History: Peter Rowland Payne and the Avian 2/180
Three-State Gyro Meet in Louisiana
Jay Carter PAV Update
February 2011
Finally, the Economy Rebounds
Paul Plack, Editor

While there's no question more pain lies ahead in the short term, there's also no doubt an economic recovery is in progress in the aviation and aerospace industries. Over the course of the past few weeks, Space Exploration Technologies hit expectations out of the park with the first orbital insertion of its Dragon spacecraft using its own Falcon 9 rocket, and the private space race is off and running. Both Boeing and Airbus are stepping up production, igniting a chain reaction of hiring throughout the chain of companies which supply them both with parts. The commercial helicopter industry, which was kept alive by government and military orders the last two years, is seeing rising corporate profits and growing needs in the offshore oil sector as signs the civilian helicopter side is poised for a comeback.

One of the most intriguing stats is found in the recent report on 2010 orders and deliveries prepared by the General Aviation Manufacturers Association. There were 2,015 GA aircraft delivered to customers for the year worldwide, down 11.4% from 2009. Take out business jets and turboprops, and in the piston segment there were just 889 aircraft delivered.

But in the same period, the number of homebuilts added to the registration rolls in the US was up 10 percent, to 941. More piston aircraft were built in garages in the US than were built in factories worldwide last year! We can only hope the FAA takes notice that amidst the pilot population decline it claims to want to reverse, there's an opportunity for easy success. Taking the shackles off the training industry with resumed issuance of Letters of Deviation Authority would be an easy, logical step.

In the personal rotorcraft sport, we have our own harbingers of Spring. Several kitmakers are reporting an upswing in sales. While it's a little early to be popping corks, PRA membership is slowly growing again. Over the winter, the new Chapter 38 officially formed in Colorado, and Chapters 31 and 58 in California both met for the first time in years. In particular, Chapter 58 (Sierra Rotorcraft Club) President Jim Burrow reports 40 new members have started showing up in the past year!

Seize the opportunities this rising tide presents. In terms of expanding your enjoyment of the sport, membership in PRA and your nearest chapter are both unbeatable values. Recall how much you've enjoyed visiting rotorcraft events in the past, and get back to at least one this year. Help your chapter promote its next fly-in by taking advantage of promotion in the pages of Rotorcraft. If you don't know how to best do that, please be in touch. I'd love to walk you through it.

We have two new discounts to offer PRA members this month. A new classified ad website, FlyAgainParts.com, is building traffic by offering PRA members unlimited classified ads for a year. Also, Bob Miller Flight Training Online is offering a discount of more than 20% on an unusual, four-week webinar course which will bring out safety lessons from actual NTSB accident reports. See the next page for details.

In this issue, PRA Historical Editor Dr. Bruce Charnov brings us a look at Canadian Peter Rowland Payne, a pioneer in 20th-Century gyroplane development. Mark Shook answers questions about his flight over the Florida Keys. Rudy Graffeo brings us details on a three-state meet put on in October by Chapters 6, 20 & 62 in Louisiana. We'll field questions, present a recent interview with Jay Carter, Jr., and finish a two-part look at websites for PRA chapters.

If you have friends who haven't yet subscribed to the new Rotorcraft, see if you can help them through the subscription process using the big blue button on the left. It's a great time to be involved in the personal rotorcraft sport!

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PRA Online Library Grows

A long-sought member benefit on the PRA website is quickly becoming a reality. A number of back issues of PRA publications dating back 48 years, including a dozen vintage issues of PRA’s Popular Rotorcraft Flying ranging from 1963 to 1986, have appeared on the virtual shelves of the new online library at www.pra.org. These back issues can be viewed (but not downloaded) by any current member who has created an account.

Clicking on any of the available issues opens page-turning software which not only displays the back issues in the look of an actual magazine, but plays the subtle sound of a turning magazine page as they change. A zoom function allows expanding portions of a page for easier reading.

The Winter 1963 edition of Popular Rotorcraft Flying includes a message from PRA founder Dr. Igor Bensen which explains the then-new organization. "There was and still is a danger of the helicopter, through ever more exacting military requirements and government regulations, going by the way of airplanes, jets and rockets, sky-high in costs and forever beyond the economic means of an average citizen. Organizers of the PRA were determined not to let this happen."

Bensen refers to an article in the issue on the building of a rotorcraft for $180, and clearly sets out the purpose, and even the reason for the name, of the new organization. "No, a low-cost rotorcraft is not a utopia. It is here today; but technically it is still in its infancy. It needs the concerted effort, brains, and experience of as many brilliant inventors as can be fired up by the challenge of 'popularizing' the machine for the public."

