

# FlightLine

A Monthly Publication of Collins Model Aviators September 1996

**Reminder:** September's CMA meeting is Thursday the 5<sup>th</sup> at the main plant cafeteria. Our club picnic and fun fly is Saturday September 14<sup>th</sup> at 11 am. Bring your own food, drinks (pop) will be provided.



September's Featured Model — Sig Four Star 120e



Another view of this month's featured model

Although the Four Star is not a trainer, its docile performance and ease of assembly would make it an excellent second plane. Sig also sells a Four Star 40, but I've heard that its smaller size gives it faster response making it a little too touchy for most beginners.

So if you're looking for a big well-behaved plane you should certainly consider a Four Star 120. It would make an excellent winter building project.

## September's featured model

### Sig Four Star 120

I photographed September's featured model when visiting my parents in Indiana. My father built the model and has been flying it back in Indiana. While I was there, I visited two flying fields. My father let me try out his Four Star each time.

I was a little too rusty at the time to try any takeoffs or landings, but in the air the Four Star was very easy to handle. The big plane is easy to see and has very smooth control response. The low wing, small dihedral, and symmetric air foil give it excellent performance in aerobatics. Rolls were very easy and required little to no elevator corrections to hold a smooth line. The only maneuver my father has trouble with is a knife edge. You need a lot of power and rudder to hold up the nose.

My father tells me that the plane is easy to takeoff and land, and was easy to assemble with well crafted interlocking parts.

James H. Doty, FlightLine Editor ➔

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The membership is really getting active. I took the photo at the August 27<sup>th</sup> flight training session. Eleven pilots and eight planes showed up. *JAD*

## Club Trainer Takes a Dive

By Tom DeWulf

Well, the inevitable happened; the club trainer (Sturdy Birdy, maintained by Tom DeWulf) attempted an underground maneuver (it crashed!). The incident occurred during the first week of August while instructing Amy Gillespie. I attempted to regain control of the aircraft after some extreme maneuvers left it at a low altitude and distant range. We were flying with transmitters in a buddy-box configuration, so all I had to do was release the trainer switch. Upon doing that, my controls seemed to have no effect. The plane had stabilized and was flying away from the landing field with wings level. I immediately assumed it was flying out of range and elevated by transmitter over my head, but to no-avail. I probably had about 6 to 8 seconds to before it flew out of eyesight. I had just enough time to get out one cry that I was in trouble. Darrin Nebraska was able to sight the airplane before it went down. After crashing I immediately laid my transmitter on the ground with the antenna pointing at the last known position. I knew from experience this would help to limit the search area.

We doubted we were even going to be able to find the airplane since it crashed at extreme range, probably in the cornfield and night was falling. We assembled a search party and attempted to search the far end of the cornfield. Mark Woytassek drove around the neighborhood in his vehicle. We were extremely fortunate that the plane came to rest in an open area behind an industrial building under construction. It was about 50% further than the boundaries of the cornfield. Mark spotted it from his vehicle. He picked up the plane but didn't see the engine around. He quickly decided to go fetch the rest of the search party before darkness fell. About half a dozen people searched for about an hour and were unable to locate the engine, even though we found practically every other piece of the plane including both propeller blades and the entire spinner that had shattered into about 10 pieces. The area was well lighted by the industrial building's security lights, and vegetation was cleared out to about 100 feet away from where the crash occurred. We finally concluded that the engine must have bounced into the dense vegetation 100 ft away from the resting place of the plane. Unfortunately the vegetation was too dense to walk through and we couldn't spot the engine peering in from the edge. I went back and looked again during daylight; with no luck.. A battery and range check after the crash showed no radio trouble, or low battery voltage. Damage to the plane itself was:

- Engine mount sheared off
- 5 % of the right wing was broken off.
- Fuselage was bent into a V shape and cracked in several places.
- Landing gearing bent straight back
- Horizontal stabilizer destroyed.
- Elevator pushrod was snapped

## From the President

by John J. Michael

In the July FlightLine I reported about losing my second airplane. This month I can happily report that I am back in the air. My radio is on a new channel (whether it needed it or not) and I have a new trainer airplane, a Hobbico Flightstar 40 AWARF. Last evening it flew for the first time, and after some minor adjustments after the first two flights it is flying quite nicely. It's good to have my own plane again, and now I can concentrate on my goal for the season, soloing. That may be difficult at this point in the season, but we'll see.

