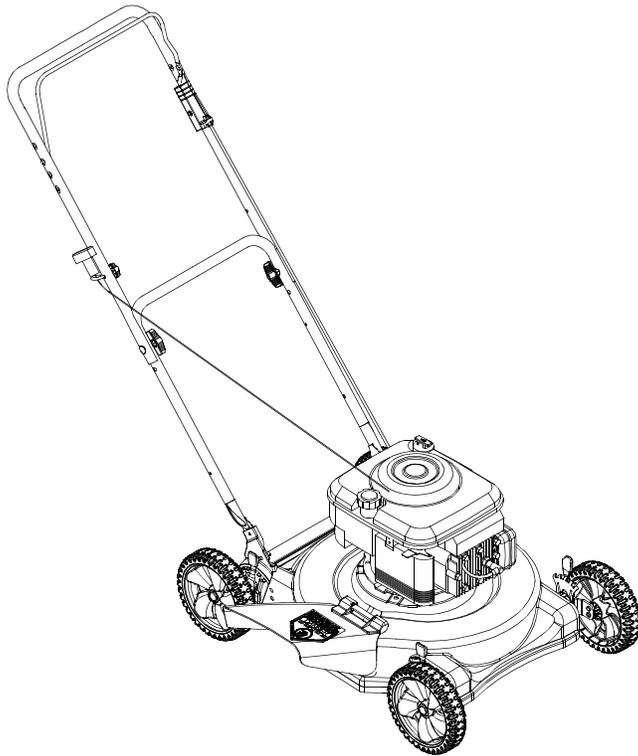


OPERATOR'S MANUAL



Model Series 070 Rotary Mowers

IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

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

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

PRINTED IN U.S.A.

FORM NO. 770-10122A
(1/01)

TABLE OF CONTENTS

Content	Page
Important Safe Operation Practices	3
Slope Gauge.....	6
Unpacking Instructions	7
Assembling Your Lawn Mower.....	7
Know Your Lawn Mower	9
Operating Your Lawn Mower	10
Making Adjustments	11
Maintaining Your Lawn Mower.....	11
Off-Season Storage	13
Troubleshooting.....	14
Parts List.....	15

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 standing behind the unit and looking 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.

(Model Number)	(Serial Number)
MTD PRODUCTS INC P.O. BOX 368022 CLEVELAND, OHIO 44136	

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.

For more details about your unit, visit our website at www.mtdproducts.com

SECTION 1: IMPORTANT SAFE OPERATION PRACTICES



WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury. When you see this symbol—HEED ITS WARNING.



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



DANGER: This machine 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 machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

GENERAL OPERATION

1. 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.
2. This machine 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.
3. Never allow children under 14 years old to operate this machine. Children 14 years old and over should read and understand the operation instructions and safety rules in this manual and should be trained and supervised by a parent. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use this machine.
4. 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 tripped over or picked up and thrown by the blade. Thrown objects can cause serious personal injury. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction which may cause discharged material to ricochet back toward the operator.
5. To help avoid blade contact or a thrown object injury, stay in the operator zone behind the handles and keep children, bystanders, helpers and pets at least 75 feet from the mower while it is in operation. Stop machine if anyone enters the area.
6. Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
7. 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. Never operate this machine in bare feet, sandals, slippery or light weight (e.g. canvas) shoes.
8. Do not put hands or feet near rotating parts or under the cutting deck. Contact with the blade can amputate hands and feet.
9. A missing or damaged discharge cover can cause blade contact or thrown object injuries.
10. Many injuries occur as a result of the mower being pulled over the foot during a fall caused by slipping or tripping. Do not hold on to the mower if you are falling; release the handle immediately.
11. Never pull the mower back toward you while you are walking. If you must back the mower away from a wall or obstruction first look down and behind to avoid tripping and then follow these steps:
 - a. Step back from the mower to fully extend your arms.
 - b. Be sure you are well balanced with sure footing.
 - c. Pull the mower back slowly, no more than half way toward you.
 - d. Repeat these steps as needed.
12. Do not operate the mower while under the influence of alcohol or drugs.
13. Do not engage the self-propelled mechanism on units so equipped while starting engine.
14. 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.
15. Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your footing, release the blade control handle immediately and the blade will stop rotating within three seconds.
16. Mow only in daylight or in good artificial light. Walk, never run.
17. Stop the blade when crossing gravel drives, walks or roads.
18. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

19. 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.
20. Never operate mower without proper trail shield, discharge cover, grass catcher, blade control handle or other safety protective devices in place and working. Never operate mower with damaged safety devices. Failure to do so, can result in personal injury.
21. Muffler and engine become hot and can cause a burn. Do not touch.
22. Only use parts and accessories made for this machine by the manufacturer. Failure to do so, can result in personal injury.
23. 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

Slopes are a major factor related to slip and fall accidents which can result in severe injury. Operation on slopes requires extra caution. If you feel uneasy on a slope, do not mow it. 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, do not mow it.

Do:

1. Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
2. Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles.
3. 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 rotating within 3 seconds.

