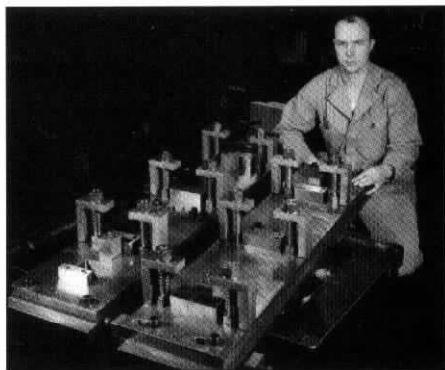


Forming History

As one of the industry's leading tool & die innovators for half a century, Hill Engineering (Villa Park, IL) has seen it all. From the drafting board to the CAD screen, manual measuring to coordinate measuring machines, sawing and filing to wire EDM, and in roll forming and tube producing from the tape measure and positive stop measuring to computer controlled servo acceleration systems. It is with the benefit of this unique perspective that President Don Hill leads his company into the future.

“Reese Hill, the founder of Hill Engineering, started out as Hill Tool & Engineering in a rented machine shop in Oak Park, IL, with a toolmaker's philosophy that the he could improve on anything,” said Don Hill. “I'm proud to say that 50 years later, we still think that way.”



Reese Hill, in 1951 (at age 29);
with a newly completed fixture.

Reese got his grounding in the trade from his father when he started working nights and weekends in his dad's machine shop at the age of 13. After returning from WWII, he worked as a diemaker and foreman in Chicago and Detroit until starting Hill Tool & Engineering with his brother Dick Hill as a silent partner at first, in December of 1950.

Initially Hill Tool & Engineering was a one-man shop. A short while later, Reese hired his first employee Bill Tomko, who

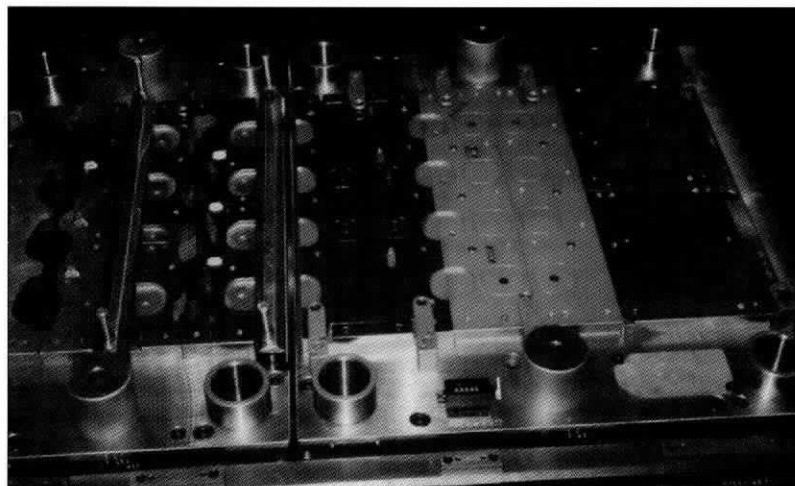
for 50 years.

