

Broken But Not Forgotten

Saving the Tombstones of Our Ancestors

By N. Scot Treadwell

Treadwell gives the basic steps in repairing a broken tombstone, but he strongly recommends that a professional be employed if at all possible.



Repaired and restored, the tombstones of James Young and Jane Young once again mark their graves in Philadelphia Presbyterian Church's Second Site Cemetery.

Over two years ago, five men decided to take action on saving and restoring an abandoned cemetery in Mint Hill in eastern Mecklenburg County, North Carolina.¹ Most of the burials mark the last resting places of early members of Philadelphia Presbyterian Church. The cemetery site was on private property until it was deeded to the church last year, and its oversight is now in the hands of the church's Historic Cemeteries Committee.

Since the work began, several truckloads of debris have been removed, the stone wall around the site has been rebuilt, and the slave section of the cemetery has been encircled with a metal fence. But after 200 years of decay and vandalism, many of the tombstones were in desperate need of repair. The five volunteers² realized that their options were limited: either hire a professional or do the repair themselves.

In most advertisements, the disclaimers are found in fine print at the bottom of the document. In this case, I wish to express the problems and some comments at the beginning why you should not repair tombstones yourself, although it can be done and we did it.

Cautions and Comments

I would highly recommend that you first try to find a trained cemetery repairperson to fix your broken tombstone(s). We searched and talked with people, but no one was willing to give us a quote. I am sure they knew our financial status and didn't have the time to work *pro bono*.

Like most trades, tombstone repair requires special training, experience, and skill. Some tombstones weigh hundreds of pounds, and there is concern about injury. It might take three men to lift and install a large tombstone in the ground, and generally, it takes at least two strong individuals to repair a tombstone safely.

On the Internet, we found sites that discourage you from repairing your own tombstones. As they stated, "You could probably find information on how to remove your child's appendix, but are you willing to try and risk their life? Are you willing to try to make matters worse?" There are also good sites on the Internet that give you many hints and

¹ Ellen Poteet, "Cemetery Restoration Uncovers Old Gravestone," *Olde Mecklenburg Genealogical Society Quarterly*, Vol. 21, No. 4 (2003), pp. 17-19.

² These volunteers are Charlie Burdick, Bill Hawkins, Harry Hood, George Timblin, and Scot Treadwell. Timblin and Treadwell recorded the cemetery and tombstone restoration with digital cameras.

instructions, but again, do you want to practice on a 200-year-old tombstone?

Another consideration is the investment in tools and supplies needed to repair tombstones correctly. We used a special epoxy for stone repair not found in your local Home Depot. It is very expensive, \$80 wholesale, and is made by Axson North America, Inc., in Eaton Rapids, Michigan. If you call 1-800-365-8191, Axson will provide the name and phone number of a distributor in your area. The other tools and supplies were found in the volunteers' garages.

And finally, neither I nor any of the other volunteers who worked on this project have been trained or have had any experience in repairing tombstones. It is with reservations that I am writing this article. But we live in a "do-it-yourself" world, and some of us take risks, make mistakes, learn, and find success.

After numerous discussions, research, and debates, we felt we should move forward and repair the tombstones ourselves. In our opinion, broken tombstones scattered around the cemetery would be a worse scenario than doing nothing. We figured if we put our collective heads together, we could repair the tombstones and preserve them without any further lost pieces or damage. So after assembling the materials, we proceeded step by step as follows.

Tools and Supplies

- Putty knife (plastic knife)
- Razor blade (pocket knife)
- Clear mailing tape (3 inches wide)
- Plastic gloves
- Plastic plates
- Small paintbrush
- Wire brush
- Component A, Akabond,[®] "Knife Grade Gel Epoxy 621-KG"
- Component B, Akabond,[®] "Knife Grade Gel Epoxy 621-KG"
- Denatured alcohol
- Plastic bags
- Paper towels

- Knee pads
- 2 sheets of ¾-inch or thicker plywood (size of tombstone)
- 3 feet by 5 feet by ¾-inch plywood for work surface
- 4 2x4s about 4 feet long cut at 45° angles
- 4 surveyor stakes
- 2 furring strips about 2 feet long
- Decking screws
- 4 large C-clamps (> 6 inches)
- 2 pipe clamps (4 – 5 foot lengths)
- Battery-powered drill with Phillips screw bit
- Wood chisels
- Metal file
- Hammer
- 3-foot level
- Shovel
- Posthole digger

