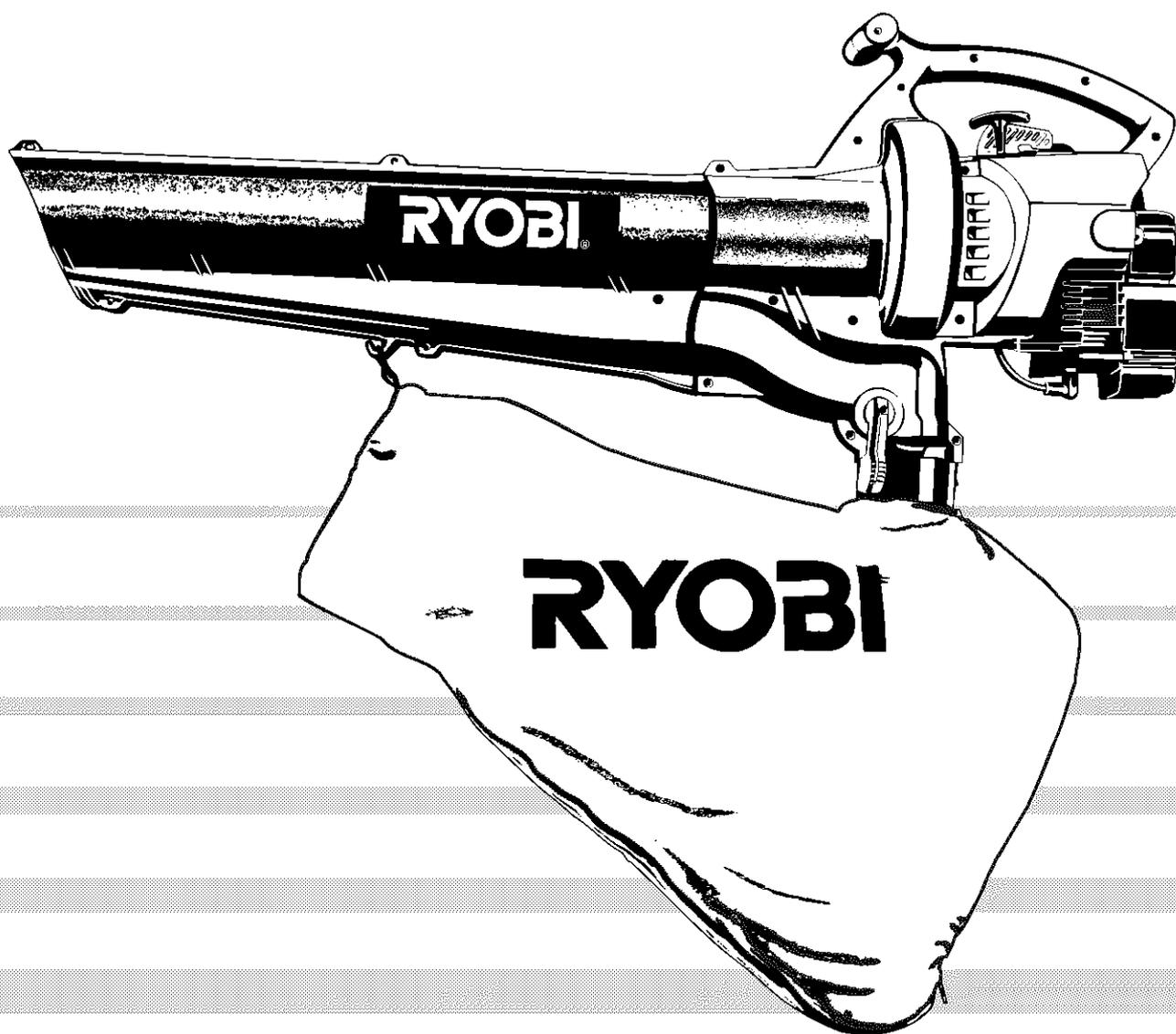


RYOBI[®]

RGBV3100

2-Cycle Mulching Blower Vacuum

OPERATOR'S MANUAL



FOR QUESTIONS, CALL 1-800-345-8746 in U.S. or
1-800-668-1238 in CANADA
www.RyobiOutdoor.com

IMPORTANT MANUAL

DO NOT THROW AWAY

INTRODUCTION

THANK YOU

Thank you for buying this quality product. This modern outdoor power tool will provide many hours of useful service. You will find it to be a great labor-saving device.

This operator's manual provides you with easy-to-understand operating instructions. Read the whole manual and follow all the instructions to keep your new outdoor power tool in top operating condition.

PRODUCT REFERENCES, ILLUSTRATIONS AND SPECIFICATIONS

All information, illustrations and specifications in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

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SERVICE INFORMATION

Service on this unit both within and after the warranty period should be performed only by an authorized and approved service dealer.

Dial:

- Call **1-800-345-8746** in the United States, or **1-800-668-1238** in Canada, to obtain a list of authorized service dealers near you

Or

- Go to **www.RyobiOutdoor.com** on the World Wide Web for a list of authorized service dealers

DO NOT RETURN THE UNIT TO THE RETAILER.

NOTE: PROOF OF PURCHASE WILL BE REQUIRED FOR WARRANTY SERVICE.

Make sure this manual is carefully read and understood before starting or operating this equipment.

THIS PRODUCT IS COVERED BY ONE OR MORE US PATENTS, OTHER PATENTS PENDING.

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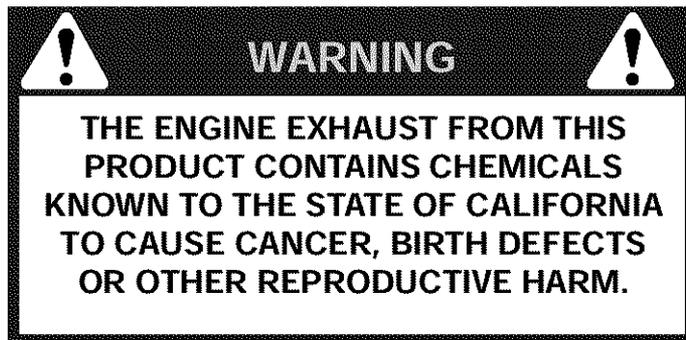
CONTENTS OF CARTON

This unit includes the following:

- Model RGBV3100 Mulching Blower Vacuum
- Blower/Vacuum Tube
- Vacuum bag
- Hardware Pack
- Bottle of 2-Cycle Oil
- Operator's Manual

Examine all parts to make certain that nothing is missing and no breakage has occurred during shipping. Any damaged or missing part must be replaced before using this product.

CALIFORNIA PROPOSITION 65 WARNING:



SPARK ARRESTOR

NOTE: For users on U.S. Forest Land and in the states of California, Maine, Oregon and Washington. All U.S. Forest Land and the state of California (Public Resources Codes 4442 and 4443), Oregon and Washington require, by law that certain internal combustion engines operated on forest brush and/or grass-covered areas be equipped with a spark arrestor, maintained in effective working order, or the engine be constructed, equipped and maintained for the prevention of fire. Check with your state or local authorities for regulations pertaining to these requirements. Failure to follow these requirements could subject you to liability or a fine. **This unit is factory equipped with a spark arrestor.** If it requires replacement, ask your LOCAL SERVICE dealer to install the **Accessory Part #182747 Spark Arrestor Kit.**

FOR QUESTIONS, CALL 1-800-345-8746 IN U.S. OR 1-800-668-1238 in CANADA

WARNING!

Read the Operator's Manual(s) and follow all warnings and safety instructions. Failure to do so can result in serious injury to the operator and/or bystanders.

RULES FOR SAFE OPERATION

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and their explanations, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL	MEANING
	SAFETY ALERT SYMBOL: Indicates danger, warning, or caution. Attention is required in order to avoid serious personal injury. May be used in conjunction with other symbols or pictographs.
NOTE: Advises you of information or instructions vital to the operation or maintenance of the equipment.	

 **DANGER:** Failure to obey a safety warning will result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock, and personal injury.

 **WARNING:** Failure to obey a safety warning can result in injury to yourself and others. Always follow the safety precautions to reduce the risk of fire, electric shock, and personal injury.

 **CAUTION:** Failure to obey a safety warning may result in property damage or personal injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock, and personal injury.

• IMPORTANT SAFETY INFORMATION •

READ ALL INSTRUCTIONS BEFORE OPERATING

- Read the instructions carefully. Be familiar with the controls and proper use of the unit.
- Do not operate this unit when tired, ill, or under the influence of alcohol, drugs, or medication.
- Children and teens under the age of 15 must not use the unit, except for teens guided by an adult.
- All guards and safety attachments must be installed properly before operating the unit.
- Inspect the unit before use. Replace damaged parts. Check for fuel leaks. Make sure all fasteners are in place and secure. Replace parts that are cracked, chipped, or damaged in any way. Do not operate the unit with loose or damaged parts.
- Carefully inspect the area before starting the unit. Remove all debris and hard or sharp objects such as glass, wire, etc.
- Clear the area of children, bystanders, and pets. At a minimum, keep all children, bystanders and pets outside a 50 feet (15 m.) radius; there still may be a risk to bystanders from thrown objects. Bystanders should be encouraged to wear eye protection. If you are approached, stop the unit immediately.

SAFETY WARNINGS FOR GAS UNITS

 **WARNING:** Gasoline is highly flammable, and its vapors can explode if ignited. Take the following precautions:

- Store fuel only in containers specifically designed and approved for the storage of such materials.
- Avoid creating a source of ignition for spilled fuel. Do not start the engine until fuel vapors dissipate.

