Made in California
Part One

Pacific Coast metalformers and fabricators ride waves of unique challenges. Here's how they stay on the board.

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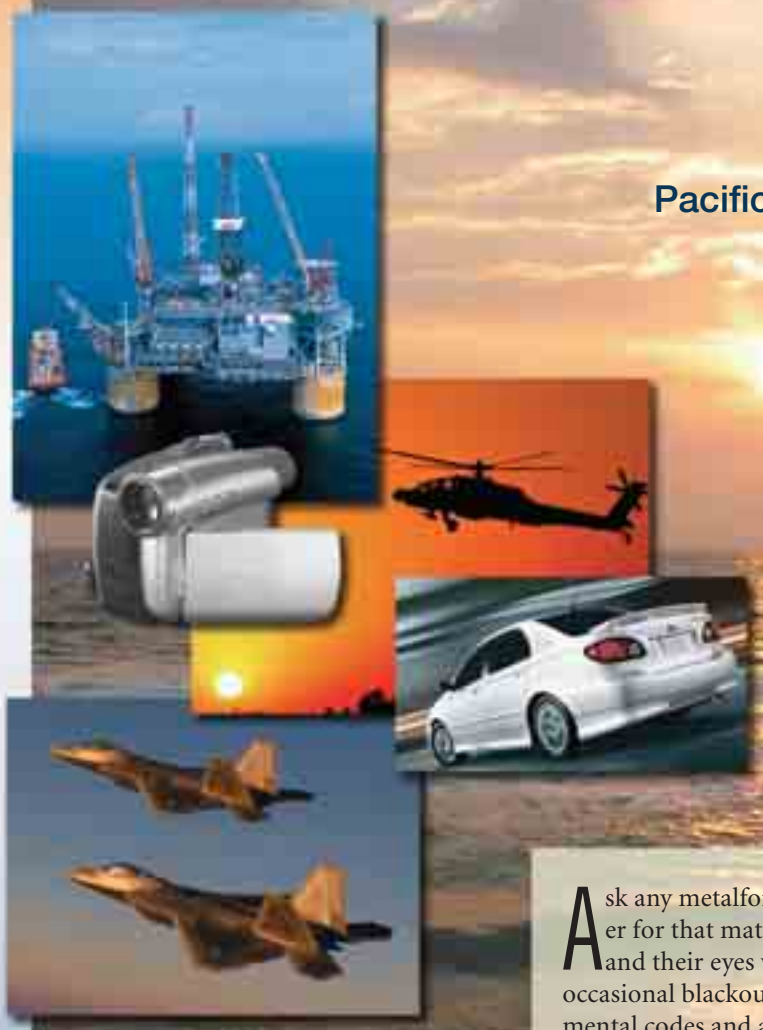

Ask any metalformer or fabricator in California—any manufacturer for that matter—about the perception of industry in that state, and their eyes will roll. High taxes, high energy costs and the occasional blackout, high workers' comp. costs, stringent environmental codes and a general anti-business attitude on the part of the majority of Golden State elected officials bring such reactions. Throw in topsy-turvy markets, difficulty in obtaining raw materials and Asian competitors across a seemingly shrinking sea and it's a wonder the state manufactures anything at all.

MetalForming magazine has been talking to metal-parts makers from San Diego to Seattle to find out exactly what they're facing and how they're surviving. Make no mistake that, like the computer-electronics market that for years reined supreme in Northern California, many parts makers have gone away. But those that remain and grow have interesting stories to tell. In this article, we'll take a look at three Los Angeles area businesses, Research Tool & Die, Crenshaw Die & Manufacturing, and Walker Corporation. All three serve different markets and all have met challenges in unique ways. In future issues of *MetalForming*, we'll examine California's stifling business climate, profile more successful West Coast metalformers and find out how some companies had to leave to succeed.

An Ocean of Work

Research Tool & Die still produces this cable channel, a part that in the late 1960s ushered the company into a profitable marine supply niche.

