FlightLine

A Monthly Publication of Collins Model Aviators November 1997

Reminders:

- It's time to send in your 1998 CMA membership applications
- Thursday November 6th is the CMA club meeting
- Thursday November 13th is the CMA build session
- Remember to get those nominations for CMA officers in soon

October's Featured Photo: Thanks to Troy Simonton took all the fun fly photos in this issue.

See page two for more photos and page three for Rich Dean's fun fly article.

James H. Doty, FlightLine Editor ✈

In This Issue:

CMA Fun Fly photos by Troy Simonton

Ehren Van Auken competes in the taxi contest

Rich Dean taxis his Sig Fazer

More activity on the flight line

CMA 1997 Fun Fly

by Rich Dean

The '97 Fun-Fly is history. People started showing up about 4:00, and eating about 5:00. Just before heading out to fly, some gliders and Dairy Queen gift certificates were given to the youngsters. $15 restaurant gift certificates were won by Karen Smith (Duane's Wife), Judy Michael (John's Wife) and

Linda Dean (my wife). We three guys had better take time off from the airplane building and get out with our wives.

On to the events. Christ Rigottti had the events well planned and after a pilot meeting things got started.

First off was a timed pylon event around some balloons on the ground. It is harder than one would think and some interesting strategies were planned or just happened as the planes were winding their way through the course. One plane at a time was run against the stopwatch with Mike Wesner beating his

dad and everyone else with a winning time of 23.94 seconds. Tom DeWulf was second with 25.97 seconds and I was third with a time of 32.85.

TIMED PYLON RACE

Dan Cooley 65.53
Dave Sneitzer 40.16
Mark Woytassek..... 38.40
Troy Simonton 63.00
Ehren Van Auken 30.31
Paulis Endlin 63.00
Michael Wesner 23.94
Tom DeWulf..... 25.97
Bryan Wesner 41.03
Irv Anderson 42.13
Duane Smith..... 73.50
Brian Smith 90.05
Basil Tilley..... 92.00
Rich Dean..... 32.85
John Michael 35.37
Doug Emerson 49.50
Christ Rigotti..... DNF

Next was the two minute flight. Without a timer, watch or other time measuring instrument pilots tried to make a two minute flight from takeoff to landing. Pilots who are not yet solo were timed from the time they took the transmitter from an instructor to the time they handed the transmitter back. Troy Simonton had the most accurate built in clock of the day at 1:53, with Duane Smith next at 2:07:68 and then John Michael third at 1:51. Some of the pilot's clocks were not working or they were just enjoying their

time in the air!

TWO MINUTE TIMED FLIGHT

Dan Cooley 2:34
Dave Sneitzer 3:07
Mark Woytassek..... 2:39
Troy Simonton 1:53
Ehren Van Auken..... 3:35
Paulis Endlin..... 1:43
Michael Wesner 3:23
Tom DeWulf..... 2:16
Bryan Wesner 2:47
Duane Smith..... 2:07:68
Brian Smith 2:31
Rich Dean..... 1:49
John Michael 1:51
Doug Emerson 2:31

Christ had come up with a different spot landing event like blackjack or 21. The field was sectioned off in areas worth three to five points and two landings per pilot were scored on where the wheels first touched.

An LT40 comes in for a landing at the CMA Fun Fly

Then a card was drawn from a deck of cards and it's value was added to the sum of the two landings.

By the luck of the draw I won with Dave and Tom right on my heels.

Name	1st	2nd	Card	Total
Dave Sneitzer	5	5	8	18
Mark Woytassek	5	5	5	15
Michael Wesner	5	5	6	16
Tom DeWulf	5	3	9	17
Rich Dean	5	4	11	20
Doug Emerson	5	3	8	16

During all of the landings Christ was keeping track of who was landing nearest an unmarked "Mystery Spot". Tom DeWulf was the surprise winner there.

