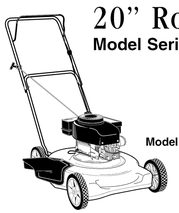
IMPORTANT



20” Rotary Mowers

Model Series — 020

Model 020 Shown

Important: Read Safety Rules and Instructions Carefully

Operators Manual

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.

FORM NO. 770-1025A

Section 1: Safe Operation Practices

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

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

1) GENERAL OPERATION

- Read this operators 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.

2) SLOPE OPERATION

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

DO:

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

DO NOT:

- Do not mow near drop-off, 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.

2) 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.

3) 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 overslept the engine. Excessive engine speeds are dangerous.

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

Figure 1

Manufacturer’s Limited Warranty

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

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

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

How to obtain service: Warranty service is available, with proof of purchase, through your local authorized service dealer. To locate the dealer in your area, please check the yellow pages or contact the Customer Service Department of the manufacturer, P. O. Box 368022, Cleveland, Ohio 44136-9722. Phone 1-800-800-7310. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by the service department of the manufacturer.

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

Units exported out of the United States: The manufacturer 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 the manufacturer’s authorized channels of export distribution.

Other Warranties:

The engine or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer’s warranty on these items.

*Batteries are covered by a 90-day replacement warranty.

Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty.

All other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, are hereby expressly disclaimed in their entirety.

The provisions as set forth in this warranty provide the sole and exclusive remedy of the manufacturer’s obligations arising from the sales of its products. The manufacturer will not be liable for incidental or consequential loss or damage.

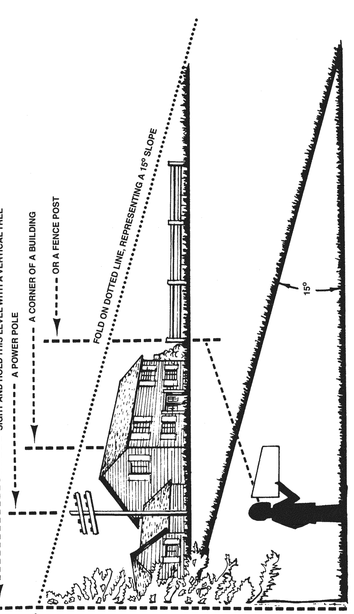
How state law relates to this warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Certain disclaimers are not allowed in some states and therefore they may not apply to you under all circumstances.

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

Section 2: Slope Guide

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

— cut along dotted line —



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 causing 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.

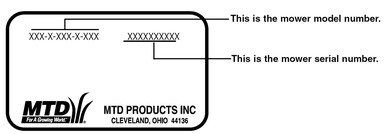
Section 3: Finding the Mower Model Plate

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

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

Every walk behind has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the rear of the deck.

The model plate will look like Figure 2.



Copy the model number here: _____

Copy the serial number here: _____

Figure 2

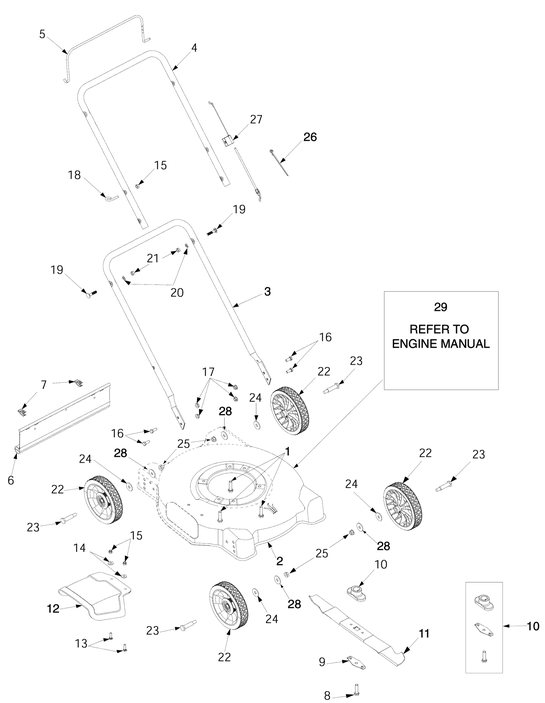
Section 4: Calling Customer Support

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

1-800-800-7310

Before you call, make sure that you have your model and serial numbers ready. By having the model and serial numbers ready, you help the Customer Support Representative give you faster service. To find the mower’s model and serial number, see Section 3: Finding the Mower Model Plate.

