



# ZENITH 601, VLS INSTALLATION

DRWG. 6500-A

09/99

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## **READ INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION!**

The BRS installation for your Zenith 601 was designed to provide a high probability of the aircraft remaining attached to the parachute during deployment and subsequent descent. This means that even with the 6 separate attach points designed to spread the load around, the aircraft will most likely be damaged by the event.

SPECIAL SAFETY ADVISORY



SPECIAL SAFETY ADVISORY

**PRIOR TO DEPLOYING YOUR BRS, PULL YOUR LEGS UP TOWARDS YOUR BODY IN ORDER TO CLEAR THEM FROM THE AREA OF THE FORWARD ATTACH POINTS. THIS PORTION OF THE AIRCRAFT MAY SUFFER DEFORMATION DUE TO PARACHUTE OPENING LOADS. LEGS REMAINING IN THIS AREA COULD SUFFER SEVERE INJURY. BE SURE TO INCLUDE THIS IN YOUR SAFETY BRIEFING TO YOUR PASSENGER!**

Before starting the BRS installation to your "601, it will be necessary to purchase the hardware that is not included in the kit from outside vendors (Wicks, Aircraft Spruce etc.). This hardware is used to attach the Harness assemblies to the aircraft. Refer to the Bill of Materials below.

### BILL OF MATERIALS.

ITEM	DESC.	CT.	ITEM	DESC.	CT.
Bolts	AN 5-14A	12	Rivets,Al. Avex	5/32	90
	AN 3-5A	24	Rivets, Steel Blind	1/4"	16
	AN 3-6A	36	Alum, 6061-T6	.050	12"x 30"
Nuts	AN 363-524	12			
	AN 363-1032	60			
Washers	AN 960-516	24			
	AN 960-10	120			

\* Bolt dimensions depict minimum estimated lengths based on information available to BRS. Its advisable to double check these bolt lengths based on your aircraft and place your order accordingly.

\*\* The BOM lists non-fiberlock nuts due to installation within the engine compartment. Those nuts installed outside the engine compartment may be substituted with fiberlock nuts.

**IMPORTANT:** Use only the standard size (MS 20365) fiberlock nut when substituting hardware. DO NOT use the thin fiberlock nuts (MS 20364) as the loads are predominantly in tension!



**مهندسين**  
**Making Flight Safer**

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 JEFF PELTIER

# ZENITH 601, FRONT HARNESS ASSY.

09/99

DRWG. 6500-B

NOTE: DRAWING DEPICTS TRANSPARENT FUSELAGE FOR CLARITY.

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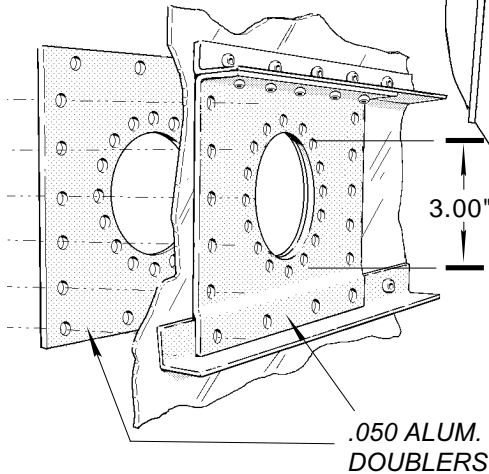
**NOT TO SCALE!**

