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LEADING EDGE

LIFESTYLE MAGAZINE

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2017 BUGATTI CHIRON

ACL MUSIC FESTIVAL

SAN DIEGO'S FESTIVAL OF SAIL

TANNERIES HAAS

COVER STORY

HYBRID AIRSHIPS MINNEAPOLIS FIRST AVENUE

QUAD CITIES DAYTROTTER

IOWA STATE FAIR GRANDSTAND

RYDER CUP

OREGON PINOT COUNTRY

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? 2017 Bugatti Chiron

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Your brand is only as strong as your reputation, which is a direct reflection of your company culture.

- Iowa State Fair Grandstand
 The 10,000-seat Grandstand brings many world
 famous artists and musicians to the Iowa State
 Fair every August.
- This 89-year-old international tradition comes to Hazeltine National Golf Club in Minnesota October 27–September 2.
- Less than an hour's drive from Portland, the Dundee-Newberg area offers idyllic vineyards and awardwinning wines with small-town, rural charm.



Traditionally, every Bugatti was a holistic masterpiece of art, form, and technique. The handbuilt cars were equal parts Art Deco masterpieces and performance pioneers. In the spirit of the original Bugatti powerhouses, the new Chiron makes its stylish, supercharged debut.

A COLOPTUL HISTORY Ettore Bugatti founded the original Bugatti automotive company in Molsheim, Alsace in 1909. With the close of World War I, the region became French; the change of nationality allowed him his first opportunity to bring three designs to the 15th Paris Motor Show in 1919. His cars were elegantly designed vehicles, which carried on his family's artistic legacy; his father had been a well-known Art Nouveau jewelry and furniture designer.

But Ettore considered himself to be both an artist and a technical innovator, so his cars boasted as much power as they had style. Bugatti racers swept to victory in the Targa Florio Grand Prix races every year from 1925 through 1929, and in 1929 a Bugatti racer won the first ever Monaco Grand Prix. (The company's domination of Grand Prix continued through Jean-Pierre Wimille and Pierre Veyron's 1939 Le Mans victory just before the outbreak of World War II.)

Like many artists, Ettore could be notoriously fickle and peculiar. In the years leading up to WWII, he became obsessed with building a racing airplane that was faster than the German aircraft. To finance these pursuits, he accepted a contract with the French government to design and build a new, technologically advanced high-speed train. His son Jean took over operations at the Molsheim factory while Ettore worked in Paris.

Under Jean's leadership, Bugatti designed the car that would make it legendary: the Aérolithe. This mint green coupe was made out of a light magnesium alloy called Elektron, with unusual external rivets and exquisite, swooping art deco lines. Its new chassis design (T57) and innovative double overhead-cam engine made it the most advanced car of its time mechanically as well as stylistically when it debuted at the 1935 Paris Motor Show. Public reception was frosty. The only Aérolithe ever built literally vanished soon thereafter, a disappearance that has become one of the biggest mysteries in automotive history. Legend has it that Ettore may have buried it whole or in pieces. (This rumor arose because before World War I, Ettore and his family fled Molsheim for Stuttgart for safety. Before they left, he disassembled and buried three incomplete racecars around the factory. After the war, he returned, excavating, restoring, and finishing the vehicles.) More likely, the Aérolithe prototype was dissembled for parts or destroyed in the war.

Three additional cars based on the Aérolithe design were constructed out of aluminum after the Paris show (possibly with parts from the original). Dubbed the Atlantic, this

model was powered by a supercharged 3,257 cc inline-8 engine that produced more than 170 horsepower and could reach speeds exceeding 120 miles per hour. Only two of these survive intact today, although the third has been restored as much as possible following a fatal train collision in 1955. Of those remaining, one is in the Mullin Automotive Museum in California, and fashion designer Ralph Lauren owns the other. Each is valued at more than \$40 million.

The Fall and Restoration

of an Empire > Jean Bugatti was killed while test-driving a racecar in 1939, just a few days before WWII broke out. Ettore was devastated; his health declined, and he died in 1947. Lacking the family's artistic vision and leadership, the company struggled financially and was sold for its airplane parts business in the 1960s. An Italian entrepreneur unsuccessfully attempted to revive the brand to build limited production sports cars briefly in the 1990s. Finally, Volkswagen acquired the brand in 1998 and began producing new concept vehicles: first the EB118, then the 18/3 Chiron, and finally the dominating Veyron.

The Bugatti Veyron 16.4 was considered one of the greatest hypercars ever, recording a top speed of 268 mph and sporting an elegant, powerful design. It had an 8.0-liter turbo-quad W-16 engine that delivered a staggering 1001 horsepower. And now, it has been replaced completely by the 2017 Chiron: the world's most powerful, fastest, most luxurious and most exclusive production super sports car. Company president Wolfgang Dürheimer opined that with

> the Chiron, "We have made the best even better."



Although the technical specs on the Chiron's engine are the same, the four turbochargers work sequentially (two operate at low engine speeds for better response before the other two take







over above roughly 3800 rpm to allow maximum power generation). This design tweak allows the Chiron's engine to deliver 1500 horsepower; Bugatti predicts it will enable future models to boast even more power and reach higher speeds. As it is, the Chiron's 1180 lb-ft of torque allow it to accelerate from 0-62 mph (100kph) in under 2.5 seconds. It has a road limiter installed to hold its maximum speed at 261 mph, although its speedometer goes to 310 mph; estimates project it could reach at least 288 mph.

Its 7-speed automatic, all-wheel drive has five separate driving modes. A driver can select standard automatic ("EB") for normal driving or Autobahn mode for high speeds (activated automatically at 112 mph or above). Handling mode allows greater control for track work; the car lowers to increase stability, raises its rear wing to its highest position, and stiffens the dampers. Lift mode, on the other hand, lifts the chassis to protect it from speed bumps, trailer towing, or driveway entrances. Top Speed mode, like on the Veyron, requires the driver to insert a separate "Speed Key" that takes off the road speed limiter and allows maximum performance.

"Form Follows Performance"

Active aerodynamics is a significant factor in the Chiron's performance; in many aspects, the stylish form follows a practical function. The swooping design features, for example, including the dramatic C-curves along the sides, are actually air intake valves, sucking in 60,000 liters of air per minute to help cool the engine, transaxle, and brakes. This is no small feat for a car this powerfully fast; there are two cooling water loops and 10 radiators in total, comprising the most sophisticated cooling system ever installed in a sports car. And although the C-curves are integral to the cooling system, Car & Driver notes that the design distinctly "recalls Bugatti's 1930s-era art-deco masterpieces, the Type 57 Atlantic and Atalante, as does the spear running down the car's spine." Another traditional design element is the horseshoe-shaped grille, adorned with the Bugatti emblem badge sculpted from five ounces of pure silver, flanked by contrastingly ultramodern quad-LED headlights.

Despite its more powerful engine and slightly larger body, the Chiron weighs only 4400 pounds. Its strong, light carbon fiber body allows it to have a design structure as

stiff and safe as those in LMP1 racecars. In fact, it boasts numerous safety features, including airbags (a remarkable innovation with the carbon fiber body), a rear air brake, and thicker, larger carbon-silicon-carbide brake rotors. After significant recent scandals regarding environmental issues, VW ensured that the Chiron could achieve 14 miles per gallon using cylinder deactivation, electric-actuated turbocharging, and direct injection technology. (It can still drain its 100-litre fuel tank in 9 minutes at top speed, however.) Unlike many of its closest competitors (Ferrari LaFerrari, Porsche 918 Spyder, McLaren P1, Hennessey GT), it is not available in a hybrid version, which would add significant weight and reduce its top speed capability.

The Chiron's luxurious touches serve performance before style as well: the custom audio system by Accuton can be tuned to sound best in whichever of the 31 different leather choices and eight microsuede options you choose for the interior. Each speaker has a one-carat diamond membrane, which isn't just unbridled excess: the harder a speaker's membrane, the clearer and sharper its sound reproduction, and there's no harder material than pure diamond.

From the driver's seat, control of the audio, infotainment, and navigation systems (with onboard WiFi) is at your fingertips with two computer screens, although in true vintage throwback style, they flank an analog speedometer. Unlike its racecar cousins or its predecessor, the Veyron, you can fit a suitcase the size of a standard carry-on bag in the Chiron's trunk.

Owning a Piece of Modern History > Ettore Bugatti's original factory

made fewer than 8,000 vehicles during more than five decades of operations. Yet many of those cars remain in existence today, demonstrating their superior quality and craftsmanship.

The Chiron continues the Bugatti legacy. It is named after Louis Chiron, one of the original, legendary Bugatti Grand Prix drivers. His name graces the newest hypercar because, says president Dürheimer, "[t]he name of the best racing driver and the most successful Bugatti driver of his time for the best super sports car of the present day – that is the ideal combination."

Bugatti will make only 500 Chiron over a ten-year expected run, with price tags beginning around \$2.6 million. Although it won't be available until fall 2016, the 2017 Chiron debuted at the February 2016 Geneva Auto Show after being rolled out early to some exclusive clients at the Molsheim company headquarters. 180 preorders have already been taken.





Festival takes place on two consecutive three-day weekends this fall at Zilker Park in Austin, Texas. The first weekend will kick off the festival on September 30th at 11am, and the second will begin at the same time on October 7th. Eclectic music from over 130 bands, wafting smells from local food vendors, and hundreds of thousands of rocking fans will electrify the city. If you're planning on heading to the Lone Star State for this spectacular event, use this comprehensive survival guide.

#8. Secure Your Tickets

You can purchase tickets online. A three-day general admission ticket for either weekend costs \$255, and a one-day ticket costs \$100. Children 10 years old and younger can attend for free with a ticket-holding adult.

#7. Book a Place to Stay

The ACL Music Festival partners with select hotels throughout Austin to offer attendees special discounts. For each night you book with one of these hotels, you'll also be donating \$2 to Kids in a New Groove (KING), an organization that works to "enrich and enhance the lives of foster kids and to help them 'age out' of the program with at least one solid adult relationship, a set of learned skills, and a sense of self-worth."

For a more immersive experience, you could stay at a local hostel or camp out under the stars. No camping will be allowed at Zilker Park, but other nearby campsites will be open. Go to aclfestival.com and click the "information" tab for more information on all of these options.

#6. Pack a Bag

The festival will go on rain or shine, and the weather in Texas can be unpredictable, so it's best to come prepared for anything. A raincoat or poncho will keep you comfortable if it does rain and is a better option than Catching the free shuttle, grabbing a taxi, or calling an obnoxious umbrella that people won't be able to Uber are also options. Just make sure you have a plan see over if they're standing behind you. You can expect of action in mind for whichever transport system you heat, so remember your sunglasses, sunscreen, and a choose so you don't end up standing in a long line at hat. If it's sunny, temperatures will likely hang in the 11PM after a hot, tiring day with hundreds of others upper 80s. A t-shirt or tank, shorts, and comfortable who didn't plan ahead. If you do drive your vehicle, shoes (you'll likely be on your feet most of the day) park at Republic Square on 4th and Guadalupe, are appropriate apparel. and take the free shuttle provided by Capital Metro to Zilker Park.

Consider bringing a light backpack to fill with your essentials for the day. If you plan on sitting on the ground at any point, bring a mat or blanket. It's also a good idea to bring a water bottle that you can refill throughout the day to keep yourself hydrated. You probably won't get cell phone reception at the festival, but if you'll be relying on your phone for photos and keeping track of time, bring a charger that you can utilize at one of the convenient charging stations throughout the park. Don't forget hand sanitizer! There will be a bag check at the gate before you enter the park, so check the list of prohibited items on the website to make sure you don't accidentally bring anything that isn't allowed.

#5. Get to Zilker Park

If possible, avoid driving to the park. With thousands of people trying to get to the same place at the same time, you're best off avoiding the traffic. Onsite parking won't be allowed, and nearby roads will be closed to traffic. Many surrounding neighborhoods won't allow parking, either, so finding a spot near the festival will be uncertain, and any available parking will be priced at a premium. Using an alternative method of transportation can make the experience much smoother and more pleasant.

Biking to the festival is an excellent choice. If you live in the Austin area (or even if you don't), pedaling to the festival is a feasible, convenient, and pollution-free alternative to driving. Just remember to bring your own lock to secure your bike. Plenty of racks will be available at the park. If you aren't from Austin, you can rent a bike from Austin B-cycle or another rental service. The Hike-and-Bike Trail, a 10-mile trail through the heart of Austin, leads straight to the festival and will be illuminated with extra lighting to help people get home safely at night.

