

# Earthquake<sup>®</sup>

## ***WALK BEHIND EDGER OPERATORS MANUAL***



***WE43E  
(electric start)***

***WE43  
(manual start)***



[GetEarthquake.com](http://GetEarthquake.com)



OMWE43E  
Rev. 12/16/09  
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## THANK YOU AND CONGRATULATIONS!

on your purchase of a new **EARTHQUAKE® WALK BEHIND EDGER** from Ardisam, Inc. We have worked to ensure that your Earthquake Walk Behind Edger will be one of the most trouble-free and satisfying pieces of equipment you have ever owned. With proper care, your edger will provide many years of service. Please take the time to read this manual carefully to learn how to correctly operate and maintain your equipment.

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## FEDERAL EMISSION INFORMATION

Ardisam, Inc. warrants to the retail purchaser, that this small, off-road engine was designed, built and equipped to conform at the time of initial sale to all applicable regulations of the U.S. Environmental Protection Agency (EPA).

## REGISTRATION

Record your model number and serial number in the space provided for easy reference. Fill out and mail the registration card located in your parts packet. Warranty is valid only if the completed registration card is received by Ardisam, Inc., within 30 days of purchase.

Model Number	<input type="checkbox"/> WE43E <input type="checkbox"/> WE43
Serial Number	
Engine Serial Number	
Date of Purchase	
Place of Purchase	

## INTRODUCTION

### OWNER'S RESPONSIBILITY

Accurate assembly and safe and effective use of the edger is the owner's responsibility.

- Read and follow all safety instructions.
- Carefully follow all assembly instructions.
- Maintain the edger according to directions and schedule included in this Earthquake operator's manual.
- Ensure that anyone who uses the edger is familiar with all controls and safety precautions.

## SPECIFICATIONS

<b>ENGINE DISPLACEMENT</b>	43cc
<b>FUEL TANK CAPACITY</b>	30 ounces
<b>OIL/GAS RATIO</b>	50:1 - 2.6 ounces per gallon
<b>OIL TYPE</b>	VIPER 2 CYCLE ENGINE OIL (p/n 300400)
<b>GAS TYPE</b>	UNLEADED REGULAR GAS
<b>SPARK PLUG</b>	BM6A
<b>SPARK PLUG GAP</b>	.028
<b>CUTTING DEPTH</b>	2.75 inch maximum
<b>WHEEL SIZE</b>	1.375 x 7.0 inch diameter
<b>BLADE SIZE</b>	2 x 9 x .125 inch thick
<b>WEIGHT OF UNIT</b>	WE43E = 39 lbs. / WE43 = 29 lbs.
<b>UNIT SIZE L x W x H (inches)</b>	21 x 14 x 23

### WARNINGS AND CAUTIONS

#### **WARNING**

**INDICATES A HAZARD WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY AND/OR PROPERTY DAMAGE.**

- Read this entire manual before you assemble and operate your new edger. Be thoroughly familiar with the controls and the proper use of the equipment. Know how to stop the unit and disengage the controls quickly. Failure to follow instructions may result in property damage, bodily injury, or even death. Save manual and keep in a safe dry place.
- Practice safety at all times. To prevent accidental starting, engine must be turned off and allowed to cool, and spark plug wire must be disconnected and kept away from the spark plug before attempting any maintenance or repair.
- Dress appropriately when operating the edger. Always wear sturdy footwear. Never wear sandals, sneakers, or open shoes, and never operate the edger with bare feet. Do not wear loose clothing or jewelry that might get caught in moving parts. Always wear safety glasses or goggles for eye protection.
- Always wear hearing protection while operating engine.
- DO NOT** allow children to operate this edger. Do not allow adults to operate the edger without proper instruction.
- DO NOT** operate edger when fatigued or under the influence of alcohol or drugs.
- Never run engine indoors or in an enclosed area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- Temperature of muffler and nearby areas may exceed 150° F. (65° C). Avoid these areas.
- Keep all screws, nuts and bolts tight. When replacing any parts including hardware, use only original equipment parts from Ardisam, Inc.
- Carefully inspect the area to be edged, and remove all foreign objects. Do not use edger above underground utilities, including water lines, gas lines, electric cables, or pipes. Do not operate the edger in soil with large rocks and foreign objects which can damage the equipment.

#### **WARNING**

- The blade of the edger should not rotate when the engine is idling. If it does rotate when engine is idling, refer to troubleshooting guide for remedy.
- Never operate the edger without the blade guard and deflector in place.
- If an object becomes lodged in the blade guard area, turn engine off, remove the wire from the spark plug and secure, allow to cool before attempting to remove the foreign object.
- Never direct discharge of materials toward bystanders or allow anyone near the area of operation.
- DO NOT** use edger on gravel surfaces. Stay alert for uneven sidewalks, holes in terrain, or other similar conditions. Always push slowly over rough ground.
- DO NOT** transport the edger from one place to another with the engine running.
- DO NOT** use edger in rain or wet locations.
- DO NOT** abuse machine.
- Never operate edger without good visibility or light.
- When not in use, allow edger to cool before storing indoors in a dry place, locked and inaccessible to children.
- DO NOT** alter/modify engine or edger from the factory.
- Labels should be inspected before each use. Replace damaged labels immediately.
- Avoid electrical shock! **DO NOT** use battery charger around water or in wet conditions.
- Make sure the unit is in a stable position before pulling the starter handle.
- When the unit starts to fire or run, release the throttle control momentarily with your right hand and return your left hand to the handlebar position to maintain control and stability of the unit with both hands.

### **WARNING**

- ❑ Hot gases are a normal by-product of a functioning catalytic converter. Follow all safety instructions to prevent burns and fires.
- ❑ Never store engine with fuel in the tank inside an enclosed area or building. Fuel and fuel vapors are highly flammable.
- ❑ Always handle fuel in a well ventilated area, outdoors, away from flames or sparks.
- ❑ To avoid injury or death, never siphon fuel by mouth.
- ❑ **DO NOT** start engine if fuel is spilled. Wipe off excess fuel and allow to dry. Remove engine from area to avoid sparks.
- ❑ Never leave engine running while unattended. Turn off after every use.
- ❑ Never mix fuel and oil directly in engine fuel tank. Use only non-metal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM).
- ❑ An adult must always handle and fill the engine with fuel.
- ❑ Starter rope can cause an unanticipated jerk towards engine. Please follow instructions to avoid injury.
- ❑ **CALIFORNIA PROPOSITION 65 WARNING**  
Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

### **CAUTION**

**INDICATES A HAZARD WHICH, IF NOT AVOIDED, MIGHT RESULT IN MINOR OR MODERATE INJURY AND PROPERTY DAMAGE.**

- If engine fails to start after trying starting procedures, please contact our customer service department at 800-345-6007.
- Use edger only for edging along flower beds, terraces, sidewalks and curbs. Trim along buildings trees, walks, marker hedges and fences.
- An adult must always do maintenance and repair on equipment.
- Keep all screws, nuts and bolts tight. When replacing any parts including hardware, use only original equipment parts from Ardisam, Inc.
- Always keep the throttle in the "slow" position when not in use.

## GENERAL SAFETY RULES

### SPECIAL MESSAGES

Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

**NOTE: General information is given throughout the manual that may help the operator in the operation or service of the machine.**

### IMPORTANT SAFETY PRECAUTIONS

**Please read this section carefully.** Operate the edger according to the safety instructions and recommendations outlined here and inserted throughout the text. Anyone who uses this edger must read the instructions and be familiar with the controls.

### IMPORTANT

INDICATES HELPFUL INFORMATION FOR PROPER ASSEMBLY, OPERATION, OR MAINTENANCE OF YOUR EQUIPMENT.

### ENGINE SAFETY PRECAUTIONS

#### Warning Carbon Monoxide Poisoning

All engines contain carbon monoxide in their exhaust. Carbon monoxide is a deadly, colorless, tasteless, odorless gas which may be present even if you do not smell or see any engine exhaust. Levels of carbon monoxide, which can be deadly, can be present for days in an enclosed area that has poor ventilation. Any level of carbon monoxide, if inhaled, can cause headaches, drowsiness, nausea, dizziness, confusion and eventually death. If you experience any of these symptoms, seek fresh air and medical attention immediately.

