

Meeting Customer Needs Through Innovation

Dear Oregon Aero Customer:

We founded Oregon Aero in 1989 with one product (a headset cushion) and one objective — to make flying more comfortable. And as advanced and complex as Oregon Aero's product engineering, craftsmanship and expertise have become since then, we're still the folks who take away the pain.

Our passion is to create innovative, effective solutions to problems that arise when the human body interfaces with manufactured hardware. There's more to solving these problems than meets the eye. For example, making seats is one thing. But enabling you to sit comfortably is another. We can do both.

In the end, what we care about is designing and manufacturing products for PEOPLE — products that provide maximum comfort, improve safety and reduce noise. We have absolute dedication to product performance and 100% customer satisfaction.

The catalog provides an overview of Oregon Aero's research and development, engineering, testing, certification and manufacturing capabilities. We also tell the story of Oregon Aero, share our core values and describe what we think sets us apart. Included are comments from a few of our many thousands of satisfied customers.

Much of the catalog is organized by product category. We hope the diversity, breadth and depth of our product lines demonstrate Oregon Aero's commitment to meeting customer needs through innovative product designs that can be adapted across industries.

We appreciate your interest in Oregon Aero and invite you to visit our website at OregonAero.com. There you will find additional information about Oregon Aero and our products, services, and capabilities.

Mike Dennis

Mike Dennis
Founder, President & CEO

Jude Dennis

Jude Dennis
Vice President



JUDE AND MIKE — Jude and Mike Dennis founded Oregon Aero in 1989 to help people fly pain-free. The company's focus remains on engineering and manufacturing comfortable, safer and quieter products that meet customer needs across many industries.

We're still the folks who take away the pain.



LEADERSHIP, INNOVATION — Oregon Aero has a proven record of innovation, product performance, customer service and customer satisfaction.



THE HUMAN/HARDWARE INTERFACE — Making seats that are aesthetically pleasing is one thing. Enabling you to sit comfortably is another. We can do both.



SEAT TESTING — This catalog provides an overview of Oregon Aero's leadership in engineering, testing, certifying and manufacturing advanced seating systems. Shown is successful testing of the **Oregon Aero® High-G®** Seat at the MGA Research Laboratory in Burlington, Wisconsin.

Our passion is to create solutions to problems that arise when the human body interfaces with manufactured hardware.

Aerospace Products for Down-to-Earth Comfort®



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Aerospace Products for Down to Earth Comfort®, APECS®, BLSS®, BLU®, FlashPoint®, Forgettable Is Good®SM, High-G®, HushKit®, Just Tell Us Where It Hurts.™, Just Tell Oregon Aero Where It Hurts.™, MicMuff®, New Ways of Thinking To Solve Old Problems®, Oregon Aero®SM, Oregon Aero Can Fix What Hurts.™, Oregon Aero Fixes what Hurts.™, Painless, Safer, Cooler™, Painless, Safer, Quieter®, Painless, Safer Seating™, PRD®, Seven League Boots™SM, ShockBlockers®, SlipNot®, SoftSeal®, SoftSeal/HushKit®, SoftSeat®, SoftSkin®, SoftTop®, Super Cushion®, We'll Fix What Hurts.™, The Ultimate in Flying Comfort™, The World's Greatest Headset Is the One You Already Own!®, The World's Greatest Helmet Is the one You Already Own!®, TM3™, Visco-Kinetic®, VK SmartCushion™, Zeta-C®, Zeta II® and ZetaLiner® are trademarks and/or service marks of Oregon Aero, Inc. SPH-4®, SPH-4B®, SPH-5® and TPL® are federally registered trademarks owned by Gentex Corporation. BOSE® and AVIATION HEADSET X® are trademarks of Bose Corporation. Oregon Aero, Inc. is not affiliated in any way with Bose Corporation. Use of trademarks other than those of Oregon Aero, Inc. and the mention of other companies and their products throughout this catalog are for reference purposes and do not necessarily imply any particular business association with Oregon Aero. The rights held in all trademarks and service marks, registered and otherwise, are properties of their respective owners.

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The Story Of Oregon Aero, Inc.

In some ways, the story of Oregon Aero, Inc. began in 1989 because of a headache — a headache that Jude Dennis (Oregon Aero vice president) experienced whenever she flew with husband Mike Dennis (Oregon Aero founder, president and CEO).

Mike set out to tackle Jude's headache problem. After a great deal of research, thinking, and experimentation, he created the **SoftTop®** Headset Cushion from leather and sheepskin wool.

The **SoftTop®** Headset Cushion worked. Jude's headaches disappeared, and Mike and Jude began selling the Cushions at local fly-ins.

Customer feedback was positive, and Mike continued to improve the **SoftTop®** Headset Cushion and add custom designs for various headset models. Dozens of Headset Cushions were piled high on the kitchen table as they were sewn by hand; bolts of leather and other materials filled the garage.

From this beginning grew a company which today is the leader in engineering and manufacturing advanced seating systems for aviation and other industries. The company also offers a broad range of additional products and holds dozens of patents.

Even so, the focus remains on the same issues addressed in 1989 with the **SoftTop®** Headset Cushion — making the interface between the human body and manufactured hardware pain-free, safer and quieter.

But even so, the beginning of the story goes back much further than 1989.

In designing products and leading Oregon Aero, Mike Dennis does what he has always loved to do — solve problems by thinking about them in new ways.

"Most of the time when we solve a problem, it's because we've turned the problem upside down and not accepted traditional assumptions," says Mike. That way of thinking led to the development of pain-free, safer seating and headgear and the hundreds of other products he's designed.

Mike always has been fascinated with airplanes, boats and machines. He comes by his fascination and design skills honestly. His maternal grandfather, Ronald Young of Poulsbo, Washington, designed and built the first automobile ever to appear on the Kitsap Peninsula, around 1914. Ronald Young also designed and built boats by hand, notably the beautiful wooden Poulsbo boat from 1918-1965. Poulsbo boat owners still treasure their craft, which can be found in the waters of the Pacific Northwest and elsewhere.



MAKING AND TESTING — Mike Dennis, in his den, 1990, makes **SoftTop®** Headset Cushions and tests newly designed ear seals which became **Oregon Aero® SoftSeal®** Ear Cushions.

In some ways, it started with a headache. But it goes back further than that.



STARTING YOUNG — Mike Dennis was always fascinated with planes, boats, and machines. In his front yard with model airplanes at age 16 when this photo was taken, Mike already was taking flying lessons.



LOVE OF EXPERIMENTATION — Ronald Young experimented with various outboard designs, reversing the traditional tumblehome of the outboard and allowing the lines to flare outward along the sheer. He also tinkered with an inboard well for outboard power, building the well adjacent to the keel. This love of experimentation and looking at designs in a different way has carried through to Mike Dennis and Oregon Aero.

THE POULSBO BOAT — Ronald Young, Mike Dennis' maternal grandfather, prepares to deliver two unpainted Poulsbo outboard skiffs, around 1950. Young designed and built these craft by hand. Many of his Poulsbo Boats can still be found in the waters of the Pacific Northwest.



The Story Of Oregon Aero, Inc.



HELMETS AN INTEREST — Jim Dennis, a teacher, preacher, counselor and speech therapist, designed hearing aids and worked to improve the design and communications systems of aviation helmets.

Mike's dad, Jim Dennis, practiced a number of professions; he was a teacher, preacher and counselor. But Jim Dennis also was an educated speech and hearing therapist, and here's where his genetic links to Oregon Aero grow even more interesting.

Jim Dennis designed hearing aids and worked on other projects related to hearing, including aviation helmet ear seals, ear cups and communications systems. Unfortunately, Jim Dennis passed away at age 50 without completing this work.

"When the thought hits me that I'm following through on work my dad began, it's pretty amazing," notes Mike. "But surprisingly, when I began developing headset and helmet upgrades, I didn't remember he'd worked on aviation

helmets. I did remember being ten years old and wearing those helmets to 'fly' around the neighborhood on my bike — I was obsessed with flying airplanes. It was later, after talking with my mother, that I understood better what my dad was doing with the helmets."

Mike remembers a saying his dad liked to recite during his teaching and preaching days: "The brain can perform only as long as the butt can endure." The saying strikes quite a note of irony, considering Oregon Aero's success in designing painless seating! By eliminating pain, Oregon Aero® Seats and Seat Cushion Systems enable people to focus on the job at hand, and more than one person has thanked Oregon Aero for "saving my butt!"

At 19, Mike earned his private pilot's license and soon after, his Airframe and Powerplant license, achieving his childhood dream. Little did Mike know his love of flying (and solving problems) would take him on an even grander journey — to create and lead a company which offers innovative, breakthrough products to people around the world.

What Mike did over the years was follow his own way of thinking. "I don't like being told 'no' or 'it can't be done' or 'it's impossible.' Everything is possible," says Mike. "It's a matter of persevering and being willing to look at solving problems in new ways."

An additional attribute accompanies this confidence and leadership: listening. Mike Dennis and Oregon Aero listen to people's problems and what people need. Consequently, the creation of nearly every Oregon Aero product begins by listening to customers.

Mike acknowledges that he's always thinking about whatever problems have grabbed his attention and as a result, Oregon Aero never fails to have multiple new products in development. And while the company began by solving problems in aviation, today Oregon Aero works with many industries, the military and law enforcement. Mike even has developed a line of innovative health care products.

The history and growth of Oregon Aero are a story of breakthrough thinking, perseverance, listening, and deriving satisfaction from helping people, along with a hearty tip of the hat to genetic predisposition.

What may come next in the Oregon Aero story? Mike's not worried. Says the Oregon Aero founder, "There always will be problems to solve — always."



Fitting a seat for aerobatic performer Wayne Handley, 1994

"The brain can perform only as long as the butt can endure."
— a favorite saying of
Jim Dennis, Mike's dad

TRUE INNOVATION — The pain-free, safer Oregon Aero® High-G® Seat is an example of true innovation resulting from Mike Dennis' breakthrough thinking. The Seat complies with applicable FAA regulations. Its modular design can be engineered for a broad spectrum of applications such as aircraft, high speed boats, land vehicles and other seating. Shown here is the High-G® Seat modified for the U.S. Military H-65 Rescue Swimmer crew position.



FROM HEADSETS TO FIGHTER JETS — Mike Dennis stands with the F-22 Raptor Stealth Fighter prototype at the USAF Museum, Wright-Patterson AFB. Oregon Aero designed and manufactured the aircraft's ejection seat cushion system. From the development of an aviation headset cushion to engineering advanced seating systems, Mike Dennis and Oregon Aero have focused on making the interface between the human body and manufactured hardware pain-free, safer and quieter.

Thanks, Irv!

Oregon Aero exists in part because of my good buddy, Irv Allen. He gave me my first flying lesson in 1962 when I was 13 and continued to teach me to my private in 1969. I also worked under Irv to qualify for my A&P rating.

Irv was a huge influence on me and helped my dream of flying become a reality.

Even today, Irv is still teaching me — about life as well as flying.

Thanks, Irv!

— Mike Dennis



Irv Allen

Our Mission and Core Values

Our Mission: To improve people's enjoyment of and satisfaction with aviation products which come in contact with the human body by maximizing comfort and improving safety. These products include, but are not limited to, all types of aircraft seating systems, aviation headgear, and portable cushion systems.

Our Core Values: We are dedicated to the following Core Values which serve as the foundation for implementing our Mission. These Core Values have been in place since Oregon Aero was founded by Mike Dennis in 1989. They drive the company's business and customer relationships and our methods of operation.



Every aspect of product design and manufacturing must provide the best quality to our customers.

We will:

Provide 100% customer satisfaction. No exceptions. We're not satisfied until the customer is 100% satisfied.

Practice extraordinary innovation. We think beyond the norm and seek to change the status quo by designing products that surpass industry and marketplace expectations.

Provide optimal product performance. Our products provide the benefits we promise.

Provide the best possible quality in all of our products. Every aspect of design, materials and manufacturing is implemented with the assumption that we will provide the best possible quality to the customer.

Pursue excellence relentlessly. We strive for excellence and continual improvement in all work processes.

Never be deterred by those who say, "It can't be done!" We have broken and will continue to break the barriers of conventional thinking.

We demonstrate independent, innovative thinking and are able to solve problems that have persisted over time, such as uncomfortable seating.



courtesy Cessna Aircraft Company

At left: Gail Mellegard, Business Development Manager and Mike Dennis, Founder, President and CEO, with a Multi-Functional High-G® Crew Seat for rotor wing aircraft. Above: a High-G® Seat designed for the Cessna Corvalis. Our innovative seating combines state-of-the-art engineering with superb technical craftsmanship, reflecting our focus on our Core Values.



What Sets Oregon Aero Apart?

Oregon Aero seating, headgear and other products are unique and superior to what exists in the marketplace. How do we do it? What sets Oregon Aero apart?

We possess world-class expertise in solving problems that arise when the human body comes into contact with manufactured equipment.

We eliminate pain, improve safety and solve other systemic problems that occur when a person wears equipment or sits on a seat.

Our products have a proven record and history of superior performance.

Simply put, our products work. Case in point: Every branch of the U.S. Military uses our seating systems, with more than 20 million flight hours logged to date.

We address each and every design detail beyond what is normally acceptable.

“It’s the last 20% of a product design that’s the most intricate, the most challenging, and the most important. The last 20% makes all the difference in the world.” – Mike Dennis, Oregon Aero Founder, President and CEO

We provide modular and other customized product designs.

We successfully address unique and varying application and customer requirements.

We practice innovation continually.

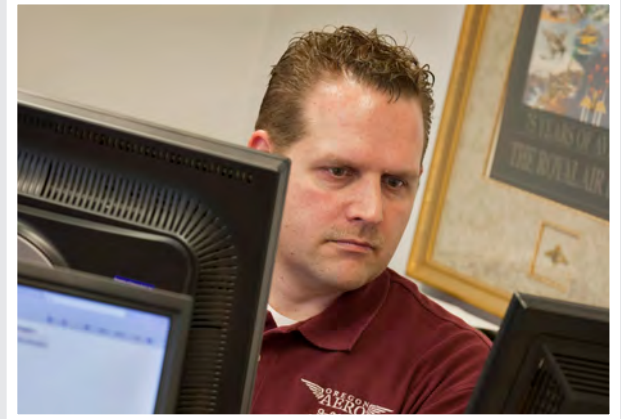
Through innovation, we are able to overcome engineering and other challenges as we meet and exceed customer needs.

We work with both manufacturers and individuals.

We provide high-volume seating and other services and products to manufacturers. We also provide top-performing products and outstanding customer service to individuals.

We demonstrate expertise and excellence in all phases of product development and manufacturing.

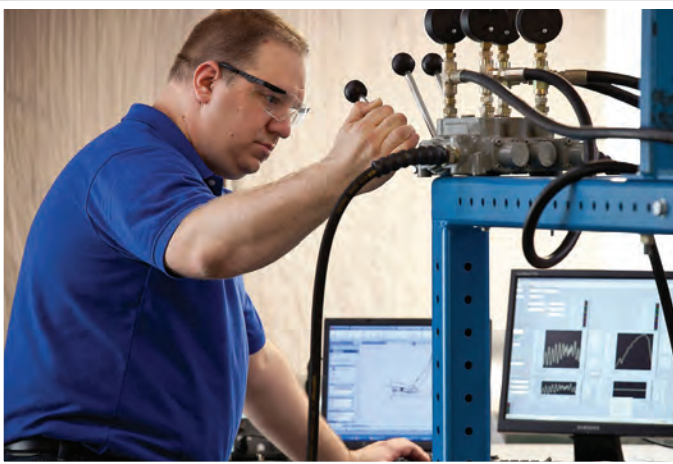
We do it all: Research. Product and parts development. State-of-the-art engineering. Testing. Certification. Manufacturing.



Oregon Aero employees focus on the company's Mission and Core Values, which drive the company's business and customer relationships and methods of operation.

**AS9100
CERTIFIED
ISO9001**

Static test of a VK SmartCushion™ System



Our seating and other products have a proven record and history of superior performance.





Why Do Customers Love Oregon Aero® Products?

Because they provide maximum comfort.

A Julie Clark, Aerobatic Performer

“Now that I’ve got Oregon Aero® Seating, I feel like I’m sitting on air! The custom cushions they made for my T-28 are perfect. They fit my seat like a glove and make it so much more comfortable, especially when I ferry my own plane from show to show. It cuts the fatigue factor, so I’m refreshed, even after flying for hours. I am honored to be associated with Oregon Aero. They get things done right, without any hesitation.”

Why Do Customers Love Oregon Aero® Products?

Because they are safer.

B Stu Horn, president, Aviat Aircraft, Inc.

“Aviat believes Oregon Aero produces the finest aircraft custom manufactured seat cushion system with respect to safety and comfort, as well as long service life.”

Why Do Customers Love Oregon Aero® Products?

Because they are quieter.

C Peyton DeHart, Army Aviation Heritage Foundation, Cobra Team Lead

“During performances of precision formation flight and the long cross country transits that precede and follow each show....sound attenuation is outstanding and ear cup fit is gentle, complete and non-tiring on the ears. Among other trips, full days of flying between Atlanta and Kansas City provided proof to me that the helmets can be worn all day without hot spots or distraction. My satisfaction is total and my teammates report the same. I am extremely glad we pursued getting your Aviation Helmet Upgrade Kits installed in our (SPH) helmets. After thirty plus years of helicopter flying, I am finally able to look forward to putting on a helmet prior to a full day of flight.”

D George Kounis, Publisher and Photographer, Pilot Getaways

“I’m jammed into the doorframe, leaning out into the air stream with a 100-knot wind blasting me, or I’m sitting in the cockpit with the door removed. With your Headset Upgrade, John (George’s brother and pilot) and I can communicate easily. I can tell John when to go right, left, or even to break away during a photo shoot. This increases the safety of our shoots and helps me take better photos.” (George fashioned dog Woody’s ear cushions from Oregon Aero ear seal materials.)

Why Do Customers Love Oregon Aero® Products?

Because they are 100% satisfaction guaranteed.

E M.W., Kansas City

“As a pilot with a bad back, I purchased your SoftSeat® portable cushion with the lumbar support. However, before getting the opportunity to test it in the plane, I set out on a 4,500 mile road trip to Alaska....I made the entire trip without any back discomfort (including using the cushion on a commercial flight home to Kansas City).”

Why Do Customers Love Oregon Aero® Products?

Because they do what's promised.

F Meg Godlewski, Gold Seal CFI, Master Flight Instructor and Aviation Journalist

"A big thanks to Oregon Aero for helping me achieve my dream of becoming a flight instructor! During training, my flight instructor noticed a difference in my flying immediately (with the Oregon Aero® portable cushions). Even power on stalls which made me apprehensive before, were performed with confidence because the cushions were secure and comfortable. Now I have more than 1,425 hours dual given under my belt; I could not have done it without the confidence gained by having a stable seat."

Why Do Customers Love Oregon Aero® Products?

Because they are backed by exceptional customer service.

G S.R., Crew Chief

"I'm a Crew Chief for the KC-135. Most of our cushions, armrests, headrests, and the boomer's chin rest are from Oregon Aero. I want to thank you for all the effort you put into your products. Believe me, I had to hear the pilots complain about the other bad seat cushions we had; I'm glad to have your product aboard my KC-135."

Why Do Customers Love Oregon Aero® Products?

Because their quality is superior.

H D.S., Combat Engineer

"I have fallen in love with the comfort and fitting of the BLSS® Kit. I can't forget the smiles on men's and women's faces once they donned their helmet with the BLSS® Kit and no longer had to live with the constant knots and pain throughout the day in Iraq. Your attention to soldiers and their comfort has made our job a lot easier."

Why Do Customers Love Oregon Aero® Products?

Because they address each customer requirement.

I Patrick Williams, Chief Pilot, Kern County, CA Fire Department

"We operate a Bell Super Huey for fire suppression and hoist rescue. Thank you for the excellent job you did on our pilot seats. It shouldn't be a problem to spend eight hours in the cockpit from now on. We chose Oregon Aero because of your fine line of products, and have never been let down."

Why Do Customers Love Oregon Aero® Products?

Because they are backed by world-class expertise and innovation.

J Doug Reeves, Van's Air Force-World Wide Wing

"Wonderful seats — wonderful company. I'll always have Oregon Aero® seats in my RVs."



courtesy Meg Godlewski

courtesy DoD

courtesy Kern County FD

Steve Horstman, courtesy vansairforce.net

World-Class Capabilities

How We Can Better Serve You

For our customer, it's about comfort, safety and performance.

For airframe and other manufacturers, it's also about meeting technical standards and the needs of each engineering project.

For Oregon Aero, it's about all of that and more. We are committed to exceeding expectations — to identify and address every requirement, whether or not the customer is aware of them. And we are satisfied only when the customer is 100% satisfied.

Oregon Aero is the leader in engineering, testing, certifying and manufacturing advanced seating systems that offer maximum comfort and improved safety. Additional Oregon Aero equipment is engineered and manufactured to be pain-free, safer and quieter.

Oregon Aero's full range of Capabilities, from research and development to engineering and manufacturing, results in innovative, sophisticated, state-of-the-art products.

Our Capabilities include:

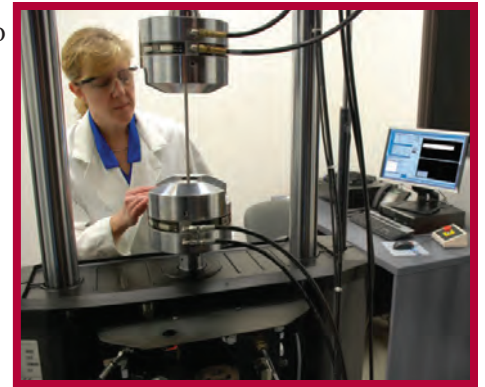
- **Engineering: Design, Testing, Analysis**
- **Seating Certification**
- **Manufacturing**
- **Research**
- **Innovation**
- **Individual and OEM Services**

Oregon Aero has a proven record of extraordinary innovation, product performance, customer service and customer satisfaction. Let us know how we can help you.



State-Of-The-Art Engineering

- World-class expertise in solving seating comfort and safety problems that arise when the human body comes into contact with manufactured equipment
- World-class expertise in engineering advanced seating systems
- CAE simulation for efficiency, cost effectiveness, innovation acceleration
- Diverse, robust, innovative



» Design

- Extraordinary innovation
- Maximum-comfort, innovative seat design considerations include: Variables of space, interface locations, cockpit or other environment • seat geometry • spinal and hip alignment • cushion pressure distribution
- State-of-the-art CAE simulation software
- Seamless interchange among design, simulation, optimization and analysis
- Elegant, multi-functional, modular, reliable
- Refined capabilities to address weight, structure, performance, cost
- FARO Arm™ technology

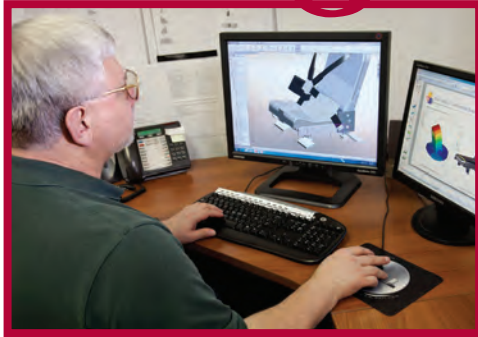
» Testing

- State-of-the-art testing of materials, elements, components, seat sub-assemblies and seat assemblies:
 - Static • dynamic • risk reduction • mission suitability • flammability
 - flotation • computer/math modeling
- In-house and outside laboratory resources
- World-class expertise in static and dynamic seat testing
- Seamless flow among testing, analysis, design, quality and manufacturing
- In-house state-of-the-art servohydraulic testing system
- Data acquisition capabilities
- Validation of FEA (Finite Element Analysis) modeling

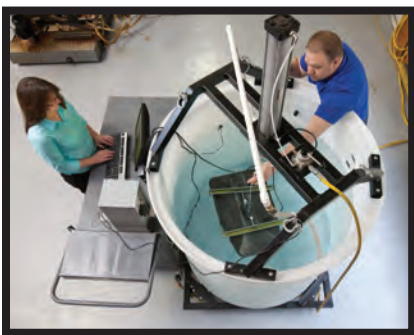
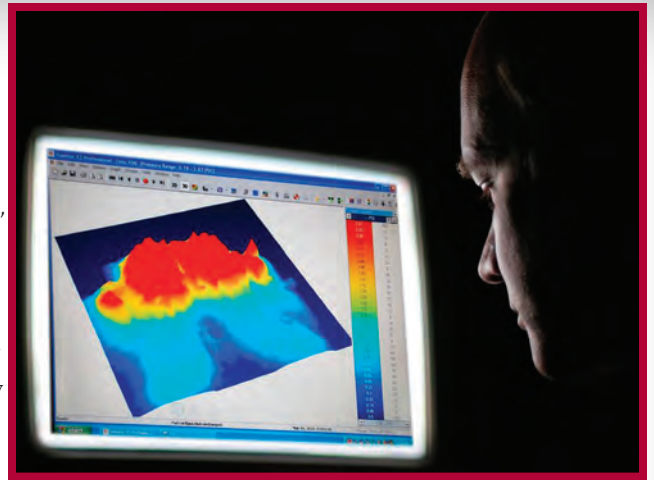
» Analysis

- High-fidelity Finite Element Analysis (FEA)
- Optimization of seating structural design for safe, lightweight seats for the aerospace industry
- Radioss: Linear and non-linear solver. Includes non-linear implicit and explicit analysis capabilities.
- HyperView post-processor
- Detailed analysis of joints and fittings
- Solid model design
- Performance evaluations of redesigns
- Final test validation

State-Of-The-Art Engineering Design



Our maximum-comfort, modular innovative seat designs are customized to meet each customer's functionality and other requirements. At right: Conducting seat cushion pressure distribution studies for a U.S. Military seating project. Contact us to discuss your seating needs.



Conducting flotation testing of an Oregon Aero® Seat Cushion

State-Of-The-Art Engineering Testing

We conduct state-of-the-art testing of materials, elements, components, seat sub-assemblies and seat assemblies. For example, our in-house servohydraulic load frame technology permits accurate, repeatable static and dynamic testing for seating and other products. The system tests properties such as tensile strength, compression, bend, stress relaxation, material fatigue, durability and strength.

U.S. Military photo captures image during sled test of an Oregon Aero® Seat Cushion System. Independent testing is part of our testing regimen.



courtesy U.S. Military



Oregon Aero has more than 20 years of experience in dynamic seat testing. Our seating passes 19-G download, 12-G vertical, 21-G longitudinal, and 26-G longitudinal test (shown here) requirements.*

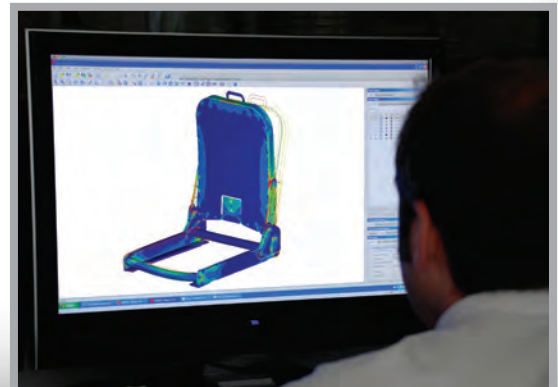
**AS9100
CERTIFIED
ISO9001**

Oregon Aero is AS 9100 Certified and conforms to ISO 9001:2008 and EN/JISQ/

AS9100:2004 Management System Standards. Certification is valid for: The design and manufacture of seating and helmet pad systems for aerospace and defense applications; and repair of seating systems and interior components for aerospace applications.

State-Of-The-Art Engineering Analysis

Still image from a high-fidelity finite element analysis of an Oregon Aero® High-G® Seat. Such state-of-the-art engineering tools optimize our seating structural design for safe, lightweight seats for the aerospace industry.



Simulation Design Technologies

- State-of-the-art, sophisticated simulation design and testing
- HyperWorks simulation design, testing and analysis: HyperMesh, RADIOSS, OptiStruct, HyperView
- Innovative, customized, performance-driven modeling, analysis, evaluation, visualization, and manufacturing
- Computer-Aided Engineering (CAE) simulation software
- Biodynamic modeling
- Rapid, cost efficient design and development

*Oregon Aero, Inc. conducts dynamic seat testing per the emergency landing conditions promulgated by the FAA in 1988 to improve the crashworthy performance of aircraft seating. Compliance with these FAA regulations by Oregon Aero® products does not ensure freedom from injury or death as a result of aircraft accidents, hard landings or other flight conditions.

World-Class Capabilities

Certification and FAA Compliance Seat Assemblies and Cushion Systems

- Can provide certified seating for airframe manufacturers, after-market service providers and individual aircraft
- **Oregon Aero®** Seat Assemblies comply with FAA regulations, requirements and testing for:
 - 14 CFR 23.561 (general emergency landing condition requirements)
 - 14 CFR 23.562 (dynamic tests for emergency landing conditions)
 - 14 CFR 23.785 (static strength requirements)
 - 14 CFR 23.853 (flammability requirements)
 - Corresponding paragraphs in 14 CFR Parts 25, 27 and 29
- Can provide STC (Supplemental Type Certificate) and PMA (Parts Manufacturer Approvals)
- 8110-3 supported field approvals
- Seat Assemblies complement TSO'd restraint systems
- **Oregon Aero®** Seat Cushion Systems meet all applicable FAA regulations
- FAA documentation for return-to-service provided where applicable
- Aircraft Interior Upgrade Services meet FAA regulations



Static strength testing



Manufacturing

Manufactured in the U.S.A. • Superb technical craftsmanship • Full range of fabrication capabilities • Customized • Superb quality management • Innovative • High-precision machine tooling • Capacity for high volume • Can design and provide prototypes • In-house engineers, machinists and qualified contractors provide laser metal cutting, welding, other fabrication • Inventory control, quality systems and assembly processes meet highest international aerospace standards

Seating for: Experimental/homebuilt • certified fixed wing & helicopters • military fixed wing, fixed wing ejection, rotorcraft • Seating for airframe manufacturers and after-market refurbishment providers • Seat assemblies and seat cushion systems • Fabric and finishing • Complete aircraft upholstery and interior upgrade services



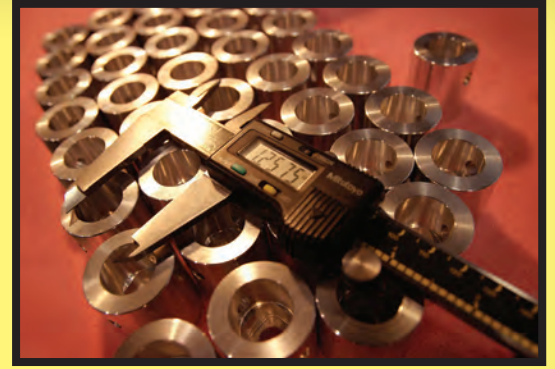
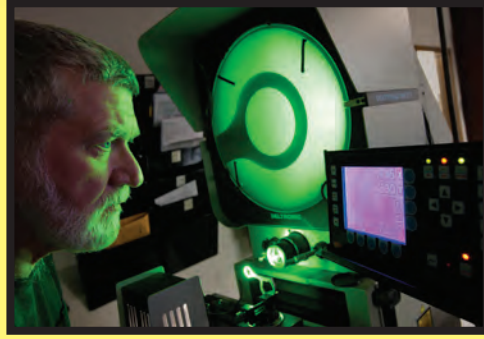
**AS9100
CERTIFIED
ISO9001**

Oregon Aero meets the highest international standards of aerospace quality management systems.



Quality Systems

- AS 9100 Certified:
Conform to ISO 9001:2008
and EN/JISQ/AS9100:2004
Management System Standards
- Focused on meeting or exceeding customer requirements and expectations
- Continual improvement in process and product performance
- Seamless relationship with engineering and manufacturing



Research

- Company founded upon innovative research and innovative product development
- Conduct seating comfort research for US Military
- Have conducted hundreds of dynamic seat tests while researching and solving seat comfort problems
- Continual development through research of applications of our expertise in understanding human tissue and what happens when it comes into contact with manufactured equipment



Creating pain-free seating required extensive dynamic testing as part of our research.

Innovation

- 20+ patents, dozens more pending
- How we consistently meet and exceed customer expectations
- Foundation of proven product performance
- At the heart of our world-class expertise in providing maximum-comfort seating
- Evident in all product lines including seat assemblies and seat cushion systems, portable seat cushion systems, aviation helmet and headset upgrade components, ballistic helmet liner and retention systems, other headgear components and aviation accessories



Mike Dennis, Founder, President and CEO of Oregon Aero, Inc.

