Rock Tumbler Instructions

Directions for Turning Rough Rocks into Beautiful Tumbled Stones

Rock Tumbling Is Easy

Working to transform rough rock into beautiful tumbled stones gives most people a great feeling of accomplishment. It doesn't matter how old you are or how many batches of rock you have tumbled in the past - the reward is there every time!

Using a **rock tumbler** to convert **rough rock** into sparkling **tumbled stones** is easy if you follow a simple procedure and observe a few rules. We are writing this to share the procedure and rules that we have been using for many years with a number of different **rotary tumblers**.

This procedure works well with the most commonly tumbled materials. These include agate, jasper, petrified wood, quartz, and other materials with a **Mohs hardness** of about 7.

It also works well with materials such as natural and man-made glasses that have a hardness of 5 to 6. Examples are obsidian, Apache tears, and landscape glass. With these materials, the coarse, medium, and fine grit steps can usually be shortened to five days, but the polishing step should remain at seven days.

"Golden Rules" of Rock Tumbling

Tumbling will enable you to turn the **rough rock** on the left side of this photo into the sparkling **tumbled stones** on the right side of the photo. The results are amazing!

There are three important rules that we follow in all aspects of rock tumbling. These are: 1) "Garbage in means garbage out"; 2) "Avoid contamination"; and, 3) "Great results take time."

"Garbage in means garbage out"

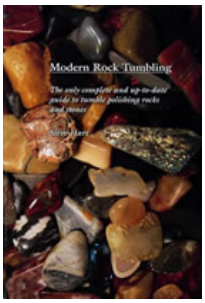
If you start with garbage (low-quality rough), you should expect low-quality tumbled stones. So, don't hesitate to discard a rock that is porous, fractured, or that will not produce an attractive tumbled stone. You will spend a lot of time and valuable supplies tumbling a batch of rocks. Using quality rough saves time, gives you better value for your money, and produces **tumbled stones** that are of much higher quality.

"Avoid contamination"

You will use a different size **tumbler grit** for each step of the tumbling process. If coarse grit gets into your medium grit step, it will scratch up the rocks and you will need to do the medium grit step over again. So be sure that you thoroughly clean the rocks, the tumbler barrel, and your tools when you change from one grit size to another.

Another way that contamination occurs is when you use rocks that have a granular texture or are brittle. These rocks might break or shed grains or fragments in the tumbler. These grains and broken pieces can scratch up every rock in the barrel. Examine your rocks before tumbling, and don't tumble suspect rocks in the same barrel with your best rough. Treat new types of rough or suspicious materials with caution.

Rock Tumbling Book



Only $24.99

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We highly recommend: ***Modern Rock Tumbling*** by Steve Hart. Learning is the fastest way to improve the quality of rocks that you tumble. In this book you will learn from an expert with extensive experience. You will increase your abilities, learn to save time, money and have a great reference book that you will use again and again.

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"Great results take time"

Don't be in a hurry. Spend time doing a great job. If you tumble a batch of rocks through the coarse grind and they still have a few rough edges or are not nicely rounded, don't hesitate to run them through that step again. Also, spend the time needed to thoroughly clean your work area, tumbler barrel, rocks, and tools between steps to avoid contamination.

Inspecting Your Rough

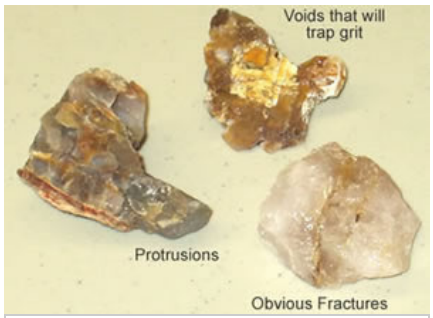
Remember the rule "garbage in means garbage out." Practice that by starting with quality rough, and you will have a chance to produce high-quality tumbled stones. We prepare to tumble by examining our rough rock. If we find porous pieces that will not make nice tumbled stones and will carry grit from one step to the next, we discard them.

Rocks that are fractured will break while tumbling and scratch other rocks in the batch. When we see a fractured rock in our rough we discard it or break it along that fracture before it is placed in the barrel.

For best results, your tumbler barrel should be loaded with rocks of mixed particle size (from about 1/4 inch up to about 1 1/2 inches in diameter for a 2-pound or 3-pound capacity barrel). If you have only small material that's OK... just follow the instructions below.

However, if you only have large rocks, then you should add some smaller material (small rocks are needed to carry grit to all of the surfaces of the larger rocks). You can also add some small **ceramic tumbling media** to get smaller particles into the load. For best results, any load that you tumble should have at least 25% small particles.

Finally, tumbling works best when all of the rocks in the barrel are about the same hardness. If soft rocks are tumbled with harder rocks, the softer rocks will wear away quickly.



"Garbage in means garbage out." The rocks in this photo do not have the potential to become nice tumbled stones. A rock with voids should be thrown away - the voids will trap grit and contaminate your pre-polish and polishing steps. Protrusions can be trimmed off with a rock saw - and that might yield two nicely rounded rocks.

