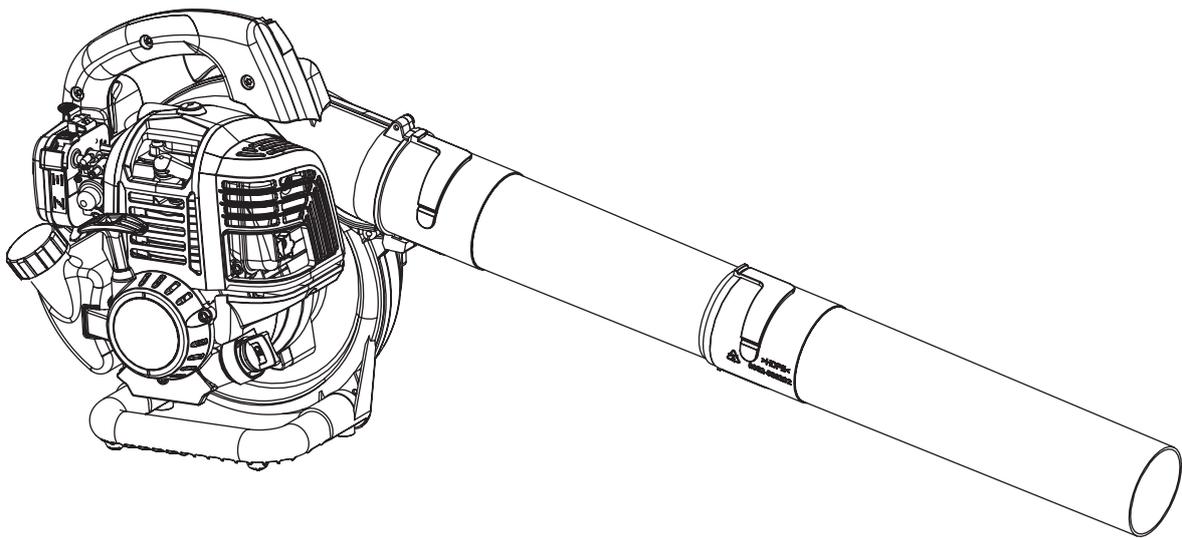




4-Cycle 1.62 cu in. (26.5 cc) Engine Gasoline Powered Blower

Operator's manual
Model: BL4QL-L-EU



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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.

DANGER

Signals an EXTREME hazard. Failure to obey a safety DANGER symbol WILL result in serious injury or death to yourself or to others.

WARNING

Crude oil, gasoline, diesel fuel and other petroleum products can expose you to chemicals including toluene and benzene, which are known to the State of California to cause cancer and birth defects or other reproductive harm. These exposures can occur in and around oil fields, refineries, chemical plants, transport and storage operations such as pipelines, marine terminals, tank trucks and other facilities and equipment. For more information go to: www.P65Warnings.ca.gov/petroleum.

WARNING

Signals a SERIOUS hazard. Failure to obey a safety WARNING symbol CAN result in serious injury to yourself or to others.

TECHNICAL DATA

Model Number:	BL4QL-L
Engine Type:	Air-Cooled, 4-Cycle
Displacement:	1.62 cu in. (26.5 cc)
Spark Plug Gap:	0.025 in. - 0.31 in. (0.6 - 0.8 mm)
Lubrication:	SAE 30 Oil
Crankcase Lubrication Capacity:	2.03 oz. (60 ml)
Fuel Tank Capacity:	9.47 oz. (280 ml)
Approximate unit weight (no fuel):	9.26 lbs. (4.2 kg)
Air Blowing Speed:	123 mph (198 km/h)
Volume of Air Moved:	410 CFM (696 m ³ /h)

CAUTION

Signals a MODERATE hazard. Failure to obey a safety CAUTION symbol MAY result in property damage or injury to yourself or to others.

Note: Advises you of information or instructions vital to the operation or maintenance of the equipment.

SPARK ARRESTOR NOTE

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. For location and purchase information call 1-800-261-3981.

CALIFORNIA PROPOSITION 65

WARNING

This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

Read the operator’s manual and follow all warnings and safety instructions. Failure to do so can result in serious injury to the operator and/or bystanders.

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE OPERATING

WARNING

When using the unit, all safety instructions must be followed. Please read these instructions before operating the unit in order to ensure the safety of the operator and any bystanders. Please keep these instructions for later use.

- 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.
- Inspect unit before each use. Replace damaged parts. Check for fuel leaks. Make sure all visible fasteners are in place and secure. Make sure attachments are properly installed and securely fastened. Be sure guards are properly attached and in the position recommended by the manufacturer.
- Never allow children to operate the unit. Teens must be trained, accompanied and supervised by an adult. Never allow adults to operate the unit without proper instruction.
- All guards and safety attachments must be installed properly before operating the unit.
- Mix and pour fuel outdoors where there are no sparks or flames. Slowly remove the fuel cap only after stopping the engine. Do not smoke while fueling or mixing fuel. Wipe spilled fuel from the unit. Move at least 3 m (10 ft) away from the fueling source and site before starting engine. Always store gasoline in a container approved for flammable liquids.
- 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.
- Be aware of risk of injury to the head, hands and feet.
- Carefully inspect the area before starting the unit. Remove rocks, broken glass, nails, wire, string and other objects that may be thrown or become entangled with the unit.
- Clear the area of children, bystanders and pets; keep them outside a 50-foot (15 m) radius, at a minimum. Even then, they are still at risk from thrown objects. Encourage bystanders to wear eye protection. If you are approached, stop the unit immediately.
- Squeeze the throttle control and check that it returns automatically to the idle position. Make all adjustments or repairs before using the unit.
- Do not change the engine governor settings or overspeed the engine.
- This unit is intended for occasional, household use only.

