# OWNER'S GUIDE

Thank you for purchasing an American-built product.

# 21" ELECTRIC START CONVERTIBLE ROTARY MOWER

**IMPORTANT** 

The battery pack is shipped in a partially charged state and must be charged 16 hours prior to initial use. Follow charging instructions on page 12.



**Model Number** 128-176E401

# **IMPORTANT:**

**Read Safety Rules and Instructions Carefully** 

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INSTRUCTIONS GIVEN WITH THIS SYMBOL ARE FOR PERSONAL SAFETY. BE SURE TO FOLLOW THEM.

# LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser ur less such return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available 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 MTD.

The return of a complete unit will rot be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

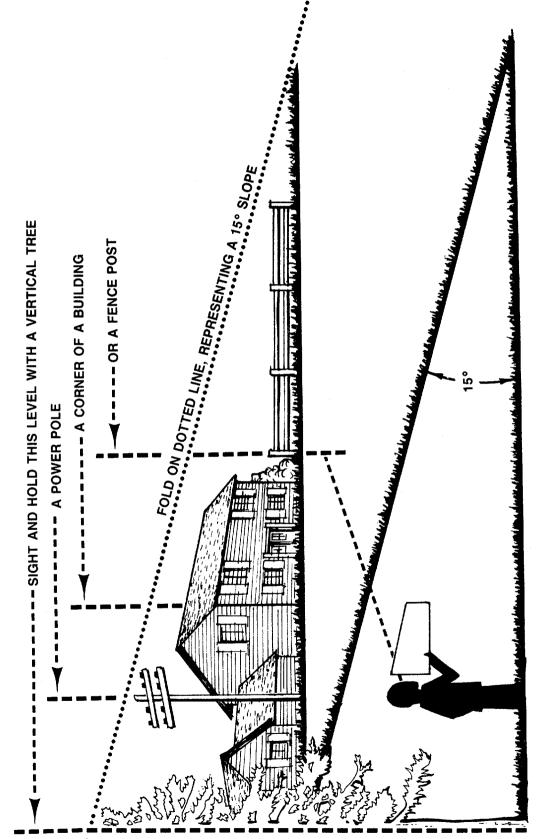
**WARNING:** This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester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

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.)





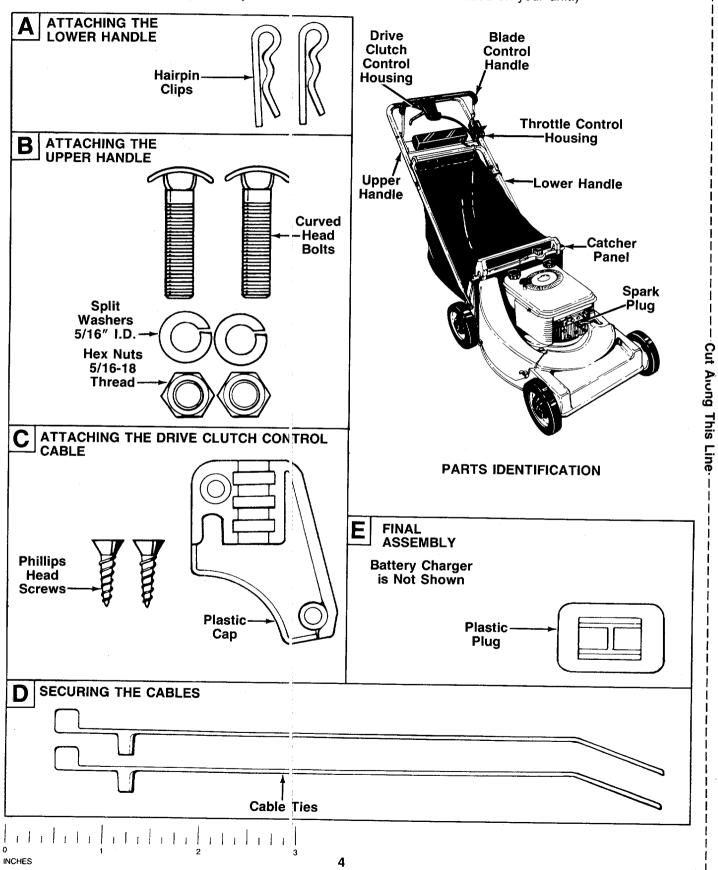
Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious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

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes. Operate RIDING mowers up and down slopes, never across the face of 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.)



# **IMPORTANT**

## **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— THEED ITS WARNING.





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

- Read this owner's manual 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.
- 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 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.



- 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.
- 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.
- 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.
- 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.
- 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 is properly mounted on the mower.

# **MA** 1.

#### MAINTENANCE AND STORAGE

- Check the blade and engine mounting bolts at frequent intervals for proper tightness.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- 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.

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. Refer to parts identification on page 4 for location of parts when assembling the mower.

# **ASSEMBLY INSTRUCTIONS**

#### **Tools Required for Assembly**

- (1) Pair of Pliers
- (1) Phillips Head Screwdriver
- (1) 1/2" Wrench\*
- (1) 5/16" Wrench or Nutdriver\*
- (1) 7/16" Wrench\*
- \*Or one 6" Adjustable Wrench.

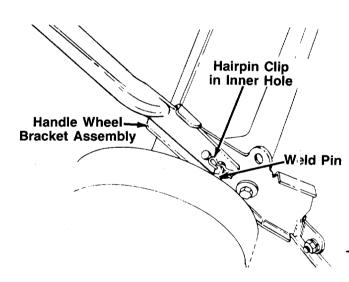
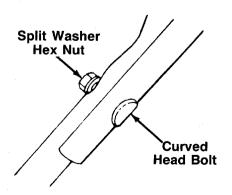


FIGURE 1.



#### **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 by hooking it into the "V" slot on the engine. 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.

#### 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 on the rear of the deck. Make certain the instruction label on the lower handle can be read from the operating position.
- 3. Using a pair of pliers, squeeze on leg of the lower handle against the handle wheel bracket assembly. Insert the hairpin clip into the inner hole on the weld pin. See figure 1. Repeat on other side.

#### ATTACHING THE UPPER HANDLE (Hardware B)

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

FIGURE 2.

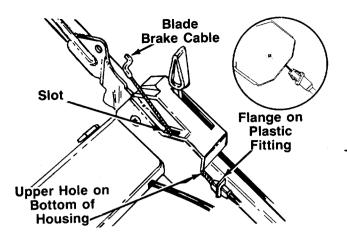


FIGURE 3.

