

aircraft INTERIORS magazine™

INNOVATION

STUFF OF DREAMS

Once Considered Exotic, Titanium Finds New Applications Among Builders

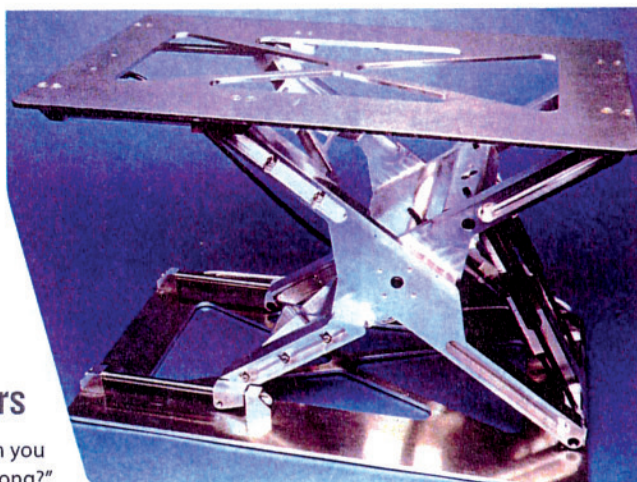
“We like your product, but can you lighten it up and keep it strong?” A familiar request? It is well known that strength and weight are qualities closely scrutinized by the aerospace industry. Although corrosion resistance is always critical, high working load with low weight are also features desired by serious builders of fast machines, be they aircraft or watercraft.

Called the industry's dream metal, Titanium has excellent corrosion resistance. “In fact, it is far superior to stainless steel in most circumstances, and the corrosion resistance to sea water is equal to that of Platinum,” states one steel manufacturer.

Although Titanium has long been used in structural airframes in the quest to save weight and improve aircraft efficiency, it has not generally crossed over to non-airframe, non-critical products. The reason may be due to its exotic reputation. Manufacturers are typically reluctant to venture into uncharted waters when it involves working with unfamiliar materials and prefer to utilize conventional metals.

Now, Austin, Texas-based Saint Louis Designs (SLD) has stepped up to the challenge by offering its latches and mechanisms with machined Titanium components. With its unique combination of strength-to-weight ratio and corrosion resistance, Titanium is used in many aerospace and marine applications where other metals are not as reliable, especially on a lifecycle-cost basis.

SLD manufactures its own structural components. This capability allows in-house experimentation and testing of alternative or compatible materials. “Substituting heavier, heat-treated stainless steel with Titanium adds



SLD's electric platform lift, made of Titanium, weighs about 10 lb, with a stowed height of 3.12 inches and a lift capacity of approximately 90 lb.

integrity without additional cost because it reduces the number of steps in the manufacturing process,” explains Matt St. Louis, Design Engineer, who has studied metallurgy for 17 years. “This knowledge, combined with a background in forging, welding and machining, has resulted in a

predictable approach to the properties of materials in structural design.”

St. Louis says SLD is committed to researching technology with the aim of constantly improving its products. Its recently patented touch latches are undergoing static-load testing with the incorporation of Titanium components. “Our immediate goal is to provide the industry with a touch latch that exceeds a 600-lb static load,” adds St. Louis. “Our long-term objective is to develop innovative products for aerospace and marine VIP completions.”

Fast-Boat Designer Looks to Aerospace for Solutions

Brennan J. Smith, the owner of Viking Fast Craft Solutions, Biloxi, Mississippi, designs advanced high-speed boats for the U.S. Navy Special Operations, the Coast Guard and other government agencies as well as commercial operators. He recently approached A/I saying that his designs—and that of many other boat builders—depend on lightweight, rugged interior parts, which are very hard, if not impossible, to come by through traditional sources.

Parts made of Titanium may just be the answer he's looking for. Smith hopes to locate such new products originally developed for the aircraft market by attending the Transport & VIP Interiors Expo 2004 in Ft. Lauderdale. The trade show uniquely covers Air, Land and Sea markets—all under one roof.