

\$1.00

OWNER'S GUIDE

ASSEMBLY • OPERATION • MAINTENANCE • PARTS



22"
High-Wheel
Self-Propelled
Rotary Mower

Model Number
129-516R000
190-086-000

Important: Read Safety Rules and Instructions Carefully

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Dear Customer,

So often throughout the year we are all in a rush to meet our daily obligations.

However, we at MTD Products Inc are taking a quick moment out to say...

"Thank you for your business."

Sincerely,

MTD PRODUCTS INC



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 unless 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, Peerless components, motor, battery (except as noted below) or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

A battery which proves defective within ninety (90) days will be replaced without charge. After 90 days but within one year from the date of purchase, MTD will replace the defective battery for a charge of 1/12 of the current retail price of the battery for each full 30 day period between the date of purchase and the date of return.

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 not 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.

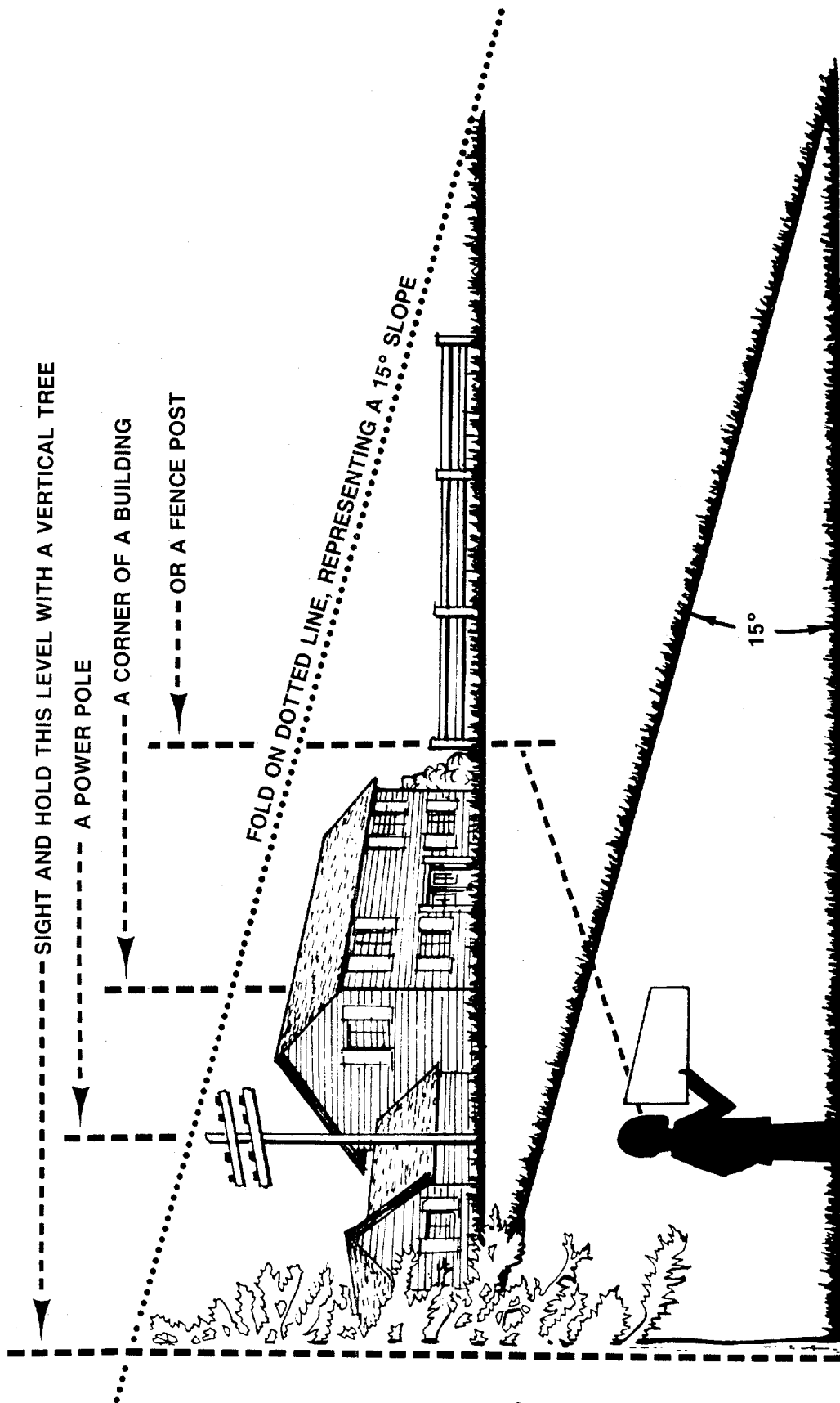
WARNING: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester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

