\$1.00



INPORTANT RULES FOR SAFE OPERATION

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—



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. If you violate any of these rules, you may cause serious injury to yourself or others.



TRAINING

- 1. Read this owner's guide carefully in its entirety before attempting to assemble or operate this machine. 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.
- Never allow children to operate a power mower. Only persons well acquainted with these rules of safe operation should be allowed to use your mower.
- 4. 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 accidently thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.

PREPARATION

- Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones 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.
- Always wear safety glasses or eye shields during operation or while performing an adjustment or repair, to protect eyes from foreign objects that may be thrown from the machine in any direction.
- Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts to avoid entanglement in the moving parts. Never operate a unit in bare feet, sandals, or sneakers.
- 4. Check the fuel before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, while the engine is running, or until engine has been allowed to cool for two minutes after running. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- 5. Disengage the self-propelled mechanism or drive clutch on units so equipped before starting the engine.
- 6. 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.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.
- Never operate the equipment 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. Mow only in daylight or in good artificial light.

9. 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° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

OPERATION

- Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
- Do not put hands or feet near or under rotating parts. Keep clear of the discharge opening at all times as the rotating blade can cause injury.
- 3. Stop the blade when crossing gravel drives, walks or roads.
- 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 restarting and operating the mower.
- If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- 6. 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.
- 7. 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.
- 8. Do not run the engine indoors.
- Mow across the face of slopes, never up-and-down. Exercise extreme caution when changing direction on slopes. Do not mow excessively steep slopes. Always be sure of your footing. A slip and fall can cause serious personal injury.
- 10. Never operate mower without proper guards, plates or other safety protective devices in place.
- Do not operate this mower with the chute door open, unless the complete grass catcher or chute deflector is properly mounted on the mower.

MAINTENANCE AND STORAGE

- 1. Check the blade and engine mounting bolts at frequent intervals for proper tightness.
- 2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- 3. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
- Check the grass catcher bag frequently for wear or deterioration. For safety protection, replace only with new bag meeting original equipment specifications.





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.

CONTENTS OF HARDWARE PACK

Remove this sheet from your owner's manual and lay the hardware on the illustration for identification purposes. After assembly, keep the Slope Gauge which is on the reverse side of this sheet for future use.

(Hardware pack may contain extra items which are not used on your unit. Part numbers are shown in parentheses.)



ASSEMBLY INSTRUCTIONS

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

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

Tools Required for Assembly

- (1) Pair of Pliers
- (1) 1/2" Wrench*
- (1) 7/16" Wrench*
- (1) Phillips Screwdriver
- *Or One Adjustable Wrench





UNPACKING

- 1. Remove the lawn mower from the carton by opening the top flaps and lifting the unit out. Be careful of the staples. Make certain all parts and literature have been removed from the carton before the carton is discarded.
- 2. Disconnect and ground the spark plug wire against the engine.
- 3. Stretch out all control cables and place on the floor. Be careful not to bend or kink the cables at any time during assembly.
- 4. Remove page four from this manual and lay the contents of the hardware pack on the illustration for identification.

ATTACHING THE LOWER HANDLE (Hardware A)

- 1. For shipping purposes your mower is set with the wheels in the lowest cutting height position. Raise the mower to the highest setting for assembly of lower handle.
- 2. Attach the lower handle by placing the bottom holes in the lower handle over the weld pins on the handle wheel bracket assemblies. The extra hole in the upper part of lower handle must be on the **right** side of the unit.
- 3. Secure the handle to handle wheel bracket assembly using truss machine screws, 5/16" split washers and hex nuts. Tighten securely.

NOTE—Units with optional grass catcher only: Your mower has been shipped with the catcher panel support arm already attached to the left handle wheel bracket assembly. Remove the truss machine screw, split washer and hex nut, and place the handle in position. Secure catcher panel support arm, left handle wheel bracket assembly and handle with hardware just removed.



FIGURE 2.

ATTACHING THE UPPER HANDLE (Hardware B)

- 1. Place the upper handle in position over the lower handle. The throttle control (attached to the upper handle) must be on the **left** side.
- 2. Secure the upper handle using the curved head bolts, split washers and hex nuts as shown in figure 2.



FIGURE 3.



FIGURE 4.



FIGURE 5.

ATTACHING THE BLADE BRAKE/CLUTCH CABLE (Hardware C)

The blade brake/clutch cable is the cable which has an "L" fitting on the loose end, and is attached to the blade brake/clutch underneath the deck.

