



RAPID PRODUCT DEVELOPMENT CENTER

**ENGINEERING
SERVICES
GROUP**



ENGINEERING SERVICES



Ashbury International Group's Rapid Product Development Center successfully combines technical design innovation, manufacturability insight and rapid prototype capability in its process of developing new product ideas. Whether you have a new product idea, a unique invention sketched on the back of a bar napkin, an innovative new consumer device, an advanced instrument, or a modified machine part, the RPDC can help you make your vision a reality. The Rapid Product Development Center was created to rapidly evolve innovative concepts for parts, assemblies and products from mere ideas into manufacturable parts and a profitable reality!

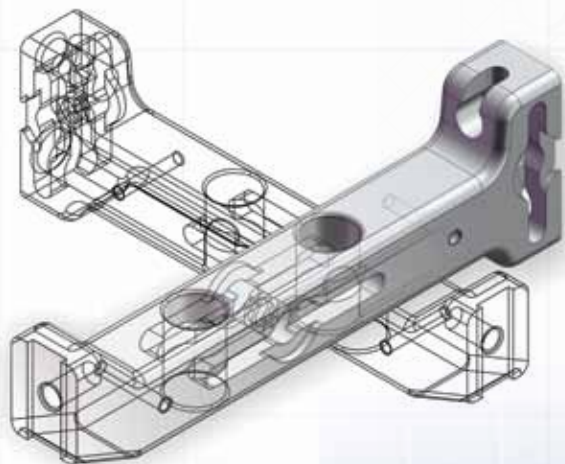
The RPDC uses state-of-the art Solidworks® mechanical computer-aided design (MCAD), COSMOS® finite element analysis (FEA) and FeatureCam® computer-aided machining (CAM) software packages. Our experienced and creative engineering team utilizes the latest techniques and equipment to assist inventors, engineers, equipment developers and designers to tangibly realize advanced concept designs, part modifications, or critical components in complex 3D models and drawing packages.

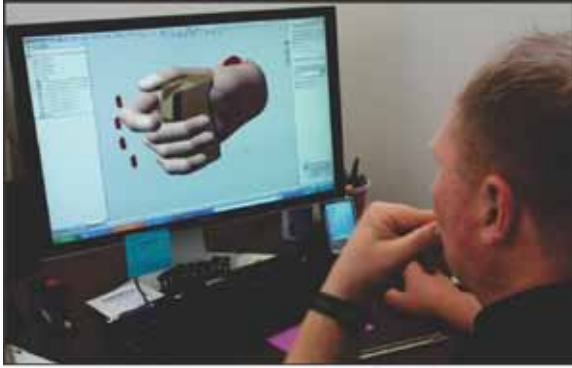
Ashbury's RPDC team has many years of successful product design and development, systems integration and technical experience in the consumer products, defense, optics, night vision systems, telecommunications, navigation, VR simulation, tactical lighting systems, weapons and ordnance market segments that we can leverage to help you achieve your vision.

Inter-related engineering methods and technologies are used to fabricate 3-D physical objects directly from MCAD data sources. These design methods are unique in that they "grow" objects by adding selected materials in fine layers to form complete objects. Such systems are also known as additive fabrication, three dimensional printing, solid freeform fabrication and layered manufacturing.

They offer numerous engineering and design advantages in comparison to contemporary subtractive fabrication methods such as milling or turning (e.g. making chips). The evolving field of rapid prototyping has designated several synonymous terms that are used to designate special production processes. These include **stereolithography** (SLA for stereolithography apparatus), **selective laser sintering** (SLS), **fused deposition modeling** (FDM), and **direct digital manufacturing** (DDM).

Ashbury's Rapid Product Development Center supports customers by applying technologies that utilize a diverse range of processes ensuring rapid, efficient and cost-effective "turn-key" product development and manufacturing solutions. Let us help you achieve your product vision by contacting the Rapid Product Development Center today!





