WARNING

The muffler or catalytic muffler and surrounding cover may become extremely hot. Always keep clear of exhaust and muffler area, otherwise serious personal injury may occur.

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Read rules for safe operation and instructions carefully. ECHO provides this Operator's Manual, which must be read and understood for proper and safe operation.
INTRODUCTION

Welcome to the ECHO family. This ECHO product was designed and manufactured to provide long life and on-the-job dependability. Read and understand this manual. You will find it easy to use and full of helpful operating tips and SAFETY messages.

THE OPERATOR’S MANUAL

Read and understand this manual before operation. Keep it in a safe place for future reference. It contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product.

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Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.
SAFETY

MANUAL SAFETY SYMBOLS AND IMPORTANT INFORMATION

Throughout this manual and on the product itself, you will find safety alerts and helpful, informational messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.

**DANGER**
The safety alert symbol accompanied by the word “DANGER” calls attention to an act or condition which WILL lead to serious personal injury or death if not avoided.

**WARNING**
The safety alert symbol accompanied by the word “WARNING” calls attention to an act or condition which CAN lead to serious personal injury or death if not avoided.

**CAUTION**
The safety alert symbol accompanied by the word “CAUTION” calls attention to an act or condition which may lead to minor or moderate personal injury if not avoided.

**CIRCLE AND SLASH SYMBOL**
This symbol means the specific action shown is prohibited. Ignoring these prohibitions can result in serious or fatal injury.

**NOTE**
This enclosed message provides tips for use, care and maintenance of the unit.

**IMPORTANT**
The enclosed message provides information necessary for the protection of the unit.

INTERNATIONAL SYMBOLS

<table>
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<tr>
<th>Symbol form/shape</th>
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<td><img src="image" alt="DO NOT allow flames or sparks near fuel." /></td>
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<td><img src="image" alt="Ignition" /></td>
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PERSONAL CONDITION AND SAFETY EQUIPMENT

**WARNING**
Power Blower users risk injury to themselves and others if the power blower is used improperly or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a blower.
Physical Condition
Your judgment and physical dexterity may not be good:
• if you are tired or sick,
• if you are taking medication,
• if you have taken alcohol or drugs.
Operate unit only if you are physically and mentally well.

Eye Protection
Wear eye protection that meets ANSI Z87.1 or CE requirements whenever you operate the unit.

Hand Protection
Wear no-slip, heavy-duty work gloves to improve your grip on the blower handle. Gloves also reduce the transmission of machine vibration to your hands.

Breathing Protection
Wear a facemask to protect against dust.

Hearing Protection
ECHO recommends wearing hearing protection whenever unit is used.

Proper Clothing
Wear snug fitting, durable clothing;
• Pants should have long legs, shirts with long sleeves.
• DO NOT WEAR SHORTS,
• DO NOT WEAR TIES, SCARVES, and JEWELRY.
Wear sturdy work shoes with nonskid soles:
• DO NOT WEAR OPEN-TOED SHOES,
• DO NOT OPERATE UNIT BAREFOOTED.
Keep long hair away from engine and blower intake. Retain hair with cap or net.

Hot Humid Weather
Heavy protective clothing can increase operator fatigue, which may lead to heat stroke. Schedule heavy work for early morning or late afternoon hours when temperatures are cooler.

Vibration and Cold
It is believed that a condition called Raynaud’s Phenomenon, which affects the fingers of certain individuals, may be brought about by exposure to vibration and cold. Exposure to vibration and cold may cause tingling and burning sensations, followed by loss of color and numbness in the fingers. The following precautions are strongly recommended, because the minimum exposure, which might trigger the ailment, is unknown.

