

FlightLine

A Publication of Collins Model Aviators

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I received this airplane on a trade. I was recently given an old Hobbico FlightStar 40 in excellent shape. The airplane belonged to a friend of mine and I originally help him learn how to fly it.

This brought about an opportunity for an airplane that I recently got 5 flights on and a perfect trainer for the for the owner of the Extra 300S which was broken, not flyable and in need of new parts. We agreed that both of us would get more enjoyment out of having each other's models so a trade was made. I had more work ahead of me to get the Extra 300S flying again.



(I think?)

Extra 300S Rebuild

Fixing the Broken Landing Gear

When I received the Extra 300S the landing gear was broken in two. It looked like it had one too many hard landings.

The landing gear was torn right out of the fuselage and I had to come up with a way to replace the mount and make it better than it was originally.

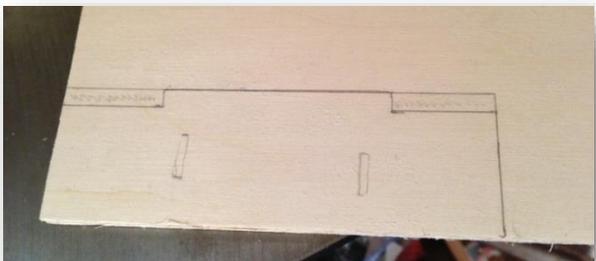


The mounting block is anchored with 30-minute epoxy and 1/8"X 3.4" dowel pins glued in place.

Using birch ply I constructed a new mounting plate but that wouldn't be enough. The added bracing gives the landing gear mounting block more surface for an anchor and glue.



The landing gear struts were slightly bent, nothing a good vice couldn't handle. Everything is now lined up and straight.



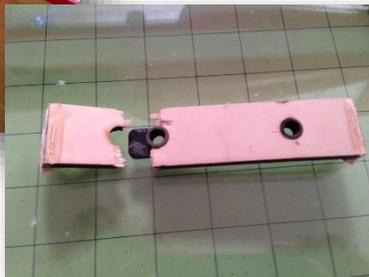
A little scrap Monokote left over from another project finishes the repair.



Tight and strong the landing gear is better than new.

The Wing

The wing hold down block was also broken and needed repair. This fix was easy. All that was required here was removing the original, cutting a new one from 1/4" ply and gluing it in with epoxy.



The new wing block fit perfectly and is super strong.



A set of plastic bushings from an electrical supply store protects the thin balsa forming the center belly pan.



The holes were very beat up when I received the plane and I had to replace some of the balsa. This is a much better fix and one to remember for future builds

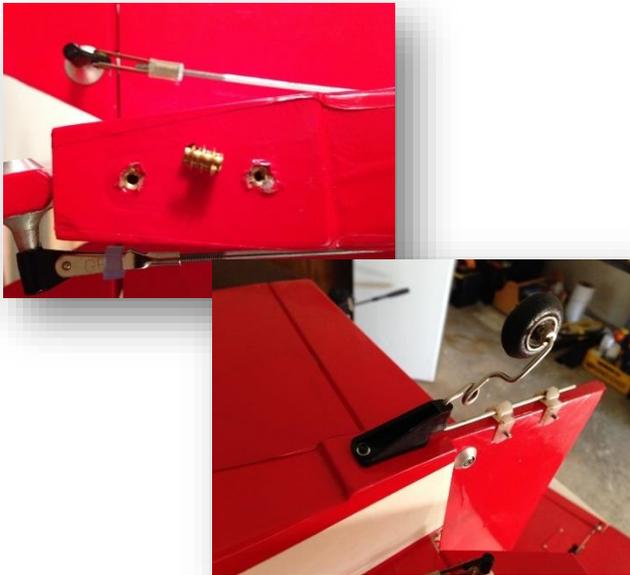


The Tail Wheel

The tail wheel assembly was loose when I received the aircraft so I tightened the screws thinking that is all that was needed. As it turned out, it requires a more robust fix.



