President: Mike Basta
913-492-4830
Vice President: Jeff Renz
913-341-2781
Treasurer: Jack Vetter
913-296-5224
Dues: $20
Secretary: Roie Black
512-731-5873
Newsletter Editor: Dana Field
913-400-2132
Website Editor: Jeff Nisley
913-406-1331

AMA Charter # 2357
SAM Chapter #14
FAC Squadron 43

Heart of America Free Flight Association

9711 El Monte
Overland Park, KS 66207

Website - *FLYHAFFA.com*

Dispatch

March 2020

Schedule of Flying
Events and Meetings

Date	Day	Location	Time	Notes
OUTDOOR EVENTS				
May 12	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
May 24	Sun	Topeka, KS	8:30 am	**TopCL Annual Stunt Contest**
May 26	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
June 9	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
June 23	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
July 14	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
July 28	Tues	Olathe, KS	~6:30	**HAFFA Outdoor Champs**
Sept. 5 – 7	Sat. – Mon.	Denver, CO	All Day	**MMM Rocky Mountain Champs**
Oct. 3 & 4	Sat & Sun	Marion, Kansas	All Day both Days	**HAFFA Annual Fall Contest**
INDOOR EVENTS				
May 19	Tues			**Club Meeting**
June 16	Tues.			**Club Meeting**
July 21	Tues			**Club Meeting**

HAFFA Indoor Flying Site Locations:

Ozanam Gymnasium
421 E. 137th St.
Kansas City, MO

Osawatomie City Auditorium
Main Street
Osawatomie, KS

HAFFA Club Meetings:

Not known at this time

For flying information contact Jeff Renz (913-484-0377)

Editorial – Well, the Covid19 virus has pretty well destroyed HAFFA flying for the foreseeable future. As you all know, our March meeting was scrubbed, our spring indoor championship contest for April 5 at Osawatomie is cancelled, as well as our April meeting. Since all of the four KC Metro Area Counties are under a 30 day a mandatory shelter in place quarantine until at least April 24, including Johnson County, Kansas, both of our outdoor championship practice sessions are also cancelled. If there is any silver lining to this, everyone, including myself, should have plenty of time for building. I am expecting to see everyone with beautiful, good flying, airplanes when we eventually do get to resume flying.

Particularly painful is the fact that this would have been the last HAFFA meeting at the Southridge Presbyterian Church. It is scheduled to close after the Easter Service on April 12. With the quarantine, they cannot have their service. I believe Wally Berg has been a member there for more than 70 years, and my heart goes out to him and Barb. A shame indeed!!

Under the current circumstances, this is probably the last newsletter until we are up and flying again.

Jeff Renz on the Science Olympiad - I would like to take the time to thank Dana field, Charlie and Liz, and Suman, for judging and running the event. I would like to thank Mike Basta for bringing all his tools and equipment. Mike set up a table in the far end of the gym, and was open for business when I looked over there. At one point in the afternoon he had five kids around him, and was showing them how to glue airplane wings together, and put in dihedral. Anyway, I thought I should mention that this was a good thing that the Honeywell group is now involved, because I would like to change how our club is involved with Science Olympiad. I would like Honeywell to run the event next year, and have HAFFA focus more on reaching out to one or two schools to assist them with their programs, especially the schools with limited resources. The rich kids showed up with their expensive kits, and well-built models, and that's how it will always be. That's okay because it at least keeps model airplanes flying and going. However I always feel bad when I see the worried parents show up with some cobbled together thing they built the night before with their kid. I can see enthusiasm and hope on their face. But when the small airplane weighs so much that, in Dana's case, with a max of 10 grams for catapult launch gliders, there was a glider weighing 30 grams. This would have been a dangerous flying missile. By the time they reworked the plywood airplane into something that weighed 10 grams, it had a wingspan of like 3 in. Had these parents, or kids, even had 15 minutes of exposure to one of our club members going into the school and explaining model airplanes, they could have had the concept and been guided to some websites. That's what cracks me up! All these kids are so good at using their phones and finding things on the internet. But when it comes to indoor model airplane construction or design, they somehow completely ignore the immense amount of YouTube videos, etc, that are online. I'm not sure what that's all about. Anyway, I am just complaining for now. It's something we can discuss over the summer months. Also I should mention that this month's AMA magazine has an article on how to build a very simple rubber powered Science Olympiad airplane. It is worth looking at. It complies with this year's rules, which is absolutely insane because I only have a 12 CM diameter propeller. The article was written by Charlie Sotich.

Indoor – We did have indoor flying at Osawatomie on March 8, and that is it for this season. Jeff Renz has written a treatise on the flying which is done for the year. Scores will follow, and some pictures as well.