Section 5: Illustrated Parts List



Section 5: Illustrated Parts List

Locator Number	Part Number	Description
1	710-0654A	Screw 3/8-16:1.00 HX Ind Washer
2	782-0048	Deck - 20”
3	749-1077	Lower Handle
4	749-1076	Upper Handle
5	747-0976	Bail
6	731-0872A	Trail Shield
7	17098	Hinge Clip
8	710-1044	Screw 3/8-24: 1.50 - Gr8
9	936-0524A	Support: Blade Bell
10	753-0588	Blade Adapter Kit (Incl. Ref. 8 &9)
11	742-0640	Blade
12	731-0064	Discharge Chute
13	710-0932	Screw 1/4-20: 1.00 Carriage
14	736-0173	Flat Washer .28ID x .74OD x .063
15	712-0324	Lock Nut 1/4-20
16	710-3008	HHCS 5/16-18: .75
17	712-3004A	Lock Nut 5/16-18
18	710-1205	Eye Bolt 1/4-20
19	710-0262	Carriage Bolt 5/16-18: 1.50 lg.
20	736-0119	Lock Washer 5/16
21	712-0267	Nut 5/16-18
22	734-1779	Wheel
23	738-0533	Shoulder Screw .498 x 1.635
24	736-0105	Bell Washer .401D x .870OD x.063
25	712-0798	Fl. Lock Nut 3/8-16
26	726-0240	Cable Tie
27	746-0946	Control Cable (021C)
27	746-0957	Control Cable (020B)
28	736-0331	Bell Washer .39ID x 1.13OD x .062
29		See Engine Manual

Section 6: Trouble Shooting Guide

Trouble	Possible Cause(s)	Corrective Actions
Engine fails to start	Blade control handle disengaged.	Engage blade control handle.
	Spark plug wire disconnected.	Connect wire to spark plug.
	Dirty air cleaner.	Refer to the engine manual packed with your unit.
	Primer button not depressed.	Refer to the engine manual packed with your unit.
	Throttle control lever not in correct starting position (if so equipped).	Move throttle lever to FAST or START position.
	Fuel tank empty or stale fuel. gasoline.	Fill tank with clean fresh Fuel will not last over thirty days unless a fuel stabilizer is used.
	Blocked fuel line (if so equipped).	Clean fuel line.
	Faulty spark plug.	Clean, adjust gap or replace.
	Engine flooded.	Refer to the engine manual packed with your unit.
Engine runs erratic	Spark plug wire loose.	Connect and tighten spark plug wire. Check spark plug for fouling.
	Blocked fuel line (if so equipped) or stale fuel.	Clean fuel line; fill tank with clean, fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is added.
	Vent in gas cap plugged.	Clear vent or threads or replace.
	Water or dirt in fuel system.	Drain fuel tank. Refill with fresh fuel.
	Dirty air cleaner.	Refer to the engine manual packed with your unit.
	Carburetor out of adjustment.	Refer to the engine manual packed with your unit.
Engine overheats	Engine oil level low.	Fill crankcase with proper oil.
	Dirty air cleaner.	Refer to the engine manual packed with your unit.
	Air flow restricted.	Stop engine and disconnect spark plug wire. Remove blower housing and clean.
	Carburetor not adjusted properly.	Refer to the engine manual packed with your unit or see an authorized service dealer.*
Occasional skip (hesitates) at high speed Idles poorly	Spark plug gap too close.	Adjust gap to .030”.
	Carburetor idle mixture adjustment improperly set.	Refer to the engine manual packed with your unit.
	Spark plug fouled, faulty or gap too wide.	Reset gap to .030” or replace spark plug.
	Carburetor improperly adjusted.	Refer to the engine manual packed with your unit.
	Dirty air cleaner.	Refer to the engine manual packed with your unit.
Excessive vibration	Cutting blade loose or unbalanced.	Tighten blade and adapter. Balance blade.
	Bent cutting blade.	See an authorized service dealer.
Uneven cut	Wheels not positioned correctly.	Place all four wheels in same height position.
	Dull blade.	Sharpen or replace blade.

Note: For repairs beyond the minor adjustments above, contact your local authorized service dealer.

Call 1-800-800-7310 to locate a dealer near you.

