

# News

The Official Newsletter For Miniature Aircraft

Volume 2002

Issue Number 3

## More Team Pilots!

### Pascal Brianchion



Miniature Aircraft would like to welcome Pascal Brianchion as a new member of our Team Pilot program. Pascal is 33 years old. His wife, Sophie is a nurse, they

*(Continued on page 16)*

### Laurent Lombard



Miniature Aircraft would like to welcome Laurent Lombard to the Miniature Aircraft Team Pilot program. Laurent will be flying the XCell Fury in coming 3D competitions.

To introduce Laurent, he is 37 and single, and lives near Paris France. He is a composer of music and has his own private recording studio.

Like many pilots, he also flies airplanes. That's an understatement, he's been on the French Pattern Team for 10

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#### INSIDE THIS ISSUE

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- 4 Latest Products
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- 15 Product Updates

Miniature Aircraft will be attending the 2002 IRCHA Jamboree to be held on August 15th thru 18th at AMA National HQ in Muncie Indiana.

Come by to see our new stuff!

## EDITORIAL

### Greetings

I'm happy to say there's a new column beginning in this issue, "A moment with Tim". Tim Schoonard has agreed to take the time to periodically answer a few questions and/or provide commentary. There aren't many model helicopter manufacturers at which you can actually hear from the person responsible for designing and building the models we fly, but Miniature Aircraft is one of those from whom you will.

Its July here, and plenty hot. I carry a barometer/thermometer to the field with me, and twice its been over 105 degrees. If its hot where you're flying, remember to drink plenty of fluids and get to a cooler place if you start to feel light headed. Heat exhaustion can come on really quickly and can kill you. Take care of yourself!

Congratulations to Jason Krause, who finished second at the XFC and second at the UK 3D Masters, way to go Jason!

I've been disappointed by the number of people participating in helicopter scale competitions. Our annual Orlando contest includes the AMA scale class, and we've had zero entries for the last two years in a row. There were only 3 entrants at the US Nats in Muncie. Several groups of pilots are taking on redefining the AMA rules for scale helicopter competition with an eye towards increasing participation. I hope it helps. Nothing interests spectators more than scale models. More interest of course means more new helicopter pilots. The more of us that do this, the better off we all are.

I'd also like to recommend that you join the IRCHA organization if for no other reason, to have your voice heard by AMA. The AMA is a political organization and listens to its special interest organizations first. IRCHA is the designated Special Interest Group for model helicopters, so the more members, the louder our voice is to the AMA. Got a gripe about how AMA operates? Join IRCHA if you want somebody to listen. Visit [www.ircha.org](http://www.ircha.org) for details.

Fly as often as possible and stay safe!  
Carey

## X-CELL NEWS

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## CALENDAR OF EVENTS

### Helicopter Events

Event IRCHA Jamboree  
Place: AMA Headquarters - Muncie, IN  
Time August 15<sup>th</sup>—18<sup>th</sup>, 2002

Hosted by IRCHA, this may be the premier helicopter event in the United States. All the major pilots will be on hand as well as most of the manufacturers or their representatives. For more information visit:

WWW.IRCHA.ORG

Event Heli Heat Wave IV  
Place: T-Bird Field Benbrook, TX  
Time August 16<sup>th</sup>—18<sup>th</sup>, 2002

Hosted by the Ft. Worth Thunderbirds. 3D competition, Autorotation contest, heli drag racing. Top Gun Scale Helicopter Qualifier. For more information contact:

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Event The Traveling Contest 2002  
Place: Jim Fulton Field, Grand Prairie, TX  
Time October 18<sup>th</sup>—20<sup>th</sup>, 2002

Hosted by the Golden Triangle Radio Control Club. AMA/FAI Helicopter Contest—Classes I, II, III and F3C Schedules A & B. For more information contact:

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[Http://gtrc-club.tripod.com](http://gtrc-club.tripod.com)

## TEAM PILOT INTERVIEW

ERICH STOLZ



Hi Erich, tell us about yourself (family, etc)

***Well, I'm 33 years old and I've lived all 33 of them in California. My wife Monica and I live near Los Angeles. We've known each other 10 years and have been married for the last four. I have my own business, a tool & die shop. I produce metal stampings mostly for the aircraft, electronics and automotive industries.***

How long have you been flying r/c models?