#### Preventing Carbon Monoxide Poisoning

- Never run engine indoors.
- Never try to ventilate engine exhaust indoors. Carbon monoxide can reach dangerous levels very quickly.
- Never run engine outdoors where exhaust fumes may be pulled into a building.
- Never run engine outdoors in a poorly ventilated area where the exhaust fumes may be trapped and not easily taken away. (Examples include: in a large hole or areas where hills surround your working area.)

- Always run the engine with the exhaust from the muffler pointed in the direction away from the operator.
- Never point the exhaust from the muffler towards anyone. People should always be many feet away from the operation of the engine and its attachments.

#### Gasoline Fires and Handling Fuel Safely

Fuel and fuel vapors are highly flammable. Never use fuel where a spark or flame may be present. Never use fuel where a potential source of ignition could occur. (Examples include: hot water or space heaters, clothes dryer, electric motors, etc.) Keep flames and sparks away from engine and fuel to prevent fires. Fuel fires spread very quickly and are highly explosive.

#### Prevention of Gasoline Fires

- Never fill your fuel tank with fuel indoors. (Examples include: basement, garage, barn, shed, house, porch, etc.)
- Always fill fuel tank outside in a well ventilated area.
- Never remove the fuel cap or add fuel with the engine running. Stop engine and allow to cool before filling.
- Never drain fuel from engine in an enclosed area.
- Always wipe up excess (spilled) fuel from engine before starting. Clean up spilled fuel immediately.
- Allow spilled fuel to dry, after wiping and before starting.
- Allow fuel fumes/vapors to escape from the area before starting engine.
- Test the fuel cap for proper installation before starting and using engine.
- Always run the engine with fuel cap properly installed on the engine.
- Always unscrew gas cap vent screw while engine is running.
- Never smoke while refilling engine fuel tank.
- Prevent fire and explosion caused by static electric discharge. Use only nonmetal, portable fuel containers approved by the Underwriter's Laboratory (U.L.) or the American Society for Testing & Materials (ASTM).
- Do not store engine with fuel in fuel tank indoors. Fuel and fuel vapors are highly explosive.
- During storage, screw down gas cap vent screw tightly.
- Never pour fuel from engine fuel tank.
- Never siphon fuel by mouth to drain fuel tank.

- Always have an adult fill the fuel tank.
- Never allow an adult or anyone under the influence of drugs or alcohol to fill fuel tank.
- Never allow children to fill the fuel tank.
- The clutch will transfer maximum power after about two hours of normal operation. During this break-in period clutch slippage may occur. The clutch should be kept free of oil or other moisture for efficient operation.

### **BURNS AND FIRES**

The catalytic converter muffler, muffler guard and other parts of the engine become extremely hot during the operation of the engine. These parts remain extremely hot after the engine has stopped.

#### **Prevention of Burns and Fires**

- Never remove the muffler guard from the engine.
- Never touch the muffler guard because it is extremely hot and will cause severe burns.
- Never touch parts of the engine that become hot after operation.
- Always keep materials and debris away from muffler guard and other hot parts of the engine to avoid fires.

This engine is designed to operate using a catalytic converter which contributes to the engine's compliance with the EPA.

### SAFETY DECALS

This edger has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

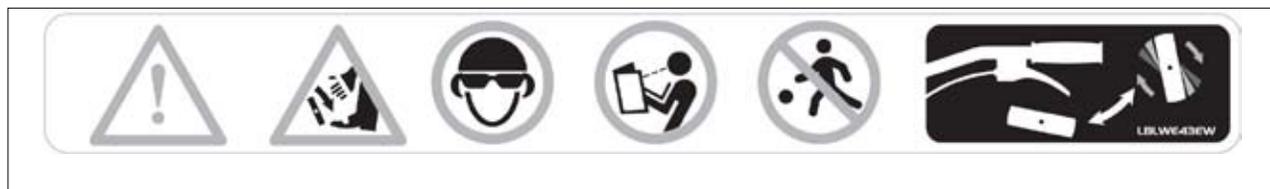
Reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively. We have placed a safety decal on the cultivator to remind you of some of this important information while you are operating the unit.

This important safety decal is illustrated below, and is shown here to help familiarize you with the location and content of the safety messages you will see as you perform normal cultivating operations. Please review this decal now, and if you have any questions regarding its meaning or how to comply with these instructions, reread the complete safety instruction text in this manual, or contact your local dealer.

Should this decal become unreadable because of being worn, faded, or otherwise damaged during the use of your edger, please use the part number information provided to order a replacement label from your local authorized dealer. These decals are easily applied, and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation of your edger.

#### Warning Decal Information

1                      2                      3                      4                      5                      6



- 1: **Warning/Attention**
- 2: **Keep hands and feet away from rotating blades**
- 3: **Wear ear and eye protection**
- 4: **Read owners manual before operating**
- 5: **Keep bystanders away while machine is in operation**
- 6: **Blades rotate clockwise when edger is in use. NOTE: When throttle is released, blades stop.**

 <b>WARNING</b>	<b>TO GUARD AGAINST INJURY OBSERVE THE FOLLOWING:</b> <ul style="list-style-type: none"><li>• Do not operate without guards in place</li><li>• Stay away from blade guard and rotating blades</li></ul>	 <b>DIRECTION OF ROTATION</b> LBLWE43EB
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### UNPACKING AND ASSEMBLY

#### UNPACK EDGER

1. Set aside the operators manual and parts bag. Carefully lift the edger out of the box, remove any packing material and cut any ties holding the handlebar pieces to the edger assembly.

#### ASSEMBLY

1. Stand the edger assembly upright with wheels on a level surface. **DO NOT place the edger on a high surface where it can fall and cause property damage or personal injury.**
2. Unscrew knob from height adjustment bar. Slide height adjuster bar through slots in wheel mount bracket with wheel placed towards edger blade guard. Place knob with bolt through hole at top of height adjuster bar from engine side and secure with nut. Adjust height of unit and place detent pin through matching holes in height adjuster bar and wheel mount bracket. Refer to photo on page 17 for proper placement.
3. Using two tee handle nuts (4640), two bolts (4642), and two curved washers (4641), assemble the middle handlebar (4693) to the handlebar & wheel mount weldment (400008) that is already attached to the edger assembly. The middle handlebar can be installed in two positions one high and one low. **DO NOT overtighten the tee handle nuts.**
4. Attach the upper right and left handlebars (4689 & 4690) to the middle handlebar using the two remaining tee handle nuts, bolts, and curved washers. **DO NOT overtighten the tee handle nuts.**
5. Secure cable to handlebar with provided cable tie.

**For the Electric Start Edger Model WE43E,** remove the battery box cover and plug the white plastic connector from the battery into the mating white plastic connector in the battery box. **See Figure 1. Make sure the ignition key is removed from the ignition before connecting the wiring for the battery.**

### FOR MODEL WE43E ELECTRIC START

#### CHARGING THE BATTERY

To charge the battery, check that the battery wiring is properly connected and plug the battery charger (4681) into the side of the battery box (4656) with matching three-prong plug. Plug the other end of the battery charger into a standard 120V outlet receptacle. Battery is fully charged when the LED light turns GREEN on the external charger. The electric start mini cultivator (MC43E) will maintain a charge in the battery when the engine is running.

Batteries may take as long as 8 hours to fully charge depending on the original charge level of the battery.

**NOTE: For long term storage protection, be sure that the battery is fully charged and the white plastic battery connector is disconnected. Place the battery box cover onto the battery box and store in a dry place out of direct sunlight.**

**NOTE: Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Battery life and number of charge cycles vary by use.**

### IMPORTANT

**DO NOT SPRAY WATER ON OR NEAR THE ELECTRONICS OF THE EDGER AS THIS MAY RESULT IN DAMAGE TO THE ELECTRICAL COMPONENTS.**

**DO NOT TRY TO START ENGINE WHILE THE BATTERY CHARGER IS CONNECTED. THIS COULD DAMAGE THE ENGINE AND BATTERY.**



Figure 1

### OPERATING YOUR EDGER PREPARING ENGINE FOR STARTING

#### GAS AND OIL

##### Quality

To operate the engine, we recommend using “VIPER” brand 2-cycle oil (PN 300400) to ensure that the engine operates correctly throughout the life of the engine. Use unleaded regular gas only.

**NOTE: VIPER oil can be purchased from our web site at [www.GetEarthquake.com](http://www.GetEarthquake.com).**

##### Mixture

Run engine with a 50:1 ratio.