This issue informed readers about the FAA’s decision to allow students to be signed off to solo gyroplanes before two-place trainers existed, and included the "Rotorcraft for $180" (gyroglider) article mentioned in Bensen’s prologue. It also revealed a technique for avoiding destructive blade flap on a gyroglider flown as a kite, tied to a stake.

Richard D. Hicks of Los Alamos, NM related, after breaking a blade, "that homebuilders should be extremely careful about spinning their blades under windy and gusty conditions. Care should be used to hold the rotor in a nearly flat position until the blades begin to make the familiar "whup whup" noise before tilting the rotor further back for increased RPM."

A long-term project of PRA Historical Editor Dr. Bruce Charnov has made available a text-searchable bibliography of all past PRA magazines, and an index. Even if you can remember only vague details of an article you’ve read decades ago, it will be possible to quickly locate the correct issue. As more back issues are scanned and made available, Rotorcraft will, as space allows, include occasional retrospectives on content in these classic magazines, with clickable links to read them directly from pra.org.
PRA Membership News

Ron Menzie Resigns - PRA President Scott Lewis has accepted the resignation of Director Ron Menzie. Ron informed the board February 26, "My flight training has become so busy now with two locations, Arizona and Arkansas...I will continue to encourage new membership from the students that I deal with. Also be available for help regarding all aspects of gyroplanes and continue to support the PRA."

Free Classified Ads for Members - To encourage members to use this resource, effective with the March issue and continuing indefinitely, non-commercial classified ads in Rotorcraft will be free to all PRA members. All subscribers to Rotorcraft will receive an e-mail in the next few days explaining the process for submitting listings.

More Free Classifieds - FlyAgainParts.com is offering PRA members another free option to sell new or used aircraft parts. Normally $4.99 per month, ads are free for the next year to members using a promo code found through the Members Only page at pra.org.

Website Accounts - If you are a PRA member, but haven't created a secure login yet at pra.org, do it now, so you won't miss discounts which could save you the full cost of your dues! Visit pra.org and click "* Login Help *" at left. You'll need your member number to continue. Lost it? Call HQ, (574) 353-7227. Note during registration, you'll be e-mailed a temporary password, with instructions for creating a permanent password. This step must be completed within 24 hours to avoid restarting.

Subscription Mysteriously Canceled? A handful of our 1,100+ subscribers have found that accounts they created to receive e-mails from PRA have changed to inactive status. In each case, they forwarded their Rotorcraft E-Alert (the e-mails we send) to friends. But that also forwarded the account management controls which appear at the bottom of each e-mail, (see below,) and it's a safe bet one of those friends clicked "SafeUnsubscribe," blocking the original recipient.

Forward email

There's a better way. Clicking the blue "Forward email" link to open a web page with fields for names and e-mails of up to seven friends, along with an optional personalized message from you. Your friends will get the same issue of the E-Alert in which that "Forward" link originally appeared, and an option to remain on our list or decline - without messing with your settings. More than seven friends? Just click it again, and invite seven more.

If you were previously subscribed, but didn't get this issue directly, and you've forwarded a previous E-Alert directly out of your own e-mail program, this is likely what's happened to you. Send your first and last name and e-mail address to the editor, and we'll try and get things fixed.
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February 2011
Gyroplane CFIs

The following instructors are PRA members. This list is provided as a convenience for readers, and does not constitute an endorsement of any instructor, aircraft, syllabus or training enterprise by PRA. (Aircraft listed in parentheses are those available for instruction.)

**Arkansas**

Ron Menzie  (501) 766-6456
2715 S Main St
Searcy, AR 72143
(SparrowHawk, Parsons, RAF)

**Arizona**

Terry Brandt  (602) 739-0554
11423 W Citrus Grove
Avondale, AZ 85392
(Customer’s Aircraft)

**Florida**

Dofin Fritts  (850) 587-2504
Brewton Muni Airport AL 12J
Pensacola, FL
(251) 867-9446
(Customer’s Aircraft)

Robert Martian  (772) 546-7335
8011 SE Helen Terrace
Hobe Sound, FL 33455
(Marchetti)

Glen Garrick  (386) 479-4838
635 Forest Lane
Deland, FL 32724
(RAF)

**Georgia**

Steve McGowan  (478) 461-1451
2725 Herbert Small Airport Rd
Macon, GA 31217
(SparrowHawk, Parsons)

**Illinois**

Don Randle  (217) 414-0108
513 South 6th St.
Petersburg, IL 62675
(Customer’s Aircraft)

Chuck Roberg  (630) 983-7625
614 Bunker Hill Ct
Naperville, IL 60540
(Customer’s Aircraft)

**Indiana**

Gary Goldsberry  (317) 996-2487
1181 W SR 42
Mooresville, IN 46158
(Twinstarr)

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**Reader Feedback - ”Almost Live” from Sebring**

"I was reading the new issue of Rotorcraft which had stories about the Sebring Airshow. The amazing thing is I was reading the magazine WHILE the Sebring show was going on. HOW COOL IS THAT!" (Rob D.)