Individual and OEM Services

- Proven record of serving individual aviation seating customers
- Proven record of providing high-volume seating to the military, law enforcement, general aviation, other industries
- Proven record of working with airframe manufacturers to design and manufacture certified seating
- 100% customer satisfaction guaranteed



Oregon Aero® Seating Systems: Overview

Comfortable. Crashworthy. Adaptable to Multiple Applications.

Experimental/ Homebuilt



Certified Fixed Wing



Certified Helicopters



Military



Land Vehicles



Individual, After-Market and OEM Seating

Oregon Aero® Seating Systems are precision-engineered and manufactured for your comfort, job performance, and safety.*

Oregon Aero® VK SmartCushion™ Systems and High-G® Seat Assemblies are backed by more than 20 years of experience and a proven record of extraordinary innovation, product performance and customer satisfaction. Each maximum-comfort VK SmartCushion™ System and High-G® Seat Assembly is designed for the specific cockpit or other environment, taking into account variables of space, interface locations and other customer requirements.

The High-G® Seat includes a VK SmartCushion™ System, Seat Frame, Seat Pan and Operating Mechanisms.

VK SmartCushion™ Systems and High-G® Seat Assemblies are available for aircraft, land vehicles, marine craft and other applications. We provide Seating Systems for general aviation, law enforcement, the military and other industries.

Features and Benefits

VK SmartCushion™ Systems and High-G® Seat Assemblies for individual aircraft, airframe manufacturers and other applications:

- Are manufactured in the U.S.A.
- Provide maximum comfort
- Shift hips, pelvis and back into pain-free position
- Minimize low back pain caused by prolonged sitting
- Minimize fatigue
- Help maintain leg circulation on long flights
- Help increase concentration
- Eliminate distraction from seat pain and discomfort
- Improve crew endurance
- Adapt to the occupant's shape
- Are equally comfortable for every occupant
- Are engineered to fit the cockpit or other environment
- Can be engineered to fit an individual
- Improve safety
- Are equally effective in extremely cold or warm temperatures
- Are extremely durable and resist becoming squashed or deformed over time
- Are backed by 100% guaranteed satisfaction
- Are backed by personal, outstanding customer service
- Combine state-of-the-art engineering and superb technical craftsmanship
- Meet applicable FAA requirements and regulations
- Increase the value of aircraft or land vehicle
- Are backed by more than 20 years of experience in seating engineering, testing, certification and manufacturing



courtesy Bell Helicopter Textron Inc.



courtesy Van's Aircraft, Inc.

We are experts in addressing the human body/equipment interface.

*Oregon Aero, Inc. conducts dynamic seat testing per the emergency landing conditions promulgated by the FAA in 1988 to improve the crashworthy performance of aircraft seating. Compliance with these FAA regulations by Oregon Aero® products does not ensure freedom from injury or death as a result of aircraft accidents, hard landings or other flight conditions.

Oregon Aero® Seating Systems: Overview

Seating Innovation: Our History, Our Continued Passion

Innovation has been at the heart of Oregon Aero® Seating for more than 20 years.

Innovation fueled our efforts to solve the problem of uncomfortable seating as early as 1990, so that we can offer every customer a pain-free, *maximum-comfort seat*.

Innovation led us down the parallel path of creating not only comfortable seating but *safer seating*.

Innovation enabled us to go *beyond the design and manufacture of seat cushions to the entire seat assembly*, including cushions, seat frame, seat pan and operating mechanisms.

And finally, Innovation drove us to purposely create *seating that is modular in design*. This means

Oregon Aero® Seating can be adapted to whatever environmental and functional requirements are necessary.

Every time we launch a new seating project, *Innovation is part of our working process*. Innovation

helps us address issues, solve problems and even think beyond what our customers may ask of us.

Comfortable. Crashworthy. Adaptable. An incredible, innovative seating package that's built into our history and continues to be our passion.

Innovation is part of our working process.



Design and Materials Solve Multiple Problems

How can Oregon Aero offer you the most comfortable seat in the industry?

1) The highly engineered designs of our Seating Systems shift a person's hips, pelvis, lumbar and upper body into the proper, pain-free sitting position. This shift permits the body to stay erect without effort, reducing fatigue and pain.



2) Our Seating Systems support occupants over as large an area of the seat cushion surface as possible, preventing ischemia, commonly called "hot spots." Cushion materials, including visco-elastic foam, read body temperature and pressure and permit unrestricted blood flow. The cushions create a perfect fit every time someone uses the seat.

"It sounds simple — to make a comfortable seat — but if it were, it would have been done long before we achieved it," Mike Dennis, Oregon Aero Founder, President and CEO.

"Each problem that prevents comfortable seating may be a small problem, but they all add up to create a big problem — pain — and they all need to be solved at the same time," says Mike.

"When one problem is solved, another is created or amplified; that's the way the engineering process works. But add to this the sensitivity of the human body to being in contact with manufactured hardware, and the engineering challenge becomes even greater. We are experts in addressing that human body/equipment interface."

OEM Seating Systems

OEM* High-G® Seat Assemblies and VK SmartCushion™ Systems



- Developed and patented by Oregon Aero
- Extensive capabilities to help you succeed
- For civilian and military airframe manufacturers, refurbishment centers, after-market service providers
- Seating meets and exceeds installation requirements
- Optimum combination of comfort, safety, functionality and styling
- Comply with all applicable FAA regulations
- Available for aircraft, land vehicles, marine and other applications
- Modular High-G® Seat Assembly permits custom designs for specific requirements
- High-G® Seat includes custom maximum-comfort VK SmartCushion™ System, Seat Frame, Seat Pan and Operating Mechanisms
- High-G® Seat complements TSO'd restraint systems
- See "Features and Benefits" on page 12.
- See "OEM Seating Systems" on pages 15-16.

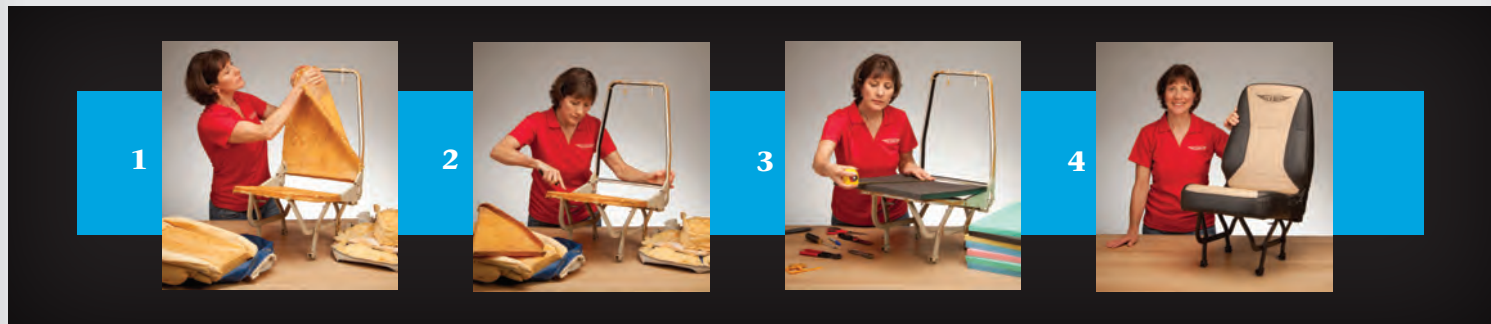
*Original Equipment Manufacturer



Oregon Aero® Seating Systems: Overview

Repair Station Services

VK SmartCushion™ Systems for Certified Aircraft



We've developed the most comfortable seat in the industry. We also offer one-on-one personal service and are dedicated to 100% customer satisfaction.

Designed to fit you and your aircraft, the VK SmartCushion™ System for certified fixed wing aircraft and helicopters combines state-of-the-art engineering and superb technical craftsmanship.

You can have peace of mind knowing your VK SmartCushion™ System meets all applicable FAA regulations. We provide appropriate documentation for return-to-service. All materials meet FAA burn requirements.

Here's what you can expect:

1. Call Oregon Aero's Seat Department to schedule an appointment to send or bring your seat to Oregon Aero. 800-888-6910.
2. We strip the seat to its frame (photo #1).
3. We inspect the frame for damage and arrange for necessary repairs. We clean the frame and if necessary or requested, we paint the frame. If required, a new webbing system is installed (photo #2).
4. We create a composite design seat, layer by layer. The design uses several materials, including visco-elastic foam, and as many as 20 individually shaped pieces (photo #3).
5. When completed, we'll ship the seat to you or you can pick it up (photo #4).

Aircraft Interior Upgrades

Our Aircraft Interior Upgrade Services offer superb technical craftsmanship, meticulous attention to detail and one-on-one personal service.

Interior Upgrade Services include:

- A VK SmartCushion™ System designed for you and your aircraft
- Side panel recovering
- Carpet replacement
- Glare shield cover replacement
- Seat belt and webbing replacement*
- General corrosion repair*
- Cable inspection and repair*
- Window replacement*
- Custom upholstery in Leather, Fabric, Leather & Fabric, Leather & Sheepskin or Fabric & Sheepskin
- Free design consulting
- Upgrade services comply with FAA regulations.
- See pages 30-31.



Take Comfort Wherever You Go: SoftSeat® Portable Cushions

Great for cars, boats, aircraft, wheelchairs and most chairs, Oregon Aero® SoftSeat® Portable Cushions offer comfort no matter where you sit. Designed with the same principles we use for our Seating Systems, the SoftSeat® Cushion Base and Lumbar Combo (shown in photos) offers the best results and best value. (See pages 24-27.)



Oregon Aero Repair Station Certificate #O1IR004X

(Limited Airframe, Limited Accessories). *Seat belt and webbing replacement, general corrosion repair, cable inspection and repair and window replacement provided through affiliation with FAA-approved Repair Station located across the tarmac from the Oregon Aero Repair Station headquarters at the Scappoose, OR Airport.

OEM Seat Cushions and Seat Assemblies

We Can Meet Your OEM Seating Needs

Oregon Aero provides high-volume, custom OEM Seat Cushions and Seat Assemblies for commercial and general aviation, law enforcement, the U.S. Military and other industries. Our world-class expertise in addressing seating comfort, safety and functionality extends to every seating project we undertake.

See pages 8-14 for complete information about Oregon Aero® Seating Systems.

Shown here and on page 16 are just a few examples of Oregon Aero® OEM Seating Systems. Contact us to talk about your OEM seating needs. We are dedicated to 100% customer satisfaction.

OEM Customers

Some of our OEM Seating customers include the following companies:

- Aviat Aircraft, Inc.
- Cessna Aircraft Company
- Columbia Helicopters
- Cub Crafters, Inc.
- Dakota Cub Aircraft
- Erickson Air-Crane Incorporated
- Liberty Aerospace, Inc.
- LoPresti Aviation
- Maule Air, Inc.
- Van's Aircraft, Inc.
- Viking Air Limited

We offer the most comfortable low-profile FAA 562-certified seat.

Oregon Aero also provides high-volume, custom After-Market Seating to many companies.

**AS9100
CERTIFIED
ISO9001**



The Oregon Aero® VK SmartCushion™ System is optional OEM seating for the Aviat Husky and Aviat Pitts.

“Aviat believes Oregon Aero produces the finest aircraft custom manufactured seat cushion system with respect to safety and comfort, as well as long service life.”

— *Stu Horn, president, Aviat Aircraft, Inc.*



courtesy Viking Air Limited

Our VK SmartCushion™ System is installed as OEM equipment in the 19-seat DHC-6 Twin Otter from Viking Air.



Oregon Aero® VK SmartCushion™ Systems are optional equipment in many Cub Crafters factory-built, custom-built, modified and upgraded aircraft.

VK SmartCushion™ Systems are optional equipment in all Maule aircraft.



OEM Seat Cushions and Seat Assemblies

A Sampling of OEM Seating

We Can Certify OEM Seating

Oregon Aero can certify seating for OEM customers. For example, Oregon Aero was awarded the STC and PMA approval for our **High-G® Seat** and **VK SmartCushion™ System** for the Cessna Corvalis (below, at right). Our Seating can meet FAA requirements, regulations and dynamic testing and complements TSO'd restraint systems.



High-G® Seat for the Cessna Corvalis



Our **High-G® Seat** for the Cessna Corvalis features nine fore-aft adjustments, seven recline positions and an adjustable lumbar cushion. The low-profile seat offers plenty of headroom.



F-22 Ejection Seat Cushion

The **Oregon Aero® APECS® I** (Advanced Performance Escape Cushion System I) is standard equipment in the U.S. Air Force F-22 Raptor. Every branch of the U.S. Military uses our seating systems, with well over 20 million logged flight hours.



SSgt Samuel Rogers

"Without a doubt, the ejection seat cushions on the ACES Seat in the F-22 are the finest I have flown with. I (concentrated) on flying the jet, not saving my back." — *Lt. Col. Paul "Max" Moga, the first Air Force F-22 Raptor Demo Pilot*

Standard Kit Equipment

The **Oregon Aero® High-G® Seat** has been standard kit equipment for the popular Van's Aircraft RV-10 front seats since the homebuilt was introduced in 2003. The maximum-comfort, low-profile Seat tilts forward for rear access and reclines to accommodate pilot preference for position. The lumbar cushion is pilot-adjustable.

"We believe the Oregon Aero seat offers an excellent combination of safety and comfort for the RV-10," says Dick VanGrunsven, founder and president of Van's Aircraft.

Oregon Aero® Seat Cushions are optional for the RV-10 rear seats. We can upholster both front and rear seats or provide complete interior services.



Oregon Aero is a recipient of the Cessna STARS Award (Supplier Tracking and Rating System), given to only four percent of Cessna's suppliers. The Award is based on quality, reliability, schedule and cost.

courtesy Cessna Aircraft Company

Seating: Experimental/Homebuilt Aircraft



RV-10 Rear,
Leather



RV-7/RV-9
Leather



GlaStar,
Fabric



RV-8 Front,
Leather &
Fabric

The Ultimate in Flying Comfort™

Oregon Aero offers the most comfortable seating for experimental/homebuilt aircraft. Our VK SmartCushion™ Systems, designed for your cockpit, are precision-engineered and handcrafted by our skilled technicians.

We offer VK SmartCushion™ Systems for most experimental/homebuilt aircraft. Cushion systems are sold as un-upholstered cushion cores. We also provide upholstery and complete interior upgrade services.

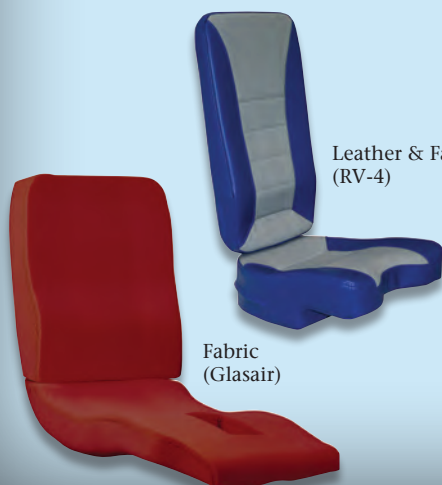
All Oregon Aero® Seating Systems are 100% Satisfaction Guaranteed and made in the U.S.A. Call us at 800-888-6910 or email customseats@oregonaero.com.



Complete Oregon Aero® Interior for the RV-10 in Leather, including Rear VK SmartCushion™ Systems. Oregon Aero® High-G® Seats are standard equipment for the Front Seats. See pages 12-16 for more information.

Custom Upholstery Services

Oregon Aero offers custom seating upholstery services for customers purchasing Oregon Aero® Seating Systems. Upholstery comes in Leather, Fabric, Leather & Fabric, Leather & Sheepskin and Fabric & Sheepskin. Complete aircraft interior upgrade services also are available. Free design consulting. Free upholstery samples.



Fabric
(Glasair)

Leather & Fabric
(RV-4)

Leather & Sheepskin
(RV-8). Fabric &
Sheepskin also
available.



Leather (Lancair
Legacy)

Seating: Certified Fixed Wing Aircraft

Cushion Systems, Seat Assemblies

You can feel confident bringing your certified aircraft seating needs to Oregon Aero. Our maximum-comfort seating systems are available for individual aircraft as well as for airframe manufacturers and other aviation and aerospace customers.

We work one-on-one with each customer to provide:

- **VK SmartCushion™** Upgrades through the Oregon Aero FAA-approved Repair Station. We provide documentation for return-to-service. See pages 12-14 and page 19.
- High-volume or other certified **VK SmartCushion™** Systems and **High-G®** Seat Assemblies to airframe manufacturers and after-market service providers. Our seating meets FAA requirements, regulations and dynamic testing and complements TSO'd restraint systems. See pages 15-16 and below.



VK SmartCushion™ Upgrade Systems. Seat Cushion Upgrades for certified aircraft are completed through Oregon Aero's FAA-approved Repair Station.

"Oregon Aero makes fantastic seat cushions. If you make long flights, the cushions can prevent untold amounts of squirming and discomfort." — **Dave Hirschman, AOPA Pilot**
'Frugal Flier' column

AOPA PILOT



OEM **VK SmartCushion™** System for the Viking Twin Otter, Leather



OEM **VK SmartCushion™** System for the Husky, Fabric

OEM Seating for Certified Fixed Wing Aircraft

Oregon Aero® **VK SmartCushion™** Systems and **High-G®** Seat Assemblies are offered as standard or optional equipment for several certified aircraft. Airframe manufacturers interested in establishing an OEM relationship can contact Oregon Aero for more information. See pages 13, 15-16.



courtesy
Cessna Aircraft
Company



Prototype of an Oregon Aero® **High-G®** Seat for a general aviation aircraft

The **High-G®** Seat and **VK SmartCushion™** System are standard in the Cessna Corvalis.

Seating: Certified Fixed Wing Aircraft

Frequently Asked Questions:

VK SmartCushion™ Repair Station Upgrades for Certified Aircraft

Q How does Oregon Aero upgrade aircraft seat cushions?

A SEE PAGE 14 for a step-by-step explanation.

Q How are you able to provide a seat cushion upgrade that's customized for my aircraft and for me?

A We have more than 20 years of experience engineering, testing, certifying and manufacturing advanced seating systems. Our seat cushions are designed for the specific cockpit environment, taking into account variables of space, interface locations and other customer requirements. Also, we know how to design a seat cushion that shifts the hips, pelvis and back into a comfortable sitting position. And finally, our seat cushions support occupants over as large an area of the seat surface as possible, preventing "hot spots."

Q Do you reupholster the upgraded seat cushions?

A We can provide custom upholstery in Fabric, Leather, Leather & Fabric, Leather & Sheepskin and Fabric & Sheepskin. Free design consulting and free upholstery samples are provided. We also offer custom aircraft interior upgrade services.

Q Can my existing upholstery be used on my seat cushion upgrade?

A We do not reinstall existing upholstery. We can provide custom upholstery to our seating customers in Leather, Fabric, Leather & Fabric, Leather & Sheepskin or Fabric & Sheepskin.

Q How long will it take for you to upgrade my seat?

A Talk to us about this when you call for an appointment. The length of time a seat remains at Oregon Aero depends on the type of work being done and our existing workload.

Q Should I disassemble my seat when I send it to you?

A No. We prefer that upholstery and foam are intact when the seat arrives, no matter their condition; it helps as we plan the upgrade. You may separate the back and bottom to make shipping easier, however.

Q How do I arrange for a seat cushion upgrade?

A Call Oregon Aero's Seat Department at 800-888-6910 to schedule an appointment to send or bring your seat to Oregon Aero.

Q Do you provide other aircraft interior services?

A Yes. We offer complete Aircraft Interior Upgrades, including: Side Panel Recovering; Carpet Replacement; Glare Shield Cover Replacement; Seat Belt & Webbing Replacement;* General Corrosion Repair;* Cable Inspection & Repair;* and Window Replacement.* (*These four services provided through affiliation with an FAA-approved Repair Station.)

Oregon Aero complies with all applicable FAA regulations by supplying FAA-approved seating and other parts to the public and OEMs. Oregon Aero is an FAA-approved Repair Station #O1IR004X.



One-on-one
customer service



Mooney VK SmartCushion™ Upgrade,
Fabric & Leather



Piper PA-31
Upgrade,
Leather



Maule
Upgrade,
Leather



Bonanza
Upgrade,
Leather &
Sheepskin



Cessna
Cardinal
Upgrade,
Leather

Custom Upholstery, Interior Services

We can upholster your certified Oregon Aero® Seating System in Leather, Fabric, Leather & Fabric, Leather & Sheepskin or Fabric & Sheepskin.

We also provide complete interior upgrade services for certified aircraft. See pages 14, 30-31.

100% Customer Satisfaction



Seating: Certified Helicopters

Cushion Systems, Seat Assemblies

What do you need in a certified helicopter seat cushion or seat assembly? Oregon Aero can meet your functionality and cockpit requirements — and on top of that, we provide maximum-comfort seating, no matter how long the flight.

Contact us to talk about a **VK SmartCushion™** System or **High-G®** Seat Assembly for your helicopter. We offer individual, after-market and OEM seating for most types of rotorcraft. Our seating is FAA-compliant and we can certify seating.

Oregon Aero has been engineering, testing, certifying and manufacturing advanced seating systems for more than 20 years. All U.S. Military branches use our seating, with more than 20 million logged flight hours. Manufactured in the U.S.A. Upholstery and interior upgrade services available.



VK SmartCushion™
System for the AS350,
Leather



Our pain-free seating improves crew endurance. We can upgrade seat cushions through our Repair Station or certify seat cushions and seat assemblies.

FIRE AND RESCUE — This Bell Super Huey is used for fire suppression and hoist rescue. “The best thing about your products is that they reduce fatigue and help us stay focused on our mission,” says the chief pilot.



courtesy Kern County, CA Fire Department

Our Seating can be customized for any application, including Corporate, Utility, EMS, Law Enforcement & Homeland Security, Fire & Rescue, Heli-Logging and Search & Rescue.

Functionality, Comfort, Safety

The **Oregon Aero® High-G® Multi-Functional Crew Seat** can be customized for your needs. For the U.S. Military H-65 Rescue Swimmer crew position, the Seat needed to fold and flip for quick egress and easy stowing. What do you need in a certified helicopter seat cushion or seat assembly? Call us. 800-888-6910.



Oregon Aero complies with all applicable FAA regulations by supplying FAA-approved seating and other parts to the public and OEMs. Oregon Aero is an FAA-approved Repair Station #011R004X. Oregon Aero, Inc. conducts dynamic seat testing per the emergency landing conditions promulgated by the FAA in 1988 to improve the crashworthy performance of aircraft seating. Compliance with these FAA regulations and requirements by Oregon Aero® products does not ensure freedom from injury or death as a result of aircraft accidents, hard landings or other flight conditions.

Seating: Certified Helicopters



OH-58
Law
Enforcement
Upgrade,
Fabric



Bell 407
Upgrade,
Fabric &
Sheepskin



Bell Super Huey
Upgrade, Fabric



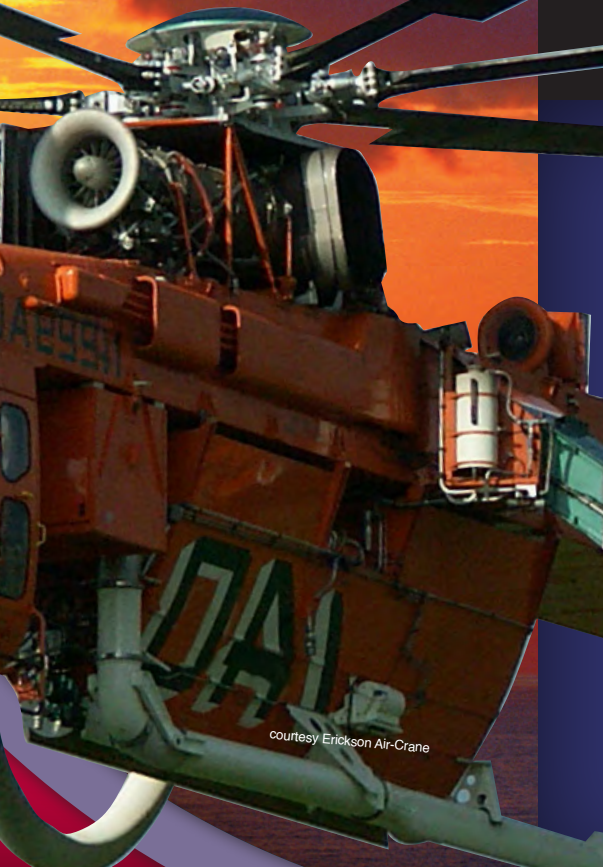
Bell 206
Upgrade,
Fabric



Rear Bell 206
Upgrade,
Leather



Bell 212
Upgrade,
Fabric



courtesy Erickson Air-Crane



**How Do We
Upgrade a
Certified Seat
Cushion?**

See pages 14 and 19.

**Maximum comfort.
100% Customer
Satisfaction.**

Mike Dennis during development
of a seat cushion system for a Vertol
logging helicopter

Land Vehicle, Marine Seating: Civilian

Products for People on the Ground

Oregon Aero continues to develop highly engineered, maximum-comfort seating for people on the ground. Oregon Aero® Seat Cushion Systems for land vehicles are custom designed, durable and improve impact protection. We work to make life better for long-distance truck drivers, forklift and race car drivers and for others such as coal car hauler drivers. We also have developed several seating projects for marine applications.

Forklift Seat Cushion System

Cushion Back#552012

Standard Lumbar#580012

Cushion Bottom#571012

Aggressive Lumbar#581012

Even on uneven floors with vibration, forklift operators can enjoy the same pain-free seating Oregon Aero® Cushion Systems give military jet fighter pilots and aerobatic pilots. The Oregon Aero® Forklift Seat Cushion System is custom designed and features:

- An adjustable lumbar system, so every operator on every shift has a comfortable seat
- Dramatically improved shock absorption and vibration isolation (test-confirmed)
- “Smart” cushions that are temperature- and pressure-sensitive, shaping to the person and distributing the weight evenly
- Pain-free seating, no matter how long the user sits
- Maintenance and replacement without dismantling the seat



The Oregon Aero® Forklift Seat Cushion System

Truck Seat Cushion Systems

Drivers: think about how great it would be to drive long hours without pain! Oregon Aero has designed truck seat cushion systems for truck manufacturers, but drivers also can retro-fit their trucks. Freightliner and Kenworth Seat Cushions are shown here; Peterbuilt systems also are available. Call Oregon Aero for information or email customseats@oregonaero.com.



courtesy Mast Trucking, Inc.

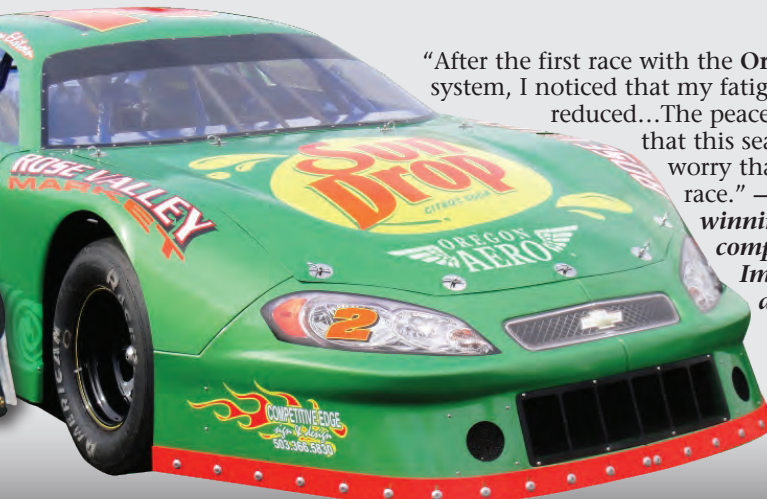
Kenworth Seat Cushion System



Freightliner Seat Cushion System

Race Car Seat Cushion Systems

Oregon Aero® Seat Cushion Systems are available for stock cars, NASCAR vehicles, Indy cars and dragsters. Call Oregon Aero for more information. Oregon Aero also manufactures painless, quieter race car helmet and headset upgrades.



“After the first race with the Oregon Aero® seat cushion system, I noticed that my fatigue level was greatly reduced...The peace of mind I get from knowing that this seat performs so well is one less worry that’s on my mind during the race.” — Tommy Elstoen, award-winning race car driver. (Tommy competes with his #2 Chevy Impala at speedways in Oregon and Washington States.)

Custom Seat Cushions, Custom Upholstery

Some seat cushion projects require more creativity than others! We provided upgraded front and rear seat cushion systems and custom upholstery for this Oregon Army National Guard recruitment vehicle. Because we create each seat cushion system by hand, we can address individual customer needs.



Jet Car Racer Has Peace of Mind With Oregon Aero

One of our more recent jet car seating projects was to bring comfort and improved shock absorption to Elaine Larsen, drag racer for more than a decade and one of only two licensed women in the world driving jet dragsters. Oregon Aero designed and manufactured custom Portable Cushions for both of Elaine's jet dragsters.

"I don't have aches and pains anymore. Period," says Elaine. "My standard post-race protocol used to call for regular trips to the chiropractor to get re-adjusted. But those appointments are gone. My body isn't taking a beating despite the fact that the jet dragster pulls 5G's off the starting line and 7G's when the parachute is deployed.



Elaine Larsen racing the Embry-Riddle Jet Dragster

courtesy Larsen MotorSports

"The peace of mind Oregon Aero gives me allows me to race without hesitation. I can just focus on my race," says Elaine.

Coal Car Hauler Cushioning Systems

- Four-Piece Coal Car Hauler Cushioning System #50CC012
- Three-Piece Hinged Coal Car Hauler Cushioning System (not pictured) #50CC012-S

Four-piece cushioning set with heavy-duty Industrial fabric. Coal car haulers work in a semi-reclined position, pulling coal cars on underground tracks through tunnels as low as 4' high. The Oregon Aero® Cushioning System absorbs vibration and provides comfort for the operators. Three-piece hinged cushion system also available. Available in Black only.



Seating for Marine Applications

Oregon Aero can develop and manufacture seating for a variety of marine applications and has implemented several such projects over the company's history.

For example, crews and passengers of military high-speed boats are subjected to shock forces of up to 6G's every 1/2-1 second, an uncomfortable ride and one which can lead to injuries over time. Oregon Aero has modified our High-G® Seat for use in these boats; the Oregon Aero® Seat reduces shock loads significantly.



Oregon Aero® High-G®

Oregon Aero® Portable Cushions

SoftSeat® Cushions: The Ultimate In Comfort

Oregon Aero® SoftSeat® Portable Cushions give you maximum-comfort seating just about anywhere: in your car, aircraft, airline seat, office, boat or wheelchair. We recommend using the SoftSeat® Cushion Base/Lumbar Combo for best results and your best value.

SoftSeat® Portable Cushions feature the same design expertise and technical craftsmanship found in our advanced seating systems for aviation and the military. As with all our products, SoftSeat® Portable Cushions are 100% Satisfaction Guaranteed. Designed and manufactured in the U.S.A. by Oregon Aero.

Features and Benefits

What's so great about a SoftSeat® Portable Seat Cushion?

- **The pain is gone.** The Cushion design shifts your hips, pelvis and back into the proper, pain-free position.
- **"Hot spots" are gone.** Visco-elastic foam "reads" body temperature and pressure, distributing your weight over the entire Cushion surface.
- **Helps maintain blood circulation**
- **Minimizes lower back pain from prolonged sitting**
- **Multiple users get the same comfort.**
- **No sinking into the Cushion.** Cushions don't compress over time.
- **Options available to raise or move you forward**
- **Equally effective in extreme cold or heat**
- **Zippered and interchangeable parts.** Use SoftSeat® Cushion Base/Lumbar Combo for best results.
- **Carry handle for easy transporting**
- **100% Satisfaction Guaranteed**
- **Designed and handmade in the U.S.A. by Oregon Aero**



TAKE IT WITH YOU — Mike Dennis took this photo of the 1" SoftSeat® Portable Cushion he used on a 747 airliner to get through a 14-hour flight with no pain. The cushions can make any commercial flight comfortable.



SoftSeat™ Portable Cushions are available in custom Leather and embroidery by special order.



SoftSeat™ Cushions feature a carry handle for easy transporting.



Cushion components are zippered and interchangeable.

Oregon Aero has developed another Portable Cushion especially for wheelchairs. Call 800-888-6910 for information.



Ordering Options:

- 1 Lumbar 2 Thickness 3 Anchor 4 Cutout 5 Color**

Use the following options to select your *SoftSeat®* Portable Cushion System.

Call 800-888-6910 or order online at OregonAero.com.

NOTE: Order the *SoftSeat®* Cushion Base/Lumbar Combo for Best Results and Your Best Value!

1 Lumbar Options

Standard Lumbar Support

Lumbar Support zippers to any thickness Cushion Base. For best results and best value, use the *SoftSeat®* Portable Cushion Base/Lumbar Combo.