**WARNING**  
 PARACHUTE INSTALLATION  
 REQUIRES RE-CALCULATION  
 OF WEIGHT AND BALANCE!

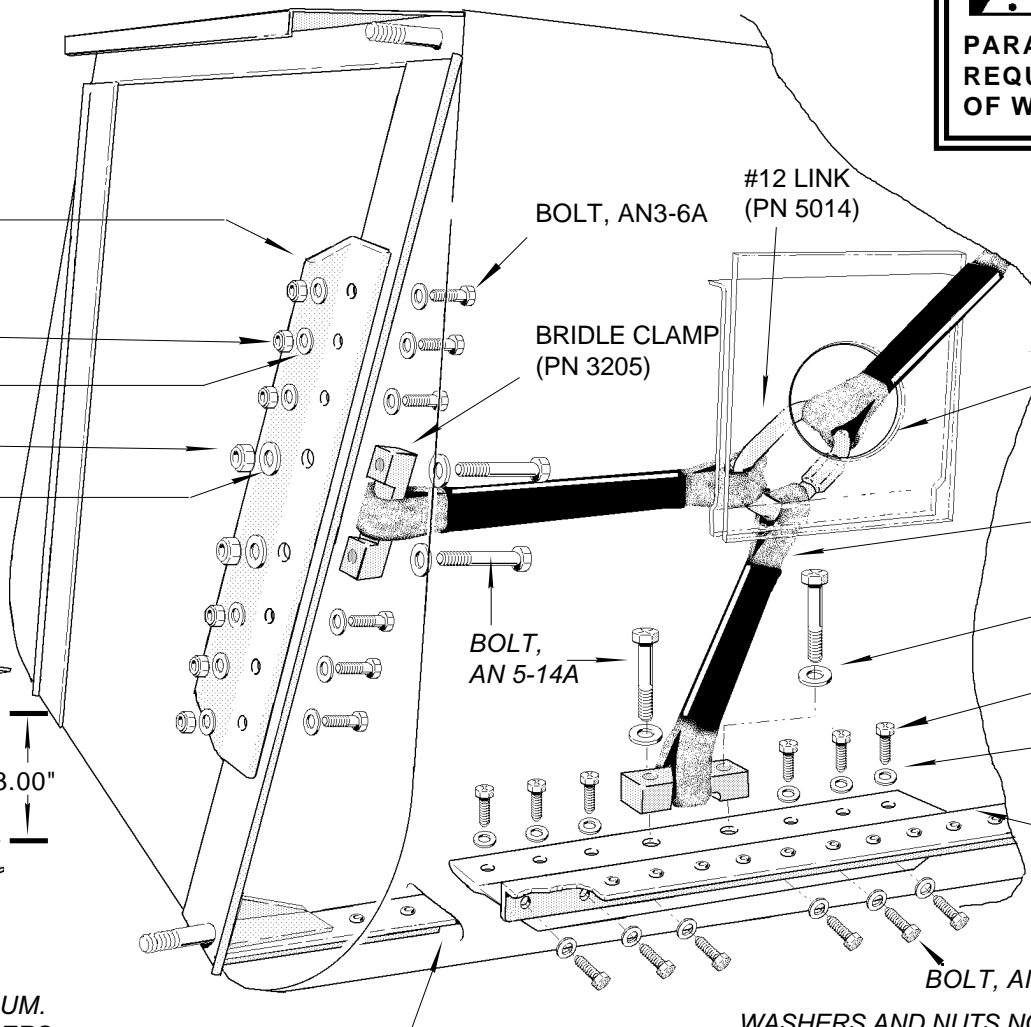
Bolts, nuts, washers and  
 blind rivets must be  
 purchased separately.  
 These items NOT supplied  
 by BRS.

12" RAIL (PN 8108)  
 "Rail" material comes in  
 pre-cut 30" lengths. It must  
 be cut to size by builder.

- NUT, AN 363-1032
- WASHER, AN 960-10
- NUT, AN363-524
- WASHER, AN 960-516



HARNESS HOLE DETAIL  
 as seen from inside



THIS SECTION CUT-AWAY  
 FOR CLARITY.

SEE SIDE ILLUSTRATION FOR  
 HOLE DOUBLER DETAIL.

- BRIDLE EXTENSION (PN 1705)
- WASHER, AN 960-516
- BOLT, AN 3-5A
- WASHER, AN 960-10
- Lower Longeron

Remember to take photos of installation  
 and send them in to BRS for review!



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# ZENITH 601, VLS TRAY INSTALL

11/98

DRWG. 6500-C

NOTE: PARTS LISTED IN ITALIC ARE BUILDER SUPPLIED ITEMS.

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2, *.050" HARNESS DOUBLER PLATE*  
(2 REQ'D. EACH SIDE OF AIRCRAFT)

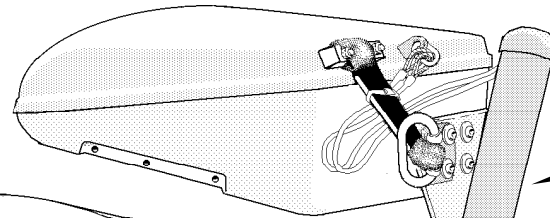
*.050 ALUM. VLS DOUBLER PLATE*  
(2 REQ'D.)

