

Section 75-ZA-6 B Bubble Door Installation



This manual has been prepared for installation of the Bubble Doors. This photo assembly manual is intended as a supplement to the drawings. If there is any discrepancy between this manual and the drawings, the drawings supersede this manual. For more information on building standards and allowable tolerances see "Construction Standards for Zenair Light Aircraft" available from Zenith Aircraft Co.



P/N: 75Z2-2
Front Rod



Install the Front Rod on the Interior Door Handle. Install a washer between the back of the Handle and the retaining cotter pin.



P/N: 75Z2-3
Center Latch

P/N: 75Z2-5
Center Latch
Bearing

Insert a screw through the Center Latch into the Center Latch Bearing to temporarily position the Center Latch Bearing. Insert the Front Rod into the Top hole of the Center Latch. Position the Center Latch Bearing on the Door against the top edge of the fiberglass support tube so the Center Latch's front edge is perpendicular to the Longeron.



Use a #12 drill bit to back drill through the Center Latch Bearing into the Door and cleco. Remove the Center Latch and back drill the hole through the center of the Bearing.



Countersink the EXTERIOR side of the Door for the holes to attach the Center Latch Bearing. Be careful not to countersink too deeply, the head of the screw should be flush with the Door.



P/N: RLS
Right Latch Spring

Or

P/N: LLS
Left Latch Spring

Install the Center Latch Bearing on the Door. The Latch Spring will be installed under the aft nut to retain it.



P/N: 75Z2-4
Center Latch Wear
Plate

Install the Center Latch with the Center Latch Wear Plate between the Center Latch and Center Latch Bearing.



The second arm of the Spring is retained by the Front Rod. Center punch the ends of the Rods. Use a 1/16" drill bit to drill the cotter pin retaining hole. Install a washer between the Spring and the Cotter Pin (not shown in the photo). Drill and install a Cotter Pin at the Interior Door Handle as well.



P/N: 75Z2-7
Rear Latch Pin
Guide

Draw a center line on the bottom flange of the Rear Latch Pin Guide. Mark hole location 10mm from each edge of the Guide. Use a #40 drill bit to drill the hole locations. Expand the holes to #12 in steps.



Position the Guide on the Door at the aft edge. The Guide should be installed at the start of the radius in the Door's fiberglass support tubes and against the tubes. Back drill through the Guide into the Door and cleco.



Mark the center of the radius, 10mm from the edge. Use a #40 drill bit to drill a hole on the mark. Expand the hole in steps to 3/16".



