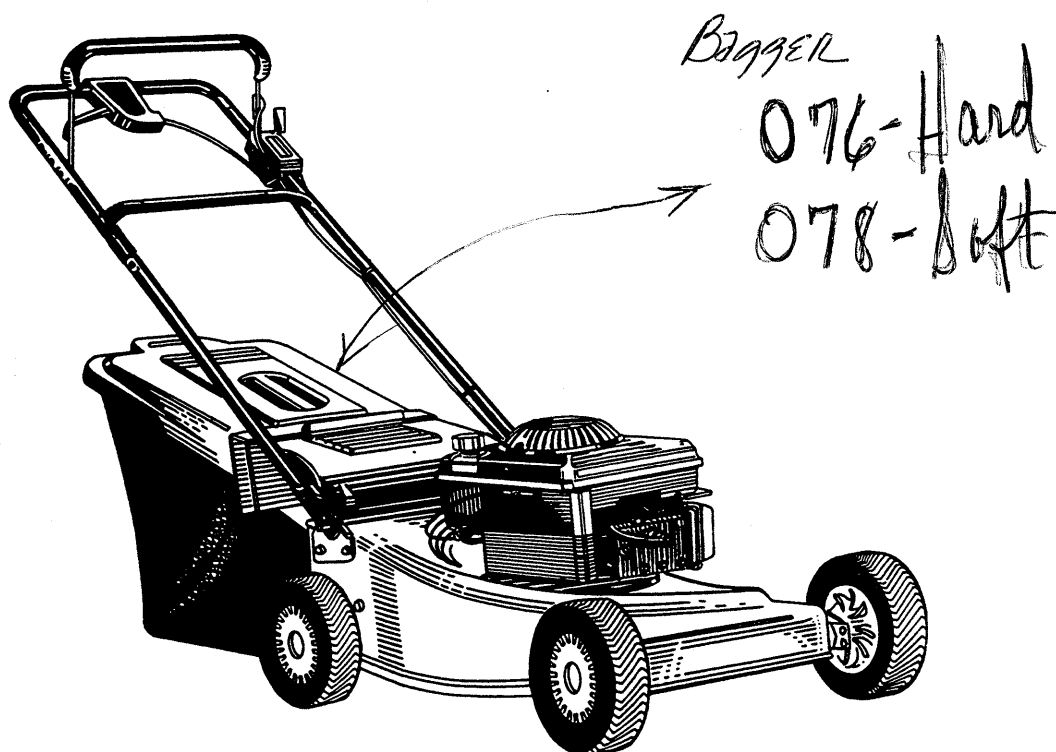


\$1.00

OWNER'S GUIDE

ASSEMBLY • OPERATION • MAINTENANCE • PARTS



(Models 476B and 478B Shown)

**21"
ROTARY
MOWERS**

Model Numbers
122-466B000
122-468B000
122-476B000
122-478B000

Important: Read Safety Rules and Instructions Carefully

INDEX

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



WARNING: DO NOT operate the mower without the entire grass catcher or chute deflector in place. **DO NOT** operate the mower without the protective shield on the rear of the deck in 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.

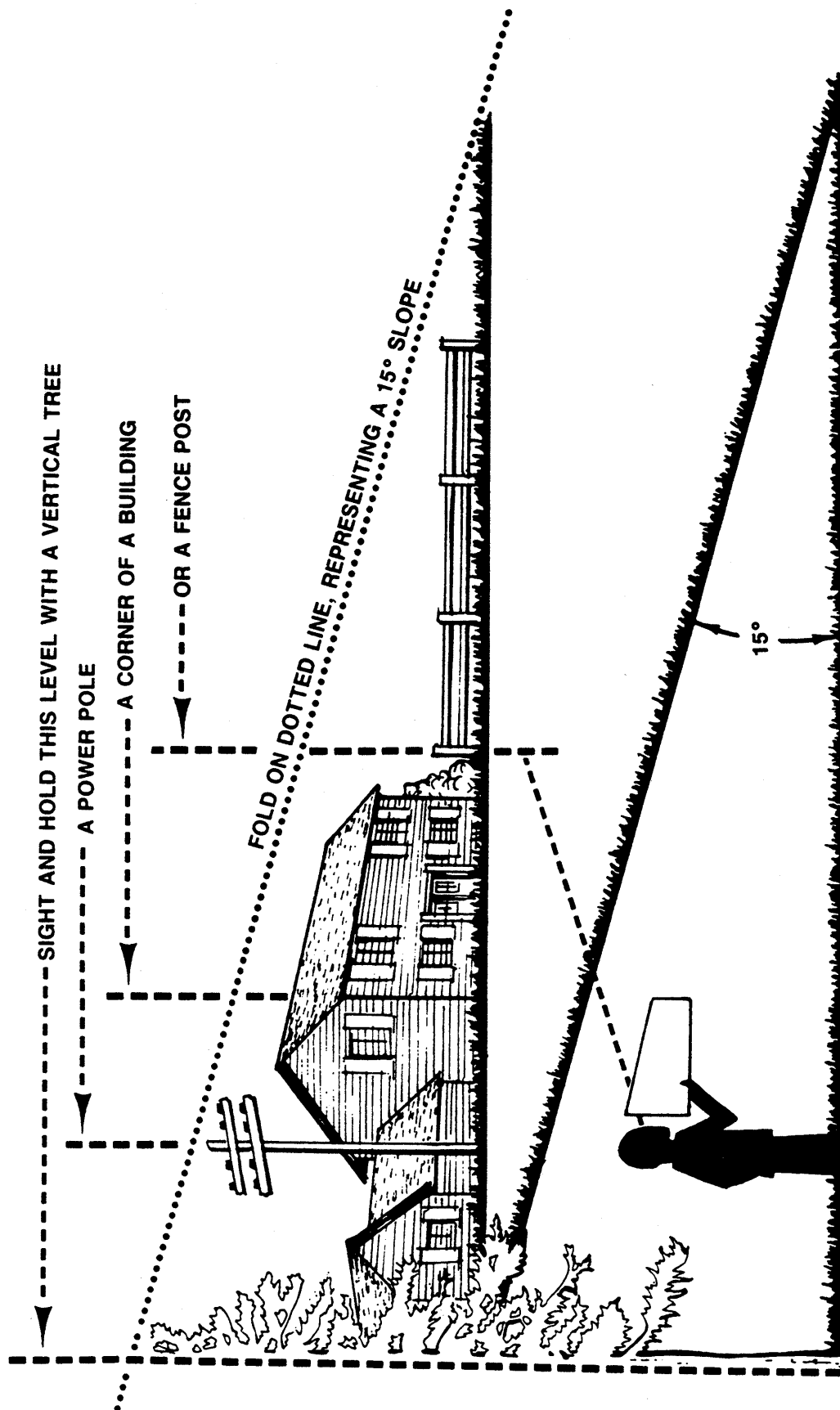
WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester 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.

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

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)



