

# OWNER'S GUIDE

• ASSEMBLY • OPERATION • MAINTENANCE • PARTS •



## 21" SELF-PROPELLED MULCHING ROTARY MOWERS

Model Numbers  
123-117A000  
thru  
123-118F000

### IMPORTANT!

Record the **Model No.** and **Mfg. Code** which appear on your unit in the space below. You **must** have these numbers, along with the date of purchase, in order to receive warranty or service.

MEETS ANSI SAFETY STANDARDS

MODEL NO.

MFG. CODE

**Important:  
Read Safety Rules  
and Instructions Carefully**



Made  
in  
AMERICA

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

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022, Cleveland, Ohio 44136-9722.

# 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 guide carefully in its entirety before attempting to assemble or operate this machine. Be completely familiar with the controls and the proper use of this machine before operating it. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Your rotary mower is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times.
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 deck 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 performing any work on the mower. 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.

# SET-UP INSTRUCTIONS

**IMPORTANT:** This unit is shipped **WITHOUT GASOLINE or OIL** in the engine. Be certain to service engine with gasoline and oil before operating your mower.

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

## TO REMOVE MOWER FROM CARTON

Remove the carton inserts (if any). Remove any loose parts which may be in the carton. Lift the mower from the carton, or cut the corners of the carton and roll the mower out.

## HOW TO SET-UP YOUR LAWN MOWER

(Refer to Figure 1)

1. Disconnect the spark plug wire and move it away from the spark plug.
2. Remove any cardboard pieces which may be between the upper and lower handles for shipping purposes. If there is any packaging (plastic or cardboard) around the upper handle, remove it.
3. Pull up and back on the upper handle to raise the handle into the operating position. Make certain

the lower handle is seated securely into the handle mounting brackets. Tighten the hand knobs on each side of the handle.

**NOTE:** Your mower is shipped with the handle in the higher height position. If you wish to lower the height of the handle, refer to the Adjustment Section at this time.

4. Remove the hairpin clips from the outer hole in the weld pins on the handle mounting brackets. Place the hairpin clips in the **inner** hole.
5. The rope guide and wing nut are attached to the starter rope, on top of the engine. Remove the wing nut from rope guide. Remove the rope guide from the starter rope.
6. With the spark plug wire disconnected and grounded, hold the blade control handle against the upper handle, and pull the starter rope out of the engine. Hold the rope guide as shown so the opening in the rope guide is toward the front of mower. Slip the rope guide around the starter rope and into the right side of upper handle using the hole shown. Secure using the wing nut.
7. Make certain **all** nuts and bolts are tightened securely.

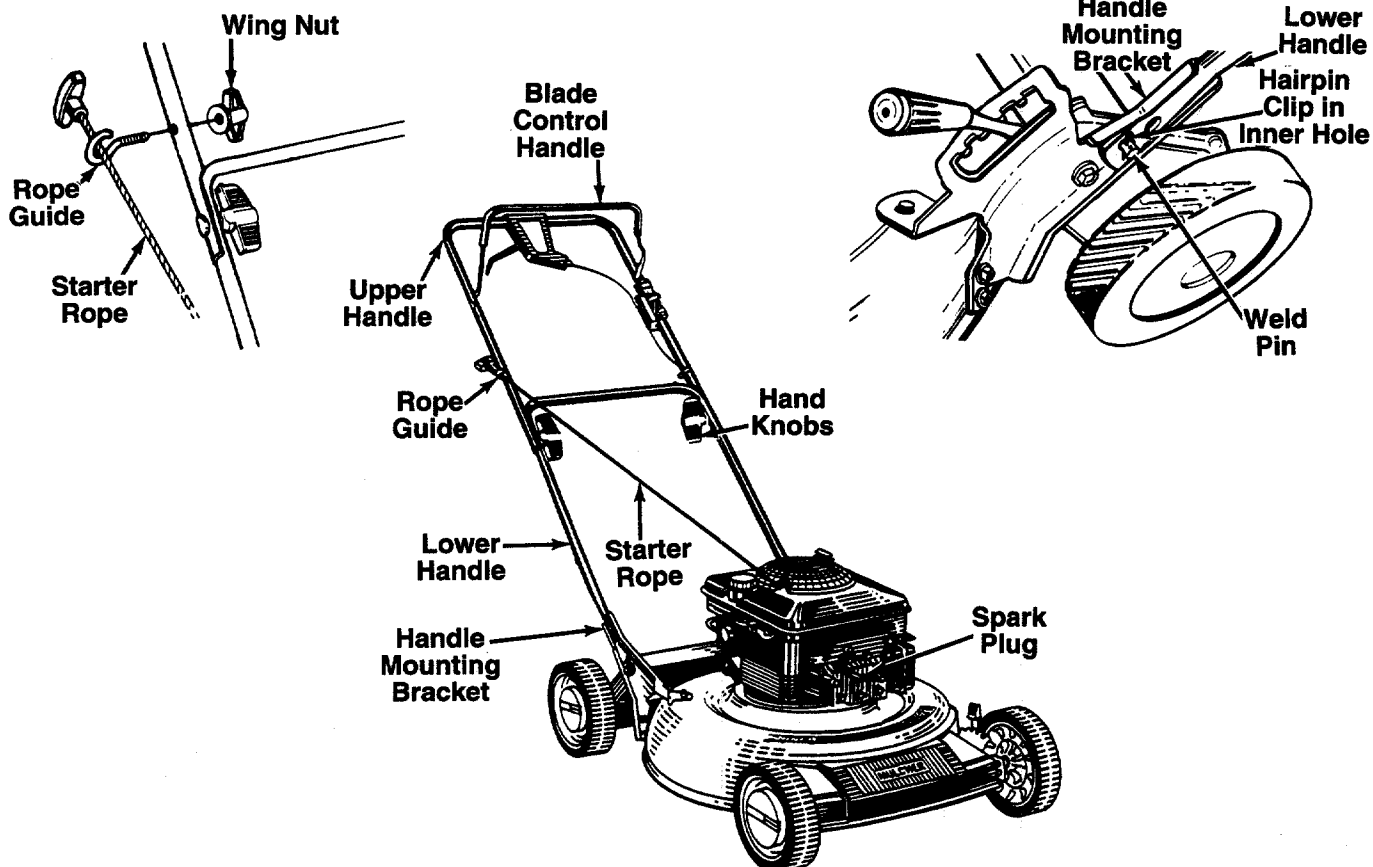


FIGURE 1.