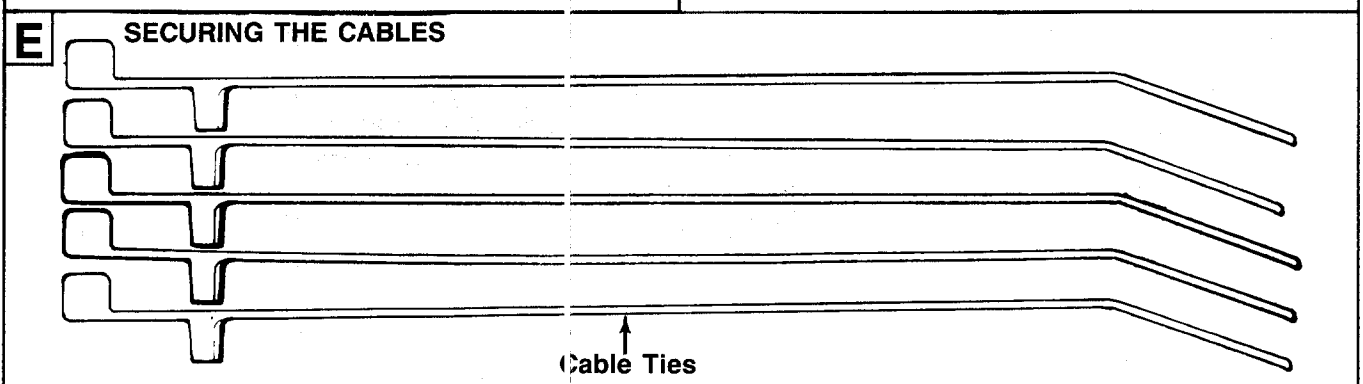
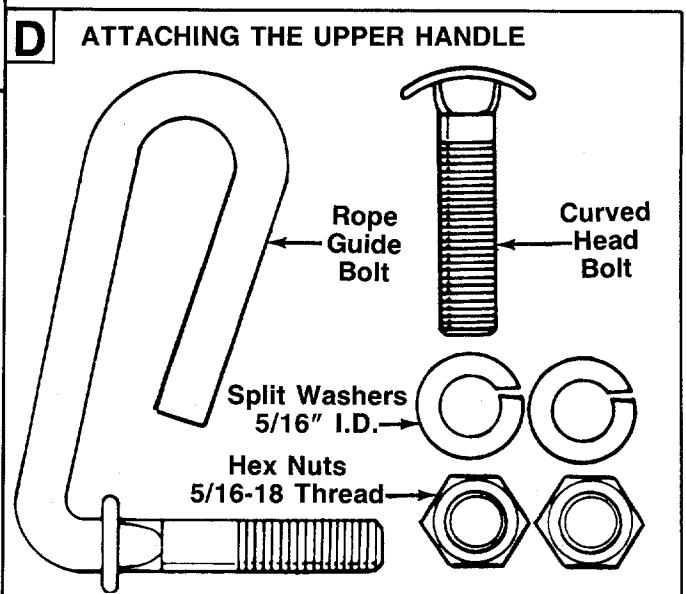
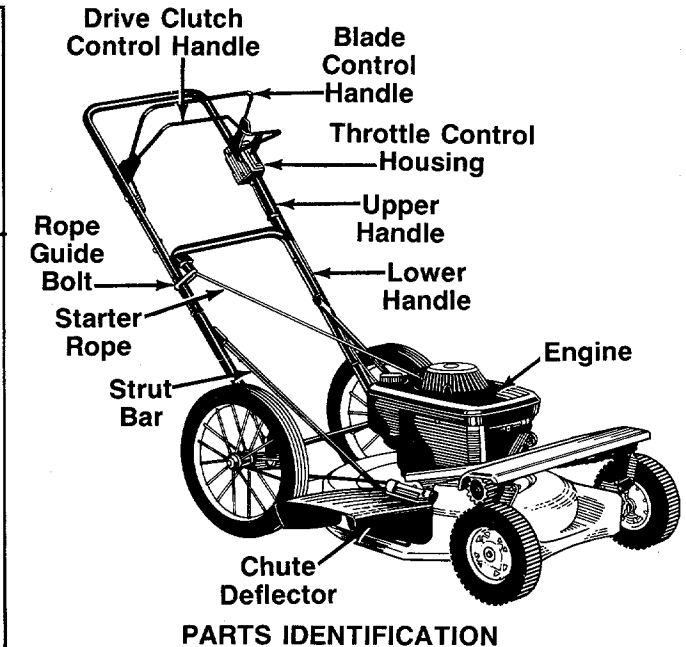
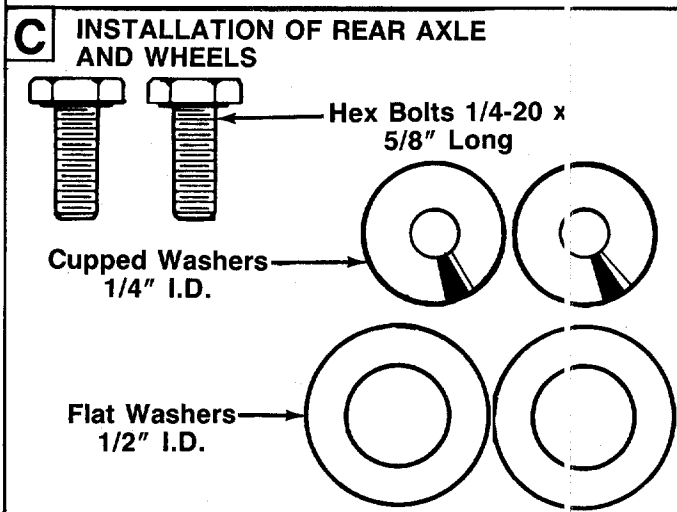
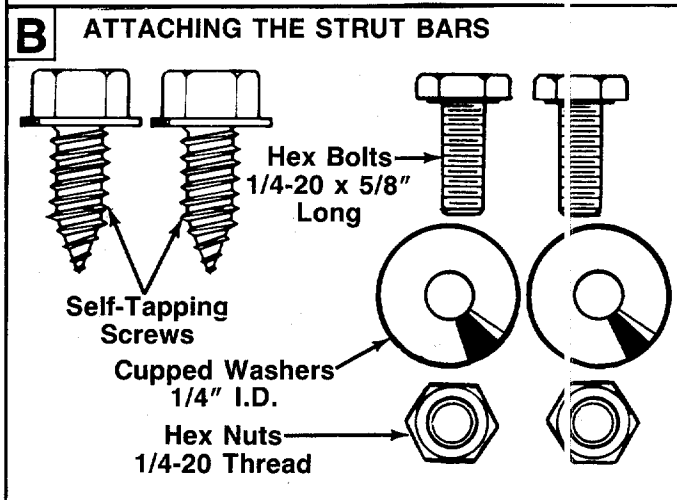
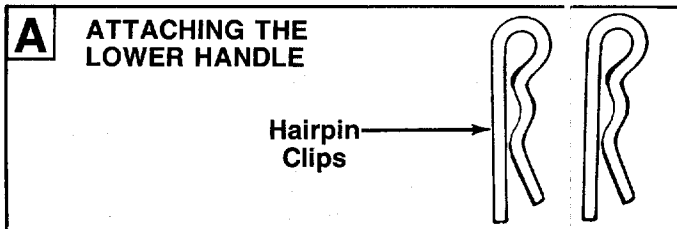


Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious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



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—



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 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.
2. Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.
3. 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 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.
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.
7. Never attempt to make a wheel or cutting height adjustment while the engine is running.
8. Never operate the equipment in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. Keep a firm hold on the handle and walk, never run. Mow only in daylight or in good artificial light.

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



OPERATION

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. 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.



MAINTENANCE AND STORAGE

1. Check the blade and engine mounting bolts at frequent intervals for proper tightness.
2. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
3. Never store the equipment with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
4. To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.
5. 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 illustration on page 4 for location of parts when assembling the mower.

ASSEMBLY INSTRUCTIONS

Tools Required for Assembly

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

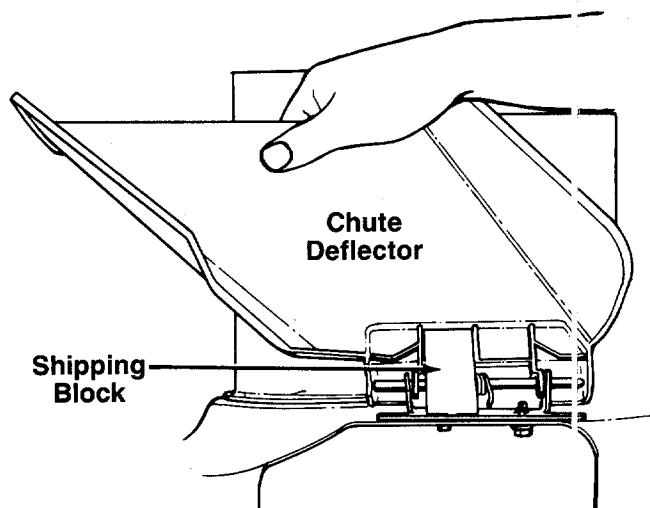


FIGURE 1.

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 against 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.
5. The chute deflector on your mower is held in an upright position by a block for shipping purposes only. This shipping block must be removed and discarded before the mower is put into operation. See figure 1.

To remove the shipping block, pull the spring-loaded chute toward the engine. Remove the block and carefully lower the chute into operating position, keeping fingers out of the way.

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. Make certain the instruction label on the lower handle can be read from the operating position.
2. Using a pair of pliers, squeeze one leg of the mower handle against the handle mounting bracket. Insert the hairpin clip into the **inner** hole on the weld pin. See figure 2. Repeat on other side.

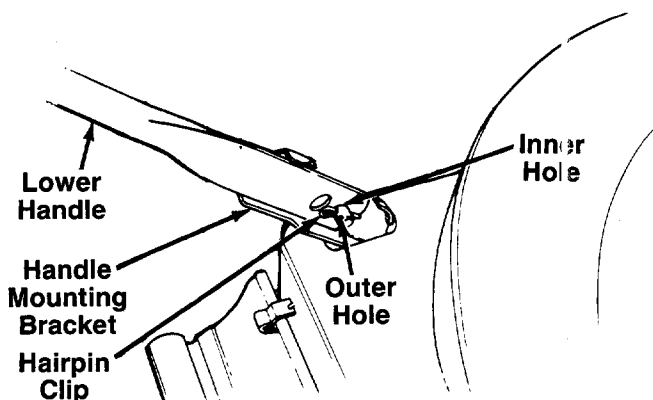


FIGURE 2.