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.
- Always stop the engine and allow it to cool before filling the tank. Never remove the fuel tank cap or add fuel when the engine is hot. Always loosen the fuel tank cap slowly to relieve any pressure in the tank before fueling.
- Always add fuel in a clean, well-ventilated outdoor area where there are no sparks or flames. DO NOT smoke.
- Never operate the unit without the fuel cap securely in place.
- Avoid creating a source of ignition for spilled fuel. Wipe up any spilled fuel from the unit immediately, before starting the unit. Move the unit at least 30 ft. (9.1 m) from the fueling source and site before starting the engine. DO NOT smoke.
- Never start or run the unit inside a closed room or building. Breathing exhaust fumes can kill. Operate this unit only in a wellventilated outdoor area.

WHILE OPERATING

- To reduce the risk of hearing loss associated with sound levels, hearing protection is required. To reduce the risk of injury associated with thrown objects, always wear eye protection. Eye protection should meet the requirements of ANSI Z87.1. To reduce the risk of injury associated with the inhalation of dust, use a face filter mask in dusty conditions.
- Wear heavy long pants, boots, gloves and a long sleeve shirt. Do not wear loose clothing, jewelry, short pants, sandals or go barefoot. Secure hair above shoulder level.
- Use the unit only in daylight or good artificial light.
- 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. Refer to Starting and Stopping.
- Use the right tool. Only use this tool for its intended purpose.
- Never start or run the unit inside a closed room or building; breathing exhaust fumes can kill.
- Always hold the unit with both hands when operating. Keep a firm grip on both handles or grips.
- Do not overreach. Keep all parts of your body away from hot surfaces. Always keep proper footing and balance. Take extra care when working on stairs, steep slopes or inclines. To avoid serious injury, do not operate the unit while on a ladder or a roof.
- Keep hands, face, and feet away from all moving parts. Do not touch or try to stop moving parts.
- Do not touch the engine or muffler. These parts get extremely hot from operation, even after the unit is turned off.

- Do not operate the unit faster than the speed needed to do the job. Do not run the unit at high speed when not in use.
- Do not force the unit. It will do a better, safer job when used at the intended rate.
- Always stop the unit when operation is delayed or when walking from one location to another.
- Before setting the unit down, always make sure the engine is off and all moving parts have stopped.
- If you strike or become entangled with a foreign object, stop the unit immediately and check for damage. Do not operate the unit before repairing damage. Do not operate the unit with loose or damaged parts.
- Turn the engine off and disconnect the spark plug for maintenance or accessing movable parts.
- Use only original equipment manufacturer (OEM) replacement parts and accessories for this unit. Use of any other parts or accessories could lead to serious injury to the user, or damage to the unit, and void the warranty.
- Keep the unit clean. Carefully remove vegetation and other debris that could block moving parts.
- To reduce fire hazard, replace a faulty muffler and spark arrestor. Keep the engine and muffler free from grass, leaves, excessive grease or carbon build up.
- If the unit starts to vibrate abnormally, stop the unit immediately. Inspect the unit for the cause of the vibration. Vibration is generally an indicator of trouble.

BLOWER SAFETY

- Do not insert anything into the air openings, blower tube or nozzle. Do not operate the unit if any of the air openings or tubes are blocked. Keep the air openings free from dust, lint, hair and anything else that may reduce airflow.
- Do not operate the unit without the blower tube securely attached.
- Do not use the unit to spray liquids, especially flammable or combustible liquids, such as gasoline. Do not use the unit in areas where such liquids are present.
- Do not use the unit for spreading chemicals, fertilizer or any other substance that may contain toxic materials.
- Do not set the unit down on any surface while the unit is running. Debris can be picked up by the air intake and thrown out the discharge opening, resulting in damage to the unit or property or causing serious injury to bystanders or the operator.
- During operation, never point the unit in the direction of people, animals, windows or automobiles. Always direct blowing debris away from people, animals, windows or automobiles.
- Use extra caution when blowing debris near solid objects, such as trees, walls, fences, etc. When possible, blow away from such objects, not toward them.
- Take care when working near valuable plants. The force of the blown air could damage tender plants.
- Never attempt to clear a clogged air intake opening while the unit is running.

- Keep hair, fingers and all other body parts away from moving parts and openings.

OTHER SAFETY WARNINGS

- Maintain the unit with care.
- All service, other than the maintenance procedures described in this manual, should be performed by a qualified service dealer.
- Never remove, modify or make inoperative any safety device furnished with the unit.
- Before inspecting, servicing, cleaning, storing, transporting or replacing any parts on the unit:
 1. Stop the unit.
 2. Make sure all moving parts have stopped.
 3. Allow the unit to cool.
 4. Disconnect the spark plug wire.
- Secure the unit while transporting.
- Never store the unit with fuel in the tank, inside a building where fumes may reach an open flame (pilot lights, etc.) or sparks (switches, electrical motors, etc.).
- Store the unit in a dry place, secured or at a height to prevent unauthorized use or damage. Keep the unit out of the reach of children.
- Never douse or squirt the unit with water or any other liquid.
- Keep handles dry and clean (free from debris, oil and grease).
- Clean the unit after each use. Refer to Cleaning and Storage. Do not use solvents or strong detergents.
- Keep these instructions. Refer to them often and use them to instruct other users. If you loan this unit to others, also loan them these instructions.
- 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.

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

SAFETY & 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.



SAFETY ALERT SYMBOL

Indicates danger, warning or caution. May be used in conjunction with other symbols or pictographs.



READ OPERATOR'S MANUAL

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.



WEAR EYE AND HEARING PROTECTION

WARNING: Thrown objects and loud noise can cause severe eye injury and hearing loss. Wear eye protection meeting current ANSI / ISEA Z87.1 standards and ear protection when operating this unit. Use a full face shield when needed.



WEAR HAND PROTECTION

Wear heavy duty work gloves to protect hands.



WEAR FOOT PROTECTION

Wear boots with slip-resistant and puncture-resistant soles.