Those of us who have been regularly coming to the field on Tuesdays and Thursdays have been having a lot of fun. I haven't seen too many of the fancy airplanes that I hear about being built, but it's been fun flying the trainers. Everyone has something a little different, and it's interesting seeing the differences in flying characteristics and performance.

Our club picnic and fun fly is coming up fast. Be sure to mark September 14 on your calendar and join us for the day. Last year was a lot of fun for all of us and our families, and this year should be just as good.

Something else to start thinking about is new club officers. We need to start considering taking part in the club by running for one of the offices that we have. We cannot have a club without officers, and there are many people who have been part of the club for years that could serve in that capacity. When you consider how many people have belonged to the club and how many have actually been officers, the percentage is not that high. So please consider taking a post for a year. It's not that hard, is mostly fun, and it gives you a change to get to know the people in the club better.

Finally, don't forget the club meeting September 5. Among whatever else we find to talk about, we will be discussing final plans for the picnic/fun-fly, what people are interested in for a club project this winter, and maybe starting making plans for next year.

See you in September.

John Michael, CMA President →

- Propeller and spinner destroyed

It took me about 6 hours to restore the plane. I was able to dig into my excess plane supplies for most of the spare parts (spinner, propeller, pushrods, etc.). However, I did not have any more of the red monokote in which the plane was covered, so I bought a new roll. I also had to purchase some balsa to rebuild the horizontal stabilizer. I've mounted one of my own engines on the plane to get it through the rest of the flying season. I don't intend to instruct next year, so the club may wish to consider buying a replacement engine for the next instructor or possibly selling the plane if nobody else wishes to instruct. For now the plane is ready to fly again and will resume the normal training schedule. The two week downtime is a testament to the Sturdy Birdies durability in a crash. I wish to apologize to the club for my failure in the role as instructor to keep the plane from crashing and especially for the loss of the engine.

Tom DeWulf, CMA Vice President & Flight Instructor →

## Novice Pattern

by Jim Doty and Mark Woytassek

Mark Woytassek found this drawing of the novice pattern. He also has a copy of the RC aerobatics rules. I included the definitions of the novice maneuvers. Although I know that a lot of us aren't quite ready for pattern competition just yet, the novice maneuvers are a good starting point. Start by practicing each maneuver by itself, then try stringing a few together. Soon you'll be able to fly the whole pattern.

Trying some of these maneuvers is also a good way to practice your unusual attitude recovery techniques. Just be sure to let your flight instructor know before you try a maneuver so he can help you if you get into trouble.

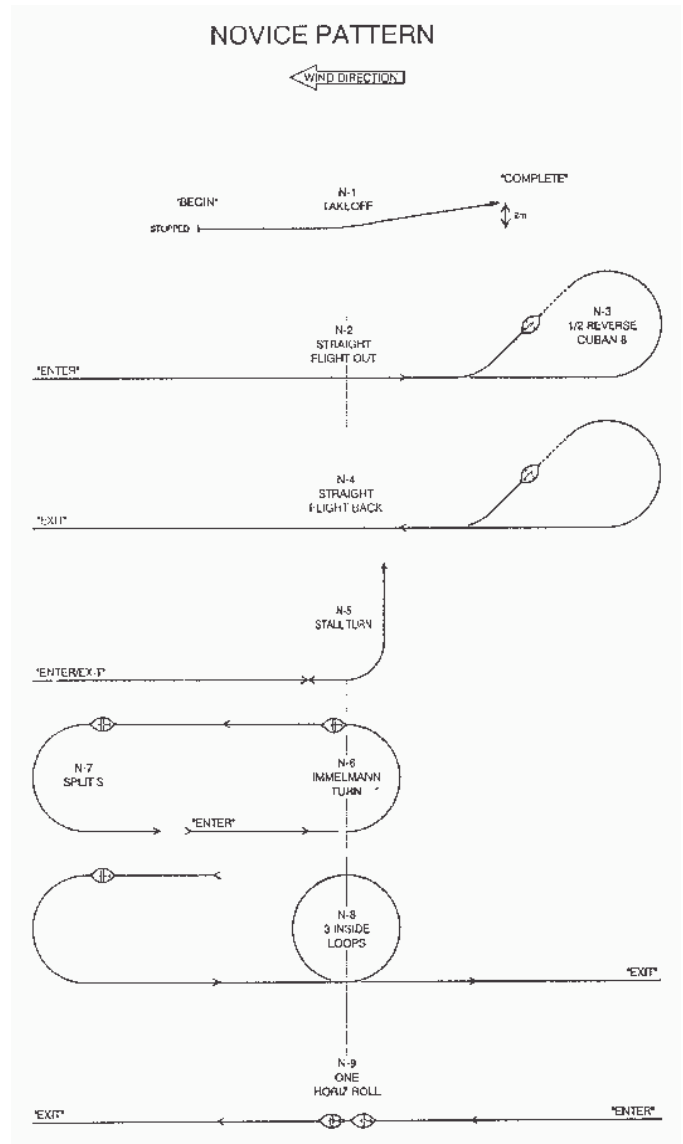
The AMA rules have detailed instructions on flying and judging the maneuvers. The judged maneuvers are to be carried out within a maneuvering area box bounded by lines 60° each side of center and a vertical ceiling rising at an angle 60° from the horizontal.

