X-Cell News

The Official Newsletter For Miniature Aircraft

Volume 2002 Issue Number 2

Meet MA Team Pilot - Jason Krause

If you've been to any major fun fly lately, you've probably experienced Jason Krause's flying. If so, you won't have forgotten it! Jason has been a Miniature Aircraft team member for over four years and we'd like to take this opportunity for you to learn more about him, so without further delay, lets go!

Jason was born in Phoenix, Arizona in 1974, where he still makes his home today. He and his girlfriend Misty, have two daughters. When Jason was a youngster, he was very interested in R/C stuff like cars and boats. When he was twelve, he started flying R/C airplanes and then in 1995, Misty gave him a Concept 30 SR-T helicopter for Christmas. Jason's been flying helicopters since.

It took Jason about two weeks before he could hover well, and another six weeks to get a handle on forward flight. After that, he focused on understanding engine tuning, model setup and trying to learn all that he could about helicopters in general. At one time, he was using a simulator just about every day, but soon found that the only way to become truly precise, was by burning fuel. To that end, a good friend of his, loaned him an old Xcell Custom, that Jason proceeded to fly about 900 times over the course of a year (he actually still has that helicopter, al-

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Inside This Issue

EDITORIAL

Greetings

In this issue, you get to visit with Jason Krause and learn more about him. I got to see Jason fly for the first time last year in Mulberry. He was just getting the 80/90's tuned into his prototype Fury's. Needless to say, I couldn't' believe all the things he could do with a model. Some of that stuff I'd never even thought of, much less seen anybody do. Impressive stuff.

Also this month, welcome to Gary Wright who's just joined the Pilot team. If you've been following the team additions over the last few months, you'll know that some of the best pilots in the country are now part of Miniature Aircraft's pilot teams.

For those of you intertested in AMA/FAI competition, the season is about to begin. Based on the current calendar, the number of events has gone down this year. Your participation is critical to the success of those that will be held. Most clubs aren't trying to make a fortune by running a contest, but they can't afford to lose money year after year either. Support your local contest or it may not be around next year.

Already this year, there have been a couple of major fun-flys in Phoenix and Birmingham. Both of these events had over 100 pilots each, so clearly the fun-fly season is off to a great start. If there's an event in your area, if you can't fly in it, at least go to see it. These are almost always attended by some of the best pilots in the country, who are always willing to help you. Fun-flys are the best source right now to get professional level help with your helicopter setup or have your questions answered.

The Toledo model show is coming up. Expect to see a number of new products from Miniature Aircraft on display.

Fly as often as possible and stay safe!
Carey

X-CELL News

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Complimentary

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Visit our website at:
www.miniatureaircraftusa.com

Calendar of Events

Helicopter Events

Event Orlando Helicopter Classic—III
Place: R/C World – Orlando Florida
Time May 4th— 5th, 2002

Sponsored by The Orlando Radio Control Helicopter Society, and Miniature Aircraft. Helicopter Contest for AMA Classes I, II, III, Scale and FAI F3C. For more information contact Steve Hathaway via www.torchs.org

Event MHA Fun Fly
Place: Patuxent River Park, Croom, Maryland
Time June 7th—9th, 2002

Hosted by the Maryland Helicopter Association. Beginner clinics! NIGHT FLYING! Factory Demos! Contests (3 levels). RC Helicopter Raffle. Open flying all day every day! For more information contact:

Wayne Hillenbrand CD wayne@flymha.com 301-261-3297
Or visit www.flymha.com

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

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

Chris Berardi CD chris.g.berardi@lmco.com 817-777-4020
Roland Estrada roland.estrada@lmco.com 972-603-0416

Event The Travelling Contest 2002
Place: Jim Fulton Field, Grand Prarie, TX
Time October 18th—20th, 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:

Mark Womell CD, mongo@planetwide.com 915-689-6092
Roland Estrada, roland.estrada@lmco.com 817-658-5245
Http://gtrc-club.tripod.com

Product Bulletin

Kit # 1015/1016/1017/1018

We have received two reports that part #0334-1 (bell mixer body) cracked. These parts were included in Fury kits shipped between October 2001 and January 2002.

Our pilots and team members have thousands of flights on these components without any evidence of failure, however to ensure that our customers have full confidence in these parts, Miniature Aircraft will at customer request replace any part #0334-1, free of charge regardless of component age. This offer does not apply to part #0333, which was the predecessor to this new design.

