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INJECTION Molding

FOR INJECTION MOLDING PROFESSIONALS

Microwelder engenders self-reliance

Salter Labs is a captive molder of disposable medical respiratory products based in Arvin, CA. If you've never been there, it's just off state highway 223, southeast of Bakersfield, a few miles east of Weed Patch. "We have to be pretty self-sufficient," says tool-room supervisor Russ Kinney. "The company is out here in the middle of the desert all by itself."

Salter is a 14-press shop running machines from 22 to 350 tons. The predominant material is PVC. The 350-some employees work three shifts, seven days a week. All tools are made in-house on a healthy collection of CNC mills, lathes, EDM centers, and automatic and hand-operated surface grinders.

Time was, a few years ago, that if any of Salter's molds had small nicks, scratches, or pits, Kinney had to pull the mold out of the press, throw it in a truck, and drive it the 1½ hours southwest to Los Angeles where the nearest microwelder would take a day or so to repair the damage. Kinney was making this run about twice a month. "I kind of miss going down there," says Kinney. "We are pretty good friends."

Kinney stopped going to Los Angeles for his mold repairs because he's started doing the welding himself. He didn't invest in the traditional welding equipment used by most microwelders. He invested instead in the MoldMender, a nonarcing spot welding process that he says is easy enough to be used by any one of his toolmakers. "For fixing corners, flash area, and deep scratches, it works excellently," Kinney says. The bonus is that the system is portable; in a



MoldMender Model 912

pinch Kinney can throw it on a cart, roll it right up to the press, and perform the repair without wasting time and money to pull the mold.

Such was the case for John Morrison, president of Ideal Molds and Tooling in South Elgin, IL. Although his is strictly a tool shop, next door is Progressive Plastics, a molder of auto, medical, and housewares products. Morrison builds some of the tools Progressive uses. He also is the first called if the molder finds damage on a mold. Morrison estimates that sending the mold out for repair used to cost him \$100 to \$150 just for the weld, plus another \$300 or so in time and labor to polish the repair or make new electrodes to EDM the tool again.

Now Morrison either does the repair himself on his own bench or, like Kinney, he wheels his MoldMender

up to the press and does the fix on the fly. Repaired areas are usually diamond polished to specification, all is well again. "About 80 percent of the damage on your tools can be fixed by a microwelder," Morrison says. A notable example, he says, occurred recently when Progressive was molding a door handle for the Dodge Dakota truck. The parting line in the mold had worn, causing the glass-tilled material to flash fairly severely. In less than an hour Morrison says he welded a ribbon of fresh steel around the parting line, filed it down, textured it to match the rest of the mold, and reduced the flash by about 90 percent.

The device that made all of this possible, the MoldMender, is a product of Rocklin Manufacturing, based in Sioux City, IA. This modular unit is a

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low-heat system that uses an electrode you press against a ribbon or wire of ferrous material on the damaged area—a scratch, corner, parting line, or small hole. The electrode is activated by a foot pedal. It welds a spot .03125 inch in diameter; these welded spots are then interconnected over the affected area to lay down the fresh, hardened material. The advantage over traditional welding, says Rocklin president James Rocklin, is that the MoldMender does not generate a lot of heat, which can lead to sinks and voids

in the repaired area. Nor does the welder splatter the material to adjacent areas. Also, unlike traditional microwelding, learning to use the MoldMender system only takes a few minutes. "Play with it for 10 minutes and you're an expert," says Kinney. "It's no joke."

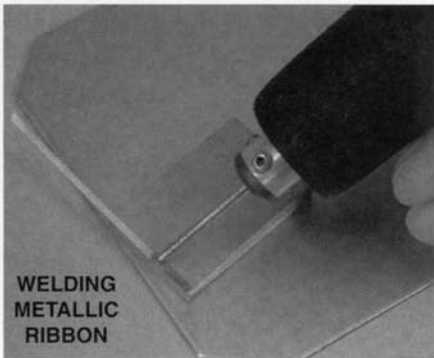
Says Morrison, "It takes a knack. You have to practice with it a little bit. But once you learn, it's easy to use." Kinney estimates that he uses the welder every other day, but says it's best used for repairs of .02 or .03 inch or less. More than that, he says, and

you should take the mold to a traditional welder. Morrison also admits that "you cannot put gobs of weld on." Both toolmakers say the welder comes in quite handy for shimming core pins. Kinney and Morrison also report that MoldMender repairs require less grinding and polishing to bring the mold within spec.

As for cost, Morrison says his MoldMender was \$5500, about one-third that of competitive systems he'd looked at. Kinney says, "I think we paid for the machine in the first six months we had it."



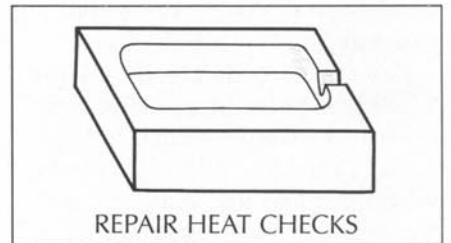
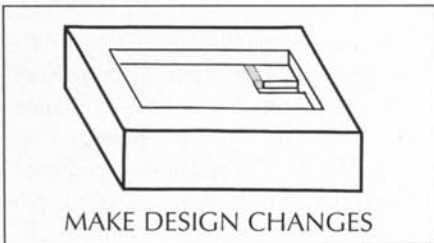
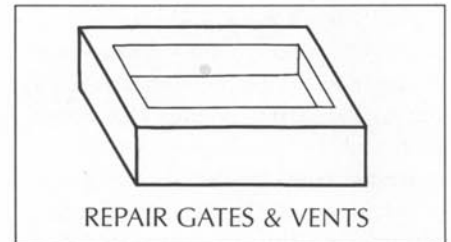
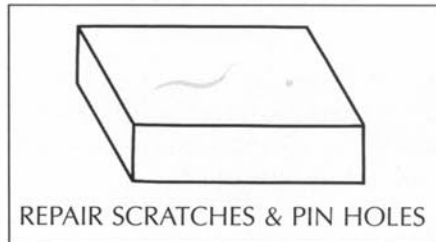
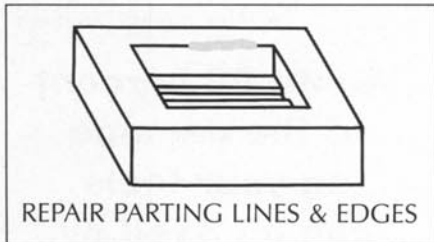
MoldMender Model 912



WELDING MATERIAL AVAILABLE

A - 2	O - 1	17 - 4 PH
H - 13	P - 20	312 SS
INCONEL	S - 7	316 SS
M - 2 (D - 2)	W - 2	410 SS
NICKEL	STELLITE	420 SS

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