OPERATING TIPS AND INFORMATION FOR THE $CRAZYCRUSHER^{\mathbb{R}}$

The patented hand operated jaw type rock crusher / grinder will crush rock, glass, ceramics, If it breaks with a hammer it will crush with with the Crazycrusher! Many uses!



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The name Crazycrusher® is a registered trade name with the United States Patent Office for Goldquest, LLC

ASSEMBLY



Use a ³/₄" or 19mm wrench or socket to assemble.

TIPS, HINTS AND OPERATIONS OF THE CRAZYCRUSHER®

Unpack the Crazycrusher[®], remove craft paper from above and between the two jaws. Assemble the arms in place. (See image for reference). Place either arm on to the pivot pin and guide pin and

install lock washers and nuts, but do not tighten. ****** (**Caution should be taken as to not damage the threads on either the jaw or pivot pins.)** The pivot pin is the one furthest from the handle. Place the handle spacer on to the installed arm, and then line up and install the second arm, making sure the 2 handles are lined up, along with the holes on pivot and jaw pins. Then add the other two nuts and lock washers and tighten the pivot pin nuts first, then lightly tighten the guide pin nuts. (If you have any difficulty putting the arms on to the pins, you may need to wiggle or lift up on the moving jaw to line up the holes better. On the two nuts that attaches the arms to the Pivot pin, be sure they are very tight. You want the pivot pin to rotate WITH the arms as they go up and down, not having the Pivot pin stationary and the arms rotating on the pivot pin. Insert the 1/2-13 x 5" T-bolt included into the adjuster bracket. Now it is ready to use!

On the guide pin, it is inserted through a thick walled pipe which is welded to the jaw. The small hole in the top center is for a couple drops of 3-in-1 oil or WD-40, any light oil if desired.

We've included a square plastic container for your convenience to catch the crushed materials. You can purchase extra containers at Walmart, Biglots or other stores as they come in handy to store crushed samples in and you can mark the containers with where you found the materials. It is also a good idea to store a sample of the un-crushed rock so you know what it looked like, for later reference.

Always be certain you close the safety lid on the Crazycrusher[®] as during the initial breaking of a rock, chips can fly out. It is advisable to wear safety glasses when using the Crazycrusher[®]

Softer rocks, such as conglomerates, marble, and caliche can be large enough that they just fit inside the pair of jaws when in the down position. Harder rocks should be small enough that they will go down between the jaws to the level of the guide pin on the moving jaw, or lower. The smaller the rock, the easier it is to break when it is very hard material.

Clamp or bolt at least 2 of the feet to a sturdy work bench, one on the front, one on the rear of the crusher. It is not advisable to have the crusher mounted on a high bench as it will be difficult to operated at that height. **A good height for mounting is about where the handle in the down position is at your waistline, or a little lower.** Mounting the crusher to a low sturdy bench where the bench is about "knee height" is ideal as you do not need to bend and put your back into the work.

Always start with the crusher arms in the lower position, then raise it up only a few inches and then push down with a sharp "snap" to break the rock. (**Caution: Try not to "follow through" with that initial "snap" where the arms forcefully bottom out as it could actually break the threaded pin.)** Once the rock begins breaking, you can go quicker with short quick strokes. The design of the Crazycrusher® is that from a full upward position, the jaw moves forward more than downward. As the arms are lowered, it is more of a downward motion than forward motion. The higher up you move the arms, the harder it is to get that first initial break. Using very short strokes to begin with will help break the rock in the beginning. You will rarely ever use a full stroke of the arms, other than as mentioned, for softer rock like marble or glass.

Turn the adjusting screw in a couple turns to start. If some rock gets "stuck", you can back the adjuster out to clear it.

The lowest part of the jaws are for grinding, and there are no teeth or welds to help pull rock pieces through, so sometimes small stones will slide or roll on the jaws.

Since it does move around quite easily, when using it in the field, you can either clamp or bolt the Crazycrusher® down on two 2x4's, about 3 or 4 feet long, bolted to one end so they run parallel with the long side of the crusher. You will then have enough space left over to park your truck or car tire on to the other ends of the 2x4's. You may still experience a slight uplifting of the crusher on the upstroke, but the down-stroke will be solid which is most important.

