



WARNING

READ & UNDERSTAND OPERATOR'S MANUAL BEFORE USING THIS MACHINE



This symbol is used throughout this manual to warn of hazards or unsafe practices which could result in personal injury to yourself or others.

This manual is furnished with each new propane powered I (R)Qpg machine. It provides necessary operation and maintenance instructions. Read and understand the information in this manual before operating or servicing this machine.


- Check fuel cylinder for overfill before taking it into the building or placing in storage.
- Install fuel cylinder in a well ventilated place.
- Be aware of possible leaks of propane gas if odor is present.
- Check carburetor air filter for cleanness before starting engine.
- Never run engine with throttle in choke position.
- Never allow water to contact hot engine.
- Never leave the machine unattended while engine is running.
- Remove fuel cylinder and store outside in an approved cabinet.
- Secure fuel cylinders when being transported. If installed on the machine service valve must be OFF.
- Never store fuel cylinders in your van where they may be exposed to high temperatures.
- Maintain the machine as directed by the manufacturer.
- Only trained operators should be allowed to operate propane powered machines.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is provided with the understanding that the publisher is not engaged in rendering legal or other professional services.

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Safety Precautions

- This propane fueled machine is intended for commercial use only. Do not use the machine other than describe in this Operator's Manual.
- All operators must read, understand and practice the safety precautions in this section as well as the "Safety Awareness Manual" included in this manual.
- Only trained and authorized operators should operate propane powered floor machines.
-  Check fuel cylinders for overfill before taking them into the building or your van. (see Refilling Propane Fuel Cylinders).

Before Operating the Machine

- Check oil level.
- Check carburetor air filter.
- Check abrasives and holders.
- Adjust handle height.
- Install fuel cylinders in a well ventilated area.

While Operating the Machine

Even though the 89 db sound level is below OSHA's PEL, it is the course of wisdom to wear hearing protection while operating any internal combustion engine in an enclosed area.

If you smell the odor of propane, stop the engine, remove the cylinder and take it outside for inspection.

Be aware of odors other than propane. Toxic emissions are produced by internal combustion engines. Properly maintained engines produce a small amount of these gasses including carbon monoxide. Although carbon monoxide has no odor, the hydrocarbons do and an elevation of odor may indicate increased CO as well.

Exhaust parts are extremely HOT. Be careful not to allow them to come into contact with anything or anyone.

Do not attempt to change abrasives while the engine is running.

Machine Storage

- Stop the engine by closing the service valve on the fuel cylinder.
- Remove the key from the switch, if applicable.
- Remove the fuel cylinder from the machine and store it outside in a secure approved cabinet (see "Propane Fuel Cylinders").
- Clean and inspect air and dust filters.

Servicing the machine

Preventive maintenance is the responsibility of the operator. It includes:

- Checking oil level
- Checking and cleaning air and dust filters.
- Keeping machine clean and lubricated
- Reporting any damaged or worn parts.
- See page 8 for servicing intervals and instructions
- Servicing or adjusting the propane fuel system should only be done by a trained service technician.



Never attempt to adjust the fuel system of a propane engine! If equipped with an emission monitoring or controlling system never attempt to disconnect it or circumvent it!

Additional Safety Concerns and Precautions

- Operator must have completed training before using machine.*
- Sweep floor and check for items protruding out of the floor surface before starting.
- Never tilt the machine back while it is running.
- Do not start engine with the transport wheel attached.
- Exercise extreme caution when installing or changing abrasive media. The machine is very heavy!
- Check for loose bolts and nuts daily
- Clean carburetor air filters after four hours running and clean or replace daily before operation.
- Clean entire machine after each use including under the gear drive assembly.
- Because of the length of time these machines may operate continuously it is very important to be assured of proper ventilation.
- Do not stand on the machine.
- Check for wear on drive plates and flex hubs daily. Replace if damaged.
- Never attempt to bypass or disconnect the kill switch or any future safety devices.

* To arrange for operation and safety training contact Eagle Solutions by phone at 770.773.3875, email customerservice@uqpgmgt.com or mail request to P.O. Box 665, Adairsville, GA 30103

Silica Dust and the Use of a Respirator

Silica is a sand component of concrete and its dust can cause severe medical conditions, such as silicosis, lung cancer, tuberculosis, autoimmune and chronic kidney diseases, and non-malignant respiratory diseases. Eagle Solutions highly recommends the use of a respirator during concrete grinding and polishing. For more information on silica, safe handling, storage and safety measures visit www.u-s-silica.com or call 1-800-35-NIOSH. Select option 2, and then option 5 for a complete package of information on silicosis prevention.

Machine Set-Up

Checking Oil Levels and Filters

Check oil levels prior to starting engine. **Do not screw dip stick in to check oil.** Refer to engine owner's manual for the proper procedure. **DO NOT OVERFILL OIL LEVEL;** to do so may cause damage to the engine and may elevate harmful emissions. Use 10W30 oil. Always check oil daily before using the machine (see "Daily Maintenance").

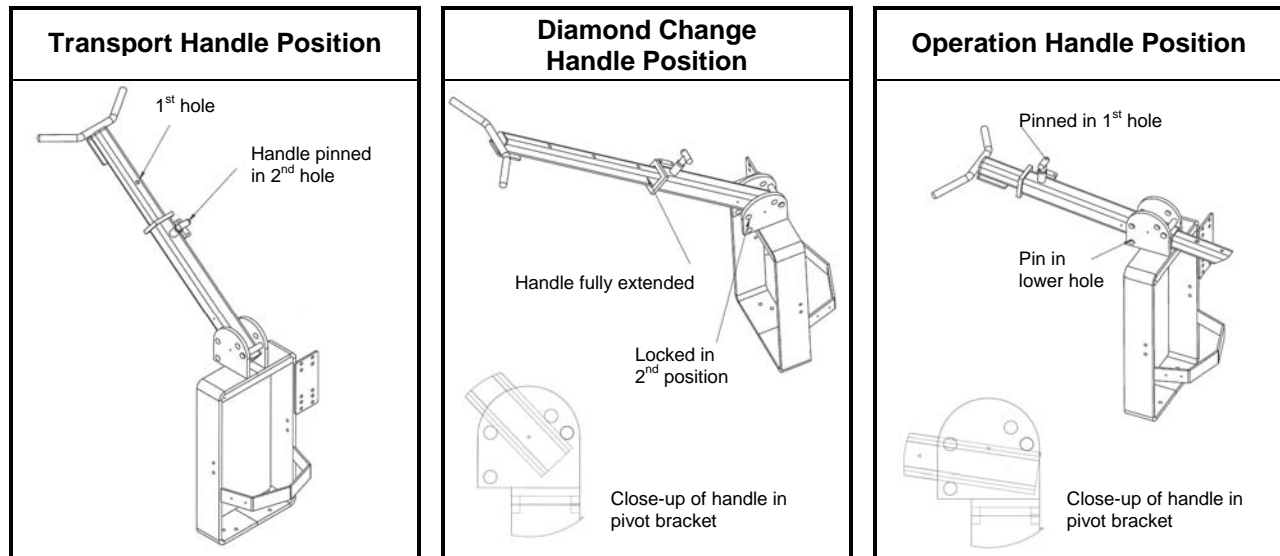


Be sure the carburetor air filter is free of dust, oil, etc. Dirty filters are the most frequent cause of elevated toxic emissions.