***I started out with RC gliders almost 20 years ago. I built and flew gliders through most of my teen years.***

How did you get started in the hobby?

***After quite a few years away from RC, I decided to build another glider almost 7 years ago. While looking through a magazine, I noticed some ads for RC helicopters and decided I would give it a try. I had wanted one when I***

*(Continued on page 4)*

**Erich Stolz**

(Continued from page 3)

*was younger, but could never afford one.*

How long have you been flying r/c heli's?

*Just over 6 years now.*

How did you get started?

*One day I ended up at the local hobby shop, and before I knew it, I was home putting my first model together.*

What was your first model?

**Concept 30**

How long before you were comfortable flying it

*I was on training gear for about a week, and after exactly one month, I did my first loop. I still remember how nervous I was, and how good it felt to actually do it.*

What were your early major breakthroughs?

*My biggest breakthrough early on was probably doing my first inverted hovers, way up high, with a mechanical gyro, and a cheap radio with no idle-up tail mixing.*

How many heli's do you have and what are they?

*I'm currently flying the Fury Extreme with the YS80.*

Are you sponsored by other companies, and if so whom?

**V-Blades and YS Performance**

What helicopter did you make the most progress in developing your skills on?

*My biggest jump in skills had to be when I*

(Continued on page 5)

## Latest Products

**90° Fuel Fitting**  
**Part # 0410**  
**Retail \$7.95**



Designed specifically for the Fury fuel tank, this new fitting will work with virtually any fuel tank installation. Fuel resistant plating ensures long life without fear of corrosion. Also available:

#0408 - inner nipple only - \$3.50  
#0409 - outer nipple only - \$4.95

**Dual Bearing Tube Drive**  
**Part # 867-14**  
**Retail \$41.95**



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Erich Stolz

(Continued from page 4)

**started flying a X-Cell SE Graphite. It was my first 60-sized machine. The power and stability of a larger model gave me to confidence to work on all sorts of new maneuvers.**

Do you have any interest in contest flying?

**I entered a few small contests one of the local clubs would put on once a month. It was fun, and I'm sure if they didn't stop doing them years ago, I would probably have more interest than I do now. There really aren't any contests here on the west coast.**

Do you use a simulator, and if so which one? How have you benefited from using it?

**I used the CSM simulator back when I first started out. After a number of years without a simulator, I recently ended up getting Real Flight G2. I think the thing I like about it isn't so much practicing new stuff, it's being able to fly and watch others fly using the Internet interface feature.**

Do you recommend pilots acquire a simulator, and if so how do you recommend they use it?

**Definitely. I've seen people who have worked on a sim before ever flying the real thing. They were up and hovering the first day. I think I spent my first 3 days bouncing and scooting around on training gear!**

From helping folks get started and keep going, is there a common or prevalent mistake that you see?

**Actually I see quite a few things. First of all, not asking for help! Many people**

**get frustrated when trying to learn how to fly. This is much more difficult if the helicopter set-up is completely wrong. Getting help early on can save a new pilot a lot of headaches.**

**The other thing I see is people trying to bite off more than they can chew. Trying to do things with their flying that they're not ready for. Basic skills much be established before you are ready to move ahead. A lot of people seem to be in a big hurry to go crazy with 3D maneuvers before even learning to hover around and land smoothly.**

**This leads to what I think is the most common mistake, lack of respect for the helicopter. People need to realize just how dangerous this hobby can be. Safety should be Rule #1.**

What would you recommend as an appropriate setup (heli, radio, engine) for somebody wanting to push into more radical 3D flying?

**I've been able to push my flying harder than ever after starting to fly the Fury Extreme. Digital servos and the Futaba GY601 gyro make the model fly very responsive and "simulator-like". It does exactly what you tell it, when you tell it to. The combination of the aerodynamic profile of the canopy and the power the YS80 makes for a model that has amazing forward and backwards flight speeds.**

What do you think about using alternative power plants, like turbines for example?

**It's very interesting. One day you think something can't possibly be made to work and the next day someone is selling it. I'm amazed at the turns this hobby has taken. A lot of the technologies we take for granted now, we wouldn't have even**

(Continued on page 6)

Erich Stolz

*(Continued from page 5)*

***imagined just a few years ago. It's amazing how quickly things have evolved.***

Where would you like to see model design go or focus on that would make them "better".

