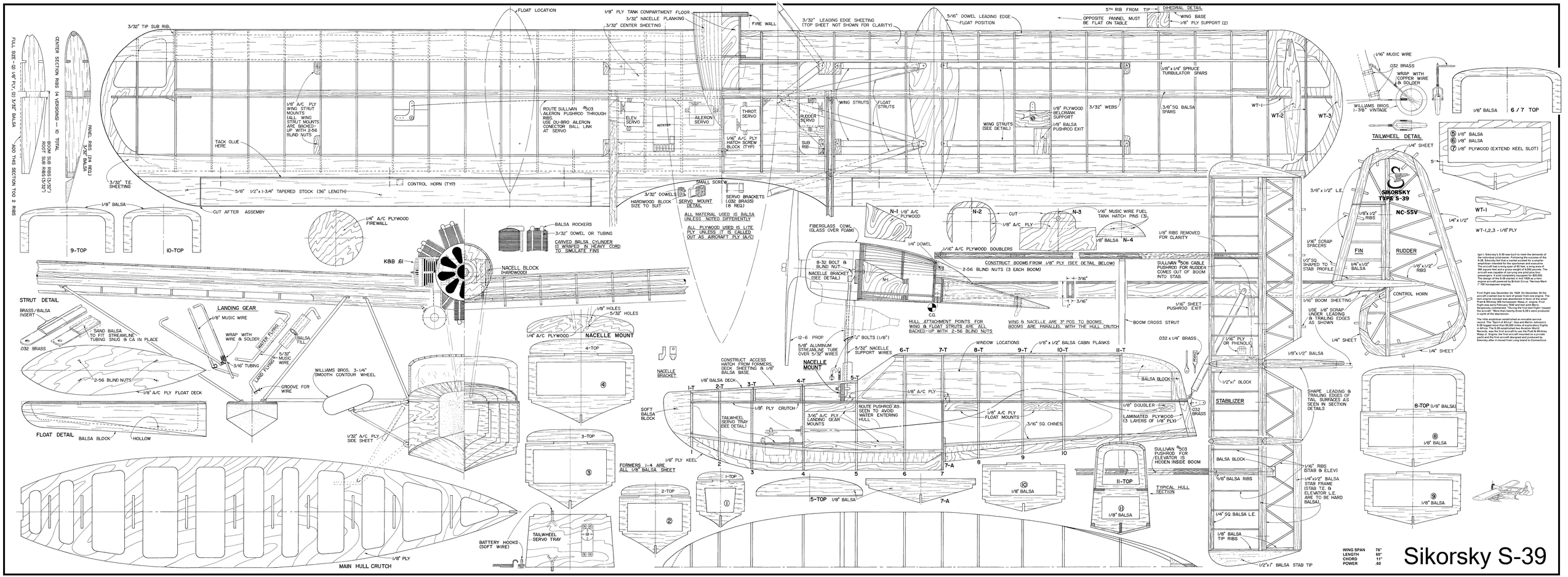
FULL SIZE – (2) 1/8" PLY, (2) 3/32" BALSA
ADD THIS SECTION TOO 2 RIBS
CENTER SECTION RIBS (4 VERSIONS – NO TOTAL)
ROOT SUB RIBS (3/32")
SUB RIBS (3/32")
PANEL RIBS (AS REQ.)
