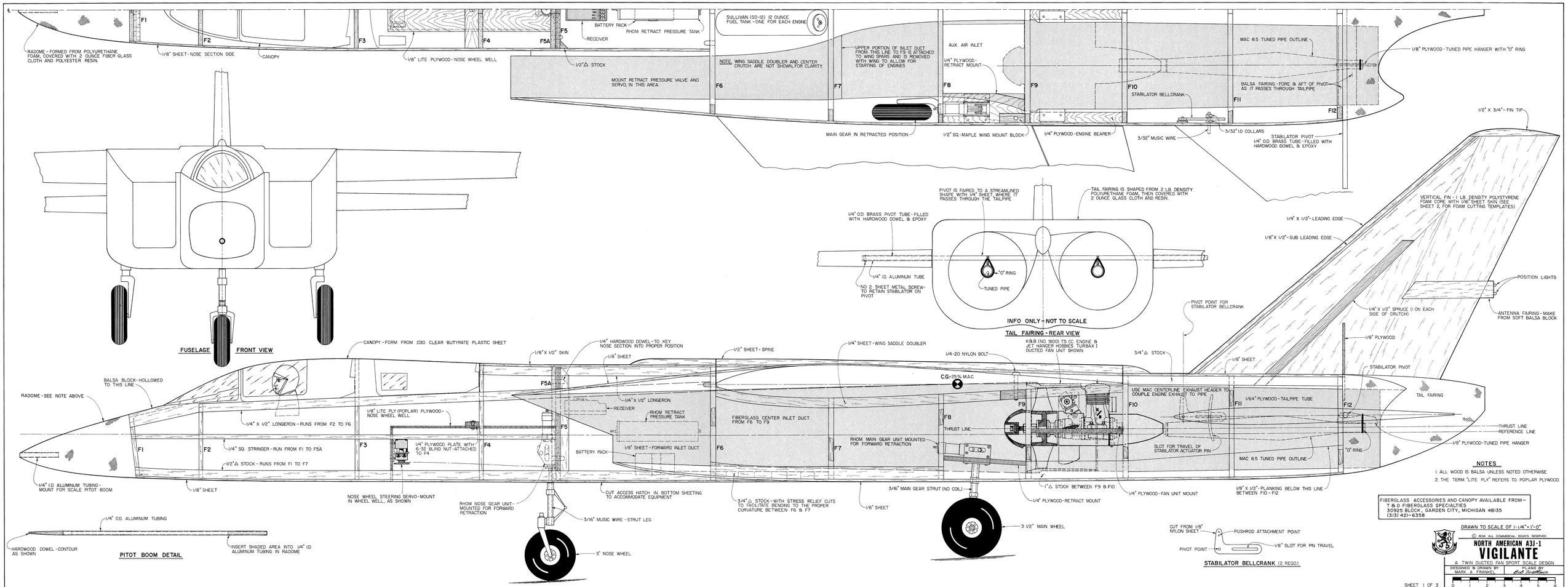
RADOME - FORMED FROM POLYURETHANE FOAM, COVERED WITH 2 OUNCE FIBER GLASS CLOTH AND POLYESTER RESIN
1/8" SHEET - NOSE SECTION SIDE
CANOPY
1/8" LITE PLYWOOD - NOSE WHEEL WELL
BATTERY PACK
RECEIVER
RHOM RETRACT PRESSURE TANK
1/2"△ STOCK
MOUNT RETRACT PRESSURE VALVE AND SERVO, IN THIS AREA
SULLIVAN (SO-12) 12 OUNCE FUEL TANK - ONE FOR EACH ENGINE
NOTE: WING SADDLE DOUBLER AND CENTER CRUTCH ARE NOT SHOWN, FOR CLARITY
UPPER PORTION OF INLET DUCT FROM THIS LINE TO F9 IS ATTACHED TO WING SPARS AND IS REMOVED WITH WING TO ALLOW FOR STARTING OF ENGINES
AUX. AIR INLET
1/4" PLYWOOD - RETRACT MOUNT
MAC 8.5 TUNED PIPE OUTLINE
1/8" PLYWOOD - TUNED PIPE HANGER WITH "O" RING
BALSA FAIRING - FORE & AFT OF PIVOT AS IT PASSES THROUGH TAILPIPE
STABILATOR BELLCRANK
MAIN GEAR IN RETRACTED POSITION
1/2" SQ - MAPLE WING MOUNT BLOCK
1/4" PLYWOOD - ENGINE BEARER
3/32" MUSIC WIRE
3/32" ID COLLARS
STABILATOR PIVOT
1/4" O.D. BRASS TUBE - FILLED WITH HARDWOOD DOWEL & EPOXY
1/2" X 3/4" - FIN TIP
F1
F2
F3
F4
F5
F5A
F6
F7
F8
F9
F10
F11
F12
FUSELAGE FRONT VIEW