UNLEADED FUEL

Always use clean, fresh unleaded fuel.



OIL

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



DO NOT USE E85 OR E15 FUEL IN THIS UNIT

WARNING: It has been proven that fuel containing greater than 10% ethanol will likely damage this engine and void the warranty.



ON/OFF STOP CONTROL
ON / START / RUN

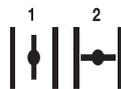


ON/OFF STOP CONTROL
OFF or STOP



PRIMER BULB

Push primer bulb, fully and slowly, 10 times.



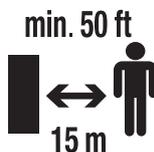
CHOKE CONTROL

1. • RUN choke position
2. • FULL choke position



THROWN OBJECTS CAN CAUSE SEVERE INJURY

WARNING: Small objects can be propelled at high speed, causing injury.



KEEP BYSTANDERS AWAY

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



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.



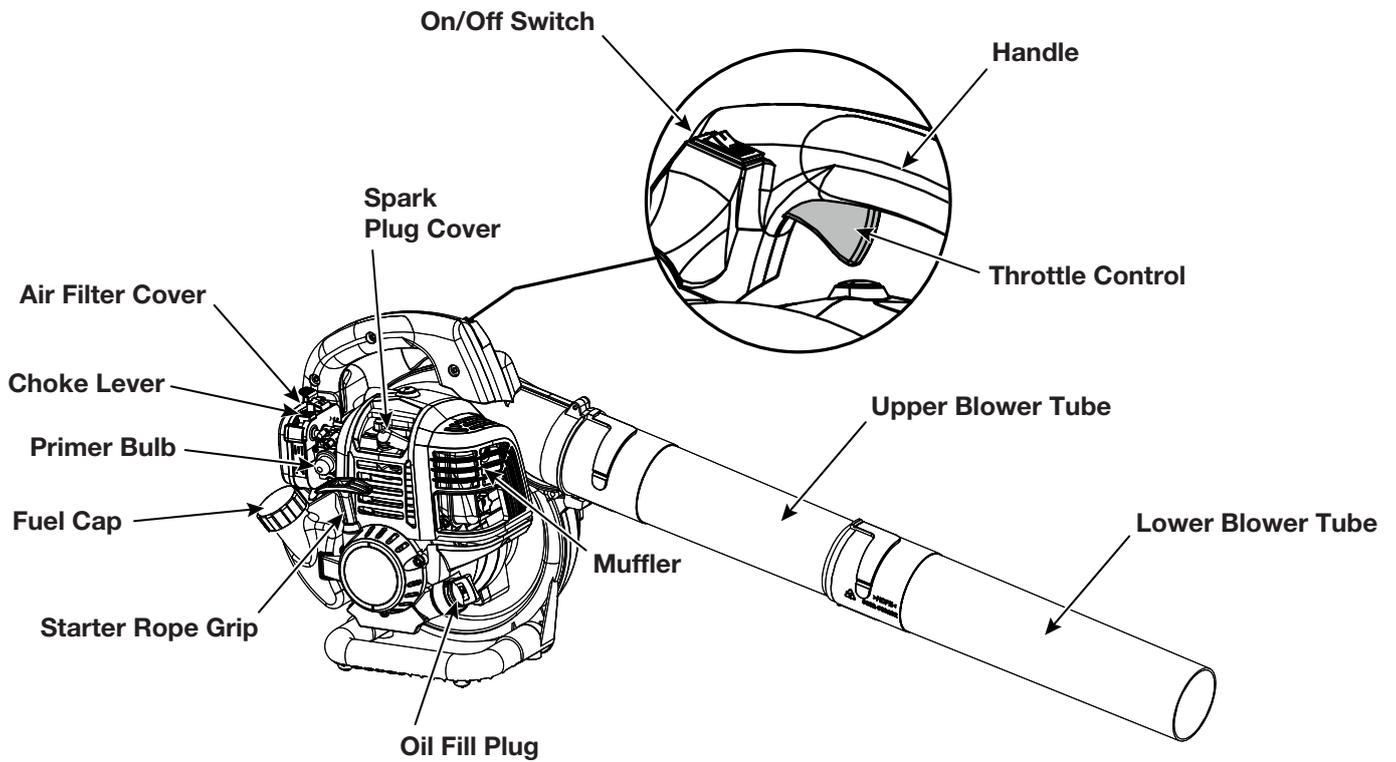
BLOWERS - ROTATING IMPELLER BLADES CAN CAUSE SEVERE INJURY

WARNING: Stop the unit and allow the impeller to stop before changing tubes, cleaning or performing any maintenance. Keep hands and feet away from moving parts.

COMPONENT LOCATION

APPLICATIONS

- Cleaning yards, garages, driveways, porches, patios, around walls, fences and more



INCLUDED PARTS

Quantity	Item	Quantity	Item
1	Operator's Manual	1	60 ml bottle of SAE 30w oil
1	Torx wrench	1	Quick Start Guide
1	Spark plug wrench		

ASSEMBLY

! WARNING

To avoid serious personal injury and damage to the unit, shut the unit off before removing or installing blower tubes or nozzles.

! WARNING

To prevent serious personal injury, never operate the unit without the upper blower tube firmly installed.

INSTALLING THE BLOWER TUBE(S)

Always install the upper blower tube. The lower blower tube is optional.

Installing the Upper Blower Tube

1. Align the slots on the upper end of the upper blower tube with the bumps on the blower outlet (Fig. 1).
2. Insert the upper blower tube into the blower outlet (Fig. 1).
3. While holding the handle, twist the upper blower tube clockwise until it locks into place (Fig. 1).