Wherever you need strength I wouldn't recommend the use of wood screws. They don't work so well in thin ply and balsa. The best way to mount cowlings, doors and in this case tail wheel assembly's is to use 2-56 brass inserts and 2-56 screws.



The result is a very sturdy tail wheel assembly that should withstand just about anything.

The Finishing Touches

Before the first flight, setting the flight controls with the transmitter and conducting a pull test on the hinges as well as determining the Weight and

Balance must be done prior to first flight even after repairs.



Zero fuel flying weight is 5 lb. 14.3 oz. which will work well for the SuperTigre .45 up front.

Balance is 3" from the wing leading edge which is 1/16" forward of main spar center or 20% of the cord at the root. This is a good place to start and should work well.

It will be interesting to see how much elevator trim if any will be required for first flight.

The old JZ 11X5 wood propeller had seen better days I am sure. I chose the Master Airscrew 11X6 propeller which is also a recommended propeller for this engine. It turned out to be an excellent choice.



A new Tenergy 4.8V 2000mAh Receiver RX NiMH Battery Pack from **All-Battery.com** TOTAL POWER SOLUTIONS and a Spektrum AR610C 6-CH DSMX Sport Aircraft Receiver takes care of the on-board electronics.



First flight went very well and there was a slight bit of trimming to do.

To finish the project all of the Z bend push rods were replaced for new push rods and E/Z push rod connectors on Throttle, Elevator, Rudder and Aileron servo control horns. This will make it easy to adjust the mechanical trim so the transmitter digital trims can be set to zero. You want to do this so you have the full trim range available if ever needed.

A foam guide strip with the line is used after the first flight to mark the trim position of the servos. *I use a piece of foam because it is easy to get it tight enough to prevent it from moving.* Using an Ultra fine point Sharpie permanent marker, I do the following steps.



1. Mark the push rods
2. Set the transmitter trim to zero.
3. Adjust the pushrod position on the servo to line up the marks with the foam guide.
4. Tighten everything down.
5. Double check alignment. And remove my foam guide.
6. Go fly!

Taking care of completing a very accurate balance of the plane and setting all the flight controls to zero for the first flight will assure a pleasant first flight with no surprises.

First flight maneuvers:

1. Cuban Eights
2. Cuban Eights with 2 rolls on the up and down side.
3. Reverse Cuban Eights with 2 rolls on the up and down side.
4. Split "S".
5. Sustained inverted flight.
6. Rolls and snap rolls.
7. Loops with snap roll & twist at the top.
8. Hammer Head Stall's
9. Wing over
10. Upright Spin
11. Inverted Spin
12. Touch and Go landings
13. Engine out landings (two each) one from inverted flight.

Maybe I will make a set of wheel pants next

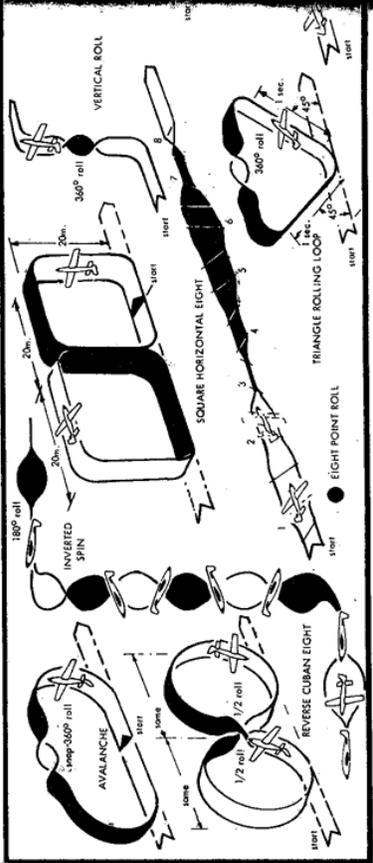
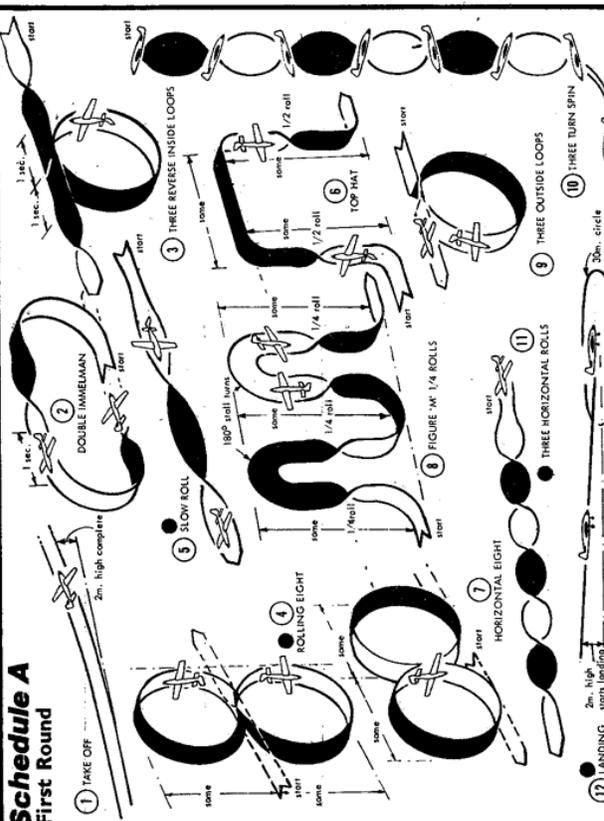
Specifications:

- Wingspan: 58"
- Wing area: 594 sq in
- Wing loading: 24oz/sq ft
- Weight: 5.75lbs
- Length: 48"
- CG: 4" back from the leading edge
- Engine: Super Tigre .45

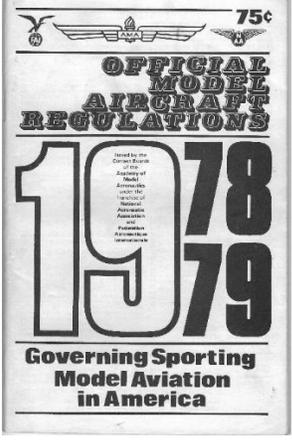
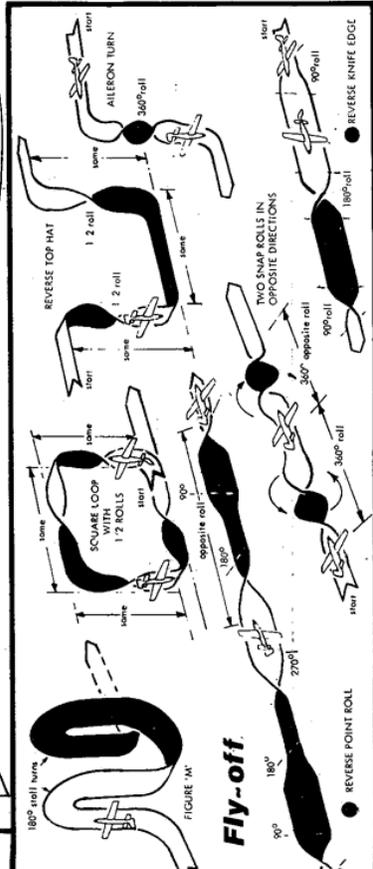
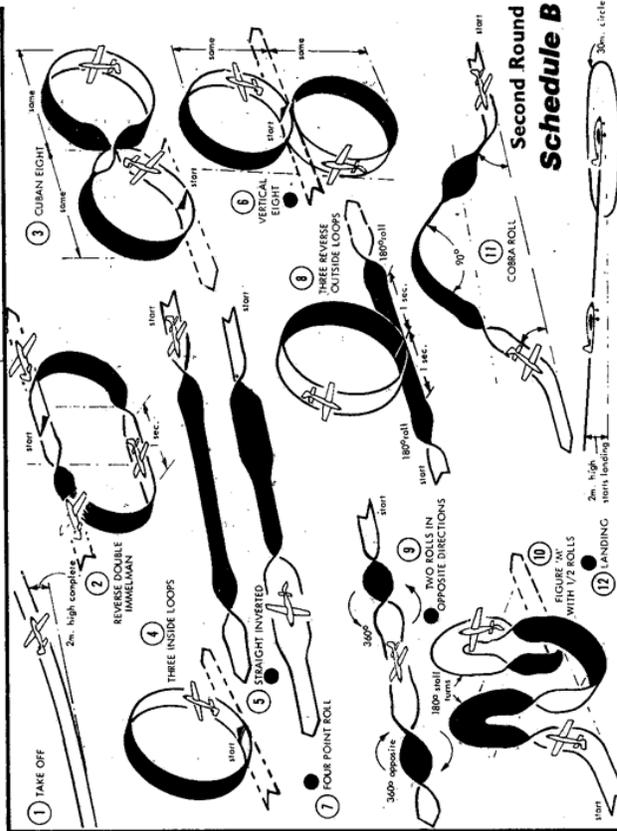
If you would like to practice some different maneuvers here are the AMA FIA aerobatics you can try. The maneuvers haven't changed over the years but I like the way they are presented in this old 1979 AMA Regulations book. Enjoy!