"...excellent issue and with a report practically live from Sebring." (Stan F.)

The January issue was intentionally delayed a few days after it could have been distributed, in part to wait for this material, and to demonstrate this new capability an e-zine brings. Use your imagination to find new ways to promote your chapter’s event, or share a memorable meeting while it’s still fresh. Don’t wait several weeks to write it up, because we’re no longer bound by dead-tree rules! - Paul

**Yamaha Power** - "A hangar mate of mine and I flew our gyros over to Sebring, Florida for the annual Light Sport Expo, which is always fun and informative. The PRA tent had a lot of attendance which was cool. Next to that was the expo of a new powerplant, being marketed under an aircraft name, however it was merely the engine out of a Honda Fit motor vehicle. It’s is always nice to see anything to bring down the price of Rotax 4 stroke engines. The Honda engine is selling for $14k with a redrive (belt).

"I saw the news about (the new) Chapter 38, with present members listed. Among those was my good friend Todd Rieck, who is also a leader in innovation in the advancement of gyro power. He has developed a way to use the Yamaha 120hp four-stroke engine. This is a package deal way under $10k, with the engine costing whatever a good snowmobile can be found for. Sometimes this can be had for as little as only a couple thousand dollars. The engine cradle to mount the engine on a gyro is a one time purchase. After that, it is cheaper to replace the engine than to rebuild it, though it has a mileage life of 80,000 miles in a snowmobile.

"I fly one of these Yamaha engines, as Todd does, and there are 3 others plus a fixed wing flying in the air...my machine will be at Bensen Days at Wauchula, and I think this innovation deserves some attention in the PRA E-zine. Todd is a top-notch man, and quite an asset to the sport.

"Ron Awad of N. Carolina also uses one of these 120hp engines on his 2 place Dominator, and he has no problem flying his 210 pound self with a
300 pound passenger. Ron is also a high time gyro pilot, and doesn't baby his engine around.

"This very engine is in the snowmobile that Yellowstone National Park rents out to everyday people, so you know it is quite dependable. I sincerely believe the gyro community would benefit by knowing this option is available, though I am not trying to be a salesman on behalf of Todd (right), who generally considers himself just a tinkerer. He's a very humble man. I just believe that our community should be supported in every possible fashion. Not everybody can afford $30k for 114 horses, or even $18k for 80 to 100 horses.

"I hope we can get this word out on what we are doing to make gyros more interesting. Without innovators in the actual fabrication of airframes and powerplants the public relations is worthless." (Brooke Beetler, FL)

Brooke, thanks for the observation, and it's interesting that Todd's project, adapting a snowmobile powerplant for use in experimental aircraft, isn't too far off from how Rotax got into the aviation business in the first place.

Todd's Yamaha-powered Air Command is indeed impressive. I first saw it fly at Rotors Over The Rockies in 2008, where despite the 8,000' density altitude, Todd was routinely taking off at greatly reduced throttle settings.

It's tempting to compare Rotax to alternative engines based on price alone, but let's talk apples-to-apples. If you need a Rotax 912 (left), you can get one within days, under warranty, and have access to factory-supported service centers. The engine has earned a TBO rating as high as 2,000 hours, and if you need to replace it, another one can be ordered quickly.

Todd's Yamaha conversion starts with sourcing a used snowmobile. Yamaha will not stand behind the product in aircraft applications. It has taken months or years for most users to gather all the parts together, and not everyone is in a position to wait. I'm not aware of any gyro pilot who's flown more than about 100 hours on it yet, and the engine's record in snowmobiles is not a reliable indicator of how it will last driving a propeller. There have been teething problems, including clutches.

Once sorted out, the comparison may get closer, and Todd has certainly achieved a breakthrough in working with an alternative engine some said could never be successfully adapted to a reduction drive. For now, those who'd rather fly than tinker will probably find Rotax a better value, even at four times the cost of a Yamaha conversion.

