ROUNDTABLE

The Denver Radio Club Newsletter

June 2012

Since 1917

President's Message

By Bryan Steinberg – KB0A

With June comes the annual ARRL field day event. This year will be a little different, we no longer have the Hudson Colorado site for the event so there will be no "clean-up" day. As I write this we are waiting on final approval for a unique site for this year's club field day. Through the assistance of Steve – KF0RW, it appears that we will be able to use the Chief Hosa North campground. This campground is right off I-70 at the Chief Hosa exit, # 253, at the end of the West bound exit ramp on the North side of I-70. This is not the regular Chief Hosa campground, which is on the South side of the highway. Talk-in will be on the 145.49/448.625 repeater.

Now after saying all this everything is subject to change so please pay attention to the net, our website and the meeting just before field day for any last minute changes. Additional info on field day can be found in the pages of this issue of the RoundTable.

A special thanks to Steven Reiley – KD0CPE for stepping up to lead this year's field day festivities. If you would like to help Steve out please contact him directly. So mark your calendar for the event on June 23rd and 24th and I'll hope to see you there.

Thanks to Jack Ciaccia – WM0G for his presentation and spending some time with us to discuss the future of amateur radio and the ARRL. Our June meeting will be used to prepare us for field day. We will also present a short video on DXpedition. Join us at our regular meeting location, the El Jebel Shrine in Denver. 7:30 PM for the membership meeting and 6:30 for the Elmer or Tech Committee meetings. Also, don't forget our weekly nets at 8:30 PM Sundays on the 145.49/448.625 repeaters. BTW, on those same repeaters every Wednesday, except meeting night, join the Elmer Net at 7:30 PM.

Remember to use the club's calendar (http://w0tx.org/calendar.htm) to keep track of upcoming events (e.g. Hamfests, Field Day, Meetings, etc.) of interest to the Denver ham community.

Until next month…

Bryan – KBØA
President

DRC - ARRL
Field Day 2012
Will be here before you know it.
Check Page 5 for Field Day News

Inside The Round Table

MAY MEETING - WHAT'D I MISS

By Bill – W6OAV

There were 40 attendees this month. KBØA asked for Elmers for the Wednesday learning net. And said Elmers do not need to prepare an involved presentation or commit to being an Elmer every Wednesday.

KBØA then gave an overview of a possible field day site just off I-70 Exit 253. Look for status elsewhere in the Roundtable.

KBØA asked for a field day chairman as Dave, KØHTX, cannot chair this year due to his business commitments. Steve, KDØCPE, volunteered for the position. *(Thank you Steve and thank you Dave for chairing the past field days).*

After introductions the meeting was turned over to Jack, WMØG. Jack, the ARRL Colorado Section Manager, gave a very interesting Power Point presentation covering the following items:

Amateur Radio - Now and the future

Now:

The hobby is rapidly growing.

Hams are using their know-how to create all types of "wireless" networks.

The Future:

The future has begun with the marriage of ham, the computer and the internet.

- Enhanced digital communication:
  - VOIP – IRLP-Echolink MotoTurbl, Winlink 2000, etc.
  - More robust HF SDR.
  - Spread Spectrum.
  - 2.5g ALE (Automatic Link establishment).
- More HF available to hams as government HF broadcasting gravitates to satellites.
- Trunked VHF/UHF repeater systems.
- Narrow band VHF/UHF systems.
- Loss of frequencies due to FCC auctions...
- Surplus radios from the Middle East wars.

ARES and EmComm – Now and the Future

ARES as we know it will change dynamically in the coming years. ARES organizations, ARES missions and ARES purpose will be defined by their served agencies and *ARES future will be dependent on their individual mission capabilities and the qualifications and credentials of their operators.*

- Our EOCs and the OEMs want trained and credentialed ham radio operators familiar with the ICS and NIMS structure that they require.
  - More reliable communication systems available today to our served agencies. The ham with the HT on his belt is of little use to them. No Hobbyists!!
  - The role of the ARES ham will be to provide other valued skills and to provide equipment that our agencies do not readily have access to.
    - A. Modes (primarily digital and/or video)
    - B. Frequencies

ARRL – Now and the Future

ARRL's Reason to be is to promote and advance the art, science and enjoyment of Amateur Radio.

THE ARRL:

- Has increased membership and membership retention.
- Has an increase in younger members.
- Will have a membership in 2020 with 60% of the members being under the age of 40.
- Has more school clubs at all levels.
- Has a member in the White House.
- Is recognized as the credible and authoritative voice for amateur radio at all levels of government.

