



Service Bulletin

SB 2008-04-01 R1

Issued: 24 Apr 2008

BRS-150, Pick-up Collar Support Replacement

Compliance

Mandatory: BRS considers this service bulletin to be mandatory. Accomplish this service bulletin within the next 25 flight hours or 60 days, whichever comes first. Compliance time begins upon date of issue of this Service Bulletin. BRS-150 system must be labeled as "Inoperative" if use is continued beyond specified time-frames.

Effectivity

BRS-150 systems with serial number range: 50001 - 50006.

*Note: Parachute assemblies with serial numbers outside of this range do not utilize Pick-up Collar Supports in their design.

Purpose

Some airplanes may exhibit a condition where upon activation of the BRS-150, the Pick-up Collar Assembly may prematurely move off the Launch Tube and adversely affect rocket trajectory during deployment. This service Bulletin will correct this condition by installation of a new Pick-up Collar Support, custom tension screws and a new Launch Tube.

Description

This Service Bulletin provides for the replacement of the Pick-up Collar Support, Aluminum Screws and Launch Tube.

Warranty Information

BRS will provide the Parts Kit (014126-03) free of charge. Requestor must provide BRS Unit Serial #, aircraft registration #, and aircraft owner's name, address and phone number upon ordering.

Manpower Requirements

5.0 man hours

Weight and Balance

N/A

Material Information

The following parts are required to comply with this Service Bulletin. Parts must be obtained through BRS, Inc.

For BRS-150s S/Ns 50001 thru 50006, order Kit No. 014126-03:

Item No.	Description	BRS P/N	Qty
1	Pick-up Collar Support	014124-01	1
2	Screws, Alum. 8-32 x 3/4" Special	017104-01	2
3	Loc-tite AN 0321 (Blue)	005012-01	1
4	Service Bulletin	SB 2008-04-01 R1	1
5	Launch Tube, BRS-600	003046-02	1
6	Anchor Blocks	014120-01	2
7	Screws, Machine 4-40 x 5/16"	017002-01	4
8	Sticker, Data-plate Cover	006215-01	1
9	Label, Pin-feed Data Plate	006210-01	1
10	Sealant, Silicone RTV 102	005049-01	1



If the parachute container in your aircraft looks like this one (with an extension of the bottom), this Service Bulletin DOES NOT APPLY. This type of unit does not utilize a "Pick-up Collar".



This Service Bulletin applies only to units with a flat bottom, as pictured.

Accomplishment Instructions

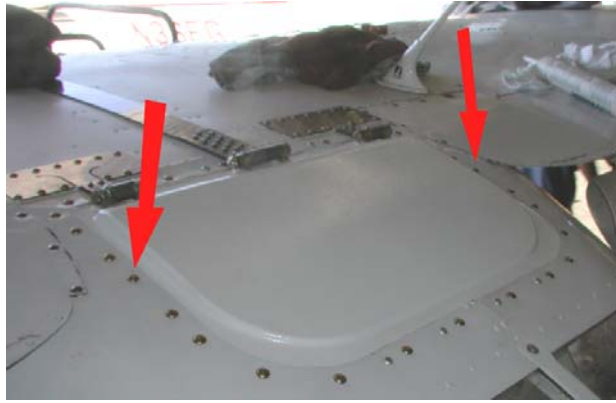
1. Acquire necessary tools, equipment and supplies.
 - a. Phillips screwdrivers (#2, #3)
 - b. Flathead screwdriver
 - c. 1/4", 3/8", 1/2" sockets
 - d. 1/2" wrench or crescent wrench
 - e. 2: medium size Vice-grip pliers
 - f. 2: 12" x 3/16" threaded rod with 2: wing-nuts and 4 : fender washers
 - g. Masking Tape (blue)
 - h. Paper towels
 - i. Torque Nut-driver
 - j. Filet knife
 - k. Small flashlight
 - l. 2 assistants
2. Remove key from ignition.
3. Remove BRS Activation Handle Box Cover and install handle Safety Pin and Flag.
4. Remove headliner as required (this varies depending on aircraft and headliner configuration.)
5. Disconnect Activation Handle Box from overhead by removing screws. (Safety Pin installed)



6. Carefully remove Shackle Cover. The Silicone sealant which holds it in place must be cut completely around entire perimeter of Cover, being very careful not to damage Shackle Cover or Parachute Box Cover. Note: A good filet knife works well for this.



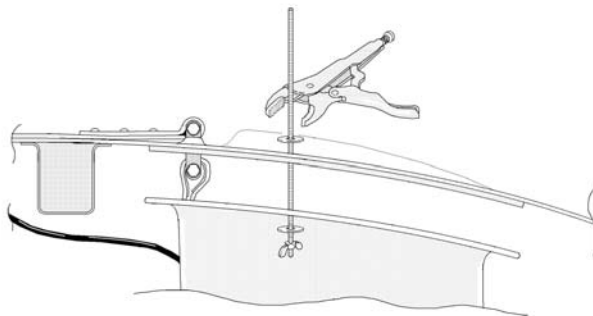
7. Locate and remove the 4th screw from the front, along each side of BRS unit.