***Simpler! I think the Fury is a big step in the right direction. Fewer parts and a simpler design make for an easier building and easier to repair model. Also, a stiffer model like the Fury, flies more responsive and precisely.***

Where would you like to see radio design go or focus on that would make them "better".

***It would be tough to think of anything more I would want in a radio than the Futaba 9Z. I barely scratch of the surface of its capabilities. It would be nice to see some sort of interface that would allow programs to be loaded and tweaked more on a PC. Either that or a mouse that could plug into the back of the transmitter!***

Where would you like to see engine design go or focus on that would make them "better".

***More power, less fuel consumption! What more could you ask for?***

The FAI has a new group called Artistic Aerobatics, which gives pilots a chance to coordinate flight patterns with music. Are you working on a program for this? The intent of the program is to put together a program that is more interesting for spectators, what do you think about how it's going so far?

***It sounds very interesting. I think it would be much more entertaining for spectators to watch, especially people that aren't involved in the hobby. I've***

***done a lot of flying with music, demos and freestyle contests, but I can't say that I've actually practiced "routines" to match up with the songs.***

what are your future modeling goals?

***I'm constantly trying to improve my flying skills. I think people at all levels can think of something they still want to perfect. I'd also like to continue going to as many events as I can. I enjoy seeing old friends, meeting new people, and helping out those that need it.***

What's your favorite maneuver(s)? Is it (are they) also the most fun to do? If not what is?

***I think my favorite maneuver lately has been aerobatic autos. Mainly because I cannot do them very well! I really need to start pushing myself and practicing them more. Nothing is more impressive to me than aerobatic auto that's pushed to the very edge, then somehow landed safely.***

Since you've been flying the bigger motors, any specific maneuvers that they've either made possible, or improved significantly?

***Climbing everything! Climbing tumbles, tic tocs, piro-flips.... life is much easier with more power.***

Did you ever attend any flying schools? Have you followed any particular technique to progress through so many maneuvers?

***I've never attended any sort of flying school, but I do occasionally fly with Todd Bennett while he's teaching. It's amazing how fast people progress with the correct guidance. It does wonders for their confidence. One thing Todd taught me, back before he started the school, was to practice coming out of maneuvers in each of***

*(Continued on page 15)*

# My Observations

Carey Shurley

## The Futaba 9CHP radio



Since its been released, I've been really interested in checking out the 9C radio. I've read several glowing reviews, and had seen enough of the details to go ahead and get one. Since I already have experience with 9Z WC2's, which I consider to be the ultimate transmitter currently available, I had pretty high expectations to compare with.

The first thing I can say is.....Its really a very impressive radio!!

Since there have been 3 or 4 full reviews published, I'm not going to go through every feature of the radio, but I do want to comment on a few things. I have the T9CHP model, so the switch layout is geared toward helicopters. Although I haven't looked at the Airplane or Sailplane software, it is in there and the 9C Heli setup is remarkably powerful.

Since I usually set up my helicopters slanted towards contest flying, I have some favorite features defined, which the 9Z makes easy to do. I was interested to see how easily a similar set of features could be defined in the 9C. Here's some of the features:

### General Features

- Up to 8 models – using an optional CamPac module, you can get a maximum of 14
- Cycle/Fast Charge capable
- Servo Movement Graph - all channels and includes a servo test function

Flight modes – total of 5:

*(Continued on page 8)*

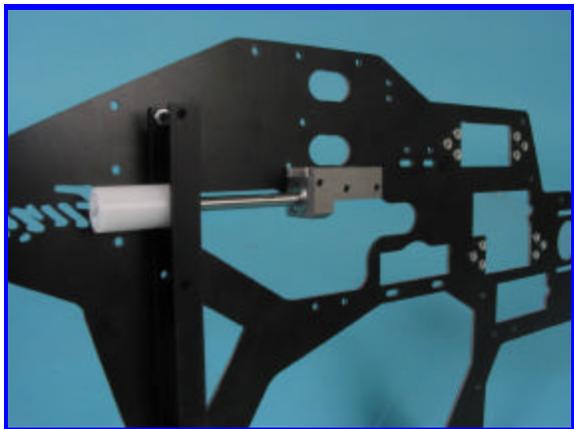
**Latest Products**      *(Continued from page 4)*