To return this part, remove the bell mixer from the blade arm, remove parts #0113 (threaded ball) and #0159 (bearings) and place the remaining parts #0334-1 along with your name and return address in an envelope and mail to the address below. You should receive new replacement parts within a few days after we receive them.

Miniature Aircraft
3743 Silver Star Rd
Orlando, FL 32808
Attn: Bell Mixers

Team Pilot Intro:

Gary Wright

Effective in March 2002, Gary Wright has joined the Miniature Aircraft Pilot Team!

Many of you know Gary as he has been attending helicopter events all over the world for many years, he's been flying for over 22 years. He's also sponsored by Futaba and Morgan Fuels.

Gary and his wife created Gary Wright Model Products, and have developed a number of innovative helicopter tools as well as a line of electric airplanes. If you want to take a look, visit www.gwmp.net on the internet.

Over the years, Garys had quite a few helicopter accomplishments, here are just a few:

- IRCHA Pilot Proficiency Level 7

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Latest Products

Fury Extreme 80 - 90

Based on the highly successful Fury, the Extreme was designed to support .75 through .91 sized engines, and the most radical 3D maneuvers you can think of. It includes every feature found in the latest Fury plus

- New gear ratios for larger engines
  - 8.18:1 for the OS90
  - 8.45:1 for the YS80
- Aluminum cooling fan standard
- Machined One-Piece Split Gear Auto Hub
- New 33" Graphite Ultra-Still tail boom allows main blade lengths up to 720mm
- Improved torque tube to withstand greater engine loads
- New Self adjusting front tail boom clamps
- CNC Aluminum T/R gearbox
- CNC ball-bearing pivoting pitch plate and control links
- Geometrically centered T/R pitch mechanism
- Proven Fury Drive Train and Tail Rotor Control system

The New Fury Extreme Its Ready for You Are You Ready for It?

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Jason Krause *(Continued from page 1)*

though its been upgraded some……these things are tuff!!!).

Today, Jason owns 5 helicopters: the original Xcell, two Fury Extremes, and also Mikado Logo 10 and Logo 20 electric helicopters. He now is sponsored by Miniature Aircraft, Futaba, YS Performance, Morgan Fuels and Mikado and his primary flying interest is aerobatics, especially freestyle 3D type maneuvers.

He still occasionally flies airplanes and gliders and really enjoys slope soaring. When he has time, Jason also enjoys boating, Jet Ski's, water skiing, dirt bikes, motorcycles, and quad string aerobatic kites (hows that for diverse interests?)

As you can tell from the helicopters that he owns, Jason is a fan of alternative power, especially electric. However, he'd really like to see a light gasoline powered machine with better power output. Says Jason, "I'm a big fan of good gas mileage and longer flight times"

"For the price, and the fact that it needs NO upgrades out of the box combined with its lightweight and awesome flight characteristics there is currently no other heli that even comes close to the Fury"

Jason Krause

This year, Jason started teaching at Todd Bennett's flying school. He says "its really a blast to help people progress their flying skills". His teaching style is to start off students by letting them fly on their own and just observing. Jason says "its very easy to see where a student is uncomfortable" and then they focus on improving those things. A common mistake that he sees is that many new pilots are trying to get a bit ahead of themselves. For example some are starting to do difficult pirouetting maneuvers without learning the basics like stationary pirouettes. Some students can 3D very well but can hardly hover. So one of his basic tenants is that before you can build a house you need a foundation. The school is using Fury's with YS-ST2's. In Jason's opinion, pilots just learning freestyle, should stay away from the 80/90's because these will keep them from learning how to fly the maneuvers with the proper power management (because they've got gobs of power!!!!). He also recommends using a good mid-range or high-end radio and quality servos (however digital servos are NOT a requirement). Future issues of Xcell News will contain several "how-to" articles that he's working on and later this year, look for an extreme freestyle video that Jason is working on with Todd Bennett.

Last year, the FAI created a new flying event called Artistic Aerobatics, which gives pilots a chance to coordinate flight patterns with music. The intent of the program is to put together a program that is interesting for spectators and attract media coverage. Look for Jason to be competing in this new exciting event later this year!

