

AMERICAN
BONANZA
SOCIETY





AMERICAN
BONANZA
SOCIETY

September 2014 • Volume 14 • Number 9

ABS Executive Director
J. Whitney Hickman

ABS-ASF Executive Director & Editor
Thomas P. Turner

Assistant Editor **Managing Editor**
Melissa Frisbie Jillian LaCross

Technical Review Committee
Tom Rosen, Stuart Spindel, Bob Butt
and the ABS Technical Advisors

Graphic Design
Joe McGurn and Ellen Weeks

Printer
Village Press, Traverse City, Michigan

American Bonanza Society magazine (ISSN 1538-9960) is published monthly by the American Bonanza Society (ABS), 1922 Midfield Road, Wichita, KS 67209. The price of a yearly subscription is included in the annual dues of Society members. Periodicals postage paid at Wichita, Kansas, and at additional mailing offices.

No part of this publication may be reprinted or duplicated without the written permission of the Executive Director.

The Society and Publisher cannot accept responsibility for the correctness or accuracy of the matters printed herein or for any opinions expressed. Opinions of the Editor or contributors do not necessarily represent the position of the Society. Articles or other materials by and about organizations other than ABS are printed in the American Bonanza Society magazine as a courtesy and member service. Except as expressly stated, their appearance in this magazine does not constitute an endorsement by ABS of the products, services or events of such organization. Publisher reserves the right to reject any material submitted for publication.

Annual Membership Dues:

- Domestic (US/Canada/Mexico)—\$65 (US)
- Two Year Domestic (US/Canada/Mexico)—\$124 (US)
- International—\$103 (US)
- International (online magazine only)—\$65 (US)
- Two Year International (online magazine only)—\$124 (US)
- Additional Family Members—\$27 each
- Life membership—\$1200

Contact ABS Headquarters for details.

Postmaster: Send address changes to American Bonanza Society magazine, P.O. Box 12888, Wichita, KS 67277-2888. © Copyright 2013.

Send Articles/Letters To: American Bonanza Society Magazine Publication Office, P.O. Box 12888, Wichita, KS 67277, Tel: 316-945-1700, Fax: 316-945-1710, E-mail: absmail@bonanza.org, Website: <http://www.bonanza.org>. Please note: Copy & photos submitted for publication become the property of the Society and shall not be returned. Articles submitted with pictures receive publication preference.

The American Bonanza Society serves Beechcraft enthusiasts by sharing valuable safety, technical, and educational resources, and by promoting interaction among and advocacy on behalf of its members.

Contents



ABS

- 2 **President's Comments:**
ABS Honors Richard Swenson
by Bob Goff
- 4 **Operations**
by J. Whitney Hickman
& Thomas P. Turner

FLYING

- 10 **On the Cover:**
Fifty Years in the Family
N5050X 1952 C35
by Doug Grevatt
- 28 **Baron Pilot: Baron Electric Regulator Systems**
by Thomas P. Turner



OWNERSHIP/MAINTENANCE

- 16 **Safety Pilot: You Probably Ought to Replace That**
by Thomas P. Turner
- 20 **Avionics: Avidyne's IFD540** by Geoffrey Ring
- 24 **Insurance: Understanding Your Aircraft Insurance Policy**
by John Allen
- 30 **Beech on a Budget:**
The Ignition Harness "Looked" Just Fine by Mike Caban
- 42 **BPPP: Inspection, Maintenance, and Repair** by Thomas P. Turner
- 44 **Member Opinion:**
Aviation Ground Power System from Audio Authority
by Thomas A. Smithhisler
- 50 **Odds and Ends**
by Geary Keilman
- 54 **Hosting ABS Service Clinics**
by Bob Ripley
- 56 **My Twelve-Dollar Battery Capacity Tester** by Mike Fagan
- 60 **Tech Talk: Green Means Stop – Right Now!** by Dick Pedersen



DEPARTMENTS

- | | | |
|-------------------------|----------------------------|-------------------------------------|
| 34 Regional News | 66 Tech Tips | 79 Events Calendar |
| 39 Surly Bonds | 70 New Life Members | 80 ABS Contacts |
| 48 Forum | 73 Classified Ads | 80 Display Advertising Index |
| 62 Forum | 78 ABS Board | |





ABS President's Comments

ABS Honors Richard Swenson


By Bob Goff

As president of the American Bonanza Society, one of the enjoyable tasks I have is honoring our own for their contributions to ABS that help make our organization the world's largest and most successful Type Club.

This year at the ABS Tuesday night barbecue dinner in Oshkosh, the American Bonanza Society and the ABS Air Safety Foundation honored member Richard (Dick) Swenson for his philanthropic support of the Air Safety Foundation. Dick is an ABS Life Member and has been an ABS member for nearly 50 years. His membership number is 435, among the original group that joined in the first year of the newly founded American Bonanza Society.

For many years, Dick has made generous and substantial financial contributions to ABS/ASF each year. His gifts are to be used specifically for ABS's ongoing pilot training programs. Dick gives these contributions in honor of his long-time friend, BPPP founder Sam James. Sam created and led BPPP as a volunteer, and ABS's highest award, the ABS Sam James Volunteerism Award, is named in his honor.

A framed, limited edition print by Michigan artist Jim Dewildt was given to Dick in honor of his many contributions to ABS. Dick was unable to attend this year's dinner. Accepting this honor on Dick's behalf was his good friend, Jim Usher of Fort Worth, Texas.

The generous contributions Dick Swenson and many others have made helps keep our Society financially healthy and allows us to continue current programs as well as establish new ones – all to make us better and safer pilots. 



This photo was taken a couple of years ago. Seated on the right is Dick Swenson. Next to Dick is Jim Usher. Standing is ABS Executive Director Whit Hickman.

Bob Goff is a retired businessman and has been an active ABS member and Life Member for more than 25 years. He flies a 2014 G36.



2014 EAA AirVenture Oshkosh Recap

by J. Whitney Hickman

ABS has been very visible to the membership during the last four months. First we were in Lakeland, Florida, at Sun 'n Fun, then hosted the ABS Homecoming in Wichita, and we just finished with a great week at EAA Oshkosh. The next stop will be Santa Rosa, California, for the ABS Fly-In and Annual Meeting, September 11-14. These are my favorite events as we get to visit and talk with our members on a personal level.

We arrived in Oshkosh on Saturday morning just in time to watch the B2OSH arrival from Rockford, Illinois. It's always impressive to witness the Beechcraft mass arrival and see them taxi to the North 40 to camp for the week. I am happy to say that 110 airplanes touched down without incident. Well done!

At Oshkosh, 694 ABS members signed the register in our tent, an increase in attendance over last year by 66 members. What a great turnout!

Free popcorn, water, and soda were available at the ABS hospitality tent. Members and guests were able to step out of the sunshine, rest their legs, meet old friends, make new ones, and watch the daily air show. Attendance overall for the EAA event was up six percent with a 20 percent on the weekend, according to EAA. I did notice fewer exhibitors than in past years, however, reports are saying exhibitors did very well. The USAF Thunderbirds performed Friday-Sunday. It was a great show and definitely helped boost attendance. Melissa, Tom, and I were available to answer membership and program questions, renew existing members, sign up new members, and sell merchandise. ABS Technical Advisors Bob Ripley and Curtis Boulware were very busy answering members' technical questions and participated in the member forums and seminars, which were very well attended.



Jay Burris, incoming ABS board member, greeting members at the ABS hospitality tent.

ABS hosted its annual dinner on Tuesday evening at the Hilton Garden Inn. The dinner was co-sponsored by long-time ABS supporters D'Shannon Aviation and RAM Aircraft, with 310 members and guests in attendance. The evening was highlighted by ABS President Bob Goff's presentation of a Beech painting to Dick Swenson, Life Member and long-time philanthropic supporter of the ABS Air Safety Foundation. Dick's numerous contributions to ABS are greatly appreciated. Accepting on Dick's behalf was ABS member Jim Usher. Thank you, Dick, for your generous support in memory of BPPP founder Sam James.





Christina Olds was our guest speaker. She's a resident of Santa Rosa, California, and is the executive director of the Pacific Air Museum at the Charles M. Schulz-Sonoma County Airport. She frequently travels to speak at aviation museums and air shows around the country. Her father, Robin Olds, retired in 1973 from the Air Force as a brigadier general. While caring for her father during his terminal illness, Christina promised to complete his half-written memoirs from his gathered notes. After Robin passed away on June 14, 2007, she spent the next two years researching and writing the book, including interviewing veterans who flew with her father in World War II and Vietnam. The book is called *Fighter Pilot: The Memoirs of Legendary Ace Robin Olds*. Christina will join us on Saturday evening at the ABS Fly-In Santa Rosa for a full program lecture with slideshow.

Thank you to all of the members who visited our hospitality tent, the volunteers and Board of Directors, staff, and especially Melissa for managing the event (her first year). Lauren and Coy conducted business as usual at headquarters while we were gone. We hope you will join us in Sonoma County, September 11-14, for the ABS Fly-In and Annual Meeting. Please visit the ABS website or call 316-945-1700 for more details.

EAA & ABS by the Numbers

- EAA Attendance reached above 500,000 for the week – 6 percent increase over last year and 20 percent better on Saturday and Sunday.
- 10,000 airplanes flew into the Oshkosh area.
- The number of show planes was 2,649 – over 300 more than last year.
- 694 ABS members signed the registry – 66 more than last year.
- 310 ABS members and guests attended the dinner on Tuesday evening – 20 more than last year.
- 110 airplanes flew B2OSH
- 28 new members
- One new life member
- One ABS display plane, a V35B (the last serial # made)



Whit Hickman, ABS Executive Director, listening to Old Bob and Thelma Jean Siegfried.



ABS POH Library

By Thomas P. Turner



The ABS Online Pilot's Operating Handbook (POH) library is now complete. *Fifty-eight unique Bonanza, Debonair, Baron, and Travel Air pilot manuals are available* for study and download onto your iPad or other documents management system.

Textron Aviation has kindly provided ABS and the ABS Air Safety Foundation permission to post these downloadable, searchable PDFs of its copyrighted *Pilot's Operating Handbooks* (POHs) for use by members of the American Bonanza Society and instructors in the Beechcraft Pilot Proficiency Program (BPPP) and the ABS Flight Instructor Academy. Beechcraft has provided *Aircraft Owner's Manuals* for models for which Beech never created a POH.

To access and download these manuals:

- 1 Log onto www.bonanza.org using your ABS Member's Only credentials.
- 2 Scroll over MAINTENANCE AND OPERATION at the top of the menu in the left column.
- 3 On the pullout menu that results, click on PILOT'S OPERATING HANDBOOKS.
- 4 Click on the link to the manual or manuals you wish to view or download.

Each distinct *Pilot's Operating Handbook* or *Aircraft Owner's Manual* has a dedicated landing page. From there you may access the full manual in a single document, or each individual section of that manual. Many pilots find it's easier to manage the manual by individual section using some document management software.

Information is presented for educational and instructional use only. Refer to the *Pilot's Operating Handbook* or *Aircraft Owner's Manual*, as appropriate, for the airplane being flown for flight planning, operating and supplemental information. ***These are the manuals now available in the ABS POH Library:***

Model 35 Bonanzas

- Model 35 Bonanza D-1 through D-1500 (1947 and 1948 models)
- A35/B35 Bonanza D-1501 through D-2680; D-15001 (1949 and 1950 models)
- C35 Bonanza D-2681 through D-3292; D-3294 through D-3400 (1951 and 1952 models)
- D35 Bonanza D-3401 through D-3698 (1953 model)
- E35 Bonanza D-3293; D-3699 through D-3998 (1954 model)
- F35 Bonanza D-3999 through D-4375; D-4377 through D-4391 (1955 model)
- G35 Bonanza D-4376; D-4392 through D-4865; D-15002 (1956 model)
- H35 Bonanza D-4866 through D-5061; D-5063 through D-5330 (1957 model)
- J35 Bonanza D-5062; D-5331 through D-5725 (1958 model)
- K35/M35 Bonanza D-5726 through D-6561 (1959 and 1960 models)
- N35/P35 Bonanza D-6562 through D-7139; D-7141 through D-7309 (1961 through 1963 models)
- S35 Bonanza D-7140; D-7310 through D-7976 (1964 and 1965 models)
- V35/V35A/V35B Bonanza D-7977 through D-9947 (1966 through 1976 models)
- V35TC (Aircraft Owner's Manual: 1966 and 1967 V35s factory-turbocharged per STC SA1035WE)
- V35A-TC (Aircraft Owner's Manual: 1968 and 1969 V35As factory-turbocharged per STC SA1035WE)
- V35B-TC (Aircraft Owner's Manual: 1970 V35Bs factory-turbocharged per STC SA1035WE)
- V35B Bonanza D-9948 through D-10403 (1977 through 1982 models)



Model 33 Debonairs & Bonanzas

- 35-33 Debonair CD-1 through CD-224, CD-233, CD-234, CD-236, CD-241, CD-246-250 (1960 model)
- 35-A33 and 35-B33 Debonair CD-225 through CD-232, CD-235, CD-237 through CD-240, CD-242 through CD-245, CD-251 through CD-813 (1961 through 1964 models)
- 35-C33 Debonair and E33 and F33 Bonanza CD-814 through CD-981, CD-983 through CD-1254 (1965 through 1971 models)
- 35-C33A Debonair and E33A and E33C Bonanza CE-1 through CE-289, CJ-1 through CJ-25 (1966 through 1969 models)
- F33A Bonanza CE-290 through CE-673; F33C Aerobatic Bonanza CJ-26 through CJ-128 (1970 through 1976 models)
- F33A Bonanza CE-674 and after; F33C Aerobatic Bonanza CJ-129 and after (1977 and later models)
- G33 Bonanza CD-1255 through CD-1304 (1972 model)

Model 36 Bonanzas

- 36 and A36 Bonanza E-1 through E-926 (1968 through 1976 models)
- A36 Bonanza E-927 through E-2110 except E-1946 and E-2104 (1977 through 1983 models)
- A36 Bonanza E-1946, E-2104, E-2111 through E-3629 and E-3631 through E-3635 (1984 through 2005 models)
- A36TC Bonanza EA-1 through EA-272 except EA-242 (1979 through 1981 models)
- B36TC EA-242, EA-273 through EA-388 except EA-320 (1982 and 1983 models)
- B36TC EA-320 and EA-389 and after (1984 through 2002 models)
- G36 Bonanza E-3630, E-3636 and after (2006 and later models)

Model 55 Barons

- 95-55/95-A55 TC-1 through TC-349, TC-351 through TC-370, TC-372 through TC-501 (1961 through 1963 models)
- 95-B55/B55A TC-371, TC-502 through TC-1607 (1964 through 1973 models)
- 95-B55/B55A TC-1608 through TC-2002 (1974 through 1976 models)
- 95-B55/B55A TC-2003 and after (1977 through 1982 models)
- C55/C55A/D55/D55A/E55/E55A TE-1 through TE-942 except TE-938 (1976 through 1973 models)
- E55/E55A TE-938, TE-943 through TE-1083 (1974 through 1976 models)
- E55/E55A TE-1084 through TE-1196, TE-1198 through TE-1201 (1977 through 1982 models)
- E55/E55A TE-1197 only (1982 model)

Model 56 Barons

- 56TC TG-1 through TG-68 (Aircraft Owner's Manual: 1967 through mid-1968 models)
- 56TC/A56TC TG-69 through TG-94 (Aircraft Owner's Manual: Late 1968 through 1971 models)

Model 58 Barons

- 58/58A TH-1 through TH-772 (1970 through 1976 models)
- 58/58A TH-773 through TH-1395 except TH-1389 (1977 through 1983 models)
- 58/58A TH-1389, TH-1396 through TH-1471, TH-1476, TH-1487, TH-1489 and TH-1498 (1984 through mid-1985 models)
- 58/58A TH-1472 through TH-2124 except TH-1476, TH-1487, TH-1489 and TH-1498 (Mid-1985 through 2005 models)
- G58/G58A TH-2125 and after (2006 and later models)
- 58TC/58TCA TK-1 through TK-84 (1976 through 1978 models)
- 58TC/58TCA TK-85 through TK-150 except TK-147 (1979 through 1983 models)
- 58TC/58TCA TK-147, TK-151 (1984 model)
- 58P/58PA TJ-2 through TJ-84 except TJ-46, TJ-55 and TJ-83 (1976 model)
- 58P/58PA TJ-46, TJ-55, TJ-83, TJ-85 through TJ-168 (late 1976 through 1978 models)
- 58P/58PA TJ-169 through TJ-443 except TJ-436 (1979 through 1983 models)
- 58P/58PA TJ-436, TJ-444 through TJ-497 (1984 and 1985 models)

Model 95 Travel Airls

- 95 TD-2 through TD-302 except TD-127 (Aircraft Owner's Manual: 1958 and 1959 models)
- B95 TD-303 through TD-452 (Aircraft Owner's Manual: 1960 model)
- B95A TD-453 through TD-533 (Aircraft Owner's Manual: 1961 and 1962 models)
- D95A TD-534 through TD-707 (Aircraft Owner's Manual: 1963 through 1967 models)
- E95 TD-708 through TD-721 (Aircraft Owner's Manual: 1968 model)




BPPP Online now available with or without flight instruction

Many members have asked to enroll in BPPP Online without committing to BPPP flight instruction. Now you can! Choose BPPP Online+Flight (including up to four hours of flight instruction with a BPPP CFI near your home) for the same low \$495, or BPPP Online (without flight) for \$150. You may add-on the flight training later if you wish (\$395 extra), but the bundled price is lower.

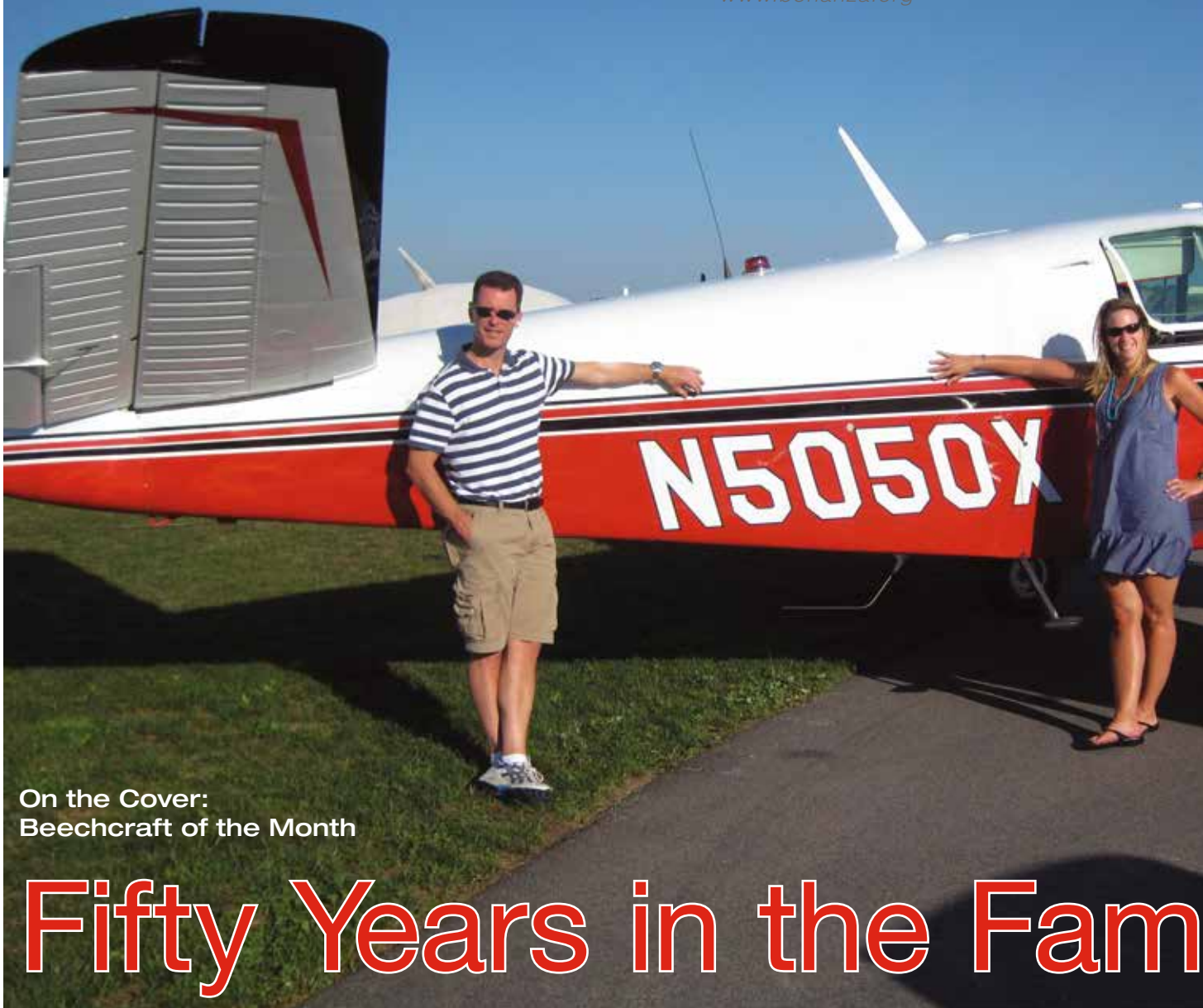
Add the Beechcraft Systems, Procedures, and Techniques course (“BPPP Initial”) or the Beechcraft Pilot Skills Enhancement course (“BPPP Recurrent”), with or without flight instruction, to your ongoing pilot training regimen. See PILOT TRAINING/BPPP at www.bonanza.org.