# CONTROLS

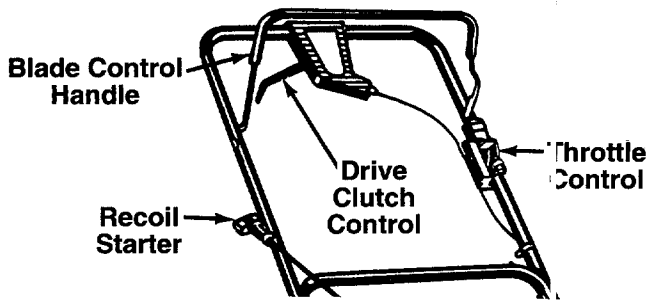


FIGURE 2.

## 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 2. 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 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 2. Stand behind the unit in the operating position to start the unit.

## 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 2.

# OPERATION



FIGURE 3.

Keep hands and feet away from the mowing deck. See figure 3.

The operation of any lawn mower can result in foreign objects being thrown into the eyes which can result in severe eye damage. Always wear safety glasses or eye shields. We recommend wide vision safety mask for over spectacles or standard safety glasses.



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

## GAS AND OIL FILL-UP

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



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

## BEFORE STARTING

1. Attach spark plug wire to spark plug. Make certain the metal loop on the end of the spark plug wire (inside the rubber boot) is fastened securely over the metal tip on the spark plug. See figure 4.

Metal Loop on Spark Plug Wire

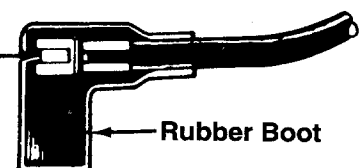


FIGURE 4.

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

With the drive clutch control released, push mower forward. It should move freely. Pull mower backward. It should move with only a small amount of resistance.

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

## TO START ENGINE 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. Make certain the drive clutch control is adjusted so the drive belt is as loose as possible. Refer to the Adjustment Section.

1. Move throttle control lever all the way forward.
2. If engine is equipped with a primer, prime engine as instructed in separate engine manual.
3. Standing behind the unit, depress the blade control handle and hold it against the upper handle as shown. See figure 5.
4. Grasp the recoil starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.
5. Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on start handle. Let rope rewind slowly. Do not let starter handle snap back against starter.
6. After engine starts, move throttle control to desired engine speed.

**NOTE:** If any problems are encountered, refer to the *Trouble Shooting Guide* on page 10.

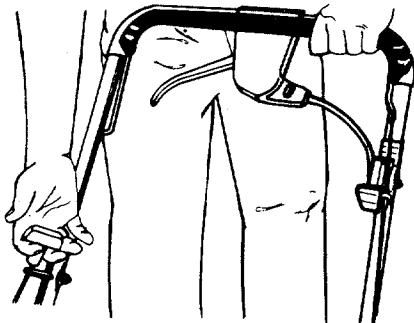


FIGURE 5.

## TO STOP ENGINE AND BLADE

1. Move throttle control lever to SLOW position.
2. 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.

3. 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 the best results, do not cut wet grass because it tends to stick to the underside of the mower, preventing proper mulching of grass clippings. In addition, wet grass could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut.

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

This mower is designed to be operated at full throttle to give you the best cut and do the most effective job of mulching.



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

---

## ADJUSTMENTS

---



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

### CUTTING HEIGHT ADJUSTMENT

The height adjustment handles for the wheels are located on the left side of the deck. The handles may be placed in one of nine cutting height positions. See figure 6.

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

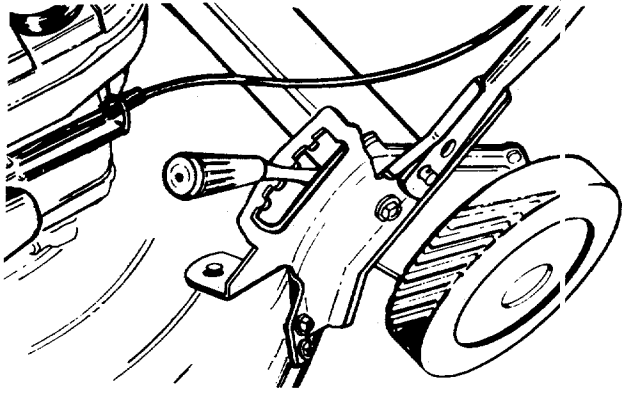


FIGURE 6.

### HANDLE HEIGHT ADJUSTMENT

Your mower is shipped with the handle in the higher height position. To lower the handle height, proceed as follows.

1. Remove the starter rope from the rope guide.
2. Remove the upper handle by removing the hand knobs and carriage bolts. Lay the upper handle out of the way, being careful not to bend or kink the cables.
3. Remove the hairpin clips from the weld pins on the handle brackets. Press outward on the legs of the lower handle and remove it from the mower.
4. Turn the lower handle around so the flat on the bottom is facing upward as shown in figure 7. Reassemble, placing the bottom holes in the handle over the weld pins in the handle mounting bracket.
5. Reassemble the upper handle.
6. Place the hairpin clips in the inner holes in the weld pins and attach the starter rope as instructed in the Set-Up Instructions.

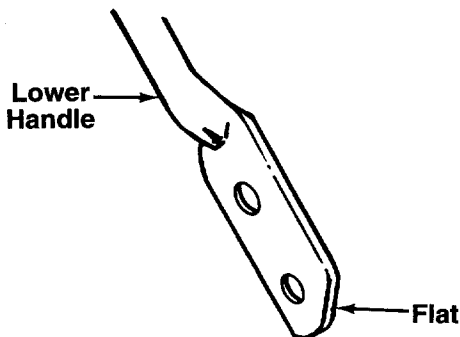


FIGURE 7.