Hows this for a cool job, Jason currently works for **Flying-Cam.** They are an aerial filming company that uses R/C helicopters with a 35mm motion picture camera mounted onboard. He has helped film many commercials, music videos and some big movies including: Beautiful Mind, Oceans 11, Stuart Little 2, Showtime, and Matrix 2. When asked whats it like to fly a camera ship, Jason replied "it handles like a school bus". He went on to say "I used to just fly my models around sometimes but now that I fly the camera helis for a living, when I lift a Fury off the ground it's like driving a Ferrari. I really enjoy just flying it hard."

Ais part of Miniatures product evaluation team, he is also working on development of a number of new products, such as rotor blades, tail rotor blades, gearing, different bearing combinations, swash plate anti-rotation options, improved tail push rod guides, boom struts and a few other things. He's very focused on making the Fury even easier to build and require less maintenance. When asked how the Fury stacks up against the competition, his response was "for the price, and the fact that it needs NO upgrades out of the box combined with its lightweight and awesome flight characteristics there is currently no other heli that even comes close".

One thing Jason would like to see improved are the electronics: "I wish that the electronics could handle a bit more abuse. Servos are

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Technical Focus - Fury Swashplate Setup

To make your Fury fly its best, a critical part of the setup is to make sure that all of the control commands you send from your radio, make it to the rotor blades exactly as you sent them. If you follow this simple procedure, it will ensure that no cyclic control interaction occurs during collective changes.

Initial Setup

Assemble swashplate control system using rod lengths found in the instruction manuals
Set swashplate type and servo direction as per instructions, to ensure correct swashplate movement when collective/cyclic pitch is applied

- Set all trims to zero
- Set all sub-trims to zero
- Turn off any cyclic mixes
- Set 50% point of pitch curve at 50% (center stick equals all swashplate servos centered)

Servo Wheel Setup

The most important starting point for setting up the swashplate linkages, is to make sure that the servo wheels are exactly centered on the servos.

This will require trial fitting each servo wheel/arm at various positions until the center is found OR simply drill your own centered hole at the proper distance stated in the instructions, and mount the ball.

This picture shows a Futaba servo installation, using the extra-large servo wheel. This wheel has alignment lines scored on it, which can be used to aid in alignment.

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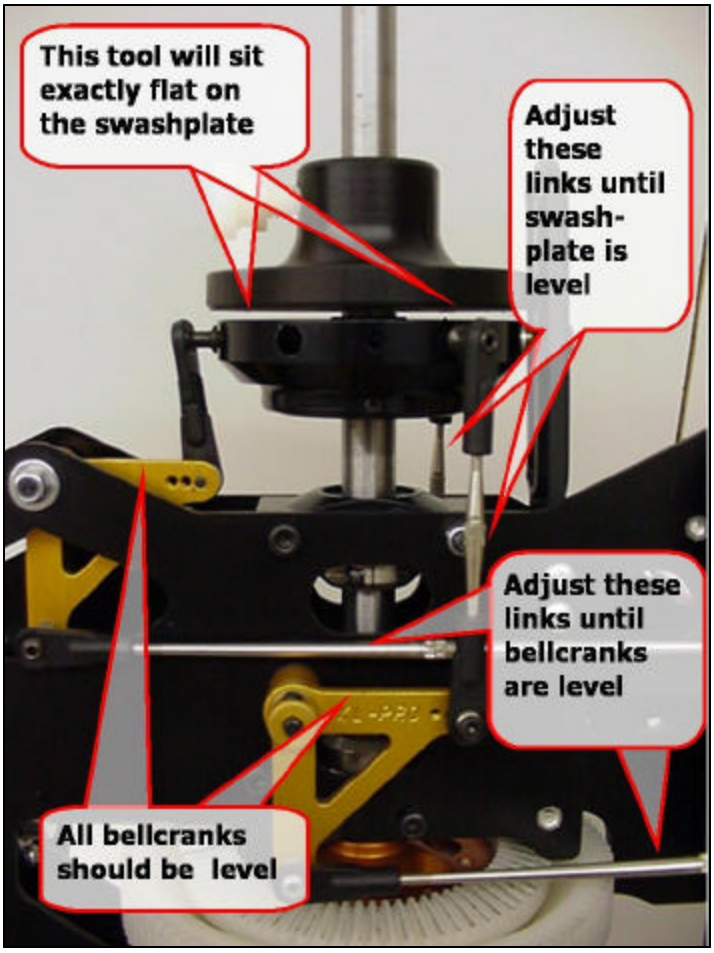
Swashplate Control Links



With the collective pitch still set at 50%, and the servo wheels now centered, fine adjust the length of the links between the three cyclic/ collective servos and the bellcranks so that the bellcranks are exactly level to the frame (use a small level if its available)

Swashplate alignment will be made much easier by using the swashplate alignment tool #0513 (shown in these pictures), however a small level can be used.

