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## **SECTION 1 GENERAL, All Types and Variants**

### **I. General**

1. Data Sheet No. EASA.BA.119 Issue Date: 30 June 2017
2. Type / Variant or Model
  - (a). Type: MA Type
  - (b). Variant or Model: Standard
3. Airworthiness Category: Refer to section 2
4. Type Certificate Holder: NOUVELLE MANUFACTURE D'AÉROSTATS  
Zone Intercommunale Pointes Saint Georges  
57590 Delme  
FRANCE
5. Manufacturer
  - (a). For serial numbers 1 to 150: Siga Pilâtre de Rozier  
6, place du Temple  
BP 18  
57530 Courcelles – Chaussy  
FRANCE
  - (b). For serial numbers 151 to 237: Llopis Ballons  
Zone intercommunale Pointes Saint Georges  
BP 18  
57590 Delme  
FRANCE
  - (c). For serial numbers 238 and up : NOUVELLE MANUFACTURE D'AÉROSTATS  
Zone Intercommunale Pointes Saint Georges  
57590 Delme  
FRANCE
6. National DGAC-FR Certification Date: Various, refer to Section 2
7. DGAC-FR Initial Application date: Various, refer to Section 2, Application Date
8. EASA Application Date: Refer to Section 2
9. EASA Type Certification Date: 03 April 2017
10. Certification History: EASA.BA.119 TCDS replaced the French TCDS issued by DGAC-France (see Certification Basis, Section 2)

## **II. Certification Basis**

1. Reference Date for determining the applicable requirements: Various, refer to Section 2, Application Date
2. DGAC-FR Type Certificate Data Sheet No: No. 186, issue 3
3. Certification Basis: Refer to table in Section 2, §I.:
  - Conditions Techniques Générales CTG 015, edition no. 2 of 3 March 1980, and CTG 015/A introducing the requirements of FAR 31 Amdt. 3 & 4, marked (□)
4. Airworthiness Requirements: Refer to tables in Section 2, §I.:  
FAR 31 change 3 & 4;  
Additional Technical Conditions, CTG 015 – Section I ;  
Acceptable Means of Compliance, CTG 015 – Section II ;  
Free Manned Balloons Certification, CTG 015 – Section III ;  
Basic Technical Conditions, CTG 015 – Section IV ;  
marked (○)
5. Special Conditions: None
6. Reversion and Exemption: None
7. Equivalent Safety Findings: None

## **III.**

## **IV. Technical Characteristics and Operational Limitations**

1. Type Design Definition: Various, refer to Section 2
2. Description: Manned free hot-air balloon with natural envelope shape profiles.  
Volumes range from 1 800 to 4 000 m<sup>3</sup>.  
Envelopes are fitted with parachute, Smart-vent® or Lite-vent® deflation systems.  
Envelope options include rotation vents (turning vents), pressure scoop, deeper, skirt and limited inflated artwork as required.
3. Equipment:
  - Altimeter (one)
  - Rate of climb/descent indicator (one)
  - Indicator for the limit temperature of the envelope (one)
  - Fuel gauge for each cylinder (one)
4. Envelope: Refer to Section 2
5. Burner: Refer to Section 2
6. Basket: Refer to Section 2
7. Mass: Refer to Section 2
8. Maximum Envelope Temperature: 121°C
9. Minimum Flight Crew: One Pilot
10. Maximum Occupants: In accordance with approved Flight Manual
11. Other Limitations: VFR Night & Day Flight  
Life limited parts – see Airworthiness Limitations Section (ALS) in the Maintenance Manual

**V. Operations and Service Instructions**

- |                           |   |
|---------------------------|---|
| 1. Operating Instructions | NMA Balloons Flight Manual, Issue 04/09/1995, and subsequent approved EASA revisions        |
| 2. Service Instructions   | A NMA Balloons Maintenance Manual, Issue 04/09/1995, and subsequent approved EASA revisions |

**VI. Notes**

- 1) Manufacturing confined to approved Part 21 Subpart F or Subpart G organisation (Commission Regulation (EU) No 748/2012 of 03/08/2012)
- 2) A minimum of two cylinders are required to supply pilot lights. Extra cylinders may be used
- 3) Combinations with other manufacturer's parts (bottom ends).  
- See approved AFM and related supplements
- 4) For the purpose of maintenance and inspection, a logbook must be maintained with each hot air balloon envelope. If the burner, basket, instruments and/or cylinders are interchanged, they must be listed in the logbook of each envelope with which they are used.
- 5) For burner, cylinder and basket types Airworthiness Limitations of the other manufacturers refer in their applicable Maintenance Manual.

