

# **YARD MACHINES**

by **MTD**

## **OWNER'S GUIDE**



**21" MULCHING  
ROTARY MOWERS**

**MODEL NUMBERS  
130-148**



### **IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY**

**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.

**MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722**

## DO:

- Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
- Watch for holes, ruts, hidden objects, or bumps. Tall grass can hide obstacles.
- Always be sure of your footing. A slip and fall can cause serious personal injury.

## DO NOT:

- Do not mow near drop-offs, ditches or embankments. The operator could lose footing or balance.
- Do not mow slopes greater than 15 degrees as shown on the slope gauge.
- Do not mow on wet grass. Reduced footing could cause slipping.

### C. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- Be alert and turn mower off if a child enters the area.
- Before and while moving backwards, look behind and down for small children.
- Never allow children under age 14 to operate the mower.
- Use extreme care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision of a child or hazard.

### D. SERVICE

- Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
- Use only an approved gasoline container.
- Never remove gas cap or add fuel while the engine is running. Allow engine to cool at least two minutes before refueling.

- Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- Extinguish all cigarettes, cigars, pipes and other sources of ignition.
- Never refuel machine indoors because flammable vapors will accumulate in the area.
- Never store the machine or fuel container inside where there is an open flame or spark such as a gas water heater, space heater, or furnace.
- Never run an engine inside a closed area.
- To reduce fire hazard, keep mower free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage. Allow mower to cool at least 5 minutes before storing.
- 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.
- Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked). Replace with blade which meets original equipment specifications.
- Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- 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 starting and operating the mower.
- Never attempt to make a wheel or cutting height adjustment while the engine is running.
- Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Do not change the engine governor setting or overspeed the engine. Excessive engine speeds are dangerous.



## WARNING - YOUR RESPONSIBILITY

Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.




Figure 1



**WARNING.** To reduce the risk of injury, do not operate mower unless rear trailing shield is in its proper place.

The use of any accessory on this walk-behind mower other than those manufactured by the mower manufacturer is not recommended. Grasscatcher model number 190-110 is available as optional equipment.

 <b>MTD PRODUCTS INC</b> CLEVELAND, OHIO 44136	_____ This is where your model number will be. XXX-X-XXX-X-XXXXXXXXXXXXXXXXX
	_____ This is where your serial number will be.
	Copy the model number here: _____
	Copy the serial number here: _____

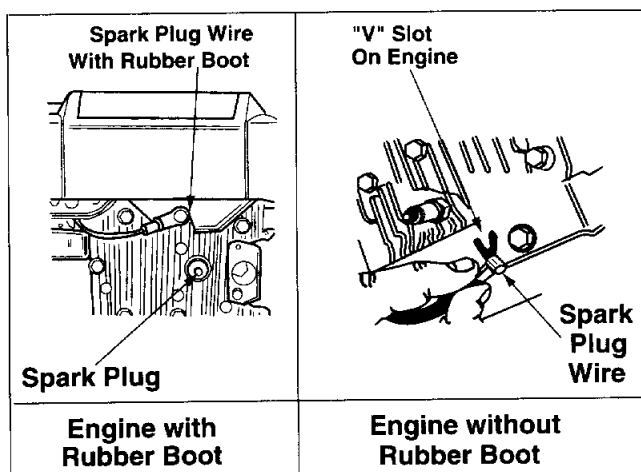
**Model Plate**

## SECTION 3: UNPACKING

### TO REMOVE UNIT FROM CARTON

1. Remove staples, break glue on top flaps, or cut tape at carton end and peel along top flap to open carton.
2. Remove loose parts if included with unit (i.e., owner's manual, etc.).
3. Cut along dotted lines and lay carton down flat.
4. Remove packing material.
5. Roll or slide unit out of carton. Check carton thoroughly for loose parts.

### DISCONNECT AND GROUND SPARK PLUG WIRE



**FIGURE 2. Grounding the Spark Plug Wire**

Before setting up your lawn mower, disconnect the spark plug wire from the spark plug, and ground it against the engine. See figure 2.

**NOTE.** On engines with a rubber boot, attach rubber boot to a bolt on the engine to ground.

## TOOLS REQUIRED FOR ASSEMBLY

Pair of Pliers (Not necessary, but helpful.)

## SECTION 4: SET-UP INSTRUCTIONS

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

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

### HOW TO SET-UP YOUR LAWN MOWER

Refer to Figure 3.



**Figure 3.**

instructions under Drive Clutch Control Adjustment in Adjustment Section for loosening the drive belt.