• Keep your body warm, especially the head, neck, feet, ankles, hands, and wrists.
• Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
• Limit the hours of operation. Try to fill each day with jobs where operating the unit or other hand-held power equipment is not required.
• If you experience discomfort, redness, and swelling of the fingers followed by whitening and loss of feeling, consult your physician before further exposing yourself to cold and vibration.
Repetitive Stress Injuries
It is believed that overusing the muscles and tendons of the fingers, hands, arms, and shoulders may cause soreness, swelling, numbness, weakness, and extreme pain in those areas. Certain repetitive hand activities may put you at a high risk for developing a Repetitive Stress Injury (RSI). An extreme RSI condition is Carpal Tunnel Syndrome (CTS), which could occur when your wrist swells and squeezes a vital nerve that runs through the area. Some believe that prolonged exposure to vibration may contribute to CTS. CTS can cause severe pain for months or even years.

To reduce the risk of RSI/CTS, do the following:
• Avoid using your wrist in a bent, extended, or twisted position. Instead try to maintain a straight wrist position. Also, when grasping, use your whole hand, not just the thumb and index finger.
• Take periodic breaks to minimize repetition and rest your hands.
• Reduce the speed and force with which you do the repetitive movement.
• Do exercises to strengthen the hand and arm muscles.
• Immediately stop using all power equipment and consult a doctor if you feel tingling, numbness, or pain in the fingers, hands, wrists, or arms. The sooner RSI/CTS is diagnosed, the more likely permanent nerve and muscle damage can be prevented.

DANGER
Do not operate this product indoors or in inadequately ventilated areas. Engine exhaust contains poisonous emissions and can cause serious injury or death.

Read the Manuals
• Provide all users of this equipment with the Operator’s Manual and Safety Manual for instructions on Safe Operation.

Clear the Work Area
• Spectators and fellow workers must be warned, and children and animals prevented from coming nearer than 15 m (50 ft.) while the unit is in use.
• Take wind conditions into account: avoid open doors and windows.
• Do not point blower at people or animals.
• Review area to be cleared. Look for potential hazards such as stones or metal objects.

Keep a Firm Grip
• Hold the handle in one hand, with thumb and fingers encircling the handle.

Keep a Solid Stance
• Maintain footing and balance at all times. Do not stand on slippery, uneven or unstable surfaces. Do not work in odd positions or on ladders. Do not over reach.

Avoid Hot Surfaces
• Keep exhaust area clear of flammable debris. Avoid contact during and immediately after operation.
EQUIPMENT CHECK

**WARNING**

Use only ECHO approved attachments. Serious injury may result from the use of a non-approved attachment combination. ECHO, INC. will not be responsible for the failure of cutting devices, attachments or accessories which have not been tested and approved by ECHO. Read and comply with all safety instructions listed in this manual and safety manual.

- Check unit for loose/missing nuts, bolts and screws. Tighten and/or replace as needed.
- Inspect fuel lines, tank and area around carburetor for fuel leaks. **DO NOT** operate unit if leaks are found.
- Do not use blower if any part is missing or damaged.
- Have repairs done only by an authorized ECHO Service dealer.
- Do not use any attachment, accessory or replacement part unless it is recommended in this Operator’s Manual.

EMISSION CONTROL

**EPA Phase 2**

The emission control system for these engines is EM/TWC (Engine and Catalyst Modification).

**IMPORTANT ENGINE INFORMATION**

ENGINE FAMILY: 6EHX.0254KF  DISPLACEMENT: 25.4 cc  
EMISSION COMPLIANCE PERIOD: 300 HRS.   
THIS ENGINE MEETS U.S. EPA PH2 EXHAUST 
EMISSION REGULATIONS FOR SORC. REFER TO 
OWNER’S MANUAL FOR MAINTENANCE SPECIFICATION AND ADJUSTMENTS.

**An Emission Control Label** is located on the unit. (This is an EXAMPLE ONLY; information on label varies by engine FAMILY).

**PRODUCT EMISSION DURABILITY**

The 300 hour emission durability compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.
DESCRIPTION

Locate the safety decal on your unit. Make sure the decals are legible and that you understand and follow the instructions on them. If a decal cannot be read, a new one can be ordered from your ECHO dealer. See PARTS ORDERING instructions for specific information.