➡ NOTE

There are two (2) holes in the handle mounting brackets. Place hairpin clips in the inner hole for operation. The outer hole is for storage.

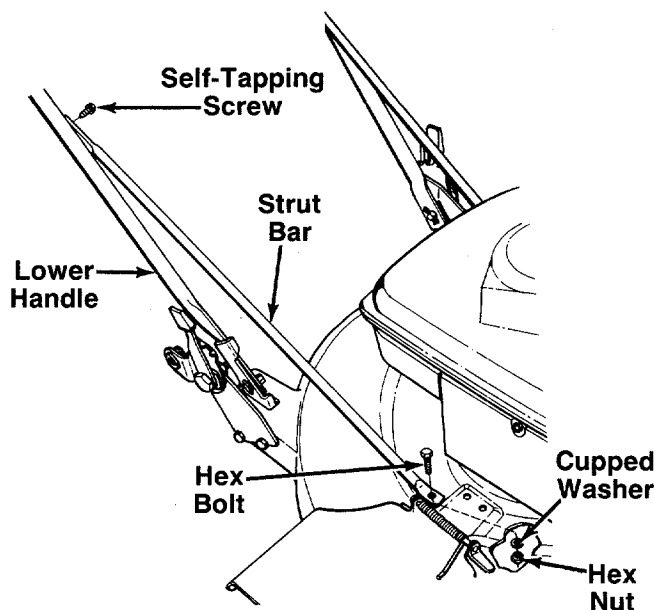


FIGURE 3.

ATTACHING THE STRUT BARS (Hardware B)

1. Attach the strut bars to the deck with hex bolts, cupped washers and hex nuts as shown in figure 3. Place the cupped side of washer against deck. Do not tighten.
2. Place the strut bars against the inside of the lower handle. Secure using the self-tapping screws. See figure 3. Tighten securely. Tighten hardware on lower end of strut bars securely.

ATTACHING THE UPPER HANDLE (Hardware D)

1. Place upper handle in position over the lower handle. The label on the throttle control housing and the control lever must be facing up.

NOTE

The right hand side of the handle will be secured with the rope guide bolt. However, left handed operators may assemble the rope guide bolt to the left side of the handle for easier starting by following steps 2 and 3 and reversing the left and right hand instructions.

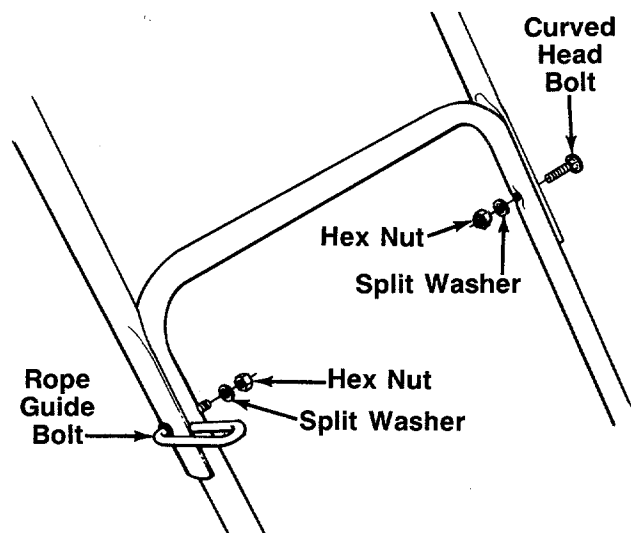


FIGURE 4.

2. Insert the rope guide bolt through the right hand side of upper and lower handle. See figure 4. Secure with split washer and hex nut, finger tight only.
3. Secure the left hand side of upper handle using the curved head bolt, split washer and hex nut.

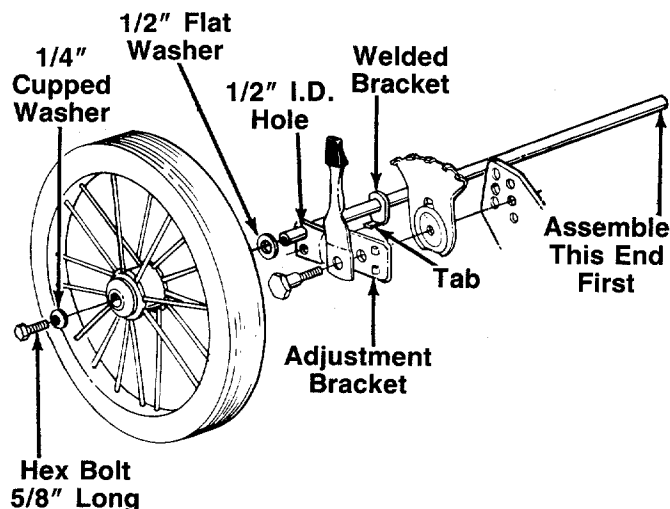


FIGURE 5.

INSTALLATION OF REAR AXLE AND WHEELS (Hardware C)

1. There is a bracket welded on one side of the rear axle. Slide the other end of the axle into the 1/2" diameter hole on the height adjustment bracket on one side of the mower, from the inside. Slip the other end of the axle into the height adjustment bracket on the other side of the mower. Slide the axle so the tab on the welded bracket fits into the smaller hole in the height adjustment bracket. See figure 5.
2. Place one flat washer 1/2" I.D. over each end of the axle. Assemble the wheels to the axle. Secure each wheel with 1/4" cupped washer (cupped side against the wheel) and 5/8" long hex bolt.

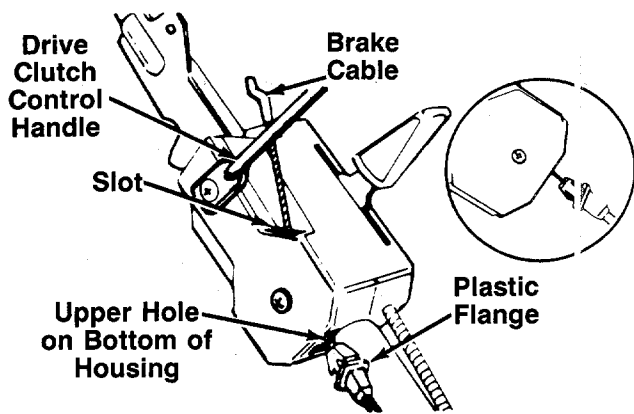


FIGURE 6.

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 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 6. 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

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

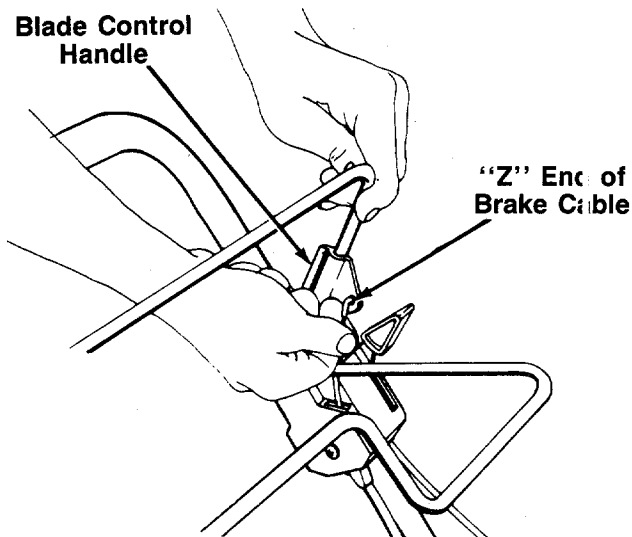


FIGURE 7.

3. Route the brake cable to the outside of the drive clutch control handle. See figure 6. 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 7.