Check recoil dust filter. Clean or replace if necessary. See the instructions in the engine owner's manual.

Adjusting Handle Height

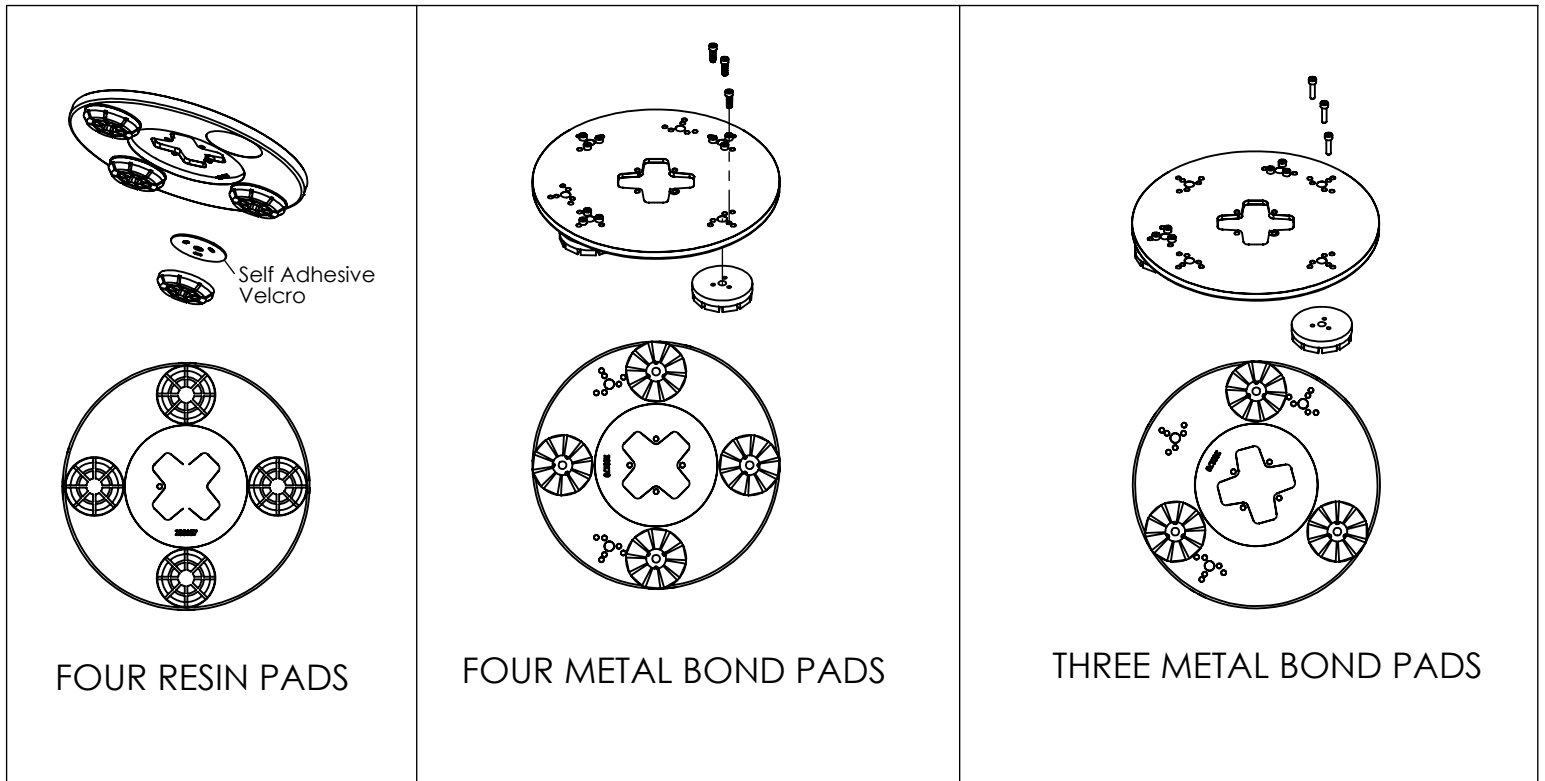
The machine is equipped with a telescoping and adjustable handle. See diagrams for detailed position placement.



Installing the Fuel Cylinder

1. Take machine to well ventilated area.
2. Check cylinder for overfill (see "Refilling Propane Fuel Cylinder").
3. Place cylinder on the machine in tank holding area and secure the strap.
4. Connect fuel cylinder to the machine using the "Rego" connection. Tighten hand tight. Do not use a wrench or pliers.
5. Open the service valve slowly. Be alert for the odor of propane that may indicate a leak.
6. To remove the cylinder, reverse the procedure.

Plate Assembly and Installing Diamonds

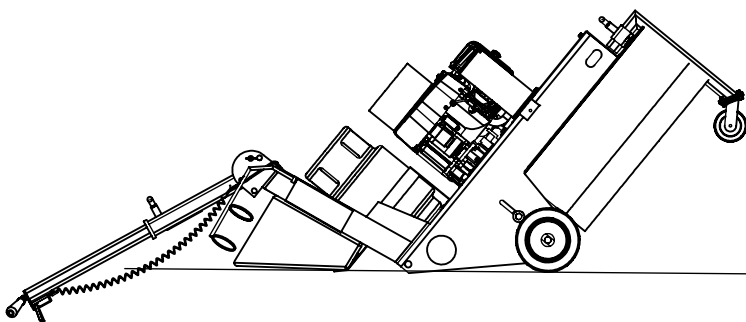
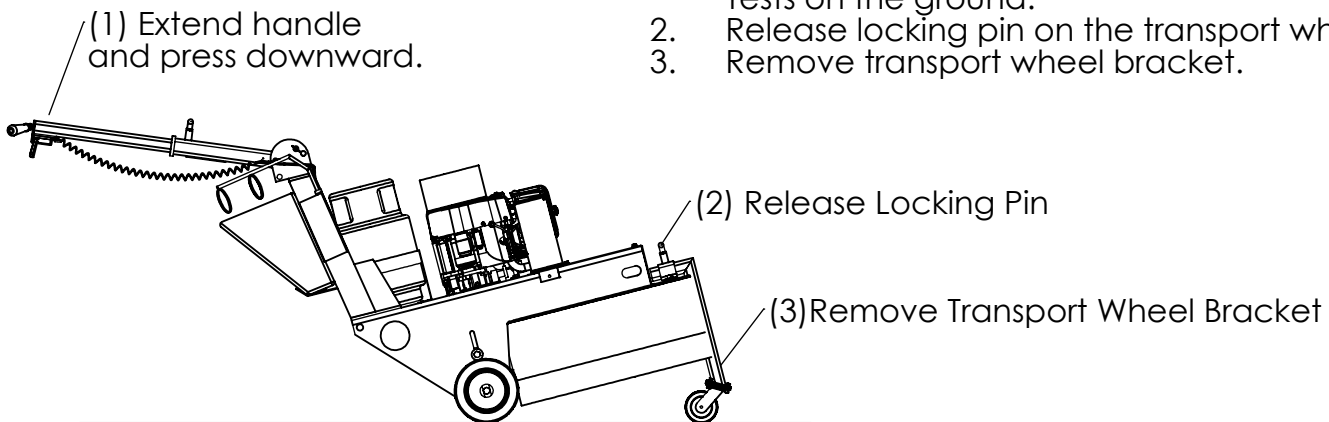


Transport Wheel Removal:

Remove transport wheel before operating machine.

