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PARACHUTE INSTALLATION MANUAL
for the BRS-1350 onto the
Czech Sport Aircraft a.s.
PS-28 Cruiser & Sport Cruiser

BRS Document Number: **020016-PM**

Revision: **D**

Date: **09-13-2011**

Abstract

These installation instructions were created in cooperation with Piper Sport Aircraft a.s. This Parachute Installation Manual (PIM) complies with **ASTM F 2316, "Standard Specification for Airframe Emergency Parachutes for Light Sport Aircraft."**

These instructions supplement the "**BRS Owner's Manual**" which is provided with this unit. It provides additional direction relating to the BRS-1350 parachute system installed on the PS-28 Cruiser & Sport Cruiser.

Proprietary Notice

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The following signatures certify the acceptance of the PARACHUTE INSATLLATION MANUAL (PIM), BRS DOC.#0200016-PM, Rev. D, for the PS-28 CRUISER and SPORT CRUISER as manufactured and distributed by Czech Sport Aircraft a.s., as required by ASTM F 2316.

The following parties agree, that any deviation or change to components or procedures from the current document revision of this PIM, will not be included in production units, until such changes are reflected in a revised and accepted revision of this document.

Signed,

Digitally signed by Frank
Hoffmann
Date: 2011.09.19 13:30:02
+05'00'

Frank Hoffmann
VP, Engineering\BRS, Inc.

Date: ____Sept. 19, 2011____

Vladimir Grunt
Managing Director
Czech Sport Aircraft a.s.

Date: September 20, 2011

Revision Page

Rev	ECO	Date	Author	Check	Approval	Description
A		09-19-07	Jeff Peltier			Initial Release
B	0905-0001	05-15-2009	Jeff Peltier			Change of Ownership Changed parts list
C	1103-0007	03-30-10	Jeff Peltier			Changes to manual, Parts List
D	1109-0001		Jeff Peltier			Re-Release for Manufacturer and Aircraft name



INSTALLATION PHOTOS and CHECKLIST

While BRS has long required the submission of photos detailing the BRS parachute installation by builders or others installing BRS systems in the field, it's been recognized that this process may not be practicable for those doing the installations on a continuing, production basis. And, while we do still require photo (or video) verification for new installations, we no longer find it necessary to document each and every aircraft.

The purpose of the photo submission fulfills 3 distinct requirements:

1. It confirms the installation design and forces changes to the manual if portions of the manual cannot be complied with.
2. It confirms the installer's ability to complete the installation based on the information in the manual.
3. For safety purposes, it's that second set of eyes to ensure all critical items have been properly covered.

When are photos required?

1. For installations completed on first 3 aircraft by each OEM company for SLSA aircraft.
2. Anytime a change to the PIM (Parachute Installation Manual) is made which constitutes a change to the installation itself, photo verification is required.
3. Anytime new staff members are conducting an installation, if not under direct supervision of a previously approved employee of the company or BRS representative.

What photos are required?

1. Clear, well-lit photos are required of all details of the installation, to include but not limited to...
 - a. Activation Housing /Handle routing
 - b. Rocket installation and Cable connections to parachute unit.
 - c. Egress panels and Harness covers if applicable.
 - d. Harness attachments and routing.
 - e. Unit installation, and trajectory verification.
 - f. Placard placement.

What format, and to whom to send them?

1. Photo package should consist of at least 30 photos for a proper job. These should be placed on a CD or DVD preferably.
2. Photos from film camera are also acceptable, but must be developed before submitting.
3. Send photos to attention of BRS Engineering.

BRS PARACHUTE INSTALLATION CHECKLIST

PS-28 Cruiser & Sport Cruiser

This checklist must be completed and signed by installing mechanic or certified aircraft assembly technician. Detach and return signed copy to BRS Inc. along with required installation photos for registration and quality control purposes.