- 1. Route the blade brake/clutch cable to the outside of the height adjustment lever and handle wheel bracket assembly, and under the lower handle.
- Place end of cable into the upper hole on the bottom of the control housing, and through the slot as shown. The angle of the plastic flange must be positioned downward as shown in figure 3. Be
- careful not to bend or kink the cable at any time.
- 3. Push the plastic fitting until it locks into the control housing.



WARNING: The cable must be assembled as shown for proper blade brake/clutch operation.

Insert the "L" end of the blade brake/clutch cable into the hole in the blade brake/clutch control handle, from the inside to the outside as shown in figure 4. Hold the end of the cable, and press push cap on by hand.

ATTACHING THE THROTTLE CABLE

- 1. Push the throttle control lever on the handle all the way forward to CHOKE position, then back if off **one** "**click**." See figure 5.
- 2. The throttle control cable is attached to the upper handle. Route the throttle control cable under the lower handle. Route the cable to the outside of the handle wheel bracket assembly and height adjustment lever, then in back of the engine. Hook the "Z" end of the throttle control cable into the inside hole in the control lever on the engine shown in figure 5.
- 3. Using a screwdriver, remove the screw and cable clamp shown in figure 5.
- 4. Push the control lever on the engine as far toward the **rear** of the engine as it will go. Secure the cable in this position with the cable clamp and screw.



FIGURE 6.—Bottom View

ATTACHING THE SIX SPEED SHIFT CABLE AND DRIVE CLUTCH CONTROL CABLE (Hardware D)

Both the drive clutch cable and the six speed shift cable are attached to the deck. Attach both cables to the underside of the drive clutch control housing, located in the middle of the upper handle.

NOTE: The drive clutch cable is the cable with the adjustment wheel attached.

- 1. Place the shift lever (located on the bottom of the drive clutch housing) in 1st speed (slow) position.
- Route the six speed shift cable to the outside of the height adjustment handle and handle mounting bracket. Attach as follows.

a. Slide the barrel end of the six speed shift cable into the hole provided in the six speed shift lever (lever with the ratchets). See figure 6A.

- b. Slip the braided wire into the vertical slot as shown. Then slide the braided wire around in the horizontal slot.
- c. Place the metal fitting on the end of the shift cable into the slot in the housing shown in figure 6A. Hold the fitting in this position as you assemble the drive clutch control cable.
- 3. Assemble the drive clutch control cable as follows.
 - a. Slide the barrel end of the cable into the hole provided in the end of the drive clutch control lever. Slip the braided wire into the vertical slot as shown in figure 6B.
 - b. Slide the braided wire around in the horizontal slot.
 - c. Make certain the adjustment wheel is threaded onto the cable as far as possible as shown in figure 6B. Place the adjustment wheel into the clutch control housing.
- Secure the plastic cap to the clutch control housing using the two Phillips head screws. See figure 6C.



WARNING: Drive clutch adjustment must be checked before the unit is operated, as described in the operation section.



FIGURE 7.

SECURING THE CABLES (Hardware G)

Secure cables to the left side of the handle as follows.

- WARNING: When attaching the control cables, the cables must be routed to avoid contact with all sharp edges and hot surfaces to prevent damage to the cables, which will render the controls inoperative.
- 1. Place the height adjustment lever in the lowest position.
- 2. Secure the control cables to the left side of the handle with the cable ties as follows, taking the slack out of the cables so they do not contact the wheel.
 - A. Insert posts on cable ties into holes provided on the lower handle, one near the top and one near the bottom of lower handle. The holes may be on either the inside or outside of the handle. See figure 7A.
 - B. Secure the cables with the cable ties. See figure 7B. Trim excess ends of cable ties.



FIGURE 8.

ATTACHING THE CHUTE DEFLECTOR 1. Attach the side chute deflector by first placing it

over the rear bolt in the side of the deck. Then slide the notch in the top of the deflector around the shoulder bolt on top of the deck. Slide the notch in the side of the deflector around the front bolt in the side of the deck. See figure 8.



FIGURE 9.

2. Secure the front of the chute deflector to the bolt on the side of the deck with one wing nut. See figure 9. Secure the back of the chute deflector in the same manner. See figure 9.



WARNING: Never operate your unit without either the side chute deflector or entire rear discharge chute and grass catcher assembly in place.



FIGURE 10.



FIGURE 11.





