

Joint Preparation: A Job for Pneumatics

Proper joint preparation is at least as important as the actual repointing work. Joint preparation consists of carefully removing deteriorated or inappropriate mortar from between the masonry or stone units. Deteriorated mortar, by nature, is not difficult to remove: The challenge is to remove it carefully to a sufficient depth. Inappropriate mortar, on the other hand, is typically hard portland-rich mortar, which can cause irreversible damage to the surrounding masonry.

Keep two things in mind: (1) all materials eventually fail and (2) his-

toric mortar does not keep bricks together, it keeps them apart. With historic masonry, soft lime-rich mortar acts as a sacrificial material protecting surrounding brick. The point to repointing is to replace this material in-kind without changing its purpose. It is inexcusable for masons to sacrifice the bricks rather than mortar by using the wrong materials and techniques.

There are two prevalent methods of raking out mortar joints: the hand method and the use of electric grinders. You would do well to consider a third option: We've had great success with certain pneumatic carving tools described below.

Hand Tools

Many contractors consider the use of hand tools (a mason's hammer and chisel) as the best way to remove mortar. If you are among those, you'll have plenty of time to consider other options while using this slow, imprecise method. Laborious hand tooling is not simply a matter of time and expense but—more importantly—of worker fatigue. A weary body and mind are

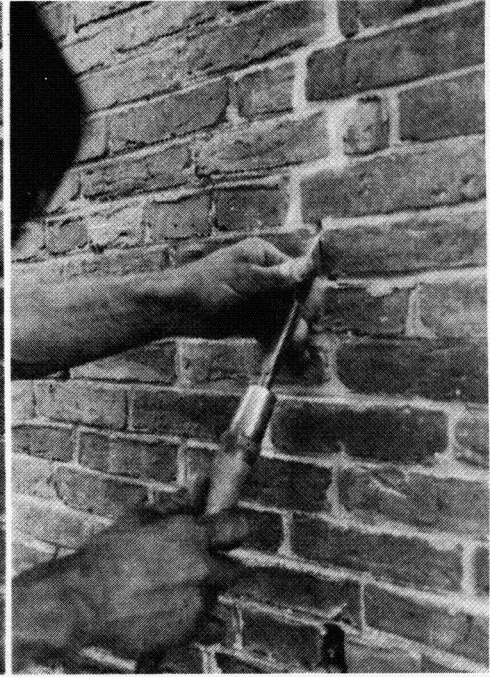
prone to mistakes, here in the form of irreversible damage.

Electric Grinders

At this point electric grinders might seem a viable option. Perhaps they are, but only on moderately wide horizontal joints uninterrupted by decorative elements such as brick window lintels or decorative terra cotta. And only if you have the skill to match the power of this tool.

Rotary electric grinders are frequently dangerous to both the building and the builder. Work cannot be properly viewed under the clouds of dust and fast-moving debris generated by a blade spinning at speeds as high as 6,000 rpm.

A major limitation of electric grinders is that they tend to overcut into neighboring courses when used on vertical mortar joints. Also the depth of removal is limited by the working radius of the blade. A 4 inch blade offers only 1-1/2 inches maximum raking depth. Yes, grinders have their place, but it is usually as second or third fiddle to other methods, and always in con-



The Trow & Holden *pneumatic* chisel was developed for sculpture (left), but can also remove old mortar quickly and with little fatigue to the worker. The worker maintains precise control by manipulating the loose-fitting chisel (center), and controlling the *pneumatic* back-pressure with his other hand. Vertical joints are easily cleaned (right), without harming adjacent brick -- a real problem with grinding equipment.