1 Hot Decal (near muffler and engine)
   P/N 89016006361

4 Sound Label (located on blower housing)
   P/N X508000120
   Category I
   65 dB(A)
   Measured at 50 ft. (15m) per ANSI B175.2

5 General Warning Decal (located on blower housing)
   P/N X505002080
1. **SAFETY DECAL** - Lists important safety precautions.
2. **STOP SWITCH** - "SLIDE SWITCH" mounted on top of handle. Push forward to start and run. Slide back to stop.
3. **SPARK PLUG** - Provides spark to ignite fuel mixture.
4. **SAFETY DECAL** - Lists important safety precautions.
5. **SAFETY DECAL** - Lists important safety precautions.
7. **RECOIL STARTER HANDLE** - Pull recoil handle slowly until recoil starter engages, then quickly and firmly. When engine starts, return handle slowly. DO NOT let handle snap back or damage to unit will occur.
8. **SPARK ARRESTOR - CATALYTIC MUFFLER/MUFFLER** - The muffler or catalytic muffler controls exhaust noise and emission. The spark arrestor screen prevents hot, glowing particles of carbon from leaving the muffler. Keep exhaust area clear of flammable debris.
9. **CHOKE** - Choke is located on top of the air cleaner. Move choke lever to "COLD START" (\(\rightarrow\)) to close choke for cold starting. Move choke lever to "RUN" (\(\leftarrow\)) position to open choke.
10. **PURGE BULB** - Pumping purge bulb before starting engine draws fresh fuel from the fuel tank, purging air from the carburetor. Pump purge bulb until fuel is visible and flows freely in the clear fuel tank return line. Pump purge bulb an additional 4 or 5 times..
11. **BLOWER PIPES** - Exclusive positive locking system.
12. **THROTTLE POSITION LEVER** - Pull back to increase engine speed. Friction washers maintain throttle lever setting.
13. **THROTTLE TRIGGER** - Spring loaded to return to idle when released. During acceleration, press trigger gradually for best operating technique.
14. **AIR CLEANER** - Contains replaceable air filter element.

**CONTENTS**

1 - Power Head
1 - Blower Pipe (main)
1 - Blower Pipe
1 - Operator's Manual
1 - Warranty Registration Card
1 - ECHO Emissions and Warranty Statement
1 - Echo Power Blend™ 2-stroke oil sample
ASSEMBLY

WARNING
Never perform maintenance or assembly procedures with engine running or serious personal injury may result.

INSTALL BLOWER PIPES

1. Stand unit upright on blower base.

2. Release locking ring (C) with a coin or screwdriver, and rotate so that lock symbol (A) is at top of ring.

3. Align locking ribs (E) on upper blower pipe with recesses (D) in locking ring, and slide upper blower pipe into locking ring.

4. After inserting upper blower pipe into fan case so that line (F) meets locking ring (C), rotate locking ring clockwise 1/8 turn to lock upper blower pipe in place.

5. Align tabs (H) with grooves (G) and slide lower blower pipe over upper pipe until there is light resistance.

6. Assemble straight pipe onto upper pipe until you feel light resistance. Do not force connection. Hold upper pipe, and turn lower pipe counterclockwise, engaging positive locking channels until connection is firm. Do not force connection.

NOTE
Blower use will eventually loosen pipe connections. Exclusive positive locking system allows pipes to be tightened. If loosening occurs, remove lower straight pipe, and install according to instructions 5 & 6.
REMOVE BLOWER PIPES

1. Release locking ring (C) with a coin or screwdriver, and rotate ring so that lock symbol (A) is at top of ring.

2. Remove pipes from locking ring.

OPERATION

NOTICE: Use of unmixed, improperly mixed, or fuel older than 90 days, (stale fuel), may cause hard starting, poor performance, or severe engine damage and void the product warranty. Read and follow instructions in the Storage section of this manual.