PIVOT IS FAIRED TO A STREAMLINED SHAPE WITH 1/4" SHEET, WHERE IT PASSES THROUGH THE TAILPIPE
TAIL FAIRING IS SHAPED FROM 2 LB. DENSITY POLYURETHANE FOAM, THEN COVERED WITH 2 OUNCE GLASS CLOTH AND RESIN.
1/4" O.D. BRASS PIVOT TUBE - FILLED WITH HARDWOOD DOWEL & EPOXY
1/4" I.D. ALUMINUM TUBE
NO 2 SHEET METAL SCREW - TO RETAIN STABILATOR ON PIVOT
"O" RING
TUNED PIPE
INFO ONLY - NOT TO SCALE
TAIL FAIRING - REAR VIEW
VERTICAL FIN - 1 LB. DENSITY POLYSTYRENE FOAM CORE WITH 1/16" SHEET SKIN (SEE SHEET 2, FOR FOAM CUTTING TEMPLATES)
1/4" X 1/2" - LEADING EDGE
1/8" X 1/2" - SUB LEADING EDGE
POSITION LIGHTS
ANTENNA FAIRING - MAKE FROM SOFT BALSA BLOCK
1/4" X 1/2" SPRUCE (1 ON EACH SIDE OF CRUTCH)
PIVOT POINT FOR STABILATOR BELLCRANK
1/8" PLYWOOD
STABILATOR PIVOT
TAIL FAIRING
CANOPY - FORM FROM .030 CLEAR BUTYRATE PLASTIC SHEET
1/8" X 1/2" SKIN
1/4" HARDWOOD DOWEL - TO KEY NOSE SECTION INTO PROPER POSITION
1/8" SHEET
1/2" SHEET - SPINE
1/4" SHEET - WING SADDLE DOUBLER
1/4-20 NYLON BOLT
K&B (NO. 9100) 75 CC ENGINE & JET HANGER HOBBIES TURBAX 1 DUCTED FAN UNIT SHOWN
3/4"△ STOCK
C.G. - 25% M.A.C.