- Always stop the engine and allow it to cool before filling the fuel tank. Never remove the cap of the fuel tank, or add fuel, when the engine is hot. Never operate the unit without the fuel cap securely in place. Loosen the fuel tank cap slowly to relieve any pressure in the tank.
- Mix and add fuel in a clean, well-ventilated area outdoors where there are no sparks or flames. Slowly remove the fuel cap only after stopping engine. Do not smoke while fueling or mixing fuel. Wipe up any spilled fuel from the unit immediately.
- Move the unit at least 30 feet (9.1 m) from the fueling source and site before starting the engine. Do not smoke and keep sparks and open flames from the area while adding fuel or operating the unit.

WHILE OPERATING

- Never start or run the unit inside a closed room or building. Breathing exhaust fumes can kill. Operate this unit only in a well ventilated area outdoors.
- To reduce the risk of injury associated with thrown objects, wear safety glasses or goggles that are marked as meeting ANSI Z87.1-1989 standards,
- Never run the unit without the the proper equipment attached. When using this unit, always install the blower/vacuum tube, vacuum bag and make sure the vacuum bag is completely zipped closed.
- To reduce the risk of hearing loss associated with sound level(s), always wear ear/hearing protection when operating this unit.
- Wear heavy, long pants, boots and gloves. Do not wear, short pants, sandals or go barefoot.
- To reduce the risk of injury associated with objects being drawn into rotating parts, do not wear loose clothing, jewelry, scarves, and the like. Secure hair above shoulder level.
- Wear a face or dust mask if the operation is dusty. Long sleeve shirts are recommended.

RULES FOR SAFE OPERATION

- Use the unit only in daylight or good artificial light.
- Keep outside surfaces free from oil and fuel.
- Avoid accidental starting. Be in the starting position whenever pulling the starter rope. The operator and unit must be in a stable position while starting. See Starting/Stopping Instructions.
- Do not set unit on any surface except a clean, hard area while engine is running. Debris such as gravel, sand, dust, grass, etc. could be picked up by the air intake and thrown out by the discharge opening, damaging unit, property, or causing serious injury to bystanders or operator.
- Use the right tool. Only use this tool for the purpose intended.
- Do not force unit. It will do the job better and with less likelihood of injury at a rate for which it was designed.
- Do not overreach or use from unstable surfaces such as ladders, trees, steep slopes, rooftops, etc. Always keep proper footing and balance.
- Always hold the unit with a firm grip when operating.
- Keep hands, face, and feet at a distance from all moving parts. Do not touch or try to stop the impeller when it is rotating. Do not operate without guards in place.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dirt, debris and anything that may reduce the air flow.
- Do not touch the engine or muffler. These parts get extremely hot from operation. When turned off they remain hot for a short time.
- Do not operate the engine faster than the speed needed to do the job. Do not run the engine at high speed when not in use.
- Always stop the engine when operation is delayed or when walking from one location to another.
- Stop the engine for maintenance, repair, to install or remove the blower tubes or vacuum attachments. The unit must be stopped and the impeller no longer turning to avoid contact with the rotating blades.
- Use only genuine MTD® replacement parts when servicing this unit. These parts are available from your authorized service dealer. Do not use parts, accessories or attachments not authorized by MTD® for this unit. Doing so could lead to serious injury to the user, or damage to the unit, and void your warranty.
- Never use this unit for spreading chemicals, fertilizers, or other substances which may contain toxic materials.
- To reduce fire hazard, replace faulty muffler and spark arrestor, keep the engine and muffler free from grass, leaves, excessive grease or carbon build up.

WHILE OPERATING UNIT AS A BLOWER

- Never point the Blower in the direction of people or pets, or in the direction of windows. Always direct the blowing debris away from people, animals, and windows. Use extra caution when blowing debris near solid objects such as trees, automobiles, walls, etc.

WHILE OPERATING UNIT AS A VACUUM

- Avoid situations that could catch the vacuum bag on fire. Do not operate near an open flame. Do not vacuum warm ash from fireplaces, barbecue pits, brush piles, etc. Do not vacuum discarded cigars or cigarettes unless the cinders are completely cool.
- The unit is designed to pickup dry material such as leaves, grass, small twigs and bits of paper. Do not attempt to vacuum wet debris and/or standing water as this may result in damage to the Blower/ Vacuum. To avoid severe damage to the impeller, do not vacuum metal, broken glass, etc.

OTHER SAFETY WARNINGS

- Never store the unit, with fuel in the tank, inside a building where fumes may reach an open flame or spark.
- Allow the engine to cool before storing or transporting. Be sure to secure the unit while transporting.
- Store the unit in a dry place, either locked up or up high to prevent unauthorized use or damage. Keep out of the reach of children.
- Never douse or squirt the unit with water or any other liquid. Keep handles dry, clean and free from debris. Clean after each use, see Cleaning and Storage instructions.
- Keep these instructions. Refer to them often and use them to instruct other users. If you loan someone this unit, also loan them these instructions.

SPECIAL NOTE: Exposure to vibrations through prolonged use of gasoline powered hand tools could cause blood vessel or nerve damage in the fingers, hands, and joints of people prone to circulation disorders or abnormal swelling. Prolonged use in cold weather has been linked to blood vessel damage in otherwise healthy people. If symptoms occur such as numbness, pain, loss of strength, change in skin color or texture, or loss of feeling in the fingers, hands or joints, discontinue use of this tool and seek medical attention. An anti-vibration system does not guarantee avoidance of these problems. Users who operate power tools on a regular basis must closely monitor their physical condition and the condition of this tool.

SAVE THESE INSTRUCTIONS

RULES FOR SAFE OPERATION

SAFETY AND INTERNATIONAL SYMBOLS

This operator's manual describes safety and international symbols and pictographs that may appear on this product. Read the operator's manual for complete safety, assembly, operating and maintenance and repair information.

SYMBOL

MEANING



- **SAFETY ALERT SYMBOL**
Indicates danger, warning, or caution. May be used in conjunction with other symbols or pictographs.



- **WARNING - READ OPERATOR'S MANUAL**
Read the Operator's Manual(s) and follow all warnings and safety instructions. Failure to do so can result in serious injury to the operator and/or bystanders.



- **WEAR EYE AND HEARING PROTECTION**
WARNING: Thrown objects and loud noise can cause severe eye injury and hearing loss. Wear eye protection meeting ANSI Z87.1-1989 standards and ear protection when operating this unit. Use a full face shield when needed.



- **KEEP BYSTANDERS AWAY**
WARNING: Keep all bystanders, especially children and pets, at least 50 feet (15 m) from the operating area.



- **PRIMER**
Push primer bulb, fully and slowly, 5 to 7 times.



- **UNLEADED FUEL**
Always use clean, fresh unleaded fuel.



- **OIL**
Refer to operator's manual for the proper type of oil.



- **THROWN OBJECTS CAN CAUSE SEVERE INJURY**
WARNING: Keep clear of blower outlet. Never point the blower at yourself or others. Objects can be thrown from blower. Do not operate unit without proper attachments and guards in place.

SYMBOL

MEANING



- **ON/OFF STOP CONTROL**
ON / START / RUN



- **ON/OFF STOP CONTROL**
OFF OR STOP



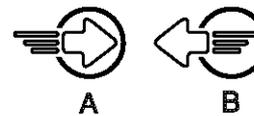
- **HOT SURFACE WARNING**
Do not touch a hot muffler or cylinder. You may get burned. These parts get extremely hot from operation. When turned off they remain hot for a short time.



- **CHOKER CONTROL**
A. FULL choke position.
B. PARTIAL choke position.
C. RUN position.



- **BLOWERS AND BLOWER/VACUUMS - ROTATING IMPELLER BLADES CAN CAUSE SEVERE INJURY**
WARNING: Stop the engine and allow the impeller to stop before installing or changing tubes or bag, or before cleaning or performing any maintenance.



- **BLOWER/VACUUM MODE CHANGE-OVER LEVER**
A - Vacuum mode
B - Blower mode



- **THROTTLE CONTROL**
Indicates "HIGH" or "FASTEST" speed.



- **THROTTLE CONTROL**
Indicates "IDLE", "LOW" or "SLOWEST" speed.