Do Not:

1. Do not mow near drop-offs, ditches or embankments, you could lose your footing or balance.
2. Do not mow slopes greater than 15 degrees as shown on the slope gauge.
3. Do not mow on wet grass. Unstable 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. They do not understand the dangers. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of a responsible adult other than the

operator.

2. Be alert and turn mower off if a child enters the area.
3. Before and while moving backwards, look behind and down for small children.
4. Use extreme care when approaching blind corners, doorways, shrubs, trees, or other objects that may obscure your vision of a child who may run into the mower.
5. Keep children away from hot or running engines. They can suffer burns from a hot muffler.
6. Never allow children under 14 years old to operate a power mower. Children 14 years old and over should read and understand the operation instructions and safety rules in this manual and should be trained and supervised by a parent.

Service

Safe Handling Of Gasoline:

1. To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes which can ignite.
2. Wash your skin and change clothes immediately.
3. Use only an approved gasoline container.
4. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
5. When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
6. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
7. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
8. Never fuel machine indoors because flammable vapors will accumulate in the area.
9. Never remove gas cap or add fuel while the engine is hot or running. Allow engine to cool at least two minutes before refueling.
10. Never over fill fuel tank. Fill tank to no more than ½ inch below bottom of filler neck to provide space for fuel expansion.
11. Replace gasoline cap and tighten securely.
12. If gasoline is spilled, wipe it off the engine and equipment. Move unit to another area. Wait 5 minutes before starting the engine.
13. Never store the machine or fuel container inside where there is an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
14. To reduce fire hazard, keep mower free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.
15. Allow a mower to cool at least 5 minutes before storing.

General Service:

1. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
2. Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
 - Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked, worn) Replace blade with the original equipment manufacturer's (O.E.M.) blade only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
3. Mower blades are sharp and can cut. Wrap the blade or wear gloves, and use extra caution when servicing them.
4. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
5. Never tamper with safety devices. Check their proper operation regularly.
6. After striking a foreign object, stop the engine, disconnect the spark plug wire and ground against the engine. Thoroughly inspect the mower for any damage. Repair the damage before starting and operating the mower.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. Grass catcher components, discharge cover, and trail shield are subject to wear and damage which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
9. Do not change the engine governor setting or overspeed the engine. The governor controls the maximum safe operating speed of the engine.
10. Maintain or replace safety and instruction labels, as necessary.
11. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment.