3/32" TIP SUB RIB
FLOAT LOCATION
1/8" PLY TANK COMPARTMENT FLOOR
3/32" NACELLE PLANKING
3/32" CENTER SHEETING
FIRE WALL
3/32" LEADING EDGE SHEETING (TOP SHEET NOT SHOWN FOR CLARITY)
5/16" DOWEL LEADING EDGE
FLOAT POSITION
OPPOSITE PANNEL MUST BE FLAT ON TABLE
5TH RIB FROM TIP
DIHEDRAL DETAIL
WING BASE
1/8" PLY SUPPORT (2)
1/8" A/C PLY WING STRUT MOUNTS (ALL WING STRUT MOUNTS ARE BACKED-UP WITH 2-56 BLIND NUTS
ROUTE SULLIVAN #503 AILERON PUSHROD THROUGH RIBS USE DU-BRO AILERON CONECTOR BALL LINK AT SERVO
ELEV. SERVO
RECEIVER
AILERON SERVO
THROT. SERVO
1/16" A/C PLY HATCH SCREW BLOCK (TYP)
RUDDER SERVO
SUB RIB
WING STRUTS
FLOAT STRUTS
WING STRUTS (SEE DETAIL)
1/8" PLYWOOD BELCRANK SUPPORT
1/8" BALSA PUSHROD EXIT
3/32" WEBS
1/8" x 1/4" SPRUCE TURBULATOR SPARS
3/8" SQ. BALSA SPARS
WT-1
WT-2
WT-3
TACK GLUE HERE
3/32" T.E. SHEETING
5/8" 1/2" x 1-3/4" TAPERED STOCK (36" LENGTH)
CONTROL HORN (TYP)
3/32" DOWELS
SMALL SCREW
SERVO MOUNT DETAIL
HARDWOOD BLOCK SIZE TO SUIT
SERVO BRACKETS (.032 BRASS) (8 REQ)
ALL MATERIAL USED IS BALSA UNLESS NOTED OTHERWISE
ALL PLYWOOD USED IS LITE PLY UNLESS IT IS CALLED OUT AS AIRCRAFT PLY (A/C)
CUT AFTER ASSEMBY
1/8" BALSA
9-TOP
10-TOP
1/4" A/C PLYWOOD FIREWALL
BALSA ROCKERS
3/32" DOWEL OR TUBING
CARVED BALSA CYLINDER IS WRAPED IN HEAVY CORD TO SIMULATE FINS
K&B .61
NACELL BLOCK (HARDWOOD)
STRUT DETAIL
BRASS/BALSA INSERT
.032 BRASS
SAND BALSA TO FIT STREAMLINE TUBING SNUG & CA IN PLACE
LANDING GEAR
1/8" MUSIC WIRE
WRAP WITH WIRE & SOLDER
WATER FLING
BALSA FILL
5/32" MUSIC WIRE
3/16" TUBING
LAND FLING
2-56 BLIND NUTS
1/8" A/C PLY FLOAT DECK
GROOVE FOR WIRE
WILLIAMS BROS. 3-1/4" SMOOTH CONTOUR WHEEL
FLOAT DETAIL
BALSA BLOCK
HOLLOW
1/32" A/C PLY SIDE SHEET
1/8" HOLES 5/32" HOLES
1/4" A/C PLYWOOD
NACELLE MOUNT
4-TOP
4
NACELLE BRACKET
3-TOP
3
FORMERS 1-4 ARE ALL 1/8" BALSA SHEET
2-TOP
2
1-TOP
1
1/8" PLY KEEL
MAIN HULL CRUTCH
1/8" PLY
BATTERY HOOKS (SOFT WIRE)
TAILWHEEL SERVO TRAY
N-1 1/8" A/C PLYWOOD
N-2
N-3
N-4
CUT
1/8" A/C PLY
1/16" MUSIC WIRE FUEL TANK HATCH PINS (3)
1/8" BALSA
1/8" RIBS REMOVED FOR CLARITY
FIBERGLASS COWL (GLASS OVER FOAM)
1/4" DOWEL
1/16" A/C PLYWOOD DOUBLERS
CONSTRUCT BOOMS FROM 1/8" PLY (SEE DETAIL BELOW)
2-56 BLIND NUTS (3 EACH BOOM)
SULLIVAN #508 CABLE PUSHROD FOR RUDDER COMES OUT OF BOOM INTO STAB
8-32 BOLT & BLIND NUT
NACELLE BRACKET (SEE DETAIL)
7/16"
3/16"
C.G.