RULES FOR SAFE OPERATION

KNOW YOUR UNIT

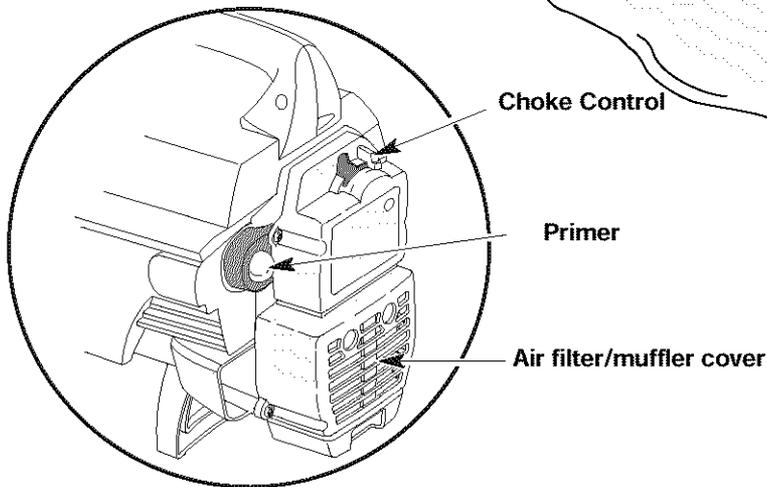
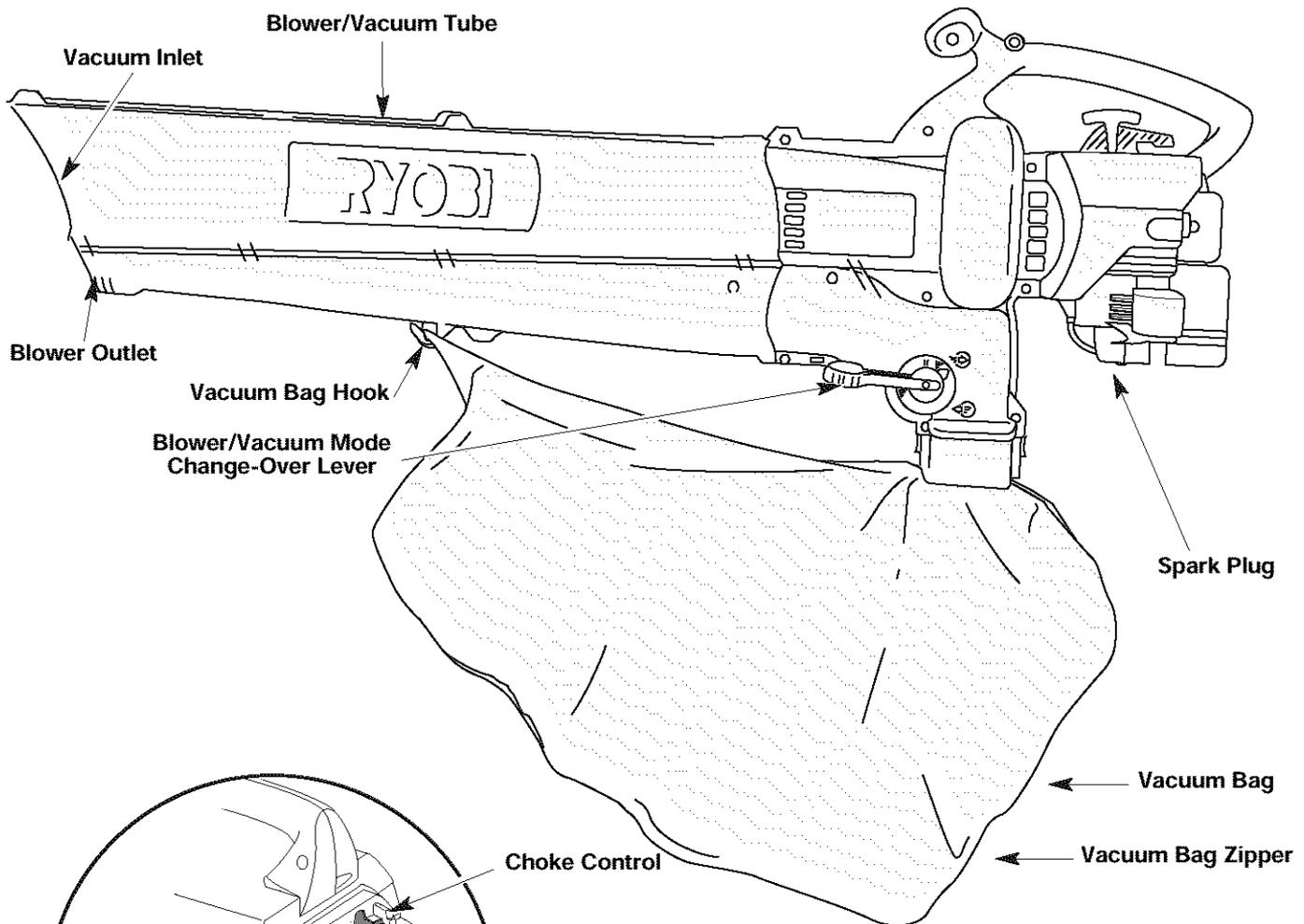
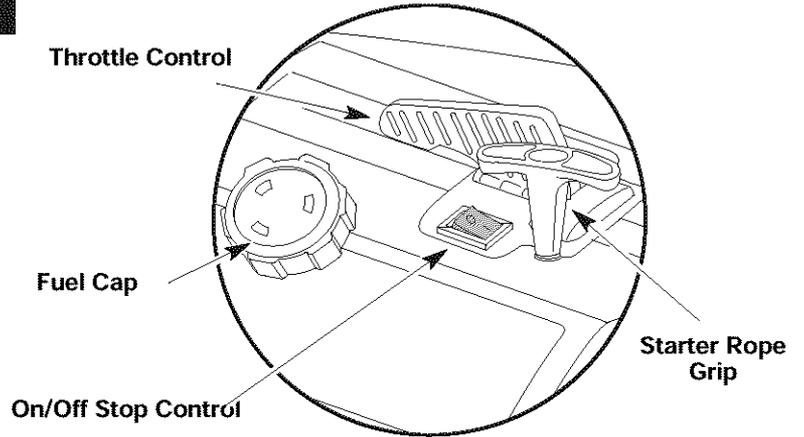
APPLICATION

As a blower;

- Cleaning of yards, garages, driveways, porches, patios, around walls, fences, etc.

As a vacuum;

- Picking up leaves, light debris, etc.



ASSEMBLY INSTRUCTIONS

ATTACHING AND REMOVING THE BLOWER/VACUUM TUBE



WARNING: To avoid serious personal injury, the blower/vacuum tube and vacuum bag must be used when operating this unit

Attaching

NOTE: The Blower/Vacuum Tube comes unassembled on this unit. Installation is required to provide safe and easy use for the operator.



WARNING: To prevent serious personal injury, stop the engine and allow the impeller to stop before attaching or removing tubes.

1. Remove the screws and nuts provided from the hardware pack.
2. Insert the blower/vacuum tube all the way into the opening on the motor housing until the holes in the tabs on the blower/vacuum tube align with the screw holes in the housing (Fig. 1).
3. Insert the 2 (two) 8-32 x 3/4" slotted T20 Torx screws into the right side of the motor housing and the 2 (two) nuts into the left side of the motor housing (Fig. 2).

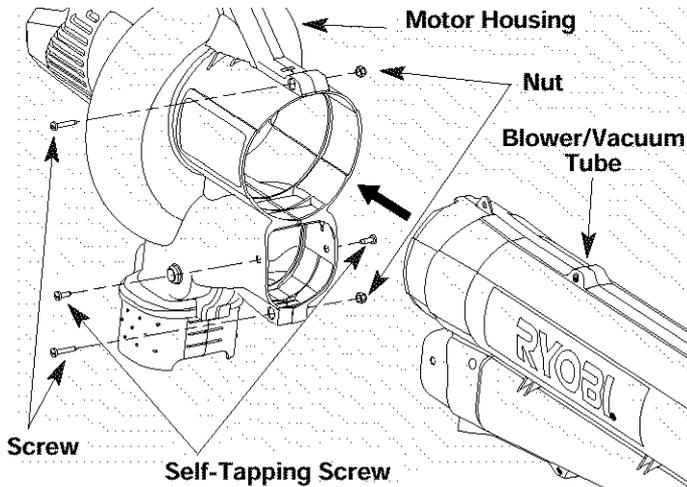


Fig. 1

4. Tighten the screws firmly. Do not over-tighten.
5. Install the 2 (two) remaining self-tapping 8-16 x 3/4" slotted T20 Torx screws into the holes on either side of the housing (Fig. 2). Tighten until snug, do not over-tighten.

Removing

NOTE: It may be necessary to remove the Blower/Vacuum Tube to clear a blocked tube or impeller.



WARNING: To prevent serious personal injury, stop the engine and allow the impeller to stop before attaching or removing tubes.

1. Remove the 2 (two) self-tapping screws from either side of the housing.
2. Remove the 2 (two) screws and nuts holding the blower/vacuum tube on the housing (Fig. 2).

NOTE: Keep the hardware in a safe place for future use.

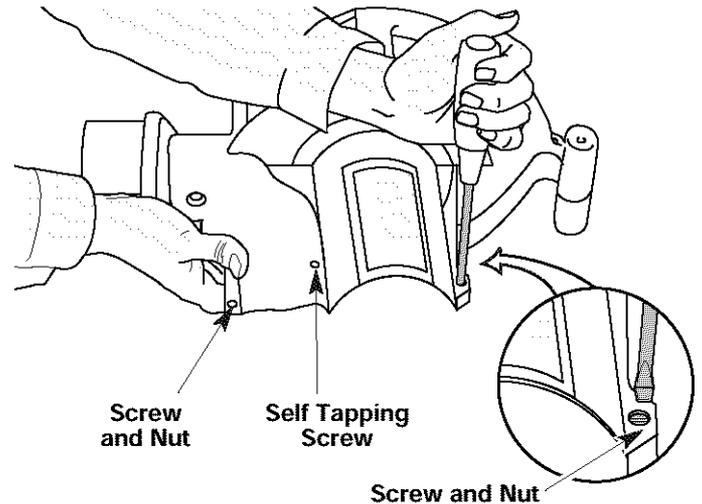


Fig. 2

3. Remove the blower/vacuum tube from the motor housing.
4. Replace Blower/Vacuum Tube before use.

ASSEMBLY INSTRUCTIONS

ATTACHING AND REMOVING THE VACUUM BAG

Attaching

1. Attach the vacuum bag to the vacuum bag hook on the blower/vacuum tube (Fig. 3)

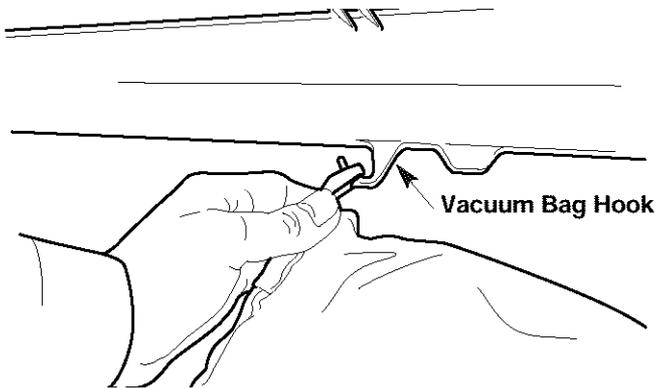


Fig. 3

2. Slide the vacuum bag tube over the debris exhaust tube on the housing. Push the tube until the latching tabs on both sides click into place, securing the bag on the unit (Fig. 4).

