

FlightLine

A Monthly Publication of Collins Model Aviators

February 2000



Reminders:

- Next CMA meeting is Thursday February 3rd at the 35th Street Complex Cafeteria
- The next Build Session is Thursday February 10th

In This Issue:

President's Column	2
CMA Meeting Minutes.....	2
Mid-Star 40	3
January Build Session.....	6
CMA Members Volunteer	8
Word Search	9
Murphy's Law.....	10
Audio Jack Receiver Switch....	10
Heads Up, CMA Activities	11

A new sign, donated by the CMA, marks the Martinson Sod Farm flying site. Thanks to Jamie Johnson for making the sign

CMA Web Page Addresses:

<http://bbs.cacd.rockwell.com/data/clubs/cma/>

<http://members.xoom.com/cma3257/>



Collins Model Aviators
Academy of Model Aeronautics
Charter Club #3257



President's Column

February 2000

By Jamie Johnson

Well it is hard to believe that another month has already come and gone. Our first meeting went very well, we touched on a number of important issues facing the club and the mood remained friendly, fun and positive. If you didn't make it to the last meeting, please review the minutes in this month's FlightLine, your input on these issues will be sought after in the near future. Congratulations to Larry Kerns, the winner of January's \$5 gift certificate.

For members that can't make it to the monthly meetings, remember you can keep current on club events by visiting our web site and also by visiting the discussion group on the Collins Intranet at "collins.rec". The discussion group offers a great medium for exchanging ideas, check out the current "hot" discussion thread that Gregg Lind has started.

The turnout at the January build session was great! It looks like there should be a good number of new models at the CMA Beauty Contest to be held 17 April 2000 in the 106 auditorium. Frank Gutierrez has offered to cut Combat Comet foam wings for

anyone who wants them. If enough club members build one we will create a Combat Aircraft category for the Beauty Contest. That way we can see how nice they looked before they became toothpick material!!

Please make an effort to attend the meetings and participate in your club. It is only through working together that we can make it the kind of club you deserve. I look forward to seeing you at the February meeting, so until then take care and happy modeling!

Jamie Johnson, CMA President →

CMA Meeting Minutes

By Chris Heald

6 January, 2000

Jamie Johnson called to meeting to order in the Main Plant Cafeteria (35th Street Facility).

Fourteen members were in attendance. The minutes from the previous meeting were approved as read. Chris Heald gave the treasury report.

Old Business:

The topic of a club operating budget was brought up for discussion. Nine items were identified by the members for inclusion in the budget. Chris Heald is to set up the budget and the members will provide suggestions as to the necessary items and dollar amounts for each item.

Frank Gutierrez made a motion to budget \$125.00 for the purchase of an LT-40 and related construction items for use as a club trainer. Basil Tilley seconded the motion. The motion passed by unanimous vote.

In a previous meeting, it was suggested that the January meeting include the elections of non-ballot officers for the year 2000. Jamie opened the topic for discussion. A clarification of the Field Marshall's duties were given. It was suggested that the Field Marshall and the Safety officer be combined into one position. The suggestion was discussed and a decision was made to keep the positions separate.

Crist Rigotti was nominated for Safety Officer. Crist accepted the nomination and was then elected to the position by unanimous vote. Mark Woytassek was nominated for Field Marshall. The vote was postponed until could Mark could have a chance to accept or decline the nomination.

New Business:

Jamie extended a huge thank-you to Doug Emerson for constructing the windsock for the flying field. It is up and looks GREAT.

Jamie, on behalf of the club, thanked Frank Gutierrez for his hard work and leadership last year and for his continued support. Frank has been busy calling former members that have not yet renewed their CMA memberships and been very successful, eight thus far and growing.

Jamie showed the membership the sign he has been working on. This sign will be placed near the entrance to Martinson's Sod Farm. The membership congratulated Jamie on a job well done.

To encourage CMA meeting attendance, the officers decided to raffle a \$5 gift certificate. All full members attending the meeting are eligible for the drawing. This month's winner was Larry Kerns.

The Beauty Contest is planned for April. Gregg Lind was appointed to head up the Contest committee. Some discussion ensued concerning the location of the contest. It was decided to hold the contest in the 106 Auditorium in an attempt to attract the most people.