BALSA BLOCK - HOLLOWED TO THIS LINE
RADOME - SEE NOTE ABOVE
1/4" X 1/2" LONGERON
1/4" X 1/2" LONGERON - RUNS FROM F2 TO F6
1/8" LITE PLY (POPLAR) PLYWOOD - NOSE WHEEL WELL
RECEIVER
RHOM RETRACT PRESSURE TANK
FIBERGLASS CENTER INLET DUCT FROM F6 TO F9
THRUST LINE
RHOM MAIN GEAR UNIT MOUNTED FOR FORWARD RETRACTION
USE MAC CENTERLINE EXHAUST HEADER TO COUPLE ENGINE EXHAUST TO PIPE
1/64" PLYWOOD - TAILPIPE TUBE
SLOT FOR TRAVEL OF STABILATOR ACTUATOR PIN
MAC 8.5 TUNED PIPE OUTLINE
"O" RING
THRUST LINE REFERENCE LINE
1/8" PLYWOOD - TUNED PIPE HANGER
1/4" SQ. STRINGER - RUN FROM F1 TO F5A
1/2"△ STOCK - RUNS FROM F1 TO F7
1/4" PLYWOOD PLATE WITH 6-32 BLIND NUT - ATTACHED TO F4
BATTERY PACK
1/8" SHEET - FORWARD INLET DUCT
1/4" I.D. ALUMINUM TUBING - MOUNT FOR SCALE PITOT BOOM
