Operator's Manual
Original Operating Instructions

Earth Auger Powerhead E43/E43CE

English: ..... Pages 1-21
Español: ..... Páginas 22-43
Français: .....Pages 43-67

Get parts online at
www.GetEarthquake.com

OME43
Rev. 08/04/11
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THANK YOU AND CONGRATULATIONS....

on your purchase of a new **EARTHQUAKE® POWERHEAD** from Ardisam, Inc. We have worked to ensure that your Earthquake Powerhead will be one of the most trouble-free and satisfying pieces of equipment you have ever owned. With proper care, your powerhead 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.

INTRODUCTION

OWNER'S RESPONSIBILITY

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

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

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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 your completed registration card is received by Ardisam, Inc., at time of purchase.

Model Number _____

Serial Number _____

Date of Purchase _____

Place of Purchase _____

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).

WARNINGS AND SAFETY PRECAUTIONS

OWNER'S RESPONSIBILITY

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

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

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
BEFORE OPERATING ENGINE:

Please read this section carefully. Read entire operating and maintenance instructions AND the instructions for the equipment this engine powers. Failure to follow instructions could result in serious injury or death. Operate the auger according to the safety instructions outlined here and inserted throughout the text. Anyone who uses this auger must read the instructions and be familiar with the controls.

This symbol points out important safety instructions which if not followed could endanger your personal safety. Read and follow all instructions in this manual before attempting to operate this equipment.

- Do not carry the auger powerhead between holes with the engine running.
- The auger should not rotate when the engine is idling. If it does rotate when engine is idling, contact Ardisam,Inc., for instructions.
- Always keep hands, feet, hair and loose clothing away from any moving parts on engine and auger.
- Always wear a protective hearing device.
- Do not allow children to operate this power auger. Do not allow adults to operate the auger without proper instruction.
- Do not operate any power equipment under the influence of alcohol or drugs.
- Keep all screws, nuts and bolts tight.
- Engine should be turned off and cool, spark plug wire must be removed from spark plug before any repairs are attempted.
- Temperature of muffler and nearby areas may exceed 150º F (65º C). Avoid these areas.
- Never run engine indoors or in an enclosed area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
- If the earth auger will not turn in a hole, turn engine off and allow to cool before attempting to remove it manually.
- Use only original equipment parts from Ardisam, including all nuts and bolts.

⚠ WARNING

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

⚠ CAUTION

CAUTION INDICATES YOU CAN CAN BE HURT OR YOUR EQUIPMENT DAMAGED IF THE SAFETY INSTRUCTIONS THAT FOLLOW THIS SIGNAL WORD ARE NOT OBEYED.

IMPORTANT

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

⚠ WARNING

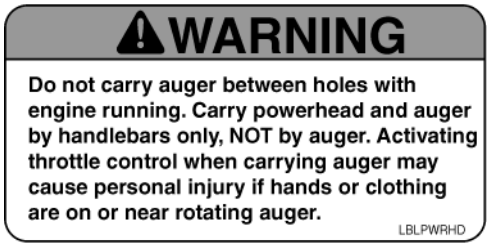
CALIFORNIA PROPOSITION 65 WARNING

ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

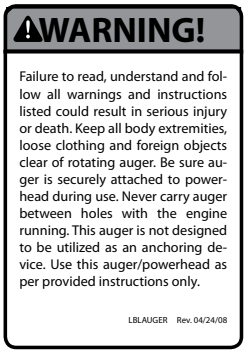
⚠ WARNING

AUGER BLADES ARE EXTREMELY SHARP. TO AVOID INJURY USE CAUTION WHEN REMOVING OR REPLACING BLADES OR GUARDS.

Below are two of the warning decals attached to the engine and auger. It is important to read all safety precautions and locate the warning labels before using this product.



Engine Decal



Auger Decal

ENGINE SAFETY PRECAUTIONS

WARNING CARBON MONOXIDE POISONING

All engines give off carbon monoxide, an odorless, colorless, poisonous gas, in the exhaust. Carbon monoxide 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. Breathing carbon monoxide can cause nausea, fainting or death. 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.
- Start and run engine outdoors.
- 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.
- DO NOT start or run an engine in an enclosed area, even if doors or windows are open. (Examples include: in a large hole or areas where hills surround your working area.)
- Never run engine in an enclosed or partially enclosed area. (Examples include: buildings that are enclosed on one or more sides, under tents, car ports or basements.)
- Always run the engine with the exhaust and muffler pointed in the direction away from the operator.
- Never point the exhaust muffler towards anyone. People should always be many feet away from the operation of the engine and its attachments.

GASOLINE FIRES OR 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.

⚠ CAUTION

HOT GASES ARE A NORMAL BY-PRODUCT OF A FUNCTIONING CATALYTIC CONVERTER. FOLLOW ALL SAFETY INSTRUCTIONS TO PREVENT BURNS AND FIRES.