Instructions

Step by Step

Follow the Step-by-Step instructions to properly assemble and familiarize yourself with this mower.

Section 1 - Safe Operation Practices
See the reverse side. Read before using the mower.

Manufacturer's Limited Warranty
See the Reverse side

Section 2 - Slope Guide
See reverse side. Cut out on dotted line to use the slope guide.

Section 3 - Finding the Mower Model Number
Locate and record model number and serial number of the unit. See the reverse side.

Section 4 - Calling Customer Support
Customer Support Number. See the reverse side.

Section 5 - Illustrated Parts List
See the Reverse side.

Section 6 - Trouble Shooting Guide
See the Reverse side.

Section 7 - Hardware Pack
Use this to identify all loose parts.

Section 8 - Unpacking the Unit
a) Unpacking
b) Tools Required for Assembly
c) Disconnect the Spark Plug Wire

Section 9 - Set-up Instructions
a) Attaching the Lower Handle
b) Attaching the Upper Handle
c) Attaching the Brake Cable
d) Attaching "Z" Fitting
e) Securing the Cable
f) Attaching the Wheels
g) Attaching the Chute Deflector
h) Attaching the Starter Rope

Section 10 - Controls
a) Blade Control Handle
b) Recoil Starter

Section 11 - Operation
a) Gas and Oil Fill-up
b) To Start Engine and Engage Blade
c) To Stop Engine and Blade
d) Using Your Rotary Mower

Section 12 - Adjustments
a) Cutting Height Adjustment
b) Carburetor Adjustments

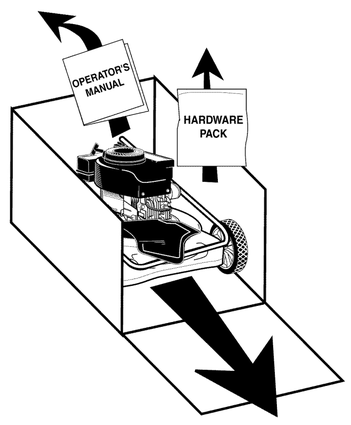
Section 13 - Lubrication
a) Blade Control
b) Wheels
c) Engine

Section 14 - Maintenance
a) Trouble Shooting - See the reverse side
b) Cutting Blade
c) Single Bolt Blade Mounting
d) Blade Mounting Torque
e) Deck
f) Engine
g) Rear Flap Replacement

Section 15 - Off-Season Storage
Preparing the mower for storage.

Section 8: Unpacking the Unit

8a) UNPACKING THE UNIT



8b) TOOLS REQUIRED FOR ASSEMBLY

(2) 1/2" Wrenches

(1) 7/16" Wrench

(1) 9/16" Wrench

(1) 3/4" or Adjustable Wrench

(two 6" Adjustable Wrenches may be used instead of the above.

8c) DISCONNECT THE SPARK PLUG WIRE

Disconnect the spark plug wire while assembling.

Reconnect spark plug wire after assembling.