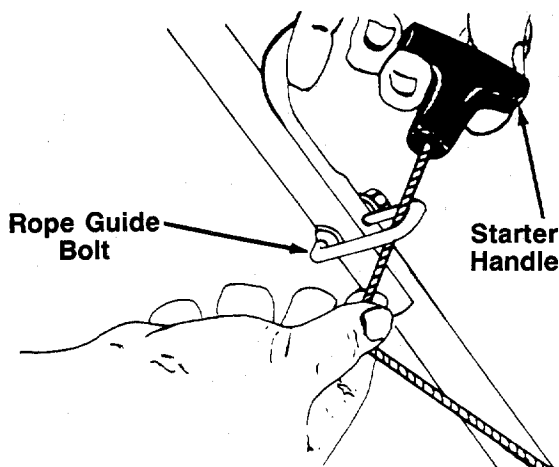


FIGURE 8.

ATTACHING THE STARTER ROPE

1. The starter rope protrudes from the top of the engine. Additional rope may be wound around the starter handle. If so, unwind the rope from the handle.
2. With the spark plug wire disconnected and grounded, depress the blade control handle and pull the rope out of the engine. Slip the starter rope into the rope guide bolt as shown in figure 8.
3. Tighten the hex nut on the rope guide bolt securely.

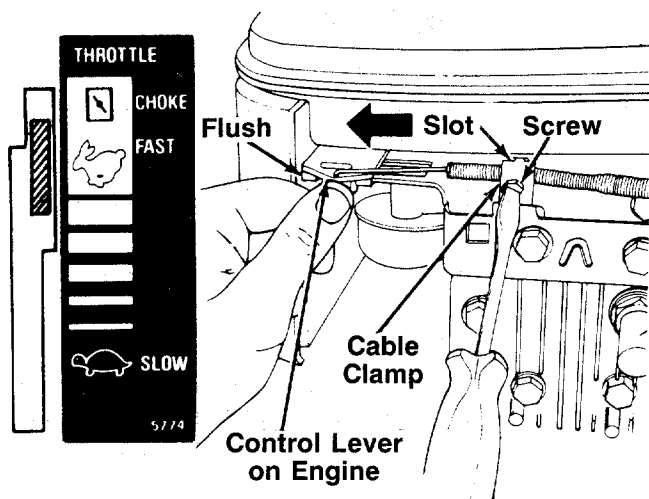


FIGURE 9.

ATTACHING THE THROTTLE CABLE

1. Push the throttle control lever on the handle all the way forward to **CHOKE** position. See figure 9.
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 hole in the control lever on the engine. See figure 9.
3. Using a 5/16" wrench or nutdriver, remove the screw on the cable clamp shown in figure 9. 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. See figure 9.
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 9. Hold the control lever in this position as you tighten the screw on the cable clamp to secure the throttle cable.
5. Loosen the screw on the clamp on the side of the engine. Slip the cable under the clamp to secure the cable **away from the muffler**. Be careful not to bend or kink the cable. Tighten the screw.

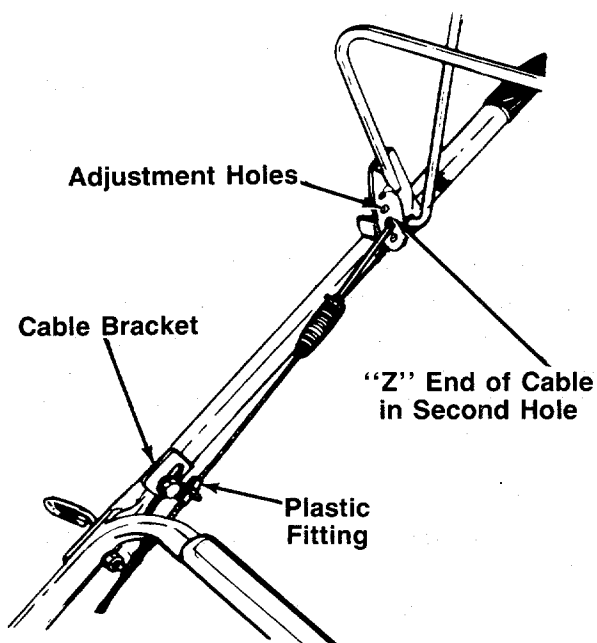


FIGURE 10.

ATTACHING THE DRIVE CLUTCH CONTROL CABLE

1. The drive clutch cable is attached to the drive cover, and has a spring on one end. Route the clutch cable around the base of the engine (right hand side), inside the handle mount bracket and under the lower handle. Hook the spring on the end of the cable into the **second hole from the bottom** on the drive clutch control handle. See figure 10.
2. Pull down on the plastic cable casing, and slip the control wire through the slot in the cable bracket. Push the plastic fitting on the end of the cable casing into the cable bracket.

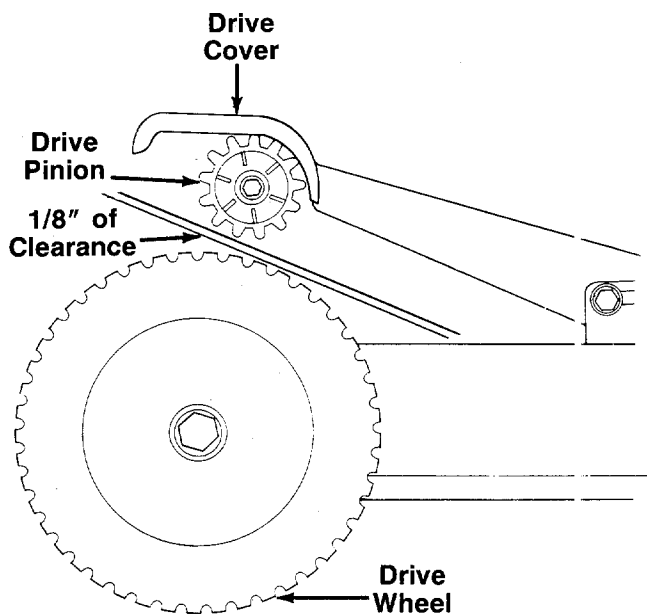


FIGURE 11.

NOTE

If necessary, push down on the drive cover (see figure 11) to obtain sufficient slack in the cable.

To adjust the drive clutch control cable, proceed as follows.

1. Place the wheels in the lowest cutting height position.
2. Loosen the screw which secures the cable bracket.
3. With the drive clutch control handle released, pull down on the cable and cable bracket until there is approximately 1/8" clearance between the drive pinions and the drive wheels. See figures 10 and 11. Tighten the cable bracket in this position.

Note: Two pieces of cardboard removed from the carton may be used to measure the clearance as follows. Place a piece of cardboard between the drive pinion and wheel on each side of the unit. With the drive clutch control handle released, pull down on the cable and cable bracket until the drive pinions contact the cardboard. Tighten the cable bracket in this position. Remove the cardboard.

Before starting the mower, check the drive clutch adjustment as follows.

When the clutch control is engaged (clutch control handle is squeezed against the upper handle), the drive pinions should mesh with the gear tread tires. The drive pinions should clear the drive wheels when the clutch is disengaged by a minimum of 1/8". See figure 11.

If adjustment is necessary, loosen the cable bracket on the upper handle and adjust it as instructed above. If additional adjustment is still required, unhook the cable from the clutch handle, and move it to a higher hole to obtain less clearance, or to the lowest hole for more clearance.

