

The Doorway™

A Publication of The Gill Corporation

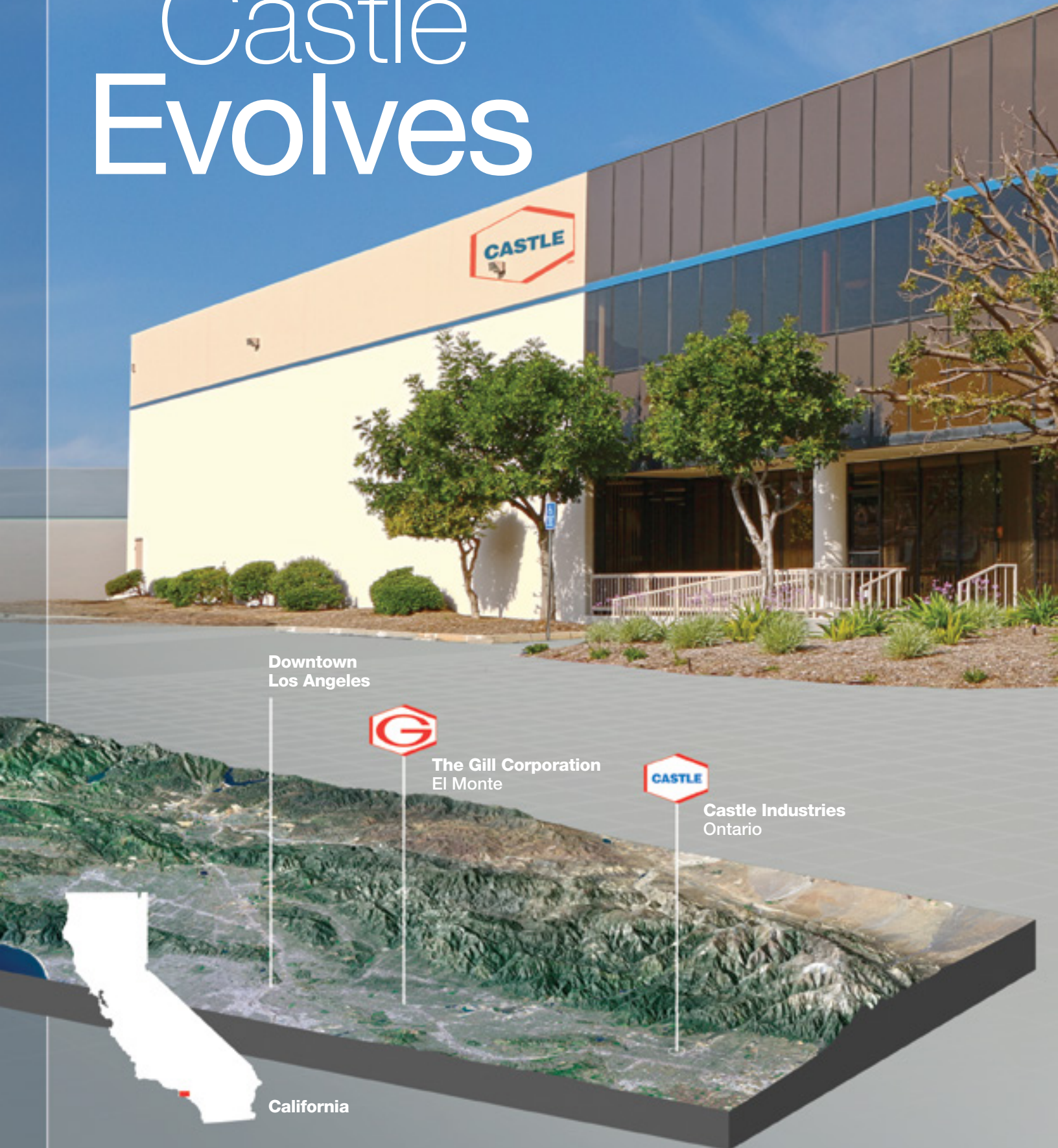
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Castle Evolves

Castle Evolves



Downtown
Los Angeles



The Gill Corporation
El Monte



Castle Industries
Ontario

California



There's a well-worn saying: 'You can't teach an old dog new tricks' – but the folks at Castle Industries of California disagree.

