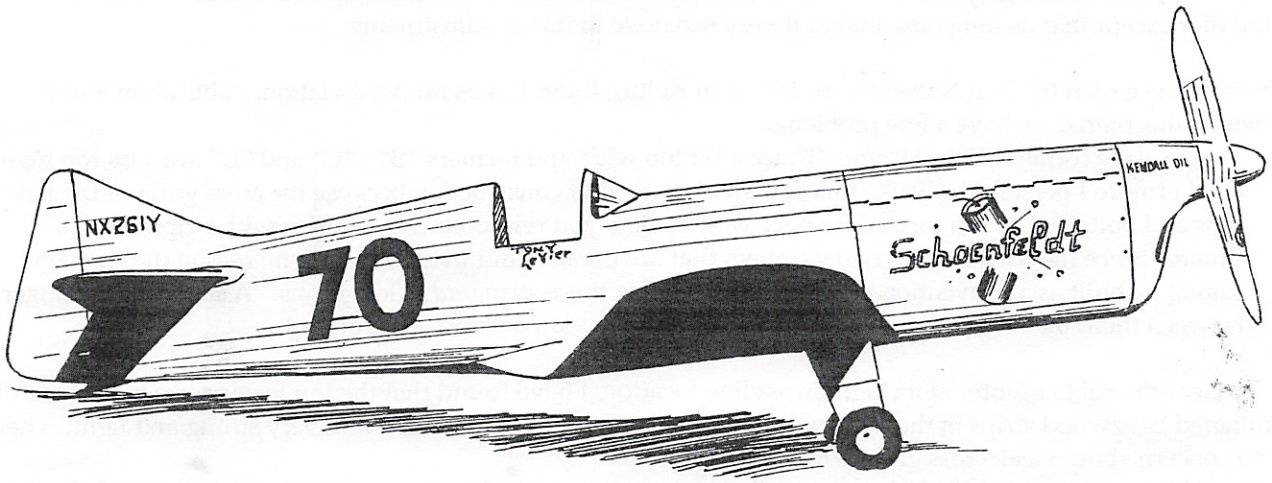
CROSSWINDS

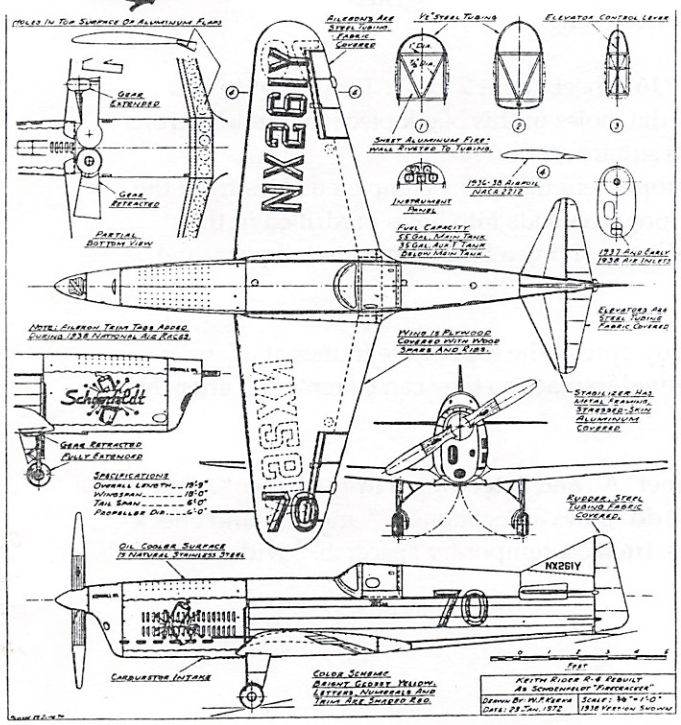
143

CLEVELAND FREE FLIGHT SOCIETY



TONY LE VIER'S SCHOENFELDT-RIDER "FIRECRACKER"

CROSSWINDS
RUSS BROWN
4909 N. SEDGEWICK
LYNDHURST,OH 44124



DRAWING BY WILLIAM F. KERKA

THE KEITH-RIDER R-4 GREVE RACER
(1938 Schoenfeldt Firecracker Version)

Of the several Greve Racer models I have built and flown, the most reliable has been the Keith-Rider R-4. In order of my preference they are as follows: K/R R-4, Chambermaid, Caudron 460 and Goon. The Goon is very good flier except that its long nose makes it very sensitive to thrust adjustments.

There is a nice plan by Tom Nallen for an 18" span Keith/ Rider R-4 as Model Aviation. Publication # 619, however this plan does have a few problems:

1. The fuselage formers "F", "H" and "J" are a bit too wide and formers "B" , "C" and "D" are a bit too high. Furthermore I personally dislike this half shell method of construction because the cross grain of the balsa at tops and bottoms of each former are very weak unless you reinforce each of them with strips of 1/16" square. Since the K/R R-4 has two stringers that are parallel and in line, there is no reason the fuselage cannot be built as a conventional box structure, using these stringers as longerons. A single side stringer between them makes the fuselage into the oval cross section desired. (See photo)

2. To clear the rubber motor at its high thrust line location, I have found that the top formers are best made of laminated bass wood strips in the form of bows. They are quite easy to make and very strong and light. There is no concern about weak cross grain with them!
Soak a 5" long piece of 1/32"x 2" basswood sheet in water for about 5 minutes. Cut it into 1/16" wide strips with the grain while wet, then bend the strips into bows around a hot rod. Laminate two layers together using Titebond glue and place them over the plan covered with waxed paper for each bow.
I use a 75 watt soldering iron for the hot rod, and have found that different diameters of brass, copper or aluminum tubing around the soldering iron shaft serve nicely to get the diameter close to what is desired. However, I'm sure that pieces of sheet metal could be bent to the radius desired and draped over the soldering iron shaft if you don't have old pieces of brass tubing lying around! Use the shank of the soldering iron itself for small radius bends. I recommend reducing the voltage of the soldering iron to about 80 volts if you have a Dreml motor controller handy. In any case take care you don't scorch your fingers!
An alternative heating device might be a hair curling iron.
To get the exact bow shape needed, place pins spaced about ¼" apart around the outer bow outlines on the plan and use washers, bottle caps or cut-out balsa forms with the right contour for the inside shapes (broken lines). Press these against the hot formed, damp bows forcing them against the pins and allow the bows to dry. You can apply the Titebond to join the two layers of bass either before or after this step.
Cut the tailposts from 1/16"x 3/16" balsa and notch each for the longerons and side stringers. Note that the tailposts extend to the top and bottom stringers so they are about 1.85" long.

Note that I recommend that former "A" be drawn on a piece of 1/16" sheet about 2" x 3". Do not cut to this drawn outline till you have all the stringers in place. Drill 1/16" dia. holes in this blank piece for the longerons and stringers and make the holes square with a tiny Swiss pattern square section file.
When you build the box frame, cut the longerons exactly to the proper length, lift the completed sides from the plan after the cement has dried, then insert and cement the front longeron ends into holes predrilled in the former "A" piece. Next, join the rear ends of the frames together by applying a little cement to tail posts and line them up accurately.

Add some of the bottom formers to the side frames and temporarily spread the tops of the frames at a few places with temporary spreaders of 1/16" square balsa. Lightly glued in place so they can be removed after the bows are cemented in place.

Add the center, top stringer threading it through the holes in former"A" and extending it from former "A" to the Instrument panel "IP" and from former "G" to the tail post. Add bows at locations 'C" and "D" and check to make the top center stringer is exactly .57" above the longerons, (make a temporary spacer .57" wide , set on

edge, to ensure this) and glue the bows to both longerons and the center stringer. Next, add the bow at location "B" and make the gap between stringer and longerons .53" here using a .53" wide temporary spacer.
Thread the remaining stringers through former "A" to "IP" and glue them in place, making sure they contact each bow.