NOTE: If parachute assembly and rocket are installed in separate locations, the first installers should sign and make a copy for themselves. Send the uncompleted Installation Checklist along to the final installers, who will make the final signatures, **make a copy and send this document to BRS Inc.**

BRS Unit Serial Number: _____

Aircraft Serial : _____ Acft. Registration/ N number: _____

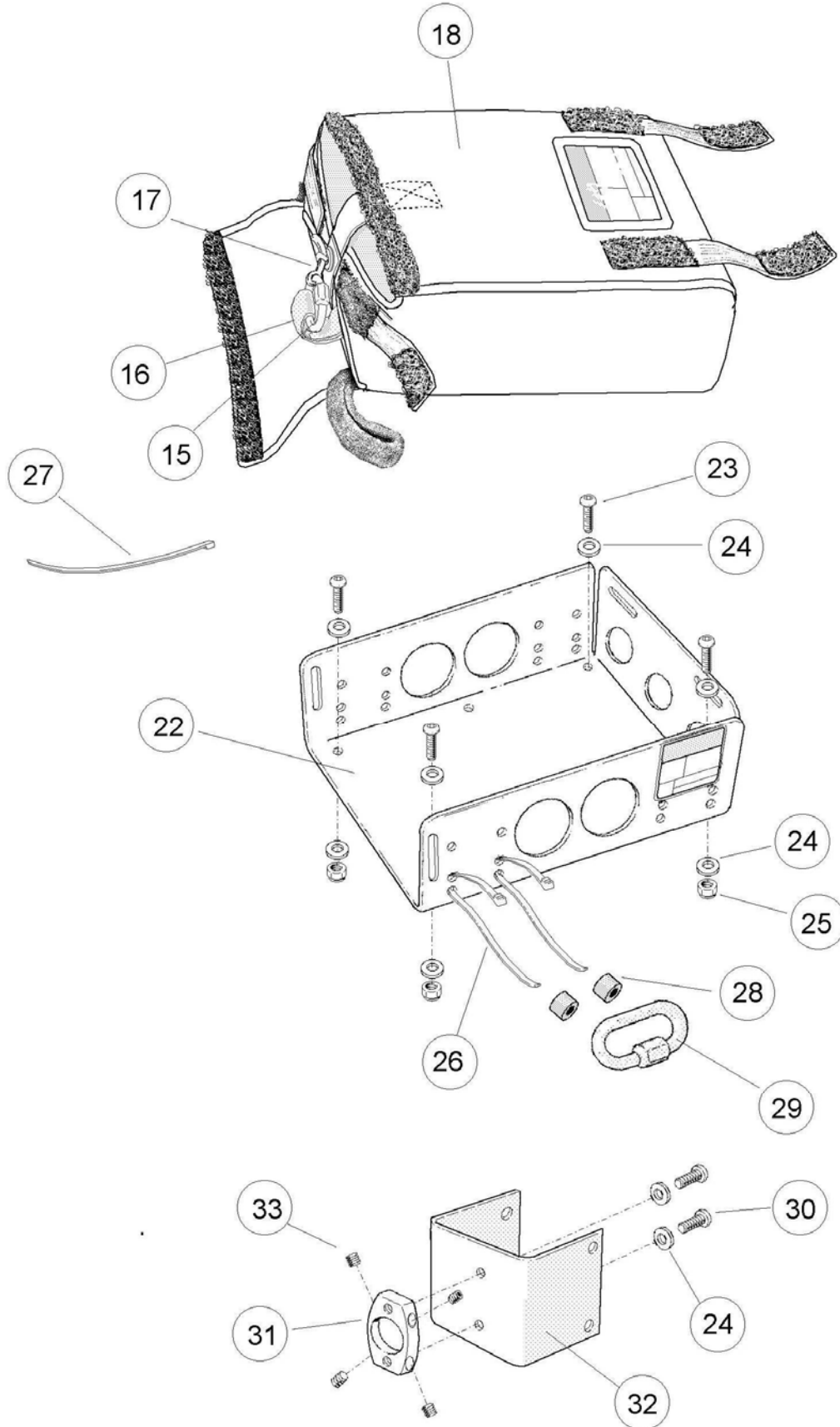
Parachute install completed by: _____ Date: _____