1/8" SHEET
NOSE WHEEL STEERING SERVO - MOUNT IN WHEEL WELL, AS SHOWN
RHOM NOSE GEAR UNIT - MOUNTED FOR FORWARD RETRACTION
CUT ACCESS HATCH IN BOTTOM SHEETING TO ACCOMMODATE EQUIPMENT
3/4"△ STOCK - WITH STRESS RELIEF CUTS TO FACILITATE BENDING TO THE PROPER CURVATURE BETWEEN F6 & F7
3/16" MAIN GEAR STRUT (NO COIL)
1/8" SHEET
1"△ STOCK BETWEEN F9 & F10
1/4" PLYWOOD - RETRACT MOUNT
1/4" PLYWOOD - FAN UNIT MOUNT
1/8" X 1/2" - PLANKING BELOW THIS LINE BETWEEN F10 - F12
3/16" MUSIC WIRE - STRUT LEG
3 1/2" MAIN WHEEL
3" NOSE WHEEL
1/4" O.D. ALUMINUM TUBING
HARDWOOD DOWEL - CONTOUR AS SHOWN
INSERT SHADED AREA INTO 1/4" I.D. ALUMINUM TUBING IN RADOME
PITOT BOOM DETAIL
CUT FROM 1/8" NYLON SHEET
PUSHROD ATTACHMENT POINT
PIVOT POINT
1/8" SLOT FOR PIN TRAVEL
