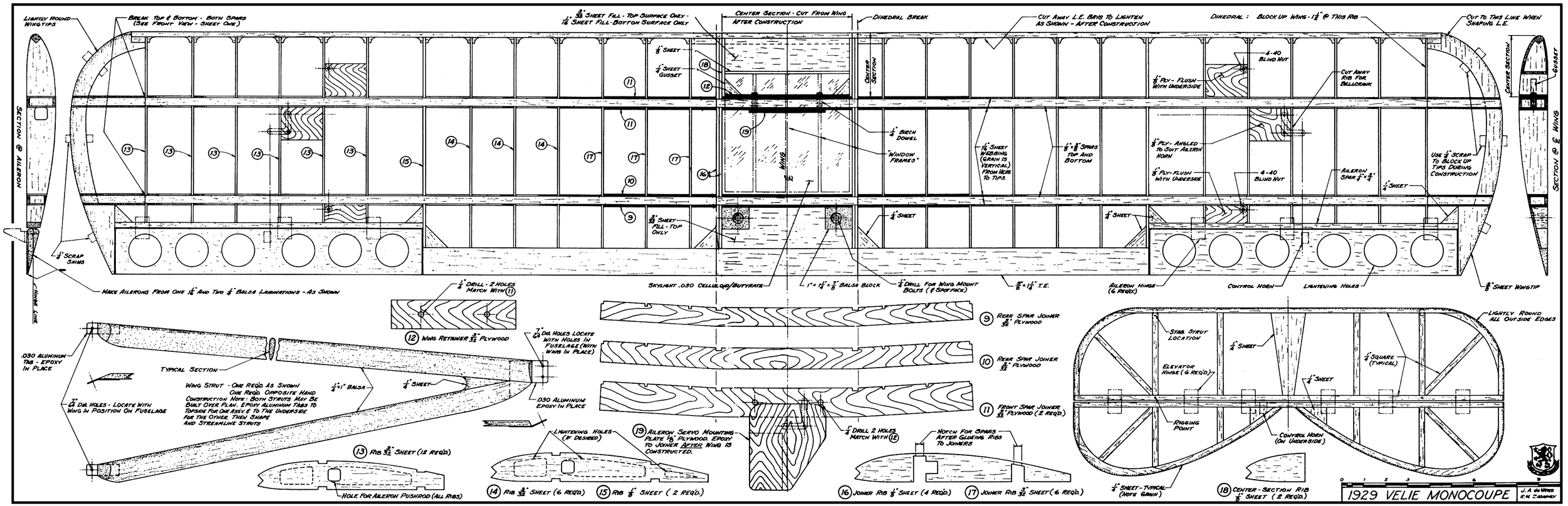
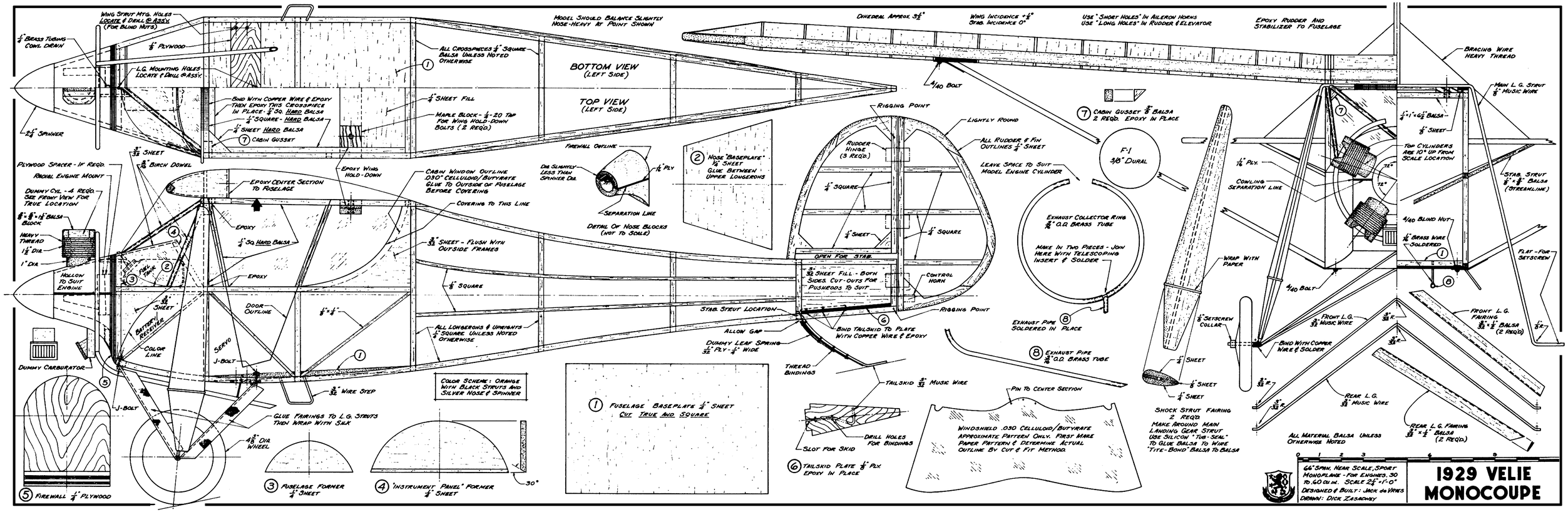

Lightly round wingtips
Balsa top & bottom - both spars (see front view - sheet one)
1/32" sheet fill - top surface only - 1/16" sheet fill - bottom surface only
Center section - cut from wing after construction
Dihedral break
Cut away L.E. bays to lighten as shown - after construction
Dihedral: block up wing - 1 1/2" @ this rib
Cut to this line when shaping L.E.
Section @ aileron
Section @ ℄ wing
Center section
Gusset
1/8" sheet
1/4" sheet gusset
1/4" birch dowel
"Window frames"
1/16" sheet webbing (grain is vertical) from here to tips.
1/8" x 1/8" spars top and bottom
1/8" ply - flush with underside
4-40 blind nut
Cut away rib for bellcrank
1/8" ply - angled to suit aileron horn
1/8" ply - flush with underside
Aileron spar 1/4" x 3/4"
Use 1/4" scrap to block up tips during construction
1/4" sheet
1/32" sheet fill - top only
1/4" sheet
1/4" scrap shims
Make ailerons from one 1 1/2" and two 1/4" balsa laminations - as shown
Hinge line
Skylight .030 celluloid/butyrate
1" x 1 1/2" x 7/8" balsa block
1/4" drill for wing mount bolts (& spotface)
1/8" x 1 1/4" T.E.
Aileron hinge (6 req'd)
Control horn
Lightening holes
1/8" sheet wingtip
1/4" drill - 2 holes match with (11)
(12) Wing retainer 3/32" plywood
(9) Rear spar joiner 3/32" plywood