There are two entrances to the festival – the Barton Springs entrance off Barton Springs Road and the Lady Bird entrance off Stratford Drive. You can find directions and additional parking and transport information at aclfestival.com.



Photo Credits 1: Roger Ho | 2: Greg Noire | 3: Roger Ho



#4. Take Care of the Kiddos

Stop trying to find the perfect babysitter to watch the kids while you're at the festival, and bring them along! ACL has something for everyone, including children. In fact, there's a designated area of the park just for them. Austin Kiddie Limits is open to families from



11am to 5pm each day. Escape the crowds, and take the kids to a family friendly mini-fest! There will be lemonade, art, drums, and even a hairdo section where kids can get their hair done up like a rock star. Karaoke, a petting zoo, temporary tattoos, and smoothies are just a handful of the attractions in the Kiddie Limits. Last year's musical lineup included kid bands The Pop Ups, Motown Pete, and School of Rock, among others.

#3. Bring Your Appetite

Austin is known for more than its music; it's also famous for its abundance of food trucks and delectable street food. You're not allowed to take any of your own food to the festival, so you'll be forced to indulge. It won't be your basic county fair smorgasbord, like turkey legs, funnel cakes, and corn dogs; dozens of favorite Texan restaurants set up shop to serve ACL Fest attendees. The Mighty Cone, an 8-ounce breaded chicken tenderloin with almonds, sesame seeds, and chili flakes, served in a tortilla, and topped with mango-jalepeño coleslaw and ancho sauce is an ACL Fest staple.

Top off your main course with dessert. Last year, Children of the Kettle Corn, GoodPop Popsicles, JuiceLand, Snowie, and Skull and Cakebones served popcorn, frozen pops, fresh juices and superfood smoothies, shaved ice, and delicious vegan cakes to satisfy sweet tooth cravings.

#2. Shop and Discover

If you need a music break or you're waiting for a specific band to take the stage, check out the Art Market, where you'll find goods from local and internationally recognized artisans. Browsing through dozens of vendors, you can find anything from paintings and photographs to festival apparel and vintage jewelry. Antiques, handcrafted books, organic yoga apparel, and custom guitars are other distinctive items you may find while wandering through the Art Market; you never know what will catch your eye. Last year, Austin Massage Company set up a massage booth to offer relief and relaxation for festivalgoers and donated 5% of their profits to the Health Alliance for Austin Musicians.





I. Enjoy the Music!

This year's lineup will feature a wide range of talent including Radiohead, Mumford & Sons, Willie Nelson, and Major Lazer. You can view the entire lineup, featuring rock, folk, hip-hop, blues, pop, rap, and electronic music, at *aclfestival.com*. Make sure you check which bands are playing which weekends so you don't miss your favorites!

Bands will perform across eight stages, so map out which of the 130 bands you want to see at which times, but don't get too caught up with sticking to your itinerary. You'll likely discover new bands you love, so walk around, go with the flow, and enjoy the music. Also be ready to dance and sing along on the front line, or, if you prefer, sit back, relax, and enjoy your favorite bands with a picnic away from the crowds.



1: Maclay Heriot | 2: Katrina Barber | 3: Charles Reagan Hackleman 4. Cambria Harkey | 5: Charles Reagan Hackleman | 6: Greg Noire 7. Greg Noire | 8: Charles Reagan



Austin City Limits is one of the most popular music festivals in the U.S. for obvious reasons. Just be sure to plan your adventure ahead of time so you can relax and love every minute of your time in the Live Music Capital of the World.



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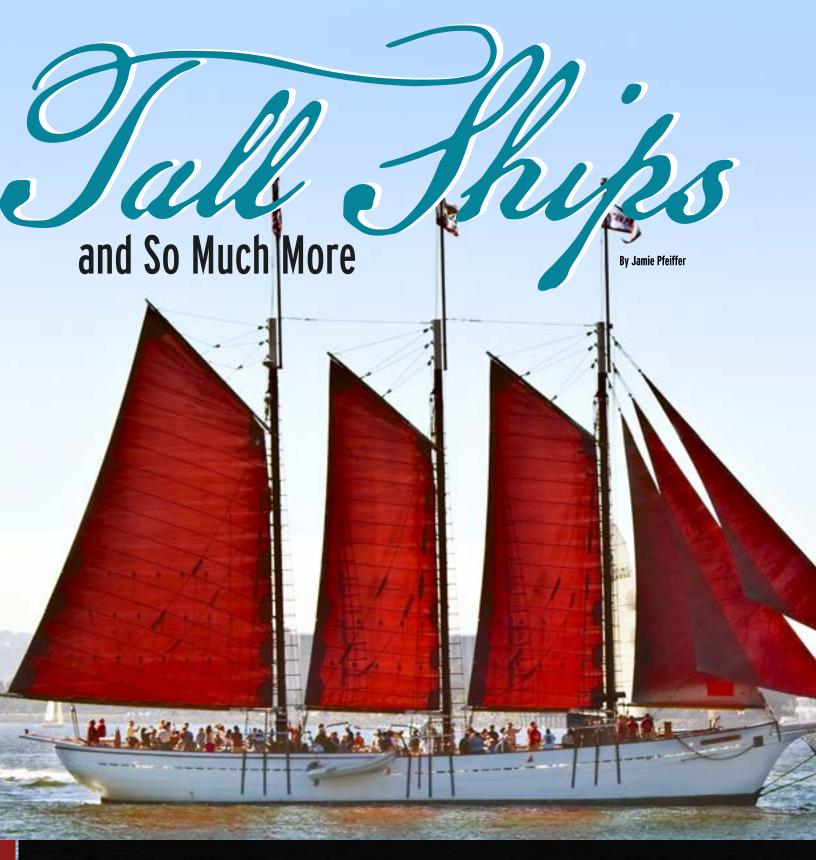
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I must go down to the sea again, to the lonely sea and the sky; and all I ask is a tall ship and a star to steer her by.

-John Masefield, English Poet Laureate

Nothing captures the grace and romance of sailing the high seas like the sight of a tall ship on the horizon. Since at least 1600 BC, tall ships have sailed uncharted waters the world over. These rugged vessels were staffed with adventurers, criminals, runaways, and unsavory characters of all kinds, including crew "shanghaied" (kidnapped) into service against their will. Bearing multiple masts and sails, their design has changed relatively little through the centuries. Festivals such as San Diego's Festival of Sail bring together historic tall ships, reconstructed replica vessels, and modern sea craft to delight onlookers and seduce new generations to set out to sea.

The Biggest and the Best

Hosted by the world-renowned Maritime Museum on the North Embarcadero, San Diego's Festival of Sail is the largest tall ship festival on the west coast. For the 11th year, the museum will display its own impressive collection of nautical treasures as well as host visiting vessels from all over the world.

The museum has one of the world's finest collections of historic ships, including the world's oldest active ship, the Star of India, joining the festival again this year. This 278' full-rigged ship was originally built in 1863 on the Isle of Man (in the Irish sea) and christened Euterpe after the ancient Greek muse of music. She is one of the earliest iron hulled ships to be built in the world. In 1901, she was re-rigged into a more efficient barque rigging and renamed the **Star of India**. Now fully restored, she is completely operational and available for public tours.

Barque rigging refers to a sail plan comprised of at least three masts, fore-and-aft sails on the aftermost mast, and square sails on all other masts. Because they have fewer sails and are easier to handle than a full-rigged ship, Barque-rigged vessels can be handled by smaller crews at sea. This style of rigging was popular in commercial ships and military vessels, and in traditional Egyptian mythology, a barque-rigged ship carries the dead Pharoah to the afterlife.

A Whole Weekend of Family Fun

The weekend kicks off Friday with the Parade of Sail, beginning at 3 p.m. at the harbor entrance. Traditionally led by a U.S. Navy vessel, the parade includes privately owned vessels in addition to the visiting and museum collection ships. The parade also includes numerous "swift boats," properly called "Patrol Craft Fast" vessels or "flyboats." These 50' long aluminum shallow-draft vessels have been popular with the United States Navy since the Vietnam War for exploration of coastal areas and interior waterways. They are light, fast, and easily maneuverable.

Many of the parade ships, including the Californian, the official tall ship of California, and the Pilot, the official parade escort, offer the opportunity to sail aboard. If you would prefer to remain on land for the parade, many areas around San Diego Bay, including the Maritime Museum, Cabrillo National Monument, and many local restaurants and businesses on Shelter Island, Harbor Island, and the North Embarcadero, provide excellent views. The parade typically lasts a few hours, with the boats arriving at their weekend docks at the museum by 5 p.m.

Once the weekend kicks off, the entire area is transformed into a maritime playground, with food, vendors, crafts, and even a petting zoo. Choreographed pirate battles, cannon demonstrations, and battle re-enactments are scheduled throughout the weekend. Visitors can tour San Diego Bay on a 12-cylinder supercharged Detroit Diesel swift boat and learn about the area's military history or board the century-old pilot boat for a more laid-back, history-focused trip around the bay. Each day, a number of classic yachts offer two-hour midday sails, giving guests the chance to experience these fast, luxurious vessels. Many also offer sunset cruises.

A Look Below Deck

One of the highlights of the Festival of Sail is the opportunity to tour and explore the many different ships, both restored and replica. This is a rare chance to walk the decks and cabins of historic ships in the footsteps of generations of maritime legends.

The **Curlew** is an 81'6" staysail schooner, built in Maine in 1929 for Charles Andrews of the New York Yacht Club (NYCC). Curlew competed in numerous NYYC races,





including ocean cruising class racing from Newport to Bermuda. In 1940, Andrews donated her to the Merchant Marine Academy, who used her as a training vessel for decades. During World War II, she also conducted submarine patrol duty for the Coast Guard. In 1962, on one of her first commercial charter service voyages, she was trapped in one of the worst storms in 40 years and abandoned by her crew. She has since had numerous owners and extensive rebuilds and has sailed to the Central and South Pacific. Today, the Curlew is privately owned and operates as a sailing charter in Dana Point, California.

Unlike the Curlew, the **San Salvador** is a new ship, but she's a perfect replica of a sixteenth-century Spanish galleon. In fact, her namesake was the first European vessel to arrive at the port we now call San Diego and is considered to be the founding ship of California. This 113'6", square/lateen rigged vessel took four years to build, debuting in 2015; she spends her days sailing along the coastal route as a goodwill ambassador, promoting historical education.



The **Pilgrim**, a 130' snow brig built in Denmark in 1945, is a full-sized replica of the 1825 hide brig featured in *Two Years Before the Mast*, the 1840 memoir by Richard Henry Dana, Jr. The book was adapted from Dana's diary of his life as a common sailor on a two-year voyage from Boston to California. The 1946 movie adaptation was entirely shot in 1944; while it used two replica ships, the current Pilgrim had not yet been built. Initially, Pilgrim was a Baltic schooner, but her rigging was converted in 1975 by marine architect Captain Ray Wallace. Since 1981, she has been the centerpiece of the Ocean Institute's living history program, which is based on Dana's historic voyage, in Dana Point, California. During the summers, she also serves as a sail training vessel.

Other replica ships available for public tours at the festival include the **Spirit of Dana Point** (an 83' gaff topsail schooner replica of a 1770s privateer from the American Revolution); topsail schooners **Bill of Rights** and **Californian**; three-masted schooners like **American Pride**; and the pair of LA Maritime Institute youth program training ships, **Irving & Exy Johston**.

Another standout vessel is the **HMS Surprise**, which may look unexpectedly familiar. This 179' full-rigged ship was built in 1970 for the US's bicentennial celebration; it is a reproduction of the HMS Rose from the original British Navy plans. The 24-gun frigate was certified as America's first Class-A sail training vessel, but that's not her claim to fame. In 2001, 20th Century Fox Studios bought her, modified her, and changed her name to HMS Surprise for the swashbuckling movie *Master and Commander*. After her





Hollywood debut, she starred in numerous other movies and commercials before retiring to the Maritime Museum of San Diego's historic fleet in 2004.

Warriors of the Deep

Not to be outdone by the tall ships, lurking in the harbor waters are a number of full-sized military submarines. The 299' Soviet-built **B-39** displaces 2,475 tons of water when submerged. It's equipped with three diesel and three electric engines and 10 torpedo tubes. One of a fleet called "Project 641," B-39 was commissioned in the early 1970s and served the Russian Navy for more than 20 years. B-39 is among the largest conventionally powered (i.e., nonnuclear) submarines ever built.