BPPP LIVE Houston, Texas

ABS Air Safety Foundation presents BPPP LIVE in Houston, Texas, November 14-15, as part of the Southwest Bonanza Society Fly-In. BPPP instructors will be teaching classes held Friday afternoon and Saturday morning, to complement the SWBS social events. Tuition for BPPP LIVE is free but we request a \$50 to \$200 tax-deductible donation to the ABS Air Safety Foundation to cover ABS’s expenses. Add BPPP flight instruction for only \$395 by choosing ADD FLIGHT INSTRUCTION at www.myopango.com/bppp.online, then contact a BPPP flight instructor to schedule. See www.southwestbonanza.org for more information and to register for the SWBS Fly-In at Houston, Texas. 



Thomas P. Turner
Executive Director
asf@bonanza.org



On the Cover:
Beechcraft of the Month

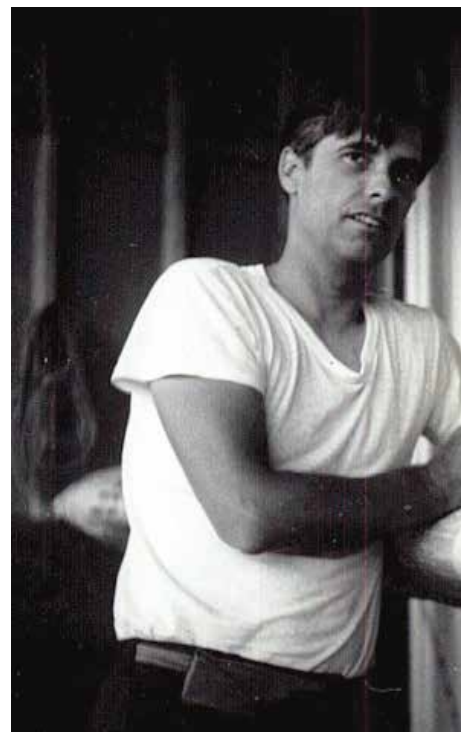
Fifty Years in the Fam

N5050X 1952 C35

By Doug Grevatt, Norwalk, Connecticut

During the summer of 1964, my mom was growing weary of the hours spent perusing that yellow newspaper we all know so well in search of a good aircraft. On the drive to go see one particular airplane, my mother nonchalantly said to my father, “If it’s red, buy it.”

I am sure angels could be heard singing and a warm glow emanated from behind that V-tail as the hangar doors slid open to reveal – in all its redness – what would become a member of the family for 50 years.



I take a certain amount of pleasure answering the “how long have you had it?” question with “all my life ... sort of,” and seeing the perplexed look on the asker’s face. N5050X and I go way back. Fifty X came into the family five years before me, in August of 1964. I had my first airplane ride in this very airplane when I was two weeks old. It’s only fitting to commemorate its 50th year in the family with a “Beechcraft of the Month” submission.

N5050X left the factory as N1879D. It was purchased by the Heathkit Company in Benton Harbor, Michigan, through 1930s air racing pilot Roscoe Turner’s Beech dealership. Logbook #1 reveals it was a working airplane that flew several times each week. After Heathkit sold N1879D, it went through several owners in the Midwest. One was a partnership of two individuals that changed the tail number to N5050X, presumably reflecting their respective half shares. Sadly, there



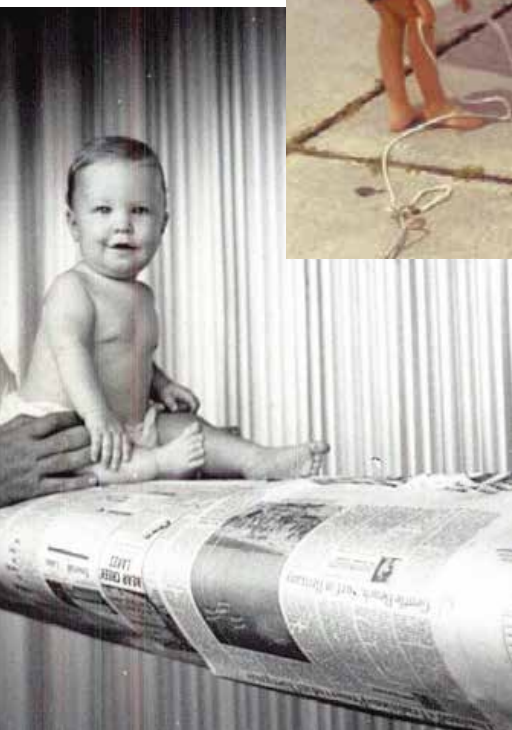
Fifty X took my parents on many fun trips, including one to the first ABS Convention in Wichita in the summer of 1969. Mom was pregnant with me at the time, so I am going to claim I was there. I have many memories growing up at the airport working on the plane with my father, Marston “Skip” Grevatt, ABS #76. My childhood assignment of climbing into the baggage compartment to remove the 42 bulkhead screws is one such memory that comes back every year at annual time. My flight department runs lean, so to keep payroll low I still have my childhood duties such as sumping the fuel tanks and removing and installing all 42 of those screws.

Dad paid for my initial flying lessons through solo as a high school graduation gift. College, full-time employment, a home purchase, and graduate school kept me busy enough to put flying on the back burner. I finally got back to flight training and completed my Private Pilot certificate without telling Dad. My first flight as a licensed pilot was to the airpark where my parents live, to surprise him. I still can’t believe I managed to keep it a secret. It took a while for him to come to grips with the fact that I had just taxied a 152 up to the hangar on his home. He had no idea what I had been doing. I also haven’t told him I am submitting this, so I hope he gets a kick out of seeing “Nifty-Fifty” on the cover of the *ABS Magazine*.

ily



was a landing gear “event” (there, but for the grace of God, go I) at Meigs Field in Chicago. Fifty X was purchased by Dan Towery and flown (with the gear locked down we’ve been told) to Delaware from Meigs for repairs. Dad bought the airplane from Dan. I recently met Dan and his son, also Dan, at Oshkosh. They both remembered the airplane well.





EQUIPMENT LIST

Continental E-225-8

Beech electric propeller with original
factory Flight Research Auto Prop Control

Garmin GNS430W

King KX155 w/GS

Garmin GTX327 transponder

Garmin GPSMap396 with XM weather

PS Engineering PMA7000MS audio panel
with intercom

S-Tec 30 autopilot with GPSS

Castleberry electric attitude indicator

UBG16 engine monitor with fuel flow, low
vacuum alarm, and data recorder

Whelen Parametheus LED landing lights
with max-pulse flasher

ACK 406 MHz ELT interfaced with
GNS430W

Evaporative ("swamp") cooler

20-gallon aux tank

BAS shoulder harnesses

D'Shannon 20-gallon tip tanks

After the private certificate, I quickly set out to build time and get my instrument rating. With that complete, Dad wanted me to get a checkout in the Bonanza. I did the 10-hour checkout over three days with my dad riding in the back seat and a whopping total of 167 hours logged time under my belt. I was very nervous! Despite having logged many hours sitting in the left seat "flying" the airplane in the hangar as a kid, making my first landing with my father in the back seat was one of the most stressful experiences of my life.





Spending time with my dad working on the airplane over the years motivated me to pursue a mechanical engineering degree, as he had done. It has also been an excellent classroom for important life lessons on patience, thinking things through, and insistence on doing things properly. I had no expectations of receiving any awards when I had the airplane judged on its first trip to Oshkosh in 2008. I was shocked to learn we had won a Bronze Lindy. When asked by one judge why I didn't have a photo book of the restoration, I had to concede that the airplane had never been restored – just maintained through the years. The judge nodded his head and commented they could usually tell when a plane was owner-maintained due to the extra attention to the details.




I firmly believe that Dad's high standard of care, that I do my best to continue (under A&P IA supervision), was evident to them. It was quite a thrill to call Dad to tell him about the award.

I broke the rule about *never* buying an airplane without a pre-purchase inspection, but it seems to be working out okay for me (knock on wood). Since I took over the care and feeding of Fifty X, there have

been some improvements added. I have tried to keep it a period piece, so it remains how I remember it as a kid, while adding capability for real-world operations. The E-series airplanes have a reputation for being a challenge to keep in the air, but I have the benefit of not knowing any better. I have developed an inventory of the tough-to-find things (electric propellers and associated parts, E-series engine parts, etc.) to help keep things going long term. I have been accused of secretly constructing another airplane part by part. Hey, Johnny Cash got his Cadillac one piece at a time and it didn't cost him a dime!

My wife, Elisa, our dog, Lola, and I have completed many trips from Connecticut to her hometown outside Kansas City, Missouri. The addition of the tip tanks in November of 2013 allowed us to make the last flight home in 5 hours 36 minutes non-stop. Traveling in the Bonanza has been a pleasure for us as it was for my parents. I am very lucky to be able to continue caring for this airplane that safely transported the family for 50 years. It often repays me with memories from my youth.

Happy 50th anniversary of being in the family, Fifty X! 

Safety Pilot

You Probably Ought to Replace That

By Thomas P. Turner

I was teaching the preflight inspection of an A36 Bonanza with a pilot completing BPPP. When we opened the right side engine cowling I found the #5 cylinder's injector line loose at the point it crosses a rectangular bracket between the flow divider and the cylinder's fuel injection nozzle. The clip that holds the line at the bracket, and the rubber wrap that protects the line in the clip were missing and the injector line was suspended above the bracket (**Figure 1**).

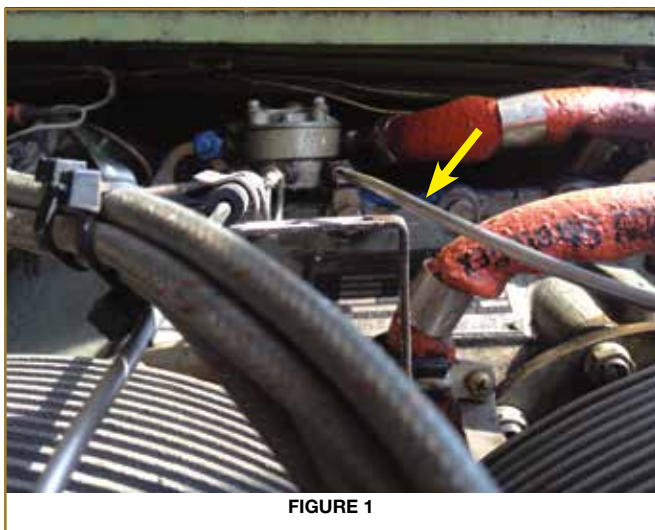


FIGURE 1

Pointing this out to the pilot, we quickly found the missing clip and rubber wrap. It had come loose from the bracket and slid down the injector line to the top of the nozzle (**Figure 2**). A quick look revealed that one of the two tines on the bottom of the clip, tines that spread out after being pushed through a hole in the bracket to create spring tension that holds the clip in place, was missing. It had probably corroded and broken off, or perhaps it had failed from fatigue due to

vibration. Most telling, a large glob of silicone gel was stuck to the bottom of the clip – someone somewhere had noticed that the clip was broken, and tried to “repair” it by tacking it down with a dollop of silicone.

“That’s one step this side of sticking it down with chewing gum,” said the local mechanic (who had *not* maintained or inspected this Bonanza). He had been in the hangar near us when we found the problem. With the pilot’s permission he bent his head into the engine area and looked at the underside of the #5 fuel injector line. “It’s not rubbing,” he said, seeing no evidence of a flat spot on the underside of the fuel line where it crossed the mounting bracket. The implication was that it was okay to fly in this condition, but should be addressed soon.

“That’s what I used to think,” I told the pilot and the mechanic. “But we’re not going to fly today. I’d ground this airplane until the clip is installed correctly.” The pilot and mechanic seemed surprised, but agreed with me. Any doubt was erased when I told them why I made this decision.

Many years ago I found a somewhat similar situation while preflighting an A36 with a flight instruction customer at Wichita. In that case the clip was still holding the fuel injector line in place, but the rubber wrap was severely cracked and several pieces of the rubber were missing. The bottom of the injector line was not protected by wrap at all. Like the mechanic in my recent experience, I took a close look at the underside of the injector line and saw no sign of wear. “You probably ought to have your mechanic replace that rubber wrap when you get home,” I told the owner. I wrote it on my clipboard as a reminder for our debrief; we completed our preflight and began our full day of training.

After about two hours of flying and a lunch break, we could smell just a little fuel while we flew a series of



FIGURE 2

While in actual instrument conditions at 4,000 feet on vectors for the approach, the airplane suddenly decelerated and the tone of the engine deepened.

practice instrument approaches. Fuel smells in airplanes come and go (and should be investigated), but I don't remember it being too bad, just noticeable at times. Our session was to end with a flight in IMC back to Wichita Jabara Airport, where we had started. While in actual instrument conditions at 4,000 feet on vectors for the approach, the airplane suddenly decelerated and the tone of the engine deepened. Airspeed was quickly dropping while we held the airplane level; I don't remember the engine running roughly (I'm sure it did), but I clearly recall seeing the indicated fuel flow shoot up well beyond redline – that confused me a bit.

We requested a vector direct to Jabara and told Approach Control we'd stay at 4,000 feet until they told us we were one mile from the airport (this was pre-GPS). On the way we found that the fuel flow was unaffected by moving the mixture control, and with the throttle

and propeller controls fully forward we could maintain altitude at Best Glide speed, but any increase or decrease in indicated airspeed resulted in a descent. When the controller advised we were one mile from the airport we descended out of the bases of the clouds, which were well above minimums, and made an otherwise uneventful landing. We could smell fuel as we taxied in. Shutting down and exiting the Bonanza, we found the entire right side of the fuselage coated in blue fuel stain.

Investigation revealed that the rubber wrap had completely separated from around the #3 injector line. The clip was still in place and the line still went through the clip, but without the wrap the line was not touching anything and was therefore free to vibrate. The vibration in flight was enough to pull the fuel line out of the top of the #3 fuel injector nozzle, starving that cylinder of fuel.


With only the factory standard engine indicators we could not tell that the #3 cylinder was no longer developing power. The confusing fuel flow indication was the result of fuel spraying through the disconnected injector line – there was no back pressure in the line so fuel was pumping as fast as it could, spinning the fuel flow transducer wildly and indicating the true rate of fuel loss. Why the hot engine did not ignite the fuel fumes at some point in flight or, more likely, during taxi, I'll never know.

Things I've learned from this experience:

- There is great value in a thorough preflight inspection.
- Any deviation from “normal” warrants immediate attention.
- There is great temptation to dismiss unusual conditions, thinking you'll “take care of it later.”
- Even many mechanics don't fully appreciate the potential hazards of some failure modes.
- Pilots and mechanics depend on each other to share our combined experience.
- Pilots and mechanics need to read and participate in programs such as those made available through ABS, so we can learn from the experiences of others.
- The obvious function of an item (the rubber wrap prevents the injector line from rubbing on the bracket) may not be the only purpose of that item.
- Most pilots, and many mechanics, are not qualified to defer or dismiss a squawk.

I also learned:

- Fuel smells at any time should be investigated.
- Best Glide speed is also the speed where you can maintain altitude with the least amount of power.
- A higher-than-logical indicated fuel flow, and/or the inability to control fuel flow with the mixture knob, may be warning of a massive fuel leak in the engine compartment.
- If I have indications of a fuel leak in the engine compartment in flight I might immediately shut down the engine and glide (in a Bonanza or Debonair), even if I'm in IMC at the time.
- If I maintain engine power until landing with indications of a fuel leak in the engine, I'll pull the mixture control on short final and evacuate the airplane as soon as it comes to a stop.

I firmly believe that my prior experience saved us from a potential engine failure and in-flight fire during this more recent flight. We perform preflight inspections for a reason. 



Fuel range rings and top of descent marker.



User-defined hold at a waypoint.

Avionics By Geoffrey Ring

Avidyne's IFD540

By the time you read this Oshkosh 2014 will be over and Avidyne will have its IFD540 FMS/GPS/NAV/COM units certified and shipping, providing aviation users a genuine alternative to the Garmin GPS units. Built off the award-winning R9 platform, the IFD540 provides advanced functions found in this powerful OEM integrated glass panel system not currently available from other manufacturers. The IFD540 is a slide-in replacement for the Garmin GNS530W units that so many of us are familiar with. This unique strategy enables the avionics shop to install the latest technology with only an hour or two of installation, configuration, and testing, which significantly cuts down the installation cost, complexity, and maintenance-induced failure.

As part of Avidyne's Pilot Program, I have had the opportunity to install my two preordered IFD540s in my F33A and have been flying them in the system since March 2014. My installation replaced a GNS430W and required a clean install of the second unit. At the time of writing, I have 70 hours behind the system and have discussed my experiences in detail on the BeechTalk website here:

<http://www.beechtalk.com/forums/viewtopic.php?f=21&t=90279>

My experience is that these units are very flexible and will enable users to decide what methods work best for them through the customizable options. The IFD540's Hybrid Touch addresses the "lack of buttons" complaint of the GTN series, and provides both buttons and touch screen that will perform nearly all of the functions equally well.



Approach chart in plan view.



VOR crossing radial on #2.

With GeoFill, I still use the knobs and buttons over the touch screen for data entry, but other Pilot Program users are the opposite and report primarily using the touch screen. I do find panning, pinch zooming, and pressing map features for information very usable with the touch screen; and the hybrid touch means the screen works like your iPad. The GPS is very fast to acquire satellites and boot up, the display redraw from panning or zooming is crisp and quick, and I am impressed with the performance and quality construction of the boxes themselves. The best feature, though, is that Avidyne is committed to open standards. Where Avidyne has created a particular data format, it will provide this to any manufacturer that would like to interface with the Avidyne equipment. This ensures that you won't be locked into one particular vendor.