GAS	OIL	RATIO
1 gallon	2.6 ounces	50:1
2 gallons	5.1 ounces	50:1
5 gallons	13 ounces	50:1

#### MIXING FUEL AND FILLING FUEL TANK

##### Mixing Fuel

1. Fuel must be mixed in a container outside in a well ventilated area.
2. Fill certified fuel container 1/4 full of recommended fuel.
3. Add recommended amount of 2 cycle oil.
4. Screw container cap on straight and tight.
5. Shake the container to mix fuel and oil.
6. Unscrew gas cap slowly to vent, add the remainder of fuel requirements.
7. Wipe away any spilled fuel or oil and allow to evaporate before moving or transporting.

##### Filling Fuel Tank

1. Shut-off engine and allow engine to completely cool before refilling the fuel tank.
2. Move to a well ventilated area, outdoors, away from flames and sparks.
3. Clean debris from area around the fuel cap.
4. Loosen fuel cap slowly. Place the cap on a clean, dry surface.
5. Carefully add fuel without spilling.
6. Do not fill gas tank completely full, allow space for fuel to expand.

### IMPORTANT

**THIS ENGINE USES A GAS/OIL MIXTURE. DO NOT RUN ON STRAIGHT GAS ONLY, ENGINE DAMAGE WILL RESULT.**

**MODEL WE43E ONLY - DO NOT START ENGINE WITH BATTERY CHARGER CONNECTED TO BATTERY. THIS COULD CAUSE DAMAGE TO YOUR MACHINE.**

7. Immediately replace fuel cap and tighten. Wipe off spilled fuel and allow to dry before starting engine.

#### NORMAL OPERATION

1. The clutch will transfer maximum power after about two hours of normal operation. During this break-in period clutch slippage may occur. The clutch should be kept free of oil and other moisture for efficient operation.
2. Cultivate without placing excessive body weight on the unit. The edger operates most efficiently with the weight of the unit itself.
3. Never run engine indoors. Exhaust fumes are deadly.

##### Using the Screw Type, Manual Venting Gas Cap

Your edger is equipped with a screw type, manual venting gas cap.

1. Before starting the engine, turn the screw in the top of the gas cap 2-3 turns (counterclockwise) to its venting position. DO NOT turn the screw to the point that it stops (4-5 turns counterclockwise). To ensure that gas will not spill during use, check that the gas cap is screwed on tightly and the gas cap screw is in the venting position.
2. After using the edger and before putting away or transporting it in a vehicle, screw the gas cap screw and gas cap on (clockwise) tightly. This will prevent gas from leaking during storage. The gas cap will not leak during storage if gas cap is tight and the screw at the top is tight.

#### STARTING AND STOPPING ENGINE

- Move engine to a well ventilated area, outdoors, to prevent carbon monoxide poisoning.
- Move to an area away from flames or sparks, to avoid ignition of vapors if present.
- Remove all debris from air cleaner holes and gas cap to ensure proper air flow.

**COLD ENGINE START:** Starting engine for first time or after engine has cooled off or after running out of fuel.

1. Move choke lever to **RUN** position.

**NOTE: Choke must be in the RUN position when pushing or using the primer bulb.**

2. Prime unit until primer hose is filled with gas.

**NOTE: When using the primer bulb, allow the bulb to return completely to its original position between pushes.**

3. Move choke lever to **CHOKER** position.

**NOTE: CHOKER position is defined by moving the choke lever as far to the CHOKER position as possible.**

4. Push rocker switch to the **ON** position.
5. Engage throttle control with right hand. Grasp starter handle with left hand and pull out slowly, until it pulls slightly harder. Without letting starter handle retract, pull rope with a rapid full arm stroke. Let it return to its original position very slowly until unit fires or runs. Repeat this step every time the starter rope is pulled.

**NOTE: If engine fails to start after 5-6 pulls, push primer 1 time and pull starter rope again.**

6. After engine starts running, move choke lever to **HALF CHOKER** position until unit runs smoothly.

**NOTE: HALF CHOKER is defined when the choke lever is between CHOKER and RUN.**

7. Move choke lever to **RUN** position and move throttle to desired speed.

**NOTE: Run at full throttle when possible. Do not let unit idle for extended periods of time.**

8. To stop engine, push rocker switch to **OFF** position.

### **WARM ENGINE START:**

1. Move choke lever to **CHOKER** position.

**NOTE: CHOKER position is defined by moving the choke lever as far to the CHOKER position as possible.**

2. Continue with Step 4 of Cold Engine Starting.

### **HOT ENGINE START:**

1. Continue with Step 4 of Cold Engine Starting.
2. If engine does not fire, refer to Step 1 of Warm Engine Starting.

### **FOR MODEL WE43E ELECTRIC START**

1. Check that the battery is connected using the white plastic connectors inside the battery box. Insert ignition key into ignition and turn key to the **START** position

until engine starts running, then release key to the **ON** position. **DO NOT** hold the ignition key in the **START** position longer than 3 seconds.

2. Run engine for 30 to 45 seconds at **HALF CHOKER** position until engine warms up.
3. Move choke lever to **RUN** position and move throttle to desired speed.
4. To stop, turn switch to **OFF** position on manual start models. On electric start, turn ignition key to the **OFF** position.

### **DO NOT attempt to start engine in the following ways:**

- **DO NOT** use starting fluid.
- **DO NOT** spray flammable liquids or vapors into air cleaner, carburetor or spark plug chamber.
- **DO NOT** remove spark plug and attempt to start engine. Flammable fuel can spray out & ignite from a spark from spark plug.

### **ADJUSTING CUTTING BLADE DEPTH**

**NOTE: Cutting blade depth should only be made before starting edger.**

1. Remove detent pin and slide height adjuster bar up or down for desired cutting height.
2. Insert detent pin through height adjuster bar and wheel mount bracket.

### MAINTENANCE

#### CAUTION

**PRACTICE SAFETY AT ALL TIMES. ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL, AND SPARK PLUG WIRE MUST BE DISCONNECTED BEFORE ATTEMPTING ANY MAINTENANCE OR REPAIR.**

#### STEPS FOR WORKING ON EQUIPMENT

1. Turn off engine switch.
2. Disconnect the spark plug wire from the spark plug.
3. Securely place the disconnected spark plug wire away from the spark plug and any metal parts. This must always be done or arcing may occur between spark plug wire and metal parts.
4. Replace or repair the part on the edger.
5. Check all parts that were repaired, or removed during repair, that they are secure and fit correctly.

**NOTE: All repair parts must come from the factory. Never replace parts that are not specifically designed for the edger.**

6. Reconnect the spark plug wire.

#### EDGER MAINTENANCE

1. The transmission case has grease installed at the factory. It is recommended that once a year the gear case be split by a qualified service professional and the grease level checked. Add a molythium type grease only if level of grease is below top of the gears. **DO NOT OVERFILL.**
2. Keep all screws, nuts, and bolts tight.
3. For cold weather operation, store the unit in a cool environment. Transferring the unit from a warm to a cold place can cause the build up of harmful condensation.

#### Replacing Damaged or Worn Blade

1. Turn off engine switch.
2. Disconnect the spark plug wire from the spark plug and set aside.
3. Loosen nut holding blade in place. Remove nut & clamp washer.

**NOTE: Nut is a left threaded.**

4. Replace blade with new blade and secure with clamp washer and nut.
5. Reconnect the spark plug wire.

### ENGINE MAINTENANCE

Please read the maintenance schedule and observe these recommendations to extend the life of your engine.

Good maintenance is essential for safe, economical, and trouble-free operation. It will also help reduce air pollution. To help you properly care for your engine, the following pages include a maintenance schedule, routine inspection procedures, and simple maintenance procedures using basic hand tools. Other service tasks that are more difficult, or require special tools, are best handled by professionals and are normally performed by a technician or other qualified mechanic.

Maintenance, replacement or repair of the emissions control devices and systems may be performed by any non-road engine repair establishment or individuals. However, items must be serviced by an authorized dealer to obtain "no charge" emissions control service.

The maintenance schedule applies to normal operating conditions. If you operate your engine under unusual conditions, such as sustained high-load or high-temperature operation, or use in unusually wet or dusty conditions, consult your servicing dealer for recommendations applicable to your individual needs and use.

#### MAINTENANCE SCHEDULE

MAINTENANCE ITEM		Every 8 hours (daily)	Every 20 hours or seasonally	Each Year
Clean Engine and Check Bolts & Nut		X		
Air Filter (See Air Filter section)	Check	X		
	Clean *		X	
	Replace		X	X
Spark Plug (Gap .028") (See Spark Plug section)	Check/Adjust		X	
	Replace			X

\* Service more frequently under dusty conditions

#### Cooling Fins

Cooling fins, air inlets and linkages must be free from any debris before each use.