The wing on the Nallen plan shows three spars. I consider this excessive. I find a single top spar of 1/16" x 1/8" medium hard balsa is adequate for this size model.. When cutting out the wing ribs, cut one center rib so its top edge is about ¼" from the edge of a 1/16" balsa sheet and is 5-1/4" long. This results in a perfect saddle former that is to be used to form the contour for the 1/32" sheet balsa wing saddle. The saddle is made from two pieces of 1/32" sheet 1.65" wide and butt joined together to make it about 5-1/4" long. Its grain runs crosswise to the fuselage. Notch the saddle former as necessary to fit into lower fuselage formers "D" and "E" and cement it in place between formers "C" and "F", then add the saddle, pinning it to the saddle former and glue it in place. The saddle will fit the wing airfoil perfectly. (You may want to heat the front end of the saddle to make it easier to bend.)
Sand the fuselage so that the side stringers, longerons and tailpost taper to 1/16" thickness at the rear tip of the fuselage.
Trim former "A" to the curved outline you have drawn on its 2"x 3" blank and sand it to blend into the stringers. Sand the saddle edges so the saddle blends in to the fuselage contours.

The stabilizer and rudder of the model have been enlarged , as shown on the Nallen plan to improve stability as allowed by the Flying Aces Club rules.

The Keith Rider R-4 was converted to the Schoenfeld "Firecracker"in 1938. It was bright yellow with shaded red markings and was flow by Tony Le Vier qualifying at 259.74 mph. and won the Greve race at 250.88 mph. Its was still race number 70 and was registered as NX261Y.

Steve Griebling for Crosswinds, 2013.

Keith Rider Racer References:

R-1 Suzie
- Plan by Tom Nallen 18" span Model Builder March 1977

R-2 Bumble Bee
- Plan by Geoff Phillips 18" span Crosswinds 103
- Drawing: R.S. Hirsch - The Golden Age of Air Racing by Schmid and Weaver

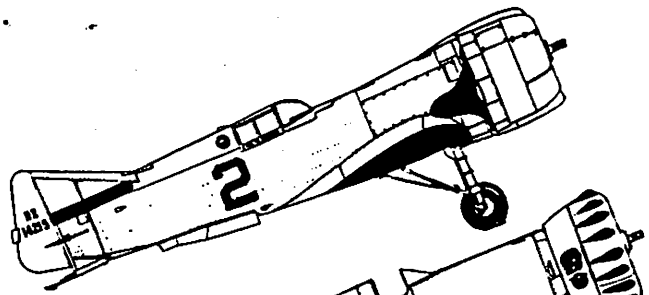
R-3 Marcoux-Bromberg:
- Plan by Tom Nallen 18 3/4" span Flying Models Magazine 8/95
- Drawing: American Aviation Historical Society Journal Vol 7 #2

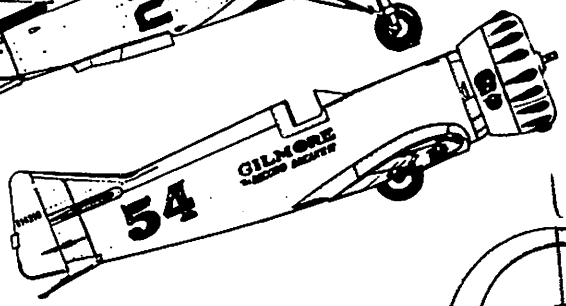
R-4 Schoenfelt Firecracker:
- Plan by Tom Nallen 18" span Model Aviation 4/89
- Plan by Mike Nassise 18" span Tailspin Newsletter 11/11
- Drawings: B.J. Matthews - AAHS Journal Vol 23 #3
  Wm. Kerka - Golden Age of Air Racing by Schmid & Weaver
  Harold Osborne - RC Model Builder
- Other documentation: Sketch and photo - The World's Famous Racing Aircraft 1925-1953 by John Underwood
  1938 photo by john Sunyak, ARHS - Airplane Racing, A History 1909-2008 by Don Berliner
  Photos - Vintage Airplane 1/08 - Tom Wathen's replica, color photos by J. Koepnick

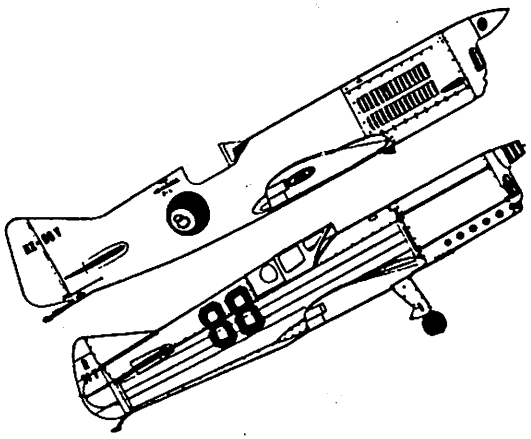
R-5 Jackrabbit/Elmendorf Special
- Drawing: Wm. Kerka - American Air Racing Society July, 1978
- Sport Aviation 2/83

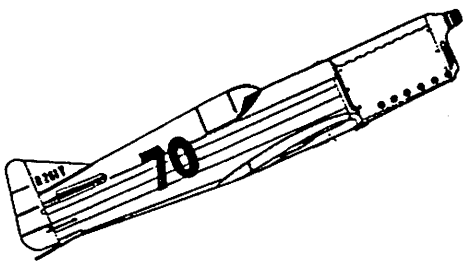
R-6 "Eightball"
- Plan by Dave Livesay 13" span FAC News #170
- Drawings: Wm. Kerka - AAHS Vol 26 #1 3 views, both versions

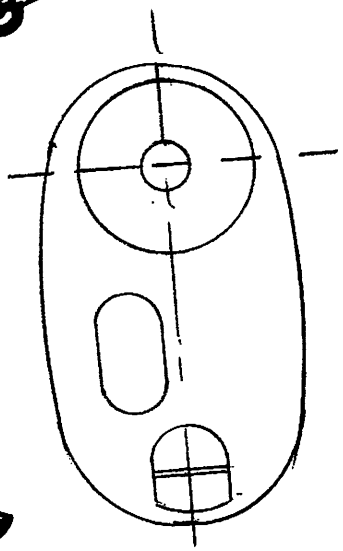
More drawings and photos of all the Keith Rider racers are included in R.S. Hirsh's two volume *Aircraft of Air Racing's Golden Age.*

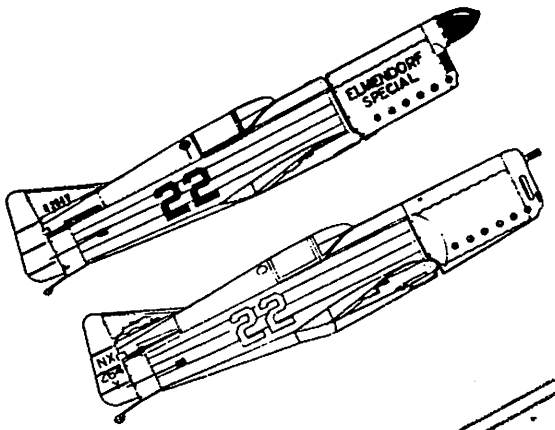












VACUF
ACET
BUTYF

1"

1.75

.57"

1/16" SQ

2.03

1.75

1/16"

1.65

SADDLE FORMER

1/32" SHT, SADDLE GRAIN CROSSWISE

2.60 HT

D

1.55

.53"

.1875ϕ

1.28" WIDE

KENDALL OIL

A

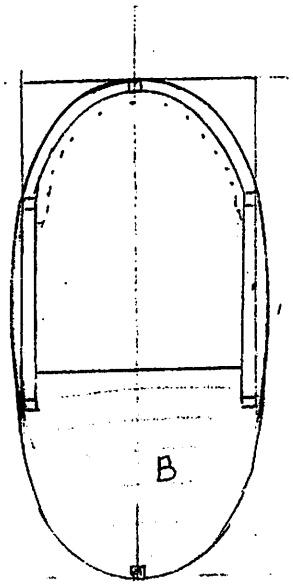
2.62 HT

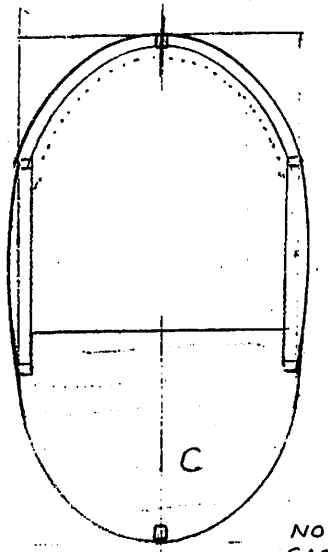
C

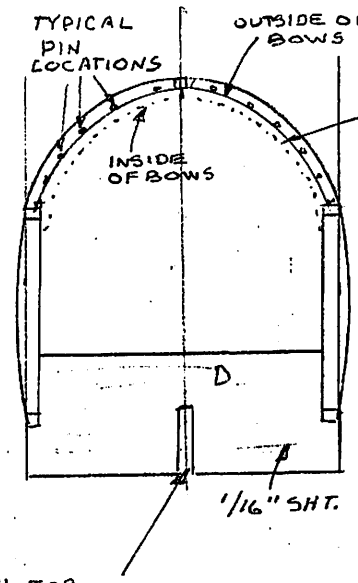
2.58 HT

B

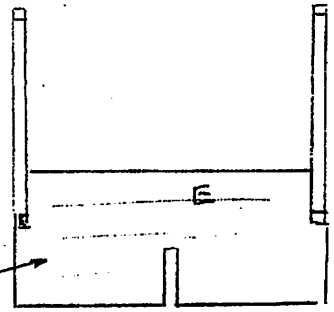
2.50" HT.