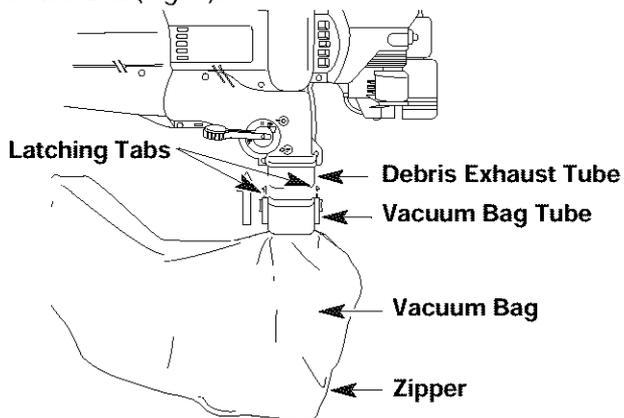


Fig. 4

Removing

1. Press the latching tabs on both sides of the vacuum bag tube and pull the vacuum bag down from the unit (Fig. 5).
2. Detach the vacuum bag from the vacuum bag hook.

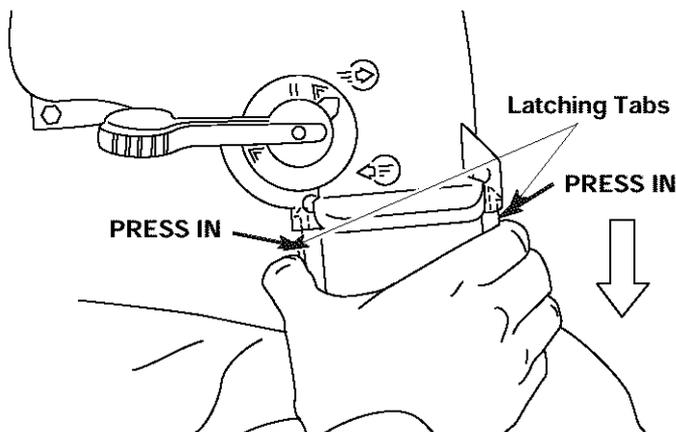


Fig. 5

INSTALLING THE HARNESS



WARNING: To avoid serious personal injury, never attempt to start the unit when standing and the unit clipped to the shoulder strap. Always follow the starting procedures as described in the **Operation** section.

1. Push the strap through the center of the buckle.
2. Pull the strap over the cross bar and down through the slot in the buckle (Fig. 6).

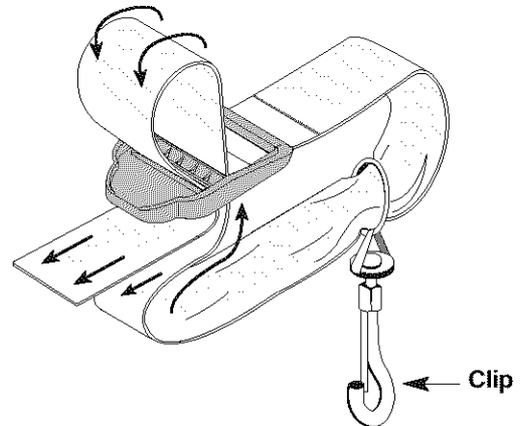


Fig. 6

3. Snap the clip on to the support fitting (Fig. 7).

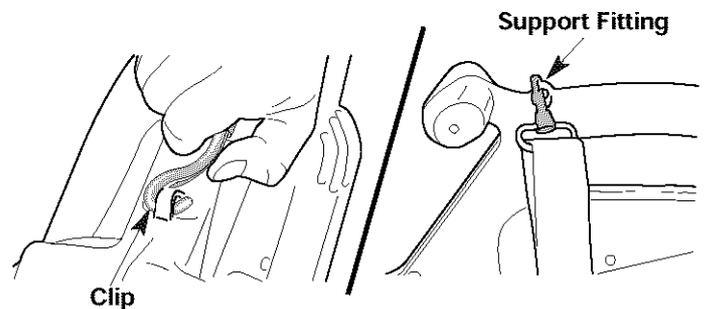


Fig. 7

4. While standing in the operating position adjust length to fit the operator's size. Pull tab to lengthen, pull strap to shorten (Fig 8).

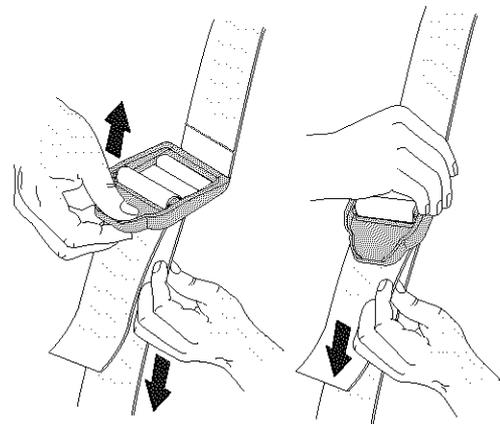


Fig. 8

OIL AND FUEL INFORMATION

OIL AND FUEL MIXING INSTRUCTIONS

Old and/or improperly mixed fuel are the main reasons for the unit not running properly. Be sure to use fresh, clean unleaded fuel. Follow the instructions carefully for the proper fuel/oil mixture.

Definition of Blended Fuels

Today's fuels are often a blend of gasoline and oxygenates such as ethanol, methanol or MTBE (ether). Alcohol-blended fuel absorbs water. As little as 1% water in the fuel can make fuel and oil separate. It forms acids when stored. When using alcohol-blended fuel, use fresh fuel (less than 60 days old).

Using Blended Fuels

If you choose to use a blended fuel, or its use is unavoidable, follow recommended precautions.

- Always use fresh fuel mix per your operator's manual.
- Use the fuel additive STA-BIL® or an equivalent.
- Always agitate the fuel mix before fueling the unit.
- Drain the tank and run the engine dry before storing the unit.

Using Fuel Additives

The use of fuel additive, such as STA-BIL® Gas Stabilizer or an equivalent, will inhibit corrosion and minimize the formation of gum deposits. Using a fuel additive can keep fuel from forming harmful deposits in the carburetor for up to six (6) months. Add 0.8 oz. (23 ml.) of fuel additive per gallon of fuel according to the instructions on the container. NEVER add fuel additives directly to the unit's fuel tank.

 **CAUTION:** For proper engine operation and maximum reliability, pay strict attention to the oil and fuel mixing instructions on the 2-cycle oil container. Using improperly mixed fuel can severely damage the engine.

Thoroughly mix the proper ratio of 2-cycle engine oil with unleaded gasoline in a separate fuel can. Use a 32:1 fuel/oil ratio. Do not mix them directly in the engine fuel tank. See the table below for specific gas and oil mixing ratios.

NOTE: One gallon (3.8 liters) of unleaded gasoline mixed with one 4 oz. (120 ml.) bottle of 2 CYCLE OIL makes a 32:1 fuel/oil ratio.

	+	
UNLEADED GAS		2 CYCLE OIL
1 US. GALLON (3.8 LITERS)	+	4.0 FL. OZ. (120 ml)
1 LITER + 30 ml		
MIXING RATIO - 32:1		

 **WARNING:** Gasoline is extremely flammable. Ignited Vapors may explode. Always stop the engine and allow it to cool before filling the fuel tank. Do not smoke while filling the tank. Keep sparks and open flames at a distance from the area.

 **WARNING:** Remove fuel cap slowly to avoid injury from fuel spray. Never operate the unit without the fuel cap securely in place.

 **WARNING:** Add fuel in a clean, well ventilated area outdoors. Wipe up any spilled fuel immediately. Avoid creating a source of ignition for spilt fuel. Do not start the engine until fuel vapors dissipate.

NOTE: Dispose of the old fuel/oil mix in accordance to Federal, State, and Local regulations.

STARTING/STOPPING INSTRUCTIONS

STARTING INSTRUCTIONS



WARNING: Avoid accidental starting. Be in the starting position whenever pulling the starter rope. The operator and unit must be in a stable position while starting.

Also, Do not set unit on any surface except a clean, hard area while starting. Debris such as gravel, sand, dust, grass, etc. could be picked up by the air intake and thrown out by the discharge opening, damaging unit, property, or causing serious injury to bystanders or operator.



WARNING: Operate this unit only in a well ventilated area outdoors. Carbon monoxide exhaust fumes can be lethal in a confined area.

1. Mix gas with oil. Fill fuel tank with fuel/oil mixture. See **Oil and Fuel Mixing Instructions**.



WARNING: To avoid serious personal injury, always remove the vacuum bag prior to refueling the unit. The bag may become a fire hazard when saturated with fuel.

NOTE: Have the shoulder harness on and adjusted, but not clipped to the support fitting prior to starting unit.

NOTE: Setting the lever to the blower mode prevents the vacuum bag from filling up while starting the engine.

NOTE: The throttle control will remain in the position it's placed until moved. Fast position is to the right.

NOTE: The On/Off Stop control is a momentary switch and is always in the **ON (I)** position (Fig. 9).