Slide the alignment tool over the mainshaft and down onto the swashplate. Fine adjust the two links that connect the bellcranks to the front swashplate balls, until the swashplate is exactly level. The tool will rest flat when the swashplate is level, or as in the picture, the gap between the tool and the swashplate will be equal on all sides.

Note: the Fury model used in these photos includes optional CNC Aluminum Bellcranks and Reverse Threaded Control Rods, which can be purchased separately but are not standard in the kit. Use of these components is not required to apply the setup procedure represented.

Eliminate Any Control Interaction

With the linkages all now fine tuned for center pitch, move the collective pitch to full high pitch and check for level swashplate. Do the same thing at full low pitch.

If the swashplate is perfectly level, then no further setup is required at this point. If the swashplate is NOT level at full collective throws, this is easy to correct if you want, using your transmitter.

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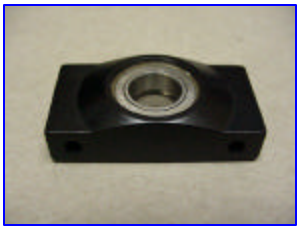
Latest Products *(Continued from page 4)*

Fury Extreme Extended Mainshaft Kit Part # 120 - 80 Retail $35.95

Allows installation of extended mainshaft on all Furys. Fully supports mainshaft above and below main gear. Kit Includes #115-18 Bearing Block #120-10 Main Shaft Includes All hardware required. Can be installed in all Fury models.

(Early model frames may require additional mounting holes)

Fury Extreme Upper Mainshaft Bearing Block—Double Bearing Part # 120 - 12 Retail $34.95



Replaces existing upper bearing block on all Fury or XCell models. When installed on a standard Fury, results in 3 bearings supporting the mainshaft. When combined with part #120-80, results in 4 bearings supporting the mainshaft on a Fury.

Fury Extreme C - Clip Head Axle Kit Part # 120 - 70 Retail $42.95

Upgrade your Fury to include the Extreme head axle modification. Uses your existing blade grips and radial bearings, and includes a new design c-clip axle and thrust bearings like those found in the #0848 CNC Metal Rotor Head. Includes all hardware as well as new .5mm head shims for extra firm damping. Will also work with any XCell using the #0844 head block and plastic blade grips.

Fury Extreme T/R Gear Box and slider kit. Part # 120 - 50 Retail $144.95

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Latest Products *(Continued from page 8)*

Fits any Fury or Xcell, Uses existing input and output shafts, bearings and gears.
Includes everything needed to upgrade your existing T/R system to match the new Extreme. New pitch slider uses fully bearinged control links and has a new geometry which centers the bellcrank at hover setting. This results in a more even travel of the tail rotor, and more consistent control.

Fury Extreme Pitch Slider Assembly Kit Part # 120 - 55 Retail $69.95

Requires existing #0861 aluminum T/R transmission housing.

New pitch slider uses fully bearinged control links and has a new geometry which centers the bellcrank at hover setting. This results in a more even travel of the tail rotor, and more consistent control.

Fury Boom Suport Kit Part # 0872 - 6 Retail $21.95

Everything needed to install 25" tail boom supports on your Fury. Can be used on other XCell models. Includes
2 each #0872-5 Boom Support
4 each #0872-2 Moulded support ends
4 each #0048 Threaded Studs

Fury Graphite T/R Push Rod—Complete Part # 0868 - 11 Retail $14.75

Supports up to 33" tail boom. Kit includes
1 #0868-10 Pushrod
2 #0868-7 Threaded rods
2 #0868-4 Teflon Shrink Tube
2 #0133-1 Ball Links

Fury 33" Ultra Graphite Tail Boom Kit Part # 120 - 60 Retail $69.95

Includes everything needed to install a 33" boom on your Fury or other XCell tube drive models. This tail boom is 40% stronger than our standard tail boom.