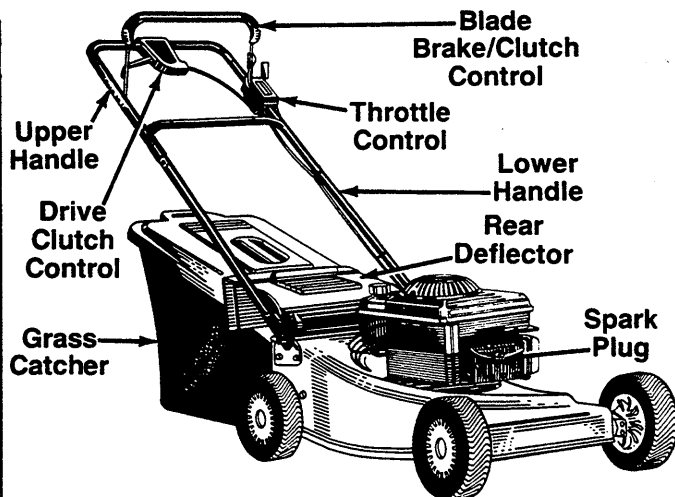
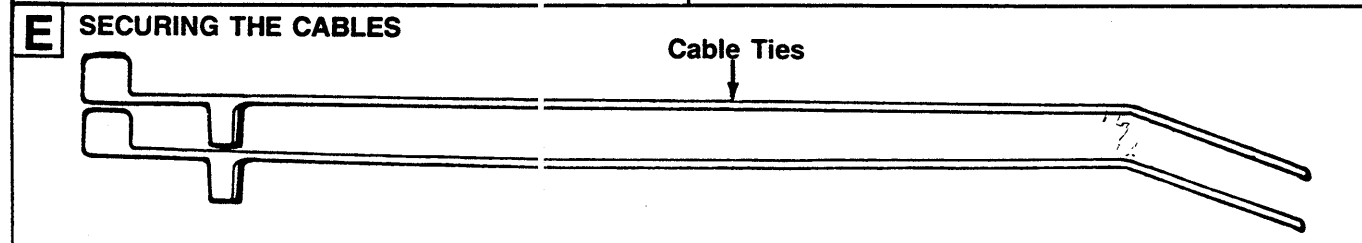
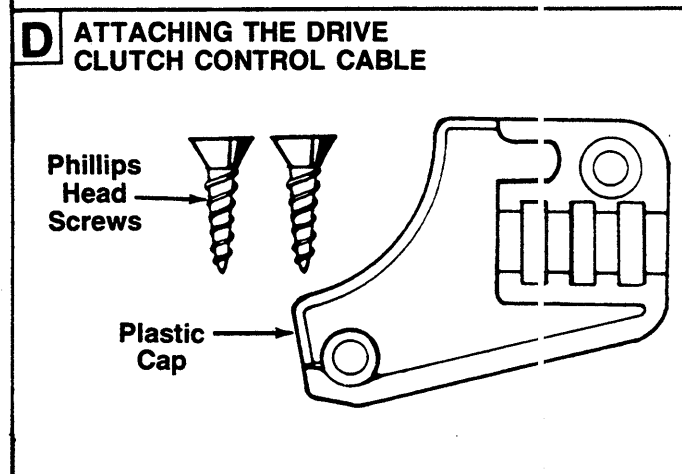
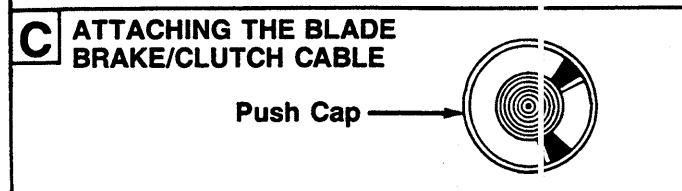
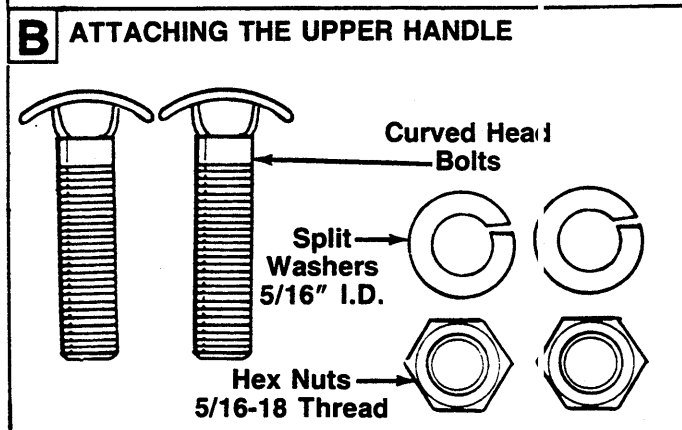
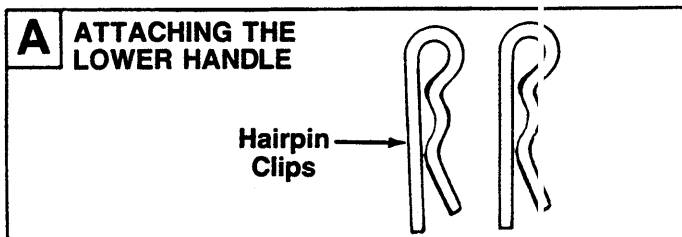
Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious 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.

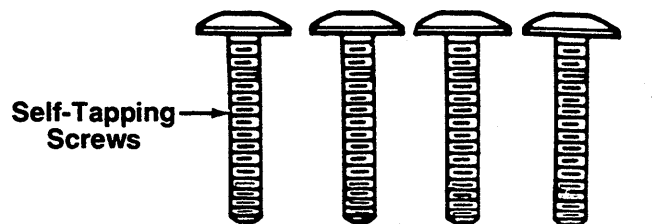
CONTENTS OF HARDWARE PACK/PARTS IDENTIFICATION

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.)

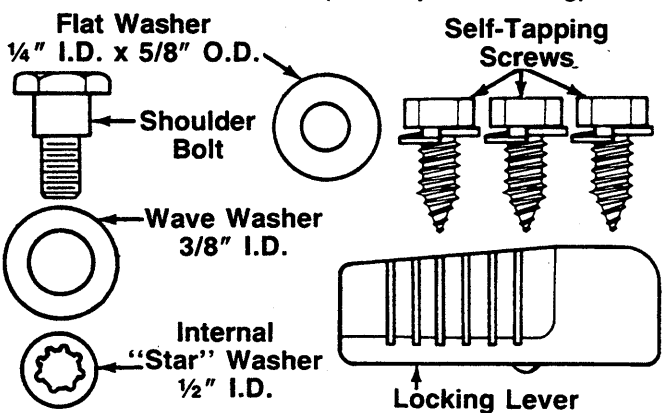


(Models 476B and 478B Shown)

F ASSEMBLY OF GRASS CATCHER
Models 466B and 468B (Soft Grass Bag):




Models 476B and 478B (Hardtop Grass Bag):



IMPORTANT

SAFE OPERATION PRACTICES



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



DANGER:

Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. 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.
2. 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.
3. 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 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 accidentally thrown by the mower in any direction and cause serious personal injury to the operator or any others allowed in the area.

PREPARATION



1. 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. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like.
2. 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.
3. 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, or sneakers.
4. Before working with gasoline, extinguish all cigarettes, cigars, pipes and other sources of ignition. Check the fuel level 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 at least 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 and automatically return to the disengaged position when released.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. 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. 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

1. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
2. 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.
4. 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.
5. 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.
9. Never cut grass by pulling mower toward you. 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.
11. Muffler and engine become hot and can cause a burn. Do not touch.
12. 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. Also visually inspect blade for damage (e.g. bent, cracked). Replace with blade which meets original equipment specifications.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the mower with gasoline in the tank or gas containers inside of a building where fumes may reach an open flame or spark (e.g. gas hot water heater). Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves and excessive oil.
5. Check the grass catcher bag frequently for wear or deterioration. Replace a worn or damaged bag immediately. For safety protection, replace only with new bag meeting original equipment specifications.

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*
- (2) 7/16" Wrenches*
- *Or two 6" Adjustable Wrenches

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 the spark plug wire and move away from the spark plug. Check beneath the deck for any cardboard packaging. Remove if present.
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.

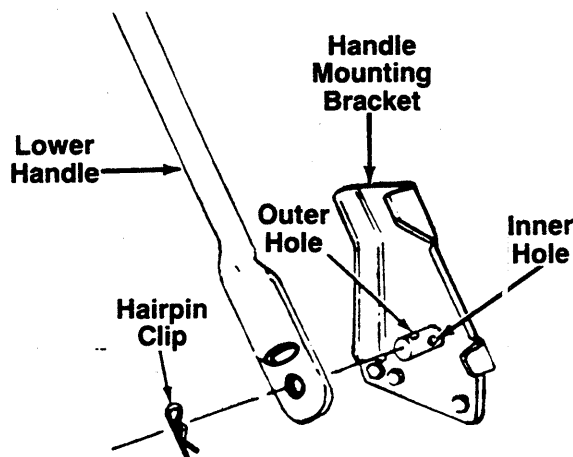


FIGURE 1.

ATTACHING THE LOWER HANDLE (Hardware A)

1. Attach the lower handle by placing the bottom holes in the lower handle over the weld pins on the handle mounting brackets on the rear of the deck
2. 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. See figure 1. Repeat on other side.

NOTE: There are two (2) holes in the handle mounting brackets. Place the hairpin clip in the inner hole for operation. Outer hole is for storage.

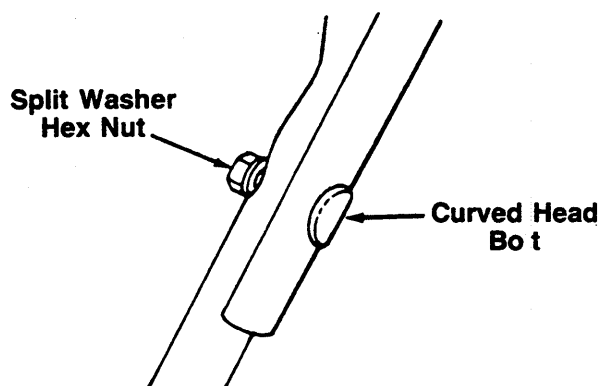


FIGURE 2.