### DRIVE CLUTCH CONTROL ADJUSTMENT

Use the adjustment wheel located in the clutch control housing to tighten the drive belt if mower does not self-propel with the drive clutch control engaged, or if drive belt is slipping (unit hesitates while engine maintains the same speed). See figure 8.

In addition, the adjustment wheel may also be used to determine the position in which the drive clutch control is engaged. If it is more comfortable to have the drive engaged with the lever further away from the handle, tighten the drive belt.

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

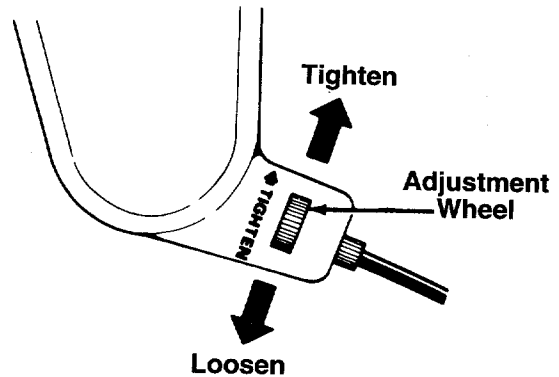


FIGURE 8.

### THROTTLE CONTROL ADJUSTMENT

If the throttle control requires adjustment or if it has been replaced, adjust the throttle control as follows.

1. Remove the screw shown in figure 9. Remove the cable clamp from the cable.

**NOTE:** If you have a Tecumseh engine, simply loosen the screw shown in figure 9B so the cable will move freely beneath the clamp. It is not necessary to remove the screw and clamp completely.

2. Push the throttle control lever on the handle all the way forward as far as it will go, then back it off **one "click"**. Make certain the throttle control lever remains in this position.
3. Push the control lever on the engine as far toward the **rear** of the engine as it will go. Secure the cable in this position with the cable clamp and screw.

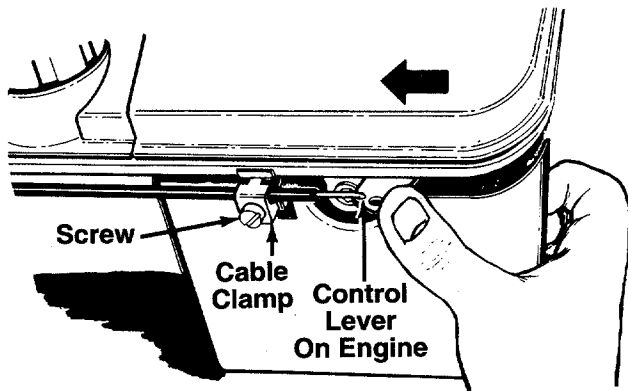


FIGURE 9A.—Briggs & Stratton Quantum Engines

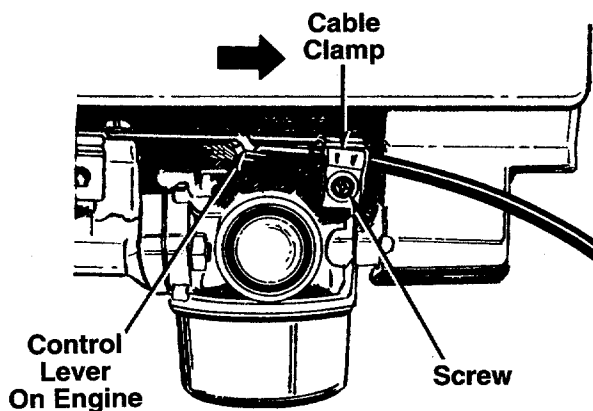


FIGURE 9B.—Tecumseh Engines

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

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

## LUBRICATION



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

**Blade Control**—Lubricate the pivot points on the blade control handle and the brake cable at least once a season with light oil. See figure 10. The blade control must operate freely in both directions.

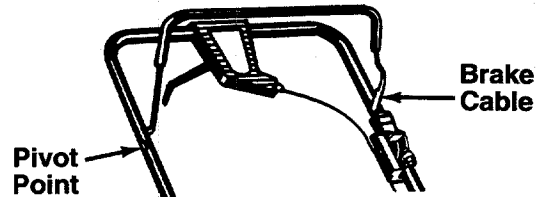


FIGURE 10.

**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.

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

## MAINTENANCE



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

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

## TROUBLE SHOOTING

Refer to page 10 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.

If the blade or blade adapter needs replacing, remove the two small bolts, lock washers and nuts which hold the blade to the adapter.



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

When sharpening the blade, follow the original angle of grind as a guide. It is extremely important that each cutting edge receives an equal amount of grinding to prevent an unbalanced blade. An unbalanced blade will cause excessive vibration when rotating at high speeds, may cause damage to the mower and could break, causing personal injury.

It is recommended that the blade always be removed from the adapter for the best test of balance.

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 and the inner surface of the blade adapter with light oil. Lubricating the bolt holes, bolts and inner surface of the nuts with light oil is also recommended. 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: 450 in. lbs. min., 600 in. lbs. max.

Blade Adapter Bolts: 200 in. lbs. min., 350 in. lbs. max.

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

## DECK

The underside of the mower deck should be cleaned after each use to prevent a buildup of grass clippings, leaves, dirt or other matter. If this debris is allowed to accumulate, it will invite rust and corrosion, and may prevent proper mulching.

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

**Refer to the separate engine manual for engine maintenance instructions.**

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.

## BELT REMOVAL AND REPLACEMENT

1. Disconnect the spark plug wire and ground it against the engine.
2. Drain the fuel tank or place a piece of plastic beneath the cap to prevent gasoline leakage.
3. Remove the transmission belt cover by removing three bolts. See figure 11.

