

# How to Blow Out a Rivet

Removing a rivet without damaging the surrounding plate isn't as difficult as you might think.

BY OMER BLODGETT, SC.D., P.E.

## MANY YEARS AGO, ECONOMIC AND SAFETY ISSUES MADE BOLTS THE PREFERRED METHOD

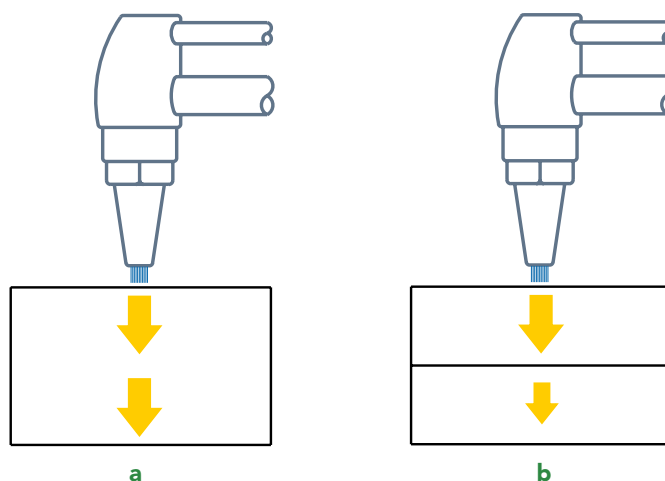
of assembling structural members over rivets, except where welding was the connection method of choice.

While rivets have not been installed in structural work for many years, we still frequently encounter them in rehabilitation and retrofit projects. When rivets need to be removed, engineers want to know they can be removed without damage to the surrounding material.

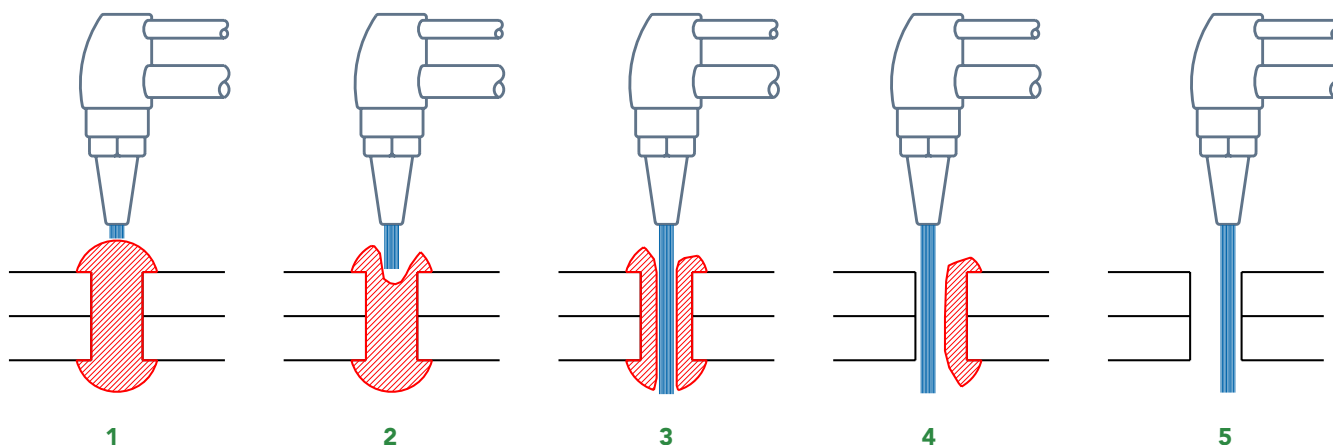
Omer Blodgett tells us that as an ironworker in Duluth, Minn. in 1927, he learned that if he applied the heat from a torch to a rivet and heated it quickly, the rivet could be removed without damaging the base metal.

He also tells us that as a student at the School of Mines in Minnesota, where he graduated in 1941, he learned that the heat is transferred through the rivet significantly more efficiently than it is across the interface between the rivet and the base metal. Therefore, the rivet can be removed without damaging the base.

—Tom Schlafly



In figure (a) heat will flow through a solid plate and heat up the opposite face. In figure (b) using two plates, about half of the heat will flow across this intersection.



In the case of a riveted joint, most of the heat will be applied to the solid rivet, and when oxygen is applied from the torch, this will melt the rivet. There is less heat flow from the rivet into the plate. If this is done quickly, just the rivet will melt—the plate will be unchanged.

*Omer Blodgett is a design consultant with The Lincoln Electric Company, Cleveland. Tom Schlafly is AISC's Director of Research.*