ATTACHING THE UPPER HANDLE (Hardware B)

1. Place the upper handle in position over the lower handle. The throttle control lever must be facing up.
2. Secure the upper handle using the curved head bolts, split washers and hex nuts as shown in figure 2.

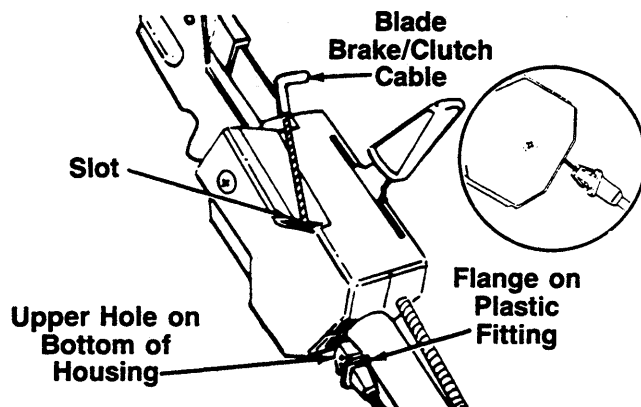


FIGURE 3.

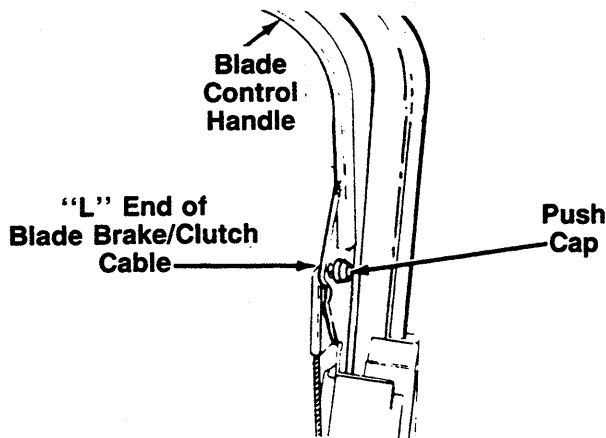


FIGURE 4.

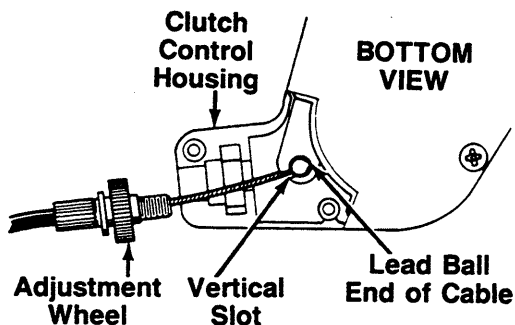


FIGURE 5.

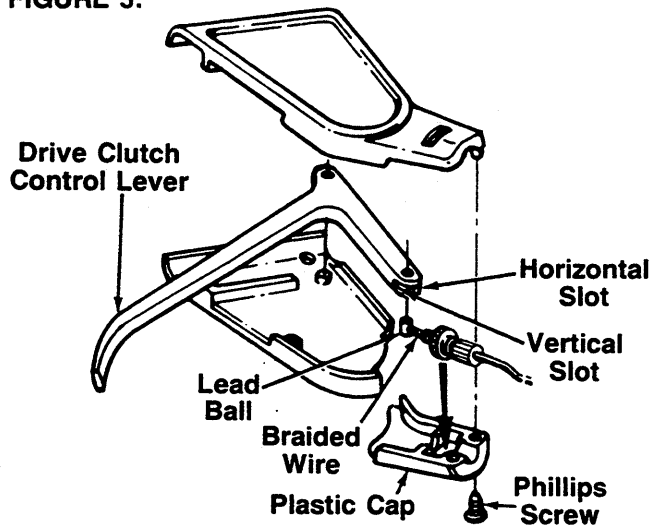


FIGURE 6.

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 under the lower handle and inside the handle mounting bracket. Place end of cable into the upper hole on the bottom of the control housing, and through the slot on the side of the housing 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.
2. 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.

3. 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 DRIVE CLUTCH CONTROL CABLE (Hardware D)

The drive clutch control cable is attached to the deck. Route the cable under the lower handle. Attach the cable to the lever in the clutch control housing, located in the middle of the upper handle, as follows.

1. Place the lead ball end of the cable into the fitting provided in the end of the clutch control lever. Slip the braided wire into the vertical slot as shown in figure 5.

2. Slide the braided wire around in the horizontal slot. See figure 6.

3. Make certain the adjustment wheel is threaded onto the cable as far as possible as shown in figure 5. Place the adjustment wheel into the clutch control housing.

4. Secure the plastic cap to the clutch control housing using the two Phillips head screws. See figure 6.



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

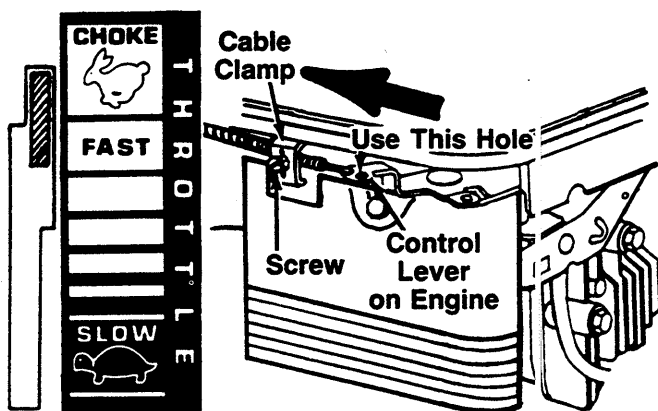


FIGURE 7.

ATTACHING THE THROTTLE CABLE

1. Push the throttle control lever on the handle all the way forward to CHOKE position. See figure 7.
2. The throttle control cable is attached to the upper handle. Route the throttle control cable under the lower handle and inside the handle mounting bracket. Hook the "Z" end of the throttle control cable into the smaller hole in the control lever on the engine. See figure 7.
3. Using a screwdriver, remove the screw and cable clamp shown in figure 7. Remove the cable clamp from the cable.
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.

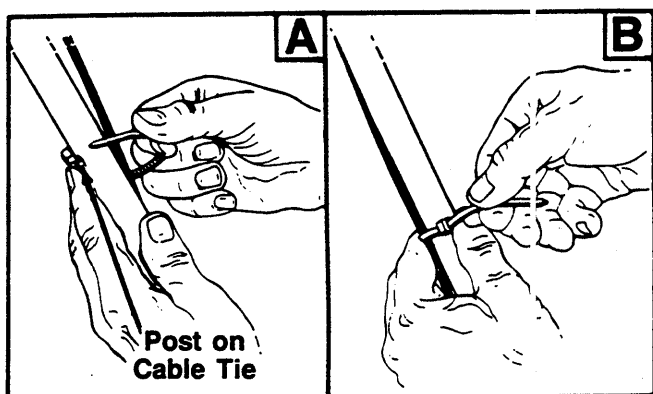


FIGURE 8.

SECURING THE CABLES (Hardware E)

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

1. Insert posts on cable ties into holes provided on the lower handle. The holes may be either on the inside or outside of the handles. See figure 8A
2. Secure the cables with the cable ties. See figure 8B.
3. Trim excess ends of cable ties.

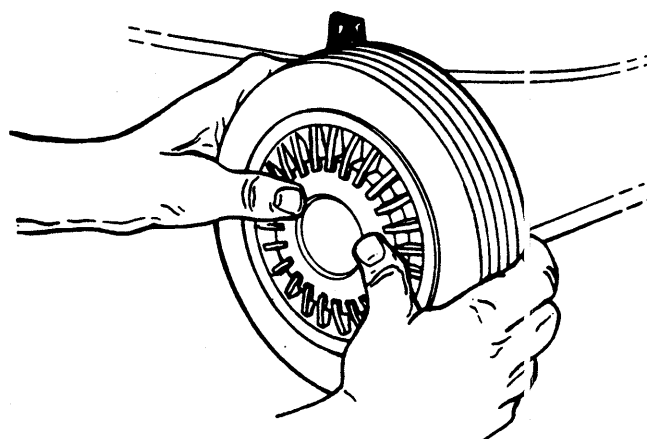


FIGURE 9.—Optional Hub Caps

INSTALLATION OF HUB CAPS (Optional)

1. If your mower is equipped with hub caps which have four tabs, line up the tabs on the hub caps with the holes in the wheels. Push to lock in position.
 2. If your mower is equipped with 2" wide tires, 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 9
- The hub caps are flexible and will snap over the 3 1/2" diameter wheel hubs.