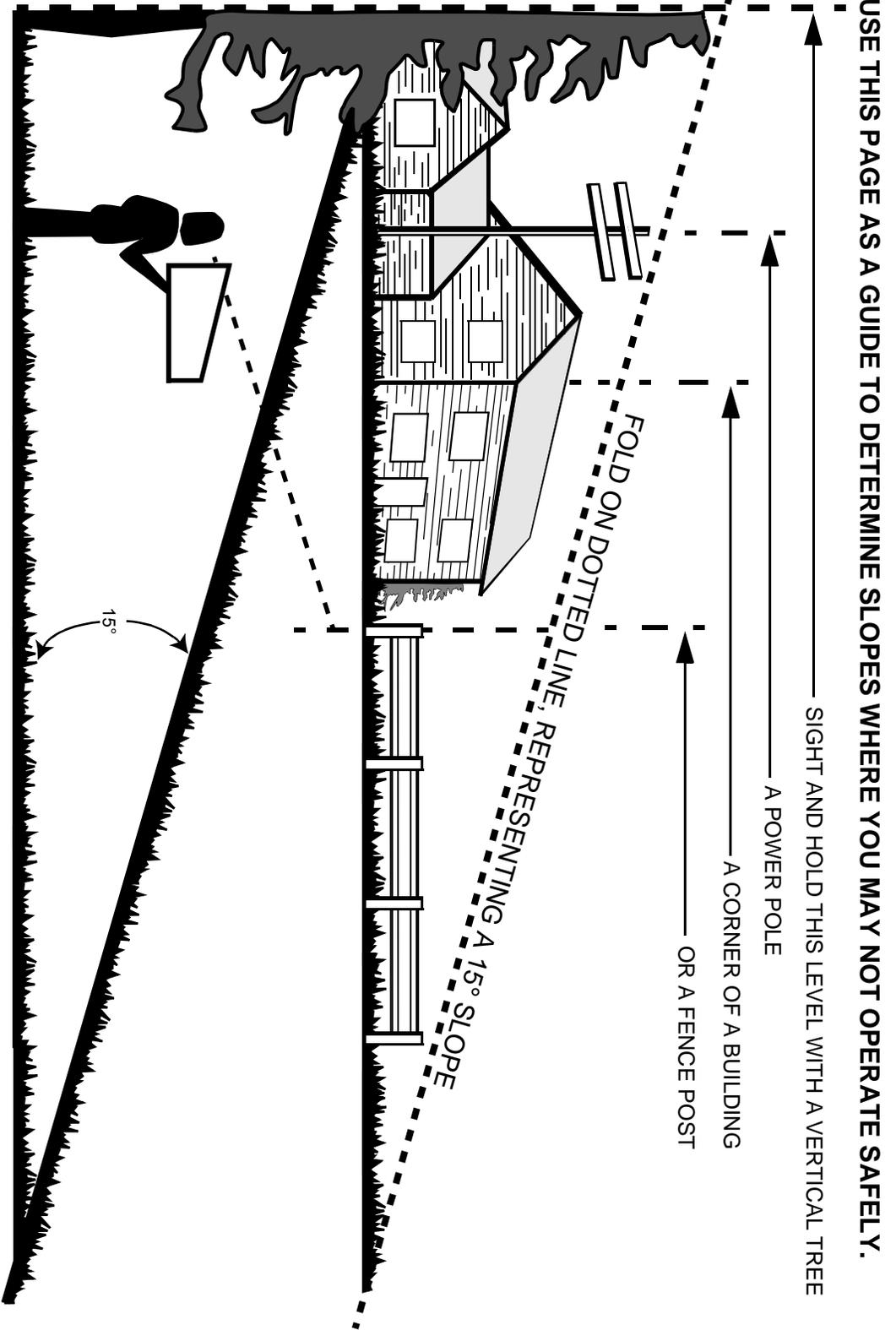
Your Responsibility

- 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.



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.



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: UNPACKING INSTRUCTIONS

Remove Unit From Carton

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

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

- Remove staples, break glue on the top flaps, or cut the tape at carton end and peel along top flap to open the carton.
- Remove any loose parts included with the unit (i.e., operator's manual, etc.).
- Cut the corners and lay the carton down flat.
- Remove packing material.

Roll or slide the unit out of carton. Check the carton thoroughly for loose parts.

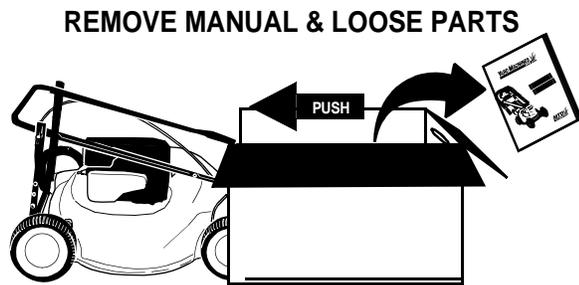


Figure 1

Disconnect Spark Plug Wire

Before setting up your lawn mower, disconnect the spark plug wire from the spark plug. Ground it against the engine by attaching the rubber boot to a bolt or the metal clip to the retaining post or the V-slot on the engine. Refer to Figure 2.

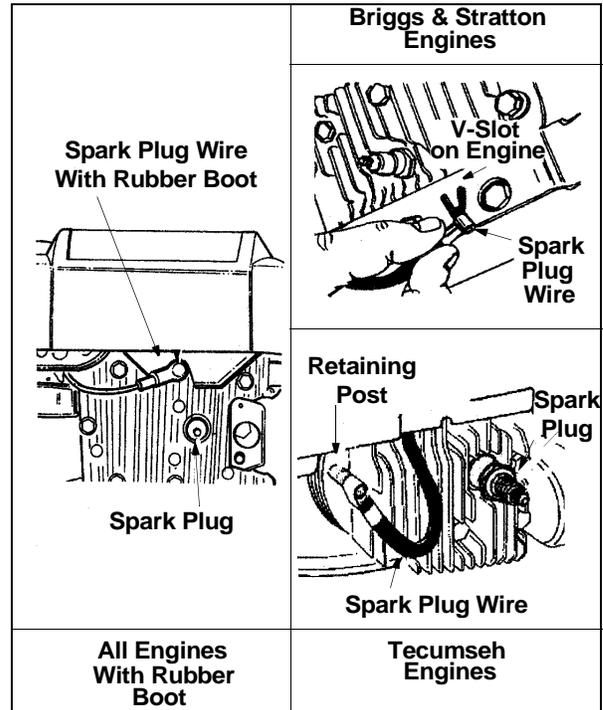


Figure 2

SECTION 4: ASSEMBLING YOUR LAWN MOWER

Items Required For Assembly

- Pair of Pliers
- Motor Oil
- Fresh Gasoline

Assembling Handle

Complete the following steps to assemble your lawn mower:

- Remove any packing material which may be between the upper and lower handles for shipping purposes.
- Pull up and back on the upper handle to raise the handle into the operating position, making sure not to crimp the cable. Make certain the lower handle is seated securely into the handle mounting brackets. See Figure 3.

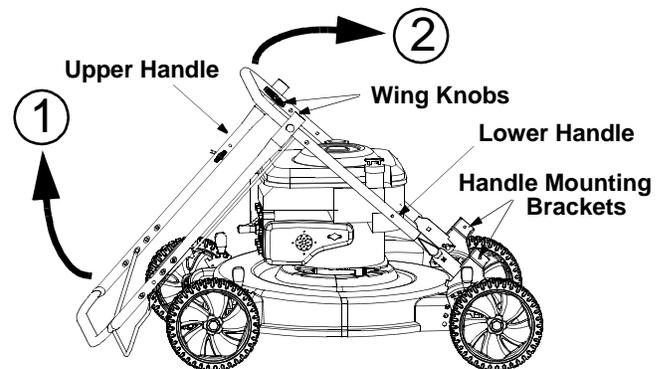


Figure 3

- Tighten the wing knobs on each side of the handle (carriage bolts must be seated properly into the handle).