*5/32 ALUM. BLIND RIVETS*

SEE DRWG. 6500-G FOR DOUBLER FABRICATION DETAILS.

CLAMP, BRIDLE (PN 3205)

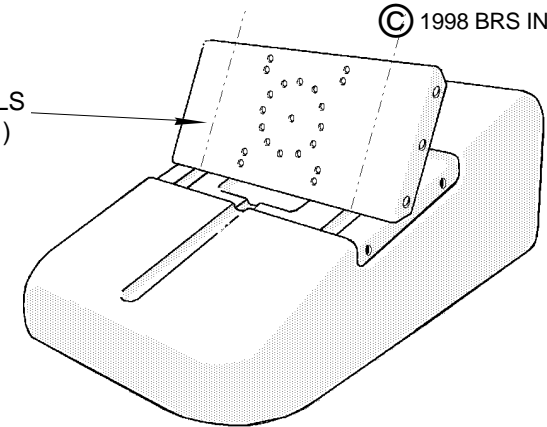
12" RAIL (ALUM.)



SEE DRWG. 625 ROCKET CONNECTION DETAILS

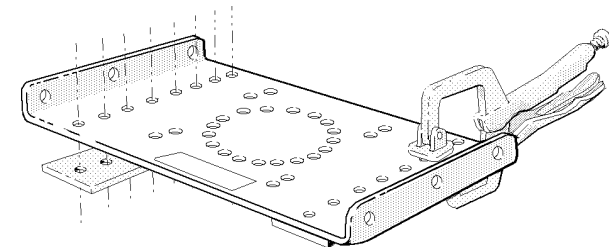
*.250 STEEL BLIND RIVETS* (16 TOTAL)

TRAY, VLS (PN 3501)



Rivets securing VLS Tray to floor of baggage area must be positioned so that the rivet heads are aligned within the "rivet channels" under the VLS Box. Transfer centerline of rivet channels to Tray for drilling.

SEE DRWG. 975 FOR HOLE TEMPLATE



Transfer drill lines to top of Tray. Clamp *.040* piece of aluminum (doubler plate for rivets) to bottom of Tray as pictured. Drill eight *.250* holes through Tray and doubler on both sides of Tray.

**IMPORTANT!! THE VLS TRAY IS SLIGHTLY TAPERED TOWARDS THE FRONT. VLS BOX WILL NOT FIT PROPERLY IF TAPER NOT POINTING TOWARDS FRONT OF AIRCRAFT!**



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# ZENITH 601, HARNESS STOWAGE

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DRWG. 6500-D

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and send them in to BRS for review!

ABS, "HAIRCELL" .063 FRANGIBLE COVER  
Installed from inside with 5/32" blind rivets, 1 1/2" pitch. Scored  
on outside near silicone seal. Install with "bumpy" surface to inside  
(Supplied by BRS)

FLOOR OF BAGGAGE COMPARTMENT MAY  
REQUIRE SOME RE-INFORCING TO SUPPORT  
WEIGHT OF CHUTE.

120" FRONT KEVLAR  
HARNESS (PN 7590)

108" REAR KEVLAR  
HARNESS (PN 7580)

ATTACH ALL 4 HARNESS  
SECTIONS TO THIS LINK.  
RIGHT SIDE HARNESSES  
OMITTED FOR DRAWING  
CLARITY.

DOUBLERS, .050 Aluminum.  
.Avex 5/32 Aluminum blind  
rivets. See DRWG. 6500-G  
for details.

LONGERON

REAR BRIDLE CLAMPS  
and 12" RAIL  
Installed exactly the same  
hardware as the lower front  
attach point.

S-folded and  
tie-wrapped

TAIL

TILT ROCKET SO THAT IT  
IMPACTS COVER NEAR  
THE EDGE.

SEE DRWG. 975 FOR  
DETAILS OF ROCKET  
HOLE SIZE AND  
PLACEMENT.

60" MAIN KEVLAR  
BRIDLE (PN 7441)  
Attached to #12 Link on  
VLS.

**! WARNING**  
**PARACHUTE INSTALLATION  
REQUIRES RE-CALCULATION  
OF WEIGHT AND BALANCE!**

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#12 QUICKLINK  
(PN 5014)

120" FRONT KEVLAR  
HARNESSES (PN 7590)

60" KEVLAR MAIN  
BRIDLE (PN 7441)

This end attaches to  
Link on VLS.