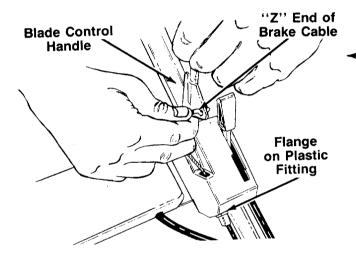


FIGURE 4.

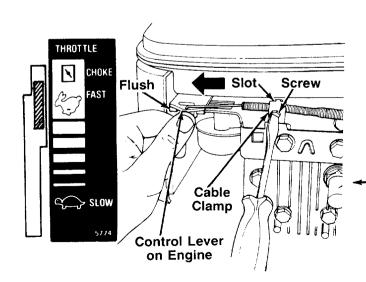


FIGURE 5.

#### ATTACHING THE BRAKE CABLE

- 1. The brake cable is attached to the engine, and has a "Z" fitting on the loose end. Route the brake cable to the outside of the catcher panel and handle mounting bracket, and below 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.
- 2. Push the plastic fitting until it locks into the control housing.

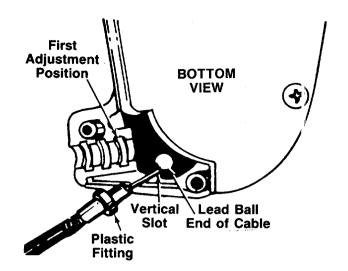


Brake cable must be assembled as shown for proper blade brake operation.

3. Hook the "Z" end of the brake cable into the hole in the blade control handle from the inside to the outside as shown in figure 4.

#### ATTACHING THE THROTTLE CABLE

- Push the throttle control lever on the handle all the way forward to CHOKE, then back it off two "clicks" (approximately 5/16"). See figure 5.
- 2. The throttle control cable is attached to the upper handle. Route the throttle control cable under the lower handle and to the outside of the handle mounting bracket and catcher panel. Hook the "Z" end of the throttle control cable into the hole in the control lever on the engine. See figure 5.
- 3. Using a 5/16" wrench or nutdriver, remove the screw on the cable clamp shown in figure 5. Slip the control cable under the clamp. Replace the screw (cable should be above the screw), but do not tighten screw (cable must still move freely beneath the clamp). Make certain the tab on the cable clamp is seated into the slot on the engine.
- 4. Push the control lever on the engine as far toward the **outside** of the engine as it will go. The edge of the control lever should be flush with the bracket—on the engine. See figure 5. Hold the control lever in this position as you tighten the screw on the cable clamp to secure the throttle cable.
- Loosen the screw on the clamp on the side of the engine. Slip the cable casing under the clamp to secure the cable away from the muffler. Be careful not to bend or kink the cable. Tighten the screw.

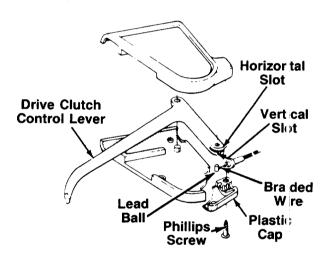


# ATTACHING THE DRIVE CLUTCH CONTROL CABLE (Hardware C)

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

 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 6.

FIGURE 6.

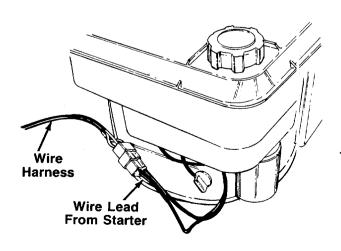


- 2. Slide the braided wire around in the horizontal slot. See figure 7.
- 3. Place the plastic fitting on the control cable into the first adjustment position in the clutch control housing. See figure 6.
- Secure the plastic cap to the clutch control housing using the two Phillips head screws. See figure
   7.



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

FIGURE 7.



#### ATTACHING THE WIRE HARNESS

Plug the end of the wire lead coming from the starter on the engine into the plug on the end of the wire—harness. See figure 8.

FIGURE 8.

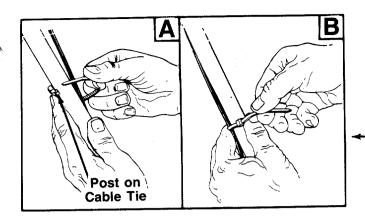
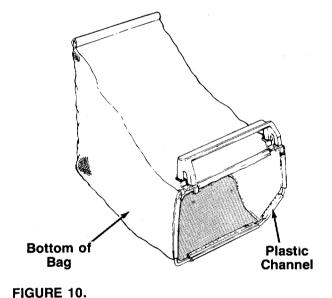


FIGURE 9.

#### **SECURING THE CABLES (Hardware D)**

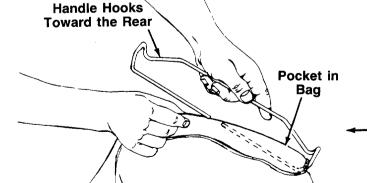
Secure all control cables to the left side of the handle as follows.

- 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 9A.
- B. Secure the cables with the cable ties. See figure 9B.
- C. Trim excess ends of cable ties.



**GRASS CATCHER ASSEMBLY** 

- 1. Place bag over frame (black plastic side is the bottom of bag). Handle on frame goes to the top of bag. Brackets hook toward the front. See figure 10.
- 2. Secure bag to frame by slipping plastic channels on bag over frame. See figure 10.



3. Attach the rear handle to bag by inserting one side of handle into pocket on the rear of the bag. The handle should hook toward the rear of the bag as shown in figure 11. Thread all the material onto one side, then slide it over onto the other side. See figure 11.

FIGURE 11.

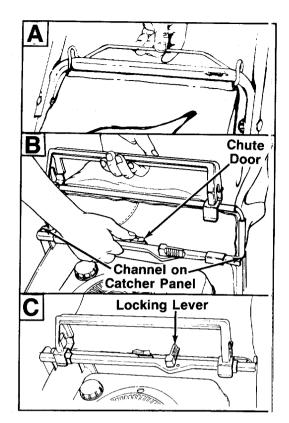


FIGURE 12.

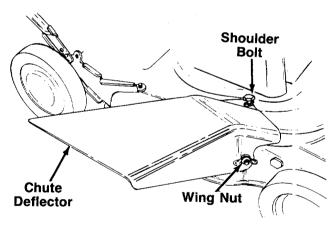


FIGURE 13.