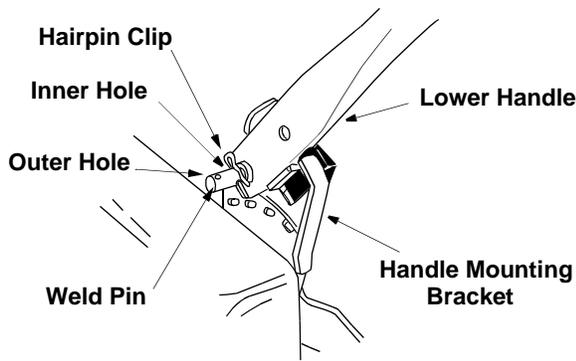


Figure 4

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. Refer to Figure 4.
- 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.
- Loosen the wing nut which secures the rope guide to the right side of upper handle. See Figure 5.
- With the spark plug wire disconnected and grounded, hold the blade control handle (see Figure 8) 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. See Figure 5.

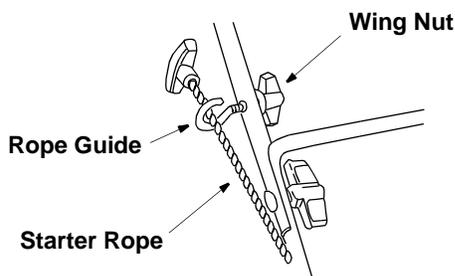


Figure 5

Setting Up Chute Deflector

The chute deflector on your mower is held in an upright position by a retainer for shipping purposes only. See Figure 6.

- To remove this retainer, move the spring-loaded chute toward the engine by pushing above the retainer.
- Remove the retainer and carefully lower the chute into operating position keeping fingers out of the way.



WARNING: The chute retainer, used for shipping, must be removed and discarded before operating the mower.

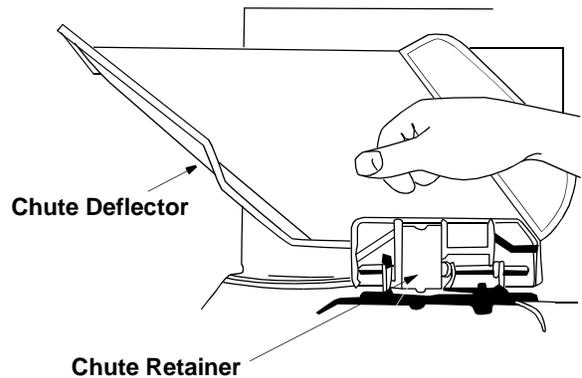


Figure 6

Mulching Baffle (If so Equipped)

A mulching kit is available for the mowers shown in this manual. To obtain a mulching kit, contact a local MTD Products parts and service dealer.

If your mower is equipped with the optional mulching baffle, refer to Figure 7 and install as follows.

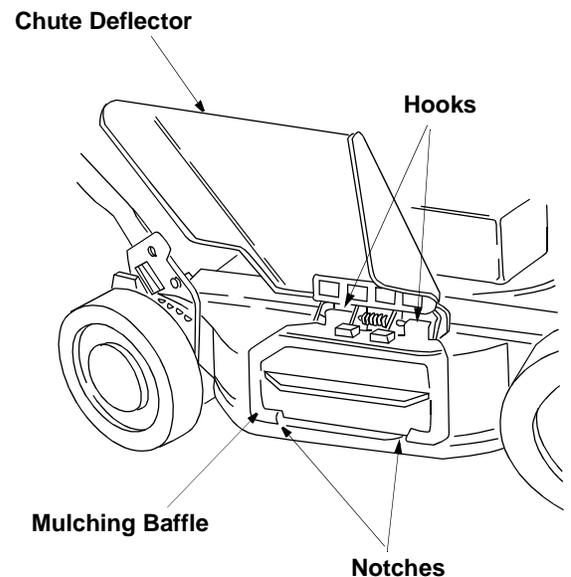


Figure 7

- Lift the chute deflector on the mower. Slide the notches in the bottom of the mulching baffle over the lip of the discharge opening.
- Push the hooks on the top of the baffle until they snap over the hinge on the chute deflector.
- Release the chute deflector.