2. Set the blower/vacuum mode change-over lever to the up position (Blower Mode). See **Operating as a Blower**.

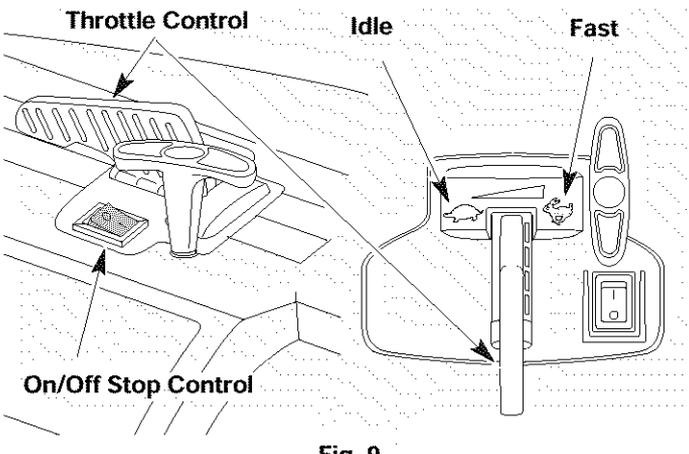


Fig. 9

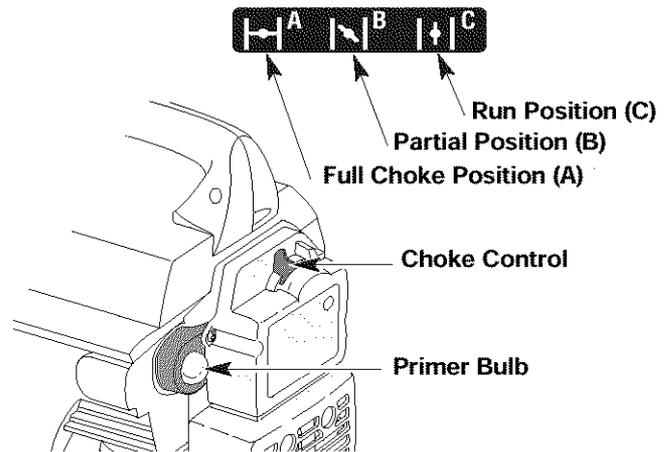


Fig. 10

3. Fully press and release primer bulb slowly 5 to 7 times. Fuel should be felt and visible in the bulb (Fig. 10). If fuel hasn't entered the bulb, press three more times, or until it does.
4. Place the Choke Control in the **FULL** choke (A) position (Fig. 10).
5. With the unit on the ground (Fig. 11), move the throttle control to the fast position () (Fig. 9).
6. Pull starter rope briskly (Fig. 11). Continue pulling until the engine sounds as though it wants to run (normally 2 to 5 pulls).
7. Place the Choke Control in the **PARTIAL** (B) position (Fig. 10).

NOTE: The unit will not run in the **FULL** choke (A) position.

8. Pull starter rope briskly 1 to 3 times to start the engine (Fig. 11).
9. If the engine does not start, repeat steps 3 through 6.
10. Allow the engine to warm up for 5 to 10 seconds. Place the choke control in the **RUN** (C) position (Fig. 10).
11. Stand in the operating position and clip the shoulder harness to the support fitting

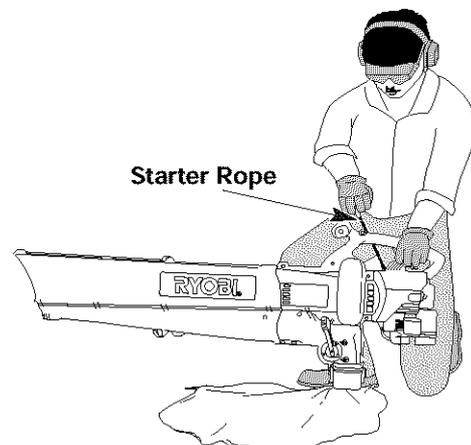


Fig. 11

STARTING/STOPPING INSTRUCTIONS

NOTE: If the engine floods while trying to start, place the choke control in the **RUN (C |+)** position. Move the throttle control to the fast position () (Fig 9). Pull the starter rope briskly. The engine should start with three (3) to eight (8) pulls.

NOTE: Choking is unnecessary when starting a warm engine. Put the throttle control in the fast position () (Fig 10), and start unit with the choke control in the **PARTIAL (B |v)** position (Fig. 10).

STOPPING INSTRUCTIONS

1. Move the throttle control to the idle position () (Fig. 9). Allow the engine to cool down by idling for 10-15 seconds.
2. Press and hold the On/Off Stop control down in the **STOP (O)** position until the engine comes to a complete stop (Fig. 9).

OPERATING INSTRUCTIONS

HOLDING THE BLOWER/VACUUM

Before operating the unit, stand in the operating position (Fig. 12). Check for the following:

- Operator is wearing proper clothing, such as boots, safety glasses or goggles, ear/hearing protection, gloves, long pants and long sleeve shirt.

 **WARNING:** To avoid serious personal injury, wear goggles or safety glasses at all times when operating this unit. Wear a face mask or dust mask in dusty locations.

- If the conditions are dusty, a dust mask or face mask is being worn.
- The unit is in good working condition.
- The tubes and guards are in place and secure.

 **WARNING:** To prevent serious personal injury to yourself or others, or damage to the unit, make sure blower/vacuum tube and vacuum bag are in place before operating the unit.



Fig. 12

OPERATING TIPS

- Be sure the vacuum bag is zipped closed before operating the unit.
- Assure the unit is not directed at loose debris or persons before starting unit.
- The unit is in good working condition. The tubes and guards are in place and secure.
- Always hold the unit with both hands when operating. Keep a firm grip on both the front and rear handle or grips.
- To reduce the risk of hearing loss associated with sound level(s), the use of hearing protection is required.
- Operate power equipment only at reasonable hours not early in the morning or late at night when people might be disturbed. Comply with time listed in local ordinance. Usual recommendations are 9:00 am to 5:00 pm, Monday through Saturday.
- To reduce noise levels, limit the number of pieces of equipment used at any one time.
- To reduce noise levels, operate power blowers at the lowest possible speed to do the job.
- Check your equipment before operation, especially the muffler, air intakes, and air filters.
- Use rakes and brooms to loosen debris before blowing.
- In dusty conditions, slightly dampen surfaces or use a mister attachment when water is available.
- Conserve water by using power blowers instead of hoses for many lawn and garden applications, including areas such as gutters, screens, patios, grills, porches, and gardens.
- Watch out for children, pets, open windows, or freshly washed cars, and blow debris away.
- After using blowers and other equipment, CLEAN UP! Dispose of debris in trash receptacles.

OPERATING INSTRUCTIONS

OPERATING AS A BLOWER

1. Start engine. See **Starting/Stopping Instructions**.
2. Set the blower/vacuum mode change-over lever to the up position (Blower Mode) (Fig. 13).

NOTE: Never use the unit with the lever in the halfway position.

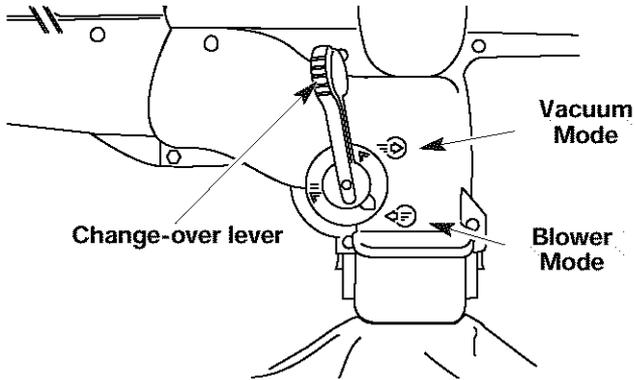


Fig. 13

3. Place the shoulder harness over your head and onto your shoulder and adjust properly, see **Installing and Adjusting the Shoulder Harness**.

Hold the blower as shown in Figures 14, 15, and 16. Sweep from side to side with the nozzle several inches above the ground or floor. Slowly advance, keeping the accumulated pile of debris in front of you.

Most dry blowing operations are better suited to low speed than high, while high speed is better for moving heavier items like large debris or gravel.

Use the blower for trees, shrubs, flower beds and hard to clean areas (Fig. 14).



Fig. 14

Use the blower around buildings and for other normal cleaning (Fig. 15).



Fig. 15

Use the blower for walls, overhangs and screens (Fig. 16).

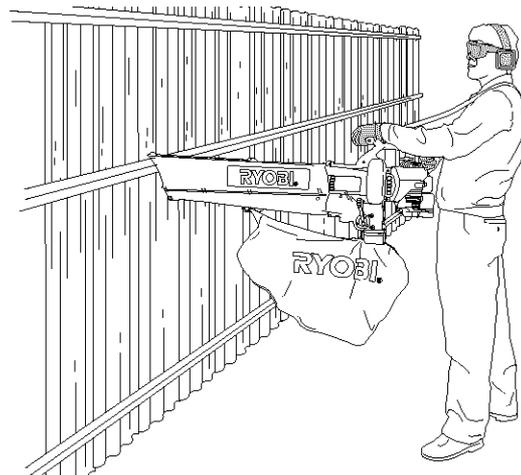


Fig. 16

OPERATING INSTRUCTIONS

OPERATING AS A VACUUM

1. Start engine. See **Starting/Stopping Instructions**.
2. Set the blower/vacuum mode change-over lever to the down position (Vacuum Mode) (Fig. 17).

NOTE: Never use the unit with the lever in the halfway position.