To remove:

1. Extend handle to the fully extended position. Press downward on the handle bar until machine rests on the ground.
2. Release locking pin on the transport wheel.
3. Remove transport wheel bracket.



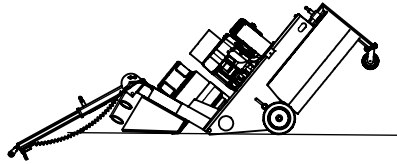
⚠ NEVER ATTEMPT TO START ENGINE WITH MACHINE IN TILTED POSITION!

Operating Machine

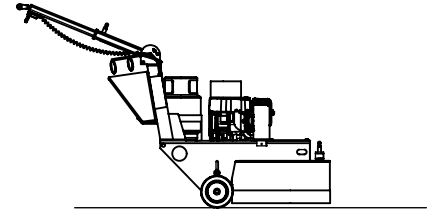


WARNING! Be careful not to allow the machine to come in contact with loose tiles or other obstructions on the floor. The abrasives are turning at about 650 RPM. If objects are hit by the revolving pad they could become dangerous missiles.

1. Extend handle and tilt machine back until handle rests on floor.
2. Install diamonds and remove transport wheel.
3. Bring machine back to operating position.
4. Fill water tank if wet grinding.



NEVER ATTEMPT TO START ENGINE WITH MACHINE IN TILTED POSITION!



Operation Position

Starting Machine

1. Check fuel for overfill (see "Refilling Propane Fuel Cylinder").
2. Install cylinder on machine.
3. Place machine on level surface and check for correct oil level.
4. Slowly open the service valve on the cylinder.

NOTE: Opening the service valve too quickly may cause the excess flow valve to stop the flow of propane. If this occurs, close the valve, wait a few seconds and re-open the valve SLOWLY!

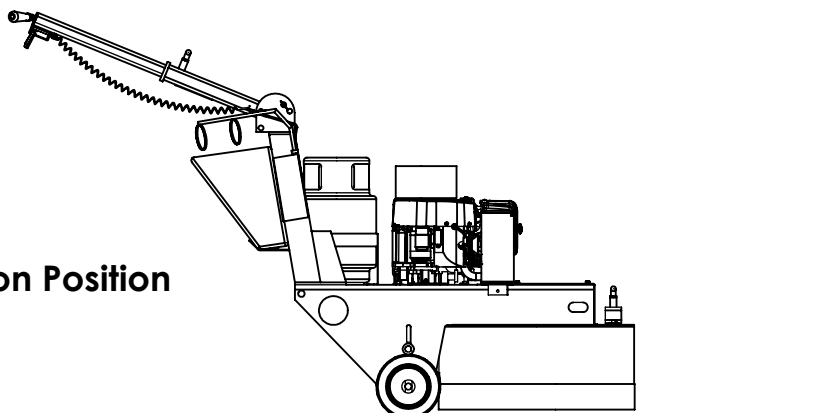
5. Depress the kill switch.
6. Pull the choke lever to the choke position and engage the starter by turning the key switch to start. Do not run the starter for more than 20 seconds at a time.
7. Allow 10-20 seconds between attempts to start the engine.
8. When engine starts, depress the choke lever to the off position.

NOTE: Do not run engine with throttle in the choke position! Excessive harmful emissions will be produced putting you in harms way!

Grinding Process:

1. Increase throttle to about 3/4 while walking forward very slowly.
2. Follow the grinding with dust or sludge removal (dispose of properly).

Operation Position

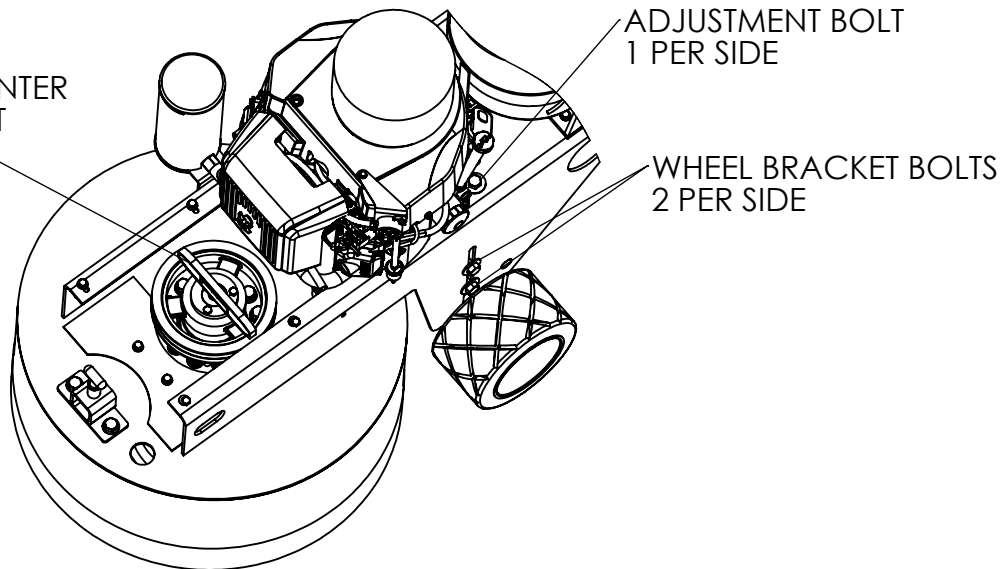


G AND P ONE LEVELING INSTRUCTIONS

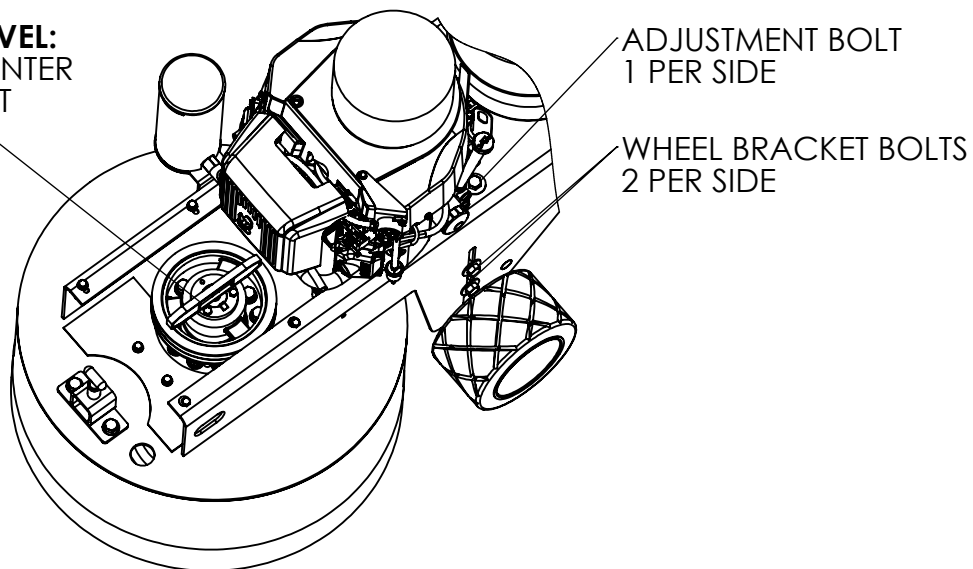
LEVELING INSTRUCTIONS:

1. LOOSEN WHEEL BRACKET BOLTS
2. ROTATE ADJUSTMENT BOLT COUNTER CLOCKWISE TO RAISE REAR OF DECK OR CLOCKWISE TO LOWER REAR OF DECK.