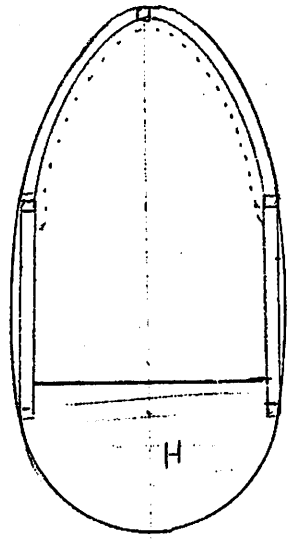






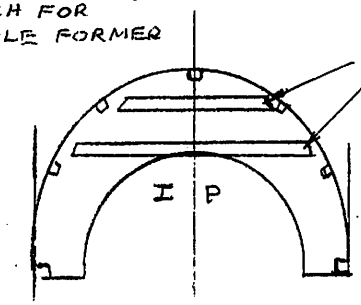
BASSWOOD BOWS
2 LAYERS 1/32" X 1/16"
WATER SOAKED AND
BENT AROUND A HOT ROD

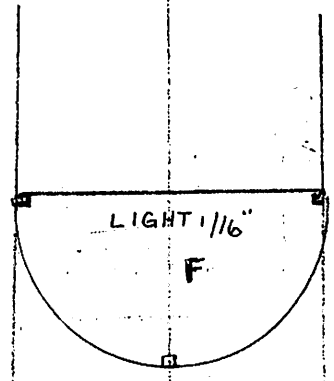


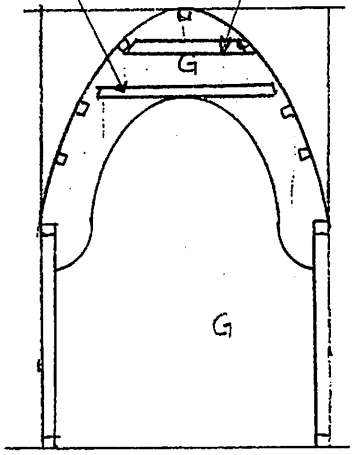


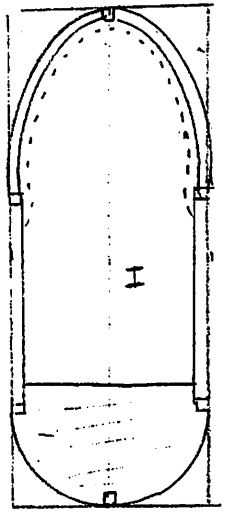
NOTCH FOR SADDLE FORMER

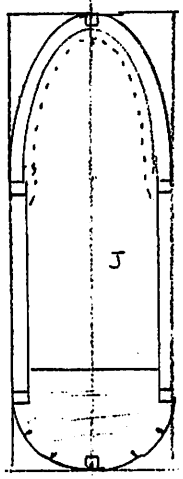
ANTI SPLIT REINFORCEMENTS 1/16" SQ.



