



# IRWIN

*Research & Development, Inc*

THE ORIGINAL TECHNOLOGY

## *President's Letter*



**" Irwin Research  
And Development  
can be counted  
on to provide  
their customers  
with leading edge  
technologies  
and unparalleled  
service..."**

My goals as a machinery designer were not formulated in college, but by working on the food processing machinery on the farm and in the warehouse. My job was to try to get production out of poorly designed equipment.

When I went to work for Floyd Paxton at Kwik Lok Corporation, I was fascinated to learn that machinery could be designed to be efficient, reliable and highly productive. I learned points from Mr. Paxton, who was a fantastic engineer, that I could not have learned in college. I was thankful, I resolved to pass on what I learned to others and to those on our engineering staff. It thrills me to see young engineers developing their skills in machinery design and machine control technology.

Now I am learning more from our engineers, machinists and customers than I did from Floyd Paxton. I never learned the lesson better than on the farm, that a great machine must be simple and easy to understand and maintain.

Sincerely,

Jere Irwin  
*President and Chief Executive Officer*

## *History*

Irwin research and Development was created in 1965 by Jere Irwin, who is continuing to guide the Company as its President today. With numerous patents to his and/or Irwin Research and Development credit, Jere has long been a creator of new technologies. The intent of serving the needs of our customers, whose input has often been solicited and heeded, these technological advancements have been applied to the "Irwin" thermoformer.

### ***Some notable industry firsts:***

- 1972: Unique, dynamically stabilized platens with linkage drive system.
- 1972: All servo motor power trains rather than the conventional pneumatic or hydraulic system.
- 1978: A microprocessor based control, "Micro Phaser" with software specifically for the "Irwin" thermoformer.
- 1979: A 50" wide machine, the model 50, with a high-speed trim press.
- 1986: An innovative scrap granulator, the "Chesaw", that provides high capacities, quiet operation, and long knife life.
- 1996: A high-speed cup production system, the model 28NT, with tooling innovation that eliminate the need for the conventional clamp frame, reverse trim configuration, and parts ejector.
- 1996: A patented software system, "Ballerina" that gives the customer the tools to create their own motion profiles via a CAD/CAM graphical approach.
- 1996: Adjustable length heat tunnel that can be physically adjusted to exact multiples of the mold shot length.
- 1998: Vertical Trim Press for foam plates running at 200 RPM.

History has shown that Irwin Research and Development has been an industry leader in technology, reliable machinery, and unwavering customer service. Irwin Research and Development can be counted on to provide their customers with innovative technologies and unparalleled service from our manufacturing and engineering home base in Yakima, Washington, USA.

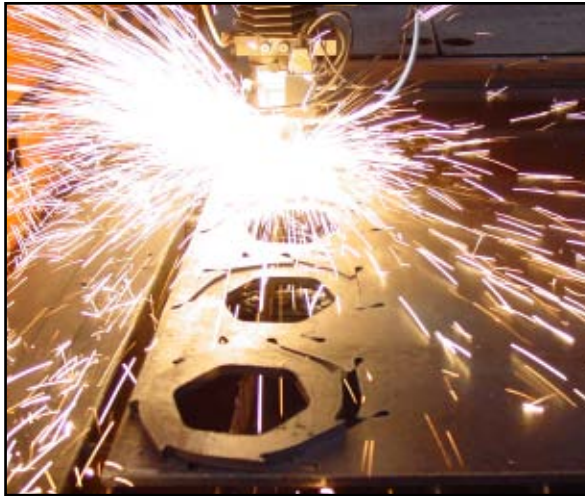


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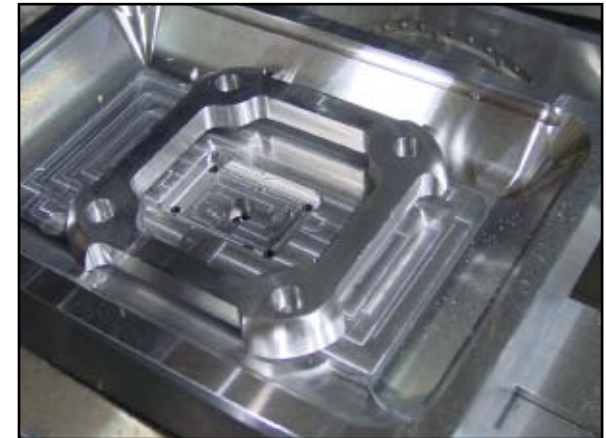
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## Engineering & Technology



Relying on the foundation of the original design concepts and principles that made the "Irwin" thermoformer the unique and productive machine it is today, our engineers are equipped with the insight to utilize today's technologies to improve upon existing designs and create new ones. All existing machine models have benefits from these updates. Next generation models such as the 28NT, 36 Magnum, Magnum NT Trim Press, 3070 Form/Trim Machine, Stack Packer plate packager, Rim Roller, 50VTS, 28/50CLS Chesaw, Model 30 and 60RS Chesaw have been created.