SIDE TO SIDE LEVEL:
PLACE LEVEL IN CENTER
OF GEARBOX INPUT
SHAFT AS SHOWN



FRONT TO BACK LEVEL:
PLACE LEVEL IN CENTER
OF GEARBOX INPUT
SHAFT AS SHOWN



Machine Operation

Starting Machine

1. Check fuel cylinder for overfill (see “Refilling Propane Fuel Cylinder”).
2. Install cylinder on machine.
3. Place machine on level surface and check for correct oil level.
4. Slowly open the service valve on the fuel cylinder.

NOTE: *Opening the service valve too quickly may cause the excess flow valve to stop the flow of propane. If this occurs, close the valve, wait a few seconds and re-open the valve SLOWLY!*

5. Depress the kill switch.
6. Pull the choke lever to the choke position and engage the starter by turning the key switch to start. Do not run the starter for more than 20 seconds at a time. Allow 10-20 seconds between attempts to start the engine.
7. When engine starts, depress the choke lever to the off position.

NOTE: *Do not run engine with the throttle in the choke position! Excessive harmful emissions will be produced putting you in harm's way!*

8. Increase throttle to about $\frac{3}{4}$ while walking forward very slowly.

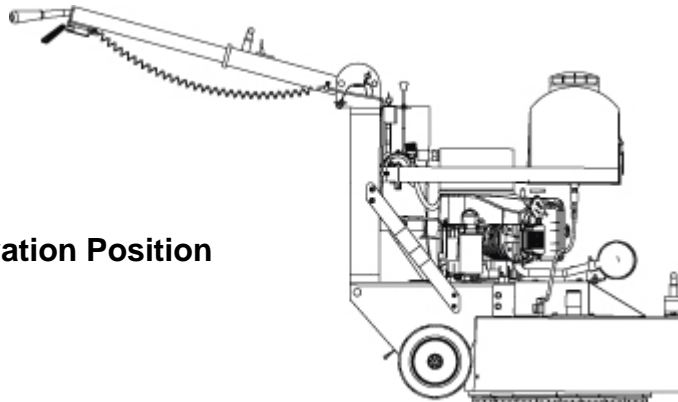
Operating Machine



WARNING! Be careful not to allow the machine to come in contact with loose tiles or other obstructions on the floor. The abrasives are turning at about 650 RPM. If objects are hit by the revolving pad they could become dangerous missiles.

1. Extend handle and tilt machine back until handle rests on floor.
2. Install diamonds and remove transport wheel.
3. Bring machine back to operating position.
4. Fill water tank if wet grinding.
5. Start machine.
6. Begin grinding process.
7. Follow the grinding with dust or sludge removal (dispose of properly).

Operation Position



Propane Fuel Cylinders

The National Fire Protection Association (NFPA) has established standards for the storage and handling of liquefied petroleum gasses. This standard is NFPA58 and is recognized in the United States and Canada as well as some other countries. For other countries the owner must assure that the required regulations are met.

Liquefied propane will expand 270 times into flammable vapor, which is used as fuel for propane engines. Proper training is recommended for those operating propane powered machines in order to limit the hazards related to the handling and storage of propane fuel cylinders (see the “Safety Awareness Manual” section of the manual.

The fuel cylinder supplied with this machine is a D.O.T. 4E240 motor fuel cylinder. Cylinders not branded with D.O.T. 4E240 on the top collar should never be used on propane power StoneOlogy equipment. Never use a cylinder from a gas barbecue, for example, on this machine.

The capacity of the 4E240 cylinder is 20 lbs., 80% of the total water capacity. Never allow a fuel cylinder to be overfilled. Have the cylinder filled at a reputable propane dealer and check it for overfill before accepting it.

Checking a cylinder for overfill

Always wear frost proof gloves and a face shield before attempting to check fuel cylinder for overfill.

1. Take to a safe area outside, away from open flames and cigarettes.
2. Open the fixed liquid level gauge (bleeder valve).
3. Observe the gas exiting from the valve: white cloud = overfilled, no cloud visible = SAFE!
4. If overfilled, allow to vent until vapor is clear.

Do not attempt to repair a damaged propane cylinder yourself. Return the cylinder to your propane vendor for authorized service.

ATTENTION: Propane fuel cylinders, whether full or empty, should be stored outside the building in a secure approved cylinder storage cabinet in accordance with NFPA58. Remove cylinder from machine when not in use. Local authorities may have additional requirements for fuel cylinder storage. Always consult with the local fire marshal for local codes.

CAUTION: Propane fuel cylinders used on StoneOlogy machines are VERTICAL cylinders and should always remain in the vertical position, even when being transported or stored. This position assures the pressure relief valve and other fittings are in direct contact with the vapor in the cylinder and not the liquid. Liquid escaping from the cylinder as the result of a leak or overfilling will expand to 270 times the volume of flammable vapor.

Quarterly Maintenance – (every 250 hours of operation)

- Perform all monthly maintenance items.
- Have engine checked by an Authorized Service Center. Including emissions check.

Propane Fuel System



Repairs and adjustments to the fuel system can only be made by an authorized, properly trained and certified service technician. Improper adjustments will cause increased toxic emissions of carbon monoxide and may result in carbon monoxide poisoning.

Changing the Oil

1. The engine manufacturer recommends 10W30 or SAE30 motor oil.
2. Run engine for two minutes to warm the oil.
3. Make sure machine is on a level surface, with diamond plates resting on the floor. Place a container under the drain and open the oil drain valve. Allow oil to drain completely.
4. Close drain valve and add 1 quart of 10W30 or SAE30 motor oil. Check level and add if necessary.
5. Replace oil-fill cap assembly. Hand tighten only.

ATTENTION: Do not over fill oil and never run engine with low oil level.

Checking the Oil Level

When checking oil, remove dip stick, wipe clean, and then reinsert the dip stick into the engine. **DO NOT SCREW IN.** Remove dip stick and observe oil level as indicated on the dip stick.

Maintenance



WARNING: Before attempting any maintenance procedures on the machine, close the service valve on the fuel cylinder and stop the engine.

Repairs and adjustments to the fuel system must be made by an authorized, properly trained service technician. To keep the machine in good working condition, simply follow the daily, weekly and monthly maintenance procedures.