Rocket install completed by: _____ Date: _____

	Photos taken of entire installation process, to include placard placement.
	Links and Harnesses installed, stowed and secured as per Installation Manual.
	Rocket assembled as per BRS Doc # 020027-01 (Instructions shipped with rocket fuel box).
	Rocket installed into Launch Tube (Item 1) as per BRS Doc # 020027-01.
	Rocket Assembly installed to Pedestal. Loc-tite 242 used on set-screws.
	Rocket aimed to exit through egress hole.
	Rocket Cables attached to small Link (Item 15), gate closed secured with blue LocTite 242.
	Rocket Cables coiled in fashion which promotes, "first in, last out", to avoid fouling of Cables.
	Rocket Cables secured with small 4" tie-wraps (Item 27). DO NOT USE THE 10" TIE-WRAPS HERE!
	Parachute Tray installation secure.
	Main Kevlar Bridle secured to ½" Link (Item 29) on Tray . All other links closed and secured.
	Activation Handle assembly installed, routed and secured as per Installation Manual.
	Activation Handle checked for freedom of movement.
	Ensure Safety Pin and Flag installed. Handle assembly connected to Rocket as per BRS Drwg. 020611-01.
	Handle assembly mounted securely and routed with no tight bend radius' along routing path.
	Check to ensure parachute and rocket path completely clear of obstructions.
	Placards applied to aircraft as per Installation Manual.
	BRS Owners Manual (BRS # 020002-01) delivered with aircraft.

BRS-1350 Parachute Installation Instructions for PS-28 Cruiser & Sport Cruiser
BRS Document Number 020016-PM Rev. D