SECTION 5: KNOW YOUR LAWN MOWER

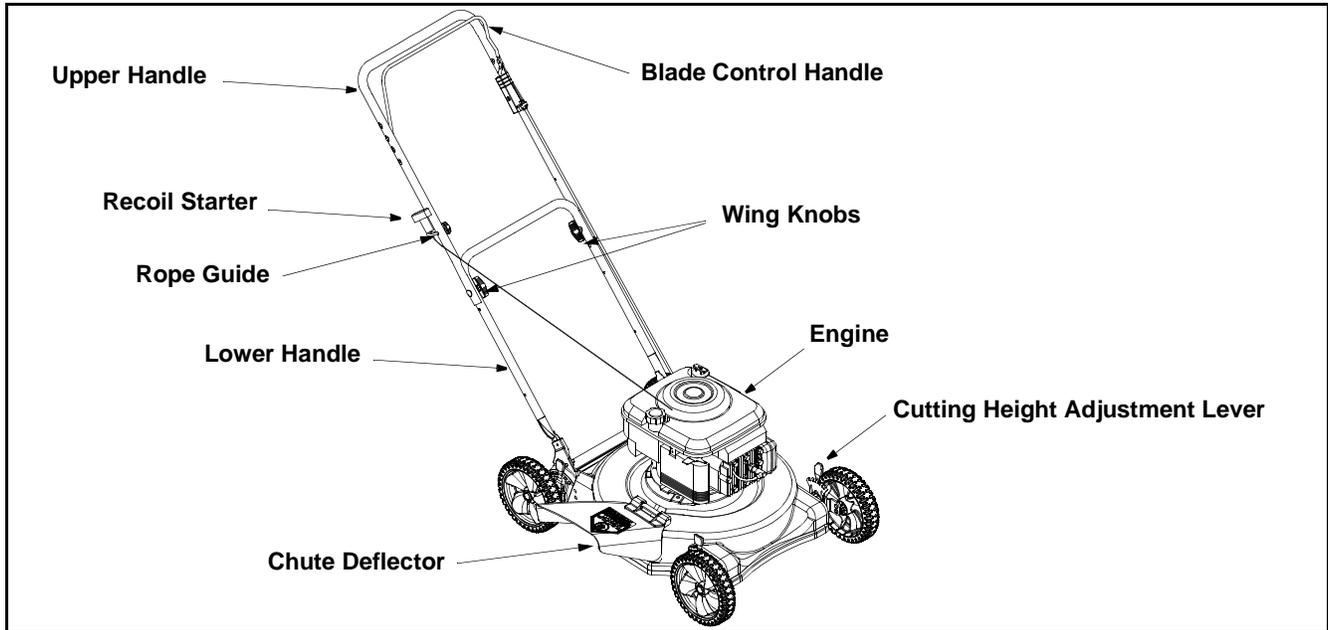


Figure 8

Read this operator's manual and safety rules before operating your lawn mower. Compare the illustration 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 eyes, which can damage your eyes severely. Always wear safety glasses while operating the mower, or while performing any adjustments or repairs.

Engine Controls

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

Blade Control Handle

The blade control handle is located on the upper handle of the mower as shown in Figure 8. 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.

Chute Deflector

The chute deflector is a device that is mounted on the machine as a safety device that directs the cut grass as it is discharged from the mower.

It is used when the grass is too high to mulch or when side discharging is preferred. The grass clippings produced when using the chute deflector will be noticeably larger than those produced when mulching.

Mulch Plug (If so Equipped)

The mower may be equipped with a mulching plug that cuts and recuts grass for finer clippings. Refer to next section for tips when cutting with mulch plug in place.

Throttle Control

Your engine is equipped with a constant speed throttle, which is set at full throttle for best performance.

Recoil Starter

The recoil starter handle is attached to the upper handle. Refer to Figure 8. Stand behind the unit in the operating position to start the unit.

Cutting Height Adjustment Lever

A height adjustment lever at each wheel provides cutting height adjustment. Each adjuster has nine height positions. Height of cut will be changed when the lever is moved from one position to another. Simply depress the lever towards the wheel and move the wheel and lever assembly to desired position. All four wheels must be placed in the same relative position.

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

SECTION 6: OPERATING YOUR LAWN MOWER



WARNING: Keep hands and feet away from the chute area on 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 height to a higher position until it is determined which height is best for your lawn.

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 the fuel tank indoors, with the engine running, or until the engine has been allowed to cool for at least two minutes after running.

Starting the Engine

- Prime the engine as instructed in the separate engine manual.
- Stand behind the unit, squeeze and hold the blade control handle against the upper handle as shown in Figure 9.
- Grasp the recoil starter handle and pull the rope out slowly until the engine reaches the start of the compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
- Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on the starter handle. Return it slowly to the rope guide.

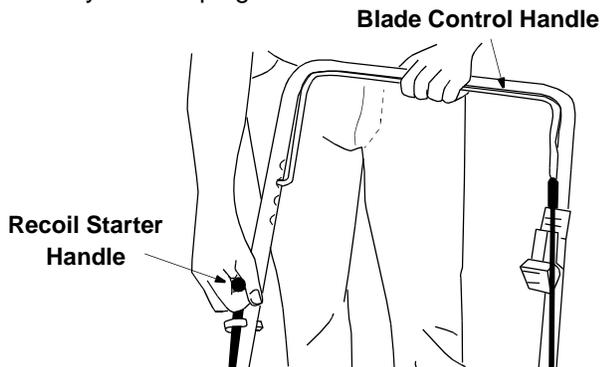


Figure 9

Stopping the Engine And Blade

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



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

Using Your Lawn Mower

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

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

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



WARNING: If you strike a foreign object, stop the engine. Remove and ground the spark plug wire, 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 Grass Clippings

If your mower is equipped with a mulching kit, follow these tips 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", mow twice to reduce the grass height to 3-1/4" maximum.