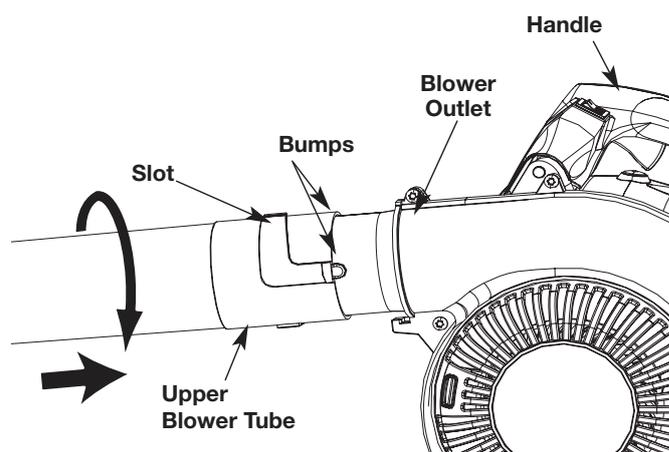


Fig. 1

Installing the Lower Blower Tube

1. Align the slots on the lower blower tube with the bumps on the lower end of the upper blower tube (Fig. 2).
2. Install the lower blower tube onto the upper blower tube (Fig. 2).
3. While holding the upper blower tube, twist the lower blower tube clockwise until it locks into place (Fig. 2).

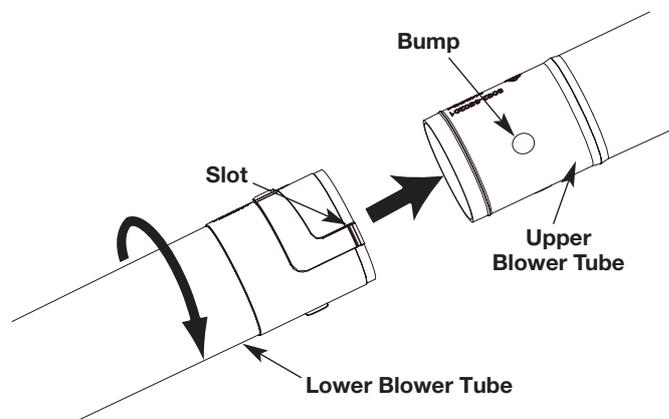


Fig. 2

REMOVING THE BLOWER TUBE(S)

Removing the Upper Blower Tube

1. Twist the upper blower tube counterclockwise until it unlocks from the blower outlet (Fig. 3).
2. Remove the upper blower tube from the blower outlet.

Removing the Lower Blower Tube

1. While holding the upper blower tube, twist the lower blower tube counterclockwise until it unlocks from the blower tube.
2. Remove the lower blower tube from the upper blower tube.

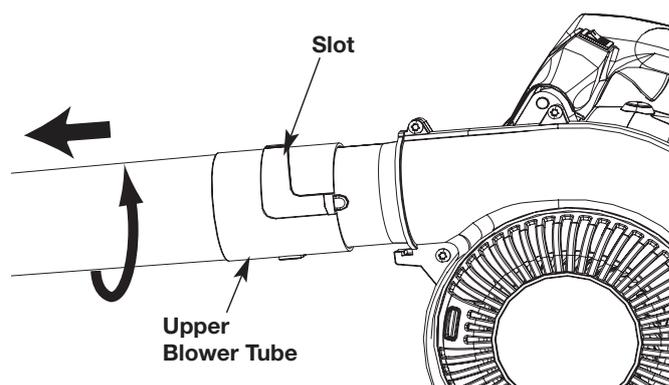


Fig. 3

USING THE RIGHT OIL

Use a high-quality SAE 30 weight oil. DO NOT use dirty oil. Failure to use clean oil of the correct type can cause premature engine wear and failure.

ADDING OIL: INITIAL USE

! WARNING

OVERFILLING THE CRANKCASE MAY CAUSE SERIOUS PERSONAL INJURY. Check the oil level before each use. The importance of maintaining the proper oil level cannot be overemphasized. Change the oil according to the Maintenance Schedule.

Note: This unit was shipped without oil in the crankcase.

Oil must be added before starting the unit.

Note: This unit comes with a 2.03 fluid oz. (60 ml) container of oil.

1. Set the unit on a flat, level surface.
2. Unscrew the oil fill plug (Fig. 4).
3. Pour the entire container of oil into the oil fill hole (Fig. 4).

DO NOT overfill. Refer to Checking the Oil Level.

Note: Never add oil to the fuel tank. This unit has a four-cycle engine. DO NOT mix oil with gasoline.

4. Wipe up any oil that may have spilled.
5. Reinstall the oil fill plug.

Note: Make sure the O-ring is in place on the oil fill plug (Fig. 4).

USING THE RIGHT FUEL

The use of old fuel is the most common cause of performance problems. Use only fresh, clean unleaded gasoline.

Note: This unit has a four-cycle engine. DO NOT mix oil with gasoline.

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, forming acids when stored. ALWAYS use fresh fuel (less than 30 days old).

Note: Dispose of old fuel according to federal, state and local regulations.

Using Blended Fuels

If using a blended fuel:

- Always use fresh unleaded gasoline
- Use the fuel additive STA-BIL® or an equivalent

! WARNING

DO NOT USE E85 OR E15 FUEL IN THIS UNIT. It has been proven that fuel containing greater than 10% ethanol will likely damage this engine and void the warranty.

Using Fuel Additives

Use a fuel additive, such as STA-BIL Fuel Stabilizer or an equivalent, to inhibit corrosion and minimize gum deposits. 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.

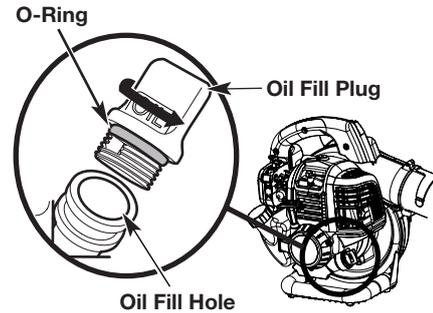


Fig. 4

FUELING THE UNIT

! 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 the 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 outdoor area. Wipe up any spilled fuel immediately. Avoid creating a source of ignition for spilled fuel. Do not start the engine until fuel vapors dissipate.

