSTOMER SUPPORT

If you have difficulty assembling this product or have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Support Department.



Call 1- (330) 220-4MTD (4683) or 1- (800)-800-7310 to reach a Customer Support representative. Please have your unit's model number and serial number ready when you call. See previous section to locate this information. You will be asked to enter the serial number in order to process your call .

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## SECTION 1: MAINTAINING SAFETY



This Warning 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.

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

### GENERAL OPERATION

- Read this operator's manual 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.
- 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.
- 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.
- 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.
- 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.

## 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.

## 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.

## SERVICE

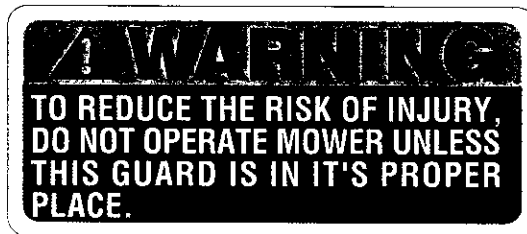
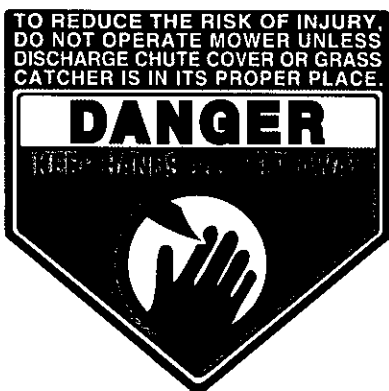
- Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
- Use only an approved gasoline container.
- Never remove gas cap or add fuel while the engine is running. Allow engine to cool at least two minutes before refueling.
- Replace gasoline 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.



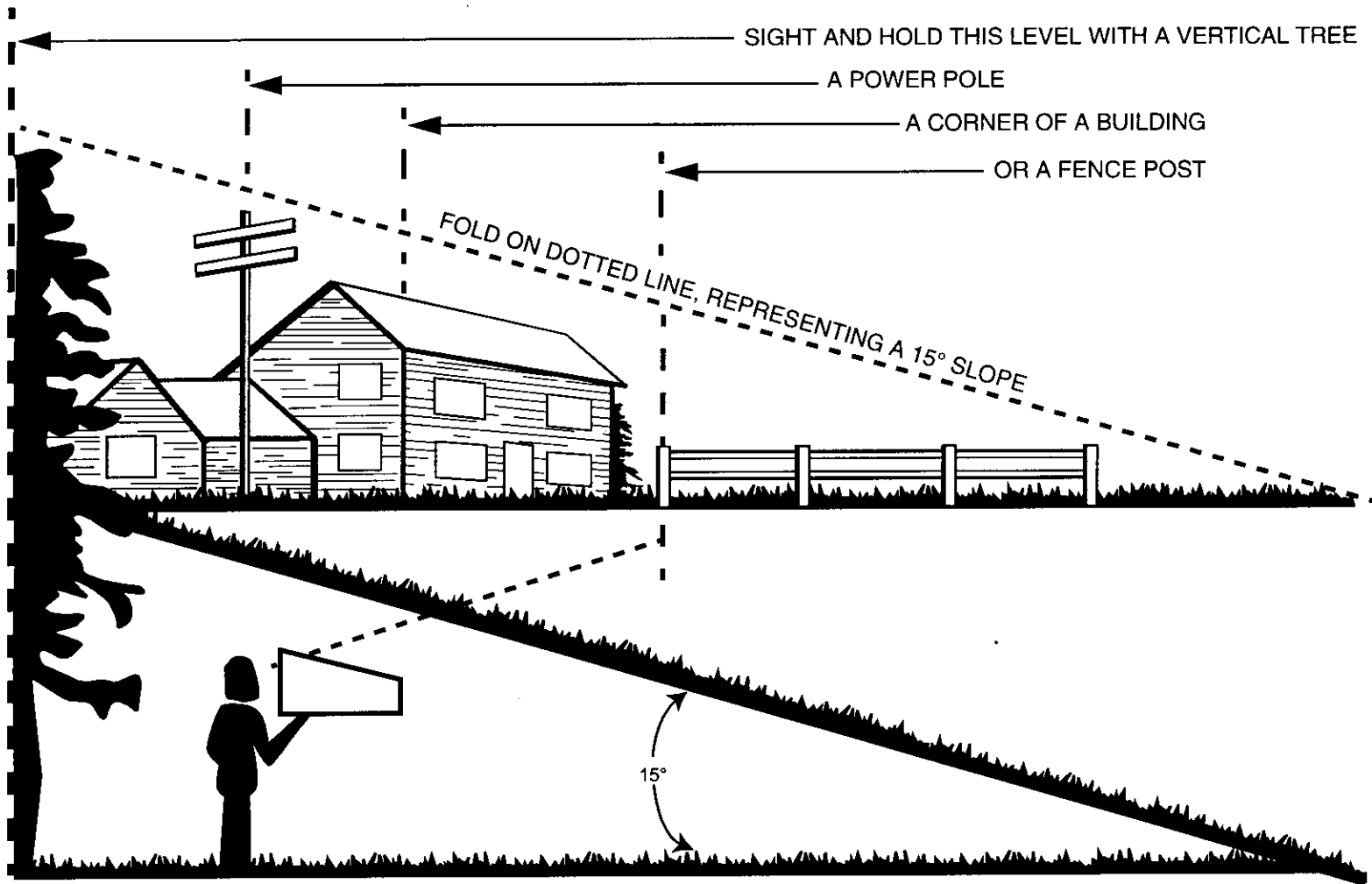
**WARNING - YOUR RESPONSIBILITY:** Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

**NOTE:** Not all safety labels shown may apply to your lawn mower.



## SECTION 2: SLOPE GAUGE

Use this page as a guide to determine slopes where you may not operate safely. Do not operate your lawn mower on such slopes.



### WARNING

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 3: ASSEMBLING YOUR LAWN MOWER

**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.

### Removing Unit From Carton

- 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, oil, etc.)
- Cut along corners, lay carton down flat, and remove packing material.
- Roll or slide unit out of carton and check carton thoroughly for loose parts.

### Disconnecting Spark Plug Wire

- Before setting up your lawn mower, disconnect the spark plug wire from the spark plug and ground to a bolt on the engine. See Figure 1.