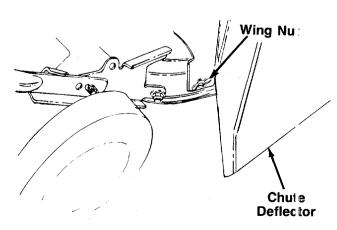


FIGURE 14.

#### TO ATTACH BAG TO MOWER



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

- Hook the handle on the rear of the grass catcher over the lower handle of the mower. See figure —12A.
- 2. Hold the chute door on the catcher panel open as shown in figure 12B.
- Slide the frame of the grass catcher down into the channels on the catcher panel. The top portion of the frame goes over the catcher panel.
- 4. Secure the grass catcher by turning the locking lever to the locked position as shown in figure 12C.

To remove the grass catcher, turn the locking lever to the unlocked position, unhook the rear handle and lift the grass catcher straight up.

#### TO CONVERT MOWER TO SIDE DISCHARGE

To convert your mower to a side discharge unit, remove only the grass bag and top discharge chute, and assemble the side chute deflector. It is not necessary to remove the catcher panel. To remove the top discharge chute, proceed as follows. See figures 13 and 14.

- 1. Remove the two wing nuts on the side of the deck.
- 2. Lift up on the front edge of the discharge chute, then slide it toward the side, removing it from the bolts in the side of the deck.
- 3. Attach the side chute deflector by first placing it over the rear bolt in the side of the deck, then over the front bolt and sliding it into position, with shoulder bolt on deck in notch on deflector. Secure with wing nuts.



Never operate your unit without either the side chute deflector or entire top discharge chute and catcher panel assembly in place.

#### FINAL ASSEMBLY OF MOWER (Hardware E)

- If plastic plug 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. Attach hub caps (optional) to the wheels by lining up the hub caps with the wheels. Push to lock in position.

- 3. Make certain all nuts and bolts are tightened securely.
- 4. Be certain to charge the battery as instructed in "Before Starting" section under Operation. Read instructions carefully.

# CONTROLS

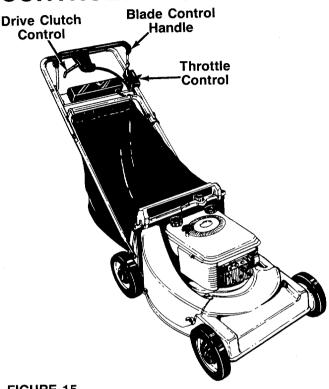


FIGURE 15.

#### **BLADE CONTROL HANDLE**

#### WARNING THIS CONTROL MECHANISM IS A SAFETY DEVICE NEVER ATTEMPT TO BYPASS ITS OPERATIONS

The blade control handle is located on the upper handle of the mower. See figure 15. The blade control handle must be depressed in order to operate the unit. Release the blade control handle to stop the engine and blade.



The blade will be rotating whenever the engine is running.

#### THROTTLE CONTROL

The throttle control is located on the left side of the upper handle. It is used to regulate the engine speed. The engine should be started with the engine in the CHOKE position.



The throttle control cannot be used to stop the engine.

#### **IGNITION SWITCH**

The ignition switch is located on the left side of handle panel. It is used for starting only. See figure 15.

#### 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 15.

# **OPERATION**



#### FIGURE 16.

Keep hands and feet away from the chute area on cutting deck. See figure 16.



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 in structed in the separate engine manual packed with your mower. Read instructions carefully.



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



The battery contains corrosive fluid and toxic material. HANDLE WITH CARE. Keep away from children. Do not puncture, disassemble, mutilate or inciners te. Explosive gases could be vented during charging or discharging. Use in a well-ventilated area, away from sources of ignition.

Charge battery for 16 hours before initial use.
 DO NOT CHARGE LONGER THAN 20 HOURS.



Use only the battery charger supplied with this mower.

To charge the battery, first remove the protective cap from the end of the battery pack lead. See figure 15. Always plug charger lead into battery pack lead before inserting battery charger plug into 120 volt standard household outlet.

After charging, disconnect battery charger plu; from household outlet first, then disconnect charger lead from battery pack lead.



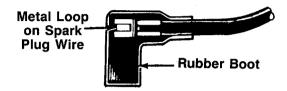
Do not remove the battery pack from the handle panel for any reason other than replacement. When replacing the battery pack, refer to instructions in Maintenance section.

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

With the drive clutch control released, push r lower forward. It should move freely. Pull mower backward. It should move freely.

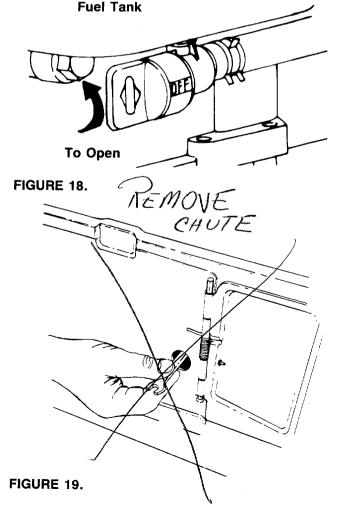
If it does not and the rear wheels tend to lock up, the clutch may not be releasing completely. Do not start the engine until corrections have been made. Check the control cable for severe bend, kinks and binding, or grass build-up in the pulley groove. Correct and adjust as required.

3. Attach spark plug wire to spark plug. If unit is equipped with a rubber boot over the end of the spark plug wire, 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 17.



#### FIGURE 17.

4. The fuel shut-off valve is located beneath the fuel tank. An access hole is provided in the catcher panel. The fuel shut-off valve should be in the open position. See figure 18. Open fuel shut-off valve using a wrench if it is closed. See figure 19.



#### TO START ENGINE AND ENGAGE BLADE



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. Check the position of the drive clutch control cable. The plastic fitting must be assembled in the first adjustment position inside the housing, all the way to the right, as shown in figure 6.

1. Move the throttle control lever to CHOKE position.



A warm engine may not require choking.

- Standing behind the unit, depress the blade control handle and hold it against the upper handle as shown in figure 19. Be certain the drive clutch handle is released.
- 3. Turn the ignition key to the right to start the engine. Release the key after engine starts.
- After engine starts, move throttle control to FAST or desired engine speed.

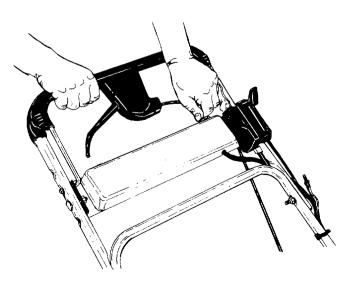


FIGURE 20.