Castle Industries Inc. is located in Ontario, California. Castle Industries specializes in machined and formed metal parts, aircraft assemblies for commercial aircraft and military programs and fabricated parts that meet the rigorous standards of the aircraft industry. Their engineering capabilities include Catia V workstations and they are certified to AS9100 rev C, ISO 9001:2008.



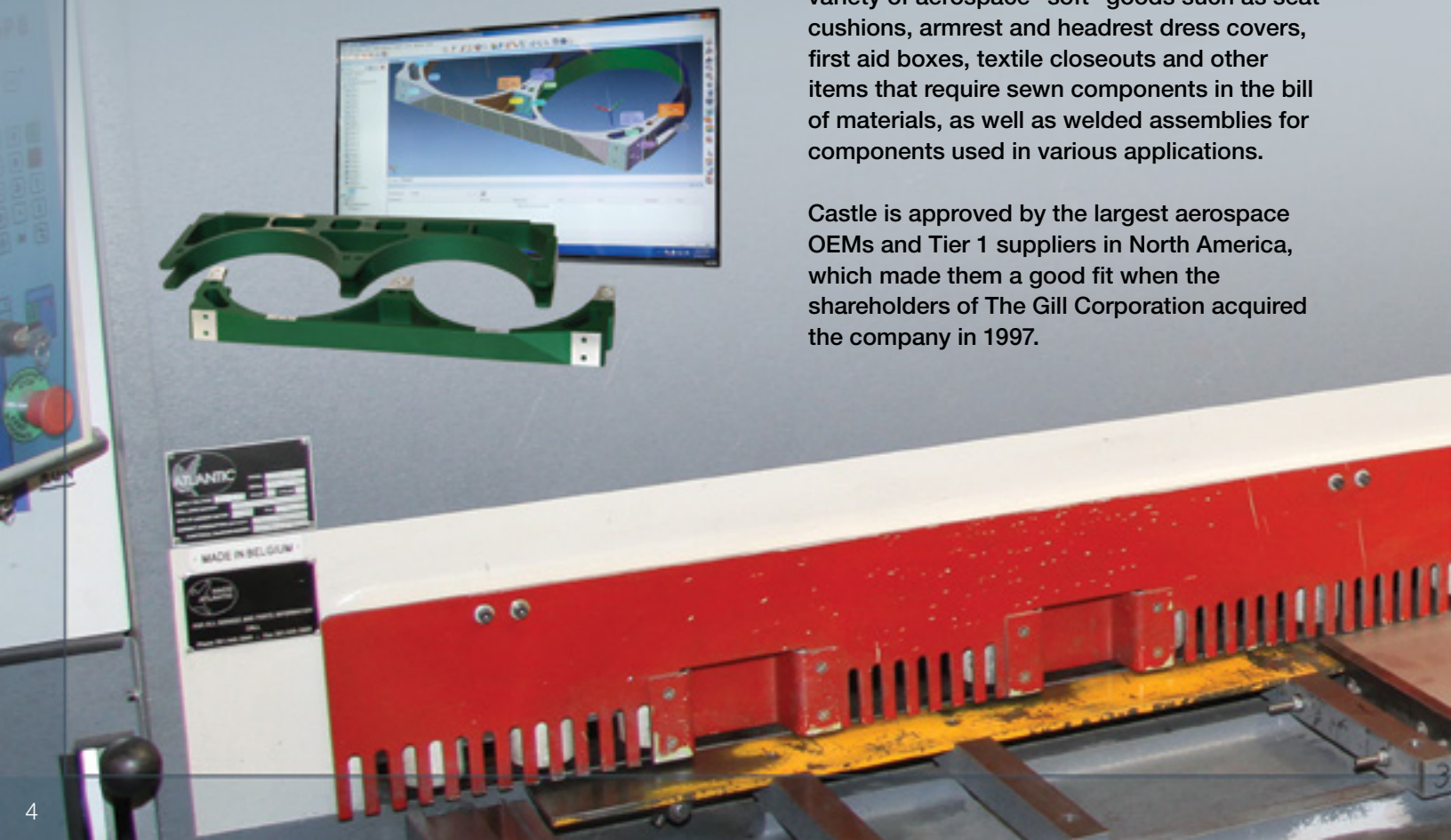
AS9100C,
ISO 9001:2008



Castle Industries manufactures a wide range of precision products for the aerospace industry. They manufacture to their customer's design, in a build-to-print capacity, as well as having proprietary designed, FAA approved products

such as aircraft seats. In addition, Castle's expertise includes the manufacture of special mission airborne electronic racks and consoles, assembly of complex sheet-metal assemblies and machining of metallic and non-metallic material, composite- or aluminum-skinned honeycomb panel assemblies. They produce a variety of aerospace "soft" goods such