- 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 and gas cap vent screw unscrewed.
- Replace fuel cap that allows gas to spill or leak.
- Never smoke while refilling engine fuel tank.
- Prevent fire and explosion caused by static electric discharge. Use only non-metal, 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.
- When storing, 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 engine.
- Never allow children to fill the engine.

WHEN STORING GASOLINE OR EQUIPMENT WITH FUEL IN TANK

- Store away from furnaces, stoves, water heaters or other appliances that have a pilot light or other ignition source because they can ignite gasoline vapors.

BURNS AND FIRES

The 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.

ASSEMBLY

TOOLS REQUIRED:

• Two (2) 9/16" Wrenches

ASSEMBLY INSTRUCTIONS: (SEE FIGURE 1)

1. Insert the output shaft of the E43 transmission (A) in the open end of the Flex Coil ShockTop (B).
2. Line up the bolt holes through the Flex Coil ShockTop and the output shaft of the transmission.
3. Place the included 3/8-16 x 1.5 inch bolt (C) through the bolt hole.
4. Hand-thread the 3/8-16 "Bi-way" lock nut (D) on the bolt.
5. Using two 9/16 inch wrenches, securely tighten the nut and bolt.

E43 and EA6F shown. Instructions also apply to EA8F and EA10F augers.

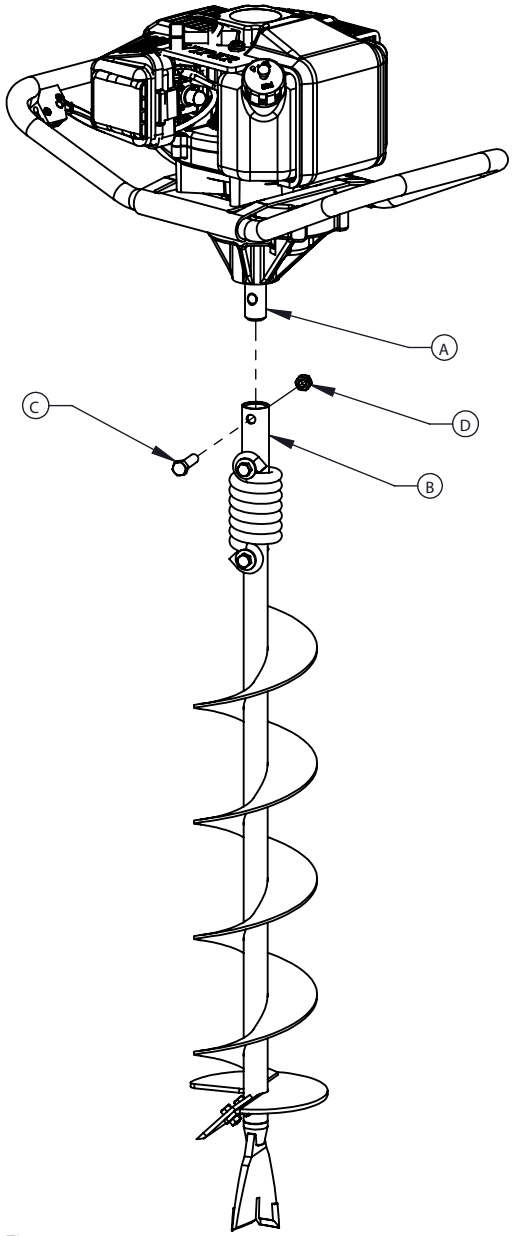


Figure 1

OPERATION

STEPS FOR WORKING ON ENGINE OR AUGER

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 engine or auger.
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 engine or auger.
6. Replace spark plug wire.

PREPARING ENGINE FOR STARTING

Before starting your powerhead engine, make sure the black throttle cable housing is seated all the way into the brass ferrule at the engine side of the cable.

GAS AND OIL

QUALITY

To operate the engine, we recommend using "VIPER" brand 2-cycle oil (P/N 300400) to ensure that the engine operates correctly throughout the life of the engine. "VIPER" brand 2-cycle oil has fuel stabilizer additive which helps to prevent gasoline from oxidizing and gumming up the carburetor when the unit is not in use for long periods of time. Use unleaded regular gas only. It is best to use premium gasoline that has no ethanol content.

NOTE: VIPER oil can be purchased from our web site at www.GetEarthquake.com.

MIXTURE

Run earth auger with a 50:1 ratio.

GAS	OIL	RATIO
1 gallon	2.5 ounces	50:1
2 gallons	5 ounces	50:1
5 gallons	13 ounces	50:1

⚠ CAUTION

DO NOT ALTER/MODIFY ENGINE OR AUGER:
NEVER ALTER OR MODIFY THE ENGINE FROM THE FACTORY. SERIOUS INJURY OR DEATH MAY OCCUR IF ENGINE IS MODIFIED OR ALTERED.

WHEN WORKING ON OR REPLACING PARTS FOR THE ENGINE OR AUGER YOU MUST ALWAYS DISCONNECT SPARK PLUG WIRE FROM THE SPARK PLUG AND KEEP IT AWAY FROM THE SPARK PLUG.