  - Goal A. *ARRL will be Amateur Radio's proactive advocate and representative voice in achieving key regulatory and legislative goals.*
  - Goal B. *ARRL will be its members' primary trusted resource for high quality Amateur Radio educational information.*
  - Goal C. *ARRL will be the recognized and respected leader in Amateur Radio public service and emergency communications.*
  - Goal D. *ARRL will effectively promote technological exploration and operating proficiency.*
  - Goal E. *ARRL will increase its financial capacity*.
  - Goal F. *ARRL will increase the number of active radio amateurs and ARRL members*.

JUNE MEETING PRESENTATION

By Bryan – KB0A

Field Day is Almost Here

Our June meeting will center on the DRC's annual participation in the ARRL Field Day activities. We will use some of the meeting to discuss logistics, contact log program operation and other details for the event. We will also show a short video highlighting a recent DXpedition and the problems faced by this Ham team.

MAY TECH COMMITTEE REPORT

By Bill – W6OAV

This report provides an overview of items discussed during the May Technical Committee meeting.

Field Day

Goal: Develop plans:

There are a several sites that are under investigation. A site near I-70's Exit 253 appears to be feasible and a good choice. KD0CPE will coordinate Field Day this year. Several Skype conferences will be held to discuss relevant issues.

North Table Mountain Repeater

Goal: Install a 147.33 MHz repeater on NTM:

W0GV will investigate the problems, and possible solutions, created by integrating an amateur system into a commercial radio site.

Voter System

Goal: Design, build and test a 147.33 MHz voter system consisting of a central voter site and one remote site (Phase 1):

The voter controller is up and running. The link receiver to voter controller interface must be wired. KB0A will obtain the configuration from WA2YZT.

Packet Gateway

Goal: Determine intermittent HF transmit issue:

KB0A re-soldered all pins in the TNC to HF radio interface. The intermittent problem still exists. Suspect a cold solder joint or bad pin contact in either the TNC or HF radio connector.

Centennial Repeaters

Goal: Ground the hard lines:

Several tech committee members will go to the site to determine hardware and activities required. The tech committee agreed to ground the system belonging to the Intermountain Repeater Association.

New MotoTRBO Repeater

Goal: Build a new MotoTRBO repeater:

KB0A will order a 8400 repeater.

6 Meter Repeater Dropouts

Goal: Determine cause of dropouts:

KB0A and W0GV will re-option the controller to prevent it from interpreting certain voice content as DTMF which can cause audio muting.

449.35 Interference

Goal: Identify intermittent interference:

Several members of the Rocky Mountain Ham group will transfer our repeater to their antenna system to see if that resolves the interference.

THE LAKEWOOD SIREN TEST COMPLETED

By Jim – K0TOR

On May 9th the DRC supported the annual Lakewood siren physical inspection and verification of proper siren operation test. The Lakewood system consists of 25 sirens.

The test was supported by the following hams; K0WSU, AC0T, KD0GBX, KD0JJT, N0XRX, WG0N, KD0DUJ, KD0IOZ, K0BO, N0KDI, WB0HWP, KF0UV, KE5SO, KF0RW, AC0KB, KB0A, KD0NPP, WZ0S, N0KEX, N0LAJ, KD0CXX, K0HRT, N4ATA, KD0PHG, KD0MRY, W6OAV, KD0HMT, KA0BBQ, KB0BZZ, KC0WWW and K0TOR. Radio communications were conducted on the 145.490 MHz and 147.330 MHz repeaters using the DRC radio station in the Lakewood Emergency Operations Center. A total of 31 hams participated in this test. This represents a considerable commitment by each one. They took time from their schedule with many taking time off of work to support the siren test. Also many have supported this test over the years. This speaks highly to the willingness of hams to support public events. A big THANK YOU, to all the hams who supported this year's Lakewood siren test.

The photo shows a typical Lakewood siren site.

(Continued on page 4)

(Continued from page 3)

The hams that could went to the Lakewood Public Building for pizza and soda following the test.

The results of this test showed that all but three sirens functioned properly. The three sirens that experienced siren and audio problems were believed to have experienced RF control interference. Lakewood communications technicians are further investigating this problem. Three siren site inspections showed damage due to vandalism and one site had a solar panel obstruction concern. Siren verification and evaluation ensures functionality of the sirens for emergency warning should an emergency situation occur. This is important to complete prior to severe weather season. This was another job WELL DONE.