FUEL

WARNING DANGER

Alternative fuels, such as E-20 (20% ethanol), E-85 (85% ethanol) or any fuels not meeting ECHO requirements are NOT approved for use in ECHO 2-stroke gasoline engines. Use of alternative fuels may cause performance problems, loss of power, overheating, fuel vapor lock, and unintended machine operation, including, but not limited to, improper clutch engagement. Alternative fuels may also cause premature deterioration of fuel lines, gaskets, carburetors and other engine components.

Fuel Requirements

Gasoline - Use 89 Octane [R+M/2] (mid grade or higher) gasoline known to be good quality. Gasoline may contain up to 15% MTBE (methyl tertiary-butyl ether). Gasohol containing methyl (wood) alcohol is NOT approved.

Two Stroke Oil - A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and J.A.S.O. FC Standards must be used. Echo brand premium Power Blend™ Universal 2-Stroke Oil meets these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD and J.A.S.O. FC certified oil, such as Echo premium Power Blend™, will void the two-stroke engine warranty. (Emission related parts only are covered for two years, regardless of two-stroke oil used, per the statement listed in the Emission Defect Warranty Explanation.)

IMPORTANT
Echo premium Power Blend™ Universal 2-Stroke Oil may be mixed at 50:1 ratio for application in all Echo engines sold in the past regardless of ratio specified in those manuals.
**Handling Fuel**

**DANGER**
Fuel is VERY flammable. Use extreme care when mixing, storing or handling or serious personal injury may result.
- Use an approved fuel container.
- DO NOT smoke near fuel.
- DO NOT allow flames or sparks near fuel.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- NEVER refuel a unit when the engine is HOT or RUNNING!
- DO NOT fill fuel tanks indoors. ALWAYS fill fuel tanks outdoors over bare ground.
- DO NOT overfill fuel tank. Wipe up spills immediately.
- Securely tighten fuel tank cap and close fuel container after refueling.
- Inspect for fuel leakage. If fuel leakage is found, do not start or operate unit until leakage is repaired.
- Move at least 3m (10 ft.) from refueling location before starting the engine.

**Mixing Instructions**
1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of 2-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

**IMPORTANT**
Spilled fuel is a leading cause of hydrocarbon emissions. Some states may require the use of automatic fuel shut-off containers to reduce fuel spillage.

**After use**
- DO NOT store a unit with fuel in its tank. Leaks can occur. Return unused fuel to an approved fuel storage container.

**Storage** - Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, airtight container. Store in a well-ventilated, unoccupied building, away from sparks and flames.

**IMPORTANT**
Stored fuel ages. Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.

**IMPORTANT**
Stored two-stroke fuel may separate. ALWAYS shake fuel container thoroughly before each use.

**STARTING COLD ENGINE**

1. **Stop Switch**
   Move stop switch button (A) away from the STOP position.

2. **Throttle Position Lever**
   Move throttle position lever (B) midway between idle and full throttle positions.

3. **Choke**
   Move choke (C) to Cold Start ( ) Position.

4. **Purge Bulb**
   Pump purge bulb (D) until fuel is visible and flows freely in the clear fuel tank return line.
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IMPORTANT
Recoil starter: Use short pulls - only 1/2 ~ 2/3 of rope for starting. Do not allow the rope to snap back in. Always hold the unit firmly.

5. **Recoil Starter**
   Place the unit on a flat, clear area. Firmly grasp throttle grip with left hand and rapidly pull recoil starter handle/rope (E) until engine fires, or maximum 5 pulls.

6. **Choke**
   Move choke lever (C) to Run (→) position if necessary, restart engine.

**NOTE**
If engine does not start after 5 pulls, repeat instructions 3-6.

7. After engine warm up, gradually depress throttle trigger to increase engine RPM to operating speed.

**NOTE**
Allow engine to warm up before use.

---

**STARTING WARM ENGINE**

The starting procedure is the same as Cold Start except DO NOT close the choke.