ALWAYS WEAR HEARING PROTECTION WHILE OPERATING ENGINE.

PLEASE DO NOT START YOUR EARTH AUGER UNTIL YOU HAVE READ THE PREVIOUS SECTION OF THIS MANUAL. IF YOU HAVE READ THESE, FOLLOW THE STEPS BELOW TO START YOUR EARTH AUGER.

NEVER STORE ENGINE WITH GAS IN THE TANK INDOORS. FUEL AND FUEL VAPORS ARE HIGHLY FLAMMABLE.

NEVER MIX FUEL AND OIL DIRECTLY IN ENGINE GAS TANK. USE ONLY NON-METAL, PORTABLE FUEL CONTAINERS APPROVED BY THE UNDERWRITER'S LABORATORY (U.L.) OR THE AMERICAN SOCIETY FOR TESTING & MATERIALS (ASTM).

HANDLING AND FILLING THE ENGINE WITH FUEL MUST ALWAYS BE DONE BY AN ADULT.

ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS.

IMPORTANT

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

MIXING FUEL AND FILLING GAS 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 GAS TANK

1. Shut-off engine and allow engine to completely cool before refilling the gas tank.
2. Move to a well ventilated area, outdoors, away from flames and sparks.
3. Clean debris from area around the gas cap.
4. Loosen gas 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.
7. Immediately replace gas 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 or other moisture for efficient operation.
2. Drill holes without placing excessive body weight on the unit. The auger operates most efficiently with a shaving action caused by the weight of the unit itself.
3. Never run engine indoors. Exhaust fumes are deadly.
4. Do not use an earth auger in the ice.

USING THE SCREW TYPE, MANUAL VENTING GAS CAP

Your powerhead 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 power earth auger and before putting away or transporting it in a truck bed, 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. **Note: When storing the unit upright for a period of time in hot weather, ventilate the fuel tank cap to prevent leaking fuel from the carburetor.**

IMPORTANT NOTE: The handle bar vibration has a measured acceleration value that does not exceed 2.5 m/s^2. The measured sound power level measured from the operator's position is 100 dBLWA and is guaranteed not to exceed 106 dBLWA. The mass of the powerhead is 9.5 kg. (21 lb)

⚠ CAUTION

ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS.

DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY. REMOVE ENGINE FROM AREA TO AVOID SPARKS.

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. Unscrew the screw from the cap vent on the gas tank (in a counterclockwise direction).
2. Move choke lever to **RUN** position.

   NOTE: Choke must be in the RUN position when pushing or using the primer bulb.
3. 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.
4. Move choke lever to **CHOKE** position.

   NOTE: CHOKE position is defined by moving the choke lever as far to the CHOKE position as possible.
5. Push rocker switch to the **ON** position.
6. Squeeze 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.
7. After engine starts running, move choke lever to **HALF CHOKE** position until unit runs smoothly.

   NOTE: HALF CHOKE is defined when the choke lever is between CHOKE and RUN.
8. 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.
9. To stop engine, push rocker switch to **OFF** position.

⚠ WARNING

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.

⚠ CAUTION

ALWAYS HANDLE FUEL IN A WELL VENTILATED AREA, OUTDOORS, AWAY FROM FLAMES OR SPARKS.

ALWAYS WEAR A PROTECTIVE HEARING DEVICE.

DO NOT START ENGINE IF FUEL IS SPILLED. WIPE OFF EXCESS FUEL AND ALLOW TO DRY. REMOVE ENGINE FROM AREA TO AVOID SPARKS.

IF AUGER IS MOUNTED TO ENGINE, ALL SAFETY GUARDS MUST BE SECURELY ON TO AVOID SERIOUS INJURY.

STARTER ROPE CAN CAUSE AN UNANTICIPATED JERK TOWARDS ENGINE. PLEASE FOLLOW INSTRUCTIONS TO AVOID INJURY.

IF ENGINE FAILS TO START AFTER TRYING STARTING PROCEDURES, PLEASE CONTACT OUR CUSTOMER SERVICE DEPARTMENT AT 800-345-6007.

NEVER LEAVE ENGINE RUNNING WHILE UNATTENDED. TURN OFF AFTER EVERY USE.

NEVER CARRY POWERHEAD AND AUGER BETWEEN HOLES WHILE ENGINE IS RUNNING.

WARM ENGINE START

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

   NOTE: CHOKE position is defined by moving the choke lever as far to the CHOKE 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.

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 pull on starter rope. Flammable fuel can spray out & ignite from a spark from spark plug.**

MAINTENANCE AND STORAGE

POWER AUGER MAINTENANCE

1. The gear case has 4 oz. of grease installed at the factory. It is recommended that once a year the gear case be split and the grease level checked. Add 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.
4. If blade performance decreases, turn unit off and disconnect spark plug wire. Carefully inspect cutting edge of blade for any signs of wear. If blades show any of these signs, they need to be sharpened or replaced.