Keeping the machine clean and free from accumulated dust, lint and oil allows free air flow across the engine to cool properly. Always use clean recoil dust filters. These can be cleaned by washing them in a flow of water and shaking them dry. Extra filters may be ordered from Uppgnet at 800.633.0519. Keep a log book of maintenance and/or repairs.

Daily Maintenance - (every four hours of operation)

- Check oil level (use 10W30 or SAE30 oil only).
- Check recoil dust filter.
- Check and clean carburetor air filter.
- Make sure all components (abrasives, holders, fuel cylinder, etc.) are secure and tight.
- Check diamond holders and diamonds (clean or replace).
- Clean machine. If compressed air is available, blow dust from machine and engine, concentrating on the inside of engine shrouds. Wash undercarriage.

CAUTION: Care should be taken to make sure engine is cool before water is used to prevent warping and other damage.

Weekly Maintenance – (every 20 to 50 hours of operation)

- All Daily Maintenance services.
- Change oil and oil filters at 50 hours of service. Use 10W30 or SAE30 motor oil. Use of non-recommended oil may void the engine warranty (see engine owner's manual).
- Check for loose nuts and/or bolts on entire machine.
- Examine all propane fuel components for leaks or wear. Replace if necessary.
- Grease wheels. Use one pump only of white lithium grease. More grease than recommended may push the seals and dust covers out, allowing dust and other foreign materials to penetrate the bearings, thus shortening their life, as well as allowing grease to drop from the wheels to the floor.

Monthly Maintenance – (every 80 hours of operation)

- Perform all Daily and Monthly Maintenance services.
- Consult engine owner's manual for the following:
 - Torque head bolts.
 - Check valve clearance.
 - Torque valve cover bolts.
 - Inspect spark plugs. Replace if necessary.
 - Remove engine shroud and clean cooling fins.



WARNING! Exhaust emissions contain harmful toxic gasses; the worst being carbon monoxide. Always make certain that adequate ventilation is available. **Do not leave machine unattended while the engine is running.**

Stopping the Machine

1. Put machine in idle mode.
2. Close the service valve on the fuel cylinder while the engine is running. This serves to “purge” the fuel system of all flammable gas.
3. Allow the engine to run until it stops.
4. Turn the key switch to OFF.

Emergency Stopping



In case of emergency, the machine can be brought to an instant stop by the following methods:

Release “KILL SWITCH”.

Storing the Machine

1. Remove the fuel cylinder and store in properly propane storage cage outside (see Propane Fuel Cylinders).
2. After the engine has cooled completely, clean machine thoroughly, to remove all slurry, dust and debris.
3. Perform all daily maintenance requirements.
4. Store machine in a cool, dry, secure area where it will not be damaged by other traffic.
5. Tilt the machine back on the rear caster with the diamonds off the floor.

Transporting the Machine

- When transporting the machine from one job to another, secure the machine with the fuel cylinder installed and the service valve OFF!
- Allow the engine to cool down before loading it.

Troubleshooting

Problem	Cause	Solution
Will not start	No fuel or dirt in fuel line Blown head gasket Engine overload Dirty air cleaner Faulty spark plug Fuel system out of adjustment Defective ignition	See engine owners manual for servicing NOTE: Only properly trained Service Technicians should adjust or repair fuel systems!
Hard to start	No fuel or dirt in fuel line Engine overload Dirty air cleaner Faulty spark plug Spark plug or head bolts loose Blown head gasket Timing, coil or valves need adjusting Regulator needs adjustment Insufficient vacuum	See engine owners manual for servicing NOTE: Only properly trained Service Technicians should adjust or repair fuel systems!
Lacks power	Improper valve clearance Dirt in fuel line Faulty spark plug Improper oil level Worn rings	See engine owners manual for servicing NOTE: Only properly trained Service Technicians should adjust or repair fuel systems!
Engine overheats	Incorrect oil level Engine overload Build up of dirt inside engine shroud	See engine owners manual for servicing
High fuel consumption	Faulty spark plug Dirty air cleaners Improper fuel system adjustment	See engine owners manual for servicing NOTE: Only properly trained Service Technicians should adjust or repair fuel systems!
Engine stops suddenly	Out of fuel Faulty spark plug Low oil	Change fuel cylinders Clean, adjust/replace spark plug Add oil (see Changing Oil notes)
Excessive vibration	Loose bolts on engine or deck Diamonds not loaded properly Uneven diamonds Incorrect oil level Engine overloaded Dirty filters Faulty spark plug	Inspect and tighten all bolts Inspect and adjust diamonds Check and reselect diamonds Check and adjust oil level See engine owners manual for servicing Clean or replace filters Check adjust/replace spark plug

Warranty Information

Subject to the conditions and expectations stated in this warranty, we warrant our products to be free from defects in material and workmanship, under normal use and service, for the periods listed, warranted to the original purchaser.

	90 days	1 year	2 years	3 years
Belts, Brushes, Choke Cables, Clutches, Electrical Components	X			
Filters, Hand Grips, Hoses, Pad Drivers, Starters, Switches	X			
Throttle Cables, Wheels	X			
Emissions Shutdowns, Gearboxes, Hydraulic Motors		X		
Lockoffs, Fuel Valves		X		
Engines: (Warranty covers Manufacturer's defects only)				
Robin EH65 22hp			X	
Kawasaki KH541 17 hp			X	
Frames, Handles, Pulleys, Regulators			X	
Tanks (LP)				X
Tank Valve		X		
Catalytic Muffler	Replace at 500 Hours			

At any time within the periods listed, the company will furnish STONEKOR product replacement parts. Such replacement parts will be furnished to the original owner and charged, including transportation charges, through an authorized Stonekor distributor FOB the factory (Georgia). ONLY when the original part is returned within 30 days and is found to be defective, the owner will be credited for the cost of the replacement part, labor (as specified in the Warranty Flat Rate Schedule) and normal transportation charges. Parts replaced or repaired under the warranty are fully guaranteed for the remainder of the original warranty period. Any implied warranty granted under State Law, including warranties or merchantability or fitness for a particular purpose are limited to duration to the express warranty granted hereunder. The manufacturer or manufacturer's authorized representative in no event shall be liable for direct, indirect, incidental or consequential damage. Abuse and failure to properly maintain engine is subject to void warranty. Proper engine maintenance includes filter and oil changes as described in the engine manufacturer's operator manual. See information on the Preventative Maintenance Kit at the end of the manual. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental damages, so the above limitations and exclusions may not apply to you. "THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE. UNDER NO CIRCUMSTANCES WILL THE SELLER BE LIABLE FOR ANY LOSS, DAMAGE, EXPENSE, OR CONSEQUENTIAL DAMAGE ARISING IN CONNECTION WITH USE, OR INABILITY TO USE, SELLER'S PRODUCTS."

We reserve the right to make changes and improvements to our equipment without notice.

Please make sure to record this information. This information will be necessary to retrieve warranty information in the future.

