# User manual

# Personnel Free Fall Cargo Harness

# SG 7/100

Paratec GmbH
Flugplatz
66798 Wallerfangen
Germany

| Issue | 2 | | | |
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*Explanotary note:*
*Altered text lines or text sections are to be marked with a vertical bar on the right margin.*
*Altered pictures or illustrations are to be marked with a hand symbol on the right margin.*

The manual Personnel Free Fall Cargo Harness SG 7/100 contains 16 valid pages.

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Picture 1
Front view, packed.



Picture 2
Rear view, packed.

# 1. Description

## 1.1. General Information

### 1.1.1. Name
Personnel Free Fall Cargo Harness, SG 7/100, manual release, single hand operation.

### 1.1.2. Part Number
93070020

### 1.1.3. Nato Stock Number
1650-12-352-7714

### 1.1.4. Component Number
n/A

### 1.1.5. Manufacturer
Paratec GmbH
Flugplatz
66798 Wallerfangen / Germany

### 1.1.6. Marking

| | |
|---|---|
| P/N : | |
| NSN : | |
| S/N : | |
| MFG Code : | |
| Date of Manufacture: | |

### 1.1.7. Purpose
The cargo harness SG 7/100 is used to transport personal equipment, attached to the jumpers free fall parachute harness up to 115 kg (253 lbs) in combination with a tactical freefall parachute system.

### 1.1.8. System components
The SG 7/100 consitsts of the following components:

– Packtray with retainer straps and leg straps
– Lowering system with emergency release
– Release handle with connector straps
– Stabiliser straps
– Stowage bag

1.2.     Technical data

1.2.1.   Construction details
— Release system:   Single hand, 5 Ring release
— Closing system:   Double snap shackle quick lock

1.2.2.   Measurements

| | |
|---|---|
| Pack tray, length overall: | 98 cm |
| Pack tray, with overall: | 72 cm |
| Vertical retainer straps, length overall | 200 cm |
| Lateral retainer straps, length overall | 100 cm |
| Stabiliser straps, length overall | 60 cm |
| Lowering line, length overall | 600 cm |

1.2.3.   Weight of cargo harness SG 7/100:

| | |
|---|---|
| Weight of cargo harness SG 7/100: | 5,8 kg |

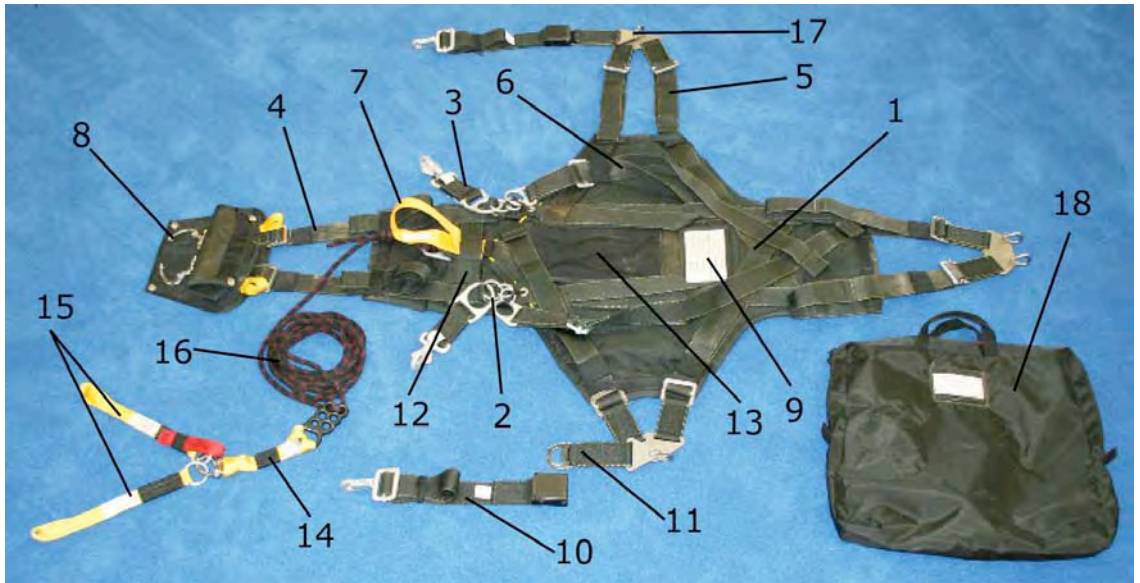1.2.4.   Performance limitations

| | |
|---|---|
| Maximum payload (weight of rucksack): | 115 kg (253 lbs) |
| Maximum deployment speed: | 210 KIAS |
| Temperature range: | -55°C to +70°C |
| Life time limitation: | 20 years, starting from month of manufacture |