(10) Rear spar joiner 3/32" plywood
(11) Front spar joiner 3/32" plywood (2 req'd)
Lightly round all outside edges
Stab. strut location
1/4" sheet
1/4" square (typical)
Elevator hinge (6 req'd)
1/4" sheet
Rigging point
Control horn (on underside)
(18) Center-section rib 1/8" sheet (2 req'd)
.030 aluminum tab - epoxy in place
Typical section
Wing strut - one req'd. as shown one req'd. opposite hand
Construction note: both struts may be built over plan. Epoxy aluminum tabs to topside for one assy & to the underside for the other. Then shape and streamline struts
1/4" x 1" balsa
1/4" sheet
7/64" dia. holes - locate with wing in position on fuselage
7/64" dia. holes locate with holes in fuselage (with wing in place)
.030 aluminum epoxy in place
(13) Rib 3/32" sheet (12 req'd)
Hole for aileron pushrod (all ribs)
Lightening holes (if desired)
(19) Aileron servo mounting plate 1/8" plywood. Epoxy to joiner after wing is constructed.
(14) Rib 3/32" sheet (6 req'd)
(15) Rib 1/8" sheet (2 req'd)
1/4" drill 2 holes match with (12)
Notch for spars after glueing ribs to joiners
(16) Joiner rib 1/8" sheet (4 req'd)
(17) Joiner rib 3/32" sheet (6 req'd)
1/4" sheet - typical (note grain)


Wing strut mtg. holes locate & drill @ assy. (for blind nuts)
1/4" brass tubing cowl drain
1/8" plywood
L.G. mounting holes locate & drill @ assy.