#### Air Filter

Never run engine without air cleaner properly installed. Added wear and engine failure may occur if air cleaner is not installed on engine.

Service air cleaner every 3 months or after 20 hours of operation. **Clean filter daily in extremely dusty conditions.**

### IMPORTANT

**NEVER TWIST AIR FILTERS WHEN CLEANING.  
ALWAYS PRESS.**

#### **Steps for Cleaning Air Filter**

1. Wash in warm water with liquid detergent and water until dirt and debris are removed. Press filter when washing, do not twist.
2. Rinse in warm water until soap and dirt are removed.
3. Dry filter by wrapping in a clean cloth and pressing filter until it is dry.
4. Apply a lightweight motor oil or thin based machine oil to the entire filter.
5. Remove excess oil.
6. Attach the filter and air cleaner cover to the engine.

#### **Spark Plug**

The recommended spark plug is a NGK BM6A which cross references to a Champion CJ8.

1. Check spark plug at the beginning of each season.
2. Disconnect the spark plug cap, and clean any debris from around the spark plug area.
3. Remove spark plug and replace if any of the following occur; pitted electrodes, burned electrodes, cracked porcelain, or deposits around electrodes.
4. After analysis, seat spark plug and tighten with spark plug wrench. Reconnect the spark plug wire.
  - Reinstall original spark plug, tighten additional 1/2 turn.
  - Installing new spark plug, adjust spark plug gap to .028" and tighten additional 1/8 – 1/4 turn .

**NOTE: Loose spark plug may overheat and damage engine. Over tightened spark plug may damage threads in the cylinder head.**

#### **Carburetor**

Never tamper with factory setting of the carburetor.

#### **TRANSPORTING YOUR EDGER**

1. Never transport engine inside an enclosed space or vehicle. Fuel or fuel vapors may ignite causing serious injury or death.
2. If fuel is present in the fuel tank, transport in an open vehicle in an upright position.
3. If an enclosed vehicle must be used, remove gas into an approved red fuel container. **DO NOT siphon by mouth.**
4. Run engine to use up the fuel in the carburetor and fuel tank. Always run engine in a well ventilated area.
5. Wipe away any spilled fuel from engine and edger. Allow to dry.

#### **LONG TERM STORAGE**

If your edger will not be used for more than one month, prepare it for long term storage.

#### **Steps for Long Term Storage**

1. Remove the remainder of the fuel from the gas tank into an approved fuel container.
2. Store edger (engine) in a vertical position.
3. Remove all debris from edger (engine).

#### **SERVICE INFORMATION**

At Ardisam, we build quality and durability into the design of our products; but no amount of careful design by us, and careful maintenance by you, can guarantee a repair-free life for your machine. Most repairs will be minor, and easily fixed by following the suggestions in the troubleshooting guide in this section.

The guide will help you pinpoint the causes of common problems and identify remedies.

For more complicated repairs, you may want to rely on your retailer, an authorized mechanic or Ardisam, Inc. (contact your retailer for a list of authorized mechanics in your area). A parts catalog is included in this section.

We will always be glad to answer any questions you have, or help you find suitable assistance. To order parts or inquire about warranty, call or write us at the address found below, under the section ordering repair parts.

#### **ORDERING REPAIR PARTS**

Parts can be obtained from the store where your edger was purchased, direct from the factory or online. To order from the factory, call or write to:

**Ardisam, Inc.**  
**1690 Elm Street, Cumberland, Wisconsin 54829**  
**1-800-345-6007 • 1-715-822-2415**  
**E-mail: [info@ardisam.com](mailto:info@ardisam.com)**

Please include the following information with your order:

1. Part numbers
2. Part description
3. Quantity
4. Model number and serial number

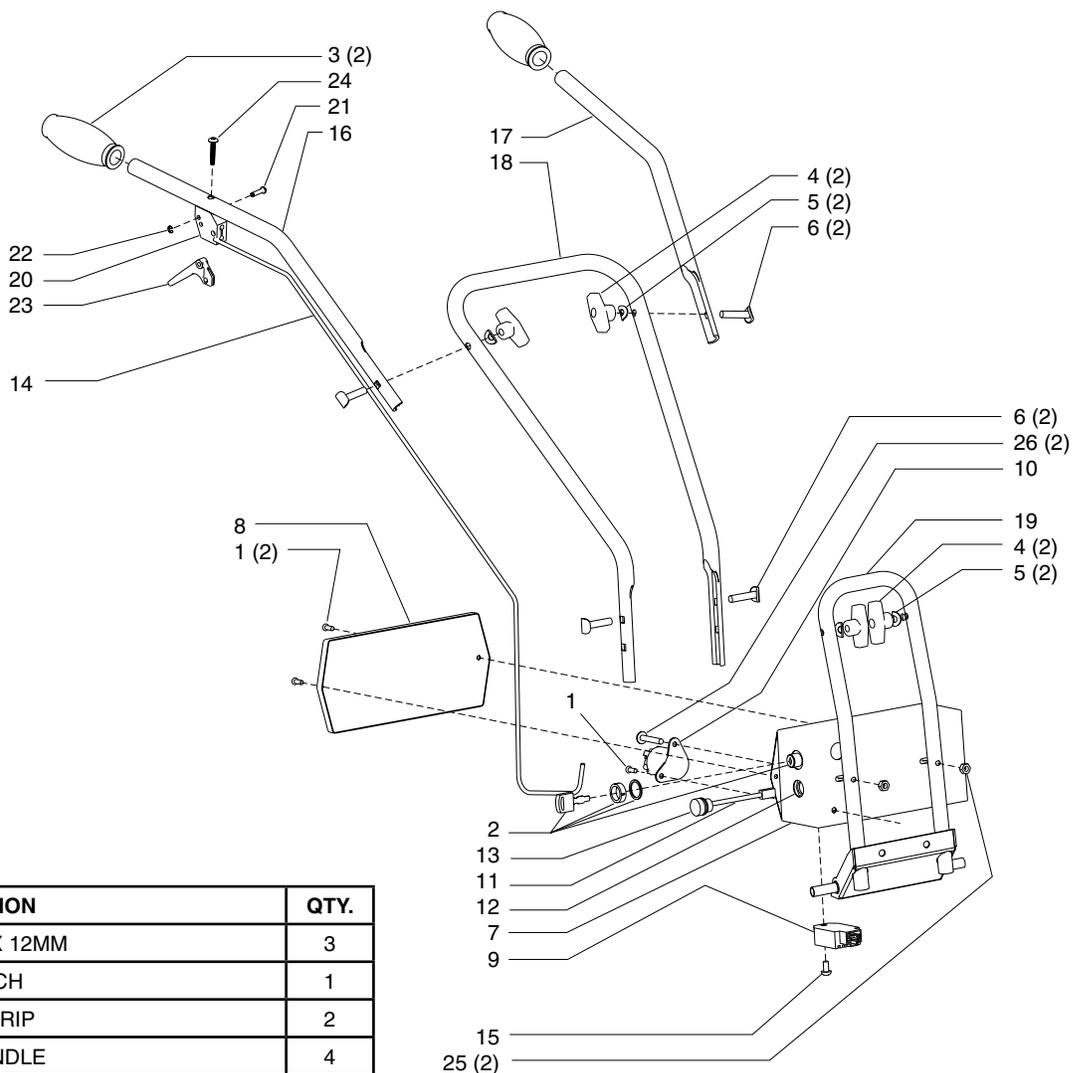
**NOTE: When ordering from manufacturer, there is a \$10.00 minimum order.**

## TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY/ACTION
Engine will not start	1. Power switch off	1. Flip switch to ON position
	2. Spark plug wire disconnected	2. Connect spark plug wire to spark plug
	3. Out of fuel	3. Refuel
	4. Spark plug wet, faulty or improperly gapped	4. Clean, replace or gap spark plug
	5. Throttle control not held open	5. Hold throttle control open when pulling recoil handle
	6. Fuel line hose not positioned in bottom of gas tank	6. Push fuel line down into fuel in gas tank
Engine runs rough, floods during operation	1. Dirty air filter	1. Clean or replace air filter
	2. Choke partially engaged	2. Turn off choke
	3. Carburetor out of adjustment	3. Call factory
Engine is hard to start	1. Stale fuel	1. Drain old fuel and replace with fresh. Use gas stabilizer at end of season
	2. Spark plug wire loose	2. Make sure spark wire is securely attached to spark plug
	3. Dirty carburetor	3. Clean carburetor, use gas stabilizer, new gas can
	4. Throttle control not held open	4. Prime unit 3 more times, then hold throttle open when pulling recoil handle
Engine misses or lacks power	1. Clogged gas tank	1. Remove and clean gas tank
	2. Clogged air filter	2. Clean or replace air filter
	3. Carburetor out of adjustment or bad	3. Call factory
	4. Spark plug wet, faulty or improperly gapped	4. Clean, replace or gap spark plug
Engine runs, then quits	1. Gas cap not venting	1. Clean or replace gas cap, check vent
	2. Plugged fuel filter	2. Clean or replace fuel filter
	3. Carburetor out of adjustment or bad	3. Call factory
Engine revs too high	1. Carburetor out of adjustment	1. Call factory
Edger blade turn at idle	1. Idle speed too high	1. Adjust idle speed lower
	2. Broken clutch spring	2. Replace spring
Edger blade fails to turn	1. Jammed, foreign object in blade area	1. Clear obstruction
Edger blade fails to cut properly	1. Blade worn out	1. Replace blade
	2. Blade wobbles	2. Replace clamp washer, tighten nut
<b>MODEL WE43E ONLY</b>		
Charger won't charge	1. Battery worn out	1. Replace with new battery
	2. Connectors not plugged in	2. Open battery box and connect battery connectors
Key won't start machine	2. Battery not charged	1. Charge battery

Contact service provider at 800-345-6007 if above remedies fail.

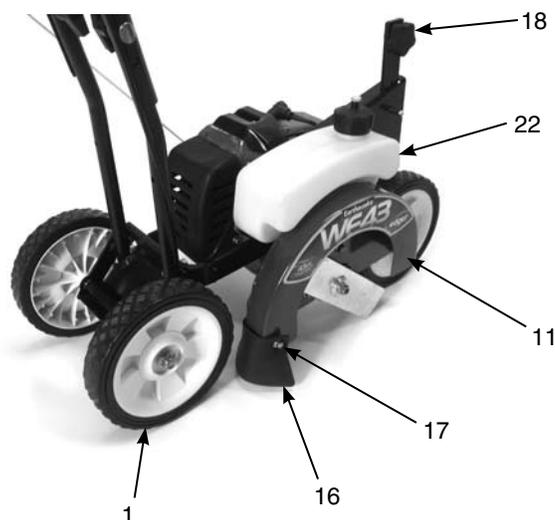
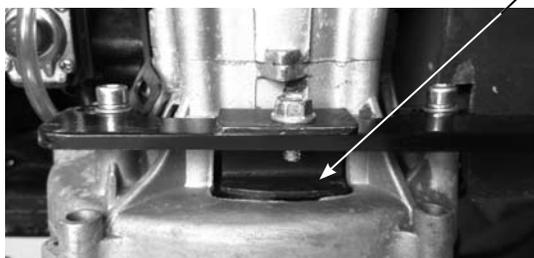
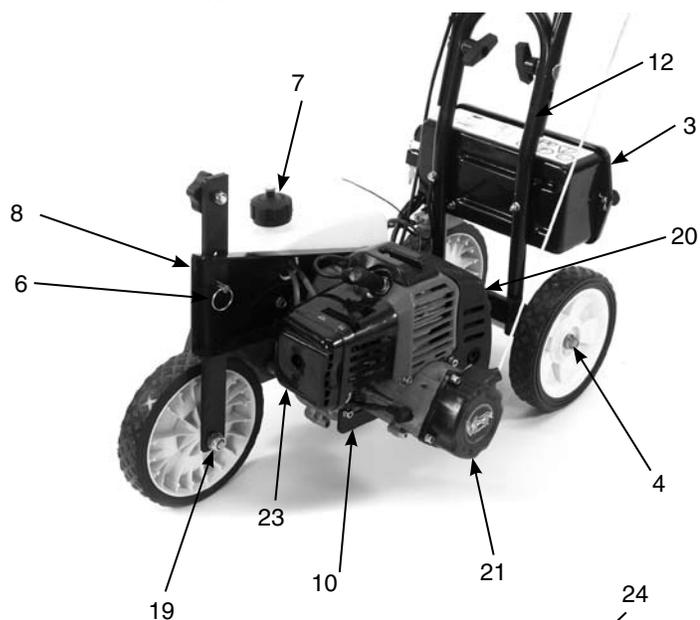
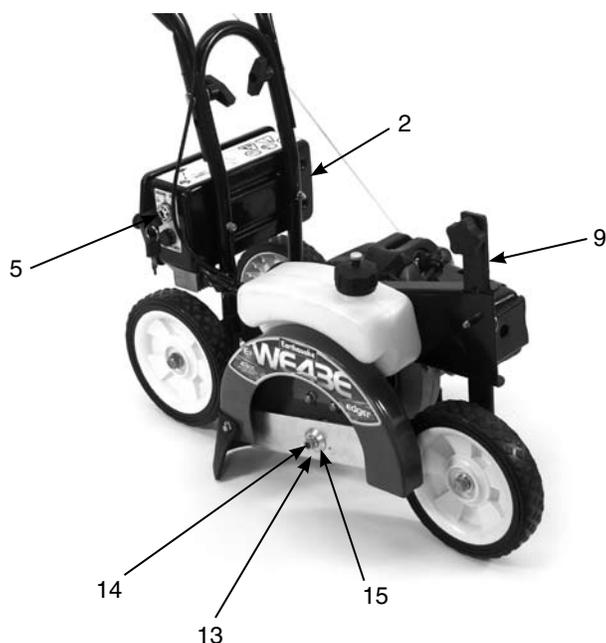
### WE43E HANDLEBAR PARTS



KEY	PART #	DESCRIPTION	QTY.
1	300471	BOLT, M5 X 12MM	3
2	46140	KEY SWITCH	1
3	4639	HANDLE GRIP	2
4	4640	NUT, T-HANDLE	4
5	4641	WASHER	4
6	4642	BOLT, HANDLE CLAMP	4
7	4656	BATTERY BOX MC43E	1
8	4657	COVER, BATTERY BOX	1
9	4659	VOLTAGE RECTIFIER	1
10	4660	SOLENOID	1
11	4661	CHARGER PIGTAIL	1
12	4662	NUT, CHARGER PIGTAIL	1
13	4663	CAP, CHARGER PIGTAIL	1
14	400041	THROTTLE CABLE	1
15	4669	BOLT, M6 X 1MM X 12MM PAN HD	1
16	4689	HANDLEBAR UPPER RIGHT	1
17	4690	HANDLEBAR UPPER LEFT	1
18	4693	HANDLEBAR MIDDLE	1