Full Cushion Back: Moves Occupant Forward

SoftSeat® Full Cushion Back with Adjustable Lumbar Support. Zippers to any thickness *SoftSeat®* Cushion Base. Secured to seat with sewn-in adjustable straps and side release buckles. 21" high x 16 1/2" wide x 2" thick. Order separately.



2 Thickness Options

Each *SoftSeat®* Cushion Base thickness offers the same benefits, including maximum comfort. Select thickness based on being raised the height of the *SoftSeat®* Cushion Base; our Cushions do not compress over time! We offer a variety of thickness to accommodate a person's physical characteristics and the cockpit or other environment.

Choose from:



3 Anchor Options

Non-Skid Strips Anchor (most popular option)

More portable option. Two strips of black webbing with black non-skid rubber are hand sewn to bottom of Cushion Base.

Straps Anchor

Good option if using Cushion Base for single purpose. Straps with adjustable buckle hand sewn from side-to-side. Two hook-and-loop fasteners hand sewn to bottom of Cushion Base. Straps Anchor not available with Pilot *SoftSeat®* Cutout Cushion Base.



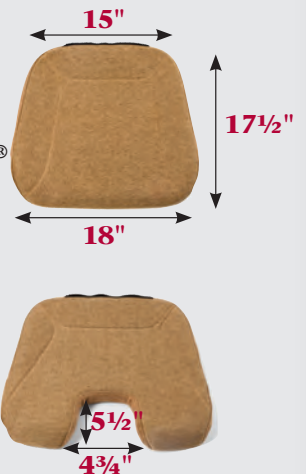
4 No Cutout vs. Cutout (Pilot) Options

No Cutout (most popular option)

Indicate "none" when selecting cutout option. Use with *SoftSeat®* Lumbar Support for best result.

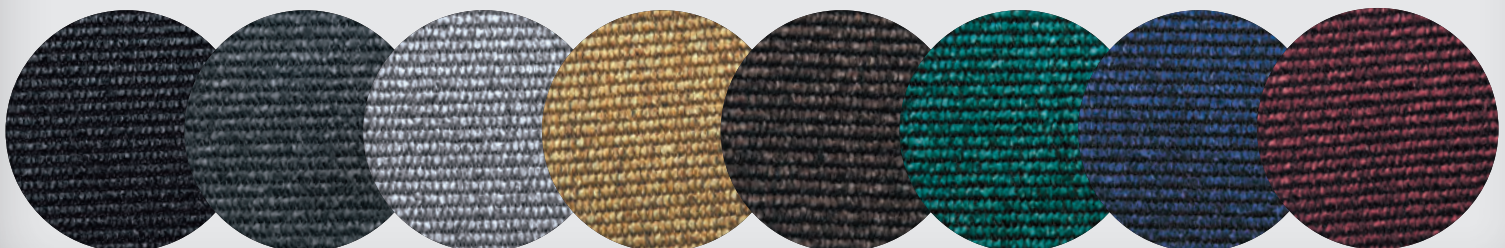
Cutout Cushion Base

We call it the Pilot *SoftSeat®* Cushion Base. Specially designed to accommodate aircraft controls and restraint systems. Used successfully in fixed wing and rotorcraft. Can also be used for other seating (cars, boats, chairs, etc.). Use with *SoftSeat®* Lumbar Support for best results.



5 Color Options

We offer eight color options. Free fabric swatches available. Slight variations in fabric colors may occur.



Black

Charcoal
Gray

Gray

Beige

Brown

Teal

Blue

Burgundy

Oregon Aero® Portable Cushions

Ordering Information

SoftSeat® Combo for Best Results and Best Value.



1/2"
For Limited Headroom



1"
Standard Thickness



2"
To Raise Occupant



**Pilot
Cutout**

1/2" Cushion Base/Lumbar Combo: For Limited Headroom

For best results and best value, order Cushion Base/Lumbar Combo.

- 1/2" thick SoftSeat® Cushion Base/Lumbar Combo w/non-skid strips**#33902
- 1/2" thick SoftSeat® Cushion Base/Lumbar Combo w/straps**.....#33002

1" Standard Cushion Base/Lumbar Combo

For best results and best value, order Cushion Base/Lumbar Combo.

- 1" thick SoftSeat® Cushion Base/Lumbar Combo with non-skid strips**.....#33911
- 1" thick SoftSeat® Cushion Base/Lumbar Combo with straps**#33010

2" Cushion Base/Lumbar Combo: To Raise Occupant

For best results and best value, order Cushion Base/Lumbar Combo.

- 2" thick SoftSeat® Cushion Base/Lumbar Combo w/non-skid strips**.....#33921
- 2" thick SoftSeat® Cushion Base/Lumbar Combo w/straps**.....#33020

Pilot SoftSeat® Portable Cutout Cushion Base/Lumbar Combos

Order SoftSeat® Cutout Cushion Base/Lumbar Combo for best results and best value.

- 1/2" thick Pilot SoftSeat® Cutout Cushion Base/Lumbar Combo w/non-skid strips**#33003
- 1" thick Pilot SoftSeat® Cutout Cushion Base/Lumbar Combo w/non-skid strips**#33009
- 2" thick Pilot SoftSeat® Cutout Cushion Base/Lumbar Combo w/non-skid strips**#33008

SoftSeat® Portable Cushion Carry Bags

Durable SoftSeat® Cushion Carry Bags make it easy to transport your SoftSeat® Cushions. Select Carry Bag based on your Cushion Base thickness and Lumbar option. Zippered, heavy nylon. Hand sewn and embroidered with Oregon Aero logo. Designed and made by Oregon Aero in the U.S.A. Bags without logo available by special order at same price.

For 1/2" or 1" SoftSeat® Cushion and Lumbar Support

Holds 1/2" or 1" SoftSeat® Cushion Base and SoftSeat® Lumbar Support.

17" high x 17" wide x 4" thick.

Carry Bag w/Oregon Aero Logo (Black only).....#73001L

For 2" SoftSeat® Cushion and Lumbar Support

Holds 2" SoftSeat® Cushion Base and SoftSeat® Lumbar Support.

17" high x 17" wide x 5" thick.

Carry Bag w/Oregon Aero Logo (Black only).....#73002L

For Full Cushion Back and Any Cushion Base

Holds SoftSeat® Full Cushion Back and any thickness SoftSeat® Cushion Base. 21" high x 18" wide x 8" thick.

Carry Bag w/Oregon Aero Logo (Black only).....#73000L



Oregon Aero® Portable Cushions

Super Cushion® Portable Cushion

This 13" x 13" x 2" slice of heaven brings comfort to your you-know-what no matter where you sit — on stadium bleachers, boats, chairs or picnic bench. Carry handle, lightweight. Viscoelastic foam with nylon pack cloth cover. Floatable. Made by Oregon Aero in the U.S.A.

Super Cushion® Portable Cushion
(Black, Blue, Gold, Red, Purple)..... #30040

Super Cushion® Carry Bag

Room for two Super Cushion® Portable Cushions, blanket, water bottles and food. Made by Oregon Aero in the U.S.A.

Super Cushion® Portable Cushion Carry Bag w/Oregon Aero Logo..... #73010L*

*Bags come with Oregon Aero logo. Bags without the Oregon Aero logo are available by special order at the same price. Allow three weeks for shipment.



We Make Parachute Pads!

Here's another problem we help solve. If you fly classic warbirds or perform aerobatics, you know it's uncomfortable to sit on your parachute or conventional parachute pads.

We make customized parachute pads with the same attention to detail and materials we use for all Oregon Aero® Seat Cushion Systems. For more information, call us at 800-888-6910.



courtesy Aviat Aircraft, Inc.



To Order SoftSeat® Components Separately

FULL CUSHION BACK
Must Be Ordered Separately



LUMBAR SUPPORT



BASE w/NON-SKID STRIPS



BASE w/STRAPS



CUTOUT BASE w/NON-SKID STRIPS



Full Cushion Back w/Adjustable Lumbar Support (must be ordered separately)

Moves occupant forward. Zippers onto any thickness SoftSeat® Cushion Base or Pilot SoftSeat® Cutout Cushion Base.

SoftSeat® Full Cushion Back w/Adjustable Lumbar Support (must be ordered separately)..... #30030

Lumbar Support

Best results when used with SoftSeat® Cushion Base.

SoftSeat® Portable Lumbar Support..... #38031

SoftSeat® Cushion Base w/Non-Skid Strips

Best results when used with Lumbar Support.

1/2" thick SoftSeat® Portable Cushion Base w/non-skid strips (for limited headroom) #30902

1" thick SoftSeat® Portable Cushion Base w/non-skid strips (standard thickness)..... #30911

2" thick SoftSeat® Portable Cushion Base w/non-skid strips (to raise occupant)..... #30921

SoftSeat® Cushion Base w/Straps

Best results when used with Lumbar Support.

1/2" thick SoftSeat® Portable Cushion Base w/straps (for limited headroom)..... #30002

1" thick SoftSeat® Portable Cushion Base w/straps (standard thickness) #30010

2" thick SoftSeat® Portable Cushion Base w/straps (to raise occupant)..... #30020

SoftSeat® Pilot Cutout Cushion Base w/Non-Skid Strips

Non-skid strips are the only option for the SoftSeat® Cutout Cushion Base.

1/2" thick Pilot SoftSeat® Portable Cutout Cushion Base w/non-skid strips (for limited headroom)..... #30003

1" thick Pilot SoftSeat® Portable Cutout Cushion Base w/non-skid strips (standard thickness) #30009

2" thick Pilot SoftSeat® Portable Cutout Cushion Base w/non-skid strips (to raise occupant) #30008

Satisfied Customers

Comfort, Improved Performance, Safety

“When I get into extreme aerobatics the Oregon Aero® Cushion doesn’t compress with G’s, adding consistency and control to my performance. When you are looking for the ultimate in comfort and safety, take my advice, look to Oregon Aero. The people behind the products are the most friendly, knowledgeable and experienced in the industry...period.”
— Dan McClung, Red Eagle Airshow Team



Dan McClung (top) and Billy Werth



courtesy Dan McClung/Red Eagle Airshow Team



No Squirming

“The (Cherokee Six Oregon Aero® VK SmartCushion™ Upgrade) seemed very firm for the first few minutes, and then I forgot about it. I flew 6.5 hours. I dodged thunderstorms, flew through turbulence and rain, and never once felt the need to squirm around in the seat. With the old seat I started to get uncomfortable after an hour. With this seat I was comfortable after spending the day in the plane.” — H.D., Louisburg, NC

Great Service, Comfort

“I used (the Oregon Aero® VK SmartCushion™ System for the Glasair) during an 11-hour flight back and forth from the midwest to the east coast. I can only imagine how uncomfortable I WOULD have been without it! Thanks for great service and attentiveness.”
— I.W., Omaha, NE



courtesy Glasair Aviation

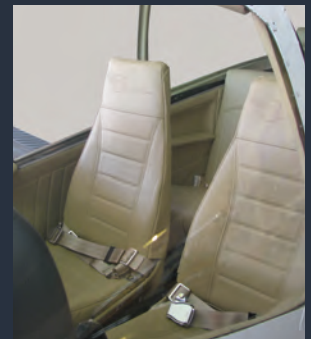
OEM Seats, Custom Upholstery

“Wow!! I knew you guys would do a great job, but this is better than I imagined. Thanks to everyone at Oregon Aero for the excellent support and very fine work that was applied (in) creating my seats.” — S.B., RV-10 Builder



“Unbelievable Comfort, Incomparable Workmanship”

“The comfort of these seats is unbelievable and they actually get more comfortable the longer you fly. Having had the available STC performed that adds shoulder harnesses to my stock Navion seat buckets, I challenged Oregon Aero to upholster these now non-standard seats and increase their comfort level. The finished product is not only an esthetically pleasing addition to my cockpit, but the quality of the materials and the professional workmanship in the installation are incomparable. These seats make time spent in the cockpit a real pleasure. Great job.” — Jay Foster, Lincolnville, ME



courtesy Jay Foster



Helicopter Pilot Flies Pain-Free

"I have two ruptured discs, and flying for more than an hour was next to impossible before I bought your portable seat cushion. I just completed a 15-hour painless day recently that would have been impossible before." — B.R., Bell JetRanger pilot

36 Hours: No Pain!

"We left for Texas at 2 a.m. and drove 36 hours straight. I was sitting on your SoftSeat® Cushion and Lumbar and the whole way I kept thinking 'my back isn't hurting.' I've had back problems for more than 40 years and have worked as a hairdresser my entire adult life. Sitting has always been the worst. The car would barely move and I'd start to hurt. But this time, instead of arriving at my destination barely able to walk, I arrived in Texas without any pain!" — Linda F., Greenville, PA



An Extra Boost

"Besides being so wonderfully comfortable hour after hour, my 2" SoftSeat® Cushion Base and Full Cushion Back from Oregon Aero give me, at 5'1", that extra leg-length and height boost I need for better visibility when flying our team's Twin Comanche to airshows. Thanks!" — Teresa Stokes, pilot and airshow wingwalker, Gene Soucy Airshows

Wingwalker Teresa Stokes



courtesy LoPresti Aviation

LoPresti Fury: OEM Seating

"We love the Oregon Aero® (High-G®) Seat in the Fury experimental kit. No one else in the industry pays as much attention to the details as Oregon Aero. Mike Dennis' demanding commitment to quality has engendered a legacy of trust. The Fury is a unique aircraft. It's an aerobatic performer but it has 1000 mile legs. This requires a very comfortable long distance seat AND a firm support for aerobatics, which is usually mutually contradictory.

"Oregon Aero came up with a compromise which is as close to perfect as anything we have ever used. What customers notice is comfort. We have pilots who are 5'7" and 6'3". Amazingly, both find the seat comfortable. For me personally, after a few motorcycle and various racing accidents, I no longer own a complete set of vertebrae. Your seat is perfect for me." — R.J. Siegel, CEO, LoPresti Aviation Engineering

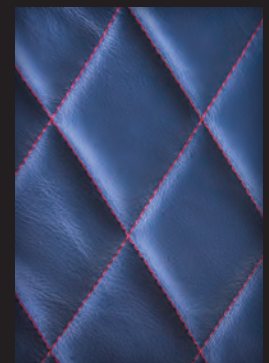
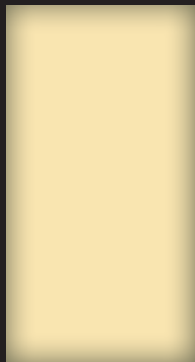
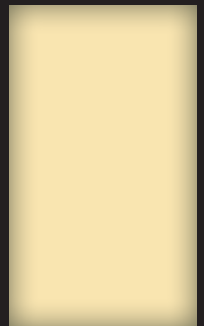
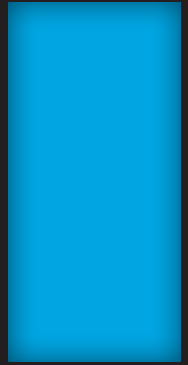
Aircraft Interior Services

Choose an **Oregon Aero® Aircraft Interior** for the same reasons you already prefer Oregon Aero:

- **The most comfortable seat in the industry**
- **Superb technical craftsmanship**
- **Meticulous attention to detail**
- **One-on-one service** ■ **Custom designs**
- **100% Satisfaction Guaranteed**
- **FAA-compliant** ■ **Made in the U.S.A.**

Aircraft Interior Upgrade Services, available for most fixed wing and rotor wing aircraft, include:

- The Oregon Aero® VK SmartCushion™ System: Maximum-comfort seating
- Custom upholstery in Leather, Fabric, Leather & Fabric, Leather & Sheepskin, Fabric & Sheepskin
- Side panel recovering
- Carpet replacement
- Headliner replacement
- Glare shield cover replacement
- Seat belt & webbing replacement*
- General corrosion repair*
- Cable inspection & repair*
- Window replacement*
- Free design consulting
- Free upholstery samples
- Additional services may be available with complete interior upgrade.



*These services provided through affiliation with FAA-Approved Repair Station #U9AR750Y, located conveniently across the tarmac from the Oregon Aero Repair Station headquarters at the Scappoose, OR Airport.

Upgrading Your Interior: Every Detail Matters



SAME VIEW, NEW LEATHER INTERIOR — Three views of an interior transformation. We pay meticulous attention to every detail.



Complete interior upgrade for a six-seat Cessna 310. We can upgrade interiors for most types of civilian, law enforcement and military fixed wing and rotorcraft.

We provide interior upgrade services for most types of civilian, law enforcement and military fixed wing and rotor wing aircraft.



Oregon Aero Repair Station Certificate #O11R004X (Limited Airframe, Limited Accessories). Call to verify your aircraft is on or can be added to our Capabilities list. Oregon Aero complies with all applicable FAA regulations by supplying FAA-approved seating and other parts to the public and OEMs.

Seating: Military Fixed Wing Aircraft

Enhanced Mission Capability, Aircrew Endurance

Oregon Aero designs and manufactures pain-free VK SmartCushion™ Systems and High-G® Seat Assemblies for most types of military fixed wing aircraft. Every branch of the U.S. Military uses our seating systems, with more than 20 million logged flight hours.

What can military aircrews expect from Oregon Aero® Seating Systems?

- Maximum comfort for every occupant, no matter how long the flight
- Enhanced mission focus and capability
- Improved aircrew endurance
- Designed for the specific cockpit and unit requirements
- Optimum functionality
- Improved safety
- Dramatically reduced maintenance

See pages 12-16 for complete information about Oregon Aero® Seating Systems.



Order From Exclusive Distributor

Coastal Aircraft Parts LLC is the exclusive distributor for the following Oregon Aero® military fixed wing aircraft seating systems and accessories: **B-52, C-17, C-23, C-130, E-3, E-6, E-8, KC-135, P-3, RAF Nimrod.**

CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

See pages 36-42 for ejection and rotor wing seat cushion systems.

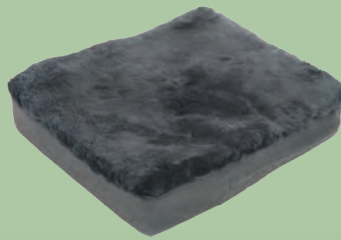


B-52: Non-Ejection, Ejection Seating

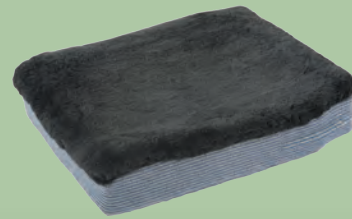
Safe-To-Fly Approved. Non-Ejection and Ejection Seat Cushions in Fabric & Sheepskin or All Fabric. Bunk and Pillow in All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



APECS® IV Ejection Seat Cushion for B-52 w/Fabric & Sheepskin (see page 36)

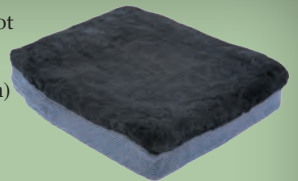


Instructor Navigator Full Bottom Cushion (Non-Ejection) w/Fabric & Sheepskin



Defense Instructor Full Bottom Cushion (Non-Ejection) w/Fabric & Sheepskin

Instructor Pilot Full Bottom Cushion (Non-Ejection) w/Fabric & Sheepskin



C-17: Seating, Accessories

Pilot, Co-Pilot, Loadmaster Monogram and IPECO Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Crew Rest Area and Bunk Cushions.

Armrests. Headrests. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



C-17 IPECO Seat Cushion System w/Fabric & Sheepskin

C-17 Monogram Seat Cushion System w/Fabric & Sheepskin



Seating: Military Fixed Wing Aircraft

C-130: Seating, Accessories

IPECO

USAF Safe-To-Fly Approved. Pilot, Co-Pilot, Navigator, Engineer Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Armrests. Headrests. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

C-130 IPECO Pilot or Co-Pilot Seat Cushion System w/Fabric & Sheepskin



C-130 IPECO Accessories

Contact CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929. Sub-assembly parts available.



C-130 IPECO Left or Right Armrest Pad w/Cover

C-130 IPECO Headrest Cover



AMI

USAF Safe-To-Fly Approved. Pilot, Co-Pilot, Navigator, Observer Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Headrest. Armrests. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

C-130 AMI Accessories

Contact CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929. Sub-assembly parts available.



C-130 AMI Headrest w/Cover, front and rear views



C-130 AMI 14" Armrest Pads w/Covers



C-130 AMI Pilot, Co-Pilot, Navigator or Observer Seat Cushion System w/Fabric & Sheepskin

C-130 AMI 19" Armrest Pads w/Covers

IPECO and AMI

C-130 Flight Deck Crew Bunks

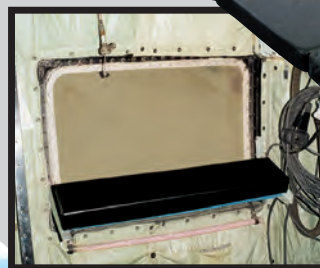
Lower Crew Bunk Back Cushion creates temporary seat. Leather flap fastens by hook/loop to fabric and protects bunk from boots when crew members climb the escape ladder. Flip back leather to use bunk. Upper Tri-Fold Crew Bunk folds for overhead hatch access. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



C-130 Lower Crew Bunk w/Back Cushion and Protective Flap w/Fabric

C-130 Scanner Rest

No more painful elbows and forearms. Four-part composite design. Vinyl Cover. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



C-130 Upper Tri-Fold Crew Bunk w/Fabric



courtesy DoD

Seating: Military Fixed Wing Aircraft

C-23

Pilot, Co-Pilot, Flight Engineer Seat Cushion Systems in Fabric.
CoastalAircraftParts.com, Sales@CoastalAircraftParts.com,
954-980-6929.



C-23 Pilot or Co-Pilot
Seat Cushion System w/Fabric



C-23 Flight Engineer
Seat Cushion System w/Fabric

E-3D Sentry Seating, Accessories

Pilot, Co-Pilot, Navigator, Engineer, Jump Seat,
Work Station Seat Cushion Systems in Fabric &
Sheepskin or All Fabric. Fit E-6, E-8. Armrests.
Work Station Headrest. Sub-assembly parts
available. CoastalAircraftParts.com,
Sales@CoastalAircraftParts.com,
954-980-6929.

Pilot or Co-Pilot Seat
Cushion System
w/Fabric & Sheepskin



Navigator or
Engineer
Seat Cushion
System w/Fabric
& Sheepskin



Jump Seat
Cushion System
w/Fabric &
Sheepskin



Work Station
Seat Cushion
System w/Fabric
& Sheepskin



courtesy USAF

KC-135 Seating, Accessories

USAF Safe-To-Fly Approved. Pilot, Co-Pilot,
Navigator, Jump Seat, Boomer Seat Cushion Systems in
Fabric & Sheepskin or All Fabric. Armrests. Headrests.
Boom Instructor Pallets. Boom Operator Couch. Sub-
assembly parts available. CoastalAircraftParts.com,
954-980-6929, Sales@CoastalAircraftParts.com.

Pilot or
Co-Pilot
Seat Cushion
System
w/Fabric &
Sheepskin



Navigator or
Boomer Seat
Cushion
System
w/Fabric &
Sheepskin



KC-135
Jump Seat
Cushion
System w/
Fabric

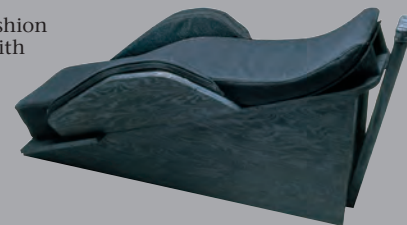


Headrest and
Armrest Pads
w/Covers



Left Boom Instructor Pallet w/Fabric.
Right Pallet also available.

Boom Operator Couch Cushion
System w/Fabric (shown with
Couch frame)



Every branch of the
U.S. Military uses Oregon Aero®
Seating Systems, with more
than 20 million flight hours.

Seating: Military Fixed Wing Aircraft

P-3 Orion

Pilot, Co-Pilot, Flight Engineer, EW Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, 954-980-6929, Sales@CoastalAircraftParts.com.



Pilot or Co-Pilot Seat Cushion System w/Fabric & Sheepskin



Flight Engineer or EW Seat Cushion System w/Fabric & Sheepskin

RAF Nimrod

Pilot, Co-Pilot, Flight Engineer, EW, Passenger Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Galley Bench Seat Cushion System in All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

Flight Engineer or EW Seat Cushion System w/Fabric & Sheepskin



Pilot or Co-Pilot Seat Cushion System w/Fabric & Sheepskin



Galley Bench Seat Cushion System w/Fabric



707, 727, 737

Pilot, Co-Pilot Seat Cushion Systems in Fabric & Sheepskin or All Fabric. **Order from Oregon Aero:** customerservice@oregonaero.com, 800-888-6910.



Boeing 707, 727, 737 Seat Cushion System w/Fabric & Sheepskin

Tri-Star

Captain or First Officer Seat Cushion System w/Fabric & Sheepskin



Captain, First Officer, Observer, Second Officer Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Cushions also fit the L-1011. **Order from Oregon Aero:** customerservice@oregonaero.com, 800-888-6910.



Tri-Star Captain or First Officer Seat Cushion System w/Fabric & Sheepskin #343004
w/Fabric (not pictured)..... #30300

Tri-Star Observer Seat Cushion System w/Fabric & Sheepskin #343204
w/Fabric (not pictured) ... #303202

Observer Seat Cushion System w/Fabric & Sheepskin

Tri-Star Second Officer Seat Cushion System w/Fabric & Sheepskin #343104
w/Fabric (not pictured) #303102

Second Officer Seat Cushion System w/Fabric & Sheepskin



VC-10

Pilot, Co-Pilot, Super Numerary Seat Cushion Systems in Fabric & Sheepskin or All Fabric. **Order from Oregon Aero:** customerservice@oregonaero.com, 800-888-6910.



Super Numerary Seat Cushion System w/Fabric & Sheepskin

VC-10 Super Numerary Seat Cushion System w/Fabric & Sheepskin #341104
w/Fabric (not pictured) ... #301102

VC-10 Pilot or Co-Pilot Seat Cushion w/Fabric & Sheepskin (not pictured) #341004
w/Fabric (not pictured) #301002



Seating: Military Fixed Wing Ejection Cushions

Advanced Performance Escape Cushion Systems (APECS)

Order From Exclusive Distributor

Coastal Aircraft Parts LLC is the exclusive distributor for the following Oregon Aero® military fixed wing ejection seat cushion systems: A-10 Warthog, B-1, B-2, B-52, F-4 Phantom, F-15 Eagle, F-16 Falcon, FA-18, F-22, OV-10 Bronco, S-3 Viking, Universal Propulsion Ejection Seat, U-2 & SR-71. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com. Contact Oregon Aero directly regarding other ejection seat cushion systems.

COASTAL



AIRCRAFT PARTS LLC

Oregon Aero develops custom, maximum-comfort, shock-absorbing ejection seat cushions that meet and exceed customer requirements. Contact us to discuss your seating needs.



A-10 Warthog: APECS® I-E

USAF Safe-To-Fly Approved. Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.

courtesy DoD

B-1 Bomber: APECS® I-C

Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



F-4 Phantom: APECS® VIII

Full Bottom Cushion in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



B-2 Bomber: APECS® I-A

Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



B-52 Bomber: APECS® VI

USAF Safe-To-Fly Approved. Full Bottom Cushion in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. See page 32 for B-52 non-ejection seat cushions and bunk cushions. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



courtesy DoD

Seating: Military Fixed Wing Ejection Cushions



F-15 Eagle: APECS® I-F

USAF Safe-To-Fly Approved. Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.

courtesy DoD



S-3 Viking: APECS® IV

For all Seat versions. Full Seat Assembly (Lumbar, Bottom) in Fabric & Sheepskin or All Fabric. No more need to inventory cushions for every seat version. Portion of the Cushion folds forward to expose a leather base with hole large enough to view the bail-out bottle oxygen gauge, regardless of seat version.



F-16 Falcon: APECS® I-B

USAF Safe-To-Fly Approved. Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.

photos courtesy DoD



FA-18 Hornet: APECS® III

Seat Cushions available for the FA-18 and NACES US and Canadian Hornet. Full Seat Assemblies (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

APECS® III-N Ejection Seat Cushion System installed in the FA-18

OV-10 Bronco: APECS® V

Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



Seating: Military Fixed Wing Ejection Cushions

F-22 Raptor: APECS® I

Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

Fabric & Sheepskin #30320
All Fabric #3032012



courtesy DoD



APECS® I flexible snap mounting on tabs can be used with any seat assembly model's stud placement. Leather anti-chafe plate keeps the visible screw heads from cutting into fabric — another maintenance saver!

APECS® Ejection Cushion Testing

Oregon Aero® APECS® Ejection Seat Cushion Systems have been tested at NASA's Dryden Flight Test Center, Rosamond, CA; Wright-Patterson Air Force Base, Dayton, OH; Patuxent River Naval Air Station, Lexington Park, MD; Brooks Air Force Base, San Antonio, TX; and McDonnell Douglas, St. Louis, MO.

EJECTION SEAT TESTING — The Oregon Aero® APECS® I Seat Cushion is tested in the ACES II ejection seat at Wright-Patterson Air Force Base, Dayton, OH.



Universal Propulsion Ejection Seat Cushion: APECS® II

Full Seat Assembly (Lumbar, Bottom, Back) in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



U-2 & SR-71: APECS® VII

Full Bottom Cushion in Fabric & Sheepskin or All Fabric. Sub-assembly parts available. Cushion features fabric hinge that can be lifted to reveal oxygen gauge for pre-flight inspection. 954-980-6929, CoastalAircraftParts.com, Sales@CoastalAircraftParts.com.



Seating: Military Rotor Wing Aircraft

Improved Aircrew Focus, Endurance

Rotor wing aircrews can focus on the mission at hand without the distraction of seat pain and discomfort — no matter how long the flight. Oregon Aero designs and manufactures pain-free, maximum-comfort VK SmartCushion™ Systems and High-G® Seat Assemblies for most military rotor wing aircraft. Custom designed for the specific aircraft and mission, our seating improves performance and safety.

Multi-Functional Crew Seat Adaptable to Aircraft, Missions

The Oregon Aero® Multi-Functional High-G® Crew Seat provides maximum comfort, improved safety and versatility. The Multi-Functional Seat can be stowed and removed quickly and easily, featuring smooth, quick lateral tracking and a quick-release harness. The Seat was developed for the U.S. Coast Guard H-65 Rescue Swimmer crew position and can be adapted for multiple aircraft and missions.

Seat features include:

- High-G® Seat Technology works with restraint system to help protect crew members involved in survivable accidents
- Corrosion-resistant seat frame
- Multiple seat back positions
- Smooth, quick lateral tracking with six locking positions
- Folds and flips for easy stowing
- Adjusts easily to any position
- Quick-release for rapid removal/installation
- Low-profile design for fast and easy positioning
- Quick removal for payload placement
- Quick-release restraint for rapid egress
- Installed with existing fittings
- Can feature water-resistant cushion design
- See pages 12-16 for complete features regarding Oregon Aero® Seating.



Low-profile design allows fast and easy positioning for the mission at hand



Smooth, quick lateral movement with six locking positions. Remove Seat quickly for payload placement. Custom designs for installation with existing fittings.



Multi-Functional Crew Seat in stowed position

AH-6/MH-6 Little Bird

AH-6/MH-6 Pilot or Co-Pilot Seat Cushion System

- Bottom Cushion and Cover w/Fabric & Sheepskin..... #31159-1-030
- Back Cushion, Adjustable Lumbar and Cover w/Fabric #31159-1-020
- Armor Back Cushion (Thin), Adjustable Lumbar and Cover w/Fabric (not pictured) #31159-1-010
- Armor Lumbar Cushion and Cover w/Fabric (not pictured) #31159-1-012

Pilot or Co-Pilot in Fabric & Sheepskin or All Fabric. Order from Oregon Aero. Designed and manufactured for the U.S. Army 160th SOAR (Special Operations Aviation Regiment). Water-resistant. Three Cushion Back options.



courtesy DoD photo by: SSGT SHANE CUOMO, USAF

Seating: Military Rotor Wing Aircraft

Order From Exclusive Distributor

Coastal Aircraft Parts LLC is the exclusive distributor for the following Oregon Aero® military rotor wing aircraft seat cushion systems: AH-64 Apache, CH-47/MH-47 Chinook, H-60 Black Hawk, OH-58 Kiowa, UH-1 Huey, UH-1N Iroquois. Sales@CoastalAircraftParts.com, CoastalAircraftParts.com, 954-980-6929.

Contact Oregon Aero directly regarding other seating shown here or to discuss your seating needs and requirements.

See pages 32-38 for military fixed wing aircraft seat cushion systems.