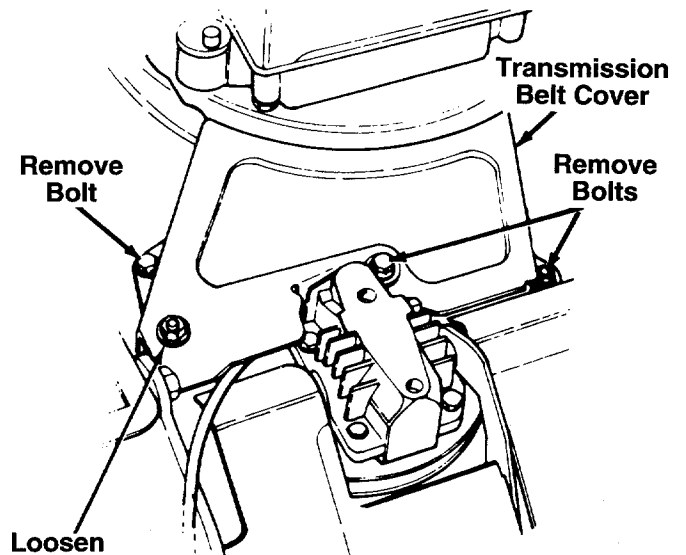
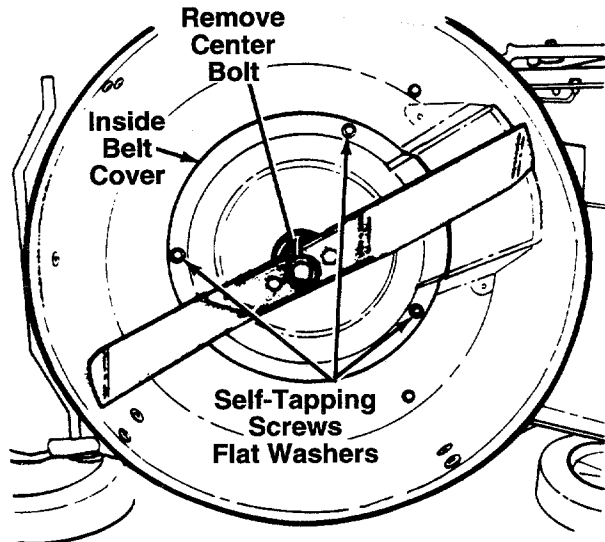


FIGURE 11.

4. Tip the mower back on its side. Block securely.
5. Remove the center bolt which secures the blade to the crankshaft. See figure 12. Remove the blade and blade adapter.
6. Remove the inside belt cover by removing three self-tapping screws and flat washers. A 3/8" wrench is required. See figure 12.

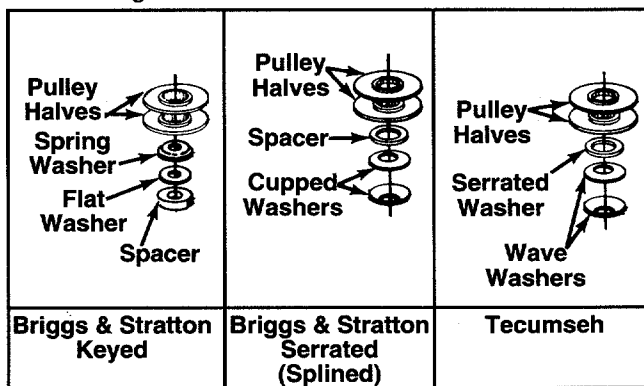


- Roll the belt over the pulley half and remove from around crankshaft.



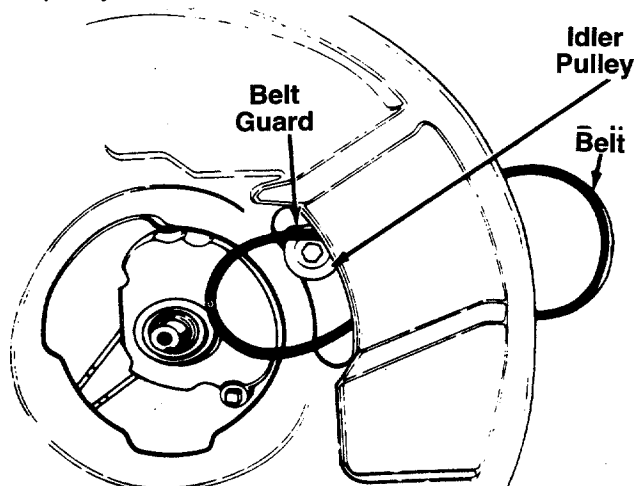
**FIGURE 12.**

**NOTE:** If the parts are removed from the crankshaft for any reason, make certain they are reassembled as shown in figure 13.



**FIGURE 13.**

- Remove the belt from between the idler pulley and the belt guard on the idler pulley bracket. See figure 14. Remove the belt from the transmission pulley.



**FIGURE 14.**

- Assemble the new belt as follows.
  - Push the idler pulley up out of the way as shown in figure 14.
  - Slide the belt in from the rear of the deck, and place it around the transmission pulley. See figure 14.
  - Release the idler pulley so it falls down into position. Slide the belt in between the idler pulley and belt guard on the idler pulley bracket.
  - Grease the crankshaft. Place belt between the two pulley halves, and reassemble the blade adapter and blade. Reassemble the inside belt cover.
  - Reassemble the transmission belt cover, following instructions in step 4 in reverse order.

