Alpine Rescue Equipment
TYROMONT

APPLICATION- and MAINTENANCE MANUAL

RBS - RotationBrakeSystem

93285 I RBS with Handling Stick
93371 I RBS with Handling Hole

for TYROMONT Helicopter Rescue Bags

Read this manual carefully and retain it for future references.

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TYROMONT Alpin Technik GmbH
Bert-Köllensperger-Str. 6, A 6065 Thaur
T +43 (0) 5223 / 23 723 - 0
F +43 (0) 5223 / 23 723 - 10
office@tyromont.com
www.tyromont.com

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CONTENT

1 Application- and Maintenance Manual (AMM)

This application and maintenance manual is a general tutorial for the described product and does not replace proper training of the users.

Every user must be accurately instructed and trained in the application and maintenance of the device and must be physically and mentally fit when using it.

Insufficient instruction, wrong application or misuse of the product can lead to accidents. The limits, maintenance directives and indications for possible mistakes listed in this AMM must be carefully observed.

The Rotation Brake System (=RBS) can be used on every TYROMONT helicopter rescue bag with RBS Velcro fastening.

For older TYROMONT helicopter rescue bags without RBS Velcro fastening a retrofitting by the manufacturer should be possible in most cases.

Retrofitting a TYROMONT helicopter rescue bag with RBS Velcro fastening may only be carried out by the manufacturer or an authorized representative.

2 Application

2.1 Intended Application

The Rotation Brake System (=RBS) is designed for use on TYROMONT helicopter rescue bags to control and prevent rotation of the rescue bag caused by downwash effects under a helicopter.

2.2 Standard Application

The Rotation Brake System (=RBS) is attached to the TYROMONT helicopter rescue bag by means of a Velcro fastening and is additionally fixed with a fastening belt. The RBS must be mounted so that the handling stick or handling hole looks toward the head area of the rescue bag and the leading edge of the RBS is closer to the operator.

When folded, the RBS can remain on the helicopter rescue bag.

In the event of a rescue operation (winch or long line), the RBS is operated by the flight rescuer, who, together with the rescue bag and the injured person, hangs on the hoist hook of the winch or long line.

Depending on the rotational movement of the helicopter rescue bag, this can be stopped and controlled by moving the RBS slightly to the operator or towards the operator.

If the RBS is no longer required, it is folded down so that the inner Velcro fastener closed the RBS tightly.

3 Training of Users

The entrusted staff for the operation must be properly instructed and trained before the first use of the device.

In particular, familiarization with this Application and Maintenance Manual (=AMM) during the introduction and recurring training shall be part of the training.

The instruction must be carried out verifiably and must be repeated at least yearly. Consider the national special rules in the EC member states or the contractor bound countries (like Switzerland, Norway, etc.).

Write down type, extent and dates of training in appropriate way.

4 Technical Description

The Rotation Brake System (=RBS) of TYROMONT is a kind of sail made of textile materials for the prevention and control of rotation movements of a helicopter rescue bag under a winch or long line.

At the bottom, there is a hook fastener to fix the RBS on the helicopter rescue bag.

The fastening slot is used to pass the fastening belt of the rescue bag to additionally secure the RBS to the bag.

The inner Velcro fastener enables the RBS to be folded and fixed if it is not required.

The RBS could be operated in flight either by the yellow handling hole (P/N 93285) or by the handling hole (P/N 93371).

4.1 Advantages

√ Can be manually activated
√ Intuitive to use ➔ little training effort
√ No external power source necessary
√ No electronics ➔ low maintenance necessary

4.2 Technical Data

P/N:	93285 / 93371
Weight:	350g
Dimension:	535mm x 365mm

4.3 Specification

Textile Fabrics:	reinforced polyamide nylon 6.6
	water-resistant, impregnated, PU-coated on inner layer
	215gr/m2, 470dtex, water column 850mm

5 Safety Information

5.1 Foreseeable Misuse and Possible Risks

(What the Rotation Brake System (=RBS) is not suitable for and what it is not intended for)

Any unintended use (misuse) could invisibly or obviously damage the Rotation Brake System (=RBS) and effect the safety of the product. Misuse leads to an immediate loss of warranty.

- Changes to the product in any way
- Use by uninstructed or untrained people
- Reverse attachment of the RBS on the helicopter rescue bag or inadequate fixation of the RBS
- Use of the RBS despite damage (e.g. crack in the textile structure)

Listing is not complete, similar situations differing from the normal application have to be considered.

5.2 Compatibility with Helicopter Rescue Bags

The Rotation Brake System (= RBS) is designed exclusively for use with TYROMONT helicopter rescue bags that are equipped with a fastening loop.

The Rotation Brake System (=RBS) must NOT be used with helicopter rescue bags from other manufacturers without TYROMONT´s consent.