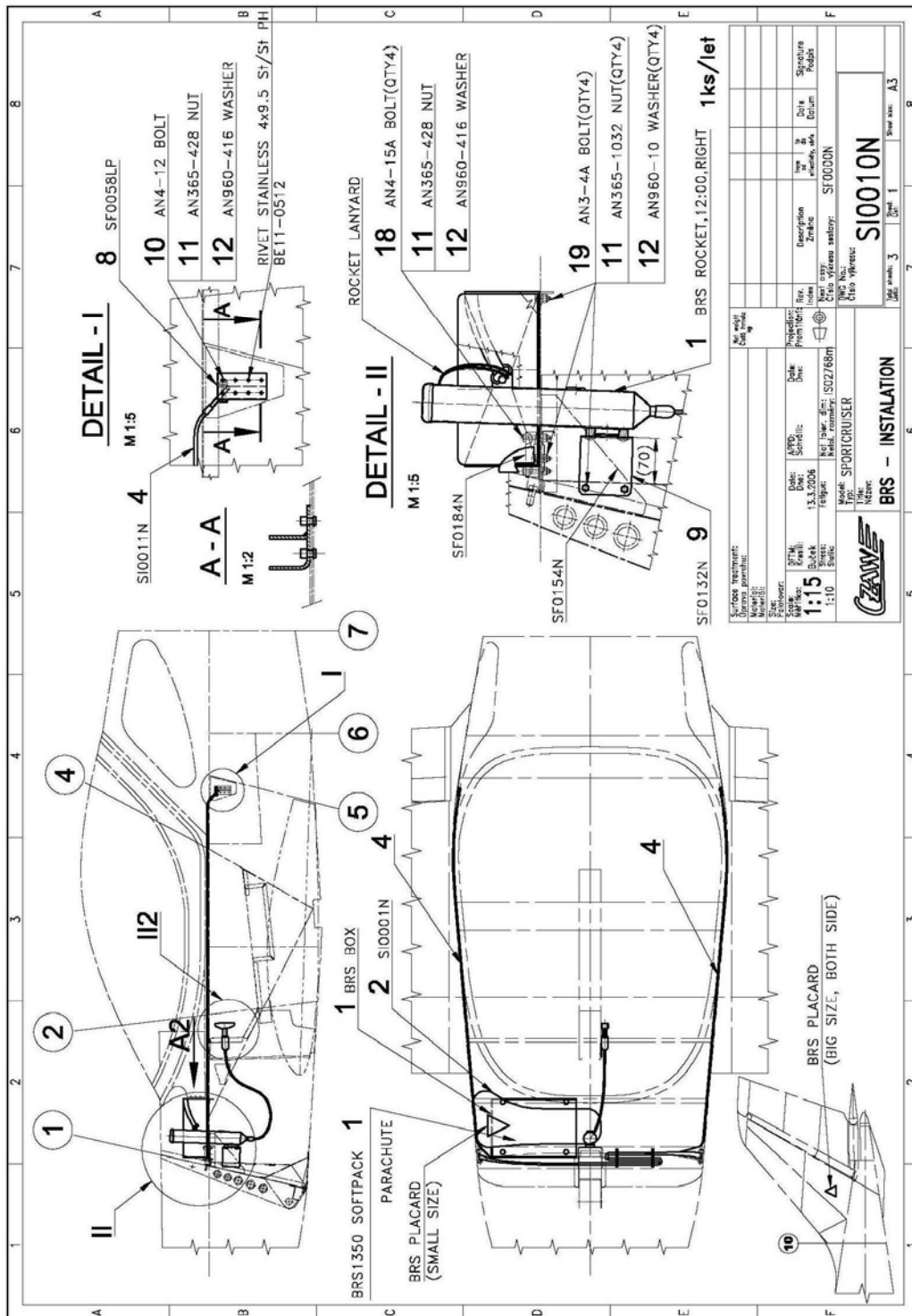
PARTS - PARACHUTE ASSEMBLY



PART LIST – PS-28 CRUISER & SPORT CRUISER, BRS 1350

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	008422-02	ASSEMBLY, LAUNCH TUBE 440
2	2	003040-01	CONE, LAUNCH TUBE
3	1	004035-01	SCREW, 10-24 x 5/8"
4	1	004055-01	WASHER, EXT. TOOTH, #10 STAINLESS STEEL
5	1	002563-01	O-RING, LAUNCH TUBE
6	1	004081-01	SCREW, NYLON 8-32 x 1/2"
7	1	N/A	CASE, MOTOR /AFT BKLHD./ CABLE ASSEMBLY
8	2	002569-01	O-RING, SPACERS
9	1	N/A	FUEL / LINER ASSEMBLY
10	1	002551-01	BULKHEAD FORWARD 1.74"
11	1	003216-01	CAP, ROCKET
12	1	008040-04	24" ACTIVATION ASSEMBLY
13		-	INTENTIONALLY LEFT BLANK
14		-	INTENTIONALLY LEFT BLANK
15	1	005062-01	LINK, QUICK 1/8"
16	1	001644-01	INCREMENTAL BRIDLE, BRS 460
17	1	005037-01	PIN, CURVED, RELEASE
18	1	008586-01	PACK, SOFTPACK, 1350
19		-	INTENTIONALLY LEFT BLANK
20		-	INTENTIONALLY LEFT BLANK
21		-	INTENTIONALLY LEFT BLANK
22	1	003068-01	TRAY, SOFTPACK 15 x 10.5"
23	4	004042-01	SCREW, 1/4-20 x 3/4"
24	10	004010-01	WASHER, FLAT 1/4"
25	4	004001-01	NUT, NYLOCK 1/4"
26	2	004000-01	CABLE TIE, 10 3/4"
27	4	004025-01	CABLE TIE, PLASTIC 4"
28	2	005063-01	LINK, STANDOFF (rubber)
29	4	005061-01	LINK, QUICK, 1/2", STAINLESS STEEL
30	2	004041-01	SCREW, 1/4-20 x 5/8"
31	1	003201-01	PEDESTAL, ROCKET
32	1	SF0132N	ROCKET BRACKET (supplied by airframe manufacturer)
33	4	004058-01	SCREW, SET 1/4-20 x 1/4"
34	1	007195-17	120" KEVLAR, MAIN BRIDLE C142/120C
35	2	007195-15	108" KEVLAR, FRONT HARNESSSES C126/108C
36	2	007195-02	30" KEVLAR, REAR HARNESS EXTENSION C52/30C
37	1	006230-01	LABEL "STAY CLEAR, DANGER"
38	2	006231-01	LABEL "BALLISTIC WARNING"
39	2	6206-11	LABEL, BRS 6 LOGO