## NOTE

The engine on your unit is provided with an auxiliary recoil starter system. To start the engine using the auxiliary starter system, proceed as follows.

A. Depress the blade control handle, and hold it against the upper handle.

- B. Grasp the recoil starter handle, slowly pull the rope out from the engine about two feet and hold rope in this position.
- C. Step behind the handle into the operating position. With the blade control handle still depressed, pull recoil starter handle using a quick, firm motion. Repeat until engine starts. After engine starts, return rope slowly to the engine.



Never operate your unit without either the side chute deflector or entire top discharge chute and catcher panel assembly in place.

#### TO STOP ENGINE AND BLADE

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



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

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



If any problems are encountered, refer to the Trouble Shooting Chart on page 20.

#### **USING YOUR ROTARY MOWER**



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

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

Operate a new engine at intermediate speeds and light load for the first few hours as you would a new automotive engine.

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 lawr.

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.

## **IMPORTANT**

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.

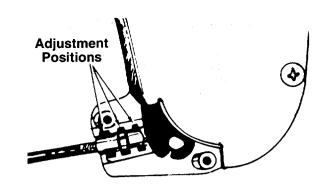
# **ADJUSTMENTS**



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

#### DRIVE CLUTCH CONTROL ADJUSTMENT

If the unit does not self-propel with the drive clutch control engaged, remove the plastic cap from beneath the drive clutch control housing. Move the plastic fitting on the control cable to the next adjustment position on the left. Reassemble the plastic cap and retest. See "igure 21.

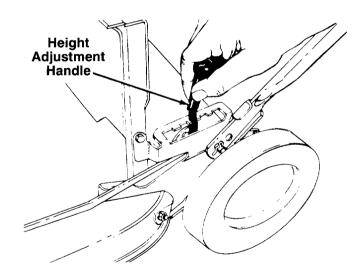


#### FIGURE 21.

#### **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 22.

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



#### FIGURE 22.

#### **THROTTLE**

The throttle control wire assembly can be adjusted if necessary. Loosen the screw on the cable clamp shown in figure 5. Adjust as instructed in steps 1 and 4 of "Attaching the Throttle Control Cable" in Assembly Instructions.

#### CARBURETOR ADJUSTMENTS



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

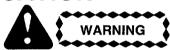
Minor carburetor adjustment may be required to compensate for differences in fuel, temperature, altitude and load. Refer to the separate engine manual packed with your mower for carburetor adjustment information.



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. Refer to the separate engine manual. **Engine**—Follow engine manual for lubrication instructions.

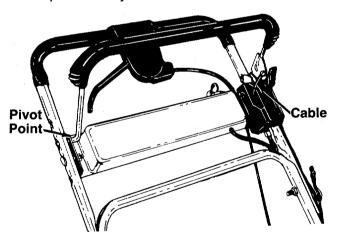
**Throttle—**Periodically lubricate throttle control lever and throttle wire assembly with a few drops of light oil for ease of operation.

# **LUBRICATION**



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

Blade Control—Lubricate the pivot points on the blade control handle and the brake cable at least once a season with light oil. See figure 23. The blade control must operate freely in both directions.



#### FIGURE 23.

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

Wheels—Mower may be provided with ball bearing wheels. Lubricate 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.

## **MAINTENANCE**



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



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

#### TROUBLE SHOOTING

Refer to page 20 of this manual for trouble shooting information.

#### **BATTERY PACK REPLACEMENT**

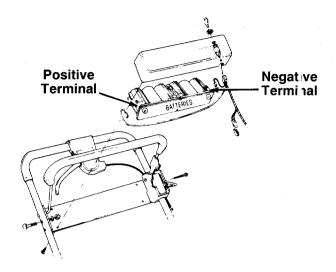
Remove the battery pack from the handle panel for replacement only. Do not separate the batteries for any reason. Dispose of batteries properly.



Batteries contain sulfuric acid which may cause burns. Do not short circuit or mutilate in any way. Do not put batteries in fire. They may burst or release toxic materials.

When replacing battery pack in handle panel, battery pack must be positioned with the positive terminal to the right hand side and the negative terminal to the left hand side of panel. See figure 24. Replacing the battery pack incorrectly will cause serious damage.

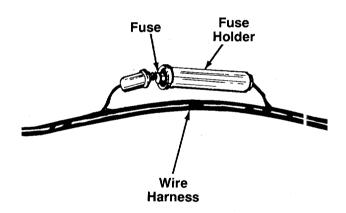
The positive lead on the wire harness has the smaller connector. Connect the positive lead to the positive side of the battery pack, then connect the negative side.



#### FIGURE 24.

#### **IN-LINE FUSE**

The unit is equipped with an in-line fuse. If unit fails to start, check the fuse in the wiring harness by turning the end of the fuse holder and pulling apart. See figure 25. Replace with standard automotive 7½ amp fuse.



#### FIGURE 25.

#### **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 bot and blade bell washer which hold the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft.



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

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each

cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

The blade can be tested by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly.

Before reassembling the blade and the blade adapter to the unit, lubricate the engine crankshaft, the inner surface of the blade adapter and the center bolt 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.

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**

Center Bolt: 375 in. lb. min., 450 in. lb. max. If lacking torque wrench, tighten until the blade bell washer is flattened.

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 period of use as grass clippings, leaves, dirt and other matter will accumulate. This accumulation of grass clippings, etc., is undesirable as 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 or by washing with a stream of water from a garden hose.



Do not direct the stream of water at a hot engine as damage to the engine may 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.

#### STORAGE OF THE BATTERY

The battery must be stored with a full charge. A discharged battery will freeze.



All batteries discharge during storage.

Recharge battery every two months and before returning to service. Refer to charging instructions on page 12.

#### **BELT REMOVAL AND REPLACEMENT**

- Disconnect the spark plug wire and ground it against the engine. Drain the fuel tank or place a piece of plastic beneath the cap to prevent gasoline leakage.
- 2. Remove the grass bag, discharge chute and catcher panel.
- 3. Remove the transmission belt cover by removing three bolts. See figure 26.
- 4. Tip the mower on its side, and block securely.