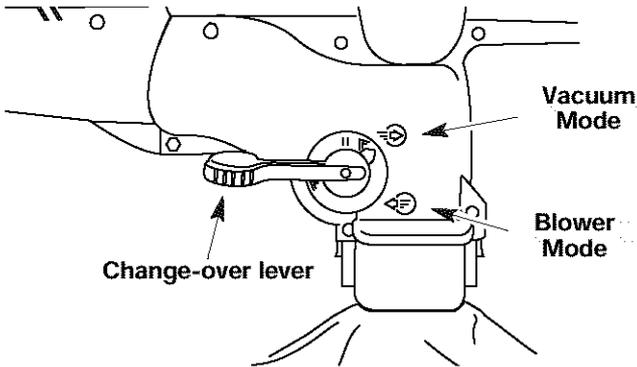


Fig. 17

Hold the vacuum tube 50-100 mm (2-4 in.) off the ground, tilting the blower/vacuum tube slightly, and use a sweeping action to collect light debris (Fig. 18). Small leaves and twigs will flow into the vacuum bag and be mulched as they pass through the fan housing, allowing the vacuum bag to hold more debris.



Fig. 18



WARNING: As a vacuum, the unit is designed to pick up dry material such as leaves, grass, small twigs and bits of paper. To avoid serious personal injury, do not attempt to vacuum wet debris and/or standing water as this may result in damage to the Blower/ Vacuum. To avoid severe damage to the impeller, do not vacuum metal, broken glass, etc.



WARNING: Avoid situations that could catch the vacuum bag on fire. Do not operate near an open flame. Do not vacuum warm ash from fireplaces, barbecue pits, brush piles, etc. Do not vacuum discarded cigars or cigarettes unless the cinders are completely cool.

When the bag is full, suction will noticeably decrease. Turn off the unit before removing the bag. Unzip the bag and empty the contents before continuing.

NOTE: Empty the bag after each use to avoid deterioration and obstructing air flow, which will reduce the performance of the vacuum.

CLEARING A BLOCKED TUBE / IMPELLER



WARNING: To avoid serious personal injury, be sure the unit is off before cleaning or performing any maintenance on it.



WARNING: To avoid serious personal injury, always wear gloves to protect yourself from the impeller blades or other sharp objects.

1. Press and hold the On/Off Stop control down in the **STOP (O)** position until the engine comes to a complete stop (Fig. 9).
2. Disconnect the spark plug wire to prevent the unit from starting.
3. Remove the blower/vacuum tube and the vacuum bag.
4. Carefully remove material blocking the tube or impeller. Inspect the blades to assure no damage has occurred. Rotate the impeller blades by hand to assure the blockage is completely cleared.
5. Reinstall the vacuum bag and blower/vacuum tube.
6. Reconnect the spark plug wire.

OPERATING INSTRUCTIONS

EMPTY THE VACUUM BAG



WARNING: To avoid serious personal injury, never unzip or remove the vacuum bag without first turning the unit off.

NOTE: Empty the bag after each use to avoid deterioration and obstructing air flow, which will reduce the performance of the vacuum.



WARNING: Wear eye protection and a dust mask when emptying the vacuum bag.

1. While pressing the latching tabs on both sides of the vacuum bag tube, pull the vacuum bag down off the unit (Fig. 19).
2. Detach the vacuum bag from the vacuum bag hook.

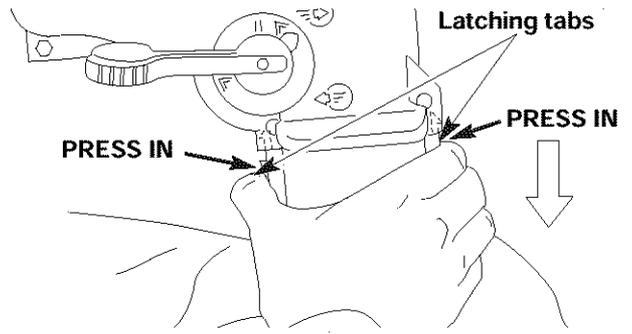


Fig. 19

3. Unzip the bag and empty the contents into a garbage bag or container.
4. Turn the bag inside out after initial emptying and vigorously shake out dust and debris.
5. Return the bag to outside in, zip the bag closed and reinstall vacuum bag.

MAINTENANCE AND REPAIR INSTRUCTIONS

NOTE: Some maintenance procedures may require special tools or skills. If you are unsure about these procedures take your unit to an authorized service dealer.

MAINTENANCE SCHEDULE

These required maintenance procedures should be performed at the frequency stated in the table. They should also be included as part of any seasonal tune-up.



WARNING: To prevent serious injury, never do maintenance or repairs with unit running. Always do maintenance and repairs on a cool unit. Disconnect spark plug wire to ensure the unit will not start.

NOTE: Maintenance, Replacement, or Repair of the emission control devices and system may be performed by any non-road engine repair establishment, individual or authorized service dealer.

In order to assure peak performance of your engine, inspection of the engine exhaust port may be necessary after 50 hours of operation. If you notice lost RPM, poor performance or general lack of acceleration, this service may be required. If you feel your engine is need of this inspection, refer service to an authorized servicing dealer, or establishment for repair. **DO NOT** attempt to perform this process yourself as engine damage may result from contaminants involved in the cleaning process for the port.

FREQUENCY	MAINTENANCE REQUIRED	REFER TO:
Before Starting Engine	Fill fuel tank with correct oil and fuel mixture.	Page 10
Every 10 Hours	Clean and re-oil air filter.	Page 16
Every 25 Hours	Check Spark Arrestor and Clean Check spark plug condition and gap.	Page 17 Page 18
Every 50 Hours	Inspect exhaust port and spark arrestor screen for clogging or obstruction to assure maximum performance levels	Page 17

MAINTENANCE AND REPAIR INSTRUCTIONS

AIR FILTER MAINTENANCE

Removing the Air Filter/Muffler Cover



WARNING: To avoid serious personal injury, always turn the unit off and allow it to cool before you clean or perform any maintenance on it.

1. Place the choke control in the **PARTIAL** choke position (B).

NOTE: The choke control must be in the **PARTIAL** choke position (B) (Fig. 20) to remove the air filter/muffler cover.

2. Remove the four (4) screws securing the air filter/muffler cover (Fig. 20). Use a flat blade or # T20 Torx bit screwdriver.
3. Pull the cover from the engine. Do not force.

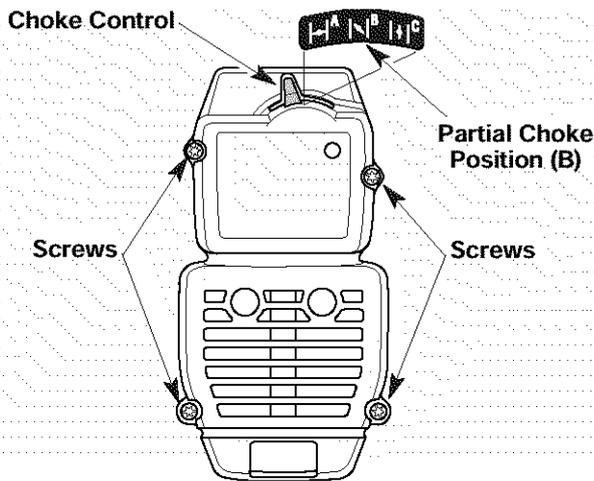


Fig. 20

Cleaning the Air Filter



WARNING: To avoid serious personal injury, always turn the unit off and allow it to cool before you clean or perform any maintenance on it.

Clean and re-oil the air filter every 10 hours of operation. It is an important item to maintain. Not maintaining the air filter will **VOID** the warranty.

1. Remove the air filter/muffler cover. See **Removing the Air filter/Muffler Cover**.
2. Remove the air filter from behind the air filter/muffler cover. (Fig. 21).

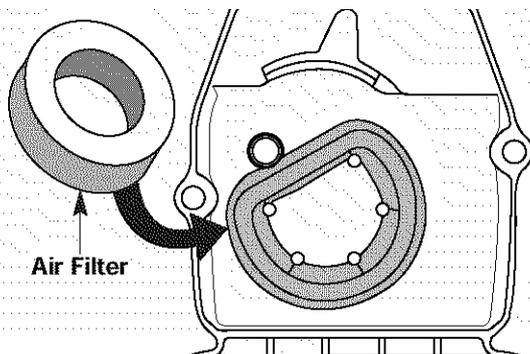


Fig. 21

3. Wash the filter in detergent and water (Fig. 22). Rinse the filter thoroughly. Squeeze out excess water. Allow it to dry completely.

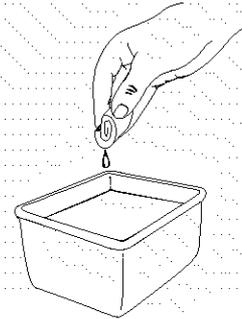


Fig. 22

4. Apply enough clean SAE 30 oil to lightly coat the filter (Fig. 23).

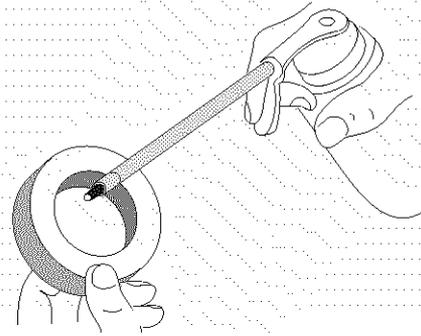


Fig. 23

5. Squeeze the filter to spread and remove excess oil (Fig. 24).

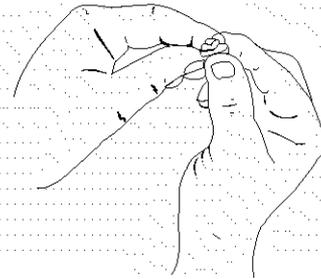


Fig. 24

6. Replace the air filter in the air filter/muffler cover (Fig. 21).

NOTE: Operating the unit without the air filter and air filter/muffler cover assembly, will **VOID** the warranty.