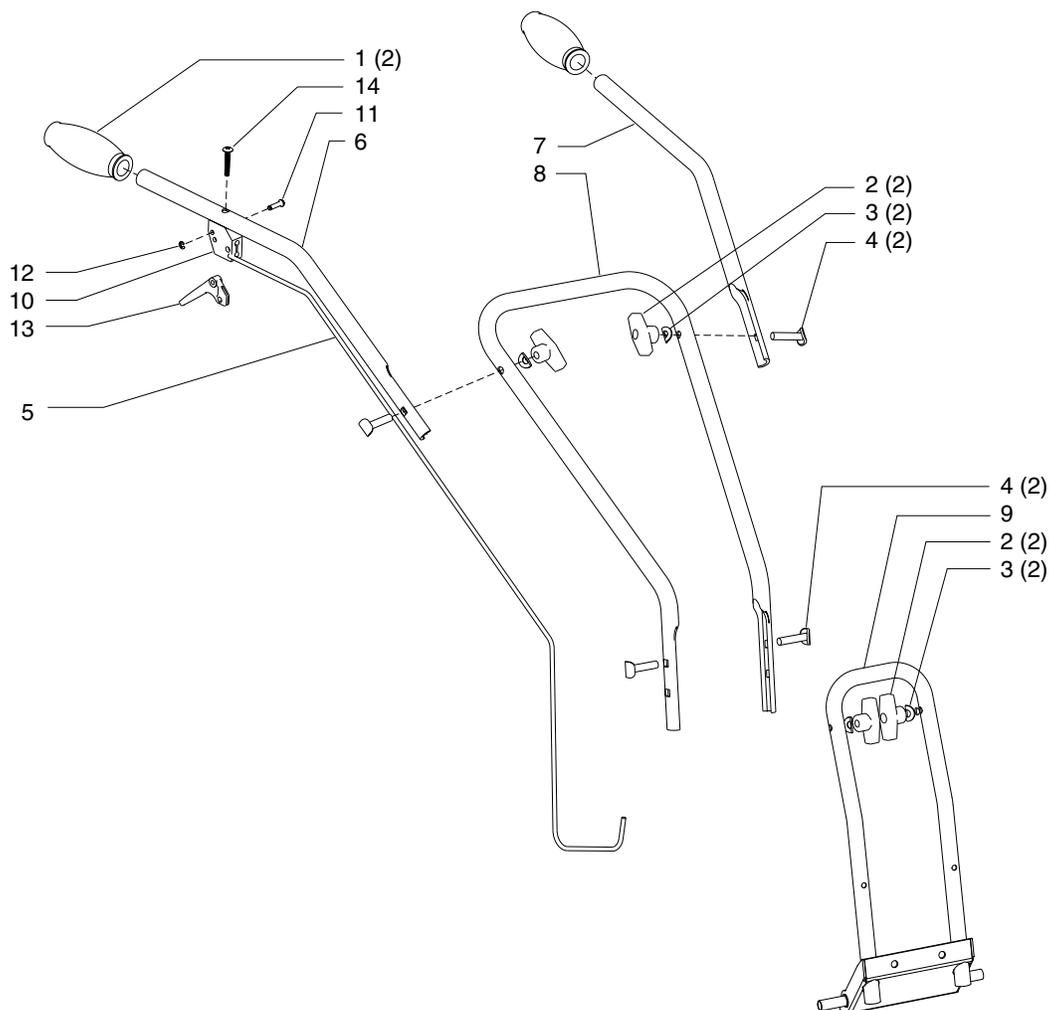
KEY	PART #	DESCRIPTION	QTY.
19	400008	HANDLEBAR LOWER	1
20	4800	THROTTLE HOUSING	1
21	4803	CLEVIS PIN, .188 DIA. GROOVED	1
22	4804	E- CLIP, RETAINING RING FOR .188 PIN	1
23	4805	THROTTLE TRIGGER, LONG THROW	1
24	4814	BOLT, 10-24 X 1-1/4" PHILLIPS TRUSS HD	1
25	53106	NUT, 1/4-20 BI-WAY LOCK	2
26	6041612	SCREW, 1/4-20 X 1-1/2" PH TRUSS HD MC43E	2
--	46122	BATTERY 12V 7A (NOT SHOWN)	1
--	4681	BATTERY CHARGER (NOT SHOWN)	1

### WE43E MAIN PARTS



KEY	PART #	DESCRIPTION	QTY.
1	4634	WHEEL	3
2	4656	BATTERY BOX	1
3	4657	COVER, BATTERY BOX	1
4	4687	BOLT M10 X 1.5 X 225MM HEX HD	1
5	46140	SWITCH ONLY, NO KEY	1
5	46139	KEY ONLY	1
6	46145	DETENT PIN 5/16 X 1-1/2	1
7	300401	GAS CAP, VIPER ENGINE, SCREW VENT	1
8	400003	BRACKET, WHEEL MOUNT	1
9	400005	MOUNT BAR, WHEEL AND HEIGHT ADJUSTER	1
10	400006	MOTOR MOUNT, LOWER	1
11	400007	BLADE GUARD	1
12	400008	WELDMENT, HANDLE BAR AND WHEEL MOUNT	1
13	400009	BLADE	1
14	400013	NUT FLANGE M8 LH BLADE	1
15	400014	CLAMP WASHER (BOTH SIDES)	2
16	4000171	DEBRIS SHIELD, RUBBER	1
17	400018	BOLT FLANGE M5X12	2
18	400027	KNOB, HEIGHT ADJUSTER M8 X 16	1
19	400042	BOLT SHOULDER M10 X 55	1
20	400032	MUFFLER, CATALYTIC CONVERTER	1
21	400036	RECOIL STARTER ASSEMBLY	1
22	400037	FUEL TANK	1
23	400040	AIR INTAKE COVER	1
24	400017	DEBRIS SHIELD, STEEL	1

### WE43 HANDLEBAR PARTS

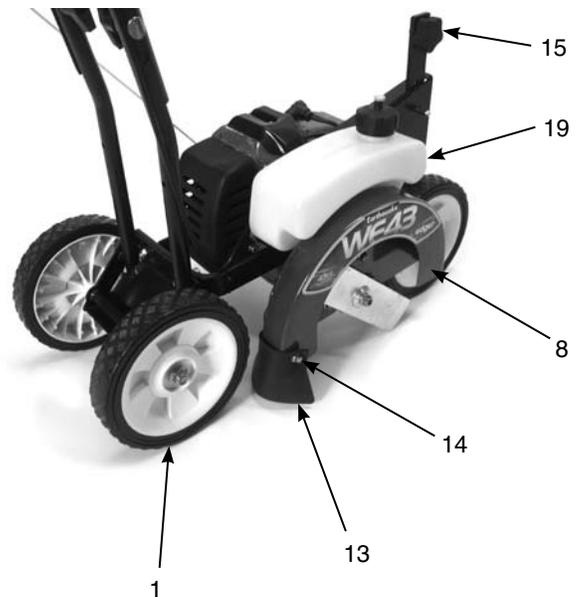
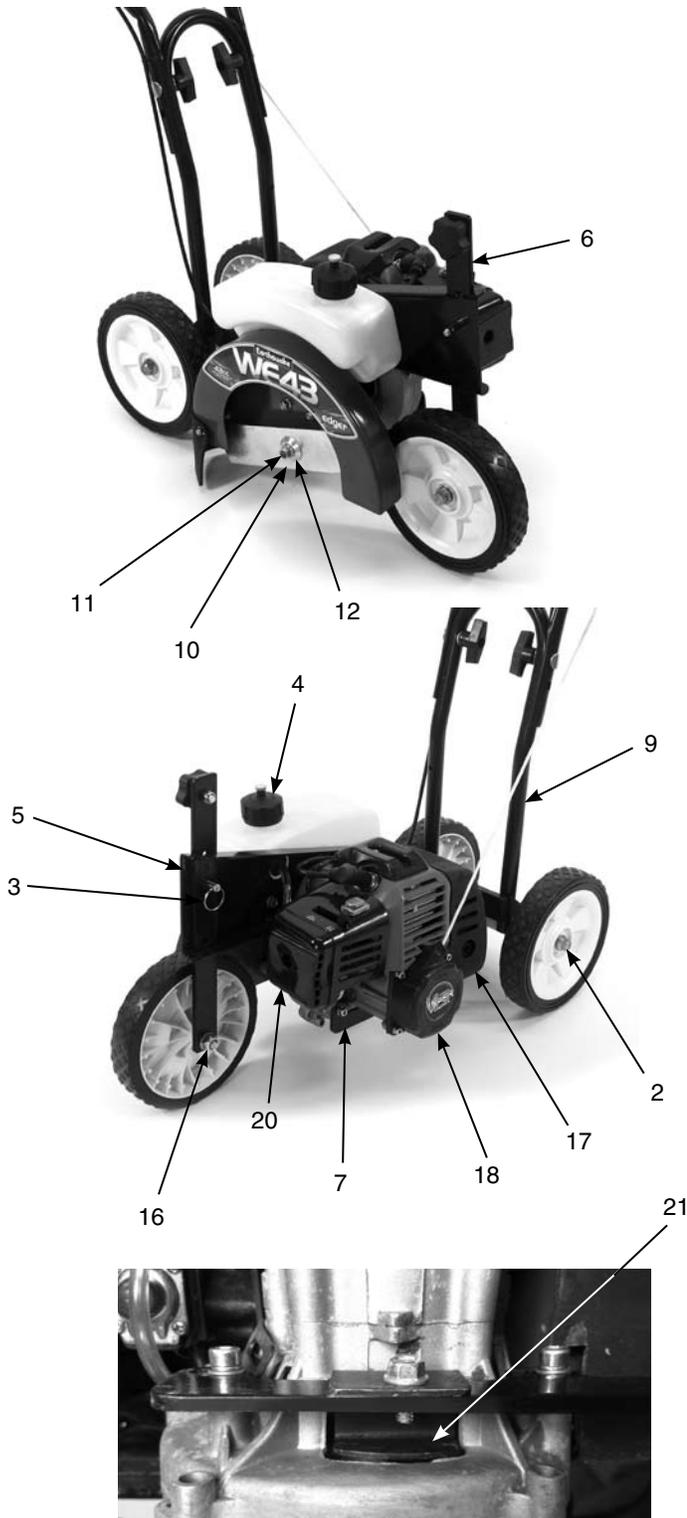