Comments or suggestions? editor@utahrotorcraft.org.
A Forgotten Canadian Autorotational Pioneer: Peter Rowland Payne and the Avian 2/180

Dr. Bruce H. Charnov, Historical Editor

The Avian 2/180 (above) was produced by Avian Industries, formed in 1958 by one of the most colorful inventors of the 20th century, Peter Rowland Payne, who had immigrated to Canada, becoming a registered professional engineer, from England in 1956. Payne had attended the College of Aeronautical Engineering in London and, getting experience in the British aviation industry, gained certification and professional recognition as a Chartered Engineer while generally achieving a reputation as a superb engineer. (Payne’s first job, while still in high school, was as a writer for Aero Modeller under the pseudonym “John Halifax”). Although he died in 1997, his innovative spirit lives on in such achievements as the non-lethal rubber bullet (1967), the crash-test dummy (anthropomorphic mannequin), Small Waterplane Area Twin Hull (SWATH ship), the Air Lubricated Planing Hull (ALPH), and the stunning SeaKnife hull (a supercritical planing hull that cuts through waves instead of riding over them). The stealth boat that appears in the James Bond movie "Tomorrow Never Dies" is a WaveStrider, a design based on the SeaKnife concept.

Additionally he worked on and made significant contributions to the design of amphibious tracked vehicles, ejection systems for supersonic aircraft, external aircraft antennas, ground effect vehicles (hovercraft), snowmobiles, the development of high speed, low drag underwater bodies, and water pulse-jet engines as well as making major contributions to aerodynamics including ram-jet engines for rotor blades (he became a Fellow of the Royal Aeronautical Society, its highest ranking), and biodynamics, groundbreaking mathematical models of how a parachute works, and hydrodynamics. Each of these would merit mention in any history of 20th century technological innovation, but this multifaceted genius also created with his associates one of the most innovative autogyros – the Avian 2/180 - which continues to fascinate and engage autorotative imagination in the 21st century.
In 1959, Payne (right) joined with colleagues from Avro Canada to found a new company, Avian Aircraft Ltd located in Georgetown, Ontario, Canada to concentrate on the development of helicopters and autogyros. The company built two prototypes, the first of which, the Avian 2/180A Gyroplane, flew in the spring of 1960. It was a stunning small 2-3-passenger enclosed cabin gyroplane with sleek aerodynamic lines and a short, squat streamlined pylon topped by a three-blade rotor capable of jump-takeoffs and a duct-enclosed two-blade pusher propeller in the rear of the fuselage. The ring or cowl which surrounded the propeller featured a vertical stabilizer in back of the propeller, giving the aircraft a distinctive shape that would be later imitated, in the Delta-V AK-21 autogyro manufactured by Delta-V srl in Moldova in the FSU (former Soviet Union). 3

The Avian also featured a non-retractable tricycle landing gear, disc brakes and a steerable front wheel for ground control. As the design team had judged jump takeoff ability as crucial for commercial success, the first prototype was mechanically distinguished by rotor tip-nozzles for directing compressed air to achieve a torqueless prerotation. The initial compressed air came from a cylinder attached to the fuselage which would be filled in flight by a compressor powered by the engine. But the Avian 2/180A was not a mechanical success. The problems of developing a successful compressed rotor system proved daunting with the prototype, first flying less than a year later in early 1960, 4 suffering severe damage in an accident. Avian then opted for a more conventional proven mechanical prerotator system of a belt drive attached to the engine and engaged by means of a clutch assembly in the second 2/180B prototype.

Three aircraft were produced and about 300 hours of flight-testing accomplished by 1964, when the Canadian government announced that it would fund the additional development and testing for certification. The design was significantly improved with aluminum and fire-resistant fiberglass fairings replacing the 2/180A heavier steel structure, resulting in better performance as cruise speed was increased from 80 mph to 100 mph and an impressive top speed of 120 mph. Although maximum rotor speed was 263 rpm in forward flight, the three blade rotor could be prerotated to 360 rpm to achieve jump takeoffs. When the rotor reached the maximum, the engine was declutched and the blades were collectively placed into an 8 degree positive angle, causing the kinetic energy stored in the rotor blades to lift the Avian into the air.

It was a convincing demonstration of the Avian’s capacity and Canadian certification was granted in 1967 5 or 1968, 6 but the aircraft never entered production. Refining a prototype is a demanding task, and certification can be exhausting, but production is an altogether daunting challenge that has frustrated more than one talented designer, and the Avian fell victim to the estimated cost of production. Although the company advertised and apparently received 116 advanced orders, 7 it was not enough to actually enter production and by 1972 had been placed into receivership and

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- #32 Bay Area Rotorcraft Club  
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- #63 Central MI Gyroplane Club  
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- #17 Minnesota Rotorcraft Club  
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- #35 Saint Louis Rotorcraft Club  
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  (636) 296-7188

**Nebraska**

- #12 Nebraska Rotorcraft Club  
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**New Hampshire**

- #39 Yankee Rotors  
  John Christopher  
  (603) 744-6232

**New Jersey**

- #14 North Jersey Rotorcraft  
  Ralf Schumann  
  (201) 652-6294
subsequently sold to a group of Listorvel, Ontario businessmen led by Harvey Krotz that apparently counted on further government support to enter production. It was not to be, and by January 1977 it was reported that the three remaining Avian prototypes, production rights and plans were available for around $200,000, although it is not known if a buyer was found. The Avian 2/180 disappeared from view, but its fate had been foretold by a British general who had come to observe and report on its potential.