Maneuvers must be performed where they can be clearly seen by the judges (who sit or stand directly behind the pilot). Each time the plane passes in front of the judges a maneuver must be executed (except after takeoff and before landing where a maximum of two passes may be made). Many of the maneuvers have a mandatory orientation (Upwind or Downwind). The "upwind" direction is the pilot's choice but must be announced to the judges before starting the flight.

There should be at least two judges, and the same judges should score all contestants. Each judge awards each maneuver a score from 0 to 10 points in half point increments according to its "the degree of excellence". The maneuvers are judged on precision, smoothness, position, and maneuver

dimensions. Criteria for scoring the maneuvers are included in the rules, but I will not go into all the details here.

The scores from the individual judges are averaged. Each score is then multiplied by the "k" factor degree of difficulty modifier. The flight score is the sum of these modified scores. This gives a range of 0 (very very bad) to 140 (perfect) for the novice pattern score.



**Novice Pattern Maneuvers:**

1.	Takeoff (U)	k=1
2.	Straight flight out (U)	k=1
3.	One half reverse Cuban 8	k=1
4.	Straight flight back (D)	k=1
5.	Stall Turn (U)	k=2
6.	Immelmann turn (U)	k=2
7.	Split "S"	k=1
8.	Three inside loops (U)	k=3
9.	One horizontal roll (D)	k=1
10.	Landing (U)	k=1
Total difficulty factor k=14		
Note: (U) = upwind, (D) = downwind		

**Descriptions of maneuvers:**

**1. Takeoff (U)**

**k=1**



The model must stand still on the ground with the engine(s) running, without being held.

The throttle is then smoothly, not suddenly, advanced. After the takeoff roll has started, the nose wheel lifts off the ground (tail wheel for a conventional gear airplane), and the aircraft assumes a climb attitude while still rolling on its main wheels. When the aircraft reaches flying speed it should gently lift off the ground and climb at a gradual angle. The aircraft must not deviate in heading during the takeoff. The takeoff is completed when the model is approximately two meters (6-1/2 feet) from the ground.

The takeoff should not be downgraded for wing dips caused by air turbulence, unless the wings aren't immediately leveled. Center of maneuver is liftoff.

**Downgrades:**

1. Model does not stand still when released
2. Changes heading during takeoff and climb.
3. Model jumps from the ground.
4. Retouches ground after becoming air borne.
5. Too steep a climb angle.
6. Gallops in elevation during climb.
7. Wings not level at any time.
8. Throttle not accelerated smoothly.

**2. Straight flight out (U)**

**k=1**

The model must be brought exactly parallel to the flight path and flown in an absolutely straight and level path for a distance of approximately 100 meters centered on the judge before starting the Half Reverse Cuban Eight. (Distance does not have to be accurate.)

**Downgrades:**

1. Plane deviates left or right.

2. Does not hold constant altitude.
3. Gallops in yaw, roll, or pitch.

**4. One half reverse Cuban 8 k=1**



Model pulls up and executes one-eighth (1/8) inside loop to 45 degrees. hesitates, does one-half (1/2) roll. hesitates. then performs five-eighths (5/8) inside loop back to level flight in opposite direction as entry.