KEY	PART #	DESCRIPTION	QTY.
1	4639	HANDLE GRIP	2
2	4640	NUT, T-HANDLE	4
3	4641	WASHER	4
4	4642	BOLT, HANDLE CLAMP	4
5	400041	THROTTLE CABLE	1
6	4689	HANDLEBAR UPPER RIGHT	1
7	4690	HANDLEBAR UPPER LEFT	1
8	4693	HANDLEBAR MIDDLE	1

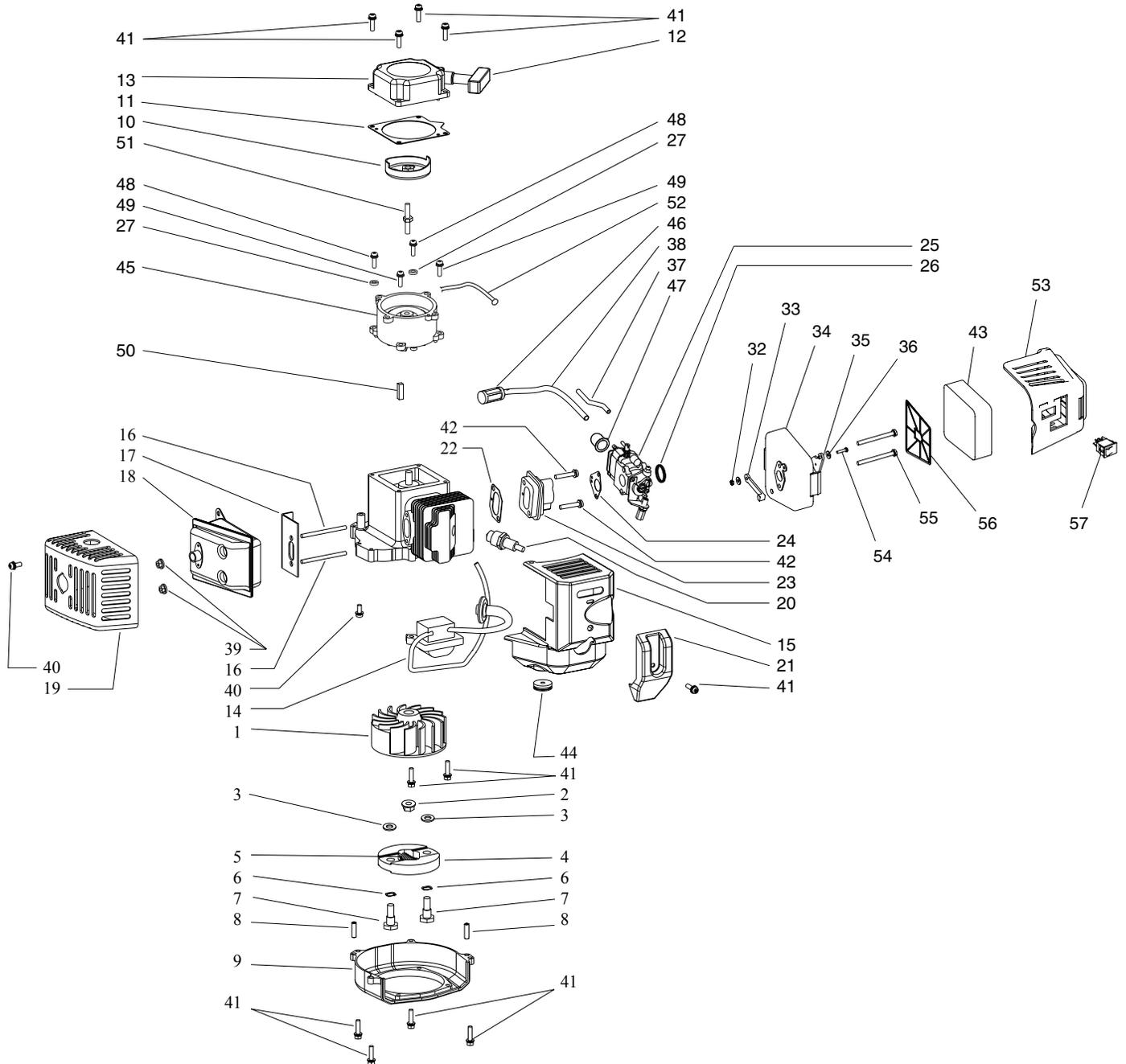
KEY	PART #	DESCRIPTION	QTY.
9	400008	HANDLEBAR LOWER	1
10	4800	THROTTLE HOUSING	1
11	4803	CLEVIS PIN, .188 DIA. GROOVED	1
12	4804	E- CLIP, RETAINING RING FOR .188 PIN	1
13	4805	THROTTLE TRIGGER, LONG THROW	1
14	4814	BOLT, 10-24 X 1-1/4" PHILLIPS TRUSS HD	1

### WE43 MAIN PARTS

KEY	PART #	DESCRIPTION	QTY.
1	4634	WHEEL	3
2	4687	BOLT M10 X 1.5 X 225MM HEX HD	1
3	46145	DETENT PIN 5/16 X 1-1/2	1
4	300401	GAS CAP, VIPER ENGINE, SCREW VENT	1
5	400003	BRACKET, WHEEL MOUNT	1
6	400005	MOUNT BAR, WHEEL AND HEIGHT ADJUSTER	1
7	400006	MOTOR MOUNT, LOWER	1
8	400007	BLADE GUARD	1
9	400008	WELDMENT, HANDLE BAR AND WHEEL MOUNT	1
10	400009	BLADE	1
11	400013	NUT FLANGE M8 LH BLADE	1
12	400014	CLAMP WASHER (BOTH SIDES)	2
13	4000171	DEBRIS SHIELD - RUBBER	1
14	400018	BOLT FLANGE M5X12	2
15	400027	KNOB, HEIGHT ADJUSTER M8 X 16	1
16	400042	BOLT SHOULDER M10 X 55	1
17	400032	MUFFLER, CATALYTIC CONVERTER	1
18	400036	RECOIL STARTER ASSEMBLY	1
19	400037	FUEL TANK	1
20	400040	AIR INTAKE COVER	1
21	400017	DEBRIS SHIELD - STEEL	1



### ENGINE PARTS



## ENGINE PARTS LIST

KEY	PART #	DESCRIPTION	QTY.
1	300484	MAGNETO FLYWHEEL	1
2	300337	FLANGE NUT M8	1
3	300462	ROTOR WASHER	2
4	300413	CLUTCH ROTOR ASSEMBLY	1
5	300412	CLUTCH SPRING	1
6	300449	SPRING WASHER	2
7	300450	SHOULDER BOLT	2
8	300467	LOCATING PIN	2
9	300487	MOUNT RING & SHROUD	1
10	300491	RECOIL CLUTCH	1
11	300429	RECOIL PLATE	1
12	3004121	STANDARD RECOIL HANDLE	1
13	400036	RECOIL ASSEMBLY W/STANDARD HANDLE	1
14	300472	IGNITION COIL	1
15	300482	ENGINE SHROUD	1
16	300493	STUD BOLT M6 X 62MM	2
17	300475	MUFFLER GASKET	1
18	400033	CATALYTIC CONVERTER MUFFLER	1
19	400032	METAL MUFFLER COVER	1
20	BM6A	SPARK PLUG	1
21	300483	ENGINE SHROUD COVER	1
22	300476	INTAKE GASKET	1
23	300478	INTAKE WINDPIPE	1
24	300479	CARBURETOR GASKET	1
25	300486	CARBURETOR	1
26	300481	CARBURETOR O-RING	1
27	300445	WASHER M5	2