From Jeff Renz Indoor CD:

I know our indoor flying season came to an abrupt halt this year in 2020. I would like to thank all the Flyers and everyone who made this possible, and all the club members. Looking forward to next year. Dana field ended up beating Jeff Renz by 2 points in glider this year for the Tem Johnson Memorial. Renz managed to wrestle away the indoor trophy from Jeff Nisley for the total points. He will have it on his mantle for the 2020 year. (Editor: Let's hope it does not disappear forever!!)

It was great to see Wally Freeburg flying more P18 mass launches this year. He won at least two of them. Good job Wally.

Roie Black put up some impressive P18 flights towards the end of the flying season. Roie is coming back to the indoor flying hobby after a hiatus of many years. Roie has been moving his stuff from Texas and getting his NASA control room work shop ready. I am sure next year he will be a force to be reckoned with.

After the last flying session I dropped Roie off at this house and he gave me a tour of his workshop. It is fantastic! He had all the lights up and was painting. (I think really his wife Cheryl was doing the painting). He pointed out all the CAT5 internet cables and HAM radio antenna cables neatly pulled through the walls with proper electrical boxes and cover plates. He will be set up to build everything from large Old Timer FF airplanes to Peanut Scale. Very cool! Hopefully, the Covid19 thing will blow over and we can have a garage party at his house next fall.

Renz

The existing totals/scores for this year's intra-club flying sessions (Dime Scale, Glider, Phantom Flash, P18 this year's events)

1st place Renz, 2nd place Nisley, 3rd place Jack Vetter, 4th place Dana, 5th place Roie, Tim Pivonka 6th.

Monthly Results:

(2019 November + December) are as follows:
Nisley 16
Renz 15
Dana 13
Vetter 9
Pivonka 3
Please note we did not count points in the October session.

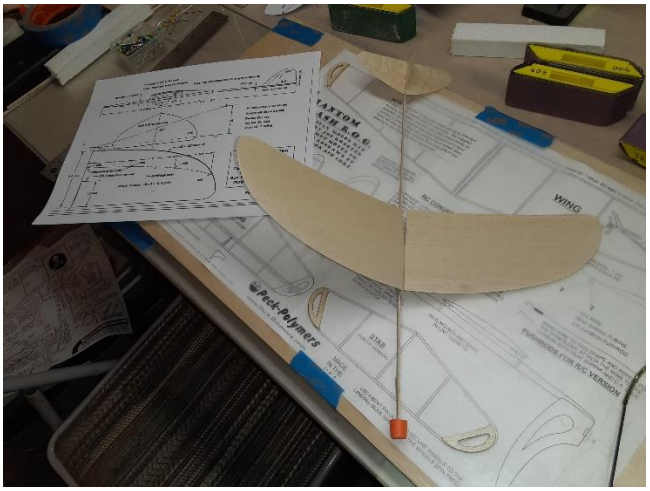
For January 2020
Nisley 16+8=24
Renz 15+10=25
Dana 13
Vetter 9+6=15
Pivonka 3

For February 2020
Renz 25+9=34
Nisley 24+9=33
Dana 13+7=20
Vetter 15+7=22
Roie Black 5
Pivonka 3

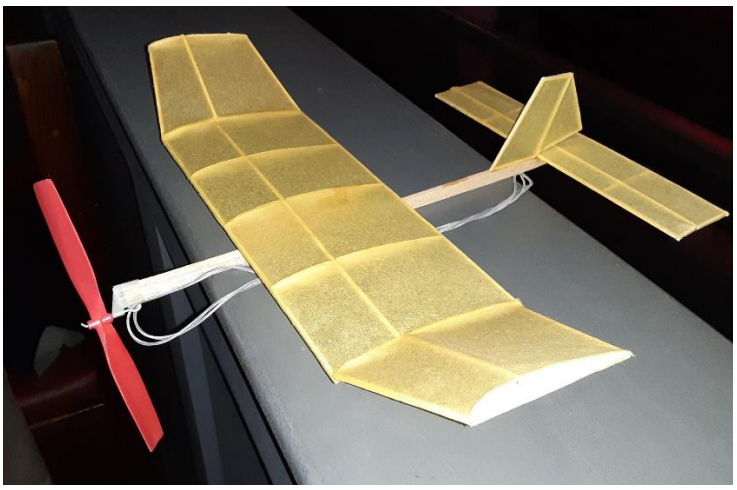
For March 2020
Renz 34+10=44
Nisley 33+7=40
Vetter 22+7=29
Dana 20+4=24
Roie Black 5+4=9
Pivonka 3