1. **Stop Switch**
   Move stop switch button (A) away from the STOP position.

2. **Throttle Position Lever**
   Move throttle position lever (B) midway between idle and full throttle positions.

3. **Purge Bulb**
   Pump purge bulb (D) until fuel is visible and flows freely in the clear fuel tank return line.

4. **Recoil Starter**
   Place the unit on a flat, clear area. Firmly grasp throttle grip with left hand and rapidly pull recoil starter handle/rope (E) until engine fires.

**IMPORTANT**
Recoil starter: Use short pulls - only 1/2 ~ 2/3 of rope for starting. Do not allow the rope to snap back in. Always hold the unit firmly.

**NOTE**
If engine does not start after 5 pulls, use Cold Start Procedure.
STOPPING ENGINE

1. **Throttle Trigger/Throttle Position Lever**
   Release throttle trigger (F). Move throttle position lever (B) forward to idle position and allow engine to return to idle before shutting off engine.

2. **Stop Switch**
   Move stop switch (A) to “STOP” position.

   **WARNING**
   If engine does not stop when stop switch is moved to STOP position, close choke - COLD START position - to stall engine. Have your ECHO dealer repair stop switch before using blower again.

OPERATING BLOWER

   **WARNING**
   Always wear safety glasses, hearing protection and a face filter mask or serious personal injury may result. Do not point the blower pipe in the direction of people or pets.

   Read the Safety Section carefully.

   **IMPORTANT**
   To avoid engine damage due to over-revving, do not block blower pipe.

1. Use only during appropriate hours.
2. Allow the engine to warm up at a fast idle for a few minutes.
3. Control engine speed with throttle trigger (F), or for continuous use, set engine speed with throttle position lever (B). Rotate throttle position lever forward for lower speed, back for higher speed.
4. Use lower speed to blow debris from hard surfaces.
5. Additional speed may be necessary to clean debris, snow, etc. from lawns and flowerbeds.

   **NOTE**
   Never use a higher speed setting than necessary to perform a task. Remember, the higher the engine speed, the louder the blower noise. Minimize dust by using blower at lower speeds. Keep debris on your property. Be Smart - be a good neighbor.
MAINTENANCE

Your ECHO blower is designed to provide many hours of trouble free service. Regular scheduled maintenance will help your blower achieve that goal. If you are unsure or are not equipped with the necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance. To help you decide whether you want to DO-IT-YOURSELF or have the ECHO Dealer do it, each maintenance task has been graded. If task is not listed, see your ECHO Dealer for repairs.

SKILL LEVEL

Level 1 = Easy to do. Most required tools come with unit.
Level 2 = Moderate difficulty. Some specialized tools may be required.
Level 3 = Experience required. Specialized tools are required. Echo recommends that the unit be returned to your ECHO dealer for service.

ECHO offers REPOWER™ Maintenance Kits and Parts to make your maintenance job easier. Just below each task heading are listed the various part numbers required for that task. See your ECHO dealer for these parts.

MAINTENANCE INTERVALS

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<th>MAINTENANCE PROCEDURE</th>
<th>REQ'D SKILL LEVEL</th>
<th>DAILY OR BEFORE USE</th>
<th>EVERY REFUEL</th>
<th>3 MONTHS OR 90 HOURS</th>
<th>6 MONTHS OR 270 HOURS</th>
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<td>I / C</td>
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Recommended Echo Dealer Maintenance Procedures

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<td>Spark Plug</td>
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<tr>
<td>Screws/Nuts/Bolts</td>
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</tbody>
</table>

MAINTENANCE PROCEDURE LETTER CODES:  I = INSPECT, R = REPLACE, C = CLEAN

IMPORTANT NOTE - Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.

MAINTENANCE PROCEDURE NOTES:
* All recommendations to replace are based on the finding of damage or wear during inspection.
**AIR FILTER**

**Level 1.**

*Tools required:* 25-50 mm (1-2 in.) Cleaning brush.