CASE I: *Repairing a tombstone broken in half and lying on the ground*

1. Use a 3-foot x 5-foot plywood sheet for a flat, clean, surface to work on. Put a plastic cover like a trash bag over the plywood area where the tombstone is to be glued. Pull the plastic cover as tightly as possible so there are no wrinkles. Use a stapler or mailing tape to secure the plastic to the back of the plywood. The plastic will prevent the tombstone from possibly sticking to the plywood.
2. Carefully clean the broken ends of the tombstone with a wire brush. Do not brush the front or back of the tombstone because you will scratch the stone. Make sure the ends of the stone where the epoxy will be placed are completely dry.
3. With the front side of the tombstone face up, position the two broken pieces on the plywood as tightly together as they were originally. Place 3-inch clear mailing tape directly over the seam of the two pieces of

stone. Then overlap the tape at least six inches above and below the seam. Later, when you remove excess epoxy from the joint, the tape will prevent the epoxy and cleaner from discoloring the tombstone. With a razor blade, cut the tape at the seam so the two pieces of tombstone will slide apart. Turn the tombstone over and repeat the process with the mailing tape over the back seam. Turn the tombstone over with the inscription face up.

4. Before using epoxy, read the manufacturer's instructions completely. With plastic gloves, open the cans of 2-part epoxy



After the broken edges have been cleaned, the pieces are carefully aligned face up on the work surface.

adhesive. Using clean plastic knives for each can to prevent contamination, put two parts of Component A and one part of Component B on a plastic plate. Mix the two components thoroughly with a plastic knife for a few minutes to ensure proper reaction.

Note: Practice applying the epoxy first to a broken brick. Also, the epoxy manufacturer's 1-800 help line was very responsive in answering our questions.

5. With the two pieces of the tombstone separated on the plywood, put epoxy on both broken ends with the plastic knife. It may be easier to apply the epoxy if you rest the tombstone on its side. This also keeps excess epoxy off the plastic covering the

plywood. Lightly cover the entire surface of the edges with the epoxy, but do not put too much on the stone. Experience helps at this point. It is very easy to put on too much epoxy. Depending on the temperature (the hotter it is, the faster the epoxy dries), the epoxy will start hardening in about 15 minutes. Work carefully and quickly.



Epoxy is applied quickly to each end of the broken pieces.

6. Place the two pieces of the tombstone together, using one long, pipe clamp lengthwise (top to bottom) on the right side and another clamp on the left side. Use furring strips when possible between the tombstone and the clamps to protect the stone and to give it a stronger connection. Make sure the two pieces of the tombstone



Long pipe clamps are placed on each side of the tombstone and tightened slowly.

are lined up correctly. Carefully tighten the clamps a little at a time, first on one side and then on the other.

7. If excess epoxy oozes from the seam, quickly wipe the excess from the seams on both sides of the tombstone, using denatured alcohol on a paper towel on one side and another paper towel and alcohol for the other side. Clean off any epoxy on the plastic covering. Carefully replace the tombstone on the plywood.
8. Tombstone or rock dust will help disguise the seam. Use a metal file or wire brush to scrape the end of the tombstone that will be buried in the ground. A rock of similar texture or finely crushed cement can also be used. Sprinkle the dust onto the wet epoxy seam and smooth out with a small brush.
9. You can now remove the clear tape from the front of the tombstone, but leave the tape on the back until the epoxy has



Clamped tightly, the pieces are allowed to dry for several days.

hardened.

10. Leave the pipe clamps on the tombstone for at least two days to cure. We waited seven days. Remove the clamps and plastic tape from the back of the tombstone. You may find some excess epoxy on the seam. With

a hammer and wood chisel, chip away the epoxy, being very careful not to chip the tombstone.

11. Using the posthole digger, dig a hole to the appropriate depth determined by the length of the tombstone. Once the tombstone is placed in the hole, shovel in soil and use a wooden stake to pack the soil around the stone. Use a carpenter's level to make sure the tombstone is plumb and level. Continue to pack soil into the hole until you reach ground level.

CASE II: *Repairing a tombstone whose base is broken and still in the ground.*

1. With a shovel, remove the soil around the base of the tombstone approximately 3-4 inches in the front and back and about six inches deep from the top of the broken stone.
2. With a wire brush, clean both edges of the broken tombstone. Make sure the connection is dry and clear of dust and soil.
3. It is not necessary to tape the seam of the two pieces. Because the break is below ground level, it will not be seen. If the break is above the ground, put the clear mailing tape on the seam as previously explained in Step 3 of Case I.