Anthropometric Human Factors Modeling (e.g. MIL-HDBK-759C)

DESIGN ENGINEERING

- Conceptual Product, Component and Assembly Design
- Industrial, Systems and Packaging Design
- 3D CAD / CAE Design Capability with Multi-CAD Platforms
- CAD Services and Full Engineering Analysis (DFMA, Mold flow, FEA)
- Project FEMA (Failure Effect Mode Analysis)
- Human Factor Studies
- Drawing Packages Per ASME Y14.5 and ASME Y14.41
- DOD / ASME / ASTM / ANSI / ISO / PED Compliant Documentation



Vantage SE Fused Deposition 3D Models and DDM

RAPID PROTOTYPING

- Additive and Subtractive Fabrication
- Fused Deposition Molding (FDM)
- RTV Molding
- Metal Injection Molding (MIM)
- Sheet Metal
- Castings
- CNC Machined Parts
- Powdered Metal (PM)
- Plastic Injection Molding (Short-Run)



CNC Precision Machining Center Prototype Manufacturing

PRODUCTION MANUFACTURING

- Materials Research
- Tolerance Studies
- Tooling (Rapid, Bridge, Short-Run and Low-Volume Production)
- Injection Molded Plastics
- Direct Digital Manufacturing (DDM)
- Die Castings
- Investment Casting
- Contract Manufacturing / Assembly

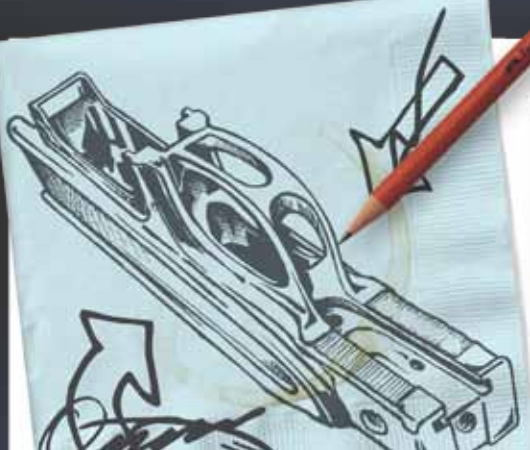
KEY SERVICES

- Engineer-Designer-SME Collaborative Product Development
- Interactive Design Experience (IDE)
- Design-to-Cost Prototype, Pilot and Short-Run Production Builds
- Comprehensive Program Management
- Inspection: First Article and Final
- Reverse Engineering
- Product Improvements
- Laser Engraving



CMM First Article and Quality Assurance Inspections

PRODUCT DE



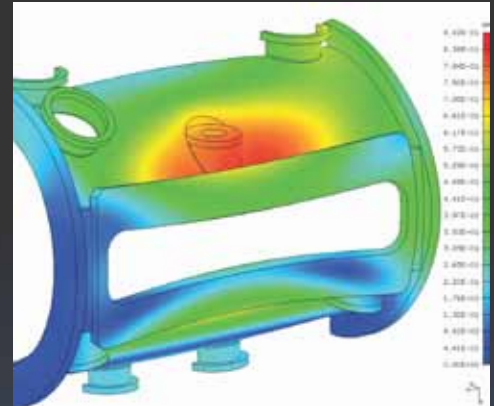
CONCEPTUALIZATION

Does your company have an inspirational idea for a new product sketched out on the back of a napkin? Our engineering team can help you make that idea a reality in the Rapid Product Development Center.



