

# CASTLE INDUSTRIES, INC. OF CALIFORNIA



If a piece of metal can be formed, machined, cut, pressed, punched, jogged, shaped, welded, profiled or fabricated into a high-performance part, Castle has the equipment and experience to do it.

## Components and Assemblies



### Mechanical Assemblies

Castle produces a variety of aircraft assemblies used in attendant seats, observer seats, electronic consoles, fuselage sections and decompression systems. These assemblies use the combined skills of welding, sheet metal working, metal machining, sewing and precision assembly. Some assemblies incorporate molded parts and components purchased from approved outside suppliers. These Castle offerings provide customers an opportunity to reduce cost and cut inventory.



### Airplane Components

Parts for airplanes come in all shapes and sizes. Castle will fabricate to customer-supplied drawings or can assist in designing components. Most applications use aluminum but Castle also works with titanium, stainless steel, composites and steel.

Castle has a complete machine shop and a metal fabricating shop that works with titanium and all types of aluminum alloys in a wide variety of shapes and sizes. Each month, large and small quantities of tear straps, doublers, angles, stiffeners, brackets, channels, tees, intercostals, webs and seat clips are produced. These components are used to produce floor beams, door assemblies and fuselage sections.



# Aircraft Seats

Castle has been designing, testing and producing commercial and military aircraft seats for over 20 years. All seats are designed and built to be compact, lightweight and comfortable. Seat construction includes a seat frame of thin-wall aluminum or steel tubing and aluminum alloy sheet metal headrest, backrest and bottom seat pan. Flotation cushions are usually specified with custom cloth and/or leather upholstery.

Observer Seats are bulkhead mounted and are used by FAA observers and airline personnel. For comfort, the seats are padded with sheepskin and some models have fold-down armrests. Castle Observer Seats are offered in four models for use on 757 and 767 airplanes and in some 747 crew rest areas. All seats have 4- or 5-point harnesses.

Castle also produces the C-17 Crew Rest Seat. This two-person seat has fold-down armrests, individual backrest recline controls and ultra lightweight cushions. The seat has integrated oxygen lines and includes a communication wiring harness. Castle engineers redrew the original design to make the seats more practical to manufacture and reduce the cost. The complete dual seat weighs less than 70 pounds.

Airborne Technician Seats are designed and built to be compact, lightweight and comfortable for operators that are required to be at their workstations for extended periods of time. This seat swivels 360 degrees, with eight locking index positions, and is designed for adjustable track mounting. The seat was designed for 16g loads and has been tested for takeoff, flight and landing conditions. The sheet metal structure has a data storage pouch on the back of the seat. Standard features include a lap belt and shoulder harness with an optional crotch strap. The backrest cushion has a built-in lumbar and kidney support contour. The complete seat weighs less than 40 pounds.

In-house capabilities used to manufacture aircraft seats include design engineering, upholstery fabrication, certified aircraft welding, metal machining and forming, painting and assembly.