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	Yearly
Clean Engine and Check Bolts & Nut		X		
Air Filter	Check	X		
(See Air Filter section)	Clean *		X	
	Replace		X	X
Spark Plug (Gap .028")	Check/ Adjust		X	
(See Spark Plug section on Page 11)	Replace			X

* Service more frequently under dusty conditions

⚠ CAUTION

TO PREVENT ACCIDENTAL STARTING:
ENGINE MUST BE TURNED OFF AND COOL, AND SPARK PLUG WIRE MUST BE REMOVED FROM SPARK PLUG BEFORE CHECKING AND ADJUSTING ENGINE OR EQUIPMENT.

TEMPERATURE OF MUFFLER AND NEARBY AREAS MAY EXCEED 150° F. (65° C). AVOID THESE AREAS.

CHECK AUGER OFTEN FOR LOOSE NUTS AND BOLTS. KEEP THESE ITEMS TIGHTENED.

NEVER STORE ENGINE WITH FUEL IN THE TANK INSIDE A BUILDING. POTENTIAL SPARKS MAY BE PRESENT FOR IGNITION OF FUEL AND FUEL VAPORS.

ANY MAINTENANCE AND REPAIR ON THE ENGINE AND AUGER MUST ALWAYS BE DONE BY AN ADULT.

ENGINE MUST BE SHUT-OFF, COOL, AND SPARK PLUG WIRE REMOVED BEFORE ANY REPAIR OR MAINTENANCE CAN BE DONE.

IMPORTANT

NEVER TWIST AIR FILTERS WHEN CLEANING. ALWAYS PRESS.

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.**

STEPS FOR CLEANING BLOCK STYLE FOAM AIR FILTER - SEE PARTS EXPLOSION ON PAGE 16.

1. Before removing the air filter cover, move the choke lever to the choke position. **(Figure 2)**
2. To remove air filter cover, squeeze the latch tabs on both sides of the cover. **(Figure 3)**
3. Once the latch tabs are released, remove the air filter cover by rotating the cover away from the engine. **(Figure 4)**
4. Remove the foam filter element **(Figure 5)** and replace with a new oiled filter, or clean the original foam filter with warm water and mild soap by following the previous steps for Cleaning Air Filter. Remember to thoroughly oil the foam filter with 30 or 40 weight motor oil and squeeze out any excess oil.
5. Reinstall the foam filter, pressing it in place to ensure that the foam is fully seated into its sealed position. **(Figure 6)**
6. Replace the air filter cover so that it fully snaps into place and is secured by the latch tabs. Check that the cover is securely attached by pulling slightly on the cover. If the cover doesn't move when pulled, it is secure.

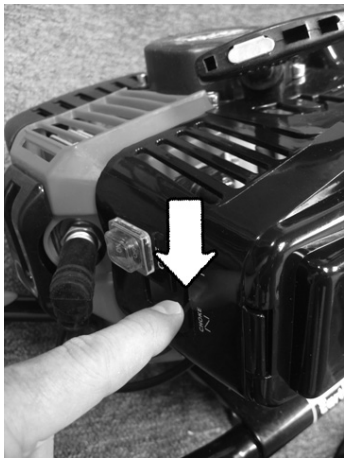


Figure 2

Figure 3

Figure 4

Figure 5

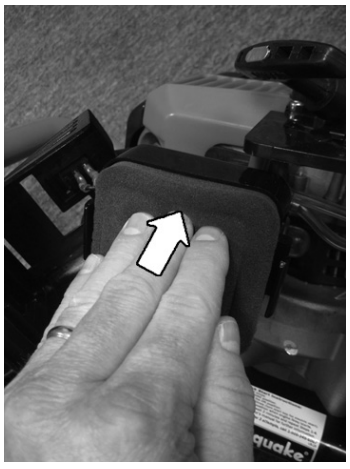


Figure 6

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.

- 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 EARTH AUGER

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 earth auger. Allow to dry.

LONG-TERM STORAGE

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

STEPS FOR LONG-TERM STORAGE

1. Add fuel stabilizer according to manufacturer's instructions.
2. Run engine for 10-15 minutes to ensure that the stabilizer reaches the carburetor.
3. Remove the remainder of the fuel from the gas tank into an approved fuel container.
4. Remove auger from powerhead and apply a thin layer of grease to the output shaft of the E43 transmission.
5. Store auger and powerhead (engine) in a vertical position.
6. Remove all debris from auger and powerhead (engine).

⚠ CAUTION

TO AVOID INJURY OR DEATH, NEVER SIPHON FUEL BY MOUTH.

NEVER STORE EARTH AUGER WITH FUEL IN THE GAS TANK INSIDE AN ENCLOSED AREA OR BUILDING.

TO PREVENT ACCIDENTAL STARTING:
ENGINE MUST BE TURNED OFF AND COOL, AND SPARK PLUG WIRE MUST BE REMOVED FROM SPARK PLUG BEFORE CHECKING AND ADJUSTING ENGINE OR EQUIPMENT.