HULL ATTACHMENT POINTS FOR WING & FLOAT STRUTS ARE ALL BACKED-UP WITH 2-56 BLIND NUTS
WING & NACELLE ARE 3" POS. TO BOOMS BOOMS ARE PARALLEL WITH THE HULL CRUTCH
1/16" SHEET PUSHROD EXIT
BOOM CROSS STRUT
12-6 PROP
5/8" ALUMINUM STREAMLINE TUBE OVER 5/32" WIRES
1/4" BOLTS (1/8")
5/32" NACELLE SUPPORT WIRES
NACELLE MOUNT
WINDOW LOCATIONS
1/8" x 1/2" BALSA CABIN PLANKS
.032 x 1/4" BRASS
1/16" PLY OR PHENOLIC
CONSTRUCT ACCESS HATCH FROM FORMERS, DECK SHEETING & 1/8" BALSA BASE
1/8" BALSA DECK
1-T
2-T
3-T
4-T
5-T
6-T
7-T
8-T
9-T
10-T
11-T
1/8" A/C PLY
BALSA BLOCK
SOFT BALSA BLOCK
TAILWHEEL SERVO TRAY (SEE DETAIL)
1/8" PLY CRUTCH
3/16" A/C PLY LANDING GEAR MOUNTS
ROUTE PUSHROD AS SEEN TO AVOID WATER ENTERING HULL
1/8" A/C PLY FLOAT MOUNTS
3/16" SQ. CHINES
1/8" DOUBLER
LAMINATED PLYWOOD (3 LAYERS OF 1/8" PLY)
.032 BRASS
1/2"x1" BLOCK
STABILIZER
SHAPE LEADING & TRAILING EDGES OF TAIL SURFACES AS SEEN IN SECTION DETAILS
1/8" BALSA BLOCK
1/8" BALSA RIBS
1/4" SQ. BALSA L.E.
1/8" BALSA TIP RIBS
1/2"x1" BALSA STAB TIP
1/8" RIBS (STAB & ELEV)
1/4"x1/2" BALSA STAB FRAME (STAB T.E. & ELEVATOR L.E. ARE TO BE HARD BALSA)
SULLIVAN #503 PUSHROD FOR ELEVATOR IS HIDDEN INSIDE BOOM
TYPICAL HULL SECTION
5-TOP 1/8" BALSA
7-A
10
1/8" BALSA
11-TOP
11
1/8" BALSA
1/16" MUSIC WIRE
.032 BRASS
WRAP WITH COPPER WIRE & SOLDER
WILLIAMS BROS. 1-7/8" VINTAGE
1/8" BALSA 6 / 7 TOP
TAILWHEEL DETAIL
1/4" SHEET
5
3/8" x 1/2" L.E.
SIKORSKY TYPE S-39
NC-55V
1/8" x 1/2" RIBS
1/8" x 1/2"
WT-1
WT-1,2,3 - 1/8" PLY
1/16" SCRAP SPACERS
FIN
RUDDER
1/2" SQ. SHAPED TO STAB PROFILE
1/4" x 1/2" BALSA
1/8" x 1/2" RIBS
1/16" BOOM SHEETING
USE 1/8" SCRAP UNDER LEADING & TRAILING EDGES AS SHOWN
CONTROL HORN
1/4" SHEET
1/8" x 1/2" BALSA
1/4" SHEET
5 1/8" BALSA
6 1/8" BALSA
7 1/8" PLYWOOD (EXTEND KEEL SLOT)
8-TOP (1/8" BALSA)
8
1/8" BALSA
9
1/8" BALSA
Igor I. Sikorsky's S-39 was built to meet the demands of the individual pilot-owner. Following the success of the S-38 series, the S-39 was a smaller version of the amphibian intended for the sportsman and executive. The aircraft had a wing span of 52 feet, a wing area of 1,000 square feet and a gross weight of 4,000 pounds. The aircraft was capable of carrying one pilot plus four passengers. It sold completely equipped for $23,000. The S-39 was powered by a Pratt & Whitney R-1690 engine aircraft powered by British Cirrus "Hermes Mark I" 100 horsepower engines.
First flight was December 24, 1928. On December 30 the aircraft was flown to Roosevelt Field where it was found the twin engine concept was abandoned in favor of the small Pratt & Whitney 300 horsepower Wasp Jr. engine. First flight was made on January 4 with Lieutenant Boris Sergievsky commented, "During the first level flight I keyed the aircraft." More than twenty-three S-39's were produced in spite of the depression.
The little amphibian established an enviable service record. Flying the Pan American Airways route in Alaska S-39 logged more than 80,000 miles of exploratory flights in Africa. The S-39 established two Aviation World Records. Flying the first Lockheed Vega Pratt & Whitney engine, Sergievsky set a cross-country record. A Rhodes yacht and the first aircraft designed and produced by Sikorsky after it moved from Long Island to Connecticut.
WING SPAN 76"
LENGTH 50"
CHORD 11"
POWER .50
Sikorsky S-39