1. Position the unit with the fuel cap facing up.
2. Slowly remove the fuel cap.
3. Place the fuel container spout into the fuel tank fill hole and fill the tank.

Note: Do not overfill the tank.

4. Wipe up any fuel that may have spilled.
5. Reinstall the fuel cap.
6. Move the unit at least 30 ft. (9.1 m) from the fuel container and the fueling site before starting the engine.

STARTING AND STOPPING

! WARNING

Operate this unit only in a well-ventilated outdoor area. Carbon monoxide exhaust fumes can be lethal in a confined area.

! WARNING

Avoid accidentally starting the unit. To avoid serious injury, the operator and the unit must be in a stable position when pulling the starter rope (Fig. 7).

! WARNING

When starting the unit, make sure it is not directed toward people, animals, windows, automobiles or loose debris.

! WARNING

Be sure to read the fuel information in the safety rules before you begin. If you do not understand the safety rules, do not attempt to fuel your unit.

STARTING INSTRUCTIONS

1. Check the oil level. Refer to Checking the Oil Level.
 2. Fill the fuel tank. Refer to Fueling the Unit.
- Note:** There is no need to turn the unit on. The On/Off switch is in the ON (I) position at all times (Fig. 5).
3. Slowly press and release the primer bulb 10 times (Fig. 6).
 4. Move the choke lever to the Full Choke position (Fig. 6).
 5. DO NOT squeeze the throttle control. Crouch in the starting position (Fig. 7).
 6. DO NOT squeeze the throttle control. Pull the starter rope with a controlled and steady motion 3 to 5 times to start the engine (Fig. 7).
 7. Allow the engine to warm up less than 10 seconds, then squeeze the throttle control to return the choke to the Choke Off position and operate the blower.

IF... the engine does not start, begin the starting procedure with step 3.

IF... the engine fails to start after a few attempts, squeeze the throttle control to return move the choke to the Choke Off position. Pull the starter rope with a controlled and steady motion 3 to 8 times. The engine should start. If it does not, repeat this instruction.

IF THE UNIT WAS RUN FOR 10-15 MINUTES AND THE ENGINE IS HOT... perform steps 3, 5, 6, 7 to restart the engine. Squeeze and hold the throttle control. Run the unit for 2-5 minutes, or as needed. The unit may be used during this time.

If the engine speed fluctuates, move the the choke lever to the Full Choke position and run the unit for 2-5 minutes, or as needed. The unit may be used during this time. Then squeeze and hold the throttle control to operate the blower.

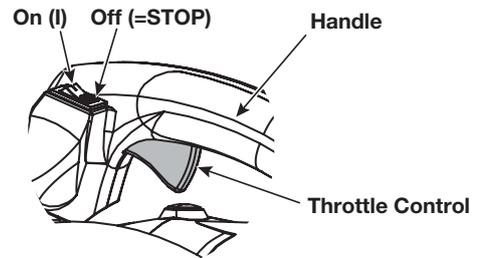


Fig. 5

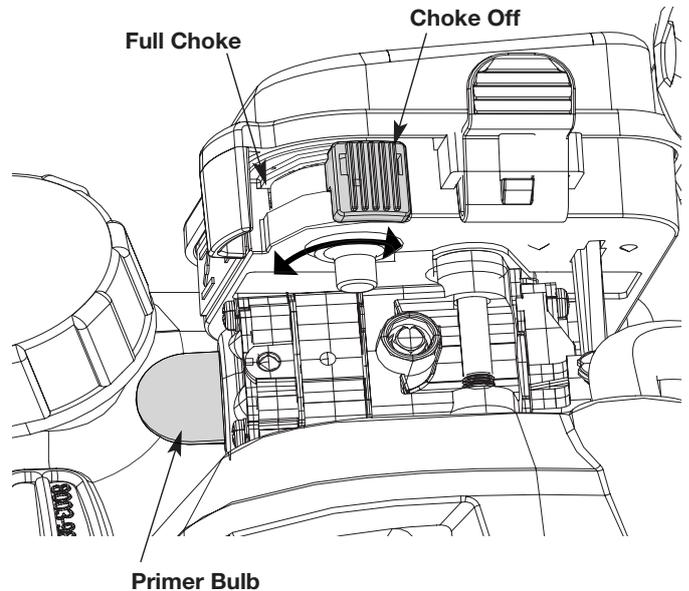


Fig. 6

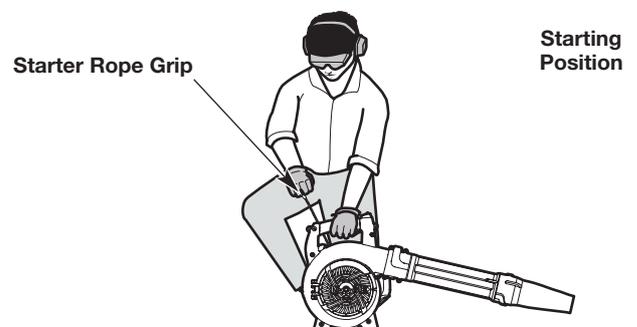


Fig. 7

STOPPING INSTRUCTIONS

1. Release the throttle control and allow the engine to idle.
2. Press and hold the On/Off switch in the OFF (STOP) position until the engine comes to a complete stop (Fig. 5).

OPERATION

! WARNING

Clear the area of children bystanders, and pets. At a minimum, keep all children, bystanders, and pets outside a 15 m (50 ft) radius; outside the 15 m (50 ft) zone, there is still a risk of injury from thrown objects. Bystanders should be encouraged to wear eye protection. If you are approached, stop the engine.

! WARNING

To prevent serious personal injury, never operate the unit without the upper blower tube firmly installed.

