

Shopsmith Adventures - Converting a Shopsmith to Cut Metal

PART ONE – Background and Preview

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THE SHOPSMITH SAGA

"The only way to discover the limits of the possible is to go beyond them to the impossible."

– Clark's Second law

United States patent 2,623,269, for a "Convertible Material Working Machine," was issued December 30, 1952 to its inventor, Hans Goldschmidt of Albany, California. He called it a "combination tool." Though the specific machine shown has long ago been outdated, most of the basic concepts for the modern multipurpose woodworking machines are in Goldschmidt's invention. For example, a lathe, table saw, disc sander, grinder, buffer, router, and a drill press. The patent expired long ago, and the invention went into the public domain, meaning anyone could freely copy it. Several firms did, including the Orientals.

Goldschmidt and two partners formed Magna Engineering, and in only two years, produced and sold over 50,000 units through Montgomery Ward and a worldwide network of independent dealers.

In 1953, their company was sold to Yuba Consolidated Industries, moved to Cincinnati, Ohio, where it was later purchased by its employees in 1959 and renamed Magna Engineering Corporation. In 1967, the company moved to Raymond, Mississippi. The move didn't work out, and in 1972 Shopsmith, Inc. was formed, purchased the Shopsmith line, and moved the factory back to Ohio, this time Tipp City. After several more moves in and around the Dayton, Ohio area, the company is still in business there, producing various models, parts and accessories of "The Shopsmith" machine, primarily for woodworkers of all stripes.

By the late 1980s, an estimated 1,000,000 Shopsmiths had been sold worldwide. The serial number on my old Mark V machine is 275,092. It was probably manufactured in the late 1950s. My point is that a large number of these machines were made – not counting oriental knock-offs or US competitors since the patent expired.

Undoubtedly many *HSM* readers have a Shopsmith someplace in their shops. Shopsmith Inc. was listed as a NASDAQ publicly traded stock until it fell on hard times. By the early 1990s, *The Wall Street Journal* was reporting some of the firm's business troubles, and by

the mid 1990s it was delisted from NASDAQ. About this time, its retail stores across the nation were closed, and its advertising in national magazines such as *Fine Woodworking* vanished. But, the company is still in business in Dayton, Ohio. It now sells direct to buyers, and, of course, there are many Shopsmith variants offered for sale as well as hundreds of accessories for the machine.

I bought my Shopsmith Mark V used in 1963. The seller had heart trouble and could no longer do woodworking as a hobby. He'd already used the machine to build a house full of furniture. The sale price, with all major accessories except the band saw, was \$300, a considerable sum for the time. Subsequently, I've used it to make kitchen cabinets, Shoji-style light fixtures, many pieces of furniture, cabinets, bookcases, accessories for the home, etc. Additionally, I've had the joy of using it to make many toys, cradles, and gifts for my two daughters and their families. All told, my little Mark V has had decades of hard, active use working wood. The machine has paid for itself many times, in addition to giving me decades of joy making things with it. I love this little machine!

While extensively using the Mark V, I naturally became aware of some of the machine's weaknesses. No machine is perfect. Having been a development and design engineer with General Electric Co. in years past, I could not resist making improvements to my machine – one-at-a-time, mostly – as the years passed. I began to think of my Mark V as a "Test Vehicle" for evaluating improvements and new ideas. I started making improvements to its woodworking capabilities, but gradually the development evolved into a nice little home shop machine for working wood and metal, thereby opening whole areas of interesting things that now could be made in a small one-man shop.

I found no previous featured article on Shopsmith machines in *HSM*. My purpose in writing this Shopsmith Adventures Series is to share with *HSM* readers my results of decades of development and improvements to this machine. The emphasis will be on the improvements and how to make them rather than trying to impress with all the neat wood or metal things you can make once the improvement(s) is a reality.