**SECTION 2 MA-model definition and certification data**

**I. Table 2.1: Type Design**

Model	Type design document n°	Reference date	Airworthiness Requirements (see II.4)	Certification basis (see II.3)	Initial Approval date
MA-18	MA-18 NMA 03-17	1st March 2017	○	□	4 September 1995
MA-22	MA-22 NMA 03-17	1st March 2017	○	□	4 September 1995
MA-26	MA-26 NMA 03-17	1st March 2017	○	□	4 September 1995
MA-30	MA-30 NMA 03-17	1st March 2017	○	□	4 September 1995
MA-35	MA-35 NMA 03-17	1st March 2017	○	□	27 November 1998
MA-40	MA-40 NMA 03-17	1st March 2017	○	□	27 November 1998

**II. Envelopes**

Model	Type design document n°	Approval date	Volume [m³]	Gores [-]	MTOM [kg]	MLM [kg]
MA-18	MA-18 NMA 03-17	1st March 2017	1 880	20	600	N/A
MA-22	MA-22 NMA 03-17	1st March 2017	2 200	24	750	N/A
MA-26	MA-26 NMA 03-17	1st March 2017	2 680	24	850	N/A
MA-30	MA-30 NMA 03-17	1st March 2017	3 000	24	950	475
MA-35	MA-35 NMA 03-17	1st March 2017	3 395	24	1 100	550
MA-40	MA-40 NMA 03-17	1st March 2017	4 000	24	1 250	625

**III. Approved combination with other manufacturers bottom ends**

(a) Aerostar Bottom ends

		Envelopes					
		MA-18	MA-22	MA-26	MA-30	MA-35	MA-40
Baskets	RWS	●	●	●	●	---	---
	CW	●	●	●	●	●	●
	CWS	---	---	●	●	●	●
	TW	---	---	---	---	---	●
Burners	HPIII Single	●	●	●	●	---	---
	HPIV Single	●	●	●	●	---	---
	HPIII Dual	●	●	●	●	●	●
	HPIII Triple	●	●	●	●	●	●

Legend: ● combination approved  
--- combination not approved

(b) Schroeder Fire Balloons Bottom ends

		Envelopes						
		MA-18	MA-22	MA-26	MA-30	MA-35	MA-40	
Baskets / Load frame	II / 201.2, 201.6 or 201.7	●	●	---	---	---	---	
	III / 201.2, 201.6 or 201.7	●	●	●	●	---	---	
	IV / 201.2, 201.6 or 201.7	---	●	●	●	●	---	
	V / 201.2, 201.6 or 201.7	---	---	●	●	●	---	
	VI / 201.2, 201.6 or 201.7	---	---	---	●	●	●	
	VII / 201.1 or 201.5	---	---	---	---	---	●	
	VIII/8 / 201.1 or 201.5	---	---	---	---	---	●	
	VIII/9 / 201.1 or 201.5	---	---	---	---	---	●	
Burners	Optima III	single	●	●	●	●	●	---
	Optima III	double	---	●	●	●	●	●
	Optima IV	single	●	●	●	●	●	●
	Optima IV	double	●	●	●	●	●	●
	FB V	double	●	●	●	●	●	●
		triple	---	---	---	---	●	●
	FB 6	double	●	●	●	●	●	●
		triple	---	---	---	---	●	●

