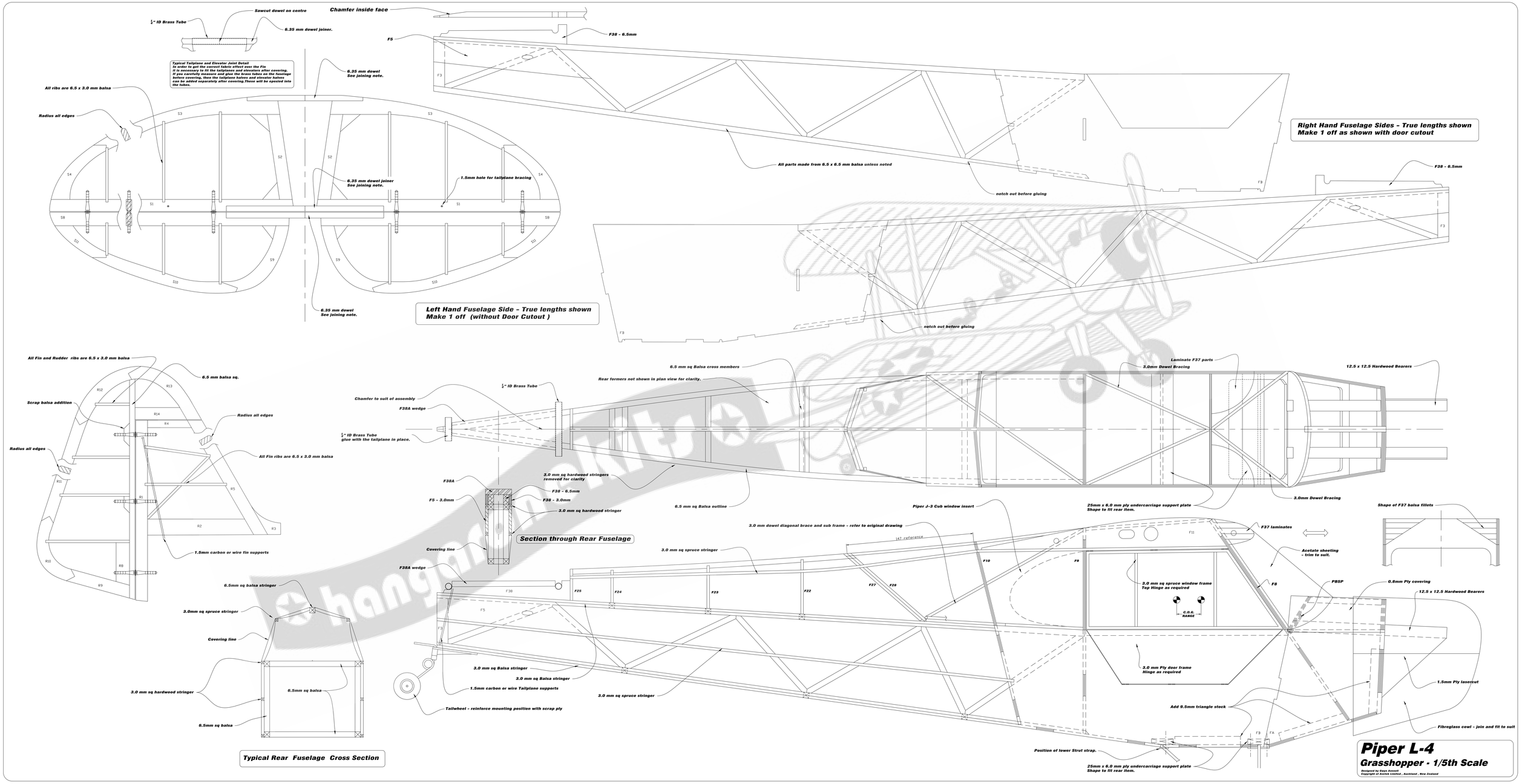
Sawcut dowel on centre
Chamfer inside face
¼" ID Brass Tube
6.35 mm dowel joiner.
F5
F38 - 6.5mm
Typical Tailplane and Elevator Joint Detail
Tailplane and Elevator halves are joined after the Fin
It is necessary to fit the tailplane and elevators after covering.
If you carefully measure and glue the brass tubes on the fuselage
before covering, then the tailplane halves and elevator halves
can be added separately after covering.These will be epoxied into
the tubes.
6.35 mm dowel
See joining note.
All ribs are 6.5 x 3.0 mm balsa
Radius all edges
6.35 mm dowel joiner
See joining note.