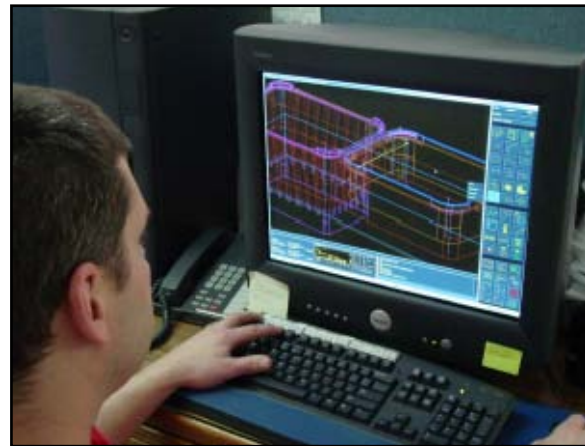
The tooling/engineering department is capable of creating a form mold and/or trim tool from your



sample product or product drawing. Solid Works and CAMEX software packages are powerful tools that can provide full 3 dimensional models of every container and convert them into a machine tool program. Our specialty is polystyrene foam tools, but we have the growing capability to design solid sheet tooling as well, inclusive of the innovative cup tooling for the Model 28NT. The tool designs are funneled directly into our machine shop where CNC machining centers and EDM wire fed machines turn them into high quality mold cavities and punch/die sets.

When you are expecting original and innovative designs you can count on the engineering staff at Irwin Research and Development to continue to produce results into the future.

Irwin Research and Development offers an in-house staff of engineers with college degrees, experienced designers, and talented CAD operators to create new designs and help in solving any problems. The engineering staff is armed with personal computers using Intel-Pentium® processors operating with state-of-the-art software such as Microsoft Windows XP®, Solid Works, and Algor. These tools and solicited input from our customers and direct contact to a full service machine shop. Our engineers are able to provide thorough analysis and expedient implementation of their designs.





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Service



On the occasion that problems occur with any aspect of a thermoformer, "Chesaw", or "Tooling" set Irwin Research and Development stands behind you with a 1-year warranty against defects on all parts. Our experienced customer service representatives are ready with the aid of phone, fax, e-mail to help you through most trouble-shooting instances. When necessary our technicians can be hired to travel to your facilities to help solve problems in person. In addition to our technicians in Yakima we also have a branch near Manchester, England to service your needs in Europe, the Middle East, and Africa. In Asia we have strategically located representatives to serve your technical needs.

When components are needed to return your machinery to operating condition you can call

upon one of our several experienced spare parts representatives to give you knowledgeable and reliable help, getting the necessary parts rp you in a timely manner, overnight if needed.

We place great importance on offering training and technical reference source with each sale so that the customer is able to operate and troubleshoot the machine to the highest degree. All machines are test run in our facility prior to shipment, at which time we offer training to customer personnel. Our technicians travel into the field to start up each machine in the customer's plant at which time training is also available. Service documents including drawings, maintenance guides, computer manuals, installation guides, and troubleshooting guides are included with each machine.

### **Ask an Irwin Representative For our CD's**

Maintenance CD:  
English, Spanish, French, German  
Video CD.  
Manual CD



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## Machine Control

Beginning with the original "Micro Phaser" control system in 1979 Irwin Research and Development has been an industry leader in process control. The "Micro Phaser" is a microprocessor-based system with in-house hardware components and software tailored to compliment the mechanical and kinematics attributes

if the "Irwin" thermoformer. The system has been a flexible and operator-friendly system through the years and remains so today.



In 1996 "Ballerina" was created as PC based software to offer an upgradeable, powerful and flexible system for the future. The patented "Ballerina" software will control vendor provided hardware such as a P4 processor, heat control, servo motor control, and opto control, offering the user the

unique ability to graphically represent the motion profiles of the chain feed, platen drives and in terms of the time and velocity. This gives the user full control and flexibility in their process. "Ballerina" will incorporate many useful features, such as: sorting of product recipes and logs, network capabilities, e-mail capabilities, multiple languages, contact sensitive help, passcode protection and modem abilities. "Ballerina" has made it possible for our thermoformers to offer features like a self feeding auto start treadle, trim press with speeds of 200 RPM plus, and reversing former platens. "Ballerina" is the PC-based control system that has the capability to develop with your process needs well into the future.





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Irwin Research and Development is located in Yakima Washington in the United States. All of our facilities are housed in a multi-building complex, in a common industrial park. A new building in 2005 will add 34,000 square feet to our complex.

The company's largest investment lies in the machine shop which features numerous modern CNC machining centers, plasma arc stations, EDM machines, grinders, welding facilities, etc. The machine shop produces all the manufactured components for the thermoformers, "Chesaws", and tooling sets.

This valuable asset gives us the ability to provide quality parts on demand for the machines and tools in production, as well as providing for any emergency replacement parts that are not available from stock. We also gain the ability to bring our new design concepts to fruition in a timely fashion thereby getting the new technologies to the customer more quickly.



**2006 ADDITION: 36,000 SQ. FT. ASSEMBLY BUILDING**

