



Thunderbird is a high-volume producer of over molded tungsten penetrators, countermeasure flare cases, and antenna element body components used on missile guidance and tracking systems.



Superior Weapons Components—Quicker, Stronger, Lower Cost

Military and defense applications require parts manufactured to exacting standards that support the strength, complexity, and tight tolerances of their products. Thunderbird aluminum and steel impact extrusions quickly deliver critical specified qualities. The process we have perfected creates high-quality near-net shapes that control per-part costs, reduce machining time, and increase component strength. Impact extrusions provide high mechanical properties, no porosity, and enhanced grain flow for durability.

Component shapes can be round, square, hexagonal, and can include splines or ribs. Aluminum blanks from 1.5" to 8", steel blanks from 1.5" to 4". Materials range from 7075, 6061, 1100 aluminum alloys to TiNb30.

Improve Weight-to-Strength Ratio

Maximum efficiency and effectiveness achieved thru the integration of materials. Thunderbird has your back with a full range of custom plastic injection molding capabilities to produce strong, lightweight components using a range of polymers and specially compounded resins. Processes include over molding, insert molding, and two-shot molding. Presses range from 75

tons to 1,500 tons, with redundant capabilities for the scalable production of parts in the millions. Thunderbird provides mold and die tooling expertise, robotics automation, and post-mold finishing and assembly services.

Broad range of engineered plastics expertise including Delrin, nylon, Ultem (PEI), HDPE, polypropylene, ABS, and polycarbonate. For lighting and critical lens-grade parts for the defense industry, our experience and expertise in clear custom plastic injection molding enable us to provide high-quality, flawless final products. We use the latest systems and technologies to control hydrolysis and oxidation for pristine plastics.

Defense Products Expertise

Thunderbird is a proven partner for high-volume munitions production as well as specialty applications such as antenna element body components used on missile guidance and tracking systems and remote sonar delivery systems. OGIVE for artillery rounds, plastic over molding for tungsten penetrators, dummy rounds, and protective caps for ordnance. We quickly produce near-net shapes for medium caliber cartridge cases in aluminum or steel, countermeasure flare cases, and signal flare components. We manufacture supplementary charge liners for artillery shells, tail cones and fins for mortars and tank rounds, plus receiver cartridges, receiver tubes, and scope housings for firearms.



Learn more about
metal impact
extrusions

thunderbird-metals.com

Metal impact extrusion process quickly produces near-net shape parts with high mechanical properties for strength and durability.

End-to-End Capabilities

Precision manufacturing begins with a partner that has your best interests in mind. Process and procedures are our top priorities. From design for manufacturability to finite element analysis, tooling expertise to process engineering, Thunderbird provides the molding and extruding capabilities, CNC machining, and coating and finishing support you need, backed by quality control measures and documentation.

Defend Your Bottom Line

Decades of experience provides problem-solving value to our customers. Our engineers work with your team to evaluate your part and its specifications. Collaboration may include visiting your facility to see your capabilities and methods of assembly in order to inform the design and manufacturing process of your parts. When we better understand your needs, we see how we can better serve you.

Borne out of this collaborative approach, we can help improve part designs, make material recommendations, suggest cost-efficient features or tolerances, and use our experience to streamline the overall manufacturing process. Our goal for you is to achieve near-net-shape manufactured parts for quicker, more cost-efficient delivery.



Learn more about
plastic injection
molding

thunderbird-molding.com

Plastic injection molding expertise in a broad range of polymers produces high-quality components that are strong yet light in weight.

About Thunderbird

Headquartered in Oak Brook, Illinois, Thunderbird LLC is a large contract manufacturer with expertise in metals and plastics. We support industry-leading OEMs in the aerospace, defense, firearms, and munitions sectors, offering decades of proven experience in tight-tolerance component manufacturing. With more than 900,000 square feet of manufacturing space at 8 state-of-the-art facilities across the eastern United States, we have the scale and capacity to support precision component development, from NPI initiatives through high-volume production.

Thunderbird is an ITAR-registered, ISO-certified, FFL manufacturer. We have extensive experience supporting the U.S. military's mission to provide ready, prompt, and sustained dominance through efficient high-volume production of ordnance, munitions, firearms components, and related parts and assemblies. We are guided by the unified pursuit of excellence, teamwork, and innovation. A commitment to building a stronger America fuels our mission to elevate defense manufacturing processes through continuous improvement and capital investments.