I have experience with both GTN and GNS devices, and flying with the IFD540 provides features and usability that I prefer to the other units. It isn't so much the ability to fly airways or the touch screen or any of the bigger improvements, but rather how seamless the unit is and how well the little details add so much to situational awareness. The device is simple to use and intuitive, with information provided in many different functions. If there is any fault

with the IFD, it is that there are generally multiple ways to accomplish the same task and each function provides a larger amount of information than found in other units.

The limited space of this article doesn't allow for a complete description of the functionality of the units; however, I wanted to list a few of the features I find the most useful (in no particular order).

Fuel range rings – These have been great when stretching fuel and looking for potential fuel stops. You know exactly where on the map you will be when you reach your reserves and can begin looking for airports if you haven't planned a specific stop. (Requires input from a compatible fuel-flow system.)

iPad/iPhone charging – The USB port in the unit allows for charging devices directly from the IFD and eliminates the need for separate certified USB ports in the panel.

Vertical constraints on waypoints – This is useful for non-precision approaches and other phases of flight. There is a top of descent (TOD) marker on the magenta line and a chime when time to step down at the prescribed vertical speed rate. In addition to the TOD marker, the altitude constraint is displayed directly on the map.

Dual IFD interaction – This is perhaps one of the best features because it allows the two units to behave in a manner that makes the screen real estate much larger than it really is. Datablock entry on one of the IFDs results in a full QWERTY keyboard displayed on the other IFD.

OBS mode and VLOC mode – Both of these modes draw a line on the screen which you can move with the CDI indicator on the NAV or HSI head. I tend to put crossing radials on the units as I fly cross-country, and this allows for visibility via a green/white line on the screen.

GeoFill – This single feature is responsible for the significant reduction of button turns and click for entry of flight plans. Long flight plans can be entered very quickly.

Victor airways – Finally, we can fly Victor airways on a current-production GPS (very important to us in the Northeast). When Victor airways are entered into the flight plan, they are displayed on the map along with the waypoints and VORs so you have enhanced situational awareness.

Flight plan preview – While building the flight plan and/or when selecting an approach, it is all previewed on the screen so you get situational awareness when selecting transitions or IAFs.

Flexible user configuration – Data blocks, screen, and user options are very, very configurable. This allows users with different types of equipment to set up the display to provide information in the most meaningful way. An Aspen user may use different data blocks than a steam gauge user, for example.

Informative GPS status page – Not a real big deal, but this page gives you information on the HPL/VPL and HFOM/VFOM.

TAWS-like features – The units have both Terrain Awareness (TA) *and* Forward Looking Terrain Alerting (FLTA). These functions are very useful and are part of the certified TAWS in other equipment.


Name entry for NAV frequencies – To enter a NAV frequency, I can enter PWL (Pawling VOR) rather than 114.3 and it will input the correct frequency, decode, and display in the NAV box.

User waypoints identified as airports – I fly into a private race track country club and land on the back straightaway. I have been able to identify the waypoint as an airport with a specific altitude. This inhibits the terrain warnings.

Georeferenced charts – Like R9, the Jeppesen charts are available with five different views which allow the user to see only the data necessary for the phase of the approach they are on.

Chart updates – One subscription for both IFDs. I download the data on to two USB devices and upgrade both my IFDs from one subscription. Uploading to the IFDs takes about 13 minutes, for Navigation database (5 minutes), charts (8 minutes), and obstacles (5 seconds).

Calculators – The IFD has several very user-friendly calculators to show Fuel Planning, Trip Planning, and Air Data calculations. I use these frequently on longer flights.

Avidyne’s motto is “Flying made Simple,” and while the IFD540 certainly packs a lot of functionality into one tightly integrated package, it does so in a very user-friendly manner. For those who are receiving and installing their boxes, I’m eager to see if my excitement of the IFD540 is shared. I look forward to seeing more comments as they begin to use them. 



Virtual keyboard on #1 for flight plan entry on #2.

Understanding Your Aircraft Insurance Policy

What do you do when your insurance policy arrives? Save it to your hard drive? File it with your other documents? Do you read it first? Most of us (including those of us in the insurance business) find reading a policy to be a tedious task. However, we strongly encourage all of our customers to read their policies – especially when changing carriers. In order to make this process somewhat easier, we will focus on some of the more important items to look for to make sure you are covered correctly and that you understand *what is* and (just as important) *what is not* covered in your aircraft insurance policy. Here is our “top 10” list (these are not necessarily in order of importance, but rather the order in which a typical policy is assembled).

1 Policy Period

At the beginning of the policy you will find the declarations page. It contains most of the basic information about the policy. One of the first items is the *policy period* – aircraft insurance policies are almost always issued in one-year increments. The dates should correspond to the desired coverage year. Note that policies start at 12:01 AM and end at the same time.

2 Scheduled Aircraft

The aircraft will be listed on the declarations or coverage summary page (or sometimes on a schedule of aircraft that is attached). Make sure the aircraft is recorded properly by make, model, and registration number. The number of seats in the aircraft is generally shown, so be certain that information is correct as well. The hull value should be listed alongside the

other information – verify this amount is correct as it is the most the company will pay for physical damage in the event of a total loss. Many companies show the *type* of physical damage coverage (i.e., Full Flight or Ground Only), so confirm they are providing the level of coverage you want.

3 Deductibles

While you are reviewing the physical damage section, check to see that the deductibles listed are accurate. On fixed wing aircraft, the deductibles are normally shown as two different numbers: one for “Not In Motion” losses and one for “In Motion” losses. If you purchased coverage for “full flight and ground” there should be a listing for each. Most companies issue their policies with “nil” deductibles. Another example would be \$50 for Not In Motion and \$250 for In Motion.

4 Liability Limits

The liability limits are listed on the coverage summary page or the declarations page just above or below

the physical damage section. This section will show the amount of liability coverage that is provided for bodily injury (BI) and property damage (PD), and is one of the most important provisions to comprehend. The limit listed should reflect what you ordered from your agent. If it does not or you have questions, pick up the phone and call. Review the limits shown in the “Occurrence” and “Per Passenger” columns to ensure they are correct, and that you understand how they work together. Again, if in doubt, ask your agent.

5 Pilots

The approved pilot section will be listed either as a continuation of the declarations page or as an endorsement. It will list the Named Pilots and any requirements they must meet (if any) in order to fulfill the underwriting requirements. Most of the time, named pilots are identified without any additional requirements, but in some cases they might be required to attend training every year or be accompanied by a CFI for a period of time. If each pilot’s information is shown (certificates, ratings and hours, etc.), make certain it is correct.

Almost every policy comes with an *open pilot warranty*. This is the provision that allows pilots who are not listed as named pilots to fly the aircraft as long as they meet the provisions of the open pilot warranty. Make sure you review and understand these provisions, and check that all pilots who fly the aircraft are either named or meet the open pilot warranty. If training requirements are listed, confirm all pilots have done the required training.

6 Territory

Territorial limitations are defined in every policy. The wording will usually be listed as part of the insuring agreement of the policy or shown on an endorsement. This states where your aircraft will be covered geographically.

Some policies limit the territory of operation to the 48 contiguous states (CONUS), along with Canada and Mexico. That will leave out Alaska and Hawaii, so if you intend to fly to either state make sure you add that by endorsement. Some policies go on to include the Islands of the Bahamas, the Western Hemisphere, and areas so broad they include “anywhere in

the world.” The point here is that you need to know what your policy says and operate within that geographical boundary. If you have a loss outside your designated territory of operation, your coverage will be void. If you want to fly somewhere that is not included, contact your agent. Most of the time we can get the territory expanded to meet your needs.

7 Purpose of Use

The *purpose of use* is typically located on the declarations page. It will likely say something such as “pleasure and business.” Each use will be defined in the policy under the definition section. Make certain your operation of the aircraft is in compliance with this provision.

8 Exclusions

There are some interesting exclusions in policies these days. Remember the Y2K scare? The insurance carriers still do. Did you know that losses arising from the failure of computers or equipment to recognize or process a date change are excluded? In the late '90s, they put this exclusion in the policies in anticipation of the Y2K threat. January 1, 2000, came and went largely without any problems, but the companies never removed the endorsement from the policies. Other typical exclusions include: nuclear

war, radiation, war risk, confiscation, strikes, riots, civil commotions, liability assumed under a contract, wear and tear, and freezing.

The above is only a partial list; therefore, it is necessary to review the entire exclusions section to see what is *not* covered. Some of these coverages such as war risk and confiscation can be bought back. If that happens, there would be an endorsement issued deleting or modifying the exclusion. A thorough review of this section will help you understand what is excluded and may just help you avoid some trouble.

9 Definitions/Conditions


These sections are contained within the policy wording and are very important parts of the contract. For example, the definitions specify what is included as part of the aircraft and, as mentioned earlier, what the approved uses include. They also define other terms such as In Motion and list who

is automatically covered as an insured under the policy. Under the conditions section, the rights and responsibilities of each party are defined and the legal aspects of the contract (such as cancellation and transfer) are discussed.

10 Endorsements

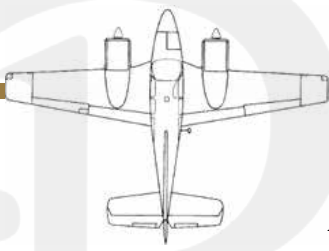
Endorsements are one of the most important items to review. While many are statutory wordings required by your state, others make important changes to your coverage. For example, many companies use endorsements to add exclusions or other coverage to the policy. They can add back coverage that is excluded such as war risk, and many companies include an “expansion endorsement,” which gives you extra coverage such as premises liability or baggage liability.

In order to review the above items, I would estimate it taking 30 to 45 minutes of your time. The conditions and definitions of the policy do not change every year, so after the first year it would probably go a little faster and could be done in 15 to 30 minutes. The principal reason we purchase insurance is to transfer some of our risk as an aircraft owner to an insurance company that can afford to pay the claim. In the unfortunate event that you have a claim, you need to know what risks you have transferred and what risks are yours to bear.

So, take the time to review your policy. If you have any questions about any of these items, do not hesitate to contact your ABS insurance representative. An answer is a phone call away. 



John Allen is president and owner of Falcon Insurance Agency, which he founded in 1979 in Austin, Texas. Falcon now has 12 offices across the country employing over 90 full-time aviation insurance professionals. Prior to entering the aviation insurance industry as an underwriter for USAIG, John served in the United States Air Force as a pilot.



Baron Pilot focuses on the unique systems, piloting techniques, maintenance and ownership considerations for the entire line of Beech Barons. We'll include new articles and the best of Baron-related articles from the archives of ABS Magazine. We encourage ABS members to submit your articles about flying, owning and maintaining Beechcraft Barons to absmail@bonanza.org.

Baron Electric Regulator Systems

By Thomas P. Turner

There are three distinct electrical systems for Beech Barons. All have had two generators or, later, two alternators, one on each engine. The system for electrical power regulation, however, has changed over the years.

Travel Airs and generator-equipped Barons, and Model 58 Barons after serial number TH-1376 as well as 58Ps and 58TCs, have a voltage regulator dedicated to each generator or alternator. The voltage regulators each work full time, and interface with each other to balance the load roughly evenly between the two alternators or generators (**Figure 1**). In normal operation the loads should be within 10% of each other, according to Beechcraft.

Model 55 Barons TC-371 and TC-502 and after; all C55, D55, and E55 Barons; and Model 58 Barons serial number TH-1 through TH-1376 have what we might call a *shared regulator system* – two voltage regulators, but only one is active at a time. The active

regulator monitors and controls the output of *both* alternators. This helps more evenly share the load between the two alternators (**Figure 2**). In these airplanes, there is a switch beneath the pilot's control yoke that permits selecting one or the other voltage regulator. To ensure the back-up regulator is functioning, it's good practice to change the selector before each flight, once a month, or on some other regular schedule.

If you notice a Generator Out/Alternator Out light or Low Buss Volts annunciator, or the loadmeters themselves read zero, reference the appropriate handbook checklist. You need to take action, but although the checklist is in the Emergency

Procedures section of your handbook you have plenty of time to locate the checklist and follow it step by step.

The first thing you'll do is confirm the warning light with the electrical monitoring gauges. It's possible the light may illuminate falsely when there is not really a problem with the charging system. If the alternator or generator has indeed failed, you'll see a discharge on the ammeter or, if equipped, a zero indication on the alternator loadmeter and something less than normal system voltage on the buss voltmeter.

If your Baron has the dual regulator system, turn off the alternator to reset the voltage regulator, then turn it back on and monitor the condition. If the light illuminates again, turn off the switch, monitor the load, and activate any back-up charging system in your airplane.

In Barons with shared regulators, if a single alternator out condition occurs turn off the failed unit's switch and

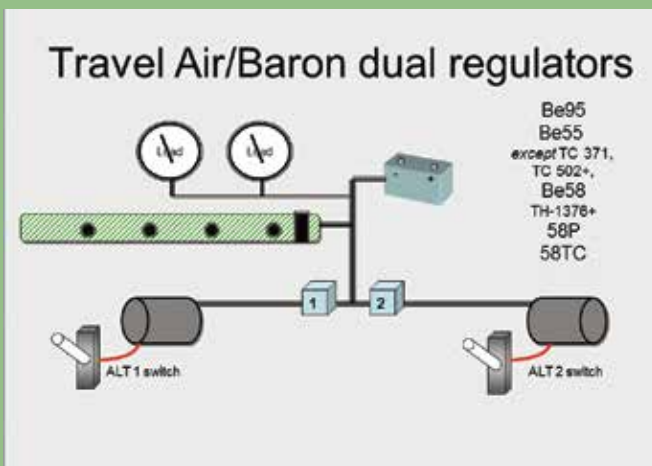


FIGURE 1

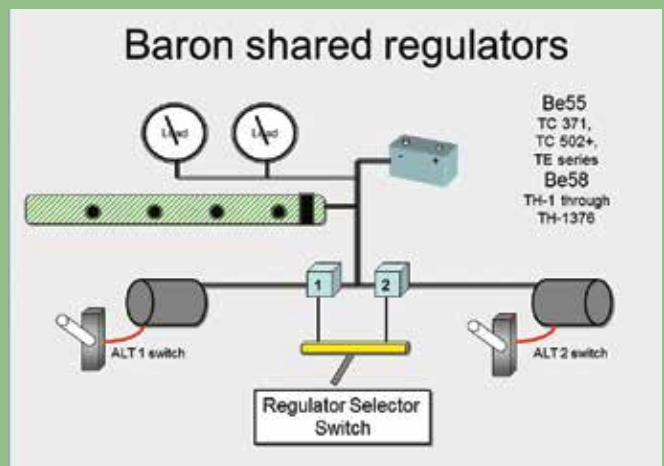



FIGURE 2

Being ready to do the right thing requires you know how the system works in the Baron you're flying.

monitor the load (**Figure 3**). With the shared voltage regulator, it's possible to get a simultaneous shutoff of both generators/alternators as a result of a voltage regulator failure. If this happens, the checklist calls for shutting off both generators/alternators, switching to the other regulator, and then turning the generators/alternators back on (**Figure 4**). If the condition recurs, reduce and monitor electrical load, and land as soon as possible.

G58s have a third style of electrical system with significantly different abnormal procedures. We'll cover the G58's electrical system in a future article.

A problem with the voltage regulation system is not an immediately catastrophic condition. You have time to pull out the checklist and complete the procedure fully, then evaluate the results of your actions. Being ready to do the right thing requires you know how the system works in the Baron you're flying. 

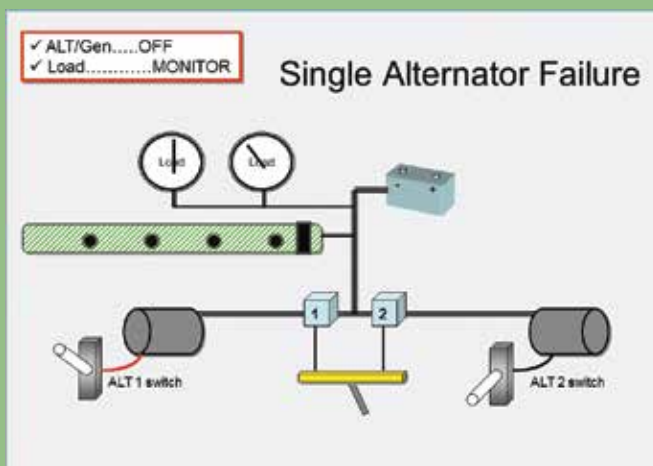


FIGURE 3

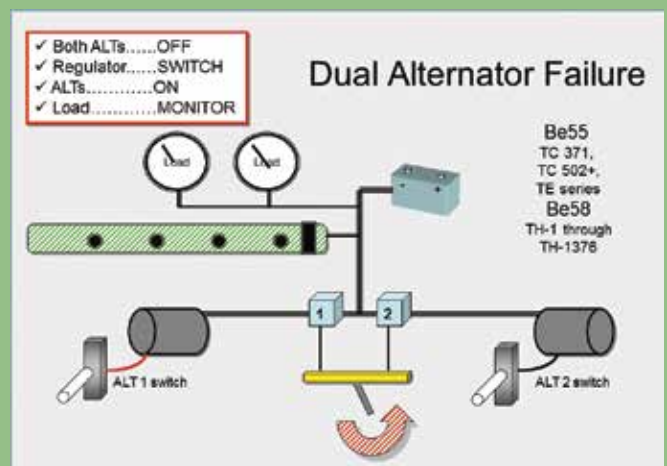


FIGURE 4

Beech on a Budget

SAFE • LEGAL • LOW COST

By Mike Caban

The Ignition Harness “Looked” Just Fine

In prior articles, I’ve written about the importance of being especially vigilant about external items in engines that are being operated above and beyond TBO. This month, I will share with you a personal experience involving the wiring harness on my B55 factory reman with about 1900 hours on it. The harness was seven years old and had about 1000 hours Time in Service (TIS).

At the end of May I flew from Appleton, Wisconsin, to my home base of Denton, Texas, where my annual was going to begin in the days following my arrival. I had settled into cruise flight at 10,000 feet, Wide-Open-Throttle, 2250RPM, about 11 gph/side, and had switched the tanks off the mains to the auxes nearly an hour prior. Out of the blue the right engine stumbled badly. Then again... and again... and again. All engine gauges were steady, yet the stumbling continued. I switched the fuel back to the main tank and checked the right magneto switch confirming that it was on the “both” position. The engine stumbling continued, unabated. Increasing fuel flow had no effect.

By this time I began to zoom the ForeFlight screen on my iPad to identify the nearest airport. Dubuque, Iowa (KDBQ) was about 30 miles to the west. With a place to go identified, I began deeper troubleshooting of the problem with my JPI engine monitor. Fuel flow and CHTs were steady but the EGT on #6 was fluctuating wildly about 40-60°F. The #4 EGT was fluctuating somewhat less, maybe about 20-30°F. With the luxury



FIGURE 1

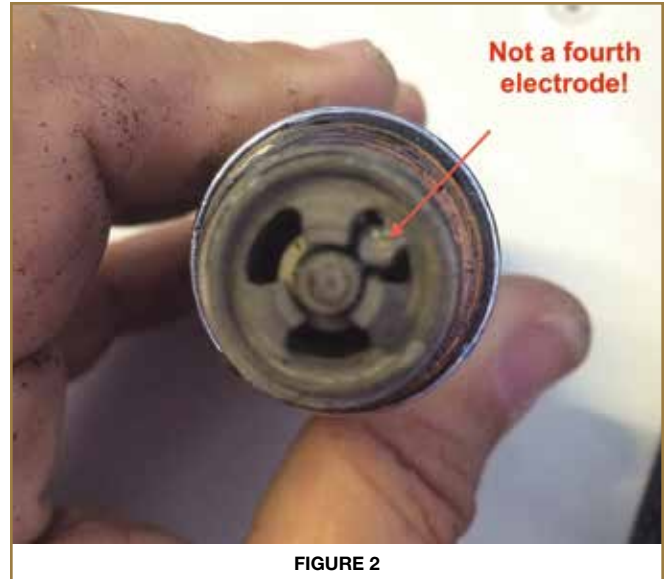


FIGURE 2

By this time I began to zoom the ForeFlight screen on my iPad to identify the nearest airport.

of having a second engine turning, I elected to continue while monitoring engine parameters without stopping in Dubuque. Had I been flying behind just the one stumbling engine, this would have been a completely different decision with a “direct to” KDBQ in the GPS in short order.