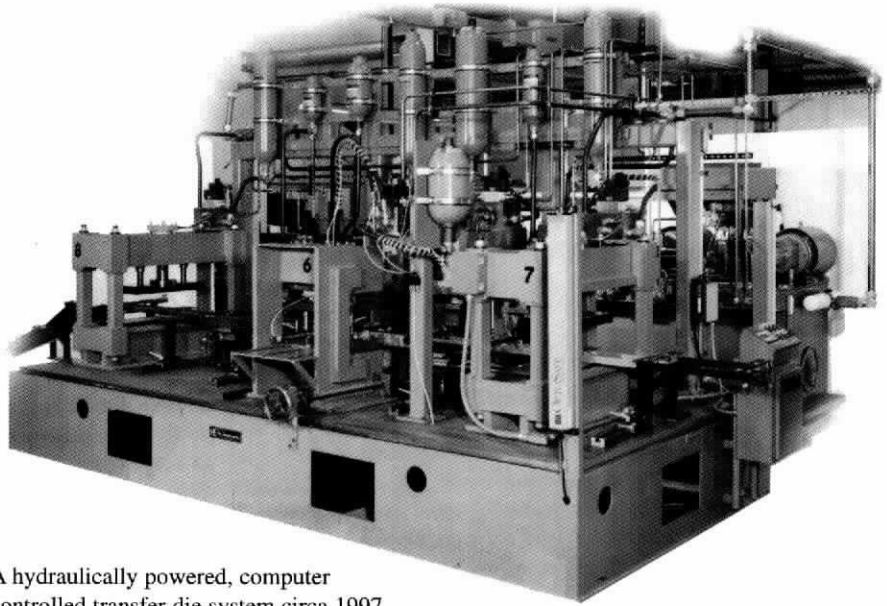
eventually retired from the company in 1993. Their original major client, Chicago based Victor Gasket (now the Victor / Reinz division of Dana Corp.) continues to use Hill Engineering as their primary tool and die supplier. Since those humble beginnings, the company has grown to nearly 100 employees with two facilities (Villa Park, IL Headquarters & subsidiary Hill Tool and Die in Danville, Ky). Hill almost immediately

expanded from the gasket industry, although it remains a key business center for the company, into fixture building, general stamping & progressive dies, and roll forming punching & cutoff dies.

Over time Hill's offerings also came to include turnkey punching and cutoff systems for the roll forming and tubing industries, high speed computer controlled hydraulic press/die systems, high speed rotary

Progressive gasket dies like this 3' x 5' unit have been a mainstay for nearly fifty years at Hill.





A hydraulically powered, computer controlled transfer die system circa 1997.

punching machines, high speed “flying” saws and special punching, notching and forming machines.

Hill Engineering remains continually involved in the advancement of sophisticated gasket tooling thanks to their 50 year association with Victor/Dana Corp. In fact, Hill Tool and Die in Danville, Kentucky was established in 1991 to specifically service the world class stamping facility that Victor/Dana had recently constructed there. Together

they have designed and developed tooling for everything from the most basic cork gaskets, progressing through all stages of gasket technology including graphite/steel composites to today’s latest Multi-Layered System using 100% stainless steel laminates. “We probably produce more gasket tooling than anyone in North America,” said Don Hill. Vice President and Gasket Product line manager, Bob Martinelli has been focusing on further development and implementa-

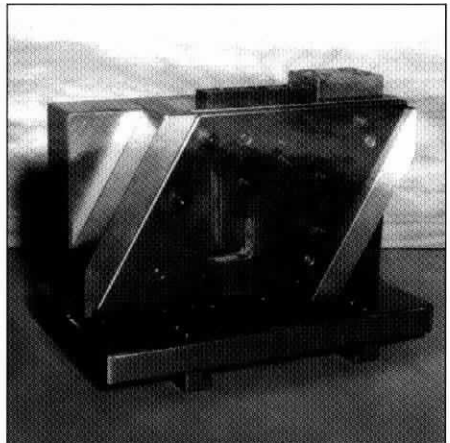
tion of the MLS technology in automotive applications. “Smaller, higher torque engines create a lot of stress, the MLS gasket concept creates a better seal, and helps stabilize the engine,” said Martinelli.

In early 1951, Hill Tool & Engineering began a long-term relationship with Dahlstrom Industries, (Schiller Park, Il) a builder of roll forming machinery who was in need of flying cutoff dies for their roll forming machines. Previous attempts to build a workable flying die system using a local tool & die shop had failed, when Dahlstrom’s Sales Manager asked for help. Although he had no experience within the roll forming industry, Reese Hill was able to design and build a flying die that was lighter, higher in quality and much more productive. To this date, Hill Engineering still builds flying cutoff tooling, as well as punching dies and measuring systems for Dahlstrom. Starting from this

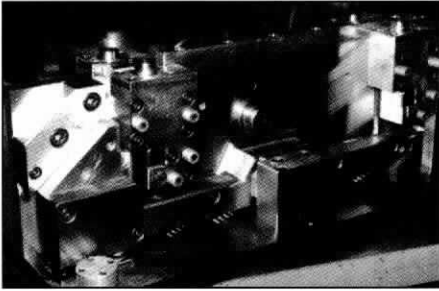
small opportunity, Hill Engineering has built more custom punching and cutoff tooling for the roll forming industry (OEMs, Jobbers and direct manufacturers) than any other company in the United States and maybe the world.