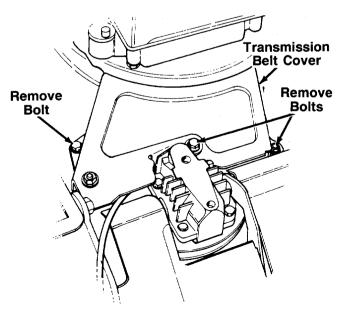
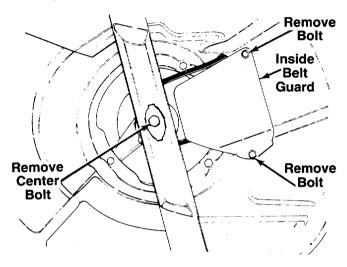


FIGURE 26.

- Remove the center bolt which secures the blade to the crankshaft. See figure 27. Remove the blade, blade adapter and pulley half. Remove the belt.
- 6. Remove the inside belt guard by removing two selftapping screws. A 3/8" wrench is required. See figure 27.

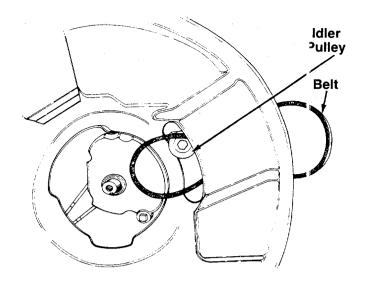


#### FIGURE 27.

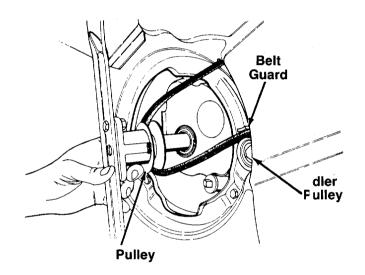
- 7. Remove the belt from between the idler pulley and the belt guard on the idler pulley bracket. Refer to figure 29.
- 8. Remove the belt from the transmission pulley.
- 9. Assemble the new belt as follows.
  - A. Push the idler pulley up out of the way as shown in figure 28.
  - B. Slide the belt in from the rear of the deck and place it around the transmission pulley. See figure 28.
  - C. Release the idler pulley so it falls down into position. Slide the belt in between the idler pulley and the belt guard on the idler pulley bracket as shown in figure 29.
  - D. Grease the crankshaft. Place belt between the two pulley halves and reassemble the blade adapter and blade. Reassemble the inside belt guard.
  - E. Reassemble the transmission belt cover, following instructions in step 3 in reverse order.



When reassembling the transmission belt cover, be certain the belt guard on the transmission cover is approximately 1/8" away from the belt. Make certain to tighten all nuts and bolts securely. If plastic was placed under the gas cap, be certain to remove it.



#### FIGURE 28.



# **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.
- Refer to engine manual for correct engine storage instructions.
- 3. Coat mower's cutting blade with chassis grease to prevent rusting.
- 4. Follow battery storage instructions on page 17.
- 5. Store mower in a dry, clean area.



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.

#### FIGURE 29.



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

GRASS CATCHER Model 077 is available as replacement equipment for the mower shown in this manual.



- 1. DO NOT operate the mower without the entire grass catcher or chute deflector in place.
- 2. DO NOT operate the mower without the protective shield on the rear of the deck in place.



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.

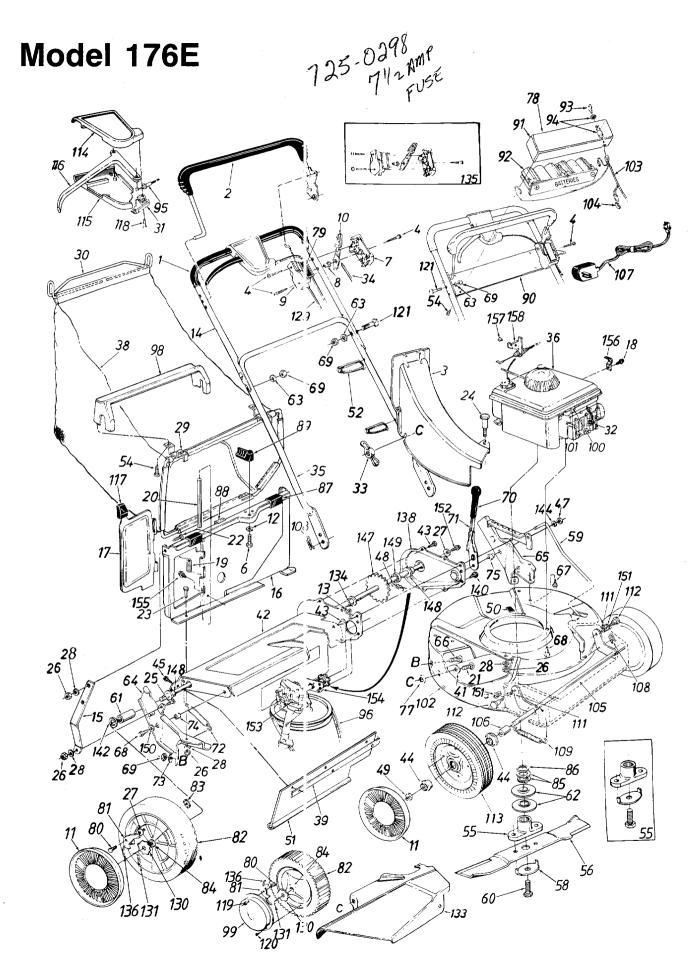
For replacement bags, use only factory authorized replacement bag No. 764-0212 (Black) or 764-0216 (Grey).