For the next couple hours the engine continued to stumble in sync with the EGT of #6 fluctuating from about 1270-1310°F. With the exception of #4, which also had its own fluctuation, all other cylinder EGTs varied maybe 2-3°F each.

Upon reaching the Texas-Oklahoma border and being transferred to Ft. Worth Center, I received descent clearance from 10,000 to 4,000 feet. Sometime during the descent the stumbling stopped and the EGT fluctuations on #4 and #6 became smaller. Approach and landing were uneventful and 23W went into the hangar.



FIGURE 3

It was annual time so in a few days I set about all the standard annual open-up activities, including spark plug removals. I was most anxious to see the #6 plugs – **Figure 1** shows the bottom plug. **Figure 2** shows the lead fouling with what appears to be a fourth electrode ... but it is *not*! **Figure 3** shows the amount of lead that was built up in the plug. I had never seen a plug this badly lead fouled.

All other plugs were in reasonably good condition.

My mechanic and I explored further in the belief that something upstream of the plug was amiss (pun intended). The plug end of the seven-year-old, seemingly good-looking condition harness appeared to be in good shape.

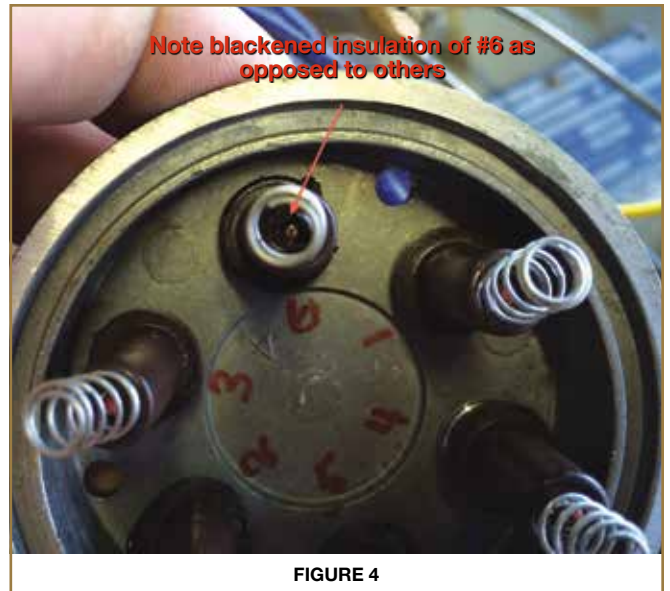


FIGURE 4

Upon examining the right Slick magneto (the mag that fires the #6 and #4 bottom plugs) end of the harness, we found blackened insulation around the stinger wire entry into the #6 ignition wire (**Figure 4**). The stinger wire was also somewhat loose.

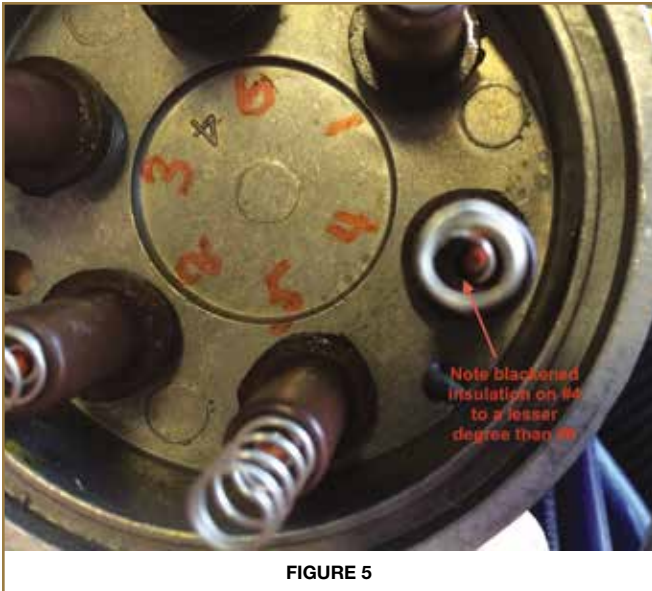
Figure 5 shows the beginnings of the same charring on the #4 plug wire.

The magneto distributor block and rotor were examined for any sign of mischief that would impede the flow of voltage and current. Nothing out of the ordinary was found here. My mechanic pushed the stinger farther into the #6 wire, we installed a new spark plug, finished up the rest of the exhaustive annual (complete overhaul of right engine fuel system, and mixture and throttle cable replacements), ran things up, and noted no issues. The test flight also went well, with no engine stumbling or other anomalies.

Fast forward to the trip north from Denton to Appleton. I depart Denton and make a stop at Sherman, Texas, about 40 miles away, for a little over 100 gallons of <\$5/ gallon avgas. There were no issues on the trip to Sherman. I depart Sherman and get my IFR clearance in the air “direct to” KATW.

Of course, I was on pins and needles watching all the engine instruments for the first long flight after annual, and on guard against the engine stumbling again. Well, 2.5 hours into the ~4:20 flight and the right engine started stumbling. Same symptoms, same cylinder, and same large EGT fluctuation. It was somewhat less unnerving than the southbound leg a month earlier, but I was again very thankful that I had a second engine turning.

Upon reduction in power and descent from 11,000 feet around Madison, Wisconsin, the stumbling subsided and I made another uneventful landing. The new, less than



five-hour TIS spark plug was removed and it appeared heavily lead fouled.


Upon consultations with my IA, a new ignition harness was sourced and prior to installation, I had a notion to check the wire ends with a digital ohmmeter. The seven-year-old harness on the #6 and #4 wires measured about

55 ohms. All other wire leads measured in the range of 22-25 ohms. The new harness also measured around 25 ohms. This was the problem confirmation I was looking for – I could not believe that an additional 25 ohms could wreak such havoc on the spark event. However, this was in fact nearly doubling the resistance seen by the voltage and current flowing through the wire.

The new ignition harness was installed and, as of this writing, nearly 14 stumble-free hours have been flown.

While at EAA last month, I visited the Champion booth and related my story and resistance measurement findings. I wanted to understand if they had a published spec for wire resistance to insure continued airworthiness on a harness that otherwise looked cosmetically good. I spoke with Kevin Gallagher, Champion product line manager, who indicated there was no resistance spec for their harnesses.

This experience has brought home the point that even “good-looking” harnesses can have internal failures. I’ll make sure to be much more vigilant at annual time on my older harness resistance values to catch any brewing problems before they can lead to a failure to fire a plug properly.

Happy skies! 

Regional News

Pacific Bonanza Society

Sandpoint, Idaho • JULY 17-20, 2014

By Doug Haughton

In 1972 when the British Rock Band *Deep Purple* recorded “Smoke on the Water,” they had no idea they were describing the 2014 PBS Sandpoint, Idaho, adventure.

Due primarily to the Duncan Ridge and Carlton Complex fires in the Washington Cascades (over 250,000 acres total), smoke descended on Sandpoint and Lake Pend Oreille to make the visibility a bit challenging and the sunsets spectacular. The influence of smoke truly made the sky look like it was on fire each evening as the sun was setting.

Twenty-nine PBS members in 14 airplanes invaded Sandpoint (KSZT) on Thursday, July 17, to begin a few days of good ol’ Idaho mountain therapy. We were enthusiastically greeted by Emma from Granite Aviation, who rolled out the red carpet for our arrival and set up a hospitality area inside their beautiful facility. Andy, Granite Aviation owner, provided free parking,





discounted fuel prices, and anything else he could think of to make our stay in the area enjoyable.

We then set up “base camp” at the Lodge at Sandpoint located on the shores of Lake Pend Oreille. Each of our premium rooms overlooked the lake and simply exuded the feel and ambiance that you’d expect from a premier waterfront mountain lodge.

At Thursday evening’s Welcome Banquet we dined on the shores of Lake Pend Oreille at Forty-One South, one of Sandpoint’s finest restaurants. Rumor has it that many complex world problems were solved throughout the evening’s various conversations.

The following morning we split into two groups, half of the group headed to the Quest Aircraft Factory tour; and the others headed to downtown Sandpoint for some retail therapy, wine tasting, and caloric intake.



We then got all gussied up in our western duds and danced to the “pickin’ and grinnin’” of Red Simpson (a country singer-songwriter best known for his trucker-themed songs) and Desi at a Western BBQ on top of Barton Mountain in Sagle, Idaho. Our friends, Wayne and Kathy Barton, are just finishing their home on this special 40-acre mountaintop. The western BBQ buffet from Seven Sisters Catering was a culinary home run.




When Saturday morning arrived we converged on the Bird Aviation Museum and Invention Center (a world-class educational experience centered around the themes of Aviation and Innovation) in Sagle. We had received a special invitation

from the founder, Dr. Forrest Bird, to use his private runway at the museum, and several PBS pilots opted to accept this once in a lifetime opportunity. The museum staff provided a tasty group lunch inside the museum. Dr. Bird and his wife Pam happened to be there when we arrived, and most of the PBS folks were able to speak with them during our visit. What wonderful folks, a beautiful facility, and an awesome experience. Happy birthday to Dr. Bird, a medical pioneer, who turned 93 last month.

On Saturday evening we spent four hours aboard the *Shawnodese* – a 15-ton, 40-foot boat that was built in 1966 as a Coronado Island Ferry. We toured Lake Pend Oreille and the islands; saw eagles, castles, mansions, naked swimmers; and then feasted on a wonderful array of culinary delights catered by Pend Oreille Pasta.



Sunday morning arrived all too soon, and it was time once again to bring the Continentals (and one Allison) to life for the trip back to our various homes. I'd have to imagine that we will not soon forget the wonderful adventure that we experienced in Sandpoint and Lake Pend Oreille. 



Surly Bonds

ABS extends condolences to the family and friends of these ABS members who recently passed away.

**John R. Funk
Bement
Illinois**

A member since 1974, he flew a 1971 V35B.

**C.G. Rudolph
Los Altos Hills
California**

A member since 1994, he flew a 1977 58.

**Carlos A. Calderon
Cali
Colombia**

A member since 1993, he flew a 1960 M35.

**Babar Suleman
Plainfield
Indiana**

A member since 2008, he flew a 1967 95-C55.

The Most Complete,
Most Convenient and
Most Cost-Effective
Type-Specific
Beechcraft Training:

BPPP Online+Flight

ABS's goal is simple: To protect lives and to preserve the Beechcraft fleet, by significantly increasing the number of ABS members who receive The Best in Beechcraft Pilot Training.™

Here's How it Works

1. Take the popular BPPP Beechcraft systems and techniques classroom training online, on your schedule
2. Fly with a BPPP-standardized flight instructor near your home at a time that's convenient for you
3. If you qualify, earn a Flight Review and/or an Instrument Proficiency Check
4. You'll receive a BPPP Completion Certificate, which may qualify you for insurance discounts (ask your agent or broker)

Many aircraft insurance companies give up to a 10 percent discount on your policy for completing BPPP. For the first time, the insurance discount may pay most or even all the cost of your specialized Beechcraft training!

BPPP training is fun, informative, convenient and affordable. It makes you an even more capable and safer pilot. **For more information and to enroll, go to <http://bonanza.org/pilot-training-bppp/onlineflight> or call 316-945-1700.**



**BPPP
Online+Flight**

Only \$495

**Includes
online and
up to four hours
of flight training!**

EAA Sport Aviation reviews BPPP Online+Flight

"The thoroughness of the BPPP program is impressive, and the professionalism of both the flight and online portions is absolutely top-notch. ABS is setting the standards for type club training, and we can all learn from its experience."

— J. Mac McClellan,
5000-hour Baron
pilot and editor,
EAA Sport Aviation

Read the full review in the November 2012 *Sport Aviation*.



BPPP By Thomas P. Turner

Inspection, Maintenance, and Repair



The Beech Aircraft Owner's Manual for the Model 95 Travel Air includes this simple but apt statement:

Preventive maintenance is a program designed to keep things from going wrong, or not going at all, or quitting before they should reasonably be expected to quit.

There's a tendency for many airplane owners and even some mechanics to use the terms *inspection*, *maintenance*, and *repair* interchangeably. These three words have three distinct meanings, however, and if we make the proper distinction it may answer a lot of questions many ABS members have about keeping their Beechcraft safe and airworthy at the lowest possible cost.

Inspection

A common ABS Tech question, as well as frequent topic of discussion on the Internet chat lines and bulletin boards, is "How much does it cost to get an annual inspection?" Sometimes this query is part of a pilot's information-gathering while determining whether to purchase a Bonanza or Baron. Many times the question is really a prologue to a discussion of what it costs an owner to return an airplane to service at the end of the most recent annual inspection. A variation on this theme is "How much did your first annual inspection cost?" for a specific model of airplane (e.g., an A36).

Questions like these show a misunderstanding of what an annual inspection is really about. An annual

inspection (and also a 100-hour inspection, if required for the way the airplane is operated) is a thorough inspection of the airplane for the specific purpose of determining, to the maximum extent possible, that it fully conforms to the requirements of its Type Certificate (the Federal document that defines what makes a specific model "airworthy"), and any Supplemental Type Certificates (STCs, literally, supplements, or changes to the Type Certificate for approved modifications). Conducting an annual inspection requires certain actions by the inspector, which in turn drives certain costs. For example, the time it takes to remove and reinstall the interior in order to gain access to items requiring inspection. So the shop rate for the time to remove and reinstall the interior, in this example, is included in your bill for the annual inspection. Changing the oil – including the cost of the oil and filter itself – is another example of an item that is usually included in the annual inspection cost. If you choose to send a sample off for oil analysis, however, the cost of the sampling kit, postage, and the professional analysis itself will usually be added to your bill as an additional charge.


Many shops set a flat rate for an annual inspection on a particular model of airplane. If you do an owner-assisted annual, meaning you do some of the labor and leave the inspection itself to the authorized inspector, the inspector may give you a discount on the annual inspection rate. Bear in mind that this is *just* the cost of the inspection itself (the inspector's fee, including time to do the required items). It does *not* cover anything extra (oil analysis, for example). And most notably, it does *not* cover the expense of most items that may be found in the process of the inspection. Those extra charges would be for *maintenance* or *repair*.

Maintenance

The *inspection* determines that the airplane is in conformity with its Type Certificate and any STCs. *Maintenance* includes all those things that need to be done to *keep* it in conformity, by inhibiting wear and staving off the effects of use and fatigue. The root word of maintenance is "maintain," and that's what maintenance is – a continual process to *maintain* compliance with the certification standard. It's a common first-time-owner fallacy that maintenance items are things that are done during the annual inspection. In most cases, if you wait a year to grease the landing gear, replace chafing wires, address a minor valve issue, or



Most horror stories we hear about the cost of an annual inspection are really tales of the wild expense required to repair discrepancies that were deferred, often resulting from lack of ongoing maintenance. The total cost may not be very different if you maintain your airplane year-round and repair any broken or out-of-tolerance items right away, but

at least you won't have the sticker shock of seeing it all on the same bill that comes due all at once. You may even save money by fixing little squawks before they become major problems. More importantly, you'll have a safer airplane that's ready to fly when you are because you keep it in top shape. 

some other maintenance task, it will become much costlier to fix by the time the next annual comes around. Think of it like this: *Maintenance* is what you do so you don't have to make a *repair*.

The Travel Air handbook and many other sources add the adjective *preventive* to the word maintenance. In fact, that's redundant – by definition, all maintenance is preventive. If the redundancy makes it easier to visualize the concept, however, all the better.

Repair

A repair is required when an item no longer meets its certification standard, or is worn or fatigued to the point that it is near the limits of airworthiness. Except as allowed by regulations concerning flight with inoperative equipment, a repair is something that cannot wait for the next inspection. In most cases, it will need to be done before the next flight.

The Airworthiness Concept

The full airworthiness concept is:

- Maintain the airplane continually.
- Inspect the airplane before and after flight, and more invasively during annual (or as required) to see if your ongoing maintenance efforts are effective.
- Repair anything that's broken right away, not waiting for the next annual inspection.

Member Opinion: Aviation Ground Power System from Audio Authority

By Thomas A. Smithhisler

I purchased the Aviation Authority Ground Power Unit (GPU) offered by Audio Authority in January 2014. I have been doing GPS/MFD database updates regularly since 2004. However, after a 2013 avionics overhaul to an Aspen 2000/GTN750/650 configuration and two subsequent SD card failures, I decided to always update and run my full avionics package on the ground before flight to verify all updates are not only loaded, but are also accessible. This put quite a load on my battery, which was new in 2013 as well.



I already owned a BatteryMINDER (see Dave Fleckenstein's May 2014 *ABS Magazine* article) and used it regularly. It did a great job keeping my battery charged, but it definitely wasn't designed to be a GPU. Even my new battery would drain quickly during these updates, which could take up to 10 minutes. If I wanted to fly immediately after database verification, the battery, despite its youthful enthusiasm, was noticeably drained. I knew I had to find a solution for the long term.

I wanted something that was relatively inexpensive. My initial searches on the web seemed to point me to commercial solutions that cost, at best, several thousand dollars, and were definitely overkill for what I wanted. One evening, while drinking a cold adult beverage and reading my new issue of *ABS Magazine*, I came upon a small advertisement directing me to www.audioauthority.com/GPU. It turned out to be exactly what I was looking for.

There are two basic models: 35 amps (Model #2835A) and 70 amps (#2870A). Each of these can be ordered with the integrated BatteryMINDER feature (add \$250 to the list price), #2835A-B1 and #2870A-B1, respectively. All units come standard with the AN2551 three-pin oval plug, have an integrated carry handle, and side storage bins to hold the cables. All models are 28-volt. The 2835A weighs in at about 18 pounds plus cable; all other models weigh more (see the web site for specifications). They say the units are portable, which they are, but

was a slightly better deal than the other distributor listed on the Audio Authority website.



I put mine on a cart and just wheel it up to my plane. It couldn't possibly be easier.

I opted for the model #2835A, which I purchased from Aircraft Spruce (Product #11-10831) for \$775, including shipping. This was below the advertised price on the Audio Authority website and, at the time of my purchase,

Operation is very simple. The instructions, which are short, advise the user to ensure the unit is fully powered up before plugging it into the airplane power. Conversely, it should be unplugged before powering down. This way, the unit's power is always stabilized when connected to the plane's power. The GPU has a very bright, large display that shows volts and amps (no reading glasses required). The display must strobe because my iPhone photo doesn't do it justice. It is bright and clearly shows 28 volts on the top line. One nice feature is that I can clearly see how much of an amp load I am pulling when using various combinations of systems and lights. I've been using it regularly since January 2014. It is a very solid unit and has performed flawlessly.


In addition to easily powering the avionics database updates, the GPU allows for several additional benefits. I can run just about all the major systems concurrently on the unit: avionics, lights, pumps. This makes ground inspections very convenient while eliminating any concern about degrading the battery. For example, I have a TKS FIKI (Flight Into Known Icing) system, which CAV Aerospace recommends running monthly to keep the membrane wetted. The GPU works great for that on the ground in the colder months. During the winter months, when I think I'm going to encounter icing, priming the TKS system on the ground with the engine running can take 10-15+ minutes depending upon conditions and previous use. Now, I can include that in my preflight (I pull my plane out of the hangar for this).