**Downgrades:**

1. Loop segments not round with the same size and radius.
2. Model not at 45 degrees before and after half roll
3. Changes in heading in loop segments or after half roll.
4. Half roll not centered in 45 degree line.
5. No hesitations before or after half roll.

**6. Straight flight back (D)**

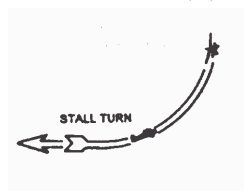
**k=1**

Immediately after the Half Reverse Cuban Eight the model shall fly back along the same line as the outgoing path. The Straight Flight Back may be downgraded because:

1. Turns or wiggles during straight flight.
2. Change in altitude.
3. Gallops in pitch, yaw, or roll.
4. Flight not along straight flight out path.

**5. Stall Turn (U)**

**k=2**



Model execute one-quarter (1/4) loop to a vertical track, performs a stall turn through 180 degrees, then recovers with another one-quarter (1/4) loop to level flight in the opposite direction. Model may

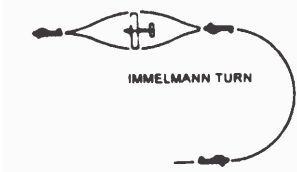
perform one-half (1/2) or full roll on the up or down or both legs of the maneuver. The length of the vertical segment is not a judging criteria.

**Downgrades:**

1. Model not level at start and finish.
2. Track does not become exactly vertical.
3. Model not vertical at start and finish of rolls and stall turn.
4. Return path not parallel to entry path.
5. Exit not same altitude as entry.
6. Pivot radius greater than 1/2 wingspan
7. Pendulum movement after stall.
8. Loop segments not round with same size and radius.

## 6. Immelmann turn (U)

k=2



The model starts the Immelmann flying straight and level, pulls up into one-half (1/2) loop immediately followed by one-half (1/2) roll and finishes flying

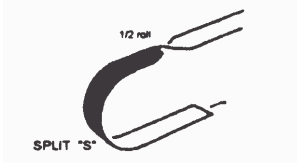
straight and level exactly 180 degrees from the heading at entry.

Downgrades:

1. Model not level at start.
2. Model deviates left or right during half loop.
3. Half loop not completed exactly above point of commencement of half loop.
4. Half roll does not commence immediately after half loop
5. Plane deviates from a straight line during roll.
6. Model does not finish in level flight
7. Model heading does not finish exactly opposite the direction of entry.
8. Half loop not round
9. In Novice class and Sportsman class, maneuver does not start at center

## 7. Split "S"

k=1



Model performs one-half (1/2) roll in level flight then immediately executes one-half inside loop to level flight in opposite direction as entry.

Downgrades:

1. Half roll not 180 degrees.
2. Half loop not started immediately after half roll.
3. Half loop not constant radius.
4. Changes in heading.
5. One-half (1/2) roll not in level flight.
6. Model heading does not finish exactly opposite the direction of entry.

## 8. Three inside loops (U)

k=3



Model pulls up and executes three (3) consecutive loops; all loops shall be round and superimposed

Downgrades:

1. Loops not round.
2. Loops not superimposed.
3. Wings not level during loops.
4. Changes in heading during loops.

5. Exit not same altitude and heading as entry.

## 9. One horizontal roll (D)

k=1



Model rolls at a uniform rate through one (1) complete revolution in either direction. Center is inverted portion of maneuver.

Downgrades:

1. Changes in heading during roll.
2. Changes in altitude during roll.
3. Roll rate not constant.
4. Model does not perform exactly one roll One Point per 15 Degree Rule.

## 10. Landing (U)

k=1



The landing maneuver will start two (2) meters from the ground The

model flares smoothly to a nose-high attitude. Dissipating flying speed, then smoothly touching the ground, within the landing zone, with the main wheels first, with no bouncing or changes in heading after touch down. The nose wheel on a tricycle gear and the tail wheel on a conventional gear (unless a "three (3) point landing" of mains and tail wheel touching simultaneously is executed) should settle gently to the ground after a brief rollout. The maneuver shall be considered complete once the plane has slowed below flying speed and has rolled straight for 15 meters.