Reinstalling the Air filter/Muffler Cover

1. Place the air filter/muffler cover over the back of the carburetor and muffler.

NOTE: The choke control must be in the **PARTIAL** choke position (B) (Fig. 20) to install the air filter/muffler cover.

2. Insert the four (4) screws into the holes in the air filter/muffler cover (Fig. 20) and tighten. Use a flat blade or # T20 Torx bit screwdriver. Do not over tighten. Do not force.

MAINTENANCE AND REPAIR INSTRUCTIONS

SPARK ARRESTOR MAINTENANCE

1. Remove air filter/muffler cover. See **Removing the Air Filter/Muffler Cover**.
2. Locate muffler front and the two (2) bolts securing it to the engine. (Fig. 25). Remove the two (2) bolts using a flatblade screwdriver or 5/16-inch socket or nut driver. Pull muffler off of the engine.
3. Turn muffler over to the back side and locate the exhaust gasket. Remove the muffler gasket from the muffler (Fig. 25).

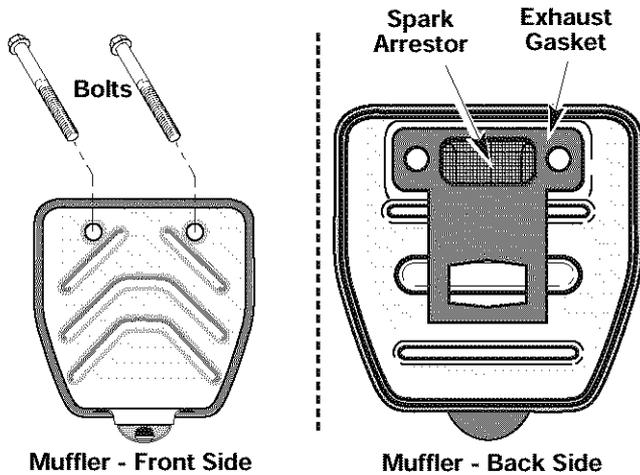


Fig. 25

NOTE: If exhaust gasket is torn or damaged, replace with a new gasket before reassembling muffler.

4. Using a small flatblade screwdriver, carefully pry up the spark arrestor from the recessed hole (Fig. 26). Remove spark arrestor from muffler.
5. Clean the spark arrestor with a wire brush. Replace if damaged or unable to clean thoroughly (Fig. 26).
6. Reinstall the spark arrestor by pressing it into the recessed hole on muffler's back side. Make sure it fits tightly against the muffler and is not raised up.

7. Place exhaust gasket against muffler's back side. Align exhaust gasket bolt holes with bolt holes in muffler. While holding exhaust gasket in place, insert bolts into muffler's front side. (Fig. 25).

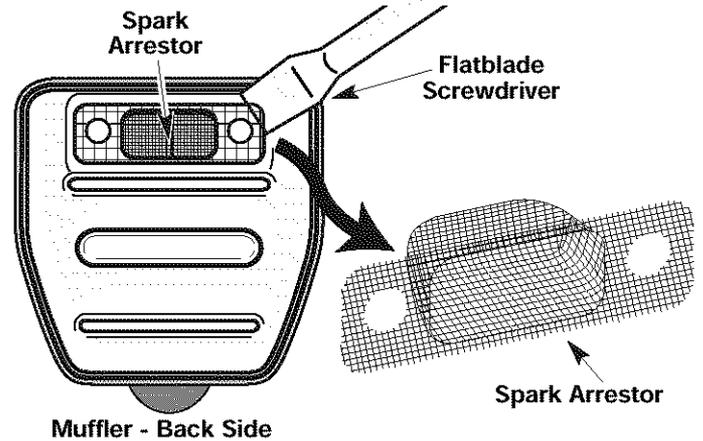


Fig. 26

8. Place muffler with exhaust gasket in place and bolts inserted, against the engine, aligning the bolt holes. Tighten bolts to secure muffler to the engine. If using a torque wrench torque to:
80-90 in. •lb. (9-10.2 N•m).

WARNING: If muffler is not tightened securely, it could fall off causing damage to the unit and possible serious personal injury.

9. Reinstall air filter/muffler cover.

MAINTENANCE AND REPAIR INSTRUCTIONS

CARBURETOR SETTING

The idle speed adjuster of the engine is adjustable through the Air filter/muffler cover (Fig 27).

NOTE: Careless adjustments can seriously damage your unit. An authorized service dealer should make carburetor adjustments.

Check Fuel Mixture

Old and/or improperly mixed fuel is usually the reason for the unit not running properly. Drain and refill the tank with fresh, properly mixed fuel prior to making any adjustments. Refer to **Oil and Fuel Information**.

Clean Air Filter

The condition of the air filter is important to the operation of the unit. A dirty air filter will restrict air flow and change the air/fuel mixture. This is often mistaken for an out of adjustment carburetor. Check the condition of the air filter before adjusting the idle speed adjuster. Refer to **Air Filter Maintenance**.

Adjust Idle Speed Adjuster

 **WARNING:** This unit will need to be running during idle speed adjustment. Wear protective clothing and observe all safety instructions to prevent serious personal injury.

Also, DO NOT set unit on any surface except a clean, hard area while starting or performing any adjustments. Debris such as gravel, sand, dust, grass, etc. could be picked up by the air intake and thrown out by the discharge opening, damaging unit, property, or causing serious injury to bystanders or operator.

If after checking the fuel mixture and cleaning the air filter the engine still will not idle, adjust the idle speed adjuster as follows.

1. Start the engine and let it run at a high idle for a minute to warm up.
2. Set the blower/vacuum mode change-over lever to the up position (Blower Mode). See **Operating as a Blower**.

NOTE: Setting the lever to the blower mode prevents the vacuum bag from filling up while starting or running the unit.

3. Move the throttle control and let the engine idle. If the engine stops, insert a small phillips or flat blade screwdriver into the hole in the air filter/muffler cover (Fig. 27). Turn the idle speed adjuster in, clockwise, 1/8 of a turn at a time (as needed) until the engine idles smoothly.
4. If the unit appears to be idling too fast, turn the idle speed adjuster counterclockwise 1/8 of a turn at a time (as needed), to reduce idle speed.

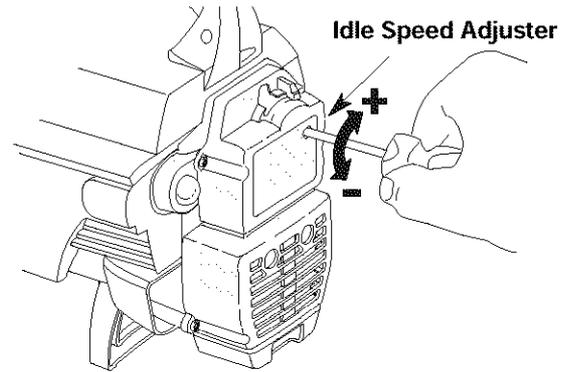


Fig. 27

Checking the fuel mixture, cleaning the air filter, and adjusting the idle speed screw should solve most engine problems.

If not and:

- The engine will not idle,
- The engine hesitates or stalls on acceleration,
- There is a loss of engine power,

have the carburetor adjusted by an authorized service dealer.

REPLACING THE SPARK PLUG

Use a Champion RDJ7Y spark plug (or equivalent). The correct air gap is 0.020 in. (0.5 mm.). Remove the plug after every 25 hours of operation to check its condition.

1. Stop the engine and allow it to cool. Grasp the plug wire firmly and pull the cap from the spark plug.
2. Clean dirt from around the spark plug. Remove the spark plug from the cylinder head by turning a 5/8 in. socket counterclockwise.

Note: Replace cracked, fouled or dirty spark plug.

3. Set the air gap at 0.020 in. (0.5 mm.) using a feeler gauge (Fig. 28).

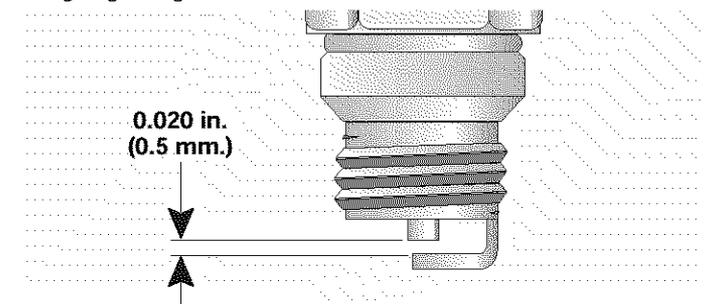


Fig. 28

 **CAUTION:** Do not sand blast, scrape, or clean electrodes. Grit in the engine could damage the cylinder.

4. Install a correctly gaped spark plug in the cylinder head. Tighten by turning the 5/8 in. socket clockwise until snug.

If using a torque wrench torque to:

110-120 in. •lb.. (12.3-13.5 N•m).

Do not over tighten.

CLEANING AND STORAGE

CLEANING THE UNIT



WARNING: To avoid serious personal injury, always turn the unit off and allow it to cool before you clean or perform any maintenance on it.

- Use a small brush to clean off the outside of the unit and to keep the air vents free of obstructions.
- Do not use strong detergents or petroleum based cleaners, such as kerosene. Some household cleaners contain aromatic oils such as pine and lemon that can damage the plastic housings or handles. Wipe off any moisture with a soft cloth.