In 1956 the company moved from the machine shop in Oak Park to a larger facility in Melrose Park, Il. In 1958 Hill Tool & Engineering was incorporated and changed its name to Hill Engineering, Inc. This period saw steady growth and increased innovation at Hill, including a slug-less flying cutoff die that perforated

Simple slugless cropoff die from the early to mid 1950’s.



both ends of commercial building vertical siding panels in the same press stroke, thus eliminating expensive secondary operations on 20-30 foot long panels. It was developed for Armco Steel and is a



An advanced slugless cropoff and perforating die.

concept that is still in use in facilities around the world.

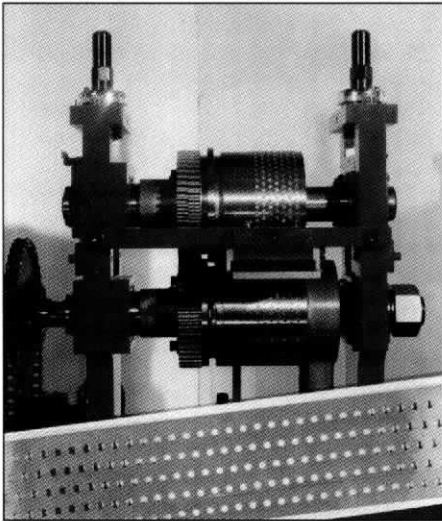
In the late 1950's Hill began to pioneer High Speed Rotary Punching for higher speed roll forming lines. Their innovative designs have been used to rotary punch and perforate everything from chewing gum for the Wm. Wrigley Company's bubble gum division, to dense patterns in steel for the automotive filter industry, to openings of all types (louvers, holes, slots,

etc.) and in thicknesses of .015" -105" for the metal building industry. "Our value to the industry has been that we keep coming up with new inventive tooling and systems. We produce a bigger variety of rotary punching systems than anyone in the world," said Don Hill, "and we're very proud to be known for our quality and engineering."

The largest rotary punching machine ever produced by Hill was a high speed system that punched louvers in 54" wide prepainted steel, used to make a patented passive solar panel made on a roll forming panel line. The latest rotary product development that they build is the B & K high speed servo-driven stud punching and pre-shearing machine, which can be programmed to punch on minimum two foot centers in steel .016" to .105" thick. This complements Hill's patented rotary stud puncher which can be programmed to punch light gauge drywall studs

on two foot centers at speeds up to 600 FPM.

Through the 1960's Hill Engineering continued to grow and prosper, building punching dies and flying cutoff dies for the roll forming market,

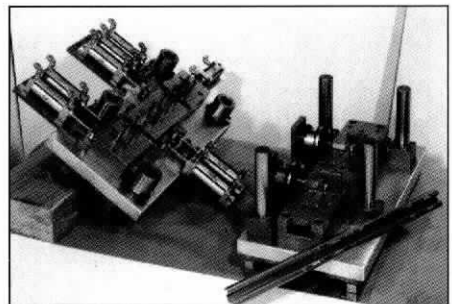


High speed rotary punching is used to create the dense pattern punching required for automotive oil filter cores. (150-250 FPM).

building stamping and progressive dies (from the small and intricate high speed progressive dies all the way up to 3' x 8' progressive dies), expanding rotary punching markets and experiencing continued success with gasket tooling.