Jamie reported that David Sneitzer could no longer complete the F-14 that was to hang in the 106 Cafeteria. Jamie asked for volunteers to finish the model. Jamie reported that the model was 88% complete and could be finished at no cost to the club. It was decided to work on the Tomcat during the build sessions.

After some discussion of the vague guest policy, the membership decided there was no need to change the current policy. As always, common sense should prevail.

It was brought to the Club's attention that certain field rules voted upon last year had expired in December. Gregg Lind will lead a Field Rules committee. Gregg, along with volunteers Crist Rigotti and John Michael, will explore options and present their recommendations during an upcoming meeting.

Frank reported that the club trainer needs bigger tires and new motor bolts. Frank will purchase the needed materials and make the necessary repairs.

Steve Plantenberg encouraged everyone to use collins.rec to post all club related news and discussion topics.

Bryan Wesner made a motion to adjourn and Jim Doty seconded

The meeting adjourned at 6:25 pm.

Chris Heald, CMA Secretary →



Mid-Star 40

By Steve Plantenberg

For those of you who have seen my Sig Mid-Star 40 at the field, you may have been confused by the fact that it has both a nose wheel and a tail wheel, or maybe you thought I was really confused when I was building it. While I was trying to decide which way to build it, some members of the club were urging me to build it as a tail dragger. I have never flown a tail dragger before and have seen many of the tail draggers at

the field flipped over on their backs after trying to land in the thick and sometimes tall grass. Since my landing skills were mediocre at best (I hadn't even soloed yet at the time I started building the Mid-Star), I was leaning more towards the tricycle gear configuration. I read through the plans and instructions to see what the differences in construction would be and realized that there was no reason I couldn't do both. Adding another landing gear block at building time for a later conversion is an easy thing to do and is not uncommon, but personally I have never seen anyone complete both configurations right from the start and actually fly with all four wheels attached. Conversion between the two configurations is simple and takes only a couple of minutes at the field. It is just a matter of moving the main gear into the other set of holes and adding or removing the nose gear. I think it is a good idea for anyone that is building a tricycle gear plane that they may want to convert to a tail dragger in the future to add the extra parts when first building it.



Building:

I started building this Mid-Star 40 at the first build session last winter. Soon after that I decided to switch over and finish reconstruction on my Sweet Stik, so I really didn't get up to speed on the Mid-Star until January. I wanted to get it finished by the beauty contest, but as most of my projects go it got delayed by other things and before I knew it summer was here and my time was devoted to flying instead of building. The Mid-Star wasn't completed until the night before the Family Fun Fly Picnic in September.

Construction of the wing and fuselage was pretty simple and went fairly quickly. Using all of those nice laser cut parts made me feel like I was cheating in some way. I built each wing half in an evening and the fuselage took me several more. The only major problems I had were with cutting and shaping the plywood for the back piece of the canopy. It took more tries than I care to admit to cut and shape that piece and get it to fit. The flexible canopy made it difficult to get accurate measurements and test fits for how it would sit on the lower section. The other problem with the canopy was that after the top and bottom pieces were glued together the thick plastic was very difficult to cut. A tabletop belt sander with a fairly coarse belt solved this problem very nicely and quickly.

The plane was built mostly according to the instructions, however I did make a few minor changes. Instead of using the supplied wire that inserts into the rudder for mounting the tail wheel, I used a Sullivan tail wheel mount that mounts to the fuselage. I didn't like the idea of having the weight of the airplane coming down on a control surface and probably damaging it or tearing it completely off. I used nylon pinned hinges instead of the supplied CA hinges for all surfaces. I thought about using gapless hinges like on my Sweet Stik, but I think any repairs will be easier with the pinned hinges. I also added some brass tubing in the wing bolt holes on the wing to help reinforce the holes.

This airplane was a test bed for trying out many new tools and other products. All together I tried over two dozen things that I have never used before. For example, I bought three different types of Z-benders and there are six different types of connectors to the servos and control surfaces. I also have some new covering tools that I tried out. Perhaps someday I will write an article on what products I thought worked well and the ones I didn't like. For now, there is one product that I would like to mention that I thought worked very well. Most of the parts for

my Mid-Star were put together using Glue-It glue. Of course I still used epoxy and CA where it seemed appropriate. This is a white glue that cures very fast (about 5 minutes) and is very easy to sand. The label states that it is stronger than epoxy. I glued several different types of wood together using both Glue-It and epoxy and couldn't disprove their claim. I've always built all of my planes using just epoxy and used CA for repairs. I would like to do some long term testing of this glue, but if it holds up over time I'll probably still continue to use it.