Kit includes:
1 #0857-14 Tail Boom
1 #0867-14 Assembled Tube Drive
2 #0800-5 O-Rings
1 #0868-10 T/R Pushrod
2 #0868-7 Threaded rods
2 #0868-4 Teflon Shrink Tube
2 #0133-1 Ball Links

Miniature Aircraft International Distributors

Name	Address	City	Country	Postal Code
AZ Helicopters	36 D/1	Lahore	Pakistan	
Kalmar RC-Center AB	Wismarsvagen 10	Kalmar	Sweden	S-393 54
AEROMODELLI LTDA	Abv.Moaci, 293	Sao Paulo - SP	Brazil	04083-000
MEDXPORT International	PMB #286	San Juan	Puerto Rico	00918
AL-HAMAR Models EST.	P.O.Box 1921	Safat	Kuwait	13020
MINI-BIKE S.A.	337-1	Lope de Vega	Mexico	DF 11560
Construction AISA DE PUEBLA	Av. Juarez	Puebla	Mexico	72160
MINI-HOBBY ATL.Inc	10266 NW 47th St	Sunrise	USA	33351
BARPENN Marketing	6/154 Zamarot St	Herzliyya	Israel	46436
Andre Beukes	P.O.Box 25501	Monument Park	South Africa	0105
Breckinridge Trading, Inc		Moscow	Russia	U1. 1905 d.4
CYBERKOPTER RC	G/F.	Mongkok	Hong Kong	
FLYCAM Heli Special Center	Heicopperweg	Lexmond	Netherlands	38 4128 LP
Hobby Pros	17 Calle 11-68 zona	Guatemala	Guatemala	1010
GALTECH Models Ltd	28-30 Sutton Place	Palmerston North	New Zealand	
Big Boys Toys	Haidgraben 19	Ottobrunn	Germany	85521
German Cars Company	P.O.Box 13071	Dubai	United Arab Emirates	
H & L Hobbies SRL.	Calacoto Calle 23	La Paz.	Bolivia	
Hanjoo JMC Co., LTD	1F, Namyang B/D	Seoul	Korea	
Heli Center	Plazza Garibaldi 14	Empoli	Italy	50053
Helicopteros R/C Oeste	Ituzaingo - PBA -	Rivadavia	Argentina	21993
Hobby Club Athens	El Alamein & Kritis	Athens	Greece	
Hobbies JR.	Local 50	Quadalajara Jal.	Mexido	C.P. 45050
GR LOISSIRS - Hobby Model	90 rue Leon Blum	Villeurbanne	France	69100
Traders Of Guatemla Hobby Pros	8450 NW 70 St	Miami	USA	33166
Hobby World (M) SDN. BHD.	1.02 & 1.03 1st Floor	Kuala Lumpur	West Malaysia	

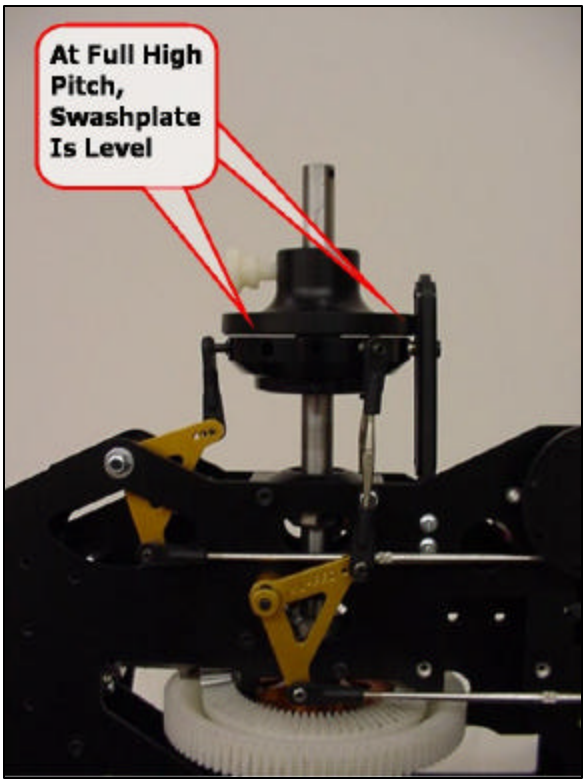
Technical Focus *(Continued from page 7)*