I also have Osborne tip tanks. Once, I landed with full tips and wanted to pump them to the main tanks but

hadn't had time to do so inflight. With the GPU, I had the option to pump the tips to the mains on the ground and visually inspect/verify that the right side was pumping slightly faster than the left.

Overall, I like the options I am now afforded by the convenience of the GPU. If I ever need a quick charge on my plane's battery, I can hook up the GPU and turn on the master switch. You must be very careful, as this will overcharge the battery if left on too long. I only do this for 15-20 minutes right before a start if I suspect it is needed. As previously stated, I still use the BatteryMINDER if I know I'm not going to be flying for a week or two. Again, please refer to Dave's article for why this is a good practice if you want long, productive battery use.

The bottom line is that the Audio Authority GPU is a solid unit, reasonably priced, and reliably delivers on the expectation of a personal use GPU for 28-volt Beechcraft. I highly recommend it. 

Forum

ABS Idea and Information Exchange

The Forum section is intended as a space for members to respond to articles printed in the magazine, or to share their knowledge of a helpful idea for other members. Send your words and photos to absmail@bonanza.org.



To comment on your recommended sequence of clean up procedure for a go-around, etc. for the Bonanza and other Beech planes (“BPPP: Balked Landing Sequence,” May 2014): I do not see mentioned anywhere the need to re-trim. My experience has been once a go-around is initiated and power is added, if one does not re-trim soon, there is a dramatic nose up attitude that if not corrected could end up in a power on stall at low altitude ... not good. Just wondering why the trim part of the go-around procedure was not mentioned? Or maybe I missed something. —John Farrell

Trimming is not specifically mentioned in the Beechcraft Balked Landing procedure, but as you say, if the pilot has trimmed for final approach, especially after extending full flaps, the airplane will tend to pitch up excessively when the power applies go-around power. The extent of trim change necessary is a function of the specific Beechcraft model, the airplane weight and center of gravity position, the amount of flap deployed when beginning the go-around, the power available (generally a function of density altitude), the indicated airspeed at which the pilot begins to go around, and the extent to which the pilot trims for hands-off flight on final approach. You’re correct – in many cases the pitch up is dramatic. We present this experience in BPPP flight training. —Tom Turner

Although I am not an active BPPP instructor these days, I continue to follow the activities of the program. I also read your articles in the magazine and receive your e-mail. The June article addressing V_{mc} and loss of control in Baron training (“Baron Pilot,” June 2014) was very good. I need to, however, add two points for the benefit of Baron instructors (and Baron instructors-in-training).

As you know I have been doing Baron training and FAA flight tests for more than 40 years. I have managed to do so without subjecting myself or my customers to a dangerous loss of control during V_{mc} training. Your procedure for training and mitigating the hazards of V_{mc} demonstrations and training is right on!

I add an additional mitigation procedure. The instructor (or instructor candidate) must have a mindset that demands the instructor *immediately, totally, and without hesitation* terminate power on *both* engines by rapidly moving *both* mixture controls to the cut-off position at the first indication of an unplanned or impending loss of control, or inappropriate action by the PRI. This is, by far, the fastest and most effective way to stop the rapid loss of control that results from training in and around V_{mc} . It should also be noted that Barons equipped with vortex generators may demonstrate loss of control at a lower indicated air-speed. With vortex generators the loss-of-control event can be more abrupt and violent when it ultimately does occur in equipped aircraft.

V_{mc} demonstrations generally take place at speeds 20 KIAS below any speed where meaningful performance is available in a Baron being operated on one engine. V_{mc} demonstrations are an academic exercise that have no practical application in normal operations of a Baron. Train safe.

—John L. Geitz

I was so impressed with ABS's availability of Baron, Bonanza, and Travel Air POH/AFM publications online without charge that I was moved to offer the following without charge: "Supplemental Type Certificates and Supplemental AFM for Aftermarket Modifications to Barons, Bonanzas, & Travel Airs."

Many of the Beechcraft I've flown have aftermarket modifications with tip tanks, increased gross weight, speed mods, etc. When I encounter such modifications, I make it a practice to obtain, scan and OCR all paperwork in connection therewith either from Beechcraft or directly from the manufacturer of the aftermarket modification.

I'd be happy to send you all such modifications in my possession as e-mail attachments without charge. The only condition to doing so is that you make them available to all ABS members in good standing without charge.

ABS members may also be interested to know that Beechcraft will,

for an annual subscription fee, keep any Beechcraft POH/AFM current. I presently do so for the A36 at a cost of \$45/year. Best regards. Hope to hear from you. —Norman Leonard Cousins

Thank you, Norman. We will indeed post your items for the benefit of all ABS members. —Tom Turner

Odds and Ends

By Geary Keilman



Fisher Space-Tec pens in Sporty's double loop pen holder.
Cygnet desk installed on fixture.

Ofentimes it's those little things that can add so much more to our flying experience. While perusing a Sporty's Pilot Shop supplies catalog, I came across a neat pen holder (item #ID: 6004A for \$6) that has probably been around since Queen Victoria. It utilizes a wound spring shaped into a loop. It comes in one, two, or three loop models – I ordered the two loop model. I found a nice place for it just below the pilot's side window near the instrument panel. It comes with a slide clip that slips under the upholstery and holds it securely. It is out of the way yet readily accessible (www.sportys.com/pilotshop/product/8774).

To have something to write on, I installed a small writing desk/chart holder from Cygnet Aerospace (www.cygnet-aero.com – P/N: CA35-236 \$250). It utilizes a fixture that mounts onto the control column arm using the existing screw holes. The desk then slides into the fixture, which is a nice feature as it can be easily removed if not in use. It doubles as an iPad Mini holder. It's a bit pricey but very well made. All this is for naught if the pen doesn't write. This usually occurs in foul weather while trying to copy an ATC reroute. The Fisher Pen Co. developed a pen for NASA that writes in zero G. It doesn't leak, will write upside down, and will not dry out.

Indeed, while visiting the factory store in Boulder City, Nevada, I was told the shelf life for the cartridge is one hundred years! I didn't think to ask how they know this as they have only been making these pens for half that long. They will also write on materials traditional pens won't, such as pesky thermal receipt paper. The Space-Tec model retails for about \$12 (www.spacepen.com).

By the way, if you have a pen that is near and dear to your heart, they make refills that will fit other brands as well. I keep two of them in the Sporty's holder in case I drop one. With both front seats occupied, it is nearly impossible to reach down and pick the pen up off the floor.



Cygnet desk mounting fixture on control column.



Foam kneeling pad and mechanic gloves.



Wet Ones hand wipes.

I purchased a pair of “mechanic gloves,” which I now wear while servicing the airplane. They keep my hands clean and provide a modicum of protection from oil and avgas. They are filled with a neoprene-like material in the palms and fingers, and provide good “tactile feel” so you can use the self-service pump card reader with them on. I keep a pair in my car as well. Most auto parts stores carry them. In addition, I keep Wet Ones towelettes in both the baggage compartment and glove box. They come in handy, too, as hand cleaners. If they are folded after use and reinserted in the package, they will stay moist for some time and may be reused. I prefer the unscented version, which is a little more difficult to find, but scented types may be found at Walmart, Kmart, Target, etc., in the picnic supplies area. I obtain the unscented versions from Amazon.

I keep a small strip of compressible packing foam in the baggage compartment to kneel on when checking tank and fuel filter drains. It keeps my trousers cleaner and saves wear and tear on my knees!

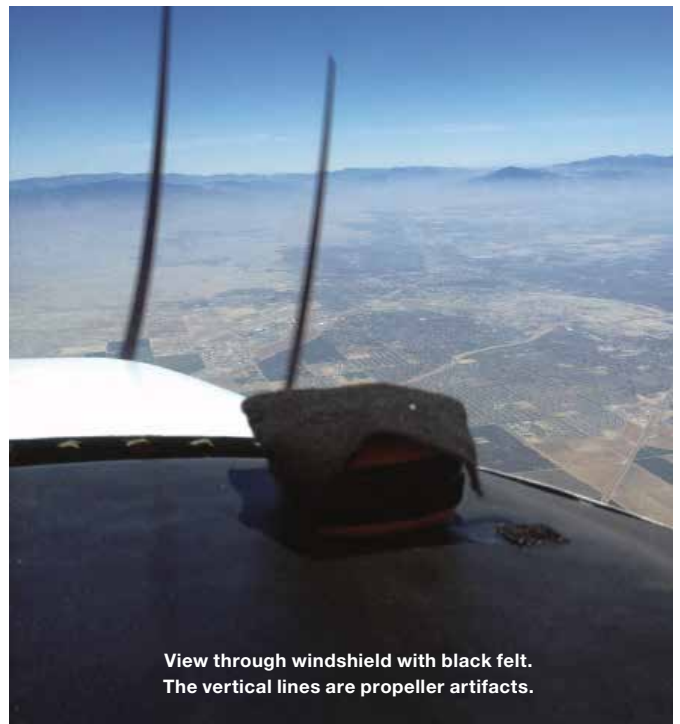
Something that I have just started doing is writing the expiration date of batteries on electronic devices such as handheld radios and flashlights. It saves the bother of removing the batteries to check. Removing the batteries on or before the expiration dates reduces the chance of leaks and damage. I do this on household and car items as well. Masking tape and a Sharpie or Space Pen work well for this.



Flashlight with battery expiration label.



View through windshield without black felt.




View through windshield with black felt.
The vertical lines are propeller artifacts.

Last, but not least, is black felt (found at fabric and craft stores). This material is used to cover objects (mag compass, XM Weather antenna, etc.) placed on the glare shield. It eliminates reflections off the windshield and

shades the objects to keep them cooler. Double-sided foam tape can be utilized to secure the felt.

Except for the writing desk, these items are inexpensive and add much more than their price would suggest.

I'm sure other ABS members have similar uses for common, low-cost items. Please share them. 

The Most
Complete,
Most
Convenient
and Most
Cost-Effective
Type-Specific
Beechcraft
Training
Only \$495

**Includes online and up to
four hours of flight training!**



My flying experiences include the Air Force, airlines and general aviation. Early in my flying career I learned that flying safely requires knowledge and proficiency. When I bought my Baron I wanted a training program that would give me what I needed to be safe. The BPPP Online+Flight course was an extremely valuable training program that helped me achieve that goal. The Ground School was very informative and completed at home on my schedule. The Flight portion was flown with Travis "Buz" Witherington, a knowledgeable, dedicated instructor who displayed the highest degree of professionalism and proficiency. And this also was completed on my schedule. I gained an increased knowledge of and a much higher level of proficiency in flying my 58P Baron. This was a great experience, it was fun learning and I strongly encourage everyone to participate in ABS' Beechcraft Pilot Proficiency Program. Thanks ABS Air Safety Foundation!

Tony Crescimanno
Thomaston, Georgia



ABS's Goal is Simple: To protect lives and to preserve the Beechcraft fleet, by significantly increasing the number of ABS members who receive The Best in Beechcraft Pilot Training.™

Here's How BPPP Online+Flight Works

- 1.** Take the popular BPPP Beechcraft systems and techniques classroom training online, on your schedule
 - 2.** Fly with a BPPP-standardized flight instructor near your home at a time that's convenient for you
 - 3.** If you qualify, earn a Flight Review and/or an Instrument Proficiency Check
 - 4.** You'll receive a BPPP Completion Certificate, which may qualify you for insurance discounts (ask your agent or broker)
- Many aircraft insurance companies give up to a 10 percent discount on your policy for completing BPPP. For the first time, the insurance discount may pay most

or even all the cost of your specialized Beechcraft training!

BPPP training is fun, informative, convenient and affordable. It makes you an even more capable and safer pilot.

For more information and to enroll, go to <http://bonanza.org/pilot-training-bppp/onlineflight> or call 316-945-1700.

Hosting ABS Service Clinics

Bob Ripley, ABS Lead Technical Advisor and Service Clinic Inspector

As an ABS Technical Advisor and Service Clinic inspector, I get asked all the time how to have ABS conduct a Service Clinic at a certain location. I have conducted a great many Service Clinic inspections and have dubbed it an “owner experience,” since the majority of people really enjoy the experience and learn quite a lot about their aircraft. The cost to the member is \$275.

To have a Service Clinic conducted at your FBO, all that is required is to contact the FBO in question and ensure they will be able to provide the manpower, equipment, and facilities to conduct the clinic Thursday through Sunday from 7:00am - 5:30pm each day. With a full clinic we will complete six aircraft per day. The FBO must provide at least two technicians to open the aircraft, jack the aircraft for a landing gear operational check, and close the aircraft after the inspection is complete. To keep the cost to

the ABS member this low, we must inspect at least 19 airplanes to break even in most locations.

The ABS inspector will perform a walk-around with the owner of the aircraft and complete a detailed exterior inspection, paying close attention to known problem areas. The owner will complete the discrepancy sheet during the inspection process. In most cases, Continental Motors sends a representative to complete a compression check, borescope of the engine, and a general overall engine health

check – and then provide a printed report to the owner. When Continental is able to send an inspector, this is done at no additional charge to the ABS member. ABS Air Safety Foundation pays the Continental inspector’s airline expenses to provide this additional service.

After the inspection is complete, the aircraft owner receives a copy of the inspection report and the report from Continental as appropriate. The owner is then able to take this information to his or her own shop to address as the owner wishes.

We encourage airplane owners to bring their mechanics along to help better understand the Beech aircraft. We also encourage others to follow along with the inspection to learn additional information that may help them on their own aircraft.



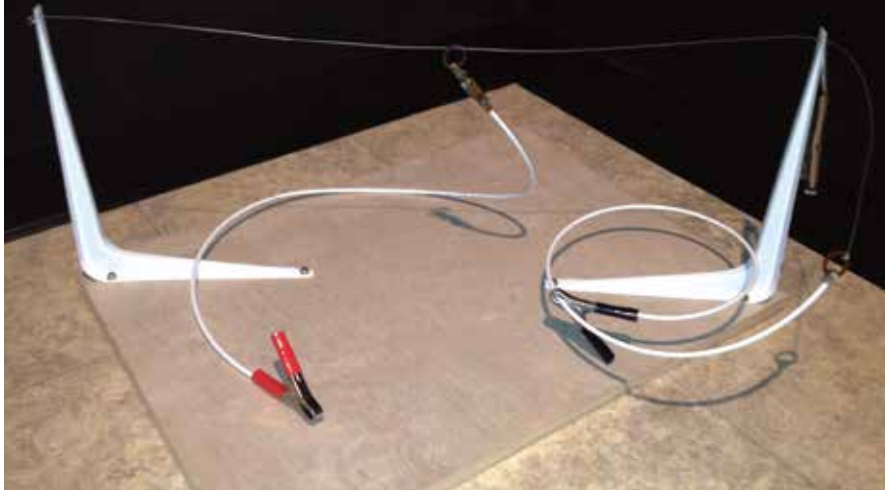
Along with possible additional business, the FBO will be paid \$1,000 from ABS to offset some of the expenses incurred in hosting the Service Clinic at their location. Some FBOs make it a real affair by providing snacks and lunch, and at some locations vendors are available with new products for the members to see.

I really enjoy conducting ABS Service Clinics, mainly because I get to meet our members and provide valuable information about their aircraft that, in some cases, may avert a possible failure of an aircraft or engine system. We are trying to get wider geographical coverage in the Service Clinic locations to provide an improved benefit to the members. If your FBO wants to discuss hosting an ABS Service Clinic, and is in a location where we can expect to get at least 19 member airplanes scheduled for inspection, please have the FBO's owner or director of maintenance contact ABS.



My Twelve-Dollar Battery Capacity Tester

by Mike Fagan



The FAA repair station advised me during the annual for my Baron to get a battery CAP [sic] check. I didn't know what could ever go wrong with the caps – I mean, they screw in fine whenever I check the electrolyte level – but I said okay if they thought it should be done. After figuring out they meant a battery *capacity* check (as required by the instructions for continued airworthiness [ICA] for the two Gill G25 [lead acid] batteries in series), I tried to learn more about that process to understand the results that the test would provide.

What I found out might be useful to you, because I discovered that my shop did not know how to do a battery capacity check. My test results came back as “passed” with the note stating they applied 15 Amps (A); and at 24 minutes, the ending voltage was 10.5V. At first, it seemed this would be a result for one battery, but what about the other – or did they test them in series down to 10V? Also, I learned from downloading the Gill service manual (www.gillbatteries.com/pdfs/Flooded_Service_Manual.pdf), they recommend doing the capacity check for each battery at the one-hour rate – that is, pulling 18A until the voltage goes down to 10V and seeing if it took at least 80% of an hour (48 minutes) before it got to 10V. If it was

able to do that, it passed. (By the way, Concorde has a similar publication for their flooded lead acid batteries at www.concordebattery.com/otherpdf/ownermanual.pdf)

It seemed that the shop attempted to run the test for 30 minutes (which used to be the Gill procedure) to see if it would take at least 24 minutes (80% of 30 minutes) before the voltage got to 10V. However, the chart in the manual says you should get 15 Amp-hours (AH) for 30 minutes before hitting 10V, which means you need to draw 30A for a half-hour test (looking for at least 24 minutes until hitting 10V). The shop pulled only 15A though, and quit before they reached 10V. So, I had no idea whether either of my batteries passed the ICA-required capacity check.

I pointed this out to the maintenance manager who agreed that the test results I received are useless. At his suggestion, he traveled to my airport to pick up the batteries for retesting in his shop in accordance with the ICA.

His verbal report came back saying one battery passed with flying colors and the other barely passed. Because I sometimes fly in hard IFR at night, I wondered, *How barely?* The written sticky note for my maintenance log-book said only that both passed. Okay, I guess it was time to handle this myself.

I used to replace both batteries every three years; and it was three-and-a-half years since then. That could have been the easy option for me this time as well, but this was getting too interesting to do it the easy way. The capacity check seemed simple: Just apply a known constant load (18A for my G25) until the voltage hits 10V, and note the elapsed time.

I looked at prices for automatic battery capacity checkers that would supply the known constant load, and quickly calculated it would be cheaper to just buy two new batteries every three years for the next nine years instead of buying the cheapest capacity checker from Aircraft Spruce – and the checks still might indicate that I need two new batteries every three years!

Gill Battery tech support (very, very helpful, by the way) told me I could provide an improvised load (for example, landing lights) of some known current, locate the standard run time for that load in the service manual, and see if the time it takes to get to 10 volts is at least 80% of the load. I tried it, but I couldn't control the load. As the battery voltage decreases during the test, the current also decreases, which makes it hard to figure out what the run time should be. Also, the decreasing tungsten filament temperature during the test decreases the filament resistance, thereby increasing the current.

Unfortunately, those two constantly moving numbers don't cancel each other elegantly enough to result in a constant current. See formula:

Ohm's law is $E=IR$, which means that current in Amps ('I' is current) times resistance in Ohms ('R' is resistance) equals voltage ('E' is voltage).

To make my own tester that I can control to have a constant current, I needed a load (resistance) I could change during the test in order to maintain 18A for an hour while the battery went from about 13V to 10V. At the start of the test, I needed about $13V/18A = 0.722$ Ohms; and at the end of the test, $10V/18A = 0.556$ Ohms. It also needed to handle a bunch of Watts without burning up.