The 165' USS Dolphin, on the other hand, has always been a research and development vessel since her commission in 1968. Equipped with two 12-cylinder diesel engines and two 126-cell battery sets, she can dive up to 3,000 feet. She originally had one torpedo tube and conducted deep submergence torpedo firing exercises, but the tube has been removed and replaced with a sonar dome. Dolphin has been a test platform for many technological advancements with both military and civilian applications, including unmanned under water vehicles, swimmer delivery systems, laser communication, imaging



systems for underwater search operations, advanced antenna systems, high-resolution radar, and more. Both the Dolphin and the B-39 will be available for public tours.

Ships of All Shapes

In addition to the majestic tall ships, the speedy swift boats, and the hulking submarines, a handful of other unusual vessels will also be sailing into San Diego harbor. One of these is the hand-carved **Sakman Chamorro Canoe**. Inspired by Hawaiian sailing canoes, a native Chamorro artist researched and designed this 425-square-foot, 47' long vessel, crafted from a single redwood log. Finished in 2011 and christened CHE'LU, the canoe sails into the annual festival to inspire and educate the public about the traditions of the Chamorro, the indigenous people of the Mariana Islands (including Guam).

The **Berkeley Ferryboat** is a double-ended, steel-hulled, steam-powered slice of California history. Built by Union Iron Works in San Francisco in 1898, it was the first successful propeller-driven ferryboat on the west coast. The 279' Berkeley regularly transported up to 1,691 railroad and commuters and railroad passengers between San Francisco and Oakland/Alameda for 60 years. On April 18, 1906, she shuttled thousands of refugees away from the burning city and brought emergency supplies in after the San Francisco earthquake.

You can tour the tall ships, military boats, submarines, and other nautical marvels at the San Diego Festival of Sail this Labor Day weekend, September 3-5, 2016. If you have a qualifying tall ship or swift boat, you can even join the opening day parade; contact the festival for requirements and to make arrangements.



INTERIOR REFURBISHMENT WITH RESALE IN MIND

BY ADAM DOYLEPAINT AND INTERIOR MANAGER, ELLIOTT AVIATION

Whether you are purchasing an aircraft or thinking of selling your current aircraft, a little bit of interior refurbishment can go a long way. Potentially, partial refurbishments can dramatically affect the look and functionality of your aircraft interior so that it not only fits your short-term mission requirements, but will be more attractive for the next buyer of the aircraft.

CHOOSE COLORS WISELY

If you are not planning to own the aircraft for very long, make sure you choose colors that would benefit resale. Keep it clean and bright. Be sure to use neutral colors. If you do want to add a splash of color, make sure it's something easy to replace such as an accent strip, curtain or pillows.

MOST DRAMATIC CHANGE

A partial change that is likely to have the biggest visual effect would be your seats and carpet. These items see

the most traffic and ultimately get the most wear and tear. They trap a lot of dirt, odor and can become discolored.

If your base components are in good shape, you can make minimal changes that will make a big difference. For instance, if your seat foam is in good shape, you can potentially reuse your current foam and just re-cover your seats. If your seat leather is in good shape, a deep cleaning may make a dramatic difference. Depending on if the seats have been previously dyed, another option may be dying the seat leather.

There are many expensive hand-tufted carpets, but there are also many high-quality, durable machine tufted carpets. Although machine tufted carpets have a reputation of being lower quality, that is not necessarily the case. Many machined carpets offer similar quality at a lower price.

CLEANING CAN MAKE A DIFFERENCE

In addition to the carpets and seats, a deep cleaning can make a big difference. There are several tips and tricks we've covered in previous articles to clean woodwork, ultra leathers and more.

POTENTIAL PROBLEM AREAS

There are some areas in your aircraft interior that are potential problem areas and will not be resolved with a quick, inexpensive solution. The main areas would be popped, cracked or cloudy veneer, scratched laminate and plating.

When a veneer is popped, cracked, or cloudy, it has to be replaced. Many times, problems in veneer stem from when the original coating was applied. If the coating was applied too thick or was not given the proper drying time or conditions, major problems arise. The stresses an aircraft undergoes in a short amount of time, including major temperature and pressure changes, ultimately expose a veneer that was improperly coated.

Laminate is just a decorative layer of plastic. Since the printing on the laminate doesn't go all the way through to the bottom, deep scratches can be very visible. The good news is that, for the most part, laminate tends to be very durable and is less likely to show minor scratches over other materials.

Plating is one item that can be very expensive to replace. Unfortunately, there are very few options to fix plating other than to replace it completely.

KEEPING THE RESALE IN MIND

Keep in mind that your aircraft is competing with many other aircraft. It is not only competing within a particular make/model/year, but with many other aircraft makes and models in its class. The better you keep it looking and the more universal appeal it has, the better off you are when it comes to attracting the right buyer.



Adam Doyle joined Elliott Aviation in 2000 as an interior technician after graduating from Wyoming Technical Institute. While at Elliott Aviation, Adam has earned many different promotions on the shop floor including Install Team Lead, Soft Goods Team Lead, Assistant Interior Shop Manager and Seat Shop Manager. Adam's most recent promotion has been to Paint and Interior Sales Representative for Elliott Aviation. He uses his experience with various vendors, products and processes to educate our clients by providing direction and helping plan for future investment with realistic and accurate figures.





"Tannery, tanner, tanning: the origin of these words is the Gallic tan (or tann) which means oak, the king of trees, a sacred emblem, a symbol of power and durability. Its brownish-red bark peels off like skin. Reduced to powder, it is transformed into an exceptional tanning agent." – Tanneries HAAS

In Alsace, a quaint little village east of the Vosges Mountains and west of the Rhine River, 20 miles outside of Strasbourg, France, lies a 174-year-old family-owned tannery. The facility is strategically located next to the Andlau River and a forest of chestnut trees. Little did Frenchman Aloïse Haas know that his small tannery would eventually become the leather supplier for some of the world's most prestigious fashion labels.

from Humble Beginnings

Established by Aloïse Haas in 1842, the facility was transformed from a spinning mill into a slipper manufacturing company that became widely known for its elite standards and expertise. The tannery portion was added to create the soles of the shoes. In 1868, Aloïse's son, Émile, took over the family business, abandoning slippers and refocusing efforts to expand the tannery. Implementing the use of calfskin and oak and chestnut bark tanning, he

began to produce upper leather (the shoe portion above the sole). The firm began building a reputation for its quality mountain/hunting shoe and military boot leather.

In 1932, Jacques Alfred Haas, Émile's grandson, joined the company. Over the next several years, the firm experienced several crises, including a factory fire and Jacques Alfred's imprisonment by the Nazis during World War II, both of which slowed production immensely. All hope was not lost, however. The firm rebuilt, and in the 1950s, Jacques Alfred invented the now-famous Novocalf®—a soft, thick, luxurious leather with distinct texture. The new product quickly became a success, and its fame spread throughout Europe. It even earned a gold medal in Brussels at the Universal Exhibition in 1958.

In 1966, the factory took another hit as flames once again engulfed the building and this time burned its stock, forcing the Haas family to file for bankruptcy. Roland Muller, a brewer by trade and Jacques' son-in-law, took over the family business in a desperate time. "No one thought we had much of a future," Roland said. "But we were extremely lucky. The prices of calf hides had remained stable and at a very low price for 18 months. In the tanners' memory, no one had ever seen that. That was what enabled us to restart production." Roland traveled the country in search of new customers and ideas to keep the company afloat. He diversified, expanding production to include upmarket leather goods and saddlery. "We didn't have a choice. The tannery must constantly adapt. This saga, which has lasted for six generations, could have ended and this know-how could have disappeared on many occasions."

In the early 1990s, Roland's daughter, Emmanuelle, and son, Jean-Christophe, both joined the business. In 2001, Jean-Christophe became chairman of the board of directors and took over the lead role of command, which he holds to this day. Emmanuelle currently manages the quality laboratory. With hard work, creativity, rigorous testing, and excellent customer service, the company developed into what it is today: a highly successful and sought-after brand. The tannery continues to innovate and adapt by providing custom-made goods to clients and replacing machines regularly to stay on the cutting edge of tanning technology.

a Coveted Raw Material

In the 1980s, over 60 tanneries were fully functioning in France. Today, fewer than 20 are still in operation due to a decrease in veal consumption. Many of the skins acquired by tanneries are byproducts of calves slaughtered for veal, meaning the availability of leather correlates directly to the country's veal demand. Fortunately for the remaining tanneries, a smaller veal demand also means a higher demand for luxury leather. Over the last few years, big fashion labels have begun to rely heavily on leather to boost sales by increasing the quality and cost of their items. Now that few artisan tanneries still exist, labels must secure their resources and protect their leather suppliers to assure consistent quality of goods and to stay ahead of competitors.

a Sustainable Resource

Since leather is the transformation of a would-be-waste product into a good that can protect, adorn, or clothe, it is a highly sustainable resource. Tanneries Haas invests in the overall health and condition of local cattle by providing

funds for animal vaccines that treat parasites like lice and ringworm, which can produce scars and warts on the skins, greatly reducing the number of discarded hides. Byproducts that would otherwise be wasted can also be used: hide hair, for example, can be compacted to create heels for shoes. The tannery continues to work towards reducing its environmental impact with ongoing research and innovation.

the Tannery Today

Jean-Christophe carries on the family legacy, furthering the development of the 6th-generation tannery and providing luxury leathers to prestigious companies around the world. Its staple item is now bespoke handbags, but the tannery also creates leather for shoes, saddles, watches, and other apparel. Tanneries Haas produces over 150,000 calfskins per year, a number that has tripled over the last decade.

Tanneries Haas is favored by many upscale brands for its calfskin. It holds a strong partnership with leather company Moore & Giles, who is "dedicated to designing and developing the most innovative and luxurious natural leathers for the aviation, high-end hospitality and residential interior design industries." Moore & Giles has introduced the HAAS calfskin to the worlds of aviation in the leather Celine and Couture Calf in residential interiors — a first for these markets.

"Celine is an important addition to our line of leathers because it completes our aviation collection. The ability to offer such an exquisite piece of leather - from a 6th Generation tannery - has meaning to our clients."

— Chad Evans, Director of Aviation

the Zanning) Process

So, how is a raw hide freshly removed from the carcass, still covered in hair, fat, and flesh transformed into a beautiful chair, handbag or shoe?

"Calf hides in damp piles drip onto the concrete floor, awaiting their transformation from raw skin to shiny, supple leather."

- Nadya Masidlover, Wall Street Journal

Tanning is a very hands-on, painstaking process.

Tanneries Haas receives calfskin hides that have been salted for conservation from farms around west and southwest France. These hides are placed into a refrigerator, where they may remain for several months, to keep them from spoiling. Hides are from calves raised on their mothers' milk, which "makes a real difference and guarantees the quality," according to Jean-Christophe. The tanning process begins as the raw calfskins are washed for 48 hours and treated with special chemicals to remove hair, grease, dirt, and other impurities. During this phase, the hides triple in thickness and become soft and fragile.

The skin is then scraped to remove any remaining fat and flesh and then cut down to the correct size and thickness. The removed collagen can be saved to make gelatin. The next phase must be executed promptly, or the vulnerable skins will begin to alter shape. To make a skin rot-proof and a fixed shape, chromium salts or vegetable tannins are added. The chromium salts dye the hides a light blue color, called "wet blue." The wet blue skins are then placed into a large barrel ("drum") and beat for 24 hours and then set











"Soft, supple, rigid, smooth, grained, verni, protective, natural... Leather has shifted from an immutable article to a sensitive and creative material. To transform it, the tanner is no longer just a craftsman. He has become an artist."

- Tanneries HAAS

out to ripen for 24 hours. Afterward, they are carefully inspected for imperfections and sorted by their individual characteristics. Rougher hides may end up as saddles, while softer hides may be transformed into handbags or clothing.

Next, the skins are tanned a second time and then fatliquored to take on a special mechanical characteristic texture or shine. They are then dyed a base color per the client's request. Skins are refined during the currying stage; wrinkles are removed via stretching and drying, and skins are rehydrated and softened to prepare for the finishing stages.

