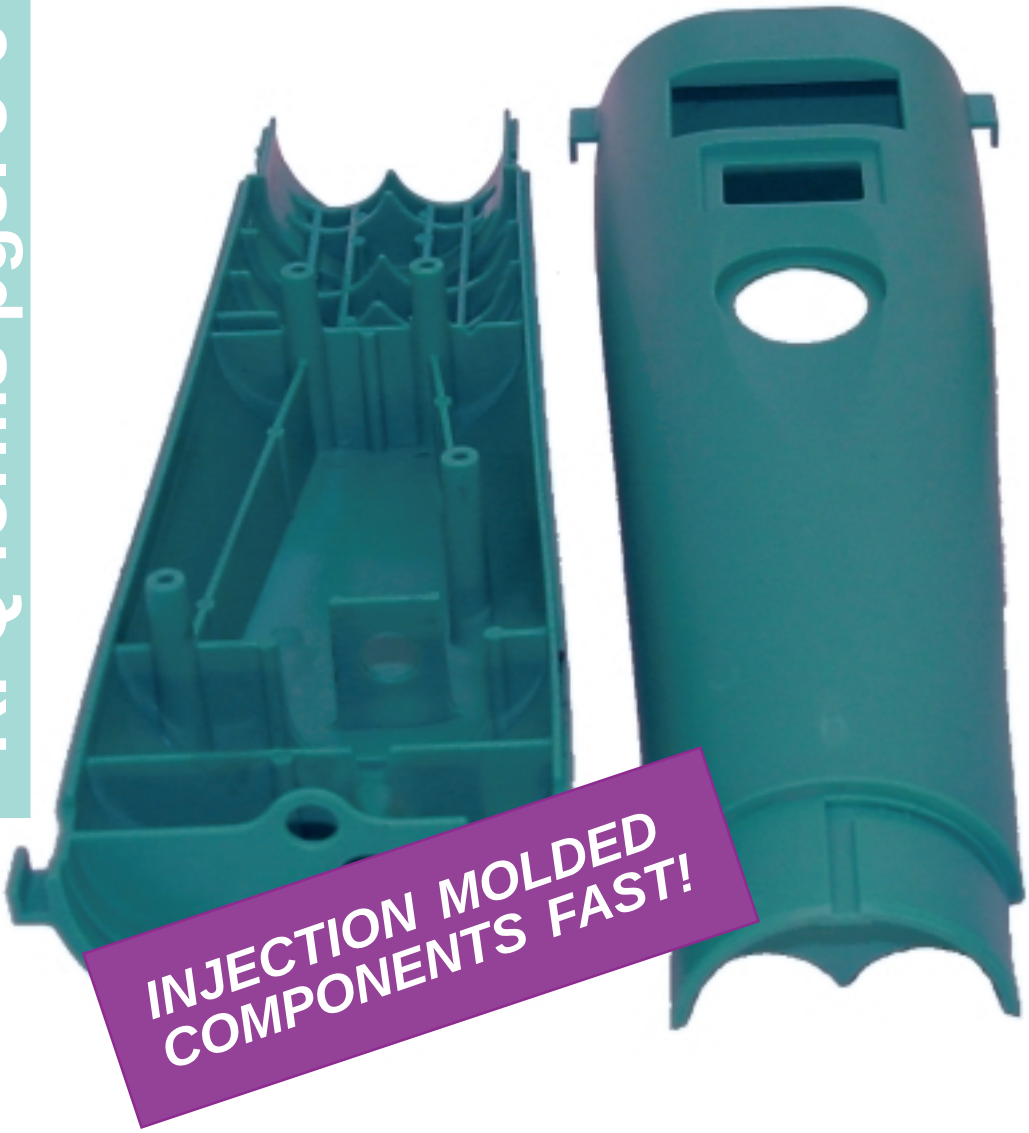
2001-2002

MEDICAL DEVICE PROTOTYPES

RFQ forms pgs. 5-6



INJECTION MOLDED COMPONENTS FAST!

"Our engineering team has had great success with OAR Moldworks producing both prototype and permanent molds. OAR produced the molds for every component of our medical pump except the gearing and many of the components were quite complex. The best part of our relationship is they are able to accept our ProEngineer models without translation. We required quick turn-around times to get our pain management pump to market quickly and have been very pleased with the results. We toured the OAR facility and were very impressed with the quality of the personnel and equipment. We have had great cooperation from the entire OAR group and plan on continuing our relationship on future projects."

Steven Bandis
Project Engineer
Sorenson Medical Inc.

Featuring:

Speed Base™

Prototype Molding System

WHY PROTOTYPE?