Daylight was running out fast by the time the events were finished. Everyone who was there was eligible for the drawing to win one of the five kits. A drawing was held to find their new owners. Then the top three place winners of each event were turned loose on the smaller prizes. Finally everyone was available again for the drawing to win the remaining prizes available. A partial list of who the big winners were:

Some of the "big winners" from left to right: Ehren Van Auken, Tom DeWulf, Bryan Wesner, Mark Woytassek, and Troy Simonton

Mark Woytassek	LT-40
Troy Simonton	MID STAR 40/EXPANDED SCALE VOLTMETER
Ehren Van Auken	F-15
Tom DeWulf	SHRIKE/GLOW CORD
Bryan Wesner	FOUR STAR 40

Dave Sneitzer	MONOKOTE IRON/PLUG WRENCH
Paulis Endlin	CA GLUE
Michael Wesner	POWER PANEL
Duane Smith	EPOXY
John Michael	HINGE SLOTTING KIT

Irv helps and Floyd inspect the damage to his plane

We had 17 pilots participate this year, the most that I can recall, the weather was great, overall a nice ending to a very good year of flying. A big thanks to all who helped put the fun fly together and a special thanks to Steve at R/C adventures for working with us on all the purchased items. Let's do it again next year.

Rich Dean, CMA Flight Instructor ✈

Prop Test Results

by Rich Dean

Basil Tilley has gone out and purchased an electronic fish scale and is doing some preliminary thrust testing on a SuperTiger .61. The engine is on a HobbyStar 60 and the thrust measurements were taken by putting the scales between the plane and a stationary object on his driveway. A digital tachometer was used for the RPM measurements. Some interesting data follows.

Ehren gets right to work patching the wing

Propeller	Max RPM	Thrust in pounds
Master Airscrew 11X7	12,000	3.0
Master Airscrew 11X7.5	8,000	3.4
Scimitar APC 11X7	12,900	3.4
Scimitar APC 11X8	11,900	3.0

I have read several places that an engine will rev up about 1,000 more RPM in the air compared to the RPM readings you get on the ground. This data should give a good starting point for selecting the proper prop! The last time Basil was flying his HobbyStar he had the APC 11X7 on it and it was a very good flying

combination. Experimentation is part of the fun in this hobby, let us know further findings Basil.

Rich Dean, CMA Flight Instructor✈

President's Column

by John Michael

All right you guys. Let's get on the stick. I hear that very few of you have sent in your 1998 membership for CMA. Don't put it off and make us go chasing you. Get your forms and checks in today. Dave is waiting.

We're also a bit short on nominations for the 1998 officers. Come on guys. Get to know the club operations and people better. Be an officer. Don't make me submit your name just so we can have a real election. Even if you don't want to nominate someone for every office. You can put your name in the slot by the position you would like serve in and submit that. Brian is waiting.

Well, it's been a quiet month at the flying field, at least from my perspective. The snow fence is down and stored, and I don't imagine we'll be mowing any more this season. I think I managed to get out twice. The first time I had to bring my Lazy Bee home for repairs. The second time I had my trainer out, and managed to land it. It took me 5 or 6 passes, but hey, when the plane was finally on the ground it was on all three wheels and the engine was still running. Maybe next season is when I finally get signed off.

Don't forget the next meeting. We'll be talking about renewing memberships, maybe getting some new members, and nominating people to run the club next year. We'll probably also do some planning for the upcoming build sessions.

Speaking of build sessions, be sure to make plans to be at them. The first one is November 13. I think the build sessions are one of the more fun things we do as a club. Even if you're not gluing sticks together at the moment, come around and see what other people are up to.

See you November 6.

John Michael, CMA President✈

Props and Planes

by Geoff Barrance

Have you ever thought about the various "nasty" effects you have on your aircraft when you put a motor and a propeller on the front? You take a lot of time and care to build your fuselage straight, your wings and tail surfaces warp-free and you fix them all on the fuse' nice and square. Then you hang the completed plane up and make sure it's balanced laterally (you do, don't you!). So it will fly straight and track through loops and things really nicely won't it? Well, if you leave it as a glider/sailplane there's a good chance it will, that's one reason that they are generally easier to fly than power planes. But that motor and prop do several things that adversely affect the symmetry of your plane. Here's a few to think on:

Torque - Take a firm hold of the plane and lift it off the ground. Gun the motor (everyone behind the prop please - think safe!). Feel it try to twist? That's the torque generated by the motor. It's resisted by the prop beating on the air and results in a rolling moment (force) on the plane. That's what you feel in this test. The plane feels it in the air too, so the wings have to generate asymmetric lift to stay level. That's one reason for that dreaded sudden tip stall when you gun the motor to try to go around from a low and slow condition. It can also be used to help spin entry when you want to, and of course the torque roll maneuver wouldn't be possible without it.

