



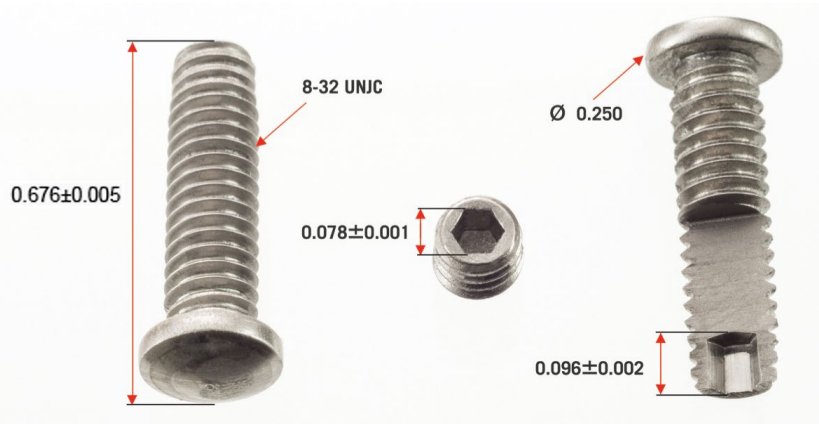
Aerospace Fastener



Overview

Industry: Aerospace

Application: Latch Internal Hex Wrench
Socket Screw



A domestic manufacturer of aerospace latching systems approached MW Components to develop a custom CRES fastener for a new product design in an airframe latch. The part's design involved three different geometric challenges: a convex head feature, a reverse hex extrusion, and a rolled thread over the backward extrusion.

MW Components created the convex head and hex-shaped reverse extrusion by cold forming the part in the first part of the process. As a result of the cold forming process, the hex created by the reverse extrusion created a stronger part than would have been possible by other means, such as machining, which would have significantly weakened the part. MW Components set up a secondary process to thread-roll the part without collapsing the hex cavity.

Critical Tolerances:

- Inset Hex Depth and Concentricity
- Head Height and Radius
- 8-32 Thread to AS8879, UNJC-3A

Manufacturing Processes:

- Cold Heading
- Extrusion
- Reverse Extrusion
- Annealing
- Roll forming

Material:

Incoloy A-286

Unique Benefits

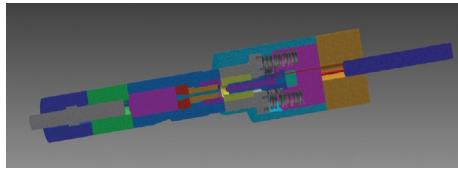
- 100% Net Shape – No material scrap
- Work hardened head-to-shank interface
- Work hardened threads per AS8879
- Final tensile at 130,000 KSI, from original material tensile of 85,000 KSI
- Burr and sliver free condition without mechanical secondary operation
- High throughput, low cost alternative to machining

Engineered Cold Formed Solutions For The Most Demanding Applications

MW Components is a global pioneer in collaborative design, development, manufacture and control of miniature and micro-miniature metal components for customers seeking a better solution for yield, strength, assembly and cost through the application of cold forming technologies.

Mechanical design and assembly firms the world over turn to MW Components for their most advanced near-net-shape part requirements to eliminate material scrap, increase mechanical strength and reduce costly secondary operations.

MW Components employs vertically integrated LEAN practices in design, manufacturing, order and global inventory management including stock custom



miniature and micro components for JIT delivery to international customers in the Medical, Automotive, Aerospace, Energy, Appliance, Consumer Electronics, Defense and Semiconductor markets.

Our engineering team applies advanced progression, materials characterization, tooling and manufacturing knowledge to develop cost-effective production routines for each customer's requirements.

Using finite element analysis, quick-turn prototyping, CAD/CAM, soft tooling and in-house tool-making, MW Components has the depth and capabilities to move your project quickly into production.

Quality Systems, Controls, Materials

Standards:

- ISO9001:2008
- ITAR
- NIST Traceability

Material Control:

- DFARS
- RoHS
- AMS

Dimensioning & Tolerancing:

- AOI
- RAM Optical Metrology
- Micrometers
- Optical Comparators
- Drop Gages
- Pin Gages
- Vernier
- 100% Inspection Capabilities

Materials:

- 302 Stainless Steel, 304 Stainless Steel 42-6 Stainless Steel
- 48 Alloy, 52 Alloy ASTM-F30
- Copper
- Copper Core 2:1, 3:1, & Special Ratios Inconel X750
- Kovar ASTM-F15
- Molybdenum
- Nickel – Pure, Nickel Iron Alloys Niobium
- Platinum/Iridium
- RA330-04
- Silver

About MW Components

MW Components is focused on accelerating the entire process of delivering custom, stock, and standard parts to virtually any volume and against demanding deadlines. We work to highly complex tolerances. We help simplify the management of any number of different components. And we take a no-compromise approach to quality. With MW Components you can be sure you'll get the right part to the right specification when and where you need it.



MW Components

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