



WE HAVE THE COMPLETE SOLUTION IN OUR HANDS

ALL THE WORLD'S AEROSPACE TOOLING NEEDS
FROM A SINGLE INTEGRATED SOURCE

 **HAMPSON AEROSPACE**
Tooling Solutions

Hampson Aerospace is the leading independent provider of aerospace tooling systems and a global provider of aerospace components and assemblies, delivering efficient solutions to clients worldwide.

Hampson Tooling Solutions, a division of Hampson Aerospace, is the assemblage of three best-in-class tooling suppliers; Coast Composites, Global Tooling Systems and Odyssey Tooling.

- Integrated, or stand-alone, Hampson Tooling Solutions offers the best in class tooling design and manufacturing solutions for all aerospace and defence needs, however demanding or complex the requirement.
- The ability to offer a truly global supply solution, with operations spanning three continents: US, EU and India.
- A seamless single management interface for all projects, from design to final assembly.
- A desire to build enduring partnerships and alliances, built on the highest levels of trust, business ethics and professionalism.
- The offer of competitive low cost facilities in India, leveraging a highly skilled local workforce with the benefits of worldwide design expertise and an unrivalled knowledge base.

Hampson Aerospace at a Glance

Hampson Aerospace is a global aerospace corporation, specialising in the supply of highly engineered products, using advanced technologies and processes to deliver innovative solutions and world class value to partners and customers, world-wide.

Hampson Aerospace has extensive manufacturing capabilities in the US, EU, and India, located to best serve the needs of global aerospace operations. As a public corporation listed on the London Stock Exchange, Hampson Industries PLC has a successful track record with access to capital to invest in support of customer requirements.

Hampson Aerospace is:

- The largest independent aerospace tooling business in the world
- The world's largest provider of aerospace 'shim' solutions
- A leading high temperature composite part manufacturer
- A leading composites/metal aerostructures supplier
- A global leader in advanced military aircraft transparency and coating technology
- A leader in developing Indian, sourcing and manufacturing



Hampson Tooling

THE PROFESSIONAL SOLUTION

With 79 years accumulated experience, 600,000 sq ft (55,000 sq m) and 720 highly skilled employees, Hampson Tooling Solutions is the largest independent aerospace tooling manufacturer in the world.

Hampson Tooling Solutions, made up of Coast Composites, Global Tooling Systems and Odyssey Tooling, provides aerospace companies with a one-stop-shop for all aerospace tooling. Small but complex winglet tooling, large wing skin tools for multi-aisle commercial jets, complex assembly tooling for military aircraft and pulse lines for high-end business jet manufacture, we do it all.

Hampson Tooling Solutions boasts more state-of-the-art large 5 axis machines dedicated to tooling than anyone else in the world. Ten of these are over 33 ft (10m) long, giving unrivalled scale and capacity. In 2009 Hampson Aerospace invested in the largest oven in the western US, 75 ft x 25 ft x 14 ft, (23m x 7.5m x 4.5m) for heat treating a full range of tools.

Our goal is to make it easy for our customers, with extensive capabilities and resources Hampson Tooling Solutions has the ability to work in partnership with OEMs as well as, if required, with design and automation integrators to suit customer's requirements. "Our extensive capacity and vertical integration give us improved control over critical schedules." In addition Hampson Aerospace provides financial backing to tackle any size of tooling program.



With our ingrained engineering talent, Hampson Tooling Solutions is able to determine the most cost effective and durable design for lowest cost manufacture, without compromising exacting safety and quality standards.

Hampson's tool design and engineering expertise is world-leading, with over 45 full time tool designers, and access to significant supplementary resources. Today we design more than half of all the tools we build.

Excellence in programme management allows Hampson Tooling Solutions to consolidate and integrate any size of tooling and tooling system. Working alone or – if required – with design or automation partners, Hampson Tooling Solutions offer a project management system that delivers greater efficiencies. A thorough understanding of making components makes Hampson Tooling Solutions ideally placed to identify greater design and manufacturing efficiencies in bigger projects.

At the heart of our operations worldwide is an unremitting focus on quality. Hampson Tooling Solutions maintains all appropriate quality accreditations. These range from ISO 1001, 9000, 9001 and AS9100, to individual customer quality standards and include a wide scope of military accreditations. Hampson Tooling Solutions is fully ITAR compliant.

Hampson Tooling Solutions reputation for quality is well recognised, with source delegation by major customers, including Boeing and Sikorsky, amongst others.

Hampson Tooling Solutions performance record is unsurpassed with 7,500 tools and tooling systems delivered in a single year. These tools ranged in size from 'match box' to 100 ft, (33 m), wing tools.