# **Trouble Shooting Chart**

Symptom	Possible Causes	Corrective Action
1 Engine fails to start	A Blade control handle disengaged B Check fuel tank for fuel C Fuel shut-off valve closed D Spark plug lead wire disconnected E Throttle control lever not in the starting position F Faulty spark plug G Carburetor improperly adjusted, engine flooded  H Old stale fuel I Engine brake engaged	A Engage blade control handle.  B Fill tank if empty. C Open fuel shut-off valve. D Connect lead wire.  E Move throttle lever to start position. F Clean, adjust gap or replace.† G Remove spark plug, dry the plug, crank engine with plug removed, and throttle in off position. Replace spark plug and lead wire and resume starting procedures. H Drain and refill with fresh fuel. I Follow starting procedure.
2 Hard starting or loss of power	A Spark plug wire loose  B Carburetor improperly adjusted C Dirty air cleaner	A Connect and tighten spark plug wire.     B Adjust carburetor.†     C Clean air cleaner.†
3 Operation erratic	A Dirt in fuel tank     B Dirty air cleaner     C Water in fuel supply      D Vent in gas cap plugged     E Carburetor improperly     adjusted	<ul> <li>A Remove the dirt and fill tank with fresh fuel.</li> <li>B Clean air cleaner.†</li> <li>C Drain contaminated fuel and fill tank with fresh fuel.</li> <li>D Clear vent or replace gas cap.</li> <li>E Adjust carburetor.†</li> </ul>
4 Occasional skip (hesitates) at high speed	A Carburetor idle speed too slow     B Spark plug gap too close     C Carburetor idle mixture adjustment improperly set	A Adjust carburetor.†  B Adjust to .030". C Adjust carburetor.†
5 Idles poorly	A Spark plug fouled, faulty, or gap too wide     B Carburetor improperly adjusted     C Dirty air cleaner	<ul> <li>A Reset gap to .030" or replace spark plug.</li> <li>B Adjust carburetor.†</li> <li>C Clean air cleaner.†</li> </ul>
6 Engine overheats	A Carburetor not adjusted properly     B Air flow restricted  C Engine oil level low	A Adjust carburetor.†      B Remove blower housing and clean.†      C Fill crankcase with the proper oil or fuel mixture.
7 Excessive vibration	A Cutting blade loose or unbalanced     B Bent cutting blade	A Tighten blade and adapter.     Balance blade.     B 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.



# Model 176E

PARTS LIST FOR MODEL 176E

*	21" ROTARY MOWER									
	REF.	PART NO.	COLOR	DESCRIPTION	NEW PART	REF. NO.		CODE	DESCRIPTION	NEW PART
	1 2	720-0225 718-0145 731-0609	1	Foam Grip (2 Req'd.) Grip Control Handle Ass'y.—L.H.	N	56 58	742-0306 736-0415		21" Blade Blade Bell-Wash44" I.D. x 2.38"	N
	3 4	731-0003 731-0733 710-0796		Top Discharge Chute Ass'y. Truss Mach. Scr. #12 x 1.50" Lg.		59 60	747-0510 710-0757		Height Adj. Rod 19.42" Lg. Hex Bolt 7/16-20 x 1.5" Lg. (Grade 5)	
	6 7	710-0258 731-0817		Hex Bolt 1/4-20 x .62" Lg.* Control Panel Half		61	748-0190		Spacer .513" I.D. x .703" O.D. x .69" Lg.	
	8 9 10	731-0524 731-0816 731-0528		Control Disc Pin Clutch Panel Half Throttle Control Lever		62 63 64	756-0502 736-0119 16136		Serrated Pulley Half L-Wash. 5/16" I.D.* R.H. Handle Wheel Brkt. Ass'y.	
	11 12 13	†† 736-0271 714-0507		Hub Cap Spring Wash32" I.D. Cotter Pin 3/32" Dia. x .75"*	N	65 66 67	16137 710-0260 710-0603		L.H. Handle Wheel Brkt. Ass'y. Carriage Bolt 5/16-18 x .62" * Hex Wash. Hd. B-Tap Scr.	
	14 15	749-0437 749-0439 16129		Upper Handle—Chrome Upper Handle—Painted Panel Support Brkt.		68	710-0654		5/16-18 Hex Wash. Hd. TT-Tap Scr. 3/8-16	
	16 17 18	17196 17095 710-0429		Top Catcher Panel Ass'y. Top Discharge Door Hex B-Tap Scr. #10 x .38"	N N	69 70 71	712-0267 720-0223 732-0473		Hex Nut 5/16-18 Thd.* Grip Height Adj. Lever	N
	19 20 21	732-0483 747-0514 710-0134		Torsion Spring Pivot Pin Carriage Bolt 1/4-20 x .62" *		72 73	732-0481 736-0242		Extension Spring .50" O.D. x 3.80" Lg. Bell-Wash. 5/16" I.D.	
	22	710-0225		Truss Mach. Scr. ¼-20 x 34" Lg.		74	750-0526		Spacer .385" I.D. x .502" O.D. x .270" Lg. Shld. Spacer .500" Dia.	
	23 24	710-0289 738-0704		Hex Bolt 1/4-20 x .50" Lg.* Shoulder Bolt .312 Dia. x .18 Lg.—Special	;	75 77 78	750-0624 726-0233 777-6575		Bolt Retainer ¼ x .50" O.D. Instruction Label	
	25 26 27	710-0258 712-0287 736-0270		Hex Bolt ¼-20 x .62" Lg.* Hex Nut ¼-20 Thd.* Bell-Wash. ¼" I.D.		79 80 81	777-5812 738-0137 748-0188		Control Label Shid. Scr342" Dia. x .268 Pawl	
	28 29 30	736-0329 16702 747-0495	;	L-Wash. ¼" I.D.* Front Grass Catcher Frame Grass Catcher Handle	N	82 83 84	712-0189 **		Wheel Ass'y. Comp. Flat Weld Nut ¼-20 Thd. Bearing ½" I.D.	N N
	31 32 33	731-0619 735-0639 712-0388	)	S.P. Control Cover Spark Plug Insulator Wing Nut w/Washer	N	85 86 87	736-0408   736-0409   731-0883		Wave Washer 1.005" I.D. Serrated Washer 1.0" I.D. Panel Clip	
	34 35	746-0672 749-0505 749-0504	5	Throttle Control Wire 58" Lower Handle—Chrome Lower Handle—Painted	N	88 89 90	722-0134 720-0224 16542		Foam Strip 1" Lg. Grass Catcher Locking Knob Lower Battery Tray	
	36 38	— 764-0212		Engine 21" Top Discharge Grass Bag—Black		91 92 93	731-0891 725-1276 725-0201		Upper Battery Tray 12 Volt Battery Key	
·	39	764-0216 14835	6	21" Top Discharge Grass Bag—Grey Retaining Strip		94 95 96	725-0873 746-0650 754-0343		Key Switch S.P. Cable x 50" Lg. "'V"-Belt	
	41 42	736-0204 17055 710-0352	629	FI-Wash344" I.D. x .62"	-	98 99 100	731-0801 10647 710-0436		Bag Handle Rear Hub Cap Hex B-Tap Scr. #10 x .62"	
	43 44 45 47	741-0180 710-0776 712-0296	5	Flange Ball Bearing ½" I.D. Hex AB-Tap Scr. ¼ x .62" Hex Patch L-Nut 3/8-24 Thd.		101 102 103	751-0463 17075 725-1283	629	Cable Clamp 21" Deck Ass'y. Wire Harness SEE SUPP. PR	GES (
	48 49	712-0346	3	#48 Chain .500" Pitch x 30 Links Hex L-Nut ½-20 Thd.		104 105 106	725-1206 10662 711-0313	5	Plug Front Axle Ass'y. Sleeve .526" I.D. x .690"	
	50 51 52	731-0564 731-0672 726-0240	4 2	Plug Rear Flap 3.75" x 17.30" Lg Cable Tie	-	107	725-0727 714-0104	,	O.D x .880" Lg. Battery Charger Intern. Cotter Pin 5/16" Dia.	
	54 55	710-0969 753-0463	<b>∍</b>	Hex AB-Tap Scr. 1.0" Lg. Blade Adapter Kit	N	109	732-0482		Extension Spring .50" O.D. x 3.20" Lg.	