**NOTE:** 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.

## OFF-SEASON STORAGE

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

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

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

# TROUBLE SHOOTING GUIDE

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

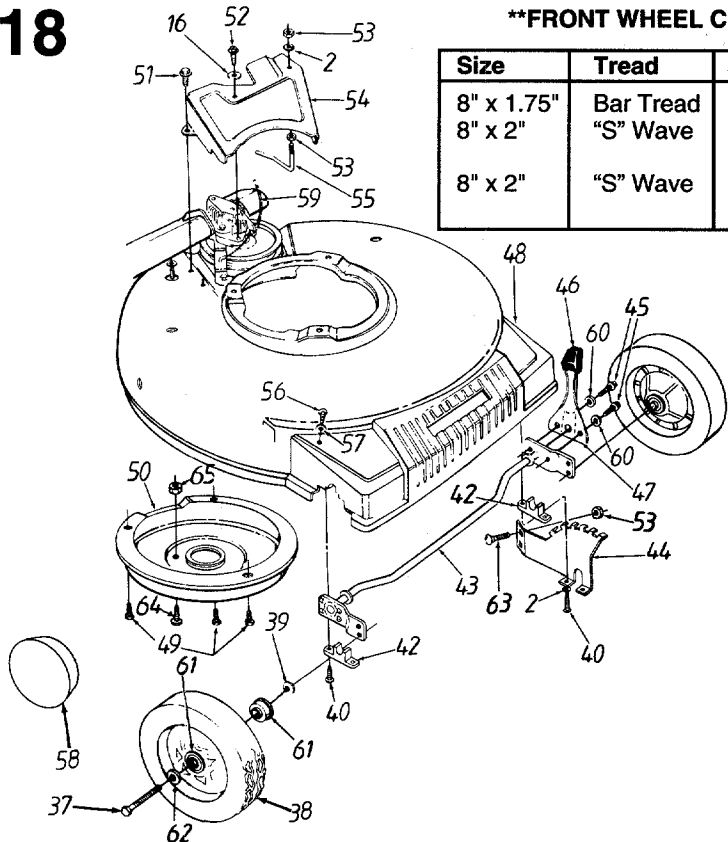
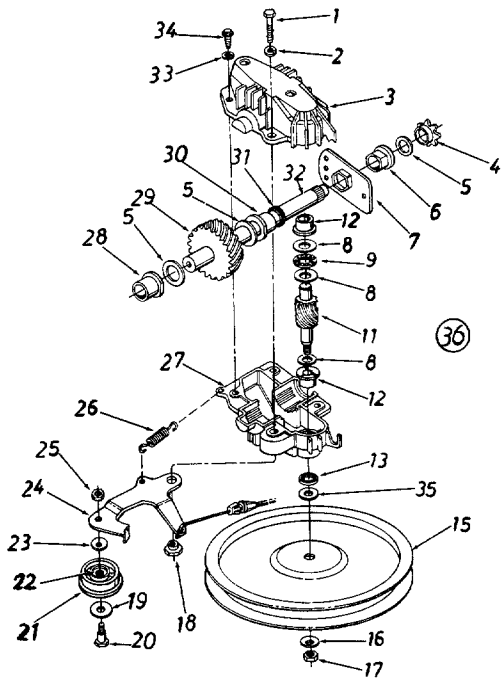
†Refer to separate engine manual packed with your unit.

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

# Models 117 and 118

## \*\*FRONT WHEEL CHART

Size	Tread	Part No.
8" x 1.75"	Bar Tread	634-0020
8" x 2"	"S" Wave	734-1512A (Silver)
8" x 2"	"S" Wave	734-1517B (Beige)



## PARTS LIST FOR MODELS 117 AND 118 ROTARY MOWERS

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	710-1062	Hex Patch Bolt 1/4-20 x 1.25"†	35	736-0410	Hex Washer .26" x .88"
2	736-0329	L-Wash. 1/4" I.D.*	36	717-0417B	Transmission Comp.
3	717-0418A	Upper Hsg. Half†	37	738-0102	Front Axle Bolt
4	713-0400	#48 Sprocket 7 T x 1/2 Pitch†	38	**	Wheel Ass'y. Comp.
5	736-0336	FI-Wash. 5/8" I.D. x .030†	39	736-0105	Bell-Wash. .380" I.D. x .88
6	741-0413	Hex Flange Brg. .631" I.D.†	40	710-1241	Hex Wash. Hd. Tap Scr. 1/4-20 x 1" Lg.
7	16500A	Hex Bearing Cup†	42	741-0492A	Block Bushing
8	736-0314	Thrust Wash. .382" I.D. x .70" O.D.†	43	17733	Axle Ass'y.
9	741-0479	Thrust Bearing .375" I.D. x .812" O.D.†	44	782-0516	Height Adj. Bracket
11	717-1216	11 Tooth Pinion Shaft†	45	710-0653	Hex TT-Tap Scr. 1/4-20 x .38"
12	748-0208A	Flange Bearing†	46	720-0190	Knob
13	721-0212	Oil Seal†	47	732-0639	Spring Lever
15	756-0330A	FI-Pulley 5.06" O.D.	48	731-1281	Plastic Front End
16	736-0270	Bell-Wash. .265" I.D. x .75"	49	710-0352	Hex B-Tap Scr. 1/4" x .38"
17	712-0351	Hex L-Nut 1/4-28 L.H. Thd.	50	782-7522	Belt Cover
18	738-0440	Shld. Spacer .375" Dia. x .170	51	710-0599	Hex Wash. Hd. TT-Scr. 1/4-20
19	736-0344	FI-Wash. .390" I.D. x 1.0"	52	710-0896	Hex Wash. Hd. B-Tap Scr. 1/4 x .62" (Spec.)
20	738-0826	Shld. Bolt .375" Dia. x .40"	53	712-3027	Hex Flange L-Nut 1/4-20 Thd.
21	756-0558	FI-Idler Plastic 1.50" Dia.	54	17058A	Transmission Belt Guard
22	741-0556	Needle Brg. .375" x .31	55	747-0549	S.P. Belt Guard
24	17052A	Idler Brk't. Ass'y.	56	710-1242	Torx Scr. 5/16 x .75" Lg.
25	712-0138	Hex Patch L-Nut 1/4-28 Thd.	57	736-0242	Bell-Wash. .345" I.D. x .88"
26	732-0357A	Extension Spring 1.12" Lg.	58	†	Hub Cap
27	717-0419A	Lower Hsg. Half†	59	746-0710A	S.P. Cable 44" Lg.
28	741-0415	Flange Bearing .566 Dia.†	60	736-0222	External L-Wash. 1/4" I.D.
29	717-0422A	33 Tooth Helical Gear†	61	741-0484	Ball Bearing 1/2" I.D. (Optional)
30	741-0414	Flange Bearing .629 Dia.†	62	736-0232	Wave Wash. .53" I.D. x .78" (Used w/Ref. 61)
31	721-0213	Oil Seal .625 Dia.†	63	710-0167	Carriage Bolt .5" Lg.
32	738-0607A	Gear Sprocket Shaft†	64	710-1131	Mach. Scr. 1/4-20 x 2" Lg.
33	736-0722	L-Wash. #10 I.D.†	65	712-0324	Hex L-Nut 1/4-20 Thd.
34	710-0436	Hex B-Tap Scr. #10 x .62"†			