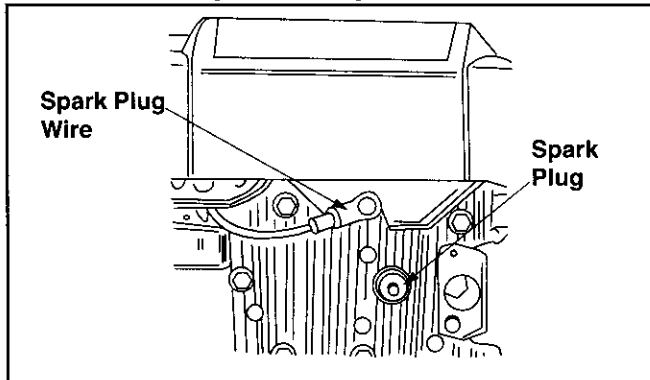


Figure 1

### Setting Up Your Lawn Mower

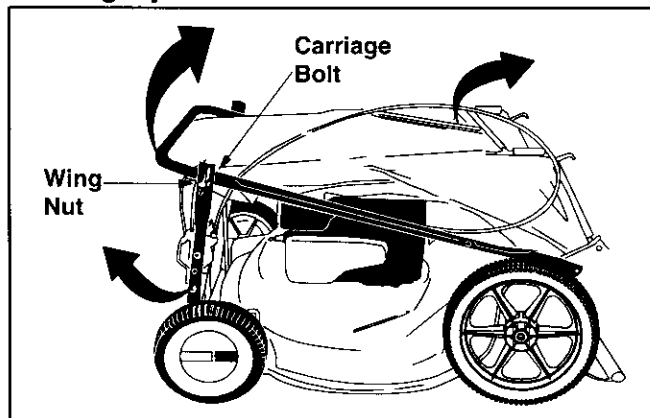


Figure 2

- Remove grass bag from unit and set it aside.
- Lift up and pull back on the upper handle to raise the handle into the operating position. Make certain the lower handle is seated securely into the handle mounting brackets. Tighten the wing nuts on each side of the handle (carriage bolts must be seated properly into the handle) See Figure 2.

**NOTE:** Your mower is shipped with the handle in the higher height position. If you wish to lower the height of the handle, refer to the Adjustment Section at this time.

- Remove the hairpin clips from the outer hole in the weld pins on the handle mounting brackets. Using a pair of pliers, squeeze one leg of the lower handle against the handle mounting bracket. Insert the hairpin clip into the inner hole on the weld pin. Repeat on other side. See Figure 3.

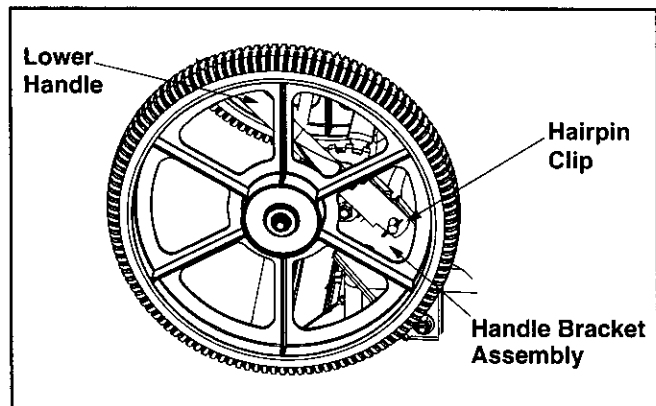


Figure 3

- Fasten the cables to the lower handle with the two cable ties found on the lower handle. Be sure to insert the post on the cable ties into the holes provided on the lower handle. These holes may be found on either the inside or outside of the handles. Pull the cable ties tight and trim off the excess. See Figure 4.

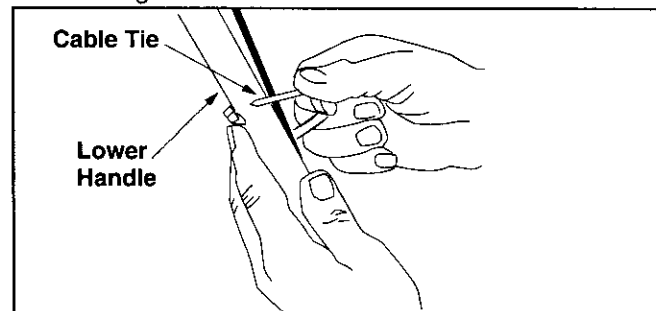


Figure 4

- The rope guide is located on the right side of handle and is secured by a wing nut. See Figure 5.

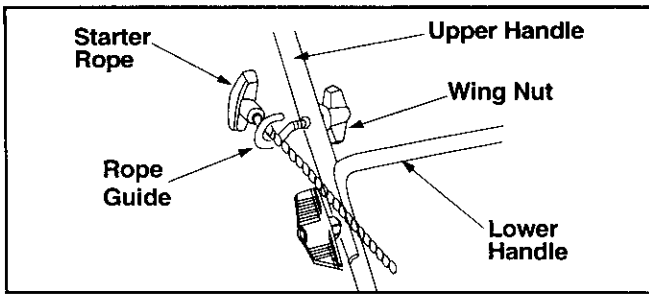


Figure 5

- With the spark plug wire disconnected and grounded, hold the blade control handle against the upper handle, and pull the starter rope out of the engine.
- Release the blade control handle. Slip the starter rope into the rope guide. Tighten the wing nut holding the rope guide to the upper handle.

#### Attaching The Grass Bag

- Lift the rear discharge door and remove the rear mulching baffle from the mower.

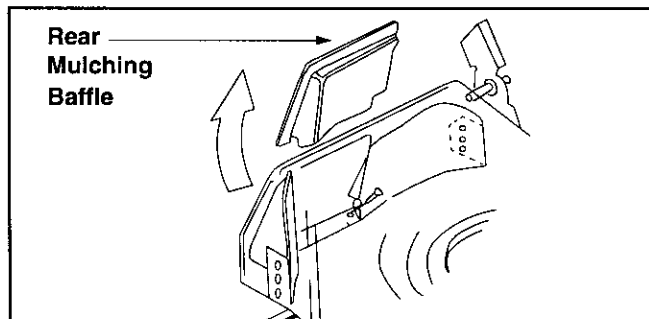


Figure 6

**NOTE:** Make sure that cables are routed to the outside of the handle and out of the way when attaching the grass bag.

- Place the hooks of the grass bag into the slots in the handle bracket assemblies on both sides.
- To remove grass bag, lift the rear discharge door on the mower. Lift the grass bag up and out of the slots in the handle bracket assemblies. Reinstall the plastic rear mulching baffle and release the rear discharge door.