Slipstream - that whirling prop really stirs up the air. As the air goes backwards it has a rotating motion around the fuselage. Watch the exhaust next time you have the engine richened up. And note where the oil gets splattered on the plane. That rotating slipstream causes aerodynamic forces to be generated by the surfaces it hits. Fortunately these forces tend to be opposite to the torque forces and at least mostly symmetrical on both sides of the wing and tailplane. But normally the fin, rudder and fuselage don't have equal area above and below the thrust line so there's some asymmetry. Rotating slipstream hitting the fin and rudder can cause a turning force, which is normally most noticeable when you open up the motor for take off.

Gyroscopic - spin a flywheel and it becomes a gyroscope. Same for a prop. Gyros act funny when you try to change the direction of their axis of rotation (it's called precessing)- they generate a torque which not only tries to resist the change but also tries to move the axis of rotation so that it lines up with the axis of precession. Think of what that's doing to your plane in a loop! Or even more so in a snap roll. Actually it can help a snap roll. You can probably feel the gyroscopic effect of the prop when you hold the plane and move it around with the motor running. Some props are flexible enough that you can see the disk flexing as you do it.

"P" effect - normally we think of the prop moving straight ahead through the air. But sometimes that's not how it is. For example a tail dragger at the start of its takeoff has its nose well up but is moving along the ground. This means the air is effectively "coming up" at the prop. So the downgoing blade has a bigger effective pitch than the upgoing one. More pitch generally means more thrust, so one "side" of the prop disk makes more thrust than the other and therefore the prop generates a turning force - another reason for that tendency to swing on take off. It's also very evident on a fun-fly type plane when flying super-slow at a high angle of attack, and it can have marked effects on pitch trim in knife edge flight. It will also be there if you try to do flat (unbanked) turns using the rudder only, but then there's lots of other aerodynamic asymmetries, so it's hard to tell what's causing which effect!

So there's a few things to look for next time you are out drilling holes in the sky. They are a part of the reason why your plane isn't, and you shouldn't expect it to be, in perfect trim at all power settings and speeds. And they play a big part in extreme aerobatics. But somehow, with practice we learn to compensate almost instinctively most of the time. I think these effects are fascinating, others, such as the pattern competitors, may consider them a nuisance. But one thing's for sure, the laws of physics aren't going to change, so they aren't going to go away. And here's a scary thought- what about a helicopter, which in a sense is almost all "propeller"? They have all these effects "in spades"! Tends to help explain why they aren't exactly easy to fly, doesn't it!

Geoff Barrance✈

National Newsletter

The following articles are reprinted from the AMA's National Newsletter

Maintenance Replies

[Editor's note: Although I've seen these reprinted in dozens of newsletters, and I don't know from where they originated, but they are worth reading again and again!]

Here are some actual complaints submitted by US Air Force pilots and the replies from maintenance crews.

Problem: "Left inside main tire almost needs replacement."

Signed off: "Almost replaced left inside main tire."

Problem: "Test flight OK, except autoland very rough."

Signed off: "Autoland not installed on this aircraft."

Problem: "The autopilot doesn't."

Signed off: "It does now."

Problem: "Something loose in cockpit."

Signed off: "Something tightened in cockpit."

Problem: "Evidence of hydraulic leak on right main landing gear."

Signed off: "Evidence removed."

Problem: "DME volume unbelievably loud."

Signed off: "Volume set to more believable level."

Problem: "Dead bugs on windshield."

Signed off: "Live bugs on order."

Problem: "Autopilot in altitude hold mode produces a 200 fpm descent."

Signed off: "Cannot reproduce problem on ground."