Covering:

My Mid-Star is covered in yellow and white Monokote with blue pin striping and two wide blue stripes on the bottom of each wing. I got the color scheme from the March 1999 issue of "Sport Aviation" that had an article on the Giles 202 that won Reserve Grand Champion at Oshkosh in 1998. I modified it slightly to work on my mid-wing airplane and to make it a little easier to determine top from bottom when it is in the air. I also added a wide blue stripe on the white bottom of each wing, which really improves its visibility in the air.



Balance:

I was really interested to see how the balance would differ between the tricycle gear configuration and the tail dragger configuration. With the tricycle gear I added 1/2 ounce to the tail to balance it along with leaving the tail wheel on. To my surprise, when I switched it to a tail dragger it seemed like the nose got significantly heavier. My guess was that the CG had moved by about 3/16 to 1/4 of an inch. I was using the old fingertip method to balance it. While writing this article I thought it would be nice to

know a little more accurately how much it had moved. I had ordered a CG machine with my last order to Tower but hadn't used it yet. I put it together and checked out the Mid-Star. My original estimates were way off. The CG had moved forward but by only a little over 1/32 of an inch. This small of a difference should hardly even be noticeable between the two configurations. This shows how the right tools can really help you out.

Engine and radio:

The radio is an Airtronics Vanguard 6 channel FM radio. I've always had Futaba in the past, but when they took dual rates and some of the other nice features off of their new radio and still sell it at the same price as the old one with all of the features it convinced me to switch to another brand. I decided to get a new radio instead of adding it to my existing Futaba for a couple of reasons. First of all, when you add up the cost of individual servos, batteries, receiver, and switch, a few dollars more will get you a whole new radio setup. The second reason is so that I can get some more flights in on the second plane after the batteries are dead on the first one without having to wait for the batteries to recharge. I never thought this would be an issue, but there were several really nice days last year where I flew six or seven flights on my Eagle 63 and drained the batteries but still wanted more.

The recommended engine for the Mid-Star is a .30-.40 2-stroke. The engine I have in mine is an OS .46 FX, currently with an 11x7 prop. It provides plenty of power for this airplane.

Flying:

I brought the Mid-Star to the Family Fun Fly with the idea that it would probably be just a static display of the airplane that I had just completed the night before. It hadn't been flight-tested yet and I didn't want to fly it for any of the events. After the events were over, however, Rich Dean wanted to test fly it. Having run out of excuses other than it was still a bit windy, I let him take it up. It flew beautifully. Of course any

first flight where the airplane remains intact is beautiful in my book. It cut through the wind so well that I wished I had completed it earlier in the year and could have used it for the fun fly. Rich even handed over control to me for a few passes around the field. I had some concern that the seemingly very flexible ailerons might cause flutter but this didn't seem to be a problem. The first landing also went very well. I think I missed out on a lot of fun taking so long to finish this plane.

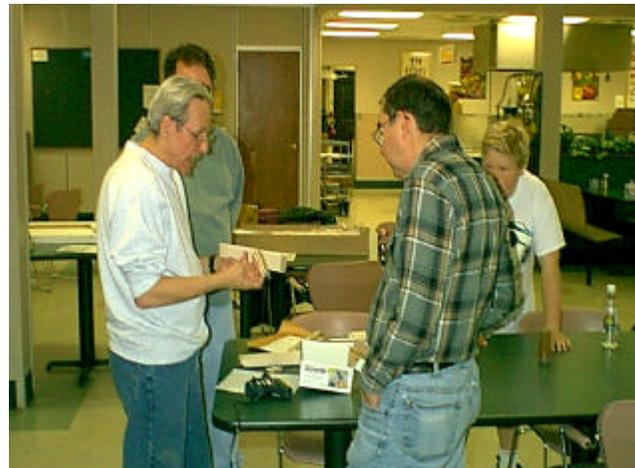
Since the Mid-Star's first flight, I've put twelve more flights on it myself. It is a fast and responsive plane and can do a roll in probably less than a second on high rates. It can also slow down and fly a nice pattern around the field. With the .46 FX engine on it, it is capable of doing just about any size loop that I would care to do. Because of this I've actually had to learn to fly loops all over again. With my Eagle 63 it would just do whatever loop it could and you didn't have to worry about controlling it too much. With the Mid-Star I actually have to fly the loop because it can do such large ones. It also does very nice inverted loops, and they are actually even a little easier. The plane is somewhat forgiving of my mistakes but it is a bit more to handle than a trainer. Landings are a bit faster than what I'm used to with my Eagle, but with a little more practice I think I'll get it.