COASTAL



AIRCRAFT PARTS LLC



A military rotor wing Oregon Aero® VK SmartCushion™ System in Fabric & Sheepskin

Upholstery Options

Oregon Aero offers Fabric & Sheepskin or All Fabric upholstery for military aircraft seating. Both options give flight crews the same maximum-comfort, safer seating, for improved aircrew endurance and mission capability. Custom upholstery also is available.

AH-64 Apache

AWR Approved. Pilot, Co-Pilot, Gunner, Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Thin Cushion Back option. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



courtesy DoD



courtesy DoD

CH-47 Chinook

AWR Approved. Pilot, Co-Pilot Seat Cushion System in Fabric & Sheepskin. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

MH-47 Chinook

AWR Approved. Pilot, Co-Pilot Seat Cushion System in waterproof Fabric. For armor plated seats. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



Seating: Military Rotor Wing Aircraft



H-60 Black Hawk

AWR Approved. Pilot, Co-Pilot Seat Cushion System in Fabric & Sheepskin or All Fabric. Optional Pilot, Co-Pilot Thin Back Cushion for use with protective equipment. Also available: Pilot, Co-Pilot Seat Cushion System with Bottom Cushion in Sheepskin and Thin Back Cushion in Fabric. Observer Seat Cushion System in All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.

Pilot or Co-Pilot Seat Cushion System w/ Fabric & Sheepskin



Thin Back Cushion for use with standard H-60 Pilot, Co-Pilot Cushion Bottom. Effective option when wearing protective equipment.



H-60 Observer Seat Cushion System w/Fabric



Why Use Oregon Aero® Seating?

Oregon Aero® VK SmartCushion™ Systems and High-G® Seat Assemblies:

- Improve aircrew endurance, focus and mission effectiveness
- Provide maximum comfort, no matter how long the flight
- Eliminate distraction from seat pain and discomfort
- Shift hips, pelvis and back into pain-free position
- Minimize low back pain and fatigue caused by prolonged sitting
- Help maintain leg circulation on long flights
- Are equally comfortable for every occupant
- Are designed and manufactured in the U.S.A.
- Are backed by 100% guaranteed satisfaction

See pages 12-16 for more information.



Contact Oregon Aero to discuss your rotor wing aircraft seating. 100% Satisfaction Guaranteed. Custom seating for your aircraft and your mission.



Every branch of the U.S. Military flies Oregon Aero® Aircraft Seating.

Seating: Military Rotor Wing Aircraft

UH-1N Iroquois

Pilot, Co-Pilot, Flight Engineer Seat Cushion Systems in Fabric & Sheepskin or All Fabric. Web or Armor Frame options. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



UH-1N Pilot, Co-Pilot Seat Cushion System w/Fabric. Options for Web or Armor Frame Seats.



UH-1N Flight Engineer Seat Cushion System w/Fabric. Options for Web or Armor Frame Seats.



courtesy DoD

**AS9100
CERTIFIED
ISO9001**

Oregon Aero is AS 9100 Certified and conforms to ISO 9001:2008 and EN/JISQ/AS9100:2004 Management System Standards. Certification is valid for: The design and manufacture of seating and helmet pad systems for aerospace and defense applications; and repair of seating systems and interior components for aerospace applications.

OH-58A/C & D Kiowa

OH-58A+ AWR Approved Pilot, Co-Pilot Seat Cushion System. OH-58A/C Seat Cushion Systems in Fabric & Sheepskin and All Fabric. OH-58D Pilot, Co-Pilot Seat Cushion System in All Fabric. Rear Seat Cushion System in All Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



courtesy DoD



OH-58A+ Pilot, Co-Pilot Seat Cushion System w/Fabric



OH-58D Pilot, Co-Pilot Seat Cushion System w/Fabric

UH-1 Huey

Pilot, Co-Pilot Seat Cushion System in Fabric & Sheepskin or Fabric. Sub-assembly parts available. CoastalAircraftParts.com, Sales@CoastalAircraftParts.com, 954-980-6929.



courtesy DoD



Mission-Specific, Multiple Applications

Oregon Aero can design and manufacture seating for most types of military land vehicles and other land-based systems, as well as for maritime applications. We are able to analyze the required functionality and each seating environment, providing maximum-comfort, maximum-performance, durable, safer seating. Contact us to discuss your land vehicle and maritime seating needs. 100% Satisfaction Guaranteed.

Multi-Purpose Land Vehicles

Oregon Aero has designed and manufactured several land-based seating systems for the military, including **High-G®** Seats for General Dynamics Land Systems' RST-V (Reconnaissance, Surveillance, Targeting Vehicle). Oregon Aero designed all four vehicle seats.

The energy-absorbing seats for this project are fully adjustable fore and aft (front seats fold back flat), are pain-free even on several-day missions, and can be reconfigured instantly. Removable lumbar cushions accommodate personnel equipment. Our seating designs can be adapted for your functional requirements.



Our energy-absorbing **High-G®** Seat developed for a multi-purpose military vehicle features removable lumbar cushions to accommodate equipment.

U.S. Army Concept Technology

The **Oregon Aero® High-G® 25 Seat** was designed for the BAE Systems NLOS-C (Non-Line-Of-Sight Cannon), a self-propelled system developed by BAE as a concept technology for the U.S. Army. The energy-absorbing **High-G®** Seat includes the complete frame and assembly, operating mechanisms and seat cushion system. Our world-class seating expertise can be applied to land-based military vehicles and other systems.



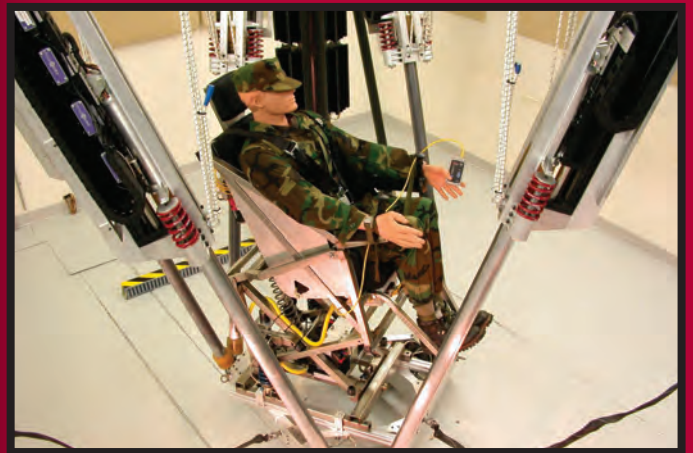
Stryker Seat Cushions

Oregon Aero designs and manufactures Seat Cushion Systems for the U.S. Army Stryker vehicle. One Army Staff Sergeant wrote from combat conditions in Iraq: "The seats you sent out were exceptional and have lasted all this time. The crew that has (the **Oregon Aero®** Cushions) loves them and guards them all the time so no one will take them."



Maritime Seating

Oregon Aero can design and manufacture seating for many types of military lake and ocean-borne boats, amphibious vehicles and other maritime applications.



HIGH-SPEED BOAT SEAT—An **Oregon Aero® High-G®** Seat frame, seat pan and cushions undergo independent testing during development for use in a U.S. Military high-speed boat.

Military Land, Maritime Seating

courtesy DoD



Driver Seat Cushion System

Front Passenger Seat Cushion System

Rear Passenger Seat Cushion System

An internal thermal barrier and external foil-faced reflector fabric keep battery box heat out of the front passenger Cushion bottom and away from the passenger.

HMMWV (HUMVEE®) Seat Cushion Systems

The Oregon Aero® Seat Cushion Systems for the High Mobility Multipurpose Wheeled Vehicle (HMMWV — HUMVEE® Vehicle) are energy-absorbing, pain-free and durable. Users consistently give the cushions top evaluations.

Driver Seat Cushions

Back#551112

Bottom#571112

Front Passenger Seat

Back#551212

Bottom#571212

Rear Passenger Seat

Back#551312

Bottom#571312

Pain-Free Seats During Military Convoy

Here's what a 27-year military officer had to say about the Oregon Aero® Seat Cushion Systems for the HMMWV seats after a two-week evaluation:

"We did a 477 mile convoy, approximately 18 hours each way, with only scheduled ten minute breaks and one 60-minute halt for fuel and chow. During this time I had no discomfort from the Oregon Aero® (Seat Cushions). They remained secure in place, they provide good cushioning and did not develop any hot spots. The seats are very good in wet weather. After a rain, I would wipe off the excess water and the seats would dry in minutes. The issued seats would have stayed wet for hours. My driver and various other passengers all had very positive comments."

— LTC C.N.S., Kentucky National Guard



Custom upholstery, seat cushions for the Oregon Air National Guard

Cushions Designed for ANG

Oregon Aero designs and manufactures each seating system for the specific application and environment. In this case, we created seat cushions and custom upholstery for an Oregon Aero National Guard vehicle. Now Guard personnel can be comfortable, no matter how long they're in the driver or passenger seats.

Contact us at
militaryprocurement@oregonaero.com
 or 800-888-6910
 to discuss your land vehicle
 and maritime seating.





The Lone Star Flight Museum's B-25 Mitchell offers comfort for pilots and passengers, no matter how long the flight.

courtesy Lone Star Flight Museum

B-52 Crews Fly with Oregon Aero

"From all the aircrew who have flown with your seat cushions, they will never sit on another green brick seat cushion again... One guy from the active unit said he did not like the new (Oregon Aero®) cushion, but after flying a 15-hour sortie...in the old style cushion he swore he would 'never complain again.' For us older reservists, we can not imagine how we flew this long on such a terrible cushion. Thanks." — C.R.



courtesy Secretary of the Air Force

Warbird Crews Grateful for Comfort

Larry and Tom Gregory are brothers who share a passion for historic warbirds and for bringing state-of-the-art Oregon Aero comfort to the seat cushions of the aircraft they restore and fly.



Tom Gregory: Possessive about his Oregon Aero® Parachute Pad

Says Larry, President of Lone Star Flight Museum in Galveston, TX, "The (Oregon Aero® B-17 and B-25) seats look fantastic and have received rave reviews from our flight crews."

Tom, LSFM's Chief Pilot, also flies the Museum's P-47 and P-51 as a member of the USAF Heritage Flight Demonstration Team. Tom is possessive about his custom-made Oregon Aero® Parachute Pad, made to resemble his Marine A-4 pad. What did Tom write on the Pad? "Tommy Gregory: Buy your own from Oregon Aero!"

Apache Cushion Effective for Multiple Pilots Over Several Years

"I am using one of your (AH-64 Apache) Seat Cushions in Afghanistan for four years now (about 3,000 hours). I inherited this from another guy and know it was used a year before that by another friend AND it has two additional names written on it, one of whom I knew from 2004/5. That gives it at least six years in theater and several thousand hours of actual use. Thanks for a great product!" — CW2 S.B., U.S. Army



U.S. Army photo by Spc. Karah Cohen

"Our unit is deploying...and all the pilots are thankful for getting these seat cushions before the deployment.... These cushions will be one major factor that will keep our minds on our flying as opposed to writhing and squirming in our old seat cushions!" — CW3 D.F., U.S. Customs helicopter pilot

"Implications of This Seat Are Tremendous"

"(At first), I couldn't figure out how or why the F-22 seat would be so different from my previous aircraft or why my comfort level was so much higher. (With the Oregon Aero® Ejection Seat Cushion), after pulling G's in the Raptor and after flying it for years with many long sorties behind us (up to nine hours in the seat at a time in my case) — the experience is that we don't get as sore and we're less fatigued. I don't find myself wiggling around in the seat, trying to get comfortable like I used to (in other jets). Most amazing for me is I can get out of the plane without feeling like I've been sitting in it for 15 hours. The implications of this little seat — of all the things you can think of in an F-22—are tremendous!" — Lt. Col. Michael Shower in 2006, now retired, F-22 test pilot and Raptor squadron commander



F-22 piloted by Lt. Col. Michael Shower, now retired, who was among the original F-22 test pilots and one of the first to command a Raptor squadron

courtesy DoD

Ballistic Helmet Upgrade Kits

The Ultimate in Helmet Comfort and Safety

Developed in 1997 for the U.S. Army Special Operations MICH Helmet, **Oregon Aero®** patented Ballistic Helmet Pads provide superior shock absorption, maximum comfort and additional features (see Features and Benefits below). Available for ACH, LWH, PASGT, MICH, RBR, Protech, CVC and other helmets.

- The Oregon Aero® **BLSS®** Kit (Ballistic Helmet Liner & Suspension System): Seven-Pad Liner and Four-Point Chin Strap/Integrated Nape Pad
- The Oregon Aero® **BLU®** Kit (Ballistic Helmet Liner Upgrade): Seven-Pad Liner



Available as OEM or Upgrade Equipment. Complete Kit or Replacement parts available.




Marine LWH

PASGT Helmet



ACH HELMET — The Oregon Aero® **BLSS®** Kit Model 45 Upgrade Kit for the ACH Helmet. Pads and chin strap/harness system also can be ordered separately.

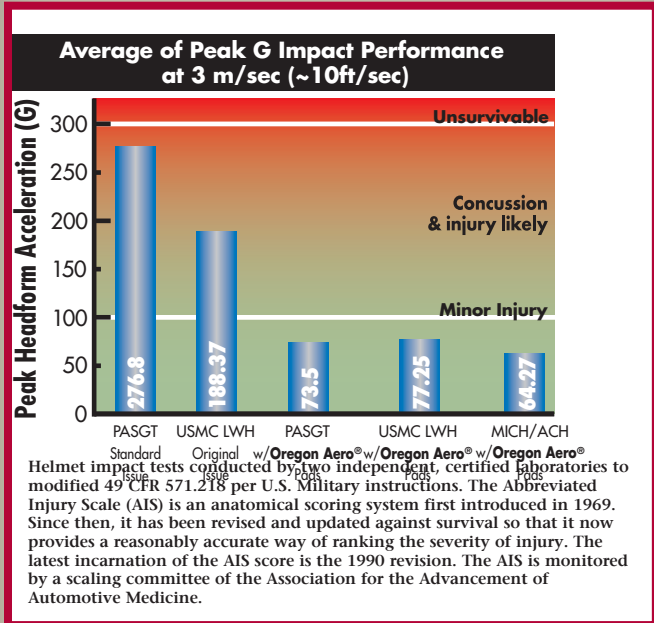
Features and Benefits

FEATURES	BENEFITS
Seven-pad helmet liner  <p><small>courtesy DoD</small></p>	<ul style="list-style-type: none"> • Pain-free, no matter how long it's worn • Minimizes helmet movement on head, holds helmet comfortably in place • Improves shock absorption, helps protect head in case of blast • Reduces sound reverberation, is quieter • Cooler, drier, breathable; gas and air permeable • Compatible with mask, Night Vision goggles, shooting position • Keeps steady, comfortable temperature (about 84° F) • Replacement, Upgrade or OEM equipment
Moisture and waterproof yet breathable coating	<ul style="list-style-type: none"> • Enables helmet to float in water-fording or amphibious conditions (positively buoyant) • Performance of pads not compromised when wet • Waterproof tested to 66' for 12 hours • Keeps water and sweat out, air in
Fire-resistant foam	<ul style="list-style-type: none"> • Pads don't melt or burn
Self-wicking fabric covering	<ul style="list-style-type: none"> • Keeps head cool in warm climates and warm in cold climates • Routes perspiration and heat away • Reduces sweat • Won't cause skin irritation or itchiness
Easy installation	<ul style="list-style-type: none"> • Upgrade helmet in minutes • No helmet shell modifications required • Hook/loop fabric sticks to hook/loop strips inside helmet
Easy cleaning	<ul style="list-style-type: none"> • Wash by hand with soap and water • Air dry • Washable 20+ times without compromise to integrity or performance
Multiple-layer pad construction	<ul style="list-style-type: none"> • Absorbs shock more effectively
Highest quality foam and fabric materials	<ul style="list-style-type: none"> • Durable, two-year warranty • Can be used with various helmet types and sizes • Provide maximum comfort and stability • Consistent performance
Four-point chin strap/harness and integrated nape pad	<ul style="list-style-type: none"> • Can be used with various helmets and sizes • Provides maximum comfort • Adjustable, durable • Replacement, Upgrade or OEM equipment



courtesy DoD

Shock Loads Reduced



SAFER HELMETS — Oregon Aero® Ballistic Helmet Liner Pads provide superior shock absorption and are pain-free, moisture and waterproof, gas and air permeable, self-wicking, and positively buoyant. The patented pads were developed for the U.S. Army Special Operations MICH helmet. See more test data at OregonAero.com.

Additional Testing

The Oregon Aero® BLSS® Kit padding also has undergone and passed testing for the following conditions:

- Submersion in 66' of saltwater
- Exposure to fuels, oils, insect repellent, camouflage face paint
- Gas mask and Night Vision goggle use
- Temperatures of -60°F to +160°F



The Marine Combat Vehicle Crewman (CVC) Helmet can be made painless and safer with Oregon Aero® Helmet Liner Pads.

The liner pads and our four-point chin strap/harness and integrated nape pad are available for most helmet styles, including the ACH, LWH, PASGT, MICH, RBR and others.

Weight, Buoyancy Testing

All types of ballistic helmets with Oregon Aero® Helmet Pads are positively buoyant, making them safer in amphibious and water-fording situations.

Object	Weight in lb + oz	Buoyancy in lb + oz
PASGT shell M	3 lb + 1.3 oz	
PASGT shell L	3 lb + 3.7 oz	Negative - 12.7 oz
PASGT shell XL	3 lb + 15 oz	
std. Susp. + harness	4.2 oz	
BLSS® harness	4.2 oz	
BLU® kit #4	3.8 oz	Positive 1 lb + 2.3 oz
BLU® kit #6	5.2 oz	Positive 1 lb + 9.1 oz
BLU® kit #8	6.0 oz	Positive 1 lb + 12.7 oz
Issue PASGT system total L	3 lb + 7.9 oz	Negative - 12.7 oz
PASGT-BLSS® kit system total L	3 lb - 11.7 to 13.9 oz	Positive 5.4 to 16 oz



POSITIVELY BUOYANT — All items of the Helmet Upgrades were weighed and charted separately. Systems were submerged in sweet water and tested side-by-side. The Oregon Aero® upgraded helmet is positively buoyant (at right); the PASGT helmet is negatively buoyant (at left). Oregon Aero® Pads are positively buoyant in all helmet types.

What Looks Simple — Isn't!

Many Oregon Aero products look simple but actually require complex design and manufacturing processes. Creating the patented Oregon Aero® Ballistic Helmet Liner Pads demands precise engineering of multiple components. Each one of the visco-elastic Pads requires 55 individual components and 27 separate manufacturing steps.



27 STEPS — Drums are loaded and material mixed to create the proprietary gas and air permeable, yet moisture and waterproof coating applied to each Helmet Liner Pad. The material is kept at a constant temperature and humidity. Each Oregon Aero® Helmet Liner Pad goes through 27 manufacturing steps.

Ballistic Helmet Upgrade Kits

BLSS® Kit Model 45, BLSS® Kit, BLU® Kit: What's the Difference?

Order as Kits or Separate Items

BLSS® Kit Model 45

The BLSS® Kit Model 45 can be used with virtually any helmet model. The BLSS® Kit Model 45 Upgrade Kit includes the same seven helmet liner pads used in all our helmet liners and features an adjustable chin strap and integrated nape pad harness system. The pads and chin strap/harness system can be ordered separately.

BLSS® Kit for PASGT

The Oregon Aero® BLSS® Kit is for use with the PASGT Helmet. The BLSS® Kit includes the same seven helmet liner pads used in all Oregon Aero helmet liners. It also includes a four-point chin strap and integrated nape pad harness system designed for the PASGT Helmet. Pads and chin strap/harness can be ordered separately.*

BLU® Kit Includes Seven Liner Pads Without Chin Strap/Harness

The Oregon Aero® BLU® Kit — our time-proven seven-pad helmet liner — was developed in 1997 upon request by the U.S. Military for the Special Operations MICH Helmet. (The seven pads of the BLU® Kit are shown at the bottom of this page.) These seven pads are the same as those manufactured for the Oregon Aero® BLSS® Kit Model 45.

Call Oregon Aero for GSA information.



BLSS® KIT MODEL 45 USED IN MOST HELMETS — The Oregon Aero® BLSS® Kit Model 45 installed in a law enforcement ACH Helmet



BLSS® KIT USED IN PASGT — The Oregon Aero® BLSS® Kit is used with the PASGT Helmet.

BLSS® Kit Model 45, BLSS® Kit and Replacement Parts

Go to OregonAero.com or call 800-888-6910 to order Ballistic Helmet Upgrade Kits or individual replacement parts for virtually any helmet style. Call Oregon Aero if you don't see your helmet style listed.



BLSS® Kit Model 45 for the ACH, LWH, MICH, RBR and Other Helmets

Seven-Pad BLSS® Kit Model 45 with Adjustable Chin Strap/Harness and Integrated Nape Pad

Chin Strap/Harness can be used with various helmets and sizes.

(includes adjustable Chin Strap/Harness System in Coyote Brown, Black or Green; one 3/4" thick round crown pad; four standard 3/4" thick oval pads; and two standard 3/4" thick trapezoid pads)**

- Coyote Brown..... #95045-6-T
- Black #95045-6-B
- Green #95045-6-G

BLSS® Kit Model 45 installed in an ACH Helmet. This BLSS® Kit can be installed in virtually any helmet style.



*98% of our customers use the 3/4" thick crown pad and 1/2" thick oval and trapezoid pads for their PASGT. If you have an extremely loose-fitting helmet, however, 3/4" oval and trapezoid pads are available.

**98% of our MICH, ACH, CVC and other non-PASGT customers use the 3/4" thick crown pad and 3/4" thick oval and trapezoid pads. If you think you need 1/2" thick pads for your helmet, call Oregon Aero at 800-888-6910.

Ballistic Helmet Upgrade Kits

BLSS® Kit for the PASGT Helmet

Call Oregon Aero for GSA information.

Seven-Pad BLSS® Kit with Chin Strap/Harness and Integrated Nape Pad

(includes Chin Strap/Harness System in Coyote Brown, Black or Green; one 3/4" thick round crown pad; four standard 1/2" thick oval pads; and two standard 1/2" thick trapezoid pads)*

For XS, S, M, L PASGT*

Coyote Brown..... #95040-4-T
 Black #95040-4-B
 Green #95040-4-G

For XL PASGT* (includes XL Chin Strap/Harness System)

Coyote Brown..... #95041-4-T
 Black #95041-4-B
 Green #95041-4-G



Seven-Pad Upgrade or Replacement Kit (BLU® Kit)

Seven-Pad Replacement Kit

For PASGT

(includes one 3/4" thick round crown pad; four standard 1/2" thick oval pads; and two standard 1/2" thick trapezoid pads)* #95080-644-G

For ACH, LWH, MICH, RBR and other Helmets (call Oregon Aero to determine best fit)

(second option includes one 3/4" thick crown pad; four 1/2" thick oval pads; and two 1/2" thick trapezoid pads)* #95080-6-G

For Marine CVC (call Oregon Aero to determine best fit)

(second option includes one 3/4" thick crown pad; four 1/2" thick oval pads; and two 1/2" thick trapezoid pads)** #95080-6-C



BLSS® Kit Replacement Chin Strap/Harness System

For ACH, LWH, MICH, RBR and other Helmets

Coyote Brown..... #95045-T
 Black #95045-B
 Green #95045-G

For XS, S, M, L, PASGT

Coyote Brown..... #95040-T
 Black #95040-B
 Green #95040-G



For XL PASGT

Coyote Brown..... #95041-T
 Black..... #95041-B
 Green..... #95041-G

COYOTE BROWN

BLACK

GREEN

THREE COLOR OPTIONS — Customers can order Oregon Aero's four-point chin strap/harness and integrated nape pad as a replacement item in three colors.

Knee and Elbow Pads So Comfortable You'll Forget You're Wearing Them!



FLEXIBLE, PAIN-FREE — Oregon Aero's pain-free, flexible Tactical Knee and Elbow Pads let you move in any position with complete freedom. See page 51.

Law Enforcement Magazine Applauds Oregon Aero's BLSS® Kit

"The suspension system (of another helmet style) does not appear to be anywhere near as useful as the Oregon Aero system used in the MICH and (in the) PASGT upgrade...If you are saddled with a helmet that has the configuration of the PASGT shell, you need the (Oregon Aero®) BLSS® (Kit). Protecting your brain housing group and making the helmet more user friendly should not be an option." — Patrick A. Rogers, for S.W.A.T. Magazine



*98% of our customers use the 3/4" thick crown pad and 1/2" thick oval and trapezoid pads for their PASGT. If you have an extremely loose-fitting helmet, however, 3/4" oval and trapezoid pads are available.

**98% of our MICH, ACH, CVC and other non-PASGT customers use the 3/4" thick crown pad and 3/4" thick oval and trapezoid pads. If you think you need 1/2" thick pads for your helmet, call Oregon Aero at 800-888-6910.

Ballistic Helmet Upgrade Kits

Sole Supplier for U.S. "HALO" Operations

Oregon Aero® Upgrade Kit for the Pro-Tec Helmet

Oregon Aero is the sole provider of a helmet liner upgrade for the Pro-Tec helmet used by several branches of the U.S. Military in high altitude, low opening (HALO) operations. We developed the patented Upgrade for U.S. Special Operations (SOCOM) to make the helmets comfortable and stable.

The Upgrade Kit can be installed in minutes without any helmet modification and is made from several materials, including visco-elastic foam. The Upgrade is equally effective for any Pro-Tec helmet application.

This same helmet pad liner developed for the military is available for anyone using this helmet style, such as mountain climbers and parachutists. The Oregon Aero® Helmet Liner Pads are pain-free and stable. The pads also are shock-absorbent, moisture and waterproof and air permeable, making them cooler and drier.

3/4" Thick #95501-3

NSN 8415-00-X13-2885

7/8" Thick (not pictured) #95502-4

NSN 8415-00-X13-2886

Contact Oregon Aero for GSA information.

SAME SOPHISTICATED ENGINEERING — The same attention to detail and sophisticated engineering used to design and manufacture the Oregon Aero® BLSS® Kit and BLU® Kit go into the military-approved, patented upgrade components for the Pro-Tec helmet. Mountain climbers, parachutists and others can experience pain-free impact protection when they use this helmet style.



courtesy DoD

U.S. Troops Praise Helmet Upgrades

Stateside and deployed troops have confirmed that Oregon Aero® Ballistic Helmet Pads and Chin Strap/Harness Systems are a dramatic improvement. We have received more than 1,000 unsolicited comments over the years — many from troops in combat zones — thanking Oregon Aero for making their helmets safer and comfortable.

"(On) our 21-day march to Baghdad we lived in those helmets and rarely took them off. I was comfortable the whole time and not bothered by the helmet....an RPG impacted about 1 foot above my head. The concussion was so loud and so great that I was knocked to the ground along with our Corpsman HM2 (JC) who by the way was wearing your helmet liner too. We both jumped to our feet and continued in the fight. My cloth helmet cover was torn and burnt. My ears rang for about 2 days and I had an awful headache, but other than that I was in good shape. I returned home healthy and alive."

— Sgt. K.D., USMC

"I have fallen in love with the comfort and fitting of the BLSS® Kit. I can't forget the smiles on men's and women's faces once they donned their helmet with the BLSS® Kit and no longer had to live with the constant knots and pain throughout the day in Iraq. Your attention to soldiers and their comfort has made our job a lot easier." — D.S., Combat Engineer

"I 'inherited' (a BLSS® Kit) from a soldier exiting the military and it has been wonderful to wear. I no longer dread putting on my Kevlar as it is no longer painful." — Sgt. J.S., U.S. Army

"I used the BLSS® Kit during combat operations in Iraq, and it was magnificent! Not once did I have to think about helmet comfort, which is exactly the result desired." — 1st Lt. Price, USMC

"(I experienced) a nine months deployment that saw duty all over the globe including combat operations in Iraq. Your helmet liner system was incredible. It was almost a joy to wear the normally uncomfortable helmet. Your product made it so unbelievably comfortable. I can't say enough about this great product. Many of my friends now have it also. I let all who ask me about it know how great it is. Once they try it on, they are hooked." — HMC J.P., USN



courtesy DoD

Solutions for Comfort, Safety, Performance

See pages
46-50 for
Ballistic Helmet
Upgrade Kits.

A&B Oregon Aero® Tactical Knee and Elbow Pads

We designed these pain-free knee and elbow pads for the Army Combat Uniform (ACU). Multiple-layer composite designs of specially formulated polymer and moisture-wicking fabric. Polyurethane-coated nylon packcloth cover for water repellency and extreme durability. Pads permit full range of arm and leg motion. Hook-and-loop tape closure secure pads inside uniform's pouches. Hand wash in mild soap; air dry.

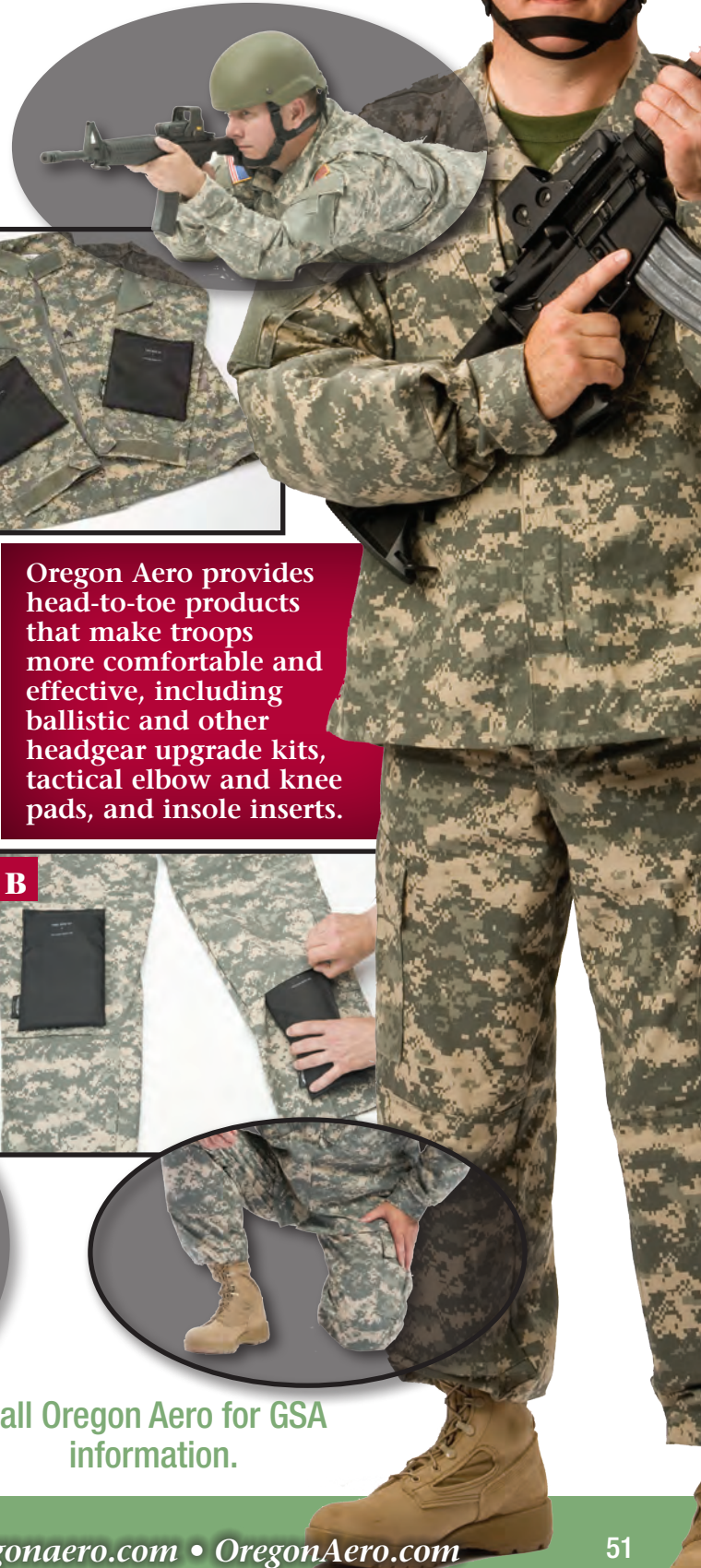
Tactical Knee Pads (9-1/2" x 6")..... #43020-1

Tactical Elbow Pads (7-1/2" x 7-3/4") #43021

C Oregon Aero® Military Pilot Survival Kit

Designed by Oregon Aero for the U.S. Navy. Kit includes a Gerber® Multi-Tool created especially for this kit by Gerber and Oregon Aero, a Gerber® Harsey Air Ranger II Folding Knife, Nexus™ 26DNL Compass, LED Task Light™ Flashlight, Sunscreen Packets, and vacuum sealed Balaclava and Strike Force™ Fire Starting System. The durable carrier pouch is hand sewn by Oregon Aero with pockets for each item. Knife, fire starter and flashlight lanyards attached to carrier. Custom-designed Multi-Tool includes pliers, wire cutter, file, awl, serrated sheep's foot blade, knife/fish hook sharpener, assorted screwdrivers. Special zipper permits access to folding knife without opening the carrier. 6.5" high, 5.5" wide, 2" thick.