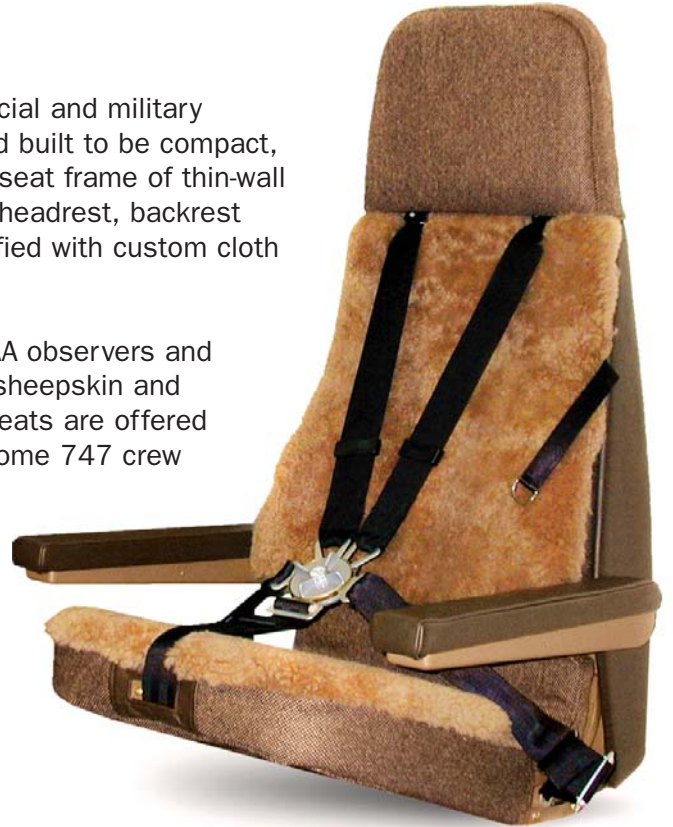
**Airborne Technician Seat**



**Crew Rest Seat**



**Observer Seat**



# Airborne Electronics Racks and Consoles

Castle has a successful history of designing and building lightweight aluminum electronics racks and consoles for military airborne programs. These custom-designed racks and consoles are specifically designed to carry heavy equipment loads while meeting specific crash-load and ultimate flight loading conditions. The individual designs consider where the enclosure is located in the aircraft, orientation of the enclosure and varying g-force loading. A stress analysis is performed to determine the lowest possible weight for each enclosure.

Some designs require EMI shielding. For these applications custom-designed filters are used to shield the equipment cooling vents and conductive gaskets seal doors and side panels.

Castle has supplied equipment racks and consoles to several major electronics manufacturers, system integrators, major subcontractors and prime contractors.

Castle Industries designed, tested and produced a significant number of lightweight equipment racks for the U.S. Air Force Airborne Laser Program. The Airborne Laser is a multi-megawatt chemical laser, mounted in a Boeing 747-400 that is designed to destroy enemy missiles seconds after they are launched. Castle worked with Boeing, Lockheed Martin, TRW and AP Labs to build the custom-designed racks that house the electronic gear used for target acquisition, tracking, pointing and beam control/fire control.



Rapid turnaround of parts, including expedited deliveries when needed to meet both JIT requirements and last-minute needs, are everyday demands that Castle meets. Castle Industries is just the right size to respond to these expedited requirements. The Castle team is excellent, full of competent, conscientious, talented individuals who work together to deliver an outstanding product. Working together is really their secret, with the ability to blend the skills of each individual so that a quality product is delivered every time.

Customer recognition of these capabilities includes several awards of excellence, including the Q100 Club at Boeing, which recognized Castle for being among its top 100 suppliers.

For additional information on Aircraft Seats, Electronic Racks, Assemblies and other Castle products and capabilities, please contact us.

Customer Service Manager  
**Castle Industries, Inc. of California**  
601 South Dupont Avenue  
Ontario, CA 91761-1502 USA

Phone: **909-390-0899 x228**  
Fax: 909-390-0898  
Email: [info@castleindustries.net](mailto:info@castleindustries.net)



Castle Industries, Inc. of California, located in Ontario, California, is part of the M.C. Gill Group of Companies. Castle specializes in machined and formed metal parts, and aircraft assemblies for commercial and military programs. Whatever needs to be done with metal, especially the fabrication of parts that meet the rigorous standards of the aircraft industry, we can do.

Castle maintains a staff of steel and aluminum welders, as well as specialists in a wide range of other areas of metal parts manufacture. And, when outside experts are needed in fields such as stress analysis and design evaluation, Castle has a considerable group of professionals to call upon.

For additional information on Observer Seats and other Castle products and capabilities, please contact us.

Customer Service Manager  
**Castle Industries, Inc. of California**  
601 South Dupont Avenue  
Ontario, CA 91761-1502 USA

Phone: **909-390-0899 x228**  
Fax: 909-390-0898  
Email: [info@castleindustries.net](mailto:info@castleindustries.net)



# Castle Industries, Inc. of California

*Part of the M.C. Gill Group of Companies*

601 South Dupont Avenue  
Ontario, CA 91761-1502 USA

Phone: **909-390-0899 x228**  
Fax: 909-390-0898  
Email: [info@castleindustries.net](mailto:info@castleindustries.net)

**[www.mcgillcorp.com](http://www.mcgillcorp.com)**

M.C. Gill Corporation • Alcore • Alcore Brigantine  
Castle • M.C. Gill Europe Ltd./Insoleq

**M.C. Gill Corporation**  
4056 Easy Street  
El Monte, California 91731 USA  
phone: 626-443-4022  
fax: 626-350-5880  
email: [info@mcgillcorp.com](mailto:info@mcgillcorp.com)