Available only on 33" length tube drive. Equally spaced bearings ensure that the tube drive will work smoothly regardless of what type of tail snapping maneuver you may do. Tube drive includes spiral wound graphite tube, plus new heavy duty couplers. Standard on all 33" boom applications

**One Piece Fury Front Tail Rotor Bearing Block Part #120-95  
Retail \$48.95**



- Stronger one piece assembly - improves support to entire front t/r drive
- Dual front t/r drive bearings - longer bearing life with improved T/R gear support
- More clearance between bearing and main drive gear, easily allows use of 15 tooth



- bevel gear
- Includes longer front t/r drive shaft
- Replaces parts #115-16 and #115-18
- Ensures absolute 90° alignment between the main shaft and tail rotor drive.
- New titanium gray anodizing.

**New Frame Lettering - Fury  
Parts #115-15/115-36**



Frame now includes Fury Insignia on tail rotor mount section of main frame halves.

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**Futaba 9CHP**      *(Continued from page 7)*

- Normal and Throttle Hold Flight Modes, each with 6 point pitch/throttle control
- 3 Idle ups, each with its own pitch/throttle curves (all are 6 point)
- 3 T/R compensation mixes – assignable by flight mode (normal/idle1-2/idle3)
- Gyro sensitivity can be unique for each of the 5 flight modes
- Dual Rates/Expo – for aileron /elevator/rudder
  - By flight mode – separate for Normal and Idle1, 2, and 3
  - Assignable to any switch – 3 separate setting

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# A Moment With Tim

Tim Schoonard  
Vice President - Miniature Aircraft

This months topic is Model Helicopter Design

## What's the design process for a new machine?

*The obvious basis for a design, is the target use....what's it going to be used for, then consider size and engine(s). A lot of the design is based on our prior experience, we've been designing and manufacturing the XCell line of helicopters for almost 15 years, and have shipped over 50,000 kits so far, so we know a lot about what works and what doesn't.*

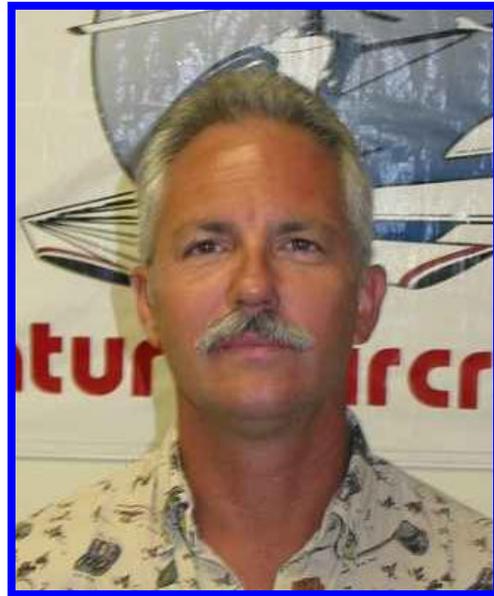
*In cases like we have recently seen, design changes are being dictated by engine size and power output. This has been especially true with the release of the new .80-.90 size motors. Even though the general RPM range was reduced, the torque and horsepower is significantly more than the .60 size motors. This has enabled pilots to expand their flying range, which increases the loads exerted on the helicopter components. This led many of the manufacturers to redesign their components. The Fury Extreme 80-90 is a direct result of this motor size increase.*

*Of course designing a new helicopter can be started completely from scratch, or based in part on existing components. It's much easier and faster to start a new model with existing parts and make improvements where necessary. Its very difficult and expensive to start from scratch, and it doesn't happen very often in this industry.*

*Many of our components are already considered "best of breed" and wouldn't really benefit from being redesigned. Plus, starting from a clean sheet of paper, takes an enormous amount of time, what with design, manufacturing, testing, redesign, etc., but this is sometimes necessary to meet the markets demands.*

*So we look at what it is we want to build, and then decide what needs to be designed from scratch and which existing components we want to use.*

*Not unlike any other complicated product, there are a lot of different specialties involved in the manufacturing process, so determining the right materials and tolerances for each new part is very important to make sure everything fits correctly, works like its supposed to, and is durable.*



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**A Moment With Tim** *(Continued from page 9)*

### **What was the original idea that drove the design of the Fury**

*As with any product we produce, our main goal is to design a product that will meet the needs of the modeler. In the case of the Fury, our main direction was towards the 3-D style flyers.*