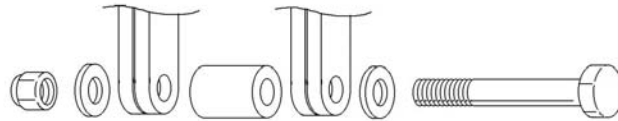
8. Install a wing-nut to the 3/16" threaded rods about 1" from its end. Slip a washer on to each threaded rod.
9. From inside the airplane, pass one rod up through the now vacant holes along each side flange.
10. With the rods poking through the aircraft skin, place another fender washer on each rod (this should help to keep the vice-grips from marring the paint) pull up on rod until snug and secure it in place with vice-grips. Important: Insure vice-grips are tight enough, as they will be holding the weight of unit while the perimeter screws are removed.
11. Once the rods are secured with the vice grips, remove all the perimeter screws, nuts and washers. Save the hardware, as it will be used to re-install unit later.



12. While someone holds onto the Parachute Box, remove the vice grips and allow the unit to come down about 6". Re-secure the unit in place with the vice grips. This gap between the unit and the aircraft ceiling should be enough to disconnect the Shackle hardware.



13. Disconnect the Front and Rear Harnesses from the Shackle assemblies by disassembling the bolts, nuts and bushings securing them. Note: You may want to put a towel over the area under the Shackles so as not to lose any hardware in the Parachute Box.



14. Once the Harnesses are free from the Shackles, remove the vice-grips and gently lower unit away from the ceiling.
15. Place Parachute Box and Activation Handle assembly on clean, soft surface so as not to scratch the components while working on them.
16. **Important!** Inspect interior of parachute container, and parachute assembly itself for any visible evidence of moisture contamination. If moisture contamination is suspected, contact BRS Inc. customer service before continuing with the remainder of this servicing.
17. Disconnect the existing Pick-up Collar by removing the nylon screws securing it to the Anchor Blocks on the Launch Tube. Discard the Nylon Screws.



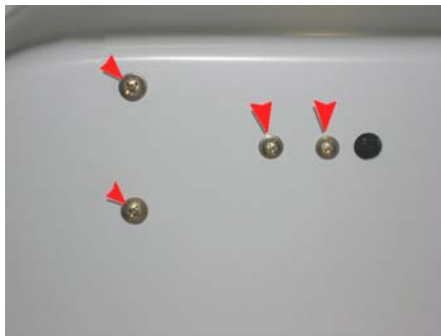
18. Turn the box over onto its forward face, so the screws on the bottom are accessible. Located in ½" hole is Activation Handle Retaining screw (Note: May be under small, white warning label). Carefully remove this screw and save.



19. Disconnect the Activation Housing by unscrewing the Cone Adapter.



20. Remove the 4 screws securing the Rocket in place. Remove the Rocket from the box.



21. Near the base of the Rocket Assembly, remove the 2 screws securing the Launch Tube to the Launch Base. Remove this Launch Tube and discard.



22. Install the new Launch Tube. The new style Launch Tube has 4 additional holes near the base, and is slightly shorter. Apply Loc-tite (blue) to screws and re-install to secure Launch Tube.



23. Re-install Rocket Assembly back into box, using only the two ¼-20 screws into the base of the Rocket, at this time. Loc-tite on threads. Smaller screws will be installed later.
24. Remove old Pick-up Collar Support ring by turning assembly over and removing the screws which secure it to the Pick-up Collar. Discard this part but save screws.



25. Install new Pick-up Collar Support by positioning ring so that cable fits into cable relief slots. Cable loop must be positioned to route along side of Support, rather than over top. Failure to comply will absolutely fail deployment!



26. Install modified Pick-up Collar assembly back onto Launch Tube with new aluminum tension screws. Apply Loc-tite (blue) to threads. Note: Cable routes around Support, NOT over top!



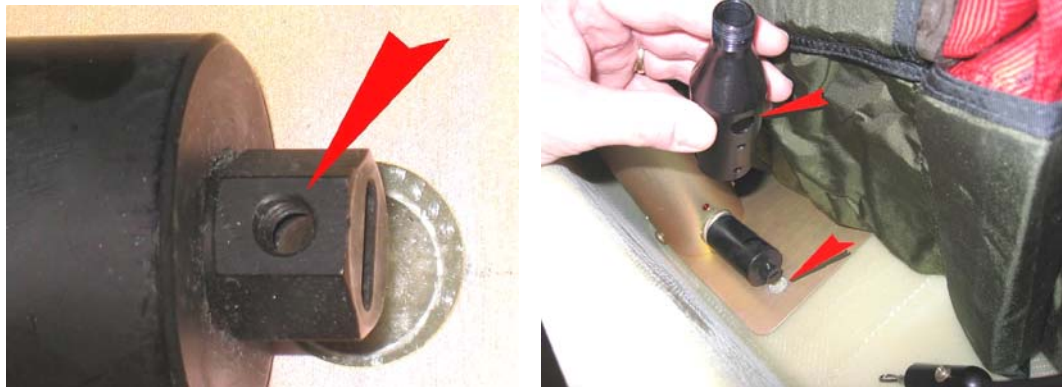
27. Tighten screws to **not more** than 5 in/lbs. Torque nut-driver shown.