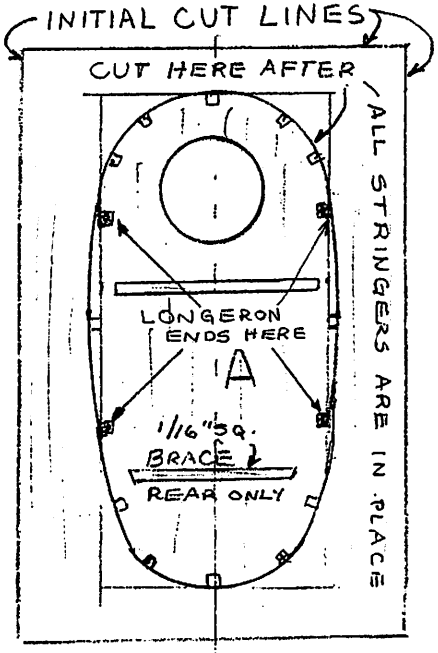




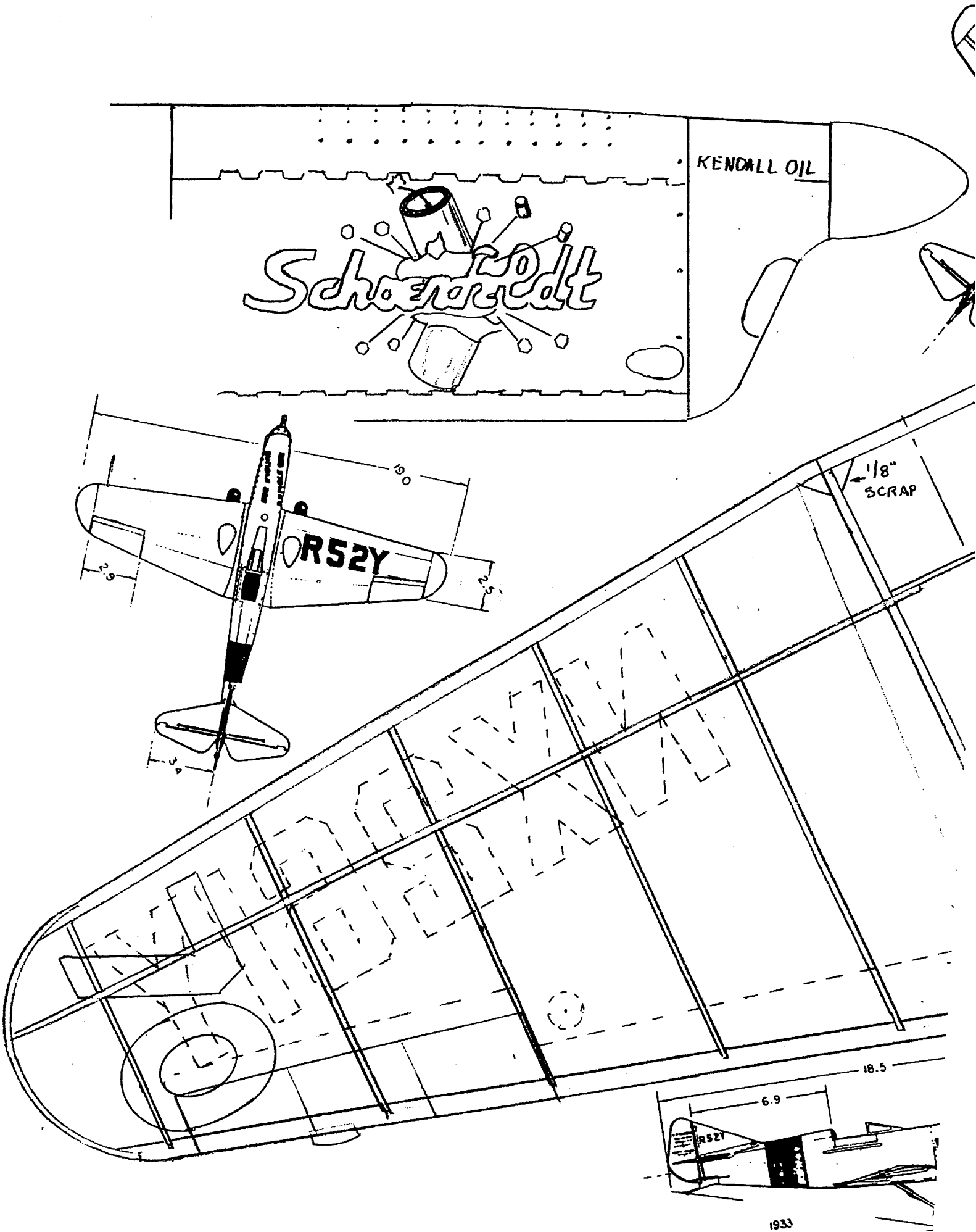


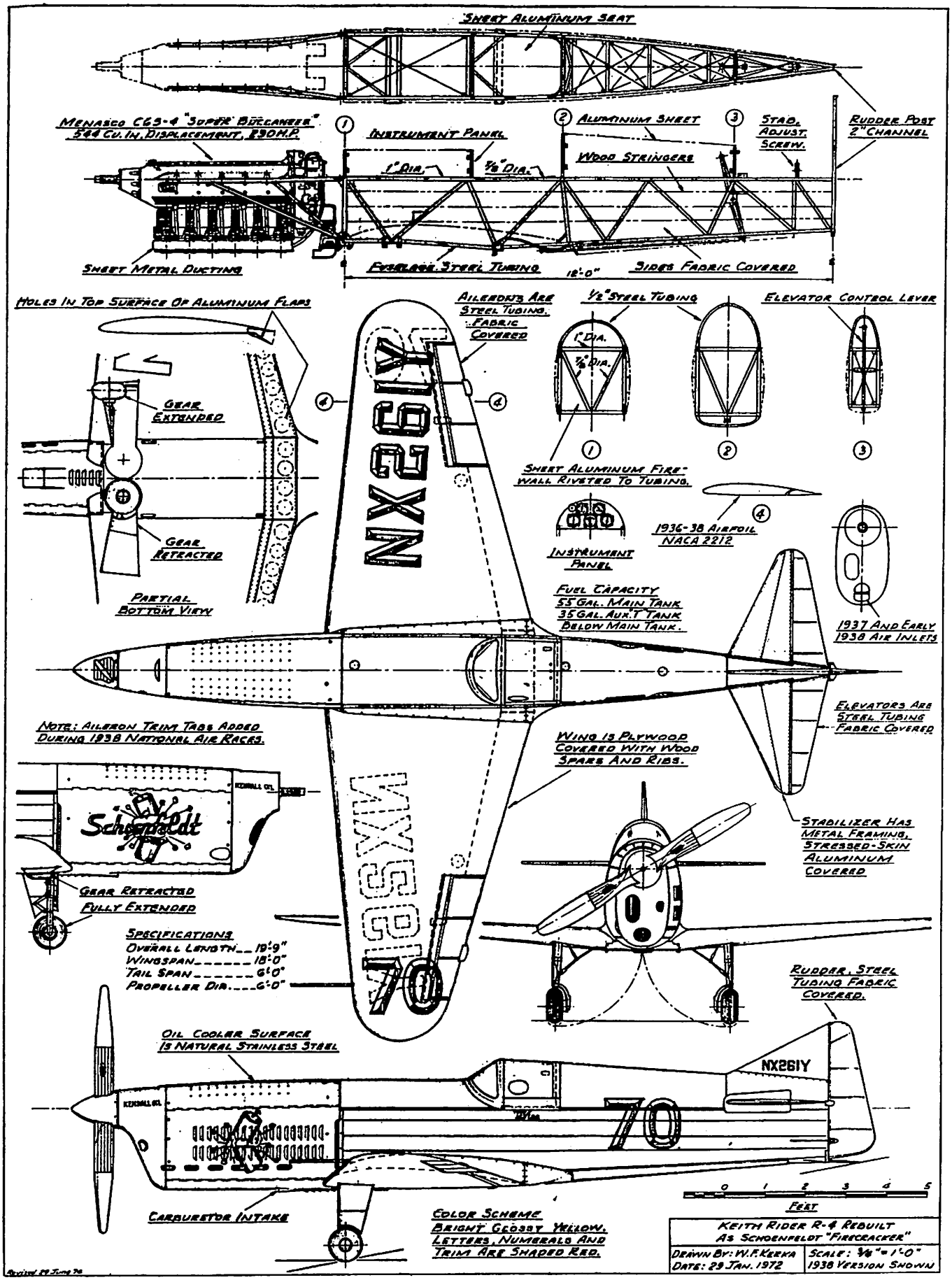


18" KEITH RIDER - R-4
FUSELAGE SECTIONS



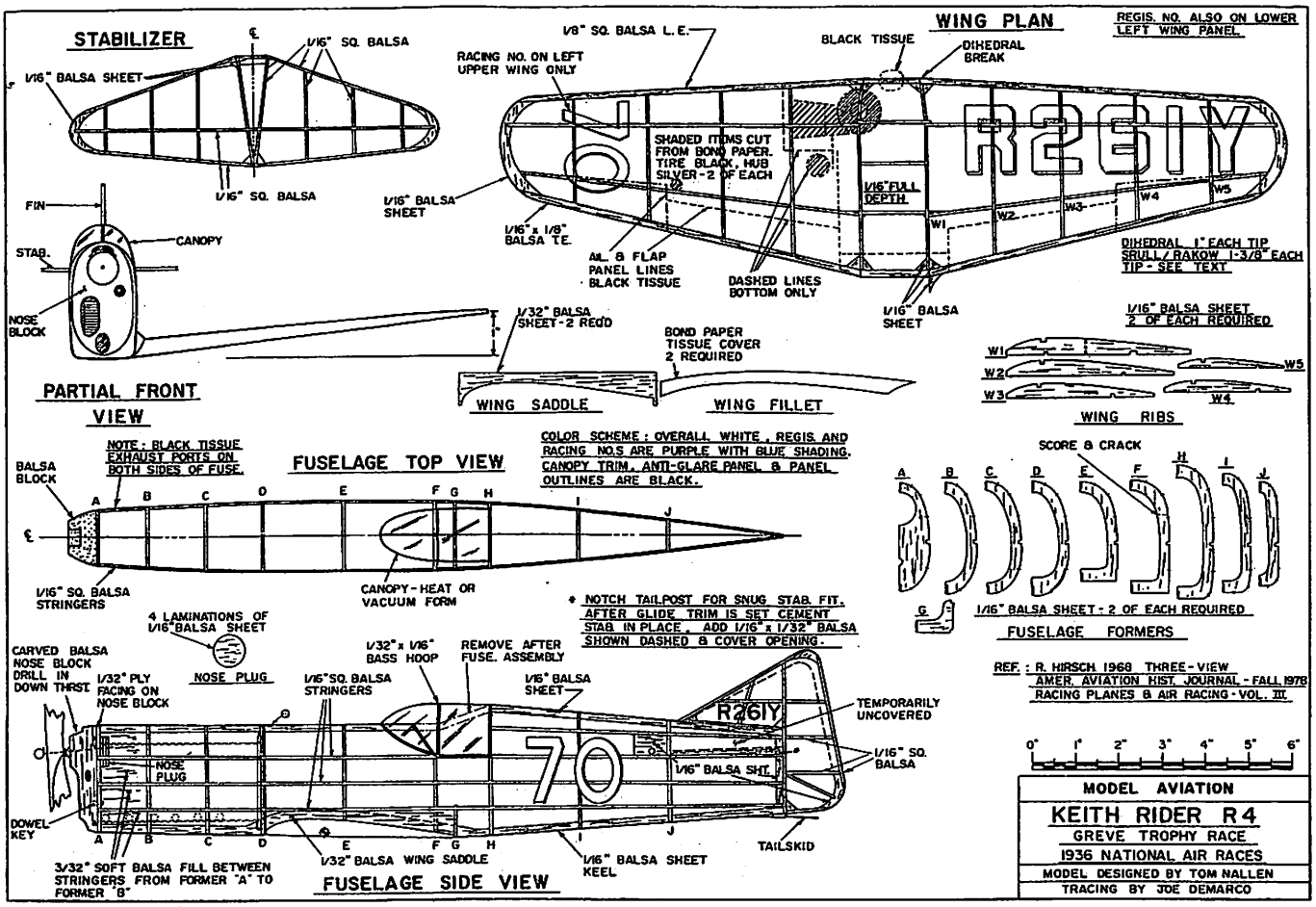
6


KENDALL OIL
Schoenradt
R52Y
19.0
2.9
2.5
3.4
1/8"
SCRAP
18.5
6.9
R52Y
1933



DRAWING BY WILLIAM F. KERKA

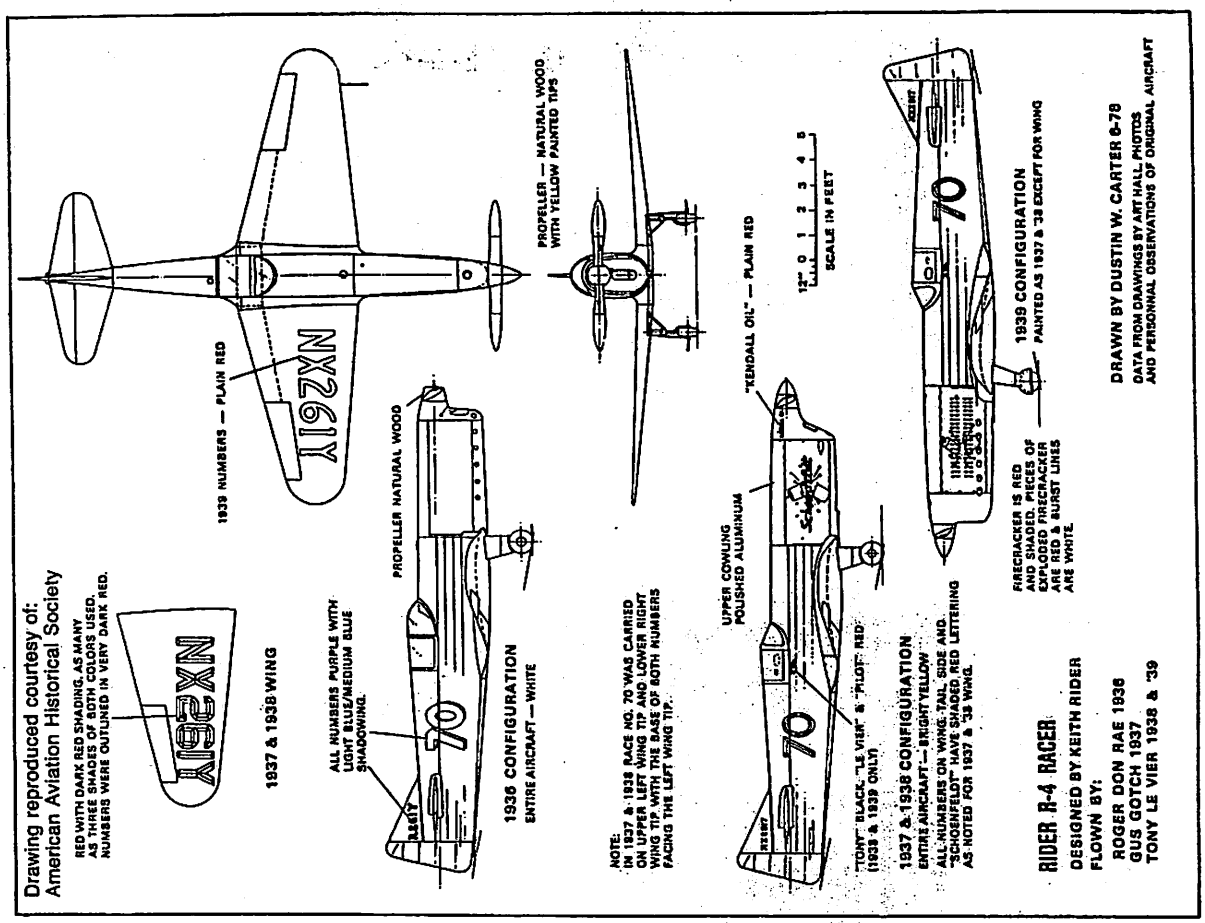
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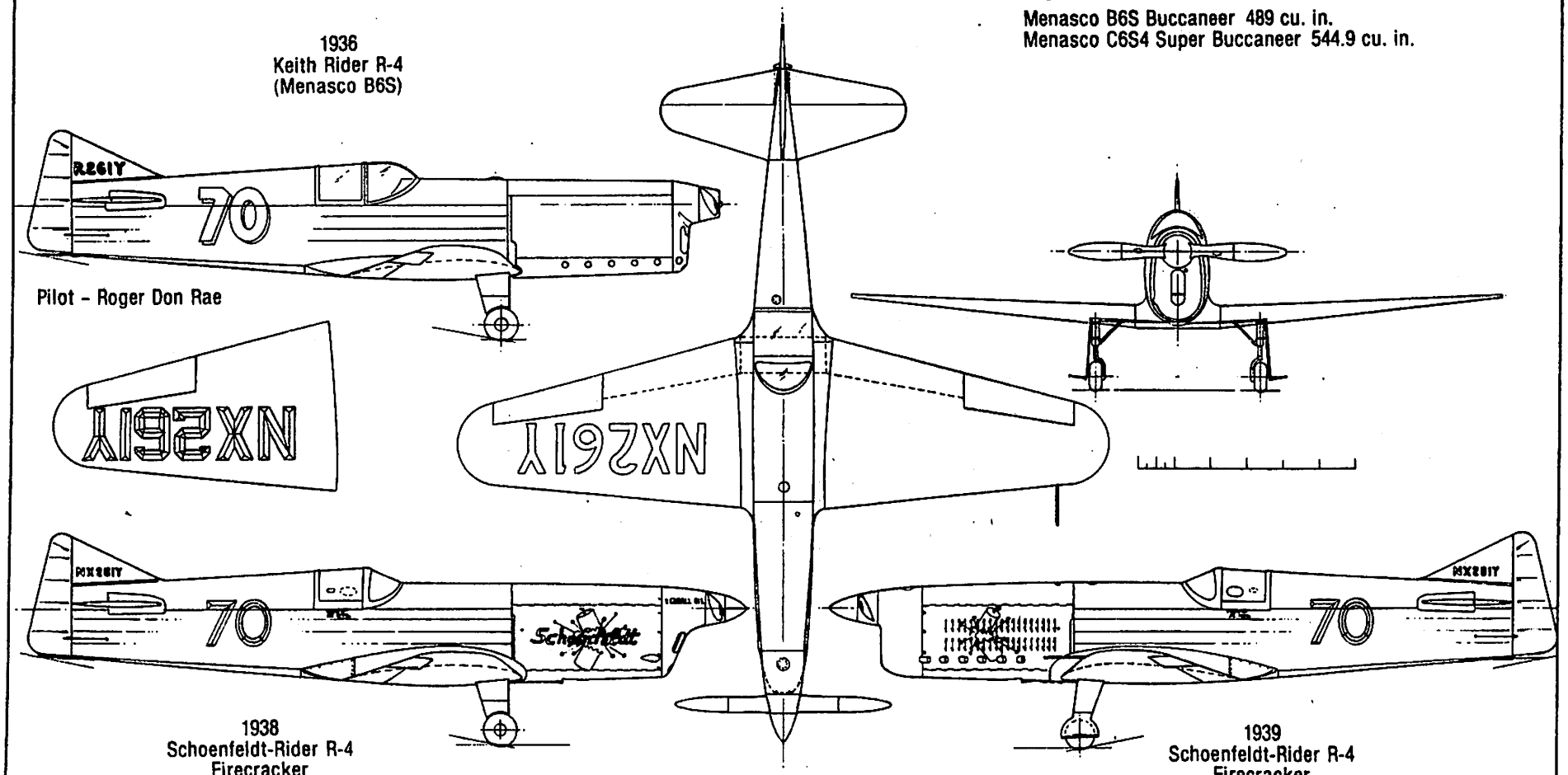
perfect for those seeking a low-wing plane with lots of zip and great contest potential.

While my own Rider has been forced to struggle to overcome the mediocrity of my launches, a couple of other FAC race pilots who have built this ship have proven her mettle on the course. At an FAC Nats at Dayton, OH, Glenn Rakow of Silver Spring, MD finished second in the Greve—unfortunately unable to retrieve his far-flying R-4 within the time allowed to make R-3 powered by a Pratt & Whitney Wasp. He then went on to finish the Nationals in style, beating a host of hot competitors to the checkered flag in winning the Shell Cup.