General Peter Mead, C.B.E., then serving as head of the [British] Army Air Corps, inspected the Avian 2/180 in 1963. He observed:

"I saw the [Avian] prototype aircraft make its fifth flight, and was impressed; it was the right sort of size and shape for a reconnaissance aircraft, and has a tried and reliable American engine; it also had the means to give it a 'jump takeoff', in the form of a clutch which could enable the engine to be geared temporarily to the rotor...The firm had recently suffered an unnecessary but disastrous accident, due to the accidental application of full pitch while taxying, which had written off their first prototype; they were enthusiasts to a man, but it seemed unlikely that they would overcome their relative lack of capital and the fact that they were really about ten years too late. Their machine would cost a third or less of the price of a helicopter, and would do most of the latter's role. But it could not hover, with the tactical advantages that hovering brings, and it was unlikely that armies would willingly forego those advantages."9

Pegasus Rotorcraft of Palo Alto, CA subsequently acquired the certification Avian aircraft with manufacturing rights and is attempting to fund its production, so it may yet been seen flying.

Find the endnotes for this article on page 11, left column. PRA is grateful to Bruce for this feature, those which have preceded and will follow, and for volunteering to index the entire archive of PRA magazines back to 1963. Find this terrific new resource in the Members Only section at www.pra.org.
More on Flying the Florida Keys

Last month’s feature by Mark Shook on his Xenon flight in the Florida Keys with his grandson, Cody, brought lots of nice comments, and a few questions, on the Rotary Wing Forum. Mark expanded on his story in response.

"Mark, I especially enjoyed your story about the Keys. I lived in Miami for years and never once made it south on the bridges. You have sparked an interest in my wife and I. Did you make not of any available fuel types down there?" (Brian W.)

There are only a few airports in the Keys. None have unleaded for sale. I used 100LL in the Rotax. It burns both, the difference is oil change in 50 hours, or with 100LL 25 hours. I didn't have any plug fouling problems, but some people have if it is used continuously for many hours.

If you are flying down from central FL (as I did from Fort Pierce) I suggest a fuel stop in Homestead at Robert's self serve. Mr. Roberts is a really nice guy and will let you use his personal van to go into town. I suggest Shivers BBQ on the Dixie HWY (US 1) about 5 miles from the airport...

Find the full thread, with more of Mark's detailed recommendations, in this thread on the Rotary Wing Forum.

Tech: Websites in Winter, Part II

Last month, we looked at some novel features individual PRA chapters have employed on their websites. This month, it’s time to finish up with a couple more, then address the issue of what to do if your chapter has no website.

The Pelican State Rotor Club (PRA 20) in Louisiana has a good example of a basic, informative site which does a better job than most at conveying the fun of flying personal rotorcraft using video. The technique of uploading video to YouTube or one of the other video sites, then embedding it in your own webpage so it opens a player right on the page when clicked, is becoming more popular.

The top one (above) in particular, a compilation from the 2009 Opelousas Fly-In, introduces newcomers not only to some great, fun footage of what it’s like to fly gyroplanes, but also identifies the people in the chapter and their machines. How great would it be to have newcomers showing up feeling they already know the members! Once you get a video uploaded to YouTube, embedding it on your site requires cutting and pasting some HTML code available from the YouTube page itself.
Event Calendar

Note: The Rotorcraft Event Calendar is open to meetings and events of PRA chapters with minimum 45 days notice. Other events of interest to rotorcraft enthusiasts may be included at the discretion of the editor. To submit an event, send event name, sponsoring chapter, dates, times, location, and a URL, e-mail address and/or phone contact to editor@utahrotorcraft.org.