**WARNING:** This blade control mechanism is a safety device. Never attempt to bypass its operations.

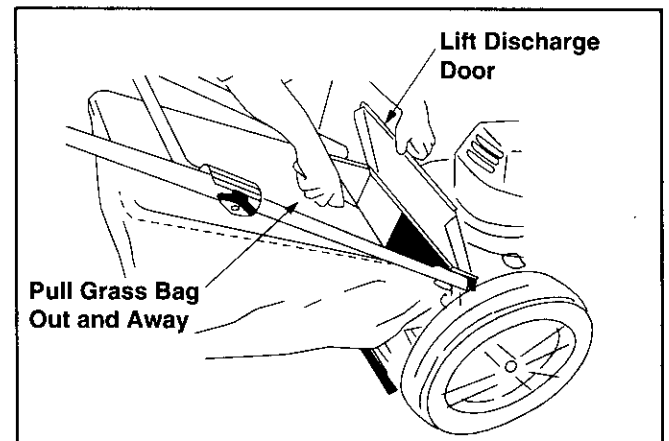


Figure 7

## SECTION 4: KNOW YOUR LAWN MOWER

Read this operator's manual and safety rules before operating your lawn mower. Compare the illustrations in Figure 8 with your lawn mower to familiarize yourself with the location of various controls and adjustments. Save this manual for future reference.



**WARNING:** The operation of any lawn mower can result in foreign objects being thrown into the operator's eyes and causing severe eye damage. Always wear safety glasses while operating the mower, performing any adjustments, or repairs on it.

#### Recoil Starter

The recoil starter is attached to the right handle. Stand behind the unit and pull the recoil starter to start the unit. See Figure 8.

#### Blade Control Handle

The blade control handle is located on the upper handle of the mower. The blade control handle must be depressed in order to operate the unit. Release blade control handle to stop engine and blade. See Figure 8.



**WARNING:** This blade control mechanism is a safety device. Never attempt to bypass its operations.

#### Cutting Height Adjustment Levers

The cutting height adjustment levers is located on each wheel. See Figure 8. To adjust the cutting height, refer to the Adjustment Section in this manual.

#### Drive Clutch Control

The drive clutch control is located on the upper handle. Squeeze the drive control to engage the drive system. Release the clutch control to disengage the drive system. Release the clutch control to slow down when approaching an obstacle, making a turn, or stopping. See Figure 8.

#### Primer

The primer is used to pump gas into the carburetor. Use it to assist in starting a cold engine, but do not use it when restarting a warm engine after a short shutdown. See Figure 8.



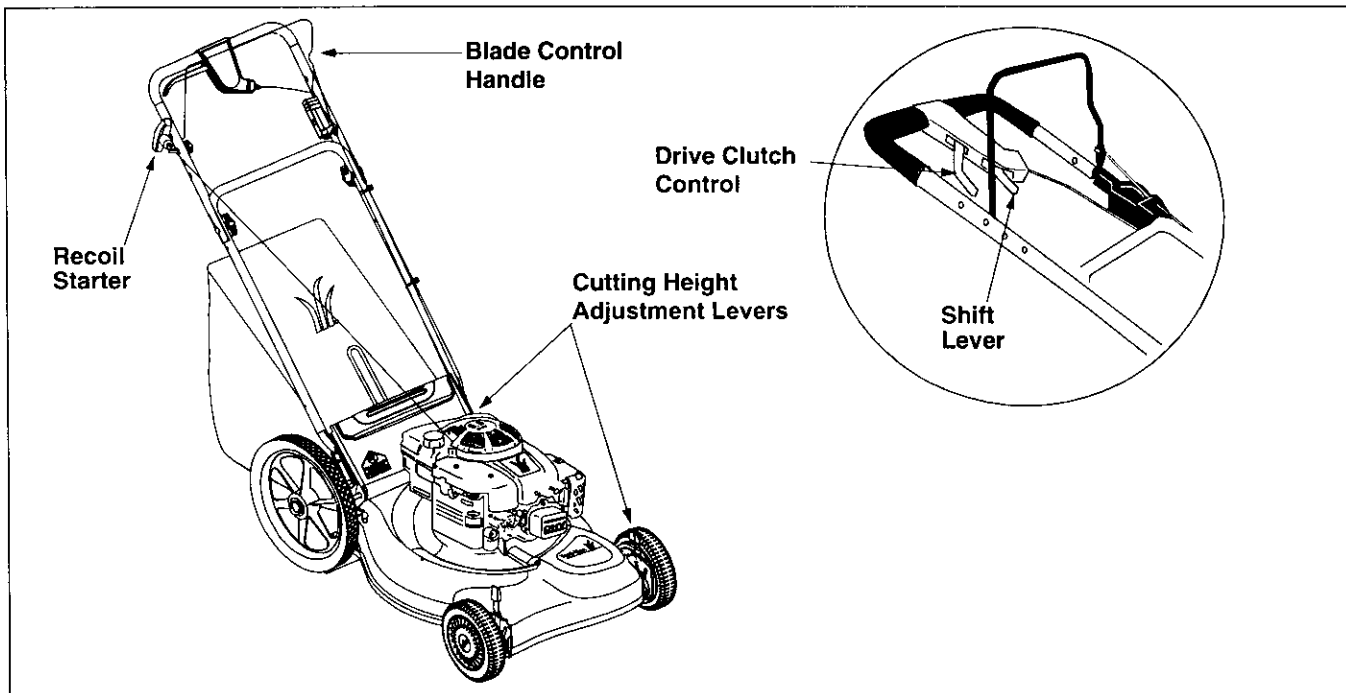


Figure 8

## Stopping Engine

- Release blade control handle to stop the engine and the blade.
- Disconnect spark plug wire and ground it to the post on the engine.



**WARNING:** Before using your lawn mower, again refer to the Safety Section in this manual. Always be careful.

## SECTION 5: OPERATING YOUR LAWN MOWER

### *Towards Better Mower Performance*

1. Read this manual in its entirety before you start the lawn mower. Instructions given here have been designed for maintaining safety while getting the best performance from your mower. Follow the instructions closely.
2. Pour fresh, clean gasoline into the mower's gas tank until the tank is full. Do not use gasoline that is more than 30 days old.
3. Always use a fuel stabilizer. It will double the life of the gasoline used.
4. Make sure to connect the mower's spark plug wire before trying to start the engine.
5. Add engine oil to the oil fill on the mower engine. Check the dipstick and add more if necessary. Remember that the oil level has to touch the fill line.
6. Locate the primer decal near the primer bulb on the engine, and read its instruction. Using your thumb, press the primer bulb slowly as many times as the decal advises.
7. Hold control handle down and pull rope firmly to start the engine.
8. Set cutting height adjustment lever to middle setting and mow a single pass on your lawn; then adjust to desired height for a closer cut.
9. When bagging the grass clippings, remove mulch plug/cover and store.
10. When mulching, remove the grass bag and store. Insert the mulch plug/cover on the mower.
11. In heavy growing season, it may be necessary to mow lawn twice weekly. Clumps of grass clippings left behind on the lawn usually means that the grass is too high to mulch.
12. Before storing the lawn mower for the winter, use stabilizer-treated fuel and run the tank dry.
13. Thirty days before start of the new season, check the air filter, spark plug and blade on the lawn mower, and replace if needed.