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# Model 176E

#### PARTS LIST FOR MODEL 176E 21" ROTARY MOWER (CONTINUED)

REF. NO.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART	REF. NO.	PART NO.	COLOR	DESCRIPTION	NEW PART
111	736-0221		Intern. L-Wash. 3/8 I.D.*		136	10622		Spring—Nylon	
112	738-0705		Shld. Bolt .575" Dia. x .42		138	17053		Chain Cover	1
113	**		Wheel Ass'y. Comp.	N	140	710-0599		Hex Wash. S-Tap Scr. ¼-20	
114	731-0617		Self-Propelled Control Cover					x .50" Lg.	
115	731-0618		Self-Propelled Control Cover		142	736-0326		Fl-Wash510" I.D. x 1.0"	
116	731-0620		Control Lever		144	736-0300		Fl-Wash385" I.D. x .87"	}
117	720-0190		Door Grip		147	738-0719		Rear Shaft Ass'y. 21.94" Lg.	
118	710-0841		FI-"C"-Sunk Hd. Tap Scr.		148	741-0324		Hex Flange Bearing .506"	1
1			#10 x .75" Lg.					I.D. Plastic	İ
	712-0324	1 3	Hex Ins. L-Nut 1/4-20 Thd.		149	736-0160		Fl-Wash531" I.D. x .930"	
120	710-0748		Pan Hd. Tap Scr. #12 x .5"		150	736-0179		Fl-Wash531" I.D. x 1.25"	
1			_ Lg.		151	741-0491		Flanged Nyliner Brg.	
121	710-0671		Curved Carr. Bolt 5/16-18 x		152	710-0751		Hex Bolt 1/4-20 x .62" Lg.	
			1.38" Lg.					(Grade 5)	
129	746-0480		Control Cable 46" Lg.	1	153	717-0417		Transmission Comp.	
130	748-0318		Ratchet Wheel 1.62" O.D.					(See Breakdown)	
131	714-0115		Cotter Pin 1/8" Dia. x 1.00'		154	16500		Hex Bearing Cup	
100			Lg.*		155	710-0429		Hex B-Tap Scr. #10 x .38	
133	731-0886		Side Chute Deflector Ass'y.		156	12894		Cable Clamp	
134	741-0522	1 1	Hex Flange Bearing		157	728-0171		Pop Rivet .156" Dia.	
135	753-0430		Kit—Control Housing Comp		158	14924		Cable Bracket	

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

(629—Silver Flake) (483—Charcoal Grey)

If color or finish is important when ordering parts, use the appropriate color code shown above [i.e. (part no.)-629 for Silver Flake Finish].

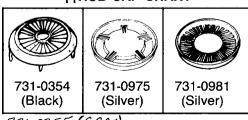
#### \*\*WHEEL CHART

Size	Tread Type	Part No.	Bearings
7 x 1.75"	"T" Tread "S" Wave "T" Tread "S" Wave	734-1264	741-0180 Ball Brg. ½" I.D. (2 Req'd.)
7 x 2.0"		734-1511	741-0180 Ball Brg. ½" I.D. (2 Req'd.)
8 x 1.75"		734-1260	741-0180 Ball Brg. ½" I.D. (2 Req'd.)
8 x 2.0"		734-1510	741-0486 Sleeve Brg. ½" I.D.

8" STEEL

7:14-1412

#### **††HUB CAP CHART**



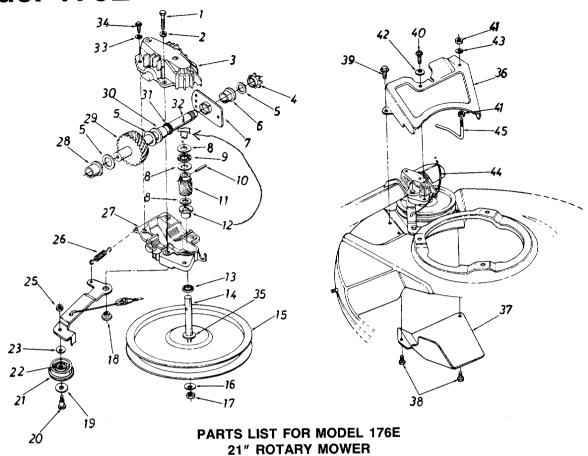
731-0355 (GRAY)

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."



Specifications subject to change without notice or obligation.