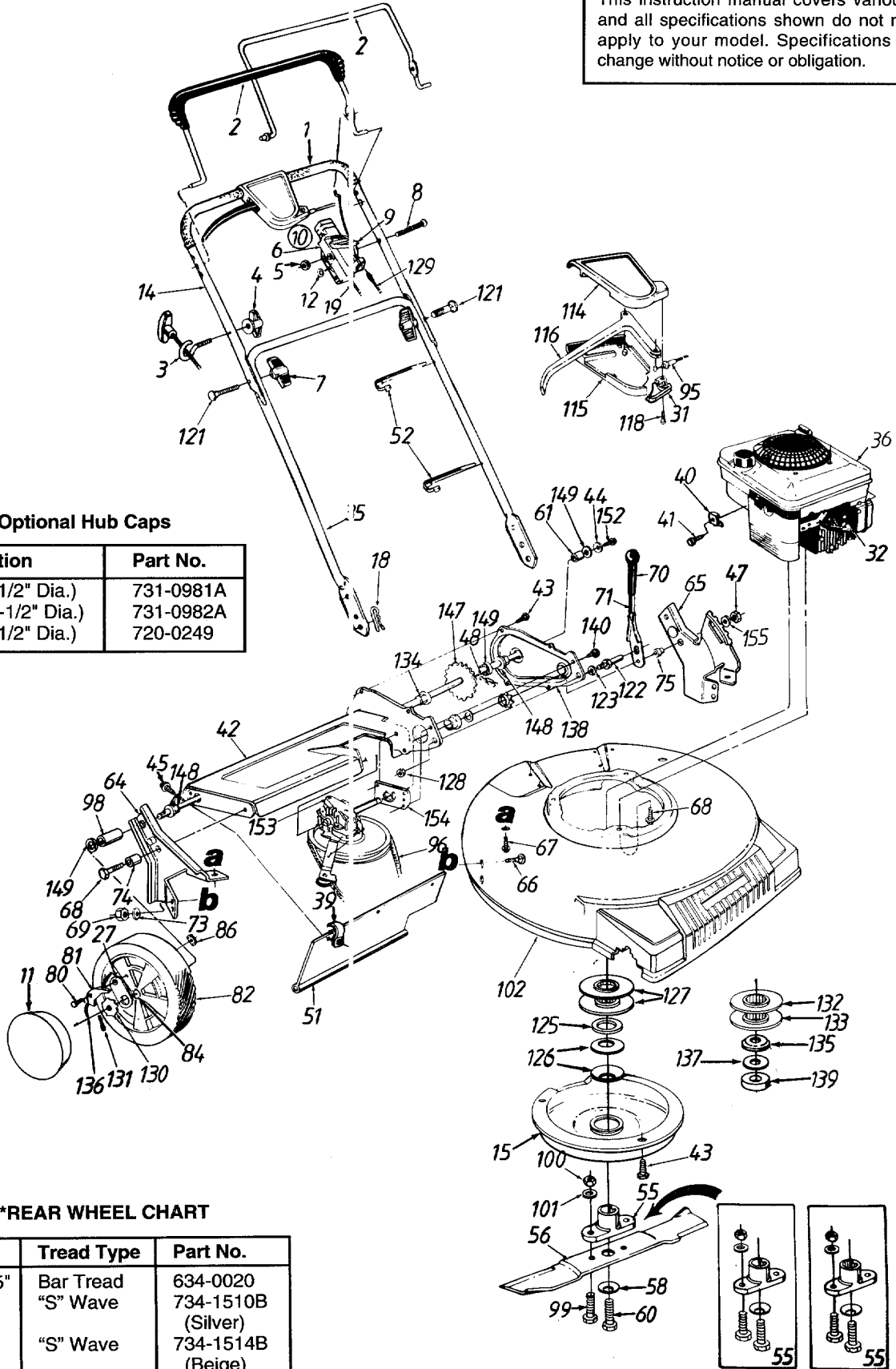
† Part of Transmission Complete, Ref. No. 36.

# Models 117 and 118

**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.

†Optional Hub Caps

Description	Part No.
Gray (5-1/2" Dia.)	731-0981A
Beige (5-1/2" Dia.)	731-0982A
Gray (3-1/2" Dia.)	720-0249



\*\*REAR WHEEL CHART

Size	Tread Type	Part No.
8" x 1.75"	Bar Tread	634-0020
8" x 2"	"S" Wave	734-1510B (Silver)
8" x 2"	"S" Wave	734-1514B (Beige)