as seat cushions, armrest and headrest dress covers, first aid boxes, textile closeouts and other items that require sewn components in the bill of materials, as well as welded assemblies for components used in various applications.

Castle is approved by the largest aerospace OEMs and Tier 1 suppliers in North America, which made them a good fit when the shareholders of The Gill Corporation acquired the company in 1997.





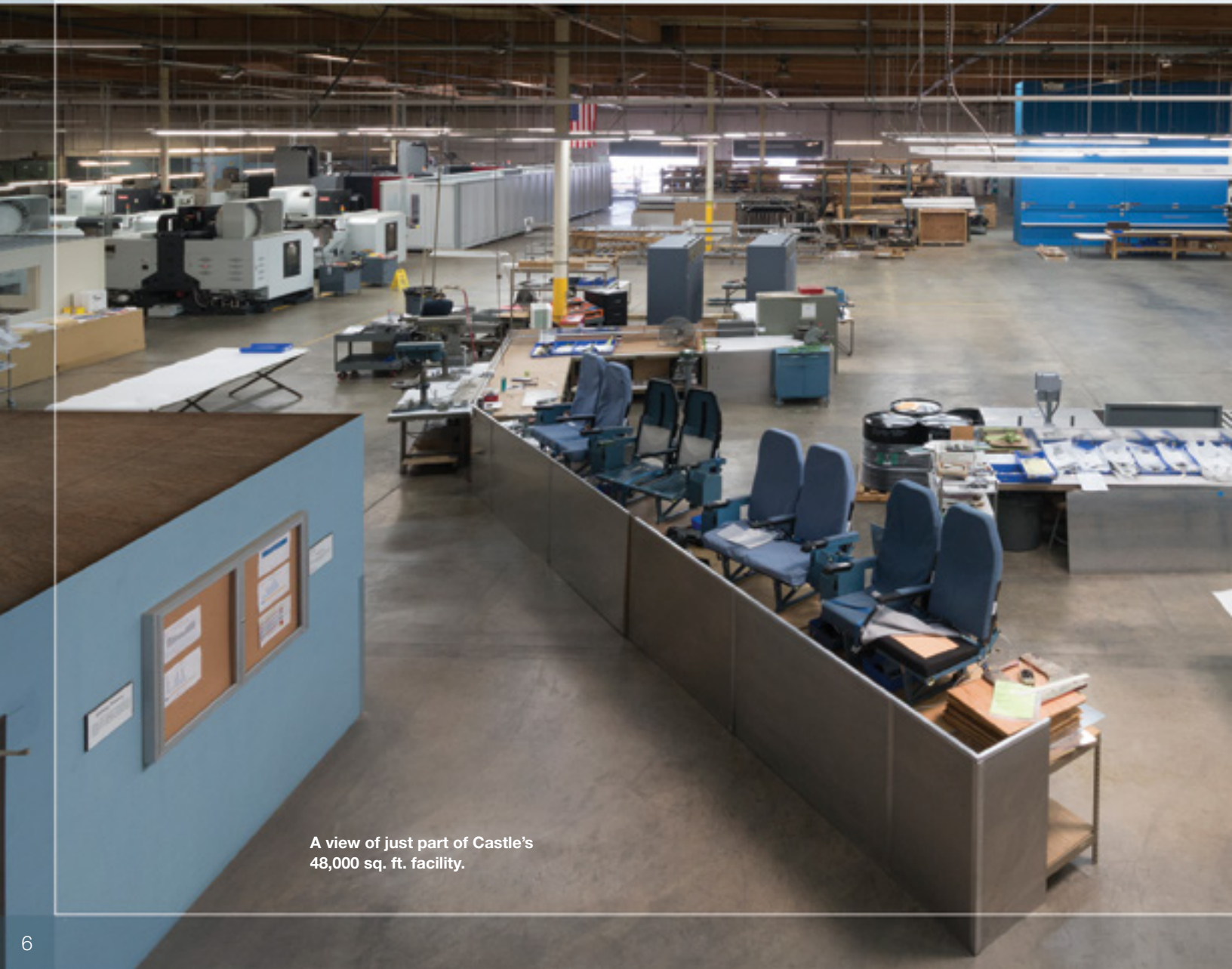
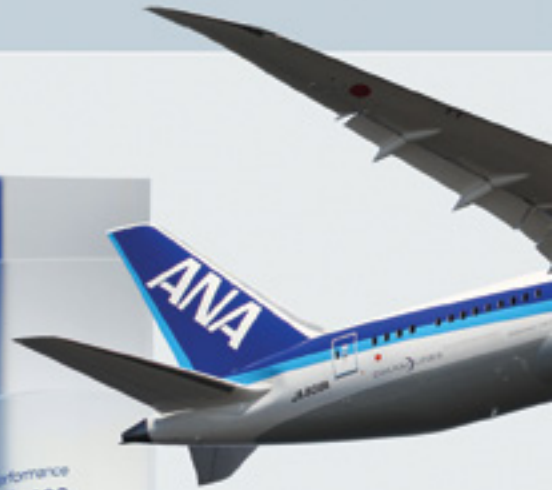
Castle became a subsidiary of The Gill Corporation yet continued to operate independently until 2012, when Castle's accounting and IT systems were migrated into The Gill Corporation's systems for a cleaner, more efficient mode of business. Stephen Gill, Chairman and CEO, and the shareholders felt strongly that Castle needed to work closely with their parent company to make sure their daily operations align with corporate strategic goals and practice the same commitment to quality that pervades all Gill Companies.