For more details about proper lawn care, visit our website at [www.Yardman.com](http://www.Yardman.com)



**WARNING:** Keep hands and feet away from chute area on the cutting deck. 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 shipping purposes your mower is set with the wheels in a low cutting height position. For best results raise the cutting position until it is determined which height is best for your lawn. See the adjustment section for details.

## Gas and Oil Fill-Up

### Oil

Only use high quality detergent oil rated with API service classification SF, SG, or SH. Use SAE30 oil only.

**NOTE:** Although multi-viscosity oils (5W30, 10W30, etc.) improve starting in cold weather, they will result in increased oil consumption when used above 32°F. Check your engine oil level more frequently to avoid possible engine damage from running low on oil.

- Remove oil fill dipstick.
- With the lawn mower on level ground, use a funnel to fill engine with oil to FULL mark on dipstick. Capacity is approximately 20 oz. Be careful not to overfill. Overfilling will cause the engine to smoke profusely and will result in poor engine performance.
- Check the oil level making certain not to rub the dipstick along the inside walls of the oil fill tube. This would result in a false dipstick reading. Refill to FULL mark on dipstick, if necessary. Replace dipstick and tighten.
- Check oil level three times prior to starting engine to be certain you've gotten an accurate dipstick reading. Running the engine with too little oil can result in permanent engine damage.

### Gasoline

- Remove fuel cap from the fuel tank.
- Make sure the container from which you will pour the gasoline is clean and free from rust or foreign particles. Never use gasoline that may be stale from long periods of storage in its container. Gasoline that has been sitting for any period longer than four weeks should be considered stale.
- Fill fuel tank with clean, fresh, unleaded regular, unleaded premium or reformulated automotive gasoline only. Replace fuel cap.
- To avoid engine problems, the fuel system should be emptied before storage for 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See Storing Your Lawn Mower section for additional information.



**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.

## Before Starting 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?
- 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 in the ADJUSTMENT SECTION.

## Starting Engine

- Prime engine as instructed in the separate engine manual packed with your unit.
- Your lawn mower may be equipped with a constant speed throttle, which is set at full throttle for best performance.
- Stand behind the mower and squeeze the blade control handle against the upper handle.
- Grasp recoil starter handle and pull rope out slowly until engine reaches the 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. Keeping a firm grip on the starter handle, let the rope return to the starter slowly.

## Using Your Lawn 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.

## Mulching

For effective mulching, do not cut wet grass because it tends to stick to the underside of the deck, preventing proper mulching of grass clippings. New or thick grass may require a narrower cut. The ground speed should be adjusted to the condition of the lawn. If mowing has been delayed and the grass has been allowed to grow in excess of 4", mulching is not recommended. Mow using the grass bag to reduce the grass height to 3 1/4" maximum before mulching.

## SECTION 6: MAKING ADJUSTMENTS



**WARNING:** Do not at any time make any adjustments without first stopping engine and disconnecting spark plug wire.

### Cutting Height Adjustment

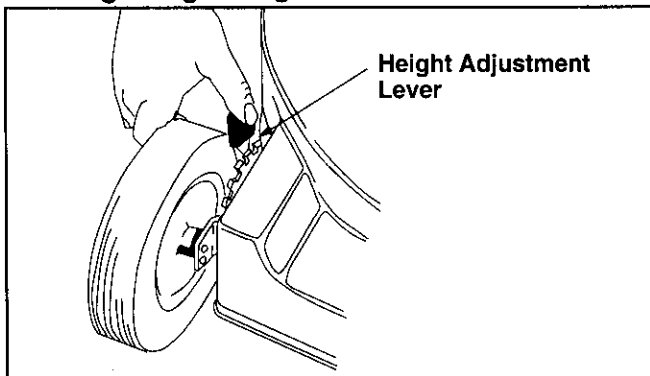


Figure 9

An adjusting plate and spring lever at each wheel position provides cutting height adjustment. Each adjusting plate has nine height positions. When the spring lever is moved from one location to another the height of cut will be changed. Simply depress the lever towards wheel and move lever assembly to desired position. See Figure 9.

**IMPORTANT:** All wheels must be placed in the same relative position. For rough or uneven lawns, move the height adjustment lever to a higher position. This will help stop scalping of the grass.

### Handle Height Adjustment

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. Reassemble, placing the bottom holes in the handle over the weld pins in the handle mounting bracket. See Figure 10.
- 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 Assembly Section.

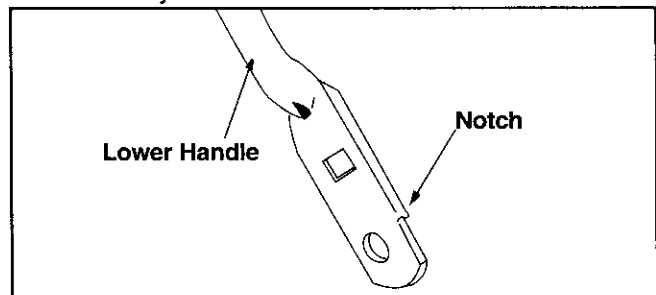


Figure 10

### Drive Clutch Control Adjustment

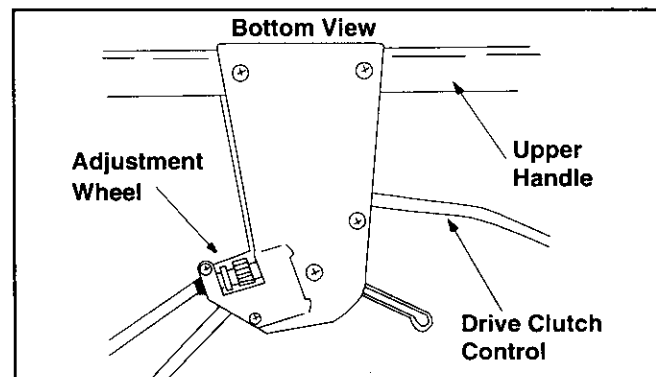


Figure 11

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 11.

## Engine Adjustments

See the separate engine manual packed with your unit for adjustments to the engine.

# SECTION 7: MAINTAINING YOUR LAWN MOWER

## General Recommendations

- Always observe safety rules when performing any maintenance.
- The warranty on this lawn mower does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, operator must maintain the lawn mower as instructed in this manual.
- Changing of engine governed speed will void engine warranty.
- Some adjustments will have to be made periodically to maintain your unit properly. All adjustments in the Making Adjustments section of this manual should be checked at least once each season.
- Periodically check all fasteners and make sure these are tight.
- Follow the maintenance schedule under Customer Responsibilities to get quality performance from your lawn mower.