INSTALLATION OVERVIEW



BRS-1350 Parachute Installation Instructions for PS-28 Cruiser & Sport Cruiser
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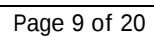
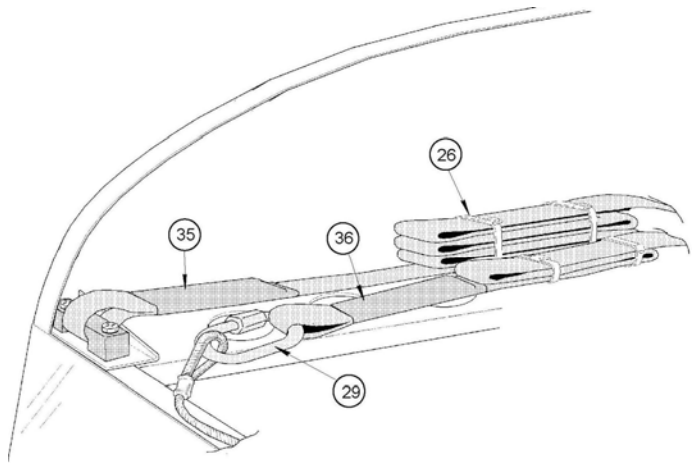


Figure 1.1: A diagram of the harness attachment points.

- 1.1 Attach the 108" Front Kevlar Harnesses (Item 35) to the Piper supplied clamps, located aft of the firewall.
- 1.2 S-fold and secure all excess Harnesses with plastic Cable Ties (Item 26).



- 1.3 Install the Rear Kevlar Harness Extension (Item 36) to the rear attachment point cables using ½" Links (Item 29). Use Cable Ties to secure in place.
- 1.4 As in step 2.1, S-fold and secure all excess Harnesses with 10" plastic Cable Ties (Item 26).



BRS-1350 Parachute Installation Instructions for PS-28 Cruiser & Sport Cruiser
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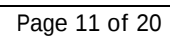


Figure 2.1: A diagram of the harness attachment points.

- 2.1 Remove the parachute assembly from the Tray by unfastening Velcro straps.
- 2.2 While leaving a 1" gap between Tray and firewall, secure the Tray to the horizontal firewall bracing, on the aft side of the firewall.
- 2.3 Secure the Tray to the aluminum parachute supporting angle using 1/4-20x 3/4" Screws, Nuts and washers (Items 23,24,25) provided in kit.



- 2.4 Install two plastic Cable Ties (Item 26) with rubber Link stand-offs (Item 28) to the Tray, if they are not already installed. These will be used to secure the 1/2" Link (Item 29) to the Tray.



- 2.5 Slide the parachute assembly back into the tray with the logo and data plate facing upwards, and pack opening facing towards middle of aircraft.
- 2.6 Re-insert all four Velcro retaining straps through their respective slots in the Tray, and re-secure them.



- 2.7 Pass the ½" Link (Item 29) through the end of the "Riser" protruding from the left (aft) side of Parachute Tray assembly.
- 2.8 Secure the Link to the Tray with pre-installed Cable Tie assemblies. Cut off any excess plastic Cable Tie.