Legend: ● combination approved  
--- combination not approved

(c) Cameron Bottom ends

			Envelopes					
			MA-18	MA-22	MA-26	MA-30	MA-35	MA-40
Baskets / Load frame	Basket	Applicable load frame						
	LITE CB3037	CB2356	●	---	---	---	---	---
	56-65 CB300-2A CB310-2A CB3050-2 or CB3115-2	CB2598, CB2224, CB2203, CB2231, CB2874 or CB871	●	●	●	---	---	---
	77-84 CB300-3A CB310-3 CB3050-3 or CB3115-3	CB2598, CB2224, CB2203, CB2231, CB2874 or CB871	---	●	●	●	---	---
	C60 / 70 CB3051	CB2203, CB2598, CB2562, CB2224, CB2560, CB2231, CB2874 or CB2226	---	●	●	●	---	---
	C80 / 90 CB3052	CB2598, CB2224, CB2203, CB2231, CB2874 or CB2226	●	●	●	●	●	---
	90-105 CB300-4A CB310-4A CB3050-4 or CB3115-4	CB2598, CB2224, CB2203, CB2231, CB2874 or CB871	●	●	●	●	●	---
	120-133 CB303	CB2309 or CB2312	---	---	---	●	●	●
	120-133 P CB3238	CB2468 or CB2470	---	---	---	---	●	●
	120-133 T CB3233		---	---	---	---	●	●
	140 T CB991 or CB3376	CB2264 or CB2263	---	---	---	---	---	●
	140 TW CB 3360	CB2265 or CB2266	---	---	---	---	---	●
	Burners	Double Colt C2 (B2-100 B2-200)		●	●	●	●	●
Triple Colt C2 (B2-300 B2-400 B3-300)		---	---	---	---	---	●	
Double Colt C3(T) (B3-100 B3-200 B3T-200)		●	●	●	●	●	●	
Triple Colt C3(T) (B3-400 B3T-300 B3T-400 B3T-700)		---	---	---	---	---	●	
Double Stealth (CB2008-1/-2, CB2031-1/-2 CB2085-1/-2, CB2086-1/-2 CB2239-1/-2 CB2240-1/-2)		●	●	●	●	●	●	
Double Mk-3 (CB205)		●	●	●	●	●	●	
Double Mk-5 (CB2059)		●	●	●	●	●	●	
Double Shadow (CB2075-1/-2, CB2101-1/-2, CB2153-1/-2 CB2195-1/-2 CB2215 CB2222 CB2243 CB2244 CB2460-1/-2 CB2461-1/-2 CB2465-1/- 2 CB2466-1/-2 CB2478-1/-2 CB2479-1/-2 CB2494-1/-2)		●	●	●	●	●	●	
Single Shadow (CB2130-1/-2 CB2233 CB2245 CB2246)		●	●	●	●	●	●	
Double Shadow (CB2234 CB2244)		●	●	●	●	●	●	
Double Sirocco (CB2694 CB2695 CB2698 CB2699)		●	●	●	●	●	●	
Single Mk-4 (CB391)		●	●	---	---	---	---	
Double Mk-4 (CB392, CB451, CB460, CB494)		●	●	●	●	●	●	
Double Mk-4 Super (CB579-1/-2, CB595-1/-2, CB2111-1/-2)		●	●	●	●	●	●	
Single Stratus (CB8710 CB8712)		●	●	---	---	---	---	
Double Stratus (CB8720 CB8721)		●	●	●	●	●	●	

Legend: ● combination approved  
--- combination not approved



(d) Ultramagic Bottom ends

		Envelopes						
		MA-18	MA-22	MA-26	MA-30	MA-35	MA-40	
Baskets / Load frame	C1	●	●	●	●	---	---	
	C2	●	●	---	---	---	---	
	C3	●	●	●	●	●	---	
	C4	---	---	●	●	●	●	
	C5	---	---	---	---	---	●	
	C6	---	---	---	●	●	●	
	C7	---	---	---	●	●	●	
	C10	●	●	●	●	●	●	
	3101-0800(Wheelchair)	---	---	●	●	●	●	
Burners	BMK-008	single	●	●	●	●	●	---
		double	●	●	●	●	●	●
	MK-2	single	●	●	---	---	---	---
		super-single	●	●	---	---	---	---
		double	●	●	●	●	●	●
		super-double	●	●	●	●	●	●
		triple	---	---	---	---	---	●
		super-triple	---	---	---	---	---	●
	MK-10	Single	●	●	---	---	---	---
		double	●	●	●	●	●	●
		triple	---	---	---	---	---	●
	MK-21	single	●	●	---	●	●	---
		double	●	●	●	●	●	●
triple		---	---	---	---	---	●	