## Customer Responsibilities

MAINTENANCE SCHEDULE		After each use	Every 25 hours	Every 50 hours	Every 100 hours	Once a season	Before storage	SERVICE DATES					
PRODUCT	Lubricate wheels					✓							
	Lubricate blade control					✓							
	Clean deck	✓					✓						
	Blade care		✓				✓						
ENGINE	Change oil		✓				✓						
	Replace air filter				✓								
	Clean engine	✓					✓						
	Check spark plug			✓		✓							
	Check spark arrester (if any)			✓									

## Lubrication



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

**Blade Control:** Lubricate the pivot points on the blade control handle at least once a season with light oil. The

blade control must operate freely in both directions. See Figure 12.

**Wheels:** Lubricate the wheels at least once a season with light oil (or motor oil). If the wheels are removed for any reason, lubricate the surface of the axle bolt and inner surface of the wheel with light oil. See Figure 12.

**Engine:** Follow the separate engine manual packed with you unit for lubrication instructions.

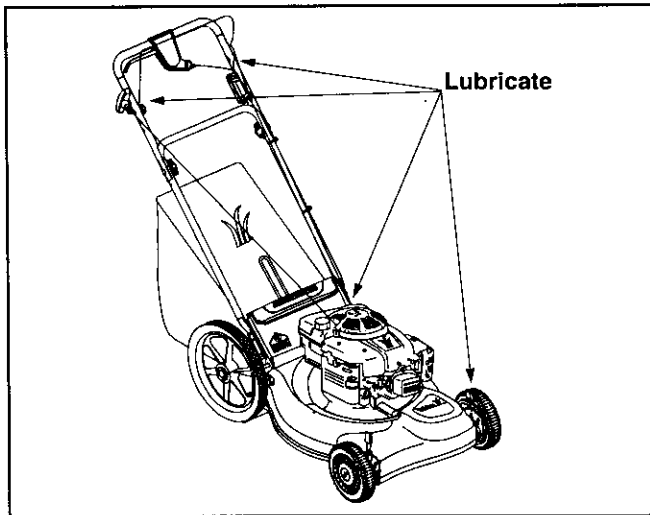


Figure 12

## Maintenance

**NOTE:** When tipping the unit, empty the fuel tank and keep the spark plug side of engine 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.
- Service air cleaner every 25 hours under normal 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.
- 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).

**IMPORTANT:** We do not recommend the use of a pressure washer or garden hose to clean your unit.

## Cutting Blade Removal, Replacement, and Sharpening

- 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 bell washer which hold the blade-pulley assembly to the engine crankshaft. See Figure 13. Remove the assembly from the crankshaft.
- Remove the two bolts and lock nuts from the blade assembly.
- Remove the blade from the blade adapter and pulley.



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

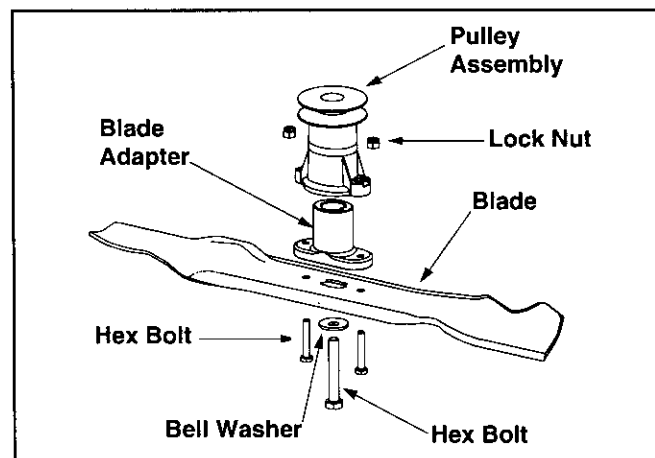


Figure 13

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-pulley assembly to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil or engine oil.
- Also lubricate the bolt holes, bolt and the inner surface of the nuts.
- Install the blade adapter on the pulley with the “star” away from the pulley.
- Place the new blade on the blade adapter with the side marked bottom (or with part number) facing away from the adapter.

- Secure the blade to the assembly with two hex bolts and lock nuts. Tighten the hex bolts to torque: 120 in.lbs. min., 150 in. lbs. max.
- Install the blade assembly on the crankshaft. Secure with the hex bolt and bell washer (cupped side of washer to blade) and tighten 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

- Disconnect the spark plug wire and ground it against the engine.
- Remove the two shoulder screws from on top of the deck which secure the front drive cover to the mower deck. See Figure 14.

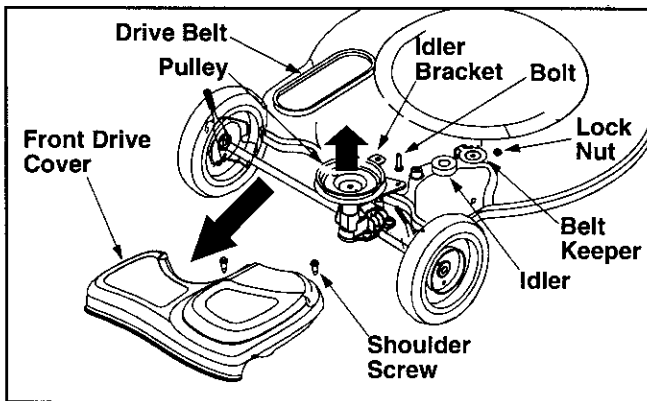


Figure 14

- Remove the front drive cover from the unit by lightly pressing inward on the sides of the front drive cover. This will release the tabs that secure the front drive cover to the height adjuster brackets.
- Remove the idler from the idler bracket and remove the belt from the transmission pulley.
- Lift and stabilize the front of the deck.
- Loosen the center hex bolt and lower the blade and engine pulley until there is adequate clearance to move the belt past the belt keeper. See Figure 15.
- Remove the belt from the engine pulley and around the blade.

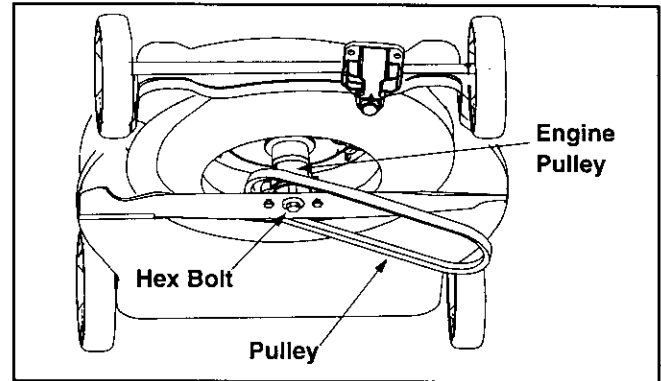


Figure 15

- Reassemble in reverse order with new belt. Tighten the hex bolt to secure the blade to torque: 450-600 in. lbs.
- Begin idler reassembly by inserting bolt up through the idler bracket hole. Adjust the drive clutch referring to the Adjustment section.

