

MAINTENANCE MANUAL

of the manufacturer of hot air balloons

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4.3.11. Replacement of burner housing 4-14
4.3.12. Replacement of connection bracket 4-15
4.4. Constituent parts of the burner FB 7 4-17
4.4.1. Removal of Piezo-ignition unit 4-18
4.4.2. Removal of pilot light assembly 4-19
4.4.3. Removal of pilot light valve assembly 4-20
4.4.4. Replacement of burner coils - take-off burner FB 7 4-21
4.4.5. Replacement of FB 7 cow burner coil 4-22
4.4.6. Removal of cow burner valve assembly 4-23
4.4.7. Removal of cow burner jet 4-24
4.4.8. Removal of pressure gauges 4-25
4.4.9. Removal of blast valve 4-26
4.4.10. Removal of take-off burner valve 4-27
4.4.11. Replacement of burner housing 4-28
4.4.12. Replacement of connection bracket 4-29
4.4.13. Replacement of burner hoses 4-31
4.4.14. Procedures following incidents or specific occurrences 4-32
4.5. 100-hours- or annual inspection 4-33
4.5.1. Inspection criteria 4-33
4.5.2. Fault tolerances 4-34

5. Basket maintenance and repair **5-1**



5.1. General 5-1
5.2. Repair procedures 5-2
5.2.1. Basket weave 5-2
5.2.2. Basket floor 5-2
5.2.3. Load bearing wooden frame (basket frame) 5-2
5.2.4. Sliding runner 5-2
5.2.5. Metal frame 5-3
5.2.6. Stainless stelel basket wires 5-3
5.2.7. Basket wire routing 5-3
5.2.8. Basket padding and leather trim of basket top 5-3
5.2.9. Raw hide covering at basket bottom 5-3
5.2.10. Rope handles 5-3
5.2.11. Plastic handles 5-3
5.2.12. Take-off aid and take-off rope 5-4
5.2.13. Quick release system attached to burner frame or envelope karabiners 5-4
5.2.14. Burner support rods 5-5
5.2.15. Cylinder attachments (straps) 5-5
5.3. Procedures following incidents or specific occurrences 5-5
5.4. 100-hours- or annual inspection 5-6
5.4.1. Inspection criteria 5-6
5.4.2. Fault tolerances 5-7

6. Fuel Cylinder repair and maintenance instructions **6-1**



6.1. General 6-1
6.2. Repair procedures 6-2
6.2.1. General 6-2
6.2.2. Replacement of cylinder padding 6-4
6.2.3. Replacement of pressure regulator 6-4
6.2.4. Fill level gauge assembly 6-5
6.2.5. Liquid take-off assembly 6-6
6.2.6. Vapour take-off assembly with pressure regulator System Lorch 6-7
6.2.7. Vapour take-off assembly with pressure regulator System fb type:GR 1 6-8
6.2.8. Ball valve assembly 6-9
6.3. Procedures following incidents or specific occurrences 6-10
6.4. 100-hours or annual inspection 6-11

Record of Amendments

Amendment no.	Affected chapter	Amended pages	Date of issue
0	all	all	October 2011, Chapter 2 EASA-appr.: 10036979
1	4	Pages 4.17 to 4.29 inserted due to new burner FB 7	August 2013; EASA approval #10047030
2	3; appendix 1	3-2; 3-3; 3-12; 3-15; 3-17-18; 3-20; App. 1	May 2019 EASA approval #10070119
3	4; 6	4-5; 4-8; 4-13; 4-20; 4-23; 4-26; 6-13	August 2019 EASA approval #10070719
4	4; 6	4-1; 4-13; 6-4	November 2019 EASA approval# 10071812
5	3	3-7; App. 4, App. 5	May 2020 EASA approval# 10073341
6	5	5-4 to 5-7	June 2020 EASA approval# 10073560