FINAL ASSEMBLY OF MOWER

Make certain all nuts and bolts are tightened securely.

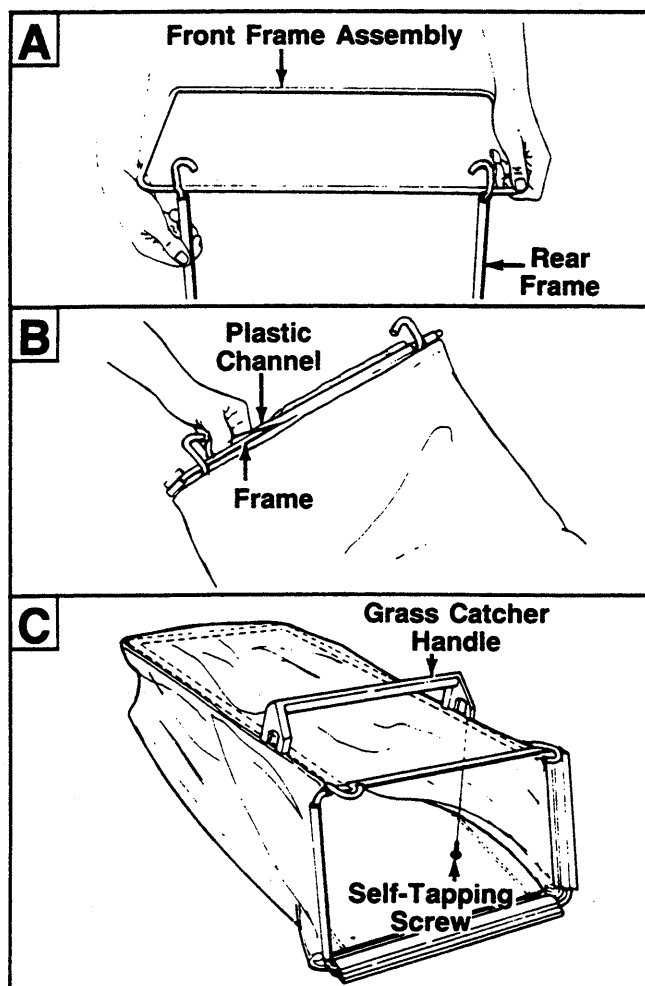


FIGURE 10.

ASSEMBLY OF GRASS CATCHER (Hardware F)

There are two different types of grass catchers, those with soft grass bags and those with hardtop grass bags. Follow the instructions which pertain to your unit.

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

Models 466B and 468B (Soft Grass Bags):

1. Join the rear frame and front frame assembly as shown in figure 10A.
2. Place bag over frame (black plastic side is the bottom of bag). Hooks on the front frame go toward the top of the bag.
3. Secure front of bag to frame by working the plastic channels on bag over frame. See figure 10B.
4. Place the grass catcher handle in position on top of the grass bag and frame as shown in figure 10C. Secure with four self-tapping screws.

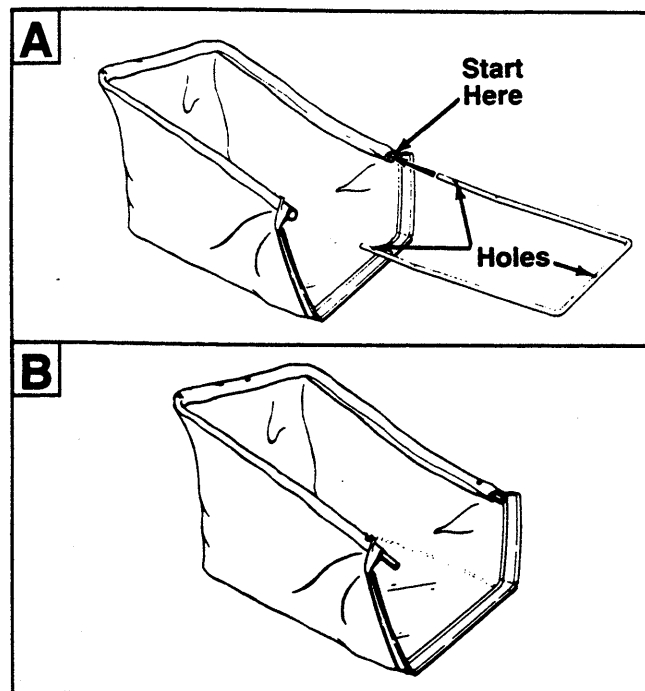


FIGURE 11.

Models 476B and 478B (Hardtop Grass Bags):

1. There are three holes in the rear frame. With the holes on the upper side as shown in figure 11A, insert one end of the rear frame into the cloth channel on the edge of the grass catcher bag. Feed all the material on one side of the frame, then work it around the frame. See figure 11B.

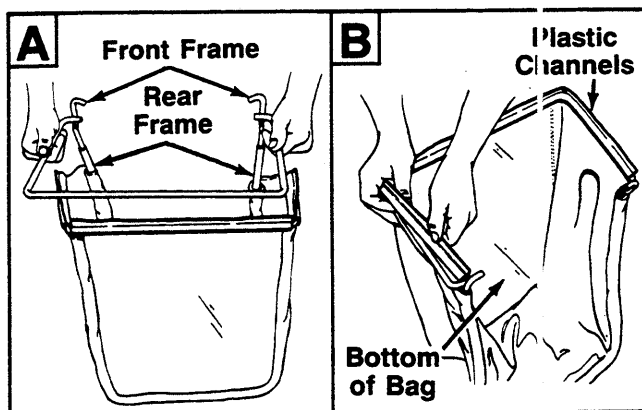


FIGURE 12.

2. Slide the ends of the front frame assembly into the ends of the rear frame as shown in figure 12A.
3. Secure front of bag to front frame by slipping plastic channels on sides and bottom of bag over frame. See figure 12B.

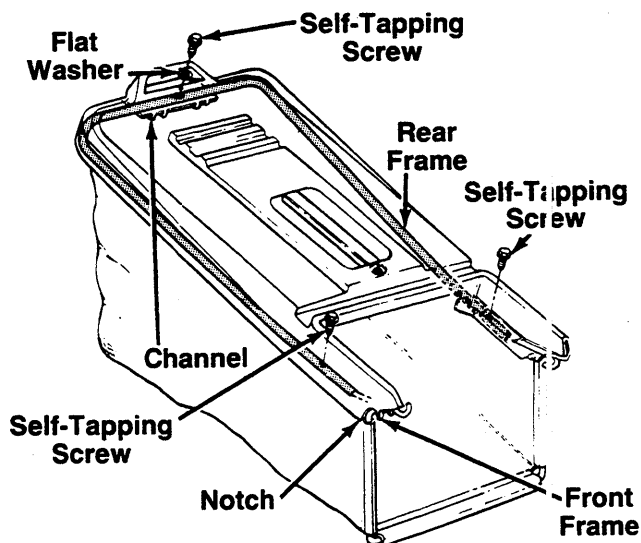


FIGURE 13.

4. Attach the hardtop cover to the grass catcher as follows. See figure 13.
 - a. Place the cover in position on top of the grass catcher. Press the rear frame into the channel on the rear of the cover (beneath the rear handle).
 - b. Slide the notches on the sides of the cover over the front catcher frame.
 - c. Attach rear of cover to frame using the flat washer and one self-tapping screw as shown in figure 13. Attach the sides of the cover to frame with the other two self-tapping screws.

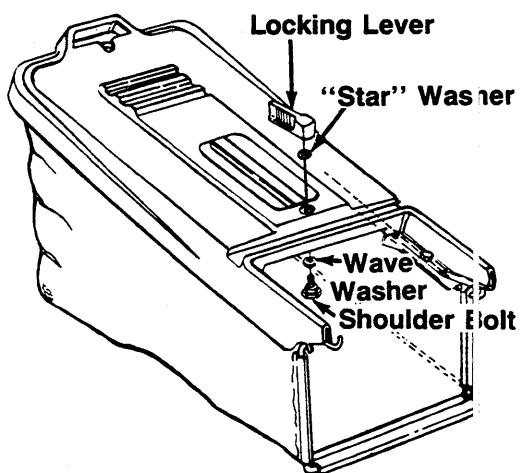


FIGURE 14.