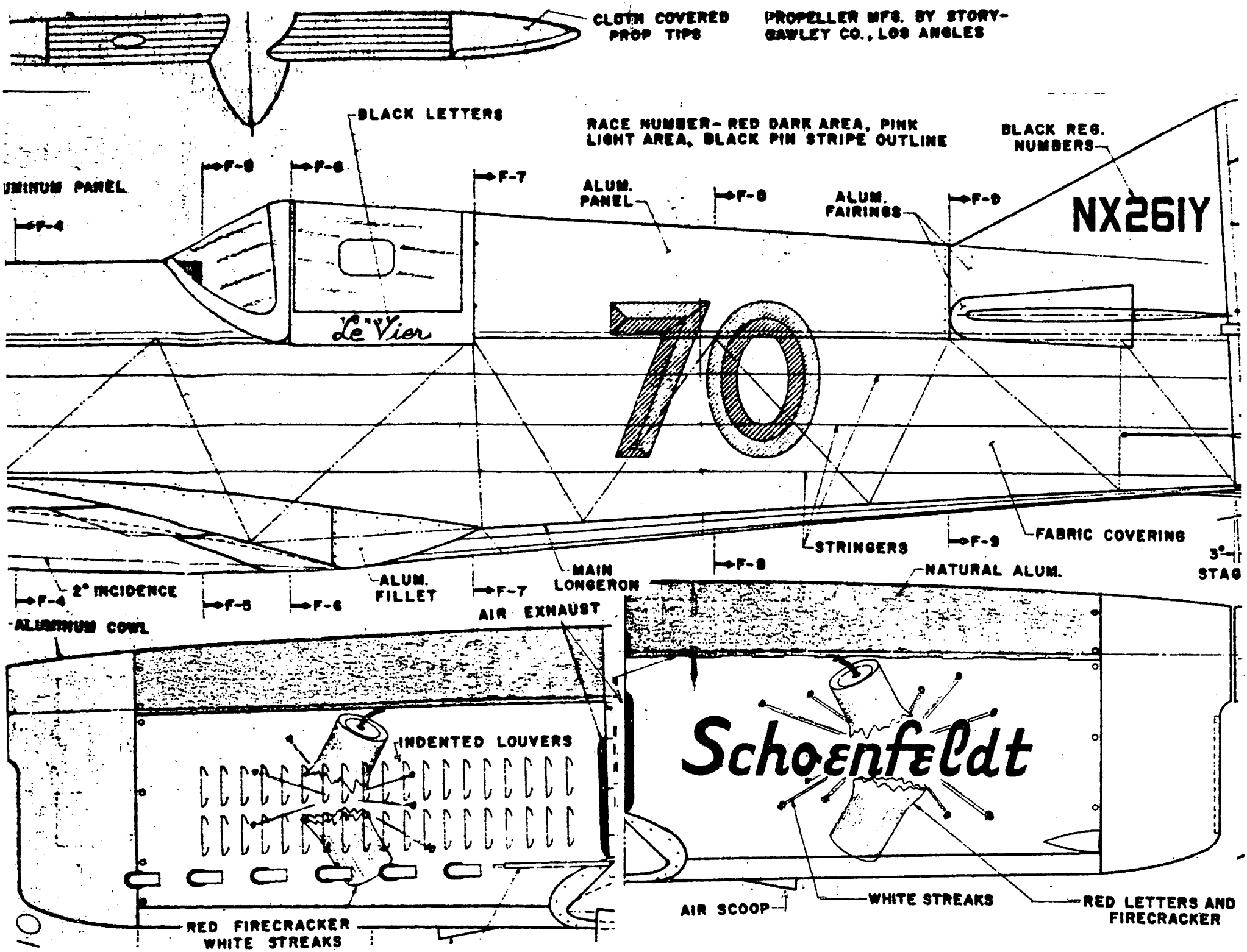
I selected the slick little R-4 as a building project because of its fine proportions and suitability as a Greve Trophy mass launch entry in FAC get-togethers. The ship has more than lived up to my expectations. It's

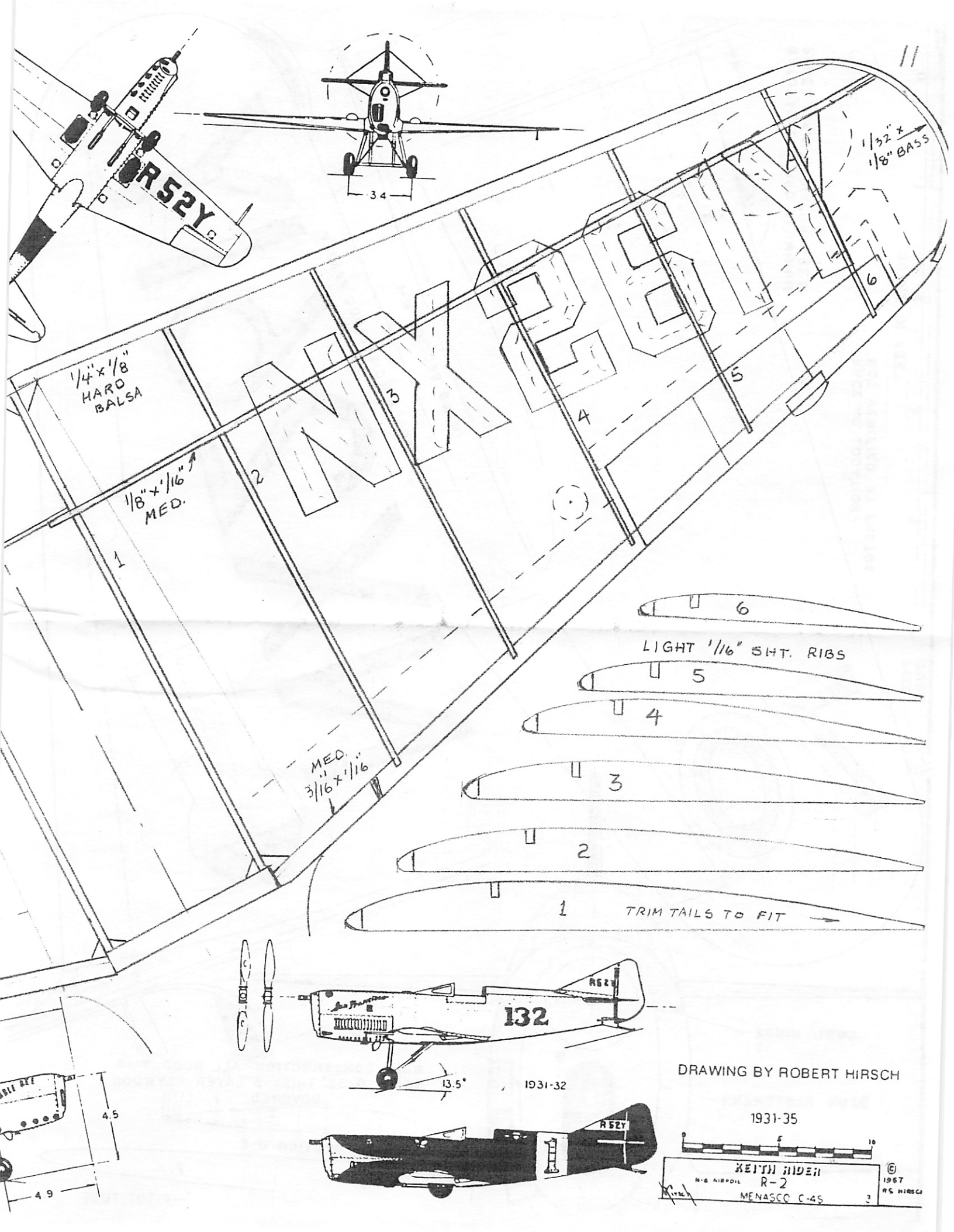


Below: 5-View drawing of Schoenfeldt-Rider R-4 in 1939 livery.