# Model 176E



REF.	PART NO.	COLOR CODE	DESCRIPTION	NEW PART		PART NO.	COLOR CODE	DESCRIPTION	NEW PART
1	710-0106		Hex Bolt 1/4-20 x 1.25" Lg.*		22	741-0482		Needle Brg375" x .31"†	
2	736-0329		L-Wash. 1/4" I.D.*		23	736-0270		Bell-Wash265" I.D. x .75"†	
3	717-0418	t .	Upper Hsg. Half		24	17052		Idler Brk't. Ass'y.†	
4	717-0410	ı	#48 Sprocket 7 Tooth x 1/2		25	712-0138		Hex Patch L-Nut 1/4-28 Thd.†	
7	713-0400		Pitch		26	732-0357		Extension Spring 1.12" Lg.†	
5	736-0336		Fl-Wash. 5/8" I.D. x .030		27	717-0419		Lower Hsg. Half	
6	741-0413	l	Hex Flange Brg631" I.D.		28	741-0415		Flange Bearing .566 Dia.	
7	16500		Hex Bearing Cup		29	717-0422		33 Tooth Helical Gear	
8	736-0314		Thrust Wash382" I.D. x		30	741-0414		Flange Bearing .629 Dia.	
	700 00 . 7		.70" O.D.		31	721-0213		Oil Seal .625 Dia.	1
9	741-0479		Thrust Bearing .375" I.D. x		32	738-0607	1	Gear Sprocket Shaft	
			.812" O.D.		33	736-0722		L-Wash. #10 I.D.	
10	715-0152		Spring Pin Spir. 1/8" x .62"		34	710-0436		Hex B-Tap Scr. #10 x .62"	
			Heavy		35	736-0410		Hex Washer .26" x .88"†	
11	717-0420		11 Tooth Helical Gear		36	17058		Transmission Belt Guard†	
12	748-0208		Flange Bearing 2 Na.		37	17064		Belt Cover	
13	721-0212		Oil Seal		38			Hex B-Tap Scr. ¼ x .38" Lg.†	
14	738-0708		Pulley—Transmission Shaft		39	710-0599		Hex AB-Tap Scr. ¼ x .50"	
15	756-0330		FI-Pulley 5.06" I.D.†					Lg.†_	
16	736-0270		Bell-Wash265" I.D. x .75"†		1	710-0896		Hex B-Tap Scr. ¼ x .62" Lg.	
17	712-0351		Hex Nut 1/4-28 L.H. Thd.†		41	712-0287	1	Hex Nut 1/4-20 Thd.*†	
18	738-0440		Shld. Spacer .375" Dia. x		42		1	Bell-Wash265" I.D. x .75"†	
			.170†		43	,		L-Wash. 1/4" I.D.*†	
ີ 19	736-0344		FI-Wash390" I.D. x 1.0"†		44			S.P. Cable—50" Lg.†	
20	738-0691		Shld. Bolt .375" Dia. x .40"†		45	747-0549		S.P. Belt Guard†	
21	756-0447		Fl-Idler Plastic 1.50" Dia.†			717-0417		Transmission Comp.	

†Not Part of Transmission Complete

## PARTS INFORMATION

#### POWER EQUIPMENT PARTS AND SERVICE

Parts and service are available through the authorized service firm's listed below. All orders should specify the model number of your unit, part numbers, description of parts and the quantity of each part required.

# BRIGGS AND STRATTON, TECUMSEH AND PEERLESS PARTS AND SERVICE

Briggs & Stratton, Tecumseh and Peerless parts and service should be handled by your nearest authorized engine service firm. Check the yellow pages of your telephone directory under the listing **Engines—Gasoline**, Briggs & Stratton or Tecumseh Lauson.

NOTE: If any parts are found to be missing or defective upon assembly of this unit, write to advise the factory so that immediate replacement can be made.

ARKANSAS	BIRMINGHAM 2625 4th Ave. S 35233 NORTH LITTLE ROCK
CALIFORNIA	5301 Roundtop Drive Box 368, Rt. 4
COLUNADO	DENVER
FLORIDA	Mashington St. H0229  JACKSONVILLE  4909 Victor St. Box 5459 (2207)
Hadco Distributors	4909 Victor St. Box 5459
Small Eng. Dist	7995 W. 26th Court (3016 <b>EAST POINT</b> . 2834 Church St (0344
ILLINOIS  Keen Edge Co	2834 Church St (0344 <b>LYONS</b> 8615 Ogden Ave (0534
Parts & Sales Inc	ELKHART 2101 Industrial Pkwy46516
Power Lawn & Garden Equip	DUBUQUE 2551 J.F. Kennedy52001 NEW ORLEANS
MARYLAND	NEW ORLEANS . 8330 Earhart Blvd 70118 TAKOMA PARK
Center Supply Co	Ave
Morton B. Collins Co  MICHIGAN  Power Free Project Diet	. 300 Birnie Ave
MINNESOTA  Hance Distributing Inc	PLYMOUTH . 12795 16th Ave. North 55441
Oscar Wilson Engine & Parts	EARTH CITY 4159 Shoreline Dr63045
Automotive Equip. Service	KANSAS CITY . 3117 Holmes St 6 \$109 ALLOWAY
Piersons  NEW MEXICO  Spitzer Eng. & Parts Co	ALLOWAY Canal St., Box 494 03001 ALBUQUERQUE
opinion Eng. a ratio oo	. 1025 mild Ave. N.W 8 103

CARTHAGE
West End Ave13619
GREENSBORO
335 N. Green 27402
CARROLL
y Box 366, 71 High St 43112
CLEVELAND
. 7900 Lorain Ave 44102
WADSWORTH
. 687 Seville Rd 44281
YOUNGSTOWN
. 1301 Logan Ave.
Box 92944501
HARRISBURG
. 4021 N. 6th St 17110
WILLOW CDOVE
. 850 Davisville Rd 19090
PITTSBURGH
PITTSBURGH . 11101 Frankstown Rd 15235
PUNXSUTAWNEY
. R.D. 2
SCRANTON
SCRANTON . 1133-35 Wyoming Ave 18509
KNOYVIIIE
. 2103 Magnolia 37917
MEMPHIS
. 3035-43 Bellbrook 38116
DALLAS
DALLAS 423 E. Jefferson 75203
SAN ANTONIO
. 8610 Botts Lane
P.O. Box 17867 78217
SALT LAKE CITY
SALT LAKE CITY . 1661 N. Beck St 84116
ASHLAND
. 101 Cedar Ridge Dr 23005
SFATTI F
. 1410 14th Ave98122
MILWAUKEE
. 4727 N. Teutonia St 53209

#### WARRANTY PARTS AND SERVICE POLICY

(0687)

The purpose of warranty is to protect the customer from defects in workmanship and materials, defects which are NOT detected at the time of manufacture. It does not provide for the unlimited and unrestricted replacement of parts. Use and maintenance are the responsibility of the customer. The manufacturer cannot assume responsibility for conditions over which it has no control. Simply put, if it's the manufacturer's fault, it's the customer's responsibility; if it's the customer's fault, it's the customer's responsibility.

# CLAIMS AGAINST THE MANUFACTURER'S WARRANTY INCLUDES:

- 1. Replacement of Missing Parts on new equipment.
- 2. Replacement of Defective Parts within the warranty period.
- 3. Repair of Defects within the warranty period.

All claims MUST be substantiated with the following information:

- Model Number, Serial Number and/or Data Code of unit involved.
- 2. Date unit was purchased or first put into service.
- 3. Date of Failure.
- 4. Nature of Failure.