*We wanted to produce a model that was lightweight, economical, and had a lower parts count than our existing models, that could out fly the other models on the market.*

*Simplicity was the main idea behind the model, with a focus on a lower cost to our end customers. We wanted to make it easier to be assembled and maintained, and the selling price into the \$600 range, but with a higher overall quality than our competitors offerings. I think we've easily achieved all of these goals.*

### **Was the Fury originally intended to be a CCPM machine?**

*Yes, we wanted to simplify the control system, which electronic CCPM does. It also provided a way to get more control power to the rotor head, since with this design, there is more than one servo involved with most any control input. Especially with collective, which benefits from the power of all 3 servos.*

***The Fury is a terrific success, it's exceeded our original expectations***

### **How different was the original Fury design as compared to the current production model**

*As with any designed product, changes take place before the product is sold on the open market. These changes take place as a result of rigorous testing.*

*The Fury was flight tested for approximately 6 months before its final release.*

*The real test with any model helicopter is how well it performs in the hands of the average modeler. The Fury has proven to get excellent marks!!*



*Even though this is the case, I am constantly looking for ways to improve the product. As a result, several changes have taken place over the last year. Some are obvious, while others may be as simple as changing thru holes to threaded ones.*

*All improvements, no matter how small or large, result in a better product for our customers which is of primary importance.*

### **What have you learned since introducing the Fury**

*We've learned a lot about what pilots want in a model helicopter these days. I'm listening closely to what our team pilots have to say, as well as going to events and listening to what pilots want or would like to see changed, especially as it pertains to 3D type flying. A lot of this feedback turns into changes on the model.*

*We've also learned a lot about how the current radical maneuvers affect the models structure, especially with the big motors. Helicopter flying is not very much like it was 5-10 years ago. When you watch Jason Krause or Todd Bennett really wring out their Fury's, its pretty obvious the models are taking a real beating. Our design is holding up*

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## A Moment With Tim *(Continued from page 10)*

VERY well to these loads.

*One of the areas we're focusing on is bearings. The forces acting on these in 3D maneuvers are enormous, and they're subject to a lot of different external influences. We published an article in our newsletter a couple of issues back that addressed a lot of the things that can happen to bearings and how they are treated can make a big difference.*

### Which Fury model is the biggest seller

*They are selling about 50/50 between the .60 size expert and the 80/90 Extreme*



### Are there other formats of the Fury being planned?

*Yes, in the near future, there will be a gasoline version offered and an FAI version targeted toward contest flyers. For release further down the road, I'm designing a set of mechanics for scale models. More compact than any of our current designs, but with assembly options to support the requirements of different types of fuselages.*

### What part does feedback from the field play?

*Direct feedback from flyers is critical to the success of the Fury. This is why we're attending events around the country, to listen to what pilots want. It doesn't make sense to build a model that doesn't give our customers what they want. Through our*

*international team pilots, we're also able to understand what people are looking for in our worldwide markets.*

### Today the Fury is available as a 50,60, 80 and 90. Are you planning other engine sizes/types?

*We can already support anything from a .50 to a .91. As I mentioned earlier, we'll be supporting a gasoline version soon. In the future, I would expect to see the model helicopter engines getting bigger. We'll support them as they become available.*

### What's the most satisfying thing for you about releasing a new model like this?

*Its been incredibly well accepted by our customers! We can't make them fast enough! When I go to a fun fly and look around to see what the pilots are flying, no matter how many/type models pilots have brought with them, I'm seeing them actually flying their Fury's while leaving the other models in the pits.*

*Watching the top 3D pilots in the world (many of whom are part of our team of pilots) wring out the Fury in ways that 10 years ago I didn't think was possible. The model just keeps going which really makes me feel good. I think we've built a great prod-*

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## Futaba 9CHP

*(Continued from page 8)*

### Control offset

- applies to rudder/aileron/elevator – assignable to one of the 3 Idle-ups or to any switch and supports a delay

### Gyro Control

- Rates controllable by any switch or all flight modes (not both)
- two control modes (whichever you pick, applies to all rates) – normal or AVC
- Rate percentage – controllable by switch

*(Continued on page 12)*

## Futaba 9CHP

(Continued from page 11)

- Up to 3 different rates
- Normal or AVC setting
- By Flight mode (all 5)
- An AVC or non-AVC percentage per mode