tab.0-1: Record of Amendments

List of effective pages

Chapter	Page	Date of issue
Deckbl.	0	May 2020
	I	Oct 2011
	II	May 2020
	III	May 2020
	IV	May 2020
	V	May 2020
	VI	May 2020
1	1-1	Oct. 2011
	1-2	Oct. 2011
2	2-1	Oct. 2011
3	3-1	Oct. 2011
	3-2	May 2019
	3-3	Oct. 2011
	3-4	Oct. 2011
	3-5	Oct. 2011
	3-6	Oct. 2011
	3-7	May 2020
	3-8	Oct. 2011
	3-9	Oct. 2011
	3-10	Oct. 2011
	3-11	Oct. 2011
	3-12	May 2019
	3-13	Oct. 2011
	3-14	Oct. 2011
	3-15	May 2019
	3-16	Oct. 2011
	3-17	May 2019
	3-18	May 2019
	3-19	Oct. 2011
	3-20	Oct. 2011
4	4-1	Nov. 2019
	4-2	Oct. 2011
	4-3	Oct. 2011
	4-4	Oct. 2011
	4-5	Aug. 2019
	4-6	Oct. 2011
	4-7	Oct. 2011
	4-8	Aug. 2019
	4-9	Oct. 2011
	4-10	Oct. 2011
	4-11	Oct. 2011
	4-12	Oct. 2011
	4-13	Nov. 2019
	4-14	Oct. 2011
	4-15	Oct. 2011
	4-16	Oct. 2011
	4-17	Aug. 2013
	4-18	Aug. 2013
	4-19	Aug. 2013
	4-20	Aug. 2019
	4-21	Aug. 2013
	4-22	Aug. 2013
	4-23	Aug. 2019
	4-24	Aug. 2013
	4-25	Aug. 2013
	4-26	Aug. 2019
	4-27	Nov. 2019
	4-28	Aug. 2013
	4-29	Aug. 2013
	4-30	Aug. 2013
	4-31	Oct. 2011
	4-32	Oct. 2011
	4-33	Oct. 2011
	4-34	Oct. 2011
	4-35	Oct. 2011
5	5-1	Aug. 2013
	5-2	Oct. 2011
	5-3	Oct. 2011
	5-4	June 2020
	5-5	June 2020
	5-6	June 2020
	5-7	June 2020
6	6-1	Oct. 2011
	6-2	Oct. 2011
	6-3	Oct. 2011
	6-4	Nov. 2011
	6-5	Oct. 2011
	6-6	Oct. 2011
	6-7	Oct. 2011
	6-8	Oct. 2011
	6-9	Oct. 2011
	6-10	Oct. 2011
	6-11	Oct. 2011
	6-12	Oct. 2011
	6-13	Aug. 2019
	6-14	Oct. 2011
	6-15	Aug. 2013
7	7-1	Oct. 2011
8	8-1	Oct. 2011
	8-2	Oct. 2011
	8-3	Oct. 2011
	8-4	Oct. 2011
	8-5	Oct. 2011
App.	1	May 2019
App.	2	Apr. 2015
App.	3	Juni 2017
App.	4	May 2020
App.	5	May 2020

tab.0-2: List of effective pages



5.2.12. Take-off aid and take-off rope

The take-off aid is integrated into the basket weave. It consists of 4 take-off rope attachments, an attachment ring, a karabiner, a rated break link if required, a safety catch and the take-off rope. In case of damage to any of the take-off attachments (rope spliss, damage to the thimble), it is to be replaced completely. **C D**

The attachment ring, the karabiner for the pre-safety, the rated break link (breaking load 850 daN) and the safety catch (snap shackle) are to be replaced against new when damaged.

A B C D

The take-off rope, approx. 5 m long, is spliced at one end in that way that two loops are present approx. 20 cm apart. Is the take-off rope damaged or even cut, it is to be replaced by a new original rope. **A B C D**