KEY	PART #	DESCRIPTION	QTY.
32	3004154*	NUT, NYLOC, CHOKE LEVER	1
33	3004151*	CHOKE LEVER	1
34	30041501*	BASE, AIR FILTER	1
35	3004152*	CHOKE PADDLE	
36	3004155*	WASHER,CHOKE LEVER	2
-	300470	FUEL LINE HOSE & FILTER	1
37	400039	PRIMER LINE HOSE 10.5"	1
38	400038	FUEL LINE HOSE 15"	1
39	300492	FLANGE NUT M6	2
40	300471	BOLT W/WASHER M5 X 12MM	3
41	300439	BOLT W/WASHER PH M5 X 18MM	13
42	300438	BOLT W/WASHER M5 X 25MM	4
43	3004156	FOAM, AIR FILTER	1
44	300463	ENGINE SHROUD GROMMET	1
45	300529	STARTER MOTOR (Model WE43E only)	1
46	3004103	FUEL FILTER	1
47	3004109	PRIMER BULB	1
53	3004158	COVER, AIR FILTER	1
54	3004153*	BOLT, CHOKE LEVER	1
55	300456	BOLT M5 X 50MM	2
56	3004157	PLATE, REINFORCEMENT	1
57	1021	SWITCH, ROCKER	1
--	300338	FLYWHEEL KEY (NOT SHOWN)	1
--	300410	KIT, TUNE-UP (includes spark plug, carb air filter, fuel filter, bottle of Viper 2-cycle oil & spark plug wrench)	1
--	3004114	CARBURETOR REPAIR KIT	1
<b>WE43E ELECTRIC START MODEL ONLY</b>			
27	300445	WASHER M5	2
45	300529	STARTER MOTOR KIT (includes starter, stud bolt, clutch drum & ground wire)	1
48	300438	BOLT W/WASHER M5 X 25MM	2
49	300439	BOLT W/WASHER PH M5 X 18MM	2
50	300339	KEY, ELECTRIC STARTER	1
51	300525	STUD BOLT M6 X 41MM	1
52	300527	STARTER WIRE	1

\*P/N 3004150 Air Base sold as an assembly unit only.



## ***WE43E & WE43 EDGER***

### **Warranty Terms and Conditions**

#### **PRODUCT WARRANTY: 1-YEAR LIMITED WARRANTY**

Ardisam, Inc., a manufacturing company, warrants this **EARTHQUAKE® WALK BEHIND EDGER** to be free from defects in the material or workmanship for a period of one year from the date of purchase. During the one year warranty of this product, Ardisam will furnish 100% parts and labor to correct any defect caused by faulty material or workmanship. Any unit used in a commercial application is covered for a period of 90 days after purchase. This warranty applies to the original owner with a proof of purchase and is not transferable. This guarantee is void unless the warranty card is properly filled out and received by Ardisam, Inc., within 30 days of purchase or go to [www.GetEarthquake.com](http://www.GetEarthquake.com) for online registration.

**For replacement parts, phone 800-345-6007 or go online to [www.GetEarthquake.com](http://www.GetEarthquake.com).**

#### **ENGINE WARRANTY: 2-YEAR LIMITED WARRANTY**

Ardisam, Inc., a manufacturing company warrants its Viper Engines under a two-year limited warranty to be free from defects in materials and workmanship for the service life of the product not to exceed twenty four consecutive months from the date of purchase for consumer applications. As an Ardisam Viper small engine owner, you are responsible for executing proper maintenance listed in your Operating and Maintenance Instructions. The warranty period begins on the date of purchase by the first retail consumer or commercial end user, and continues for the period of time stated above.

\*These warranties apply only to products which have not been subjected to negligent use, misuse, alteration, accident, unauthorized parts, failure to use proper fuel and oil, or if repairs have been performed at non-authorized service centers. These warranties supersede all other warranties either expressed or implied and all other obligations or liabilities on our part. Ardisam, does not assume, and does not authorize any other person to assume for us, any liability in connection with the sale of our products. To be at "No Charge," warranty work must be sent directly to Ardisam, Inc. or one of our authorized service centers and performed by them. To obtain warranty service and/or replacement instructions, contact our customer service department at 800-345-6007 Monday through Friday from 8 a.m. to 5 p.m. or visit [www.ardisam.com](http://www.ardisam.com). If you choose to ship your product to Ardisam for warranty repair, you must first have prior approval from Ardisam by calling our customer service department at 800-345-6007 for a return material authorization number (RMA#). Under these circumstances, all items must be shipped prepaid. Ardisam will at no charge, repair or replace, at their discretion, any defective part which falls under the conditions stated above. Ardisam retains the right to change models, specifications and price without notice.



**EARTHQUAKE**

A Division of Ardisam, Inc.

1160 Eighth Ave; P.O. Box 666

Cumberland, Wisconsin 54829

800-345-6007 · Fax (715) 822-4180

E-mail: [info@ardisam.com](mailto:info@ardisam.com)

### Explanation of Emissions Control Warranty Provisions

Viper Engines are designed, built and equipped to meet all EPA requirements. It warrants that it is free from defects in material and workmanship that could cause failure to the warranted part; and that it is identical in all material respects to the engine described in the manufacturer's application for certification. When a warrantable condition exists, Viper will repair your engine at no cost to you, including parts and labor. The engine emissions label will indicate certification information. If the purchaser is in need of a warrantable repair and is not within 100 miles distance from an Ardisam authorized repair center, Ardisam will pay for shipping costs to and from an authorized Ardisam repair center.

Listed below are the parts covered by the emissions control systems warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement point for that part. Coverage under this warranty includes only the parts listed below (the emission and evaporation control systems) if so equipped:

- Air Filter Assembly (only to the first scheduled replacement point)
- Fuel Filter (only to the first scheduled replacement point)
- Carburetor
- Fuel Lines, Fuel Line Fittings and Clamps
- Fuel Metering Valve (if equipped)
- Evaporative System (if equipped)
  - Canister (if equipped)
  - Canister filter (if equipped)
  - Vapor hose (if equipped)
  - Orifice connector (if equipped)
  - Fuel tank
  - Fuel cap
  - Primer bulb canister (if equipped)
- Spark Plugs
- Magneto Ignition System
- Muffler Assembly

### LIMITATIONS

The Emission Control Systems Warranty shall not cover any of the following:

- a) Repair or replacement required because of misuse or neglect, improper maintenance, repairs improperly performed or replacements not conforming to Ardisam, Inc. specifications that adversely affect performance and/or durability and alterations or modifications not recommended or approved in writing by Ardisam, Inc.
- b) Replacement of parts and other services and adjustments necessary for required maintenance at or after the first scheduled replacement point;
- c) Consequential damages such as loss of time, inconvenience, loss of use of the engine or equipment, etc.
- d) Diagnosis and inspection fees that do not result in eligible warranty service being performed; and
- e) Any add-on or modified part, or malfunction of authorized parts due to the use of add-on or modified parts.

These items will be covered for a period of **two years** from the date of the original purchase. Viper warrants that: the components are designed, built and equipped so as to conform with all applicable regulations adopted by the EPA; that they are free from defects in material and workmanship that could cause failure to the engine or other; and that the components used are identical in all material respects to the engine described in the manufacturer's application for certification. The warranty period begins on the date the engine is originally purchased.

### MAINTENANCE AND REPAIR REQUIREMENTS

The owner is responsible for the proper use and maintenance of the engine. Ardisam, Inc. recommends that all receipts and records covering the performance of regular maintenance be retained in case questions arise. If the engine is resold during the warranty period, the maintenance records should be transferred to each subsequent owner. Ardisam, Inc. reserves the right to deny warranty coverage if the engine has not been properly maintained; however, Ardisam, Inc. may not deny warranty repairs solely because of the lack of repair maintenance or failure to keep maintenance records.

Normal maintenance replacement or repair of emission control devices and systems may be performed by any repair establishment or individuals; however, warranty repairs must be performed by an Ardisam authorized service center. Any replacement parts or service that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the engine manufacturer.

The warranty on emissions-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the warranty period stated above. If any such part fails during the period of warranty coverage, that part will be repaired or replaced at no charge to the owner. Any such part repaired or replaced under the warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled only for regular inspection in the owner's manual supplied, is warranted for the warranty period. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the owner's manual supplied, is warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part will be repaired or replaced at no charge to the owner. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Add on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any nonexempted add on or modified parts by the owner will be grounds for disallowing a warranty claim. The manufacturer will not be liable to warrant failures of warranted parts caused by the use of a nonexempted add on or modified part.



Visit [www.ardisam.com](http://www.ardisam.com) and discover more innovations that will benefit you throughout the year.

**Earthquake<sup>®</sup>**

Earthquake, Division of Ardisam, Inc.  
1160 Eighth Ave; P.O. Box 666  
Cumberland, Wisconsin 54829  
800-345-6007 · Fax (715) 822-4180  
E-mail: [info@ardisam.com](mailto:info@ardisam.com)



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