Prototyping using OAR Moldworks' Speed Base system of quick (5+ days) mold inserts and injection molded parts allows you to get your medical device to market faster and with fewer costly revisions than your competition.

Unlike cast, machined and stereo lithography (SLA) parts, prototype devices molded from production resin can be sterilized, drop tested, and put into actual use. Injection molded prototypes can be tested for strength, consumer preference and durability without having to commit to expensive production molds, and can be had in as little time as it takes to have a stereo lithography model made.

OAR Moldworks has effectively adapted production mold making techniques to suit the time constraints of their prototype customers, dubbing the result the *Speed Base* ™ system. Simply, OAR Moldworks rapidly manufactures pre-hardened Stainless Steel mold cavities pre-made to fit their machines. The techniques used to accelerate the machining process include

designing with advanced parametric solid modeling software, high-speed machining and using the latest electrical discharge machining (EDM) equipment.

OAR Moldworks has manufactured precision production injection molds for the medical industry since 1966, and originally created the *Speed Base* ™ system of prototyping to accomodate the special needs of a pen manufacturer.

The *Speed Base* ™ system allows OAR Moldworks to inexpensively incorporate threaded cores, side actions, long core pins and overmolded inserts into prototype molds. OAR Moldworks' customers use our prototyping service because the technicians at OAR bring extensive production mold-making knowledge to each project, thereby insuring the manufacturability of every product they prototype.

Since parts are molded and not modeled, you can be sure that the product you prototype will be exactly the same as the one you put into production. ***Identical prototype/production parts are vitally important for FDA- and field testing.***

Another important benefit of using one shop to build the prototypes and the production tools is the seamless transition from one to the other. Customers benefit from the knowledge base created in the prototype process, and avoid routine, costly revisions to production tools. Revisions to production tools can result when plastic shrinkage is inaccurately reported, fits don't work as planned, performance characteristics are overlooked, etc.

Don't be left behind, start prototyping now. You have my guarantee you'll be satisfied.

Sincerely,

C. Andrew Rosenholm
President

OAR moldworks

Tel: 401-781-2352 www.prototypeusa.com Visa/MasterCard Accepted

WHO PROTOTYPES?

Speed Base™
Prototype Molding System

"We at Boston Scientific find it essential to have new product designs go through the various stages of development, which are solid model concepts to SLA to prototype molds. OAR has been an important source for Boston Scientific for rapid molds and in helping our Product Design Engineers develop the right fits and functionality for our medical device designs. I find OAR to project a friendly atmosphere and a willingness to work towards workable economical solutions to design problems.

My personal association with OAR has spanned some 25 years. I have never had a tool manufactured there that did not perform up to our expectations and most of those tools are still in production."

Sincerely yours,

John Holmes
Boston Scientific Corporation

"OAR Moldworks does not just build molds, they build quality molds. This adds value to Nypro, Inc. by reducing typical debug times and helps Nypro, Inc. by reducing time to market for valuable customers like Procter and Gamble."

Kevin L. Newell
Tooling Engineer
Nypro, Inc.

OAR moldworks

WHO PROTOTYPES?

We manufacture prototype & production molds up to 40" x 40"

"OAR Moldworks manufactured molds for the housing and other components for this nail gun, allowing us to tune in a radical new design cost-effectively, and they'll use the knowledge gained from the prototype molds when they build the production molds."

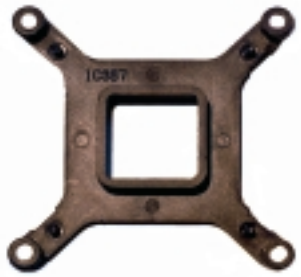
Norman Loeffler
Senior Buyer
Stanley Fastening Systems