*The Gyro Sense Function*

### Throttle Cut

- definable by switch – use to either stop the engine, or disables the throttle curve in Idle ups to allow making other flight mode changes (usually set to engine idle)

### Throttle Hold

- Includes a t/r offset feature

### Governor Control

- Up to 3 Governor speeds definable by either switch or flight mode (not both)
- Throttle hold switches the governor off using the on/off function

Hover Control – affects points 2, 3, and 4 of the curves

- Hover Pitch – assignable to any of the 3 knobs
- Hover Throttle – assignable to any of the 3 knobs

### Channel Assignment

- Applies only to channels 5, 6, 7, 8 and 9 and can be assigned to any knob, switch or slider

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***“This radio will take you from learning to hover to advanced aerobatics”***

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### Mixers

- Two linear/offset mixers – mix any channel, dial, slider, controllable by switch or by throttle stick
- One 6 point mixer – mix any channel controllable by any switch or by throttle stick

### Trims

- Digital Trims – apply to ALL flight modes - main screen shows relative position and there is a sub screen that shows each by percentage
- Sub-trim – all channels – applies to ALL flight modes

### CCPM Support

- Normal mechanical
- Electronic 90°/120°/(140° - using a mixer)

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**A Moment With Tim** (Continued from page 11)

uct that's meets the needs of our customers.

*"I am constantly looking for ways to improve the product"*

**Any other comments about the Fury?**

*The Fury is a terrific success, it's exceeded our original expectations.*

*As with ANY new helicopter design, there are always going to be some problems along the way. In the case of the Fury, I've been listening to what our customers are telling us. That's another of the things that distinguish Miniature Aircraft from our competition. We don't make excuses. When you talk to us, you're talking to the people responsible for designing and making the actual model. If a customer has a problem we service their individual model as necessary. If we see a re-occurring problem, we correct the design of the model to eliminate it as quickly as we can.*

*The industry is also always changing, either in pilot flying style or technology. A good example is the bigger motors. They became widely available in the market before we had a chance to test them extensively in our models. The Extreme was the result of months of incredibly rugged testing with the 80/90 class motors.*

*Unfortunately, new parts can't just be made overnight. When something comes up that we want to change, it takes time to get it designed, and to have it actually made, and then have our team pilots test before releasing it. But I'm not going to put something out there that doesn't meet our usual high standards.*

**Thanks Tim, that'll do it for this issue!**

**Latest Products**

(Continued from page 8)

**T/R Vertical Fin with Fury Lettering  
Part #589-5**



Same lightweight design, but now with Fury insignia.

**Muffler Clamp and Mount  
Retail \$24.95**



One piece C.N.C machined aluminum muffler

## Futaba 9CHP

(Continued from page 12)

- servo rate tunable by channel to ensure level swashplate through pitch range

### So what sorts of stuff can you do with these features?

Some common things:

- Multiple flight modes each with its own pitch/throttle setup
- Have a governor setting activate automatically by flight mode – throttle hold turns it off
- Have different gyro settings for every flight mode
- Use the offset feature to enable different trims (basically the same as having a separate set of trims)
- Mix one of the dials on the tx face to a governor – this gives variable RPM just by turning a dial. The dials and sliders can be the “master” on the mixers.
- Setup different rates/expo by flight mode
- Define a gyro setup so that in one switch position, the gyro is in normal mode, and a T/R compensation curve applies, and by flipping the switch, the compensation curve is disabled and the gyro goes into AVCS mode.

The dial on the face is called the “jog” dial. Turning it to the left makes values get smaller and turning it to the right makes the values get larger. It also is used for navigating the menus. Pressing it, selects items from the menus.

One of my favorite uses for the Jog dial is for easy in flight adjustments. Ever try to change the programmed settings while you’re flying? Pretty hard to push the right place on the transmitter without really looking at it. But with the Jog dial, by positioning the cursor to the correct function, channel and setting, you can easily reach down and turn the knob with your thumb or finger, without taking your eyes

off the model. Turning the dial clockwise increases the selected setting and turning it counter clockwise reduces it. Although you have to reposition the cursor for each setting, you can easily tune your setup exactly where you want it in this way.