Military Pilot Survival Kit #48200



Oregon Aero provides head-to-toe products that make troops more comfortable and effective, including ballistic and other headgear upgrade kits, tactical elbow and knee pads, and insole inserts.



D NVG Finger Lite FL-5

NVG-compatible green light. One LED. Inset to prevent side scatter. Use on any finger of either hand. Mounts using stretch hook/loop, allowing freedom of finger movement while holding light securely. Two common 1.5V A76 batteries included, 10+ hours of normal operation. Vibration proof. Kit includes NVG Finger Lite, hook/loop wrap, two batteries and container. From SSI Inc.

Lite #40FL5

NSN 6230-01-357-2175



NVG Finger Lite FL-5 Kit includes lite, hook/loop wrap, two batteries and container



Call Oregon Aero for GSA information.

The Finger Lite FL-5 is compatible with all Night Vision goggles and devices. NOTE: effective ONLY with Night Vision equipment!

Additional Military Products

E NVG "Mike Lite"

Can be used with Oregon Aero® MicMuff® Microphone Cover. Emits soft green light. Effective ONLY with Night Vision equipment such as NVGs. Three LEDs, inset to prevent side scatter. Preserves dark adaptation. Weighs less than 3/4 oz. Includes wire, batteries, battery pouch, two tie wraps, one mic boom screw. Mounts on wire frame mic boom. Fits M-87 and M-162 mics. Will fit most others with optional MK-1 Mount Kit. From SSI Inc.

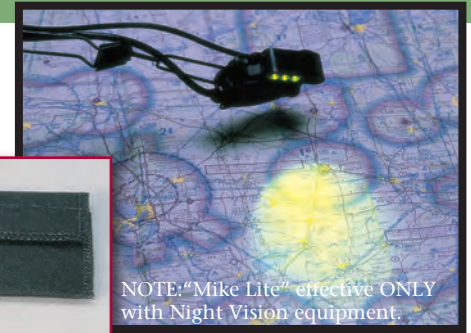
NVG "Mike Lite" ML-8 #40ML8

NSN 6240-01-362-4902

Optional MK-1 Mount Kit (not pictured) #40MK1



E



NOTE: "Mike Lite" effective ONLY with Night Vision equipment.

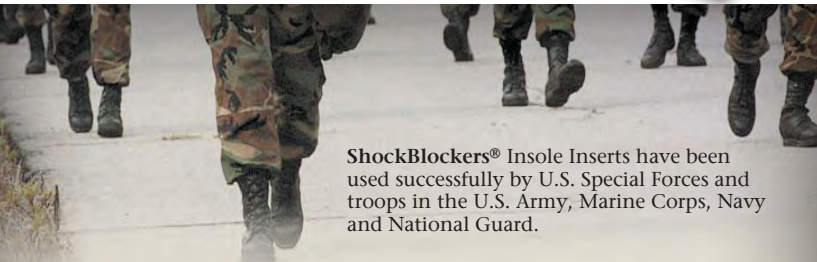
F Oregon Aero® Universal Folding Kneeling Pad

Hurting from kneeling on the job? Work in comfort with the Oregon Aero® Universal Folding Kneeling Pad for industrial, home, law enforcement and military use. Water-resistant pad spreads weight load, eliminates pressure points. Industrial-strength outer cover. Non-skid strips. 12" x 24" x 1" unfolded. 12" x 12" x 2" folded. Lead time required for larger orders.

Universal Folding Kneeling Pad #48001-1-A



F



ShockBlockers® Insole Inserts have been used successfully by U.S. Special Forces and troops in the U.S. Army, Marine Corps, Navy and National Guard.

G ShockBlockers® Insole Inserts

ShockBlockers® Insole Inserts combine state-of-the-art designs and materials to dramatically reduce shock to feet and joints. The inserts are dry and cool, resist compression and are extremely durable. See pages 89-90 or go to OregonAero.com for complete information.

ShockBlockers® Insole Inserts come with instructions and a template in case trimming is necessary.



G

"I have used (ShockBlockers® Inserts) every day and have been delighted...They instantly made my feet cooler and I was sweating less, which proves dividends for my foot hygiene...They have enhanced my effectiveness."
— 1st LT N.W.P., USMC

H & I Oregon Aero® Upgrade Kits for Aviation Headsets, Helmets

Painless, Quieter Flying™

Military Aviation Headsets and Helmets can be pain-free and quieter, with improved intelligibility and transmission clarity. Custom-designed Upgrade Kits and individual components are available for most headset and helmet types. See pages 53-68 for Headset Upgrades and pages 69-83 for Helmet Upgrades.



H



I

Military headsets can be pain-free, quieter.

The Oregon Aero® Zeta II® Helmet Liner is PM Air Warrior approved for the HGU-56P.

J Oregon Aero® Zeta-C® Universal Upgrade Kit

Pain-free, stable, cooler. It looks simple, but it's custom designed from a temperature- and pressure-sensitive composite material which molds itself to the head. Self-wicking, easy installation. See page 88 for more information.

For Welding Hoods, Industrial Helmets, Firefighting Helmets, Face Shields, Bump Caps and Similar Headgear #95002



J

courtesy DoD

Aviation Headset Upgrade Kits

TABLE OF CONTENTS: AVIATION HEADSET UPGRADE KITS

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Pages 56-60	Civilian & Military	Listings: Kit Components
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Pages 62-63	Civilian	Civilian Headset Upgrade Chart: What to Order
Page 64	Military	Headset Upgrade Kits, New Headsets with Oregon Aero® Upgrades
Page 65	Military	Military Headset Upgrade Chart: What to Order
Page 65	First Responders, Rescue	Oregon Aero® Headset Upgrade Kits
Pages 66-67	Civilian & Military	Headset Accessories
Page 68	Civilian & Military	Satisfied Customers

Kits Are Complete Solution to Headset Pain, Noise

No More Pain

Your blood keeps flowing, so there's no more ischemia, or "hot spots." We don't make the pain "better"; the **SoftTop®** Headset Cushion and **SoftSeal®** Ear Cushions make the pain go away! Headset pain is a result of localized blood loss, caused by inadequately sized ear seal openings, unyielding surfaces and sharp edges that come in contact with the human body. Our Upgrade eliminates these problems.

Reduced Overall Sound Pressure

A reduced overall sound pressure of 5dB is achieved by installing energy-dampening **HushKit®** Passive Ear Cup Noise Attenuation (noise is energy). Noise also is reduced by decoupling the speakers from the ear cup structure, so when installing the **Oregon Aero®** Upgrade, don't remount the speaker with screws — let the speaker float in the foam. This will stop the mechanical noise bridge created by hard mounting the speaker to the ear cup.

Improved Intelligibility

"Intelligibility" means how well you UNDERSTAND what you hear. The **Oregon Aero® HushKit®** Passive Ear Cup Noise Attenuation is particularly effective in the speech frequency of 700-7000 Hz, where intelligibility is reduced because of background noise and where noise-induced hearing loss often occurs. Testing data confirm our Upgrade's noise-dampening benefits.

Improved Transmission Clarity

Improved transmission clarity is a design feature of the **MicMuff®** Microphone Cover, which functions as a microphone acoustic baffle. For a complete explanation, see page 55. Now others understand YOU better!

Cool, Dry Ear Seals

Tired of perspiration running down your neck? Place our **SoftSkin®** Ear Seal Covers over our **SoftSeal®** Ear Cushions. The **SoftSkin®** Covers are made of a perspiration-wicking fabric which draws the perspiration away from the skin, where it then evaporates.



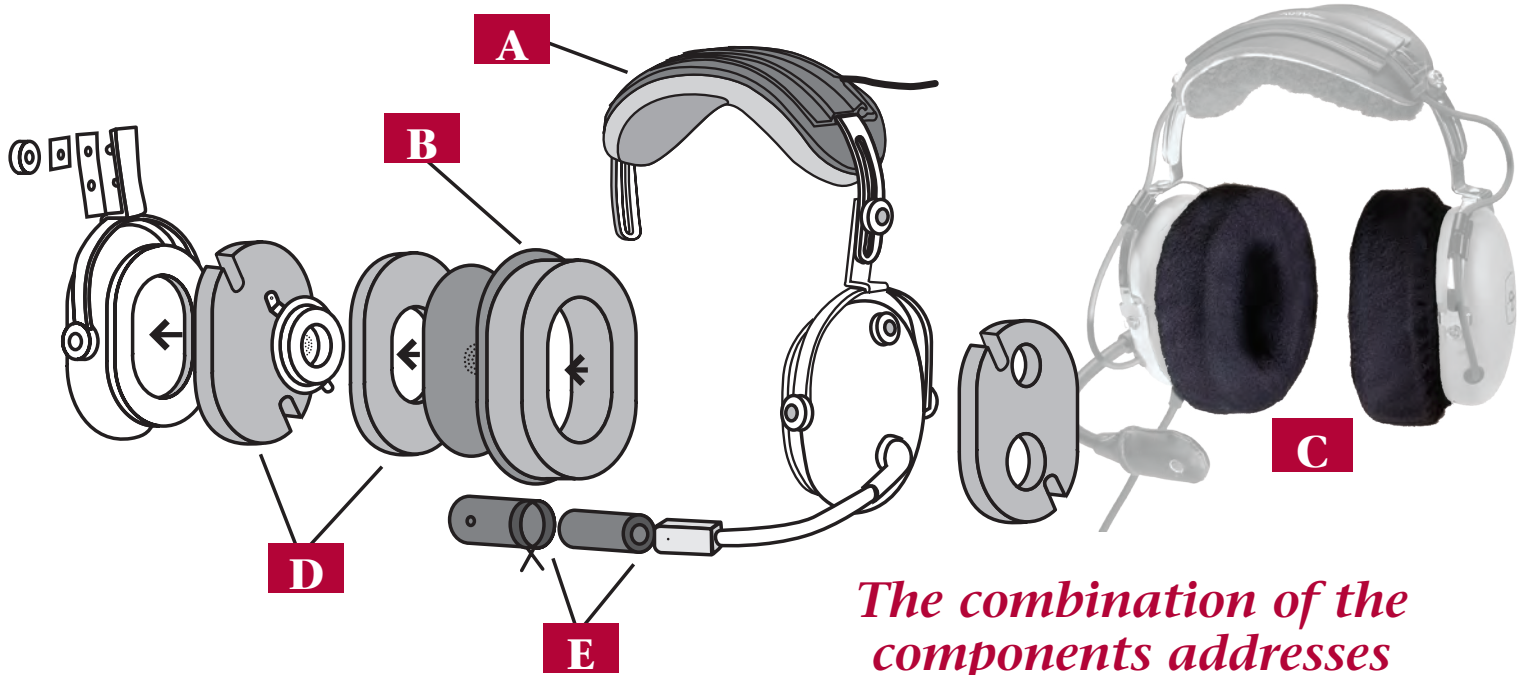
UPGRADED HEADSET — This headset upgraded by Oregon Aero offers **Painless, Safer, Quieter®** flying. To view **SoftSkin®** Ear Seal Covers installed over the **SoftSeal®** Ear Cushions, see page 54.

"It took years of experimentation and research to develop the five components of our Headset Upgrade, not only to create pain-free components but also ones that reduce noise passively."
— Mike Dennis Founder, President and CEO, Oregon Aero, Inc.

The World's Greatest Headset Is the One You Already Own!® — With an Oregon Aero® Upgrade!

Aviation Headset Upgrade Kits

Oregon Aero® Headset Upgrade Kit Components



The combination of the components addresses every issue.

What began as a one-pad headset cushion (see page 2) evolved into the Oregon Aero® Headset Upgrade Kit with five components, which work as one to end headset pain and improve acoustic performance. Several factors, not just one, cause headset pain; ignoring any one factor makes the entire headset as uncomfortable as it ever was. The Headset Upgrade Kit addresses each physiological issue which results from wearing a headset over time. Kits are custom designed for more than 150 civilian, military, law enforcement, first responder and other headsets.

A SoftTop® Headset Cushion

Eliminates top-of-head pressure. 100% plush sheepskin wool. Keeps head cool or warm. Self-wicking. Flexible leather backing. Customized mount of either rubber extrusion or nylon hook/loop wrap.

B SoftSeal® Ear Cushions

Conform to your head. More volume for total comfort. Smooth, soft synthetic leather cover over temperature- and pressure sensitive visco-elastic foam core. Great with eyewear or earrings. Eliminate ear pressure. Attach with flange, adhesive ring, or snap-on mount, depending on headset type.

C SoftSkin® Ear Seal Covers

Keep your ears even drier and cooler and add to product life by slipping SoftSkin® Ear Seal Covers over SoftSeal® Ear Cushions. Self-wicking reduces perspiration buildup. Especially helpful in hot, humid climates. They fit loosely, not tightly like a drum (this is important because tight cloth covers produce pressure on the ear, causing pain).

D HushKit® Passive Ear Cup Noise Attenuation

Testing shows the HushKit® Passive Ear Cup Noise Attenuation Kit performs better than ANR headsets in the 700-7000 Hz mid-range where hearing loss occurs. Dramatically improves noise attenuation and intelligibility. Four die-cut visco-elastic foam layers fill all ear cup voids. Turn down your radio volume! It's not that you can't hear your radio (even though it's on high volume) — it's that you can't understand what's being said in the voice frequency range.

E MicMuff® Microphone Cover

MicMuff® Microphone Cover lets a noise canceling mic do its job above 97dB. Eliminates ambient cockpit noise and noise from radios and intercom. The noisier the cockpit (warbirds, open cockpit, large engine aircraft), the more dramatic the improvement in noise reduction and clarity. See page 55 for complete explanation. MicMuff® Microphone Cover must be used on all headsets installed in the communications system. Soft leatherette cover over foam sleeve creates chamber around mic. Cockpit noise has limited access to mic cartridges, but voice enters easily through holes in leatherette cover. Elasticized tie ensures it won't blow away.

Aviation Headset Upgrade Kits

Frequently Asked Questions

Q Why do you recommend getting all five components?

A The five-component Upgrade Kit developed piece-by-piece, as we continued to identify factors that cause headset pain and noise. Ignore any one factor and the headset likely will be as uncomfortable as it ever was. By installing all five components, every issue is addressed and none is left unresolved.

Q I'm not sure what kind of headset I have or what upgrade parts to order. What do I do?

A You have several options. Check the Civilian Headset Upgrade Chart on pages 62-63 or the Military Headset Upgrade Chart on page 65, go to our website at OregonAero.com, or call us at 800-888-6910. Civilian customers can email customerservice@oregonaero.com while military customers can email militaryprocurement@oregonaero.com.

Q My headset isn't listed in your upgrade chart. Can I still get an upgrade?

A Most likely. Call Dan, Oregon Aero's headset specialist, at 800-888-6910 for help. Or go to OregonAero.com for a more complete listing of headsets.

Q I'm not comfortable doing my own headset upgrade. Can you do it?

A You bet. Just send us your headset. We'll do the upgrade and mail it back to you. Be sure to send a note with your name, return address, phone number, and instructions about what you would like done.



Oregon Aero provides custom components for more than 150 headset models.

Why Do I Need a MicMuff® Microphone Cover?

Q Why do I have a hard time communicating in a noisy airplane?

A Aviation microphones are noise-canceling mics, built with two microphone cartridges aligned back to back with a common output membrane. Look at your headset mic. It has openings for sound to enter on both the front and back of the microphone body.

Cockpit noise enters both sides of the mic and cancels itself at the output membrane because this membrane must resonate to put out a signal. By allowing the same sound to enter both sides of the mic, the microphone cancels the cockpit noise effectively.

When you speak into the mic, your voice mostly enters one side of the mic, causing the membrane to resonate, which creates the output signal (your voice) without much of the ambient noise (cockpit sound). The output signal-to-noise ratio (your voice vs. cockpit noise) is quite good.

This technology works well until the ambient noise level exceeds 97dB of sound pressure. This sound pressure level is exceeded easily by the noise of a large engine, insufficient sound insulation, an open cockpit, or an open ventilator, doors or windows.

When the cockpit noise entering the microphone exceeds 97dB, it causes the membrane to resonate harmonically to the cockpit noise. This resonance makes a noise that sounds like the "shhhh" of wind. The harmonically vibrating membrane creates this noise, much like drawing your finger over a phonograph needle (remember those?) creates a "shhhh" noise.

Unfortunately, when the mic resonates, it (1) fails to cancel cockpit noise, (2) transmits the noise, and (3) creates additional noise! Your voice is lost in this chaos. The signal (voice) to noise (other sound) ratio is now reversed — there's more noise than signal.

Q How does the MicMuff® Microphone Cover solve this problem?

A The MicMuff® Microphone Cover is a two-part device. The first part is an ordinary foam sleeve placed over the mic. You probably have something similar on your mic now. These sleeves are commonly called "wind screens." They are not wind screens; they allow wind to pass right through. The foam sleeve is really an "anti-sibilant" which is meant to reduce the "sssss" and popping sounds caused by pronouncing "S" or "P" when speaking into the microphone. Oregon Aero uses the foam to produce a chamber around the mic.

The second component of our MicMuff® Microphone Cover is a solid leatherette sleeve with two small holes and an elastic cord to fasten it onto the mic. This is pulled over the foam sleeve and the two small holes are aligned with the front and back openings on the mic. This combination creates a small chamber around the mic with limited access for cockpit noise to enter the mic cartridges. What is created is an acoustic baffle around the mic which reduces the noise level at the mic to less than 97dB. This allows the noise canceling mic to do the job it was designed to do.

Q Will my voice go through this small hole?

A Yes, easily. Look at your cell phone mic opening; it's probably smaller than the head of a pin.

Q Will I need more than one MicMuff® Cover if I have more than one headset?

A Probably. Most intercoms make all the headset mics hot at the same time so any mic without a MicMuff® Microphone Cover will create noise in the whole system. Like a bucket with two holes, plug one hole and the other still leaks; you must plug both holes. Make sure all headsets installed on the intercom have the MicMuff® Microphone Cover.

Q Will the MicMuff® Microphone Cover fit all microphones?

A Oregon Aero offers MicMuff® Microphone Covers that are effective for M-87 Military, Electret and Dynamic microphones.



Joe Kittinger, Colonel USAF (Retired), said about wearing the Oregon Aero® Upgrade while barnstorming in an open-cockpit biplane: "This headset is the most comfortable I've ever worn, and I frequently would wear it 11 hours at a time. The noise dampening is quite remarkable and contributes to my comfort by eliminating unwanted noise."

**In noisy airplanes,
the MicMuff® Cover
enables a noise-canceling
mic to do its job.**

Aviation Headset Upgrade Kits

Components: SoftTop® Headset Cushions

David Clark 20-10, David Clark 20-10XL
Without D-ring #10003



Our Headset Upgrade Kits are custom designed for more than 150 headset models.

Telex Airman 750
..... #10004

The **SoftTop®** Headset Cushion was our first product and is still one of our best sellers.



for 5/8" Wide Headbands for:

ASA HS-1, Acousticom, AstroCom DC Clone, AudioCom, Aviall, AvComm AC200/250/400, DRE 1000/2000, most David Clark/Clones (see headset chart), FlightCom 6ANX/4DX/5DX, Gentex Wolf Ears 10-30A, Gulf Coast, Hush A Com GA Clark Type, MG-40/50/95, MicroCom M40/60, Pacific Coast PCA-4T/6T/9T, Pilot PA 11-00/11-10/P-51/P-51 Cadet/11-20/11-40/11-60/9001/11-30/11-76/PA 8000 Gemini /1761T/1761TH/1151ACB/1151ACG/1161T/1161TH/1171T/1171TH/1181T/1181TH, Sigtronics S-20/40/45/58/65/68, SoftComm BNE/C-20/40/80

Without D-ring.....#10006 With D-ring.....#10006D
Without D-ring.....#10007 With D-ring.....#10007D

Narrower option for headsets using SoftTop® Headset Cushion #10006.



Cranials and David Clark/Clones, 5/8" wide head band used in cloth/leather flying helmet

Without D-ring #10008 With D-ring #10008D

Eliminates localized blood circulation loss, so top-of-head pain disappears.



with Narrow Hook/Loop for:

AstroCom Military, AvComm 450/500/600/800/900, Comtronics Com-Air 5000 & Sport 1000/3000/5000, DRE 4000/6000, Falcon F-14/15, Hush A Com Round, MG-20/55/90/76 Military, Pilot PA 11-90/11-90LO, Sigtronics Square, SoftComm BNE/C-35/45/60/90/100, Telex Pro-Air 2000E & ANR

Without D-ring.....#10011 With D-ring #10011D

Ideal for military use. Designed for headset bands 5/8"-3/4" wide. Cut off old cushion. This SoftTop® Headset Cushion is for headsets with headbands that can't be disassembled because of riveted construction or other assembly methods that make it difficult to take headset band apart.



*"Human tissue is extremely fragile. It's a complicated process to create products that are pain-free when they come in contact with the human body."
 — Mike Dennis, Founder, President and CEO*

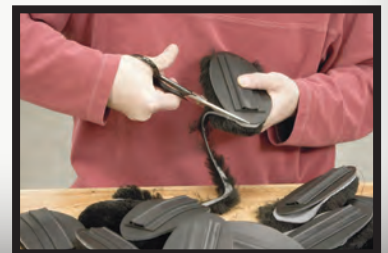
10 Steps To Create SoftTop® Cushion

It takes ten steps to make an Oregon Aero® SoftTop® Headset Cushion, and each step is done by hand, two of them shown below. The SoftTop® Headset Cushion is one of five Oregon Aero® Aviation Headset Upgrade Components.

SEWING — A rubber extruded mount is sewn onto the leather backing of what will become an Oregon Aero® SoftTop® Headset Cushion; the headset headband will slide through the rubber extrusion. For other SoftTop® models, a hook/loop wrap is sewn onto the leather backing. Oregon Aero has designed SoftTop® Headset Cushions used with more than 150 aviation headset models and develops new modifications of the Cushion continually.



TRIMMING — The sheepskin wool of the SoftTop® Headset Cushion is hand trimmed. This is one of ten steps, each done by hand, to ensure a top-quality, durable and effective product.



Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Components: SoftTop® Headset Cushions

FlightCom 4.2/F20, Pilot PA7000/PA9000/11-30HNE, 11-40HNE

Without D-ring..... #10012 With D-ring #10012D

Narrow-style SoftTop® Headset Cushion with hook/loop wrap for smaller headsets.



Beyerdynamic, Comtronics 3000/3100/PRO-Lite Superior, Evolution, FlightCom Denali, Sennheiser 100/300/HMEC200/222, Telex Air 3000/3100/3500/4000/4100, Echelon 100/ANR 150/ANR1-D/MRB-600

Without D-ring..... #10016 With D-ring (pictured)..... #10016D

Narrow-style SoftTop® Headset Cushion with hook/loop wrap for smaller headsets.



Lightspeed Sierra, Peltor, Pilot 1776/1779/21-60, Sennheiser HMEC250/S-1, Telex Airman ANR/ANR200

Without D-ring..... #10017 With D-ring (pictured)..... #10017D

This product may look simple, but we've continued to improve its design since we introduced it in 1989.



Brand-B Original, Brand-B Type II

Without D-ring #10018 With D-ring (pictured) #10018D

For use with the Brand-B Original and Brand-B Type II non-folding headband.



ELNO, FlightCom Eclipse, LYNX, Old Style Military, Telex 900 Series/D950/D951E

Without D-ring #10019 With D-ring #10019D

Narrow-style SoftTop® Headset Cushion with hook/loop wrap for smaller headsets.



Bose® Aviation Headset X®*, Brand-B A20

Without D-ring..... #10020 With D-ring #10020D

For use with Bose® Aviation Headset X® with center hinged headband.



David Clark X11

Without D-ring..... #10021 With D-ring #10021D

Every SoftTop® Headset Cushion goes through ten steps. Each step is done by hand to ensure a top-quality, durable and effective product.



Components: 3/4" SoftSeal® Ear Cushions

Comtronics Com-Air 3000/PRO-Lite Superior/5000/Sport 1000, FlightCom Denali, Peltor 7000Pro GT-ANR

3/4" thick #20002



Call Oregon Aero for GSA information.

*BOSE and AVIATION HEADSET X are trademarks of Bose Corporation. Oregon Aero, Inc. is not affiliated in any way with Bose Corporation, and this accessory product is not authorized or sponsored by Bose Corporation.

Aviation Headset Upgrade Kits

Components: 3/4" SoftSeal® Ear Cushions

Brand-B Original, Brand-B Type II

3/4" thick #20006

SoftSeal® Ear Cushions, one of five upgrade components, feature a soft synthetic leather cover over visco-elastic foam cores.



Bose® Aviation Headset X®*, Brand-B A20, Lightspeed Sierra, Sennheiser HMEC250/S-1

3/4" thick #20007

These Oregon Aero® SoftSeal® Ear Cushions eliminate pressure on your ears and are great with eyewear or earrings.



Comtronics 3100, Lightspeed QFR Series

3/4" thick #20009

Custom-designed square ear seals offer optimum comfort. Mounted to headset with adhesive tape ring.



MG-90, PA 11-90/11-90LO/PA8000 Gemini

3/4" thick #20015

SoftSeal® Ear Cushions eliminate pressure on your ears, conform to your head, and allow blood to keep flowing. No more "hot spots."



LYNX, Peltor, Sennheiser HMEC200/222

3/4" thick #20020

SoftSeal® Ear Cushions eliminate pressure on your ears. Washable synthetic leather over temperature- and pressure-sensitive visco-elastic foam. Peltor users: talk to Oregon Aero before installing.



Acousticom, Cloth Helmet Headsets, Comtronics Sport 5000, Cranial Navy Types, David Clark DCNC/10-13X&XL/10-56X/H10-76XL, DRE 6000, Evolution, FlightCom 6ANX, Gentex Wolf Ears 10-30A, Pilot PA-9001/1761T/1761TH, SoftComm BNE/C-90 & 100, Telex Air 3000/3100/3500/4000/4100/Air ANR 150/ ANR/ ANR1-D/Echelon 100 & 150

3/4" thick #20034

Adhesive ensures ear cushions don't come off when used with helmet



David Clark X11

3/4" thick #20035

Oregon Aero® Headset Upgrade Kits are so comfortable pilots say they forget they are wearing them. The Kits are hand made and custom designed.



Beyerdynamic, ELNO Old Style Military (comes with adhesive fasteners)

3/4" thick #20050 NSN 5965-01-387-8681

For headset used with cloth helmet.



Pilot 1776/1779 (DNC-XL)/21-60

3/4" thick #20134

Visco-elastic foam eliminates painful pressure.



Sennheiser 100/300/400

3/4" thick #20135

Upgrade Kits are available for nearly every make and model of aviation headset.



Telex Airman 750 (includes HushKit® Passive Ear Cup Noise Attenuation Kit)

3/4" thick #28734

SoftSeal® Ear Cushions feature smooth, soft, washable synthetic leather over temperature- and pressure-sensitive visco-elastic foam.



Call Oregon Aero for GSA information.

*BOSE and AVIATION HEADSET X are trademarks of Bose Corporation. Oregon Aero, Inc. is not affiliated in any way with Bose Corporation, and this accessory product is not authorized or sponsored by Bose Corporation.

Aviation Headset Upgrade Kits

Components: 1-1/8" SoftSeal® Ear Cushions

FlightCom Eclipse

1-1/8" thick #20001

The 1-1/8" thickness may be used for other headsets if user desires additional padding because of physical characteristics. Call Oregon Aero 800-888-6910.



AstroCom DC Clone, AvComm, Aviall, Comtronics Sport 3000, most David Clarks (see headset chart), DRE 1000/2000/4000, Falcon F-14/15, FlightCom 4DX/5DX/4DLX, Gulf Coast, Hush A Com GA Clark Type, MG-20/40/50/55/95/76 Military, MicroCom M40/60, Pacific Coast PCA-4T/6T/9T, Pilot PA 11-00/P-51/P-51 Cadet/11-20/11-30/11-40/11-76/1151ACB/11 51ACG/1161T/1161TH/1171T/1171TH/1181T/1181TH, Sigtronics S-20/40/45/58/65/68, SoftComm C-20/35/40/45/60/80

1-1/8" thick #20005 NSN 5965-01-561-5212



Telex Pro-Air 2000E

1-1/8" thick #20010

We don't make pain "better"; the SoftSeal® Ear Cushions make ear pressure pain go away.



Acousticom Military, AstroCom, AstroCom Military, AudioCom, Hush A Com Round, Sigtronics Square, Telex 900 Series/D950/D951 /MRB0600 (comes with adhesive fasteners)

1-1/8" thick #20025 NSN 5965-01-387-8681



Atlantic

1-1/8" thick #20040

The slit in the flange of this SoftSeal® Ear Cushion accommodates the plastic tab of the Atlantic headset.



ANR (Active Noise Reduction) Headsets must use 3/4" SoftSeal® Ear Cushions.

Components: SoftSkin® Ear Seal Covers

For 3/4" thick SoftSeal® Ear Cushions #29034

For 1-1/8" thick SoftSeal® Ear Cushions #29118

For Selected Headsets (see chart that lists components by headset type) #29012
NSN 5965-01-580-5910

Add to the life of your Oregon Aero® SoftSeal® Ear Cushions by using SoftSkin® Ear Seal Covers. Especially helpful in hot, humid climates, their self-wicking reduces perspiration buildup. Select size according to Headset Upgrade Charts on pages 62-63 and page 65.



Pain-Free, Quieter Flying®
for considerably less than a new headset!

Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Components: HushKit® Passive Ear Cup Noise Attenuation

HushKit® Passive Ear Cup Noise Attenuation for:

All David Clark/Clones headsets

..... #92005

All David Clark/Clones headsets (see Headset Upgrade Chart on pages 62-63)



David Clark 20-10

..... #92011

Particularly effective in the 700-7000 Hz frequency range.



Atlantic

..... #92015

Each Upgrade Kit is custom designed. If you're not sure what to order, call Dan, our headset specialist, at 800-888-6910.



Non-Com Cranial #92020

Our HushKit® Passive Ear Cup Noise Attenuation dramatically improves noise attenuation and intelligibility.



Telex 900 Series (must be installed by Oregon Aero)

..... #92050

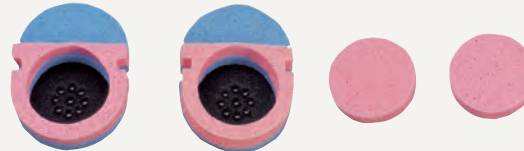
Test data confirms the noise-dampening benefits of the HushKit® Passive Ear Cup Noise Attenuation. Turn down your radio volume!



Acousticom/Military and AstroCom/Military

..... #92060

Visco-elastic foam layers fill all ear cup voids.



David Clark 10-80/10-76 and Com Cranial, Acousticom

..... #92080

Particularly effective in the 700-7000 Hz frequency range.



Components: MicMuff® Microphone Covers

REMEMBER: Every headset microphone in an intercom system MUST have the MicMuff® Microphone Cover installed for them to be effective! The only exception is push-to-talk intercom systems.

MicMuff® Microphone Covers for:

Amplified Dynamic mic

(mics shown right) #90010



Electret type mic

(mics shown right) #90015

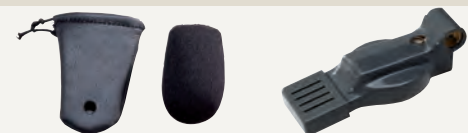
NSN 5965-01-480-8986



Military Dynamic (M-87) mic

(mic shown right) #90020

NSN 5965-01-387-8700



Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Upgraded David Clark Headsets

A selection of civilian and military headsets can be ordered directly from Oregon Aero. When ordering, you may choose to have Oregon Aero install a **Painless, Safer, Quieter®** Headset Upgrade Kit for the cost of the Upgrade only (no labor cost). See page 64 for Military Headsets.

Headsets for Civilian Use

- Oregon Aero® Upgraded David Clark H10-13.4 #80006-1**
- David Clark H10-13.4 #80006**

Lightweight. Universal Flex Boom for perfect microphone placement. M-7A Microphone. Low-profile volume control knobs with detent settings. Molded cord assembly made to exceptional pull and flex standards.