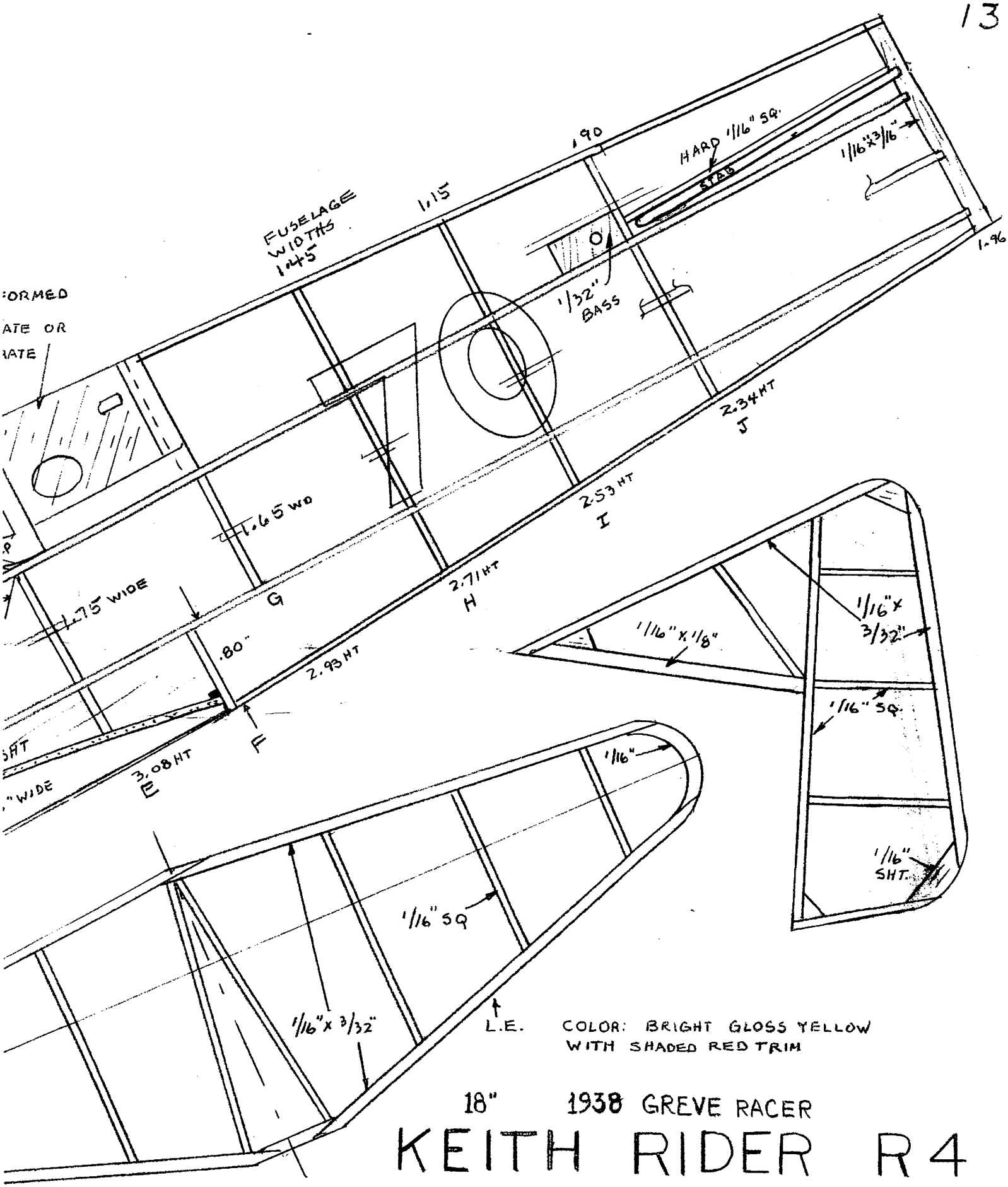


Drawn by Dustin Carter


CLOTH COVERED PROP TIPS
PROPELLER MFG. BY STORY-GAWLEY CO., LOS ANGLES
BLACK LETTERS
RACE NUMBER- RED DARK AREA, PINK LIGHT AREA, BLACK PIN STRIPE OUTLINE
BLACK REG. NUMBERS
NX261Y
F-8
F-6
F-7
F-4
ALUM. PANEL
F-8
ALUM. FAIRINGS
F-9
Le Vier
70
STRINGERS
F-9
FABRIC COVERING
F-8
3°
STAB
2° INCIDENCE
F-4
F-5
F-6
ALUM. FILLET
F-7
MAIN LONGERON
NATURAL ALUM.
AIR EXHAUST
ALUMINUM COWL
INDENTED LOUVERS
Schoenfeldt
AIR SCOOP
WHITE STREAKS
RED LETTERS AND FIRECRACKER
RED FIRECRACKER WHITE STREAKS


R52Y
34
1/32" x 1/8" BASS
1/4" x 1/8" HARD BALSA
1/8" x 1/16" MED.
3/16" x 1/16" MED.
1
2
3
4
5
6
LIGHT 1/16" SHT. RIBS
TRIM TAILS TO FIT
132
13.5°
1931-32
4.5
4.9
R52Y
1931-35
DRAWING BY ROBERT HIRSCH
KEITH RIDER
R-2
MENASCO C-45
© 1967

NATURAL COLORED ALUMINUM PANEL, SKIN RADIATOR AREA
W-1
WING SECTION W-1
WING AIRFOIL, N.A.C.A. 23000 FAMILY
SCALE IN FEET
RACE NO. LOCATION - NOT VERIFIED BY PHOTOS
PITOT TUBE
W-2
COWL HINGE
DZUS FASTENERS
WING CONSTRUCTION - ALL WOOD, TWO SPAR, 5/32" THICK 5 LAYER PLYWOOD COVERED
WING SECTION W-2
PITOT TUBE



COLOR: BRIGHT GLOSS YELLOW
WITH SHADED RED TRIM

18" 1938 GREVE RACER

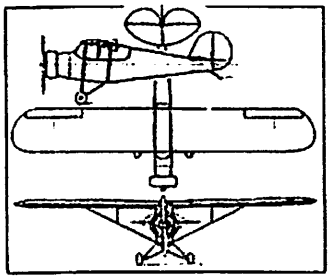
KEITH RIDER R4

CONSTRUCTION BY: STEVE GRIEBLING, 2012

POWER - 4 STRANDS 1/8" FLAT "SUPER SPORT"

14

2013 FAC Non-Nats



July 17 – 20 Geneseo, NY

REGISTRATION: JULY 17TH

- 12:00 TO 5:00 PM ON THE HAG FLYING FIELD
- Scale Judging
- Compliance Checks: PPLC for Mass Launch Models and TOTF Scale; Non-Scale Events as required.
- Vendors welcomed with NO fee!
- Registration and Judging available Thursday for late arrivals.

Thursday July 18 **8:00 AM – 5:00 PM**	Friday July 19 **8:00 AM – 5:00 PM**	Saturday July 20 **8:00 AM – 5:00 PM**
Scale Events: # 1 FAC Peanut Scale # 2 FAC Rubber Scale # 3 FAC Jumbo Scale # 4 FAC Pioneer Scale # 5 FAC Power Scale # 32 FAC Giant Scale*	**Scale Events:** # 1 FAC Peanut Scale # 2 FAC Rubber Scale # 3 FAC Jumbo Scale # 4 FAC Pioneer Scale # 5 FAC Power Scale # 32 FAC Giant Scale*	**Scale Events:** # 1 FAC Peanut Scale # 2 FAC Rubber Scale # 3 FAC Jumbo Scale # 4 FAC Pioneer Scale # 5 FAC Power Scale # 32 FAC Giant Scale*
TOTF Non-Scale # 10 OT Rubber Stick** # 13 FAC Jimmy Allen ROG**	**TOTF Non-Scale** # 11 OT Rubber Fuselage ROG** # 14 OT Gas Replica***	**TOTF Non-Scale** # 12 2-Bit+1 OTR ROG** # 29 Half-Size Wake ROG**
TOTF Scale # 7 Golden Age Combined # 33 Comet 25" Porterfield ****	**TOTF Scale** # 8 Modern Civilian	**TOTF Scale** # 9 Modern Military # 34 Earl Stahl Commemorative*****
Misc. Timed Events # 15 Simple Scale # 19 Embryo Endurance**	**Misc. Timed Events** # 16 Dime Scale # 20 Jet Catapult	**Misc. Timed Events** # 17 No-Cal Scale # 21 Fiction Flier
Mass Launch Events # 6 L-W Military Trainer # 24 Goodyear Formula	**Mass Launch Events** # 22 Thompson Trophy Race # 25 WW-I Dog Fight	**Mass Launch Events** # 23 Greve Race # 26 WW-II Combat
End of Day Event #28 SLOW Race	**End of Day Event** #27 BLUR Race	**End of Day Event** Awards to Third Place HAG Barbeque

*Back by Popular demand!
**Timing slips must be turned in by 4:30 in case of ties.
***Target times posted at 8:00 AM, 11:00 AM and 2:00 PM.
****One Design Event sponsored by the Cloudbusters. Winner gets free ride at 2013 Out Door Champs. Full details at www.Cloudbustermac.tripod.com.
*****Earl Stahl Commemorative Event will be flown by FAC Simple Scale Rules (Event # 15). Scale models only. Your Earl Stahl model may also be flown in Event # 15 on Thursday and any FAC Scale Rubber event it qualifies by wing span…not to mention a ML Event if it passes the PPLC. How's that for more fun than roller derby in the dark? What better way to honor "The Great One?"