If you don't have small pieces of rock to tumble, you can add **small ceramic media** to the tumbler barrel. Ceramic media are used as small-size "filler" in tumbling. These tiny cylinders will also act like roller bearings in the barrel and make your load tumble with a smooth action - that smooth action will improve the grinding in the barrel and keep your stones from being bruised. See our video about selecting the right **tumbling media**.

Loading the Tumbler Barrel

Before you load the tumbler barrel, be sure that it is perfectly clean. There should be no grit or rock fragments left in the barrel from a previous tumble. To prevent leaks, the rim of the barrel and the lid should be totally free from grit or rock particles.

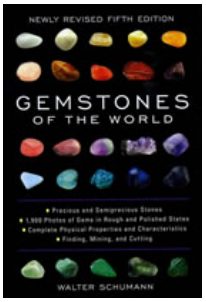
Once you have a clean barrel, add enough rock to fill the barrel about 2/3 to 3/4 full. If you don't have enough rough to fill the barrel at least 2/3 full, the rocks can be tossed around in the tumbler and bruised. (Obsidian and crystalline varieties of quartz bruise very easily). If you don't have enough rocks, you can add **ceramic media** to bring the barrel up to a proper operating level.

Now you are ready to begin what most people call the "Four-Step Tumbling Process." This is described

When loading the tumbler barrel, you should have pieces of rough with a range of particle sizes. We would mix the above sizes together in the barrel. If you load the barrel with just a few large pieces, there will be very few points of contact between the rocks in the load. Those points of contact are where grit is trapped between the rocks and where grinding occurs. If you have lots of small pieces of rough between the big pieces, there will be many points of contact between the rocks of the load, and the tumbling process will be faster and more effective.

Uses for Tumbled Stones

Gemstones of the World



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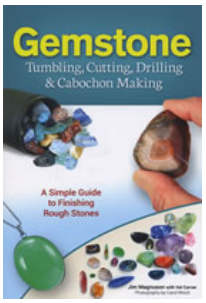
We highly recommend: ***Gemstones of the World*** (fifth edition) by Walter Schumann. One of the most popular gemstone books ever written, with over one million copies sold. It has about 100 pages of basic gemstone information and about 200 pages dedicated to photos and descriptions of over 100 gems and gem materials.

Gemstone and Jewelry Book



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We highly recommend: ***Gemstone Tumbling, Cutting, Drilling and Cabochon Making*** (by Jim Magnuson and Val Carver). This is our favorite book for a person who does rock tumbling and now wants to make beads, pendants and other jewelry from tumbled stones. Includes an introduction to cabochon cutting.

FREE Information About Tumbling

Rock Tumbling Recipes

Rock Tumbling Recipes is an occasional email message that we send a few times per year. It will help you improve your tumbling results, learn new methods, maintain your tumbler, and save time and money while tumbling. It is free, will not produce spam, you can unsubscribe at any time. View previous newsletter **here**.

Subscribe

below for a rotary tumbler with a three-pound capacity barrel such as the **Thumler's Model A-R1**, **Thumler's Model A-R2**, Lortone Model 3A, or the Lortone Model 33B.

If you are tumbling with the **Thumler's Model MP-1** tumbler (which has a two-pound capacity barrel), you can follow the instructions below, but use about two level tablespoons of grit or polish in each of the tumbling steps (Step 1 through Step 4).

STEP 1 - Coarse Grind

The first step of the four-step tumbling process is to run the rocks in the tumbler with **coarse grit**. You begin with a barrel that is about 2/3 to 3/4 full of **tumbling rough**, then add two level tablespoons of coarse grit (we use 60/90 grit silicon carbide) for each pound of rock. Then, add water until the water line is just below the top of the rocks. Seal the barrel and run for about seven days.

When tumbling you will place enough rocks in the barrel to make it about 2/3 to 3/4 full. Then, add about two level tablespoons of grit for each pound of rock. Finally, add enough water to almost cover the rock. Now seal the barrel and place it on the tumbler.

At the end of seven days, open the barrel. You will find a barrel of rocks in very muddy water! Dump the contents into a screen or a colander over a plastic bucket and rinse off every speck of grit and mud. Wear safety glasses to protect your eyes from a splash of mud.

DO NOT ALLOW THE GRIT OR MUD TO GO DOWN THE DRAIN - it will clog the pipes. To avoid getting grit and mud down the drain, we wash the rocks in a colander over a plastic bucket.

Now that you have washed the rocks, it is time to inspect them. You want to determine if they are ready to move on to STEP 2, or if another week in STEP 1 would improve their appearance. This is what most people do.

However, other people want to have more control over the tumbling process and only admit excellent rocks into STEP 2. These people sort their rocks into four categories:

- **A)** those that are ready for STEP 2
- **B)** those that could be improved by another week in STEP 1
- **C)** those that should be trimmed and returned to STEP 1
- **D)** those that should be discarded

They then repeat STEP 1 until they have enough nicely shaped rocks that are ready for STEP 2. People who follow this process produce really nice tumbled stones; however, this process is very time consuming.