4. Attach spark plug wire to spark plug. If equipped with a rubber boot, 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.

## TO START ENGINE AND ENGAGE BLADE

### Self-Propelled Models Only:

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



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

### All Units:

1. Move the throttle control lever to all the way forward.
2. Prime engine as instructed in the engine manual.
3. Standing behind the unit, depress the blade control handle and hold it against the upper handle. Make certain drive clutch control handle (self-propelled models only) is released.
4. Grasp 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 starter handle. Return it slowly to the rope guide.
6. After engine starts, move throttle control to FAST or desired engine speed. (Mower is designed to be operated at full throttle.)

**NOTE.** If any problems are encountered, refer to the Trouble Shooting Guide for helpful information.

## TO STOP ENGINE AND BLADE

- 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.

- 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 discharge of grass clippings, and could cause you to slip and fall. New grass, thick grass or wet grass may require a narrower cut. Speed of the mower should be adjusted to the condition of the lawn.

When using the side discharge mower, the best mowing pattern is one that allows the clippings to discharge towards the uncut part of the lawn. This permits recutting of the clippings to further pulverize them. When cutting high weeds, discharge towards cut portion, then recut at right angles to first direction.

For a healthier lawn, always 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 mowing.



**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.

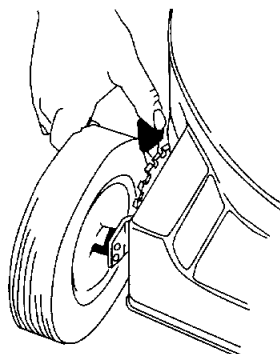
## SECTION 7: ADJUSTMENTS



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

### CUTTING HEIGHT ADJUSTMENT

#### Push Models

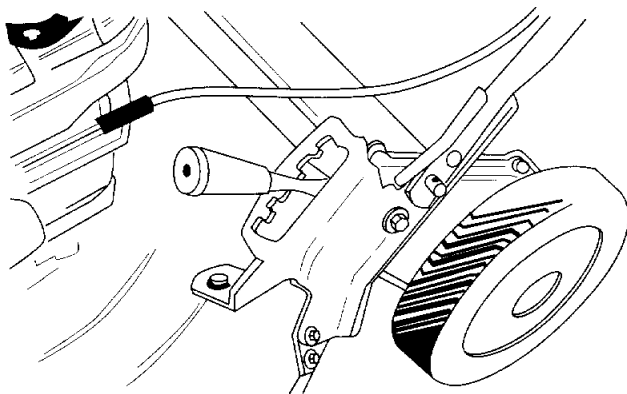


**Figure 8 -  
Push Model**

An adjusting plate and thumb lever at each wheel position provides cutting height adjustment. Each adjusting plate has nine height 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. All wheels must be placed in the same relative position. See figure 8

#### Self Propelled Models.

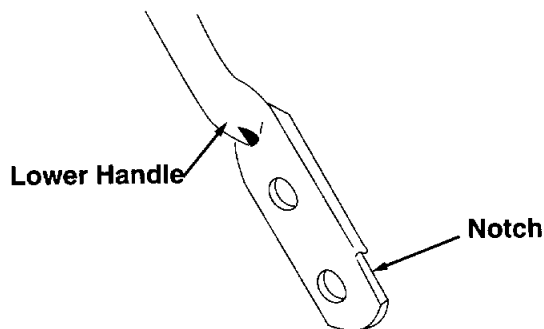
The height adjustment handles for the wheels are located on the left side of the deck. The handles may be placed in one of nine cutting height positions. See figure 9.



**Figure 9 - Self-Propelled Model**

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.

### HANDLE HEIGHT ADJUSTMENT



**Figure 10.**

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 for self-propelled models. For push models, press inward on the legs of the lower handle. Remove lower handle from the mower.
4. Turn the lower handle around so the notch on the bottom of the lower handle is facing forward as shown in figure 10. 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.

## DRIVE CLUTCH CONTROL ADJUSTMENT

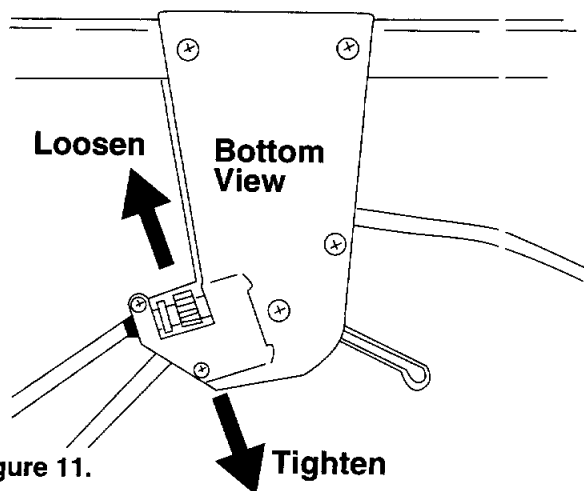


Figure 11.