STABILATOR BELLCRANK (2 REQD)
NOTES
1. ALL WOOD IS BALSA UNLESS NOTED OTHERWISE.
2. THE TERM "LITE PLY" REFERS TO POPLAR PLYWOOD
FIBERGLASS ACCESSORIES AND CANOPY AVAILABLE FROM—
T & D FIBERGLASS SPECIALTIES
30925 BLOCK, GARDEN CITY, MICHIGAN 48135
(313) 421-6358
DRAWN TO SCALE OF 1-1/4" = 1'-0"
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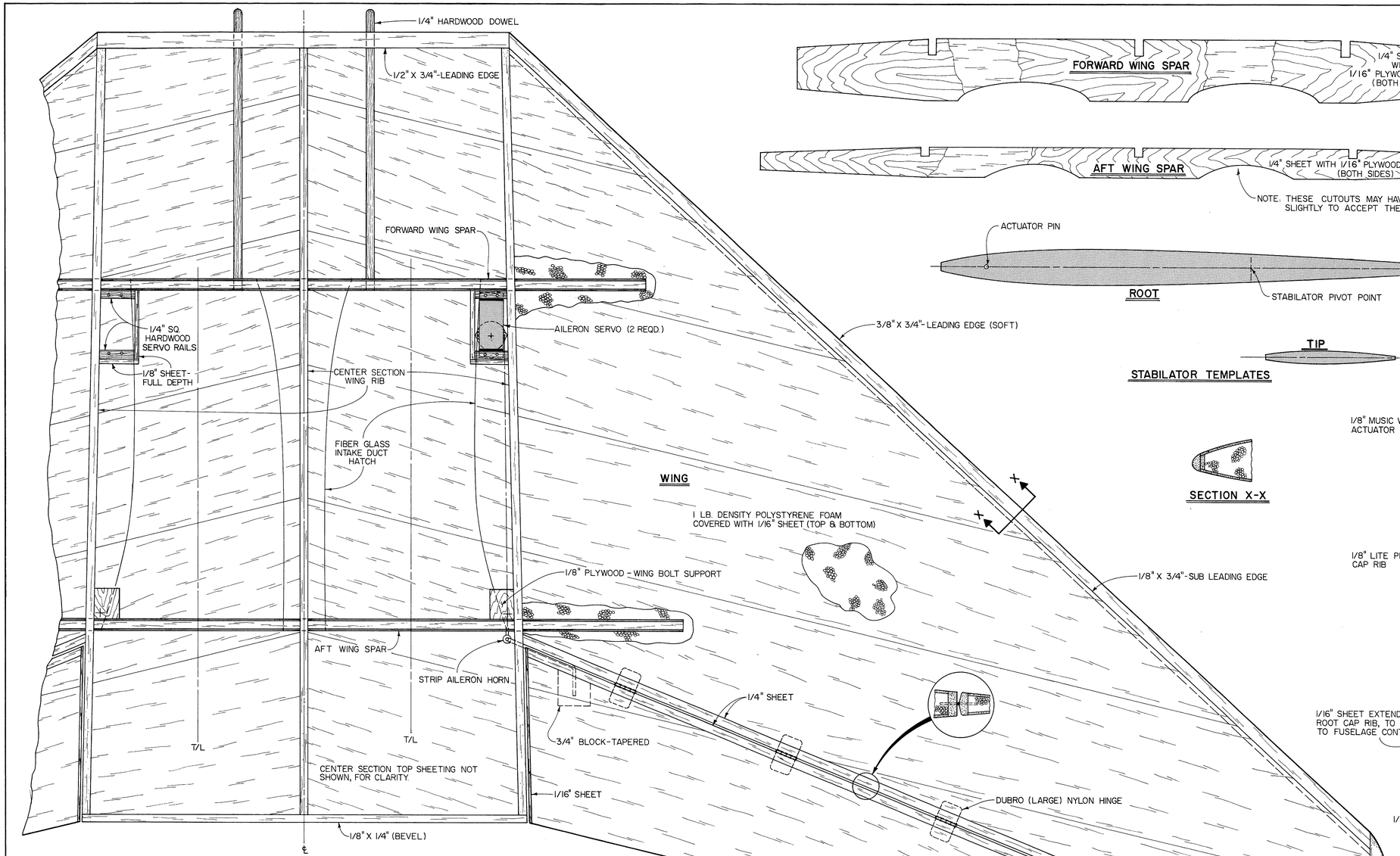
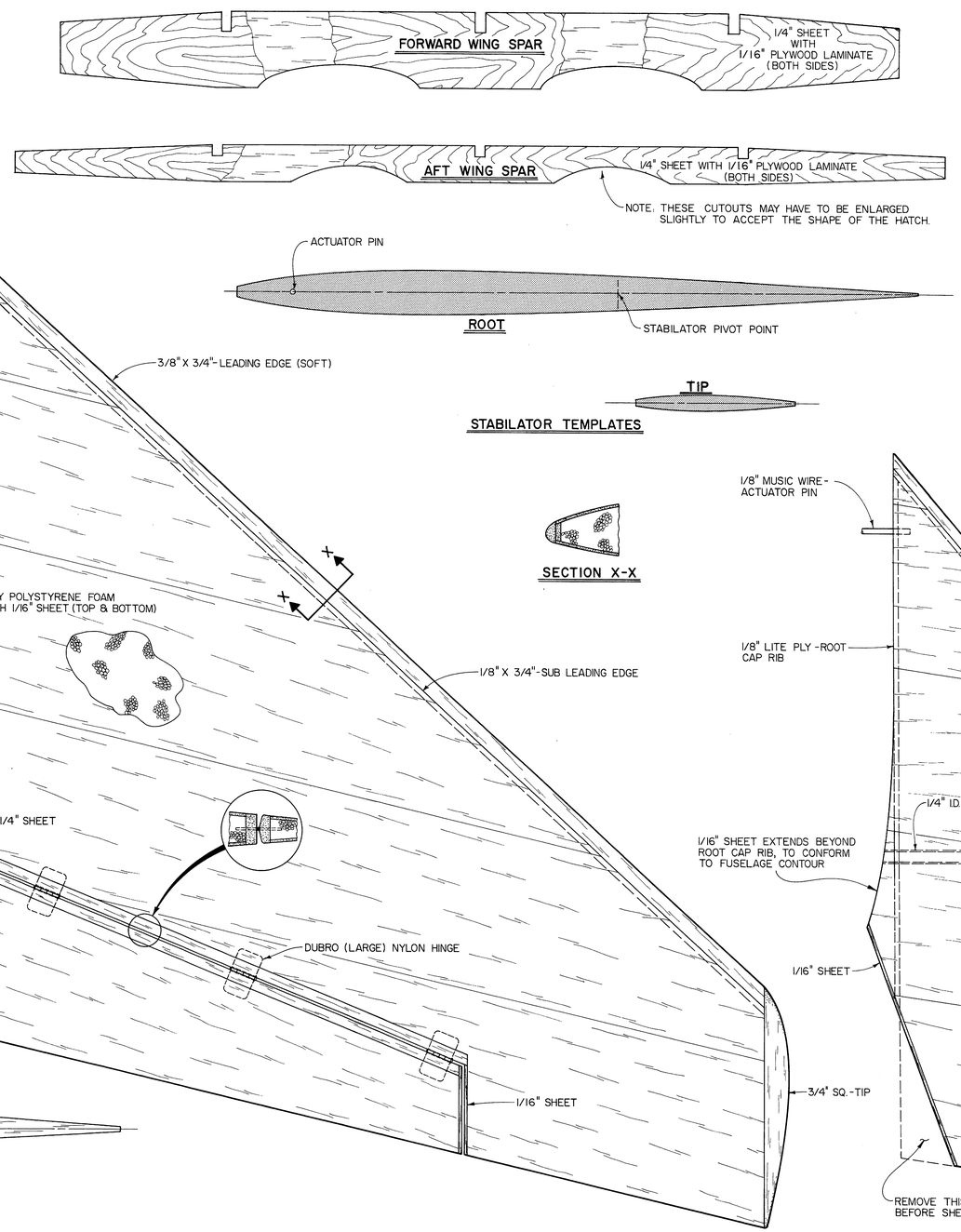
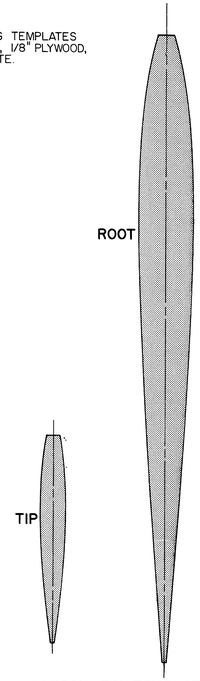
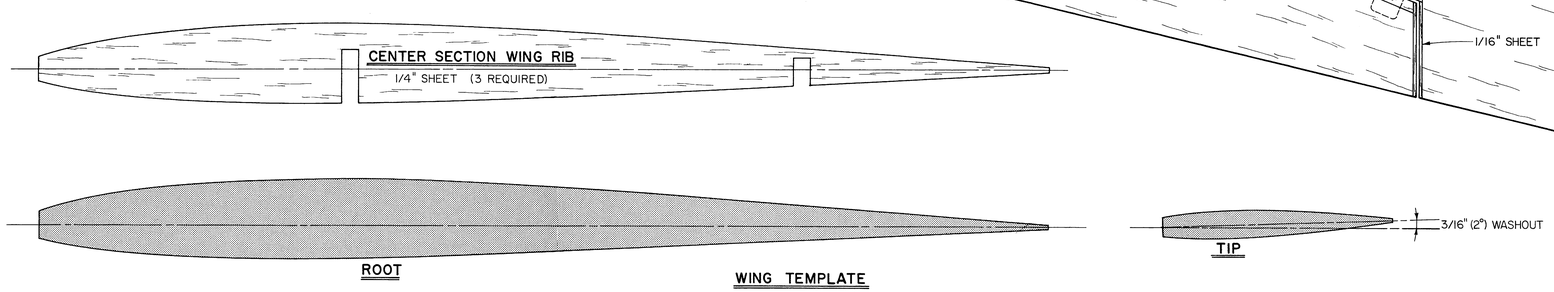
NORTH AMERICAN A3J-1
VIGILANTE
A TWIN DUCTED FAN SPORT SCALE DESIGN
DESIGNED & DRAWN BY MARK A. FRANKEL
PLANS BY Rod Gustafson
0 1 2 3 4 5 6
SHEET 1 OF 3
PLAN NO. 902③





NOTE: MAKE FOAM CUTTING TEMPLATES FROM 1/25" ALUMINUM, 1/8" PLYWOOD, OR PLASTIC LAMINATE.