## SECTION 8: STORING YOUR LAWN MOWER

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

- Clean and lubricate mower thoroughly as described in the lubrication instructions.

**IMPORTANT:** We do not recommend the use of a pressure washer or garden hose to clean your unit.

- 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.

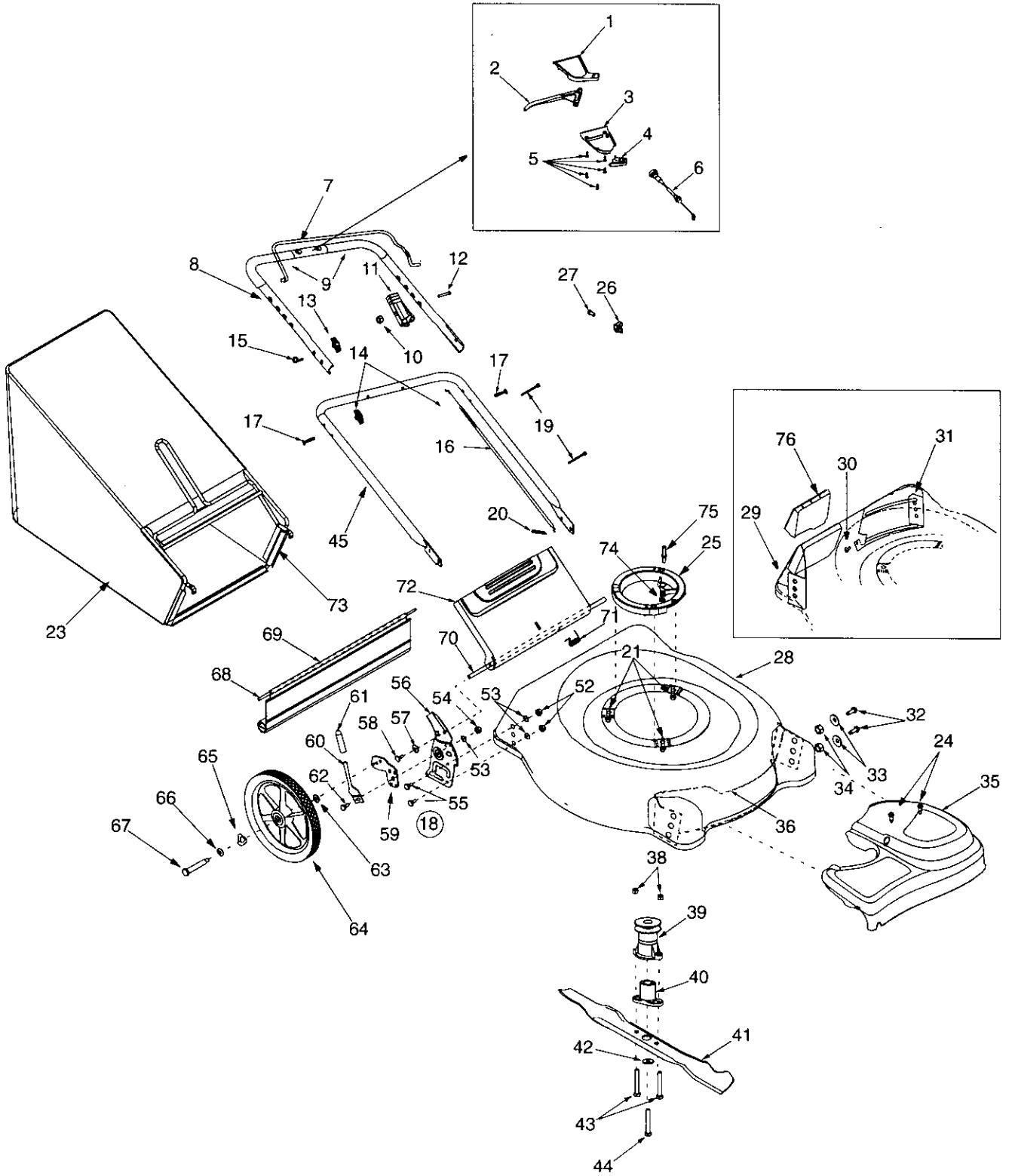
**NOTE:** When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.

## SECTION 9: TROUBLESHOOTING

Problem	Cause	Remedy
Engine fails to start	<ol style="list-style-type: none"> <li>1. Blade control handle disengaged.</li> <li>2. Spark plug wire disconnected.</li> <li>3. Fuel tank empty or stale fuel.</li> <li>4. Blocked fuel line.</li> <li>5. Faulty spark plug.</li> <li>6. Engine flooded</li> </ol>	<ol style="list-style-type: none"> <li>1. Engage blade control handle.</li> <li>2. Connect wire to spark plug.</li> <li>3. Fill tank with clean, fresh gasoline.</li> <li>4. Clean fuel line.</li> <li>5. Clean, adjust gap, or replace.</li> <li>6. Engine must be set at FULL throttle.</li> </ol>
Engine runs erratic	<ol style="list-style-type: none"> <li>1. Spark plug wire loose.</li> <li>2. Blocked fuel line or stale fuel.</li> <li>3. Vent in gas plugged.</li> <li>4. Water or dirt in fuel system.</li> <li>5. Dirty air cleaner.</li> <li>6. Carburetor out of adjustment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect and tighten spark plug wire.</li> <li>2. Clean fuel line; fill tank with clean, fresh gasoline</li> <li>3. Clear vent.</li> <li>4. Drain fuel tank. Refill with fresh fuel.</li> <li>5. Clean air cleaner.</li> <li>6. Adjust carburetor.</li> </ol>
Engine overheats	<ol style="list-style-type: none"> <li>1. Engine oil level low.</li> <li>2. Air flow restricted.</li> <li>3. Carburetor not adjusted properly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill crankcase with proper oil.</li> <li>2. Remove blower housing and clean.</li> <li>3. Adjust carburetor.</li> </ol>
Occasional skip (hesitates) at high speed	<ol style="list-style-type: none"> <li>1. Spark plug gap too close.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust gap to .030".</li> </ol>
Idles poorly	<ol style="list-style-type: none"> <li>1. Spark plug fouled, faulty or gap too wide.</li> <li>2. Carburetor improperly adjusted.</li> <li>3. Dirty air cleaner.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reset gap to .030" or replace spark plug.</li> <li>2. Adjust carburetor.</li> <li>3. Clean air cleaner.</li> </ol>
Excessive vibration	<ol style="list-style-type: none"> <li>1. Cutting blade loose or unbalanced.</li> <li>2. Bent cutting blade.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten blade and adapter. Balance blade.</li> <li>2. Replace blade.</li> </ol>
Mower will not mulch grass	<ol style="list-style-type: none"> <li>1. Engine speed too low.</li> <li>2. Wet grass.</li> <li>3. Excessively high grass.</li> <li>4. Dull blade.</li> </ol>	<ol style="list-style-type: none"> <li>1. Engine must be set at FULL throttle.</li> <li>2. Do not mow when grass is wet; wait until later to cut.</li> <li>3. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting path.</li> <li>4. Sharpen or replace blade.</li> </ol>
Uneven cut	<ol style="list-style-type: none"> <li>1. Wheels not positioned correctly.</li> <li>2. Dull blade.</li> </ol>	<ol style="list-style-type: none"> <li>1. Place all four wheels in same height position.</li> <li>2. Sharpen or replace blade.</li> </ol>