*The Jog Dial rotates for values. Push to select*

### What you can't do

- Move the idle up or throttle hold switch. These are fixed to the top left/right switches – most folks use these this way anyway
- Setup separate trims for each flight mode – but you can use the offset, or the mixers to change the trim in one of the Idle-ups.
- Run amok with mixes – there are 3 total on the 9C. If you like to fine tune the helicopters handling characteristics with different mixes in each flight mode, the 9Z-WC2 is still going to be your radio.

### Summary

Overall, I've been very impressed. This radio will take you from learning to hover to advanced aerobatics. If you're looking for the ultimate in features and flexibility, the 9Z-WC2 is still the king. But if you're not ready for that step yet, the 9C will easily keep up with you for a long time.

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Erich Stolz

(Continued from page 6)

***the different orientations. This has really helped my 3D "flow" better. You can go from one maneuver to another without have to change directions suddenly or get into any awkward positions.***

Any particular setup tricks that you apply for any or all maneuvers?

***Keep it simple. I see a lot of people that try use their radio to compensate for bad mechanical set up.***

A lot of the maneuvers you fly are pretty complicated. Do you fly through all of them or do you use some technique like rehearsed stick movements, or time counts to help? If so, what maneuvers are do these techniques really help with?

***I try to fly through everything, yet I know I still have a few "holes". I know the more I fly, the smaller they get.***

Do you ever just go out and fly around or is every flight full of radical maneuvers?

***When I go out and practice on my own without anyone around, I like to mix up my flying. One flight will be an all out assault on the sky, the next I'll try to just float around and do everything as slow as possible. Sometimes I like to just fly around as low as I can, no aerobatics.***

Do you ever fly any airplanes or other aircraft types?

***I still occasionally fly gliders. The last one I built is currently demolished. I'm getting ready to start on a new one.***

Thanks Erich, for telling us more about yourself. Welcome to the Miniature Aircraft Team of Pilots!!!!

## Product Updates

### \* Bearing Blocks

Now standard, all XCell bearing blocks have threaded mounting holes. This enables easier assembly with no risk of applying unwanted bearing pressure.

### \* Fury Canopies

We have now completed construction of additional Fury canopy molds. This will significantly improve availability of canopies.

## Latest Products

(Continued from page 13)

clamp featuring a fully adjustable standoff. Available in two sizes.

### Part #4009

Fits Hatori .60 and Zimmerman 60-90 size pipes

### Part #4009-1

Fits Hatori 80-90 size pipes

## Improved Swashplate Part #0217



Now includes machined slots for access to ball links. Anodized in titanium gray.

**Pascal Brianchon** (Continued from page 1)

have two children, Cyril and Dorinda. He lives in LeHavre France, which is part of Normandie.

His father taught him to fly airplanes in 1978, and began flying helicopters in 1987 and has been competing in F3C helicopter competition since 1996. He finished second in the French championships in 1996, 1998, 1999, 2000, 2001 and has been on the French team since 1997.

Some of his accomplishments:

- 32<sup>nd</sup> at the 1997 Helicopter World Championships in Turkey
- 17<sup>th</sup> at the 1998 Helicopter European Championship
- 23<sup>rd</sup> at the 1999 Helicopter World Championships in Poland
- 17<sup>th</sup> at the 2000 Helicopter European Championships in Holland and
- 14<sup>th</sup> at the 2001 Helicopter World Championships in Muncie Indiana

As you can see, Pascal has been competing at a world class level for some time. We look forward to seeing him represent-

**Laurent Lombard** (Continued from page 1)

years, and flew his first World Championships in Australia in F3A. During that contest, Curtis Youngblood put on a 3D demo. Laurent saw this and was hooked on helicopters. Later, he saw Cliff Hiatt when he won the 1995 F3C World Championship in Japan, which turned him towards helicopter competition beginning in 1998.

Since then, he finished 12<sup>th</sup> at the 1999 F3A Pattern World Championships and 14<sup>th</sup> at the F3C Helicopter World Championships in Poland.

In 2000, Laurent was invited to the prestigious Tournament of Champions in Las Vegas where he finished 12<sup>th</sup> overall, and 2<sup>nd</sup> in Free Style. In 2001, he finished 13<sup>th</sup> overall at the F3C World Championships in Muncie Indiana.

As you can see, Laurent is very talented, and will make a great addition to the MA team!

Visit us on the web at [www.miniatureaircraftusa.com](http://www.miniatureaircraftusa.com) or send e-mail to [minair@aol.com](mailto:minair@aol.com)

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