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NORTH AMERICAN A3J-1 VIGILANTE

A TWIN DUCTED FAN SPORT SCALE DESIGN

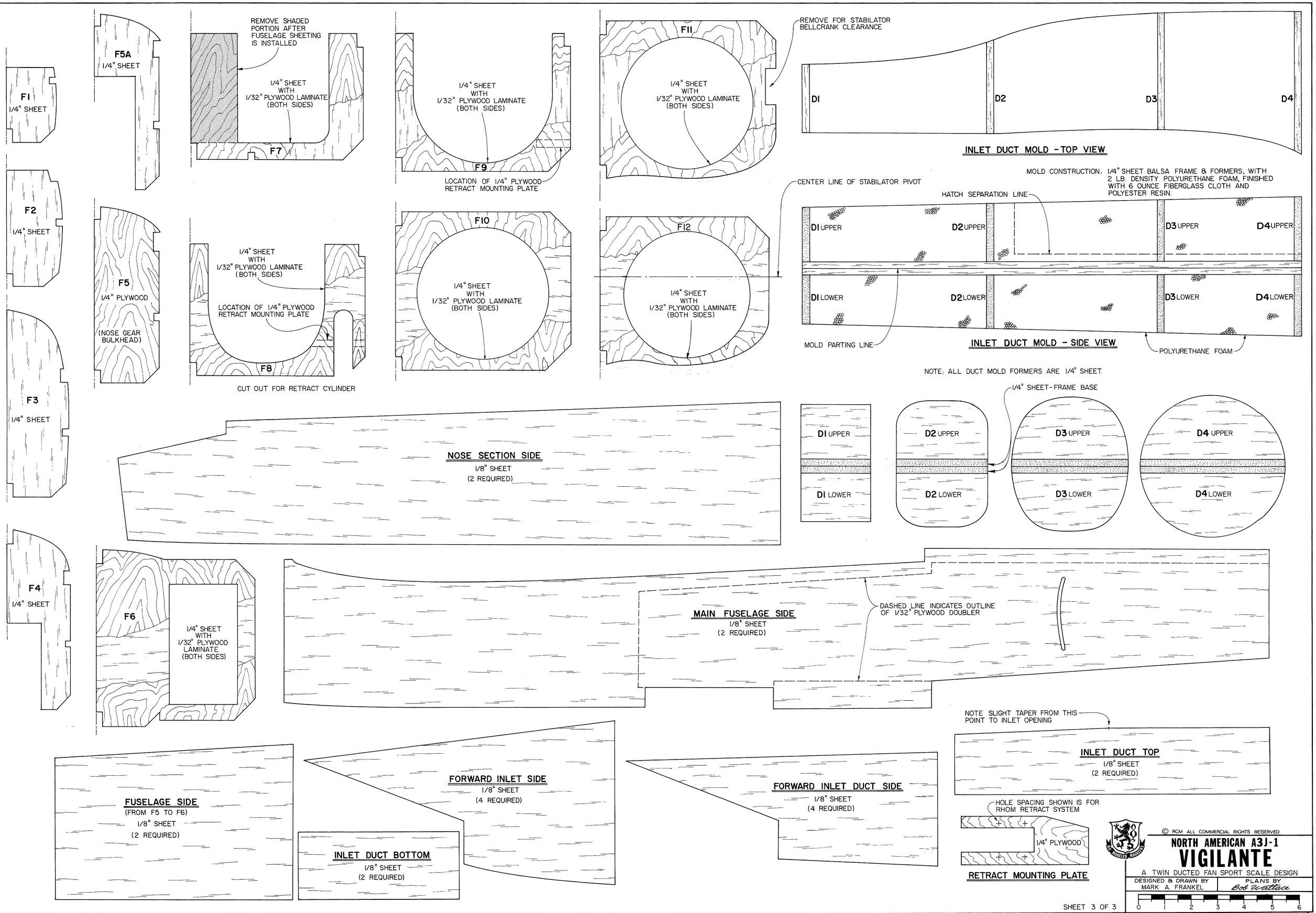
DESIGNED & DRAWN BY MARK A. FRANKEL

PLANS BY Bob Wallace

0 1 2 3 4 5 6

SHEET 2 OF 3

PLAN NO. 902③


F1
1/4" SHEET
F2
1/4" SHEET
F3
1/4" SHEET
F4
1/4" SHEET
F5A
1/4" SHEET
F5
1/4" PLYWOOD
(NOSE GEAR BULKHEAD)
REMOVE SHADED PORTION AFTER FUSELAGE SHEETING IS INSTALLED
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
F7
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
F8
CUT OUT FOR RETRACT CYLINDER
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
F9
LOCATION OF 1/4" PLYWOOD RETRACT MOUNTING PLATE
F10
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
F11
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
REMOVE FOR STABILATOR BELLCRANK CLEARANCE
F12
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
CENTER LINE OF STABILATOR PIVOT
D1
D2
D3
D4
INLET DUCT MOLD - TOP VIEW