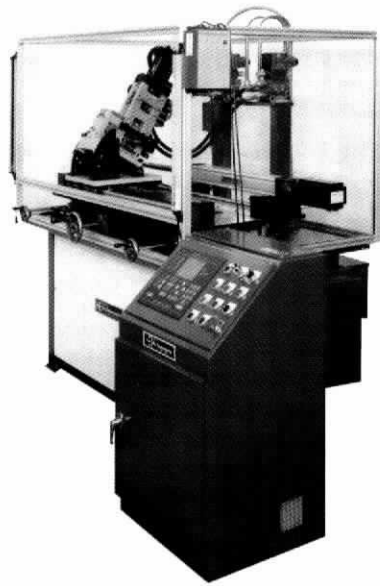
“Then we hit the early 70's, and it was recession time. Those were some hard lean years,” said Don Hill. It was at this time that Hill Engineering decided to expand their roll forming related business by broadening their exposure nationally. Shortly after this decision was made, the SME and the FMA began offering national roll forming conferences for the first time. Seeing an opportunity, Don Hill attended one of these early sessions and was subsequently invited to start speaking about unique dies and measuring systems for the roll forming industry at future programs. Don is still speaking at industry conferences 26 years later.

Flying postpunch die which incorporates computer controlled “gaging” of punches and piloting in order to create a variety of patterns without stopping the line.



Hill Engineering's strong marketing program and continued participation in the industry's advancement through exhibitions, industry conferences and active involvement in industry associations has helped it expand and continue to build a national reputation for excellence and problem solving.

Hill Engineering continued to open new roll forming related markets through innovative designs, progressing from sophisticated cutoff dies to sophisticated punching cutoff and measuring systems. Continued growth facilitated a move to Addison, IL in 1972, and another in 1981, this time to Villa Park, IL - their present home. This building is designed to meet all the specific needs of a world class tool and die manufacturer and systems builder. In 1992, Hill doubled the facility to 30,000 square feet - their present size. "We're no longer simply a tool and die shop," said Don Hill, "we've



"Duo-Cut" Dimple free tube cutoff system with computer controlled closed loop accelerator.

evolved into a full service engineering, tool and die, special machine and automated systems builder."

Following customer requests and led by Elmer Utley (Vice President of General Sales) and his sales engineering group, Hill started building hydraulic punching and cutoff systems in the 1980's. The time was right, because of the advancement in both, high speed hydraulic technology and the sophisticated electronic controls for the

roll forming and tubing industries. These developments allowed for electronic controls to be integrated into the roll forming lines for developing complicated pattern punching and controlling a multitude of presses and die functions.

“We combine the precision skills of tool & die making with electrical and mechanical engineering skills to design and produce turnkey punching and cutoff systems, using all types of electronic controls and presses (mechanical, pneumatic and hydraulic),” said Utley.

Hill Engineering had built a number of tube cutoff dies over the years, but new experience in building hydraulic cutoff systems propelled Hill into the tubing industry in a much bigger way in the early 1990’s. The first new entry into the market was their patented “Duo-Cut” dimple free hydraulic tube cutoff machine. It is currently in use with tubing producers as an in-line unit, and in secondary tube fabricators

such as a recut system. When they could not find a suitable tube feeder to match their secondary recut system, Hill Engineering took it upon themselves to design and build a computerized servo driven belt-style tube feeder with the capabilities they needed. When integrated with the “Duo-Cut”, both types of systems are turnkey designs utilizing servo accelerators or servo feeders and Hill’s proprietary cutoff technology to produce accurately cut-to length tubing in-line or to recut tubing off-line without deformities.

