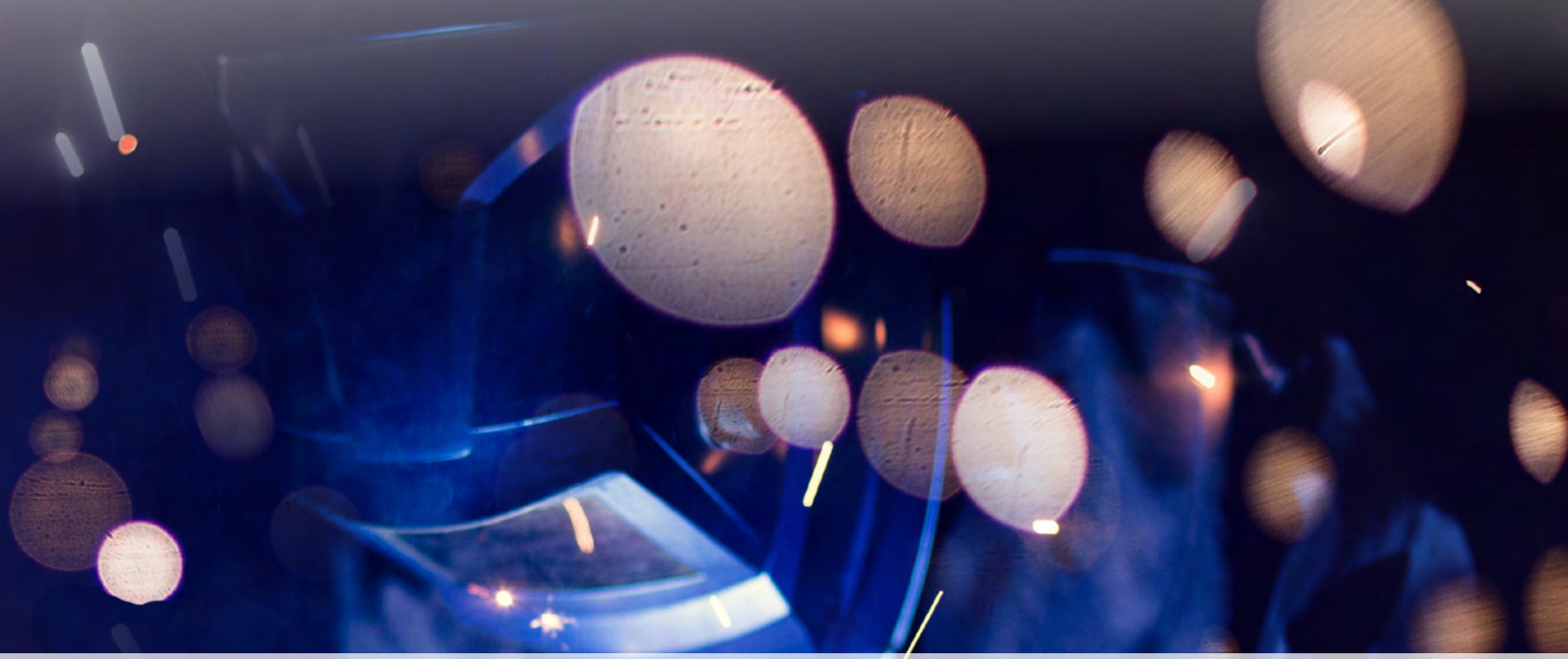


METAL FABRICATION
IN THE AEROSPACE INDUSTRY

H&S Manufacturing provides custom sheet metal fabrication services for the aerospace industry. In these applications, it is essential that fabricated components be able to withstand high mechanical stress, extreme temperatures, and other challenging conditions.

Backed by over 50 years of experience, we create custom-fabricated components that adhere to the aerospace industry's rigorous quality and safety standards. As an ISO 9001:2015 and AS9100D certified manufacturer, we perform a number of metal fabrication techniques, including shearing, extruding, laser cutting, punching, and notching, as well as an array of value-added services designed to optimize production.

Capabilities & Specs

We specialize in manufacturing custom small and large-scale products for a wide variety of aerospace applications. Metal fabrication services for this industry require precision equipment and industry expertise. H&S meets these demands, with services that include:

Precision Machining

We produce unique parts according to stringent aerospace requirements. Using fully automated CNC machinery, we fabricate highly accurate parts quickly, to tolerances of ± 0.001 in. Our precision machining equipment includes:

- CNC Control Capabilities
- 5-Axis Mills
- Vertical Mills
- Drill Presses
- Vertical and Horizontal Machining Centers

Our capabilities include drilling, milling, boring, and tapping, and are supported by a range of secondary services such as welding, plating, heat treating, silk screening, and painting.

Custom Sheet Metal Fabrication

We use a wide range of equipment to fabricate aerospace components from sheet metal. Using modern high-speed multi-tool equipment such as punch presses, punch lasers, and laser cutting machines, we make parts using a variety of materials. The most common metals we work with in aerospace applications include hot and cold rolled steel, stainless steel, aluminum, brass, and copper.

