ENGINEERED FOR DEMANDING AIRFIELD ENVIRONMENTS, HOLD FAST COMBINES STRUCTURAL-GRADE MATERIALS, MECHANICAL LOCKING, AND MAINTENANCE-FOCUSED FASTENING TECHNOLOGY.

BOLT MECHANICAL & DIMENSIONAL SPECIFICATIONS

BOLT PARAMETER	SPECIFICATION / VALUE	REFERENCE
Thread Size & Pitch	3/8"-16 UNC-2A	ASME B1.1 / AC 150/5345-42
Bolt Material	ASTM F593A	ASTM F593A
Minimum Yield Strength	95,000 PSI	ASTM F593A
Head Configuration	Forged hex; captive SEMS washer, wedge-lock flange	ASME B18.2.1 / DIN 65151
Lead-In Thread	Anti-cross-thread pilot tip	MATpoint®
Vibration Resistance	Disc-Lock (wedge-lock) bolt	DIN 65151
Anti-Gall Coating	NOF-PINK aqueous dry film, PFAS free	FAA EB 83A

NUT MECHANICAL SPECIFICATIONS

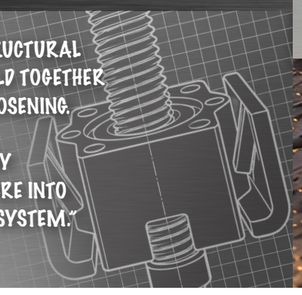
NUT PARAMETER	SPECIFICATION / VALUE	REFERENCE
Nut Keeper System	Shuriken™ structural nut keeper	–
Polymer Cap	Captures heavy hex nut	–
Steel Ring	Transfers torque to base plate	–
Flexible Tabs	Allow lateral float	–
Heavy Hex Nut	ASTM A194 Gr. 8 Class 2	ASTM A194 / F594A
Internal Thread	3/8"-16 UNC-2B	ASME B1.1
Anti-Galling Treatment	Nanowear surface diffusion hardening	Advanced Surface Metallurgy
Minimum UTS	125,000 PSI	ASTM A194 / F594

BOLTED JOINT ASSEMBLY SPECIFICATIONS

JOINT PARAMETER	SPECIFICATION / VALUE	REFERENCE
Bolt Yield Strength	95,000 PSI min.	ASTM F593A
Bolt UTS	120,000 PSI min.	ASTM F593A
Nut UTS	125,000 PSI min.	ASTM A194 Gr. 8 / F594A
Active Clamp Load	6,258 lbs / bolt	Design Calculation
Total Clamp Load	37,548 lbs / 6-bolt assembly	System Design Metric
Coefficient of Friction	0.30 μ	RCSC
Shear Resistance	1,877 lbs / bolt	Lab Verification

DYNAMIC AIRCRAFT SHEAR LOADING

IMPACT PARAMETER	SPECIFICATION / VALUE	REFERENCE
Peak Wheel Shear Force	11,100 lbs	FAA AC 150/5345-42J
System Shear Resistance	11,262 lbs	Mechanical Joint Calculation
Structural Safety Margin	+162 lbs	Slip-Critical Analysis
Slip Safety Factor	1.02	Mechanical Joint Calculation



"AN AIRFIELD JOINT IS FUNDAMENTALLY A HEAVY STRUCTURAL ELEMENT ON THE RUNWAY, YET IT IS TRADITIONALLY HELD TOGETHER BY VOLATILE MECHANICAL FASTENERS PRONE TO LOOSENING.

THE HOLD FAST™ SYSTEM BRIDGES THIS GAP BY TRANSFORMING MECHANICAL FASTENING HARDWARE INTO A UNIFIED, HIGH-INTEGRITY STRUCTURAL FASTENING SYSTEM."

DO NOT WAIT FOR THE NEXT STRUCTURAL RUNWAY JOINT FAILURE TO UPGRADE YOUR INFRASTRUCTURE SECURITY.

Stop relying on high-maintenance assemblies that risk stripping, cross-threading, and costly base can replacements. Elevate your airfield safety limits, minimize maintenance down-time, and guarantee total joint integrity under heavy aircraft impacts with the Hold Fast™ standard.

STOP STRIPPING THREADS.