H10-13.4 with the Oregon Aero® Headset Upgrade



- Oregon Aero® Upgraded David Clark H10-30 #80007-1**
- David Clark H10-30 #80007**

M-1/DC Microphone. Molded cord assembly made to exceptional pull and flex standards. We offer the standard model with straight cord and dual plugs for fixed wing use.

H10-30 with the Oregon Aero® Headset Upgrade

- Oregon Aero® Upgraded David Clark H10-60 #80008-1**
- David Clark H10-60 #80008**
- Oregon Aero® Upgraded David Clark H10-60H (for helicopters, not pictured) #80009-1**
- David Clark H10-60H (for helicopters, not pictured) #80009**

Headband size and pressure adjustments. M-7A Microphone. Dual volume control to adjust each ear. Boom Guide Lock. Exclusive, patented flex/wire boom for easy, precise microphone placement. Dome jack lets you select from three different cord assemblies. H10-60 comes with straight 5' cord and dual plugs for fixed wing use. H10-60H for helicopters comes with 6' coil cord and single U-174/U plug. A 5' coil cord with dual plugs is available. Cord assemblies sold separately.

H10-60 with the Oregon Aero® Headset Upgrade, including SoftSkin® Ear Seal Covers



Kids Can Be Comfortable, Too!

Oregon Aero® Upgraded Pilot Cadet Headset



- For Children #80004-1**
- Upgrade components only #83006E**

Kids won't tolerate a painful headset, and they're happier fliers when they can hear Mom and Dad talking, so here's Oregon Aero's solution! We modify this great kids' headset ourselves and sell it directly to you. Comes complete with **SoftTop®** Headset Cushion, **SoftSeal®** Ear Cushions, **SoftSkin®** Ear Seal Covers, **HushKit®** Passive Ear Cup Noise Attenuation, and **MicMuff®** Microphone Cover.

Our Headset Upgrade Kits are a complete solution to headset pain and noise.

Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Headset Upgrade Kits for Civilian Use

Each Oregon Aero® Headset Upgrade Kit is hand made, custom designed and includes the necessary components which perform best when installed together. See the chart below, email customerservice@oregonaero.com, go to OregonAero.com, consult the component listings or call 800-888-6910. Headset Upgrade Kit Components also can be ordered separately.



Civilian Headset Upgrade Chart: What to Order

How to Order

- Find your headset type and model on the chart below. Additional headsets listed at OregonAero.com.
- We recommend you order the Complete Kit for best results and best value. Order at OregonAero.com or call 800-888-6910. Your Kit will include components required for your headset. Kit components also can be ordered separately (shown below).
- If you're not sure what to order, contact us. Note that some components are not recommended or should be installed by Oregon Aero.



Headset Type	Headset Model	Complete Kit #	SoftTop® Headset Cushion (1)	SoftSeal® Ear Cushions	SoftSkin® Ear Seal Covers	HushKit® Passive Noise Attenuation	MicMuff® Microphone Cover
Acousticom		83151	10006	20034	29034	92080	90015
ASA	HS-1	83006E	10006	20005	29118	92005	90015
AstroCom	DC Clone	83006DM	10006	20005	29118	92005	90020
AvComm	AC200, 250, 400	83006E	10006	20005	29118	92005	90015
AvComm	AC600	83159	10011	20005	29118	92005	90020
AvComm	AC450, 500, 800, 900	83122	10011	20005	29118	92005	90015
Beyerdynamic	200, 300, 400, 800, HS 600, DANR	9K-0002-102	10016	20050	29034	(3)	90015
Bose® Aviation Headset X®*	Center hinged band	83006BX	10020	20007	29012	(3)	90015
Brand-B A20	Collapsing center hinged band	83006BX	10020	20007	29012	(3)	90015
Cloth or Leather Helmet		83152	10008	20034	29034	92005	90015
Comtronics	3000, PRO-Lite Superior	9K-0002-103	10016	20002 (2)	29012	92005	90015
Comtronics	3100	9K-0002-104	10016	20009	29012	92005 (2)	90015
Cranial	Non-Com Navy Type	83153	10008	20034	29034	92020	Has no mic
Cranial	Com Navy Type	83154	10008	20034	29034	92080	90020
David Clark	20-10 Series	83111	10003	(3)	29012	92011	90015
David Clark	20-10XL Series	83112	10003	(3)	29012	(3)	90015
David Clark	H3442	83060	10012	20034	29034	(2)	90015
David Clark	DCNC, 10-13X/XL, 10-56X	83116	10006	20034	29034	(3)	90015
David Clark	H10-20, 40, 60, 13.4	83006-E	10006	20005	29118	92005	90015
David Clark	H10-30, 56, 66	83114	10006	20005	29118	92005	90010
David Clark	H10-76	83006DM	10006	20005	29118	92005	90020
David Clark	H10-76XL, H10-76XP	83119	10006	20034	29034	(3)	90020
David Clark	H10-80	83145	10006	20005	29118	92080	90015

- Most SoftTop® Headset Cushions also available with D-ring. See Price List or go to OregonAero.com.
- These Upgrades installed by Oregon Aero because of intricacies of the headset model.
- Not recommended.
- Please call Oregon Aero. We need more information to provide your correct Upgrade components.

BOSE and AVIATION HEADSET X are trademarks of Bose Corporation. Oregon Aero, Inc. is not affiliated in any way with Bose Corporation, and this accessory product is not authorized or sponsored by Bose Corporation.

Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Headset Type	Headset Model	Complete Kit #	SoftTop® Headset Cushion (1)	SoftSeal® Ear Cushions	SoftSkin® Ear Seal Covers	HushKit® Passive Noise Attenuation	MicMuff® Microphone Cover
David Clark	X11, X11P	83127	10021	20035	29012	(3)	90015
FlightCom	6ANX	83116	10006	20034	29034	(3)	90015
FlightCom	4DX	83006E	10006	20005	29118	92005	90015
FlightCom	4DLX, 5DX (Older), 5DX (Newer)	83141	(4)	20005	29118	92005	90015
FlightCom	Denali	83180	10016	20002	29034	(3)	90015
FlightCom	E-13 ANR	83119	10006	20034	29034	(3)	90020
Brand GC (Gulf Coast)		83006E	10006	20005	29118	92005	90015
Lightspeed	15K/XL, 20K/XL, 25K/XL, 3G	83140	(3)	(3)	29118	(3)	90015
Lightspeed	QFR Series Cross Country, QFR Series Solo	83136	10016	20009	29034	(3)	90015
Lightspeed	Sierra, Zulu	83200	10017	20007	29012	(3)	90015
Lightspeed	Zulu.2	Call Oregon Aero	(4)	(4)	(4)	(3)	(4)
LYNX (Old Style)		83155	10019	(4)	29012	92005	90015
Military	Old Style (kidney bean shape)	83197	10019	20050	29034	(3)	90020
Pacific Coast	PCA-4T, 6T, 9T	83006E	10006	20005	29118	92005	90015
Peltor	7000 Pro GT ANR	83195	10019	20002	29012	(3)	90015
Peltor	7003	83191	10017	20020	29012	92005	90010
Peltor	7004, 7005, 7006, 8007	83192	10017	20020	29012	92005	90015
Peltor	7104 Stratosphere	83190	10017	20020	29012	(3)	90015
Pilot	PA-1776, 1771T/TH, 1779 (DNC-XL), 1779T/TH, 21-60 Series, 2170T/TH,	83193	10017	20134	29012	(2)	90015
Pilot	PA-1761T/TH, 9001	83116	10006	20034	29034	(3)	90015
Pilot	PA-1151 ACB/ACG, 1161T/TH, 1171T/TH, 1181T/TH, P-51, P-51 Cadet, 11-20, 11-40, 11-60	83006E	10006	20005	29118	92005	90015
Pilot	PA 11-30, 11-76	83114	10006	20005	29118	92005	90010
Pilot	PA 11-90	83163	10011	20015	29012	92005	90015
Sennheiser	HMEC200, 222	83181	10016	20020	29012	(2)	90015
Sennheiser	HMEC250	83006BX	10017	20007	29012	(3)	90015
Sennheiser	S-1	9K-0002-101	10017	20050	29012	(3)	90015
Sennheiser	100 Series, 300 Series	83187	10016	20135	29012	(2)	90015
Sennheiser	400 Series	83120	10019	20135	29034	(2)	90015
Sigtronics	S-AR	83116	10006	20034	29034	(3)	90015
Sigtronics	S-20, S-40, S-45, S-58, S-65, S-68	83006E	10006	20005	29118	92005	90015
Sigtronics	Square	83124	10011	20025	29118	(2)	90010
SoftComm	BNE, C-90, C-100	83123	10011	20034	29034	(3)	90015
SoftComm	C-20, C-40, C-80	83006E	10006	20005	29118	92005	90015
SoftComm	C-35, C-45, C-60	83122	10011	20005	29118	92005	90015
Telex	Air 3000, 3100	83183	10018	20034	29034	(2)	90010
Telex	Air 3500, Echelon 100	83143	10018	20034	29034	92005	90015
Telex	Air 4000, 4100, ANR 150	83184	10018	20034	29034	(3)	90010
Telex Lightweight	Airman ANR, ANR 200	83189	10017	(2)	29034 (2)	(3)	90015
Telex Lightweight	Airman 750	83113	10004	28734	29034	(3)	90015
Telex	ANR1-D, Echelon 150	83137	10016	20034	29034	(3)	90015
Telex	Pro-Air 2000E	83162	10011	20010	29118	92005	90015
Telex	Stratus 50-D ANR	83194	10018	20025	29118	(3)	90015

1. Most **SoftTop®** Headset Cushions also available with D-ring. See Price List or go to OregonAero.com.
2. These Upgrades installed by Oregon Aero because of intricacies of the headset model.
3. Not recommended.
4. Please call Oregon Aero. We need more information to provide your correct Upgrade components.

“Others who try to copy our headset upgrade parts may get part of it right, but it’s the last 15%-20% of our product designs and our manufacturing methods that make all the difference.”

— Mike Dennis, Oregon Aero, Inc. Founder, President, and CEO

Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Headset Upgrade Kits for Military Use

Military Headset Upgrade Kits are available for ANR and non-ANR headset models most often used by the U.S. Air Force, Army, Marine Corps and Navy. Packaged to Military specs, the Kits are handmade by Oregon Aero in the U.S.A. They are custom designed and include components which perform best when installed together.

See the chart on page 65, go to OregonAero.com, militaryprocurement@oregonaero.com, consult the component listings or call 800-888-6910.



The following are examples of Military Headset Upgrade Kits. See page 65 or go to OregonAero.com to view more headset upgrades. Email militaryprocurement@oregonaero.com or call 800-888-6910 for assistance. ®

For David Clark H10-76 Headset with Electret Mic #83006E
NSN 5965-01-416-9564

Headset with Dynamic Military Mic #83006DM
NSN 5965-01-416-9564

Includes SoftTop® Headset Cushion, SoftSeal® Ear Cushions, SoftSkin® Ear Seal Covers, HushKit® Passive Ear Cup Noise Attenuation, MicMuff® Microphone Cover. Packaged to military specs.

For David Clark H10-76XL #83006C
NSN 5965-01-416-9564

Includes SoftTop® Headset Cushion, SoftSeal® Ear Cushions, SoftSkin® Ear Seal Covers, MicMuff® Microphone Cover. (HushKit® Noise Attenuation not recommended.)



For Bose® Aviation Headset X®* #83006BX
NSN 5965-01-416-9564

Includes SoftTop® Headset Cushion, SoftSeal® Ear Cushions, SoftSkin® Ear Seal Covers, MicMuff® Microphone Cover. (HushKit® Noise Attenuation not recommended.)



David Clark Headsets, Upgrade Kits for Military Use

Customers can order David Clark H10-76 and H10-76XL Headsets directly from Oregon Aero. When ordering, you may choose to have us install an Oregon Aero® Headset Upgrade for maximum comfort and noise reduction. There are no installation fees.

Oregon Aero® Upgraded David Clark H10-76 #80013-1
David Clark H10-76 #80013

NSN 5965-01-390-9240

Oregon Aero® Upgraded David Clark H10-76XL (not pictured) #80014-1

David Clark H10-76XL (not pictured) #80014

Some of the most popular noise attenuating headsets produced for use in military aircraft. Coiled cords terminate into U-174/U plug. Both headsets are designed to withstand the rigors of military use.



Aviation Headset Upgrade Kits

Military Headset Upgrade Chart: What to Order

How to Order

NOTE: Complete Kits or Headset Upgrade components available according to military approval guidelines.

- A. Find your headset type and model on the chart below. Additional headsets listed at OregonAero.com.
- B. We recommend you order the Complete Headset Upgrade Kit for best results and best value. Order at OregonAero.com or call 800-888-6910. Your Kit will include components required for your headset. Kit components also can be ordered separately (shown below).
- C. If you're not sure what to order, contact us. Note that some components are not recommended or should be installed by Oregon Aero.

Headset Type	Headset Model	Complete Kit #	SoftTop® Headset Cushion (1)	SoftSeal® Ear Cushions	SoftSkin® Ear Seal Covers	HushKit® Passive Noise Attenuation	MicMuff® Microphone Cover
Acousticom	Military	83149	10006	20025	29118	92060	90020
AstroCom	Military	83165	10011	20025	29118	92060	90020
AstroCom	DC Clone	83006DM	10006	20005	29118	92005	90020
Atlantic		83186	10016	20040	29118	92015	90010
Bose® Aviation Headset X®*	Center hinged band	83006BX	10020	20007	29012	(3)	90015
Brand-B A20	Collapsing center hinged band	83006BX	10020	20007	29012	(3)	90015
Cranial	Non-Com Navy Type	83153	10008	20034	29034	92020	Has no mic
Cranial	Com Navy Type	83154	10008	20034	29034	92080	90020
David Clark	H-133C, AIC	83114	10006	20005	29118	92005	90010
David Clark	H10-76	83006DM	10006	20005	29118	92005	90020
David Clark	H10-76XL, H10-76XP	83119	10006	20034	29034	(3)	90020
Brand E (ELNO)		83198	10019	20050	29034	92005M	90010
FlightCom	E-13 ANR	83119	10006	20034	29034	(3)	90020
Marv Golden	MG-76 Military	83161	10011	20005	29118	92005	90010
Military	Old Style (Kidney bean shape)	83197	10019	20050	29034	(3)	90020

1. Most SoftTop® Headset Cushions also available with D-ring. See Price List or go to OregonAero.com.
2. These Upgrades installed by Oregon Aero because of intricacies of the headset model. (Not applicable to above chart. Applicable to some headsets on pages 62-63.)
3. Not recommended.

Contact Oregon Aero for GSA information.

BOSE and AVIATION HEADSET X are trademarks of Bose Corporation. Oregon Aero, Inc. is not affiliated in any way with Bose Corporation, and this accessory product is not authorized or sponsored by Bose Corporation.

Each Kit includes custom components. Together, they address every issue of pain and noise.

Upgrade Kits for First Responders, Rescue

Oregon Aero® Headset Upgrade Kits are used by law enforcement, firefighters, medevac personnel, rescue pilots and other first responders. See pages 62-63 to find your headset, go to OregonAero.com, email customerservice@oregonaero.com, consult the component listings or call 800-888-6910.

Firefighting Communications Headset Upgrade Kit

Includes SoftTop® Headset Cushion, SoftSeal® Ear Cushions, HushKit® Passive Ear Cup Noise Attenuation, SoftSkin® Ear Seal Covers, MicMuff® Microphone Cover. For use under helmets or safety caps. You'll be able to hear and be heard clearly, and the headset will be pain-free. Unlike other ear cushions, Oregon Aero® Ear Cushions are non-flammable, non-leaking.



Oregon Aero® Headset Upgrade for the H10-60H, including the SoftTop® Headset Cushion, SoftSeal® Ear Cushions, SoftSkin® Ear Seal Covers, HushKit® Passive Noise Attenuation and MicMuff® Microphone Cover

Oregon Aero® Upgraded David Clark H3442 #83060

Aviation Headset Upgrade Kits

Headset Accessories, Civilian and Military

Oregon Aero® FlashPoint® Flashlight Holder

FlashPoint® Flashlight Holder #40050

Keep light handy on helmet, headset, instrument panel or auto dash, tool box, work bench, appliances — wherever you need a steady, hands-free light source. Three adhesive-backed self-gripping loop pads mount on any surface. Or take out of holder and use as regular flashlight. Fits most AA flashlights. Hook/loop fastening. Developed and manufactured by Oregon Aero.



NVG “Mike Lite”

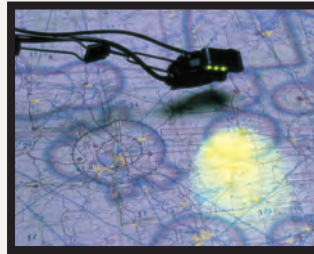
NVG “Mike Lite” ML-8 #40ML8

NSN 6240-01-362-4902

Optional MK-1 Mount Kit (not pictured) #40MK1

Can be used with Oregon Aero® MicMuff® Microphone Cover (instructions at OregonAero.com). Emits soft green light. Effective ONLY with Night Vision equipment such as NVGs. Three LEDs, inset to prevent side scatter. Preserves dark adaptation. Weighs less than 3/4 oz. Includes wire, batteries, battery pouch, two tie wraps, one mic boom screw. Mounts on wire frame mic boom. Fits M-87 and M-162 mics. Will fit most others with optional MK-1 Mount Kit. From SSI Inc.

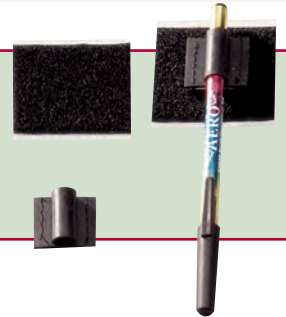
NOTE: “Mike Lite” effective ONLY with Night Vision equipment.



Oregon Aero® PRD® Retainer (Pencil Retaining Device)

PRD® Retainer #40025

Designed by Oregon Aero for the F-15. Keeps pen or pencil from rolling away. Great for car dash, boats, anywhere. Handy item to make life easier and safer. Hook/loop fastening.



Plug Adapters

Other plug styles available. Call 800-888-6910. We offer Plug Adapters and other headset accessories as a service to our customers.

Single Plug to Dual Plug Adapter

..... #97500

Adapter cord does not amplify military headsets. Uses PJ-068, PJ-055 plugs.

Dual Plugs to Single Plug Adapter

..... #97600

Adapter cord does not amplify military headsets. Uses PJ-068, PJ-055 plugs.

Single Military Plug to Dual Civilian Plug Adapter with Amp

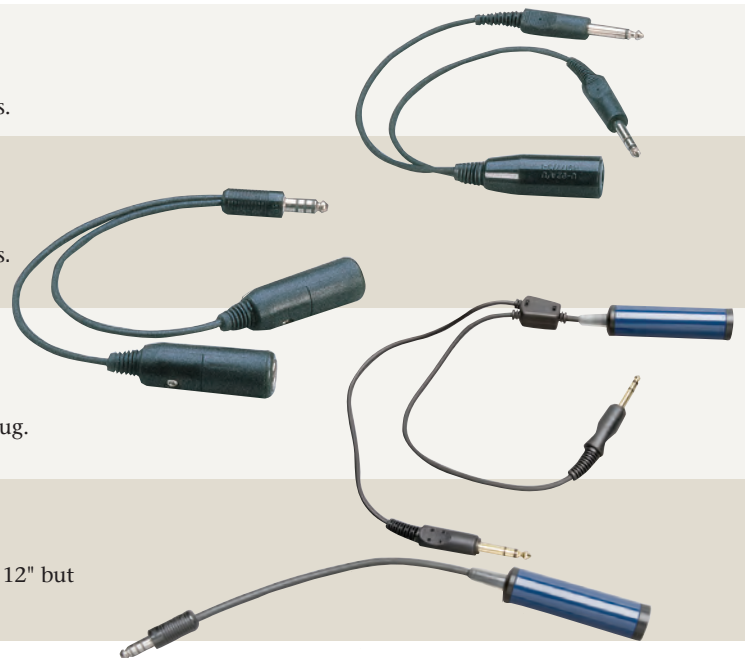
..... #98393-12

Allows military headset or helmet to be used in civilian aircraft. We stock 12" but custom lengths can be ordered. Uses U-174/U (TP-120) plug.

Single Military Plug to Single Civilian Plug Adapter with Amp

..... #98391-12

Allows military headset or helmet to be used in civilian aircraft. We stock 12" but custom lengths can be ordered. Uses U-174/U (TP-120) plug.



Call Oregon Aero for GSA information.

Aviation Headset Upgrade Kits

Headset Accessories, Civilian and Military

Replacement Electret Mic

For Socket Style Boom

.....#98700

Available in Black or Gray

For Wire Boom

.....#98500

Available in Black or Gray

For Wire Boom

.....#98600

Available in Black Only



"It's about comfort in the plane. And under 10G's, (the headset is heavy). Thanks to the Oregon Aero® Headset Upgrade, I get to have a lightweight headset on, and I can move my head around, staying comfortable in the plane."

— Michael Goulian, aerobic performer and champion

Cord Clip

Cord Clip

.....#80500

Get rid of that bothersome headset cord. Spring lock attaches to headset cord. Alligator clip attaches to clothing. No more dragging and pulling.



Headset Headband

Small

9-1/4" band length#80001

Standard

10-1/4" band length#80002

Large

11-3/4" band length#80003

Headband too small or large? This steel band installs like the original on your Clark-style headset. Small size adjusts a Clark-style headset to fit children and small adults. Large size adjusts Clark-style headset to fit larger adults.



CUSTOM-DESIGNED HEADSET BAGS — Oregon Aero designs and sews many types of aviation equipment bags, including this Double Headset Bag. See the "Flight Bags" section of this catalog.

TESTING SHOWS EFFECTIVENESS — Tests reveal the HushKit® Passive Noise Attenuation and SoftSeal® Ear Cushions perform particularly well in mid-range frequencies of 700-7000 Hz.



Satisfied Customers, Headset Upgrades

A Forgettable Is Good™ Upgrade 20-Plus Hours of Comfort

"I have been aircrew on the C-130 Hercules for over seven years and have logged over 2,000 hours of flight time, all while wearing a headset fitted with your upgrade. I can say without hesitation that without the upgrade I would not have been able to wear them continuously for sometimes 20-plus hours! I most recently wore them on some of the longest and most demanding missions of my career, combat operations to Iraq. They were one less thing to worry about. I had to borrow a pair of headsets without your upgrade and after a very short time I developed a headache. I will never go without (your upgrade) again." — T.G.



Sean Tucker Flies With Oregon Aero

"When I'm in the air (in the Oracle Challenger III), my custom-made Oregon Aero® Seat Cushions make the flight more comfortable and enjoyable. My Headset and Helmet Upgrades greatly reduce cockpit noise and were easy to install....I highly recommend these products for anyone." — Sean Tucker, aerobatic performer

Upgrades Less Costly Than New Headsets

"I am very satisfied with my headset upgrade. The installation took all of 20 minutes and the directions were perfect. I actually tried a test among three different headsets.....if I had known how well the HushKit® (Passive Noise Attenuation) would work, I wouldn't have paid what I did for one of my headsets." — P.S., pilot

"I was in the market for new headsets and had settled on a set that would cost around \$350. To make a long story short, I upgraded the headsets (with Oregon Aero® Upgrades) and gave them a field test of two flights, each of at least 2.5 hours.....I'm glad I didn't pay the \$350. What a waste that would have been!" — J.V., pilot

"If I had known how well the Kit would work, I wouldn't have paid what I did for one of my headsets."

"I have been a Law Enforcement Officer for over 12 years and a U.S. Army soldier prior to that. I recently decided to upgrade my hearing protection for the range with your (Headset Upgrade Kit). What a difference at the range. I'm now more comfortable and able to concentrate on shooting and not hurting!" — J.A., law enforcement officer (He also uses an Oregon Aero® Portable Cushion in his patrol car and wears ShockBlockers® Insole Inserts.)

WWII Prowler Comfortable, Quieter

"Your staff took my (headsets) and did amazing things. For the first time in an environment of noise levels that would sterilize mice, we can actually hear ourselves think and hear each other as well. Our comfort has been improved, our enjoyment of flying this machine has been improved and mostly our safety and efficiency have been improved." — James W. Terry, Major USAF Retired and pilot, The Pacific Prowler WWII B-25



Aviation Helmet Upgrade Kits

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Page 83	Civilian and Military	Satisfied Customers

Today's aviation helmets serve multiple purposes. Not only are they impact absorption equipment, they are mounting platforms for audio, video and computer systems. Oregon Aero understands how helmets need to function. We also understand the problems helmet users experience, why the problems exist, and how to solve them.

What Do I Get When I Upgrade My Aviation Helmet?

No More Pain

Your blood keeps flowing, so there's no more ischemia, or "hot spots." We don't make the pain "better," the **ZetaLiner®** and **Zeta II®** Helmet Liners and **SoftSeal®** Ear Cushions make the pain go away! Helmet pain is a result of localized blood loss, caused by inadequately sized ear seals, unyielding surfaces and sharp edges that come in contact with the human body. Our Upgrade eliminates these problems.

Reduced Overall Sound Pressure

A reduced overall sound pressure of 5dB is achieved by installing the energy dampening **HushKit®** Passive Ear Cup Noise Attenuation Kit (noise is energy).

Improved Intelligibility

"Intelligibility" means how well you UNDERSTAND what you hear. The **Oregon Aero®** **HushKit®** Passive Ear Cup Noise Attenuation Kit is particularly effective in the speech frequency of 700-7000 Hz, where intelligibility is reduced because of background noise and where noise induced hearing loss most often occurs. Testing data confirms our Upgrade's noise dampening benefits. We recommend use of the **SoftSeal/HushKit®** Combo in some helmet types.

Improved Transmission Clarity

Improved transmission clarity is a design feature of the **MicMuff®** Microphone Cover, which functions as a microphone acoustic baffle. For a complete explanation, see page 55. Now others understand YOU better!

A Stable Helmet

The **Oregon Aero®** **ZetaLiner®** and **Zeta II®** Helmet Liners eliminate "bob and roll," even with Night Vision and other externally mounted equipment.

Improved Energy Absorption

Testing shows transmitted loads were reduced 25%-35% in a helmet equipped with the **ZetaLiner®** Helmet Liner and **SoftSeal/HushKit®** Combo insulation kit and ear seals, compared to the original helmet.

An Easy Fitting

Fitting takes 3 to 5 minutes. Usually a great fit is achieved by trying one or two **ZetaLiner®** and **Zeta II®** Helmet Liner sizes. Can't get much easier!

You'll Feel Cooler and Drier

Tired of perspiration running down your neck? Place **Oregon Aero®** **SoftSkin®** Ear Seal Covers over our **SoftSeal®** Ear Cushions. The **SoftSkin®** Ear Seal Covers are made of a perspiration-wicking fabric which draws the perspiration away from the skin where it then evaporates. Also, the **ZetaLiner®** Helmet Liner reduces skin temperature 1.5°F compared to conventional liner systems.

A Lighter Weight Helmet

Simply put, a helmet equipped with the **Oregon Aero®** Aviation Helmet Upgrade is lighter weight, compared to a helmet equipped with standard components. You can expect a 2 to 6 oz. weight reduction, depending on the type of original helmet components, as measured during actual Upgrade installations.

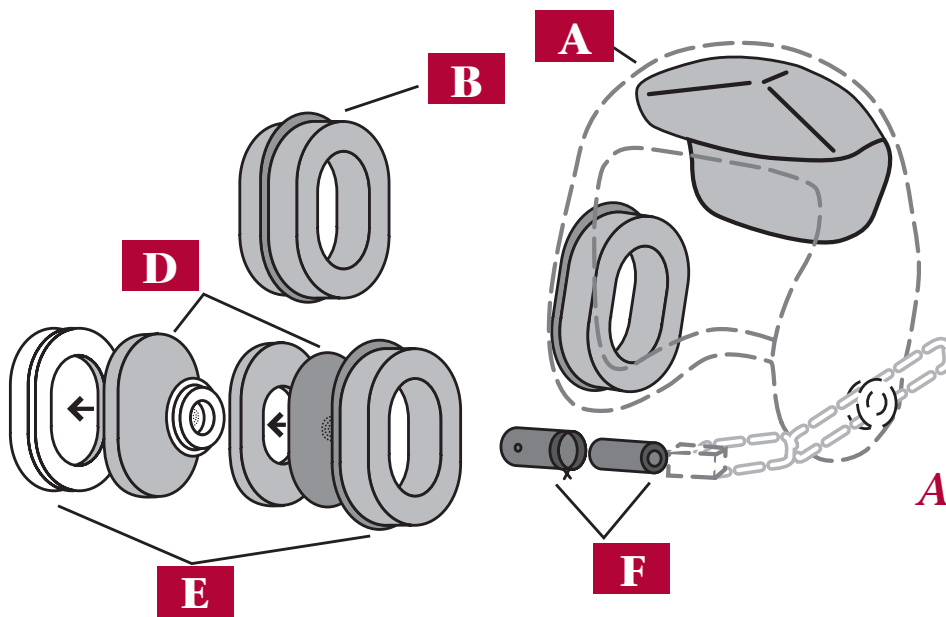
The components work together and address every issue of pain and noise.



CUSTOM DESIGNED — **Oregon Aero®** Aviation Helmet Upgrade Kits are custom designed to fit most helmet types, such as (left to right) the HGU-84P, SPH®, HGU-68P, CGF, HGU-56P and MSA Gallett.

Aviation Helmet Upgrade Kits

Oregon Aero® *Helmet Upgrade Kit Components*



*The World's Greatest
Helmet Is the One You
Already Own!® — With an
Oregon Aero®
Upgrade!*

An Oregon Aero® Aviation Helmet Upgrade Kit transforms your helmet and gives you a **Painless, Safer, Quieter®** flying experience. Our Upgrades fly with 100% success in military, law enforcement, medevac, aerobatic, forest service, warbird and other aircraft. We recommend you install all components designed for your helmet style; the components work together to resolve every issue of pain and noise.

A *ZetaLiner® and Zeta II® Helmet Liners*

Testing shows transmitted impact loads were reduced 25%-35% in a helmet equipped with the **ZetaLiner®** Helmet Liner and **SoftSeal/HushKit®** Combo ear seals and insulation kit, compared to the original helmet. Visco-elastic foam sewn into cool, washable wear-resistant fabric. Eliminates top-of-head hot spots. Self-wicking fabric controls heat buildup by evaporative cooling of perspiration. Eliminates "bob and roll" when mounting external equipment. Lighter weight than other liners. Fitting only takes a few minutes. Testing shows **ZetaLiner®** Helmet Liner reduces skin temperature 1.5°F compared to existing liner systems. Washable, wear-resistant.

B *SoftSeal® Ear Cushions*

Conform to your head and eyewear. 200%-300% more volume for total comfort. Temperature- and pressure-sensitive, two-part visco-elastic foam core. Smooth, soft synthetic leather coverings. Flange and/or adhesive mounting for plastic ear cup, depending on applications. Original ear seals are replaced with the **SoftSeal®** Ear Cushions.

C *SoftSkin® Ear Seal Covers*

Keep your ears even drier and cooler and add to product life by slipping **SoftSkin®** Ear Seal Covers over **SoftSeal®** Ear Cushions. Self-wicking reduces perspiration buildup. Especially helpful in hot, humid climates. They fit loosely, not tightly like a drum (this is important because tight cloth covers produce pressure on the ear, causing pain). Choose for 3/4" or 1-1/8" thick **SoftSeal®** Ear Cushions.

D *HushKit® Passive Ear Cup Noise Attenuation*

Testing shows **HushKit®** Passive Ear Cup Noise Attenuation Kit performs better in the 700-7000 Hz mid-range where hearing loss occurs. Dramatically improves noise attenuation and intelligibility. Four die-cut visco-elastic foam layers fill all ear cup voids. Turn down your radio volume! It's not that you can't hear your radio (even though it's on high volume) — it's that you can't understand what's being said in the voice mid-range.

E *SoftSeal/HushKit® Combo*

Testing shows transmitted impact loads were reduced 25%-35% in a helmet equipped with **SoftSeal/HushKit®** Combo ear seals and insulation kit and **ZetaLiner®** Helmet Liner, compared to the original helmet. An ear seal and insulation kit in one — one giant shock absorber. Replaces triangular leather earpad or upgrades plastic ear cup. Eliminates pain. Testing shows significantly enhanced noise attenuation. Hook/loop attachment. Reduces weight. 3/4" thick Combo pair weighs 2.5 oz., 1-1/8" thick Combo pair weighs 3.2 oz.

