FlightLine

A Monthly Publication of Collins Model Aviators December 1996

December's Featured Plane — North American XB-70 "Valkyrie"

☞**Notice:** December's CMA meeting is on Thursday the 5th in the main plant cafeteria **at 5:00 p.m.**. After the meeting the first build session will be held. The second build session will be held one week later (also in the main plant cafeteria) on December 12th.

December's Featured Model: I found these XB-70 pictures on the USAF Museum Modern Flight Gallery Web page at:
http://www.am.wpafb.af.mil/museum/modern_flight/

There is a wealth of photos and information on this page. Its a great place for a scale modeler or aviation buff to explore (or if you're a newsletter editor looking for some filler). Surf by and take a look.

James H. Doty, FlightLine Editor ✈

In This Issue:

XB-70 fore-planes (canards)

North American XB-70 "Valkyrie"

Reprinted from the USAF Museum web page

The XB-70, one of the world's most exotic airplanes, was conceived for the Strategic Air Command in the 1950s as a high-altitude bomber that could fly three times the speed of sound (Mach 3). Because of fund limitations, only two were built, not as bombers, but as research aircraft for the advanced study of aerodynamics, propulsion, and other subjects related to large supersonic aircraft. The Valkyrie was built largely of stainless-steel honeycomb sandwich panels and titanium. It was designed to make use of a phenomenon called "compression lift," achieved when the shock wave generated by the airplane flying at supersonic speeds supports part of the airplane's weight. For improved stability at supersonic speeds, the Valkyrie could droop its wingtips as much as 65 degrees.

The No. 1 XB-70 made its initial flight on September 21, 1964, and achieved Mach 3 flight on October 14, 1965. The No. 2 airplane first flew on July 17, 1965, but on June 8, 1966, it crashed following a mid-air collision. The No. 1 airplane continued in its research program until flown to the Museum on February 4, 1969.

The Massive intake ports of the XB-70 engines

The six exhaust nozzles of the XB-70's huge jet engines

XB-70 SPECIFICATIONS
Span: 105 ft.
Length: 185 ft. 10 in. without boom; 192 ft. 2 in. with boom
Height: 30 ft. 9 in.
Weight: 534,700 lbs. loaded
Armament: None
Engines: Six General Electric YJ-93s of 30,000 lbs. thrust each with afterburner.

PERFORMANCE
Maximum speed: 2,056 mph. (Mach 3.1) at 73,000 ft.
Cruising speed: 2,000 mph. (Mach 3.0) at 72,000 ft.
Range: 4,288 miles
Service Ceiling: 77,350 ft.

Reprinted from the USAF Museum web page ✈

From the President

by John Michael

Well, the year is about over. Build sessions are about to start, and we can all look forward to getting ready for next spring.

On Friday, November 15, Employee Services sponsored a seminar they called LAW (Life After Work) at the rec center. Many of the Collins sponsored clubs were present, and probably about 100 people actually showed up, plus those who usually use the rec center. Irv Anderson and I were there with our airplanes representing CMA. It was generally a good evening. It was fun talking about and explaining our hobby, and we had six people interested enough to sign up for more information. My thanks to Irv for being a part of that event with me.

So far we don't have very many people rejoining the club. Less than half of the 1996 members have joined for 1997. We have three new members also. We don't know if the low turnout is due to procrastination, or many of the old standbys have just lost interest. If you haven't sent in your membership application, it's not too late. We're waiting.

We are also looking for people to run for the secretary/treasurer position. So far no one has stepped forward. It's disappointing to think that so many people are willing to be in the club, but can't find a little time to give back to it. Not sure what we'll do yet, but we're working on it. The ballets should be out soon. We'll take it from there after that.

Don't forget the December meeting, Dec 5 at the main plant cafeteria, with the build session right after. That's the build session that we had to cancel in November. Then the regular December build session is the following Thursday, Dec 12. It would be great to see a large group of people at all the events.

Till then, happy building, and Happy Holidays.

John Michael, CMA President ✈

Notes from November's meeting

by Jim Doty

I didn't take detailed minutes of November's meeting, but here are some highlights.