During the final phase of the process, the leather is spray painted or coated, polished, grained, and glazed. Finishing stages are carried out according to the customer's specifications, giving the skins a desired touch and resistance. The skins are sorted, inspected, and tested once again to assure utmost quality, durability, and flawlessness. After being handled 80-120 times, the tanning process is now complete, and the leather hides are shipped to clients where they will be transformed into designer goods.





the course of its its 46 years in Minneapolis, the First Avenue music club has become a historic venue steeped in nostalgia while continuing to showcase the most popular musical talents of the present and future. With the recent passing of Prince, its most celebrated local son, First Avenue stands in the national spotlight.

Historic Roots >

First Avenue is the larger venue in a sleek, round 1937 art deco building originally designed as a Greyhound bus station. The station closed in the late 1960s but was renovated and reopened in 1970 as a 1600-person-capacity music venue dubbed "The Depot." Its inaugural performance was Joe Cocker's Mad Dogs and Englishmen. Over the next year, it hosted popular rock and roll acts including the Allman Brothers Band, B.B. King, and Ike & Tina Turner, much of which it recorded and compiled into live albums. The Depot quickly developed a reputation for rowdy crowds and was shuttered a year later.

As disco overtook rock and roll in popularity, the club's owners affiliated with American Events Company, a national entertainment conglomerate. Remodeled and rebranded, it opened as a discotheque called Uncle Sam's in 1972. In 1979, a second, 250-person capacity performance space was added in what had been the Greyhound station's café and Uncle Sam's coat check; this smaller room hosted edgy rock-and-roll acts and became a fixture in the up-and-coming punk scene. On New Year's Eve 1981, the larger club changed its name to First Avenue, and the smaller became the 7th St Entry.

Finding Its Audience >

As the music scene changed, First Avenue and the 7th St Entry hosted both the most popular up-and-coming mainstage acts and some of the most revolutionary alternative music acts. Paul Westerberg and his band, the Replacements, and the punk legends Hüsker Dü each

played 7th St countless times during the early 1980s. In the main room, a young and idealistic Irish band called U2 toured for their first album and workshopped many of the songs that became their second. R.E.M. played one of their first gigs outside of Athens, Georgia, to a crowd of less than 100 people on Thanksgiving Day 1981.



In the 60s and 70s, Minneapolis-St. Paul had been the U.S.'s largest record distribution center, controlling about a third of the nation's entire vinyl and cassette trade. But the local music scene wasn't remarkable or particularly vibrant until the mid-1970s, when a new wave of clubs opened and both DJs and live music hit their strides. Big names started to stop through the Twin Cities and play the clubs, including Sam's/First Avenue. The invigorated scene helped incubate new talent, blending funk and blues qualities from the area's African-American musical community with elements of classic rock and new-wave punk. First Avenue and 7th St were pioneers, both for their wide variety of booked styles and for not only allowing but encouraging black performers, who were tacitly banned from the other Twin Cities clubs. From Pat Benetar to the Ramones, First Avenue and 7th St's acts ran the gamut.

A Legend Is Born >

This revolutionary community spirit enabled the rise of a young local musician born Prince Rogers Nelson, who played at First Avenue for the first time in March 1981. It wasn't his first time there, though – the Minneapolis native had been a frequent attendee at the venue throughout his teenage years. By the time he played First Avenue, he had a three-year-old recording contract and a significant local fan

base. His catchy blend of jazz, funk, R&B, soul, and pop music was passionate and infectious, and the local music scene was the perfect cauldron for this strange brew.

Around this time, the already eccentric artist convinced his management company to finance a major motion picture starring him (and his music). *Purple Rain* centered on the exploits of a group of musicians and fans around the epicenter of First Avenue. It was a lush, lusty, romanticized tale loosely based on Prince's childhood and musical emergence – and against all odds, it was a monstrous hit. The *Purple Rain* album sold more than 13 million copies in the US and spent 24 consecutive weeks at number one on the Billboard 200 chart after its release in 1984; its singles charted in the US and around the world. Prince won an Academy Award for Best Original Song and two Grammy awards. At one point in 1984, Prince simultaneously had the number one album, single, and film in the US.

First Avenue itself took on a mystical quality from its royal association. Crowds packed the venue, hoping Prince would stop by and take over the stage – something he did relatively frequently, to the mild consternation of the





headlining acts. Over the next two decades, he regularly dropped off new demo singles to the DJs to gauge the crowd's response, using First Avenue essentially as his own test market.

As Prince's royal chapter came to a close, First Avenue rallied to give his subjects a place to say their farewells. After his death, it attracted thousands to an all-night block party, and numerous headlining acts dedicated tributes to the artist during their performances. Although the official memorial concerts were held at his nearby Paisley Park home and recording studio, First Avenue is where many fans went to celebrate and remember the mystery, enthusiasm, and sultry appeal of the most famous North Star native to rise in the First Avenue sky.

More than a Royal Legend >

But First Avenue wasn't all about Prince – it was a revolution unto itself. By 1990, First Avenue was making "best of" lists in magazines like *Rolling Stone*, *Time*, and *Playboy*. It opened a second-level VIP lounge to showcase DJs and house music full time. The main room hosted top-tier acts and was influential in nurturing the careers of homegrown talent like Soul Asylum and Semisonic. Hundreds of painted stars on the outside of the club memorialize significant players from across the spectrum of musical styles: Nine Inch Nails, DJ Jazzy Jeff and The Fresh Prince, Ray Charles, Nirvana, Menudo.

By 2004, when it suffered some financial difficulties and briefly closed, the First Avenue/7th St complex was so integrally woven into the cultural fabric of Minneapolis that the mayor rallied in support of the reopening. Both clubs got facelifts at the reopening, but the legend continued undisturbed. During a concert by Theory of a Deadman in August 2015, part of the ceiling and some sprinkler pipes collapsed, injuring three patrons, but the venue was repaired, and performances have continued as usual since then. Today, First Avenue and 7th St Entry continue to enjoy iconic status as well as continued popularity for bringing cutting-edge music to the Twin Cities.

In November 2005, the management released the first compilation CD of live tracks recorded in both venues over the previous 35 years, donating all proceeds to owner Steve McClellan's non-profit organization, DEMO. DEMO strives "to support musicians while promoting gender equity; diversity of music style and genre; diversity of musicians from local communities; careers in all stages of establishment; and the staging of performances with high production values" – all core values First Avenue and 7th St have exemplified for decades and continue to promote. First Avenue is now also home to F1RST Wrestling, a local professional wrestling company that hosts current celebrity wrestlers and showcases Minnesota's top wrestling talent.



BRINGING ARTISTS AND MUSIC LOVERS TOGETHER IN THE QC

BY DIANE CAMPBELL

years ago, Sean Moeller dreamed of bringing the world's best bands to the Quad Cities for intimate, one-of-a-kind recording sessions. Since founding Daytrotter in 2006, Moeller's studio has recorded over 5,000 sessions, making them available on the *Daytrotter.com* website to listeners around the globe. Moeller has attracted a wide variety of exciting acts to Daytrotter's studio as well as to Quad Cities-area venues like the Redstone Room, Rozz-Tox, and Codfish Hollow Barn, and this year, Daytrotter opened its own 400-capacity concert venue complete with a brandnew recording studio behind the green room.

DAYTROTTER'S BEGINNINGS

Daytrotter's original studio was a converted 1970s radio station located three flights above a Rock Island pizza parlor. Moeller would appeal to artists who were crossing the country and ask them to make a stop at the studio to record some songs and post them online. Asked how he

was able to convince bands to stop by the small-town studio, he said, "I think I promised them pizza. I think I was like, 'I'll buy you lunch,' and that was enough." Whatever he did, it worked. In addition to little-known rising stars, Daytrotter has hosted sessions with established popular artists including Ani DiFranco, Carly Simon, Tori Amos, Mumford and Sons, Alabama Shakes, Macklemore, The Blind Boys of Alabama, and Jimmy Cliff.

In the early days, studio operations had been supported by advertising on the *Daytrotter.com* website. This proved to be insufficient, though, and the company was losing money. So, seven years ago, Moeller partnered with Wolfgang's Vault and started charging a small subscription fee to access music on the website. Although he says some people complained about the fee, enough decided that access to Daytrotter's unique and eclectic music collection was worth the \$2.99 per month that the funky little upstairs studio has been able to acquire its new, expanded space in Davenport.

BUILDING A MUSIC COMMUNITY In the Studio

Moeller says that Daytrotter "was created as a place of discovery for music lovers and a hole-in-the-wall Heartland haven for passionate and inspiring musicians criss-crossing and cross-crissing the country...." The combining of these two purposes was an innovative idea, and musicians and listeners alike have embraced it enthusiastically. According to NPR Music's Marc Hogan, "It's just a place that was almost like a rite of passage for these various touring indie bands that are driving through Iowa anyway on their way to Chicago or wherever," and while other websites have begun to mimic the format, Daytrotter is the studio that makes musicians feel at home.

DAYTROTTER HAS REALLY STUCK TO ITS GUNS, AND THEY HAVE THIS UNIQUE CONCEPT OF JUST, "STOP BY OUR PLACE IN THE QUAD CITIES AND WE'LL RECORD YOU. YOU'LL PICK UP SOME INSTRUMENTS THAT PROBABLY AREN'T EVEN YOURS. YOU ONLY HAVE A COUPLE HOURS AND YOU PLAY FOUR SONGS — MIGHT BE A COVER, WHATEVER YOU WANT." AND THEN THAT GOES OUT THERE." — MARC HOGAN, NPR MUSIC

Around the Quad Cities

In addition to drawing musicians into his studio, Moeller sought to build a vibrant music scene around the Quad Cities, and his visionary approach has been wildly successful. He began in the early years of Daytrotter by steering bands coming through to small local venues like Davenport's Redstone Room and even Huckleberry's Pizza in Rock Island.

Codfish Hollow

In 2009, while hanging out with one of his favorite bands, the Local Natives, they hit upon the idea of a barn tour, and Moeller began looking around for local barn venues to host it. He found Tiffany Biehl, whose barn outside Maquoketa, Iowa, had been in her family since her greatgrandfather arrived from Germany in 1871. The barn had been renovated by her grandfather in 1954, but when Moeller found her, Biehl's barn was being used to house cows and wagons, and she jumped at the chance to transform it into a music venue.

"If you planned to build a barn and planned to put on shows in the countryside, you would have built it exactly the way this thing naturally is," Moeller said of the barn. "I don't think you could have actually planned it out any better than it's laid out. It'd be virtually impossible." Music

> lovers from far and wide flocked to the unusual new venue, which has since hosted more than 130 bands, including



PHOTOS: TRAVIS MEIER













music lovers, and the Quad Cities music scene. The studio space facilitates higher quality recording and provides a more comfortable space to draw in touring musicians. Unlike the converted radio station, the new facility was built with its purpose in mind, and, according to Moeller, "It's one of the best out there." Also unlike the old studio, this one is air conditioned.

the Local Natives, Counting Crows, Norah Jones, John C. Reilly, and even Macaulay Culkin's band, The Pizza Underground. The humble barn, out of cell service along a rural gravel path, has become beloved by many and renowned as one of the nation's great concert venues.

"Maybe people have seen photos or heard stories, and they think they know what it's going to be," says Moeller, "but there aren't many words to describe it. I still get chills coming around the bend, seeing the land and the barn and all the people. It feels like something that is made up ... something surreal, like it's too perfect."

IT'S LIKE A FEELING THAT THERE'S SOMETHING ALMOST MAGICAL HAPPENING," SAYS TIFFANY BIEHL'S HUSBAND, SHAWN, "SOMETHING BIGGER THAN YOURSELF AND BEYOND WORDS, BUT STILL VERY HUMAN AND CONNECTED."

Moeller Mondays

After throwing a party at the Rozz-Tox with a surprise lineup for his 10th anniversary, Moeller had an idea. He approached the owner about taking over the club on Monday nights, when it was typically closed, and hosting bands that would remain unnamed until they actually took the stage. Thus began "Moeller Mondays" in 2014. The event has succeeded in bringing in acts that 100-capacity venues like Rozz-Tox rarely see. Although it is now possible to see who will be performing in advance of Moeller Mondays shows, the tradition of hosting exciting new bands on Monday evenings continues at the new Daytrotter venue in Davenport.