One problem that I have been having is related to the nylon pushrods that are installed on both the rudder and the elevator. I used the ones that came with the kit. I never used the ones in the kit before and knew they weren't the best option, but thought that since just about every manufacturer includes them in their kits now, how bad could they really be? I thought I would have some minor trim problems but never imagined anything as bad as what they turned out to be. I went out one cold day to fly my airplane. Everything checked out ok on the ground, so I took it up. On the first flight I had some minor trim changes that seemed to progress as the flight went on, but by the end of the flight I thought the worst was over and everything was pretty much stabilized. On the second flight things

got much worse. By the time I got the plane back on the ground the nylon tubing had shrunk so much that I had 3/4 full elevator deflection and about 1/2 full rudder deflection. Much more than I could correct for with the trims. I packed up the plane and took it home and put it back in the basement. After a couple of hours in the warm house the control surfaces were back in their original positions. Now whenever I want to take it flying I set it outside for a couple of hours and then readjust the pushrods to match the weather conditions. What a hassle! These pushrods are definitely going to be replaced with something much better.

From my experience the Mid-Star is a great plane to build and fly. It takes a bit more concentration to keep up with the Mid-Star than with the trainers I'm used to, but I think it will eventually make me a better pilot. It is definitely the most fun airplane I have had. I wouldn't use it as a trainer, but it is a nice step up from one. I haven't flown it as a tail dragger yet, but am looking forward to it next season. Good luck on your projects and happy flying!

Steve Plantenberg, Web Page Editor →



January Build Session

By Frank Gutierrez and Jim Doty

The January build session went very well. Gregg balanced his Colt, and installed elevons on his ME-163; Crist sanded flaps; Several people cut Foam wings for the Kombat Komet; Jim worked

on his Sweet Stick; Jamie took the F-14 for the cafeteria home; and Steve provided more exciting R/C video footage that Aaron Lind was very intrigued in. Frank brought in lots of foam and let anyone that wanted to, give cutting wings a try.



Aaron Lind works on his ME-163



Crist Rigotti uses his new hinge slotting guide with his Great Planes Hinge Slotter to cut hinge slots on Greg Lind's ME163



Gregg Lind Balances his Colt



F14 fighter display model being assembled for the Cafeteria. Note Frank modified the wings to be swept back



Jim Doty covering his Sweet Stick



Frank Gutierrez cuts foam as John Michael watches. Frank and others cut several wings at the build session



Jim Doty Brought his newly recovered 1/2-A Old timer. He had to recover the wings and tale after they fell victim to his cat's claws

Attendees were:

- | | |
|-----------------|-------------------|
| John Michael | Jim Doty |
| Jeff Wessel | Steve Plantenberg |
| Gregg Lind | Aaron Lind |
| Jamie Johnson | Crist Rigotti |
| Frank Gutierrez | |

Jim Doty and Frank Gutierrez →

CMA Members Volunteer to Spruce Up Flying Site

By Jim Doty



Steve Plantenberg showed model building videos



Workers finish construction on the sign painted by Jamie Johnson



A new green windsock flies over the main building at Martinson's Sod Farm thanks to Doug Emerson's work

It is important to remember all the members who contribute their time and effort to make the CMA a success. In January I stopped by the field and saw two new additions to the field. At the main entrance of the Sod Farm stands a brand new sign painted by Jamie Johnson, and on the roof of the main building is a green windsock assembled by Doug Emerson.

When I was there the windsock was standing straight out in the high wind, and Sod Farm workers were finishing construction on the sign stand.

Thanks to Jamie and Doug for their contributions. I'd also like to thank all the other members that have made the extra effort to help out the club. I'm glad to note that quite a few members have already volunteered to help out with various activities this year. It is always nice to have the work spread over a larger number of members.