STEP 2 - Medium Grind

The second step of the four-step tumbling process is to run the rocks in the tumbler with **medium grit**. Before you begin it is extremely important to clean all of the coarse grit and rock mud from the rocks, from the tumbler barrel and from the barrel lid. It is very important to avoid having a few grains of coarse grit in the medium grind step.

Here is some rock right out of STEP 1. Note how it is covered with a gray "mud." This mud is spent grit and tiny rock particles that were worn off of the rocks during tumbling. Wash the rocks thoroughly so none of this grit goes into STEP 2. We wash our rocks in a colander over a plastic bucket so none of the mud goes down the drain.

Again, fill the barrel about 2/3 to 3/4 full of rough (if you don't have enough rough, use **ceramic media** or some rocks that need a little more tumbling to make up the volume). Then add two level tablespoons of medium grit (we use 110/220 grit or 150/220 grit silicon carbide) for each pound of rock. Then add water until the water line is just below the top of the rocks. Now tumble for seven days.

At the end of seven days, open the barrel and clean all of the grit from the rocks, barrel, and lid (don't let any grit go down the drain). At this point in the tumbling process, a dry rock should have a smooth frosted surface. Inspect the rocks, looking for any that are cracked or broken. If found, they are discarded or saved for the next time we run Step 1.

STEP 3 - Fine Grind / Pre-polish

The third step of the four-step tumbling process is a w eek in a **fine grit** such as 600 grit or 500 grit silicon carbide. Begin w ith a barrel that is perfectly clean. Add rough to fill it about 2/3 to 3/4 full, add tw o level tablespoons of fine grit per pound of rock. Then add w ater until it fills the barrel up to just below the top of the rocks. Run this for about seven days, and then do a thorough cleaning of the rocks, the barrel, and the lid. Remove any rocks that have broken or show signs of fracturing. At this point in the process, the rocks should be extremely smooth and some of them might start to have a slight luster.

Rock mud should never be washed down a household drain. It can clog your plumbing system. We wash over a plastic bucket to keep the mud out of the drain.

STEP 4 - Polish

Now you are dow n to the final step - the one that puts a bright shine onto your tumbled stones. Be sure that the rocks and the equipment are perfectly clean. (Some people have an **extra barrel** that they use only for the polishing step.) A few specks of grit could ruin a great polish.

Place the rocks in the barrel, add tw o level tablespoons of **rock polish** (w e use aluminum oxide pow der or TXP) per pound of rock, add w ater to just below the level of the rocks. Then, close the barrel and run for about seven days.

Be very clean! Before you replace the lid on your barrel, be sure that both the lid and the rim are perfectly clean. This will allow the lid to fit tightly and prevent leaks.

When you finish this step, your rocks should be bright and shiny. If they are, congratulations! Admire them for a w hile and share them w ith your friends.

If the stones have an extremely smooth surface but do not shine, they might need cleaned up using the burnishing step described below. If they have scratches on them, then you w ill need to go back to STEP 2 and repeat the medium grind, fine grind, and polishing steps.

Burnishing

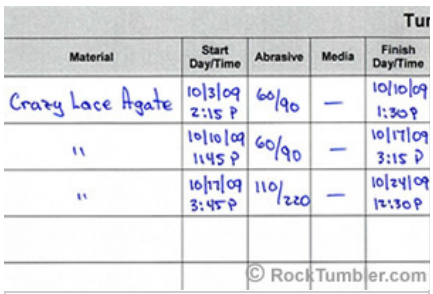
Sometimes our stones are a little "hazy" w hen they come out of the polish, or small particles of polish are in micro-size crevices. We shine and clean them up by tumbling for a couple hours in soapy w ater. This is called "**burnishing**."

To burnish w e place the stones in our polish barrel w ith the normal amount of w ater and then w e add about 1/2 tablespoon of chopped "Ivory" bar soap for each pound of rock (w e use "ORIGINAL" Ivory soap - don't use a soap w ith aloe or abrasive or any other additive). Burnishing usually makes the tumbled stones a little brighter, and sometimes it really kicks up the shine.

For burnishing we chop up a bar of Ivory Soap and add 1/2 tablespoon of soap slices for each pound of rock. See our video about **burnishing polished stones**.

Keeping Records

It is easy to forget w hat day you started the tumbler or w hat type of grit w as used - especially if you are running multiple tumblers. Keeping records w ill keep you on track and provide a history that w ill help you learn. We record material tumbled, start date, abrasive used, media used, finishing date and duration, along w ith any comments or observations about the results. To help you w ith your record keeping, w e have prepared a **printable tumbling log**.



Print a copy of our **free tumbling log** and use

it to keep your records.

We keep records of the rock we tumble. Even if your memory is better than ours, this is a good idea. When you learn something that works or something that doesn't, you will have it recorded. This information can help you repeat great results and avoid bad ones. Also, we have trouble remembering which day a barrel of rocks was started. Using the log takes away the chance of forgeting.

Happy Tumbling!

Here are a few of our favorite tumbled stones!

Article Authored by

Bradley Cole: Bradley is the manager of RockTumbler.com and has authored much of the content on this website. He also does customer support, photography, maintains the website, and consults with customers about rock tumbler repair and maintenance.

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Have a question? Check our rock tumbling library.