*Parts required:* Air filter

**NOTE**
Clean daily.

1. Close choke (Cold Start Position [団]). This prevents dirt from entering the carburetor throat when the air filter is removed. Brush accumulated dirt from air cleaner area.

2. Remove air filter cover. Brush dirt from inside cover.

3. Remove air filter and lightly brush debris from filter. Replace filter if it is damaged, fuel soaked, very dirty, or the rubber sealing edges are deformed.

4. If filter can be reused, be certain it:
   - Fits tightly in the air filter cavity.
   - Is installed with the original side out.

5. Install air filter cover.

---

**FUEL FILTER**

**Level 1.**

*Tools required:* 200-250 mm (8-10 in.) length of wire with one end bent into a hook. Clean rag, funnel, and an approved fuel container.

*Parts required:* Fuel line and filter

**DANGER**
Fuel is VERY flammable. Use extreme care when mixing, storing or handling.

1. Use a clean rag to remove loose dirt from around fuel cap and empty fuel tank.

2. Use the “fuel line hook” to pull the fuel line and filter from the tank.

3. Remove the filter from the line and install the new filter.
SPARK PLUG

Level 2.

**Tools required:** T-Wrench, Feeler gauge

**Parts Required:** Spark plug NGK BPM-8Y

**IMPORTANT**

Use only NGK BPM-8Y spark plug otherwise severe engine damage may occur.

1. Remove spark plug and check for fouling, worn and rounded center electrode.
2. Clean the plug or replace with a new one. DO NOT sand blast to clean. Remaining sand will damage engine.
3. Adjust spark plug gap by bending outer electrode.
4. Tighten spark plug to 150-170 kg/cm (130-150 in. lb.).

COOLING SYSTEM

Level 2.

**Tools required:** 25-50 mm (1-2 in.) cleaning brush, 4 mm Hex Wrench, pointed wood stick.

**Parts Required:** None, if you are careful.

**IMPORTANT**

To maintain proper engine operating temperatures, cooling air must pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:
- Air intakes are blocked, preventing cooling air from reaching the cylinder.
- Dust and grass build up on the outside of the cylinder. This build up insulates the engine and prevents the heat from leaving.

Removal of cooling passage blockages or cleaning of cooling fins is considered “Normal Maintenance”. Any failure attributed to lack of maintenance is not warranted.

**Cleaning Grill**

1. Brush accumulated debris from crankcase intake grill above the fuel tank.
Cleaning Cylinder Fins

1. Remove engine cover (two screws), pull cover away from engine. Clean cylinder fins to allow cooling air to pass freely.
2. Loosely reassemble engine cover with two screws.
3. Tighten all screws securely.

EXHAUST SYSTEM

Spark Arrestor Screen

Level 2.

Tools required: Cross Head Screwdriver, 4 mm Hex Wrench, Soft metal brush

Parts Required: Spark arrestor screen, Gasket

IMPORTANT
Carbon deposits in muffler will cause a drop in engine output and overheating. Spark arrestor screen must be checked periodically.

1. Remove two engine cover screws and remove cover from engine. Clean cylinder fins with brush to allow cooling air to pass freely.
2. Remove spark arrestor cover (A), deflector (B), gasket (C), and spark arrestor screen (D) from muffler. Replace screen if plugged with carbon deposits.

NOTE
When cleaning carbon deposit, be careful not to damage the catalytic element inside muffler.

3. Install spark arrestor screen, gaskets, and cover.
4. Loosely reassemble engine cover with two screws.
5. Tighten all screws securely.
CARBURETOR ADJUSTMENT

Engine Break-In
New engines must be operated a minimum duration of two tanks of fuel break-in before carburetor adjustments can be made. During the break-in period your engine performance will increase and exhaust emissions will stabilize. Idle speed can be adjusted as required.

High Altitude Adjustment
High altitude adjustment is not required for proper operation of this engine.

Level 2.