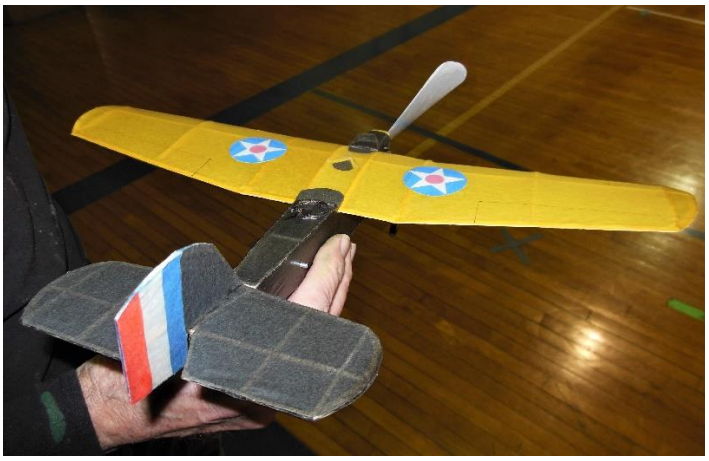
Tem Johnson Glider Results – Total Points:

Dana Field – 15
Jeff Renz – 13
Jack Vetter – 9
Jeff Nisley – 5



Dana Field's "Feather Shooter" – Weighs 2.6 grams
He managed to break off the nose in 2 places trimming, so never flew


Jeff Renz's "Stick Up", a big P-18 – thinking about this as a next year event

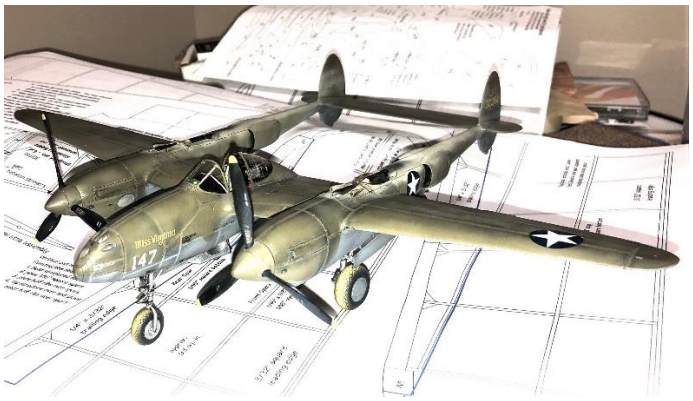


Jack Vetter holding his Dime Scale "Martin MO-1



Tim Pivonka holding a P-Nut Scale WWI, didn't get which one





Both Jerry White and Tim Pivonka participate in the local plastic model club. Jerry's 2nd place hot rod and Tim's awesome P-38



P-18 Mass Launch in March – little bit fuzzy, but is probably most popular event

Mike Basta has kicked our butts for years with his Sweepette. The following four pages are for a 14 inch version suitable for hand launch or catapult launching. If we fly this summer, one of these may give us a chance of catching him. Al Lidberg was good!!

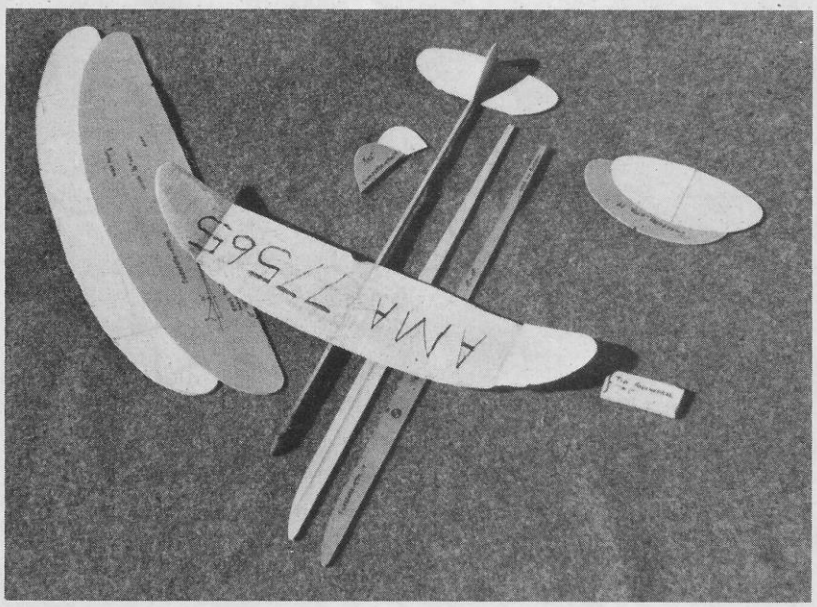


Sweepette-ette 14

Younger bodies and arms sometimes have trouble with the 18-20 inch Hand Launched Gliders. This 14 incher should be just the thing and it's a proven contest winner too/**Al Lidberg**