- 2.9 Route the Main Kevlar Bridle (Item 34) along the front of the parachute along the bottom part of the Tray.
- 2.10 Secure the Bridle at the corner with a plastic Cable Tie (Item 26).



- 2.11 Connect the loop of the Main Bridle to the ½" Link, which is secured to the side of the Tray.



2.12 Apply Blue Loc-Tite 242 (or equivalent) to the threads on the Link.

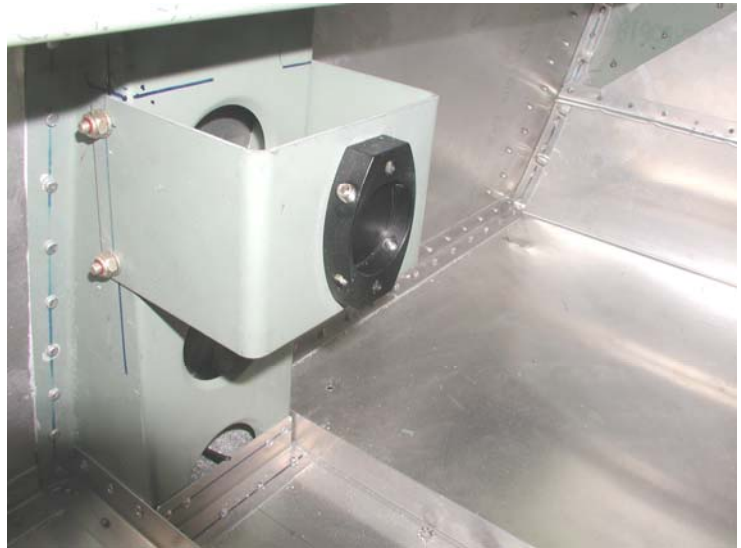


2.13 Close the gate by hand-tightening. Use a wrench to snug, but do not over tighten!



3. INSTALLING THE ROCKET AND CONNECTING THE PARACHUTE

- 3.1 Install the Rocket Pedestal (Item 31) to the Piper supplied "Rocket Bracket" (Item 32) using the hardware (Items 24 and 30) as indicated on the parts diagram.



- 3.2 Remove the 4 Set-screws (Item 33) from the Pedestal (Item 31). Place small drop of Loc-tite 242 on threads.



- 3.3 Install the Rocket by placing the Disc (located on the bottom of the Rocket Launch tube Assembly) into the Pedestal.

- 3.4 **Warning! Line up the Rocket so that it is directed through the egress hole, and not into the upper fuselage structure.**
Failure to do so may cause death or serious injury.



- 3.5 Pull open the front flap of the BRS Softpack, and expose the Release Pin and the small 1/8" Link (Item 15).

- 3.6 Open the gate on the Link.

IMPORTANT: Ensure that the Incremental Bridle (yellow strap assembly) is attached to the Link.



- 3.7 Coil the Rocket Cables without 'knotting' them, and connect the swaged Cable Loops to the Link (Item 15).

IMPORTANT: When coiling the Cables make sure that they will pay out properly without risk of creating a knot or kinking on extraction!



- 3.8 Apply a drop of LocTite 242 (blue) to the threads on the Link.

- 3.9 Close the gate on the Link firmly, but **do not** over-tighten it.



- 3.10 Place two small plastic Cable Ties (Item 27) around the Rocket Cables, so that they remain stowed.

Caution! DO NOT use the 10" Cable ties to stow Rocket Cables!

- 3.11 Close the flap on the BRS Soft-pack. The coiled Rocket Cables are stowed under the front flap.



4. INSTALLING AND ROUTING THE HANDLE

- 4.1 Ensure that the backing plate is installed.
- 4.2 Install the BRS Handle Assembly (Item 12) to the pilot's side of the pylon cover.

Note: This puts the Handle in a position accessible by both occupants, but under pilots control.