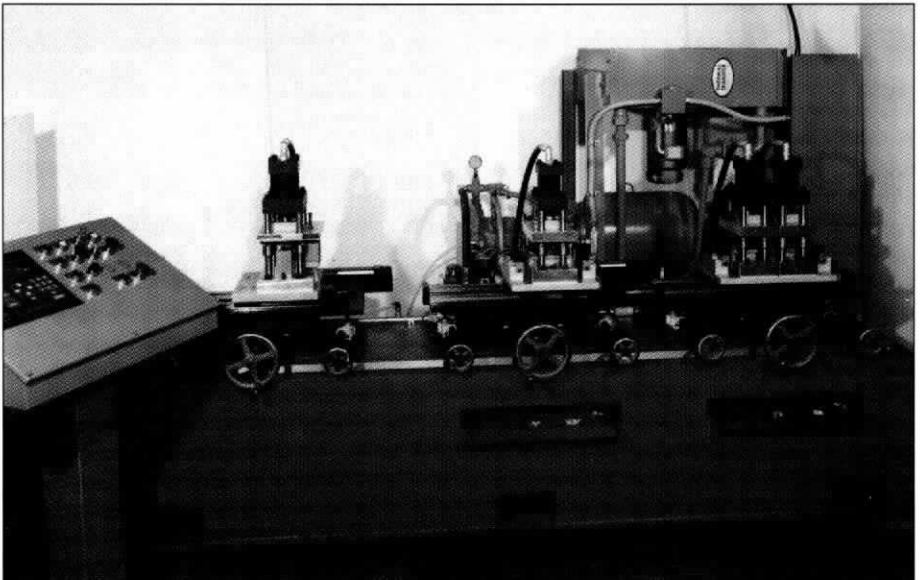
With the new technology came new needs, and in true Hill form, they expanded their Engineering Department to include hydraulic and electrical engineers. “We have always embraced technology,” said Hill, “from the best people to the best equipment. You have to, if you want to be the leader. We’ve always strived to be the innovator, not the imitator.” Hill Engineering was one of

the early users of CNC milling for diemaking, wire EDM and CAD/CAM technology and their Villa Park facility now houses 12 CAD/CAM stations, 3 wire EDMs and 10 CNC milling machines and machining centers.

In 1997, Mestek Inc. purchased Hill Engineering. Started in 1946 as Sterling Radiator Co., Mestek is now a family of 30 quality specialty manufacturers providing heating, ventilating, and air conditioning products, flexible metal pipe, computer

information systems and services and metal forming tooling and machinery provided by its machine building group called "Formtek". This was a strong strategic move for Hill Engineering, supporting them to move forward into the future of the stamping, roll forming and tubing markets and offering new break-through products with even faster turn-around and unsurpassed service. Hill is now united with a strong group of proven industry names — Yoder Mfg., Dahlstrom Industries, Lockformer Co.

Advanced technology in-line hydraulic post punching and cutoff system with computer control



and Iowa Precision, Cooper-Weymouth-Peterson, Coilmate, Rowe and B & K to create the Formtek Group, a strategic Mestek, Inc. business group which specializes in building machinery and systems for the stamping, roll forming, tubing and fabricating industries.

Of the early core management team that built the company, Reese Hill and Tom Nedbal retired at the time of the buyout. Don Hill continues on actively running the company as President along with long time Department Heads: Bob Martinelli, Elmer Utley, Bill Jette and Allen Reczek. "We have always believed in supporting our industry associations as part of giving back to the industries that have given so many opportunities to us," said Hill. Reese Hill was given the FMA's Fabricating Industry Award of Excellence in 1983 for his contributions to the roll forming industry. Don Hill served on the Fabricators and Manufacturers Association,

International (FMA) Board of directors for 8 years, was the Chairman of the Board for the 1988-89 term and now is the chairman of the FMA Roll Forming Council.

Hill Engineering's greatest asset is its ability to team up with customers, almost acting as a consultant in the process, to fully automate their production processes, be it with dies only or with sophisticated computer controlled punching and cutoff systems. A quote that Don Hill read years ago sums up Hill Engineering's business philosophy "To attain excellence, you must care more than others think is wise, risk more than others think safe, dream more than others think practical and perform better than others think possible." Proudly, Don Hill stated "This is what Hill Engineering stood for in 1950 and still stands for today. It is our core."