5. Assemble the locking lever as follows:
 - a. Place wave washer on shoulder bolt (crowned side of washer goes against the head of bolt).
 - b. Insert shoulder bolt up through hole in hardtop cover as shown in figure 14. Place "star" washer over shoulder bolt.
 - c. Thread shoulder bolt into the grass catcher locking lever, using a 9/16" socket wrench. Do not overtighten. Locking lever must be able to pivot.

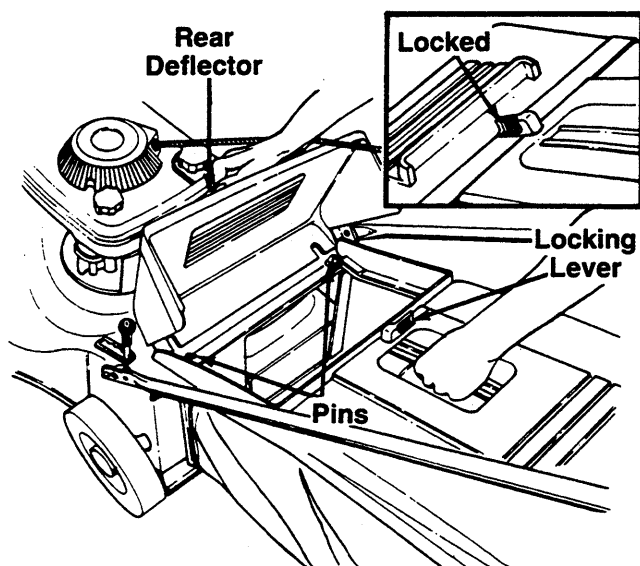


FIGURE 15.

ATTACHING BAG TO MOWER

Lift the rear deflector on the mower. Place the hooks on the grass catcher over the pins on the back of the mower. See figure 15. Release the rear deflector. Turn the locking lever to the locked position to secure the rear deflector. See figure 15, inset.

To remove the grass catcher, turn the locking lever to the unlocked position and lift the rear deflector on the mower. Lift the grass catcher up, over the pins on the back of the mower. Release the deflector.

CONTROLS

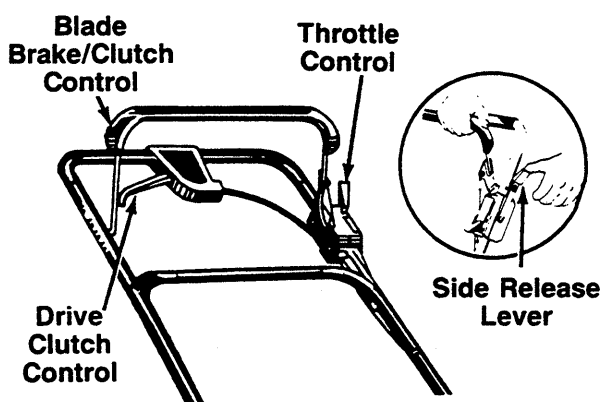


FIGURE 16.

THROTTLE CONTROL

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

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 16.

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 16. 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.

OPERATION



FIGURE 17.

Keep hands and feet away from the chute area on cutting deck. See figure 17.

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 shipping purposes your mower is set with the wheels in a low cutting height position. For best results raise the cutting position until it is determined which height is best for your lawn. See 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. 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 18.

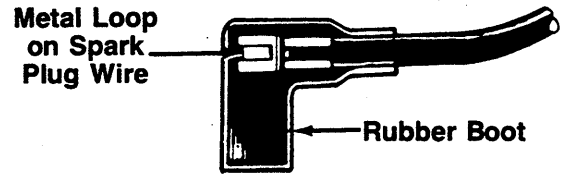


FIGURE 18.

2. 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.

TO START ENGINE



WARNING: When starting the unit for the first time, 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 throttle control lever to CHOKE position. (A warm engine may not require choking.)

2. With the blade brake/clutch 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.
3. After engine starts, move throttle control to desired engine speed.

NOTE: If any problems are encountered, refer to the *Trouble Shooting Guide* on page 17.

TO STOP ENGINE

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.

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 16.

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.

USING YOUR ROTARY MOWER



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

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

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.

Striking a solid object can cause damage to the blade brake/clutch or to the engine crankshaft. 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.

CUTTING HEIGHT ADJUSTMENT

The height adjustment handle is located on the left side of the deck. The handle may be placed in one of nine cutting height positions. Push the handle to the left and then either forward to lower the cutting height or backward to raise the cutting height. See figure 20.

For rough or uneven lawns, move the height adjustment handle to a position which will give a higher cutting height.

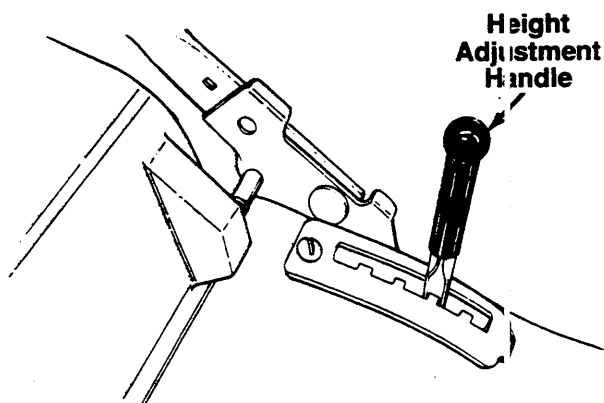


FIGURE 20.

DRIVE CLUTCH CONTROL ADJUSTMENT

Use the adjustment wheel located in 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 21.

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.

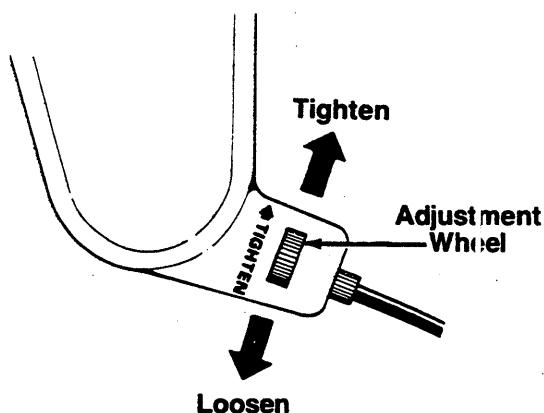


FIGURE 21.

THROTTLE CONTROL ADJUSTMENT

If the carburetor choke does not close fully or if the throttle control has been replaced, adjust the throttle control by removing the screw and cable clamp shown in figure 7. Adjust as instructed in step 4 of "Attaching the Throttle Control Cable" in Assembly Instructions.

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 adjustments may be required to compensate for differences in fuel, temperature, altitude and load. To adjust carburetor, refer to the separate engine manual.

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 22.

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

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.

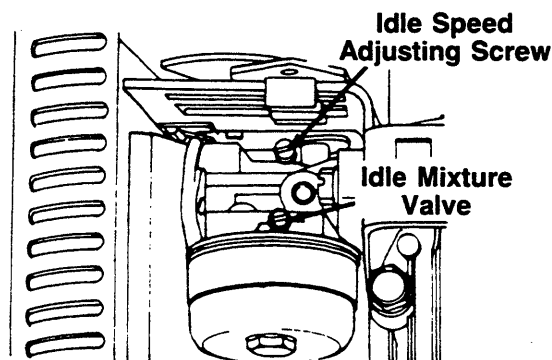


FIGURE 22.

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

Discharge Chute Deflector—The torsion spring and pivot point should be lubricated periodically with light oil to prevent any rust or binding. Deflector must work freely.

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.

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 17 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 washers which hold the blade to the blade brake/clutch. See figure 23.