We designed an optional 2 inch hitch mount for the back of a pick up or any vehicle with a 2 inch receiver hitch. Smaller designs such as for a quad receiver hitch can be made to order.

Areas of metal to metal movement are left as bare metal and not painted to avoid contamination with paint chips getting in your samples. During the first several uses, you may get some welding slag and/or welding "bb's" in with your crushed rock that are from the hard face welding beads. Once the unit is broken in a bit, you should no longer see this. This is normal for any crusher to begin with. As with any crusher, be it a jaw, cone or impact mill, there will always be a minute traces of metal from the crusher in your materials and is normal.

The Crazycrusher® is designed to be easily taken apart if needed. To remove arms and handles, remove the 2 nuts from one arm from one side and slide it off. Then you can remove the other arm. Remove the 5 nuts from the left side, then, laying the Crazycrusher® on its side and supporting it with a couple blocks of wood (due to the longer pins that stick out from the arms), you can remove all the bolts from the top side, lift the upper side off, and the jaws are free.

The only reason one would ever need to disassemble it would be if in time, the jaws wore down to a point where they no longer function as new. (We do not see that as ever happening for a long long time.) Laying down a few stringer beads of weld across the face and they will be good as new! Be careful not to warp the jaws! If you ever find yourself, years down the road, needing to run some welding beads on either face, be sure NOT to weld below the lowest current bead location on the moving jaw. Any welds below the "scraping" area will effect the crushers ability to grind when in a full closed position. In the grinding position (fully closed), the jaws will only become more effective in time but should last for years.

Both jaws have multiple beads of hard face welding on them to help crush the rock and limit the wear of the jaw plates.



Special instructions for using the Crazycrusher® hitch mount.

The receiver hitch mount is great for the Crazycrusher® whether you are out in the field or out in the driveway! It's easy to attach to your vehicle, and easily removed. You can even just leave the Crazycrusher® mounted to it at all times if desired and remove the Crazycrusher® and hitch mount as a single unit.

Due to the dynamics of the way the Crazycrusher® works, using the hitch mount can bring some new concerns. In all likelihood, when using the Crazycrusher® while mounted to a vehicle, the rear of the vehicle itself will "bounce" up and down with the operation of the Crazycrusher® . This movement of the vehicle **must** be prevented, as the springs themselves on a vehicle will rob the Crazycrusher® of its function somewhat. The action of the Crazycrusher® will become "springy" and will loose over 50 percent of its ability to break rock.

To avoid this, it is highly suggested that you use a stout piece of 2x4 or better yet, a 4x4 on end, between the ground and the receiver hitch itself. Prior to mounting the Crazycrusher® to the hitch mount, insert the hitch mount in to the receiver and put the pin and clip in. You can then lift up and push down on the mount to judge just how much movement you are getting. (Once the Crazycrusher® is mounted, you will get even more movement). You will want to place the 4x4 post vertical under the receiver hitch while the vehicle is at a higher point, so the weight itself holds the post in place. Or, if you prefer, just use a scissors jack or bottle jack to prevent the vehicle from "bouncing". Doing this will assure that the Crazycrusher® is getting the most crushing capacity that it can.

If using it out in the field, if the ground is soft, you may also need to place a flat piece of wood under the post or jack so it does not sink in to the ground.

If, when in the field, do not operate the vehicle while the Crazycrusher® and hitch mount are installed to the vehicle. It could become damaged when driving across steep washes where the Crazycrusher® hitch mount would bottom out. Just pull the pin and leave the Crazycrusher® mounted to the hitch mount, removing it as a whole unit.

Never drive on a public highway or street while the Crazycrusher® is mounted and extended past your bumper.

The plastic container which contains your hardware can be used as a catch container. Taking a plastic sandwich baggy, and placing a magnet in the baggy and then place it in the catch container will help keep it the container (and your crushed samples) on the hitch mount. No one wants to see their crushed materials fall on the ground!



DUST PRECAUTIONS

Whether you are using the Crazycrusher®, or other form of crushing, caution should be taken.