Three feet of 16-gauge nichrome wire would give me the range of resistances I needed, and a copper spark plug washer sliding along it let

me vary the resistance to keep the current a constant 18A. The wire would get to about 1300°F when loaded, so I suspended it between two metal supports. I bought 10 feet of 16-gauge nichrome (Chrome C) wire off the Internet (\$8.50 plus free shipping), and two inexpensive 12-inch Home Depot angle brackets for putting up wall shelves (\$1.67 each). I had everything else in the hangar or garage.


16 ga. nichrome wire is about 0.26 Ohms a foot cold, and about 10% more than that when hot, so I used 0.286 Ohms a foot for the calculation. I needed to start the test with about 0.722 Ohms, so the washer needed to be at $0.722/0.286$ feet (=2.53 feet or about 30 inches) from the end of the nichrome wire that is connected to the battery. As the battery voltage dropped, I used a screwdriver to tap the washer along the nichrome wire up toward the other battery connection to keep a constant 18-Amp load.

Ohms/ft.	INCHES/VOLT AT INDICATED CURRENT															
0.286	Volts															
Amps	13.0	12.8	12.6	12.4	12.2	12.0	11.8	11.6	11.4	11.2	11.0	10.8	10.6	10.4	10.2	10.0
18	30	30	29	29	28	28	28	27	27	26	26	25	25	24	24	23
30	18	18	18	17	17	17	17	16	16	16	15	15	15	15	14	14

I fastened the angles to a piece of wood that wasn't quite three feet long; so the supports are about two feet apart and the wire goes through and past one support by about a foot (*see photo*) while being kept in tension by vice grips (my apologies to shop teachers and OSHA inspectors everywhere). I attached a copper wire (I figured at least 12 ga., but only had 8 ga. available) to the washer using a clip. The other end went to one of the battery terminals. I attached another copper wire to the nichrome wire sticking out from one of the uprights and to the other battery terminal. I didn't use any solder because the calculated temperature made me wonder

if the solder would melt. After using the setup, I believe that solder might have been okay because the copper washers seemed to dissipate a lot of heat.

It would have been perfect to have a 20A or so ammeter in the circuit to know when and how much to tap the washer along the nichrome wire. But I couldn't find mine, so I calculated the washer position for each 0.2V change in battery voltage, and tapped the washer along the wire using a screwdriver (remember 1300°F) every time the battery voltage dropped an inch. For example, when the battery got to 12.6 volts, I moved the washer to 12.6/18/0.286 feet away (about 29 inches), and so on.


For the test, I set my washer starting distance (30 inches from the battery connection end of the nichrome wire), put a voltmeter on the battery, noted the time, and hooked up the circuit. When I reached 10 volts, I unhooked the battery and noted the time. The voltage dropped from 10.5 to 10V very fast, so it was good that I watched it constantly toward the end. I got 90% capacity, so I immediately recharged the battery (very important) and declared success. 

Ed. Note: A certificated mechanic must conduct or supervise the test and sign a logbook entry with the results.

Long term care and maintenance yields many benefits for the aircraft owner. A Lifetime ABS Membership will assist you in maximizing your safety and enjoyment of your airplane.

Don't Delay,
Sign Up Today.
I did.

Ron Hyde



A M E R I C A N
BONANZA
S O C I E T Y

Your Life Membership Benefits ABS and ASF!

- ▶ Supporting aging aircraft
- ▶ Working with the FAA to solve safety of flight areas of concern that impact the longevity and value of our fleet
- ▶ Delivering BPPP pilot training clinics and new online courses
- ▶ Conducting expert service clinic inspections of your Beech airplane
- ▶ Maintaining a world class staff of Beechcraft technical experts to research and offer the definitive answers to your questions
- ▶ Teaching and offering assistance to mechanics for Bonanzas, Debonairs, Travel Airls and Barons

Your Life Membership Benefits You!

- ▶ Monthly ABS Magazine – for the rest of your life
- ▶ Part of your Life Membership supports the Air Safety Foundation: an investment in your airplane.
- ▶ Framed Life Membership Certificate for your home or office
- ▶ Embroidered golf shirt with special life membership recognition design
- ▶ Your name will be published in the ABS Magazine yearly
- ▶ Never having the hassle of renewing your membership again – saving you time and ABS money
- ▶ Join over 500 members who have made a lifetime commitment to ABS

For more information on becoming an ABS Life Member:

Contact Whit Hickman at 316-945-1700 or absmail@bonanza.org

American Bonanza Society, P.O. Box 12888, Wichita, KS 67277 • Office Hours: 8:30 to 5:00 p.m. US Central Time, Mon.-Fri.

Green Means Stop – Right Now!

By Dick Pedersen, ABS Technical Advisor

ABS Board member Adrian Eichhorn put together an excellent series of photos showing exhaust valve coloring, which he calls the “burnt pizza look,” on valves that are in the early stages of leakage. He included photos showing more advanced stages of leakage where the valves exhibit some green coloring. The green color is a sign of excessive leakage and overheating of the valve. The green area is that in which valve failure will most likely occur if the problem is not discovered and corrected.

This is one case where green means “stop,” as in “stop flying the airplane” until the cylinder is removed, the cause of the valve problem is determined and resolved, and the affected valve is replaced. Adrian’s photo chart is available through AOPA.

Here are some photos I’ve taken of an exhaust valve that is “off the chart” so to speak. This valve is out of a 2004 A36 with an IO-550B engine that has approximately 950 hours Time-in-Service since new. The Bonanza

had been flown 202 hours since the previous annual inspection, when the compressions were all good and borescoping the cylinders did not reveal anything unusual. Fuel flows were verified per Continental Motors SID 97-3E at that last annual.

At this year’s annual the #6 cylinder had 10 pounds of compression (10/80). But I didn’t hear the normal hissing of air coming out the exhaust pipe that is normally associated with valve leakage. When I stuck the borescope into



FIGURE 1



FIGURE 2

this cylinder I could see why I wasn’t hearing the hissing noise. This exhaust valve is cracked in two places across the head of the valve, and is slightly warped. This warping on the valve head allows compression tester low volume air flow to flow unrestricted between the valve seat and valve face. The hissing sound is normally caused by air being forced through a very small opening such as a crack.




FIGURE 3

and cylinder, and most likely the entire engine, causing another beautiful Bonanza to have a forced landing somewhere.

I cannot stress enough the importance of performing a compression test and cylinder bore-scope inspection at regular intervals, along with checking the fuel flows per Continental SID 97-3E if you want to reach TBO in any of our fuel injected engines. Having

The pictures show multiple, parallel cracks in the seating area of the valve face. It's anyone's guess how much longer this valve would have stayed together before a chunk broke off and caused mass destruction to the piston

this done to your engine to prolong its life expectancy is sort of like going to the doctor and having your blood pressure and cholesterol checked, and having a colonoscopy to prolong your own life expectancy. 

Forum

ABS Idea and Information Exchange

The Forum section is intended as a space for members to respond to articles printed in the magazine, or to share their knowledge of a helpful idea for other members. Send your words and photos to absmail@bonanza.org.



Using the New Garmin GXM 40 XM Weather Antenna/Receiver with the Garmin 396 and 496

The Garmin GXM 30 and GXM 30A XM Weather antenna/receivers that came with Garmin 396/496 models are no longer available from Garmin. However, the GXM 40 model is compatible with the 396/496. The unit's operating software must be updated to accommodate the GXM 40. The operating system upgrades are available at no charge on Garmin's website.

The GXM 40 currently retails for around \$250. I purchased mine from Aircraft Spruce. The GXM 40 uses

less power than the GXM 30. I guess, from my personal use, that it uses between one half and one third less power. Another advantage over the GXM 30 is it no longer contains those pesky magnets.

—Geary Keilman

To Tom Turner: I enjoyed your (Oshkosh) presentation regarding Single-Pilot IFR. I would like to add one additional comment regarding use of pulse oximeters.

The oximeter, as you know, determines oxygen saturation based upon color. As you pointed out, that is why CO (carbon monoxide) exposure will

give an abnormally high reading. The point is that the oximeter is notorious for being inaccurate. When someone is flying and their oxygen (O₂) saturation begins at 98% on takeoff and now is reading 92%, this suggests that that person's O₂ saturation is too low – even if 92% is “in the normal range.” Therefore, I have been recommending that if there is any O₂ saturation that decreases more than 5% and/or is less than 92%, it is a good idea to begin use of supplemental oxygen.

My comment is based upon years of comparing oxygen saturation as seen on an oximeter and actual oxygen saturation obtained from patient's blood gasses at the same time. In other words, if a patient's O₂ saturation is less than 93%, I increase the amount of oxygen they receive until oxygen saturation is greater than 95%.

Now this is not a controlled study. It is only an observation based upon my years of experience managing patients in an ICU (Intensive Care Unit).

On top of that, personal experience has shown me that late night flight above 5000 feet MSL is less tiring, and I am much less prone to nod off, when I am using oxygen from an oximizer device delivering at least 2 liters per minute via a nasal cannula. If I am above 8000 feet MSL, three liters/minute appears to be better for me. When I am up flying at 13,000-15,000 feet MSL, I personally require four liters/minute via nasal cannula. Plus, no headache.

—Tom Pelz



I thoroughly enjoyed Jim Herd's editorial "Reviving Personal Aviation" (*ABS Magazine*, July 2014). The hill is up and the grade is steep. The shame is a perception his commentary reflects provocative or new contemplation. We have had this discussion in one form or another since the hay days, with the lack of action or even consensus contributing to our current situation. Jim's dozen-plus solutions are an excellent distillation of the issues, and in turn create a wonderful list of talking points that ultimately must be addressed. But within the multitude of concerns I believe the core issues of culture and economics have to hold our focus. As the scope is broadened, so too the goals expand beyond reach.

At this moment in history the piloting community continues to be

an exclusive organization, entrance to which requires time and money beyond most ability, creating a perceived value from which members derive a status of sorts, social or otherwise. This is not necessarily a bad thing as pride in accomplishment is well deserved and should be celebrated. But here is where a sea change must come – once status is achieved, we need to engineer our own extinction. The torch pass to our next generation has to not only be within a lifetime, but handed off several times within that span. Am I preaching to the choir? I would hope so, yet I pose the question "is anyone listening?"

We all have some personal connection to general aviation, and whether passion or profession want it to "live long and prosper." I do not pretend to have all the answers and as

with others I encourage the continuing dialog, but I will argue that to affect change our interests must move beyond the local and immediate, past an individual return on investment, and evolve from calculated per-hour costs and arbitrary expectations. We have to explore avenues outside the norm that where and when appropriate may include a shift in individual priority or economic model, comfortable or not.

Before calling me crazy or a heretic, please recognize that efforts to add to the community do not dilute its value or nature. Quite the contrary, they strengthen the voice and improve the economics. Again, it's not a revelation but at times an ideal lost in the contentious static: the wider the audience, the greater an attraction to join the audience. What a concept.

—Peter Durbin



So you fly your Bonanza 100+ hours every year. You think you are a pretty good pilot. You read the POH once in a while and can recite the emergency procedures and speeds. Why not take the opportunity to see if you can fly what's in the book? We are lucky we're flying Beechcraft because ABS's BPPP offers that experience. It is not a check ride, just two pilots spending time together doing what they love to do – to fly. I flew with Geoff Nye (Allentown, PA). It was a great experience. It was focused and fun. Geoff is very experienced both as a Bonanza pilot and former professional pilot. I can highly recommend him. So what are you waiting for? Sign up with BPPP now. You owe it to yourself and your family.

—Michael Madigan

A letter of thanks,

I'd like to take this opportunity to express my gratitude to some superb people I had the good fortune to deal with this past AirVenture. As (bad) luck would have it, within about a minute of shutting down I promptly ruptured an Achilles tendon and my foot folded under me as I was pushing my Bonanza into its temporary home on row-535. Our original plan was to arrive between the afternoon and evening shows on Wednesday to take advantage of the mid-week turnover in the North-40 camping area. As always, the patience and professionalism exhibited by the controllers through RIPON and FISKE should be held up as an example to every other member of their profession throughout ATC. After four loops around

Green Lake we got our sequence to RW36 for a "purple-dot" arrival.

The ground handlers with their orange wands were as well choreographed as any Broadway production and we were smoothly vectored to our assigned parking spot towards the west end of the North-40. At that stage I was being accorded the excellent treatment accorded to any other arriving attendee. But a moment later the true depth of "The Oshkosh Experience" came to the forefront.

Within moments of getting injured members of the EAA, CAP, and ABS were there to offer assistance. An ambulance was in front of our plane to whisk me off to a local ER in moments. The doctor on call, Nels Rose, splinted me up, provided an



adequate supply of medication to get me through the week, and even came out to AirVenture on Friday to listen to one of my presentations.

While I was being treated, the true quality of the people in the North-40 really began to shine. My wife (not a pilot) was immediately surrounded by knowledgeable and helpful people, from the EAA and American Bonanza Society (ABS) in particular, to help secure our plane and pitch camp. Paul Carroll from Rhode Island, and Barry Otto from New Hampshire, amongst many others we regrettably never caught names of, went above and beyond to help out a complete pair of strangers in need. The next morning, with the help of a few 'waved-down' golf carts, I arrived at the Museum in plenty of time to make my F-117 presentation to a standing room only crowd in



the SkyScape Theater. As an added bonus I had the honor of meeting former WASP Betty Strohfus outside. The exceptionally talented aviation artist Kristin Hill had already graciously offered me space in her booth in Hangar-A to both meet the public and sign a few of my books. By evening, we had run into a fellow former F-117 pilot, J.J. Johnson, who scooped us up to the Warbird camping area for some 1930's mobster-themed dinner festivities, and arranged transportation back to our camp at the end of the night.

Friday morning I had been scheduled for a 10:00 interview on EAA Live Radio that we were in danger of missing. But a lovely FAA photographer named Laura (Yes! Another kind and helpful FAA employee!) commandeered a cart

to get us to the communications booth. We wouldn't have made it on time without her help. My afternoon presentation was in the Honda Pavilion Forum-7 following the legendary Bob Hoover (talk about a tough act to follow!).

Commitments complete, it was time to hobble home. The next morning a Bonanza couple from Bourland, TX, Mary Jane and Bob Butt (a current American Airlines pilot, and a former multi-time National Sky Diving Champion respectively) graciously helped ferry our Bonanza back to Wichita Falls, TX.

While disappointed that I wasn't able to visit all of the impressive hardware around me (I had especially been looking forward to seeing the WB-57), I came away with a much greater appreciation for the community of aviators that make up the Oshkosh and ABS families. There are no better people in the world.

To one and all that helped – my heartfelt thanks. I look forward to seeing you all next year.

—Brad “Yukon” O'Connor



Tech Tips

Tech Tips are answers to questions about a specific airplane, system or operation presented by an ABS member, and are the opinion of the Technical Advisor. Answers are the best information available based on indications presented by the ABS member asking the question. Actual inspection of the aircraft or system in question may change an initial Tech Tips opinion. Aircraft owners, pilots and readers are advised to physically present airplanes and indications to a qualified mechanic before choosing a course of action.



Bob Ripley

retired from Delta Airlines as a manager of line maintenance (Atlanta) and has run an FBO focusing on Beech maintenance for 20+ years.



Curtis Boulware has managed a Bonanza, Baron, and T-34 Mentor-specific shop for 13 years, winning numerous national awards for T-34 restorations. He earned his Private in a T-34 and enjoys flying all models of the Beech piston family.



John Collins

has previously owned an FBO and avionics shops, and for several years has been ABS's Avionics columnist. He owns a Bonanza and is a CFI/CFII.



Dan Honeycutt

is an A&P/IA with over 20 years experience. He owns a California-based FBO specializing in Bonanzas and Barons.



Arthur Miller

has won numerous FAA awards as a mechanic, and runs a Beech specialty shop in central Florida.



Tom Turner

ABS-ASF Executive Director, holds a Master's degree in Aviation Safety. He has specialized in Beech pilot instruction for over 20 years.



IO-550R hot in climb

Kurt Larson

Fredericksburg, Virginia

Q: I have an F33A with 453 hours on an Atlantic Aero IO-550R STC. Over the past 50 hours my #6 cylinder runs about 30° hotter on takeoff power and 10-15° more than previously. My mechanic found no issues during the annual inspection 20 hours ago. A borescope inspection was not performed. A warm-engine compression on this cylinder was 72/80. I inserted a borescope and found the exhaust valve looked fine based on Mike Busch's online presentation. The piston did have carbon deposits. Should I be concerned?

A: The #6 cylinder is a usual suspect for running warmer than the rest. I know it is counterintuitive because the cylinder sits up front, but the incoming air is least likely to get down around the #6 cylinder. The high velocity incoming air doesn't want to make an immediate 90° downward turn to go around that cylinder.

Look at the cooling air flow from back to front and as a pressure differential issue. As the air enters the cowling it would most desire to move straight aft and not change direction at all. This would put it through the oil cooler first. As the pressure differential across the oil cooler builds, the incoming air pressure simply can't push any more through, so the next path of least resistance are cylinders 1 and 2 (the rear two). The air doesn't want to make the 90° turn, but now it's easier than getting more air through the cooler. Again, as the volume through 1 and 2 reaches its limit, it becomes easier for the air to get through 3 and 4. Lastly, the incoming air finally relents and makes the 90° turn to push through 5 and 6.

There are baffle modifications offered by GAMI and D'Shannon that solve this issue. They have small blast tubes that put high velocity air below the #6 cylinder to lower the pressure below the cylinder and draw more air down sooner (this makes the incoming air more willing to make the 90° turn sooner). It usually results in a 20-30°F temperature drop in #6.

A sudden increase in cylinder temperature over a short time suggests something changed, either to air flow, fuel flow, or ignition. If the baffles don't fit tightly the air that does get around the #6 may be reduced. With your airplane in a dark hangar, close the cowling tightly. Insert a shop light through the cowl flap opening and look into the air inlets on the front of the engine. If you see light, that's a gap in the baffles that should be fixed. Next, have your mechanic clean the injector nozzle for the #6 cylinder. Make sure that if you have tuned fuel injectors that the correct injector is in the #6 cylinder. Check the spark plugs and ignition harness to the #6. If none of these ideas works, have your mechanic check the ignition timing. Timing of the spark can result in changes in cylinder temperature. —CB

V-Tail cuff

Richard Haupt, Edina, Minnesota

Q. I've been looking at Model 35 Bonanzas to purchase. On one I found something interesting and a bit alarming to me. It is a beautifully updated H35 and the leading edge V reinforcement "cuff" had no doubler and cherry max rivets installed. It had the cuff bucked to existing stringers, which, in my mind, is not an adequate modification. I suspect there are several STCs that cover the cuff addition, I just hadn't seen this one before. Is it legal and safe?

A. AD 94-20-04 revision 2 applies to this aircraft. The AD references Beech Service Bulletin 2188 for this required modification. When the cuff kits were installed, they were attached with flush cherry max rivets. The only STC permitted to remain was the Mike Smith Aero stub spar mod, and all other modifications should have been removed. The airplane as you describe does not comply with the Airworthiness Directive. —BR



Auxiliary fuel pump rebuild

George Hall, Coronado, California

Q. My A36's auxiliary fuel pump is admitting air into the fuel system. I am advised by my mechanic that rebuild is more expensive than new, at \$1,500 with a \$400 core. Do you have a more economical shop for a rebuild?

A. Unfortunately, the increase in price is a direct result of Dukes increasing the price of its rebuild kits. I normally use CJ Aviation out of Miami, Florida, as they offer new, rebuilt, or STC'd pumps at different price levels. You can contact them at 305-378-9458. —CB



Prop heat ammeter

Simon Miles, Glendale, California

Q. My 1983 B36TC's original prop heat ammeter needs to be physically tapped to register an indication of current. Can I replace it with an ammeter from Davtron? They have several models available, with and without a shunt.