"The Gill Corporation's top priorities are to provide products and customer service that always meet or exceed customer requirements and continually improve the effectiveness of the quality management system."¹



During the last three years, management has conducted an ongoing assessment of the manufacturing areas, equipment and all aspects of the operation. Capital investments were approved and upgrades have been implemented so the Castle of 1997 is a thing of the past.

In our 2014 Winter *Doorway*, we reported on some of the most dramatic changes taking place at Castle. A reflection of those improvements resulted in Castle being selected as a Boeing Silver Level Supplier. Boeing's criteria are based on overall supplier performance as reported in the Boeing Enterprise Supplier Tool (BEST). Silver status is awarded to suppliers who exceed the Boeing expectations for quality and delivery performance.



A view of just part of Castle's 48,000 sq. ft. facility.



Since then, The Gill Corporation has invested more much-needed capital, and guidance as Castle prepares to take on their newest challenge in supporting The Gill Corporation and the B787 program.



Vertical Machining Centers

After winning the B787 fabricated floor panel business, The Gill Corporation turned a laser-sharp focus on the manufacturing capabilities at Castle. Besides improving operational efficiency, concerns arose about adding inspection equipment and special processes. The Gill Corporation's El Monte fabrication operations would incorporate Castle's machining expertise as they address demands from the B787 floor panel contract. Castle's first step was proving their processes through building first articles as they began ramping-up production of the titanium machined parts to support this important program.