The landing zone shall be marked by lines placed perpendicular across the runway and spaced 30 meters apart. The width of the landing zone shall be normally the width of the runway, but in no case shall exceed 30 meters. Displacement of the touch-down point left or right from the runway area directly opposite the judges shall not be reason for downgrade as to centering, if the touchdown is within the zone. Downgrade for that is still within the defined runway, but outside the landing zone, will be proportionate to the distance outside the zone. Normally this zone will be placed directly in front of the judges' position; however, should runway conditions or safety considerations dictate, the zone may be displaced at the discretion of the Contest Director to such location as he she may require. If such displacement is decided upon, it will be thoroughly discussed and defined to both pilots and judges, and no downgrade will be given for ant touchdown within the zone but not centered in front of the judging panel.

The landing will not be downgraded if:

1. Plane rolls straight to a controlled stop in less than 15 meters.
2. Wing dips, unless they are not immediately corrected, which are caused by air turbulence.
3. The pilot elects to "slip to a landing" to handle a crosswind condition, in which case the upwind wing will be low.
2. Whether the flap channel is rotary pot driven or switch selectable, set to and select POT. You also input the model name at this stage and can copy another model if you wish.

Downgrade:

1. Model impacts the ground due to lack of flare.
2. Model bounces after touchdown.
3. Changes in heading.
4. If model ends on its back, zero (0) points
5. Model lands outside 30 meter zone.
6. If any undercarriage leg retracts on landing, zero (0) points.
7. Aircraft "porpoises" and/or wanders during approach and flare.
8. Aircraft lands in other than a nose-high attitude.
9. Aircraft lands outside landing area or run-way, zero points.
10. Aircraft touches down while not straight to runway and ground track.

That's all there is to the novice pattern. I hope that in future issues some of our experienced pilots can give us some tips on how to properly execute these maneuvers.

James H. Doty, FlightLine Editor →

## Programming JR 347 and 388 Radios

by Eric Henderson  
from Mark Woytassek

[Eric Henderson was kind enough to send me this bit on JR 347 and 388 programming, Mark]

Differences between the 347, read 512 bit resolution and the 388, read 1024 bit resolution will be highlighted where relevant (both radios will support PPM/FM and PCM 512). To avoid this becoming an instruction manual the steps to set up a plane are illustrated but the detailed keying, etc. has been omitted.

Both radios have step through menus and require some initialization choices. You are required to select MODEL TYPE before you get into the main body of programming and servo set up. There are a couple of buttons on the lower left of the radio that you hold down while simultaneously switching on the radio. The radio LCD comes on but no RF is produced when in this state. AERO, meaning power planes is displayed. (For our purposes we shall ignore the Glider and Heli. options). Two decisions now have to be made. They are:

1. If you want Flaperons - a channel and servo per aileron, step to and select FLAPERON, and

This is where you tell the radio what receiver you are using. The 388 has the option to use the new 1024 receivers. (I have tried both 512 and 1024 bit resolution receivers with 4131 servos and to be perfectly honest I cannot really feel any difference in the air but I can see a minuscule difference in electronic trim resolution.) Then you switch off and on and you are now ready to program!

"Programming" requires you to press two keys simultaneously. This will put you into programming mode and will produce an RF signal so you will see the results of your work on your receiver/servos as you program.

You first clear the flap servo rotary POT trim preset down to zero to avoid inadvertently, (might I hastily add embarrassingly) messing up the two servo aileron configuration with the Trim Knob. All the servos are default set to 100% throw and have the option to go up to 150% of their endpoints at either side of center. The best set up is to have 100% servo throw with the pushrod about two or three holes out on the servo arm and to choose horn lengths that give the specified/desired throws.

Next set the direction and centering of each servo so that the arm is perpendicular to the pushrod. If the centering cannot be done mechanically the programmable SUB-TRIM option allows very fine adjustment.

Elevator and rudder are easy to set up. The END-POINT, often called servo throw, is set individually either side of the center, e.g. up and down. If after flight tests you find that you have too much throw a good technique is to use the DUAL-RATES option to reduce or increase the throws as desired. The rate switches have two positions and are default set at 100%. To get more throw you can go up to 125%, say in position 1 and 110% in position 2 and then try them out to see which setting you like best. This is much better than changing the end points especially when you are using two servos on the same control.