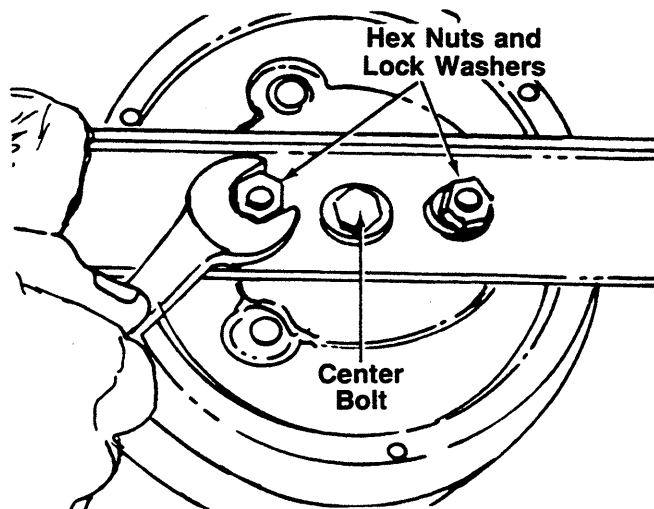


FIGURE 23.

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 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 all engine maintenance instructions.

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

Service **air cleaner** every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions. Poor engine performance and flooding usually 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 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 rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts.*

HANDLE STORAGE

The handle may be placed in an upright position for storage. Move hairpin clips to outer hole on weld pins. See figure 1. Press outward on the bottom of the lower handle and push forward. The handle will lock in this position.

Reverse the above procedure to place the handle in the operating position.

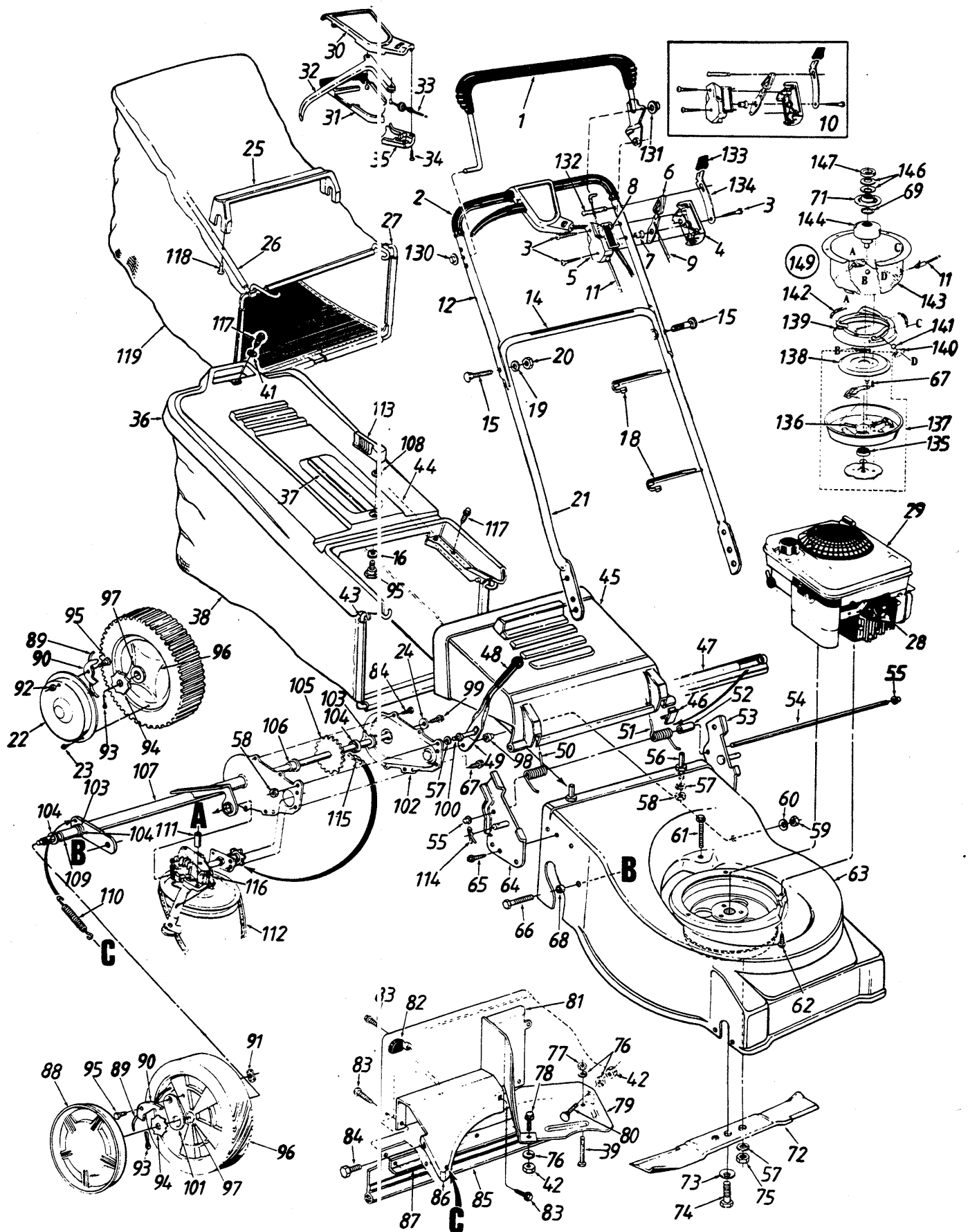
Trouble Shooting Guide

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	<ol style="list-style-type: none"> 1. Spark plug wire disconnected. 2. Throttle control lever not in CHOKE position. 4. Fuel tank empty, or stale fuel. 5. Blocked fuel line. 6. Faulty spark plug. 7. Engine flooded. 	<ol style="list-style-type: none"> 1. Connect wire to spark plug. 2. Move throttle lever to CHOKE position. 4. Fill tank with clean, fresh gasoline. 5. Clean fuel line. 6. Clean, adjust gap or replace. 7. 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	<ol style="list-style-type: none"> 1. Unit running in CHOKE position. 2. Spark plug wire loose. 3. Blocked fuel line or stale fuel. 4. Vent in gas cap plugged. 5. Water or dirt in fuel system. 6. Dirty air cleaner. 7. Carburetor out of adjustment. 	<ol style="list-style-type: none"> 1. Move throttle lever to FAST position. 2. Connect and tighten spark plug wire. 3. Clean fuel line; fill tank with clean, fresh gasoline. 4. Clear vent. 5. Drain fuel tank. Refill with fresh fuel. 6. Clean air cleaner.† 7. Adjust carburetor.†
Engine overheats	<ol style="list-style-type: none"> 1. Engine oil level low. 2. Air flow restricted. 3. Carburetor not adjusted properly. 	<ol style="list-style-type: none"> 1. Fill crankcase with proper oil. 2. Remove blower housing and clean.† 3. Adjust carburetor.†
Occasional skip (hesitates) at high speed	<ol style="list-style-type: none"> 1. Spark plug gap too close. 2. Carburetor idle mixture adjustment improperly set. 	<ol style="list-style-type: none"> 1. Adjust gap to .030". 2. Adjust carburetor.†
Idles poorly	<ol style="list-style-type: none"> 1. Spark plug fouled, faulty or gap too wide. 2. Carburetor improperly adjusted. 3. Dirty air cleaner. 	<ol style="list-style-type: none"> 1. Reset gap to .030" or replace spark plug. 2. Adjust carburetor.† 3. Clean air cleaner.†
Excessive vibration	<ol style="list-style-type: none"> 1. Cutting blade loose or unbalanced. 2. Bent cutting blade. 	<ol style="list-style-type: none"> 1. Tighten blade and balance blade. 2. Replace blade.
Mower will not drive	<ol style="list-style-type: none"> 1. Drive clutch cable out of adjustment. 2. Belt worn and/or stretched. 	<ol style="list-style-type: none"> 1. Adjust drive clutch cable (see adjustment section). 2. Replace belt.
Mower will not discharge grass	<ol style="list-style-type: none"> 1. Engine speed too low. 2. Wet grass. 3. Excessively high grass. 	<ol style="list-style-type: none"> 1. Set throttle between 3/4 and full throttle. 2. Do not mow when grass is wet; wait until later to cut. 3. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting swath (1/2 width).
Uneven cut	Dull blade.	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.