F *MicMuff® Microphone Cover*

MicMuff® Microphone Cover enables a noise-canceling mic to operate effectively above 97 dB.. Eliminates ambient cockpit noise and noise from radios and intercom. The noisier the cockpit (warbirds, open cockpit, large engine aircraft), the more dramatic the improvement in noise reduction and clarity. See page 55 for explanation. The **MicMuff®** Microphone Cover must be used on all helmets installed in the communications system. Soft leatherette cover over foam sleeve creates chamber around mic. Cockpit noise has limited access to mic cartridges, but voice enters easily through holes in leatherette cover. Elasticized tie ensures it won't blow away.

Aviation Helmet Upgrade Kits

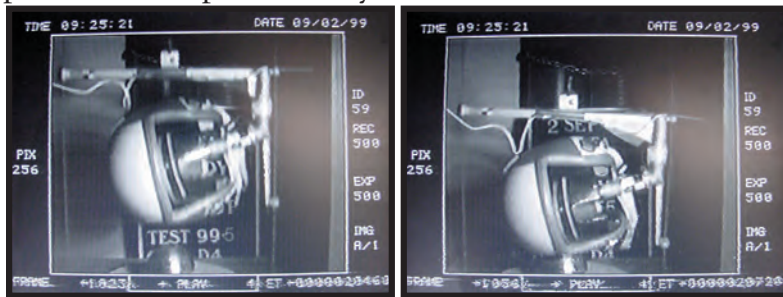
Why Get the Complete Upgrade?

The Oregon Aero® Aviation Helmet Upgrade Kit was developed piece-by-piece, as we continued to identify factors that cause helmet pain and noise. Ignore any one factor and the helmet likely will be as uncomfortable as it ever was. By installing all components custom designed for your helmet, every issue is addressed and none is left unresolved.

NOTE: Military personnel are subject to usage approvals granted by their service branch. Contact Oregon Aero for assistance.

Aviation Helmet Upgrade Testing Shows Significant Impact Reduction

Drop tower testing revealed transmitted impact loads were reduced 25%-35% in this fixed wing fighter helmet equipped with the Oregon Aero® ZetaLiner® Helmet Liner and SoftSeal/HushKit® Combo ear seals and insulation kit, compared to the original helmet. Tests were conducted at Wright Patterson Air Force Base, Dayton, Ohio. In this standard ANSI 290.21 helmet test, a 5 kg head form is placed in the helmet and both are raised approximately 40" in the air, then dropped to produce an impact velocity of 10 ft./second.



We provide painless, quieter helmet upgrades for most civilian and military helmets, including the HGU-56P (at left) and the HGU-55P (above).

**AS9100
CERTIFIED
ISO9001**



HELMET AND HEADSET UPGRADE SPECIALIST — Help is always just a phone call away if you're not sure what parts to order for your aviation helmet or headset. Call and ask for Dan and he can help determine what you need.

Oregon Aero® Upgrade for the MSA Gallett. We provide Upgrades for Civilian and Military use.

Aviation Helmet Upgrade Kits

Helmet Upgrades for Civilian Use

Go to OregonAero.com, email customerservice@oregonaero.com, or call 800-888-6910 for assistance. Order the Complete Upgrade Kit or components can be ordered separately. If your helmet isn't listed, call Dan at Oregon Aero for help. The chart below can be used for helmets formerly used in military service.

Helmet Style	ZetaLiner® Helmet Liner	SoftSeal® Ear Cushions*	SoftSkin® Ear Seal Covers	HushKit® Passive Ear Cup Noise Attenuation Kit*	SoftSeal/HushKit® Combo*	MicMuff Microphone Cover
SPH-4®	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050* 1-1/8" #20025	3/4" #29034 1-1/8" #29118	#92050*	Not applicable	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020
SPH-4B® SPH-5®	See Fitting Instructions and Part Numbers, Page 76	3/4" #20002* 1-1/8" #20001	3/4" #29034 1-1/8" #29118	#92050*	Not applicable	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020
HGU-33P HGU-55P HGU-68P HGU-84P	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050 1-1/8" #20025 We recommend SoftSeal/HushKit® Combo instead of SoftSeal® Ear Cushions and HushKit® Kit separately.	3/4" #29034 1-1/8" #29118 #29118T (use w/#28118T Combo)	#92050 For plastic cups We recommend SoftSeal/HushKit® Combo instead of HushKit® Kit and SoftSeal® Ear Cushions separately.	3/4" #28034 1-1/8" #28118 OR #28118T* We recommend SoftSeal/HushKit® Combo instead of SoftSeal® Ear Cushions and HushKit® Kit separately.	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020
HGU-56P	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050 1-1/8" #20025 We recommend SoftSeal/HushKit® Combo instead of SoftSeal® Ear Cushions and HushKit® Kit separately.	3/4" #29034 1-1/8" #29118 #29118T (use w/#28118R Combo)	#92056 For plastic cups We recommend SoftSeal/HushKit® Combo instead of HushKit® Kit and SoftSeal® Ear Cushions separately.	3/4" #28034 1-1/8" #28118 OR #28118R* We recommend SoftSeal/HushKit® Combo instead of SoftSeal® Ear Cushions and HushKit® Kit separately.	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020
Alpha	#95133A**	3/4" #20002 (if not using Combo)	Call Oregon Aero	#92050 (if not using Combo)	#28118 (for Alpha Eagle)	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020
CGF MSA Gallett	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050* 1-1/8" #20025	3/4" #29034 1-1/8" #29118	Not applicable Call Oregon Aero	3/4" #28034 1-1/8" #28118* We also recommend using 3/8" round spacer #95050.	Dynamic #90010 Electret #90015 Military Dynamic (M-87) #90020

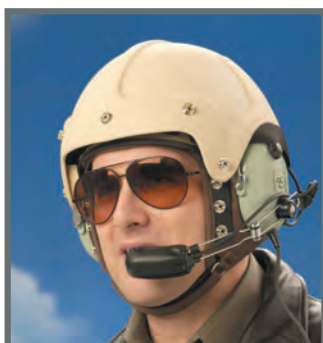
* Bold indicates recommended upgrade component.

**Standard ZetaLiner® Helmet Liner size for the Alpha Helmet is Part #95133A, 13" measurement from front to back and 3/8" thick. See ZetaLiner® Helmet Liner Fitting Instructions on page 76 to verify your ZetaLiner® Liner fitting or call Oregon Aero for assistance.

Custom Upgrade, David Clark "K" Helmet

Oregon Aero® David Clark "K" Helmet Upgrade Kit.....Call Oregon Aero 800-888-6910

Two options are available for this Upgrade Kit. Both options include a custom-designed SoftTop® Headset Cushion, SoftSeal® Ear Cushions, SoftSkin® Ear Seal Covers, the HushKit® Passive Ear Cup Noise Attenuation Kit and a MicMuff® Microphone Cover. You can either install the SoftTop® Headset Cushion to complete the Upgrade without helmet modifications, or you can send your helmet to Oregon Aero where a custom-modified ZetaLiner® Helmet Liner also will be installed.



SPECIALIZED UPGRADE —
You can choose to send your David Clark "K" Helmet to Oregon Aero for installation of a modified ZetaLiner® Helmet Liner in addition to the other Upgrade components for this helmet. Call Oregon Aero at 800-888-6910 for information.

BEST HELMET IN 26 YEARS — Members of the Lima Lima Flight T-34 Team fly with Oregon Aero® Helmet Upgrades. Says team member Gary Donovan, "I've never had a more comfortable helmet in more than 26 years of wearing helmets."

Aviation Helmet Upgrade Kits

Helmet Upgrades for Military Use

Go to OregonAero.com, email militaryprocurement@oregonaero.com or call 800-888-6910 for assistance. Complete Kits or components available according to military approval guidelines.

Military Branch	Aircraft	Helmet Style	ZetaLiner® Helmet Liner	SoftSeal® Ear Cushions*	SoftSkin® Ear Seal Covers*	HushKit® Passive Ear Cup Noise Attenuation	SoftSeal/ HushKit® Combo*	MicMuff Microphone Cover
US Air Force	Fixed Wing	HGU-55P	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050 For plastic cups We recommend the SoftSeal/HushKit® Combo.	1-1/8" #29118T 1-1/8" #29118 3/4" #29034	#92050 For plastic cups We recommend the SoftSeal/HushKit® Combo.	1-1/8" #28118T (Triangular Ear Seals) 1-1/8" #28118 3/4" #28034 Call Oregon Aero for assistance. We recommend the SoftSeal/HushKit® Combo.	#90020
US Army	Rotor Wing	IHADSS	Not applicable	3/4" #20050	3/4" #29034	#92040	Not applicable	#90020
US Army & Coast Guard	Rotor Wing	HGU-56P	Zeta II® Helmet Liner See Fitting Instructions and Part Numbers, Page 74	HGU-56P Helmet Upgrade Kit #96100 NSN 8475-01-591-3023 Kit includes: SoftSeal® Ear Cushions (Replacement Part #20007) SoftSkin® Ear Seal Covers (Replacement Part #29034) HushKit® Passive Noise Attenuation (Replacement Part #92056M)				#90020
US Coast Guard	Rotor Wing	SPH-5®	See Fitting Instructions and Part Numbers, Page 76	3/4" #20002	3/4" #29034	#92050	Not applicable	#90020
US Navy & US Marine Corps	Rotor Wing	HGU-84P	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050	3/4" #29034	#92050	Not applicable	#90020
US Navy & US Marine Corps	Fixed Wing	HGU-68P	See Fitting Instructions and Part Numbers, Page 76	3/4" #20050 For plastic cups We recommend the SoftSeal/HushKit® Combo.	1-1/8" #29118T 1-1/8" #29118 3/4" #29034	#92050 For plastic cups We recommend the SoftSeal/HushKit® Combo.	1-1/8" #28118T (Triangular Ear Seals) 1-1/8" #28118 3/4" #28034 Call Oregon Aero for assistance. We recommend the SoftSeal/HushKit® Combo.	#90020
Royal Air Force of the United Kingdom	Fixed Wing	Alpha	#95133A**	3/4" #20002	Call Oregon Aero	#92050	Not applicable	#90020

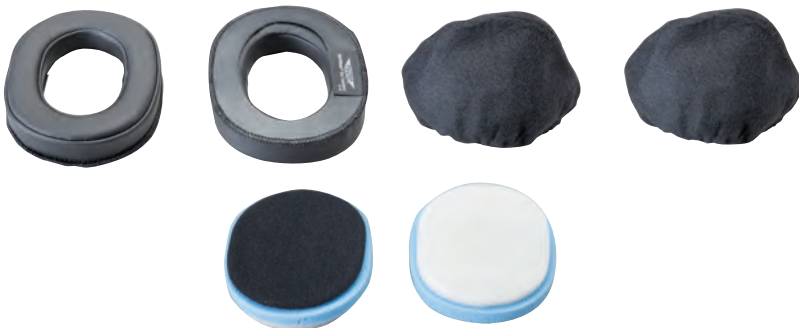
*Listed are the standard **SoftSeal®** Ear Cushions and **SoftSkin®** Ear Seal Covers for each helmet type. Some customers may require alternative components. Call Oregon Aero for assistance.

Standard **ZetaLiner® Helmet Liner size for the Alpha Helmet is Part #95133A, 13" measurement from front to back and 3/8" thick. See **ZetaLiner®** Helmet Liner Fitting Instructions on page 76 to verify your **ZetaLiner®** Liner fitting or call Oregon Aero for assistance.

Additional HGU-56P Upgrade Components

HGU-56P Helmet Upgrade.....#96100 NSN 8475-01-591-3023

This Upgrade for the HGU-56P includes custom-designed **SoftSeal®** Ear Cushions, **SoftSkin®** Ear Seal Covers and **HushKit®** Passive Noise Attenuation. Order the **Zeta II®** Helmet Liner separately. See sizing information on page 74 for **Zeta II®** Liner selection.



See "Helmet Accessories" for additional Aviation Helmet products used by the Military.

Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

Zeta II® Helmet Liner for the Military HGU-56P

PM Air Warrior Approved

USAARL tested, the lightweight Oregon Aero® Zeta II® Helmet Liner provides the same benefits as the Oregon Aero® ZetaLiner® Helmet Liner: Maximum comfort; helmet stability; self-wicking cooling; and easy fitting, installation and care. Equally effective with Night Vision or other externally mounted equipment.

Your Zeta II® Helmet Liner

Choosing Liner Length

Measure the inside of your HGU-56P helmet from front to back, down into the bowl, to determine Zeta II® Liner length (15", 16", 17", or 18"). Then consult the listings below to select the correct part number.



Choosing Liner Thickness

The Zeta II® Helmet Liner for the Military HGU-56P comes in four thicknesses: 1/4", 3/8", 1/2" and 5/8". The most commonly used thickness is 1/2". To select the proper Zeta II® Helmet Liner thickness, review the information below, then find your part number. NOTE: If your TPL® has been heated and fitted, you will probably need a Zeta II® Liner one thickness thinner than those listed below.

Our sizing charts are intended as a starting point for fitting. Each pilot should be fitted individually for comfort and stability. Final results may differ from the data shown here. We are available for assistance.

IF YOUR TPL® LINER HAS:	THEN TRY:
2 Layers	1/4" Liner
3 Layers	3/8" Liner
4-5 Layers	1/2" Liner
5+ Layers	5/8" Liner

The most commonly used thickness is 1/2".

Zeta II® Helmet Liner

Styroliner internal measurement 15" from front to back

THICKNESS	PART NUMBER	NSN	HELMET SIZE
1/4" thick	#9A-0015-101	NSN 8415-01-580-5456	XS/XXS
3/8" thick	#9A-0015-102	NSN 8415-01-580-5460	XS/XXS
1/2" thick	#9A-0015-103	NSN 8415-01-580-5465	XS/XXS
5/8" thick	#9A-0015-104	NSN 8415-01-580-5480	XS/XXS

Styroliner internal measurement 16" from front to back

1/4" thick	#9A-0016-101	NSN 8415-01-580-5484	S/M
3/8" thick	#9A-0016-102	NSN 8415-01-580-5489	S/M
1/2" thick	#9A-0016-103	NSN 8415-01-580-5492	S/M
5/8" thick	#9A-0016-104	NSN 8415-01-580-5494	S/M

Styroliner internal measurement 17" from front to back

1/4" thick	#9A-0017-101	NSN 8415-01-580-5498	L
3/8" thick	#9A-0017-102	NSN 8415-01-580-5499	L
1/2" thick	#9A-0017-103	NSN 8415-01-580-5500	L
5/8" thick	#9A-0017-104	NSN 8415-01-580-5859	L

Styroliner internal measurement 18" from front to back

1/4" thick	#9A-0018-101	NSN 8415-01-590-3520	XL
3/8" thick	#9A-0018-102	NSN 8415-01-591-3013	XL
1/2" thick	#9A-0018-103	NSN 8415-01-591-3015	XL
5/8" thick	#9A-0018-104	NSN 8415-01-591-3020	XL



Easy, Quick Installation



The Zeta II® Helmet Liner is installed easily in the HGU-56P using a hook/loop system. Complete instructions come with the Liner.

Aviation Helmet Upgrade Kits

Aviation Helmet Upgrades for Military Use

Upgrade Approved for "HALO" Operations

Pro-Tec Helmet Liner Upgrade Kit

3/4" Thick.....#95501-3 NSN 8415-00-X13-2885

7/8" Thick (not pictured)#95502-4 NSN 8415-00-X13-2886

The Upgrade can be installed in minutes without any helmet modification. Made from several materials, including visco-elastic foam. Releases heat and air from scalp but is waterproof. Effective for any helmet application.

Oregon Aero is the sole supplier of a helmet liner upgrade for the Pro-Tec helmet used by several branches of the military in high altitude, low opening (HALO) operations. We developed the Upgrade for U.S. Special Operations (SOCOM) to make the helmets comfortable and stable. The helmet liner also is waterproof and improves shock absorption.



Triangle Ear Cup Spacers: Military

Oregon Aero® Triangle Ear Cup Spacers

One pair each: 1/8" thick, 1/4" thick and 3/8" thick Triangle Spacers..... **#950ECSPT**



Oregon Aero® Upgrade for the HGU-55P Helmet

The Oregon Aero® Aviation Helmet Upgrade Kit was developed piece-by-piece as we identified factors that cause helmet pain and noise.



Oregon Aero® Upgrade for the IHADSS Helmet



STABLE WITH EQUIPMENT — Oregon Aero® Aviation Helmet Upgrades ensure that helmets remain stable at all times, even with Night Vision equipment.

Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

Components: ZetaLiner® Helmet Liner

Choosing Your ZetaLiner® Liner Length

Measure the inside of your helmet from front to back, down into the bowl, as shown in the photo. Then consult the chart at bottom right and find the correct part number.



Choosing Your ZetaLiner® Liner Thickness

The ZetaLiner® Helmet Liner comes in four thicknesses: 1/4", 3/8", 1/2" and 5/8". The most commonly used thickness is 3/8". To select the proper ZetaLiner® Helmet Liner thickness, review the information below, then find your part number. **NOTE: If your TPL® has been heated and fitted, you will probably need a ZetaLiner® Liner one thickness thinner than those listed below.**

NOTE: The sizing charts on this page are intended to suggest a starting point for the fitting process. Each pilot should be fitted individually for comfort and stability. Final results may differ from the data shown here. We are committed to helping customers select the proper ZetaLiner® Helmet Liner. See the previous page for fitting information.

IF YOUR TPL® LINER HAS:	THEN TRY:
2 Layers	1/4" ZetaLiner® Liner
3 Layers	3/8" ZetaLiner® Liner
4-5 Layers	1/2" ZetaLiner® Liner
5+ Layers	5/8" ZetaLiner® Liner



Easy Helmet Liner Fitting

No more hour-long fitting sessions that require liner heating! ZetaLiner® Upgrades can be done in minutes as shown below. Call our helmet specialist, Dan, at 800-888-6910 for assistance.



Apply self-adhesive hook (as needed).



Place Helmet Liner inside helmet.



Helmet Liner is retained by hook/loop.



Ready to go!

HELMET TYPE	HELMET SIZE	LINER LENGTH
Rotorcraft Helmets		
SPH-4®	Regular	15"
	Large	16"
	X-Large	16"
SPH-4B®	Regular	15"
	X-Large	16"
SPH-5®	Regular	15"
	X-Large	16"
HGU-56	Regular	15"
	Large	16"
	X-Large	17"
HGU-84	Medium	12"-13"
	Large	13"-14"
	X-Large	14"-15"
	X-Large Wide	14"-15"
Fixed Wing Helmets		
HGU-33	Medium	12"-13"
	Large	13"-14"
	X-Large	14"-15"
HGU-55	Medium	12"-13"
	Large	13"-14"
	X-Large	14"-15"
HGU-68	Medium	12"-13"
	Large	13"-14"
	X-Large	14"-15"
	X-Large Wide	14"-15"
HGU-85	Medium	12"-13"
	Large	13"-14"
	X-Large	14"-15"
	X-Large Wide	14"-15"
CGF	Medium	12"
	Large	13"
	X-Large	14"
ALPHA	Medium	13"
	Large	
	X-Large	

Helmet Liner

Styroliner internal measurement 12" from front to back		
1/4" thick:.....	#95122A	NSN 8475-01-472-3318
3/8" thick:.....	#95123A	NSN 8475-01-472-3774
1/2" thick:.....	#95124A	NSN 8475-01-472-3319
5/8" thick:.....	#95125A	NSN 8475-01-472-3321
Styroliner internal measurement 13" from front to back		
1/4" thick:.....	#95132A	NSN 8475-01-472-3776
3/8" thick:.....	#95133A	NSN 8475-01-472-3320
1/2" thick:.....	#95134A	NSN 8475-01-472-3323
5/8" thick:.....	#95135A	NSN 8475-01-472-3777
Styroliner internal measurement 14" from front to back		
1/4" thick:.....	#95142A	NSN 8475-01-472-3322
3/8" thick:.....	#95143A	NSN 8475-01-472-3324
1/2" thick:.....	#95144A	NSN 8475-01-472-3779
5/8" thick:.....	#95145A	NSN 8475-01-472-3326
Styroliner internal measurement 15" from front to back		
1/4" thick:.....	#95152A	NSN 8475-01-472-3325
3/8" thick:.....	#95153A	NSN 8475-01-472-3780
1/2" thick:.....	#95154A	NSN 8475-01-472-3327
5/8" thick:.....	#95155A	NSN 8475-01-472-3770
Styroliner internal measurement 16" from front to back		
1/4" thick:.....	#95162A	NSN 8475-01-472-3781
3/8" thick:.....	#95163A	NSN 8475-01-472-3773
1/2" thick:.....	#95164A	NSN 8475-01-472-3775
5/8" thick:.....	#95165A	NSN 8475-01-472-3783
Styroliner internal measurement 17" from front to back		
1/4" thick:.....	#95172A	
3/8" thick:.....	#95173A	
1/2" thick:.....	#95174A	NSN 8415-01-573-3935
5/8" thick:.....	#95175A	NSN 8415-01-581-2154

Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

Components: Zeta II® Helmet Liner

Zeta II® Helmet Liner

The Oregon Aero® Zeta II® Helmet Liner is PM Air Warrior approved for the HGU-56P. See page 74 for complete information about the Zeta II® Helmet Liner.

Oregon Aero® products designed and made by Oregon Aero in the U.S.A.



Components: SoftSeal® Ear Cushions

SPH-4B®, SPH-5®

Replaces ear seal on plastic ear cup. Adhesive fastening tape ring for attachment — won't come off!

1-1/8" thick #20001

3/4" thick #20002



HGU-56P

3/4" thick #20007



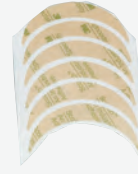
SPH® Helmet Upgrade Kit. Also shown is the Oregon Aero® Visco-Elastic Chin Strap Cushion.



David Clark Style Headset Used In Cloth/Leather Flying Helmet (comes w/adhesive fasteners)

Adhesive fasteners ensure ear cushions don't come off as you put on the helmet.

3/4" thick #20034



Plastic Ear Cups In SPH-4® and HGU (Sonex) Helmets (comes w/adhesive fasteners)

3/4" thick #20050 NSN 5965-01-387-8681

1-1/8" thick #20025 NSN 5965-01-387-8681



You'll get the greatest improvement when you use all Upgrade Kit components together.

Components: SoftSkin® Ear Seal Covers

For 3/4" thick Ear Cushions #29034

For 1-1/8" thick Ear Cushions #29118

For 1-1/8" thick Combo w/Triangular Ear Cushions #29118T

For Selected Aviation Helmets (see page 72) #29012

NSN 5965-01-580-5910

If you fly in a hot, humid climate, these are a must! Slip over SoftSeal® Ear Cushions and keep your ears drier and cooler and add to product life. Self-wicking. They fit loose, not tight like a drum.



LOOSE, COMFORTABLE FIT — The left Rectangular SoftSeal® Ear Cushion shows how an Oregon Aero® SoftSkin® Ear Seal Cover slips easily over the ear seal to keep ears drier and cooler. SoftSkin® Ear Seal Covers don't interfere with the fit and can add to the life of the ear cushions. Four custom sizes available.



Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

Components: HushKit® Passive Ear Cup Noise Attenuation

SPH-4®, SPH-4B®, SPH-5® or HGU (Sonex)

.....#92050 NSN 8475-01-387-8822



HGU-56P

.....#92056



Components: SoftSeal/HushKit® Combo

3/4" thick #28034

1-1/8" thick #28118 NSN 8475-01-520-9471

Replaces HGU Sonex plastic ear cups and the triangular custom ear cups. An ear seal and insulation kit in one. Improves impact safety, noise attenuation, eliminates pain. Lightweight. 3/4" thick Combo pair weighs 2.5 oz., and 1-1/8" thick Combo pair weighs 3.2 oz.



BEFORE AND AFTER INSTALLATION — SoftSeal/HushKit® Combo for HGU style helmet, shown uninstalled (two component pieces at left) and installed (single component at right). Eliminates potential injury from rigid ear cups and reduces weight by as much as 50%.



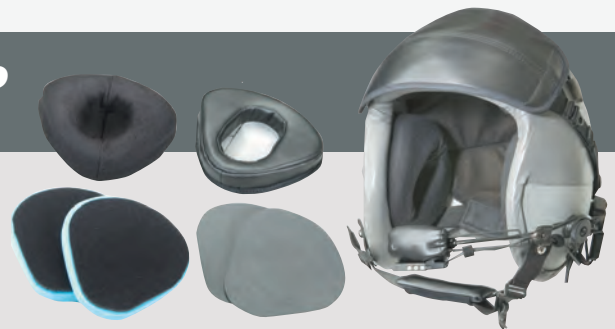
INSTALLING COMBO — The speaker is placed easily into the SoftSeal/HushKit® Combo, which comes with installation instructions.

Components: SoftSeal/HushKit® Combo with Triangular Ear Cushions

SoftSeal/HushKit® Combo with 1" thick Triangular Ear Cushions and Oval Opening for the HGU-33P, HGU-55P, HGU-68P, HGU-84P #28118T NSN 5965-01-597-2591

SoftSkin® Ear Seal Covers (shown on left ear cushion) #29118T

Oregon Aero provides a custom SoftSeal/HushKit® Combo with Triangular Ear Cushions for the HGU-33P, HGU-55P, HGU-68P and HGU-84P. The design features passive noise attenuation technology and an ear seal design developed specifically for these helmets.



TRIANGULAR COMBO — The Oregon Aero® Triangular SoftSeal/HushKit® Combo features custom-shaped ear seals and special passive noise attenuation technology to dampen low frequency sounds. Custom-designed SoftSkin® Ear Seal Covers also are available for this ear seal shape.

SoftSeal/HushKit® Combo with 1" thick Triangular Ear Cushions and Triangular Opening for the HGU-33P, HGU-55P, HGU-68P, HGU-84P (Civilian) #9A-0021-101 NSN 5965-01-587-8444

This larger, Triangular Ear Seal opening is an effective option for some customers to ensure proper ear seal alignment. Call Oregon Aero at 800-888-6910 if you think you may need this larger opening. Developed for the U.S. Military.

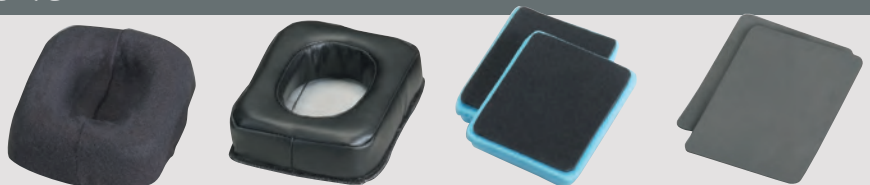


Components: SoftSeal/HushKit® Combo with Rectangular Ear Cushions

SoftSeal/HushKit® Combo with 1-1/8" thick Rectangular Ear Cushions for HGU-56P (Civilian) #28118R

SoftSkin® Ear Seal Covers (shown on left ear cushion) #29118

This Rectangular SoftSeal/HushKit® Combo designed for the HGU-56P is an option for civilian customers. Provides improved stability for use with NVGs. Call Oregon Aero at 800-888-6910 to discuss whether this Combo could work for you.



RECTANGULAR COMBO — The Oregon Aero® Rectangular SoftSeal/HushKit® Combo is custom designed for the HGU-56P.

Call Oregon Aero for GSA information..

Aviation Helmet Upgrade Kits

Components: MicMuff® Microphone Covers

MicMuff® Microphone Cover lets a noise-canceling mic do its job above 97dB. Eliminates ambient cockpit noise and noise from radios and intercom. The noisier the cockpit (warbirds, open cockpit, large engine aircraft), the more dramatic the improvement in noise reduction and clarity. See Q&A on page 55 for complete information. MicMuff® Cover must be used on all helmets installed in the communications system. Soft leatherette cover over foam sleeve creates chamber around mic. Cockpit noise has limited access to mic cartridges, but voice enters easily through holes in leatherette cover. Doesn't blow away.

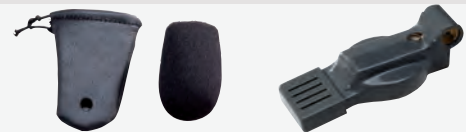
Amplified Dynamic mic
(mics shown at right)#90010



Electret type mic
(mics shown at right)#90015 **NSN 5965-01-480-8986**



Military Dynamic (M-87) mic
(mic shown at right)#90020 **NSN 5965-01-387-8700**

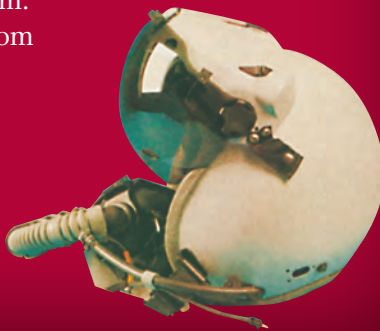


ZetaLiner® Helmet Liner Standard in JHMCS Helmet

The Oregon Aero® ZetaLiner® Helmet Liner is standard equipment in the U.S. Air Force and Navy Joint Helmet-Mounted Cueing System helmet. The helmet's computer electronics cueing system enables pilots to target objects outside their normal visual range.

The Oregon Aero® component stabilizes the helmet and provides significant noise reduction, pain-free flying and a lighter weight helmet system.

At right are comments from pilots who have used the helmet equipped with the Oregon Aero® ZetaLiner® Helmet Liner and SoftSeal/HushKit® Combo.



Helmet Is Stable, Comfortable, Quiet

Pilots give glowing evaluations of Oregon Aero's improvements to the Joint Helmet-Mounted Cueing System project:

- "Incredible sweat absorption properties...the wicking properties of the ZetaLiner® (Liner) eliminated nearly all sweat beads from rolling into my eyes under G's."
- "The extraneous noise damping properties of the ear cups were incredible."
- "I could tell my (helmet) shell was not sliding around my head as I cranked my neck around to check six like it usually does."
- "Quick and easy installation/modification time. My PR learned in one hour how to do the mod and completed one on his own in 15 minutes from start to finish."
- "The Oregon Aero® ZetaLiner® (Helmet Liner) and Ear Cups may be one of the best 'finds' of this program."
- "I am not feeling the weight at all, not feeling a tug trying to rotate my head....I don't even notice it's on (during high performance, high-G maneuvers)."
- "I experienced no fatigue, neck pain, loss of mobility, or change in G-tolerance while wearing the helmet."
- "Voice warnings were much louder and clearer, and the aircraft was much quieter. All this...and less weight, too."



HELMET BAGS — Oregon Aero offers several custom-designed, hand-sewn flight equipment bags, including bags for aviation helmets. See pages 86-87 for complete information.



Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

Helmet Accessories

Oregon Aero provides Aviation Helmet Accessories for Civilian and Military use. Call 800-888-6910 or email customerservice@oregonaero.com for assistance. Order online at OregonAero.com.

Styrene Crush Liner

For SPH-4®, SPH-4B®, SPH-5®, or HGU Helmets #94100

Helmets with molded liners can be sent to Oregon Aero for fittings and installation. We remove the molded liner and replace it with a new styrene crush liner (shown right) and our comfortable ZetaLiner® Helmet Liner. Call Oregon Aero with helmet type and size. See Price List for complete listing.



Oregon Aero® Visco-Elastic Chin Strap Cushion

5-1/4" length for SPH® style helmet #95514

4" length for HGU style helmet #95004

Cushions grip and hold on rather than slip off. Incredibly comfortable. Durable.



Oregon Aero® Visco-Elastic Nape Strap Cushion

..... #95534

Chin and nape strap cushions solve problem of helmet spinning forward and rolling off head.



Oregon Aero® Ear Cup Spacers: Oval or Triangle



OVAL

- 1/8" thick #95018
- 1/4" thick #95014
- 3/8" thick #95038
- 1/2" thick #95012
- 5/8" thick #95058
- 3/4" thick #95034



TRIANGLE

- 1/8" thick #95018T
- 1/4" thick #95014T
- 3/8" thick #95038T
- 1/2" thick #95012T
- 5/8" thick #95058T
- 3/4" thick #95034T

Spacers build up area behind ear seal to provide a better fit for persons with narrower head. Polyfoam and fabric. Attach with hook/loop fastening. 3/8" thick round spacer #95050 available for CGF helmet.

Oregon Aero® Helmet Skull Cap

- Small #95302 NSN 8415-01-580-5886
- Medium #95303 NSN 8415-01-580-5887
- Large #95304 NSN 8415-01-580-5888
- X-Large #95305 NSN 8415-01-582-3781



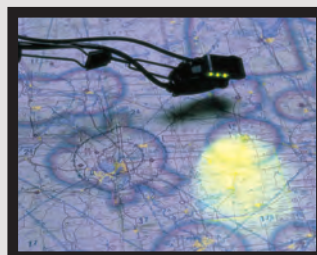
Absorbs perspiration and reduces wear and tear on your ZetaLiner® Helmet Liner. Carefully designed to avoid contact with ears, so there's no painful pressure.