(G) General Aviation Event
(R) Rotorcraft Event

Sun n Fun Fly-In/Expo (G)
Mar 29-Apr 3, Lakeland, FL
Independent event will feature a salute to the Centennial of Naval Aviation, including a performance by the Blue Angels. (Info)

Bensen Days (R)
Sunstate Wing & Rotor (PRA 26)
Apr 6-11, Wauchula, FL
This regional event is focused on gyroplanes, and rivals or exceeded the annual PRA convention in size. (Info)

ARC Days Fly-In (R)
Arizona Rotorcraft Club (PRA 15)
May 14-15, San Manuel, AZ
Second annual event. Info: (520) 840-0186

First Annual CRA Fly-In (R)
Colorado Rotorcraft Club (PRA 38)
Sat., May 21 9am-5pm
Colorado Springs, CO
Meadow Lake Airport. (Info)

Rotors Over The Rockies
UT Rotorcraft Assoc. (R)
(PRA 2)
Jun 9-11, Brigham City, UT
Admission and on-airport camping are free. (Info)

Vertical Challenge (R)
Hiller Aviation Museum
Jun 18, San Carlos, CA
Helicopter-oriented airshow in its 12th year. (Info)

And last, but certainly not least, The Carolina-Georgia Rotors & Wings Club (PRA 13) has a site which includes a humor page! If you decide to go in this direction, be sure you have a policy regarding the propriety of the content.

What? No Website?

The internet has made many paper-based directories and listings nearly obsolete. Most people with access to a computer will look there first for casual research into a new interest. If your chapter does not have a website, you’re at a growing disadvantage in attracting new members and keeping existing ones engaged. While a flashy, highly interactive site may be able to do more than a simple one, even a very simple one which emulates a paper flyer or pamphlet is a big step up from nothing. Having a basic web presence is not expensive, and unless you’re on dial-up, your internet service provider probably offers enough online storage space to host a simple website free as part of your basic account.

These personal pages won’t allow enough capacity to build elaborate sites, but they’re plenty big enough for the basics. You may be surprised at how much functionality you can add by embedding or linking to photos, videos and other content which actually resides on YouTube, PhotoBucket, or other websites. If you have access to space as part of your basic account, you’ll need the ability to give it a name, or URL (Universal Resource Locator) that will make it easy to find. Registering something like pra33.org can be done for as little as $10-15 per year, used to connect to the free space you got with your service to its new, easy-to-remember new name.

If you don’t want the limitations of such an arrangement, and have a little bit of budget, full-featured hosting deals are very inexpensive. Chapter 2’s site, as an example, is hosted by IPowerWeb. It includes email, (secretary@utahrotorcraft.org) as an example,) unlimited storage and monthly file transfers, and costs $8/month. (An introductory deal can lock in $6/month for two years, including free URL registration.) These accounts allow tracking statistics, which can help refine how you promote your site, and can even tell you how people find your site. A detailed comparison or directory of such hosting services is beyond the scope of this article, but lots of options can be found through a Google search.
Some web hosting services (IPOWERWEB is one) allow sharing one hosting deal among multiple organizations. This could be a great idea for multiple PRA chapters within a region, multiple organizations and companies on the same airport, or any combination of entities which could benefit from sharing common content. Content uploaded by one chapter could become available simultaneously in a common library for access from all conjoined websites. It might require some help from someone savvy in organizing web pages to take full advantage of this, and might work best if one webmaster handled all sites, but it could be worth a look.

If you feel overwhelmed by this whole topic, and don’t know where to start, ask the wallflowers at your chapter if they have basic web skills. This is an ideal way to involve a member who is not currently flying or building an aircraft. It doesn’t have to be expensive - the Chapter 2 website (like this e-zine) is created completely within the open source OpenOffice word processor, which can publish in both HTML and PDF. Some adult education classes offered through community colleges can teach you the basics of website design and maintenance using dedicated website management software. And if all else fails, ask your 14-year-old kids or grandkids. You’d be surprised what they can do!

Carter PAV Flies Over Texas

Paul Plack, Editor

The Carter Personal Air Vehicle prototype (right) has been flying over Wichita Falls, TX. I got to interview Jay Carter, Jr. on Tuesday, January 18 about the progress of the project, on what turned out to be the day of the machine’s first jump takeoff with Larry Neal (of The Butterfly, LLC) at the controls. Here is some selected Q&A.

PP: Jay, first, how did we get here from the original Carter Copter?

JC: Well, this is basically the same aircraft...what we learned on the first aircraft we’ve applied to a second aircraft. This one will probably be twice as efficient as the first aircraft, and the first aircraft had achieved an efficiency one-and-a-half times better than the best helicopter in the world has ever achieved. Our primary focus on the second aircraft was really to go after peak efficiency, and to make it a lot simpler to fly, make it a lot safer, and start to look at commercial applications.

This aircraft has applications both as a four-place kitplane, and also as a UAV for the military through AAI, who has a license for the UAV aircraft.

PP: The very abbreviation "PAV," personal air vehicle, suggests that this is tied in with the vision that many people have of the widespread adoption of personal flying machines that don’t require an airport. Is that still part of the overall vision?