MOLD CONSTRUCTION: 1/4" SHEET BALSA FRAME & FORMERS, WITH 2 LB. DENSITY POLYURETHANE FOAM, FINISHED WITH 6 OUNCE FIBERGLASS CLOTH AND POLYESTER RESIN.
HATCH SEPARATION LINE
D1 UPPER
D2 UPPER
D3 UPPER
D4 UPPER
D1 LOWER
D2 LOWER
D3 LOWER
D4 LOWER
MOLD PARTING LINE
INLET DUCT MOLD - SIDE VIEW
POLYURETHANE FOAM
NOTE: ALL DUCT MOLD FORMERS ARE 1/4" SHEET.
1/4" SHEET-FRAME BASE
D1 UPPER
D2 UPPER
D3 UPPER
D4 UPPER
D1 LOWER
D2 LOWER
D3 LOWER
D4 LOWER
NOSE SECTION SIDE
1/8" SHEET
(2 REQUIRED)
F6
1/4" SHEET WITH 1/32" PLYWOOD LAMINATE (BOTH SIDES)
MAIN FUSELAGE SIDE
1/8" SHEET
(2 REQUIRED)
DASHED LINE INDICATES OUTLINE OF 1/32" PLYWOOD DOUBLER
NOTE SLIGHT TAPER FROM THIS POINT TO INLET OPENING
INLET DUCT TOP
1/8" SHEET
(2 REQUIRED)
FUSELAGE SIDE
(FROM F5 TO F6)
1/8" SHEET
(2 REQUIRED)
FORWARD INLET SIDE
1/8" SHEET
(4 REQUIRED)
FORWARD INLET DUCT SIDE
1/8" SHEET
(4 REQUIRED)
INLET DUCT BOTTOM
1/8" SHEET
(2 REQUIRED)
HOLE SPACING SHOWN IS FOR RHOM RETRACT SYSTEM
1/4" PLYWOOD
RETRACT MOUNTING PLATE
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0 1 2 3 4 5 6
SHEET 3 OF 3
PLAN NO. 902 3