Hampson Tooling Solutions is supporting the world's largest current aircraft development programs:

Boeing 787, 777, 747-800
 Airbus A-380, A-350
 Lockheed Martin Lightning II
 Bombardier CSeries and LearJet 85
 Sikorsky CH53, Black Hawk

Customer Awards include:

Lockheed Martin Lightning II supplier excellence award

Boeing 747-800 performance award

Gulfstream 650 outstanding supplier service

Boeing supplier excellence award

Goodrich award of excellence

KHI Boeing 787 programme performance award

Spirit Aerosystems outstanding supplier award

Northrop Grumman Tooling supplier of the year award

Applied Aerospace preferred supplier award

Companies at a Glance

TOOLING SOLUTIONS:

Coast Composites – Based in Los Angeles US, Coast is a key supplier to the military and commercial aerospace sectors. Most of the corporation's business is derived from the design and supply of large, tightly toleranced mould and mandrel tools. Coast is the world leader in making large fuselage and wing skin tools and has supplied tooling solutions for the world's biggest names supporting the next generation platforms in air and space, including the Boeing 787 and Airbus A350. Facilities include the largest heat treatment oven in the western US and some of the largest and fastest 5-axis gantry mills in the business - 22 ft x 75 ft (6.7 m x 23 m) bed capacity.

Odyssey – Based in Michigan, US, Odyssey is a key supplier to the aerospace and defense sector. The corporation specialises in detail and assembly tooling, creating jigs and fixtures for lay-up, bond, drill, trim, and wide variety of other applications of any size or shape. With an unsurpassed capacity in both engineering and manufacturing disciplines, Odyssey brings tools and complex tooling solutions to market with unrivalled speed and efficiency, often supporting the most compressed and logistically challenging programme requirements.

GTS – Based in Michigan, US, GTS is a world leader in the production of assembly and detail tooling solutions for the defence and civil aerospace market. GTS has engineered some of the most innovative automated tooling solutions and continuously strives to develop even more innovative semi and fully robotic systems to provide assembly efficiencies and reduced recurring costs of production.

AEROSTRUCTURES & COMPOSITES:

BHW – based in Lancashire, UK, BHW is the one of the largest sheet metal, stretch forming and aerostructures businesses outside the OEMs in Europe. Servicing both the civil and military aerospace markets, products include a broad range of major airframe structures, substructures, assemblies and detail parts including wing leading edges, empennages, cargo doors, fuselage sections, cockpit and undercarriage doors and a full range of flying control surfaces. With a full array of metal forming, treatment and certification facilities under one roof, BHW offers a fully integrated, standalone solution for airframe structural component fabrication and assembly.

Composites Horizons (CHI) – based in California, US, for over 30 years Composites Horizons has been a leading producer of advanced composite products using the latest process technologies. Specializing in difficult to manufacture performance critical gas-turbine components produced from a wide range of high temperature thermoplastic composite materials, CHI excels in providing state-of-the-art systems and processes that ensure its customers receive the best, most technologically advanced production solution. The product range is extensive from intake, through to engine exhaust, CHI has been able to provide solutions to programme needs and supply new and upgraded products to meet ever advancing performance requirements.

Texstars – based in Texas, US, Texstars has a world leading capability in producing light weight composites and polymer based transparencies. Transparencies produced by Texstars are typically manufactured out of polycarbonate and acrylic materials and employ the use of advance coating technology to provide low observable (i.e. "Stealth") and other protective characteristics that provide both tactical advantage and superior product-life performance. Other transparent components also include a full range of anti-ballistic screens for land-based applications. Texstars also produce fully integrated assemblies utilizing composites and thermoplastics with a broad range of machined and fabricated components and structures.



Shim and Small Component Businesses

Hampson Aerospace is the world's largest provider of 'shim solutions' to the aerospace industry. With the ability to manufacture peelable laminated materials through its businesses Lamsco, Attewell and Bolsan, Hampson Aerospace supplies to all major aircraft manufacturers and their associated supply chains. Hampson Aerospace is the only approved manufacturer of Boeing Standard materials and components both inside and outside of the USA and has experience in offering shim solutions on all the new generation of composite aircraft, 787, 747-8, A350 and CSeries.

Hampson Aerospace is able to supply shims in any size, in any material, including titanium, steel, aluminum, stainless steel, brass, copper, mylar, polyimide, glass fibre and advanced carbon composites. With a manufacturing footprint spanning two continents, Hampson Aerospace always offer the optimal logistical solution as well as the highest quality and best performing product.

The long history of excellence in design, tooling and manufacture of Hampson Aerospace's world-class businesses is now enhanced through the support of a **financially strong parent** and access to a **broader manufacturing and technology base**. Hampson now offers the **highest standards in project management**, a secure and **innovative partnership** in design, tooling and manufacturing and access to the **full resources of a global business**. Through these means Hampson Aerospace provide the most innovative solutions and above all the best value, however **demanding or complex** the requirements may be.

For more information please contact any of the addresses overleaf.



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