Date purchased: _____ / _____ / _____

Model Number: _____

Serial Number: _____

Instructions and conditions for warranty reimbursement

Service Pre-Approved by STONEKOR

1. Call STONEKOR warranty department to file a claim. For warranty requests on equipment you will need to provide the Engine Serial Number, Machine Serial Number, Model Number, and Proof of Purchase (i.e. invoice)
2. You will be directed to the appropriate service organization based on where your business is located.
3. The service organization will arrange an onsite visit or specify the location to bring your equipment for repair.
4. You may be required to pay travel charges and service fees in advance of an onsite visit. The amount of these charges may vary depending upon the service organization and your geographic location.
5. The service technician will perform the necessary diagnostic and repair work and contact STONEKOR to determine if the defective component(s), travel charges, and service fees will be covered under the STONEKOR Warranty Policy.
6. The service technician will contact STONEKOR to acquire the necessary replacement parts and an RGA number for the return of the defective components. A copy of this RGA form will be faxed to you. (The RGA form will specify the carrier to use for parts to be returned).
7. STONEKOR will ship the replacement parts to you or the service rep. and invoice you at full value along with related freight charges.
8. Upon receipt of the returned goods you will be credited for the replacement parts invoice if the items are still under warranty. Please include a copy of the RGA form with the returned items.
9. Advance payment of travel and service fees determined to be covered under the STONEKOR Warranty policy will be reimbursed by the service organization involved. If warranty does not apply, charges will not be reimbursed.

Service Not Pre-Approved by STONEKOR

1. Call STONEKOR warranty department to file a claim. For warranty requests on equipment you will need to provide the Engine Serial Number, Machine Serial Number, Model Number, and Proof of Purchase (i.e. invoice)
2. You will also need to provide documentation for all repair related charges.
3. Your claim will be reviewed to determine if it is covered by our warranty policy. If approved, a Return Goods Authorization (RGA) number will be issued for defective parts and an RGA form will be faxed to you. (The RGA form will specify the carrier to use for parts to be returned)
4. We recommend that you place an order for the replacement parts that are needed. These will be invoiced to you at full value along with related freight charges.
5. If your warranty claim has been approved and an RGA number has been provided to you, you will be credited for the replacement parts invoice upon receipt of the defective parts. If the defective parts are not covered under warranty no credit will be issued.
6. Approved travel and service charges will also be credited to you upon receipt of the defective parts.

Warranty Conditions

1. Approved warranty return items must be received by STONEKOR within 30 days of the RGA date in order to receive credit.
2. A copy of the RGA form should be included with the items returned.
3. Replacement parts orders will be shipped via UPS or Fedex Ground. You will be responsible for any upgraded or expedited delivery charges. These additional charges will not be covered under warranty.
4. Warranty travel is limited to 60 miles and applies only to claims made within 30 days of the date of purchase. Our mileage reimbursement rate is \$0.35 per mile. (Rate is subject to change).
5. Labor hours are subject to the Stonekor Warranty Flat Rate Chart. (Rates are subject to change).
6. Warranty travel and service fees may be denied if not pre-approved and performed by an STONEKOR Authorized Service Organization.

Warranty Contacts

Customer Service 800.633.0519 customerservice@stonekor.com

Engine Warranty - Allowed Labor Hours

Engines covered : EH65V, FH541V

JOB DESCRIPTION	LABOR HOURS ALLOWED	JOB DESCRIPTION	LABOR HOURS ALLOWED
<u>MISC</u>		<u>RECOIL STARTER & GOVERNOR</u>	
DIAGNOSIS	0.5	RECOIL STARTER ASSY	0.1
<u>TUNE UP & ADJUSTMENT</u>		REEL, SPRING, OR ROPE	0.3
COMPRESSION MEASUREMENT (ALL)	0.4	GOVERNOR ASSY OR SLEEVE	1.0
VALVE CLEARANCE ADJUSTMENT (ALL)	0.6	GOVERNOR SHAFT OR OIL SEAL	0.9
VALVE CLEARANCE ADJUSTMENT (1 CYL)	0.3	GOVERNOR ARM	0.3
GOVERNOR ADJ (Includes Low Idle & High Speed Adj) (ALL)	0.3	CONTROL PANEL ASSY	0.3
LOW IDLE & HIGH SPEED ADJUSTMENT (ALL)	0.2	<u>AIR CLEANER / MUFFLER</u>	
CARB CLEANING (ALL)	0.7	AIR CLEANER CASE	0.2
<u>CYLINDER HEADS, VALVES, & CAMSHAFT</u>		AIR CLEANER ELEMENT OR COVER	0.1
CYLINDER HEAD COVER OR GASKET (1 CYL)	0.2	MUFFLER OR HEAT COVERS	0.2
CYLINDER HEAD COVERS OR GASKETS (ALL)	0.3	EXHAUST PIPE(S) OR GASKET(S)	0.3
CYLINDER HEAD (1 CYL)	1.7	<u>CARB, FUEL PUMP, & FUEL TANK</u>	
CYLINDER HEADS (ALL)	2.2	CARBURETOR	0.5
CYLINDER HEAD GASKET (1 CYL)	1.3	CARB HOLDER OR INTAKE MANIFOLD	0.6
CYLINDER HEAD GASKETS (ALL)	1.8	CHOKE VALVE(S) / THROTTLE VALVE(S)(Includes Carb R&R)	0.6
VALVE AND / OR SPRING (1 VALVE OR SPRING)	1.5	MAIN JET(S) FLOAT OR VALVE (Includes Carb R&R)	0.6
VALVE AND / OR SPRINGS (2 VALVES OR SPRINGS) (1 CYL)	1.6	FLOAT CHAMBER GASKET	0.3
VALVES AND / OR SPRINGS (ALL)	2.2	SOLENOID VALVE OR FUEL CUT VALVE	0.3
VALVE LAPPING OR VALVE GUIDE (1 VALVE, 1 CYL)	1.6	FUEL TUBE (To Carb)	0.2
VALVE LAPPING (2 VALVES, 1 CYL)	1.8	DIAPHRAGM FUEL PUMP	0.2
VALVE LAPPING OR VALVE GUIDES (ALL)	2.6	FUEL FILTER	0.1
CAMSHAFT	1.3	<u>IGNITION, COOLING, & STARTER MOTOR</u>	
ROCKER ARM OR PUSH ROD (1 ARM OR ROD)	0.4	ENGINE FLYWHEEL	0.7
ROCKER ARMS OR PUSH RODS (ALL)	0.6	CHARGING COIL OR STATOR	0.9
<u>CYLINDER/CRANKCASE & OIL PUMP</u>		IGNITION COIL (1)	0.5
CYLINDER BORING & HONING (1 CYL)	4.8	IGNITION COILS (ALL)	0.7
CYLINDER BORING & HONING (ALL)	5.3	SPARK PLUG (1)	0.1
CRANKCASE OR MAIN BALL BEARING	4.1	SPARK PLUGS (ALL)	0.2
BREATHER, BREATHER COVER, OR REED VALVES	1.0	VOLTAGE REGULATOR (REGULATOR / RECTIFIER)	0.2
CRANKCASE COVER	1.2	COOLING FAN	0.3
CRANKCASE COVER GASKET	0.8	COOLING FAN HOUSING	0.2
OIL FILTER (CARTRIDGE) OR OIL DRAIN PLUG	0.1	UPPER ENGINE SHROUD	0.2
OIL PUMP	1.1	LOWER ENGINE SHROUD	0.2
OIL PRESSURE RELIEF VALVE	1.0	STARTER MOTOR ASSY	0.3
OIL FILTER SCREEN (INTERNAL)	0.9	STARTER BRUSH(ES) (Includes Starter (R&R))	0.5
OIL DRAIN PLUG OR GASKET, OR OIL FILLER/OIL LEVEL DIPSTICK TUBE	0.1		
OIL PRESSURE SWITCH	0.2		
<u>PISTON & CRANKSHAFT</u>			
PISTON OR RING SET (1 CYL)	2.1		
PISTON OR RING SETS (ALL)	2.9		
CRANKSHAFT	3.3		
CONNECTING ROD (1 CYL)	2.1		
CONNECTING RODS (ALL)	2.9		
CRANK / OR CAMSHAFT OIL SEAL (PTO SIDE)	0.9		
CRANK / CAMSHAFT OIL SEAL (FLYWHEEL SIDE)	0.8		