Mike and Paul are junior modelers who wanted to fly Hand Launched Gliders (HLG). Because of the boys size and weight (5′ tall, 80-95 lb.), full sized gliders are not very practical. Sure, the big 18″ to 20″ gliders fly pretty well, but a 10 or 12 year old average sized boy just can't throw them. We had experimented with some kit models but these seemed more closely related to 10¢ gliders than serious flying models. Mike kept going back to an old 20″ Sweepette and trying to throw it, but he couldn't get it up high enough. However, we could see some possibilities there, so I scaled the model down to about 14″ span and simplified the construction by using a flat stabilizer. The glider was an immediate success for the boys as they can now throw to surprizing altitudes and make very respectable flights. Meeting the AMA rules for outdoor HLG because it is slightly larger than the 30 sq. inch minimum, Mike and Paul have flown the design in two contests, bringing home the 1st and 3rd trophies. They are convinced, you will be too.

Building a hand launched glider is not a big chore but there are certain things that should be done to make a good flying model. Let's start with the wing as it can really make the difference between a "floater" and a "stone". This glider uses a simple airfoil (the shape of the wing section - what you'd see if you sawed the wing in half alongside the body) which is flat from the trailing edge up to ⅔ of the width of the wing and gently curved from there to the leading edge.



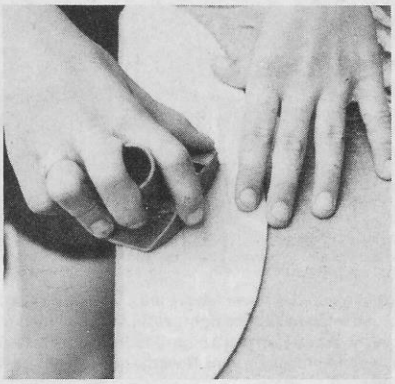
The Sweepette-ette is pictured here with the templates and a set of finished parts ready for assembly. Note that the C.G. location is marked on the fuse template. (at **top**) Proof of the design's competitive ability are the trophies won by Mike and Paul.

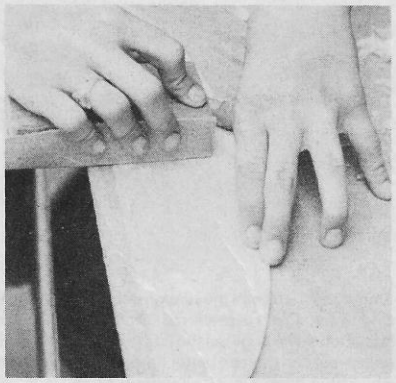
Selecting wood for this project is easy, just pick some ⅛″ x 3″ x 36″ balsa that is not too heavy. Heavy wood is harder and usually darker in color. Carving and sanding a heavy piece of wing wood is a lot of work and won't make a good HLG wing. Lighter colored wood, indicating lighter weight, will work a lot better. While you are looking at wood, get some 1/32″ or 1/20″ x 2″ x 36″ for the fin and stabilizer, although these can also be made from scraps. For the fuselage or body, get some ⅛″ x ⅝″ spruce. The finger rest can be made from scraps of wing wood. Also get some Titebond or similar glue and a small stick of modeling clay. A ¼ lb. stick of clay will provide balance weight for many gliders.

We have found that the use of cardboard templates helps to speed up construction. When a replacement model is needed, or when you need to build 2 or 3 models for a contest, the templates are really handy. The easiest way to make the templates is to take the magazine to a drugstore or post office, and for 10¢ or so, photocopy the plan page. Then, cut out the shapes from the copy and rubber cement or paste them to cardboard. The body template should be one piece. Line up the front and rear parts so that the lower edge makes a straight line. You will also find it easier to use the wing template if it is one piece as shown in the photos. Turn the wing plan copy over, trace around it and then

paste the copy next to the tracing. The trailing edges of the wing halves should fall on a straight line. Another way to make templates would be to put carbon paper between the plan and some cardboard, and then trace around the outline of each piece. However they are made, the edges of each template should be lightly sandpapered to smooth them.