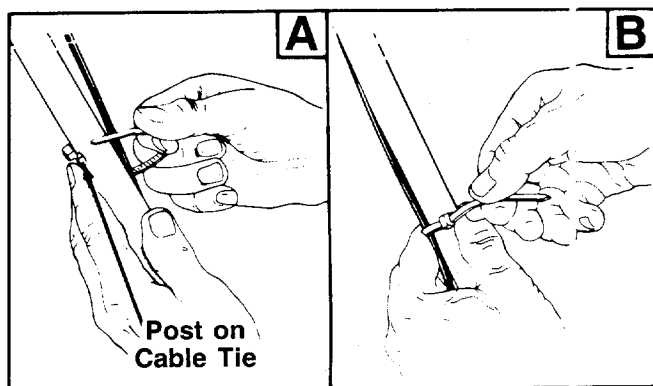


FIGURE 12.

SECURING THE CABLES (Hardware E)

Secure all control cables to the handles as follows.

- A. Insert posts on cable ties into holes provided on the handles. Holes may be on either the inside or outside of the handles. Two go on each leg of the lower handle (one near the top and one near the bottom), and one goes on the left side of upper handle. See figure 12A.
- B. Secure the cables with the cable ties. See figure 12B.
- C. Trim excess ends of cable ties.

FINAL ASSEMBLY OF MOWER

Make certain all nuts and bolts are tightened securely.

CONTROLS

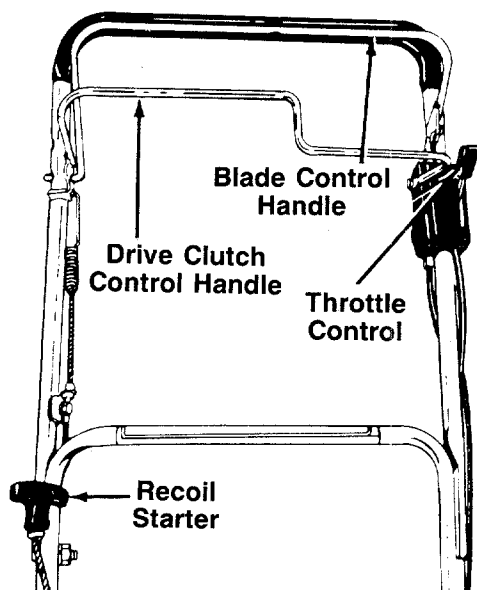


FIGURE 13.

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 13. The blade control handle must be depressed in order to operate the unit. Release the blade control handle to stop the engine and blade.



WARNING

The blade will be rotating 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.



WARNING

The throttle control cannot be used to stop the engine.

RECOIL STARTER

The recoil starter handle is attached to the handle. See figure 13. Stand behind the unit in the operating position to start the unit.

DRIVE CLUTCH CONTROL

Squeezing the drive clutch control handle engages the drive mechanism to the 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 13.

OPERATION



FIGURE 14.

Keep hands and feet away from the chute area on cutting deck. See figure 14.

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.

NOTE

Your unit has been shipped without oil; however, a small amount of oil may be present from the factory. Do not overfill.



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

Before each use, check drive clutch adjustment. When the clutch handle is engaged, the drive pinions should mesh simultaneously with the gear tread tires. When the clutch handle is released, the pinions should clear the wheels by a minimum of 1/8". See drive clutch adjustment on page 13 for further details.

TO START ENGINE AND ENGAGE BLADE



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. Refer to page 13 for further instructions on the drive clutch adjustment.

1. 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 15.

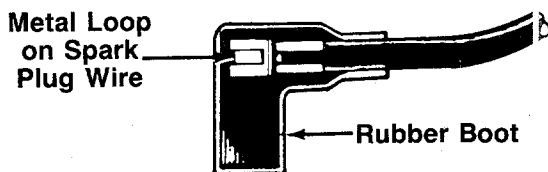


FIGURE 15.

2. Open fuel shut-off valve. See figure 16.

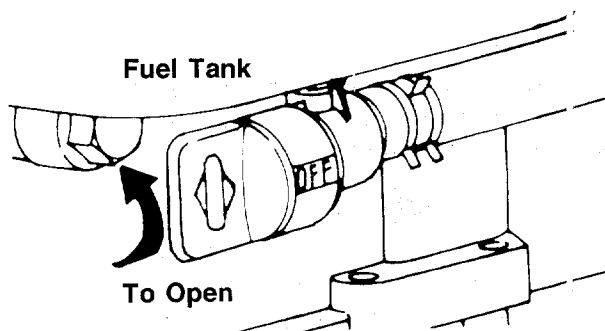


FIGURE 16.

3. Move throttle control lever to CHOKE position.
4. Standing behind the unit, depress the blade control handle and hold it against the upper handle. Be certain the drive clutch handle is released.

5. Grasp the recoil starter handle and pull back rapidly, extending rope fully. Return it slowly to the rope guide bolt.
6. After engine starts, move throttle control to desired engine speed. (Move the throttle control at least halfway back, then forward to obtain FAST position.)



NOTE

If any problems are encountered, refer to the Trouble Shooting Guide on page 19.

TO STOP ENGINE AND BLADE

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



WARNING

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

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

USING YOUR ROTARY MOWER

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

For best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper discharge of 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.

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



WARNING

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

CUTTING HEIGHT ADJUSTMENT

An adjusting plate and thumb lever at each wheel position provides cutting height adjustment. Each adjusting plate has nine positions. Height of cut will be changed when the thumb lever is moved from one hole to another. Simply depress the lever towards wheel and move wheel and lever assembly to desired position. See figure 17. All wheels must be positioned at the same relative height.

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

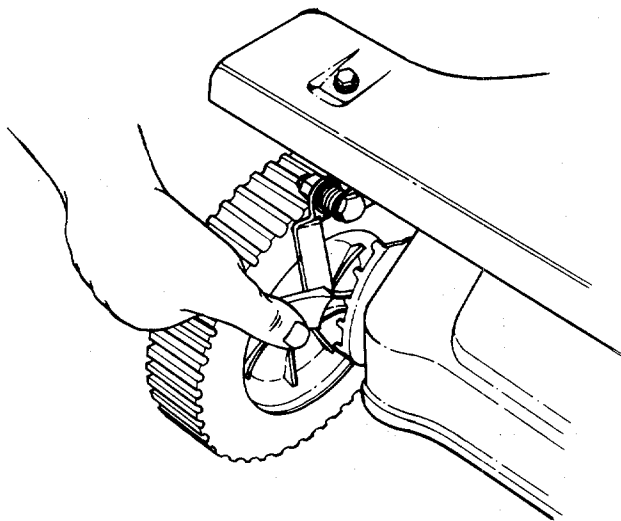


FIGURE 17.

DRIVE CLUTCH ADJUSTMENT

The drive pinions should be a minimum of 1/8" from the drive wheels when the clutch is disengaged (clutch control handle is not squeezed against upper handle).

Refer to figure 11. When the clutch control is engaged, the drive pinions should mesh with the tires.

If adjustment is necessary, loosen the screw which secures the cable bracket on the handle. Adjust until there is at least 1/8" of clearance. If additional adjustment is required, unhook the cable from the clutch handle, and move it to a higher hole to obtain less clearance, or to a lower hole for more clearance. Retighten the cable bracket when the correct adjustment is reached.

CHAIN ADJUSTMENT

Check for correct chain adjustment and alignment after first five to ten hours of operation. Adjust as follows:

1. Loosen (do not remove) the hex bolt on each side of the pinion pivot plate. See figure 18.

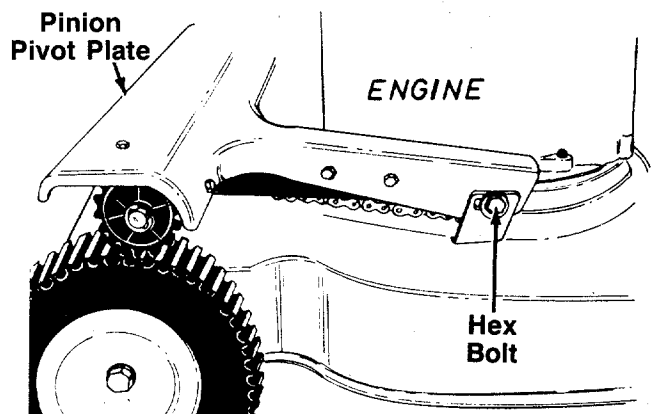


FIGURE 18.