Models 466B, 468B, 476B and 478B



Models 466B, 468B, 476B and 478B

PARTS LIST FOR MODELS 466B, 468B, 476B AND 478B ROTARY MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	731-0609		Control Handle Ass'y.	58	712-0711		Hex Jam Nut 3/8-24 Thd.
2	720-0225		Grip (Optional)	59	712-0296		Hex L-Nut 3/8-24 Thd.
3	710-0796		Truss Mach. B-Tap Scr. #12 x 1.5" Lg.	60	736-0105		Bell-Wash. .38" I.D. x .88"
4	731-0817A		Control Panel Half	61	710-0778		Hex Wash. Hd. Tap Scr. 1/4-20 x 1.5" Lg.
5	731-0816A		Clutch Panel Half	62	710-0654A		Hex L-Wash. Hd. Scr. 3/8-16 x 1.0" Lg.
6	731-0972		Throttle Control Lever	63	16997A		21" Deck Ass'y.
7	731-0524		Control Disc Pin	64	12296A		Handle Brkt. Ass'y.—R.H.
8	777-5772		Control Label—Throttle	65	710-0892		Hex L-Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.
9	746-0672		Throttle Wire—58" Lg.	66	710-1006		Hex Wash. Hd. Tap Scr. 3/8-16 x .75" Lg.
10	753-0431		Control Housing Comp.	67	710-0599		Hex Wash. Hd. Tap Scr. 1/4-20 x .5" Lg.
11	746-0407		Control Cable—52" Lg.	68	750-0736		Spacer .383" I.D.
12	749-0439B		Upper Handle	69	736-0409		Serrated Washer 1.0" I.D.
14	777-5775		Instruction Label—Handle	71	756-0503		Serrated Pulley Half
15	710-0671		Curved Carriage Bolt 5/16-18 x 1.38" Lg.	72	742-0306A		21" Blade
16	736-0286		Bowed Washer	73	736-0412		Bell-Wash. .46" I.D. x .88"
18	726-0240		Cable Tie	74	710-1002		Hex Bolt 7/16-20 x 2.0" Lg. (Gr. 5)
19	736-0119		L-Wash. 5/16" I.D.*	75	712-0328		Hex Nut 3/8-24 Thd. (Gr. 8)
20	712-0267		Hex Nut 5/16-18 Thd.*	76	736-0329		L-Wash. 1/4" I.D.*
21	749-0504C		Lower Handle	77	712-0298		Hex Jam Nut 1/4-20 Thd.
22	10647		Hub Cap	78	710-0252		Hex Bolt 1/4-20 x .85" Lg.
23	710-0748		Pan Hd. Tap Scr. #12 x .50" Lg. (Used w/Ref. #22)	79	17013		Rear Belt Baffle
24	736-0270		Bell-Wash. .265" I.D. x .75"	80	710-0167		Carr. Bolt 1/4-20 x .50" Lg.*
25	731-0801		Bag Handle†	81	17006		Rear Panel Baffle
26	749-0764A		Rear Catcher Frame†	82	731-0931		Corner Plug
27	747-0700A		Front Catcher Frame†	83	710-1017		Torx Mach. AB-Tap Scr. 1/4 x .62" Lg.
28	735-0639		Spark Plug Boot (Optional)	84	710-0352		Hex B-Tap Scr. 1/4 x .38" Lg.
29	—		Engine	85	731-0668		Rear Flap
30	731-1057		Control Cover Half—Upper	86	17008		Rear Chute Baffle
31	731-1058		Control Cover Half—Lower	87	14847		Retaining Strip
32	731-0620		Control Lever	88	731-0981A		Hub Cap
33	746-0711A		Drive Cable—53" Lg.	89	10622B		Plastic Spring
34	710-0841		Flat C-Sunk Hd. Tap Scr. #10 x .75" Lg.	90	748-0188B		Pawl .345" I.D.
35	731-1059		Cable Mtg. Cap	91	712-0189		Weld Nut 1/4-20 Thd. (Used w/Ref. #88)
36	731-0857A		Hardtop Bag Cover††	92	712-0324		Hex Ins. L-Nut 1/4-20 Thd. (Used w/Ref. #22)
37	731-0856		Hardtop Handle††	93	714-0115		Cotter Pin 1/8" Dia.
38	764-0252		Grass Bag††	94	748-0318		Ratchet Wheel 1.62" O.D.
39	710-0166		Truss Mach. Scr. 1/4-20 x 1.0" Lg.	95	738-0137		Shld. Bolt .342" Dia. x .268"
41	736-0463		Fl-Wash. .281" I.D. x .62"††	96	**		Wheel Ass'y. Comp.—Rear
42	712-0287		Hex Nut 1/4-20 Thd.*	97	**		Flange Ball Bearing 1/2" I.D.
43	747-0693B		Front Catcher Frame††	98	750-0624		Shld. Spacer .50" Dia.
44	749-0736B		Rear Catcher Frame††	99	710-0751		Hex Bolt 1/4-20 x .62" Lg. (Gr. 5)
45	731-0859		Chute Deflector	100	711-0805		Shld. Pin 3/8-24 x 1.43" Lg.
46	731-0970A		Deflector Plug	101	16855		Pawl Plate
47	731-0858		Seal—Extrusion	102	17053A		Chain Cover Ass'y.
48	720-0223		Grip	103	741-0324		Hex Flange Brg. .506" I.D.
49	732-0580		Spring Lever	104	736-0160		Fl-Wash. .531" I.D. x .93"
50	732-0578A		Torsion Spring—R.H.	105	738-0719A		Rear Axle Ass'y.
51	732-0577A		Torsion Spring—L.H.	106	741-0522		Hex Flange Bearing
52	750-0566		Spacer .255" I.D.	107	17009		Chain Axle Ass'y.
53	12297A		Handle Brkt. Ass'y.—L.H.	108	736-0498		Internal L-Wash. 1/4" I.D.
54	747-0698		Hinge Pin 17.75" Lg.				
55	726-0106		Cap Speed Nut				
56	711-0805		Shld. Pin 3/8-24 x 1.43" Lg.				
57	736-0169		L-Wash. 3/8" I.D.*				

Models 466B, 468B, 476B and 478B

PARTS LIST FOR MODELS 466B, 468B, 476B AND 478B ROTARY MOWERS (CONTINUED)

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
109	748-0190		Spacer .513" I.D.	133	720-0190		Spring Lever Knob
110	732-0481		Extension Spring 3.3" Lg.	134	732-0401		Lockout Spring
111	750-0589		Spacer .325" I.D.	135	741-0124		Ball Brg. .669" I.D. x 1.574"
112	754-0346		V-Belt	136	732-0396		Comp. Spring .35" O.D. x 2.0" Lg.
113	720-0224		Grass Catcher Locking Knob	137	14300A		Clutch Blade Housing Ass'y.
114	714-0104		Internal Cotter Pin 1/16" Dia.	138	14304A		Clutch Cone
115	713-0353		#48 Chain .50" Pitch x 30 Links	139	719-0283		Brake Cup Cone
116	717-0417		Transmission Comp. (See Breakdown)	140	731-0520		Ball Block
117	710-0892		Hex L-Wash. Hd. A 3-Tap Scr. 1/4 x .62" Lg.††	141	741-0326		Steel Ball .50" Dia.
118	710-1025		Hex AB-Tap Scr. #12 x 1.25" Lg.†	142	732-0397		Ext. Spring 1.75" Lg.
119	764-0246		Grass Bag†	143	14309B		Clutch Housing
130	726-0135		Push Cap	144	756-0504		Fixed Pulley Adapter
131	726-0245		Push Cap	146	736-0450		Bell-Wash. 1.01" I.D.
132	731-0607		Lock Pin .314" Dia. x 1.75"	147	748-0332		Crankshaft Spacer
				149	812-00001		Blade Brake Clutch Ass'y. Comp.

†Model 466B and 468B Only.

††Models 476B and 478B Only.

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."