A. As long as the replacement unit is TSO'd you can replace the original with an aftermarket part and a logbook entry. Based on the wiring print for your serial number, there is an external shunt attached to the back of the ammeter. If you can separate the existing shunt from the existing ammeter, you can replace just the ammeter with a non-shunted part number. If you want to replace the complete assembly, you will need an internally shunted ammeter. The prop de-ice system is a 20 amp system, so choose an appropriately rated shunt. —CB

Magneto drop

Harvey Kriegsman
Palm Bay, Florida

Q. I have a B55 Baron. One engine has two Slick magnetos, about 350 hours on them since an engine major overhaul. It has new BG341 plugs. Timing checked perfect. I was getting smooth but 200 rpm mag drop before installing new plugs, and the same after. Any ideas as to the problem?

A. It's been my experience that when you get an even but excessive mag drop on *both* magnetos it can be an indication of a mixture problem at that particular RPM. Try leaning the mixture to about best power, 80°F to 150°F rich of peak, prior to doing the mag check and see what you get. You can also try doing the magneto check at a couple hundred higher RPM and see what it does.

The other possibility that comes to mind is that both magnetos have drifted off on the internal magneto timing. This would be a rare happening and would require repeated retiming of the magnetos to the engine for them to still be set correctly to the engine. Check your logs to see if timing has been adjusted and, if so, how many times. —AM

Eyebrow lights

Michael Brooker
Guelph, Ontario

Q. My 1986 B36TC's eyebrow light lens under the glareshield is cracked and broken in multiple places. Besides Beechcraft, is there any other source for this part? I appreciate any information you have (part #, price, etc.).

A. I have made them in the past very inexpensively. You can buy an opaque/white acrylic sheet like this: www.tapplastics.com/product/plastics/cut_to_size_plastic/acrylic_sheets_color/341

If you use the "sign white" it provides a nice glow when lit. Simply cut to size and shape, drill, and install. —CB

**Where's the valve?**

Aaron Wright
Carmel, Indiana

Q. My V35TC's parking brake is not working. The mechanic suspects the parking brake valve. I see it in the parts manual but don't know where it is located.

A. The parking brake valve is mounted on top of the nose landing gear well just forward of the firewall. —DH

Main gear lock tab

Michael Uhlken
Scottsbluff, Nebraska

Q. I have an E35. I am looking for a lock tab or lock pin that goes in the top of the main gear strut that keeps the plug from turning and is held in place with the snap-ring that holds the plug in also.

A. There is no lock tab for the plug in the top of the strut. You will need to use a spanner wrench in the two holes in the top plug. I do not have a specific spanner wrench to recommend for this as most of the shops I know of are using military surplus tools for this, or homemade tools. —AM

**Flyover noise**

Geoff Semler, United Kingdom

Q. FAA AC91-86 requires aircraft operating outside the U.S. to carry Noise Certification Documentation on board the aircraft. I own a 1977 F33A. Could you please advise me whether there is any noise certification data, and if so how I obtain a copy of it?

A. Per the 3A15 Type Certificate, for an aircraft issued an Airworthiness Certificate before January 1, 1980, no noise certification data exists and they are not required. The only exception to this is if your aircraft has been modified with an "acoustical change" as described in 14 CFR 21.93 (b) – a voluntary change that increases the noise level).

Because of this, use form Appendix 3 of AC91-86, following the instructions in Appendix 1. The Appendix 3 form has a pre-entered statement in block 18 that your aircraft pre-dates noise requirements for certification.

Aircraft certificated after January 1, 1980, that have noise levels listed in accordance with Part 36, will have those levels listed in the Aircraft Flight Manual. —AM

Servicing landing gear struts

Dauphin Womack
Higden, Arkansas

Q. How do I service my N35's landing gear struts?

A. Servicing the landing gear can be found in the Maintenance Manual under chapter 12, "Servicing." Assuming you only need to service the struts with dry nitrogen, attach your regulated high pressure tank of nitrogen to the filler valve located at the top of the strut. Increase the applied pressure to approximately 450-500 lbs. Gently lift the wing at the wing tip until you achieve the desired strut height, i.e., the amount of "chrome showing."

If you need to add fluid and nitrogen, your strut has seal problems and may need to be disassembled and resealed. —CB



IO-520 fuel pump

Ted Leng, Palo Alto, California

Q. Today I asked my IA to increase the takeoff fuel flow to my IO-520Cs on my 1966 C55 Baron. One engine adjusted just fine, but the other was difficult to adjust and the IA thought that it was old and suggested replacement. How can you tell if an engine-driven fuel pump needs to be replaced? Are there warning signs of it dying, or will it just suddenly quit on me? If I want to get a good overhauled unit, where can I find one?

A. Have your mechanic refer to Continental Service Information 97-3F, which covers adjustment of the fuel injection system. Under normal operations, the pump will last until engine TBO. If you cannot adjust the fuel pressure up to the specs in 97-3F, the pump probably needs to be overhauled. I have had great results with Dave at Great Planes Fuel Metering in Tulsa, Oklahoma (918-619-9600). —BR

Ruddervator hinge play

Bernie Willis
Wasilla, Alaska

Q. I know the ruddervator inboard hinge tolerance is zero for looseness. But what about the outboard hinge, bolt bushing, and bracket?

A. All of the ruddervator hinges are a ZERO tolerance fit. If you remove the ruddervator, always replace the bearing and the bushing. —BR



Window curtain hardware

Jerry Osborne
Prescott Valley, Arizona

Q. Where can I go to find out about the subject of window curtains for a J35 Bonanza? I would like to investigate how the hardware is fixed to the window frames, which windows are affected, cost, and where to purchase the hardware. Also, I'd like to know where to select and purchase the curtains.

A. The Illustrated Parts Catalog for the J35 would be your best bet in finding part numbers and assembly drawings for the curtains and mounts. I do not have a source for these items other than the aircraft salvage yards around the country. They have usually been removed and thrown away, so very few spares still exist. A good seamstress should be able to fabricate the curtains with little trouble using FAA-approved fabrics. —CB



New Life Membership

ABS extends a warm welcome to these members who have recently become ABS Life Members.

Joseph L. Palazzi
Wallingford, Connecticut

David A. Dye
Daphne, Alabama

Thomas A. Stayer
Omaha, Nebraska

Cindy A. Stones
Lebanon, Kansas

Baron landing gear issue

Darwin Engen
Spokane, Washington

Q: I have an intermittent issue with my 58P's landing gear. It hesitates to come up when I raise the landing gear switch: It takes five to 60 seconds before the landing gear motor starts running. Mechanics have checked every wire and switch in the circuit. The gear motor brushes seem okay.

A: It sounds to me like a gear motor issue. Can the problem be duplicated with the airplane on jacks?

While on jacks with the gear handle in the up position, battery master on, and aircraft in the "failed" condition you describe:

- If there is voltage at the motor, but the motor will not move, turn off the power, engage the emergency hand crank, turn it clockwise 1/2 a turn, stow the crank, and turn on the electrical power. If the gear motor then runs, you know you need to replace the motor.
- If there is no voltage at the motor and the motor is not running, you will need to troubleshoot the system further.

Contact us if you don't resolve the issue and we'll help your mechanic troubleshoot it further. —CB

Learn "How to Teach Beech" with the American Bonanza Society's ABS Flight Instructor Academy



\$125
See Instructor Training
at www.bonanza.org

- Computer-Based Training on Instructional Techniques for Beech Bonanzas & Barons
- Aircraft Systems, Procedures, Techniques and Flight Maneuvers Guides
- Academy Graduates are Listed on the ABS Website Instructor Referral List for Over 9000 Beech Pilots
- ABS Flight Instructor Mentor Program to Answer Your Questions About Teaching in Beechcraft
- Opportunity to Become Accredited in ABS' Industry-Leading Beechcraft Pilot Proficiency Program (BPPP)

Classified Advertising

Classified Advertising Rates: Members 75¢/word; \$5/month for Web placement. Non-members \$1.25/word; \$15/month for Web placement. 25 word minimum.

Display Classified Advertising Rates: \$195 per month. Ad size is 3-3/8" by 2-7/8". Include a full color picture of your item along with up to 50 words.

Format: Grouped initials count as one word. Telephone numbers and e-mail addresses count as two words. All other words count as one.

Terms: Prepaid with order, no agency discounts.

Closing Date: Must be received by 5th of month before placement.

To Place: Ads need to be submitted in writing. Mail to P.O. Box 12888, Wichita, KS 67277; Fax to 316-945-1710; or use the ABS Advertising Links at www.bonanza.org.

Questions: If you have questions call 316-945-1700.

AIRCRAFT FOR SALE, RENT, PARTNERSHIP

DON'T MAKE AN EXPENSIVE MISTAKE! Call me for a Free Consultation on your purchase of a Bonanza or Baron before you Pre-Buy. Visit my web site at www.beechcraftbuyers.com. Or call 850-240-7243. 7/476

Thinking of selling your Bonanza? Call me; I have buyers looking for good clean Bonanzas. BeechcraftBuyers.com; 850-240-7243. 45/478

1983 Be-36TC 3930TTAF, 1440SMOH, 500SPOH, KFC-200, KI-225HSI, GNS-530, JPI701, Oxygen, Fresh Annual \$174,900 Contact Brian @ 541-420-2638. 472

******* Bonanza 3 Place Bench STC - \$500 ******* Turn your 4 place V-tail Bonanza into 5 place with this NEW STC! matt.grondin@hotmail.com, (817) 528-4638. 471

1953 D-35 E225-8, Speed Slope w/s, Cleveland wheels and brakes, Beech electric prop, nice interior, good paint, Rams horn wheel w/aileron trim, King, Collins, Narco radios. 40 gals fuel, plumbed for tip tanks and 20 gal aux tank 6800TT, 1490SMOH \$25,000. 770-487-4322. 470

1980 Beech Baron 58 - 5192 TTA 1344-SFRM L (Continental Gold Medallion Factory Reman, CB Heavy Case series) 235 - SFRM R (Continental Gold Medallion Factory Reman, CB Heavy Case series) 642 SPOH-L (October 2000) 642 SPOH-R (October 2000) AVIONICS King Silver Crown Equipped King KMA-24 Audio Panel w 3LMB King KY-196A Comm King KY-196A Comm King KNS-80 RNAV System w VOR/LOC/GS/DME+ King KN-53 Nav w VOR/LOC King KR-87 ADF King KT-76A Transponder IDC Encoding Altimeter Garmin 155-XL GPS System (IFR Enroute and Approach Authorized, Coupled to AP) Bendix King RDR-150 Color Weather Radar Insight Strikefinder PM-1000 II 4 Place Voice Activated Intercom System + King KFC-200 Autopilot/Flight Director King KCS-55 Slaved HSI and Compass System OPTIONS/FEATURES Wing and Empenage De-Ice Boots Ice Light 3 Bladed Hot Props Streamline Alchy Windshield Streamline Bottom Beacon Heated Fuel Vents Long Range Fuel (200 gallons) VG's Stainless Steel Kit \$235,000 586-945-5411. 466

1975 V35B - TT3280, SMOH 465, No Damage, 3 blade Hartzell scimitar, Gami injectors, King Digital, slaved HSI, radar, yaw damper, strike finder, JP EDM 700, dual yokes, Tanis heater, Bruce's covers fuselage, tail, and wings. \$89,000, 860-318-5253. 464

64 S 35 368 factory reman - 4600tt. very clean, corrosion free. Sweet running with three blade McCauley. King radios, Century I, intercom 403, strobe, Cleveland brakes, Gami injectors. \$69,500. 360-432-8292 egpilg@msn.com. Based Shelton, WA. 450



68 V35 Bonanza - IO520 with IFR Collins Flip/Flop Microline, King DME, Strike Finder, 4 Place Intercom 3 Blade, Large Baggage Door, 5 Seats, Cleavelands, Brittan Wing Leveller, Ramp Umbrella, All Logs, Always Hangared. Paint and Interior Excellent. Nov annual all compressions 72 -> 78. June Compressions 70 -> 78. 2575 Total Time, 870 since reman. vcian@netescape.com; 330-207-9535. \$65,000. 468

1960 M35 Bonanza - 1335 hours total time since new, 333 SMOH including prop & injection system. Has all available D'Shannon upgrades including tip tanks, one piece windshield. Dual Controls, never damaged and has been hangared all of its life with only 3 owners - \$70,000. Contact Terry Ray 956-592-8000. 461

1969 V35A Bonanza - 5300-TT, 1620-SMOH, 135-SPOH, 3-Blade Prop, Garmin 530W, GAMIs, EDM700, Brittain A/P, Backup Air Pump, AeroLEDs Landing Light, Paint-8 (Imron), Interior-8 (leather), NDH, Hangared, Excellent condition and Beautiful Paint, 78/80 compressions, Annual due 6/15, IFR Cert., Brian - 916-709-1999 broadchpa@gmail.com, NorCal (KGOO). 467

Sale/Trade - 1975 E-55 Baron, TT4950, 525 SMOH (Penn Yan), new leather seats, Garmin stock w dual G430 (WAASx1), Century IV (freshly overhauled), dual yolk. Annual, IFR due 4/2015. Very nice and well maintained. Always hangared. \$125K. Contact: nge49@hotmail.com, 901-413-1752. 437

For Sale: 1990 F33A – 1390 TTAF. 900 STOH. NDH. Always hangared. Avidyne MFD. Garmin430W. Traffic. XM Weather. KFC150 autopilot. Strikefinder and more. \$190,000 OBO. Email: flyingmdl@hotmail.com. 449

1977 BE55 – Price Change, please call. 2940TT, 110 SMOH both, 110 SPOH both (3 blade), GNS430, EX500, color radar, C IV A/P, slaved NSD360, GTX327, VGs, dual yoke, GAMIs. co-pilot inst, hangared. Contact Ed: 205-807-5800 and n6810y@yahoo.com. 348

F33A 1987 1920hr IO550 with Hartzell scimitar prop. Both with 180hr. Aspen1000 PDF, garmin 430W and 530W, King150 all linked. GDL 69, GTX330, Avidyne TAS610, JPI 800 engine monitor, A.C. systems climate control (2011 same as new factory Bonanza). Brand New All leather interior with wool carpets by Ambience Interiors). Paint 7plus. Always Hangared. Last 10 yr cared for by Bob Ripley and Kalamazoo Aircraft. Outstanding aircraft with no issues. Recently completely gone over by Kalamazoo Aircraft with all the minor issues made perfect. Annual due July. \$223,900 Bruce Evans. 248 321 9401. Hangared in Harbor Springs or Howell, MI. 454

63 DEBONAIR \$69,900 B33 N315NF CD-657 Total time since new airframe 3420 total time since overhaul eng 600 lower overhaul 120. ALL DONE in 2013 injection system , prop, bladders, all gear overhaul , tires , all glass, interior, JPI, seat belts , door steward, ext. oil filter , spark plugs, baffling, brakes, gas caps, ALL new oil and fuel lines, , overhauled fuel selector and boost pump, all new wiring, dual joke, all led lights on all instruments I am retiring and going to Mexico don't want to sell but have no place to put it. 760-609-6010. 451

1984 Beech – F33A Bonanza, 1996-TT, 237-SMOH, A/P, DME, Flight Director, King Avionics, Stormscope, HSI much more! Owner (NW Chicago), Call Ted (847) 683-9349 after 12:00 PM Central. 458

Partnership 1973 F33A – Based Chicago 1C5. Reposition possible. 7500TT. Engine, Prop OH, Annual Complete 10APR14, IO-550B, Hartzell Three Blade, Dual Yolk, HSI, AP, 530WAAS, KX155, XMWX, Storm Scope, JPI700, GAMI Inj, Strobes, Vortex Gen, Tanis, etc. Always hangared. Jerry 312-656-8636, jloftus@emiusa.net. 430

1983 B36TC – TTAF -1975 HRs, 392 SMOH, 392 SPOH, looks 8/8 KFC-200, GNS 430 WAAS, GEM Engine Monitor, Fresh Annual, Always hangared, Fantastic Traveling Machine. 541-601-8292. 427

1967 C33A – 2945 TT, 1343 TSOH w/GAMI's; 3 blade Hartzell 270 TSN; BDS Tip Tanks; S-TEC 55X with Alt. Preselect; KNS-525A HSI; GTX 330 w/S; Electric backup Attitude Indicator; Shadin Miniflo-L; JPI EGT/CHT; GNS-530W WAAS IFR; KX-155; Insight Strikefinder; Dual Ram's Horn yoke; BDS speed slope WS, 2nd and 3rd windows; Cleveland brakes; Rosens; Gapseals; Gray leather interior and powder coat panel; Always Hangared; NDH; complete logs/Adlog; Fuel:104 gals.; 1340 lbs. useful load; Call Tim @ 321-591-9229; tilane@juno.com for pxs. 424

1981 A36TC EA-245. 3053 TT 1219 SMOH Garmin 530 WAS JPI Hot Prop, 2 Owners Clean. New ELT, Lost Medical. Robert (360)713-8077, bobmeurer@hotmail.com. 386

BEECH WANTED!!! All models, run-outs OK, needing P&I/Radio upgrades OK, fast discriminate transaction on your ramp 20 years experience/references. Jim 760-803-3093, avloc@yahoo.com. 459

INSTRUCTION

Bonanza/Baron initial + recurrent programs. Train in FAA approved model specific simulators based on BE36 and BE58 aircraft. Located in Seattle's Ballard community, our programs fulfill insurance requirements and are taught by instructors with thousands of hours of experience. Luxury hotel accommodations available at discounted rates. *www.modern-pilot.com*; 888-751-1011. 375

Bonanza, Baron and P-Baron Instruction – Gold Seal and Master CFI. Insurance approved P-Baron initial and recurrent training, Garmin and G-1000 instruction, insurance check-outs, instrument and ME ratings, assistance with purchases. Gerry Parker, 713-826-6663 (TX), gparker@pmkc.com. 5/475

Baron and Bonanza Instruction – Tennessee based (will travel) Stephen Hammers, CFI, CFII, MEI, ATP – 25+ yrs. Exp. BPPP Instructor. Baron E55 and 58P Owner, Initial and Recurrent Training, Instrument Competency Check or Insurance Checkout. Call 615-479-7195. 54/479

Instrument Rating in Ten Days – Earn your instrument rating in only ten days. Glass or traditional instruments. \$9995 includes aircraft and Redbird full-motion simulator training). Details at 877-212-0951 or www.FlyTexasAmerican.com. 438

Complete the ground portion of your Flight Review – in your own home, on your schedule. Logbook endorsement guaranteed for only \$29.95! Visit www.WINGsRealityEDU.com. 394

Southwest Beechcraft Instructor: All models. Available in Las Vegas, Phoenix, Flagstaff, and all surrounding airports – will travel. Initial and recurrent training, flight reviews, IPCs, insurance checkouts, additional ratings, and assistance with sales/purchases. BE-58/F33A owner. CFI/CFII/MEI with ATP, call Troy Dixon (602)628-2314, TroyJasonDixon@yahoo.com. 64/484

EQUIPMENT, PARTS, SERVICE

Wanted: Dual control yokes, single control yoke, handle, or any parts to them laying in your hangar. Have some avionics, may trade. Call 580-430-1414, email: airmech@sctelcom.net. (00)

Elevators, 33 thru Baron. FAA-approved repair station #209-53. Biggs Aircraft, 405-258-2965, Fax 405-258-3016. 67/486

Lightly used collision avoidance device ZAON MRX for sale. In excellent condition. Sold aircraft. \$395.00 cbrucecm@gmail.com or 518-669-2999. (00)

Complete NIB D'Shannon A-36 Glass Kit 1/2 Front, 3/8 side with vents, 1/4 rear Gray color. W/ Instructions & STC. \$2500, call 310-980-0301. 469