! WARNING

Always wear eye, hearing, hand, foot and body protection to reduce the risk of injury when operating this unit. Wear a face mask or dust mask if the operation is dusty.

! WARNING

To reduce the risk of injury associated with contacting rotating parts, stop the engine before installing or removing attachments. Do not operate without guards in place. Always disconnect the spark plug before performing maintenance or accessing movable parts.

OPERATING TIPS

- While vacuuming or blowing debris, hold the unit with the muffler side facing away from your body and clothes.
- To reduce the risk of hearing loss associated with sound level(s), hearing protection is required.
- To reduce the risk of injury associated with contacting rotating parts, stop the engine before installing or removing attachments. Do not operate without guard(s) in place.
- Operate power equipment only at reasonable hours-not early in the morning or late at night when people might be disturbed. Comply with times listed in local ordinances. Usual recommendations are 9:00 a.m. to 5:00 p.m., 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 throttle speed to do the job.
- Use rakes and brooms to loosen debris before blowing.
- In dusty conditions, slightly dampen surfaces 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. Blow debris away safely.
- Use the full blower nozzle extension so the air stream can work close to the ground.

- After using blowers and other equipment, CLEAN UP! Dispose of debris in trash receptacles.

HOLDING THE UNIT

- Stand in the operating position (Fig. 8). Stand up straight. Do not bend over.
- Keep feet apart and firmly planted.
- Hold the unit in front of, and away from, your body (Fig. 8).

! WARNING

To prevent serious personal injury or damage to the unit, DO NOT hold the unit at your side (Fig. 8). The engine may be extremely hot. DO NOT block the air intake.

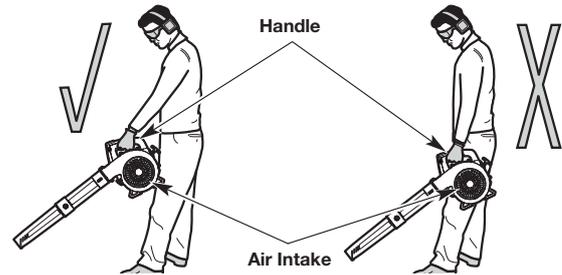


Fig. 8

MAINTENANCE

GENERAL RECOMMENDATIONS

The warranty on this unit does not cover items that have been subjected to operator abuse or negligence. To receive full value from the warranty, the operator must maintain unit as instructed in this manual. Various adjustments will need to be made periodically to properly maintain your unit.

Note: Use only original equipment manufacturer replacement parts and accessories for this unit. These are available from an authorized service dealer. The use of any unauthorized parts or accessories could lead to serious injury to the user, or damage to the unit, and void the warranty.

WARNING

To avoid serious personal injury, always stop the engine and allow it to cool before cleaning or maintaining the unit. Never perform cleaning or maintenance while the unit is running. Disconnect the spark plug wire to prevent the unit from starting accidentally.

WARNING

Wear protective clothing and observe all safety instructions to prevent serious personal injury.

CHECKING THE OIL LEVEL

WARNING

OVERFILLING THE CRANKCASE MAY CAUSE SERIOUS PERSONAL INJURY. Check the oil level before each use. The importance of maintaining the proper oil level cannot be overemphasized.

1. Stop the engine and allow it to cool.
2. Set the unit on a flat, level surface, such as a workbench or table.

Note: Failure to keep the engine level may result in oil overflow.

3. Clean the area around the oil fill plug (Fig. 9) to prevent debris from entering the oil fill hole.
4. Unscrew the oil fill plug.
5. Look into the oil fill hole; use a flashlight if necessary. Add oil to the oil fill hole until the oil level is visible on the first thread of the oil reservoir (Fig.10). If the oil level is too low, add oil to the oil fill hole until the oil level touches the bottom thread of the oil fill hole.

Note: DO NOT overfill the crankcase.

6. Wipe up any oil that may have spilled.
7. Reinstall the oil fill plug.

Note: Make sure the O-ring is in place on the oil fill plug (Fig. 9).

MAINTENANCE SCHEDULE

Perform these required maintenance procedures at the frequency stated in the table. These procedures should also be a part of any seasonal tune-up. Some maintenance

procedures may require special tools or skills. If unsure about these procedures, take the unit to a qualified service dealer. Call 1-800-261-3981 for more information.

Note: Maintenance, replacement, or repair of the emission control devices and system may be performed by a qualified service dealer. Call 1-800-261-3981 for more information.

Note: Please read the California/EPA statement that came with the unit for a complete listing of terms and coverage for the emissions control devices, such as the spark arrestor, muffler, carburetor, etc.

FREQUENCY	MAINTENANCE REQUIRED
Every 10 hours	<ul style="list-style-type: none"> • Clean and re-oil the air filter. Refer to Maintaining the Air Filter.
After the first 10 hours and at 38 hours	<ul style="list-style-type: none"> • Change the oil. Refer to Changing the Oil. • Have the rocker arm clearance checked by a qualified service dealer. • Check the spark plug condition and gap. Refer to Maintaining the Spark Plug.

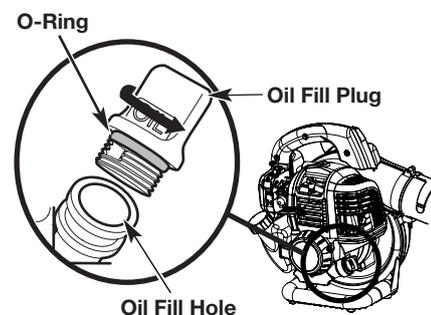


Fig. 9

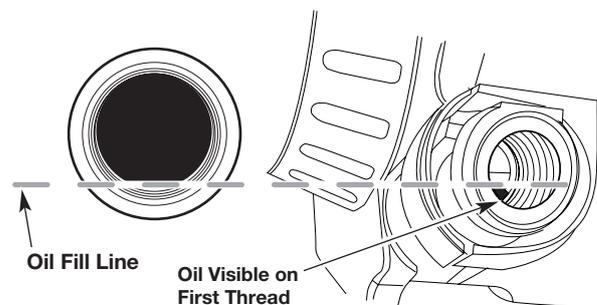


Fig. 10

CHANGING THE OIL

Change the oil while the engine is still warm. The oil will flow freely and carry away more impurities.