Problem: "IFF inoperative."

Signed off: "IFF inoperative in OFF mode."

Problem: "Friction locks cause throttle levers to stick."

Signed off: "That's what they're there for."

Problem: "Number three engine missing."

Signed off: "Engine found on right wing after brief search.".

From the September 1997 National Newsletter

Local Events

Jan 17th — Skyhawks Banquet at Longbranch Supper Club, Marion, Iowa

Feb 22nd — Swap Meet, Palo, Iowa

CMA Officer Nomination Form

President_____

Vice President_____

Secretary/Treasurer_____

FlightLine Editor_____

CMA Officer Nomination Form

President_____

Vice President_____

Secretary/Treasurer_____

FlightLine Editor_____

Heads Up, CMA Activities

Thursday, November 6, 5:00 pm—Club Meeting

Thursday, November 13, 6-9 pm—Build Session

Friday, November 21, 5 pm—FlightLine Deadline

Thursday, December 4, 5:00 pm—Club Meeting

Thursday, December 11, 6-9 pm—Build Session

Friday, December 12, 5 pm—FlightLine Deadline

Note: Meetings and build sessions will be held in the 35th street N.E. Facility (main plant) Cafeteria building 140.

Send your input for the CMA Web Page to:

Tom DeWulf x5-4015
tvdewulf@cacd.rockwell.com

1997 CMA Staff

President:	**John Michael.... x5-2914**
Vice President:	**Bryan Wesner .. x5-3082**
Secretary/Treasurer:	**David Gillespie. x5-8512**
FlightLine Editor:	**Jim Doty..... x5-2931**
Web Page Editor:	**Tom DeWulf..... x5-4015**

Flight Instructors:
- **Rich Dean**
- **Dave Decker**
- **Tom DeWulf**
- **Dave Dillman**
- **Mark Woytassek**

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

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

Send your input for FlightLine to:

James H. Doty
MS 124-111
x5-2931
jhdoty@collins.rockwell.com

For membership information:

Contact: David Gillespie
CMA Secretary/Treasurer
MS 153-163
x5-8512
djgilles@collins.rockwell.com

For an AMA membership application:

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

AMA National Newsletter goes on-line:

http://modelaircraft.org/News/Newsletters.htm
For selected articles from AMA club newsletters around the country

Build Sessions

Build sessions start in November and are held from 6 to 9 pm on the second Thursday of every month

Bring your current project, or just stop by and see what people are working on

For more information call:
Rich Dean x5 8002,
Build Session coordinator

1997 CMA Membership

M/S	NAME
108-103	Irvin Anderson
108-166	Geoffrey Barrance
124-111	Alan Bechtold
124-111	Bob Buschette
137-109	Brian Collins
124-111	Dan Cooley
124-115	Rich Dean
153-260	Tom DeWulf
153-264	Dave Dillman
124-300	James Doty
106-183	Mike Eastman
153-260	Doug Emerson
153-163	David Gillespie
153-163	David Gillespie (for James)
153-163	David Gillespie (for Amy)
108-166	John Michael
108-166	John Michael (for Kevin)
108-136	David Neu
108-136	Patrick Neu
137-136	Marion Payne
108-175	Elio Piccmenti
137-152	Steve Plantenberg
164-100	Crist Rigotti
124-123	Wayne Savold
137-137	Troy Simonton
108-136	Duane Smith
108-136	Brian Smith
124-115	David Sneitzer
137-101	Steve Timm
107-140	Floyd Van Auken
107-140	Floyd Van Auken (for Ehren)
139-142	Charles Ward
153-260	Bryan Wesner
153-260	Bryan Wesner (for Michael)
107-110	Victor Wolfe
137-125	Mark Woytassek

Mike Crilley
2090 F Ave. NW
Cedar Rapids, IA 52405

John Crilley
2540 Second Ave
Marion, IA 52302

Jack Morgan
1209 Raney Street
Hiawatha, IA 52233

Basil Tilley
1028 Regent St N.E.
Cedar Rapids, IA 52402

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

R/C Adventures
PO Box 284
Marion, IA 52302