2. Pull on the left side of the pivot plate, by hand, until the proper chain tension is achieved. Tighten the hex bolt.
3. Pull on the right side of the pivot plate until the clearance between the pinion and wheel is equal on both sides. Tighten the hex bolt.
4. Recheck for correct adjustment periodically.

THROTTLE

The throttle control wire assembly can be adjusted if necessary. To adjust the throttle control cable, loosen the screw on the cable clamp shown in figure 9. Place the throttle control lever on the handle in CHOKE position. 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), keep clear of all moving parts. Be careful of heated surfaces and muffler.

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

NOTE

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

LUBRICATION



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. The blade control must operate freely in both directions.

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—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.

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.

Chain—The chain should be lubricated periodically with a few drops of light oil to prevent any rust or binding. Use very little or no oil if unit is being used in a dusty or sandy area.

MAINTENANCE



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 19 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 bolt and bell washer which hold the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft. Remove the blade from the blade adapter by removing the two 3/8" hex bolts, lock washers and hex nuts.



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 blade mounting hardware 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

3/8" Bolts: 375 in. lb. min., 450 in. lb. max.

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).

ENGINE OIL

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.

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.

NOTE

When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment. Using a light oil or silicone, coat the equipment, especially chains, springs, 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 2. Press outward on the bottom of the lower handle and push forward. The handle will lock in this position.

To place the handle in the operating position, remove the starter rope from the rope guide bolt. Grasp the lower handle at the bottom, pull apart slightly and tip the handle backward. Place the hairpin clips in the inner holes. With the spark plug wire disconnected and grounded, depress the blade control handle and pull the starter rope out from the engine. Slip the starter rope into the rope guide bolt.

NOTE

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

GRASS CATCHER Model 086 is available as optional equipment for the mower shown in this manual.



WARNING

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

NOTE

Under normal usage bag material is subject to wear and should be checked periodically. Be sure any replacement bag complies with the mower manufacturer's recommendations.

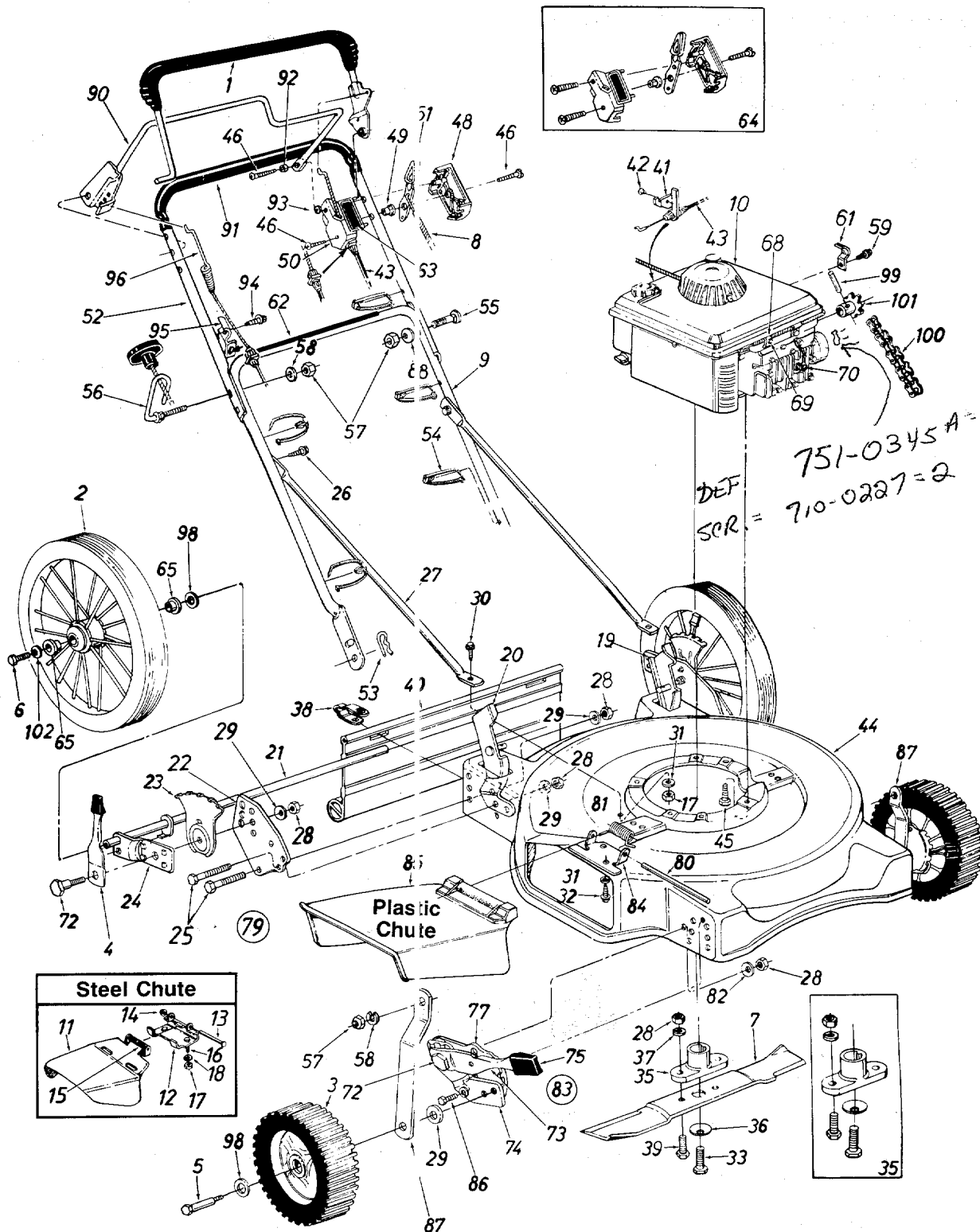
For replacement bags, use only factory authorized replacement bag No. 764-0271.

Model 516R



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.