FINAL ASSEMBLY OF MOWER (Hardware E)

- 1. If plastic plug is needed and is not already assembled, insert plastic plug into hole in the top rear of the deck by slipping one end of plug into hole, then pressing down on the other end of plug. Use a soft hammer if necessary.
- 2. Place hub caps in position against the inner hub of the wheel. Press firmly around the center portion of hub cap in a circular motion, similar to installing a lid on a round, plastic container. See
- figure 10. The hub caps are flexible and will snap over the 3-1/2" diameter wheel hubs.
- 3. Make certain **all** nuts and bolts are tightened securely.

ASSEMBLING THE OPTIONAL GRASS CATCHER (Hardware F)

If your mower is equipped with an optional grass catcher, assemble as follows.

1. Join the rear frame and front frame assembly as ----- shown in figure 11.

NOTE: Make certain the grass bag is turned right side out before assembling (warning label will be on the outside).

 Place the frame inside the grass catcher bag. The bottom of the grass bag is black plastic. The hooks on the front frame go toward the top of the bag. See figure 12.

 Secure front of bag to frame by working the plastic channels on bag over frame. See figure 13.

FIGURE 13.



FIGURE 16.

Place the grass catcher handle in position on top
 of the grass bag and frame as shown in figure 14.
 Secure with four self-tapping screws.

TO ATTACH BAG TO MOWER



WARNING: DO NOT operate the mower with the chute door open unless the complete grass catcher is properly mounted on the mower.

- 1. Hold the chute door on the catcher panel open as — shown in figure 15.
- 2. Slide the frame of the grass catcher down into the channels on each side of the mower. The hooks on the frame go over the panel on the discharge chute. See figure 15.

To remove the grass catcher, lift the grass catcher straight up.

To convert your mower back to a side discharge unit, proceed as follows.

Remove the rear discharge chute assembly by removing two wing nuts. Lift up on the two bottom corners of the discharge chute assembly, and slide it off the deck. Then assemble the side chute deflector.

To replace the rear discharge chute assembly, proceed as follows.

Slide the ribs on the discharge chute assembly under the flange on rear panel as you insert the side of the ← discharge chute under the two tabs. See figure 16.

The edge of the discharge chute assembly goes under the shoulder bolt on deck. Push down on the chute assembly, and slide the bottom corner slots over the bolts on side of deck.

Press down on the discharge chute assembly and secure with wing nuts. Make certain wing nuts are seated properly.

CONTROLS



FIGURE 17.

BLADE BRAKE/CLUTCH CONTROL

WARNING: This control mechanism is a safety device, never attempt to bypass its operations.

The blade brake/clutch control is located on the upper handle of the mower. The blade brake/clutch handle engages and disengages the blade.

To engage the blade, pull the side release lever away from the unit. See figure 17. Pull the blade brake/ clutch control handle against the upper handle. Release side lever. Release the blade brake/clutch control handle to stop the blade from turning.

THROTTLE CONTROL

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



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

DRIVE CLUTCH CONTROL

Squeezing the drive clutch control engages the drive mechanism to the rear wheels. Releasing the clutch control stops the rear wheels from driving. Release the drive clutch control to slow down when negotiating an obstacle, making a turn or stopping. See figure 17.

SHIFT LEVER

The six speed shift lever is located on the drive clutch control housing on the upper handle. See figure 17. This lever is used to select the operating speed of the mower. Release the drive clutch control when changing speeds.

IMPORTANT: Move the shift lever ONLY when the engine is running. Shifting the speeds with the engine off can cause damage to the unit.

OPERATION

TO REDUCE THE RISK OF INJURY, DO NOT OPERATE MOWER UNLESS REAR TRAILING SHIELD AND THIS GUARD OR ENTIRE GRASS CATCHER IS IN ITS PROPER PLACE **DANGER** KEEP HANDS and FEET AWAY

FIGURE 18.

Keep hands and feet away from the chute area on cutting deck. See figure 18.

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.

NOTE: For best results raise the cutting position until it is determined which height is best for your lawn. See cutting height adjustment section.

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.

BEFORE STARTING

1. Before each use, check for proper drive clutch operation by performing the following before starting the engine:

With the drive clutch control released, push mower forward. It should move freely. Pull mower backward. It should move with only a small amount of resistance (no more than 15 lbs. pressure).

If it does not and the rear wheels tend to lock up, the clutch may not be releasing completely. Do not start the engine until corrections have been made. Check the control cable for severe bend, kinks and binding, or grass build-up around the belt. Correct and adjust as required. Refer to instructions under "Drive Clutch Control Adjustment" in Adjustment Section for loosening the drive belt.