SECTION 7: MAKING ADJUSTMENTS



WARNING: Always stop the engine, disconnect the spark plug wire, and ground it against the engine before performing adjustments.

Cutting Height Adjustment

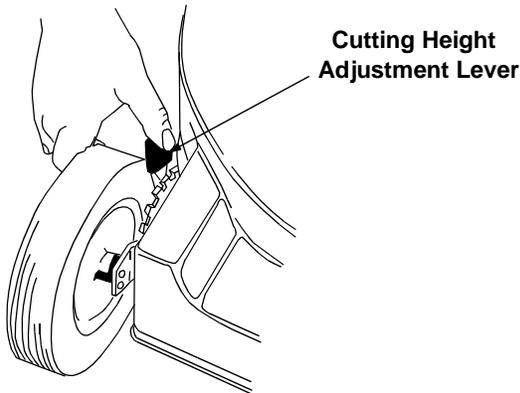


Figure 10

A height adjustment lever at each wheel provides cutting height adjustment. Each adjuster has nine height positions. Height of cut will be changed when the lever is moved from one position to another.

- Depress the lever towards wheel and move the wheel and lever assembly to desired position. Refer to Figure 11.
- To raise the height, push the lever towards the front of the mower on both front wheels, and push the lever toward the back of the mower on the rear wheels.

All wheels must be placed in the same relative position. For rough or uneven lawns, move the wheels to a position which will give a higher cutting height.

Handle Height Adjustment

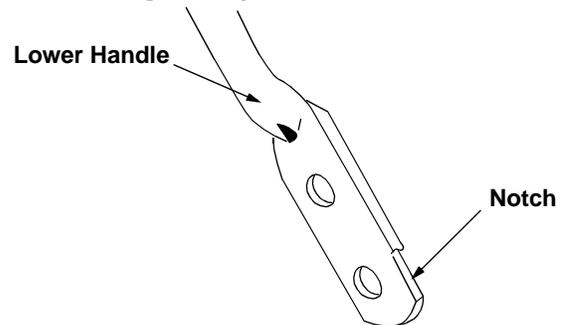


Figure 11

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

- Remove the starter rope from the rope guide.
- Remove the cable ties that hold the control cable to the upper and lower handles.
- Remove the upper handle by removing the wing nuts 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 and remove the lower handle from the mower.
- Turn the lower handle around so the notch on the bottom of the lower handle is facing forward as shown in Figure 11. 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 *Assembling Your Lawn Mower* section.

SECTION 8: MAINTAINING YOUR LAWN MOWER



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

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

General Recommendations

- Always observe safety rules when performing any maintenance.
- Changing of the engine's governed speed will void the engine's warranty.
- 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, the operator must maintain the lawn mower as instructed in this manual.
- Periodically check all fasteners and make sure these are tight.

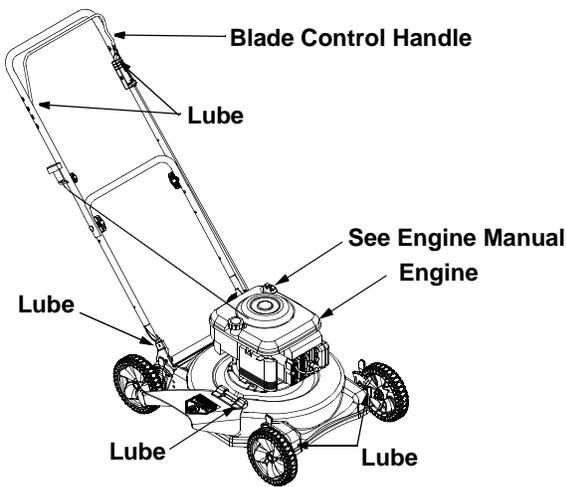


Figure 12

Lubrication



WARNING: Always stop the engine, disconnect the spark plug wire, and ground it against the engine before cleaning, lubricating or doing any type of maintenance on the machine.

Blade Control Handle: Lubricate the pivot points on the blade control handle at least once a season with light oil. This handle must operate freely in both directions. Refer to 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.

Chute Deflector: Lubricate the torsion spring and pivot point periodically with light oil to prevent any rust or binding.

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

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 carburetor flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.

- The spark plug should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check the engine manual for correct plug type and gap specifications.
- Clean the engine regularly with a cloth or brush. Keep the cooling system on the top of the engine (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 the 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 will prevent proper mulching or discharging of the grass.

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

NOTE: The use of a pressure washer or garden hose to clean your unit is NOT recommended. Using these may cause damage to electrical components, spindles, pulleys, bearings, or the engine. The use of water will result in shortened life and reduced serviceability.