NEW STUDIO, VENUE, & LIVE SHOWS

The new studio and concert venue is enabling Daytrotter to improve and expand all that it's been doing for musicians,

"To ask a band to come in middle of July when it's 100 degrees outside and it's not much cooler in our studios," Moeller says, "it's not coo— it's not nice, you know. It's like, it's kinda rude."

The concert venue is equipped with a custom designed state-of-the-art sound system, and its 400-person capacity allows musicians to play to a larger live crowd. All shows at the Daytrotter venue are also live streamed for *Daytrotter.com* members.

IF YOU GO

If you want to catch a live show at Daytrotter, you can check out their current lineup and reserve tickets at *Daytrotter.com/live-shows*. You can go to the main website any time to purchase a subscription and start browsing the extensive archives or tune into the current live-streaming show.

If you're interested in heading off the beaten path to experience a show at Codfish Hollow Barn, go to *codfishhollowbarnstormers.com* to see what's on their calendar and purchase tickets. Wondering where to stay out in the middle of Iowa farmland? The Biehls offer free camping a mere ½-mile hayride away from the barn after shows!



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BY MARK WILKEN

Vice President of Avionics Programs and Operational Logistics for Elliott Aviation

At NBAA this past year, spectators had the opportunity to see the first ever dealer installed Garmin G5000 in a Beechjet/ Hawker 400XP in Elliott Aviation's 400E. This is exciting news for Beechjet/Hawker 400XP owners and operators alike as it further affirms the longevity for this aircraft. Because avionics parts obsolescence is becoming a prevalent issue in older airframes, the G5000 retrofit rids any obsolescence issues and further enhances the capabilities of this magnificent airframe. At Elliott Aviation, we were the first ever dealer to retrofit a G5000 and we were able to achieve a 220 pound weight savings.

Garmin recognized the importance of the G5000 program, as over 700 Beechjet/Hawker 400XPs/Jayhawk T-1A are currently flying, with many of them older and rapidly facing avionics parts obsolescence issues. However, this viable airframe is still a leader in the light jet segment. The aircraft features 450 Knot speeds with a 1,300+ NM range. Additionally, this airframe is based on a squared oval design with a flat floor, allowing a superior cabin cross-section for ultimate head and shoulder room.

The G5000 is not just a partial avionics upgrade leaving much of the 1980's technology but a complete replacement of the entire avionics suite including a new Garmin autopilot system. The G5000 instrument panel consist of three 12" LCD displays that provide the pilot and copilot with all the latest

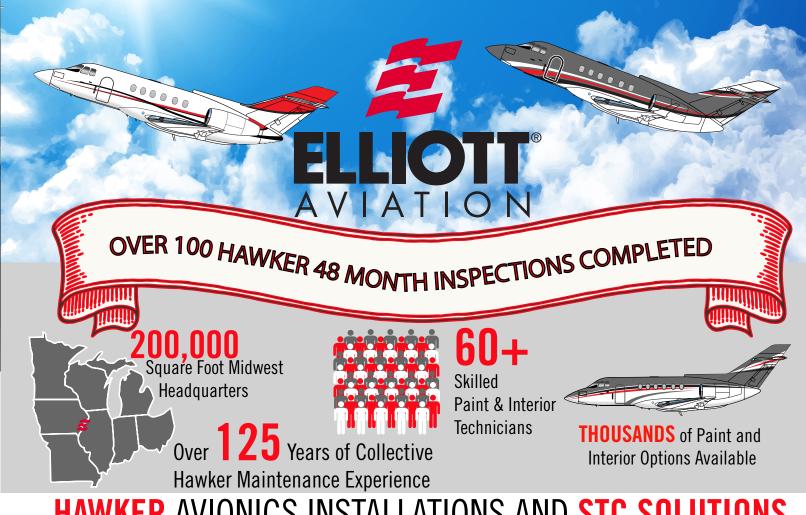
technologies including Synthetic Vision, Electronic Charts, XM Weather, WAAS/LPV, ADS-B, Engine Indication, MFD Range Rings including Reserve Rings, and more.

The 2nd half of this decade will see the Beechjet series aircraft facing CRT Display obsolescence, AHRS obsolesce, WAAS/LPV upgrades, ADS-B out upgrades and a rising cost per hour for avionics repairs. The G5000 will take care of all of these issues in one short downtime, making it a true upgrade that will keep this aircraft flying for many years to come.

With the G5000 officially flying in the experiential stage, customers are looking at this retrofit summer of 2016. At Elliott Aviation, we are looking forward to installing the Garmin G5000 in Beechjet/Hawker 400XP's from all over the world and at the time of writing this article, we already have 12 systems pre sold. We will be striving to achieve the same milestones that make our Garmin G1000 King Air retrofits such a success like a 15-day downtime, all new wiring, and industry-leading checkout instruction.

ABOUT THE AUTHOR

Mark Wilken joined Elliott Aviation in 1989 as an Avionics Bench Technician. He was promoted to Avionics Manager in 1996 and joined the sales team in 2003. Mark has led many highly successful avionics programs such as the King Air Garmin G1000 avionics retrofit program. He recently led efforts for Wi-Fi solutions in Hawkers, King Airs and Phenom 300's. Mark holds a Bachelor's Degree in Aviation Management from Southern Illinois University and is a licensed Pilot.

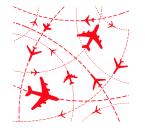


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After almost eighty years, hybrid airships are sailing back into favor. These gentle giants of the air are safer, more durable, and more versatile than ever before. They promise to change the future of cargo transport, military operations, and, potentially, luxury passenger travel.

▶ What is a "HYBRID AIRSHIP?"

Flying craft are typically categorized as "heavier than air" (HTA) or "lighter than air" (LTA). HTA vehicles, like helicopters and airplanes, require constant power to stay airborne. LTA vehicles, like balloons, don't require engine power but are typically slow, highly susceptible to weather, and unable to carry significant weight. Hybrid airships combine many desirable qualities from both categories into a new class of flying vehicle.

"Airship" and "dirigible" are synonyms, referring to any powered, steerable aircraft inflated with lighter-than-air gas. Non-rigid airships, like blimps, require constant gas pressure to maintain their bulbous shapes, while rigid and semi-rigid airships are built around internal frames.

Modern hybrid airships are constructed of a durable, lightweight semi- or fully rigid skeleton surrounded by an "envelope." This outer skin is made of heat-bonded, high-tensile laminated fabric that incorporates Mylar film to enclose the lighter-than-air lift gas. Unlike the explosive airships of last century, today's dirigibles are filled with helium — a totally inert and, in fact, non-flammable gas. They are also engine-powered, which allows them to reach greater speeds than LTAs and carry greater loads.

FLYING Before Their Time

The use of hot air balloons dates back to ancient China, but the first passenger dirigible made its maiden voyage in France in 1783. Throughout the 19th century, innovators on both sides of the Atlantic developed rudimentarily functional airships using combinations of wings, electric power, and petrol engines. They were not practically successful, however, until the German General Count von Zeppelin entered the ring.

Count von Zeppelin's basic design comprised a long rigid metal frame containing individual gas cells, covered by fabric. Although his first eponymous craft's maiden voyage, in 1900, was not a rousing success, his design was sound and formed the basis for all future Zeppelin airships. Over the following decade, he developed new models, resulting in some successes, some failures, and some spectacular explosions. His version LZ-3 made a successful eight-hour flight in 1907, and the next year, his LZ-4 flew for twelve hours over Switzerland. On July 3, 1908, King Wilhelm II of Württemberg and his wife, Queen Charlotte, were passengers on the fifth flight of LZ-4, enhancing Zeppelin's reputation and social status.

The German government backed Zeppelin's innovations and formed DELAG, the Deutsche Luftschiffahrts-Aktiengesellschaft (German Airship Transportation Corporation Ltd.) in 1909. DELAG was the first commercial airline, providing passenger service for sightseeing tours and between Berlin and points in southern Germany and France. The long-distance routes started in 1919 and took 4-9 hours, compared to 18-24 hours by rail. The airship Bodensee, one of the DELAG fleet, made 103 flights and carried almost 2,500 passengers, 11,000 pounds of mail, and 6,600 pounds of cargo during its two-year career. Germany also used airships to conduct bombing raids during WWI.

Other European countries advanced their own airship programs during that time period, with mixed success. Britain pushed hard to remain competitive with Germany, developing dirigibles for passenger and military use; however, the program came to an end when R.101, a hydrogen-powered ship, exploded in 1930, killing 48. In the U.S., journalist and entrepreneur Walter Wellman built numerous airships, attempting without success to reach the North Pole and fly across the Atlantic. DELAG, by contrast, continued to thrive, beginning the world's first transatlantic passenger airline service starting in 1931. Graf Zeppelin LZ-127 crossed the South Atlantic 136 times between Germany and South America.

AIRLANDER

ISSISSIBLE DIRIGIBLE OF THE DIRIGIBLE BY JAMIE PREIFFER

For perspective, the Wright Brothers' famous first flight of a powered fixed-wing aircraft was in 1903. In 1909, they sold a two-seater plane to the Army that could fly with a passenger for an hour at an average speed of 40 miles per hour and land undamaged, but the first commercial passenger flight wasn't until 1914.

The US military embraced airships during World War II, using them primarily to patrol and escort ships along the U.S. coastline. Some airships also were used to locate and destroy submarines in the European theater. As the United States discovered stores of subterranean helium and refined the process of extracting it, the safe, inert gas became more widely used in blimps and semi-rigid airships.

The era of dirigible passenger travel, however, ended spectacularly with the explosion of the Hindenburg over New Jersey in 1937. The luxury aircraft was DELAG's flagship transatlantic vehicle: twice as fast as an ocean liner, offering luxury interiors, gourmet meal service, a piano lounge, comfortable sleeping cabins, and a smoking room. Its explosion, likely caused by a stray spark igniting leaking hydrogen gas, killed 36 people and was observed by crowds, journalists, and news cameras.

A Dream RE-LAUNCHED

Charles Goodyear dreamed of a future of luxury travel in *helium*-filled airships, rather than the hydrogen that filled the transportation craft during his time. He was right about helium being the future of airship design, and although luxury passenger travel has not yet come to be, that part

may also be right around the corner. Although blimps and semi-rigid airships have been enduringly popular for military and scientific applications, a new generation of builders is developing hybrid airships for passenger travel and cargo transportation. These new airships are as nimble as helicopters but can carry much more cargo, use less fuel, and are much quieter.

Lockheed Martin has developed two promising designs, the LMH-1 & LMH-90; the Aeros Corporation has added the Aeroscraft ML866 & ML868 to the mix. A British company, Hybrid Air Vehicles (HAV), is developing the Airlander 10. The smaller models, LMH-1 and Airlander 10, are designed for both cargo transportation and luxury passenger travel; the other, larger vehicles will carry cargo. These companies aim to have commercially operational airships by 2018. But why return to this technology after nearly 80 years?

Modern airships have numerous advantages over other forms of transportation. Because they take off and land vertically, using lift rather than thrust, they don't need wheels. This means they can lift off, land, and hover virtually anywhere, regardless of the terrain and on any unprepared surface (including water) in any conditions, without the need for a ground crew. They are able to penetrate areas with little to no existing infrastructure, enabling affordable transportation of passengers and cargo to remote regions. This would be a distinct advantage for oil and mining operations in remote locations like the Arctic, northern Canada, and the Australian outback, as well offshore.







The fuel efficiency and long range of airships are their biggest selling points. HAV claims its Airlander 10 will be able to cruise for at least 2700 miles with a 16-ton payload – up to 10 days unmanned without landing and refueling. It is twice as fuel efficient as a C-130J transport aircraft and four times more efficient than a 40-ton truck. The operating costs per hour for these new airships are lower than helicopters or fixed-wing planes, and their ability to stay aloft for long periods makes them ideal for surveillance and communications applications.

Today's designs are also incredibly resilient and safe. Inert helium is contained in an outer skin, or envelope, typically constructed of a polyester film (polyethylene terephthalate, or PET, commercially known as "Mylar"). This barrier can resist damage from all sorts of external forces, including weather (even lightning) and some light ordinance fire (automatic rifles or mortars). Internal ballonets (air bags) automatically deflate and inflate to compensate for changes in outside pressure and keep the ship stable and aloft. They also incorporate the latest aeronautical and aerospace technology, including state-of-the-art avionics and weather radar. Plus, the sheer mass of the hull largely dampens out the effect of turbulence, providing a very smooth ride.