FLIGHT CONTROLS RESKINNED: Flaps, Ailerons and Ruddervators 33 to King Air. Exchange and Paint available. One price covers all. Built in certified Fixtures by Experienced Technicians. FAA CRS U5LRO68X FAA-PMA. 877-364-8003 or 952-447-7737 Email: airplanes@msn.com, Web: www.srsaviation.com. 462

Experienced Technicians FAA CRS U5LRO68X FAA-PMA (877)364-8003 or 952-447-7737 Email: airplanes@msn.com Web: www.srsaviation.com. 463

Bonanza Parts – Specializing in 35 and 36 Bonanzas. We dismantle many Bonanzas for parts! A thru P, M thru V35A-B, A36, B36, Debonair, A-F33. Email bonanzaparts@gmail.com or call requests to 530-661-1696. Visit our web page, www.bonanzaparts.biz. 65/485

A-33/36 Elevators, \$2275. Ruddervators, \$3550. Visit our website regarding recent parts price increase for Beech skins. AeroSurfacesLLC.com. Aero Surfaces, FAA Repair Station OG3R735L, 530-893-5416. 101

Fast Aviation has BE35 Parts! – Airframe to Powerplant – lots of BE35 parts! We specialize in early V-tails. Call us with your needs! Electric prop, hard to find parts, etc. www.fastaviationflorida.com. 447

FLIGHT CONTROLS. We re-skin Elevator Flaps and Ailerons for 33 to King Air 300. All flight Control are built in a Fixture by FAA Cert Technicians. Call Davis Martin, Structures DBA Control Center LLC, 405-401-7757. 255

SmartSpace Extended Baggage – for Beechcraft 36/A36 – New STC/PMA give your pre-1979 A36 the same baggage capabilities as the latest G36! Installs in 1-2 days with minimum effort. www.ApproachAviation.com; 978-314-4626. 425

ENGINE BAFFLE: Replace your 470 series or E225 engine Baffle with PMA Engine Baffle, Twice as thick As OEM. Also available are PMA Push Pull handles (Aluminum). FAA CRS U5LRO68X FAA-PMA 877-364-8003 or 952-447-7737. Email: airplanes@msn.com. Web: www.srsaviation.com. 405

ENGINES-IO-550-B 1200 SNEW, “special” edition, ‘0’ SMOH, complete with accessories, outright or exchange; will take trades. One Stop Aviation 760-721-1389 or email engines1@cox.net. 378

Cylinders – Hard to find E-Series Cylinders, plus IO-470 & IO-520 Overhauled Stud Assy One Stop Aviation 760-721-1389 or email engines1@cox.net. 377

Spar Mod. Kit Installation Bonanza/Baron. Calkins Aero Service, Inc. – Houston, TX. 281-579-6674, caero@sbcglobal.net. 79/491

Mike’s Upholstery: Custom interiors, singles-light twins. FAA certified. Same location since 1968. North Omaha Airport (3NO). Omaha, NE. Mike Roney, 402-572-8788. 74/490

Engine Upgrade? STC’d IO-550-B Engine Conversions for S35, V35, V35A, V35B, C33A, E33A, E33C, F33A, F33C, G33, 36, and A36 Bonanzas. IO-470C or IO470-N Engine Conversions for A35 thru G35 Bonanzas & 33 thru F33. Other Mods, shoulder harness assemblies, instrument panel conversions, SS battery boxes, seat conversions. All Bonanza Mods. Hammock Aviation Services, Inc. 972-875-4279. Ennis, TX. www.hammockaviation.com. 69/487

Bonanza Inspections, maintenance, and repair. Quality service with reasonable prices. Owner assists available. Dynamic Propeller Balancing. Bonanza owner with 25+ years experience. Brian Stout, A&P, IA. Flying S Aviation. RHV, San Jose, CA. 408-258-9462. 81/481

RIGGING TOOL RENTAL. Increase safety, performance and control with ABS rigging tools \$100 plus two-way shipping for 12-day rental. Available tools are an Aileron travel board and one each Ruddervator (D-1 through D-2680) and Ruddervator (D-2681 and after) travel boards. RESERVE AHEAD for your inspection/repair. ABS HQ 316-945-1700. 483

Fuel Gauge Printed Circuit Modules Rebuilt F33, V35, A36 Bonanza and Barons. Guaranteed. Replaced if defective. \$525.00 ea. Exchange. Send old unit or call: Birks Aviation Products, 3520 W Saymore Lane, Peoria, IL 61615. 309-686-0614. Email: jbirks2@att.net. 70/488

Dual & Single Control Yokes large handles, trim knobs, all misc. parts for control yokes, exchange your faded & cracked handles for our like new refinished ones. Exchange singles for dual & vice versa. Call for quote, we buy any duals, singles or any parts. Air Mech, Inc., 580-430-1414 email: airmech@scelcom.net. For 20 years: Being your best source for affordable yokes is our specialty. 66/474

Cover-Ups by Denise. Expanded vinyl gear & flap actuator covers for Bonanzas and Barons. Uplock cover – \$38.00. Retract rod cover – \$40.00. Steering rod cover – \$20.00. Wing Flap actuator cover set – \$47.00. NEW!!!! Chamois main gear cover set – \$69.00. Charge for shipping and handling. Call or fax Denise at 321-725-9226. 72/489

Seat Specialists – Seat recline cylinders repaired, seat repair, seat replacement parts. Call Chuck at AvFab 660-885-8317 or chuck@avfab.com. 63/482

Tables, new and used available. Contact Chuck 660-885-8317 or chuck@avfab.com. 61/483

Dual Yoke Rental. Baron/Bonanza. \$300 plus shipping for first 2 months, \$125/mo thereafter. Steve Weaver 843-475-6868. (WV). 59/481

BARON A/C STC KITS FOR SALE! Cool Air™ approved for 55 thru 58TC series Barons. Total electric, remote mounted. Capable of ground cooling, light weight R134 certified. Call Gary Gadberry at Aircenter, Inc. 423-893-5444 (TN) or email airctr@aol.com, www.aircenterinc.com. 57/480

REAL ESTATE & GETAWAYS

SPRUCE CREEK FLY-IN REALTY – RESIDENTIAL AIRPARK, www.fly-in.com. Daytona Beach, Florida. ABS Sponsor, members. Home of over 60 Bonanzas and Barons. Gated Country Club Community with its own Airport, 4000' paved runway x 180' wide, 5/23. Private GPS approach. (7FL6). Taxiway Homes from \$540,000, condo's from \$130,000. Golf/Nature Homes from \$180,000. Lenny Ohlsson, Broker, SPRUCE CREEK FLY-IN REALTY, 800-932-4437, e mail: sales@fly-in.com. 16/477

Blakely Island, WA. No tourists on this private island in the San Juan Islands NE of Seattle. Enjoy marina, 2 lakes, community beaches & lush forest. Private paved & lighted runway. Nicely wooded lot with a beautiful water view. \$250,000 photos available blakelyisland@aol.com, 503-639-4593. 457

Threshold Ranch Residential Airpark
Brief description: Premium Texas residential airpark in NW San Antonio/Boerne area. Large 3/4 to 1 acre lots starting in the 80's. Gated, City water, underground electric/gas, curbed streets, paved backyard taxiways. IFR full service airport (5C1). Thresholdranch.com Kevin Best 210-260-5111 Contact e-mail: kafleming@mac.com. 240

Real Estate – Greers Ferry, AR. House/Hangar for sale on 3000' lighted grass strip. \$290,000. Call for Details, 501-250-3334. 445

WANTED

BE B-55 Partner Wanted – BE B-55 1/3 partner wanted based in Addison, Texas @ KADS. Two partners looking for additional 1/3 partner, in aircraft to be acquired. Call Bill at 972-740-2620 or e-mail bphillips@huntoil.com. 460

Powertow 40EZ 10 yrs old, like new, runs great, has adapter for Beech and for SE Cessna. Located in Toledo, OH. Cannot ship it, must pick it up. I can bring it to the airport to meet you. \$750.00. 239-220-0683. 452



ABS Board

	Term Expires		Term Expires
President		Paul Damiano (Area 1)	2016
Bob Goff (Area 3)	*2015	513 Forest Lake Rd. Dalton, NH 03598 Phone: 860-306-3441 <i>paul@damianomusicconsulting.com</i>	
1963 South Creek Blvd. Port Orange, FL 32128 Phone: 231-342-8040 <i>robert.goff6@gmail.com</i>		Adrian Eichhorn (Area 2)	2016
Vice President		724 E. Genesee St. Frankenmuth, MI 48734 Phone: 703-731-8262 <i>adrian.eichhorn@jetblue.com</i>	
Ward Combs (Area 6)	*2015	Ron Hyde (Area 5)	*2014
10474 Stardust Lane Blair, NE 68008 Phone: 402-426-8041 <i>wacii@abbnebraska.com</i>		PO Box 569, #1 Airport Rd. Kenedy, TX 78119 Phone: 830-583-5930 <i>ronhyde7@gmail.com</i>	
Treasurer		John Annable, M.D. (Area 8)	*2015
Cameron G. Brown (Area 4)	*2016	20911 Earl St. #440 Torrance, CA 90503 Phone: 310-542-0455 <i>johnannable6@msn.com</i>	
150 Riverside Rd., Rockford, IL 61114 Phone: 815-490-6750 <i>camsybil@gmail.com</i>		Stuart Spindel (At Large)	2014
Secretary		P.O. Box 484, Hawesville, KY 42348 Phone: 270-316-7537 <i>stuspidel@gmail.com</i>	
Tom Rosen (Area 7)	*2014		
633 Rustic Ranch Ln. Lincoln, CA 95648 Phone: 916-408-8666 <i>tsrosen@pacbell.net</i>			

*Second and/or final term

-
- Area 1:** Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
- Area 2:** Indiana, Kentucky, Ohio, Maryland, Michigan, Washington, D.C., West Virginia, Canada, and all other foreign countries except Mexico.
- Area 3:** Alabama, Florida, Georgia, North Carolina, South Carolina, Tennessee, Virginia.
- Area 4:** Illinois, Iowa, Missouri, Minnesota, Wisconsin.
- Area 5:** Arkansas, Louisiana, Mississippi, Oklahoma, New Mexico, Texas, Mexico.
- Area 6:** Arizona, Colorado, Kansas, Idaho, Nebraska, Nevada, North Dakota, Montana, South Dakota, Utah, Wyoming.
- Area 7:** Alaska, Oregon, Washington, northern California counties north of the northern boundary of Kern, San Luis Obispo, and San Bernardino Counties.
- Area 8:** Southern California, including the counties of Santa Barbara, Ventura, Kern, San Luis Obispo, Los Angeles, Orange, Riverside, San Diego, San Bernardino and Imperial Counties, plus Hawaii.
-

Past Presidents

1967 - 1971: B.J. McClanahan, MD	1993 - 1994: John H. Kilbourne
1971 - 1973: Frank G. Ross*	1994 - 1996: Barrie Hiern, MD*
1973 - 1975: Russell W. Rink*	1996 - 1997: Ron Vickrey
1975 - 1976: Hypolite T. Landry, Jr., MD	1997 - 1998: Willis Hawkins*
1976 - 1977: Calvin B. Early, MD, PhD	1998 - 1999: William C. Carter
1977 - 1978: Capt. Jesse F. Adams, USN(R)*	1999 - 2000: Tilden D. Richards
1978 - 1979: David P. Barton*	2000 - 2001: Jon Roadfeldt
1979 - 1980: Alden C. Barrios	2001 - 2002: Harold Bost
1980 - 1981: Fred A. Driscoll, Jr.*	2002 - 2003: Jack Threadgill
1981 - 1983: E.M. Anderson, Jr.*	2003 - 2004: Jack Hastings, MD
1983 - 1984: Donald L. Monday*	2004 - 2006: Craig Bailey
1984 - 1985: Harry G. Hadler*	2006 - 2007: Jon Luy
1985 - 1986: John E. Pixton*	2007 - 2008: Arthur W. Brock
1986 - 1987: Charles R. Gibbs	2008 - 2009: Bill Stovall
1987 - 1988: Joseph McClain, III	2009 - 2010: Ron Lessley
1988 - 1989: Lee Larson*	2010: Stephen Blythe
1989 - 1990: William H. Bush*	2010 - 2011: Lorne Sheren, MD
1990 - 1991: Ray L. Leadabrand*	2011 - 2013: Keith Kohout
1991 - 1992: James C. Cassell, III*	
1992 - 1993: Warren E. Hoffner	

*Deceased



Additional details are available at www.bonanza.org, under News & Events. More extensive coverage of "regional" fly-ins can be found on their websites (see web addresses below).

ABS Events

Please post all your events on the ABS website www.bonanza.org.

SEPTEMBER 11-14

ABS Fly-In/Wine Country with the Pacific Bonanza Society – Sonoma County, CA (KSTS)

SEPTEMBER 26-28

ABS Maintenance Academy at Poplar Grove Airmotive – Poplar Grove, IL (C77)

OCTOBER 2-5

ABS/ASF Service Clinic at Aero Kinetics – Denton, TX (KDTO)

OCTOBER 15-19

BEECH PARTY at William Northern Field – Tullahoma, TN (KTHA)

OCTOBER 30 – NOVEMBER 2

ABS/ASF Service Clinic at George Baker Aviation – New Smyrna Beach, FL (KEVB)

NOVEMBER 6-9

ABS/ASF Service Clinic at Cruiseair Aviation – Ramona, CA (KRNM)

NOVEMBER 14-15

BPPP LIVE with the Southwest Bonanza Society – Houston, TX (location TBA)

Regional & International Societies

Visit these websites for more information.

- AUSTRALIAN BONANZA SOCIETY • www.abs.org.au
- BRAZILIAN BONANZA SOCIETY • www.bonanzaclub.com
- EUROPEAN BONANZA SOCIETY • www.beech-bonanza.org
- MIDWEST BONANZA SOCIETY • www.midwestbonanza.org
- NORTH EAST BONANZA GROUP • www.northeastbonanzagroup.com
- NORTHWEST BONANZA SOCIETY • www.nwbonanza.org
- ROCKY MOUNTAIN BONANZA SOCIETY • www.rmbonanza.org
- PACIFIC BONANZA SOCIETY • www.pacificbonanza.org
- SOUTHEASTERN BONANZA SOCIETY • www.sebs.org
- SOUTHWEST BONANZA SOCIETY • www.southwestbonanza.com



ABS exists to promote aviation safety and flying enjoyment through education and information-sharing among owners and operators of Bonanzas, Barons, Debonairs and Travel Airs throughout the world.

www.bonanza.org

1922 Midfield Road, P.O. Box 12888
Wichita, KS 67277

Tel: 316-945-1700 • Fax 316-945-1710
e-mail: absmail@bonanza.org

Office Hours:

Monday thru Friday; 8:30 am – 5:00 pm
(Central Time)

ABS Executive Director

J. Whitney Hickman, whit@bonanza.org

ABS-ASF Executive Director

Thomas P. Turner, asf@bonanza.org

Technical Questions

absmail@bonanza.org or 316-945-1700

BPPP Questions

bppp@bonanza.org or 316-945-1700

Membership

absmail@bonanza.org

Convention

absevents@bonanza.org

ABS Store

www.bonanza.org or 316-945-1700

Membership Services

Monthly *ABS Magazine* • ABS Technical Advisors • Beechcraft Pilot Proficiency Program • Aircraft Service Clinics • Air Safety Foundation Research • Annual Convention • Affiliated Aircraft Insurance with Falcon Insurance • Members-only Website Section • Regulatory & Industry Representation • ABS Platinum Visa® (with Beechcraft Parts Discounts) • Educational Books, Videos & Logo Merchandise • Tool Rental Program • The *ABS Flyer* a monthly e-newsletter • Professionally Staffed Headquarters

Display Advertising Index

Display Advertising Director: John Shoemaker

2779 Aero Park Drive, P.O. Box 968; Traverse City, MI 49684

Ph: 1-800-327-7377, ext. 3017 • Fax: 231-946-9588

E-mail: johns@villagepress.com

NOTICE: ABS assumes no responsibility for products or services herein advertised, or for claims or actions of advertisers. However, members who are unable to get satisfaction from advertisers should advise the ABS. Any references made to the ABS or BPPP, Inc. in any advertisements in this magazine do not indicate or imply endorsement of or recommendation by the American Bonanza Society or the BPPP, Inc. organizations.

ABS Store	72	Insight Instrument, Corp.	Inside Back Cover
Aero Technologies, LLC	2	J. L. Osborne Inc.	23
Aero/Mechanical Technologies	65	J. P. Instruments Inc.	19
Air Mod	31	Kalamazoo Aircraft Inc.	5
Air Parts of Lock Haven	27	Kings Avionics Inc. – KS	55
Aircraft Covers, Inc.	30	Knisley Welding Inc.	63
Aircraft Door Seals, LLC	58	Knots 2U Ltd.	48
Aircraft Insurance Agency by Duncan	18	Lighthawk.	32, 76
Aircraft Specialties Services	29	Lincoln Skyways, Inc.	47
Aircraft Spruce & Specialty Company	27	Main Turbo Systems, Inc.	51
AKG Aviation	35	Marsh Brothers Aviation	45
Alpha Aviation Inc.	55	McCaughey Propeller Systems	77
American Bonanza Society	59	Mena Aircraft Engines, Inc.	34
Arrell Aircraft Sales Inc.	74	Microaerodynamics Inc.	75
Aviation Design.	74	Mountain View Aviation.	14
Aviation Research Systems, Inc.	61	Murmer Aircraft Services.	7
Avstar Aircraft of Washington	67	National Airparts Inc.	61
Avstat Aviation Inc.	69	Niagara Air Parts Inc.	17
B & C Specialty Products Inc.	47	Oilmatic Inc.	77
B/E Aerospace Inc	57	P2 Inc.	73
Barrett Precision Engines Inc.	7	Parts Exchange	74
BAS Inc.	76	Penn Avionics.	22
Beaver Air Services.	77	Performance Aero Inc.	40-41
Beechcraft Corporation	3	Performance Aircraft Parts Inc.	75
Biggs Aircraft	57	Pilots N Paws	78
Bonanza/Baron Pilot Training	36	planecover.com	62
Carolina Aircraft Inc.	46	Poplar Grove Airmotive Inc.	32
Cincinnati Avionics/ Sporty's Pilot Shop	45	Precision Avionics.	79
Continental Motors	33	Precision Engines, LLC.	48
Cool Travel Stuff	60	Precision Propeller Service Inc.	79
Crosswind Coolers LLC	46	Ram Aircraft LTD Partnership	Back Cover
Cruiseair Aviation Inc.	27	Rocky Mountain Propellers Inc.	37
Cygnat Aerospace Corp.	47	Ryan Machine	69
D'Shannon Aviation	49	Select Airparts	36
DBM.	38	Shoreline Aviation Insurance	43
Eagle Fuel Cells	26	Sky-Tec Flyweight™ Starters	9
Falcon Insurance Agency	Inside Front Cover	SoundEx Products	55
Flight-Resource, LLC	5	Superior Air Parts Inc.	15
Floats & Fuel Cells	17	Survival Products Inc.	68
Flying Colors Aviation	63	Textron Aviation	3
G & D Aero Products, Inc.	22	Tornado Alley Turbo Inc.	55
General Aviation Modifications Inc.	67	Tubreaux Aviation	38
George Baker Aviation	58	Vac-Veterans Airlift Command	71
GlobalParts.aero.	18	Val Avionics	62
Great Lakes Aero Products Inc.	30	Waypoint Aviation	13
Hartwig Aircraft Fuel Cell Repair	34	Windward Aviation	8
Hartzell Propeller Inc.	25		