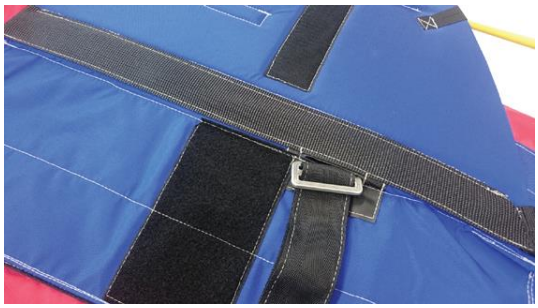
6 Provisioning

6.1 Attachment to TYROMONT rescue bags <u>without</u> a pump bag

Mounted RBS on TYROMONT rescue bag <u>without</u> pump bag.

1. Fastening Velcro in the foot areas of the rescue bag.

2. Put on RBS, handle towards head area.



3. Pass the buckle through the slot.

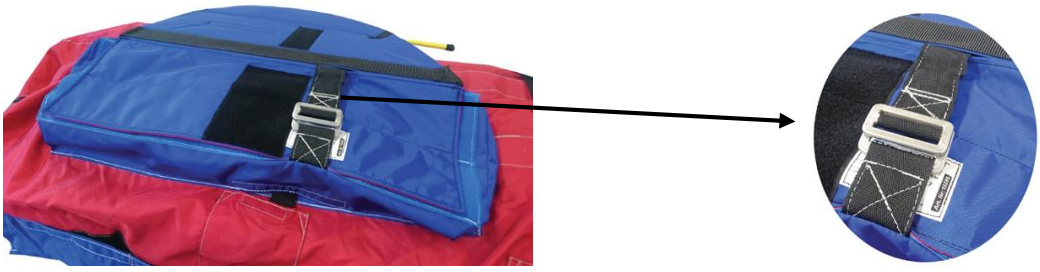
4. Close the fastening belt with the second part.

6.2 Attachment to TYROMONT rescue bags <u>with</u> a pump bag

Mounted RBS on TYROMONT rescue bag <u>with</u> pump bag.

1. Fastening Velcro on top of the pump bag.

2. Put on RBS, handle towards head area.



3. Pass the buckle through the slot.

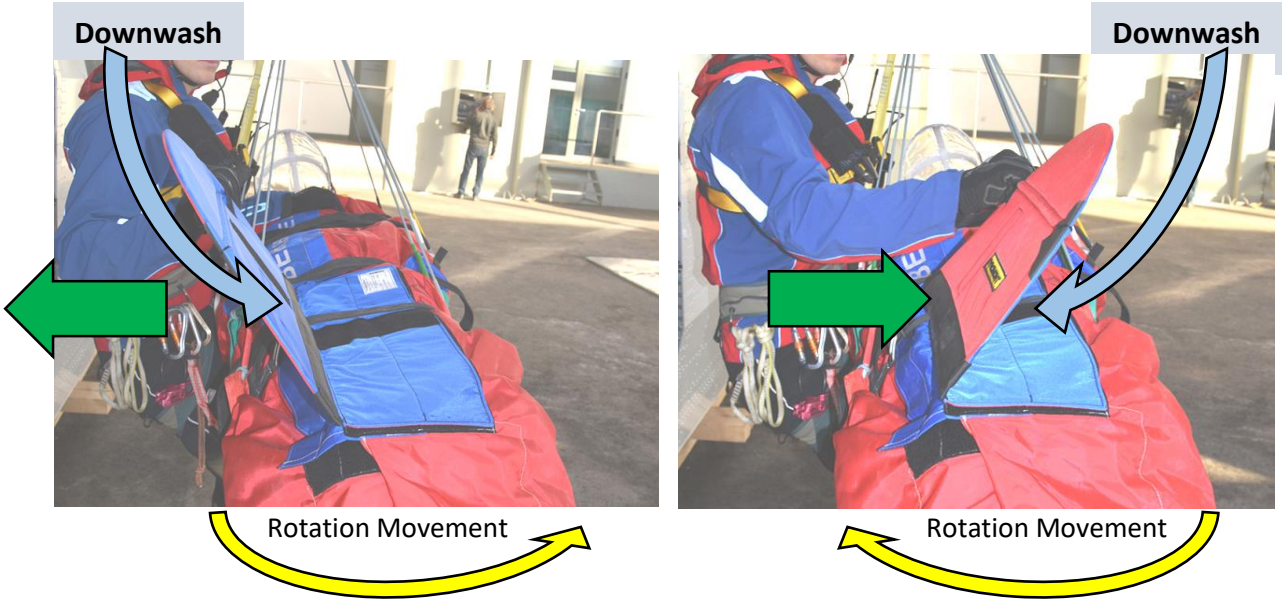
4. Close the frame buckle and fixate the RBS.