Legend: ● combination approved  
--- combination not approved

(e) Lindstrand Bottom ends

		Envelopes					
		MA-18	MA-22	MA-26	MA-30	MA-35	MA-40
Baskets / Load frame	BA-001	●	●	●	●	---	---
	BA-002	●	●	●	●	---	---
	BA-003	●	●	●	●	●	---
	BA-010	---	---	---	---	●	---
	BA-011	---	---	---	---	●	●
	BA-012	---	---	---	---	●	●
	BA-013	---	---	---	---	●	●
	BA-014	---	---	---	---	●	●
	BA-020	---	---	---	---	---	●
Burners	Jetstream single (BU-001)	●	●	---	---	---	---
	Jetstream double (BU-002)	●	●	●	●	●	●
	Jetstream double + CLF (BU-003)	---	---	---	---	●	●
	Jetstream triple (BU-004)	---	---	---	---	●	●
	Jetstream triple + CLF (BU-005)	---	---	---	---	---	●
	Jetstream Super Single (BU-007)	●	●	●	●	---	---
	Jetstream Series 2 double (BU-008)	●	●	●	●	●	●
	Jetstream Series 2 triple (BU-010)	---	---	---	---	●	●

Legend: ● combination approved  
--- combination not approved

(f) Chaize Bottom ends

		Envelopes					
		MA-18	MA-22	MA-26	MA-30	MA-35	MA-40
Baskets / Load frame	A101	●	●	●	●	●	---
	A201	---	●	●	●	●	---
	A301	---	---	●	●	●	---
	A302	---	---	●	●	●	---
	A303T	---	---	●	●	●	---
	A401	---	---	---	---	---	---
	A403	---	---	---	---	---	---
	A403T	---	---	---	---	---	---
	A404	---	---	---	---	---	---
	A405	---	---	---	---	---	---
	A501	---	---	---	---	---	---
	A503	---	---	---	---	---	---
	A503T	---	---	---	---	---	---
	A101	---	---	---	---	---	---
	A201	---	---	---	---	---	---
	A301	---	---	---	---	---	---
	A302	---	---	---	---	---	---
	A303T	---	---	---	---	---	---
	A401	---	---	---	---	●	---
	A403	---	---	---	---	●	---
	A403T	---	---	---	---	●	---
	A404	---	---	---	---	●	---
	A405	---	---	---	---	●	---
	A501	---	---	---	---	●	●
	A503	---	---	---	---	●	●
	A503T	---	---	---	---	●	●

Legend: ● combination approved  
 --- combination not approved

The Chaize baskets are designed to be used with appropriate burner frames:

- Cameron
- Lindstrand
- Schroeder
- Ultramagic

(g) fuel cylinders

Manufacturer	P/N	Manufacturer	P/N
Worthington	Aluminium 10 gal	Schroeder	VA 50 VA 70
Aerostar Intl	vertical stainless steel 15 gal vertical stainless steel 18 gal vertical stainless steel 23 gal horizontal stainless steel 20 gal	Lindstrand	V 20 V 30 V 40 H30 H40 H55 T 30
Cameron	CB901 CB250 CB426 CB497 CB599 CB959 CB2088 CB2900 CB2901 CB2902 CB2903 V20-100-00 V30-100-00 V40-100-00 CB2380 CB2383 CB2385 CB2387 A0/V30 A0/V40 CB8414 CB8424	Ultramagic	4100-U4-27 M-20 M-20D M-30 M-30D M-20 M-20D M-30 M-30D M-40 M-40D T 25

### **SECTION 3 ADMINISTRATIVE SECTION**

#### **I. Acronyms**

N/A

#### **II. Type certificate Holder Record**

Up to 03 May 2005

##### **Siga Pilâtre de Rozier**

6, place du Temple

BP 18

57 530 Courcelles-Chaussy

France

From 03 May 2005 to 03 April 2017

##### **Llopis Balloons**

Zone intercommunale Pointes Saint Georges

BP 18

57 590 Delme

France

Since 03 April 2017

##### **NOUVELLE MANUFACTURE D'AÉROSTATS**

4 Impasse de la Noue

54 770 Agincourt

France

#### **III. Change record**

<b>Issue</b>	<b>Date</b>	<b>Changes</b>
00	03 April 2017	Initial issue of TCDS No. EASA.BA.119 (ex-DGAC No. 186, issue 3)
01	30 June 2017	Non-existing model MA-34 was correctly marked as MA-35