### (Self-Propelled Models Only)

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 11.

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.

## THROTTLE CONTROL ADJUSTMENT

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

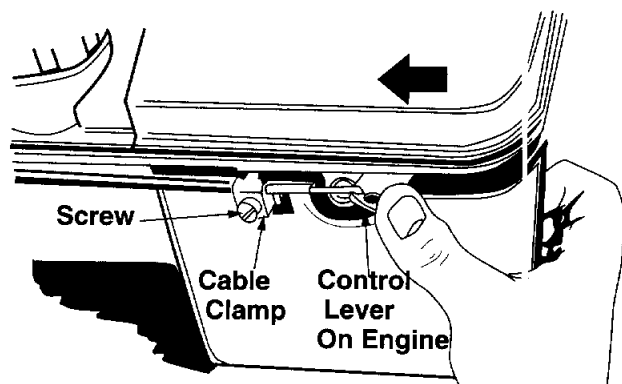


Figure 12.

1. Remove the screw shown in figure 12. Remove the cable clamp from the cable.
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.

## SIX SPEED SHIFT CABLE ADJUSTMENT

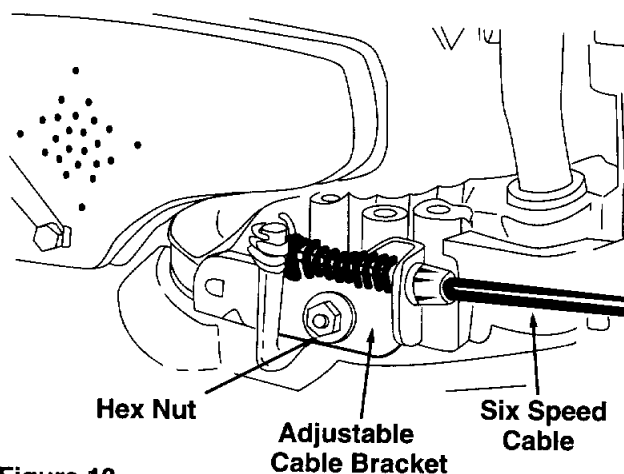


Figure 13.

### (Self-Propelled Models Only)

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

The adjustable cable bracket is located on the left side of the mower, beside the engine. To adjust, loosen the hex nut which secures the adjustable cable bracket. See figure 13. Place the shift lever in the sixth speed position. Make certain the belt is not pinched between the pulley halves. Pull backward on the adjustable cable bracket (toward the rear of the mower). Retighten the hex nut. Test the speeds on the mower (engine must be running).

## SECTION 8: 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 14. The blade control must operate freely in both directions.

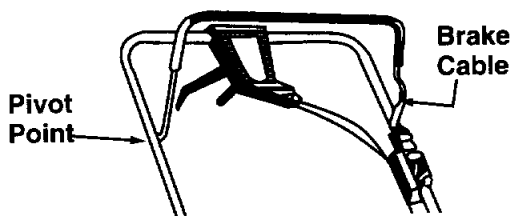


Figure 14.

**Wheels.** Lubricate the wheel bearings (if so equipped) at least once a season with light oil (or engine 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.

**Engine.** Follow engine manual for lubrication instructions.

**Transmission.** (Self-Propelled Models Only) 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 Benalene grease, part number 737-0300.

## SECTION 9: MAINTENANCE



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

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

### TROUBLE SHOOTING

Refer to TROUBLE SHOOTING SECTION of this manual for helpful 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 blade support or bell washer which hold the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft.

### Blade Type A

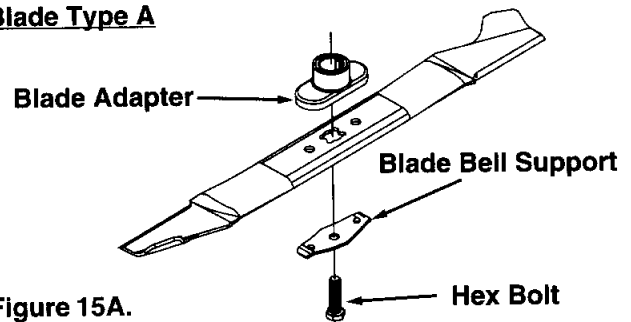


Figure 15A.