- John Michael asked for help with the LAW activity at the rec center (see From the President above).
- John Michael reported that he had taken the snow fence down for the winter (thanks John).
- The schedule changes for the first build session was announced. Build session #1 was postponed until after the December 5th CMA meeting because of construction in the cafeteria. Build session #2 will still be held on Thursday December 12th.
- It was proposed that we buy a Super Tiger 45 motor for the new club trainer. A vote on funding will be taken at the December meeting.
- It was noted that some of us have difficulty getting to the meeting on time, and that we normally start meetings late. To get better agreement between the published start time and the actual start time the official start time, of CMA meetings, was moved to 5:00 p.m.. We will try to start December's meeting promptly at 5:00.
- It was discussed that we were still having difficulty getting volunteers for CMA officers. After a few brave soles at the meeting volunteered, we had at least one candidate for every office except secretary. **We still need someone for secretary**. Other candidates for the other positions are also welcome.

That's about all I remember from the meeting. Let me know if I missed anything important, and I'll put it in January's FlightLine.

James H. Doty, FlightLine Editor ✈

National Newsletter

Think the flying season is over just because there's a little snow on the ground? Well here are two articles that tell you how you can keep on flying through the winter.

James H. Doty, FlightLine Editor ✈

Reprinted from February 1995 issue of National Newsletter

Winter Flying Tips

by Dan Tompkins

The warm weather has left us for another year and old man winter is knocking at our workshops again. Our new ballistic beings are on the building boards and those crippled airplanes are either being repaired or salvaged for parts. Our workshops have become sacred ground. Inquisitive little monsters and the occasional mother-in-law are forbidden to enter. What a great time of the year. But something is missing. That incredible urge to pack up your gear and head to the nearest flying site just isn't there. WRONG! It's the beginning of winter flying and I love it. You wouldn't believe the sunny, calm days that present themselves in the winter months. I have been flying RC for four years now and have been winter flying for three of them. Each year learning a bit more on how to cope with elements which do their best to keep you on the ground. Find an easy chair and read on.
Control Linkages

1. Plastic clevises become brittle when subjected to the cold. The molded polyethylene pin which fit into the control horn may shear off at any time. Replace with suitable metal clevises and a retaining clip.

2. If you use plastic nyrod as your linkages, when they hit the cold air they can contract your control surfaces to varying degrees. Your trimmed out airplane you were flying all summer may develop some nasty habits shortly after takeoff. A simple clevis adjustment will cure that, but a doweled or steel pushrod can cure the problem completely.

Engines

Breathing life into our favorite little powerplants can be a real pain. Using lighter fluid or small drops of gasoline as a primer can usually persuade a cold engine to start. The lower flash point gets the ball rolling. Be sure to warm the engine up a bit longer than in the summer.

Fuel Considerations

I have used 10% fuel and had varying degrees of success, However, if you want the performance of your airplane to be similar to that of the summer months, 15% - 20% nitro will give you that added punch. Remember how cold it gets when you put your hand out the car window at 35 mph on a winter day? Your airplane is at 500 feet, doing 50 to 90 mph and trying to stay warm enough to keep running. The hotter the better, I always say.

Batteries

Batteries tend to lose their capacity at a higher rate during cold weather flying. I always keep my packs in my pocket until I am ready to fly. Keep them as warm as possible. Check the status of your batteries between flights with an ESV(expanded scale voltmeter) and always carry an extra flight pack so your flight time won't be cut short.

Proper Clothing

Not dressing properly can also cut your flying short. Snow-mobile suits are ideal. A hooded jacket keeps the wind off your neck. Try to dress as if you were going out to tramp around in the woods for a while. Bring an extra pair of thin work gloves to use when you are up in the air. It gives you a better feel of the TX. You could still use those heavy winter gloves, but bring a couple of extra planes. The Dumb Thumb theory applies here.

Flying Conditions

Conditions are always changing as in the summer months. If the snow hasn't fallen yet, chances are the ground is

extremely hard and unforgiving. Those soft little plastic and foam wheels become hard little son of a guns. That perfect flare at touch down you practiced all summer becomes a bouncing catastrophe on a hard-packed runway. Bring them in with a bit more care. When the snow flies, you may need varying degrees of lubrication on your skis, floatplane floats or Seamaster hull. Sun tan lotion or basic ski wax works just fine. The colder the snow, the less likely you will need a lubricant.

Lets Go Flying

As the snow falls, it transforms every iced-over lake into a perfect flying field. If the fishermen can tolerate you, and most of them do, then pick your field. My Seamaster is as much at home on snow as water. It taxis just fine with the water rudder down. Tail draggers are also fine snow machines. The tail wheel does an adequate job of steering in the snow. They generally get up and off the snow the quickest. Hand launched airplanes like Combat 20s, fur balls and gliders are also good snow planes. Landings are similar to those in summer ... just skip them in.