OAR moldworks

IDEA GALLERY

Diagnostic Pen

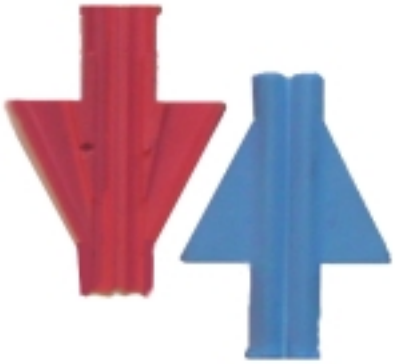
Strain Relief Overmold



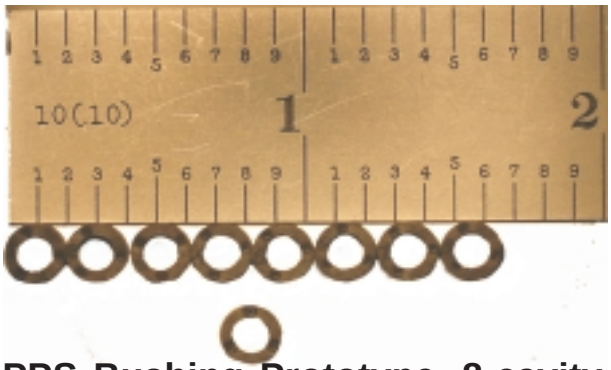
Notebook Computer Component

Prophy

Fuse Insert Mold



Tubing Diverter



PPS Bushing Prototype, 8-cavity Production Mold

Multi-Material Ball Point Pen Cap

Options: I.D. and O.D. threads, core pull, 3-plate back overmolds, gating, hot drop gating

CAR moldworks

Request For Quotation
PRODUCTION

OAR moldworks
145 Carolina Avenue
Providence, RI, USA 02905-4491
P: 401.781.2352 ◆ F: 401.781.1350
Email: moldman@oarmoldworks.com
www.oarmoldworks.com

ATTN: Quoting Department
OAR Moldworks
FROM: _____

Quote # _____
Date _____
Delivery Date _____
Date Received _____

Part Name: 1. _____ B/P No. _____ Rev. No. _____ No. Cav. _____
2. _____ B/P No. _____ Rev. No. _____ No. Cav. _____
3. _____ B/P No. _____ Rev. No. _____ No. Cav. _____

MOLD TYPE
- ☐ Injection
- ☐ Compression
- ☐ Transfer
- ☐ 2-plate [standard]
- ☐ 3-plate
- ☐ Stripper plate
- ☐ 2-shot
- ☐ Co-injection
- ☐ Gas-assist
- ☐ Vertical injection
- ☐ Reel-to-reel
- ☐ Hot sprue
- ☐ Valve gated hot sprue
- ☐ Hot runner
- ☐ Valve gated hot runner
- ☐ Insulated runner
- ☐ P/L injection
- ☐ Other _____

MOLD CLASS
- ☐ SPI 101
- ☐ SPI 102
- ☐ SPI 103
- ☐ SPI 104
- ☐ Prototype
- ☐ Unit die
- ☐ Other _____

PERFORMANCE GUARANTEE*
- ☐ 1,000,000 cycles
- ☐ 500,000 cycles
- ☐ 250,000 cycles
- ☐ Other _____
- ☐ No guarantee

MOLD BASE STEEL
- ☐ # 1
- ☐ # 2
- ☐ # 3
- ☐ 420-SS
- ☐ Nickel Plating
- ☐ Other _____

PRESS
Clamp tons _____
Make/model _____

SPECIAL FEATURES
- ☐ Guided ejection
- ☐ Spring loaded ejection
- ☐ Accelerated ejection
- ☐ Positive ejection return
- ☐ Double ejection
- ☐ Hydraulic ejection
- ☐ Stationary side ejection
- ☐ Molded-in inserts
- ☐ Spring loaded floating plate
- ☐ Tapered button interlocks
- ☐ Square side parting line interlock
- ☐ Date inserts
- ☐ Date grid
- ☐ Special mold base engraving
- ☐ Special component engraving
- ☐ Cycle counter
- ☐ Water baffles
- ☐ Plated cavities/cores _____
- ☐ Other _____

TYPE OF GATE
- ☐ Edge
- ☐ Center sprue
- ☐ Sub-gate
- ☐ Pin point
- ☐ Other _____

MOLD TRY-OUT BY:
☐ Moldmaker ☐ Customer

MATERIAL SUPPLIED BY:
☐ Moldmaker ☐ Customer

DESIGN BY:
☐ Moldmaker ☐ Customer

ENGRAVING:
Cavity ID
- ☐ Alpha Numeric ☐ Dot
- ☐ Raised [in plastic] ☐ Sunken
- ☐ KO pin ☐ Direct to steel

Part Number
- ☐ Raised [in plastic] ☐ Sunken

MATERIAL
Cavities	Cores
☐ Tool steel	☐
☐ Other _____	☐

FINISH
Cavities	Cores
☐ SPE/SPI	☐
☐ Machine Finish	☐
☐ Chrome Plate	☐
☐ Texture	☐
☐ OAR EDM # _____	☐
☐ Other _____	☐

COOLING
Cavities	Cores
☐ Inserts	☐
☐ Retainer plates	☐
☐ Bubblers	☐
☐ Other _____	☐