This electrical outlet box, made for U.S. Navy shipboard use, is formed and welded at RT&D. Note the conduit knockouts. Unlike with household boxes, these knockouts must be pushed out from the inside. Why? Because Navy officials found that traditional knockouts on exposed boxes could be pushed in easily and used as ashtrays or trash receptacles, leading to damaged wiring.

In the late 1960s, a six-man tool-and-die shop procured an order for stamped parts destined for the Long Beach Naval Shipyard (LBNS). It was the first marine contract for Research Tool & Die (RT&D), which opened in 1952. The stamper and tool builder spent $30,000 on the project when it received word that the customer had passed away, and not only that, he had died broke. Losing that amount of money at that time could have sunk the small operation, but fate begged to differ, and the strength and dependability of the maritime market has helped RT&D stay in ship shape.

Back to the LBNS story. In lieu of the cash, RT&D decided to keep the tooling and approach the OEM customer itself. But the shipyard no longer needed the parts supplied by that tooling and had switched to something else.

"The new part was a wire-rig bracket, a u-shaped channel bracket that holds cable aboard a ship," recalls Ray Perrault, RT&D president, whose father started the company. "We asked to bid on the new part and came back with a piece-part cost around 68 cents. The shipyard was producing the part at its inhouse sheetmetal shop and conducted a cost study to determine the better deal. The study found that our 68-cent part cost the shipyard $3.50 to make itself. Earning that contract led the shipyard to bring other parts our way and allowed us to carve a niche in the marine hardware market. If there were four companies serving this market we would all starve to death, but with only three we all do well. We supply parts for everything from upper-grade pleasure yachts to aircraft carriers. Anything longer than 200 ft. we have something on it."

RT&D, with 68 employees in two adjoining buildings totaling 46,000 sq. ft., lists stamping as its core competency, but also offers welding, has a full toolroom and builds all of its own tooling. Post-production, the Carson, CA, company boasts a powdercoating facility and vibratory deburring, complete with two recently purchased 50-cu.-ft vibratory bowls.

"We deal with the electrical parts of a ship, so there can be no burrs on the stamped parts," Perrault explains. "With vibration and movement so common aboard ships (an aircraft carrier, for example, can twist as much as 14 ft. from end to end), any burrs on our cable carriers would eat right through the cable jackets."

Even as shipbuilding has waned on the California coast—less nationwide and what's left mostly concentrated on the Gulf and East coasts—U.S. Navy shipbuilding and retrofitting continues, and receives a large share of RT&D's parts. Besides marine-craft supply, the company also serves offshore-energy customers with products for drill and oil rigs, and is looking to grow business in areas with similar part demands—underground vaults, for example.

Job Shop Ensures Efficiency

About 80 percent of company business involves production of proprietary products for maritime interests, with 10 percent comprising job-shop work and 10 percent powdercoating. The job-shop portion of the business supplies a variety of end-use products including restaurant-table supports and golf-course sprinklers.

"Over the years we've oscillated between pure job shop and pure proprietary, and we've found that somewhere in between works best for us," says Perrault. "The job-shop portion keeps us humble. We may quote against a company that makes a part for 20 cents and we have a similar part that we cost out at 85 cents—we have to look at how we can get down to the 20-cent rate. That forces us to re-evaluate our own processes."

RT&D also has developed a reputation for stainless-steel deep-draw work, according to Kevin Perrault, Ray's son and vice president of manufacturing. One product showcasing that capability is a stainless-steel air cylinder for life-safety applications. The finished canister holds air at 12,000 psi, enough for about 20 min. of breathing. It's used as an evacuation aid in high-rise buildings, and as air backup for firefighters and miners.