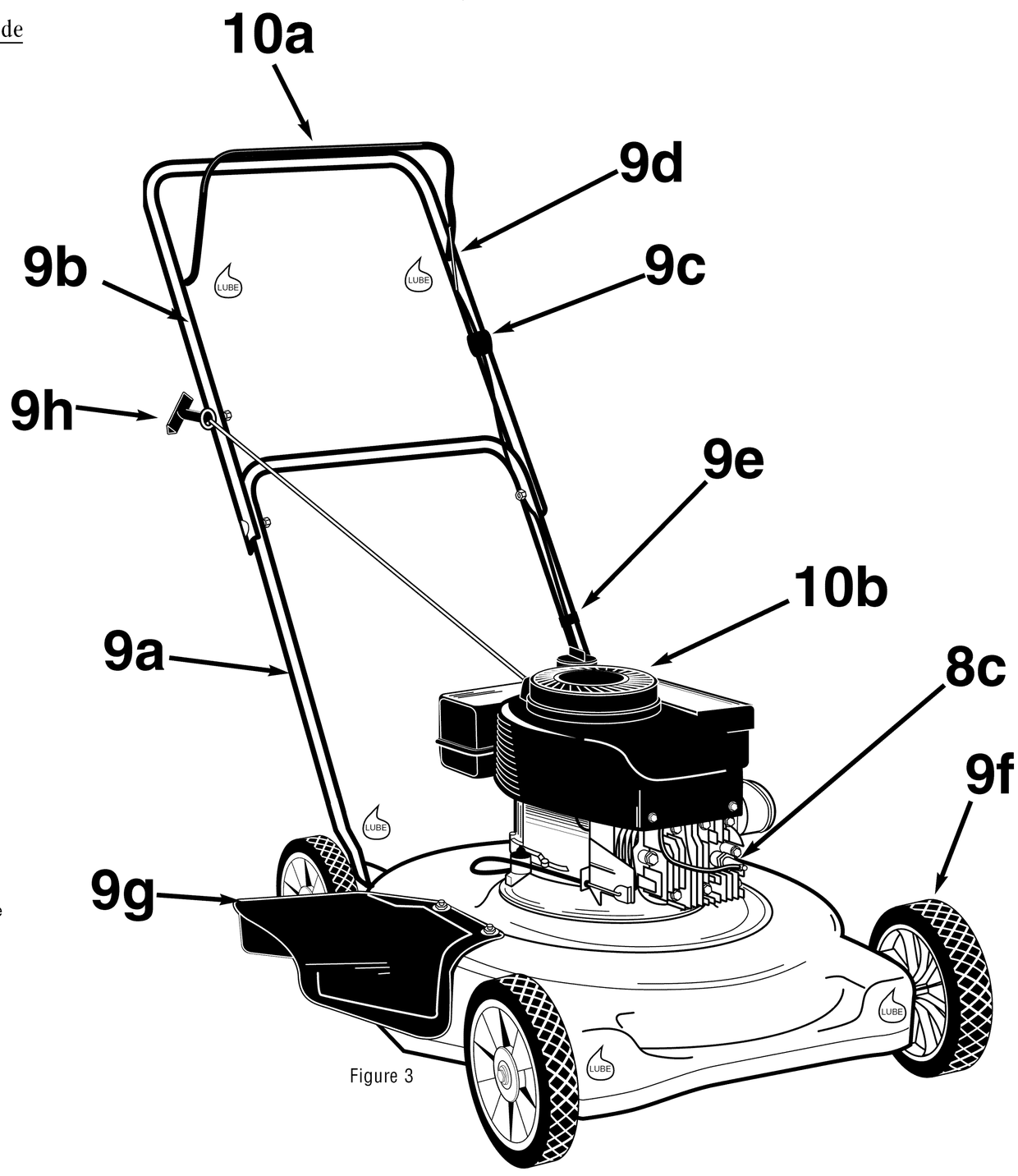
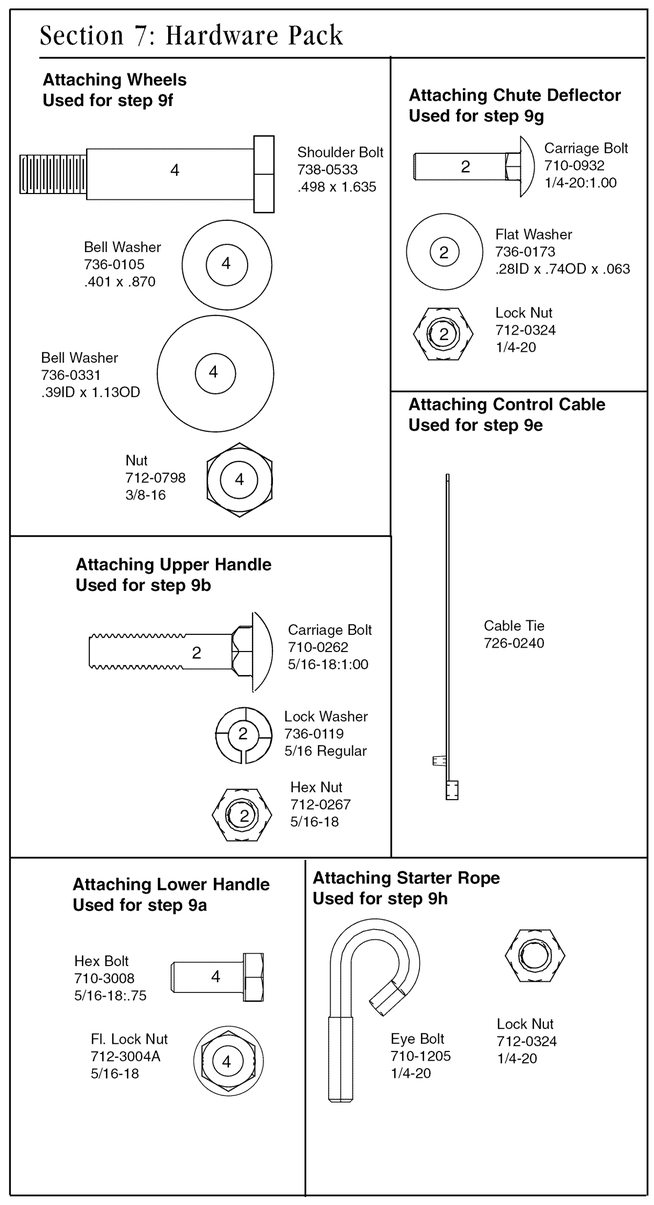