2. Attach spark plug wire to spark plug. Make certain the metal loop on the end of the spark plug wire (inside the rubber boot) is fastened securely over the metal tip on the spark plug. See figure 19.



FIGURE 19.

TO START ENGINE

IMPORTANT: Move the shift lever only when the engine is running. Shifting the speeds with the engine off can cause damage to the unit. Disengage the drive clutch control when shifting speeds.



WARNING: When starting the unit for the first time, place mower in first speed (slow) position. Face the mower against a solid object such as a wall, fence, etc. Start the unit, and if it shows any signs of motion with the drive clutch control disengaged, shut the engine off immediately. Make certain the drive clutch control is adjusted so the drive belt is as loose as possible. Refer to the Adjustment Section.

- 1. Move the throttle control lever to CHOKE position. (A warm engine may not require choking.)
- 2. If engine is equipped with a primer, prime engine as instructed in the separate engine manual packed with your unit.

- 3. With the blade brake/clutch control handle released, crank engine by pulling recoil starter with a quick firm pull. Do not pull out so far that rope stops with a jerk as this will cause rope failure. Do not allow rope and handle to snap back into place.
- 4. After engine starts, move the throttle control to desired engine speed.

NOTE: If any problems are encountered, refer to the Trouble Shooting Guide on page 21.

TO ENGAGE THE BLADE

- 1. Start engine as instructed previously. Allow the engine to warm up for one minute before attempting to engage the blade.
- 2. To engage the blade, pull the side release lever away from the unit. Pull the blade brake/clutch control handle down against the upper handle. Release the side lever. See figure 17.

NOTE: If a warm engine falters or stalls when attempting to engage the blade, refer to Carburetor Adjustment Section of this owner's manual.

3. Release the blade brake/clutch control handle to stop the blade from turning.

IMPORTANT: Always release the blade brake/ clutch control handle before stopping the engine. If the engine begins to stall, release the blade brake/clutch control handle immediately.

Should the engine stall with the blade brake/clutch control in the operating position (control handle not released), difficulty may be encountered in pulling the starter rope to restart the engine. Proceed as follows.

- 1. Disconnect the spark plug wire from the spark plug.
- 2. Move the throttle lever to STOP position.
- 3. Hold the blade brake/clutch control in the engaged position.
- 4. While holding the blade brake/clutch control handle in this position, pull the starter rope.
- 5. As the starter rope is being pulled, release the blade brake/clutch control handle.

The starter rope should now operate correctly. Reconnect the spark plug wire for normal operation.



TO STOP ENGINE AND BLADE

- 1. Move throttle control lever to STOP position.
- 2. Disconnect the spark plug wire and ground it against the engine to prevent accidental starting while equipment is unattended.

USING YOUR ROTARY MOWER

Be sure that lawn is clear of stones, sticks, wire, or other objects which could damage 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 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. Speed of the mower should be adjusted to the condition of the lawn.

When using the side discharge mower, 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 best results, cut off one-third or less of the total length of the grass. 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 bagging the cut grass.



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

ADJUSTMENTS



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

DRIVE CLUTCH CONTROL ADJUSTMENT

Use the adjustment wheel located on the underside of the clutch control housing to tighten the drive belt if mower does not self-propel with the drive clutch control engaged, or if drive belt is slipping (unit hesitates while engine maintains the same speed). See figure 20. In addition, the adjustment wheel may also be used to determine the position in which the drive clutch control is engaged. If it is more comfortable to have the drive engaged with the lever further away from the handle, tighten the drive belt.

Make certain to retest the unit for neutral as instructed in the Operation Section. Move the adjustment wheel in the opposite direction to loosen the drive belt if necessary.



FIGURE 20.

CUTTING HEIGHT ADJUSTMENT

The height adjustment handles are located on the left side of the deck. The handles may be placed in one of nine cutting height positions. See figure 21.

For rough or uneven lawns, move the height adjustment handle to a position which will give a higher cutting height. Both front and rear levers must be placed in the same relative position.



FIGURE 21.

THROTTLE

The throttle control wire assembly can be adjusted if necessary. Remove the screw and cable clamp shown in figure 5. Remove the cable from the clamp. Adjust as instructed in step 4 of "Attaching the Throttle Control Cable" in Assembly Instructions.