Tools required: Screwdriver, tachometer (Echo P/N 99051130017)
Parts required: None.

NOTE
Every unit is run at the factory and the carburetor is set in compliance with emission regulations. This carburetor does not have acceleration and high speed adjustment needles.

Idle Adjustment
Before adjustment make sure that:
• Air filter is clean and properly installed.
• Spark arrestor screen is free of carbon.
• Blower pipes are installed.

1. Start engine, run at idle for one minute.
2. Complete warm up by running at full throttle for 5 minutes, operating choke twice to clear air from carburetor chambers.
3. Check idle speed and reset if necessary. If a tachometer is available, idle speed screw (A) should be set to the specifications found on Page 21 “Specifications” of this manual. Turn idle screw (A) clockwise to increase idle speed; counter clockwise to decrease idle speed.
### TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problem</th>
<th>Check</th>
<th>Status</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
</table>
| Fuel at carburetor | No fuel at carburetor | Fuel strainer clogged  
Fuel line clogged  
Carburetor | Clean or replace  
Clean or replace  
See your Echo dealer |
| Fuel at cylinder | No fuel at cylinder | Carburetor | See your Echo dealer |
| Muffler wet with fuel | Muffler wet with fuel | Fuel Mixture too rich | Open choke  
Clean/replace air filter  
Adjust carburetor  
See your Echo dealer |
| Spark at end of plug wire | No spark | Stop switch off  
Electrical problem  
Interlock switch | Turn switch to ON  
See your Echo dealer  
See your Echo dealer |
| Spark at plug | No spark | Spark gap incorrect  
Covered with carbon  
 Fouled with fuel  
Plug defective | Adjust to .65mm (0.026 in.)  
Clean or replace  
Clean or replace  
Replace plug |
| Air filter | Air filter dirty | Normal wear | Clean or replace |
| Fuel filter | Fuel filter dirty | Contaminants/residues in fuel | Replace |
| Fuel vent | Fuel vent plugged | Contaminants/residues in fuel | Clean or replace |
| Spark Plug | Plug dirty/worn | Normal wear | Clean and adjust or replace |
| Carburetor | Improper adjustment | Vibration | Adjust |
| Cooling System | Cooling system dirty/plugged | Extended operation in dirty/dusty locations | Clean |
| Spark Arrestor Screen | Spark arrestor screen plugged | Normal wear | Replace |
| Engine does not crank | N/A | N/A | Internal engine problem  
See your Echo dealer |
| Engine runs, blower doesn't work or is weak/uneven | Blower pipe | Pipe clogged | Unclog |
| | | Pipe loose | Vibration | Tighten |
| | | Pipe damaged | Wear/Misuse | Replace |

**WARNING**

Fuel vapors are extremely flammable and may cause fire and/or explosion. **Never** test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.
STORAGE

**WARNING**
During operation the muffler or catalytic muffler and surrounding cover becomes hot. Always keep exhaust area clear of flammable debris during transportation or when storing, otherwise serious property damage or personal injury may result.

**Long Term Storage (Over 30 Days)**
Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

1. Store unit in a dry, dust free place, out of the reach of children.

**WARNING**
Do not store where fuel fumes may accumulate or reach an open flame or spark.

2. Place the stop switch in the "STOP" position.

3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.

4. Perform all periodic lubrication and services that are required.

5. Tighten all screws and nuts.

6. **Drain** the fuel tank completely and pull the recoil starter handle several times to remove fuel from the carburetor.

7. Remove the spark plug and pour 7cc (1/4 oz.) of fresh, clean ECHO 2-stroke engine oil into the cylinder through the spark plug hole.
   A. Place a clean cloth over the spark plug hole.
   B. Pull the recoil starter handle 2-3 times to distribute the oil inside the engine.
   C. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.