- 4.3 Use at least 1/4" (AN4) aircraft grade hardware to secure the Handle Assembly.

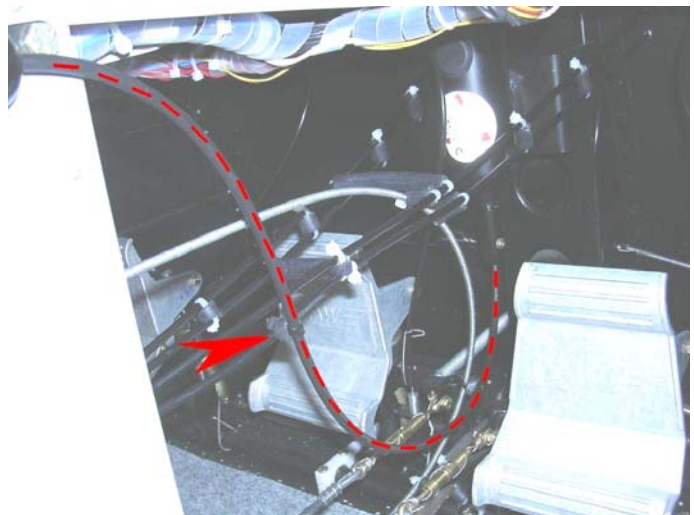


- 4.4 Ensure that the handle protrudes into the cabin area from under the instrument panel by at least 2 inches.



- 4.5 Route the Activation Housing in a gentle arc to the base of the Rocket. The Activation Housing should have no abrupt bends. Red dashes depict Housing routing.
- 4.6 Secure the Activation Housing to engine control housing with plastic Cable Ties. (Arrow)

Caution: Make sure the Activation Housing does not contact any moving parts, and that it does not get moved by any leg or foot movement.