1. Clean the area around the oil fill plug (Fig. 9) to prevent debris from entering the oil fill hole.
2. Unscrew the oil fill plug.
3. Tip the unit vertically to pour the oil out of the oil fill hole and into a container (Fig. 11). Allow ample time for complete drainage.

Note: Dispose of the old oil according to federal, state and local regulations.

4. Wipe up any oil that may have spilled.
5. Pour 2.03 fl.oz. (60 ml) of SAE 30 oil into the oil fill hole.

Note: DO NOT overfill. Refer to Checking the Oil Level.

6. Wipe up any oil that may have spilled.
7. Reinstall the oil fill plug.

Note: Make sure the O-ring is in place on the oil fill plug(Fig. 9).

MAINTAINING THE AIR FILTER

Failure to maintain the air filter can result in poor performance or can cause permanent damage to the engine. Engine failure due to improper air filter maintenance is not covered by the product warranty.

Cleaning the Air Filter

1. Open the air filter cover: press in the lock tab and swing the air filter cover to the right (Fig. 12).
2. Remove the air filter (Fig. 12).
3. Wash the air filter in detergent and water. Rinse the air filter thoroughly and allow it to dry.
4. Lightly coat the air filter with clean SAE 30 oil.
5. Squeeze the air filter to spread and remove excess oil.
6. Reinstall the air filter (Fig. 12).

Note: Operating the unit without the air filter and air filtercover will VOID the warranty.

7. Close the air filter cover: insert the tabs on the air filter cover into the slots on the backplate. Swing the air filter cover to the left and press it closed until the lock tab snaps into place

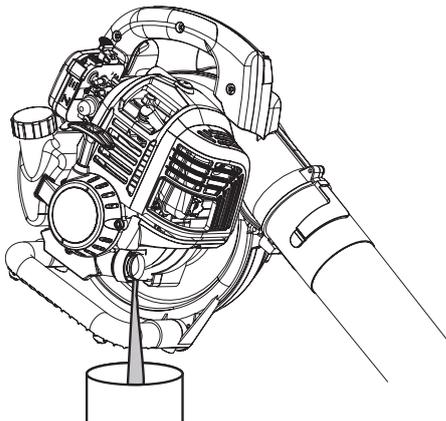


Fig. 11

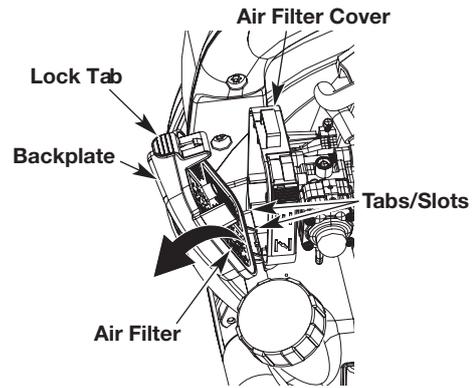


Fig. 12

ADJUSTING THE IDLE SPEED

If the engine will not idle properly:

1. Start the engine. Refer to Starting and Stopping.
2. Let the engine idle. If the engine stops, increase the idle speed. Use a small Phillips screwdriver to turn the idle speed screw clockwise, 1/8 of a turn at a time, until the engine idles smoothly (Fig. 13).

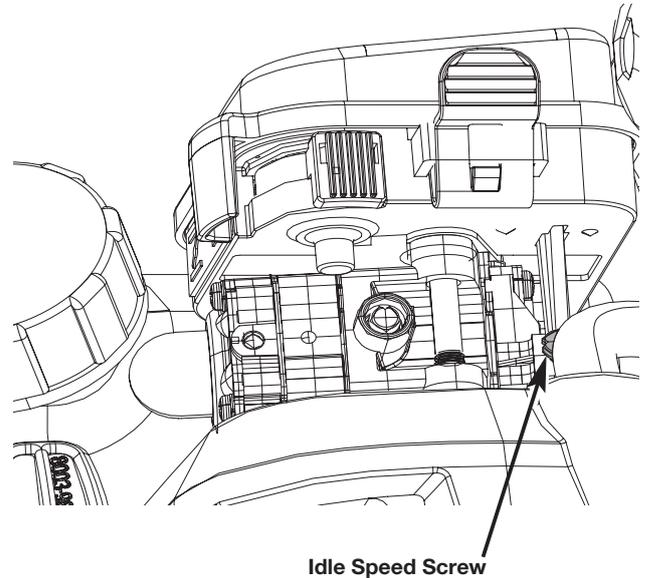


Fig. 13

MAINTAINING THE SPARK PLUG

If the engine will not idle properly:

1. Stop the engine and allow it to cool.
2. Grasp the spark plug boot firmly and pull it from the spark plug (Fig. 14).
3. Clean around the spark plug. Remove the spark plug from the cylinder head with a 5/8-inch socket, turning counterclockwise.

WARNING

Do not sand blast, scrape or clean spark plug electrodes. Grit in the engine could damage the cylinder.

4. Inspect the spark plug. If the spark plug is cracked, fouled or dirty, replace it with replacement part Newstar AM5C, or a NGK CMR5H, or an equivalent spark plug.

5. Use a feeler gauge to set the air gap at 0.025 - 0.31 in. (0.6 mm - 0.8 mm) (Fig. 15).
6. Install the spark plug in the cylinder head. Tighten the spark plug with a 5/8-inch socket, turning it clockwise until snug.

Note: If using a torque wrench, torque to: 159 in.*lb. (18 N»m). Do not over tighten.