Figure 3

Section 7: Hardware Pack



Section 9: Set-Up Instructions

IMPORTANT: This unit is shipped WITHOUT GASOLINE or OIL in the engine. After assembly, and before operating, service the engine with gasoline and oil as instructed in the separate engine manual packed with your mower.

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

Before assembling the mower, lay out the hardware according to the hardware pack illustrations. The illustrations are grouped by steps. For example, the hardware used to attach the lower handle to the cutting deck is grouped under the heading (Used for step 9a).

Follow the steps in sequence, and remember to read all safety instructions and warnings.

9a) ATTACHING THE LOWER HANDLE

1) Raise the rear of the deck and block securely.
2) Place the lower handle, (pointed end down) over the deck and align the holes in the deck with the holes in the handle. See Figure 4.
3) Install the hex bolts and flange nuts. Using two 1/2" wrenches tighten securely.

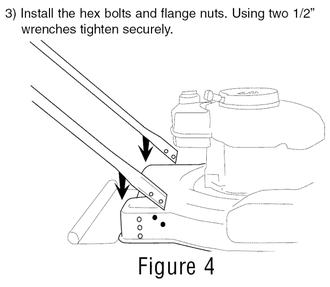


Figure 4

9b) ATTACHING THE UPPER HANDLE

1) Place the upper handle in position over the lower handle. With the blade control handle facing up.
2) Secure the upper handle to the lower handle using the carriage bolts, split washers and hex nuts as shown in figure 5. The head of the carriage bolts go on the outside of the handle.

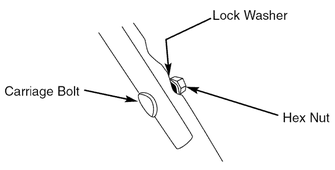


Figure 5

9c) ATTACHING THE BRAKE CABLE

Note: The brake cable is attached to the engine at the factory. The free end requires assembly.

1) Route the cable under the lower handle.
2) On the opposite end of the cable housing is a snap fitting. The shaft inside of the snap fitting fits in the lower hole on the left handle. Press the snap fitting in place. See figure 6.
3) Make certain the blade control handle is on top of the upper handle.

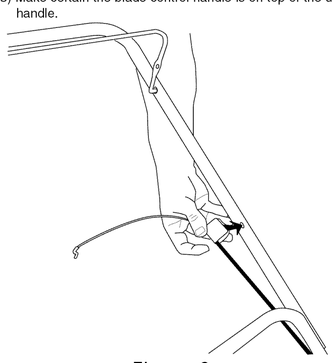


Figure 6

9d) Attaching "Z" Fitting

Reattaching the Blade Control Handle

Note: To reassemble the blade control handle to the upper handle, first identify the proper holes in the upper handle. This can be done by placing the blade control handle flat against the upper handle. The ends of the blade control handle will approximate the hole positions. Insert the curved end of the blade control handle into the right hole. Squeeze the handle in and insert the straight end of the blade control handle into the left hole of the upper handle. Squeeze the blade control handle against the upper handle to check for proper assembly. See Figure 7.

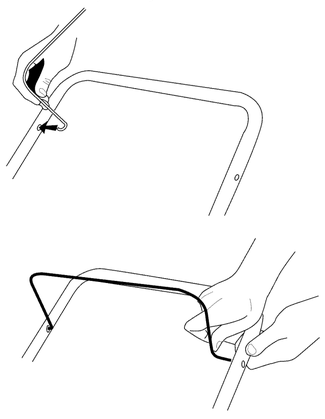


Figure 7

The hole in the control handle must be on the left side of the upper handle, and the control handle must touch the upper handle when engaged (squeezed against the upper handle).