Following the siren test we received thanks from Brian Nielsen, Environmental Services Section Manager, to all the hams that supported this year's siren test. They are tremendously grateful for our help in making the City a little safer during critical events and severe weather conditions. They appreciate our support.

Web Site of the Week - Dave – W6NL turned up a great website "QSL Cards from the Past" *http://oldqslcards.com/* by W8JYZ featuring many old QSL cards, including many of famous hams, such as a 1929 card from David Packard – 9DRV before he founded Hewlett-Packard. Dave also recommends "The History of Wireless: How Creative Minds Produced Technology for the Masses" *http://www.amazon.com/dp/0980038308/amateurradio-20* by Ira Brodsky. The book begins with critical elements of research by scientists like Volta and Hertz, moving along through subsequent developments right up to the present day - and beyond.

DRC - ARRL
Field Day 2012
Will be here before you know it.
June 23th & 24th
Don't forget NO annual clean-up day and a new location.
If you haven't started planning to attend now is the time.
For more information contact Reiley – KDOCPE
303-471-0698 or reileys@comcast.net

DRC Learning Net News

By Becky – KD0AOE

The Learning Net on Wednesday evenings at 7:30 is not just a place for new HAM's to meet and talk about amateur radio. It's a unique full participation forum for the exchange of ideas and information about our hobby. Some of the topics which we've covered are:

- Mobile antennas – how and where to mount them.
- Getting around the home owners association antenna restrictions by hiding them in the attic.
- Stealth antenna around the home – hiding them in plain sight.
- Programming radios – tips and tricks.
- No HAM radio topic is off limits.

The group is open to any topic whether it covers basic information or advanced knowledge as long as it pertains to amateur radio. The whole idea is to stimulate spirited conversation and learn more about the hobby.

Often we have Elmers on the net to answer questions, give a short presentation or even a PowerPoint presentation. Our website is *www.HamLearningNet.org* is where we view the slides while the presenter discusses them on the radio. We are always looking for fellow HAMs to participate in the net to provide and share their knowledge with the group. If you have a particular interest in a segment of amateur radio we'd love to have you join us as an Elmer or better yet present a topic for discussion.

If you have questions about the Learning Net or would like to present a topic please let me know.
Becky – KD0AOE at ham.new@gmail.com

Date Line July 9th USA

Could you lose your access to the Internet?

On July 9th, the FBI will shut down several Internet servers it was using to hold the DNSChanger malware at bay. This could leave millions of computers infected with this malware disconnected from the Internet. To determine whether your computer is infected (and to learn more about this malware), go to *http://www.dns-ok.us/*

This site will quickly test your computer for the presence of the malware. The site also provides a link to the FBI site which describes the DNS process, how the DNSChanger controls the DNS process and how to remove the malware if present.

REMEMBER WHEN?

807'S AND BEER CAN VERTICALS

By Bill – W6OAV

The purpose of this article is to bring back memories to old time hams like me and to let newer hams know what ham radio was like in the 50s and 60s.

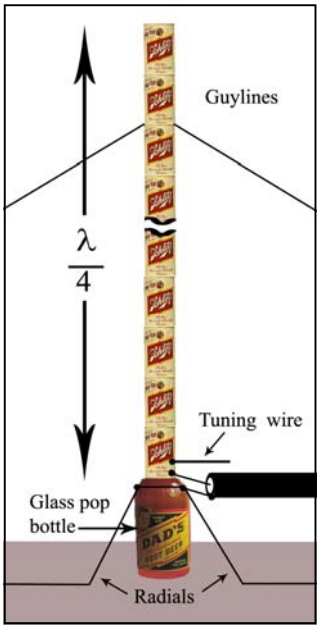
Occasionally you might hear several old time hams talking about getting together for 807s or hear them discussing their past beer can verticals. So, what is this all about?

After WW2, the market was flooded with very economical, and extremely popular, surplus transmitting tubes designated as type 807, their shape somewhat resembled beer bottles. Hence, while hams built their 807 transmitters, and enjoyed a bottle of beer or two in the process, the beer bottles and 807s became synonymous. So, getting together for 807s was ham speak for sharing a few beers.