SIX SPEED SHIFT CABLE ADJUSTMENT

Periodic adjustment of the six speed shift cable may be required due to normal stretch and wear on the cable. Adjustment is needed if all six speeds cannot be obtained.

The adjustable cable bracket is located on the left side of the mower, beside the engine. To adjust, loosen the hex nut which secures the adjustable cable bracket. See figure 22. Pull backward on the bracket (toward the rear of the mower). Retighten the hex nut. Test the speeds on the mower (engine **must** be running).



FIGURE 22.

CARBURETOR ADJUSTMENTS



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

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

NOTE: If a warm engine falters or stalls when attempting to engage the blade, the carburetor mixture should be adjusted 1/8 turn richer (counterclockwise). See figure 23.

The carburetor should be adjusted with the air cleaner in place and the blade brake/clutch control handle in the blade disengaged position.



FIGURE 23.

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

LUBRICATION



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

Blade Brake/Clutch—Lubricate the pivot points on the blade brake/clutch handle and the brake cable at least once a season with light oil. See figure 24. The blade control must operate freely in both directions.



FIGURE 24.

Wheels—Lubricate the wheel bearings at least once a season with light oil. Also, if the wheels are removed for any reason, lubricate the surface of the axle bolt and the inner surface of the wheel with light oil. A 4 oz. plastic bottle of light oil lubricant is available. Order part number 737-0170. Engine oil may also be used.

Engine—Follow engine manual for lubrication instructions.

Throttle—Periodically lubricate throttle control lever and throttle wire assembly with a few drops of light oil for ease of operation.

Transmission—The transmission is pre-lubricated and sealed at the factory. It does not require checking. If disassembled for any reason, fill with 2 ounces of Alvania grease, part number 737-0168.

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.

TROUBLE SHOOTING

Refer to page 21 of this manual for trouble shooting information.

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 two hex nuts and lock washer which hold the blade to the blade brake/clutch. Remove the blade from the crankshaft.

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.

When replacing the blade, 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.

Blade Mounting Torque

Make certain that the center bolt which secures the blade brake/clutch and the two hex nuts which secure the blade are tightened to between 350 inch pounds (minimum) and 600 inch pounds (maximum).

To insure safe operation of your unit, all nuts and bolts must be checked periodically for correct tightness.

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).

NOTE: Do not use water to clean the underside of the deck as damage to the blade brake/clutch could result.

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.

BLADE BRAKE/CLUTCH

This unit is equipped with a blade brake/clutch. If belt replacement is required or if for some reason the blade brake/clutch becomes inoperative, the repair work should be performed by an authorized service dealer. The unit should be inspected by an authorized service dealer if any of the following conditions are noticed.

- 1. Frayed clutch control cable.
- 2. Leaking oil seal (oil collection on the floor during mower storage).
- 3. Extensive vibration of the unit.