F.A.I. AEROBATIC SCHEDULE

Schedule A First Round



Illustrations
Courtesy of Radio Modeller.



What's Happening this Summer!



June 3rd, 2017
Skyhawks Demo Day
Free to the public
1-4PM

WARBIRDS
OVER IOWA
July 22nd, 2017



FREE MEAL!

FREE RAFFLES!

SIG R/C Fly-In

“ Mike Gretz Memorial “

June 9, 10, & 11, 2017
SIG Field
Montezuma, Iowa



SIG AIRPLANES NOT REQUIRED

A R/C Fly-In open to all types of R/C model airplanes - glow, gas, and electric powered.
Any Brands. Fun Fly events and special prize drawings for pilots.

PRE-REGISTRATION BY MAIL IS RECOMMENDED
ON-SITE REGISTRATION AND TX CHECK-IN AT 8:00 A.M. FRIDAY
PILOT'S MEETING AT 10:00 A.M. FRIDAY AND 9:00 A.M. SATURDAY
FOOD WILL BE AVAILABLE ON SITE

ENTRY FEE: \$15.00 PER PILOT

For more information and an Entry Form, contact:
Bob Nelson, Contest Director or go to SIG website: www.sigmf.com

SIG Mfg. Co., Inc.
P.O. Box 520
Montezuma, IA 50171-0520
Phone: 641-623-5154
Email: bobnelson@sigmf.com

**Concession Stand
At Field**
AMA SANCTIONED



Go to the SIG website for more information http://www.iflyherr.com/trans/SIG_RCFlyIn_2017.pdf

Join the RCMA
SUPPLEMENTAL ACTIVITY REGISTRATION FORM

To be used for participants not listed on Activity Roster Form

Participant's Name _____ Ext. _____ Mail Drop _____

Home Address: _____
Home Phone: _____

Activity Collins Model Aviators Participation Fee: \$20.00
AMA Number: _____ Cash/Check, Check# _____
AMA Membership _____ (Circle One)

Valid through Year: _____

Radio Channels Used: _____
_____ **If paying by check, read instructions below, before writing it out.*

Activity Coordinator: Tom Gorman Indicate Status _____
(E=Employee, S=Spouse, R=Retiree, C=Contract)
Division: _____

RELEASE:

I understand that the above named activity is sponsored for recreational purposes only. I also understand the nature of the activity including its possible risks and voluntarily register for participation.

I hereby release Rockwell International Corporation from any claims, demands or damages because of injury or death, other than customary and reasonable medical expenses under the existing company medical plan, resulting in any way from participation in this activity.

Signature Date

**Subsidized participants are defined as current employees, retired employees, and spouses of the above. Contracted employees must pay an amount equivalent to the company's per person subsidy plus individual fee established for this activity. Inclusion of non-subsidized participants will be subject to each individual program's concurrence.

FOR OFFICE USE ONLY

Office Signature _____ Date _____
Subsidized Participant: @ \$ _____ Non-Subsidized Part.: @\$ _____
Invoice # _____