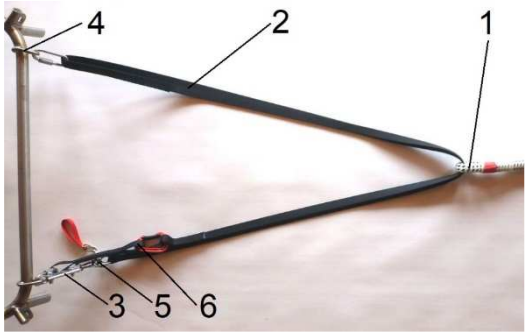


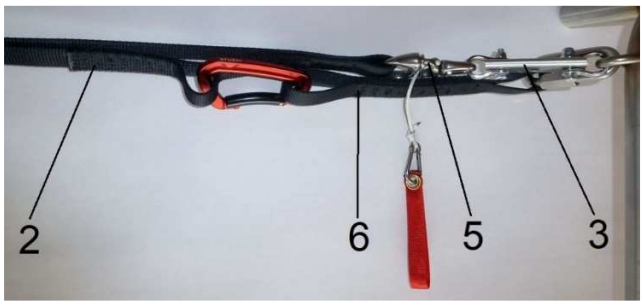
pic.5-2: take-off aid

5.2.13. Quick release system attached to burner frame or envelope karabiners

The quick release can also be attached to the burner frame. Two rings must be welded to the frame at Schroeder fire balloons for the attachment of the system. The assembly of the quick release system is illustrated in pic.5-3: . The starting rope can also be joined with the sling belt for the start, using a big 25 kN aluminium karabiner with two locking methods. The system can also be attached to the envelope karabiners for envelope sizes up to and including 3400 m³. The system must be joined in a separate quick link with a min. strength of 25 kN for the attachment to the envelope karabiners. The system is assembled as can be seen in picture pic.5-3: .The starting rope has a maximum length of 4 m. The sling belt to the burner frame is equipped with an eyelet. The sling is sewn together on the quick release side so that the eyelet is always on a defined distance to the quick release. A snubber can additionally be installed to the starting rope as can be seen in pic.5-2: The snubber is recommended for envelopes with a volume of 6000 m³ and more.
Any deformed or damaged part must be exchanged. If the rated break point fails, the sling, the sheets of the break point and the safety sling must be replaced.







pic.5-3: Quick release for burner frames

1) Starting rope with Nylon-thimble max. length 4 m Item: K1 000 015
2) Sling belt with attached eye min.1,5 m – 2 m Item: K1 000 016
3) Rated break point 800 kg +-50 kg (Tost) Item: K1 111 018
4) Ring for welding attachment
5) Quick release coupling Item: K1 067 010
6) Safety sling of appr. 0,3 m Item: K1 000 017

5.2.14. Burner support rods

The four burner support rods made out of polyamide provide a loose connection between burner and basket. With time, the nylon can fatigue or even break. In both cases, the support rods are to be replaced. Correct length of the rods is to be ensured. Burner support rods cut to the respective length may be sourced from the manufacturer.

A B C D

5.2.15. Cylinder attachments (straps)

If the straps, used for securing the cylinders in the basket, are damaged in any way, they are to be replaced without exception. Original straps are to be ordered from the manufacturer.

A B C D

5.3. Procedures following incidents or specific occurrences

Type of occurrence	Actions
Basket stored wet for prolonged time Basket floor not ventilated from below Rot due to moisture	Replacement of base plate and the affected weave. **C D**
Basket deformed following heavy landing	Inspection by the manufacturer or by a maintenance organisation recommended by the manufacturer, re-aligning of deformed frame **C D** Welding of broken frame (manufacturer only) **D**
Crack or hole in basket floor following landing on pointy object (post, pole, etc.)	Depending on damage, repair or replacement of basket base plate **C D**
Contact with power lines	Inspection of basket wires and basket frame by the manufacturer is required. If the contact has only been made with the envelope fabric and no temperature sensor cable is installed, an inspection may be waived following consultation with the maintenance organisation or manufacturer respectively. **D**

tab.5-1: Procedures following incidents or specific occurrences



5.4. 100-hours- or annual inspection

5.4.1. Inspection criteria

The following checks are to be performed every 12 months or after 100 operating hours within the scope of the 100-hour inspection, whichever occurs first. The following is to be checked:

Weave
- Check for cracks, especially at the joint to the lower basket frame, and holes

Floor
- Check for cracks and existing holes

Wooden frame
- Check for cracks and breaks as well as the joint to the weave

Sliding runners
- Check attachment screws and wear and abrasion

Type plate
- Check existence and correct data stated

Carrying handles
- Check for damages

Grab handles
- Check for damages and secure attachment

Cylinder straps
- Check buckle and strap for damages and distortion or deformation

Padding and leather
- Check padding for firmness and damages, Check attachment of leather

Raw hide
- Check correct attachment to the frame and weave; tears and holes should not be present.

Basket wires
- Check basket wires for correct length, kinks, breakages or distortion or deformation.

Basket top frame
- Check for cracks or distortion or deformation.

Take-off aid and take-off rope
- Check secure attachment to basket, rated break link, carabiner and take-off rope for presence and damages.
- Check quick release and trigger cord for damages
- For burner frame quick release check sling belt and safety sling



5.4.2. Fault tolerances

Type of fault	Tolerance
Damages to the weave	5 cm tolerance in all directions, above that weaving-in of new wicker pieces.
Damages to the basket floor	Cracks not larger than 20 cm and visible from only one side; holes not larger than 3 cm in diameter and not more that 3 holes in total.
Stainless steel basket wires	Damage to max. Three individual strands, otherwise replacement of the affected wire required.
Damages to take-off aid, take-off rope, sling belt or safety sling	None
Damages to cylinder straps	None
Distortion to burner support rods	Slight distortion

tab.5-2: Fault tolerances