7 Operation of RBS

Basic Principle:

Use of the downwash effect to stabilize the helicopter rescue bag.

Control/Steering: The rescue bag moves in the direction in which the RBS is moved.
When the bag rotates counter clockwise, the RBS has to be moved to the rescuer, when rotating clockwise, the RBS has to be moved from the rescuer (intuitive operation!).



8 Storage, Inspection and Maintenance – Repair – Overhaul (M-R-O)

8.1 Storage

The device must be stored dry, protected from direct sunlight and at normal ambient temperature.

The storage place for the Rotation Brake System (=RBS) must be protected against and be free from any influence of all kind of chemicals which are able to harm textiles.

On a heliport special attention shell be given to avoid contact with:

- Fuels, lubricants, hydraulic oils and other technical liquids
- Battery acids, gels
- The fumes of these substances

If the RBS is wet, it must be carefully air-dried before storage.
Never use a laundry dryer or any other heat source!

8.2 Inspection by Operator

The Rotation Brake System (=RBS) must be carefully visually checked after every operation for damages, noticeable changes or soiling.

Contamination with blood or other body fluids must be removed according to the cleaning instruction (chapter 9).

8.3 Maintenance – Repair - Overhaul

The manufacturer or an authorised person of the manufacturer must only do repairing and overhauling of the device.

9 Cleaning Instruction

The following rules apply for cleaning the Rotation Brake System (=RBS):

- Hand wash at maximum 40°C
- Clean blood or secretion spots with cold water as soon as possible
- Air-dry, avoid direct sunlight

- **Do not chlorinate, do not apply any detergent containing chlorine.**
- **No dry-cleaning with hard brushes.**
- **No contact with disinfection baths or aggressive disinfects.**
- **Do not use metal tools to rubber spots of dirt.**
- **Do not use laundry driers or spin driers.**
- **For disinfection, use non-aggressive disinfectant wipes or liquids.**

9.1 Cleaning of the Velcro Fastener

In addition to the above-described washing procedure, dirt, forest remainders, etc. can and shall be removed from the Velcro fasteners by means of a soft brush (line hand-cleaning brush, etc.).

- **Dry all parts carefully after cleaning. No use of any laundry drier or no spinning!**

10 Formal

10.1 Warranty

At normal use and proper handling and maintenance, the manufacturer warrants 2 years from date of production/supply for material- and manufacturing failures.

The warranty expires at normal use after two years. Immediately at misuse, unauthorized retrofitting, variances, wrong application.

Carefully observe the manuals of the manufacturer of applied components, especially all listed hazards that are not quoted in this manual.

10.2 Operational Lifespan (EXP.)

Without consideration of war and other destruction, this product can be applied for 12 years.

Wear and destruction can reduce the operational lifespan to zero starting from the first use.

Lifetime = Storage Time + Usage Time

An extension of the lifespan after solely storage or minimal usage time/cycles is the responsibility of the manufacturer.

The date of production (production year) and the part number (P/N) are attached to the label on the RBS.

Damaged parts must be handed over to the manufacturer for analysis reasons. A continued use of damaged parts leads to an immediate loss of warranty.

10.3 Recall and Disposal

The manufacturer reserves the right of an immediate recall of the product. The manufacturer can be contacted for correct disposal.

10.4 Manufacturer

TYROMONT Alpin Technik GmbH
Bert-Köllensperger-Strasse 6
6065 Thaur / Austria
Phone +43 5223 23 7 23 - 0, Fax +43 5223 23 7 23 - 10
E-Mail office@tyromont.com, Internet www.tyromont.com

10.5 Commercial Rights

The rights of sales and all rights resulting therefrom are held by:
TYROMONT Alpin Technik GmbH (TYROMONT) and explicitly authorised representatives.

In case of any doubt, please refer to the manufacturer.

11 Control Card

The fields listed must be completed during a revision / inspection:

Datum ***Date***	**Name des Prüfers** ***Name of Authorized Inspector***	**Grund bzw. Art der Überprüfung/Wartung** ***Reason for Inspection / Maintenance***
	Bemerkung **Remark**	**Nächste Überprüfung** ***Next Inspection Date***

12 Individual Information

The following information have to be filled in by the buyer:

Produkt / *Model*	
Produktnummer / Part Number (P/N)	
Kaufdatum / *Date of Purchase*	
Produktionsjahr / *Year of Production*	
Erstgebrauch / *First Use*	
Unternehmen / *Company*	
Nutzer / *User*	

FLY SAFE - Thank you!

TYROMONT Alpin Technik GmbH
Bert-Köllensperger-Str. 6
6065 Thaur / Austria
Phone +43 5223 23 7 23 - 0, Fax +43 5223 23 7 23 - 10
E-Mail info@tyromont.com, Internet www.tyromont.com