U. S. SILICA COMPANY

MSDS - MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Names/Trade Names:

Silica Sand sold under various names: ASTM TESTING SANDS • GLASS SAND • FLINT SILICA • DM-SERIES • F-SERIES • FOUNDRY SANDS • FJ-SERIES • FP-SERIES • H-SERIES • L-SERIES • N-SERIES • NJ-SERIES • OK-SERIES • P-SERIES • T-SERIES • HYDRAULIC FRACING SANDS • MIN-U-SIL® Ground Silica • MYSTIC WHITE® • #1 DRY • #1 SPECIAL • PENN SAND® • Q-ROK® • SIL-CO-SIL® Ground Silica • SUPERSIL® • MASON SAND • GS-SERIES • PER-SPEC

Synonyms/Common Names: Sand, Silica Sand, Quartz, Crystalline Silica, Flint, Ground Silica.

Manufacturer's Name: U. S. Silica Company
P. O. Box 187
Berkeley Springs, WV 25411

Emergency Telephone Number: 304-258-2500 (8:30 am to 5:00 pm eastern)
304-258-8295 (fax)

Date Prepared: June 30, 2006 (revising February 10, 2005)

SECTION 2 - HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

The U. S. Silica Company material is a white or tan sand, or ground sand. It is not flammable, combustible or explosive. It does not cause burns or severe skin or eye irritation. A single exposure will not result in serious adverse health effects. Crystalline silica (quartz) is not known to be an environmental hazard.

Crystalline silica (quartz) is incompatible with hydrofluoric acid, fluorine, chlorine trifluoride or oxygen difluoride.

OSHA REGULATORY STATUS

This material is considered hazardous under the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Inhalation:

- a. Silicosis Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.
- b. Lung Cancer Crystalline silica (quartz) inhaled from occupational sources is classified as carcinogenic to humans.
- c. Tuberculosis Silicosis increases the risk of tuberculosis.
- d. Autoimmune and Chronic Kidney Diseases Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica.
- e. Non-Malignant Respiratory Diseases (other than silicosis) Some studies show an increased incidence in chronic bronchitis and emphysema in workers exposed to respirable crystalline silica.

Eye Contact: Crystalline silica (quartz) may cause abrasion of the cornea.

Skin Contact: Not applicable.

Ingestion: Not applicable.

Chronic Effects: The adverse health effects -- silicosis, lung cancer, autoimmune and chronic kidney diseases, tuberculosis, and non-malignant respiratory diseases-- are chronic effects.

Signs and Symptoms of Exposure: Generally, there are no signs or symptoms of exposure to crystalline silica (quartz).

Medical Conditions Generally Aggravated by Exposure: The condition of individuals with lung disease (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) can be aggravated by exposure.

See Section 11, Toxicological Information, for additional detail on potential adverse health effects.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

	Chemical Formula	Typical %, By Weight	CAS #
Crystalline Silica (quartz)	SiO ₂	99.0 - 99.9	14808-60-7
Aluminum Oxide	Al ₂ O ₃	< .8	1344-28-1
Iron Oxide	Fe ₂ O ₃	< .1	1309-37-1
Titanium Oxide	TiO ₂	< .1	13463-67-7

SECTION 4 - FIRST AID MEASURES

Inhalation: No specific first-aid is necessary since the adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposures. If there is a gross inhalation of crystalline silica (quartz), remove the person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

Eye Contact: Wash immediately with water. If irritation persists, seek medical attention.

Skin Contact: Not applicable.

Ingestion: Not applicable.

SECTION 5 - FIRE FIGHTING MEASURES

Crystalline silica (quartz) is not flammable, combustible or explosive.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spills: Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. Wear protective equipment specified below.

Waste Disposal Method: See Section 13.

SECTION 7 - HANDLING AND STORAGE

Precautions During Handling and Use: Do not breathe dust. Use adequate ventilation and dust collection. Keep airborne dust concentrations below permissible exposure limit ("PEL"). Do not rely on your sight to determine if dust is in the air. Respirable crystalline silica dust may be in the air without a visible dust cloud.

If crystalline silica dust cannot be kept below permissible limits, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. See Section 8 for further information on respirators. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Maintain, clean, and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing that has become dusty.

The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.

Do not use U. S. Silica Company materials for sandblasting.

Precautions During Storage: Avoid breakage of bagged material or spills of bulk material. Use dustless methods (vacuum) and place into closable container for disposal, or flush with water. Do not dry sweep. See control measures in Section 8.

The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed. **WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARDS AND THE REQUIRED OSHA PRECAUTIONS. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.**

For additional precautions, see American Society for Testing and Materials (ASTM) standard practice E 1132-99a, "Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica."

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Local Exhaust Ventilation: Use sufficient local exhaust ventilation to reduce the level of respirable crystalline silica to below the OSHA PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice" (latest edition).

Respiratory Protection:

If it is not possible to reduce airborne exposure levels to below the OSHA PEL with ventilation, use the table below to assist you in selecting respirators that will reduce personal exposures to below the OSHA PEL. This table is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, "Particulate Respirators". The full document can be found at www.cdc.gov/niosh/nppt/topics/respirators; the user of this MSDS is directed to that site for information concerning respirator selection and use.

The assigned protection factor (APF) is the minimum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m³, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m³.

Assigned protection factor ¹	Type of Respirator (Use only NIOSH-certified respirators)
10	Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. ² Appropriate filtering facepiece respirator. ^{2,3} Any air-purifying full facepiece respirator equipped with appropriate type of particulate filter. ² Any negative pressure (demand) supplied-air respirator equipped with a half-mask.
25	Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter. Any continuous flow supplied-air respirator equipped with a hood or helmet.
50	Any air-purifying full facepiece respirator equipped with N-100, R-100, or P-100 filter(s). Any powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and a high-efficiency filter. Any negative pressure (demand) supplied-air respirator equipped with a full facepiece. Any continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece). Any negative pressure (demand) self-contained respirator equipped with a full facepiece.
1,000	Any pressure-demand supplied-air respirator equipped with a half-mask.