### Blade Type B

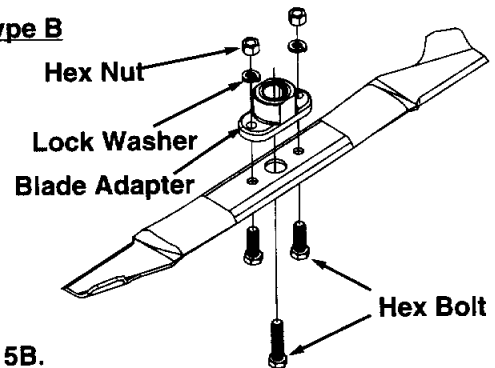


Figure 15B.

There are two blade adapter systems used on rotary mowers. Please identify which one is on your lawn mower. The easiest way to do this is to match the exploded view in Figure 15 with your blade.

- Blade type A will have one bolt holding it in place.
- Blade type B will have three bolts holding it in place.
- When removing the cutting blade for sharpening or replacement, protect hands by using heavy gloves or a rag before grabbing the blade.

### To remove blade type A:

- Remove the bolt and blade bell support which hold the blade and adapter to the engine crankshaft. Remove the blade and adapter from the crankshaft.

### To remove blade type B:

1. Remove the center hex bolt and slide blade from crank shaft.
2. Remove left and right hex bolts to take off 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.

The blade can be tested by balancing it on a round shaft screwdriver. Remove metal from the heavy side until it balances evenly. It is recommended that the blade always be removed from the adapter for the best test of balance.

Before reinstalling the blade and the blade adapter to the unit, lubricate the engine crankshaft and the inner surface of the blade adapter with light oil (or engine oil). Lubricating the bolt holes, bolts and inner surface of the nuts is also recommended.

#### When reinstalling blade type A:

1. 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.
2. Be certain the blade is aligned with and seated onto the blade adapter flanges.
3. Place blade bell support on blade. Make sure the notches on the blade bell support are aligned with the small hole in the blade.
4. Replace hex bolt.
5. Tighten to torque: 450 in. lbs. min., 600 in. lbs. max.

#### When reinstalling blade type B:

1. Assemble the blade adapter to the blade. See Figure 15B for proper order of hardware.
2. Be sure the side of the blade marked "Bottom" (or with part number) is facing down.
3. Tighten blade adapter bolts: Blade adapter bolt torque: 200 in. lbs. min., 350 in. lbs. max.
4. Slide Blade and adapter assembly onto engine shaft.
5. Replace center bolt.
6. Tighten to torque: 450 in. lbs. min., 600 in. lbs. max.

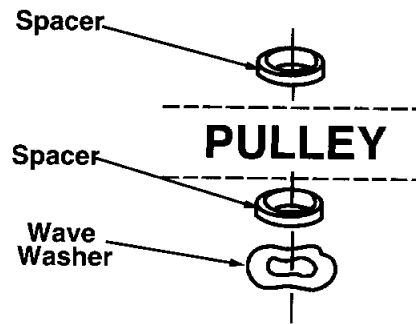


Figure 16.

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

**NOTE.** On self-propelled models, a wave washer and a spacer may come off the crankshaft when the blade is removed. When reassembling, place the spacer on the crankshaft first, then the wave washer. See Figure 16.



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

#### 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

1. Refer to the separate engine manual for all engine maintenance instructions.
2. Maintain ENGINE OIL as instructed in the separate engine manual packed with your unit. Read and follow instructions carefully.
3. 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.
4. The SPARK PLUG should be cleaned and the gap reset once a season. Spark plug replacement is recommended at the start of each mow-

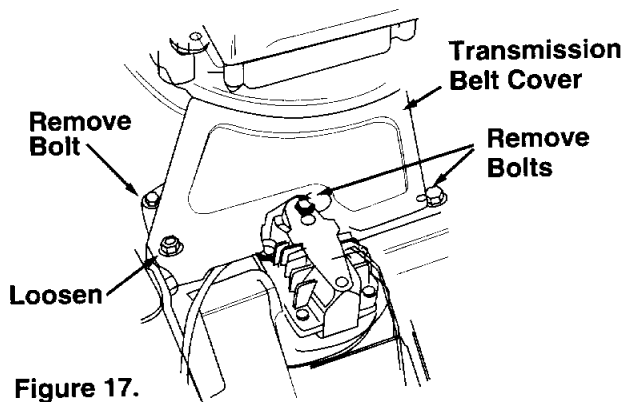


ing season; check engine manual for correct plug type and gap specifications.