The base (cordoned off) for the tombstone on the right was found six inches below ground.

4. Place the top piece of the tombstone onto the base in the ground, making sure they fit together snugly. The top piece may fit better by leaning it a little forward or backward. Remove the top section.
5. Using plastic gloves, open a can of epoxy and put the desired quantity onto a plastic plate or bowl with a plastic knife as explained in Step 4 of Case I.
6. With the plastic knife, apply the epoxy to both broken edges of the tombstone. Then lift the top section onto the lower base. You must have one person balancing the top section for the next few minutes. If it was a clean break, it is very easy to hold a stone that is over a hundred pounds. You may want to tap the top section lightly with a wooden board to ensure the joint is seated in its proper position. The weight of the top section will push out the excess epoxy, and you can wipe it off with a paper towel. No alcohol is needed because the epoxy will not be seen. You don't want excess epoxy to stick to the plywood in the next step.
7. Place two pieces of plywood that are the same width and 6 inches taller than the tombstone on each side of it. While the tombstone is sandwiched between the plywood, put the two C-clamps on the lower section of tombstone and two other C-clamps near the top. You still need someone to keep the tombstone steady.
8. Support the back and front of the tombstone with four 2x4s about four feet long whose ends have been cut on a 45° angle. Place one 2x4 against the face of the tombstone and rest the other end on the ground. With a hammer, pound a surveyor stake into the ground next to the 2x4. With a battery power drill, insert a decking screw through the stake into the 2x4. Then put another screw through the top of the 2x4 into the plywood. Be careful not to penetrate the stone. Install the other three supports in the same manner.
9. Leave the tombstone for at least two days or more to cure. Remove the C-clamps, supports, and plywood. Fill in the soil around the base of the tombstone.



Encased between sheets of plywood and braced by 2x4s, the tombstone cures for several days before soil is packed around the base.

CASE III: *Repairing a broken tombstone with a missing piece.*

Most tombstone repairs usually fall into either Case I or Case II or a combination of these two. If the tombstone has multiple broken pieces, you should repair only two or three pieces at a time and finish the repair at a later time. Repairing a broken tombstone that has a missing piece is more complicated, but it may give the tombstone needed strength and a better aesthetic appearance.

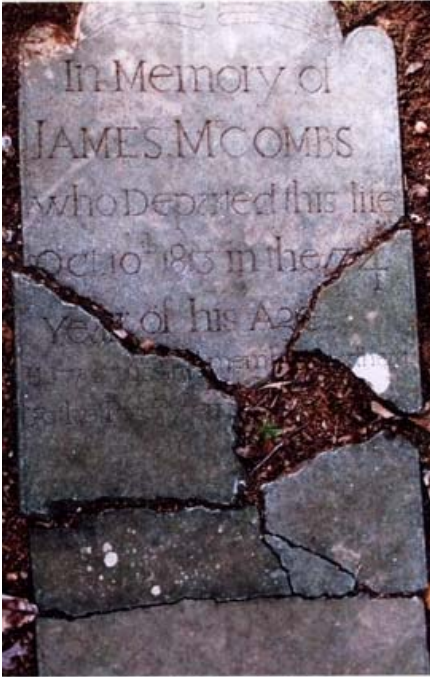
1. If a piece is missing after all the broken pieces are properly epoxyed, use Sakrete Patcher[®] (fast setting concrete) to fill in the void. Patcher comes in various colors including gray that blends well with most old tombstones.
2. For James McCombs's tombstone (next page), we clamped a strip of wood to the

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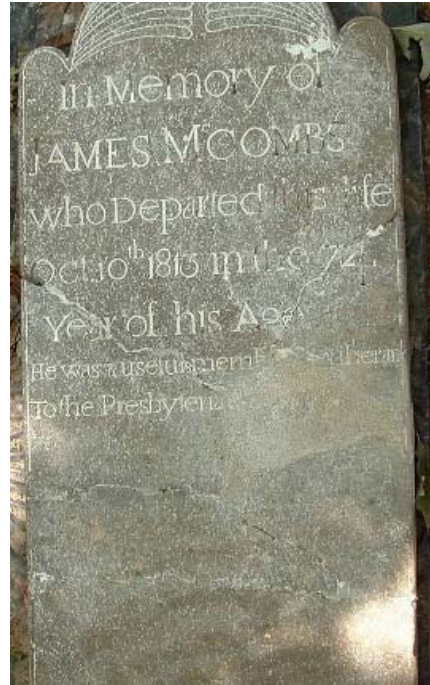
3. right side of the tombstone to create a frame for the missing piece. With the tombstone face up, fill the hole with Patcher. Follow the directions on the container to mix this product. Patcher sets up in about five minutes, so mix only the amount you can use quickly. Fill the hole only to the level of the surrounding pieces. Use water and a