MAINTENANCE AND REPAIR ON THE ENGINE AND AUGER MUST ALWAYS BE DONE BY AN ADULT.

ENGINE MUST BE SHUT-OFF, COOL, AND SPARK PLUG WIRE REMOVED BEFORE ANY REPAIR OR MAINTENANCE CAN BE DONE.

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 trouble-shooting guide in this section.

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

For more complicated repairs, contact your place of purchase or Ardisam, Inc. for an authorized service center in your area. Ardisam will make the necessary repairs if a service center is not available. 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, write or e-mail us at the address found below, under the section ordering repair parts.

ORDERING REPAIR PARTS

Parts can be obtained from the store where your earth auger was purchased, direct from the manufacturer or online. To order from the manufacturer, call, write or e-mail:

Ardisam, Inc.
1160 Eighth Avenue, Cumberland, Wisconsin 54829
1-800-345-6007 • 1-715-822-2415
E-mail: info@ardisam.com
www.getearthquake.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 the manufacturer, there is a $10.00 minimum order.

⚠ CAUTION

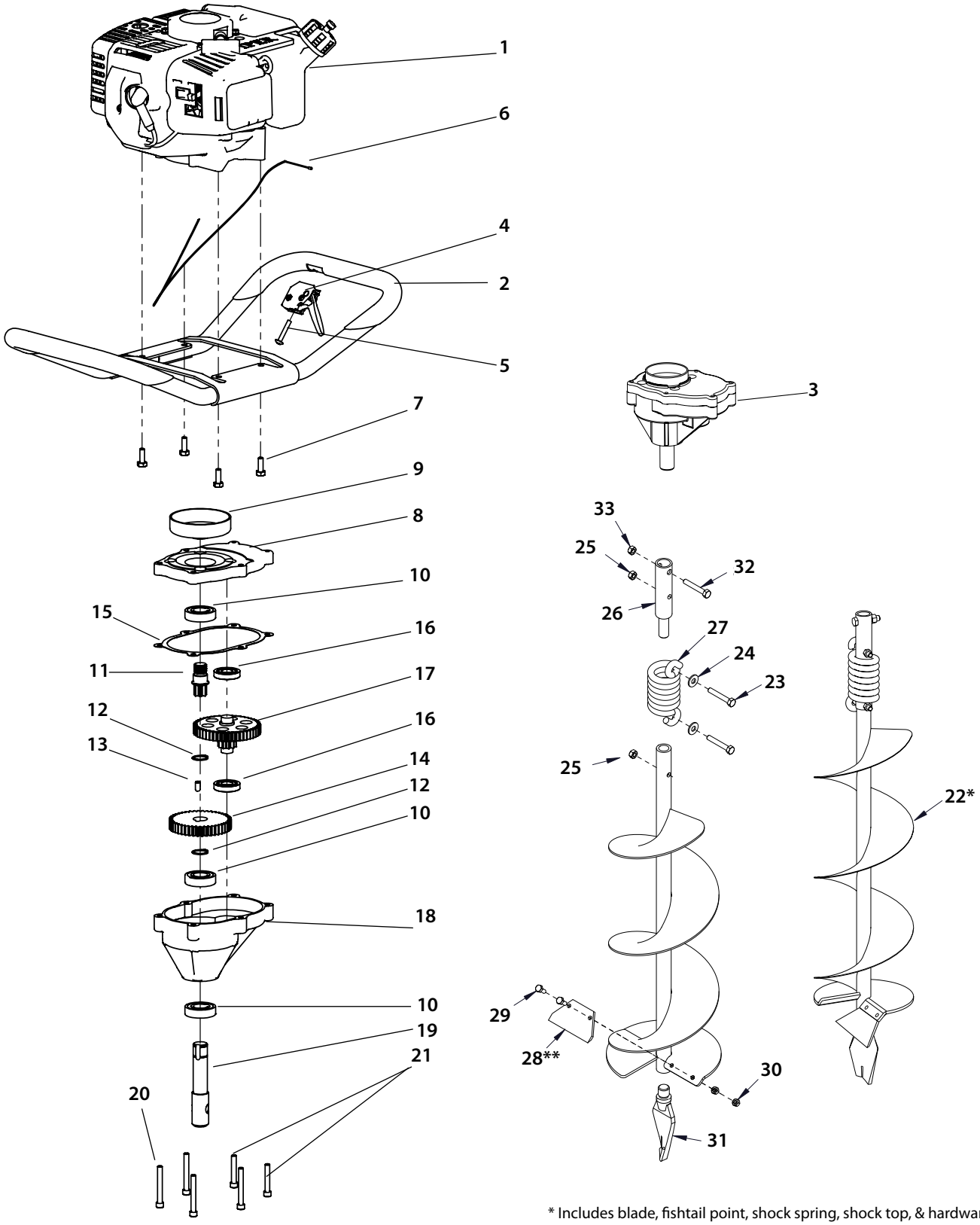
PRACTICE SAFETY AT ALL TIMES. ENGINE MUST BE TURNED OFF AND ALLOWED TO COOL, AND SPARK PLUG WIRE MUST BE DISCONNECTED BEFORE ATTEMPTING ANY MAINTENANCE OR REPAIR.