7.5mm hole for tailplane bracing
6.35 mm dowel
See joining note.
Left Hand Fuselage Side - True lengths shown
Make 1 off (without Door Cutout)
Right Hand Fuselage Sides - True lengths shown
Make 1 off as shown with door cutout
All parts made from 6.5 x 6.5 mm balsa unless noted
notch out before gluing
F38 - 6.5mm
notch out before gluing
All Fin and Rudder ribs are 6.5 x 3.0 mm balsa
6.5 mm balsa sq.
Scrap balsa addition
Radius all edges
Radius all edges
All Fin ribs are 6.5 x 3.0 mm balsa
1.5mm carbon or wire fin supports
6.5 mm sq Balsa cross members
Rear formers not shown in plan view for clarity.
¼" ID Brass Tube
Chamfer to suit of assembly
F38A wedge
¼" ID Brass Tube
glue with the tailplane in place.
3.0 mm sq hardwood stringers
removed for clarity
6.5 mm sq Balsa outline
Laminate F37 parts
3.0mm Dowel Bracing
12.5 x 12.5 Hardwood Bearers
3.0mm Dowel Bracing
25mm x 6.0 mm ply undercarriage support plate
Shape to fit rear item.
F38A
F38 - 6.5mm
F5 - 3.0mm
F38 - 3.0mm
3.0 mm sq hardwood stringer
Section through Rear Fuselage
Covering line
F38A wedge
Piper J-3 Cub window insert
3.0 mm dowel diagonal brace and sub frame - refer to original drawing
147 reference
3.0 mm sq spruce stringer
F37 laminates
Acetate sheeting
- trim to suit.
Shape of F37 balsa fillets
3.0 mm sq spruce window frame
Top Hinge as required
C.O.G.
RANGE
PBSP
0.8mm Ply covering
12.5 x 12.5 Hardwood Bearers
6.5mm sq balsa stringer
3.0mm sq spruce stringer
Covering line
3.0 mm sq hardwood stringer
6.5mm sq balsa
6.5mm sq balsa
Typical Rear Fuselage Cross Section
3.0 mm sq Balsa stringer
3.0 mm sq Balsa stringer
1.5mm carbon or wire Tailplane supports
Tailwheel - reinforce mounting position with scrap ply
3.0 mm sq spruce stringer
3.0 mm Ply door frame
Hinge as required
1.5mm Ply lasercut
Add 9.5mm triangle stock
Fibreglass cowl - join and fit to suit
Position of lower Strut strap.
25mm x 6.0 mm ply undercarriage support plate
Shape to fit rear item.
Piper L-4
Grasshopper - 1/5th Scale