Good News: Close to Port Bad News: Close to Port

While proximity to the mammoth Port of Long Beach gave rise to RT&D's maritime niche, it presents a mixed bag. Like other SoCal metalformers, material supply is a constant worry for RT&D, due to the lack of rerolling mills in the area, but the company's location close to the port simplifies access to material shipments from Asia and the Midwest. Conversely, simplified shipping from Asia keeps RT&D, like other West Coast metalformers and fabricators, within easy reach of overseas competition. That is one reason why RT&D has adopted a variety of production and post-production processes, and keeps looking to expand its capabilities. Perrault mentions possibly adding some combination of rollforming, press-brake and waterjet-cutting operations, perhaps as part of a coming 6000-sq.-ft. expansion. The press-brake and waterjet-cutting machinery would allow production of custom-sized parts.

"We have to provide full service, we can't just be a stamping house any more," offers Perrault. We have to stamp, weld, assemble and deliver a finished product."

Ray's son Kevin echoes that belief.

"If there's one thing Dad taught me, it's not to pay someone else to do something if you can do it yourself. We don't want to have to depend on someone else to process the parts correctly and then deliver them on time when we can do that inhouse. Besides, that is a way to grow—get a job big enough to need new equipment and processes, and add those new things to your capability list."

Part Production: Bigger is Better

By adding fabrication equipment such as this waterjet cutter (top), and panel benders Crenshaw Die & Manufacturing now can produce larger parts in low-run quantities, opening up a critical avenue for new business.

In its 44th year, family-owned and -operated Crenshaw Die & Manufacturing Corp., Irvine, CA, has invested heavily in fabrication equipment to make larger parts in prototype and low-run quantities. That approach is designed to combat the loss of work on high-volume runs of small stamped parts.

The job shop, with a full design and build toolroom, features presses in capacities to 300 tons. Presses stamp via progressive and single-hit tooling with the ability to perform draws to 4 in. Other company capabilities include welding and assembly. As a supplier primarily to industrial and consumer markets, Crenshaw produces parts and assemblies from mild and stainless steel, aluminum and precoated steel.

"Over the past five years, high-volume runs of small parts, typically smaller than a shoebox, have gone offshore," explains Dan Congelliere, Crenshaw chief executive officer and director of marketing. "Smaller parts are easier to ship from China and a lot of that work has left the United States. Larger parts, especially in lower volumes, are more expensive to ship long distance, and we wanted to capitalize on that. So we've brought in fabrication equipment to produce lower volumes of large parts."

First on the shopping list was a waterjet-cutting machine. Typically, metalformers have employed waterjet cutters for tool build, but Crenshaw sits on the cutting edge by using the equipment for sheetmetal-part production.

"We considered a laser cutter against a waterjet cutter and still do compare the two processes," says Dale Congelliere, Dan's brother and company president. "A waterjet cuts without burning the edges. That is important, especially when producing cosmetic parts. And while we feel that a laser cutter outperforms a waterjet on thinner sheet, the waterjet is ideal for sheet ⅛ in. or thicker."

To further boost small-volume part production without the need for expensive quote-busting tooling, Crenshaw recently purchased an Amada CNC turret punch press and a Salvagnini panel bender.

"The panel bender can handle parts to 5 by 8 ft. long," says Dan. "That capability has allowed us to quote larger work and is opening new markets for us. Parts that large usually require a major investment in tooling, but with this machinery we can quote competitively on prototype and low-volume work."

Automotive the Road to Success

With just two major automotive assembly plants located west of the Mississippi River, California does not at first glance seem to be the ideal location for an automotive stamper. But right now it's ideal for Walker Corporation, Ontario, CA. Automotive customers account for more than 90 percent of the growing metalformer's sales, a large chunk of that courtesy of its long-term relationship with the New United Motor Manufacturing, Inc. (NUMMI) assembly operation in Fremont, CA. NUMMI, formed in 1984 as a joint venture of General Motors and Toyota, produces vehicles such as the Toyota Corolla and Tacoma, and the Pontiac Vibe.

As part of its lean-manufacturing initiative, Walker Corp. has arranged many of its presses in workcells, surrounded by press-specific tooling. Such setups allow for rapid JIT production and promote improved productivity.

Growing with NUMMI

Before NUMMI, Walker focused on consumer-electronics and computer markets.