# Models 117 and 118

## PARTS LIST FOR MODELS 117 AND 118 ROTARY MOWERS

REF. NO.	PART NO.	CODE	DESCRIPTION	REF. NO.	PART NO.	CODE	DESCRIPTION
1	720-0225		Grip (Optional)	74	750-0736		Spacer .383" I.D.
2	647-0004		Control Handle w/Plastic	75	750-0624		Shld. Spacer .5" Dia.
	747-0824		Control Handle	80	738-0137		Shld. Scr. .342" Dia. x .268
3	710-1205		Rope Guide	81	748-0188B		Pawl
4	712-0397		Wing Nut 1/4-20 Thd.	82	**		Wheel Ass'y. Comp.—Rear
5	712-0324		Hex L-Nut 1/4-20 Thd.	84	741-0486B		Sleeve Bearing 1/2" I.D.
6	746-0875	N	Throttle Body				(Optional)
7	720-0276		Hand Knob	86	712-0414		Weld Top L-Nut 1/4-20 Thd.
8	710-0605	N	Oval C-Sunk Scr.	95	746-0710A		S.P. Cable—44" Lg.
9	745-0876	N	Throttle Lever	96	754-0343		"V"-Belt
10	811-00185	N	Throttle Box Comp. (Incl. Ref. 5, 6, 8, 9, 12)	98	711-0313		Sleeve .526" I.D.
				99	710-1055		Hex Bolt 3/8-24 x 1.0" Lg.
11	†		Hub Cap	100	712-0241		Hex Nut 3/8-24 Thd.
12	736-0501	N	Spr. Wash. .66" I.D.	101	736-0169		L-Wash. 3/8" I.D.
14	749-0539B	N	Upper Handle	102	782-0015		21" Deck Ass'y.
15	782-7522		Belt Cover	114	731-1057		Self-Propelled Control Cover
18	714-0104		Internal Cotter Pin 5/16" Dia.	115	731-1058		Self-Propelled Control Cover
19	746-0843	N	Throttle Control Wire 55" Lg. (118)	116	731-0620		Control Lever
	746-0844	N	Throttle Control Wire 39" Lg. (117)	118	710-0841		FI-"C"-Sunk Hd. Tap Scr. #10 x .75" Lg.
27	16855		Pawl Plate	121	710-1174		Curved Hd. Bolt 5/16-18 x 2" Lg.
31	731-1059		S.P. Control Cover	122	711-0805		Shld. Pin 1.43" Lg.
32	735-0639		Spark Plug Insulator	123	736-0169		L-Wash. 3/8" I.D.
35	749-0928		Lower Handle	125	748-0332		Crankshaft Spacer (Used w/Splined Adapter)
36	—		Engine		736-0409		Serrated Wash. 1" I.D. (Tecumseh)
39	726-0287		Clamp				Bell-Wash. 1.01" I.D. (Used w/Splined Adapter)
40	751-0568		Cable Clamp (B&S)	126	736-0450		Wave Wash. 1" I.D. (Tecumseh)
41	710-1237		Hex Self-Tap Scr. #10-32 x .62" (B&S)		736-0447		Pulley Half—2 Req'd. (Used w/Splined Adapter)
42	682-7513		Chain—Axle Ass'y.	127	756-0502		Hex Jam Nut 3/8-24 Thd.*
43	710-0352		Hex B-Tap Scr. 1/4" x .38"				Control Cable—39" (118)
44	736-0270		Bell-Wash. 1/4" I.D.	128	712-0711		Control Cable 55" Lg. (117)
45	710-0224		Hex AB-Tap Scr. 1/4 x .62"	129	746-0550		Ratchet Wheel 1.62" O.D.
47	712-0296		Hex Patch L-Nut 3/8-24 Thd.		746-0555		Cotter Pin 1/8" Dia. x 1"
48	713-0361		#48 Chain .500" Pitch x 38 Links	130	748-0318		Pulley Half (Used w/Keyed Adapter)
51	731-1421		Rear Flap 3.75" x 17.5" Lg.	131	714-0115		Pulley Half (Used w/Keyed Adapter)
52	726-0240		Cable Tie	132	756-0979	N	Hex Flange Bearing
55	753-0519		Blade Adapter Kit (Splined)				Spr. Wash. .89" I.D. (Used w/Keyed Adapter)
	753-0566	N	Blade Adapter Kit (Keyed)	133	756-0962		Spring—Nylon
56	742-0721	N	21" Mulching Blade				FI-Wash. .85" I.D. (Used w/Keyed Adapter)
58	736-0453		Bell-Wash. .47" I.D. (Used w/Splined Adapter)	134	741-0522		Chain Cover Ass'y.
	736-0452		Bell-Wash. .39" I.D. (Used w/Keyed Adapter)	135	736-0513		Crankshaft Spacer (Used w/Keyed Adapter)
60	710-0561		Hex Bolt 7/16-20 x 2.5" (Used w/Splined Adapter)	136	10622B		Hex S-Tap Scr. 1/4-20 x .50"
	710-1257		Hex Bolt 3/8-24 x 2.5" (Used w/Keyed Adapter)	137	736-0514		Rear Shaft Ass'y. 21.44" Lg.
61	748-0190		Spacer .513" I.D.	138	682-7506		Hex Flange Brg. .506" I.D.
63	736-0119		L-Wash. 5/16" I.D.*	139	748-0358		FI-Wash. .531" I.D. x .930"
64	682-3006A	N	R.H. Handle Wheel Brkt. Ass'y.	140	710-0599		Hex Bolt 1/4-20 x .62" Lg. (Grade 5)
65	682-3007A	N	L.H. Handle Wheel Brkt. Ass'y.	147	738-0864		Transmission Comp. (See Breakdown)
66	710-0260		Carriage Bolt 5/16-18 x .62"	148	741-0324		Hex Bearing Cup
67	710-0603		Hex B-Tap Scr. 5/16-18	149	736-0160		FI-Wash. .385" I.D. x .87" O.D.
68	710-0654A		Hex TT-Tap Scr. 3/8-16	152	710-0751		
69	712-0267		Hex Nut 5/16-18 Thd.*	153	717-0417B		
70	720-0223		Grip				
71	732-0725		Height Adj. Lever	154	16500A		
73	736-0242		Bell-Wash. 5/16" I.D.	155	736-0300		

\*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.

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."