8. Install the spark plug (do not connect ignition cable).

9. Remove blower pipe assembly from unit.
## SPECIFICATIONS

**MODEL**  
**PB-251 Hand Held**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>330 mm (13.0 in.) (w/o pipes)</td>
</tr>
<tr>
<td>Width</td>
<td>265 mm (10.4 in.)</td>
</tr>
<tr>
<td>Height</td>
<td>360 mm (14.2 in.)</td>
</tr>
<tr>
<td>Weight (dry)</td>
<td>4.1 kg (9.11 lb.)</td>
</tr>
<tr>
<td>Engine Type</td>
<td>Air cooled, two-stroke, single cylinder gasoline engine</td>
</tr>
<tr>
<td>Displacement</td>
<td>25.4cc (1.55 cu. in.)</td>
</tr>
<tr>
<td>Bore</td>
<td>34.0 mm (1.34 in.)</td>
</tr>
<tr>
<td>Stroke</td>
<td>28.0 mm (1.10 in.)</td>
</tr>
<tr>
<td>Carburetor</td>
<td>Zama Diaphragm model w/primer bulb</td>
</tr>
<tr>
<td>Ignition System</td>
<td>Flywheel Magneto, capacitor discharge ignition type</td>
</tr>
<tr>
<td>Spark Plug</td>
<td>NGK BPM8Y Gap 0.65 mm (0.026 in.)</td>
</tr>
<tr>
<td>Exhaust System</td>
<td>Spark Arrestor Muffler w/Catayst</td>
</tr>
<tr>
<td>Fuel</td>
<td>Mixed (Gasoline and Two-stroke Oil)</td>
</tr>
<tr>
<td>Fuel/Oil Ratio</td>
<td>50:1 two-stroke air cooled engine oil</td>
</tr>
<tr>
<td>Gasoline</td>
<td>89 Octane unleaded. DO NOT use fuel containing methyl alcohol, more than 10% ethyl alcohol or 15% MTBE.</td>
</tr>
<tr>
<td>Oil</td>
<td>Power Blend™ Premium Universal 2-Stroke oil</td>
</tr>
<tr>
<td>Fuel Tank Capacity</td>
<td>0.5 lit. (16.9 US fl. oz.)</td>
</tr>
<tr>
<td>Recoil Starter System</td>
<td>Automatic Recoil Starter Centrifugal Type</td>
</tr>
<tr>
<td>Idle Speed (RPM)</td>
<td>2,700 - 3,300</td>
</tr>
<tr>
<td>Wide Open Throttle Speed (RPM)</td>
<td>6,700 - 7,200</td>
</tr>
<tr>
<td>Maximum Air Speed w/pipes (MPH)</td>
<td>63.5 m/sec (142 mph)</td>
</tr>
<tr>
<td>Maximum Air Volume</td>
<td>10.9 m³/min (386 cu. ft./min.)</td>
</tr>
<tr>
<td>Sound Level at 50 ft. dB(A) scale per ANSI B175.2</td>
<td>65 dB(A)</td>
</tr>
</tbody>
</table>
**Servicing Information**

**Parts/Serial Number**

Genuine ECHO Parts and ECHO REPOWER™ Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts always have the Model Number and Serial Number of the unit with you. You can find these numbers on the engine housing. For future reference, write them in the space provided below.

Model No. _____________ SN. ____________

**Service**

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO (3246). Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

**ECHO Consumer Product Support**

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit to help your Consumer Product Support Representative.

**Warranty Registration**

You may register your Echo equipment using the warranty registration card or register on-line at www.echo-usa.com. Registering provides a direct link between you and ECHO if we find it necessary to contact you.

**Additional or Replacement Manuals**

Safety Manuals in English/Spanish or English/French are available, free of charge, from your ECHO dealer or at www.echo-usa.com. Operator's and Parts Manuals are available by:

- Downloading free from www.echo-usa.com
- Purchasing from your Echo Dealer.
- Manuals are available by sending a written request stating the model number and serial number of your Echo unit, part number of the manual, your name and address, and mail to the address below.

Safety Videos are available from your Echo dealer. A $5.00 shipping charge will be required for each video.