EXPONENTIAL is selected by the rates switches. 25% is a good amount to begin with on elevator. The higher the percentage the less movement you get around the center for the amount of stick movement. Some may call this an automatic dual rate but it is not! You use the exponential to desensitize the center actions of the stick pots. This make for smoother stops and starts in rolls etc. You will soon know if you have too much exponential because the plane will respond too slowly. A good set up technique is to begin with no exponential and set the servo rate first. Then set both the rates positions to the same percentage (i.e. no matter which position you have the switch then the rates are the same).

Then program in some exponential on rate switch position one and go fly!.

Try the plane with exponential out and then in. You can even try two different rates of exponential with rates switches. The rudder will work well at 40% EXPO, it will be pretty soft for takeoffs and landings, but will respond with authority in stall turns and knife edges.

Throttle was once a "No-brainer" to set up but with the big 120's some help is needed. First of all the rpm of the engine does not seem to be proportional to the position of the carb. flap. To get a linear response use the SUB-TRIM option on the throttle channel. It allows you to move the centering of the servo and also affect the linearity of the servo action. If you couple this change with the ability to change the travel end points it does not take long to modify the resolution of a servo to meet your throttle response needs. Secondly a difference of 200 rpm on a 15 x 12 at idle can be the difference between a landing or an overshoot.

A practice you might like on both .61's and the 1.20's is to have a high/low idle switch. It is very difficult to do this with your thumb on the throttle trim during a contest landing so if it is pre-set on a mix switch life can be very enjoyable, read less sweat on finals!. What you set up is an idle that will not die during stall turns and spins but can be accurately selected for the final leg of landing or that stationary moment just before take off on a hard top runway. How you do it is to mix the throttle channel with itself. With JR this is channel 1 with channel 1.

You tell the radio which of the three available switches you want use and then dial in a small percentage of mix that will lower the idle when switched in. The YS 61 will idle very slowly for a limited amount of time, the 120 a bit longer, and it feels great to be able to switch in LOW IDLE when you are lined up on the final leg of landing and only have to concentrate on keeping the wings level.

Ailerons with a servo on each control surface help you sleep better at night. Servos or connectors or gears do fail and a redundant servo will save your plane. It also allows such niceties as electronic selection of differential and flap/elevator mixing. A technique that you can use to slow down a plane is to employ a form of flap using both the ailerons. The JR radios have a series pre-programmed mixers that you can use. The elevator neutral setting can be preset to avoid ballooning upon flap deployment. The flaps in this instance are not drooped. They are set with 5 degrees of UP-flap, yes UP! select the LAND switch because it also disables the snap roll switch. Not a good idea to snap roll on landing approach!. What this configuration allows you to do is slow the plane in a higher than usual nose up attitude without stalling. It works very well on dead calm days but is usually not needed on windy days.

Fail-safe is a bit controversial these days but you get RX battery low fail-safe warning. The JR will give you approx. 30 seconds to land after it senses a low four cell RX pack. The throttle will cut to idle as a warning. You can then override it but please, not for long. MHO the biggest cause of a low pack is a hung gear-leg. If you use the new low profile JR 703 servos you will get relatively low drain on a stalled servo. (Burnt our fingers on the servo wheel testing that one!)

Back to fail-safe. A good plan is to choose low throttle, (just in case you get it back), slight right rudder and half up elevator. The wheels are best kept up to save the wing in the event of a forced-free-flight landing. The 388 differs from the 347 in fail-safe options. The 347 allows either low throttle and HOLD of all other controls OR pre-select of all control positions. The 388 allows you, nay demands of you, to specify HOLD or PRE-SET per channel/servo. This gives you a lot of flexibility in emergency options.

SNAP ROLLS can be pre-programmed and selected from a momentary switch on the top of the TX. The snap roll program lets you set more throw than you have dialed as available on your control sticks. It is good for snap rolls on Avalanches etc. You can pre-program all four up and down snaps but can only have one direction selected at flight time. This makes the option a bit limited for spins however.

Mixers on the two radios is the same for the first four mixes. The 388 has two more. The basic program requests you to select the mix identity, A, B, C or D. You chose a master and a slave channel to be mixed and also the switch to be used. No switch means ON all of the time. You then select the mix percentage amounts either side of the center. You can also defer the mix to only operate when the driving channel reaches a certain point. An example being that when you mix the throttle to itself you only want the mix to work on the low position of the throttle and probably only during the last 10% of the low throttle operation.