Place the wing template on the ⅛″ balsa and trace around it with a soft pencil. Mark the airfoil high point through the holes. Take the template off and connect the dots lightly, freehand, to show where the high point will be. Using a hobby knife or single edged razor blade, cut the wing to outline shape. Now, using a razor plane or a very sharp knife about 2½″ long, carve away some of the wood between the high point and the trailing edge. It's better to cut away too little than too much, so take it easy. If neither cutting tool is available, it's possible to shape the wing with sandpaper only, but it will take more time. Take a look at the drawing that shows the sanding block. When sanding you must be careful not to thin the trailing edge too much. Making it paper thin also makes it very weak. Sanded down to about 1/32″ in thickness it will work fine and be strong enough to stay together. Place the wing panel so that its trailing edge is about ½″ away from the edge of the work board. (You will not be very popular if you sandpaper model parts directly on the kitchen table! Get a piece of plywood or pine shelf wood for a work board.) Sand the wing until you can lay a straight edge across it and touch the edge of the work board and the high point at the same time. Now, shape the leading edge and the remainder of the wing top with sandpaper. Round off the front of the wing to about

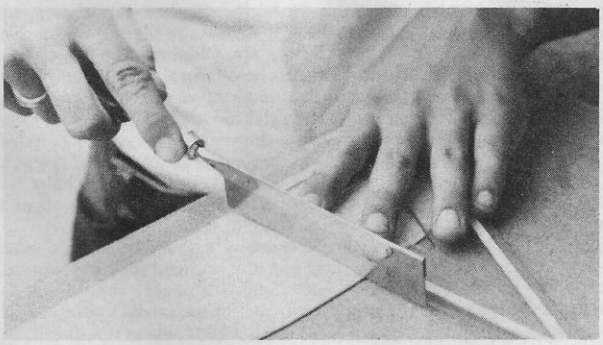


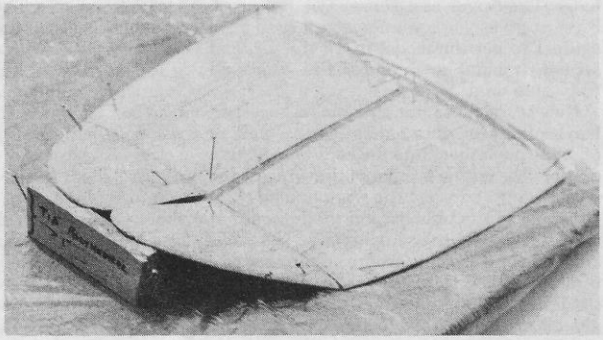


Shaping the wing blank with a razor plane (above **left**). Sanding the wing using a block and #100 paper. Care must be taken to prevent sanding the wing too thin (above **right**).

1/16″ diameter, about half the thickness of the wood. Then sand the front ⅓ of the wing to a smooth curve. When the wing is completely shaped, switch to smoothing and finishing sandpaper.

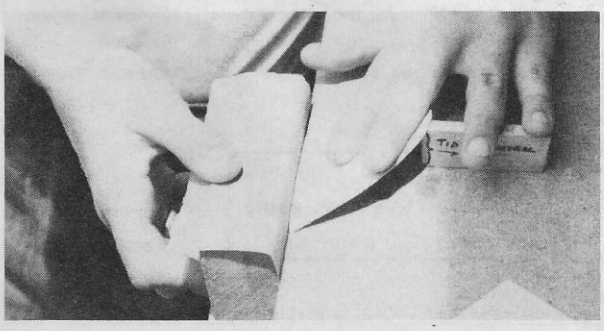
Now it's time to cut the wing apart so it can be joined at the proper angles. Place the template back on the wing so you can make some small marks to show where the panels will be separated. One of the photos shows a triangle being used to guide a razor saw for this cutting operation. The triangle is lined up with the straight trailing edge for proper alignment. Neither the triangle nor the razor saw are essential for this process, but both help to ensure a straight cut. A single edged razor blade or modelers knife can also be used to cut the wing; just try not to cut the wing all the way through in one pass with the blade. It should take 5 or 6 passes to get through. Be careful not to split or break the trailing edge because it is fairly weak right now (gluing the wing back together strengthens and stiffens the trailing edge). Look at the photo showing how to sand the wing tips to the proper angle. Block up each tip 1″ and, sliding the sanding block along the edge of the work board, sand the tip so it will fit closely against the main wing panel. Do both tips now so they will be ready for gluing at the same time. Place one main panel flat on the board at the edge and sand a slight angle at the small end as shown by the dashed line on the template. This will cause the tips to be glued on with some "washout", which helps the stability of the model. Now,