Model 516R

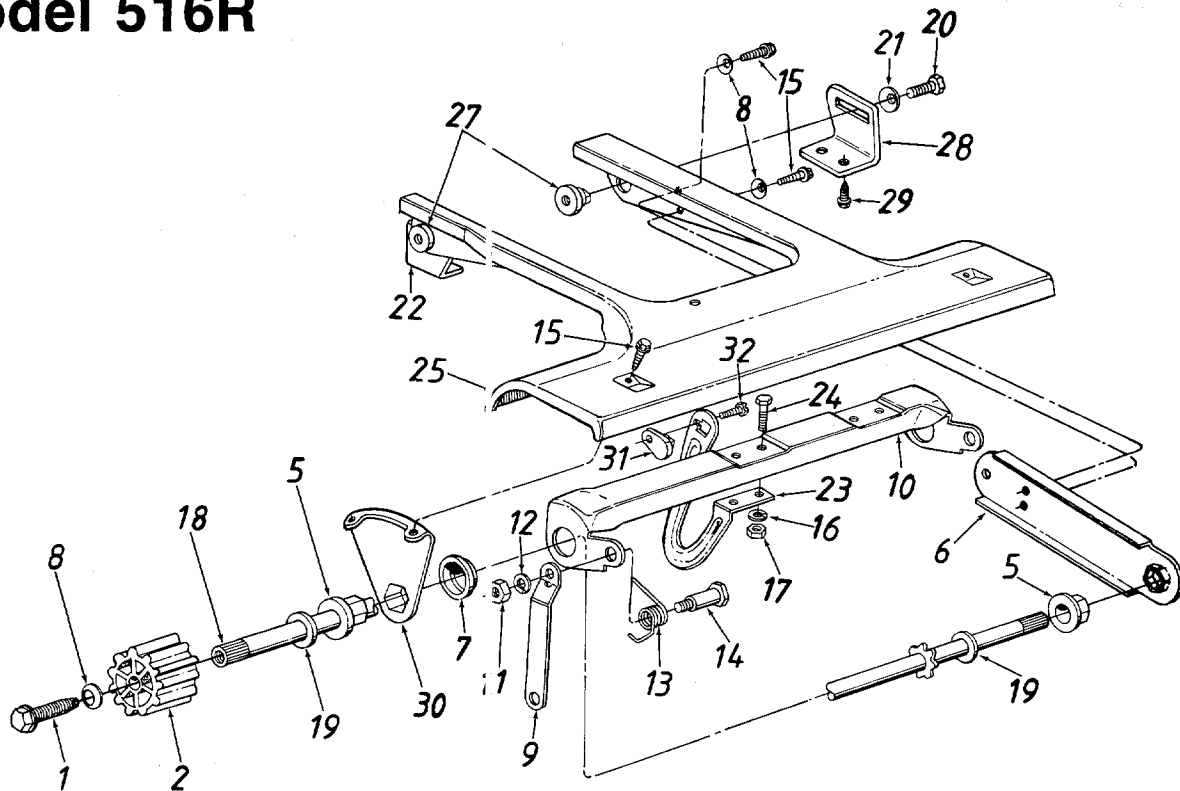
PARTS LIST FOR MODEL 516 ROTARY MOWER

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	14321		Control Handle Ass'y.	49	731-0524		Control Disc Pin
2	734-0244		Rear Wheel Ass'y. Comp. 14.0 x 1.75	50	731-0816		Clutch Panel Half
3	734-0538		Front Wheel Ass'y. Comp. 8.0 x 1.75	51	731-0528A	972 N	Throttle Control Lever
4	14832		Spring Lever Ass'y. w/Knob	52	749-0755		Upper Handle
5	738-0144		Front Axle Bolt	53	714-0104		Intern. Cot. Pin 5/16" Dia.
6	710-0258		Hex Bolt 1/4-20 x .62" Lg.	54	726-0240		Cable Tie
7	742-0522		22" Blade	55	710-0671		Curved Carriage Bolt 5/16-18 x 1.38" Lg.
8	746-0632		Throttle Wire—53" Lg. GRN.	56	710-0842B	N	Rope Guide Bolt
9	749-0372B	N	Lower Handle	57	712-0267		Hex Nut 5/16-18 Thd.*
10	—		Engine	58	736-0119		L-Wash. 5/16" I.D.*
11	14944	638	Chute Deflector Ass'y. Comp.†	59	710-0429		Hex B-Tap Scr. #10 x .38" Lg.
12	11130		Adapter Plate†	61	12894A	N	Casing Clamp
13	711-0555		Pivot Pint	62	777-5776		Instruction Label—Handle
14	726-0106		Push Nut 1/4" Rod†	63	777-5774		Control Label—Throttle
15	732-0253		Torsion Spring†	64	753-0430		Control Housing Comp.
16	710-0289		Hex Bolt 1/4-20 x .50" Lg.*†	65	748-0147		Flange Bearing
17	712-0287		Hex Nut 1/4-20 Thd.*	68	751-0463		Casing Clamp
18	736-0329		L-Wash. 1/4" I.D.*†	69	710-0436		Hex B-Tap Scr. #10 x .62" Lg.
19	17189		Handle Mount Brkt.—L.H.	70	735-0639		Spark Plug Boot
20	17188		Handle Mount Brkt.—R.H.	72	738-0507B	N	Shoulder Bolt .50" Dia.
21	738-0767		Rear Axle Ass'y.	73	732-0417A	N	Spring Lever
22	16645C	N	Mounting Plate	74	14765		Pivot Bar—R.H.
23	15261A	N	Height Adj. Plate		14766		Pivot Bar—L.H.
24	—		Order Height Adj. Ass'y. Comp. (Ref. 79)	75	720-0190		Spring Lever Knob
25	710-0216		Hex Bolt 3/8-16 x .75" Lg.	77	14764C	N	Index Plate
26	710-0726		Hex Wash. AB-Tap Scr. 5/16 x .75" Lg.	79	16900		Rear Height Adj. Ass'y. Comp.—R.H.
27	749-0771		Strut Bar 22.95" Lg.		16901		Rear Height Adj. Ass'y. Comp.—L.H. (Not Shown)
28	712-0798		Hex Nut 3/8-16 Thd.*	80	747-0710	N	Hinge Pin††
29	736-0105		Bell-Wash. .400" I.D. x .88"	81	732-0593		Torsion Spring††
30	710-0258		Hex Bolt 1/4-20 x .62" Lg.*	82	736-0356		Bell-Wash. .39" I.D. x 1.38"
31	736-0270		Bell-Wash. .265" I.D. x .75"	83	16106		Front Height Adj. Ass'y. Comp.—L.H. (Not Shown)
32	710-0599		O.D.††		16107		Front Height Adj. Ass'y. Comp.—R.H.
33	710-1044		Hex Wash. Hd. Tap Scr. 1/4-20 x .5" Lg.††	84	17032	N	Adapter Plate††
35	753-0484		Hex Bolt 3/8-24 x 1.5" Lg. (Grade 5)	85	731-1034	N	Chute Deflector Ass'y. Comp.††
36	736-0331		Blade Adapter Kit	86	710-0892		Hex AB-Tap Scr. 1/4 x .62"
37	736-0169		Bell-Wash. .39" I.D.	87	16532A	N	Link
38	17098		L-Wash. 3/8" I.D.*	88	736-0242		Bell-Wash. 5/16" I.D.
39	710-0253		Hinge Clip	90	16391		S.P. Bail Ass'y.
40	731-1026		Hex Bolt 3/8-16 x 1" Lg.	92	750-0649		Spacer .23" I.D. x .3" O.D.
41	14924		Rear Flap Ass'y. 1/8" LG	93	736-0370		Spr.-Wash. .206" I.D.
42	728-0171		Cable Bracket	94	710-0726		Hex Wash. AB-Tap Scr. 5/16 x .75" Lg.
43	746-0476A	N	Pop Rivet .156 Dia. x .379	95	16309A	N	Cable Mounting Brkt.
44	17046	638	Control Cable—39" GRN.	96	746-0626		Drive Cable 49" RED
45	710-0654A	N	22" Deck Ass'y.	98	736-0192		FI-Wash. .531" I.D. x .93"
46	710-0796		Hex Wash. Hd. TT-Tap Scr. 3/8-16 x 1.00" Lg.	99	715-0247		Spring Pin 3/16" Dia.
48	731-0817		Truss Mach. "B"-Tap Scr. #12 x 1.50" Lg.	100	713-0311		#48 Chain 1/2" Pitch 50 Links (Endless)
			Control Panel Half	101	713-0308		10 Tooth Sprocket Ass'y.
				102	736-0270		Bell-Wash. .265" I.D. x .75" O.D.

†Used with Steel Chute Deflector.
††Used with Plastic Chute Deflector.

*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.