2 1/4" spinner
Bind with copper wire & epoxy then epoxy this crosspiece in place - 1/4" sq. hard balsa
1/4" square - hard balsa
1/4" sheet hard balsa
(7) Cabin gusset
Model should balance slightly nose-heavy at point shown
All crosspieces 1/4" square balsa unless noted otherwise
BOTTOM VIEW (left side)
TOP VIEW (left side)
1/4" sheet fill
Maple block - 1/4-20 tap for wing hold-down bolts (2 req'd)
Dihedral approx. 3 1/2°
Wing incidence +1/2° Stab. incidence 0°
Use "short holes" in aileron horns Use "long holes" in rudder & elevator
Epoxy rudder and stabilizer to fuselage
1/4-40 bolt
Bracing wire heavy thread
Main L.G. strut 1/8" music wire
1/4" x 1" x 6 1/2" balsa
1/8" sheet
Top cylinders are 10° up from scale location
Stab. strut 1/4" x 1/8" balsa (streamline)
1/16" ply.
Cowling separation line
4/40 blind nut
1/16" brass wire soldered
Flat - for setscrew
4/40 bolt
Plywood spacer - if req'd.
Radial engine mount
Dummy cyl. - 4 req'd. see front view for true location
1/8" x 1/8" x 1 1/2" balsa block
Heavy thread
1 1/2" dia.
1" dia.
Hollow to suit engine
Epoxy center section to fuselage
Epoxy wing hold-down
Cabin window outline .030" celluloid/butyrate glue to outside of fuselage before covering
Covering to this line
Epoxy
1/4" sq. hard balsa
Epoxy
3/32" sheet - flush with outside frames
1/4" square
Door outline
1/4" x 1/4"
All longerons & uprights 1/4" square unless noted otherwise
Battery receiver
Color line
Servo
J-bolt
Dummy carburator
J-bolt
3/32" wire step
Glue fairings to L.G. struts then wrap with silk
4 1/2" dia. wheel
(5) Firewall 1/4" plywood
Firewall outline
Dia. slightly less than spinner dia.
1/16" ply
Separation line
Detail of nose blocks (not to scale)
(2) Nose "baseplate" 1/16" sheet glue between upper longerons
Rigging point
Lightly round
Rudder hinge (3 req'd)
All rudder & fin outlines 1/4" sheet
Leave space to suit model engine cylinder
1/4" square
1/4" sheet
1/4" square
Open for stab.
3/32" sheet fill - both sides. Cut-outs for pushrods to suit
Control horn
Stab. strut location
Rigging point
Allow gap
Bind tailskid to plate with copper wire & epoxy
Dummy leaf spring 3/32" ply - 1/4" wide
Thread bindings
Tailskid 3/32" music wire
Pin to center section
Drill holes for bindings
Slot for skid
(6) Tailskid plate 1/8" ply. epoxy in place
(7) Cabin gusset 1/8" balsa 2 req'd. epoxy in place
F-1 3/16" dural
Exhaust collector ring 3/16" o.d. brass tube
Make in two pieces - join here with telescoping insert & solder
Exhaust pipe (8) soldered in place
(8) Exhaust pipe 3/16" o.d. brass tube
Wrap with paper
1/8" setscrew collar
1/4" sheet
1/8" sheet
1/4" sheet
Shock strut fairing 2 req'd. Make around main landing gear strut. Use silicon "tub-seal" to glue balsa to wire. "Tite-bond" balsa to balsa
Front L.G. 3/32" music wire
Bind with copper wire & solder
Rear L.G. 3/32" music wire
Front L.G. fairing 3/32" x 1/2" balsa (2 req'd)
Rear L.G. fairing 3/32" x 1/2" balsa (2 req'd)
All material balsa unless otherwise noted
(1) Fuselage baseplate 1/4" sheet cut true and square
Color scheme: orange with black struts and silver nose & spinner
(3) Fuselage former 1/4" sheet
(4) "Instrument panel" former 1/4" sheet
30°
Windshield .030 celluloid/butyrate approximate pattern only. First make paper pattern & determine actual outline by cut & fit method.
66" span. near scale, sport monoplane - for engines .30 to .60 cu. in. Scale 2 1/2" = 1'-0"
Designed & built: Jack de Vries
Drawn: Dick Zasadny
1929 VELIE MONOCOUPE