NVG "Mike Lite"

NVG "Mike Lite" ML-8 #40ML8 NSN 6240-01-362-4902

Optional MK-1 Mount Kit (not pictured) #40MK1
 Can be used with Oregon Aero® MicMuff® Microphone Cover (instructions at OregonAero.com). Emits soft green light. Effective ONLY with Night Vision equipment such as NVGs. Three LEDs, inset to prevent side scatter. Preserves dark adaptation. Weighs less than 3/4 oz. Includes wire, batteries, battery pouch, two tie wraps, one mic boom screw. Mounts on wire frame mic boom. Fits M-87 and M-162 mics. Will fit most others with optional MK-1 Mount Kit. From SSI Inc.

NOTE: "Mike Lite" effective ONLY with Night Vision equipment.



Call Oregon Aero for GSA information.

Aviation Helmet Upgrade Kits

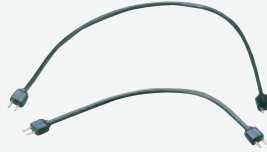
Helmet Accessories

Oregon Aero provides Aviation Helmet Accessories for Civilian and Military use. Call 800-888-6910 or email customerservice@oregonaero.com for assistance. Order online at OregonAero.com.

Helmet Microphone Cords

- 14" SPH® Style**#98312-14
- 10" HGU Style (not pictured)**#98312-10
- 7" HGU Style**#98312-7

Custom lengths available. Custom orders may take at least two weeks to ship.



**Call 800-888-6910
for assistance.**

Replacement Harnesses

For Civilian SPH® Helmet

..... #98363

Dual plugs, straight cord. PJ-068, PJ-055 plug styles.



For Military/Civilian Helicopter HGU Helmet

.....#98342

Single plug, coil cord. U-174/U (TP-120) plug style.



For Civilian SPH® Style Helmet

..... #98364

Dual plugs, coil cord. PJ-068, PJ-055 plug styles.



For Civilian HGU Helmet

..... #98361

Dual plugs, straight cord. PJ-068, PJ-055 plug styles.



For Military/Civilian Helicopter SPH® Style Helmet

..... #98343

Single plug, straight cord. U-174/U (TP-120) plug style.



For Civilian HGU Helmet

..... #98362

Dual plugs, coil cord. PJ-068, PJ-055 plug styles.



For Military/Civilian Helicopter SPH® Style Helmet

..... #98344

Single plug, coil cord. U-174/U (TP-120) plug style.



Navy Replacement Harness

.....#98341N

Single plug, straight cord. U-384/U plug style. Five rings.



For Military Fixed Wing/Helicopter or Civilian Helicopter HGU Helmet

..... #98341

Single plug, straight cord. U-174/U (TP-120) plug style.



We offer mic cords, harnesses, mountings, mic/boom assemblies and other accessories for the convenience of our customers.

Wire Boom Microphone Mountings

Single-Screw

..... #98321



Two-Screw

..... #98323



For Bayonet Oxygen Receiver

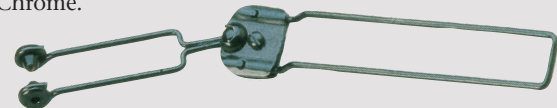
..... #98322



Wire Frame Mic Boom Replacement

..... #98311

Available in Black or Chrome.



Civilian Helmet Speaker

..... #98332

300 OHM style. Replace speaker and mic to convert from military to civilian. Call 800-888-6910 for assistance.



Aviation Helmet Upgrade Kits

Helmet Accessories

Complete Replacement Mic/Boom Assemblies

(A) Flexible (Gooseneck) Boom w/Waterproof Electret Mic

..... #98305-7

Wire in 7" length only.

(B) Combination Wire Frame and Flexible Boom w/Waterproof Electret Mic #98304

Mic in Black or Gray. Wire in 7" or 14" length.

(C) Wire Frame Boom w/M-87 Military Mic w/Pre-amp for Civilian Equipment #98302

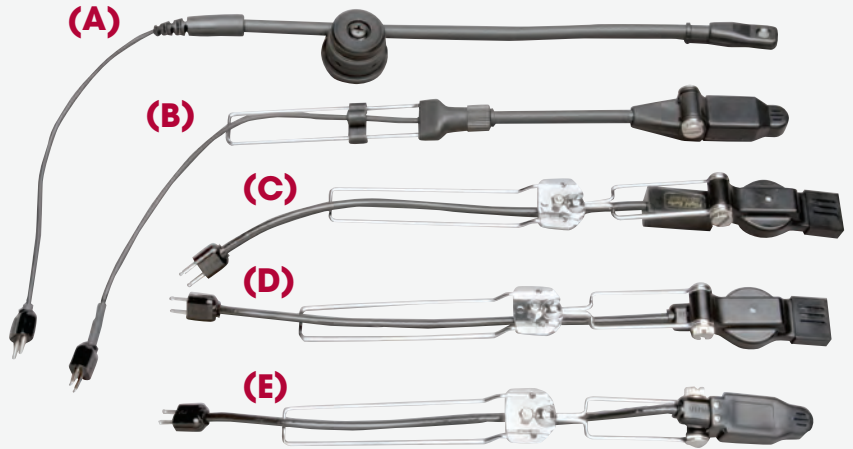
Wire in 7" or 14" length. Limited supply.

(D) Military Wire Frame Boom w/M-87 Mic & Cord #98301

Wire in 7" or 14" length. Select Black or Chrome.

(E) Wire Frame w/Electret Mic & Cord #98303

Mic in Black or Gray. Wire in 7" or 14" length.



Replacement Electret Mics

For Socket Style Boom

..... #98700

Available in Black or Gray.



For Wire Boom

..... #98500

Available in Black or Gray.



For Wire Boom

..... #98600

Available in Black.



Replacement M-87 Mic

Military Dynamic (M-87) mic

..... #98400

Available in Black.



**Call 800-888-6910
for assistance.**

Plug Adapters

Other plug styles available. Call 800-888-6910.

Single Plug to Dual Plug Adapter

..... #97500

Adapter cord does not amplify military headsets. Uses PJ-068, PJ-055 plugs.



Dual Plugs to Single Plug Adapter

..... #97600

Adapter cord does not amplify military headsets. Uses PJ-068, PJ-055 plugs.



Single Military Plug to Dual Civilian Plug Adapter with Amp

..... #98393-12

Allows military headset or helmet to be used in civilian aircraft. We stock 12" but custom lengths can be ordered. Uses U-174/U (TP-120) plug. Custom orders may take at least two weeks to ship.



Single Military Plug to Single Civilian Plug Adapter with Amp

..... #98391-12

Allows military headset or helmet to be used in civilian aircraft. We stock 12" but custom lengths can be ordered. Uses U-174/U (TP-120) plug. Custom orders may take at least two weeks to ship.

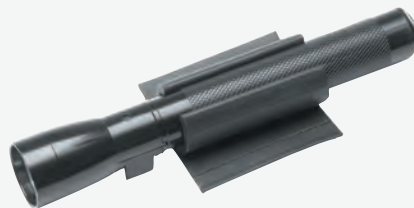


Oregon Aero® FlashPoint® Flashlight Holder

FlashPoint® Flashlight Holder

..... #40050

Keep light handy on helmet, headset, instrument panel or auto dash, tool box, work bench, appliances — wherever you need a steady, hands-free light source. Three adhesive-backed self-gripping loop pads mount on any surface. Or take out of holder and use as regular flashlight. Fits most AA flashlights. Hook/loop fastening.





Scott Slocum

Rob Holland, U.S. and World Aerobatic Champion

“Oregon Aero products make each one of my performances as comfortable and quiet as can be.”
— Rob Holland, National and World Aerobatic Champion

2011 Champion Flies With Oregon Aero

Flying his MXS-RH, Rob Holland took the title of U.S. National Aerobatic Champion at the U.S. Nationals and also won Gold in the Freestyle Competition at the 2011 World Aerobatic Championships in Italy. Oregon Aero supports Rob with a Helmet Upgrade and VK SmartCushion™ System. Says Rob, “Oregon Aero products make each one of my performances as comfortable and as quiet as can be.”



“I flew with the ZetaLiner® (Helmet Liner and other Upgrade components) in my HGU-68P for the S-3B and was very impressed with the comfort and sound protection. Usually, I’m turning up the volume on the radios while we are flying at higher airspeeds, but not so today. The liner and ear protection worked as advertised.” — Lt. F.O.



courtesy Army Aviation Heritage Foundation

“Usually, I’m turning up the volume on the radios while we are flying, but not so today.”

QUIET, COMFORTABLE FLYING — Army Aviation Heritage Foundation Sky Soldier Patty Meek, Cobra Demonstration Team. All team members use Oregon Aero® Aviation Helmet Upgrades. “Sound attenuation is outstanding....the helmets can be worn all day without hot spots or distraction,” says Cobra Team Lead Peyton DeHart.



courtesy Dick Keyt

Dick Keyt races the one-of-a-kind Polen Special with an Oregon Aero® Helmet Upgrade and VK SmartCushion™ System.

“When I found that my old ‘poured’ liner was not usable I almost cried! I could not imagine trying to fit a new helmet by myself. But then I bought a helmet with the Oregon Aero® Upgrade. This helmet fit wonderfully from the first moment I put it on. Now long flights are an absolute pleasure.” — Dick Keyt, air racer and airline pilot, Polen chief pilot and president, Polen Education Foundation



courtesy Jacquie B Airshows

WILD WOMEN DO! (rely on Oregon Aero) — Jacquie Warda, known as “Jacquie B.,” uses the tagline “Wild Women Do!” to characterize her full-throttle rise in aerobatic competition and performance since her unlikely debut at age 50. Jacquie relies on an Oregon Aero® Aviation Helmet Upgrade and VK SmartCushion™ Seating to keep her comfortable and safer.

With Oregon Aero® Aviation Helmet Upgrades, pilots of fixed wing fighters reported reducing their audio output setting from 90-95% to a new average setting of 35-45%, with significantly improved comprehension. — As reported by North Dakota ANG and Oregon Air National Guard Lt. F.O.

Additional Pilot Accessories

Oregon Aero offers an assortment of products for pilots that reflect our constant quest to make life easier and more comfortable for our customers. Here are additional products that can be used by pilots or in other settings. Call us at 800-888-6910 for more information.

NVG Finger Lite FL-5

Lite #40FL5 **NSN 6230-01-357-2175**

NVG-compatible green light. One LED. Inset to prevent side scatter. Use on any finger of either hand. Mounts using stretch hook/loop, allowing freedom of finger movement while holding light securely. Two common 1.5V A76 batteries included, 10+ hours of normal operation. Vibration proof. Kit includes NVG Finger Lite, hook/loop wrap, two batteries and container. From SSI Inc.

NVG Finger Lite FL-5 Kit includes lite, hook/loop wrap, two batteries, container



The Finger Lite FL-5 is compatible with all Night Vision goggles and devices. NOTE: effective ONLY with Night Vision equipment!

Oregon Aero® PRD® Retainer (Pencil Retaining Device)

PRD® Retainer #40025

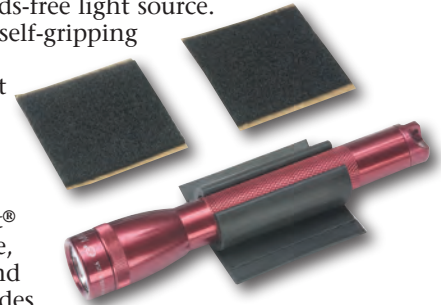
Designed by Oregon Aero for the F-15. Keeps pen or pencil from rolling away. Great for auto dash, boats, anywhere. Handy item to make life easier and safer. Hook/loop fastening.



Oregon Aero® FlashPoint® Flashlight Holder

FlashPoint® Flashlight Holder #40050

Designed and manufactured by Oregon Aero. Keep light handy on helmet, headset, instrument panel or auto dash, tool box, work bench, appliances — wherever you need a steady, hands-free light source. Three adhesive-backed self-gripping loop pads mount on any surface. Or take out of holder and use as regular flashlight. Fits most AA flashlights. Hook/loop fastening. To view the FlashPoint® Flashlight Holder in use, see Aviation Headset and Aviation Helmet Upgrades, pages 66 and 82.



NVG "Mike Lite"

NVG "Mike Lite" ML-8 #40ML8 **NSN 6240-01-362-4902**

Optional MK-1 Mount Kit (not pictured) #40MK1

Can be used with Oregon Aero® MicMuff® Microphone Cover (instructions at OregonAero.com). Emits soft green light. Effective ONLY with Night Vision equipment such as NVGs. Three LEDs, inset to prevent side scatter. Preserves dark adaptation. Weighs less than 3/4 oz. Includes wire, batteries, battery pouch, two tie wraps, one mic boom screw. Mounts on wire frame mic boom. Fits M-87 and M-162 mics. Will fit most others with optional MK-1 Mount Kit. From SSI Inc.

NOTE: "Mike Lite" effective ONLY with Night Vision equipment.



Call Oregon Aero for GSA information.

Additional Pilot Accessories

Adjustable Plier Wrench

7" Knipex Plier Wrench (adjustable to 1-3/8") #48607

10" Knipex Plier Wrench (adjustable to 1-3/4") #48610

12" Knipex Plier Wrench (adjustable to 2-3/8") #48612

Superior tool for gripping, holding, bending. Provides 3,000 pounds pressure but is gentle enough for careful assembly of fittings with finished surfaces. 12-position push button adjustment. Three sizes available. Cam action of gripping jaws allows ratchet action to handle nuts and bolts up to 1-3/8", 1-3/4", or 2-3/8". Replaces your entire wrench set in aircraft, car, boat or motorcycle.

Oregon Aero® products are 100% Satisfaction Guaranteed.



Oregon Aero™ Universal Folding Kneeling Pad

Universal Folding Kneeling Pad #48001-1-A

Hurting from kneeling on the job? Work in comfort with the Oregon Aero™ Universal Folding Kneeling Pad for aviation, industrial, home, law enforcement and military use. Custom-designed, water-resistant pad spreads weight load, eliminates pressure points. Industrial-strength outer cover. Non-skid strips. 12" x 24" x 1" unfolded. 12" x 12" x 2" folded. Lead time required for larger orders.



CARRY HANDLE, NON-SKID STRIPS — Strong and durable fabric strips eliminate skidding and create an easy-to-use carry handle. The visco-elastic foam pad and quality outer fabric are hand made by Oregon Aero technicians.

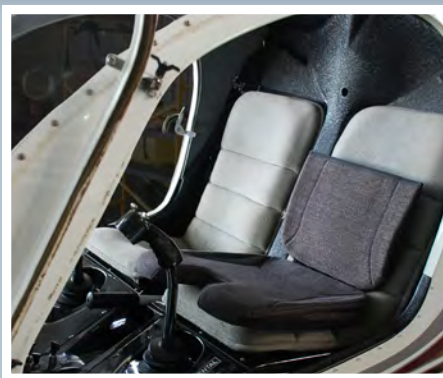


USE ANYWHERE YOU KNEEL — No more pain! Oregon Aero™ Universal Kneeling Pad lets you focus on the job at hand.

SoftSeat® Portable Cushions for Pilots

Portable Cushions provide maximum comfort for pilots and passengers. Used successfully in fixed wing and rotor wing aircraft, SoftSeat® Cushions feature the same design expertise and technical craftsmanship of our advanced aviation seating systems.

As with all Oregon Aero® products, SoftSeat® Portable Cushions are 100% Satisfaction Guaranteed. See pages 24-27 for complete information. We recommend the SoftSeat® Cushion Base/Lumbar Combo for best results and your best value.



Two SoftSeat® Cushion styles include the Pilot SoftSeat® Cushion Base to accommodate aircraft controls and restraint systems. See pages 24-27 for the full range of SoftSeat® Cushion options. Used successfully in fixed wing and rotor wing aircraft.



Pain-free flying, no matter how long the flight.

Call Oregon Aero for GSA information.



Shock Insulated. **Keep Everything Safe and Dry.** Incredibly Durable. **Details, Details.** Designed for Our Products and Anything You Want to Carry.

Single Headset Bag

with Oregon Aero logo* #71000L

Outside pockets for glasses, plotters, pencils, pens. Padded all around, shock-absorbing bottom. Quality hand sewn. Embroidered Oregon Aero logo. 9" high x 8" wide x 4" deep. Black only.



Double Headset Bag

with Oregon Aero logo* #71010L

Separate zippered compartments. Protects two headsets with padding and shock absorption. Four extended pockets. Quality hand sewn. Embroidered Oregon Aero logo. 8-1/2" high x 7-1/2" wide x 6 3/4" deep. Black only.



Single Headset Bag w/Checklist Book Pocket

with Oregon Aero logo* #71015L

Designed for C-130 checklist book, 5-1/2" x 6" x 2" thick. Protects and absorbs shock. Quality hand sewn. Embroidered Oregon Aero logo. 9" high x 8" wide x 4" deep. Black only.



Double Headset Bag w/Checklist Book Pocket

with Oregon Aero logo* #71011L

Shock-absorbing bag protects two headsets. Special pocket fits checklist book. Pockets for pens, pencils, flashlight. Hand sewn by Oregon Aero. Embroidered Oregon Aero logo. 10" high x 8" wide x 9" deep. Black only.



*Bags without the Oregon Aero logo are available by special order at the same price.

Deluxe Heavy Duty Helmet Bag

with Oregon Aero logo* #72000L

Double zippered. Hook/loop fastening and zipper pockets for radios, glasses, charts, e-pubs, etc. Hidden inside pocket. Shock-insulated for helmet protection. Durable fabric, hand sewn. Padded handle. Room for helmet, flight suit and gloves. Embroidered Oregon Aero logo. 13-1/2" high x 13-1/2" wide x 10-1/2" deep. Black only.



Super Cushion® Portable Cushion Carry Bag

with Oregon Aero logo* #73010L

Room for two Oregon Aero® Super Cushion® Portable Cushions, blanket, water bottles and food. Cushions can be used in your aircraft but they're also great for ball games, concerts or anywhere with bleachers or uncomfortable seats. Embroidered Oregon Aero logo. 13" high x 13" wide x 3-1/2" deep. Black only. Cushions shown on page 27.



Heavy Duty Utility Bag

with Oregon Aero logo* #74000L

The Ultimate Bag. Two headsets store in end compartments. All foam lined with shock-resistant bottom. Inside holds charts, books, e-pubs, flight suits, etc. Seven outside storage pockets. Document window. Center pull double zipper with hook/loop fastening. Inside hook/loop attached dividers. Two hidden, inside pockets. Padded shoulder strap can be stored with inside clip. Padded handle. Embroidered Oregon Aero logo. 9" high x 18" wide x 8-1/2" deep. Black only.



SoftSeat® Portable Cushion Carry Bags

For 1/2" or 1" SoftSeat® or Pilot SoftSeat® Cushion Base and Lumbar (17-1/2" high x 16-1/2" wide by 2-1/2" deep)
with Oregon Aero logo* #73001L

For 2" SoftSeat® or Pilot SoftSeat® Cushion Base and Lumbar (17-1/2" high x 17" wide by 3-1/2" deep)
with Oregon Aero logo* #73002L

For SoftSeat® Full Cushion Back and Any Cushion Base (21-1/2" high x 17-1/4" wide by 6-1/4" deep)
with Oregon Aero logo* #73000L

Easy transporting with durable Oregon Aero® Carry Bags for every thickness of SoftSeat® Portable Cushion. Embroidered Oregon Aero logo. Black only. See pages 24-27 for more information.



*Bags without the Oregon Aero logo are available by special order at the same price.

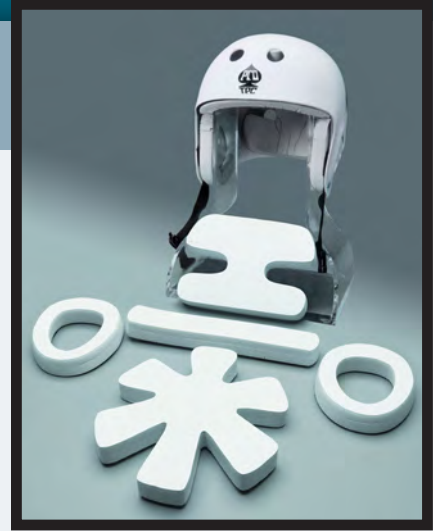
Additional Headgear Upgrades

You don't have to be a pilot to enjoy pain-free, stable, cooler headgear. Oregon Aero has developed Upgrade Kits for use at work or play!

Oregon Aero® Mountaineering, Parachuting Helmet Upgrade Kit

3/4" thick #95501-3 NSN 8415-00-X13-2885
 7/8" thick (not pictured) #95502-4 NSN 8415-00-X13-2886

Developed for the military, the Oregon Aero® Pro-Tec Helmet Liner Upgrade offers improved impact protection, maximum comfort and helmet stability. Effective for mountain climbers, parachutists or others using this helmet style. Made of several materials, including visco-elastic foam. The three-part Upgrade can be installed in minutes without helmet modification. Exclusive breathable urethane coating releases heat and air from the scalp but is waterproof. Contact Oregon Aero for other helmet styles.



Oregon Aero® Zeta-C® Universal Upgrade Kit

For Welding Hoods, Industrial Helmets, Firefighting Helmets, Face Shields, Bump Caps and Similar Headgear #95002

This innovative padding system provides maximum comfort — so you can focus on the job at hand without the distraction of headgear pain. Upgrade also is cooler and stabilizes headgear. It may look simple, but the Zeta-C® Upgrade is designed with a self-wicking proprietary fabric and temperature-and pressure-sensitive composite material which molds to the head. Pressure points and “hot spots” are eliminated by equalizing the load throughout the padding system. Installed and removed easily with low-profile adhesive-backed hook/loop. Hand wash and air dry.



The innovative padding system provides maximum comfort.



The Zeta-C® Upgrade in a welding hood



Firefighting helmets can be pain-free with the Zeta-C® Upgrade.



NO MORE PAIN — An industrial helmet/hard hat with the Zeta-C® Upgrade. Upgrade fits various helmet and bump cap styles.

Contact Oregon Aero for GSA information.

Dramatically Reduce Shock to Feet and Joints. **Dry and Cool.** Resist Compression. **Extremely Durable.** For Anyone Who Walks, Runs, or Stands! **Anti-Odor.** And Very Comfortable.

ShockBlockers® Work/Sport Insole Inserts

SMALL	Men's 4-6 Women's 6-8	.....	#47514VK*
MEDIUM	Men's 7-9 Women's 9-11	.....	#47515VK*
LARGE	Men's 10-12 Women's 12-14	.....	#47516VK*
X-LARGE	Men's 13-15 Women's 15-17	.....	#47517VK*
XX-LARGE	Men's 16-18 Women's 18-20	.....	#47518VK*



Recommended for anyone who practices high-impact sports or activities, regardless of body weight, or for those over 130 lbs. Two-layer, 3/16" thick inserts reduce shock to feet and joints, leave your feet cool and dry, and retain their shape. Great for walking or running, whatever the distance. Can be trimmed easily for exact fit; instructions included. Inserts fit most footwear. Patented.

ShockBlockers® Light Insole Inserts

SMALL	Men's 4-6 Women's 6-8	.....	#47514LP*
MEDIUM	Men's 7-9 Women's 9-11	.....	#47515LP*
LARGE	Men's 10-12 Women's 12-14	.....	#47516LP*
X-LARGE	Men's 13-15 Women's 15-17	.....	#47517LP*



Generally for persons 130 lbs. or lighter, but preferred by others, too. The stiffness ratio of the special polymer used in the inserts conforms to a lighter weight person's feet. Two-layer inserts can be trimmed easily for exact fit. Instructions included. 3/16" thick. Inserts fit most footwear. NOTE: use the regular ShockBlockers® Insole Inserts (with blue foam insole) if you engage in high-impact activities, regardless of your body weight. Patented.

Wear a half-size? Select the insole that is the next size larger than your shoe size.

INSTRUCTIONS AND INFORMATION — Each pair of ShockBlockers® Insole Inserts comes with instructions and a template in case trimming is necessary to fit the inserts properly.



If you're not a soldier but your feet feel like you've been marching all day, how about giving ShockBlockers® Insole Inserts a try? ShockBlockers® Insole Inserts have been used successfully by the U.S. Special Forces, U.S. Army, Marine Corps, Navy and National Guard.

ShockBlockers® Extra Care Insole Inserts

SMALL	Men's 4-6 Women's 6-8	.....	#47514
MEDIUM	Men's 7-9 Women's 9-11	.....	#47515
LARGE	Men's 10-12 Women's 12-14	.....	#47516
X-LARGE	Men's 13-15 Women's 15-17	.....	#47517
XX-LARGE	Men's 16-18 Women's 18-20	.....	#47518



Designed for feet that need extra special care. Consult your health care professional prior to use if you have a medical condition. Also effective for walkers (not recommended for running or standing for long periods). Top fabric is high-wicking and low-friction. Two under-layers of special polymer, one soft and conforming, the second more stiff for improved shock absorption. At 5/16" thick, inserts require footwear with sufficient room. Users should try insert insoles in new footwear before purchasing the footwear, to ensure proper fit. Can be trimmed easily for exact fit; instructions included. Patented.

SPECIAL THREE-LAYER DESIGN — The top of the ShockBlockers® Extra Care Insole Inserts is covered with a high-wicking, low-friction fabric. Two layers of special polymer reduce surface tension and improve shock absorption for injured or otherwise damaged feet.

*See Price List for military ordering information.

Call Oregon Aero for GSA information.

Shock-Absorbing, Comfort Technology

How can something that looks so simple be so complex? Patented Oregon Aero® ShockBlockers® Insole Inserts combine state-of-the-art designs and materials. And how do they absorb shock?

Explains Mike Dennis, Founder, President and CEO of Oregon Aero: "When we walk, run or stand, we generate shock, which is mechanical energy. This shock can cause pain, stone bruises, shin splints and compression fractures. The goal of ShockBlockers® Insole Inserts is to reduce the negative effect of this mechanical energy.

"The total energy generated can't be reduced, but it can be converted into a form of energy that is more easily manipulated — in this case, into heat. A unique molecule in the ShockBlockers® Insert polymer creates this conversion. The heat is then captured by the proprietary fabric upper layer of the insole insert. This fabric is woven in such a way that it also captures perspiration; both heat and perspiration are wicked to the outer edges of the insole insert where they are released and dissipated through evaporation. An additional material in the fabric reduces friction between the foot and the insole insert."

OREGON AERO® SHOCKBLOCKERS® INSOLE INSERTS IMPACT DROP TEST RESULTS

ShockBlockers® Inserts Avg. Delta G's	106
All Other Insoles Avg. Delta G's	134
ShockBlockers® Inserts Avg. Max +G's	87
All Other Insoles Max +G's	110
ShockBlockers® Inserts Percentage Improvement in Shock Absorption	20.6%

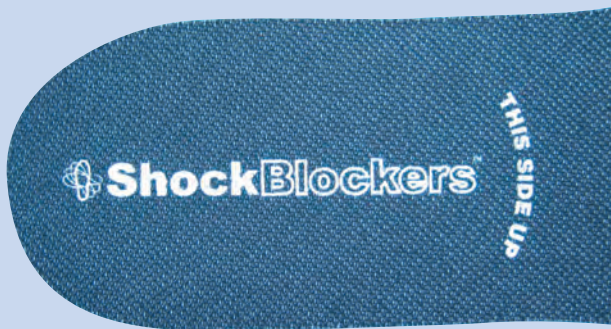
What these numbers mean: The Delta G figures represent the difference between positive and negative rebounding. ShockBlockers® Insole Inserts obtained the best performance with the lowest positive rebounding (Max + G's). Positive rebounding measures how many times gravity is multiplied during impact. In both cases, the lower the number, the better.



THUMBS UP — Aerobic performer and retired airline pilot Julie Clark holds one of her shoes and gives a "thumbs up" for her ShockBlockers® Insole Inserts. Says Julie, "ShockBlockers® Insole Inserts are in my shoes, always."

The Fabric

Common complaints about insole inserts are that feet become hot, moist and uncomfortable. The ShockBlockers® Insole Inserts fabric solves these problems through its combination of low-friction, high-wicking, extremely durable textiles.



ShockBlockers® Insole Inserts provide the best available shock absorption, flexibility, conformability and abrasion resistance.

Multiple factors may affect the life of ShockBlockers® Insole Inserts, including, but not limited to: usage, frequency of usage and care. Guarantee does not cover misuse such as putting them through a washer and/or dryer, trimming errors, and natural wear and tear.

INDEPENDENT FABRIC TESTING

Test #1: Martindale Abrasion*	Oregon Aero® ShockBlockers® Inserts Fabric	Minimum Recommended For Demanding Use
After 51,200 Dry Revolutions	No Wear	Moderate Wear
After 1.3 Million Dry Revolutions	Moderate Wear "Exceeds All Standards"	
After 12,800 Wet Revolutions	No Wear	Moderate Wear
After 25,600 Wet Revolutions	Very Slight Wear "Exceeds all Standards"	
Test #2: Permeability/Absorption	Oregon Aero® ShockBlockers® Inserts Fabric	Recommended
Water Vapor Permeability: (mg/sq. cm h)	7.6 mg	Over 5.0 mg for very high performance
Lining Absorption (mg): After 265 minutes After 400 minutes	2.5 mg 2.5 mg	Less than 75 mg after 265 minutes for optimum comfort
Hose Absorption (mg): After 265 minutes After 400 minutes	11 mg 12 mg	Less than 75 mg after 265 minutes for optimum comfort
Test #3: Perspiration Fastness	Oregon Aero® ShockBlockers® Inserts Fabric	Minimum Recommended
To Acetate	4	2.5 on grey scale rating 1-5
To Cotton	5	2.5 on grey scale rating 1-5
To Nylon	4	2.5 on grey scale rating 1-5
To Polyester	5	2.5 on grey scale rating 1-5
To Acrylic	5	2.5 on grey scale rating 1-5
To Wool	4.5	2.5 on grey scale rating 1-5
Test #4 Wick Test (cm)	Oregon Aero® ShockBlockers® Inserts Fabric	SATRA Interpretation
3	Wick Time: Less than 1 minute	"Excellent"
10	Less than 15 minutes	"Excellent"

*1 "Revolution" = Machine passing back and forth on material

The Oregon Aero Logo: Clothing and Hats

Customers like the Oregon Aero logo, so here's a chance to wear it. It's a logo that looks good and says "Quality."

Four-Color T-Shirt with Oregon Aero logo

- Adult Small.....#40200-1
- Adult Medium.....#40200-2
- Adult Large.....#40200-3
- Adult X-Large.....#40200-4
- Adult XX-Large.....#40200-5
- Adult XXX-Large.....#40200-6

Comfortable, 100% cotton t-shirt with the distinctive Oregon Aero logo. See OregonAero.com for up-to-date selections.

800-888-6910



Styles may vary from photos.



Hats with Oregon Aero logo

- Burgundy w/Gray logo.....#40100B
- Natural Ball Cap w/Burgundy logo..... #40100
- Gray w/Burgundy logo.....#40100G

High quality embroidered, adjustable hats with the Oregon Aero logo as shown. Styles and colors may vary. See OregonAero.com for current selections.



Styles may vary from those shown in photo.

  VISA, MasterCard and U.S. Government IMPAC Cards accepted. Call Oregon Aero or go to OregonAero.com for shipping charges.

Denim Jacket with Oregon Aero logo

- Adult Small.....#40300-1
- Adult Medium.....#40300-2
- Adult Large.....#40300-3
- Adult X-Large.....#40300-4
- Adult XX-Large.....#40300-5

Heavyweight, quality denim jacket with Oregon Aero's distinctive multi-colored logo. Logo featured on front and back. Styles may vary. See OregonAero.com for current offerings. Allow 4-6 weeks for delivery.



Styles may vary from photo.

Poplin Jacket with Oregon Aero logo

- | | |
|--------------------------|--------------------------|
| Adult NAVY | Adult KHAKI |
| Small.....#40400-1-N | Small.....#40400-1-K |
| Medium.....#40400-2-N | Medium.....#40400-2-K |
| Large.....#40400-3-N | Large.....#40400-3-K |
| X-Large.....#40400-4-N | X-Large.....#40400-4-K |
| XX-Large.....#40400-5-N | XX-Large.....#40400-5-K |
| XXX-Large.....#40400-6-N | XXX-Large.....#40400-6-K |

Oregon Aero logo on front and back. Navy or Khaki. Polyblend microfiber with moss finish. Water repellent. Fully lined. Full front zipper. Front pockets. Inside left chest pocket. Styles may vary. See OregonAero.com for current selections. Allow 4-6 weeks for delivery.



Styles may vary from photo.