7. Reattach the spark plug boot.

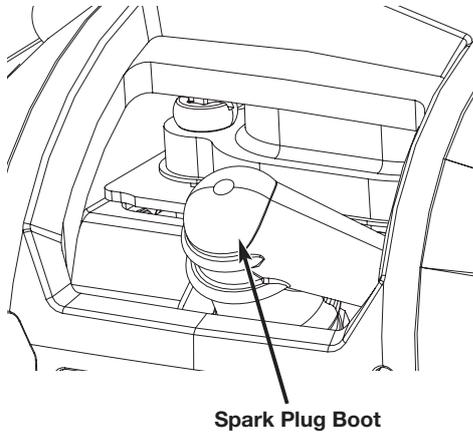


Fig. 14

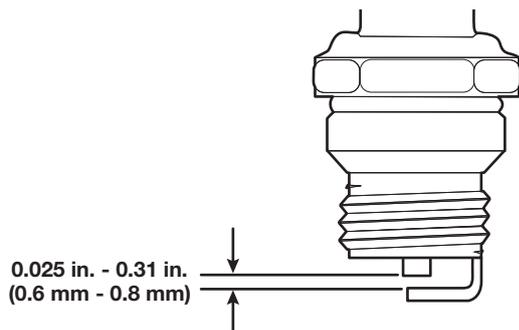


Fig. 15

CLEANING AND STORAGE

CLEANING

WARNING

To avoid serious personal injury, always stop the engine and allow it to cool before cleaning or maintaining the unit.

Use a small brush to clean the outside of the unit. Do not use strong detergents. Household cleaners that contain aromatic oils such as pine and lemon, and solvents such as kerosene, can damage plastic. Wipe off any moisture with a soft cloth.

STORAGE

- Never store a fueled unit where fumes may reach an open flame or spark.
- Allow the engine to cool before storing.
- Lock up the unit 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

1. Remove the fuel cap, tip the unit and drain the fuel into an approved container. Reinstall the fuel cap.
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 5 drops of any high-quality motor oil into the cylinder. Pull the starter rope slowly to distribute the oil. Reinstall the spark plug.
4. Thoroughly clean the unit and inspect it for any loose or damaged parts. Repair or replace damaged parts and tighten loose screws, nuts or bolts.

Preparing the Unit for Use after Long-term Storage

1. Remove the spark plug. Tip the unit and drain all of the oil from the cylinder into an approved container. Reinstall the spark plug.
2. Change the oil. Refer to Changing the Oil.

Note: Do not use fuel that has been stored for more than 30 days. Dispose of old fuel and oil according to federal, state and local regulations.

FUEL SYSTEM

Empty the fuel system before storage for 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. Under OIL AND FUEL section of this manual, see message labeled IMPORTANT regarding the use of blended and E85 fuel in your engine.

Fuel stabilizer is an acceptable alternative in minimizing the formation of fuel gum deposits during storage. Add stabilizer to gasoline in fuel tank or fuel storage container. Follow the mix instructions found on stabilizer container. Run engine at least 3 minutes after adding stabilizer.

ENGINE

- Remove spark plug and pour 1 teaspoon of engine oil through the spark plug opening. Slowly pull the starter rope 8 to 10 times to distribute oil.
- Replace spark plug with new one of recommended type and heat range.
- Clean air filter.
- Check entire unit for loose screws, nuts, and bolts. Replace any damaged, broken, or worn parts.
- At the beginning of the next season, use only fresh fuel.

OTHER

- Do not store gasoline from one season to another.
- Replace your gasoline can if it starts to rust.

CHANGING THE OIL**PROBLEM****SOLUTION**

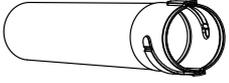
THE ENGINE WILL NOT START	
The fuel tank is empty	Fill the fuel tank with fresh fuel
The primer bulb was not pressed enough	Press the primer bulb 10 times
The fuel is old (over 30 days)	Drain the fuel tank and add fresh fuel
The spark plug is fouled	Replace the spark plug
The engine is hot	Refer to the IF... THE ENGINE IS HOT instructions in the Starting and Stopping section
THE ENGINE WILL NOT IDLE	
The air filter is dirty	Clean or replace the air filter
The fuel is old (over 30 days)	Drain the fuel tank and add fresh fuel
The idle speed is incorrect	Adjust the idle speed
THE ENGINE WILL NOT ACCELERATE	
The fuel is old (over 30 days)	Drain the fuel tank and add fresh fuel
The air filter is dirty	Clean or replace the air filter
THE ENGINE LACKS POWER OR STALLS	
The fuel is old (over 30 days)	Drain the fuel tank and add fresh fuel
The air filter is dirty	Clean or replace the air filter
The spark plug is fouled	Replace the spark plug

If further assistance is required, take the unit to a qualified service dealer.

PARTS

EXPLODED VIEW

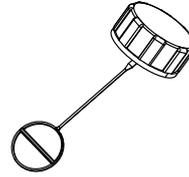
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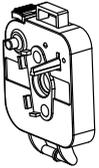
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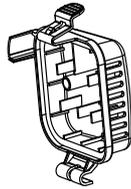
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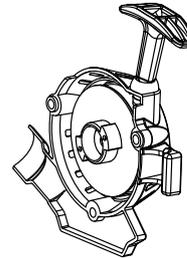
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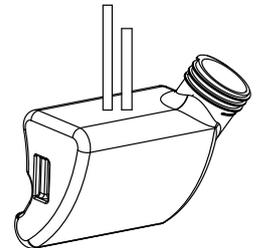
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26



No.	Part #	Description	Qty.
26	199124000183	Oil box assembly	1
32	199096000077	Start assembly	1
34	202083001017	Filter cover	1
35	299999000359	Air filter screen	1
37	207019900457	Air filter	1
38	199064000051	Carburetor	1
64	202094000239	Blowpipe 1	1
65	202094000240	Blowpipe 2	1
81	202165000585	Fuel tank cap	1