Trike-geared airplanes, like trainers, are harder to get up in deeper snow. The nose gear tends to dig in.. One inch to three inches of snow are ideal for the trike-geared airplanes. If your airplane is equipped with floats and powered properly, snow take offs are not a problem. I flew my Goldberg Vector with a 60 K&B on floats one whole winter and never had a problem.

Touch and Goes are a cinch with 10" to 15" of snow. I have proposed my Seamaster all the way down the runway, racking up ten hits before I had to power up and go around.

If you're walking onto the field, out onto a lake, or just down the road, set up your youngster's sled as a movable hanger. You can usually fit everything you need on it for an afternoon's worth of flying.

Don't be a wimp, get outside and catch a little windburn on your face. Tramp around in the snow and enjoy the cold, crisp air.

From: The Flight Plan
Rick Gideon, Editor
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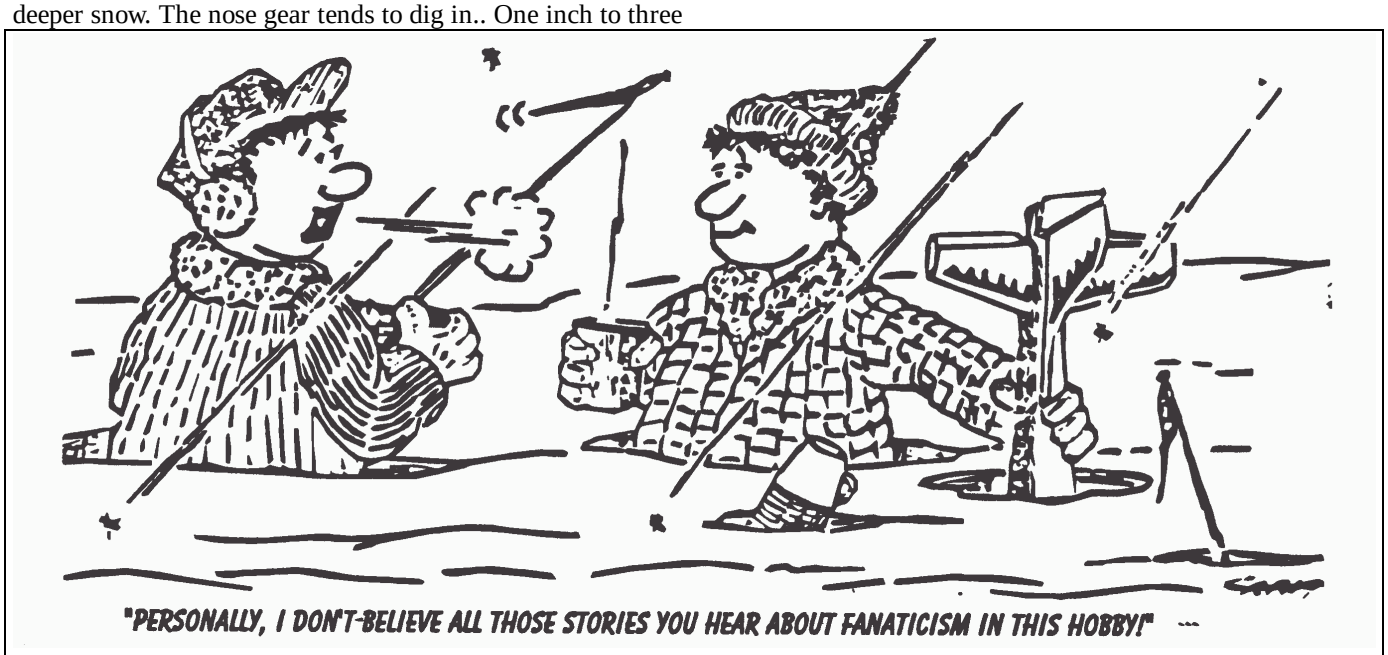
Reprinted from AMA National Newsletter December 1994



Reprinted from February 1995 issue of National Newsletter

Winter Flying and You

by Jeff Taylor

Flying radio controlled airplanes in the winter provides a few different challenges than flying in the summer.

First of all, there are no bugs. This means you don't have to worry about a gnat flying in your ear when you're trying to flair for a hot landing. No distracting mosquitoes biting your legs, and no bees and hornets buzzing behind you. Also, no can of smelly bug spray in your flight box.

There are, however, a few new things you do need to worry about...

As you load up the car for the journey to the field, don't forget a small piece of plywood and/or a piece of carpeting to kneel on and to set your flight box on so it doesn't sink into the snow. Glo plugs, screws, and small tools like to disappear in the snow when they are dropped, so your plywood can also be used for a work surface.