These materials feature a long lifespan as well as a high degree of strength and durability. Our custom sheet metal fabrication services have an average production lead time of 4 weeks and are available in prototype to production volumes.

Precision Laser Cutting

Our turbine-driven, RF-excited, fast axial flow CO2 lasers offer precision and speed to produce a wide variety of aerospace parts. Whether you need to develop a prototype or a high-volume production run, we're equipped to meet your needs. We cut many materials using our three-axis cutting capabilities, including heavy plates, thin metals, aluminum, and steel.

Custom Form-in-Place Gaskets

To make custom gaskets, we provide form-in-place liquid dispensing, using a 3-axis (XYZ) robot to maximize production rates. This equipment quickly and accurately dispenses silicon-based gasket materials, with bead sizes as small as 0.030 in. x 0.030 in. for precise positioning. We also manufacture electrically and thermally efficient EMI shielding components. Our custom gaskets are available in a variety of patterns and in prototype to high-volume production quantities.

Custom Box Build

H&S specializes in electromechanical assemblies, including cable wiring, power supplies, chassis, fans, harnesses, brackets, and boards. Our box build manufacturing services support customers with expertise and insight for any production volume. We handle prototypes, large and small batches, part fabrication, enclosures, and complete final assemblies.

Materials

Materials used in aerospace components must offer excellent durability and corrosion resistance while being able to endure high pressures and extreme temperatures. Some of the most common materials we work with for this industry include aluminum, brass, and stainless steel.

Aluminum

Aluminum is a lightweight, electrically conductive material that can be enhanced and strengthened by adding various alloying elements. Aluminum alloys 6061, 7075, and 7475-02, in particular, display excellent fatigue resistance and are well suited to aircraft construction. Key characteristics of aluminum include:

- Excellent Strength-to-Weight Ratio
- Corrosion, UV, and Moisture Resistant
- Malleable
- Simple to Inspect, Repair, and Replace
- Low Cost
- Recyclable

Stainless Steel

Stainless steel is a type of corrosion-resistant iron-carbon alloy with 10-30% chromium content. Due to their ability to maintain excellent mechanical strength over a wide temperature range, stainless steel alloys are ideal for enduring the harsh environmental conditions of continuous flight. The benefits of stainless steel include:

- Corrosion Resistant
- Low Maintenance
- More Durable than Aluminum
- Aesthetically Appealing

Brass

Brass is a copper-zinc alloy with excellent workability and hardness as well as corrosion resistance and temperature resistance. Brass performs well in harsh environments, making it an ideal material for aerospace applications. Other key characteristics of brass include:

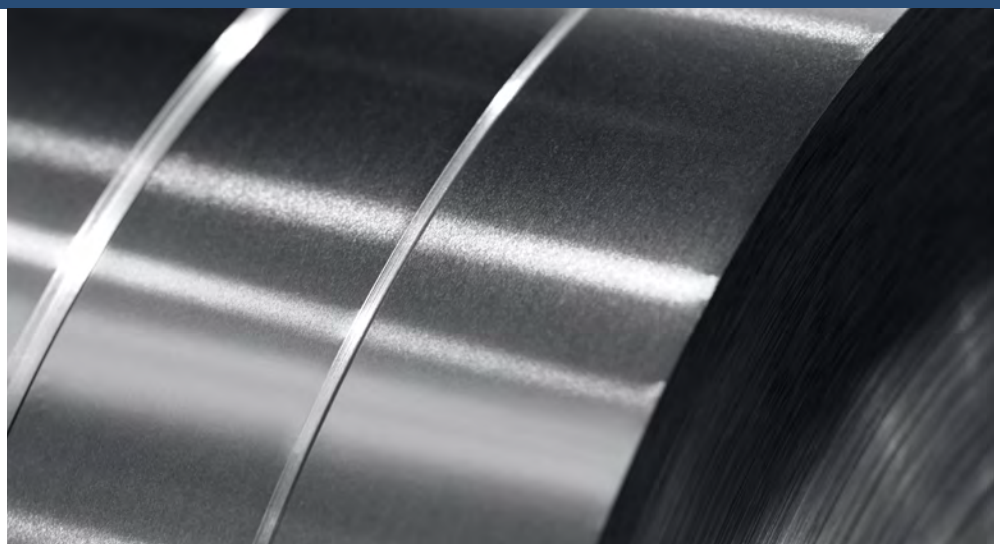
- Spark Resistant
- Corrosion Resistant
- Performs Well in High Temperatures
- Superior Conductor of Electricity and Heat

Applications

H&S Manufacturing creates many types of precision components for the aerospace industry. Since flight vehicles are comprised of millions of parts, the product line for this industry is vast. H&S meets these diverse needs by fabricating an extensive catalog of large and small-scale products, in volumes that range from prototypes to mass production.