**NOTE:** For repairs beyond the minor adjustments listed above, contact your nearest authorized service dealer.

# Model 559K

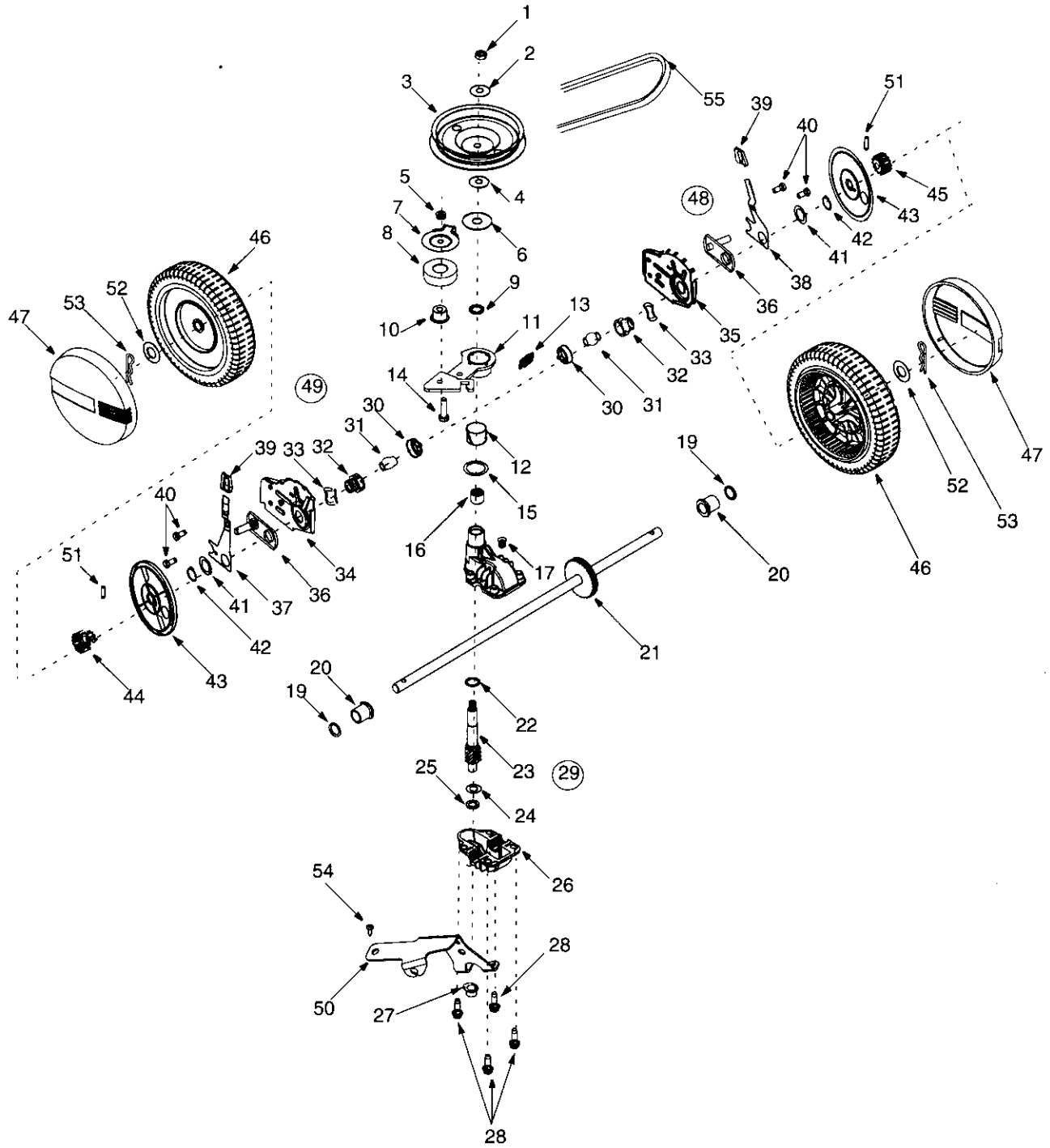




# Model 559K

Ref. No.	Part No.	Part Description	Ref. No.	Part No.	Part Description
1.	731-1057	Upper Drive Cover	38.	712-0324	Hex Nut 1/4-20
2.	731-0620	Drive Lever	39.	756-1146A	Drive Pulley
3.	731-1058	Lower Drive Cover	40.	748-0411	Blade Adapter
4.	731-1059	Mounting Cap	41.	742-0741	21" Mulching Blade
5.	710-1667A	Screw # 10-16 x .75	42.	736-0452	Flat Washer .516 x 1.5 x .134
6.	746-0960	Drive Cable	43.	710-0606	Hex Screw 1/4-20 x 1.50
7.	747-0824	Control Lever	44.	710-1257	Hex Screw 3/8-24 x 2.50
8.	749-0439C	Upper Handle	45.	749-0907A	Lower Handle
9.	720-0294	Foam Grip, 9"	52.	712-0798	Hex Nut 3/8-16
10.	712-0234	Hex Lock Nut, 1/4-20	53.	736-0356	Bell Washer .39 I.D. x 1.38 O.D.
11.	746-0883	Throttle Housing	54.	712-3005	Hex Flange Lock Nut 3/8-16
12.	710-1270	Oval C-Sunk Scr 1/4-20 x 1.31	55.	710-0896	Hex Scr. Washer 1/4-14 x .625
13.	720-0279	Handle Knob	56.	682-3056A	RH Handle Bracket
14.	720-0314	Handle Knob		682-3057A	LH Handle Bracket (Not Shown)
15.	710-1205	Eye Bolt	57.	736-0270	Bell Washer .265 x .75 x .062
16.	746-0550	Control Cable, 39"	58.	710-0599	Hex Screw TT 1/4-20 x .500
17.	710-1174	Carriage Bolt 5/16-18 x 2.0	59.	17488A	RH Pivot Bar
18.	682-3058	RH Bracket Ass'y		17489A	LH Pivot Bar (Not Shown)
	682-3059	LH Bracket Ass'y (Not Shown)	60.	732-0866	Height Adj. Lever
19.	726-0240	Cable Tie	61.	720-0312	Foam Grip
20.	714-0104	Cotter Pin	62.	738-0507B	Shoulder Screw
21.	710-1007	Self-tapping Screw	63.	736-0105	Washer .401 x .870 x .063
23.	664-0085	Grass Bag	64.	734-1860	Wheel, 14 x 2 Yellow (Link Trd.)
24.	7510042824	Screw # 12 x .457	65.	736-0182	Spring Washer .50 I.D. x 1.0 O.D.
25.	631-0075A	Engine Spacer	66.	736-0456	Flat Washer .510 x 1.373 x .04
26.	751B213146	Clamp Casing	67.	738-0481A	Shoulder Screw
27.	710-1237	Hex Screw TT #10-32 x .625	68.	732-0700	Wire
28.	782-0080A	21" Rear Discharge Deck	69.	731-1236	Rear Trailing Shield
29.	782-5004	RH Rear Baffle	70.	747-0996	Pivot Rod
30.	710-1017	Screw AB: 1/4-14: .625	71.	732-0809	Torsion Spring
31.	782-5003	LH Rear Baffle	72.	782-7599A	Rear Discharge Door
32.	710-0216	Hex Screw 3/8-16 x .75	73.	747-0995A	Grass Bag Frame
33.	736-0331	Bell Washer .39 x 1.13 x .062	74.	712-0271	Hex Nut
34.	712-0798	Hex Nut 3/8-16	75.	711-1293	Screw
35.	731-1937A	Transmission Cover	76.	782-5007	Plastic Mulching Baffle
36.	782-5002	Front Baffle			

# Model 559K



# Model 559K

Ref. No.	Part No.	Part Description	Ref. No.	Part No.	Part Description
1.	712-3025	Hex Jam Nut 5/16-24	29.	618-0298A	Transmission Assembly
2.	736-0425	Bell Washer .325 x .930 x .045	30.	732-0708	Bearing Retainer
3.	656-0047	Pulley 3.82 x .313 x .68	31.	741-0604	Bearing Sleeve .50 I.D.
4.	736-0425	Bell Washer .325 x .930 x .045	32.	748-0355	Bearing Support
5.	712-0896	Lock Nut 1/4-28	33.	736-0447	Wave Washer 1.5 x 1.0 x .029
6.	736-0406	Flat Washer .442 x 1.38 x .060	34.	782-0512B	RH Height Adjuster Plate
7.	782-7598	Belt Keeper	35.	782-0511A	LH Height Adjuster Plate
8.	741-0124	Ball Bearing	36.	682-0509	Pivot Plate Assembly
9.	721-0457	Oil Seal	37.	732-0706	RH Front Lever
10.	750-1050	Flange Spacer	38.	732-0707	LH Front Lever
11.	682-0028	Idler Bracket Assembly	39.	720-0190	Knob
12.	741-0682A	Bearing Sleeve	40.	710-0216	Hex Cap Screw 3/8-16 x .75
13.	732-0849A	Flat Washer .504 x .700 x .030	41.	736-0474	Washer
14.	710-0299	Hex Cap Screw 1/4-28 x 1.00	42.	716-0102	Snap Ring 1.0 Dia.
15.	736-0570	Flat Washer .865 x 1.145 x .030	43.	782-7551	Wheel Dust Cap
16.	741-0699	Needle Bearing .438 x .625 x .500	44.	717-1534	Gear 14T RH FWD