Blade Replacement and Sharpening

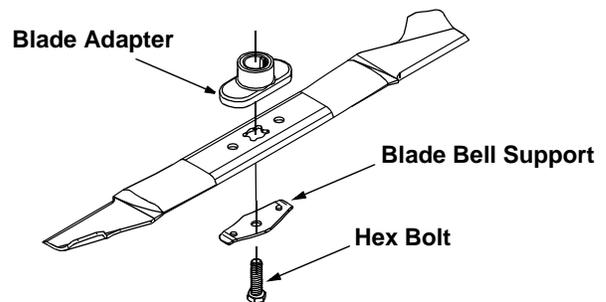


Figure 13

Removing the Blade

IMPORTANT: When removing the cutting blade for sharpening or replacement, protect hands by using heavy gloves or a thick rag before grabbing the blade.

- Remove the bolt and blade bell support which hold the blade and adapter to the engine crankshaft. Refer to Figure 13.
- Remove the blade and adapter from the crankshaft.



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

Sharpening the Blade

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

Balancing the Blade

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.

Reinstalling the Blade

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 onto the engine crankshaft.
- Place the blade on the adapter. Be certain the blade is aligned with, and seated onto, the blade adapter flanges.
- Place blade bell support on blade. Make sure the notches on the blade bell support are aligned with the small hole in the blade and replace the hex bolt.
- Torque hex bolt to: 450 in. lbs. min., 600 in. lbs. max.

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

SECTION 9: OFF-SEASON STORAGE

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

- Clean and lubricate the mower thoroughly as described in the lubrication instructions.
- The use of a pressure washer or garden hose to clean your unit is NOT recommended. Using these may cause damage to electrical components, spindles, pulleys, bearings, or the engine. The use of water will result in shortened life and reduced serviceability.
- 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 and rock salt.

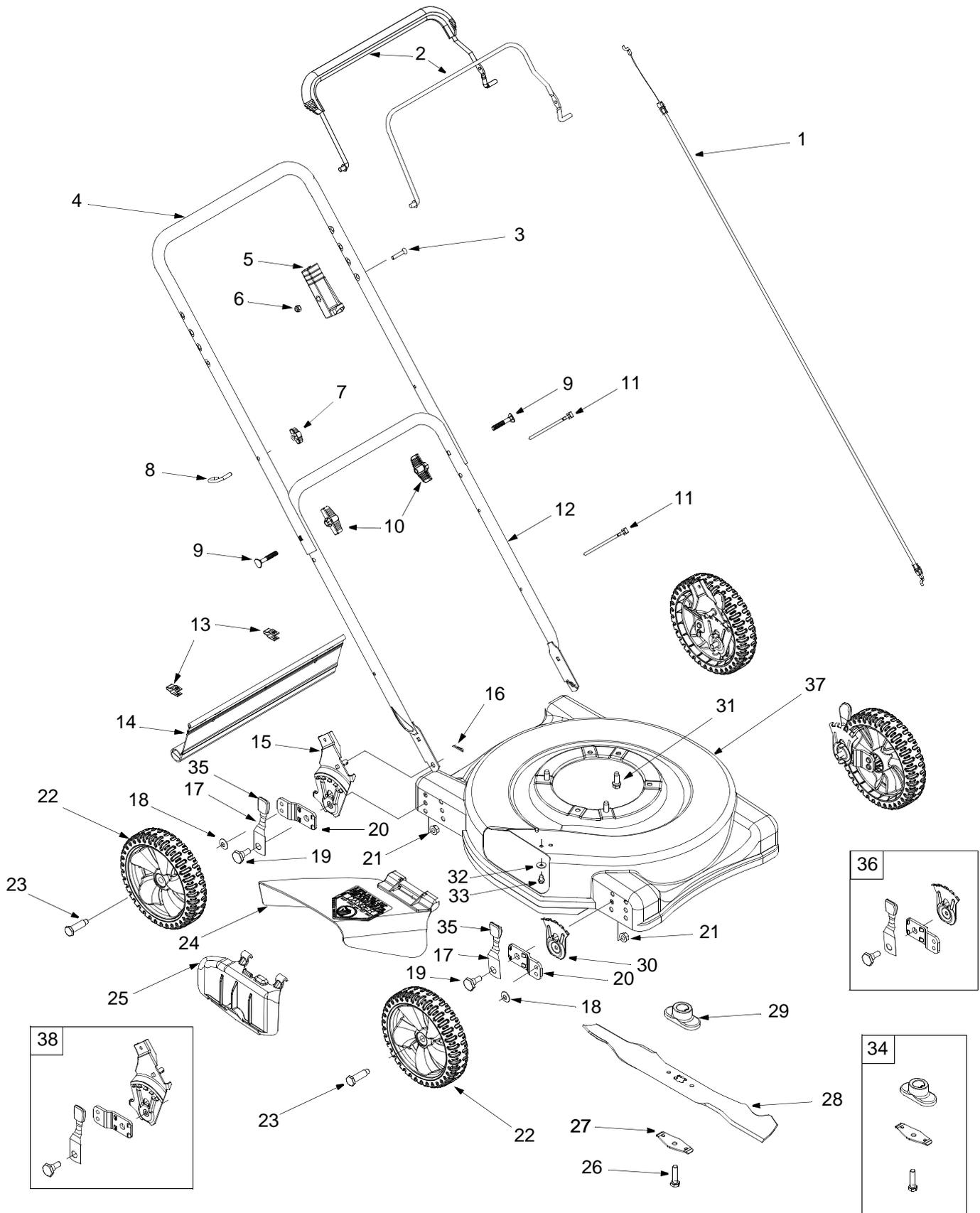
NOTE: *When storing any type of power equipment in an poorly ventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.*