"The NUMMI relationship began in 1988," recalls Bruce Walker, company president. "For the first 10 years we only did a small amount of work for NUMMI and it was difficult. People here wondered why we were doing this—we were losing money by supplying only a few parts. But something kept us going—thinking that we could grow with automotive. As Toyota vehicle sales gained market share and consumer-electronics production began moving to Asia we became serious about developing the relationship with NUMMI and Toyota. By 2000, with a new vehicle launch, we received quite a bit of new business. Now we supply directly to NUMMI a variety of metal parts and welded assemblies in various sizes—everything from small brackets to large aluminum insulators for exhaust systems."

Walker Corporation, in 108,000 sq. ft. of space with almost 200 employees across two shifts, could reach nearly $30 million in sales for 2006, according to Walker. Mechanical presses to capacities greater than 500 tons, including new Seyi machines, use progressive and transfer dies to stamp parts—from mild and stainless steel as well as aluminum—in annual production volumes from 15,000 to more than 1 million. The company also employs in-die assembly, automated resistance-welding systems and custom machinery for special assemblies.

With the NUMMI business, the company has embraced the Toyota Production System and its focus on quality and lean manufacturing.

"Automakers talk about standardization of platforms, but in reality they are tooling up more than ever before and offering so many new models and specialized vehicles that part volumes are becoming smaller and smaller," says Walker. "So how to manage that is becoming quite an issue for the traditional progressive-die stamper. We manage through the Toyota Production System and are continuing to implement a lean-manufacturing system based on small-lot production, several die changes and producing product based on daily customer demand. We have chosen the Toyota automotive model and have geared our entire production system around that."

Walker counts lean-manufacturing as a major key to the company's ability to control costs and stay competitive in California, along with its ability to source progressive tooling from South Korean and Chinese suppliers.

Still Facing Material Challenges

Like other West Coast metalformers we talked to, raw-material availability poses problems for Walker Corporation.

"It's the location—there aren't a lot of steel mills in the West," explains Walker. "When looking for automotive steel and Toyota-specified steel, we need to go to the Midwest or Asia to find it, and that increases costs. Before the tar-

iffs, we had fairly open access to imported steel and could have a distributor hold, slit and deliver it to us as needed. But the tariffs dried up that supply. Then the post-tariff worldwide demand for steel kept things difficult for us. We still don't receive much imported steel on the West Coast today, which is a real competitive issue for most metalformers out here."

Emerging Industries Bring Profits

On the plus side, according to Walker, the entrepreneurial spirit is alive and well along the Pacific shore.

"Still there are so many startups and new emerging industries and opportunities," he says. "These are not traditional industries. Walker itself has made parts such as orthodontic and pacemaker components for these startups. And new automotive companies in Northern California are focusing on electric vehicles. Startups and electric-car makers have small runs, so if metalformers can do short-run jobs and prototypes, and have the ability to react rapidly, there certainly are growth opportunities for them in California."

Though still a very small part of the Walker portfolio, the company's constant-force and power spring business is taking advantage of these entrepreneurial enterprises and the opportunities they provide. About 10 years ago, the company divested itself of coil-spring and wire-form production to focus on stamping and assembly, but decided to keep constant-force-spring capability, banking on its future profitability. That hunch has proven correct.

"We have been growing like crazy in that area—our sales have doubled in just one year," says Walker. "These products are used in many different devices where you need to store energy in a small space, such as tape-measure-type devices. People call all the time—from inventors to well-established businesses—looking for these products. We have an engineer that talks to customers to help them develop products, and three people in the factory responsible for production, generating nearly $1 million in sales annually."

And in a departure from prior times, proximity to Mexico also is boosting the fortunes of Walker Corporation and other California metal-part makers.

"Several metalformers supply companies located in Western Mexico," explains Walker. "Markets in that area are so diverse and specialized—defense, aerospace, medical, sporting goods—that the traditional stamper still has a challenge there. But the access to the Mexican market is an opportunity."

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In Part 2 of this series, scheduled for the October issue, *MetalForming* will profile more West Coast metalformers and examine California business issues in depth.