In the 50's and early 60's, metal tubes for antennas were not readably available and were very expensive. An enterprising ham came up with the idea of building HF vertical antennas out of readily available strong aluminum beer cans. The idea caught on. There was a plentiful supply of beer cans, especially during the summer months! The aluminum cans were easy to stack, very strong and, containing tin, easily took solder. Also, the cans were 2.5" in diameter which made the vertical very broad banded.

When designing a beer can vertical, one important additional step was needed once the desired quarter wave length had been calculated. That step, known as "beer can math", was to calculate the number of beer cans needed. Since the beer cans were 6" long, the quarter wave length in inches was divided by 6. For example, a quarter wave length at 14.250 MHz is 197". 197" divided by 6 equals 32.8 cans. So, in this example, one would solder 32 cans together. Since the vertical was physically short and thus resonant above 14.250 MHz, a wire was then soldered to the bottom can. This wire would be used to lower the vertical's resonant frequency.

After the soldering was completed, the vertical was raised, set on a base which was usually a glass soda bottle partially buried vertically in the ground and guyed. *Photo at Right.* The tuning wire was bent horizontally and then trimmed. Trimming the horizontal wire allowed adding the proper capacity to the vertical to bring its resonance down to 14.250 MHz.



As a teenage ham, I built two beer can verticals, one for 15 meters and one for 10 meters. (My dad and his friends supplied the beer cans even though they couldn't understand what I was building). The antennas were easy to tune and, being of large diameter, had an SWR of less than 2:1 across each band. Since I didn't want ruin my family's reputation with the neighbors by having two "stacks" of beer cans in the back yard, I painted the verticals white. These antennas allowed me to easily work many countries.

So, when one had plans to build a beer can vertical one had to start drinking a lot of beer, or have an 807 work party first (only the 807s were beer cans)!

Field Day 2012

By Steve – KD0CPE

As Brian stated earlier, we do not have the Hudson site for Field Day this year. That means we don't have to clean up the site on Friday and people can show up either late Friday evening to get your campsite set up or early Saturday morning to help us get everything set up. Based on the official rules, we can start setting up at noon on Saturday and operate until 3pm on Sunday or, we can set up earlier on Saturday and operate for 24 consecutive hours commencing when on-the-air operations begin. Since we normally don't operate all the way thru Saturday evening and we are going to want to be torn down and out at a reasonable time on Sunday, we have always taken the second option. Several of us are going to get there Friday evening so we can get started early on Saturday getting the station antennas and shacks set up. Come join us and partake in the fun of getting everything ready.

First things first, the new site is shown in the image below (and at the time of this writing there is still a slight chance that this will not be our site this year so listen in to the Sunday Night net). Here is a link to get directions: https://maps.google.com/maps?hl=en&ll=39.710876,-105.318337&spn=0.002596,0.005681&t=h&z=18. I have circled our main camping/radio area in a red oval. As Brian said, it is at the Chief Hosa North campground off of the north side of I-70 at exit #253. Do not go to the regular Chief Hosa campground on the South side of the highway. Talk-in will be on 145.49/448.625 repeaters.

OK, now the details. I am still waiting on confirmation that we will be able to get the Salvation Army's tents (as you can see, there is little shelter) and that the Salvation Army will be providing meals for our weekend. Please pay attention to announcements on the Sunday Night nets for more details. At this point, I would plan on bringing your own food. I will have final details hopefully available at our June club meeting.

We will again be operating on Emergency Power and will be mounting our antennas "in the trees" if you will. Should be even closer to a real emergency situation this year as we won't have the "tower" to climb and use to hoist our antennas. The plan is to have 5 main stations with the GOTA station making number 6.

Needs: 1) someone to do the training session on Saturday evening. Should be Ham related and doesn't need to be real complicated or fancy but we get points for doing it. 2) a few tables, not sure we are going to have enough at this point. 3) a few lights for the operating stations (desk lamps) for the late evening operators. and 4) a few extra chairs for the operating stations (hopefully folding chairs that won't blow away). I'll let you know on the Sunday night net and the club meeting in June if there is anything else that is needed. If we don't get the Salvation Army tents, I may be making a call for people to bring some covered shelters for us to use.

If you want to bring one or more of the items listed above or just want more information about Field Day, my email is kd0cpe@arrl.net. Looking forward to a great Field Day and beating our record from last year.