NOTE: *Refer to the separate engine manual packed with your mower for more engine related information.*

SECTION 10: TROUBLESHOOTING GUIDE

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	Blade control handle disengaged. Spark plug wire disconnected. Fuel tank empty, or stale fuel. Blocked fuel line. Faulty spark plug. Engine flooded.	Engage blade control handle. Connect wire to spark plug. Fill tank with clean, fresh gasoline. Clean fuel line. Clean, adjust gap or replace. Wait a few minutes and crank again.
Engine runs erratic	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.	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. Bent engine crankshaft.	Tighten blade and adapter. Balance blade. Replace blade. Take machine to authorized engine repair shop.
Mower will not mulch grass	Wet grass. Excessively high grass. Dull blade.	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.

SECTION 11: PARTS LIST



PARTS LIST

REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
1	746-0554	Control Cable- 40.5"	21	712-0431	Flange Lock Nut, 3/8-16
2	747-0824	Standard Control Lever	22	††	Wheel Assembly (See Wheel Chart)
	647-0004	Deluxe Plastic Control Lever	23	738-0102	Shoulder Screw, .498 x 1.445 : 3/8-16
3	710-1270	Oval C-sunk Machine Screw	24	731-1034B	Side Discharge Chute
4	749-0705	Upper Handle	25	731-1386D	Mulch Plug (If Equipped)
	720-0295	Foam Grip (If Equipped)	26	710-1044	Hex Head Cap Screw, 3/8-24 x 1.5 GR8
5	746-0883	Control Cable Housing	27	736-0524A	Blade Bell Support
6	712-0324	Hex Lock Nut, Nylon, 1/4-20 GR8	28	942-0640	Standard Blade
7	720-0279	Wing Knob		942-0740	Mulching Blade w/Star (If Equipped)
8	710-1205	Eye Bolt	29	748-0376C	Blade Adapter w/Star
9	710-1174	Carriage Bolt	30	15261A	Height Adjustment Plate
10	720-0314	Wing Knob	31	710-0654A	Self Tapping Screw, 3/8-16 x 1"
11	726-0240	Cable Tie	32	736-0270	Bell Washer
12	749-0928	Lower Handle	33	710-0599	Self Tapping Screw, 1/4-20 x 1/2"
13	17098	Hinge Clip	34	753-0588	Blade Adapter Kit
14	731-0872A	Rear Trail Shield	35	720-0190	Height Adjuster Knob
15	782-3024	Height Adjustment Bracket, RH	36	14578	Front Height Adjuster Assy, RH
	782-3025	Height Adjustment Bracket, LH		14579	Front Height Adjuster Assy, LH
16	714-0104	Internal Cotter Pin	37	682-0140	Deck Housing Assembly
17	732-0404	Spring Lever	38	682-3024	Rear Wheel Height Adj. Assy, RH
18	736-0105	Bell Washer, .400 ID x .88"		682-3025	Rear Wheel Height Adj. Assy, LH
19	738-0507B	Shoulder Bolt, 1/2 x .357"			
20	15262B	Wheel Pivot Bar			

†† Wheel Assembly Chart				
Size	Tread Type	Wheels		Description
		Part No.	Bearings	
8" x 1.75"	Bar Tread	634-0020	—	Disk Hub Grey
8" x 1.75"	Bar Tread	734-1987	—	Aero Mag Grey
8" x 1.75"	Bar Tread	734-1781	—	Slot Hub Grey
8" x 1.75"	Diamond	734-1780	—	Star Hub White
8" x 2"	Link Tread	734-1978	741-0484	Black

Optional Hub Caps	
Description	Part No.
Grey (3-1/2" Dia.)	720-0249
Grey (5-1/2" Dia.)	731-0981A
Beige (5-1/2" Dia.)	731-0982A

Engine Shroud Chart				
Engine	Color	Part No.	Description	Hardware
Briggs & Stratton	Black	751B281857	Quattro	751B095225
Tecumseh	Black	7511681311	Tecumseh Black	—
Tecumseh	Red	7511681911	Tecumseh Red	—
Tecumseh	Gray	7511682011	Tecumseh Gray	—

NOTES

NOTES

MANUFACTURER'S LIMITED WARRANTY

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.