1) Hold the cable end near the left side of the upper handle and hook the "Z" end of the brake cable into the control handle from the inside to the outside. See figure 8.

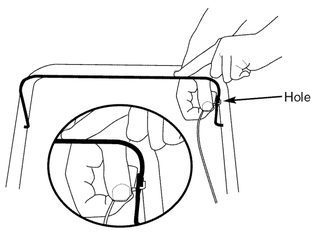


Figure 8

9e) SECURING THE CABLE

Warning: When attaching the control cable, the cable must be routed to avoid contact with all sharp edges and hot surfaces to prevent damage to the cable, which will render the controls inoperative.

Secure the cable to the lower left handle near the base of the unit with a cable tie. See Figure 9 below. Trim excess end of cable tie.

Figure 9

9f) ATTACHING THE WHEELS

The holes provide three cutting heights for your mower. Use the same hole location for all four wheels when assembling. For example, if wheels are to be assembled in the lowest cutting position, use highest hole in the deck.

1) To assemble the wheels, see figure 10 below.
2) Block up the mower securely.
3) Place axle bolt through the wheel. (Hub side of the wheel must face the deck.)
4) Place the small bell washer on the axle bolt. Crown side towards wheel.
5) Secure the wheel to the deck with the large bell washer and nut.
6) Assemble the other wheels in the same manner.
7) Remove blocks.

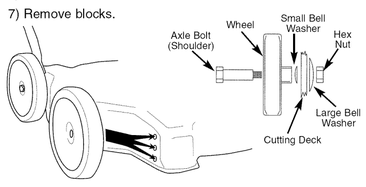


Figure 10

9g) ATTACHING THE CHUTE DEFLECTOR

Align the holes in the chute deflector with the holes on the deck, see figure 11 below.

Place the carriage bolts from underside of the deck up through the chute deflector.

Secure each bolt with a washer and lock nut.

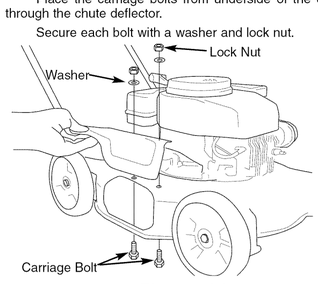


Figure 11

9h) ATTACHING THE STARTER ROPE

Loosely attach the rope guide from the out side of the handle to the inside and start the lock nut. (loose).

The starter rope is inside the top of the engine. With the spark plug wire disconnected and grounded, depress the blade control handle and pull the rope out of the engine.

Slip the starter rope in the gap between rope guide and handle. Secure with hex lock nut, see figure 12 below.

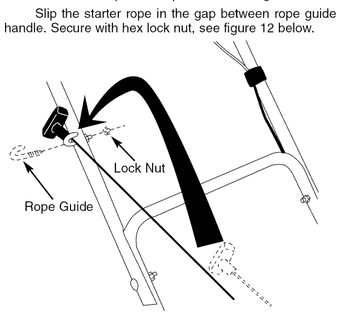


Figure 12

Section 10: Controls

10a) BLADE CONTROL HANDLE

Warning:This control mechanism is a safety device. Never attempt to bypass its operations.

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 the blade control handle to stop the engine and blade.

Warning: The blade will be rotating when ever the engine is running.

10b) RECOIL STARTER

The recoil starter handle, when assembled, is attached to the upper handle and is used to start the engine.

Section 11: Operation

Keep hands and feet away from the chute area on cutting deck. See figure 1, warning label in the Safe Operations Section.

Warning: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. We recommend wide vision safety mask for over spectacles or standard safety glasses.

11a) GAS AND OIL FILL-UP

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

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

11b) TO START ENGINE AND ENGAGE BLADE

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

1) Attach spark plug wire securely to spark plug.
2) Prime engine as instructed in the separate engine manual.
3) Standing behind the unit, depress the blade control handle and hold it against the upper handle as shown in figure 14.