► IMAGINE the Possibilities

Oversized, Overmass Cargo and Other Goods

Hybrid air vehicles are uniquely suited for oversize, overmass (OSOM) cargo, including heavy equipment, containerized cargo, and military vehicles. HAV's proposed Airlander 50 "SkyFreighter" would be able to carry heavy-lift and ultra-heavy-lift cargo payloads from 50 to 1000 tons for up to 3,740 miles. Aeros Corporation's first

planned 2018 offering, the ML866, is designed exclusively for cargo payloads up to 60 tons; Aeros plans to produce its larger, 226-ton capacity ML868 within a few years thereafter. The company has reportedly engaged in discussions and signed memoranda of understanding with several companies for cargo transport airships, including AMUR Minerals Corporation, Bertling Logistics, Air Charter Service, Pacific Airlift, Cargolux, and Icelandair Cargo.

A Dubai-based company, Airships Arabia, hopes to operate its own fleet of hybrid airships for regional cargo transport by 2018. It anticipates initial payload capacity of 10 tons per load on each craft, eventually offering more than 50 tons per load capacity, with a range of more than 2,100 miles before refueling. In addition to OSOM cargo, airships may be well suited to transporting bulky but light cargo. One unusual application may be transporting fresh flowers from Kenya, a major growing region, up the East African coast to Dubai, a distribution point for fresh flowers all over Europe. Although the flight will take about five times longer than on a conventional aircraft, it is still quick enough to preserve the delicate cargo, and an airship would be much more economical. Airships Arabia hopes that it can make airship cargo transportation economically competitive for transportation of a variety of goods and products from the African interior.

UK-based Straightline Aviation signed a letter of intent to purchase 12 of the Lockheed Martin LMH-1 airships, with anticipated deliveries from 2018-2021. LMH-1 has a 10'x10'x60' internal cargo bay but can carry OSOM by sling load below the craft; it has a 21-ton payload capacity



and can carry 19 passengers. At about \$40 million each, the LMH-1 is about a third of the cost of a 737 and as little as one-tenth of the cost of the specially designed heavy-lift helicopters currently widely relied upon by the oil and gas industry. Its range, versatility, and maintenance requirements are all vast improvements on helicopters and fixed-wing aircraft. If the LMH-1 is a success, the larger LMH-90 is anticipated to make its debut around 2020.

Luxury Cruise Airships

In addition to cargo transport, the luxury air travel Goodyear imagined may also be coming to fruition. The Airlander 10, which was initially funded by the United States Army as its Long Endurance Multi-Intelligence Vehicle (LEMV), has been reclaimed for passenger use. Known through England during its re-assembly at RAF Cardington as the "Flying Bum" (based on its curvaceous appearance), it was recently officially christened *Martha Gywn* by the Duke of Kent.

Martha Gywn is 300 feet long and can travel up to 92 miles per hour. Flight trials have begun and will continue for at least 200 hours throughout 2016. If these trials are successful, HAV plans to build up a fleet for short-term charters as well as offer custom airships for purchase. HAV offers a bespoke interior design, whether for cargo, passengers, or both, customized to each customer's operational requirements. It will also offer piloting and maintenance engineering training for customers desiring to operate and maintain their own vehicles.

These new airships offer floor-to-ceiling window views and a unique perspective for travel. Although the revamped original Zeppelin company continues to offer sightseeing tours around southern Germany and blimps offering sightseeing tours are popular in Japan, currently, luxury leisure travel by airship is a rarity. The new generation of dirigibles, however, open up the possibility for airships to be the next cruise ships, offering multiple viewing decks, sleeping cabins, swimming pools, and other modern amenities while drifting over the Grand Canyon.

Airships Arabia believes that hybrid airships could also efficiently provide passenger service on "commuter routes" in the Middle East, particularly from Abu Dhabi to Dubai. Although the cities are less than 100 miles apart, the commute routinely takes 1.5-2 hours or more because of traffic. An airship route between the bustling cities could be a leisurely, luxurious alternative.



After 80 years hovering in the background, airships may finally return to prominence. Much like the first few decades of the 20th century, the first few decades of the 21st century might change the course of aviation forever.

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MOLINE

DES MOINES



BUILDING A PROPER MRO CULTURE

YOUR BRAND STARTS FROM WITHIN

By Greg Sahr | President of Elliott Aviation This article appeared in the AviationWeek.com

IdeaXchange in June 2016

Your brand is only as strong as your reputation, which is a direct reflection of your company culture. A strong company culture is more critical in the MRO business than just about any other industry in the world. On a daily basis, MRO employees are asked to complete highly skilled work that can directly impact the safety of themselves and of others. Your employees are your brand.

In order to affect your culture, you must first understand your culture. What do your employees like about the company? What do they want to improve? What are their values? It's also highly important to look beyond understanding current job satisfaction and focus on employee engagement.

In a 2013 Gallup report entitled "State of the American Workplace," it was learned that only 22 percent of U.S. employees are engaged and thriving. When employees are engaged and thriving overall in their lives, they are more

likely to maintain strong work performance — even during difficult times. Simply put, engaged employees will give you greater productivity, higher customer satisfaction and lower turnover.

ME∆SUREMENT ▼

When dealing with company culture in all areas of business, what gets measured gets done. If your business doesn't have a way to measure its company culture, the first thing you should do is partner with a reputable thirdparty research organization that is skilled in employee engagement. They will not only guide you through what questions to ask but will also ensure you are getting a 90 percent or greater response rate with your survey. Working with a third party will also demonstrate that your company is treating employees with the highest level of confidentiality. The service provider can also show you how your company culture compares to other industries regionally and nationally.

The results of your last company survey serve as a barometer for culture improvements prior to your next survey. Surveys should be conducted at least every 18



months. In between surveys, maintain employee engagement and let them know you are listening and working to make improvements on their behalf.

In addition to company surveys, measurement at the department is key. At our headquarters in Moline, IL, we have visual measurement tools for each department that measure safety, quality, productivity, schedule and performance improvement. The purpose of having a visual workplace is to measure how we have done and if we did not achieve success, we discuss ways to improve. Since adopting a visual workplace, we have seen an increase in customer satisfaction through our surveys in four out of five departments and increases in satisfaction score buy as much as 25%. We have also made a 2% improvement in on time deliveries to 97%.

TRANSPARENCY ▼

A truly innovative company culture lets employees know you are hearing what they have to say and are taking steps to continually improve their working situations. By sharing the results of the survey, areas of improvement can be discussed. You are also letting them know that they have been heard, and you can explain what is being done to address those areas that need improvement. An informed culture has more of a sense of ownership than one that is constantly speculating on how the company is doing and what is being done.

ACTION

When dealing with surveys and culture measurement, it is easy to get analysis paralysis. Many times, you get so much data that it can seem like there are too many items to address. Keep in mind, though, that action is a key component to moving any initiative forward, and improving culture takes action. Divide, prioritize and assign owners to your action items. It might also be beneficial to rank these action items by highest level of visibility or potential impact on positive morale, depending on the specific action item.

For maximum impact, actions must be properly communicated throughout your organization. Face-to-face meetings are always best, but given the time it takes from both the leadership team and employees, it likely only makes sense to do them on a limited basis. Throughout the year, however, action should be communicated through the organization by email or company newsletter.

For example, our biannual company updates are done in small groups of 20-30 individuals over a period of one week. Although in some respects it duplicates efforts, employees are in a less formal environment and can pull me aside after the meeting if they have further questions or ideas.

We also implement Production Improvement Team (PIT) crews. Pit crews are made up of individuals from throughout the shop to discuss first-hand their ideas of how to improve their workplace surroundings. They meet on a regular basis and report out on how improvements are going, where they are at in the process and what further work it will take to complete.

ENGAGEMENT V

Engagement goes far beyond job satisfaction. It is a measurement by which employees don't just come in to punch a clock, check a box and receive a paycheck. It is moving the employees' thinking to a whole new level where they feel a sense of ownership. Employee engagement is built over time by giving them the proper tools, the right team members and the right management.

With engagement, there are intangible values to include. With highly engaged employees, we have seen higher team spirit, initiative, and willingness to volunteer for assignments. Our highly engaged employees have also brought increased levels of innovation to our organization, helping us continually evolve the business.

EMPOWERMENT V

Empowerment is a key step in employee engagement. Empowering an employee to make decisions helps to reduce the many layers of decision-making that can exist in an inefficient organization. It also helps the workforce take advantage of opportunities as they arise, while allowing employees to keep higher-level goals in mind.

Empowering employees requires clear goals and direction from the top levels of the organization all the way down to the team lead. Each employee must clearly understand their authority rights and the values and vision of the company. Without a clear understanding, you can potentially do major damage to your financials or even your brand reputation.

Authority rights must be given to an employee when they join the organization. Give them clear expectations on what they can decide upon and let them fully understand when they need higher level approvals. Putting together a simple process or creating a decision tree can save many questions and make your workforce more efficient.

A full understanding of corporate values is just as important as authority rights. A clearly defined corporate value system must fully resonate with your employees. If it is not something they value personally, it will not make it through your organization. Values can also be used as a check and balance system in a decision-making process. A defined set of values should not only be used in your day-to-day working environment, but also in the hiring and employee review process to ensure employees are continually living your brand.

In addition to values, a fully defined vision demonstrates a commitment to employees that you are not going to be stagnant. You are going to strive for something and build upon what has been created. A vision, however, should not just be a statement. There should be continual evidence that you are striving to meet that vision, and this should be communicated to your employees on a regular basis. Also, regularly update your employees on what action you are taking to live your vision.

SENIOR LEADERSHIP TEAM INVOLVEMENT ▼

An active and involved senior leadership team is critical to forward movement of your culture. These leaders of your business have the highest-level of authority rights and are truly in line with company values and vision. The senior leadership team should be visible, approachable and accountable. Employees should interact with your team on a regular basis and be comfortable with not only issues that arise, but with ideas they may have that could benefit the company.

FINAL THOUGHT ▼

A highly engaged culture helps move your business forward. It can help drive a higher quality of work to strengthen your brand. It can keep you relevant in the minds of customers and drive a higher employee and customer retention rate. It can also keep your company innovative to compete for many years to come. An engaged culture is an engaged brand — and engaged brands continue to thrive for decades.

ABOUT THE AUTHOR

Greg Sahr began his aviation career as an Avionics Installer at ElectroSonics where he was quickly promoted to lead installer supporting avionics installations on a variety of aircraft all over the United States. Shortly after Garrett Aviation (GE) purchased ElectroSonics, he was appointed Site Leader of their Columbus, Ohio location. He then spent two years selling avionics and one year as a Regional Sales Manager. After Garrett Aviation was purchased and rebranded to Landmark Aviation, Greg was promoted and relocated to Dallas to oversee the Central US sales team. When Landmark was purchased by StandardAero (Dubai Aerospace Enterprises), he took on both the Central and Western US territories. In 2011, Greg and his family relocated to Moline where he accepted the position of Vice President of Sales and Marketing. In 2013, Greg became President of Elliott Aviation.







orn dogs, deep-fried candy bars, butter cows, livestock shows, art shows, exhibits, music and more: the Iowa State Fair started over 160 years ago in 1854 with a budget of \$323. Before the fair found its permanent residence in 1886 in Des Moines, IA, it had moved from town to town.

The music and entertainment history of the Grandstand is vast. If walls could talk, the Grandstand of the Iowa State Fair would have countless stories. The first record on file from the Grandstand dates back to 1892, when a man and his dog leaped and parachuted down from a three-balloon ascension. In the first years of record keeping, many of the main attractions were of the aviation industry, as flying was new and very exciting at that time. Today, the attractions are music concerts and tractor and truck pulls.

According to the 2015 Associated Press, the Grandstand performances are the third highest revenue source for the fair. In 2014, performances brought in close to \$2.9 million in sales; concessions brought in \$3.7 million and admission tickets over \$7 million. A performance is sold out if there are at least 10,000 tickets sold. The Def Leppard and Carrie Underwood shows in years past have done just that. Reba McEntire comes in close with 9,800 tickets sold.

The Iowa State Fair is known for bringing in many musicians. Numerous artists have repeatedly performed in the Grandstand. Several free ground stages are also available for gate admission featuring more than \$500,000 worth of free music.