To ensure Castle could support the program with low-cost, high-production, quality parts and meet on-time delivery demands, their production crew would need to purchase high-torque, robust CNCs.

The B787 is a high visibility production aircraft. Engineering requirements mandated that certain parts be machined titanium, also known as "hog-outs." The B787 contract calls for two types of machined parts. The "intercostals" are rectangular shaped up to 38 inches in length. The "fittings" are smaller in size and less complex to build but they are used in much greater quantity.

To effectively machine titanium, high-torque CNC machines are required, (versus high-speed machines). Castle operates both OKK horizontal (HMC) and Yama-Seki vertical (VMC) machining centers. The HMC's focus on the higher volume fittings, whereas the VMCs are focused on the longer intercostals.





Employing the right CNCs wasn't the only hurdle to clear. The volume of fittings required by the program dictated an investment in a new palletized system.

The Fastems linear pallet system is mated to two HMCs and enables Castle to schedule machining in a highly efficient manner and to machine "lights out" or without "human" interaction. During a normal workday, Castle employs operators running the pallet system, but on weekends the system can be programmed to operate without supervision. This provides additional capacity at a minimal overhead cost. Tooling was designed to function with either style machine for increased flexibility and improved response time to emergent or AOG requirements.

Castle also added a "broach machine" enabling the machining of precision "hex" style holes (a requirement for both intercostals and fittings). Broaching is a specialized process and not all that common to most machine shops. The purchase of this machine will reduce outside costs and offer greater flexibility by bringing this process in-house.





The B787 contract dictates Castle build “buffer stock,” so a reorganization of the production floor allowed for the installation of two Kardex vertical carousels. These storage carousels free up valuable floor space and provide a quick and simple solution to managing and storing the buffer stock.

Finally, Castle has added a non-destructive testing (NDT), liquid penetrant line. NDT is defined by the Boeing Company as a “special process.” It requires that the performing company hold a NADCAP certification and be a Boeing-approved OEM. Castle expects to have both of these requirements in place by Q1, 2016. Castle will perform NDT for all of the B787 parts as well as the majority of other parts Castle builds. Having the process in-house reduces outsourcing costs, provides greater control, improves efficiency and reduces overall manufacturing time.



New equipment, new faces and new processes have the 42,000 sq. foot facility humming with activity. In late August, Castle added a second shift and is working towards improving the utilization of their MRP system.

In a few short years, Castle Industries of California has been transformed from top to bottom, proving you can teach an old dog new tricks.



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Trivia

Our eyes are always the same size from birth, but our nose and ears never stop growing.

The words “racecar,” “kayak,” and “level” are the same whether they are read left to right or right to left (palindromes).

There are two words in the English language that have all five vowels in order: “abstemious” and “facetious.”

A cat has 32 muscles in each ear.

A “jiffy” is an actual unit of time: 1/100th of a second.

Women blink nearly twice as much as men.

An ostrich’s eye is bigger than its brain.

Babies are born without kneecaps. They don’t appear until the child reaches 2 to 6 years of age.

February 1865 is the only month in recorded history not to have a full moon.

Leonardo Da Vinci invented the scissors.

In the last 4,000 years, no new animals have been domesticated.

THE FUNNY SIDE

Why does a round pizza come in a square box?

How is it that we put a man on the moon before we figured out it would be a good idea to put wheels on luggage?

Why is it that people say they “slept like a baby” when babies wake up like every two hours?

Why are you *in* a movie, but you’re *on* TV?

Why do people pay to go up tall buildings and then put money in binoculars to look at things on the ground?

Why do toasters always have a setting that burns the toast to a horrible crisp, which no human being would eat?

Why does Goofy stand erect while Pluto remains on all fours? They’re both dogs!

Do *The Alphabet Song* and *Twinkle, Twinkle Little Star* have the same tune?

Why did you just try singing the two songs above?

Why do we press harder on a remote control when we know the batteries are getting dead?

Why do banks charge a fee on “insufficient funds” when they know there is not enough money?

Why doesn’t Tarzan have a beard?

Is there ever a day that mattresses are *not* on sale?