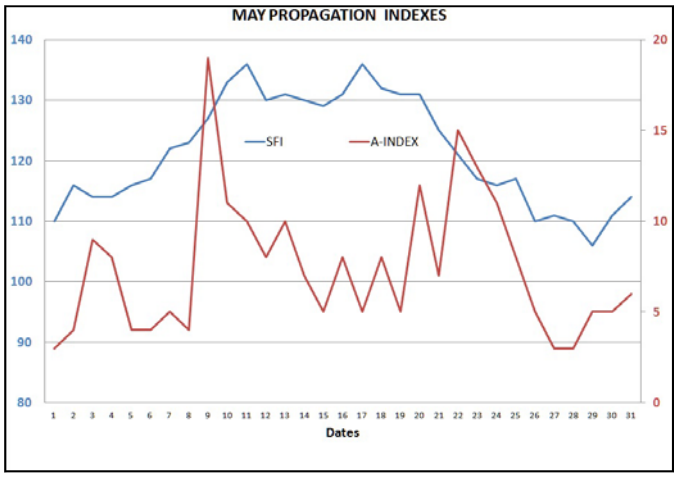
PAST & FUTURE PROPAGATION CONDITIONS

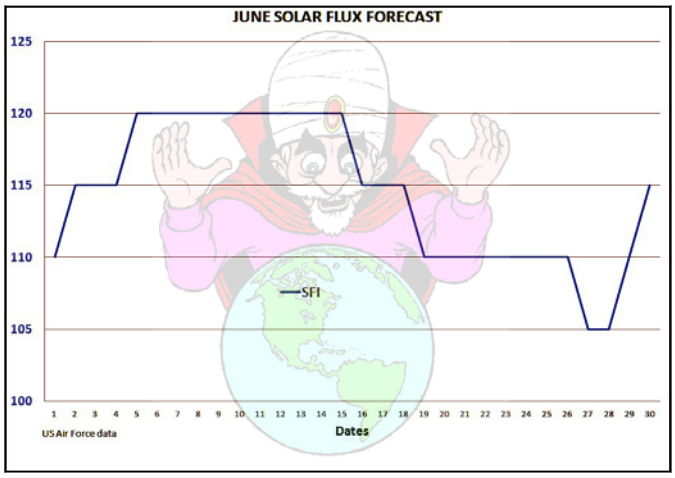
By Bill – W6OAV

This article provides two charts: the propagation conditions for last month and a forecast of next month's propagation conditions.

USING THE PROPAGATION INDEX CHART

Note two things on the chart: the trend of the SFI and A indexes and the date of largest SFI peak. The trend of the SFI shows the progress of the solar cycle during the past month. The SFI peak allows the rough forecasting of the reoccurrence of SFI peak in the next month. In order to "forecast" the next SFI peak, note the date when the SFI peak occurred and project out to about 28 days. Due to the sun's 28 day rotation, the SFI peak will often reoccur in about 28 days. The reason is because the sun spots causing the SFI peak move with the sun's rotation and face the earth every 28 days. This 28 day repetition will become more pronounced as the solar cycle improves. Refer to the September 2010 *Roundtable* for more complete information on the "SFI" and "A" indexes.





UP COMING EVENTS

HAMFESTS & CONVENTIONS

The following are the HamFests & Conventions which have been registered with the ARRL so far. More information can be found on www.arrl.org/hamfests.

June 2 – MARC Tailgate Party
Lions Club Pavilion at Confluence, Park Delta, CO

June 9 – Wings Over The Rockies Museum Club Station - KØWAR Special Event Station Remote Operation at Centennial Airport *See details on a previous page.*

June 23-24 – ***ARRL Field Day***
See Page 5 for more information.

July 14 – PPRAA Megafest
Lewis Palmer High School, Monument, CO

August 19 – ***DRC HAMfest***
Jefferson County Fairgrounds

September 23 – BARCfest
Boulder County Fairgrounds

2013

May 31 – Rocky Mountain Division Convention
Rocky Mountain Park Inn, Estes Park, Colorado

JUNE 2012

DRC Net Sunday's at 8:30pm Local on 145.490 & 448.625 (No PL)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 ***Atlantic Hurricane Season Begins***	2
3	4 Full Moon	5	6 ***Learning Net*** 7:30pm	7	8	9 ***ARRL*** VHF QSO Party Starts 1800U
10 ***ARRL*** VHF QSO Party Continues	11 ***ARRL*** VHF QSO Party Ends 0300U Last Quarter	12	13 ***DRC Meeting*** Elmer 6:30pm General 7:30pm	14  Flag Day	15	16 ***ARRL*** Kid's Day 1800U to 2400U
17  Father's Day	18	19 New Moon	20 ***Learning Net*** 7:30pm ***First Day of Summer***	21	22	23 
24 	25	26 First Quarter	27 ***Learning Net*** 7:30pm	28	29	30

Check www.ARRL.org for Contests and Rules!

