



# AUSTRALIAN PARACHUTE FEDERATION

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## APF SERVICE BULLETIN No APF010801-C\* Issued 2nd March 2009

**SUBJECT: 3-RING INSPECTION AND MAINTENANCE**

**STATUS: Part A – Inspection- MANDATORY**  
**Part B – Maintenance- RECOMMENDED**

**IDENTIFICATION:** All 3-ring release systems.

### BACKGROUND:

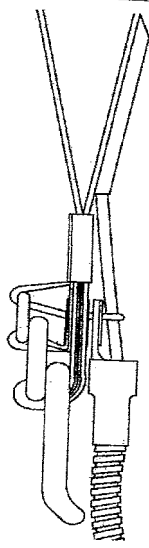
In order that 3-ring risers achieve the optimum strength and ease of release under load they should conform to certain criteria.

Following serious incidents in the past the APF originally issued this Service Bulletin in August 2001. After a riser failure in Jan 2009 this bulletin was re-issued with a requirement that the riser inspection was carried out and noted on the reserve packing card and marked on the risers to ensure that all 3-ring assemblies were critically inspected. This inspection and discussions with some manufacturers highlighted that there are now various styles of 3-ring releases being manufactured that do not adhere to the August 1998 3-Ring Release Construction Manual published by the Relative Workshop (now United Parachute Technologies).

Manufacturers produce 3-ring risers in various configurations using differing components such as oval middle rings, reverse risers or loops that do not pass through a grommet inserted in the riser as well as heavy duty rings on tandem equipment. The manufacturer's manual for their particular harness / riser assembly should be referred to for the correct inspection, maintenance and assembly of the 3-ring. The basic criteria for assessing correctly built 3-ring risers are listed here under Part A – Inspection.

### Part A - INSPECTION:

While 3-ring risers may be constructed of various webbing widths and differing components, mixing of mini- risers on large harness rings may also create problems. Care should be taken that the risers are compatible with the harness and that the following criteria is complied with.



- . Under moderate tension the rings should overlap each other and maintain metal to metal contact between each other.
- . The rings should be aligned in parallel planes.
- . The smallest ring should NOT be pulled snug against the grommet / riser by the locking loop which should be long enough to give it some play.
- . The locking loop should go straight through the riser grommet on its way to the cable housing end fitting (may vary on reverse risers or no grommet through riser type)
- . It should be checked that NO suspended load is supported by the cable housing and locking loop due to the cable housing being incorrectly positioned in the harness or being too short.

## **Part B - MAINTENANCE**

### **Disassembly**

Each month the 3-ring release should be operated on the ground by pulling the cables out. While it is disassembled closely inspect the system, vigorously flex the webbing near each ring to remove any 'set', rotate the rings and check for bends and elongation and check around the riser grommet for webbing failure.

Check the white locking loop for any wear.

Check the inside of the Bendix release cable housing for gravel or other obstructions and feel for any dents where the housing runs through the rig. Check the hand tacking which secures the housing to the rig.

Clean and lubricate the cables with a light oil such as '3-in-1'. Put some drops on a cloth and firmly wipe the cables a few times, a THIN, invisible film should remain – too much will attract dirt and grit.

### **Reassembly**

Do not reverse the risers. Line check if necessary.

Ensure each ring passes through **only** one other ring...

...and that the locking loop passes through **only** the small ring.

Do not kink the cables or twist the locking loop during assembly.

### **APF POLICY:**

Owners are responsible for the daily airworthiness of their equipment. They should familiarise themselves with the correct geometry and maintenance of the 3-ring release as specified in the harness / container owner manual as supplied by the manufacturer. (The manual may in most instances be downloaded from the manufacturer's web site).

### **Inspection:**

3-rings which do not conform to the inspection criteria above or the manufacturer's manual shall be grounded until inspected by an APF rigger or manufacturer to determine if the risers are:

- Acceptable / compatible,
- Will be acceptable following modification or repair,
- Cannot be modified or repaired and removed from service / replaced.

Compatibility, inspection and maintenance of 3-ring risers must be determined in accordance with the manufacturer's manual or directives issued as a service bulletin.

### **Maintenance:**

Carefully inspect the 3-ring prior to each jump.

Conduct the maintenance and reassembly of the 3-ring each month following the recommended procedures.

Immediate inspection should be carried out if the rig has been subjected to some abuse such as being dragged, a water landing or exposure to a lot of dust or sand.

**AUTHORITY:** APF Director Rigging

**EFFECTIVE DATE:** 2<sup>nd</sup> March 2009

**DISTRIBUTION:** To all APF Packers and Riggers  
To all APF members via the APF web site

*\*This Service Bulletin replaces APF SB 010801-B Issued January 2009*