JC: Absolutely. We have the ability to take off and land vertically, and yet fly as fast and efficiently as general aviation aircraft, so all that combined in one aircraft makes for a very attractive, versatile aircraft. That’s our goal, to make this thing so simple to fly, and so safe to fly, that people with a drivers license will have a real interest in getting into flying again.

PP: You have a licensing agreement with AAI...you also had an economic development agreement with Wichita Falls which called on you to achieve certain milestones. Tell us how you're going along that timeline, and are they happy?
Regional Reps

The PRA Regional Representative Program provides a liaison between groups of chapters in various regions (below) of the US and the board of directors. Reps are nominated from among active PRA members in each region, and elected by the member of the chapters.

Currently, four regions have reps (below with chapters):

- Western/Pac - Jeff Jones (1)
- NW/Mtn - Paul Plack (2)
- Southern - Jon Carleton (13)
- Southwest - Steve Weir (62)

If your chapter is located in one of the other regions, find and elect a rep in 2011!

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PRA Discounts

The following PRA partners are offering discounts to members in good standing. Access them in the Members Section at pra.org.

- Bob Miller Flt Traing - 22%
- Falcon Insurance – 5%
- FlyAgainParts.com - Free
- Rotor Flight Dynamics – 2% on Dragon Wings rotors; 5% on all other products.

Discounts may not be combined with other discounts, coupons or specials, and may change without notice.

JC: They're happy, we're happy, that's a good relationship. Basically, they came up with a certain funding level and said, "If you meet these milestones, we will fund you to the tune of about four million dollars to give you an economic incentive to stay in the Wichita Falls area. We've met...three milestones, so we're right on track with what we had set out to begin with.

PP: The first real test flight was made on January fifth. How many flights have been made as of the 18th?

JC: I'm gonna say we've probably made at least a hundred flights so far. Most of those flights, though...except for two, three flights, were all just takeoffs and flights down the runway. And then on the fifth, we did a 36-minute flight, which was one of the milestones for the City of Wichita Falls. Since that time we've focused on the vertical takeoff and landing aspects, and bringing Larry (Neal, right) up to speed...he's never done jump takeoffs before.

Today (January 18) was our first zero-roll. We've done some jump takeoffs, where we just roll down the runway real slow, then pop collective and jump in the air based on stored-up energy in the rotorblade, but today was the first day we've done a true, zero-roll, jump takeoff.

PP: Is there any thought on when that might start happening? 'Cause at this point, you probably got a couple people sitting on the edges of their chairs.

JC: We actually have over 40 deposits, but we haven't told them what the final price will be, so at this point their deposits are all refundable. As soon as we know for sure what the price will be...we'll make that announcement, and we'll start taking additional orders on the kitplane version.

PP: Is Dad (Jay Carter, Sr.) excited about this?

JC: (Laughs) Yeah! In fact, he was out here today to watch our jump takeoffs! This is pretty exciting stuff, it really is.

Chapter 2 was fortunate to have Jay Carter, Jr. as a presenter in its 2009-2010 Winter Webinar Series on February 13, 2010. Titled, "Carter's Unique Aviation Technologies," the webinar provided an amazing look at what makes the PAV tick, including details of the rotor and its speed governor, suspension, and other technical details, construction photos, and info on the original Carter Copter. A video (still frame at right) can be watched from Chapter 2’s home page at www.utahrotorcraft.org.
CFI Scholarships

Many PRA members haven’t been with the organization long enough to remember that it once offered a program to help CFIs with the costs of making training available. With attrition among active gyro instructors becoming a concern, a return of such a program is being prioritized.

PRA President Scott Lewis has developed a draft document for the "PRA CFI Support Program." The goal is to recruit sponsor manufacturers willing to subsidize the sport through discounted training aircraft and ongoing support, team them with other sponsors providing cash or in-kind support to equip and operate the machine, and make the trainer available to a CFI needing a two-place machine with up to $10,000 in loan assistance.

Applications from PRA member CFIs would be accepted via PRA Chapters in good standing. Competing applications would be evaluated for their relevance to the needs of the sport. The instructor would agree to a lien on the machine to protect the interest of PRA, and commit to a minimum schedule of event appearances, introductory flights and training quotas. As those requirements are met, the loan is forgiven.

Details have yet to be finalized, so if you have comments or ideas, get in touch with a PRA director. Correspondence on PRA programs and proposed initiatives are also welcome for discussion in upcoming issues of Rotorcraft.

The first award will be made in 2011 as funds allow. As details develop, they’ll be reported here, and posted at the new www.pra.org.