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. Squeeze throttle control 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, squeeze throttle when pulling recoil handle
Engine misses or lacks power	1. Clogged gas tank	1. Remove and clean
	2. Clogged air filter	2. Clean or replace
	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. Open manual venting gas cap screw all the way open (counterclockwise)
	2. Plugged fuel filter	2. Clean or replace
	3. Carburetor out of adjustment or bad	3. Call factory
Engine revs too high	1. Carburetor out of adjustment	1. Call factory
Auger turns at idle	1. Idle speed too high	1. Adjust idle speed lower
	2. Broken clutch spring	2. Replace spring
Auger turns, but has no power	1. Choke on	1. Turn off choke after engine is running
	2. Carburetor out of adjustment	2. Call factory
	3. Broken transmission	3. Call factory
	4. Worn clutch shoes	4. Replace clutch shoes and spring
	5. Worn engine lower seat	5. Call factory
Auger jumps	1. Blade damaged	1. Replace with new blade
Auger cuts slowly	1. Dull blade	1. Buy new blade, or have blade sharpened at factory
	2. Damaged fishtail point	2. Replace fishtail point

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

E43 POWERHEAD & AUGER PARTS



* Includes blade, fishtail point, shock spring, shock top, & hardware.

** Includes mounting hardware.

E43 POWERHEAD PARTS LIST

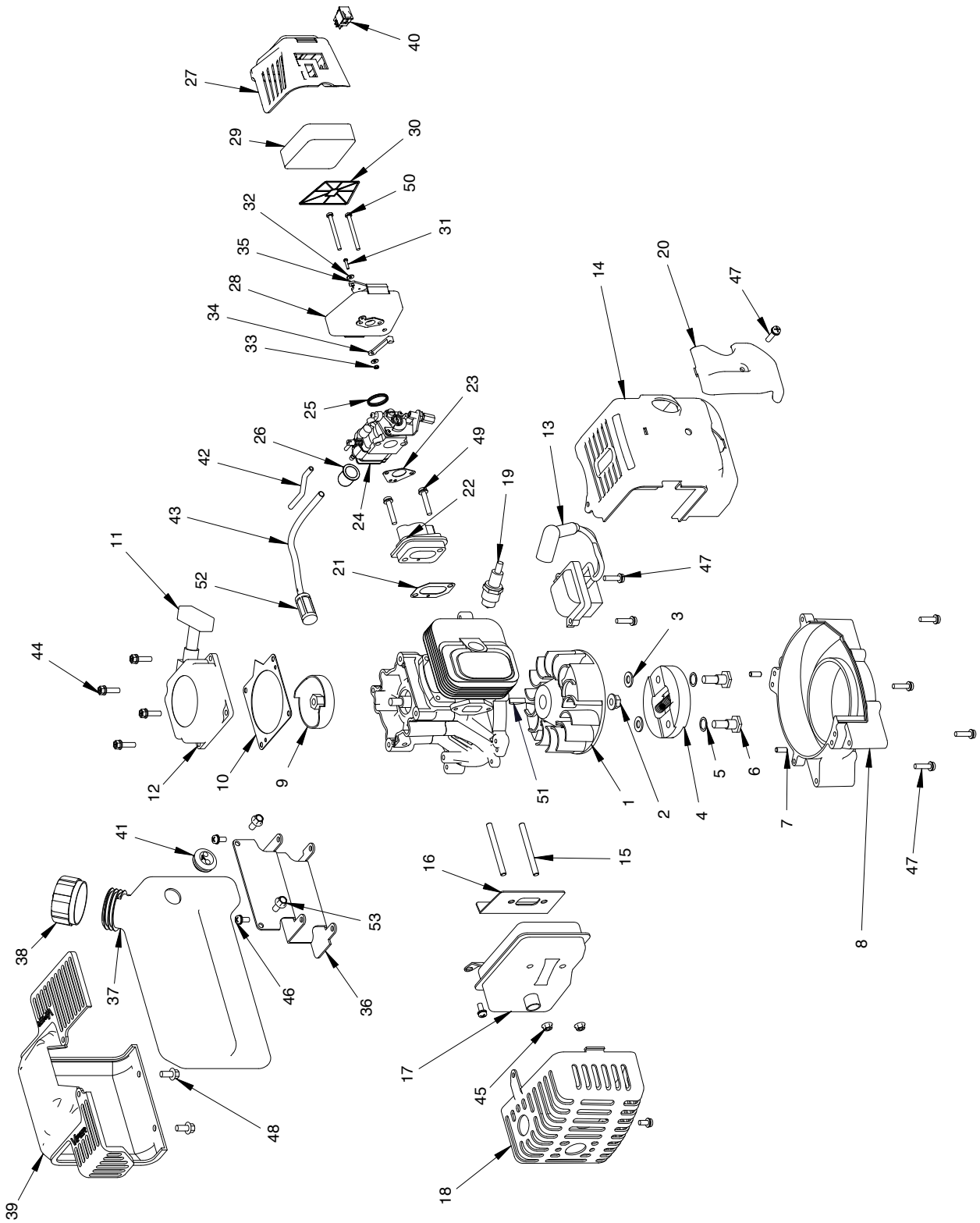
KEY NO.	PART NO.	DESCRIPTION	QTY.
1	E43CCV	GAS ENGINE, 43CC	1
2	4828	HANDLEBAR, FOAMED	1
3	3004119	TRANSMISSION COMPLETE	1
4	4809	TRIGGER ASSEMBLY	1
5	4814	BOLT 10-24 X 1-1/4 PHILLIPS TRUSS HD	1
6	4811	THROTTLE CABLE	1
7	8930B	BOLT 1/4-20 X 3/4 HH GR5 BLK	4
8	3004111	GEAR CASE TOP	1
9	3004100	CLUTCH DRUM	1
10	8922	BALL BEARING R12 DOUBLE LIP	3
11	9814	GEAR 7T PINION THREADED, 5/8" THREAD	1
12	8924	SNAP RING	2
13	8915	DOWEL PIN STEEL 1/4" X 1/2"	1
14	8912	GEAR 44T 3/4" HOLE	1
15	8919	GASKET	1
16	8923	BALL BEARING R10	2
17	9214	GEAR 10T/48T ONE-PIECE CLUSTER	1
18	8939	GEAR CASE BOTTOM	1
19	8913	SHAFT OUTPUT 7/8"	1
20	8929	BOLT 1/4-20 X 1-1/2 SHCS	2
21	8931F	BOLT 1/4-20 X 2 SHCS F-T	4
22*	EA2F	EARTH AUGER 2", COMPLETE	1
	EA3F	EARTH AUGER 3", COMPLETE	1
	EA4F	EARTH AUGER 4", COMPLETE	1
	EA6F	EARTH AUGER 6", COMPLETE	1
	EA8F	EARTH AUGER 8", COMPLETE	1
	EA10F	EARTH AUGER 10", COMPLETE	1