108" REAR KEVLAR  
HARNESSES (PN 7580)

#12 QUICKLINK  
(PN 5014)

BRIDLE EXTENSIONS  
(PN 1705)

SECURING HARNESS SECTIONS.

**WITH FAIRING**

Harness Sections may be secured to aircraft either with double sided carpet tape or an exterior "window and door" silicone IF there is going to be a fairing installed over them..

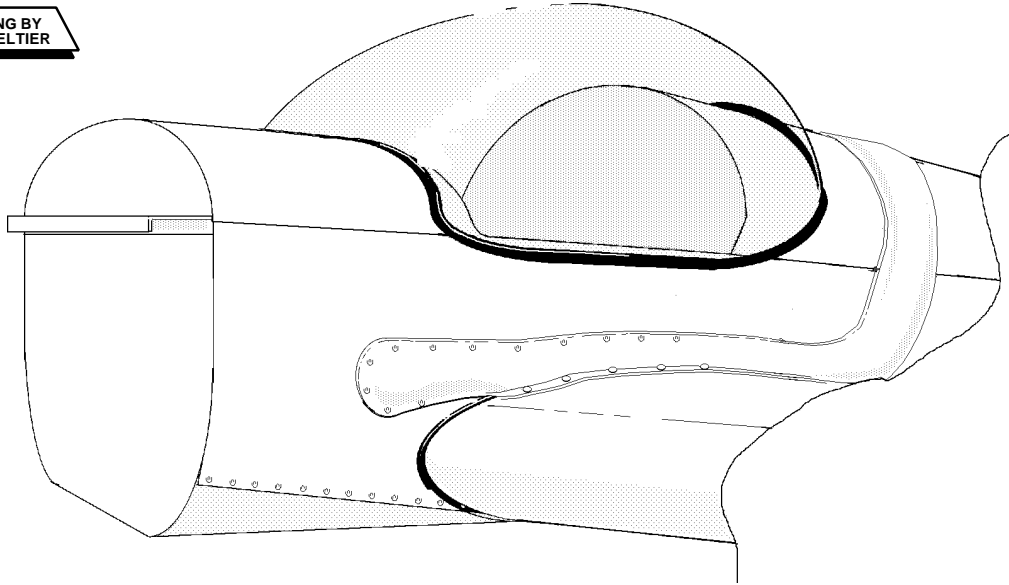
**WITHOUT FAIRING.**

Metalized duct tape may be used to cover Harnesses. (although this doesn't look very good after a short time.

NOTE: If you come up with any other great ideas for fairing in the Harness Assemblies, please give us a call!

Remember to take photos of installation and send them in to BRS for review!

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JEFF PELTIER



This example shows the Zenith 601 Harness Sections covered with a fiberglass fairing.

Being an aluminum skin design, the Zenith 601 does not necessarily lend itself well to hiding the Harness Assembly for the BRS parachute system. We can only offer suggestions as to what we believe would work, considering the deploying parachutes ability to strip the Harnesses from their routing.

The easiest fairing method, and one that works well for the test flying, simply uses aluminum duct tape. This tape is readily available at most hardware stores that sell cooling and heating supplies. It works but doesn't look very good after awhile- and I believe it doesn't paint up well. This is something you may want to experiment with.

Another relatively easy fairing system would utilize commercially available aircraft dacron (Stits, Ceconite etc.) . This can be applied fairly easily. When doped, shrunk and painted can look fairly good if you take your time.

A lightweight (4 oz.) fiberglass fairing would most likely be the best bet for the best looking method assuming that your capable of doing this kind of work.

If you have ideas for other methods of covering the Harnesses on your aircraft, please give us a call and we'll talk about it. I don't believe theres any one perfect method.



Remember to take photos of installation  
and send them in to BRS for review!



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# ZENITH 601, INSTALLATION DETAILS

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DRWG. 6500-G

REAR HARNESS DOUBLERS

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Use this as template to fabricate 4  
Rear Harness Doublers.

2 Harness Doublers will be used on  
each side of aircraft where rear  
Harness enters aircraft. Install a  
Doubler on the inside and outside of  
aircraft, sandwiching skin.

Lay out rivet pattern using  
template. Use drill size 21 for  
5/32 rivets.

MATERIAL: .050 6061 Alum.