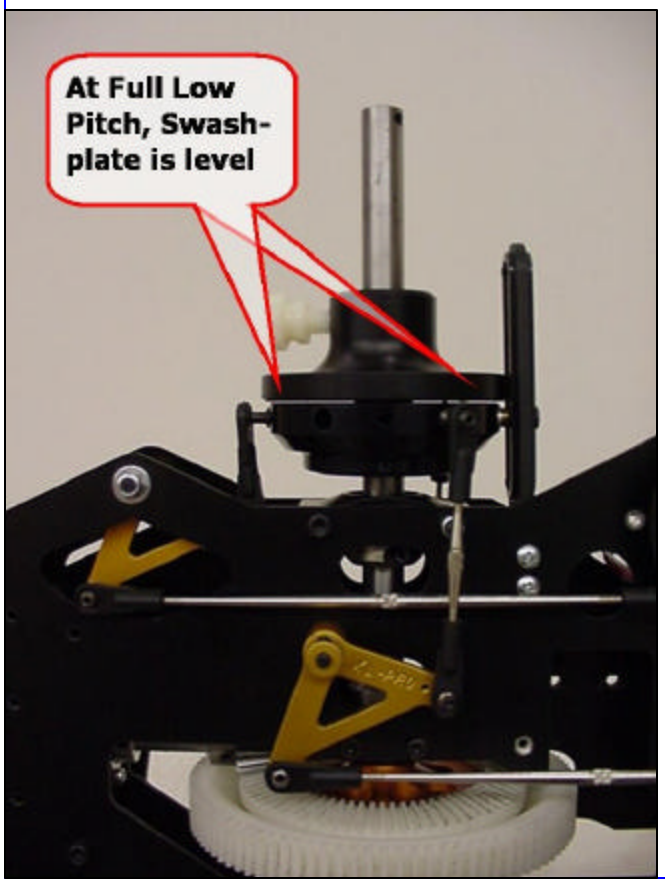
High Pitch Interaction

Using the programmable mix feature of your radio, setup a linear mixer to correct this.

If the swashplate is not level front and back, mix collective to elevator
If the swashplate is not level left and right, mix collective to aileron

For each mix, adjust the left/right/up/down values at full high and full low pitch so that the swashplate is exactly level. Using the alignment tool, this is easy to determine, since it will sit exactly flat on the swashplate. Typically, if the servo wheels have all been installed centered, this mix will be a very small percentage (less than +/-5%)





Low Pitch Interaction

Once this is complete, return to center stick to confirm that the swashplate is still level.

Make sure that whatever mixer values are applied, are also applied to each flight mode that you have setup.

At this point, all mechanical linkages to the swashplate are correct. Install the rotor head and follow the recommended (or your normal) pitch settings by adjusting the pitch curve settings in the radio.

Do not adjust any of the linkages set in this procedure once it is complete.

Jason Krause

(Continued from page 5)

much better than they used to be but I think they can still be improved".

If you've seen Jason fly, you've seen him do some pretty remarkable things with his Fury's. His favorite maneuver is the funnel (or tornado) but really love's doing autorotations. He came up with his own maneuver, which he named the "jack knife", which is a big knife-edge fall with a very low inverted pull out and a low knife-edge pass to backwards-inverted flight. The bigger motors have had quite an impact on aerobatic flying. In Jason's words "A lot of maneuvers are now bigger and faster. The forward and backwards rolling loops are much easier now and have been improved very much".

We've all heard, that a lot of the top 3D pilots use timing and orientation tricks to get through some of the complicated maneuvers. When asked about this, Jason said "I just fly through the maneuvers however, when first learning new stuff there are a lot of little orientation tricks that help" (so much for an easy way!)

When asked what he'd like to do going forward, Jason replied "Well just to keep having a good time, meeting lots of people and traveling all around the world. The only reason I started flying helis was because I enjoyed the fun of the challenge and most of all the good times I have with other heli pilots at fun fly's and etc. Everything else that has come with that has just been a great bonus"

Look for Jason at one of the many events around the country (and the world for that matter). You'll be impressed!

Gary Wright

(Continued from page 4)

- 1994 IRCHA night flying World champion at the IRCHA Jamboree/heli internationals
- 1995 IRCHA night flying World champion at the IRCHA Jamboree/heli internationals
- 1995 2nd place IRCHA freestyle contest at the AMA nationals
- 1999 3rd place finish in the International Airmeet in Ojima Japan
- 2001 Phoenix Night-fly 1st place

You may also have seen his exciting flight demonstrations at TopGun and Camp Jeep.

Welcome Aboard Gary!

Miniature Aircraft USA
3743 Silver Star Road
Orlando, FL 32808

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