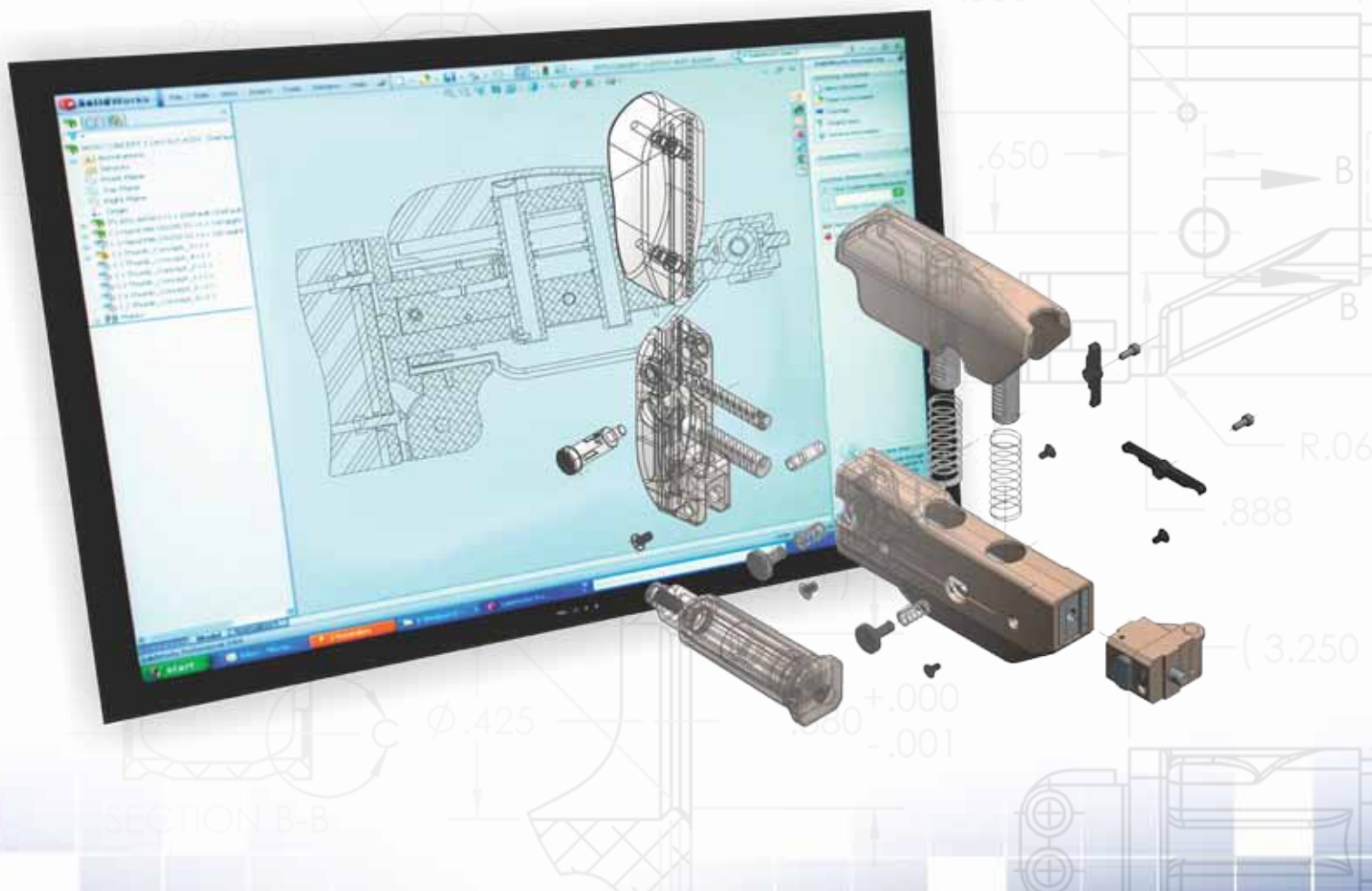
DETAILED DESIGN

Employing powerful Solidworks 3D Mechanical Computer-Aided Design (MCAD) software our Rapid Product Development team can help you design your product and bring it to market faster, more efficiently and cost-effectively!



FEA AND TESTING

The COSMOS Finite Element Analysis (FEA) testing is an integral step in the test simulation product design process. Supplemental testing to ASTM and MIL-STD is performed at certified testing laboratories

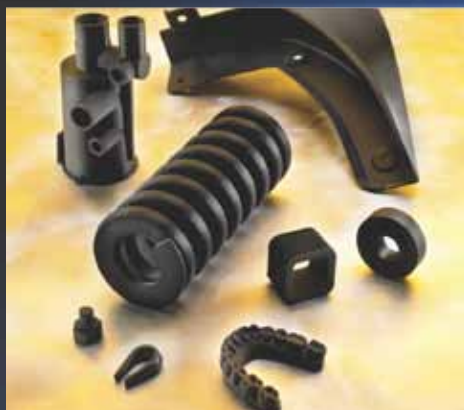


DEVELOPMENT PROCESS



ENGINEERING

Our Rapid Product Development team has many years of in-depth, "hands-on" engineering expertise developing a wide range of products. Ashbury's engineering team members are experienced in a broad range of engineering disciplines.