**CODE: N** notates a **new part** (not previously existing).

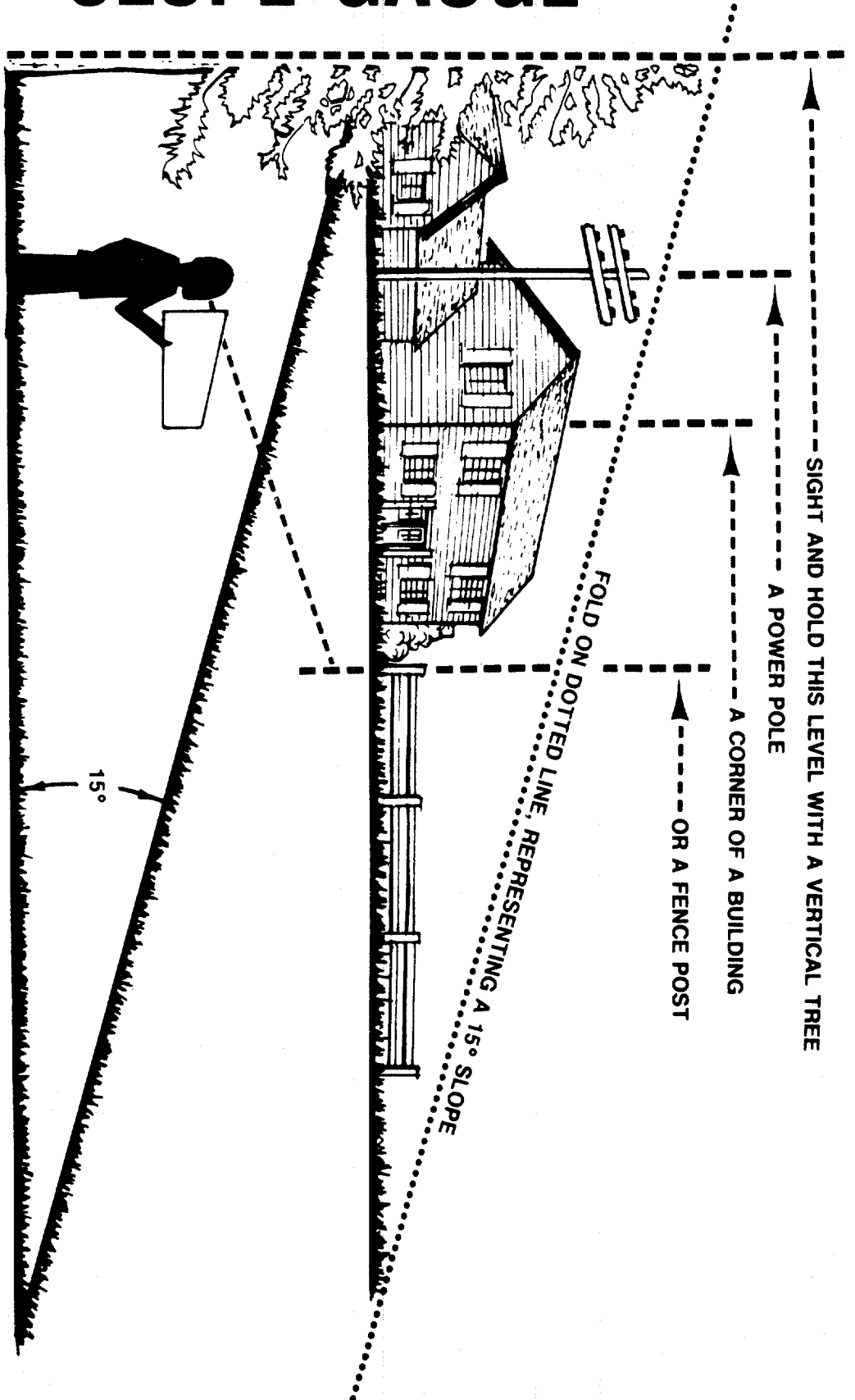
**COLOR:** A three digit number is the **color code**. Specify color code if color or finish is important when ordering parts. [i.e., (part no.)-638 for Red Finish]

**Color Codes**

436—Radiant Yellow	638—Red
460—Green Flake	640—Green
483—Charcoal Gray	646—CM Blue
498—Yellow	650—Red Metallic
499—Beige	657—Teal
629—Silver Flake	663—Dark Teal
637—Black	

# SLOPE GAUGE

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



Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

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



# MANUFACTURER'S LIMITED WARRANTY

## THE MTD TWO YEAR SUPREME WARRANTY:

For **TWO YEARS** from the date of retail purchase within the United States of America, its possessions and territories, MTD PRODUCTS INC will, at its option, repair or replace, for the original purchaser, free of charge, any part or parts found to be defective in material or workmanship. This warranty covers units which have been operated and maintained in accordance with the owner's instructions furnished with the unit, and which have not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance or alteration. Normal wear parts or components thereof are subject to separate terms as noted below in the "NO FAULT Ninety Day Consumer Warranty" clause.

**NO FAULT Ninety Day Consumer Warranty on Normal Wear Parts:** All normal wear part failures will be covered on this product for a period of 90 days regardless of cause. After 90 days, but within the two year warranty period, normal wear part failures will be covered if caused by defects in material or workmanship of other component parts. Normal wear parts are defined as batteries, belts, blades, blade adapters, grass bags, rider deck wheels, seats and tires.

**How to Obtain Service:** Warranty service is available, with proof of purchase, through your local authorized service dealer or distributor. To locate the dealer or distributor in your area, please check the yellow pages or contact the Customer Service Department of MTD PRODUCTS INC, P.O. Box 368022, Cleveland, Ohio 44136-9722, phone (216) 225-7711. The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by the Service Department of MTD PRODUCTS INC.

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

**Units Exported Out of the United States:** MTD PRODUCTS INC does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except, those sold through MTD's authorized channels of export distribution.

### Other Warranties:

1. The engine or motor or component parts thereof carry separate warranties from their manufacturers. Please refer to the applicable manufacturer's warranty on these items.
2. Log splitter pumps, valves and cylinders or component parts thereof are covered by a one year warranty.
3. All other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose are hereby expressly disclaimed in their entirety.
4. The provisions as set forth in this warranty provide the sole and exclusive remedy of MTD PRODUCTS INC's obligations arising from the sale of its products. MTD PRODUCTS INC will not be liable for incidental or consequential loss or damage.

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

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