CRUSHING ORES (ALSO WITH DRY-WASHING)

Ores can have oxides, sulfides or chlorides of a lot of materials, from arsenic, asbestos, mercury and many other minerals that are not good to inhale! Crushing causes dust, the dust becomes airborne and you might breath it in. It is highly advisable to wear a paper filter mask over your mouth and nose while operating any crushing devise. This also holds true for dry-washing operations! Shoveling in dry gravels and sands into a dry-washer creates a lot of dust. There can be other things in the sands and gravels, such as molds, spores, dangerous minerals and metals as well as the Hanta-virus carrying mouse feces.

CRUSHING GLASS

Crushing glass to make frit or for smelting, there are airborne particulates that are visible as dust when you crush glass. Again, it's not good to inhale glass particulates. Old glass (and some modern ones as well) may contain lead which is not good to inhale either. Fine particulate glass can become embedded in the lungs, or in the skin and act like asbestos where it stays put where it shouldn't be.

CRUSHING COMPUTER CHIPS

Chips are of a ceramic material. Crushing them down to liberate the gold pins, or other materials for recycling can contain arsenic within the chips. There may also be lead solder on these. None of these are good to inhale. Although CPU chips do not produce as much

airborne dust as glass or ores, it does produce some, especially if they are ground finer than needed.

It really does not matter WHAT you are crushing, or WHAT you are crushing it with. If it's not edible, it should not be inhaled either!

WEAR A PAPER FILTER MASK!



MAKING FRIT GLASS

Crushing glass with the Crazycrusher® is quick and easy, but there are a few things you may be interested in knowing and following.

Classifying your frit to the desired size is quick by using a couple of classifying screens. You can attain these on line, in different sizes from large size to fit in 5-gallon buckets, to small diameter of 6 inch and even smaller. You can also get them in many different mesh sizes. You only need to know what size you want, and materials that will be too small for you will go through both screens, and that which is too large for you will be on the top screen and can re recrushed to the desired size. That which sits on the 2nd screen will be what you wanted.

If possible, you can always take the glass that is too small to use, and melt it, then re crush it if there is a lot of it.

To help with color cross contamination, if it is a problem, It would be best to crush light colors first, then move to the darker colors. If it is absolutely required to remove older colors, the jaws and interior sides can be cleaned with soap and a bottle brush, and scrub all 4 interior sides. It is VERY important to dry it with either compressed air or even a hair dryer afterwards to prevent a lot of rust from forming. You should also store it inside when possible, and keep it covered with a plastic bag to prevent moisture on the unpainted surfaces. Using packs of desiccants to absorb moisture can also be helpful when not in use.

If you end up getting traces of rust on your frit glass and if it would effect the finished product color, you can try a small sample of frit and a small container of water with a rust remover from (like C.L.R.) and wash a small sample, then rinse and dry. If it meets your satisfaction, you can then use larger batches if needed.

If you ever get tiny slivers of metal in your glass, you can use a magnet to clean all iron out of your frit. There are nice units with a "lift" on it to easily drop the metal out on the garbage, or use any magnet in a plastic baggy so materials don't actually stick to the magnet itself.

OTHER USES FOR THE CRAZYCRUSHER®

The Crazycrusher® was originally designed as a crusher to crush ores right in the field and pan or test for values without hauling buckets of rocks home.

People now use the Crazycrusher® for things like crushing granite, limestone and natural wood charcoal for all kinds of gardening operations, be it at home or at a greenhouse / grower. Some have used it to crush down colored rock, only to crush it finer in a ball mill and make high end paint pigments for artist or pottery glaze.

Some don't prospect but crush samples for assay work for others as a side business. Some people break rocks but not grind them, to get larger pieces for tumbling and jewelry making.

It has also been used for crushing down glass pendants that showed flaws and to be re-melted after crushing. Some have used it to crush down parts of core samples, some have crushed down concrete for examinations, and a dozen or more schools and universities have them in their geology and arts departments for classes. Recycleing used Circuit Breakers and plug sockets to recover the copper, etc. There are units bought by multi-national corporations for crushing



and testing other materials, and many other "unknown" uses!



Crush Ceramic CPU Chips to liberate the gold pins. It also works to quickly break up circuit breakers and old removed plug sockets for recycling the metals, like brass and copper.

Do Assay work for others as well. Test ores in the field.



Start: 2" rock



1st Pass: Full Open



2nd Pass: 1/2 OPen



3rd Pass: Closed