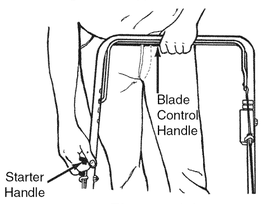


Figure 14

4) Grasp the starter handle and pull the rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
5) Pull the rope with a rapid, continuous, full arm stroke. Keep a firm grip on starter handle. Return it slowly to the rope guide.

NOTE: If any problems are encountered, refer to the Trouble Shooting Guide on the reverse side of this manual.

11c) TO STOP ENGINE AND BLADE

1) 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.

2) Disconnect the spark plug wire and ground it against the engine to prevent accidental starting while equipment is unattended.

11d) USING YOUR ROTARY MOWER

Be sure that the lawn is clear of stones, sticks, wire, or other objects which could damage the lawn mower or engine. Such objects could be accidently 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 the grass clippings, and could cause you to slip and fall. New grass or thick grass may require a narrower cut.

The best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits recutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion, then recut at right angles to first direction.

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

WARNING: If you strike a foreign object, stop the engine. Remove the 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.

Section 12: Adjustments

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

12a) CUTTING HEIGHT ADJUSTMENT

Adjustments may be made by removing and moving the axle bolts to the desired position. The cutting height will be raised as axle bolts are moved to a lower hole and lowered as the axle bolts are moved to a higher hole in the deck. All the axle bolts must be mounted in the same relative position. Refer to figure 10 (Section 9f - Attaching the Wheels).

12b) CARBURETOR ADJUSTMENTS

WARNING: If any adjustments are made to the engine while the engine is running (e.g. carburetor), keep clear of all moving parts. Be careful of heated surfaces and muffler.

Minor carburetor adjustment may be required to compensate for differences in the fuel, temperature, altitude and load. Refer to the separate engine manual packed with your mower for carburetor adjustment information.

NOTE: A dirty air cleaner will cause an engine to run rough. Be certain the air cleaner is clean and attached to the carburetor before adjusting carburetor.

Section 13: Lubrication

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

LOCATE THE LUBRICATION SYMBOL IN THE LARGE MOWER ILLUSTRATION ABOVE.

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

Wheels—The wheels require no lubrication. However, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. Engine oil may also be used.

Engine—Follow engine manual for lubrication instructions.

Section 14: Maintenance

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

NOTE: When tipping the unit, empty the fuel tank and keep engine spark plug side up.

14a) TROUBLE SHOOTING

Refer to the reverse side of this manual for trouble shooting information.

14b) CUTTING BLADE

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

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

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, 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 for the best test of balance.

Before reassembling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil (or engine oil). Lubricating the bolt holes, bolts and inner surface of the nuts is also recommended.

14c) SINGLE BOLT BLADE MOUNTING

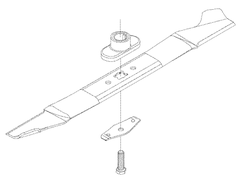


Figure 15

Install the blade adapter on the crankshaft with the "star" away from the engine. Refer to figure 15 above. Place the blade with the side marked bottom (or with part number) facing away from the adapter. Align the blade bell support over the blade with the tabs in the holes of the blade and insert the hex bolt. Tighten the hex bolt to the torque listed in the "Blade Mounting Torque" section below.

14d) Blade Mounting Torque

Center Bolt: 450 in. lbs. min., 600 in. lbs. max.

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

14e) 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 cause an uneven discharge of grass clippings at the next cutting.

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

14f) ENGINE

Refer to the separate engine manual for engine maintenance instructions.

Maintain engine oil as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually indicates that the air cleaner should be serviced. To service the air cleaner, refer to the separate engine manual packed with your unit.

The **spark plug** should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mowing season; check engine manual for correct plug type and gap specifications.

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

14g) REAR FLAP REPLACEMENT

The rear flap is attached to the back of the mower deck, and is designed to minimize the possibility that objects will be thrown from the rear of the mower toward the operator. If the rear flap becomes damaged, replace as follows:

To remove the old rear flap, compress the hinge clips and remove from the slots in rear of the deck. Attach a new rear flap by placing new spring clips in the slots on the flap. Then compress the spring clips and reinsert in slots in rear of deck.

Section 15: Off-Season Storage

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

1) Clean and lubricate the mower thoroughly as described in the lubrication instructions.
2) Refer to the engine manual for correct engine storage instructions.
3) Coat the mower's cutting blade with chassis grease to prevent rusting.
4) Store the 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 vented 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.