The components we make adhere to all relevant aerospace industry standards and are crafted from durable materials carefully selected for their mechanical properties. The following are some of the most common aerospace components we create using aluminum, brass, and stainless steel.

Aluminum



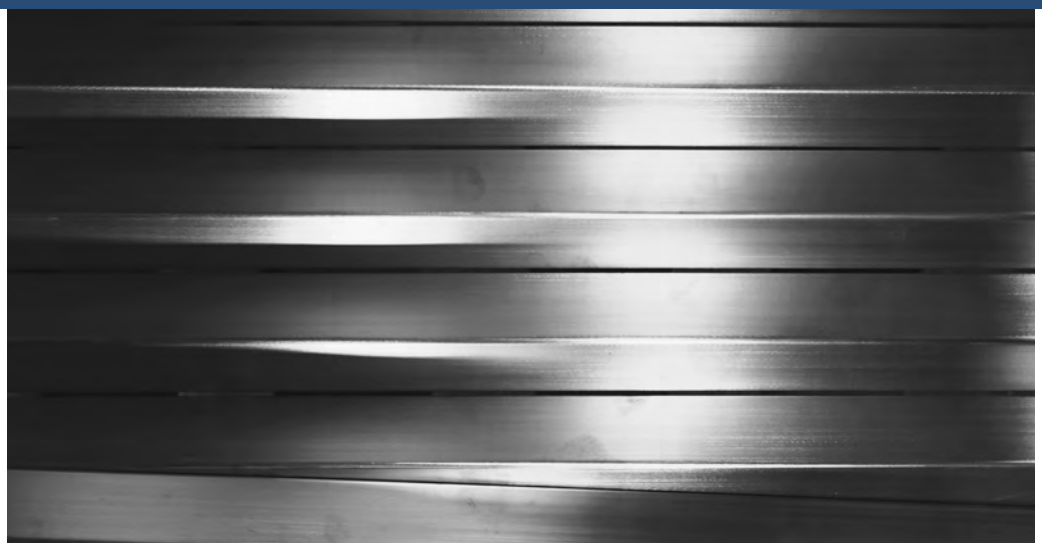
- Cockpit Instrumentation
- Exhaust Pipes
- Fuselage
- Doors and Floors
- Rudder
- Wing Panels
- Seats
- Exhaust Pipes

Brass

- Cargo doors
- Electrical component casings
- Landing gear
- Brake and wheel components

Stainless Steel

- Airframes
- Jet engines
- Landing gear



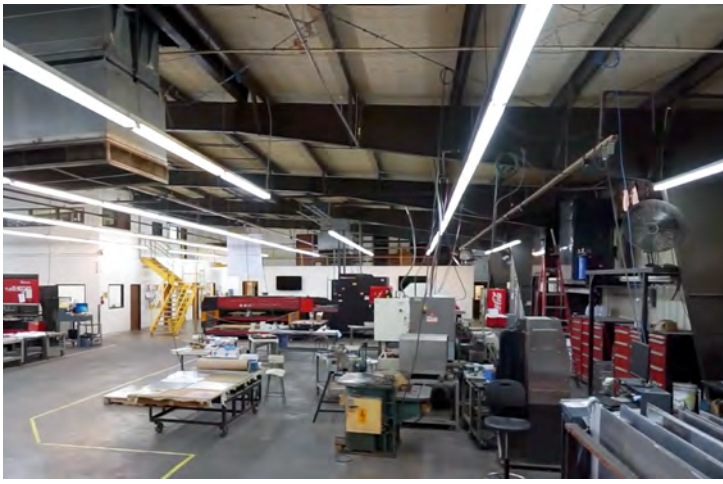
Why H&S?

H&S Manufacturing has built trust among our employees, customers, and partners for the past 50+ years. We continuously invest in the latest sheet metal manufacturing equipment and ensure cost-effective, industry-compliant fabrication for a diverse range of mission-critical aerospace components. In addition to our main manufacturing capabilities, we also offer a range of secondary services designed to optimize your metal-fabricated products for their end-use environments.

We perform heat treating, plating, welding, wet painting, and powder coating, as well as hardware installation, mechanical assembly, and many other secondary processes to ensure our clients' needs are met. Whether you need to develop a prototype or obtain a large-volume production run, our knowledgeable team is ready to serve you, with an average lead time of 4 weeks. To learn more about our metal fabrication capabilities for the aerospace industry, **contact our team** or **request a quote** today.

About H&S Manufacturing

H&S Manufacturing Co. has been a premier metal fabricator since our inception in 1968. With capabilities spanning precision sheet metal fabrication, machining, assembly, and testing, H&S Manufacturing Co. uses state-of-the-art manufacturing solutions, sophisticated software capabilities, and skilled personnel to ensure the highest quality results for every customer. With priorities that include customer satisfaction, on-time delivery, and cost reduction, we strive to build true partnerships with our customers. To see how we can support your project, please don't hesitate to contact us or request a quote today.



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