CLEANING THE VACUUM BAG

1. Empty the bag after each use to avoid deterioration and obstructing air flow, which will reduce the performance of the vacuum.
2. Wearing eye protection and a dust mask, clean the bag as needed. Turn the bag inside out after initial emptying and vigorously shake out dust and debris.
3. Wash the bag once a year or more often if needed:
 - a. Remove the vacuum bag.
 - b. Turn bag inside out.
 - c. Hang up.
 - d. Hose down thoroughly.
 - e. Hang to dry.
 - f. Turn bag right-side out and reinstall.

STORAGE

- Store the unit indoors, away from moisture and harmful substances such as fertilizers and solvents.
- Never store the unit with petrol (gasoline) in the tank where fumes may reach an open flame or spark.
- Allow the engine to cool before storing.
- Store the unit locked up area to prevent unauthorized use or damage.
- Store the unit in a dry, well ventilated area.
- Store the unit out of the reach of children.

LONG TERM STORAGE

If the unit will be stored for an extended time,

1. Drain all fuel from the fuel tank into a container. Do not use fuel that has been stored for more than 60 days. Dispose of the old fuel in accordance to local regulations.
 2. Start the engine and allow it to run until it stalls. This ensures that all fuel has been drained from the carburetor.
 3. Allow the engine to cool. Remove the spark plug and put 1 oz. (30 ml.) of high quality motor oil into the cylinder. Pull the starter rope slowly to distribute the oil. Reinstall the spark plug.
- NOTE:** Remove the spark plug and drain all of the oil from the cylinder before attempting to start the blower/vacuum after storage.
4. Thoroughly clean the unit and inspect for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts. The unit is ready for storage.

TRANSPORTING

- Allow the engine to cool before transporting.
- Secure the unit while transporting.
- Drain the fuel tank before transporting.
- Tighten fuel cap before transporting.

ACCESSORIES/REPLACEMENT PARTS

2-Cycle Oil	147543
Spark Plug	610311
Fuel Cap	180000
Vacuum Bag	182416
Blower/Vacuum Tube Assembly	182415
Shoulder Harness	682075

TROUBLESHOOTING

ENGINE WILL NOT START

CAUSE

Empty fuel tank
Primer bulb wasn't pressed enough
Engine flooded

Old or improperly mixed fuel
Fouled spark plug

ACTION

Fill fuel tank
Press primer bulb fully and slowly 5-7 times
Use starting procedure with choke control in the RUN position, Pg. 11
Drain fuel tank / Add fresh fuel mixture
Replace or clean the spark plug

ENGINE WILL NOT IDLE

CAUSE

Air Filter is Plugged
Old or improperly mixed fuel
Improper carburetor adjustment

ACTION

Replace or clean the air filter
Drain fuel tank / Add fresh fuel mixture
Adjust per instruction Pg. 18

ENGINE WILL NOT ACCELERATE

CAUSE

Old or improperly mixed fuel
Improper carburetor adjustment

ACTION

Drain fuel tank / Add fresh fuel mixture
Take to an authorized service dealer for carburetor adjustment

ENGINE LACKS POWER OR STALLS WHEN UNDER LOAD

CAUSE

Old or improperly mixed fuel
Improper carburetor adjustment

ACTION

Drain fuel tank / Add fresh fuel mixture
Take to an authorized service dealer for carburetor adjustment

UNIT WILL NOT BLOW OR VACUUM

CAUSE

Bag Full
Blocked Tube

Blocked Impeller

Damaged Impeller

ACTION

Empty Bag. See **Empty the Vacuum Bag.**
Clear Blockage. See Clearing a Blocked tube/Impeller.
Clear Blockage. See Clearing a Blocked tube/Impeller.
Take unit to an authorized service dealer

SPECIFICATIONS

ENGINE

Engine Type	Air-Cooled, 2-Cycle
Displacement	31 cc
Operating RPM	6,600-8,000 rpm
Idle Speed RPM	3,800-4,200 rpm
Ignition Type	Electronic
On/Off Stop Control	Momentary Rocker Switch
Spark Plug Gap	0.020 inch (0.5 mm)
Lubrication	Fuel/Oil Mixture
Fuel/Oil Ratio	32:1
Carburetor	Diaphragm, All-Position
Starter	Auto Rewind
Muffler	Baffled with Guard
Throttle	Manual
Fuel Tank Capacity	14 ounces (415 ml)

BLOWER / VACUUM

Throttle Control	Finger-Tip Lever
Blower Velocity	up to 160 mph (257 kmh)
Blower Air Output	up to 424 cfm (12.1 cmm)
Mulching Ratio	up to 10:1
Vacuum Bag Capacity	0.75 bushels (26.4 Liters)
Shoulder Harness	Single Quick-Snap
Weight (no fuel, with blower/vacuum tube and vacuum bag, vacuum bag empty)	13.5 lb. (6.1 kg)

NOTES

EPA Emission Control Warranty Statement

Your Warranty Rights and Obligations

The Environmental Protection Agency and MTD SOUTHWEST INC (MTD) are pleased to explain the emission control system warranty on your 2002 and later small off-road engine. New small off-road engines must be designed, built and equipped to meet stringent anti-smog standards. MTD must warrant the emission control system on your small off-road engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor or fuel-injected system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, MTD will repair your small off-road engine at no cost to you including diagnosis, parts and labor.

The 2002 and later small off-road engines are warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by MTD.

Owners Warranty Responsibilities

- As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your operator's manual. MTD recommends that you retain all receipts covering maintenance on your small off-road engine, but MTD cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the small off-road engine owner, you however should be aware that MTD may deny you warranty coverage if your small off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.
- You are responsible for presenting your small off-road engine to a MTD Authorized Service Center as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should call 1-800-345-8746.

Manufacturer's Warranty Coverage

- The warranty period begins on the date the engine or equipment is delivered to the retail purchaser.
- The manufacturer warrants to the initial owner and each subsequent purchaser, that the engine is free from defects in material and workmanship which cause the failure of a warranted part for a period of two years.
- Repair or replacement of warranted part will be performed at no charge to the owner at an Authorized MTD Service Center. For the nearest location please contact MTD at: 1-800-345-8746.
- Any warranted part which is not scheduled for replacement, as required maintenance or which is scheduled for only for regular inspection to the effect of "Repair or Replace as Necessary" is warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance will be warranted for the period of time up to the first scheduled replacement point for that part.
- The owner will not be charged for diagnostic labor which leads to the determination that a warranted part is defective, if the diagnostic work is performed at an Authorized MTD Service Center.
- The manufacturer is liable for damages to other engine components caused by the failure of a warranted part still under warranty.
- Failures caused by abuse, neglect or improper maintenance are not covered under warranty.
- The use of add-on or modified parts can be grounds for disallowing a warranty claim. The manufacturer is not liable to cover failures of warranted parts caused by the use of add-on or modified parts.
- In order to file a claim, go to your nearest Authorized MTD Service Center. Warranty services or repairs will be provided at all Authorized MTD Service Centers.
- Any manufacturer approved replacement part may be used in the performance of any warranty maintenance or repair of emission related parts and will be provided without charge to the owner. Any replacement part that is equivalent in performance or durability may be used in non-warranty maintenance or repair and will not reduce the warranty obligations of the manufacturer
- The following components are included in the emission related warranty of the engine, air filter, carburetor, primer, fuel lines, fuel pick up/ fuel filter, ignition module, spark plug and muffler.

MANUFACTURER'S LIMITED WARRANTY FOR:

RYOBI®

The limited warranty set forth below is given by MTD SOUTHWEST INC ("MTD") with respect with new merchandise purchased and used in the United States, its possessions and territories.

MTD warrants this product against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in material or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by MTD for use with the product(s) covered by this manual will void your warranty as to any resulting damage.

This warranty is limited to ninety (90) days from the date of original retail purchase for any MTD product that is used for rental or commercial purposes, or any other income-producing purpose.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE THROUGH YOUR LOCAL AUTHORIZED SERVICE DEALER. To locate the dealer in your area, please check for a listing in the Yellow Pages or contact the Customer Service Department of MTD SOUTHWEST INC by calling 1-800-345-8746 or writing to 550 N. 54th Street, Chandler, Arizona 85226 or if in Canada call 1-800-668-1238. No product returned directly to the factory will be accepted unless prior written permission has been extended by the Customer Service Department of MTD SOUTHWEST INC.

This limited warranty does not provide coverage in the following cases:

- A. Tune-ups - Spark Plugs, Carburetor Adjustments, Filters
- B. Wear items - Bump Knobs, Outer Spools, Cutting Line, Inner Reels, Starter Pulley, Starter Ropes, Drive Belts
- C. MTD 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.

MTD reserves the right to change or improve the design of any RYOBI Product without assuming any obligation to modify any product previously manufactured.

No implied warranty, including any implied warranty of merchantability or fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty or guaranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product shall bind MTD. During the period of the Warranty, the exclusive remedy is repair or replacement of the product as set forth above. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

The provisions as set forth in this Warranty provide the sole and exclusive remedy arising from the sales. MTD shall not be liable for incidental or consequential loss or damages including, without limitation, expenses incurred for substitute or replacement lawn care services, for transportation or for related expenses, or for rental expenses to temporarily replace a warranted product. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of the safety features of the product shall void this Warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the use or misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser, original lessee or the person for whom it was purchased as a gift.

How State Law Relates to this Warranty: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

To locate your nearest service dealer dial 1-800-345-8746 in the United States or 1-800-668-1238 in Canada.

MTD SOUTHWEST INC

550 N. 54th Street
Chandler, AZ 85226 U.S.A.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

FOR QUESTIONS CALL 1-800-345-8746 IN U.S.

OR 1-800-668-1238 IN CANADA