Designed by Guys Avondi
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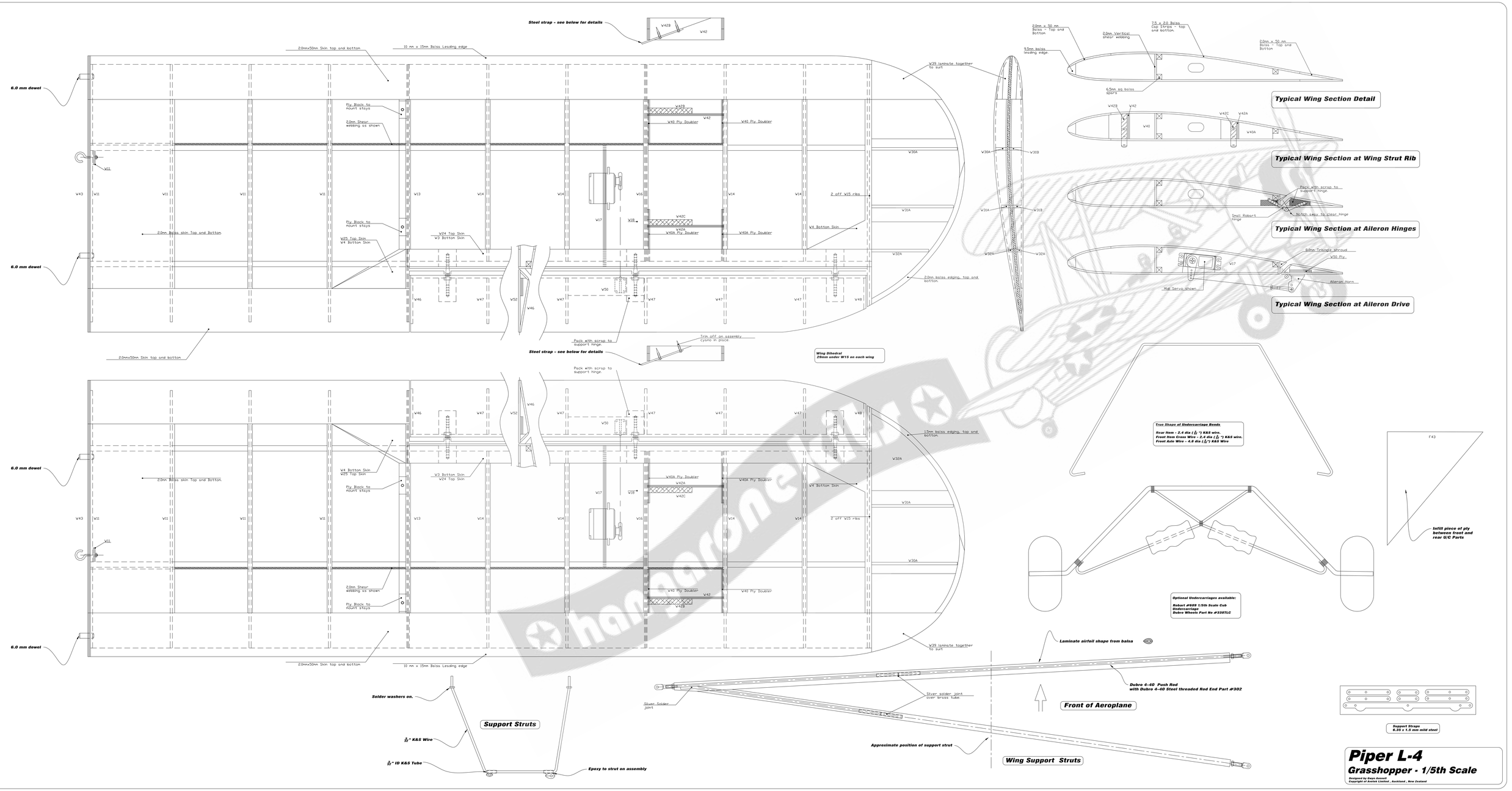
Steel strap - see below for details
W42B
W42
2.0mm x 50mm Skin top and bottom
10 mm x 15mm Balsa Leading edge
6.0 mm dowel
Ply Block to mount stays
2.0mm Shear webbing as shown
W40 Ply Doubler
W39 laminate together to suit
W30A
W30B
W31A
W31B
W32A
W32B
W11
W43
W13
W14
W16
W17
W18
W42C
W40A
W40A Ply Doubler
2 off W15 ribs
W4 Bottom Skin
2.0mm Balsa skin Top and Bottom
W25 Top Skin
W4 Bottom Skin
W24 Top Skin
W3 Bottom Skin
W46
W47
W48
W50
W52
2.0mm balsa edging, top and bottom
Pack with scrap to support hinge.
Trim off on assembly cyano in place
Wing Dihedral
29mm under W15 on each wing
15mm balsa edging, top and bottom
W39 laminate together to suit
2.0mm x 50 mm Balsa - Top and Bottom
9.5mm balsa leading edge
2.0mm Vertical shear webbing
7.5 x 2.0 Balsa Cap Strips - top and bottom.
6.5mm sq balsa spars
Typical Wing Section Detail
W40
W40A
Typical Wing Section at Wing Strut Rib
Small Robart hinge
Notch away to clear hinge
Typical Wing Section at Aileron Hinges
8.0mm Triangle shroud
W50 Ply.
W17
Aileron Horn
Mid Servo Shown
Typical Wing Section at Aileron Drive
True Shape of Undercarriage Bends
Rear Item - 2.4 dia (3/32") K&S wire.
Front Item Cross Wire - 2.4 dia (3/32") K&S wire.
Front Axle Wire - 4.8 dia (3/16") K&S Wire
F43
Infill piece of ply between front and rear U/C Parts
Optional Undercarriages available:
Robart #689 1/5th Scale Cub Undercarriage
Dubro Wheels Part No #338TLC
Laminate airfoil shape from balsa
Dubro 4-40 Push Rod with Dubro 4-40 Steel threaded Rod End Part #302
Front of Aeroplane
Silver solder joint over brass tube.
Silver Solder joint
Approximate position of support strut
Wing Support Struts
Solder washers on.
3/32" K&S Wire
3/16" ID K&S Tube
Epoxy to strut on assembly
Support Struts
Support Straps
6.35 x 1.5 mm mild steel
Piper L-4
Grasshopper - 1/5th Scale
Designed by Gwyn Arnold
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