5. CONNECTING THE ACTIVATION ASSEMBLY TO THE ROCKET



BRS ACTIVATION ASSEMBLY INSTALLATION

DRWG. 020611-01

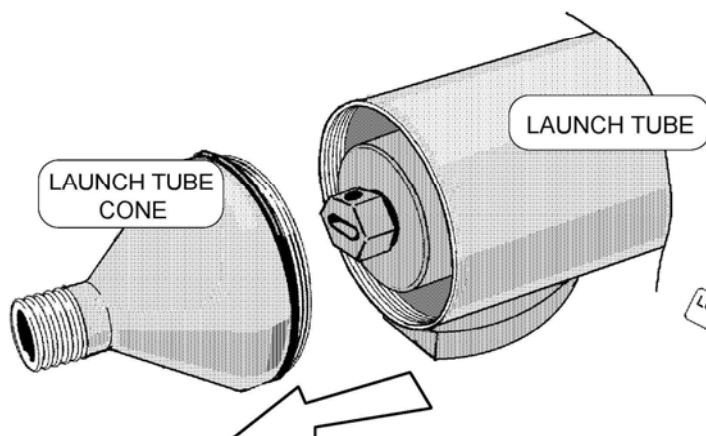
Revision A

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Rev. A 03-17-10

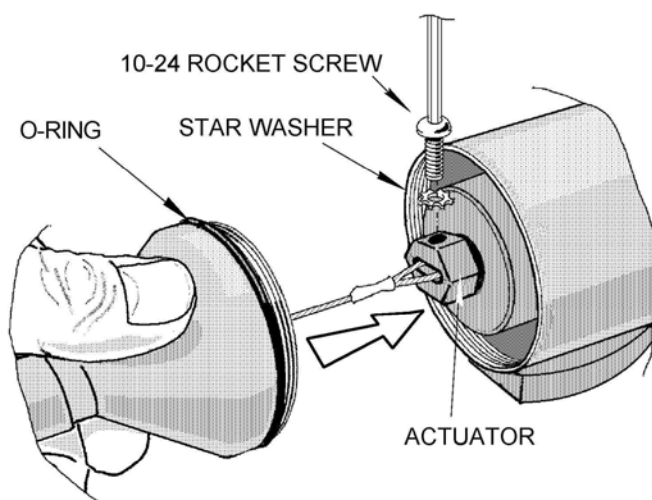
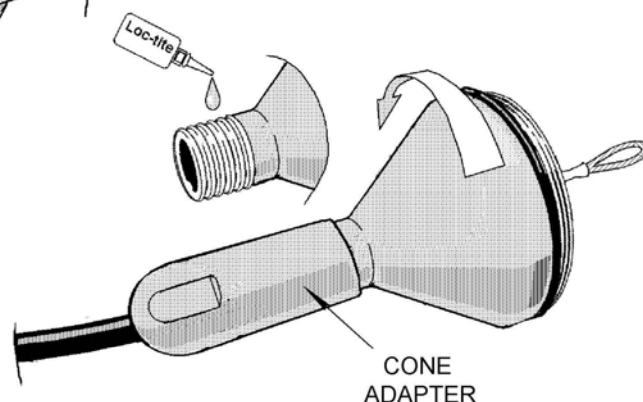
⚠ WARNING NEVER POINT ROCKET AT ANYONE! ACCIDENTAL ACTIVATION MAY CAUSE SERIOUS INJURY OR DEATH. TREAT LIKE LOADED GUN!



- 1 By hand, unscrew Launch Tube Cone from Launch Tube. Note: Cone is pre-installed to protect Actuator during shipping.

Remove Safety Wire and Flag.

- 2 Add a drop of Loctite 242 (blue) to 5/8" threads on Cone and connect to Activation Housing Assembly by threading on to Cone Adapter.

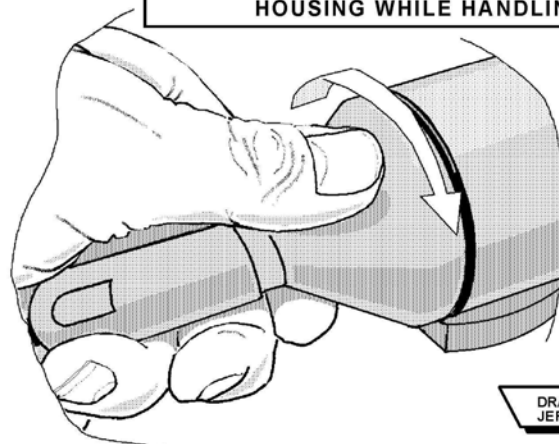


- 3 Put drop of Loctite (blue) on threads of 10-24 Rocket Screw. Insert Activation Cable Loop into slot on end of Actuator. Install Screw with Star Washer into hole and through loop in Cable.

⚠ WARNING

THE ROCKET IS LIVE ONCE THE SCREW IS INSTALLED. BE CAREFUL SO AS NOT TO PULL MORE THAN 10 LBS ON CABLE OR HOUSING WHILE HANDLING.

- 4 **DO NOT USE LOCTITE HERE!** Grasp back of Launch Tube Cone and screw on to Launch Tube. NOTE: Ensure mating threads are clean and free of debris, and be very careful not to "cross-thread". Seat Launch Tube Cone against O-ring but **take care so as not to crush O-ring**.



DRAWING BY
JEFF PELTIER

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6. PLACARD INSTALLATION

- 6.1 Install one orange-on-black “Ballistic Warning” adhesive label (Item 38) aft of the canopy and forward of side window in location shown. Install on both sides of aircraft.
- 6.2 Install the red-on-grey “Stay Clear” adhesive label (Item 37) to the Parachute Egress Cover just aft of cowling.



Note: The adhesive on these stickers is particularly aggressive so you will only have one shot to place the stickers properly. Be very careful.

BRS parachute installation is now complete. Review all steps and ensure all steps have been completed properly and check list has been filled out and signed.