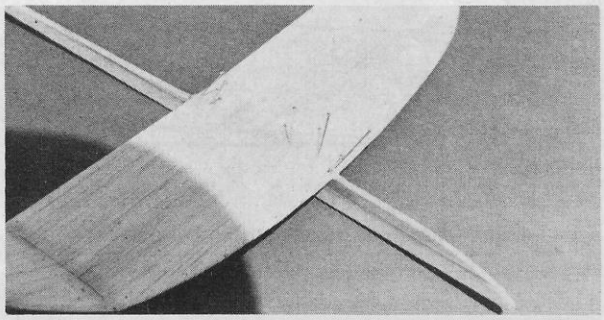


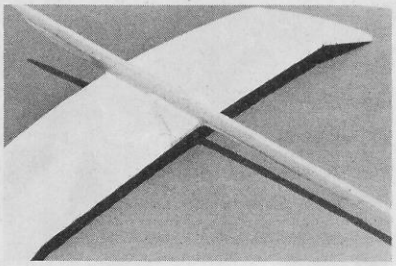


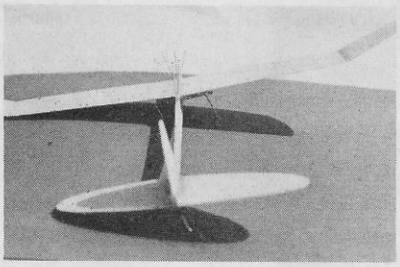
Cutting the wing panels apart for polyhedral (**above**). Note the use of triangle to guide the razor saw. Sanding the proper angle into the wing tips prior to gluing them to the main panels (**below**). Note that the sanding block is slid along the edge of the building board.

Tips are pinned to the board while the glue dries. Note that one block 1″ thick can support both tips (**above**). Wing main panels have been joined together in the same manner (**below**). When dry, the wing is glued to the body. Use plenty of pins and check the alignment often.









Finger rest has been glued under the right wing for a right handed thrower (**above left**). Try one on each side to see which is preferred. Stabilizer pinned and glued in place (**above right**). Note that it is tilted to about the same angle as the left main wing panel. Stab tilt causes a turn to it's high side. Thickness of the finger rest can be seen better here, it really strengthens the wing/fuselage joint. Note the use of many pins while glue dries. Check alignment often while glue dries.

glue the tips to the main panels, using plastic wrap to prevent gluing the wing to the board. Use plenty of pins to hold the parts down to the board and in firm contact with each other. After the tip glue joints are dry, block up each main panel ¼" and sand in the joining bevel just as you did with the tips. Now, block up and glue the main panels together. Yes, it does look like a wing again and most of the work is behind you now.

While the wing is drying, trace the body onto the spruce and cut it out using a coping saw or jig saw. The spruce is tough but it can be cut with a hobby knife, just take your time and make many passes with the knife down the cut line. No special shaping is needed for the body, just round off the corners a little to prevent splinters. Be sure not to round off the places where the wing and stabilizer will be glued on. Trace and cut out the stabilizer and fin. For these pieces just smooth the edges and lightly round them, except for the bottom of the fin. Cut the finger rest from ⅛" balsa. The finger rest serves two purposes. First, it gives you a reinforced place to push against to get the model up in the air, and second, it helps to reinforce the wing and body glue joint.

Now it's time to put this model together. Have plenty of pins handy, plus a pair of pliers to push them into the body wood. Put a coat of glue on the bottom of the wing at the center joint and press the wing and body together. Use the pins to hold them together, making sure there are no gaps in the joint. Look at the assembly from the top, bottom, front and back to make sure everything is straight. The stabilizer and fin can now be glued to the body, again using pins. After the stabilizer is pinned in place, gently raise the left side, looking from the rear, for glide turn. Raise it about an eighth of an inch or so, to make the stabilizer parallel to the left main wing panel. Location of the finger rest is a matter of preference, but I will suggest that you glue it under the right wing, viewed from the rear. You can also put one on each side and then experiment to see which side works best for you. After the glue joints dry for an hour or so, pull all the pins and apply a coat of glue over all the joints. Spread the glue with a finger tip to enlarge the area of the joint. After another hour, add another coat. These extra coats of glue will make the glider much stronger.