If your skis are warm from sitting in the car with the heater on full blast while on your way to the field, the cold snow will

tend to want to stick to them. Let them sit in the snow for a while to chill out before taking off.

Getting small engines to start in the cold may require a shot or two of WD-40 (which, by the way, stands for the fortieth revision of a water displacement formula) into the carburetor. And tuning a needle valve behind a spinning propeller will instantly re-mind your fingers of what the weather person means when he/she mentions "wind chill."

Batteries will lose their stored energy faster when they are cold, so make certain you check their condition before each flight, and don't plan on flying so many times in one outing unless you have a charger with you.

Plastic parts like to become brittle as they are chilled. And plastic covering is damaged much easier, too. This is just your airplane's way of telling you that it would rather be sitting in a nice warm basement. Don't ignore these pleas for warmth, just keep them in your mind.

December and January air is denser than June and July air. Denser air means your wings will generate more lift, and your prop and engine will generate more thrust. Lift and thrust are good. After all, they are the two basic elements of flight that Mother nature did not provide to us. The lift is extra nice to have, unless your wing configuration is a high-lift design, then the airplane still wants to putz around in the sky when you are ready to head for home.

Safety around a propeller cannot be ignored in the winter. Sure, your fingers are numb from the cold, so a strike from a prop's leading edge probably won't be felt until you thaw out the next day, but keep in mind that your gloves are bulkier than your bare hands, and they can get sucked into the airscrew much easier. Props also like to eat scarves that hang around your neck, so keep them tucked into your jacket.

Footprints in the snow are not the best thing to have while attempting a takeoff or landing, so be careful where you step if you need to retrieve a dead stick.

Being the mere hunters and gatherers that we humans are, we generally are not well equipped to withstand long exposures to cold. So pack plenty of coffee or hot chocolate in the car, and wear plenty of warm clothes. Standing still in the midst of a barren field requires more insulation than shoveling snow from the driveway.

Good luck, fly safe, and DO NOT stick your tongue on the windsock pole!

from The North West Angle
Jeff Taylor, Editor
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Reprinted from February 1995 issue of National Newsletter ✈

Local Activities

Heads Up, CMA Activities

Thursday, November 7, 5:00 pm—Club Meeting

Thursday, December 5, 5:00 pm—Club Meeting

Thursday, December 5, 6-9 pm—Build Session #1

Thursday, December 12, 6-9 pm—Build Session #2

Friday, December 13, 5 pm—FlightLine Deadline

Note: The cafeteria construction is over, so December's meetings and build sessions will be held in the 35th street N.E. Facility (main plant) Cafeteria building 140.

Send your input for FlightLine to:

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Send your input for the CMA Web Page to:

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✪1996 CMA Staff

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- **Rich Dean**
- **Dave Decker**
- **Dave Dillman**
- **Mark Woytassek**

Flight Instructors in training:
- **Irv Anderson**
- **Tom DeWulf**

Test Pilots for first flights of new airplanes:
- **Rich Dean**
- **Mark Woytassek**

1996 CMA Membership

M/S	NAME
108-103	Irvin Anderson
108-166	Geoffrey Barrance
124-114	Ross Beins
124-111	Bob Buschette
124-115	Raleigh Dean
120-131	David Decker
153-120	Timothy DeWit
153-264	Tom DeWulf
153-163	David Dillman
124-300	James Doty
106-183	Mike Eastman
153-264	Doug Emerson
153-163	David Gillespie
153-163	David Gillespie (for James Gillespie)
153-163	David Gillespie (for Amy Gillespie)
120-131	Ron Menti
108-166	John Michael
108-166	John Michael (for Kevin Michael)

M/S	NAME
153-163	Darrin Nebraska
108-136	Patrick Neu
108-136	David Neu
137-136	Marion Payne
120-105	Elio Picchetti
108-136	Gary Prior
124-123	Wayne Savold
139-125	Gerald Showman
108-136	Duane Smith
108-136	Brian Smith
105-152	Basil Tilley
124-111	Robert Tribuno
124-111	Robert Tribuno (for Peter Tribuno)
124-111	Robert Tribuno (for Michael Tribuno)
120-131	Ron Menti (for Tony Veit)
139-142	Charles Ward
153-264	Bryan Wesner
107-110	Victor Wolfe
124-115	Mark Woytassek

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Is someone you know missing from this list?
Give them a call and ask them to *Come Fly with us in CMA!*