EJECTION
Cavities	Cores
☐ Ejector pins	☐
☐ Ejector blades	☐
☐ Stripper sleeves	☐
☐ Stripper plate	☐
☐ Pneumatic	☐
☐ Lifters	☐
☐ Unscrewing	☐
☐ Manual Inserts	☐
☐ Other _____	☐

SIDE ACTIONS
Cavities	Cores
☐ Angle pin	☐
☐ Hydraulic cylinder	☐
☐ Air cylinder	☐
☐ Positive lock	☐
☐ CAM	☐
☐ Ejection activated	☐
☐ Other _____	☐

HARDNESS
Cavities	Cores
☐ Hardened	☐
☐ Pre-hard	☐
☐ Other _____	☐

* Normal wear items not included in performance guarantee. Normal wear items include, but are not limited to: KO pins, blade and sleeve ejectors, leader pins and bushings, PL interlocks, sprue bushings and hot runner systems, hydraulic/pneumatic devices, sub-gates and edge gates, ejection system tie-ins, wear plates, alignment pins and loading devices. Purchased components limited to original manufacturer's guarantee.

By: _____ Title: _____

Request For Quotation

PROTOTYPE

OAR moldworks
145 Carolina Avenue
Providence, RI USA 02905-4491
P. 401.781.2352 F..401.781.1350
Email:moldman@oarmoldworks.com
www.prototypeusa.com

TODAY'S DATE: _____ NEED QUOTE BY DATE: _____

ATTN: Quoting Department/OAR Moldworks

FROM: _____

RFQ #: _____ **PROJECT NAME:** _____

SPECIFICATIONS:

DELIVERY NEEDED: _____

PART NUMBER: _____ **PART NAME:** _____

INITIAL # SAMPLES NEEDED: _____ **TOTAL # SAMPLES NEEDED FROM TOOL:** _____

CAD DATABASE TYPE: _____

BUILD FROM 2-D PRINT: _____

RESIN (CUSTOMER MUST SUPPLY): _____

RESIN SHRINKAGE: _____

SPECIAL PROCESSING CONSIDERATIONS: _____

NOTES: _____

MOLD FEATURES:

UNSCREWING FEATURES: _____

SIDE ACTIONS: _____

CORE PINS: _____

THREE-PLATE GATING OR OTHER SPECIAL GATE(S): _____

GATING LOCATION(S) PERMISSIBLE: _____

SPECIAL K.O. OR STRIPPING FEATURES: _____

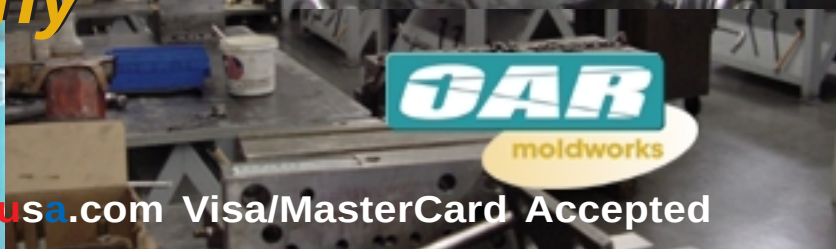
OVERMOLDED INSERTS: _____

NOTES AND SKETCHES:

HARDWARE & SOFTWARE

"OAR continues to deliver quality sample-tooled components that meet our program needs for function, cost and timing."

W. M. Tucker
Program Engineer
Gillette Company



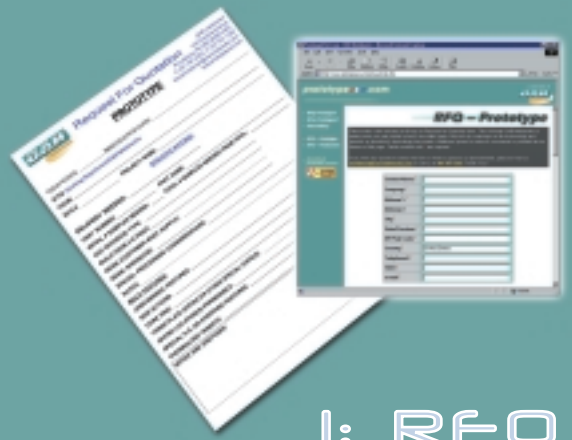
OAR moldworks

Tel: 401-781-2352 www.prototypeusa.com Visa/MasterCard Accepted

Speed Base™

prototype molding system

Production-quality Mold Inserts in Prototype Time!



1: RFQ

2: CAD

3: CAM

4: CNC

5: Molding

6: Molded Parts

Why is the Speed Base™ system best? It is a production-quality tool, built by production mold-makers, so your molded parts are production-quality for FDA, UL and consumer testing.

a service of: CAR moldworks

www.prototypeusa.com