5. CLEAN THE ENGINE regularly with a cloth or brush. Keep the cooling system (blower housing area) cleaned 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 (Self-Propelled Models Only)

1. Place shift lever in third speed.
2. Disconnect the spark plug wire and ground it against the engine.
3. Drain the fuel tank or place a piece of plastic beneath the cap to prevent gasoline leakage.
4. Remove the transmission belt cover by removing three bolts. See figure 17.
5. Tip the mower on its side. Block securely.



6. Remove the center bolt which secures the blade to the crankshaft. See figure 18. Remove the blade and blade adapter.
7. Remove the two self-tapping screws which secure the lower pulley half. See figure 18.

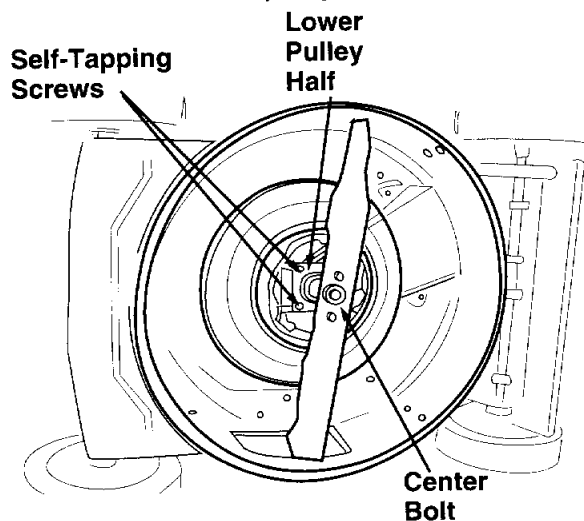


Figure 18.

8. Rotate the lower pulley half 90° clockwise (see figure 19) and remove from mower. Remove the belt from around the crankshaft.

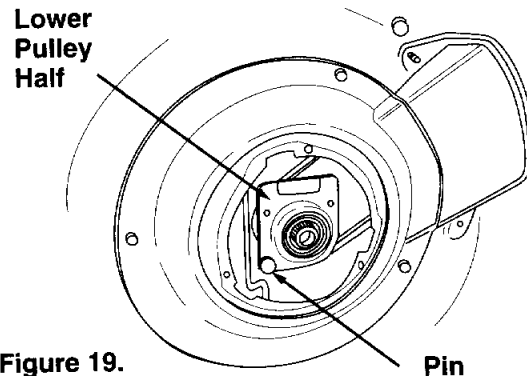


Figure 19.

9. Remove the belt from between the idler pulley and the belt guard on the idler pulley bracket. See figure 20.

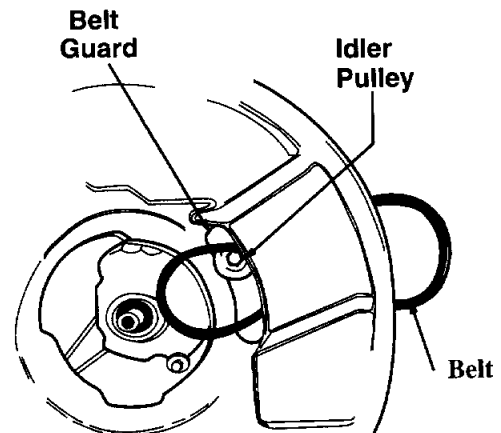


Figure 20.

10. Remove the belt from the transmission pulley.

### Install the new belt as follows.

1. Push the idler pulley up out of the way as shown in figure 20.
2. Slide the belt in from the rear of the deck, and place it around the transmission pulley. See figure 20.
3. 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.
4. Grease the crankshaft.
5. Reassemble, following Belt Removal steps as previously noted.

## SECTION 11: TROUBLE SHOOTING GUIDE

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

Refer to separate engine manual packed with your mower.

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

**Copy the information from your model plate here!**

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Model Number</b>												
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Serial Number</b>												
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Please help us  
help you!**

**Call Now!**  
**1 (800) 800-7310**

**For Parts, Accessories or Service Information**  
**Please have your model number ready when you call**

The only way to insure the performance of your product is to use original equipment parts and accessories. MTD designs and engineers quality parts to exacting specifications. When you substitute, you take a chance on quality, reliability, safety and performance. Use MTD original equipment parts for all of your parts and accessories needs.