ELIMINATE BOLT BACK-OUT.

HOLD FAST is an exclusive product from **MCB INDUSTRIES, INC.**

MCB INDUSTRIES

De Pere, Wisconsin
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MCB-INDUSTRIES.COM

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MATpoint® is a registered trademark of MAThread, Inc.

MODULAR FASTENING SYSTEM FOR IN-PAVEMENT LIGHTS

Meets or exceeds FAA Engineering Brief 83A (EB 83A) provisions.

FASTEN WITHOUT FAILURE



HOLD FAST™ MODULAR FASTENING SYSTEM IS A STRUCTURAL UPGRADE FOR EXISTING AIRFIELD GROUND LIGHTING (AGL) FIXTURES THAT IMPROVES STRENGTH, RELIABILITY, AND SERVICEABILITY—WITHOUT MODIFYING EXISTING L-868 BASE CANS.

The system redirects damaging impact and vibration loads away from vulnerable aluminum components, helping prevent stripped threads, spun hardware, and premature fixture failure. Its Shuriken™ structural nut keeper and wedge-lock fasteners provide a secure mechanical connection that stays locked under severe runway conditions while allowing faster, easier bolt removal during maintenance.

THE RESULT? Longer fixture life, fewer hardware failures, faster maintenance, and reduced lifecycle costs.

ENGINEERED TO SOLVE YOUR TOP RUNWAY FAILURES

MECHANICAL SHEAR ISOLATION
Redirects touchdown forces away from vulnerable aluminum components—without modifying existing L-868 base cans.

SHURIKEN® STRUCTURAL NUT KEEPER
Locks the structural nut in place to prevent spin-outs and vibration-related loosening.

ANTI-GALLING METALLURGY
Resists thread seizure for faster bolt removal, easier maintenance, and less damaged hardware.

PFAS-FREE FRICTION CONTROL
Provides consistent, predictable fastening performance with an environmentally compliant coating.

INTEGRATED WEDGE-LOCK FASTENERS
Mechanically locks bolts in place to prevent back-out under repeated runway vibration and shear.

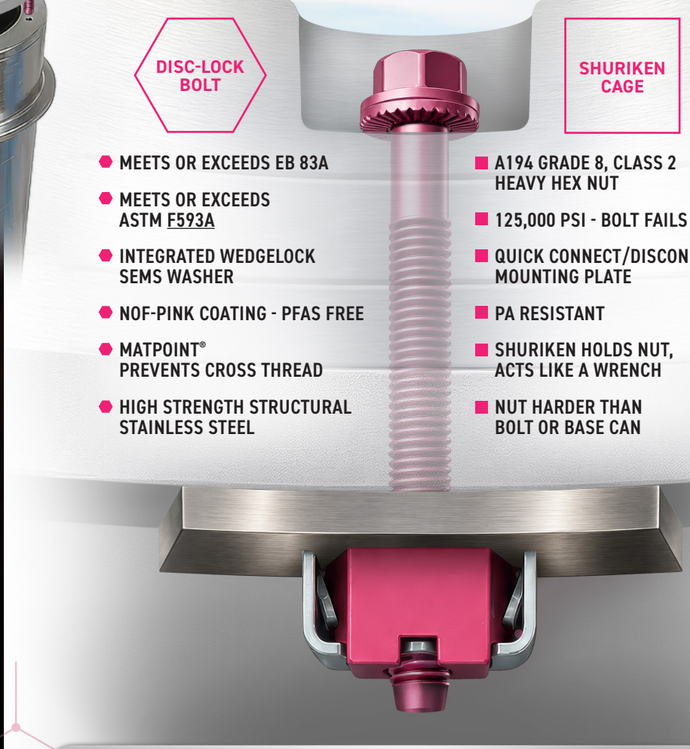
HOLD FAST™

TWO COMPONENTS. ONE SECURE SYSTEM.

DISC-LOCK BOLT
Wedge-lock fastening resists vibration and bolt back-out while allowing fast, reliable maintenance.

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SHURIKEN® CAGE
Captures the structural nut to prevent rotation, spin-outs, and thread damage under extreme runway loads.