Three-State PRA Chapter Meet
Rudy Graffeo

On Saturday the 16st of October 2010, three PRA Chapters met in Bastrop, Louisiana at the Morehouse Memorial Airport. For years the Louisiana and Arkansas chapters try to get together once a year at a central location. This year we were glad to hear that several folks from PRA Chapter 62 would come to the event. So we had representation from:

PRA Chapter 6/Arkansas
The Mid-South Rotorcraft Club

PRA Chapter 20/Louisiana
The Pelican State Rotor Club

PRA Chapter 62/Texas
The Lone Star Rotorcraft Club

We all agree this airport is the best place, not only for its location but friendly atmosphere. This includes the town as well as the airport personnel since we stay in the local motels and eat at the local restaurants. Special thanks to the airport manager, Brent Elton, who made room for our machines in his hanger, and saw that all our needs were met. Brent and another mechanic at the airport were most helpful with a few repairs.

The weather was sunny, no rain. The temperature in the day rose into the 80s, which gave us some bumpy flying, and dipped into the 50s at night.

Many of us arrived during the day on Friday to set up camp. On the field we had 1 motor home and 2 tents, while another person slept in the hanger near his gyroplane. The others reserved motel rooms in town. After supper on Saturday about half of us stayed the night.
**Classified Ads**

**Gyroplanes for Sale**

**Bensen-Style Gyro** - Dropped keel, cleaned, rebuilt, refurbished. 22' alum. blades; Subaru EA-81, Warp Drive 3-blade prop, electric prerotator, 12" mains w/ brakes. Two 6.6-gal. tanks. Original kit was mfg by Knight Hawke, Epson NH. Sold as parts, liability release req’d. $6,900. Michael Perdue, Marion VA. (276) 782-7889.

**For Sale, Miscellaneous**

New 90 HP Mac engine has never been started. Inspected and upgraded by Red Smith at R&D Engineering, new R&D prop included. $4,000 invested, asking $3,000 OBO. Ken Brock KB-2 with 72 Mac with electric starter. Joe Souza Bandit one-place. Fresh Subaru EA81 with gearbox and Prince P-tip prop, 110+ HP. New Rotordyne blades. Losing my eyesight so I am selling. Contact Jim, (805) 239-9713 for more info.

**Effective with the March, issue, classified ads are FREE to PRA members!**

Ads may be 400 characters max, and feel free to submit a single JPEG photo with each ad to be used as space allows. Classifications for ads include Gyroplanes for Sale, Helicopters for Sale, For Sale-Other, Wanted to Buy, and Miscellaneous. Ads will run for three consecutive issues, then must be renewed. Submit to editor@utahrotorcraft.org. Be sure to include PRA member number. If e-mail is not available, call (574) 353-7227.

We had several guests attend to see what gyroplanes are all about and at this event they had plenty to see. There were Benson, Brock, Dominator, Butterfly, Air Command, Sparrowhawk and RAF gyros. As for engines we had Rotax, Continental, Volkswagen, Subaru, McCulloch and Compact Radial. Also many different pre-rotator options were present. We had 14 flying gyros, 3 gyroplanes on display and 1 gyro glider for a total of 18.

This year Chapter 20 brought out of storage the Benson Gyroglider (above), built several years ago by Rod Reed and James Chowns to train chapter members. All day Saturday the glider was flown by James while he gave simple instruction to the principle of rotor management. The airport has a 4,000' runway with a full length taxiway; this is perfect for towing the glider. Rudy was able to give rides to one girlfriend and one wife so they could see why the guys were always talking about flying gyroplanes.

We had two of our gyroplane pilots fly over in their airplanes, Mike Gaspard in his newly acquired Cessna 140 & Jeff Breville in his Glasair. Jeff showed us the speed of his aircraft as he did a low flyby while leaving. Cliff Massey stopped by on his way back from a trip he took to Illinois. He had 3 gyroplanes on his trailer that he picked up in Illinois.

Usually we have lunch at the hanger and go to a local restaurant for a sort of banquet supper. This year we tried something different, for lunch Bill picked up some pizzas but for supper we decided to cook at the hanger. We grilled rib eye steaks, twice baked potatoes, mixed vegetables, coleslaw, garlic bread & cake brownies for desert. Walt Backer and Mark Carmouche grilled the steaks, Lisa Graffeo made the potatoes, and Janice made the coleslaw and brownies. We had 31 people eat while we listened to the LSU game on the radio. We charged $10 per plate; all we did was cover the expense of the food and drinks.

*Rudy, thanks for taking the time to get us some accounts and photos of this event. Looks like a great time! Rotorcraft welcomes submissions both before and after your event. Next month - on to Bensen Days!*