It looks like this will be a great year for the club, and I'm looking forward to a very active year.

James H. Doty, CMA FlightLine Editor →

Word Search

From the AMA National Newsletter

S T T I M H C S R E S S E M B
 R T D R I B R A W Z R T J U P
 T A T N I F I X K E A S C A T
 A H P I A M O P N I P I Z Y H
 G T U S P M P I L O T N P J C
 N A I N G K A R R A A O J U T
 I B D O D R C T B N N R U N A
 N M G I T E E O O A S E G G R
 T O S U H T R B C A P Z L M C
 H C O W L E I B D M A E Y E S
 G A P E A P D U O L N B S I U
 I N W G N I W R Q L O R T S K
 L A I D A R F O A S T G I T H
 I R T P R O P E L L O R C E O
 P D H M U S T A N G E M K R I

The following words are hidden in the puzzle above. As you discover words with an underlined letter, highlight the underlined letter for a special message. Enjoy!

AEROBATIC
 ARF
 BONANZA
 CANOPY
 COMBAT
 CUB
 FIN
 GOLDBERG
 JUG
 LIGHTNING
 MOSQUITTO
 PILOT
 RADIAL
 SCRATCH
 SPAN
 SPORT
 TAIL
 TRAINER
 UGLYSTICK
 WING

AMA
 BIPLANE
 CANARD
 COCKPIT
 COWL
 DIHEDRAL
 GLOWPLUG
 JUNGMEISTER
 KIT
 MESSERSCHMITT
 MUSTANG
 PITTS
 RIB
 SOPWITH
 SPAR
 SUKHOI
 THUNDERBOLT
 TRIM
 WARBIRD
 ZERO

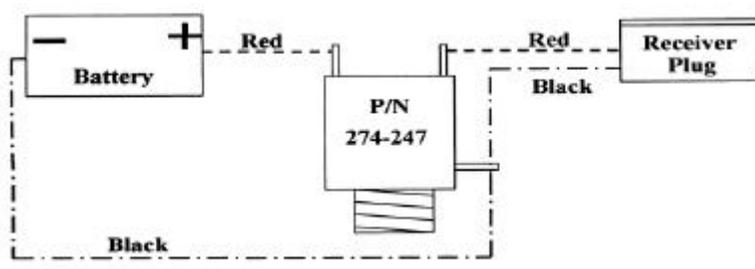
By Ron Boyer, Camarillo Flying Circus, Editor
 editorcfc@aol.com →



Murphy's Law Applied to Model Airplanes (part 2)

- If there is only one tree in an otherwise deserted area, your model will always fly into it.
- When an expensive model is in the air, there will always be a young child within range playing with his model car, whose radio will be on the same channel that you're using.
- Just when you've finally obtained a vehicle that's large enough for you and your planes, your wife will claim it for use as the family vehicle, leaving you with the two-door sports car.
- Holding a transmitter always causes an overpowering itch all over your body as soon as your airplane takes off.
- If you want to hear from your son by phone, just glue a part of your airplane with 12 minute or longer epoxy that you have to hold together by hand. He will call for sure.
- Glide distance is exactly equal to the distance between the spot where the propeller assumes the horizontal position, and the nearest spot level enough for a landing minus 10 feet.
- CA is a medical adhesive. As such, it is much more effective at gluing fingers than balsa.
- When, during the construction of a model, you need three hands and yours are busy, the bottle of
- CA you were using will secretly lay down, spilling the contents to the floor and you, in your bare feet, will stand in it, gluing yourself in position.
- The probability of an engine quitting is directly proportional to the distance the airplane is from the landing area.
- A new glow plug will last forever if you have spares, but only about a half-an-hour if you don't.
- The size of your workbench has nothing to do with the size of your airplane, your engine, or your house, but with the size of your spouse's heart.

from The Flying Penguin
Robert Osorio, editor
rosorio@soldcentralfl.com →



Audio Jack Receiver Switch

Every once in a while, we build a model airplane in which it's difficult to install or operate a receiver switch. Perhaps you have a canopy that doesn't lend itself to being opened and closed easily. Perhaps you've got a combat airplane where you don't want a movable switch to be exposed to another airplane's attack. Whatever the reason, one solution is to mount an audio jack just under the surface of the fuselage and use a corresponding audio jack to turn it on and off.