OFF-SEASON STORAGE

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

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

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



PARTS LIST FOR 21" ROTARY MOWER

5 K.

EF.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1 2 3	720-0225 731-0609 710-1237	N	Grip (2 Req'd.) Control Handle Ass'y.—L.H. Hex Wash. Hd. Scr. #10-32 x	66 67 68	710-0260 710-0603 710-0654A		Carriage Bolt 5/16-18 x .62"* Hex B-Tap Scr. 5/16-18 Hex TT-Tap Scr. 3/8-16
4	710-0796		.62" Lg. Truss Mach. Scr. #12 x	69 70	712-0267 720-0223		Hex Nut 5/16-18 Thd.* Grip
5 6	731-1024 713-0397	N	1.50" Lg. Rear Discharge Chute Ass'y.† 3 Tooth Rack Gear Insert	71 72 73	732-0606 732-0481 736-0242		Height Adj. Lever Extension Spring 3.80" Lg. Bell-Wash. 5/16" I.D.
7 8	731-0817A 731-0524	14	Control Panel Half Control Disc Pin	74 75	750-0242 750-0736 750-0624		Spacer .383" I.D. Shld. Spacer .5" Dia.
9 0	731-0816A 731-0972		Clutch Panel Half Throttle Control Lever	77 79	726-0233 777-5812		Bolt Retainer 1/4 x .50" O.D. Control Label
1 2	731-0982A 710-0946		Hub Cap Truss Mach. Scr. 1/4-20 x .62"	80 81	738-0137 748-0188B		Shid. Scr342" Dia. x .268 Pawl
3	751-0568	N	Lg.† Casing Clamp	82 84	734-1514B 741-0486B	N	Wheel Ass'y. Comp.—Rear Sleeve Bearing 1/2" I.D.
4	749-0439B 16129A		Upper Handle Panel Support Brkt.†	86 87	712-0414 731-0880	N	Weld L-Nut 1/4-20 Thd. Panel Clip†
6 7 9	16862A 17095A 732-0483A		Rear Catcher Panel Ass'y.† Rear Discharge Door† Torsion Spring†	88 89	720-0265 710-0936		Engine Cover Truss Mach. AB-Tap Scr.
20 21	747-0514		Pivot Pin† Carriage Bolt 1/4-20 x .62"*	95 96	746-0710A 754-0343		#6 x .62" Lg. S.P. Cable—50" Lg. "V"-Belt
!2	710-0255		Truss Mach. Scr. 1/4-20 x .75" Lg.	97 98	731-0801 711-0313		Bag Handle† Sleeve .526" I.D.
!3 !4	710-0289 738-0704		Hex Bolt 1/4-20 x .5" Lg.† Shoulder Bolt Special	100 101	712-0328 736-0169		Hex Nut 3/8-24 Thd. (Gr. 8) L-Wash. 3/8" I.D.
!5 !6 !7	710-0258 712-0287 16855		Hex Bolt 1/4-20 x .62" Lg. Hex Nut 1/4-20 Thd.* Pawl Plate	102 114 115	17051 731-0904 731-0905	638	21" Deck Ass'y. Self-Propelled Control Cover
.8 .9	736-0329 747-0705		L-Wash. 1/4" I.D.* Front Grass Catcher Frame†	116 117	731-0620		Self-Propelled Control Cover Control Lever Door Grip†
11 12	731-0906 735-0639		S.P. Control Cover Spark Plug Insulator	118	710-0841		FI-"C"-Sunk Hd. Tap Scr. #10 x .75" Lg.
3 4	712-0388		Wing Nut Throttle Control Wire61"	121	710-0671		Curved Carr. Bolt 5/16-18 x 1.38" Lg.
:5 :6 :8	749-0725		Lower Handle Engine Grass Bag†	122 123 <u>12</u> 8	711-0805 736-0169 712-0711		Shld. Pin 1.43" Lg. L-Wash. 3/8" I.D.
9 1	14835 736-0204		Retaining Strip -> FI-Wash344" I.D. x .62"	(129) 130	746-0406 748-0318		Hex Jam Nut 3/8-24 Thd.* Control Cable—49" Ratchet Wheel 1.62" O.D.
2 3	17055B 710-0352		Chain—Axle Ass'y. Hex B-Tap Scr. 1/4" x .38"	131 132	714-0115 710-0429		Cotter Pin 1/8" Dia. x 1"* Hex B-Tap Scr. #10 x .38" Lg.†
4 5	736-0270 710-0776A		Bell-Wash. 1/4" I.D. Hex AB-Tap Scr. 1/4 x .62"	133 134	731-0885	638	Side Chute Deflector Ass'y. Hex Flange Bearing
6 7 8	749-0778 712-0296 713-0353		Catcher Panel Support Brkt.† Hex Patch L-Nut 3/8-24 Thd. #48 Chain .500" Pitch x 30	135 136 138	753-0431 10622B 17053A		Kit—Control Housing Comp. Spring—Nylon Chain Cover
0	731-0564		Links	140 144	710-0599 736-0300		Hex S-Tap Scr. 1/4-20 x .50" Fl-Wash385" I.D. x .87"
1 2	731-0672A 726-0240		Rear Flap 3.75" x 17.30" Lg. Cable Tie	147 148	738-0719A 741-0324		Rear Shaft Ass'y. 21.94" Lg. Hex Flange Brg506" I.D.
4 6	710-1025 742-0306A		Hex AB-Tap Scr. #12 x 1.25" Lg.† 21" Blade	149 152	736-0160 710-0751		FI-Wash531" I.D. x .930" Hex Bolt 1/4-20 x .62" Lg.
8 9	736-0412 16864		Bell-Wash46" I.D. 6 Spd. Rack Cable Brkt.	153	717-0417B		(Grade 5) Transmission Comp. (See Breakdown)
0 1	710-1002 748-0190		Hex Bolt 7/16-20 x 2.0" Spacer .513" I.D.	154 155	16500A 710-0323		Hex Bearing Cup Truss Mach. Scr. 5/16-18 x
3 4 5	736-0119 16136A 16137B		L-Wash. 5/16" I.D.* R.H. Handle Wheel Brkt. Ass'y.	161	749-0764A		.75" Lg.† Rear Catcher Frame†
5	16137B]	L.H. Handle Wheel Brkt. Ass'y.	164 7	746-0706A		Spd. Control Cable—50" Lg.