17.	721-0325	Plug 1/4 x .437	45.	717-1533	Gear 14T LH FWD
18.	618-0300A	Upper Housing	46.	734-1983	Wheel, 8x2
19.	721-0329	Oil Seal .500 x .687 x .094	47.	731-1426	Hubcap
20.	741-0673	Flange Bearing	48.	682-0512A	RH Height Adj. Complete
21.	611-0105	Output Shaft	49.	682-0511A	LH Height Adj. Complete
22.	736-0520	Flat Washer .504 x .700 x .030	50.	682-0030	Cable Idler Bracket
23.	717-1492	Pinion Shaft 10T	51.	715-0221	Dowel Pin
24.	736-0314	Thrust Washer .375 x .70 x .030	52.	736-3013	Flat Washer 1/2 x 1.00 x .063
25.	736-0569	Thrust Washer .388 x .625 x .062	53.	714-0101	Cotter Pin .08 x 1.42
26.	618-0299A	Lower Housing	54.	738-1002	Screw
27.	741-0672	Flange Bearing .378 x .531 x .370	55.	754-0465	Belt
28.	710-1276	Hex Screw Washer 1/4-20 x .750			

# MANUFACTURER'S LIMITED WARRANTY FOR:



The limited warranty set forth below is given by MTD PRODUCTS INC ("MTD") with respect to new merchandise purchased and used in the United States, its possessions and territories.

MTD warrants this product against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in material or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by MTD Products Inc. for use with the product(s) covered by this manual will void your warranty as to any resulting damages.

Normal wear parts or components thereof are subject to separate terms as follows: All normal wear part or component failures will be covered on the product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear part failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts and components include, but are not limited to, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires. Batteries are covered by a 90-day limited replacement warranty.

**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 for a listing in the Yellow Pages or contact the Customer Service Department of MTD PRODUCTS INC by calling 1-800-800-7310 or writing to P.O. Box 368022, Cleveland, Ohio 44136-9722.

**This limited warranty does not provide coverage in the following cases:**

- a. The engine or component parts thereof. These items carry a separate manufacturer's warranty. Please refer to the applicable manufacturer's warranty on these items.
- b. Log splitter pumps, valves and cylinders have a separate one year warranty.

- c. Routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments; and normal deterioration of the exterior finish due to use or exposure.
- d. MTD 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's authorized channels of export distribution.

**No implied warranty, including any implied warranty of merchantability or fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty or guaranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product shall bind MTD. During the period of the Warranty, the exclusive remedy is repair or replacement of the product as set forth above. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)**

**The provisions as set forth in this Warranty provide the sole and exclusive remedy arising from the sales. MTD shall not be liable for incidental or consequential loss or damages including, without limitation, expenses incurred for substitute or replacement lawn care services, for transportation or for related expenses, or for rental expenses to temporarily replace a warranted product. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.)**

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of the safety features of the product shall void this Warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the use or misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser, original lessee or the person for whom it was purchased as a gift.

**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.