- MEETS OR EXCEEDS EB 83A
- MEETS OR EXCEEDS ASTM F593A
- INTEGRATED WEDGELOCK SEMS WASHER
- NOF-PINK COATING - PFAS FREE
- MATPOINT® PREVENTS CROSS THREAD
- HIGH STRENGTH STRUCTURAL STAINLESS STEEL

- A194 GRADE 8, CLASS 2 HEAVY HEX NUT
- 125,000 PSI - BOLT FAILS FIRST
- QUICK CONNECT/DISCONNECT MOUNTING PLATE
- PA RESISTANT
- SHURIKEN HOLDS NUT, ACTS LIKE A WRENCH
- NUT HARDER THAN BOLT OR BASE CAN

THE 90-SECOND FIX

When a bolt is damaged in the Hold Fast system, the Shuriken cage remains perfectly aligned with the through-hole channel for an instant, foolproof repair.



1. **UNFASTEN THE THUMB SCREW.**
2. **REMOVE THE DAMAGED MOUNTING PLATE.**
3. **REINSTALL A NEW MOUNTING PLATE ASSEMBLY.**

No field drilling, no tapped thread restoration, and zero runway downtime—just a simple, ultra-fast swap that gets the fixture back in service immediately.

THE HOLD FAST FASTENING SYSTEM INTRODUCES SEVERAL KEY MECHANICAL AND STRUCTURAL IMPROVEMENTS DESIGNED SPECIFICALLY TO OVERCOME THE DESIGN FLAWS OF LEGACY STANDARDS, LIKE THE EB 83A.

1 LOAD ISOLATION & STRUCTURAL PROTECTION

DYNAMIC LOAD ISOLATION:
The system completely isolates severe dynamic landing and taxiing loads from low-yield A36 steel or aluminum airfield infrastructure, drastically minimizing fatigue wear on foundational components.

MECHANICAL SHEAR ISOLATION:
Features a zero-alteration modular design that drops seamlessly into existing FAA-regulated airfield ground lighting (AGL) legacy dimensions, including L-868 base cans and 12"-to-8" adapter rings (doughnuts).

2 ADVANCED RETENTION & LOCKING MECHANISMS

INTEGRATED WEDGE-LOCK BOLT HEADS:
Delivers built-in mechanical self-locking security directly at the bolt head, effectively preventing back-out caused by cyclic shear and continuous runway vibrations.

SHURIKEN CAGED HEAVY HEX NUTS:
Implements smooth through-holes with specialized caged heavy hex nuts to eliminate spin-out risks during high-torque installations and heavy operations.

ANTI-ROTATION RETENTION PLATES: Utilizes dedicated underside mounting plates that lock the entire assembly into a fixed orientation, resisting rotational shifting.

3 MATERIAL SCIENCE & ENVIRONMENTAL COMPLIANCE

PFAS-FREE FRICTION CONTROL:
Replaces hazardous chemical treatments with an environmentally compliant, highly controlled friction matrix that meets strict ecological requirements.

ANTI-GALLING SURFACE DIFFUSION:
Employs surface diffusion nuts to achieve extreme hardness, entirely mitigating thread seizing and mechanical galling during high-speed maintenance cycles.

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MCB INDUSTRIES

HEAD TO HEAD COMPARISON

ENGINEERING CHALLENGE	LEGACY THREADED SYSTEM	VS	HOLD FAST SOLUTION
LOAD PATH →	Impact loads transfer directly into base infrastructure.		Mechanical shear isolation redirects loads along a protected path.
VIBRATION →	Cyclic runway loads can loosen conventional fasteners.		Wedge-lock fasteners resist vibration and bolt back-out.
NUT FAILURE →	Blind fastening can lead to spin-outs and hardware damage.		Shuriken locks the nut in place.
MAINTENANCE →	Impact tools can cause galling, seizure, and broken bolts.		Hardened metallurgy allows faster, cleaner removal.
CORROSION/CHEMICALS →	Coatings and dissimilar metals can deteriorate in harsh conditions.		PFAS-free coating and isolation materials improve durability.
FOD RISK →	Loose washers and hardware can fall onto the runway.		Captive SEMS hardware keeps components together.
SLIP SAFETY FACTOR →	.81		1.02 - maintains true slip-critical integrity under peak aircraft loads.