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
165	731-0924		6-Spd. Shift Lever	183	14309B		Clutch Housing
166	17070		Adjustable Cable Brkt.	184	732-0397		Ext. Spring 1.75" Lg.
168	712-0291		Hex Cent. L-Nut 1/4-20 Thd.	185	719-0283		Brake Cup Cone
169	714-0507		Cot-Pin 3/32" Dia. x .75" Lg.	186	741-0326		Steel Ball .5" Dia.
170	747-0684		Shift Rod	187	731-0520		Ball Block
171	741-0500		Movable Pulley Half Ass'y.	188	14304A		Clutch Cone
172	710-0167		Carr. Bolt 1/4-20 x .5" Lg.	189	732-0396		Comp. Spring 2.0" Lg.
173	756-0578		Fixed Pulley Adapter	190	14300A		Clutch Blade Housing
174	731-1137		Flanged Bushing	191	741-0124		Ball Brg669" I.D. x 1.574"
175	736-0278		FI-Wash328" I.D. x .68" O.D.	192	812-00016		Blade Brake Clutch Ass'y.—
177	732-0627		Shift Lever Spring				Comp.
178	726-0175		Clamp	193	731-0607		Lock Pin
179	726-0135		Push Cap	194	732-0401		Lockout Spring
180	726-0245		Push Cap	195	717-1325		Blade Brake Člutch Ass'y.
181	17069		6-Speed Cable Mtg. Brkt.				(Incl. Ref. 173)
182	728-0145		Rivet .252" Dia. x .31"				

PARTS LIST FOR 21" ROTARY MOWER (CONTINUED)

†Optional Parts

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.



CODE: N notates a **new part** (not previously existing). A three digit number is the **color code**. Specify color code if color or finish is important when ordering parts as shown. [i.e., 638 for Red Finish].

NOTE: The engine is not under warranty by the mower manufacturer. . .If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines-Gasoline."

NOTE: The use of any accessory on this Rotary Mower other than those manufactured by the mower manufacturer is not recommended.



WARNING: To reduce the risk of injury, do not operate mower unless rear trailing shield and guard or entire grass catcher is in its proper place.

NOTE: Under normal usage bag material is subject to wear and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations. For replacement bags, use only factory authorized replacement bag.



PARTS LIST FOR 21" ROTARY MOWER

EF. IO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	710-1062		Hex Bolt 1/4-20 x 1.25" Lg.*	18	738-0440		Shld. Spacer .375" Dia. x .170†
			w/Patch	19	736-0344		FI-Wash390" I.D. x 1.0"†
2	736-0329		L-Wash. 1/4" I.D.*	20	738-0826		Shld. Bolt .375" Dia. x .40"†
3	717-0418A		Upper Hsg. Half	21	756-0558		FI-Idler Plastic 1.50" Dia.†
4	713-0400		#48 Sprocket 7 Tooth x 1/2	22	741-0556		Needle Brg375" x .31†
			Pitch	23	736-0270		Bell-Wash265" I.D. x .75"†
5	736-0336		FI-Wash. 5/8" I.D. x .030	24	17052A		Idler Brk't. Ass'y.†
6	741-0413		Hex Flange Brg631" I.D.	25	712-0138		Hex Patch L-Nut 1/4-28 Thd.†
7	16500A		Hex Bearing Cup	26	732-0357A	N	Extension Spring 1.12" Lg.†
8	736-0314		Thrust Wash382" I.D. x	27	717-0419A		Lower Hsg. Half
			.70" O.D.	28	741-0415		Flange Bearing .566 Dia.
9	741-0479		Thrust Bearing .375" I.D. x	29	717-0422A		33 Tooth Helical Gear
			.812" O.D.	30	741-0414		Flange Bearing .629 Dia.
1	717-1216		11 Tooth Pinion Shaft	31	721-0213		Oil Seal .625 Dia.
2	748-0208A		Flange Bearing	32	738-0607A		Gear Sprocket Shaft
3	721-0212		Oil Seal	33	736-0722		L-Wash. #10 I.D.
5	756-0330A		FI-Pulley 5.06" O.D.†	34	710-0436		Hex B-Tap Scr. #10 x .62"
6	736-0270		Bell-Wash265" I.D. x .75"†	35	736-0410		Hex Washer .26" x .88"†
7	712-0351		Hex L-Nut 1/4-28 L.H. Thd.†	—	717-0417B	Ν	Transmission Comp.