AUGER PARTS & ACCESSORIES LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.
23	1423	BOLT 5/16-18 X 2 HHCS GR5	2
24	WF516	WASHER, FLAT 5/16" STANDARD	2
25	60G56	NUT 5/16-18 BI-WAY LOCK	2
26	53684	SHOCK TOP 1-PC	1
27	8980	SHOCK SPRING	1
28**	EB4	EARTH BLADE, 4"	1
	EB6	EARTH BLADE, 6"	1
	EB8	EARTH BLADE, 8"	1
	EB10	EARTH BLADE, 10"	1
	EB6HD	HEAVY DUTY EARTH BLADE, 6"	1
	EB8HD	HEAVY DUTY EARTH BLADE, 8"	1
	EB10HD	HEAVY DUTY EARTH BLADE, 10"	1
29	EBOLT	BOLT 1/4-28 X 5/8 HH GR5	2
30	ENUT	NUT 1/4-28 BI-WAY LOCK	2
31	8958HD	FISHTAIL POINT SHARPENED	1
	8970	POINT, EARTH 2" & 3" AUGERS	1
32	1433	BOLT 3/8-16 X 1-1/2 HH	1
33	2104	NUT 3/8-16 HEX LOCK BI-WAY	1
-	EXT6	DEPTH EXTENSION 6"	1
	EXT12	DEPTH EXTENSION 12"	1
	EXT18	DEPTH EXTENSION 18"	1

* Includes blade, fishtail point, shock spring, shock top, & hardware.
** Includes mounting hardware.