## 1.3. Technical description



Picture 4
Cargo harness overview showing all components.

| | | | |
|---|---|---|---|
| 1 | Pack Tray | 10 | Stabiliser straps with release buckle and adjustable B12 snap |
| 2 | 5-Ring system | 11 | Stabiliser connector piece |
| 3 | Connector piece | 12 | Lowering line guide |
| 4 | Vertical retainer strap | 13 | Lowering line pocket |
| 5 | Lateral retainer strap | 14 | Emergency release |
| 6 | Leg strap | 15 | Split V connector |
| 7 | Release handle | 16 | Lowering line |
| 8 | Snap shackle quick lock | 17 | Swivel piece |
| 9 | Label | 18 | Stowage bag |

### 1.3.1. Pack tray with retainer straps and leg straps

The pack tray (1) is made from Nylon fabric and is bound around the edges. The double vertical retainer (4) and lateral retainer straps (5), the lowering line pocket (13), the lowering line guide (12) and the elastic keeper for the release handle (7) are sewn to the pack tray, where the free ends of the retainer straps extend over the pack tray to enable a piece of cargo to be packed into the cargo harness. The free ends of the retainer straps end in swivel pieces (18). Connected to these swivel pieces are 2 connector pieces (10), holding the latch to connect to the stabiliser straps release buckles (10).

1.3.2.    Lowering system with emergency release

The lowering system consists of a split V- strap, made from yellow tubular ny-lon, which has a loop on one end to connect with the jumper's parachute har-ness and a ring on the other end. The rings of both straps are connected via the snap shackle of the emergency release which holds the lowering line re-tarder plate. The lowering line resembles a mountain rope of 8.5 mm diame-ter which has a overall length of 6 m. The lowering line is fed through the re-tarder plate holes and is tied to the connection ring below the release handle, using a bowtie knot. ( Refer to picture 5 ).


Picture 4
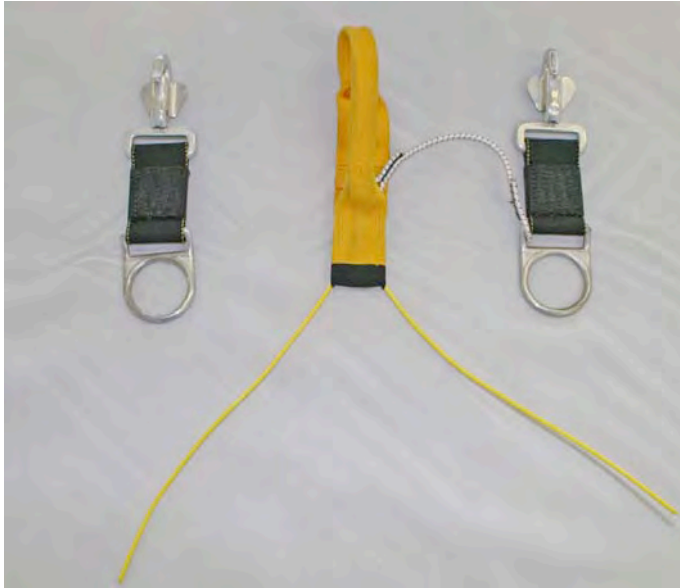Lowering system with emergency release and lowering line.


Picture 5
Lowering line connected to the cargo harness.

Picture 6
Shows the lowering system attached on a
released cargo bundle.

1.3.3.    Release handle with connector straps

The release handle is made from T7 webbing and holds the release cables. It
connects to the right connector strap via a shock cord. The connector straps
are made from T7 webbing and hold the large 3 Ring which connects to the
TW 7/100 and the butterfly snaps, which connect to the Parachute harness.
The release handle is secured in a elastic keeper pocket, located centrally on
the tack tray. (Refer to picture 8).

Picture 7
Release handle with connector straps.



Picture 8
Securing the release handle in it's elastic keeper.

1.3.4. Stabiliser strap with release buckle and adjustable B12 snap

Both stabiliser straps are made form T7 webbing, have an overall length of ca 60 cm and feature a seat belt type release buckle, which connects to the cargo harness and a adjustable B12 snap which connect to the lower V rings on the sides of the parachute container.



Picture 9
Stabiliser strap with release buckle and adjustable B12 snap.

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Picture 10

Stabiliser strap attached and tightened.