1. The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers.

2. Appropriate means that the filter medium will provide protection against the particulate in question.

3. An APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers.

Exposure Guidelines:

Component	CAS No.	Percentage (by wt.)	OSHA PEL		ACGIH TLV		NIOSH REL		Unit
			TWA	STEL	TWA	STEL	TWA	STEL	
Crystalline Silica (quartz)	14808-60-7	99.0-99.9	$\frac{10}{\% \text{SiO}_2+2}$	None	.025	None	.05	None	mg/m ³

If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as tridymite; if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as tridymite or cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White or tan sand; granular, crushed, or ground.

Boiling Point: 4046°F/2230 °C **Odor:** None

Vapor Pressure (mm Hg.): None **Specific Gravity (Water = 1):** 2.65

Vapor Density (Air = 1): None **Melting Point:** 3110°F/1710 °C

Solubility in Water: Insoluble in water **Evaporation Rate (Butyl Acetate = 1):** None

SECTION 10 - STABILITY AND REACTIVITY

Stability: Crystalline silica (quartz) is stable.

Incompatibility (Materials to Avoid): Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

Hazardous Decomposition or Byproducts: Silica will dissolve in hydrofluoric acid and produce a corrosive gas - silicon tetrafluoride.

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

The method of exposure to crystalline silica that can lead to the adverse health effects described below is inhalation.

A. SILICOSIS

The major concern is silicosis, caused by the inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis.

Simple silicosis is characterized by lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability.

Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough and sputum production. Complicated silicosis or PMF may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of initial exposure. Progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that lung lesions appear earlier and progression is more rapid.

Silica Sand sold under various names

Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

B. CANCER

IARC - The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz and cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans (Group 1)*." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates..." (1997).

NTP - The National Toxicology Program's Eleventh Annual Report on Carcinogens classifies "silica, crystalline (respirable size)" as a known human carcinogen.

OSHA - Crystalline silica (quartz) is not regulated by the U. S. Occupational Safety and Health Administration as a carcinogen.

C. AUTOIMMUNE DISEASES

Several studies have reported excess cases of several autoimmune disorders, -- scleroderma, systemic lupus erythematosus, rheumatoid arthritis -- among silica-exposed workers. For a review of the subject, the following may be consulted: "Occupational Exposure to Crystalline Silica and Autoimmune Disease", Environmental Health Perspectives, Volume 107, Supplement 5, pp. 793-802 (1999); "Occupational Scleroderma", Current Opinion in Rheumatology, Volume 11, pp. 490-494 (1999).

D. TUBERCULOSIS

Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information: Occupational Lung Disorders, Third Edition, Chapter 12, entitled "Silicosis and Related Diseases", Parkes, W. Raymond (1994); "Risk of pulmonary tuberculosis relative to silicosis and exposure to silica dust in South African gold miners," Occup Environ Med., Volume 55, pp.496-502 (1998).

E. KIDNEY DISEASE

Several studies have reported excess cases of kidney diseases, including end stage renal disease, among silica-exposed workers. For additional information on the subject, the following may be consulted: "Kidney Disease and Silicosis", Nephron, Volume 85, pp. 14-19 (2000).

F. NON-MALIGNANT RESPIRATORY DISEASES

The reader is referred to Section 3.5 of the NIOSH Special Hazard Review cited below, for information concerning the association between exposure to crystalline silica and chronic bronchitis, emphysema and small airways disease. There are studies that disclose an association between dusts found in various mining occupations and non-malignant respiratory diseases, particularly among smokers. It is unclear whether the observed associations exist only with underlying silicosis, only among smokers, or result from exposure to mineral dusts generally (independent of the presence or absence of crystalline silica, or the level of crystalline silica in the dust).

Sources of information:

The *NIOSH Hazard Review - Occupational Effects of Occupational Exposure to Respirable Crystalline Silica* published in April 2002 summarizes and discusses the medical and epidemiological literature on the health risks and diseases associated with occupational exposures to respirable crystalline silica. The *NIOSH Hazard Review* should be consulted for additional information, and citations to published studies on health risks and diseases associated with occupational exposure to respirable crystalline silica. The *NIOSH Hazard Review* is available from NIOSH - Publications Dissemination, 4676 Columbia Parkway, Cincinnati, OH 45226, or by calling 1-800-35-NIOSH (1-800-356-4676), or through the NIOSH web site, www.cdc.gov/niosh/topics/silica, then click on the link "NIOSH Hazard Review: Health Effects of Occupational Exposure to Respirable Crystalline Silica".

SECTION 12 - ECOLOGICAL INFORMATION

Crystalline silica (quartz) is not known to be ecotoxic; i.e., there are no data that suggests that crystalline silica (quartz) is toxic to birds, fish, invertebrates, microorganisms or plant

SECTION 13 - DISPOSAL CONSIDERATIONS

General: The packaging and material may be landfilled; however, material should be covered to minimize generation of airborne dust.

Silica Sand sold under various names

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

The above applies to materials as sold by U. S. Silica Company. The material may be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal of the used material.

SECTION 14 - TRANSPORT INFORMATION

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the U. S. Department of Transportation Table of Hazardous Materials, 49 CFR §172.101.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES (FEDERAL AND STATE)

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

Clean Air Act: Crystalline silica (quartz) mined and processed by U.S. Silica Company is not processed with or does not contain any Class I or Class II ozone depleting substances.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

California Proposition 65: Crystalline silica (airborne particles of respirable size) is classified as a substance known to the State of California to be a carcinogen.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 ug for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, < 10 microns) is “toxic” for purposes of the Massachusetts Toxic Use Reduction Act.

Pennsylvania Worker and Community Right to Know Act: Quartz is a hazardous substance under the Act, but it is not a special hazardous substance or an environmental hazardous substance.

CANADA

Domestic Substances List: U. S. Silica Company products, as naturally occurring substances, are on the Canadian DSL.

WHMIS Classification: D2A

OTHER

EINECS No.: 238-878-4

EEC Label (Risk/Safety Phrases): R 48/20, R 40/20, S22, S38

IARC: Crystalline silica (quartz) is classified in IARC Group 1.

Japan MITI: All of the components of this product are existing chemical substances as defined in the Chemical Substance Control Law.

Australian Inventory of Chemical Substances: All of the components of this product are listed on the AICS inventory or exempt from notification requirements.

U. S. Silica Company

Silica Sand sold under various names

National, state, provincial or local emergency planning, community right-to-know or other laws, regulations or ordinances may be applicable--consult applicable national, state, provincial or local laws.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	*
Flammability	0
Reactivity	0
Protective Equipment	E

* For further information on health effects, see Sections 2 and 11 of this MSDS.

National Fire Protection Association (NFPA):

Health	0
Flammability	0
Reactivity	0

Web Sites with Information about Effects of Crystalline Silica Exposure:

The U. S. Silica web site will provide updated links to OSHA and NIOSH web sites addressing crystalline silica issues. www.u-s-silica.com, click in "Information", then click on "Health & Safety".

U. S. SILICA COMPANY DISCLAIMER

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by purchase, resale, use or exposure to our silica. Customers-users of silica must comply with all applicable health and safety laws, regulations, and orders, including the OSHA Hazard Communication Standard.