Model 516R



PARTS LIST FOR MODEL 516R ROTARY MOWER

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	710-0642		Hex Wash. Hd. Tap Scr 1/4-20 x .75" Lg.	16	736-0329		L-Wash. 1/4" I.D.*
2	731-0908		Wheel Drive Pinion—	17	712-0287		Hex Nut 1/4-20 Thd.*
5	741-0503		Hex Flange Brg. .504" I.D.	18	738-0732		Drive Shaft Ass'y.
6	17018		Hex Bearing Support	19	736-0160		Fl-Wash. .531" I.D. x .93" O.D.
7	741-0504		Flange Bearing .879" I.D.	20	710-0759		Hex Bolt 5/16-18 x .62" Lg.*
8	736-0270		Bell-Wash. .265" I.D. x .75" O.D.	21	736-0242		Bell-Wash. .345" I.D. x .88" O.D.
9	16532A	N	Link 5.06" Lg.	22	16531A	N	Pivot Bracket—R.H.
10	16832		Drive Engagement Cam	23	17185		Engagement Arm
11	712-0267		Hex Nut 5/16-18 Thd.*	24	710-0258		Hex Bolt 1/4-20 x .62" Lg.
12	736-0119		L-Wash. 5/16" I.D.*	25	17021		Front Pinion Pivot Cover
13	732-0569		Torsion Spring—R.H.	26	710-0352		Hex B-Tap Scr. 1/4 x .38"
	732-0570		Torsion Spring—L.H. (Not Shown)	27	738-0739		Shoulder Nut
14	738-0754		Shoulder Bolt .437" Dia.	28	14759A	N	Pivot Bracket—L.H.
15	710-0892		Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.	29	710-0892		Hex Wash. Hd. AB-Tap Scr. 1/4 x .62" Lg.
				30	17017		Hex Bearing Axle Brkt.
				31	746-0606		Barrel Cable Hold-Down—R.H.
				32	710-0919		Hex B-Tap Scr. #10 x .44" 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.

CODE: N notates 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].

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

Color Codes

460—Green Flake
483—Charcoal Grey
498—Yellow
499—Beige
606—Orange
629—Silver Flake

630—Blue
635—Grey
636—White
637—Black
638—Red
640—Green

Trouble Shooting Guide

Trouble	Possible Cause(s)	Corrective Action
Engine fails to start	<ol style="list-style-type: none"> 1. Blade control handle disengaged. 2. Spark plug wire disconnected. 3. Throttle control lever not in CHOKE position. 4. Fuel shut-off valve closed. 5. Fuel tank empty, or stale fuel. 6. Blocked fuel line. 7. Faulty spark plug. 8. Engine flooded. 	<ol style="list-style-type: none"> 1. Engage blade control handle. 2. Connect wire to spark plug. 3. Move throttle lever to CHOKE position. 4. Open fuel shut-off valve. 5. Fill tank with clean, fresh gasoline. 6. Clean fuel line. 7. Clean, adjust gap or replace. 8. 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. Carburetor idle speed too slow. 2. Spark plug gap too close. 3. Carburetor idle mixture adjustment improperly set. 	<ol style="list-style-type: none"> 1. Adjust carburetor.† 2. Adjust gap to .030". 3. 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.†
Mower will not drive	<ol style="list-style-type: none"> 1. Drive clutch cable out of adjustment. 2. Chain out of adjustment or stretched. 	<ol style="list-style-type: none"> 1. Adjust drive clutch cable (see adjustment section). 2. Adjust or replace chain.
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 adapter. Balance blade. 2. Replace blade.
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	<ol style="list-style-type: none"> 1. Wheels not positioned correctly. 2. Dull blade. 	<ol style="list-style-type: none"> 1. Place all four wheels in same height position. 2. 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.

PARTS INFORMATION

POWER EQUIPMENT PARTS AND SERVICE

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

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.

ALABAMA	BIRMINGHAM
Auto Electric & Carburetor Co.	2625 4th Ave. S. Box 2466 35233
ARKANSAS	NORTH LITTLE ROCK
Sutton's Lawn Mower Shop.	5301 Roundtop Drive Box 368, Rt. 4 72117
CALIFORNIA	PORTERVILLE
Billious	75 North D Street 33257
COLORADO	DENVER
Spitzer Industrial Products Co.	6601 N. Washington St. 30229
FLORIDA	JACKSONVILLE
Radco Distributors	4909 Victor St. Box 5459 32207
	HIALEAH
Small Eng. Dist.	7995 W. 26th Court 33016
GEORGIA	EAST POINT
East Point Cycle & Key Inc.	2834 Church St. 30344
ILLINOIS	LYONS
Keen Edge Co.	8615 Ogden Ave. 60534
INDIANA	ELKHART
Parts & Sales Inc.	2101 Industrial Pkwy. Box 277 46516
IOWA	DUBUQUE
Power Lawn & Garden Equip.	2551 J.F. Kennedy 52001
LOUISIANA	LAFAYETTE
Jourdan Engine Co.	214 W. Vermillion St. Box 3503 70501
MARYLAND	TAKOMA PARK
Center Supply Co.	6867 New Hampshire Ave. 20912
MASSACHUSETTS	SPRINGFIELD
Morton B. Collins Co.	300 Birnie Ave. 01107
MICHIGAN	MOUNT CLEMENS
Power Equipment Dist.	340 Hubbard 48043
MINNESOTA	PLYMOUTH
Hance Distributing Inc.	12795 16th Ave. North 55441
MISSOURI	EARTH CITY
Oscar Wilson Engine & Parts	4159 Shoreline Dr. 63045
	KANSAS CITY
Automotive Equip. Service	3117 Holmes St. 64109
NEW JERSEY	ALLOWAY
Piersons	Canal St., Box 494 08001

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.

NEW YORK	CARTHAGE
Gamble Dist., Inc.	West End Ave. Box 389 13619
NORTH CAROLINA	GREENSBORO
Dixie Sales Company	335 N. Green Box 1408 27402
OHIO	CARROLL
Stebe's Mid-State Mower Supply	Box 366, 71 High St. 43112
	CLEVELAND
Bleckrie, Inc.	7900 Lorain Ave. 44102
	WADSWORTH
National Central	687 Seville Rd. 44281
	YOUNGSTOWN
Burton Supply Co.	1301 Logan Ave. Box 929 44501
PENNSYLVANIA	HARRISBURG
EECO Inc.	4021 N. 6th St. 17110
	WILLOW GROVE
Thompson Rubber Co.	850 Davisville Rd. 19090
	PITTSBURGH
Bluemont Co.	11101 Frankstown Rd. 15235
	PUNXSUTAWNEY
Frank Roberts & Sons	R.D. 2 15767
	SCRANTON
Scranton Auto Ignition Co.	1133-35 Wyoming Ave. 18507
TENNESSEE	KNOXVILLE
Ace Distributors	2103 Magnolia 37917
	MEMPHIS
American Sales & Service, Inc.	3035-43 Bellbrook 38116
TEXAS	DALLAS
Marr Brothers, Inc.	423 E. Jefferson 75203
	SAN ANTONIO
Engine House Inc.	4918 Golden Quail 78249
UTAH	SALT LAKE CITY
Powered Products	1661 N. Beck St. 84116
VIRGINIA	ASHLAND
RBI Corp.	101 Cedar Ridge Dr. 23005
WASHINGTON	SEATTLE
Equip. Northwest	1410 14th Ave. 98122
WISCONSIN	MILWAUKEE
Wisconsin Magneto Inc.	4727 N. Teutonia St. 53209
PUERTO RICO	AGUADILLA
CIE & Associates, Inc.	Box 427 Ramey Station 00604

WARRANTY PARTS AND SERVICE POLICY

(0588)

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 manufacturer'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:

1. Model Number, Serial Number and/or Data Code of unit involved.
2. Date unit was purchased.
3. Date of Failure.
4. Nature of Failure.