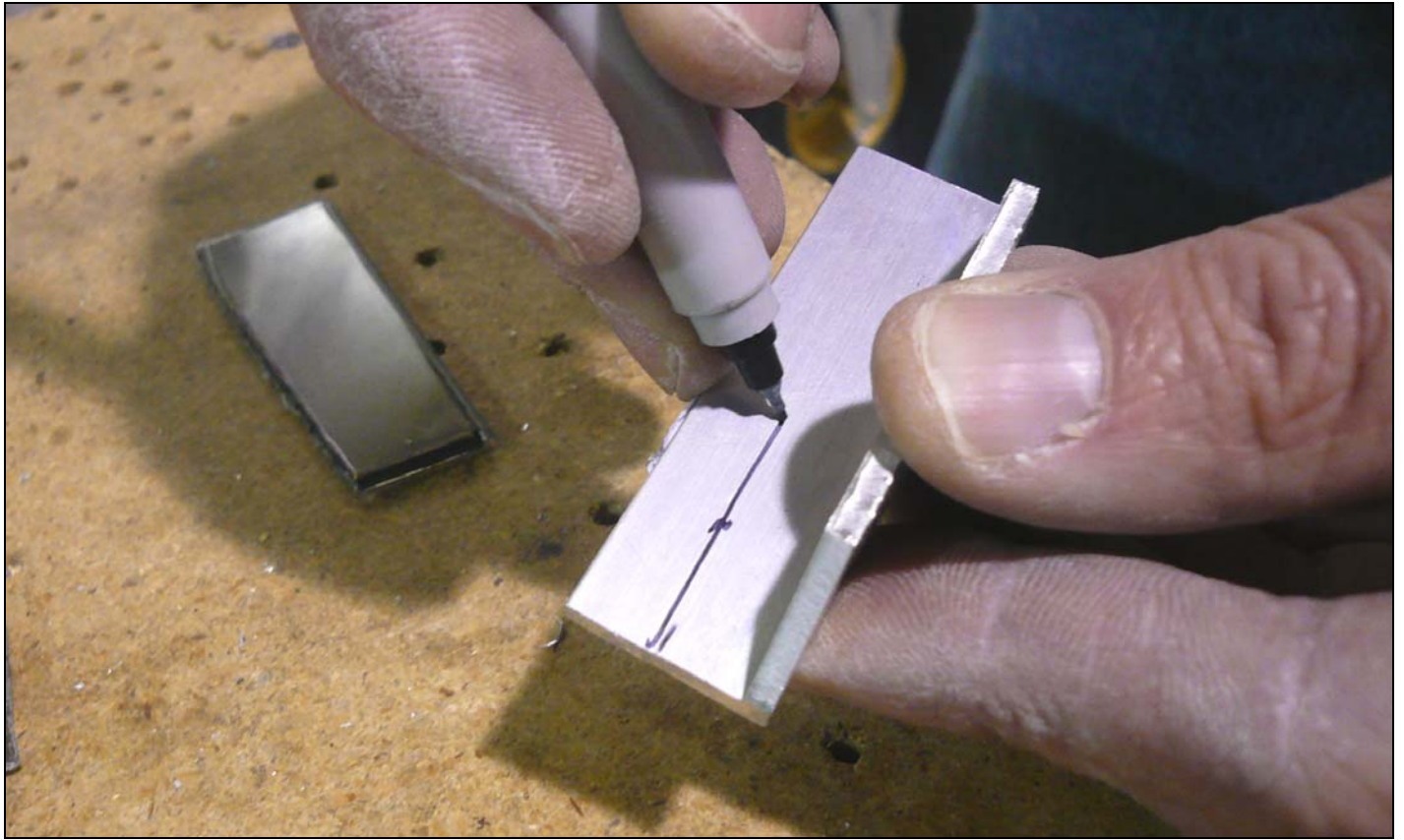
P/N: 75Z2-6
Rear Latch Pin



Attach the Rear Latch Pin to the Center Latch. Hold the Pin in line with the hole in the Guide. Gradually angle the drill to open the hole up on an angle until the drill is parallel with the Pin.



P/N: 75Z2-9
Rear Latch Pin
Angle



Draw a center line on the Rear Latch Pin Angle.



Cut a piece of scrap lexan from the remains of the Top Window the same size as the flange of the Rear Latch Pin Angle.



Mark the center line on the scrap lexan to match the center line of the Angle.



Line up the center line on the lexan with the holes in the Side Channel. Drill through the lexan to match the Side Channel.



Clamp the Lexan to the Angle. Back drill through the Lexan into the Angle and cleco.



De-burr the Angle and cleco it to the Side Channel. Rivet the Angle in place on the Side Channel.