The whole setup only takes a few dollars worth of electronic equipment that is readily available at your local Radio Shack store. The parts you'll need are:

274-247 3/32 inch Phone Jacks

274-290B 3/32 inch Phone Plugs

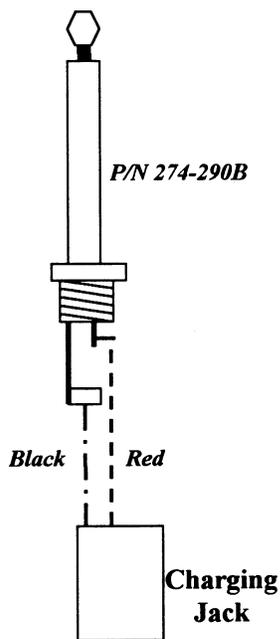


Figure 2

The diagram shows how to wire it up. (Wires are shown as dashed lines for clarity.) The battery's positive lead should be soldered to one of the terminals on the back end of the jack. The receiver plug's positive lead should be soldered to the other terminal on the back end of the jack. (Make sure you follow the diagram in the figure carefully if you want to be able to charge the battery through this

jack.) Both the battery's and the receiver plug's negative leads should be soldered to the terminal on the side of the jack. (See first figure.)

The switch is off when a phone plug is inserted into the jack. Turn the switch on simply by removing the phone plug. Make sure you don't lose that plug while you're flying or you won't be able to turn your receiver off. Some people tie a long brightly colored ribbon to the plug so it's harder to lose.

You can take the next step and make the phone plug into a charging jack by wiring it up as shown in figure 2. The positive lead should be soldered to the short connector, and the negative lead to the long connector. Plug your charger into this and you're charging your battery. Pretty neat!!

from Clarence Silent Flyair
Marty Timm, editor
PO Box 246
Glenwood NY 14069 →

Heads Up, CMA Activities

February 2000

3-Feb 5-6 PM Meeting
10-Feb 6-9 PM Build session
18-Feb 5:00 PM Flightline deadline

March 2000

2-Mar 5-6 PM Meeting
9-Mar 6-9 PM Build session
17-Mar 5:00 PM Flightline deadline

CMA voice bulletin board 295-8888

Local Events:

2/06/00 Waterloo, IA, Blackhawk RC Pilots Annual Swap Meet. Site: Local 838 UAW Hall, 2615 Washington St For info: Dennis Nissen, 1021 W 1st St Cedar Falls IA 50613 PH:319-266-3060. Sponsor: BLACKHAWK RC PILOTS

2/13/00 Davenport, IA, Swap Meet. Site: IA National Guard Hangar, Davenport Airport. For info: William Whetstine, 28164 219th St LeClaire, IA 52753 PH:319-289-4329. Annual swap meet. US Hwy 61 north of I-80, exit 124 west to Harrison St, 1/2 mile north. Swap 10AM to 3PM. 8 ft tables \$8, admission \$2. Reservations requested. Sponsor: DAVENPORT RADIO CONTROL SOCIETY

2/27/00 Palo, IA, Swap Meet 10 AM to 2 PM, Palo community center, Admission \$2 per person.

Get there early for the best deals..

AMA events web page:

<http://www.modelaircraft.org/Comp/Contest.htm>

For an AMA membership application:

<http://modelaircraft.org/Mem/Memapp.htm>



Send your input for the CMA Web Page to:

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Vice President: Gregg Lind x5-0008
Secretary/Treasurer: Chris Heald... x5-0793
Field Marshal:
Safety Officer: Crist Rigotti..... x5-0612
FlightLine Editor: Jim Doty..... x5-2931
Web Page Editor: Steve Plantenberg
x5-9625

Senior Flight Instructors and Test Pilots

First flights of new airplanes:

Frank Gutierrez
Mark Woytassek

First flights of new helicopters:

Crist Rigotti

Flight Instructors in training:

Irv Anderson
Jamie Johnson
Steve Plantenberg



For membership information:

Contact: CMA Secretary Chris Heald
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Build Sessions

Build Sessions are held every second Thursday of the winter months in the Main-Plant Cafeteria, to provide hints, tips, and help in building models.

Build Sessions are open to everyone who is interested in RC model building.

Send your input for FlightLine to:

James H. Doty
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