Since the nineties, country stars such as Tim McGraw, Brooks & Dunn, Montgomery Gentry, Kenny Chesney, Toby Keith, Alan Jackson, Chris Cagle, Brad Paisley, Little Big Town, Miranda Lambert, Big and Rich, Jason Aldean, and many more artists have performed at the Grandstand.

In 1990, Ricky Van Shelton was scheduled to perform, but he canceled, and the fair was able to find a then-unknown artist to fill the spot – Garth Brooks. Brooks went on to perform in 1991 and in 1993 as well.

Some artists have performed on the free stages, only to perform later in the Grandstand. John Michael Montgomery, Bryan White, Trick Pony, Gary Allen, Cross Canadian Ragweed, Dierks Bentley, Shooter Jennings, Chuck Wicks, Candy Coburn, The Band Perry, Tenth Avenue North and Lady Antebellum all started out on the smaller stages before their Grandstand performances.



Country music typically brings the largest crowds to the Grandstand. However, country music is not the only genre played. The Grandstand has featured cabaret in 1963, Elton John and The Guess Who in the 1970s, the Styx, Lynyrd Skynyrd, the Osmonds, Wayne Newton, the Goo Goo Dolls, Barry Manilow, ZZ Top, New Kids on the Block and many more.

In 1972, Sonny and Cher attracted the largest Grandstand crowd of 26,200 in two shows. Record crowds also came to see Johnny Cash in 1970, Chicago in 1974, The Beach Boys in 1975, and the Oak Ridge Boys in 1982.

Lou Christie has graced the Grandstand stage more times than any other artist, with 13 appearances from 1981 to 2005. Alabama comes in second place, with 10 performances from 1982 to 1998.

The Grandstand has held many interesting, unique shows in its history. In the 1800s, the fair struggled to attract crowds until Joseph Connolly, also later known as "Headon-Joe," had a brilliant idea to pack the stands. This idea would launch Joe into a most unusual career. In 1896, Joe obtained locomotives that were bound for the junkyard; he then created a staged trained collision. The explosion and turnout was so spectacular that the Iowa State Fair repeated this attraction in 1922 and 1932. The last show's video footage can be seen in the Iowa State Fair Museum.

In the late 1800s and early 1900s, flight was a novel, wonderful, and dangerous thing. Naturally, inventors and daredevils wanted to show off. State Fairs were a great place to get spectators interested in aviation. Many know the story of Amelia Earhart; she was an Iowa resident for a time and saw her first airplane at the Iowa State Fair when she was ten years old.

There are different accounts for the dates, but in 1905 or 1906, Charles Hamilton flew a dirigible from the Fairgrounds to the State House and back. A few years later in 1911, The Wright brothers showcased their biplanes. This was the first time a heavier-than-air craft had flown at the State Fair – and only eight years after the Wright brothers' first powered flight.

The flying expositions continued in 1914, when Lincoln Beachey raced his biplane known as "Little Looper" against Eddie Rickenbacker's Duesenberg automobile. Between 1916 and 1921, it is thought that aviator Ruth Law Oliver performed twice. The first time was in 1916, when she performed three flights a day, and in 1921, she performed an auto to airplane transfer.

In 1927, Charles Lindberg and Clarence Chamberlin were special guests to the flying circus. Earlier that year, they had both flown across the Atlantic. See the list below for some of the interesting events that occurred at the Iowa State Fair.

GRANDSTAND HISTORY OF THE 19TH AND 20TH CENTURIES

1892 3 Balloon ascensions, including a parachute leap by a man and his dog*

1894 Man fired from cannon*

1895 Professor K.P Speedy's high-dive into a barrel from 40 feet*

1896 First locomotive collision

1900 Horse racing began*

1905 Dirigible flown from fairgrounds to state house and back

1907 Car races

1909 First motorcycle races held

1911 The Wright brothers' airplanes

1913 The Flying Machine Man with parachuter

1914 Lincoln Beachey's plane raced Eddie Rickenbacker's racecar

1916 Aviator Ruth Law performed 3 flights each day*

1916 Miss Elfreida Mais was the first woman to drive a racecar at the Fair*

1921 Ruth Law (auto to airplane transfer), balloon races and hippo drome shows*

1922 The second locomotive crash

1923 Tokyo fireworks display depicting the 1923 earthquake

1927 Lindberg and Chamberlain

1932 Thrill Day: Third Locomotive crash

1936 Roland Kumzaid jumped from a plane with wings attached to

1940 60 top drivers raced, including Gus Schrader, Emory Collins, Ben Shaw, and Jimmie Wilburn for a world title **1941** Captain F.F. (Bowser) Frakes stunt act was crashing a car into a house loaded with dynamite charges

1942-1945 No fairs held due to WWII

1949 Thrill Days featuring Joie Chitwood

1950 Rodeo

1950 Thrill Days featuring Joie Chitwood and Jimmie Lynch

1951 Rodeo featuring Gene Autry

1951 Thrill Days featuring Joie Chitwood and Raymon La Rue

1953 Evening auto races first introduced*

1957 Rodeo featuring Rex Allen

1957 Thrill Days featuring the cars of the English Daredevils

1966 Midget car races were added to the racing line-up

1996 "Gold Circle" seating was introduced in the Grandstand

1970 Rodeo featuring Ken Curtis of TV's Gunsmoke*

1970 National Championship Hot Air Balloon Races*

1978 National Motorcycle racing returned after a 25-year absence*

1980 First Rock and Roll Reunion

1990 Grandstand tickets sold statewide through Ticketmaster for the first time

1990 Little-known artist Garth Brooks replaced Ricky Van Shelton in Grandstand lineup

1999 Rodeo

*Events that are assumed to have occurred in the Grandstand. Document from the lowa State Fair, listing all the known performances of the Grandstand. This is not the full list of events.

THE 2016 GRANDSTAND LINEUP

August II Newsboys

August 12 Meghan Trainor

August 15 Dierks Bentley

August 16 Rock Hall Three for All featuring Heart, Joan Jett &

the Blackhearts, and Cheap Trick

August 17 Grand Outlaw National Tractor and Truck Pull

August 18 An Evening with Jeff Dunham: Perfectly Unbalanced

August 19 KISS

August 20 Steven Tyler and The Lovely Mary Band

August 21 Lady Antebellum





From the beginning, the Iowa State Fair has been and continues to be a thrilling adventure for all to see. To find out more about entertainment at the Iowa State Fair, visit www.iowastatefair. org. Want to come and see the fair on August II-2I, 2016? You can purchase tickets through Ticketmaster.com or call 800.745.3000.



HISTORY OF THE RYDER CUP

Established in 1927, the Ryder Cup is one of the last great sporting events founded on prestige rather than prize money. The event unofficially began in 1921 as informal matches between U.S. and British players, the first in Gleneagles, Scotland, followed a second event at the Wentworth Club in England prior to the 1926 Open Championship. How the idea originally took shape is a matter of debate, but Samuel Ryder, an English seed seller and golf enthusiast, commissioned the famous trophy to encourage the establishment of regular matches. In 1927, the first official match took place, and the U.S. took home the first Ryder Cup with its 9 ½ - 2 ½ win.

The Ryer Cup is now held every two years, but matches were suspended from 1939–1945 as a result of World War II. When the Ryder Cup resumed, the U.S. dominated the competition, winning all but two events (one of which was a tie) from 1947–1983. During the 1977 competition, Jack Nicklaus suggested to the PGA of Great Britain that improving the level of the event should be a top priority. Thereafter, European players from outside the British Isles were included in the selection procedure, transforming the British team into a more expansive European team.

The European team won back the cup in 1985 and has, in fact, won ten and tied one of the last fifteen Ryder Cup competitions.

2016 RYDER CUP The Course

This year's Ryder Cup will take place at Hazeltine National Golf Club in Chaska, Minnesota, September 27–October 2. The founders of Hazeltine began with a mission to build a facility suitable for national championship play. The course opened in 1962 and hosted its first championship, the U.S. Women's Open, in 1966. Since then, Hazeltine has been the site of many important professional and amateur events, including the U.S. Open, the PGA Championship, and the U.S. Amateur Championship. Many consider Hazeltine to be the best private golf club in the Minneapolis area, and the Golf Range Association of America named the club among the top 50 private golf range facilities in the nation in 2015.

The Tournament

Five match-play sessions, consisting of 28 total matches, will be played over three days at the Ryder Cup. Two matches, one of fourballs and one of foursomes, are played



each of the first two days, and twelve singles matches are held on the third day. * Match play, in which a team's score is based on the number of holes it wins, is in contrast to stroke play, where the winning team is determined by adding up the total number of strokes at the end of the session. * In fourballs, each player in a two-person team plays his own ball (resulting in four balls in play at once). The lower score on each hole counts as the score for the team. * In foursomes, each two-person team plays one ball, taking turns until the hole is complete. One team member tees off on odd-numbered holes, and the other tees off on even-numbered holes. * In singles, two players, one from each team, square off in a one-on-one match.

Each match is worth one point for the winning team. In the event a hole is tied, each team gets ½ credit for that hole. If, at the end of 18 holes, the score is tied, then each team will earn ½ point for the match. If the event ends in a 14-14 tie, then the winning team from the previous Ryder Cup (in this case, Team Europe) gets to keep the trophy.

TEAM USA

The U.S. team's last wins were in 2008 at Valhalla Golf Club in Louisville, Kentucky, and in 1999 at The Country Club in Brookline, Massachusetts. Davis Love III, was U.S. team captain for the 2012 Ryder Cup, has been named to captain this year's team. In 2012, the European team overcame Team USA's early 10-6 lead to win the tournament by just one point. This year, Love is determined to bring the best prepared team he can to the Ryder Cup. He says he is watching the team selection process closely this year so he can help players start preparing as soon as possible after it's apparent that they will likely secure a place on the team.

Eight players for the U.S. team will be selected based on prize money won in important tournaments, and four slots are reserved for captain's picks. Love will also choose a total of five vice-captains, who won't necessarily (but may) play in the tournament. Immediately upon being named captain, Love announced that Minnesota native Tom Lehman would be one of the five vice-captains. In November, he announced the addition of Steve Stricker,



Jim Furyk, and Tiger Woods. If any of the named vice-captains ends up qualifying or being selected to play on the team, then Love will have the option of naming a replacement. Love has already indicated that he would consider Tiger Woods, who has been fighting his way back into professional play following back surgeries, as one of his player picks if he's back on the PGA tour and playing well.

To determine qualification for the U.S. team positions based on tournament winnings, players are awarded points: one point per \$2,000 won at the 2015 World Golf Championship events and The Players Championship; one point per \$1,000 won at 2015 major championships (The Masters, U.S. Open, Open Championship, PGA Championship) and 2016 PGA Tour events, and 1 point per \$500 won at 2016 major championships. Although qualification won't be finalized until the conclusion of the Barclays on August 28, Jordan Spieth seems assured of a spot with his distant lead over his closest competitor, Dustin Johnson. Other likely team members include renowned players Rickie Fowler and Bubba Watson. Love will announce three of his captain's picks on

Sunday, September 11, at the conclusion of the BMW Championship and the fourth at the closure of the Tour Championship on Sunday, September 25.

IF YOU GO

Although the early random selection process for individual Ryder Cup ticket sales has passed, it's not too late to decide to attend the event. Tickets can be obtained through hospitality and travel packages as well as ticket exchange, and premium daily tickets are available.

- The early random selection process for individual ticket sales has passed. Tickets are still available through hospitality packages, premium daily tickets, and travel packages.
- Samuel Ryder Club tickets give attendees access to the exclusive club near the first and seventeenth greens. Breakfast, lunch, snacks, and open bar are provided in this climate-controlled venue with private outdoor patio, WiFi, wait service, and preferred on-site parking.