P/N: 75Z2-8
Rear Latch Pin
Fairlead

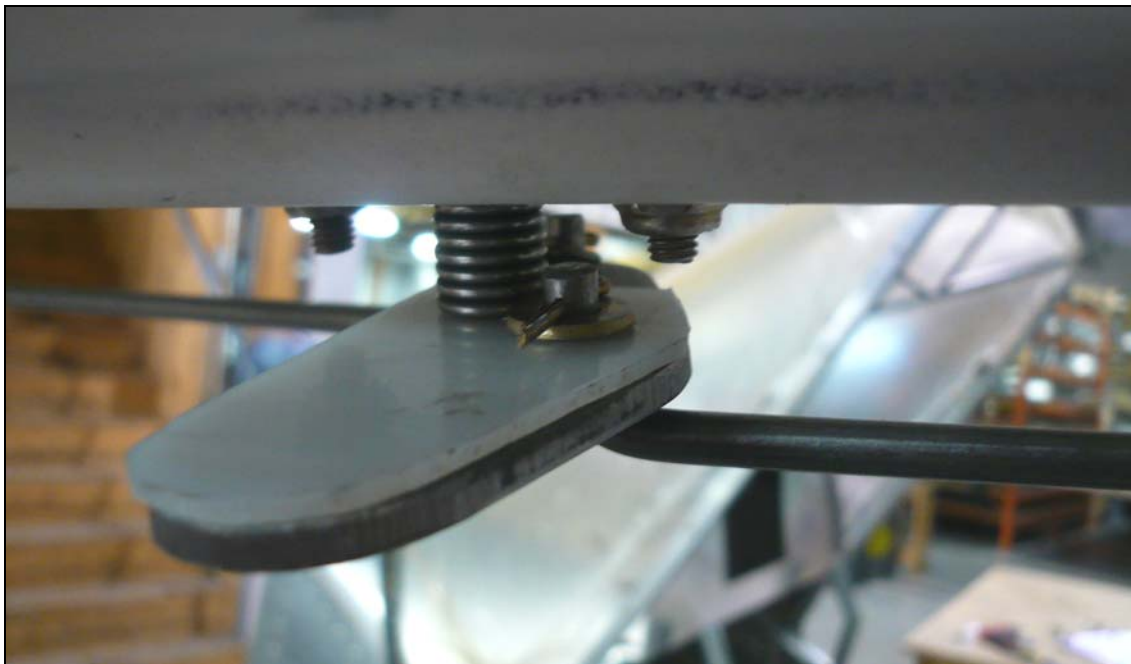
Mark the center line on the Fairlead. Layout two rivet locations 10mm from edge end of the Fairlead. Use a #40 drill bit to drill the rivet locations.



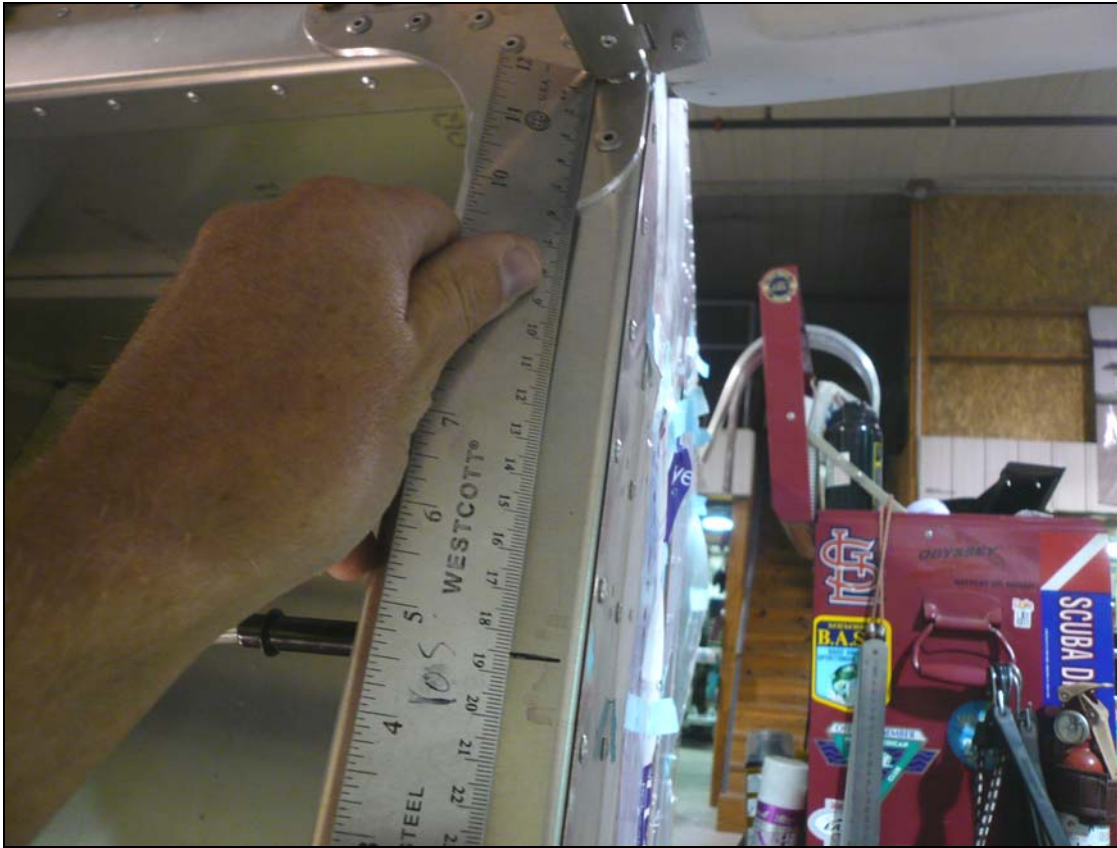
Clamp the Fairlead to the Angle. Back drill through the Fairlead into the Angle and cleco. Expand the holes with a #30 drill bit and cleco. Deburr the holes and rivet the Fairlead to the Angle.