E43 ENGINE PARTS



E43 ENGINE PARTS LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	300484	FLYWHEEL, MAGNETO	1
2	300337	NUT, FLANGE M8	1
3	300462	WASHER, ROTOR	2
4	300413	CLUTCH ROTOR ASSEMBLY W/SPRING	1
5	300449	WASHER, SPRING	2
6	300450	BOLT, SHOULDER	2
7	300467	PIN, LOCATING	2
8	3004110	MOUNT RING & SHROUD	1
9	300491	RECOIL CLUTCH	1
10	300429	PLATE, RECOIL	1
11	3004121	HANDLE, RECOIL (STANDARD)	1
12	300430	RECOIL ASSEMBLY WITH STANDARD HANDLE	1
13	300472	IGNITION COIL	1
13*	300472CE	IGNITION COIL CE	1
14	300482	SHROUD, ENGINE	1
15	300493	BOLT, STUD M6 X 62MM	2
16	300475	GASKET, MUFFLER	1
17	4813	MUFFLER	1
18	4812	COVER, MUFFLER	1
19	BM6A	SPARK PLUG	1
20	300483	COVER, ENGINE SHROUD	1
21	300476	GASKET, INTAKE	1
22	300478	WINDPIPE, INTAKE 43CC/51CC	1
23	300479	GASKET, CARBURETOR	1
24	300486	CARBURETOR	1
25	300481	O-RING, CARBURETOR	1
26	3004109	PRIMER BULB	1
27	3004158	COVER, AIR FILTER	1
28	3004150	AIR FILTER ASSEMBLY	1
29	3004156	FOAM, AIR FILTER	1
30	3004157	PLATE, REINFORCEMENT	1
31	3004150	AIR FILTER ASSEMBLY	1
32	3004150	AIR FILTER ASSEMBLY	2
33	3004150	AIR FILTER ASSEMBLY	1
34	3004150	AIR FILTER ASSEMBLY	1
35	3004150	AIR FILTER ASSEMBLY	1

KEY NO.	PART NO.	DESCRIPTION	QTY.
36	56105	BRACKET, GAS TANK	1
37	3004118	GAS TANK KIT (INCLUDES TANK. GROMMET, FUEL LINE, FUEL FILTER AND GAS CAP.)	1
38	300401	GAS CAP, MANUAL VENTING	1
39	300332	SHROUD, GAS TANK	1
40	1021	SWITCH, ROCKER	1
41	3004105	KIT FUEL LINE TWO HOLE GROMMET	1
42	3004105	KIT FUEL LINE TWO HOLE GROMMET	1
43	3004105	KIT FUEL LINE TWO HOLE GROMMET	1
44	300335	BOLT W/WASHER PHILLIPS HH	4
45	300492	NUT, FLANGE M6	2
46	300471	BOLT W/WASHER M5 X 12MM	4
47	300439	BOLT W/WASHER PH M5 X 18MM	7
48	300336	BOLT HH M6 X 10MM	2
49	300438	BOLT W/WASHER M5 X 25MM	2
50	300456	BOLT M5 X 50MM	2
51	300338	KEY, FLYWHEEL	1
52	3004103	FILTER, FUEL	1
53	300351	BOLT HH M6 X 8MM	2
-	3004114	KIT, CARBURETOR	1

* For E43CE Only.

E43 EARTH AUGER POWERHEAD

Warranty Terms and Conditions

PRODUCT WARRANTY: 1-YEAR LIMITED WARRANTY

Ardisam, Inc., a manufacturing company, warrants this **EARTHQUAKE® EARTH AUGER POWERHEAD** 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, at their discretion, 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 for online registration.

For replacement parts, phone 800-345-6007 or go online to 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. 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 Avenue; P.O. Box 666
Cumberland, Wisconsin 54829
1-800-345-6007 · Fax (715) 822-4180
E-mail: 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.

ARDISAM Inc.

1360 1st Avenue, P.O. Box 666, Cumberland, Wisconsin, 54829 USA
Phone:- 001 (715) 822 2415 Fax:- 001 (715) 822 4180

EC Declaration of Conformity (Noise)

Manufacturers Name:	ARDISAM Inc.
Manufacturers Address:	1360 1st Avenue P.O. Box 666 Cumberland Wisconsin 54829 USA Phone: - 001 (715) 822 2415 Fax: - 001 (715) 822 4180
Declares that this product:	
Description of equipment:	Powerhead E43CE
Conforms to the following directive:	Outdoor Noise Directive 2000/14/EC Annex V
Measured Sound Power level	100 db_{Lwa}
Guaranteed Sound Power level	106 db_{Lwa}
Cutting width	N/A
Contact Name / Address	Kirk Hyatt / as above
Notified Body:	N/A
Place of Declaration:	Wisconsin
Date:	04/25/2007

ARDISAM Inc.

1360 1st Avenue, P.O. Box 666, Cumberland, Wisconsin, 54829 USA
Phone: - 001 (715) 822 2415 Fax: - 001 (715) 822 4180

Declaration of Conformity

Ardisam Inc. hereby certify that the machinery stipulated below complies with all the relevant provisions of the:

Machinery Directive 98/37/EC
Noise Directive2000/14/EC annex V

As amended, and the National Laws and Regulations adopting these directives.

Machine description	**:**	**Powerhead**
Make	**:**	**Ardisam**
Type	**:**	**E43CE**
Serial No.	**:**	**10000 – 99999**

And Is in conformity with the provisions of the following other EEC Directives:

The Electromagnetic Compatibility Directive 89/336/EC (as implemented by the Electromagnetic (Amendment) Regulations 1994 – (SI 1994/3060)

Applicable standard: BS EN 13684:2004

The Technical File is held at the offices of Ardisam, Inc. for review by authorized parties.

Authorised Person empowered to sign: _____ Mr. Kirk Hyatt
Position in Company: - **Product Development Manager**

Date: - 5-17-07