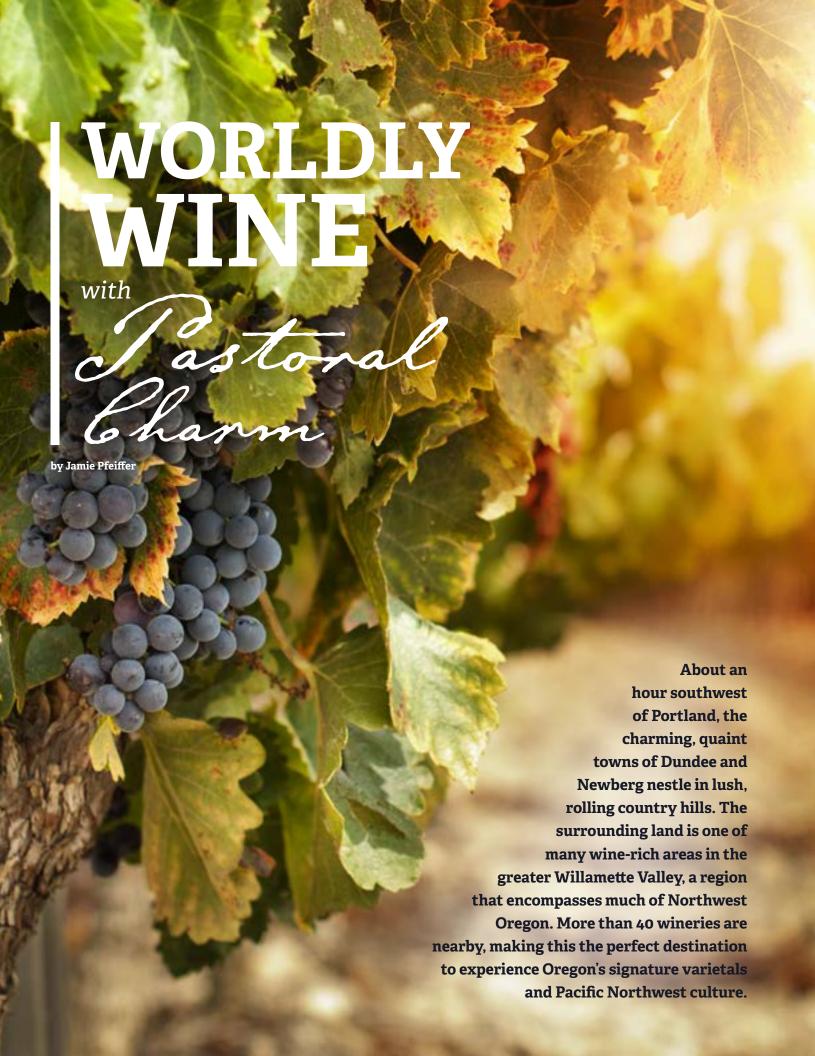
- Premier Golf offers travel packages that include four nights' accommodations (Thursday, September 29–Sunday, October 3), tickets for the entire event (Sunday–Thursday) and transportation between your hotel and the event. Upgrades are available for access to the private hospitality chalet located at the 16th hole as well as for extra nights of accommodation.
- You can reserve Captain's Club tables for 10 guests on a daily or weekly basis (with the option of purchasing two additional seats per day). The Captain's Club includes similar amenities to the Samuel Ryder Club in addition to official programs, business center access, and your company name and fresh flowers on your table.

PrimeSport is the official ticket exchange provider for the 2016 Ryder Cup. Go to *primesport.com* to see what other ticket options may be available or, in the sad event that you must cancel your plans to attend, you can also create an account and sell tickets you won't be using through the site.









Oregon's Ripening Wine Industry Although Oregon's wine business is worth an estimated \$3.35 billion a year, it is a relatively young industry. Until the early 1960s, farmers in the Willamette Valley grew predominantly hazelnuts, walnuts, and assorted fruit. On October 12, 1962, however, a sub-storm of Typhoon Freda nicknamed "the Big Blow" decimated crops, buildings, farms, and essentially everything else from the coast through the valley – more than 50 miles inland. Winds of 138 miles per hour ripped through the area, leaving 46 dead and area farmers displaced or with no salvageable crops.

New farms sprang up, but this time, owners branched out in new horticultural directions. Many planted pinot noir grapes, which were a perfect match for the soil and climate of the area. One entrepreneur, a 27-year-old named David Lett, moved from California in 1965 and purchased 20 acres just outside Dundee. His investment became Eyrie Vineyards, one of the pioneers of Oregon pinot noir and the first producer of pinot gris in the United States.

Eyrie's first vintage was bottled in 1970, and the vineyard's reputation flourished as quickly as its grapes. The 1975 Eyrie Vineyards Reserve Pinot Noir won tenth place among pinot noirs at 1979's Wine Olympics event, a blind tasting by experts of 330 wines from 33 countries, organized by a prominent French food and wine magazine. Today, the Eyrie empire encompasses five different vineyards over 60 acres. It remains a prominent winery, known for its lighter-bodied and colored pinot noir.

Within a few years, vineyards sprang up all over the northwest quadrant of the state, from the Columbia River gorge to the western shore, as far south as Eugene and north into Washington State. The Willamette Valley AVA became one of the leading production regions, encompassing a number of sub-appellations, including the Chehalem Mountains AVA, Yamhill-Carlton AVA, and Ribbon Ridge AVA. (An AVA, or American Viticultural Area, is a designated wine grape-growing region in the United States that is recognized and distinguishable by geographic features.)

Hannesting Diverse Hanors
Because of its moderate temperatures and reliable rainfall,
northwest Oregon is best known for its cool-climate grape
varieties. Those originating in Northern Europe grow

particularly well, including pinot noir and chardonnay (from the Burgundy region of France), riesling and gewürztraminer (from Germany and Alsace), and pinot blanc and pinot gris (originating in Alsace and Italy).

Oregon ranks fourth in the US for overall production of wine grapes – 56,246 tons in 2013 – and third for premium wine grapes (\$1,000+ per ton). Pinot noir and pinot gris have endured as the most important grapes in the region, accounting for the largest production volumes and bestranked wines. However, pinot blanc, syrah, tempranillo and viognier grapes have grown in production and popularity since 2000, while chardonnay, sauvignon blanc, merlot, and riesling have decreased. Dobbes Family Estate and Argyle Winery are among the biggest major brands in Oregon, each producing about 50,000 cases a year.

Twenty percent of Oregon's wine is made in the area around Dundee and Newberg. But this production volume doesn't detract from the small-town, rustic wine-country feel of the region. In addition to producing award-winning wines, many wineries also have incredible estates and tasting rooms. Visitors can take horseback or carriage tours of the rambling vineyards; back at the tasting rooms, they can play a game of bocce ball or sample food pairings such as barbecue, gourmet chocolates, and more. Many vineyards also have downtown tasting rooms, allowing visitors to sample many different offerings within easy walking distance.

The standard bearers of the region all offer notable wines and a glimpse into the quirky personalities of the owners. Rex Hill Vineyards (owned by A to Z Wines) is a standout among the area's larger, older producers. For over 30 years, it has reliably produced elegant pinot noirs that earn 90+ points in *Wine Spectator's* ranking guide. Its tasting room, a converted fruit-and-nut drying plant, is a juxtaposition of fine European antiques, scientific exhibits of Willamette Valley soils, and NBA basketballs (Gregg Popovich, the head coach of the San Antonio Spurs, is one of the partners).

When the Drouhin family, one of Burgundy's most reputable wine houses, established its Willamette Valley outpost in 1987, the wine world began to take the region seriously. Its estate now stretching over 500 acres, Domaine Drouhin Oregon offers consistently exceptional old-world style signature and reserve pinot noir (including the top-notch





Louise cuvée), as well as limited runs of other varietals. Its winery and tasting room perch delicately in the rolling hills, offering picturesque views of the idyllic valley.

Oregon is proving to be fertile ground for domestic wineries looking to explore new territory as well. From a biodynamic, organic winery originally based in California, Evening Land's Quick View 2013 Seven Springs Vineyard La Source Pinot Noir earned 93 points from *Wine Spectator* and the #3 spot on its "Top 100 Wines of 2015" list. This old-vine style, full-bodied pinot is cold soaked and naturally fermented from indigenous yeasts, then aged for 16 months in 30% new French oak barrels. Another transplant, Big Table Farm, took 11th place on the distinguished list with its 2012 Pinot Noir Willamette Valley (a steal at \$40/bottle). This is no small feat for the young, transplanted Napa Valley winery that has snowballed in popularity largely by word of mouth rather than high production volume or ancestral reputation.

Other consistently top-ranked, widely distributed producers include Willamette Valley Vineyards, named "One of America's Great Pinot Noir Producers" by *Wine Enthusiast* magazine; guests who visit its winery can enjoy tours of its underground cellar, carved out of an ancient volcanic flow. Bergström's sustainable, biodynamic artisanal wine continues to garner accolades, with the fruity, complex 2013 Pinot Noir Ribbon Ridge Le Pré Du Col Vineyard coming in at #14 of the 2015 Top 100. Argyle Winery, located in a historic farmhouse in downtown Dundee on the site of the

former city hall, produces distinctive wines with ripe fruit flavors and an earthy, spicy old-vine character; it boasts not only excellent pinot noir but also sophisticated sparkling wine and rich chardonnay. A visit to the hillside Archery Summit estate allows you to take one of the best tours in the region. It includes a walk-through of a demonstration vineyard to learn about varietal clones and rootstock experimentation as well as a barrel tasting of the winery's acclaimed pinot noir, held in the caves where the wines are aged.

Numerous other charming small family wineries have far less glamorous tasting accommodations but no less laudable wines. One of these tiny homesteads, Brick House, is the residence and vineyard of winemaker/owner Doug Tunnell, a former CBS foreign correspondent, who grows 100 percent certified organic and biodynamic pinot noir, Gamay noir, and chardonnay grapes and offers exclusive tastings in his shed-cum-laboratory.

Eat, Sleep, Taste, Repeat

To pair with the excellent wine, the Dundee/Newberg region specializes in the Pacific Northwest's signature "farm to table" cuisine. Local, organic, and seasonal ingredients take center stage, including locally grown orchard fruits and hazelnuts. Standouts include the Dundee Bistro, featuring an extensive wine list from Oregon as well as around the world; the Painted Lady, one of Newberg's oldest and most established restaurants; Subterra, one of the newest, most modern

offerings; and Recipe, a restored Victorian home offering French-inspired dishes where almost everything is premisesgrown or homemade.

The area boasts numerous tiny inns and bed-and-breakfasts. The boutique Inn at Red Hills is home to three tasting rooms and one of the area's best restaurants, Paulée, which offers over 400 wine selections and a globally-influenced Northwest farm menu sourced predominantly from the on-premises garden. Le Puy's 8 rooms emphasize luxury and sustainability; its elementally named suites (Thunder, Water, Mountain, Fire, etc.) sport balconies, soaking tubs, cathedral ceilings, and other distinctive features.

On the other end of the spectrum, the behemoth Allison Hotel & Spa offers an extensive art collection, yoga in the garden, and LEED eco-certified accommodations along with meeting, banquet, wedding, and retreat facilities. In 2015, Wine Spectator awarded its "Best of Award of Excellence" to the onsite JORY Restaurant for its impressive wine list.

Although visitors flock to the region year round, highlights include the season-opening month of May (officially dubbed "Oregon wine month"), when wineries and tasting rooms host special events and tastings. The month culminates in a grand Memorial Day weekend open house in Oregon wine country, when nearly every vineyard in the valley throws open its doors for barrel tastings, tours, music, food pairings, art shows, and more.

Over the last weekend of July, the nearby town of McMinnville hosts the International Pinot Noir Celebration, a three-decade-running celebration of local and international varietals and wineries. Consumers, media, and industry members gather for a weekend bursting with seminars, tastings, winery and vineyard tours, and distinctive farm-totable cuisine crafted by more than 60 top Northwest chefs. The event typically hosts more than 800 guests, along with winemakers and representatives from at least 70 wineries.

In the fall, as harvest time approaches, the region explodes with harvest parties, grape-stomping competitions, and food festivals. The annual Wine Country Thanksgiving celebration is Oregon's premier tasting and cellar-stocking event, as many wineries clear out inventory in preparation for winter closures. During this weekend, wineries offer

tastings of favorite labels and special vintages, along with live music, food and wine pairings, local arts and crafts, and the opportunity to visit with winemakers from some of Oregon's top wineries, including many not usually open to the public.

Over the last five years especially, the Oregon wine industry has ripened. As the region enjoys more and more international acclaim, planted acres have increased 18 percent, the number of wineries has grown by 45 percent, and wine sales by volume have risen 39 percent. Large wineries are investing significantly to increase production capacity, while small-production houses continue to flourish. There's never been a better time to explore the distinctively sophisticated offerings of this still charmingly rustic winemaking region.

If You Go: Events, planning tools, and contact information for local wineries, restaurants, and lodging can be found on the Willamette Valley Oregon Wine Country website, www.oregonwinecountry. org. More information about the International Pinot Noir Celebration can be found at www.ipnc.org.







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