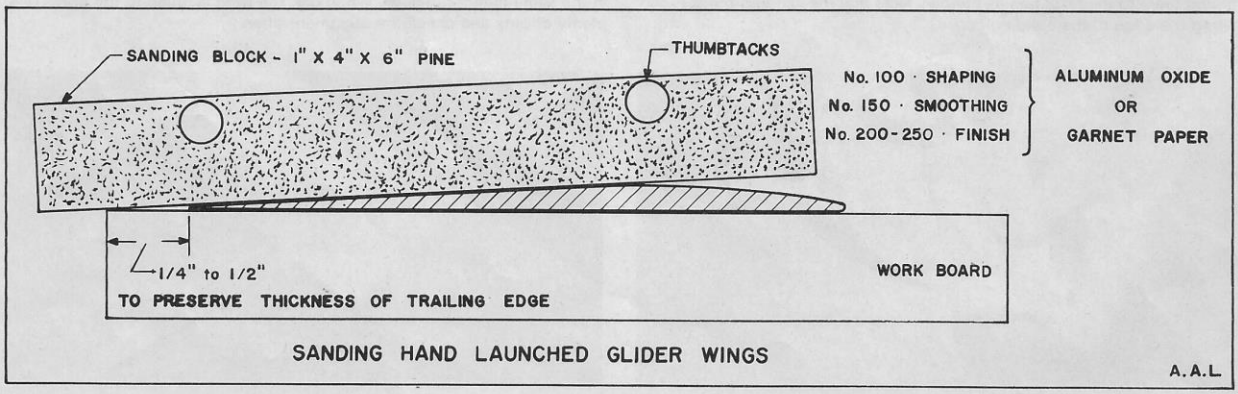
After overnight drying, you're almost ready for flight tests. Add modeling clay to the nose to make the glider balance at the place shown, when supported by the finger tips under the wing. Now, try some shoulder high hand glides. What you are looking for is a floating glide with a shallow left turn. Put on or take off small amounts (match head size) of clay to adjust the glide speed which should be just a bit faster than stalling speed. It's very important to have a left turn in the glide because a right turn causes serious launching problems.

When throwing the glider it is held with the body squeezed between the thumb and second finger, while the index finger presses against the finger rest. This feels a little uncomfortable at first, but will feel better the more you fly. Launching a HLG for altitude is a lot like throwing a baseball in from the outfield, but with your arm held about 45° from vertical (halfway to a sidearm position). The model leaves your hand with the wings angled toward the right and its nose inclined upward. The left turn action helps to raise the nose (right turn would put the model into the ground). An ideal climb would see the model arching up smoothly in a right climbing turn. As it slows down, it is headed the opposite direction from when it was released and it begins the left glide turn. Some HLG's climb in a half loop, rolling on the way up so they reach the top of the climb in an upright position, also going the opposite direction. A good way to practice launching is to think about throwing the model through an imaginary "window" about 20 feet in front of you and 15 feet off the ground. You can also practice throwing a ball or some rocks through the "window".

The goal in HLG is to obtain the best balance between climb and glide. This will be done by removing or adding tiny bits of clay in combination with warping the right side of the stabilizer's trailing edge slightly up or down. Warping thin balsa surfaces is done by breathing on them with your mouth. The heat and moisture in your breath combined with some bending pressure from the finger warps the wood up or down as needed. Warping the stabilizer trailing edge down lowers the nose, flattens the climb, and tightens the left turn. Warping it up lifts the nose and opens up the glide turn. Warping the fin is usually not necessary unless the model refuses to turn left. This most often means that the fin was glued on with some right turn offset. Warping in some left turn offset should help, but if not, cut or break the fin off and reglue. Put your name, address and telephone number on the model with a waterproof marker. These little gliders can get lost, and it's nice to get one back.