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Web Master	N0LAJ	Bill Hester	*Check Roster*	

DRC Repeaters

BAND	Freq / Shift / PL Tone	Additional Information
6m	53.090mHz (-1mHz)	
Packet	145.05mHz<>14.105mHz	
2m	145.490mHz (-) 100Hz PL	**Linked to the 70cm - 448.625mHz machine.**
2m	147.330mHz (-) 100Hz PL	**Local Area, Members Auto-Patch Does Not TX a PL!**
2m	**147.330mHz (-) 131.8Hz PL**	**Temporarily Off The Air!**
1.25m	224.380mHz (-) 100Hz PL	
70cm	447.825mHz (-) 100Hz PL	**Saint Anthony's**
70cm	448.625mHz (-) 100Hz PL	**Linked to the 2m - 145.490mHz machine.**
70cm	449.350mHz (-) 100Hz PL	**Wide area coverage with Echolink Node # 4140.**

Editor's Note

DRC members - this is your newsletter. If there is something which is club or amateur radio related that you'd like to see as a regular feature, email suggestions to the editor. Members are the heart and sole of The Denver Radio Club, if you have an expertise or an interest in a particular segment of ham radio that you'd like to write about, you may email your submissions to AG0S@arrl.net. Submission deadline is the 25th of the Month. **Editor**

Wings Over The Rockies Museum Club Station KØWAR

Special Event Station Remote Operation at Centennial Airport

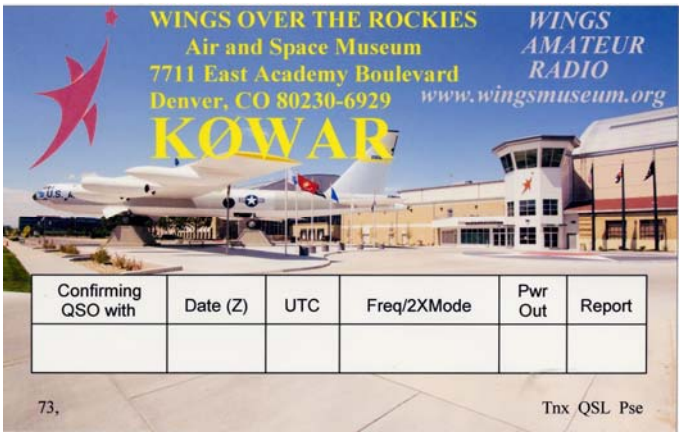
(Contact WGØV for more Information)

JUNE 9TH,

***SATURDAY ONLY* FROM 1500 UTC TO 2200UTC (9 AM to 4 PM)**

ON 20 METERS, SSB NEAR 14.250 MHZ

B-17 Fly-in is from June 7-10 at Centennial Airport, Signature Aviation FBO, Englewood, Colorado sponsored by the Wings Over the Rockies Air and Space Museum and the Experimental Aviation Association



Celebrate the history of the greatest generation when the Experimental Aircraft Association's B-17 "Flying Fortress" Aluminum Overcast comes to Centennial Airport.

- **Experience the Flying Fortress first-hand with a mission flight or ground tour**
- **See War bird Aircraft and WWII Vehicle Displays**
- **Relive WWII mission briefs with live reenactors**
- **Participate in activities for kids and youth including peddle planes and flight simulators**
- **Fly the Fortress each day June 7-10: Advanced Bookings: EAA Members: $409; Non-members: $449.**
- **Advanced Booking at: www.B17.org/Denver1. On-site on the day of the flights: EAA: $435, Non-members: $475 Flights each day at 10:15 AM, 11:00 AM, 11:45 AM, 12:30 PM, 1:15 PM**
- **Ground tours each day from 2:00 PM to 5:00 PM for $10 Individual or $20 Family rate; Free for Children under 8 with paying adult, Free for Veterans or Active Military**
  B-17 Hangar Dance on June 9th 7:00 PM to 11:00 PM, Dance the Night Away with Big Band Music, Food, WWII Reenactors. This is sponsored by Signature Aviation Jeppesen. Period dress is recommended.