Find It Fast
In The
Yellow Pages

CODE: N denotes a new part (not previously existing). A three digit number is the color code (use if color or finish is important when ordering parts). See chart below. [i.e., (part no.)-638 for Red Finish]

Color Codes

456—Radiant Tangerine	637—Black
460—Green Flake	638—Red
483—Charcoal Gray	640—Green
498—Yellow	646—CM Blue
499—Beige	657—Teal
629—Silver Flake	



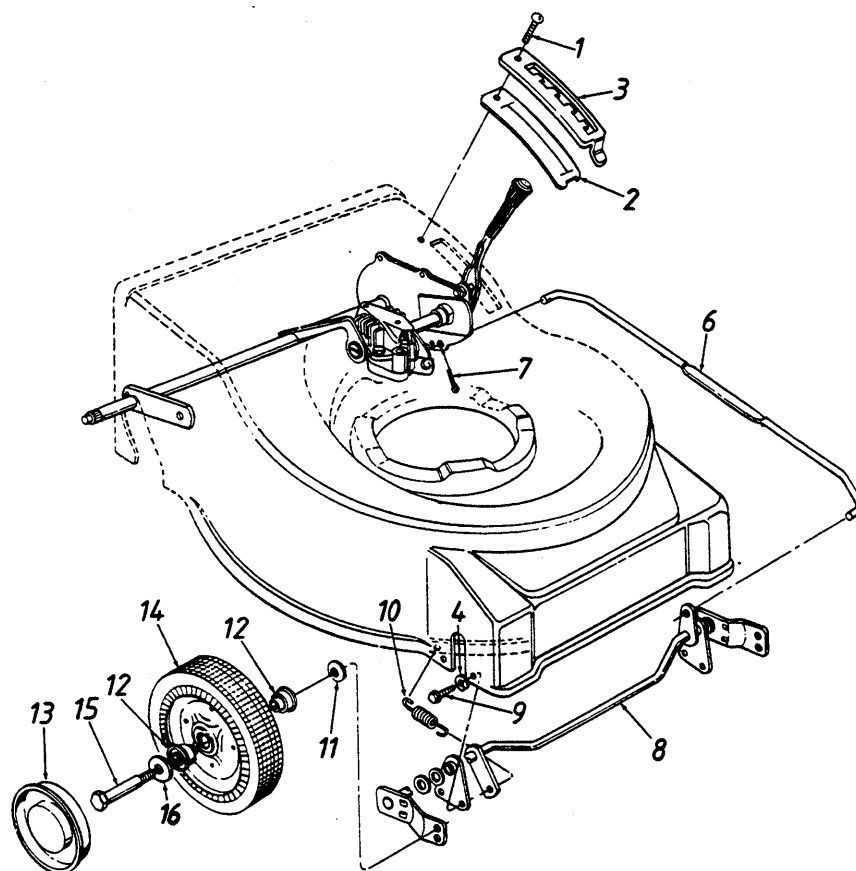
NOTE

This instruction manual covers various models, and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

**REAR WHEEL CHART

Size	Tread Type	Part No.	Bearings
8 x 1.5	"T" Tread	734-1412	741-0180 1/2" I.D. Ball Brg. (2 Req'd.)
8 x 1.75	"T" Tread	734-1260	741-0180 1/2" I.D. Ball Brg. (2 Req'd.)
8 x 2	"S" Wave	734-1510B	741-0486B 1/2" I.D. Sleeve Brg.

Models 466B, 468B, 476B and 478B



PARTS LIST FOR MODELS 466B, 468B, 476B AND 478B ROTARY MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	710-1017		Torx Mach. AB-Tap Scr. 1/4 x .62" Lg.*	10	732-0589		Extension Spring 2.39" Lg.
2	721-0216		Height Adjustment Support	11	736-0105		Bell-Wash. .380" I.D. x .88" O.D.
3	17323		Height Adjustment Plate	12	741-0180		Flange Ball Bearing (Optional)
4	736-0329		L-Wash. 1/4" I.D.*	13	—		Hub Cap (See Below)
6	747-0699		Height Adj. Connecting Rod	14	**		Wheel Ass'y. Comp.—Front
7	714-0507		Cotter Pin 3/32" Dia.	15	738-0102		Shld. Bolt .498" Dia. x 1.45"
8	17022		Front Axle Ass'y.	16	736-0232		Wave Wash. .53" I.D. x .78" O.D.
9	710-0352		Hex L-Wash. Hd. AB-Tap Scr. 1/4 x .38" Lg.				

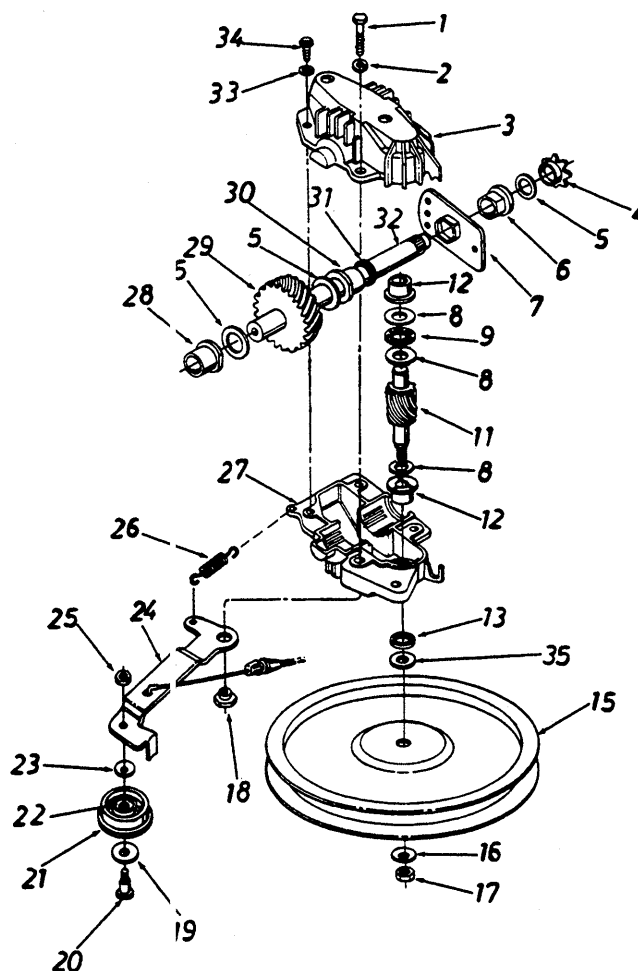
*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

**FRONT WHEEL CHART

Optional Hub Caps	
Description	Part No.
Gray (5-1/2" Dia.)	731-0981A
Beige (5-1/2" Dia.)	731-0982A
Gray (3-1/2" Dia.)	720-0249
Black (1-1/2" Dia.)	720-0251
Red (1-3/8" Dia.)	731-0342

Size	Tread Type	Part No.	Bearings
8" x 1.75"	Bar Tread	634-0020	Not Required
8" x 1.75"	"T" Tread	734-1268	741-0180 1/2" I.D. Ball Brg. (2 Req'd.)
8" x 2"	"S" Wave	734-1512A	Not Required
8" x 2"	"S" Wave	734-1513B (Silver)	741-0180 1/2" I.D. Ball Brg. (2 Req'd.)
8" x 2"	"S" Wave	734-1517B (Beige)	741-0180 1/2" I.D. Ball Brg. (2 Req'd.)

Models 466B, 468B, 476B and 478B



PARTS LIST FOR MODELS 466B, 468B, 476B AND 478B ROTARY MOWERS

REF. NO.	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†
2	736-0329		L-Wash. 1/4" I.D.*	19	736-0344		Fl-Wash. .390" I.D. x 1.0"†
3	717-0418A		Upper Hsg. Half	20	738-0826		Shld. Bolt .375" Dia. x .40"†
4	713-0400		#48 Sprocket 7 Tooth x 1/2 Pitch	21	756-0558		Fl-Idler Plastic 1.50" Dia.†
5	736-0336		Fl-Wash. 5/8" I.D. x .030	22	741-0556		Needle Brg. .375" x .31†
6	741-0413		Hex Flange Brg. .631" I.D.	23	736-0270		Bell-Wash. .265" I.D. x .75"†
7	16500A		Hex Bearing Cup	24	17052A		Idler Brk't. Ass'y.†
8	736-0314		Thrust Wash. .382" I.D. x .70" O.D.	25	712-0138		Hex Patch L-Nut 1/4-28 Thd.†
9	741-0479		Thrust Bearing .375" I.D. x .812" O.D.	26	732-0357		Extension Spring 1.12" Lg.†
11	717-1216		11 Tooth Pinion Shaft	27	717-0419A		Lower Hsg. Half
12	748-0208A		Flange Bearing	28	741-0415		Flange Bearing .566 Dia.
13	721-0212		Oil Seal	29	717-0422A		33 Tooth Helical Gear
15	756-0330A		Fl-Pulley 5.06" O.D.†	30	741-0414		Flange Bearing .629 Dia.
16	736-0270		Bell-Wash. .265" I.D. x .75"†	31	721-0213		Oil Seal .625 Dia.
17	712-0351		Hex L-Nut 1/4-28 L.H. Thd.†	32	738-0607A		Gear Sprocket Shaft
				33	736-0722		L-Wash. #10 I.D.
				34	710-0436		Hex B-Tap Scr. #10 x .62"
				35	736-0410		Hex Washer .26" x .88"†
				—	717-0417B		Transmission Comp.

†Not Part of Transmission Complete

FOR REPLACEMENT PARTS, CONTACT:
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