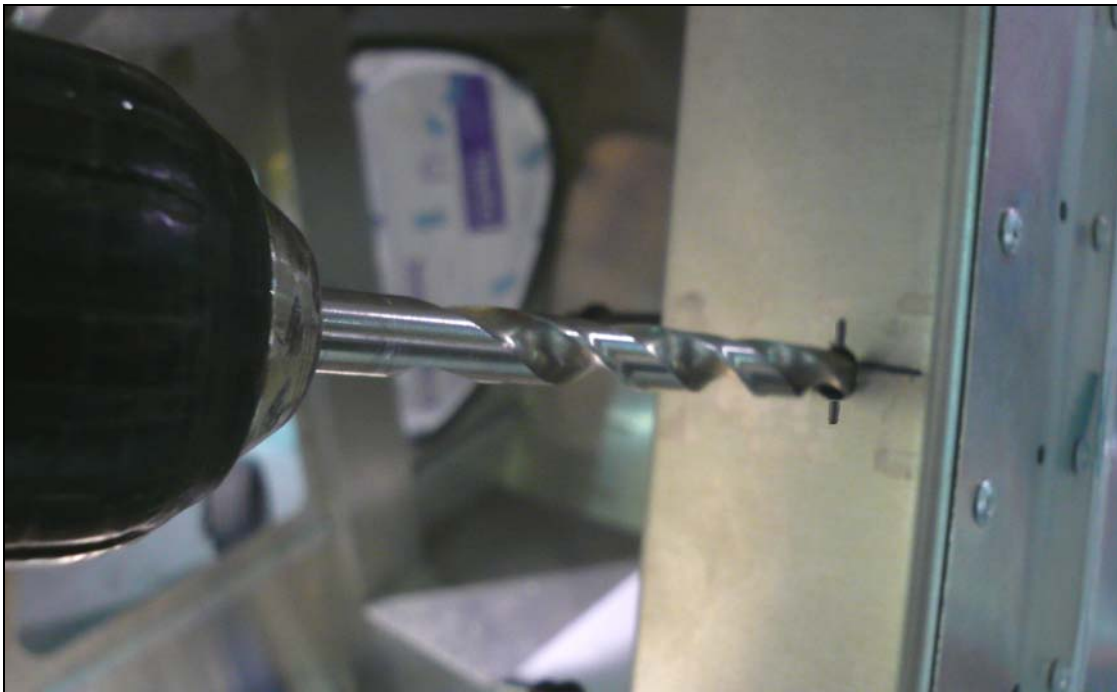
Use a grinder to taper the end of the Latch Pin. To properly close the Pin may need to be slightly bent to hold the Door tightly to the Fuselage.



Install the Rear Latch Pin on the Center Latch. Use a washer between the Cotter Pin and the Wear Plate.



Mark a line 185mm down from the Door Hinge on the Side Channel.



Mark a line 20mm from the outboard edge of the Side Channel. Use a #40 drill bit to drill a hole at the intersection of the lines. Expand the hole to 5/16" in steps.



P/N: 9512K73
Ball Stud

Install the Ball Stud on the Side Channel.



P/N: 9416K18
30lb Gas Spring

P/N: 9416K86
Ball Socket Fitting



P/N: 9512K94
Ball Bracket

Install the Ball Socket Fittings on each end of the Gas Spring. Install the cylinder end of the Gas Spring on the Ball Stud. Install the Ball Bracket on the Gas Spring. Set the distance between the Door and the bottom of the Wing at 3mm to 5mm. Clamp the Ball Bracket to the Door. Back drill through the Bracket into the Door and cleco. Countersink the outside of the Door for the screws. Attach the Bracket to the Door with countersunk screws.