PROTOTYPING

Ashbury has in-house capabilities to rapidly move your invention, part or product to the prototype stage using our large volume Stratasys Vantage SE FDM machine and precision CNC machining centers. Other additive rapid prototyping processes are also available.

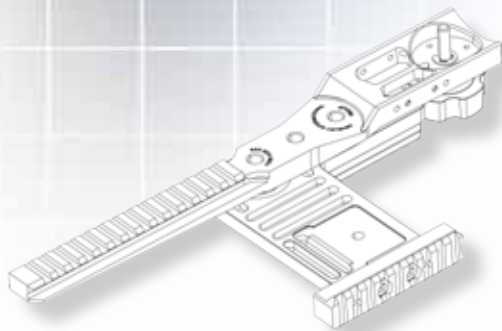


MANUFACTURING

The Rapid Product Development Center maintains close working relationships with select high-quality ISO 9001 Certified and compliant precision manufacturers with extensive CNC, metal and plastic injection molding, foundry, EDM wire cutting, Die Sink and sheet metal fabrication capabilities.

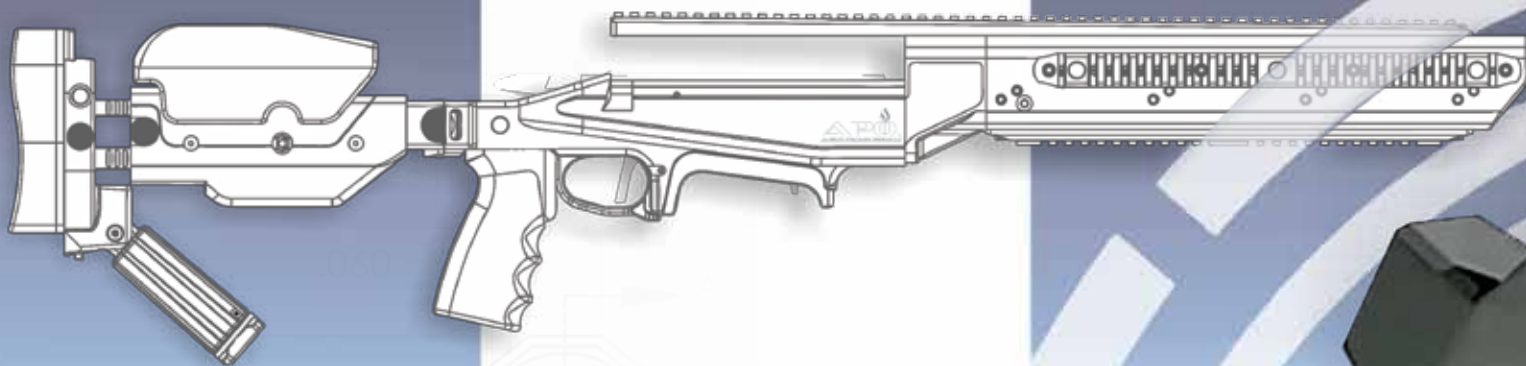
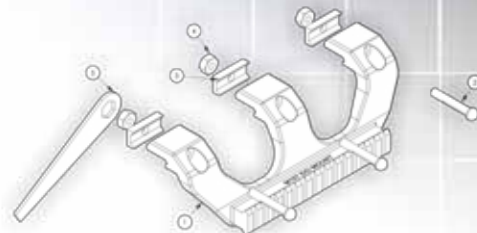


Aerospace/Aviation
Architecture
Automotive
Consumer Products
Design/Engineering
Electronic Devices
Firearms
Industrial Components
Inventions
Manufacturing
Medical Devices
Military
Optics/Electro-Optics
Sporting Goods
Tactical Equipment



Compliance & Licenses

- DOS ITAR Registered
- BATFE Type 07
- BATFE Type 11
- Special Occupational
- Tax Payer (SOT)
- US Government Compliance



Engineering Disciplines

- Mechanical
- Manufacturing
- Electrical
- Industrial
- Optical
- Opto-Mechanical
- Electro-Optical



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