## 2. Implementation

### 2.1. Preparation

#### 2.1.1. Inspection before use

Prior to every use of the SG 7/100, the user must perform a visual inspection to check for obvious faults and damages due to improper use, wrong assembly or wear and tear.

#### 2.1.2. Pre-packing procedure

The SG 7/100 is to be prepared for use in the following manner:
(reactivating after jumping)

—   Insert the release handle in it's pocket and feed the release cable through the first  housing
—   Close the 5 Ring system using the connector strap and the leg strap large 3 Rings
—   Extend the vertical and lateral retainer straps to full length
—   Pull the lowering line through the holes of the retarder plate, stow the long end into pouch
—   Connect the stabiliser via the release buckles with the latches and extent to full length

#### 2.1.3. Packing the equipment into the SG 7/100

All contents are to be packed in the following manner:

—   Lay the pack tray on the ground, webbings facing down
—   Place container (rucksack etc) onto it
—   Bring vertical and lateral retainer straps together and secure in snap shakles
—   Tighten retainer straps and secure over-lengths in elastic keepers
—   Close protector flap of snap shackle quick lock using the pull dots

2.1.4.    Mounting (connecting to jumper's parachute harness)

The jumper connects the SG 7/100 in the following manner:

- Loop through the split V strap through the cargo attachment rings of the parachute harness
- Step through the leg straps and kneel down
- Connect the split V-straps via the snap shackle with the emergency release
- Lay on the bundle and connect the Butterfly snaps to D rings of parachute harness
- Reach for the adjustable B12 snaps and connect with V Rings on the lower side and tighten them by pulling forward



Picture 11
SG 7/100, mounted, front view.



Picture 12
SG 7/100, mounted, side view



Picture 13

Stabiliser strap connected and tightened.

2.2.    Operation

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# !! Warning !!!

The cargo harness and it's content may not be carried by the
leg straps to avoid damage of the 5 ring release system.

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2.2.1.    Releasing the cargo harness

When the jumper has reached the release altitude, he checks the airspace be-
low him and disconnects the lower stabiliser straps by pushing the lever of the
seat belt buckle forward. Then he pulls the yellow release handle in front of
him. The cargo bundle will now slip down the lowering line, slowed by the re-
tarder plate.



Picture 14:
Releasing the stabiliser straps.

Picture 15:
Correct guidance of the lowering line.

2.3.      Placing out of operation

2.3.1.      Recovery of the cargo harness

After landing, the jumper disconnects himself, by releasing the emergency snap shackle. He then daisy chains the lowering line up to the cargo harness and secures it, using said snap shackle to ring that connects with the lowering line on the harness.

2.3.2.      Shut-down of the cargo harness

After recovering his parachute, the jumper disconnects the V-straps from his parachute harness and reconnects them with the snap shackle of the emergency release. He then disconnects the stabiliser straps and reconnects them with the tab on the harness. (Refer to 2.1.2.).
He now opens the quick release of the harness by pulling on the 2 yellow handles and retrieves his rucksack. The SG 7/100 is now stowed back into it's carrying bag, making sure all pieces are complete.

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# 3. Maintenance and repair

## 3.1. Inspection (to be carried out within 12 months periodically, no matter whether the item was in use or stored)

### 3.1.1. Textile Parts
Check for
- abrasion
- holes
- tears
- burns
- stains
- open stitching

### 3.1.2. Hardware
Check for
- deformations
- cracks
- oxidations

## 3.2. Repair
Minor and or Major Repair may only be executed by properly trained and licensed personnel or by the manufacturer using standard parachute rigging procedures and original or manufacturer approved materials.

## 3.3. Storage
Always store the SG 7/100 in it's carrying bag in a dry, clean place, protected from direct sunlight.

## 3.4. Spare parts list

| Pos | Desciption | Part # |
|-----|------------|--------|
| 1 | SG7-100 personal cargo harness system complete | 73070020 |
| 2 | SG7-100 harness container only | 93070021 |
| 3 | Stabiliser straps (pair) | 95070210 |
| 4 | Stabiliser strap single | 95070211 |
| 5 | Connector straps, pair, incl. release handle | 95070220 |
| 6 | Connector strap, right, incl. release handle | 95070221 |
| 7 | Conector strap, left | 95070222 |
| 8 | Release handle | 95071023 |
| 9 | Cargo lowering device, complete | 95071030 |
| 10 | Central strap with snap shackle and friction brake | 95071031 |
| 11 | Snap shackle with flag | 95071033 |