The Cleveland Free Flight Society

AMA Sanctioned Indoor Contest and Cat II AMA Record Trials

Sunday April 14th, 2013 at the Kent State University Fieldhouse

<table>
<tr><th colspan="2">AMA Events</th><th colspan="2">FAC Events</th></tr>
<tr><td colspan="2">7:00am Building opens for setup and test flying</td><td colspan="2">7:00am Building opens for setup and test flying</td></tr>
<tr><td rowspan="2">8:00am to 11:00am</td><td rowspan="2">Hand Launched Glider
Std. Catapult Glider
Unlimited Catapult Glider</td><td>9:00am to 11:00am</td><td>Jet Catapult Scale</td></tr>
<tr><td rowspan="2">9:00am to 4:15pm</td><td rowspan="2">FAC Peanut Scale*
High Wing Cabin Peanut*
Dime Scale
FAC No-Cal Scale
Phantom Flash
JETCO ROG
(per CFFS club rules)

*Events may be combined if needed.</td></tr>
<tr><td>8:00 am to 4: 15pm</td><td>EZB
F1L
F1D
A-6
Mini Stick
Limited Pennyplane
(Scoring for F1D and F1L will be best 1 of 5)</td></tr>
<tr><td colspan="4">4:30pm Awards presentation for AMA and FAC contest events
Prizes will be awarded for 1st place in each event that there are 3 or more flyers with official flights. Certificates will be awarded for 1st, 2nd and 3rd in events with 3 or more official flyers. FAC events must have at least 3 official flyers to receive a Kanone.</td></tr>
<tr><td colspan="4">8:00am to 10:00pm AMA Record Trials all day long
If you wish to fly after the CFFS contest awards (approx 4:45-10pm) an additional $20 per person is required to cover the extra rental fees for the extended record trials hours.
NOTE: We must be out of the building by 10pm</td></tr>
</table>

All AMA events to be flown per current AMA and FAI rules.

All FAC events to be flown and scored per current FAC 2012-2013 rule book.

~~No-cal Scale: Total of 3~~ flights

Phantom Flash: Best 3 of 6 flights. 120 second max. Model must ROG. Tiebreaker mass launch. Props must be one piece molded plastic only. Props may be scraped, shaved, or painted.

JETCO ROG: Best 1 of 3 flights. Model must ROG. Any type of commercially made plastic prop may be used. Max prop diameter is 5 ½". Props may be cut down, sanded, or scraped. Wing and tail built per plan. Motor stick must be solid wood. Dihedral amount and type may be changed. Must be tissue covered. No camber or baggy tissue on wing. Any type of thrust bearing may be used. Wire sizes may be changed. No minimum weight. The plan for the JETCO ROG may be downloaded from http://www.indoorfreeflight.com/jetco.htm

All events are JSO combined.

Entry Fees: Open: $30.00 Juniors: $3.00 All contestants must have a valid AMA license.

Record Trials session past 4:45pm will be an additional $20 per modeler to cover the extra cost.

You must provide your own tables and chairs if you need them. No helium will be provided.

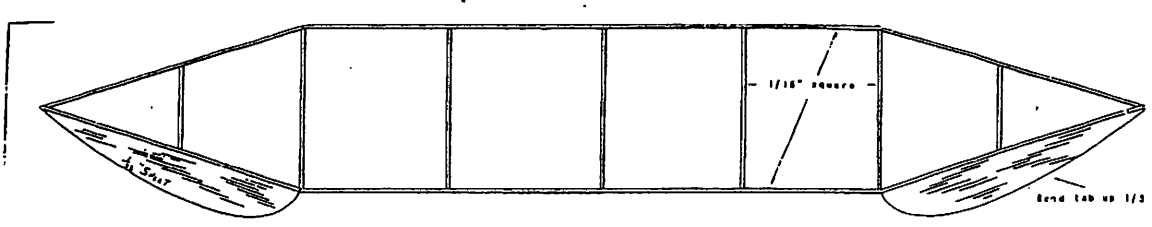
Contest Directors:

Michael Zand
5803 E Ash Rd
Independence, OH
44131
216-524-3480
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Don Slusarczyk
868 Eaglewood Dr.
Willoughby, OH
44094
440-918-0290
don@slusarczyk.com

Directions: http://www.kentstatesports.com/facilities/directions/dix

The Fieldhouse is next to Dix Stadium



16

2013 CFFS Contest Events at Lorain County Community College Field

Located on Rt.301/Abbe Rd. - I-90 Exit to Rt.301 S

Flight line accessible from main campus entrance or Hoag Rd., whichever is upwind

10:00 am to 5:00 pm

A. May 19 July 28 Sept 15

1. FAC Peanut Scale, Full points
2. FAC High Wing Cabin Peanut
3. FAC Dime Scale – 2012 rules
4. FAC Rubber Scale
5. FAC Embryo Endurance
6. FAC Two Bit O.T. Rubber
7. FAC Half Wakefiled
8. FAC Golden Age Combined
9. Earl Stahl Scale *
11. FAC Simplified Scale
12. AMA Hand Launched Glider
13. 13. 6" Stick Catapult Glider
14. FAC Jet Cat Glider
18. FAC Goodyear F1 Race Mass Launch 11:30
15. FAC Greve Race M.L. 12:30
16. FAC Thompson M.L. 1:30
19. FAC WW I Peanut Combat M.L. 2:30
20. FAC WW I Combat M.L. 3:30

B. June 2 August 18 October 6

1. FAC Peanut Scale, Full points
2. FAC High Wing Cabin Peanut
3. *FAC Dime Scale – 2012 rules*
4. FAC Rubber Scale
5. FAC Embryo Endurance
6. FAC Two Bit O.T. Rubber
7. FAC Half Wakefiled
8. FAC Golden Age Combined
9. Earl Stahl Scale*
11. FAC Simplified Scale
12. AMA Hand Launched Glider
13. 6" Stick Catapult Glider
14. FAC Jet Cat Glider
18. FAC Goodyear F1 Race M.L. 11:30
15. FAC Greve Race M.L. 12:30
16. FAC Thompson Race M.L. 12:30
21. FAC WW II Peanut Combat M.L. 2:30
22. FAC WW II Combat M.L. 3:30

* Earl Stahl Scale - any Earl Stahl scale design, any size. Bring your plan. 3 flight total.

FAC rules apply, with inspection of O.T., Simplified Scale, Embryo, and Dime Scale models prior to first flight. Bring your plan. FAC Pilot's checklist will be used in all non judged (total of three flight & mass launch) events. No size change for 26" max per O.T. plan. Flier must pre-select event for multiple option models. **Mass Launch events will start at posted clock times! Be ready!**

CFFS Special Events

Three events have been designated as "special" to encourage some model building out there. Flier's names will go into a hat for a drawing at the end of the season. Winner gets a $25 gift certificate for hobby supplies. You don't have to win the event to be eligible! Your name goes into the drawing every time you *enter* one of these events as long as you put up an official flight. The more you enter, the better your chances. This year's events are: **Earl Stahl Scale, Half Wakefield,** and **Jet Catapult Scale Glider.** If you're wondering which model to build next, I hope we've provided some inspiration. So turn off the TV and head to the bench!



Crosswinds readers with the **Dreaded Red X** at issue renewal code #143 or lower can avoid bitter disappointment by sending $20 to the address below for another year of Free Flight joy.

Russ Brown, 4909 N. Sedgewick , Lyndhurst, OH 44124