- paintbrush to smooth out the surface. After it hardens, use a metal file to touch it up.
4. When the patch has hardened, turn the tombstone over and apply enough Patcher to the backside of the patch to fill in any rough places. Smooth it out as in Step 2. 🌳

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BEFORE—Tombstone broken in pieces and one piece missing.



AFTER—Tombstone repaired and missing piece replaced.

Helpful Resources for Tombstone and Cemetery Preservation

- <http://www.savinggraves.com/education/index.htm>: Instructions for building a new base, pinning a gravestone to a concrete footing, and using steel rods to reinforce large tombstones.
- <http://www.chicora.org/>: Chicora Foundation, Columbia, South Carolina, conducts seminars on all phases of cemetery preservation with hands-on activities.
- *A Graveyard Preservation Primer* by Lynette Starnstad: Basic primer explains step by step how to preserve and restore a cemetery and discusses what lay people should and should not undertake.

North Carolina General Statutes Governing Cemeteries

Before tackling a cemetery or tombstone restoration project, you should communicate your plans to the owner of the property or cemetery/church administrator. Cemeteries in North Carolina are protected by the following General Statutes:

G. S. 14-148 and G. S. 14-149: Penalties for defacing and desecrating gravesites and for plowing over or covering up graves

Violation of graves is a misdemeanor, and plowing over graves is a Class I felony. Persons may be fined up to \$500 and imprisoned from 60 days to a year. Both penalties may result.

G. S. 65-1 through G. S. 65-3: Duties of the County Commissioners

They are required to keep a list of all abandoned public cemeteries on file with the Register of Deeds. A copy is also sent to the Secretary of State's office. County Commissioners are also required to take control of all abandoned public cemeteries and may appropriate whatever sums are deemed necessary for their upkeep.

G. S. 65-7 through G. S. 65-11: Legal means for setting up a trust fund for the upkeep of a cemetery

Money in amounts between \$100 and \$10,000 may be deposited with the Clerk of Superior Court as a perpetual trust fund for the maintenance of cemeteries. The Clerk may appoint trustees.

G. S. 65-13: Procedure for the removal of graves, including who may disinter, move, and reinter

The party moving the graves must give at least 30 days' written notice to the next of kin, if known. Notice must also be published at least once a week for four successive weeks in a newspaper published in the county in which the proposed removal is to take place. Removal expense is incurred by the mover, with some

expense (not over \$200) to be incurred by the next of kin. The removal is performed by a funeral director under the supervision of the County Commissioners and the local health director. The mover then files a certificate with the Register of Deeds.

G. S. 65-37 through G. S. 65-40: Authorization of municipalities to assume control of any abandoned cemeteries within their boundaries

A municipality may appropriate, take possession of, and continue the use of certain lands as cemeteries. It is also authorized to use funds for improvement and maintenance.

G. S. 65-74 and G. S. 65-75: Who may enter private property to investigate, visit, or maintain a private grave or an abandoned public cemetery

A descendant of the interred or any other person with a special interest in the site may do so. He or she must notify the landowner in writing of his or her intent and then may visit periodically during daylight hours only, with the landowner's approval. If such approval cannot be obtained, the descendant may petition the Clerk of Superior Court for an order allowing him or her access. After a special proceeding providing for notice and a hearing, the Clerk may issue such an order, if deemed appropriate.

G. S. 70-29 through G. S. 70-33: Notifying the proper authorities upon the discovery of unmarked remains

Anyone who discovers unmarked burials, or suspects that they are being disturbed, must notify the county medical examiner or the state archaeologist immediately. Forty-eight hours are allowed to make arrangements for the protection or removal of the graves. The North Carolina Department of Cultural Resources may obtain administrative inspection warrants to gather additional information as necessary. 