There are two extra optional mixes on the 388, called E and F. They have a special feature called TRIM TRANSFER. This is very useful when you want to use two servos for elevators. You could just use a Y-lead but this still gives you a single point of failure. Two channels are definitely better than one. Anyone who has lost elevator will tell you! You would probably mix the elevator with Auxiliary Channel 2. Then when you trim your elevator with the physical trim lever you will get both elevator surfaces to respond. The electronic SUB-TRIMS and end point TRAVEL ADJUSTMENT can now be applied per servo to "Tune and match " each elevator control surface. The rates and pre-programmed mixes will also drive the elevator servo auxiliary servo as one.

I have gone as far as using four ailerons and four aileron servos in my Fun-fly machines. You should see a true vertical dive landing approach with full crow applied. What? that's not an official maneuver???

Regards - Eric Henderson →

# National Newsletter

Special thanks to Liz Helms the National Newsletter Editor for sending me back copies of the news letter. *JHD*

## President Dave Brown announces increases in AMA membership fees

by Jim Doty

The August issue of the National Newsletter announced that AMA fees were being increased for 1997. However, if you renew by 11/15/96 you will only pay half of the \$6 increase.

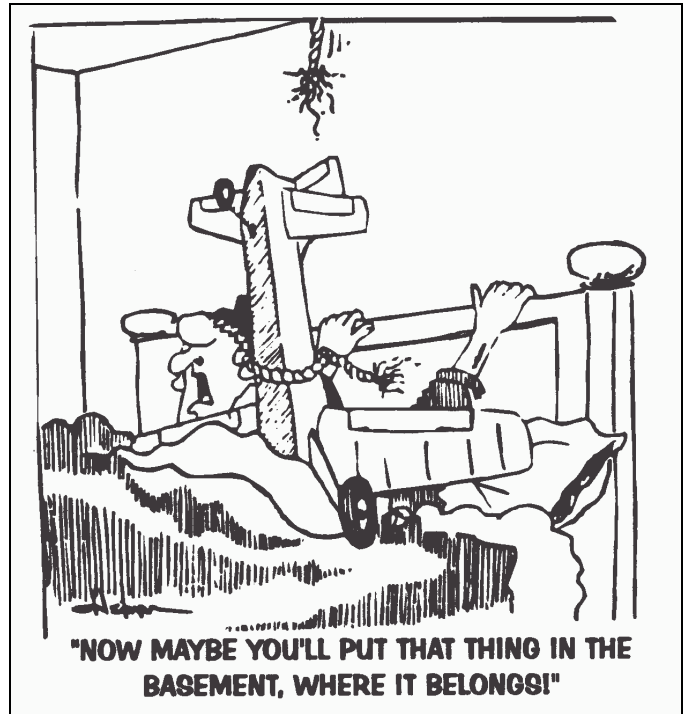
President Brown attributed the rate increases in part to recent increases in insurance claims. There was no mention of the SFA settlement or whether or not it contributed to the rate increase.

The new rates will be:

Membership	Old Rates	New Rates	Received by 11/15/96
Open	\$42.00	\$48.00	\$45.00
Youth (no Publication)	\$7.00	\$7.00	\$7.00
Youth (w/ Publication)	\$15.00	\$15.00	\$15.00
Second Adult	\$24.00	\$30.00	\$27.00
Senior Citizen	\$32.00	\$38.00	\$35.00
Affiliate	\$22.00	\$28.00	\$25.00

I encourage everyone to get their membership renewal in early and save money.

James H. Doty, FlightLine Editor →



Reprinted from December 1994 issue of National Newsletter



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## Heads Up, CMA Activities

Thursday, September 5, 4:45 pm—Club Meeting

Saturday, September 14, 11:00 am—Fun Fly & Picnic

Bring your own food, drinks will be provided

Friday, September 20, 5 pm—FlightLine Deadline

Thursday, October 3, 4:45 pm—Club Meeting

Friday, October 20, 5 pm—FlightLine Deadline

**Note:** All meetings and build sessions are held in the 35th street N.E. Facility (main plant) Cafeteria building 140, unless otherwise noted.