28. Re-stow excess Rocket Lanyards by coiling and sliding them into lanyard pouch.



29. Re-connect Activation Housing assembly by first installing black Rocket Attach Cone to Rocket Igniter. Ensure threaded hole in Actuator is facing upwards. Actuator may be rotated safely. Position Rocket Attach Cone so 1/2" hole is facing downwards and lined up with hole in bottom of parachute box.



30. Secure Attach Cone by re-installing 10-24 screws from bottom side of parachute box. Use Loctite (blue) on threads.



31. Reconnect Activation Housing assembly to Rocket. Grasp activation cable and insert loop into end of Rocket Attach Cone. Turn unit over so bottom of unit is exposed. Using flashlight, guide cable loop into slot in back end of Actuator. Secure loop with 10-25x5/8" Screw and Star Washer. Apply Loc-tite (blue) to Screw before installing.
Tip: A bit of masking tape (sticky side in) on the end of the screwdriver will help to hold the screw while positioning for insertion into hole.



32. Once Screw is secured, and while cable is still exposed, tug on cable lightly while looking into hole with flash-light. **Important!** Ensure that cable loop is actually in the slot and that the Screw passes through the loop.

Note: In the view below, the Rocket Attach Cone has been removed for clarity.



33. The BRS unit is now ready to be re-installed back into the aircraft. Again, utilize the threaded rods and vice-grips to hold the unit suspended temporarily from the ceiling.
34. With the unit suspended, re-connect the Harness loops to their respective Shackle Assemblies.



35. Raise the unit into place, being careful not to pinch cables that run along back side of rear spar carry-through. Tuck Harnesses into box as you raise it into position.



36. Secure unit into place with previously removed hardware.
37. Re-install Activation Handle box assembly to cockpit overhead.



38. Re-install interior.
39. Re-install Shackle Cover. Remove all traces of dried Silicone from the Shackle Cover, airplane and Parachute Cover where Shackle Cover was installed. If Shackle Cover had been broken during removal, a replacement may be ordered through BRS.
40. With blue masking tape, mask entire perimeter of upper surface of Shackle Cover.
41. Apply bead of Silicone to bottom side of flange around entire circumference.



42. Install Shackle Cover over Shackles and tape in place. Allow Silicone to dry overnight before applying final Silicone trim.



43. Once Silicone has dried, remove tape securing Cover to airplane. Mask outside top edge of Cover, and mask around perimeter on aircraft skin, 1/8-1/4" from edge of Cover. Note: This is an appearance part so it pays to take your time.
44. Keep the paper towels handy for this next step. Once masking tape has been applied, apply bead of Silicone to outer edge around entire Cover. With a "wetted" finger, smooth out Silicone to make it look good. Caution: Do not overwork the Silicone - just run your finger over it once, if possible. Clean the Silicone off your fingers and keep them wet when working the Silicone.
45. Carefully remove the masking tape immediately after working it, and allow it to dry **at least 1 day** prior to flight.
46. **Final Procedure**
Complete aircraft records by noting compliance with BRS SB 2008-04-01 R1 in aircraft logbook. Send completed Compliance Response form (see last page) to BRS Inc.

Ballistic Recovery Systems, Inc.

**Compliance Response Form
for
Service Bulletin 2008-04-01 R1**

BRS-150

It is necessary that BRS maintain a record of all airplanes in compliance with the requirements of this Service Bulletin. BRS Inc. requires that this Service Bulletin Compliance Response Form be completed and returned to the address below.

Airplane Information

Airplane Registration ("N") Number: _____

Acft. Serial Number: _____ BRS unit Serial Number: _____

Owners Name/ Address: _____

_____ Phone: _____

Hobbs or Tach. Hours: _____

Service Facility Information

Service Facility Name / Address: _____

Date of Service: _____ Phone: _____

Compliance Information

This BRS Service Bulletin was complied with on the referenced serial number airplane at the listed airplane hours.

Name / Signature: _____

Title: _____ A/P or I/A Number: _____

Comments: _____

Return form to:

BRS, Inc.
Customer Service Manager (dkuefler@brsparachutes.com)
300 Airport Road
South St. Paul, Minnesota 55075