†Not Part of Transmission Complete



PARTS LIST FOR 21" ROTARY MOWER

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	738-0102		Front Axle Bolt	16	710-0352		Hex B-Tap Scr. 1/4" x .38"
2	734-1517B	N	Wheel Ass'y. Comp. 8 x 2"	17	17065A		Belt Cover
4	741-0180		Flange Ball Brg501" I.D.	18	710-0599		Hex Wash. Hd. TT-Scr. 1/4-20
6	736-0105		Bell-Wash380" I.D. x .88	19	736-0270		Bell-Wash265" I.D. x .75"
7	710-0588		Hex Wash. Hd. B-Tap Scr.	20	710-0896		Hex Wash. Hd. B-Tap Scr.
			1/4-20				1/4 x .62" (Spec.)
8	736-0329		L-Wash. 1/4" I.D.*	21	712-0287		Hex Nut 1/4-20 Thd.*
9	741-0492A		Block Bushing	23	17058A		Transmission Belt Guard
10	17733		Axle Ass'y.	24	747-0549		S.P. Belt Guard
11	17059		Height Adj. Bracket	25	710-1001		Truss B-Tap Scr. 5/16 x .75"
12	710-0653		Hex Wash. Hd. TT-Tap Scr.	26	736-0242		Bell-Wash345" I.D. x .88" O.D.
			1/4-20 x .38" Lg.	27	731-0982A		Hub Cap
13	720-0190		Knob	28	746-0710A	· · ·	S.P. Cable 50" Lg.
14	732-0639		Spring Lever	29	736-0232		Wave Wash53" I.D. x .78" O.D.
15	731-0865		Plastic Front End	30	736-0222		External L-Wash. 1/4" I.D.

TROUBLE SHOOTING GUIDE

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

†Refer to separate engine manual packed with your unit. Note: For repairs beyond the minor adjustments listed above, contact your local authorized service dealer.

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TWO YEAR LIMITED WARRANTY

For TWO YEARS from the date of retail purchase within the United States of America, its possessions and territories, YARD-MAN COMPANY 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 Does Not Cover:

- 1. Any part which has become inoperative due to misuse, abuse, neglect, accident, improper maintenance or alteration; or
- 2. The unit if it has not been operated and/or maintained in accordance with the owner's instructions furnished with the unit; or
- 3. The engine or motor or component parts thereof which carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty on these items; or
- 4. Batteries and normal wear parts except as noted below. Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty; or
- 5. Routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake, clutch or deck; or
- 6. Normal deterioration of the exterior finish due to use or exposure.

Commercial Use: Warranty on units used commercially is limited to sixty (60) days.

Units Exported Out of the United States: YARD-MAN does not extend any warranty for sold or exported outside of the United States of America, its possessions and territories, except through YARD-MAN authorized channels of export distribution which are subject to a one year warranty. Please contact your retail store or distributor for details.

Full Ninety Day Warranty on Battery: For ninety (90) days from the date of retail purchase, if any battery included with this unit proves defective in material or workmanship and our testing determines the battery will not hold a charge, YARD-MAN will replace the battery at no charge to the original purchaser.

Additional Limited Thirty Day Warranty on Battery: After ninety (90) days but within one hundred twenty (120) days from the date of purchase, YARD-MAN will replace the defective battery, for the original purchaser, for a cost of one-half (1/2) of the current retail price of the battery in effect at the date of return.

How to Obtain Service: Warranty service is available, with proof of purchase, through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of YARD MAN COMPANY, P.O. Box 360940, Cleveland, Ohio 44136. 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 YARD-MAN.

Transportation Charges: Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any part submitted for replacement under this warranty must be paid by the purchaser unless such return is requested in writing by YARD-MAN.

Other Warranties: All other warranties, express or implied, including any implied warranty of merchantability is limited in its duration to that set forth in this express limited warranty. The provisions as set forth in this warranty provide the sole and exclusive remedy of YARD-MAN obligations arising from the sale of its products. YARD-MAN COMPANY will not be liable for incidental or consequential loss or damage.

How State Law Relates to This Warranty:

- 1. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.
- 2. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.
- 3. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.