FlightLine deadlines are flexible if you can let me know ahead of time what to expect

### 1996 CMA Staff

<b>President:</b>	<b>John Michael</b>
<b>Vice President:</b>	<b>Tom DeWulf</b>
<b>Secretary/Treasurer:</b>	<b>Duane Smith</b>
<b>FlightLine Editor:</b>	<b>Jim Doty</b>
<b>Web Page Editor:</b>	<b>Tom DeWulf</b>

#### Flight Instructors:

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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

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### Send your input for the CMA Web Page to:

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## Local Activities

### R. C. FUN FLY

SEPTEMBER 8th, 1 996

8:00 A.M. TO 5:00 P.M.

PANCAKE BREAKFAST 6:00 TO 8:00 A.M.

6:00 TO 8:30 A.M. PILOT RESTRICTION

8:00 TO 8:30 A.M. OPENING CEREMONIES

8:30 TO 10:00 A.M. COMBAT ELEMATION ROU~

10:00 TO 10:45 A.M. SPOT LANDING CONTEST

10:45 TO 11:30 A.M. EGG DROP CONTEST

11:30 A.M. TO 12:15 P.M. CROWD JUDGE FREE FLIGHT

12:15 P.M. TO 12:45 P.M. COMBAT FINAL ROUND

12:45 P.M. TO 1:30 P.M. STREAMER SELF CUT CONTEST

1:30 P.M. TO 2:15 P.M. TOW STREAMER COMBAT

2:15 P.M. TO 3:00 P.M. HELICOPTER FREE FLIGHT

3:00 P.M. TO 3:45 P.M. LIMBO CONTEST

3:45 P.M. TO 4:15 P.M. CANDY DROP

4:15 P.M. TO 5:00 P.M. TOW STREAMER COMBAT FINAL

5:00 P.M. TO DUSK FREE FLIGHT

RAFFLES PRIZES

FOOD AND REFRESHMENTS

INSTRUCTORS WITH BUDDY BOXES NEEDED

CONTACT DAN AT 319-444-4020 OR 3650

## → Flight Training

Flight Training is available every Tuesday and Thursday weather permitting.

Tuesdays — Beginner training

Thursdays — Advanced training

Check the CMA Hotline 295-8888 for the latest updates on the training sessions.

In case of bad weather on Tuesdays Thursday will be used for both sessions.

On Saturday mornings with good weather there will usually be someone available to provide additional training.

# 1996 CMA Membership

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<u>M/S</u>	<u>NAME</u>	<u>M/S</u>	<u>NAME</u>
108-103.....	Irvin Anderson	153-163 .....	Darrin Nebraska
108-166.....	Geoffrey Barrance	108-136 .....	Patrick Neu
124-114.....	Ross Beins	108-136 .....	David Neu
124-111.....	Bob Buschette	137-136 .....	Marion Payne
124-115.....	Raleigh Dean	120-105 .....	Elio Picchetti
120-131.....	David Decker	108-136 .....	Gary Prior
153-120.....	Timothy DeWit	124-123 .....	Wayne Savold
153-264.....	Tom DeWulf	139-125 .....	Gerald Showman
153-163.....	David Dillman	108-136 .....	Duane Smith
124-300.....	James Doty	108-136 .....	Brian Smith
106-183.....	Mike Eastman	105-152 .....	Basil Tilley
153-264.....	Doug Emerson	124-111 .....	Robert Tribuno
153-163.....	David Gillespie	124-111 .....	Robert Tribuno (for Peter Tribuno)
153-163.....	David Gillespie (for James Gillespie)	124-111 .....	Robert Tribuno (for Michael Tribuno)
153-163.....	David Gillespie (for Amy Gillespie)	120-131 .....	Ron Menti (for Tony Veit)
120-131.....	Ron Menti	139-142 .....	Charles Ward
108-166.....	John Michael	153-264 .....	Bryan Wesner
108-166.....	John Michael (for Kevin Michael)	107-110 .....	Victor Wolfe
124-222.....	Mark Navratil	124-115 .....	Mark Woytassek

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John Crilley  
2540 Second Ave  
Marion, IA 52302

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Academy of Model Aeronautics  
5151 E. Memorial Drive  
Muncie, IN 47302

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R/C Adventures  
PO Box 284  
Marion, IA 52302

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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!***