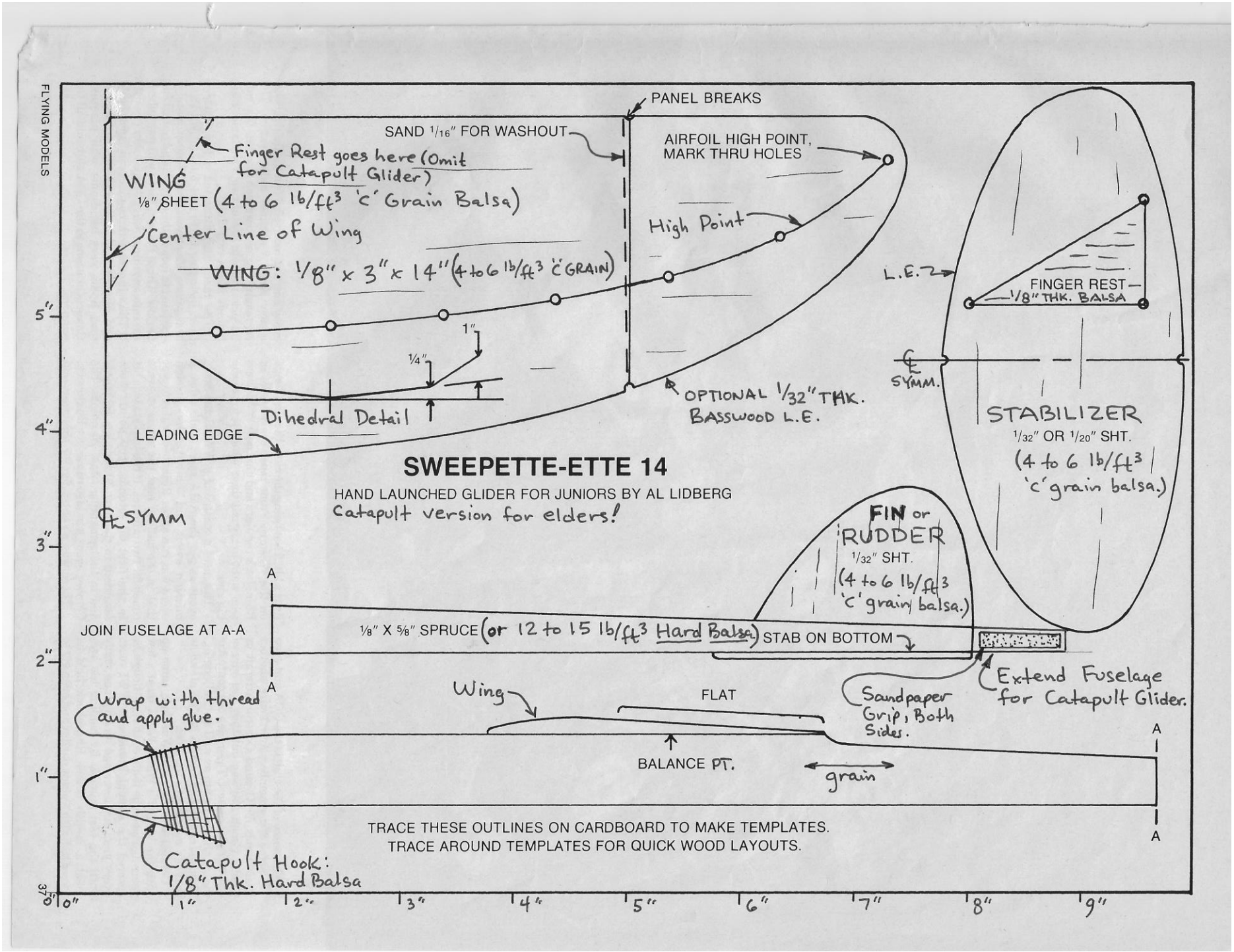
In still air your glider should average between 15 and 30 seconds per flight. The average should increase as you develop control and strength. Keep track of the times with an ordinary wrist watch with a second hand. Practice throwing so that launching the glider the way it goes the highest becomes a habit. Getting times higher than 30 seconds or so requires help from thermals, naturally occuring columns of rising warm air that carry the model along. Finding and taking advantage of thermals is beyond the scope of this article, however, which was to get you flying with a successful HLG. Perhaps we can share some ideas on improved flights and thermal finding in the near future.

All references in this article to 'right' side, 'left' turn, etc, are intended for right handed flyers. Left handed throwers should just do the opposite, i.e., set the model up for a *right* glide turn, warp the *left* side of the stabilizer. Good luck and happy flying.



SANDING HAND LAUNCHED GLIDER WINGS

A.A.L.


PANEL BREAKS
SAND 1/16" FOR WASHOUT
AIRFOIL HIGH POINT, MARK THRU HOLES
Finger Rest goes here (Omit for Catapult Glider)
WING
1/8" SHEET (4 to 6 lb/ft³ 'c' Grain Balsa)
Center Line of Wing
High Point
WING: 1/8" x 3" x 14" (4 to 6 lb/ft³ 'c' GRAIN)
L.E.
FINGER REST — 1/8" THK. BALSA
1"
1/4"
℄ SYMM.
Dihedral Detail
OPTIONAL 1/32" THK. BASSWOOD L.E.
LEADING EDGE
STABILIZER
1/32" OR 1/20" SHT.
(4 to 6 lb/ft³ 'c' grain balsa.)
SWEEPETTE-ETTE 14
HAND LAUNCHED GLIDER FOR JUNIORS BY AL LIDBERG
Catapult version for elders!
℄ SYMM
FIN or RUDDER
1/32" SHT.
(4 to 6 lb/ft³ 'c' grain balsa.)
A
JOIN FUSELAGE AT A-A
1/8" X 5/8" SPRUCE (or 12 to 15 lb/ft³ Hard Balsa) STAB ON BOTTOM
A
Extend Fuselage for Catapult Glider.
Wrap with thread and apply glue.
Wing
FLAT
Sandpaper Grip, Both Sides.
A
BALANCE PT.
grain
A
TRACE THESE OUTLINES ON CARDBOARD TO MAKE TEMPLATES.
TRACE AROUND TEMPLATES FOR QUICK WOOD LAYOUTS.
Catapult Hook: 1/8" Thk. Hard Balsa
5"
4"
3"
2"
1"
0"
1"
2"
3"
4"
5"
6"
7"
8"
9"